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CIVIL EFFECTS STUDY

DISTRIBUTION FUNCTIONS OF AIR-SCATTERED GAMMA RAYS ABOVE ISOTROPIC PLANE SOURCES

J. A. Michael and H. A. Lamonds

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DISTRIBUTION FUNCTIONS OF AIR-SCATTERED GAMMA RAYS ABOVE ISOTROPIC PLANE SOURCES

By
J. A. Michael and H. A. Lamonds

EG&G, Inc
and
Division of Biology and Medicine
U S Atomic Energy Commission

June 1967

This report is published in the interest of providing information which may prove of value to the reader in his study of effects data derived principally from nuclear weapons tests and from experiments designed to duplicate various characteristics of nuclear weapons

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ABSTRACT

Using the moments method of Spencer and Fano and a reconstruction technique suggested by Berger, the authors have calculated energy and angular distribution functions for air-scattered gamma rays emitted from infinite-plane isotropic monoenergetic sources as functions of source energy, radiation incidence angle at the detector, and detector altitude. Incremental and total buildup factors have been calculated for both number and exposure. The results are presented in tabular form for a detector located at altitudes of 3, 50, 100, 200, 300, 400, 500, and 1000 feet above source planes of 15 discrete energies spanning the range of 0.1 to 3.0 MeV. Calculational techniques including results of sensitivity studies are discussed and plots of typical results are presented.

ACKNOWLEDGMENTS

The authors wish to express their appreciation for the support and interest in this work of Mr. L. J. Deal, Chief, Civil Effects Branch, DBM. His perception of the USAEC needs in the civil effects field provides the stimulus for the work reported here. We also gratefully acknowledge the assistance of Dr. L. V. Spencer, Ottawa University and Drs. Martin Berger and Charles Eisenhauer of the National Bureau of Standards. Their advice, guidance, and many stimulating discussions assisted greatly in making this work possible.

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1. INTRODUCTION

Under the sponsorship of the AEC's Division of Biology and Medicine, EG&G's Santa Barbara Laboratory has undertaken a computational program aimed at characterizing the gamma-ray field above isotropic plane and point sources. This first report of results presents energy and angular distribution functions for air-scattered gamma rays emitted from infinite plane isotropic monoenergetic sources as functions of source energy, detector angle, and detector altitude. Using the moments method of Spencer and Fano[1] and the reconstruction technique first suggested by Berger,[2] the authors have sought to carry through a set of computations that represent the highest degree of accuracy obtainable with the moments method, and to present the results in a format convenient for comparison with experimental data.

The most comprehensive existing reference for properties of scattered gamma rays is the presentation made more than a decade ago by Goldstein and Wilkins[3] of results they obtained using the moments method of Spencer and Fano. Their report does not, however, present results for isotropic plane sources, the presumption being that plane source data may be derived from point source data. Since their treatment is primarily in terms of dose and energy spectra which are important for shielding considerations, they have not explicitly included calculations of number spectra and number buildup factors which are important to experiments made with scintillation detector/pulse height analyzer equipment.

Except for Berger's[2] presentation of results for a 1-MeV source in water, in which he reports details of the reconstruction technique, there have been no reported moments method calculations of the angular dependence of distribution functions above isotropic plane sources. Monte Carlo calculations of these quantities have, however, been reported by French[4] and DeVries.[5] But the combination of number of histories and cell sizes has prevented a completely satisfactory representation of details of the energy-angular distribution functions.

The present report is intended to complement previously published moments method and Monte Carlo calculations, by presenting in considerable detail both energy and number differential distribution functions for gamma rays scattering in air above isotropic plane sources. Section 2 defines terms that are used throughout the discussion and presentation of results, describes the tabular format, and presents graphical plots of typical results; Section 3 outlines the calculational techniques; and Appendixes A, B, and C present computer readouts of energy distributions, number distributions, and uncollided flux.

The results are presented in tabular form, listing the differential angular and energy dependent distribution functions observed by a detector located at various atltitudes above the source plane. Also included in the tabular display are several quantities which may be derived from the distribution functions. Differential energy and number spectra result from integrating over all detector angles. The angular dependence of exposure has been obtained by computing the exposure arriving through various incremental zones on the unit sphere from the differential energy distribution functions and energy-to-exposure conversion factors. The buildup factors for each of these incremental zones has also been obtained. The angular dependence of number flux and number flux buildup was obtained in a similar manner from the differential number distributions. Finally, integrations were carried out over both energy and angle to obtain total exposure rate, total exposure buildup, total number flux, and total number-flux buildup as functions of altitude above the source plane.

It is hoped that these calculations will help to show the type of calculations best suited for shielding evaluations, interpretation of aerial radiation survey data, and optimization of airborne radiation instrumentation. It is also hoped that these results will serve as a tool in the understanding of such localized but important radiation transport parameters as ground roughness, vegetation, and terrain effects.

2. TABULAR AND GRAPHICAL DISPLAY OF DISTRIBUTION FUNCTIONS

For convenience of those using the distribution functions, the computer printout of calculated values has been grouped into three sets of tables and presented in Appendixes A, B, and C. This section defines the terminology and units needed for interpreting the computer output, describes the tables, and presents examples of typical results in graphical form.

2.1 DEFINITION OF TERMS

Number Distribution (or differential angular-energy number distribution function) - Number of photons in the energy interval (E, E + dE) arriving per second at a detector through the element of solid angle (Ω to $\Omega + d\Omega$).

Energy Distribution (or differential angular-energy energy distribution function) - Energy in the energy interval (E, E + dE) arriving per second at a detector through the element of solid angle (Ω to $\Omega + d\Omega$).

Number Spectrum (or differential number spectrum) - Number of photons in the energy interval (E, E + dE) arriving per second at a detector of unit area through all angles.

Energy Spectrum (or differential energy spectrum) - Energy in the energy interval (E, E + dE) arriving per second at a detector of unit area through all angles.

Total Number Flux - Number of photons per second of all energies entering a detector of unit area through all solid angles.

Total Energy Flux (converted to total exposure rate) - Total energy per second entering a detector of unit area through all solid angles. This quantity is not explicitly present, but has been converted to *total exposure rate* by using Goldstein's[6] energy-to-exposure conversion. Exposure rate is generally referred to as *dose rate* in the tabulated computer output.

Incremental Number and Exposure Rate - The angular dependence of total number flux and total exposure rate were investigated by computing the number of photons and the exposure rate arriving through various zones on the unit sphere. These quantities are referred to in the output tables as *incremental number* and *incremental dose*.

Buildup Factors - Buildup factors have been calculated for total number, incremental number, total exposure rate, and incremental exposure rate. *Number buildup* is defined as the ratio of the total number of photons to the number of uncollided photons. *Exposure rate buildup* is the ratio of the total exposure rate to the exposure rate due to uncollided photons.

2.2 DEFINITION OF UNITS

The units associated with the terms defined in the preceding section are listed below. These units appear in the tables presented in Appendixes A, B, and C but not in the plots presented in Section 2.4.

Number Distribution - (photons/cm^2-sec-MeV-steradian)/(source γ-ray/cm^2-sec)

Energy Distribution - (MeV/cm^2-sec-MeV-steradian)/(source γ-ray/cm^2-sec)

Number Spectrum - (photons/cm^2-sec-MeV)/(source γ-ray/cm^2-sec)

Energy Spectrum - (MeV/cm^2-sec-MeV)/(source γ-ray/cm^2-sec)

Total Number Flux - (photons/cm^2-sec)/(source γ-ray/cm^2-sec)

Total Exposure Rate - (mr/cm^2-hr)/(source γ-ray/cm^2-sec)

All source strengths have been assumed to be one γ-ray/cm^2-sec, except for the plots of the Co^{60} spectrum, where a source strength of one disintegration/cm^2-sec is assumed. The exceptional Co^{60} cases are also noted in the text.

2.3 DESCRIPTION OF TABLES

Appendixes A and B list calculated energy and number distribution functions of air-scattered gamma rays observed by a detector located at various altitudes above isotropic plane sources. Appendix C contains uncollided fluxes for all calculated cases.

The tables in each appendix are arranged in sets according to ascending values of the source energies and altitudes given in Table 1. Although approximately fifty spectral energies were computed for each source energy, owing to space limitations only ten are listed.

Table 1. Energy and altitude parameters

Source Energy (MeV)		Altitude (Feet)
0.100	0.900	3
0.200	1.00	50
0.300	2.00	100
0.400	3.00	200
0.500	0.662	300
0.600	1.17	400
0.700	1.33	500
0.800		1000

We have chosen to carry out the calculations with the altitude and angle variables parameterized in a manner intended to produce results which will lend themselves easily to experimental comparison. Altitudes have been chosen at integer feet, and angles have been chosen at integer degrees. However, the computational variables, namely altitude expressed as mean free path lengths in standard density air, and the cosine of the angle, have also been listed to facilitate any interpolation which may be desired.

Energy distribution integrals have been converted to exposure, and the low-energy cutoff of the exposure integrals has been included. It is hoped that this will be useful to those who want to compare these results with ionization chamber measurements. Number distribution, number spectra, and number buildup factors have been calculated for comparison to scintillation counting experiments. The uncollided fluxes corresponding to all calculated cases have been explicitly listed to aid those wishing to make further calculations.

2.3.1 Tabular Format of Appendixes A and B

The top row of each table lists the spectral energies for which distributions have been calculated. The left-hand column lists the angles (θ) used in the calculations. The numbers in parentheses are $\cos\theta$, with the zenith at $\theta = 180°$. The numbers within the table are differential angular-energy distributions. The bottom row contains the differential energy or number spectra, obtained by integrating the distribution function represented by a given column over all solid angles. The twelfth column contains incremental exposure rates or incremental number flux. These values were computed by integrating the distribution functions over the spectral energies for spherical zone of width $\Delta\theta$ centered on the fixed angle of the row. The extreme right-hand column contains angular exposure rate buildup or angular number buildup factors. Buildup factors have been taken as the ratio of total flux to uncollided flux arriving in the pertinent spherical zone. The quantities in the lower right corner of the table are total exposure rate or total number. These have been

computed by integrating the incremental exposure or number columns over all solid angles, and adding the uncollided exposure or number from the corresponding table in Appendix C. The two entries in the lower left of each table list the lowest spectral energy for which the differential flux was reconstructed and the spectral energy of the discontinuity at the end of the single scattering region.

2.3.2 Number and Energy Spectra

The number and energy spectra were obtained by approximating integration over all angles by the following formula:

$$N(E_i,X_k) = \sum_{j=1}^{n} N(E_i,w_{xj},X_k)\Delta\Omega_j \qquad j = 1,\ldots,n \qquad (1)$$

where

$N(E_i,w_{xj}X_k)$ = distribution function corresponding to spectral energy E_i, angle w_{xj}, and altitude X_k tabulated in Appendix A or B.

$\Delta\Omega_j$ = corresponding "incremental solid angle" from Appendix C.

n = total number (25) of spherical zones.

Note that, in general, j is the row index and i is a column index in the appendixes.

The validity of this approximation was checked by comparison with the results of Gates and Eisenhauer[7] who calculated differential energy spectra at 3 feet directly from moments. The results of the comparison for 1.00 MeV are shown in Fig. 1. The difference between the curves in the lower energy region is due to the difference in the number of moments used in the two calculations.

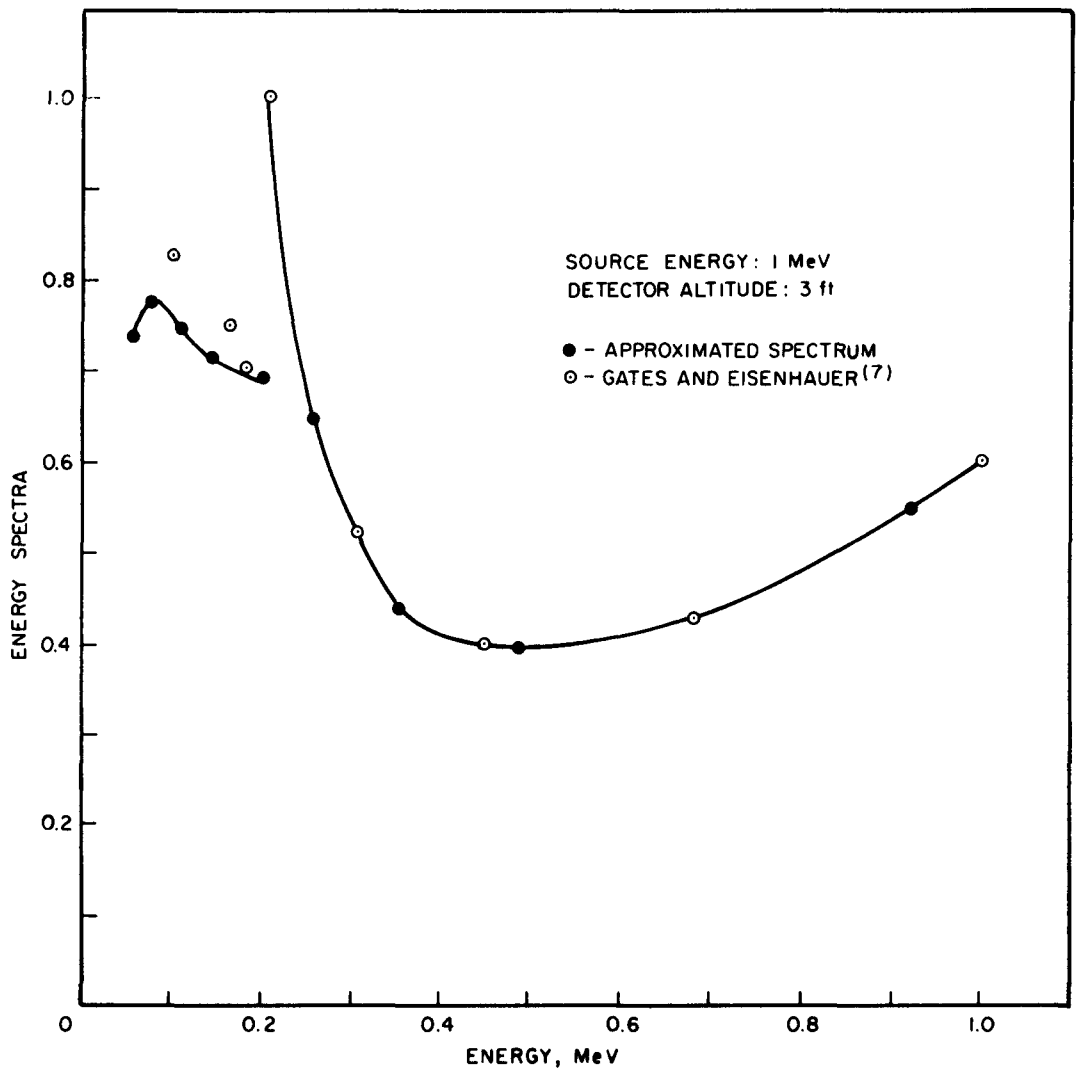

Fig. 1. Comparison of moments method calculations.

2.3.3 Incremental Exposure Rate

The incremental exposure rate was calculated using the formula

$$D_s(w_{xj},X_k) = \sum_{i=1}^{m} N(E_i,w_{xj},X_k)\ R(E_i)\ \Delta E_i\ \Delta\ \Omega_j \qquad i = 1,\ldots,m \qquad (2)$$

where

$R(E_i)$ = energy flux to exposure rate conversion factor for the $i^{\underline{th}}$ spectral energy.

ΔE_i = energy interval centered on E_i and reaching halfway to the next higher and next lower spectral energy points.

m = total number of spectral energies.

2.3.4 Buildup Factors

The angular buildup factors listed in Appendix C were calculated using the formula

$$B_d(w_x,X) = \frac{D_s(w_x,X)+D_o(w_x,X)}{D_o(w_x,X)} \qquad (3)$$

where

D_o = incremental exposure rate due to uncollided photons, taken from "incremental dose" column of Appendix C.

Incremental number flux and number buildup factors are defined by equations similar to Equations 2 and 3. It is clear from Equation 2 that the entries in the twelfth column are not differential quantities, but instead correspond to increments of the total exposure rate arriving through spherical zones centered at the angle listed in the first column.

This presentation has been used to make it possible to estimate the exposure arriving through a given acceptance angle at the detector by addition of the entries in the column. The exposure rate per unit solid angle can be found by dividing each tabular entry by the corresponding entry of the "Incremental Solid Angle" column from Appendix C. The above remarks also apply to incremental number-flux and number buildup.

Total buildup is not the sum of the buildup columns but has been computed from the definition.

2.3.5 Tabular Format of Appendix C

The tables in Appendix C list a complete summary of the uncollided flux calculations for each source energy and altitude. The column labeled "Incremental Solid Angle" contains the solid angle subtended by a zone on a sphere centered at the angle listed for the row in question and extending halfway to the angle of the row above and halfway to the angle of the row below. These solid-angle increments are used in the integrations over solid angle to find differential energy or number spectra, and total dose or total number.

2.3.6 Recalculation of Quantities

A final word regarding use of these tables is in order. The data presented in Columns 2 through 11 of these tables are true differential quantities, i.e., selected points of a continuous function, and represent roughly 20 percent of the entire set of results obtained during the calculations. The quantities which were computed from the distribution functions by integrating over spectral energy, such as "incremental dose" or "incremental number," were obtained by using all of the data points properly weighted by the appropriate energy and angular increments. Thus these integrations cannot be reproduced exactly from the tabular listings. In general, it is possible to recalculate quantities corresponding to operations moving down columns, but it is not possible to recalculate quantities obtained by moving along the rows.

2.4 GRAPHICAL PRESENTATION OF TYPICAL RESULTS

To show the variety of information available from the tables, we have prepared a series of plots illustrating various aspects of the radiation field above Cs^{137} and Co^{60} sources.

Figures 2 through 5 show energy and number spectra for Cs^{137} and Co^{60} at altitudes of 3, 100, 200, and 500 feet. The results for Co^{60} were obtained by adding the outputs for the 1.17-MeV and 1.33-MeV lines. Thus, the source nomalization for these and the remaining Co^{60} plots, is one disintegration per second per cm^2, since the two lines result from a cascade decay.

The plots of energy spectra are similar to those of Gates and Eisenhauer,[7] except that more altitudes are included. Moments method calculations of the number spectra shown here have not been reported previously. However, there have been two Monte Carlo calculations of the 3-foot number spectrum above Cs^{137} sources. These calculations, one by French[4] and the other by DeVries,[5] have been converted to differential spectra by 1) dividing each output energy bin by the bin width, 2) plotting the resulting points at the bin center, and 3) connecting the points with a smooth curve. These data are compared in Fig. 6 with corresponding data from the present study.

The energy or number distribution function for a given altitude can be represented as a surface above a two-dimensional plane whose axes are detector angle and scattered photon energy. This surface has been represented graphically by projection on both axes. Figures 7 through 14 illustrate projections of Cs^{137} and Co^{60} energy and number distributions onto the scattering angle axis for 3-foot and 200-foot altitudes. The four curves shown on each plot are contours cut through the surface at constant spectral energies of 0.2, 0.4, 0.6, and 0.8 times the source energy.

The convergence difficulties, which are implicit in the moments method and which are discussed in Section 3.4, make themselves apparent

in these plots as negative swings of the curves. This difficulty is inherent in the moments method to the extent that it tries to fit the complicated distribution function surface from knowledge of a few harmonics in a Legendre polynomial expansion of the surface. It should be noted from these figures that the region most difficult to fit is the one where single scattering is the predominant source of photons. It is hoped that a separate treatment of single scattering, and a reconstruction of the type described here for the distribution of photons scattered twice or more, will improve the fits in these regions.

As expected, the softer components are more isotropically distributed than the hard components. The hard components of course tend to be distributed like the unscattered radiation, since they are generally produced by single small-angle scattering events.

Figures 15 through 18 illustrate the projection of the Cs^{137} energy and number distributions onto the scattered photon energy axis. The differential spectra arriving at the detector at different detector angles are plotted. Here again, it is noted that the majority of the hard component arrives through nearly horizontal directions at low altitude. At 200 feet, however, the situation changes considerably, and the range of 40° to 60° becomes the principal contributor to the harder components. This illustrates one of the difficulties of building collimated detectors which will be equally efficient over a wide range of altitudes.

These plots also illustrate that, in the unfolding of gamma-ray spectrometer data taken under field conditions, the angular response characteristics of the spectrometer should be considered. For example, when a large flat detector such as a 9- by 3-inch NaI crystal is used in an aircraft or tower to measure radiation from the ground, it will not observe the spectra presented here because of the crystal's large asymmetry in combination with the strong dependence of spectrum on receiver angle.

Figures 19 and 20 illustrate exposure- and number-buildup factors versus altitude for various source energies. Curves corresponding to some

source energies have been omitted for the sake of graphical clarity. This was particularly necessary for the number-buildup plot, which has intertwining curves.

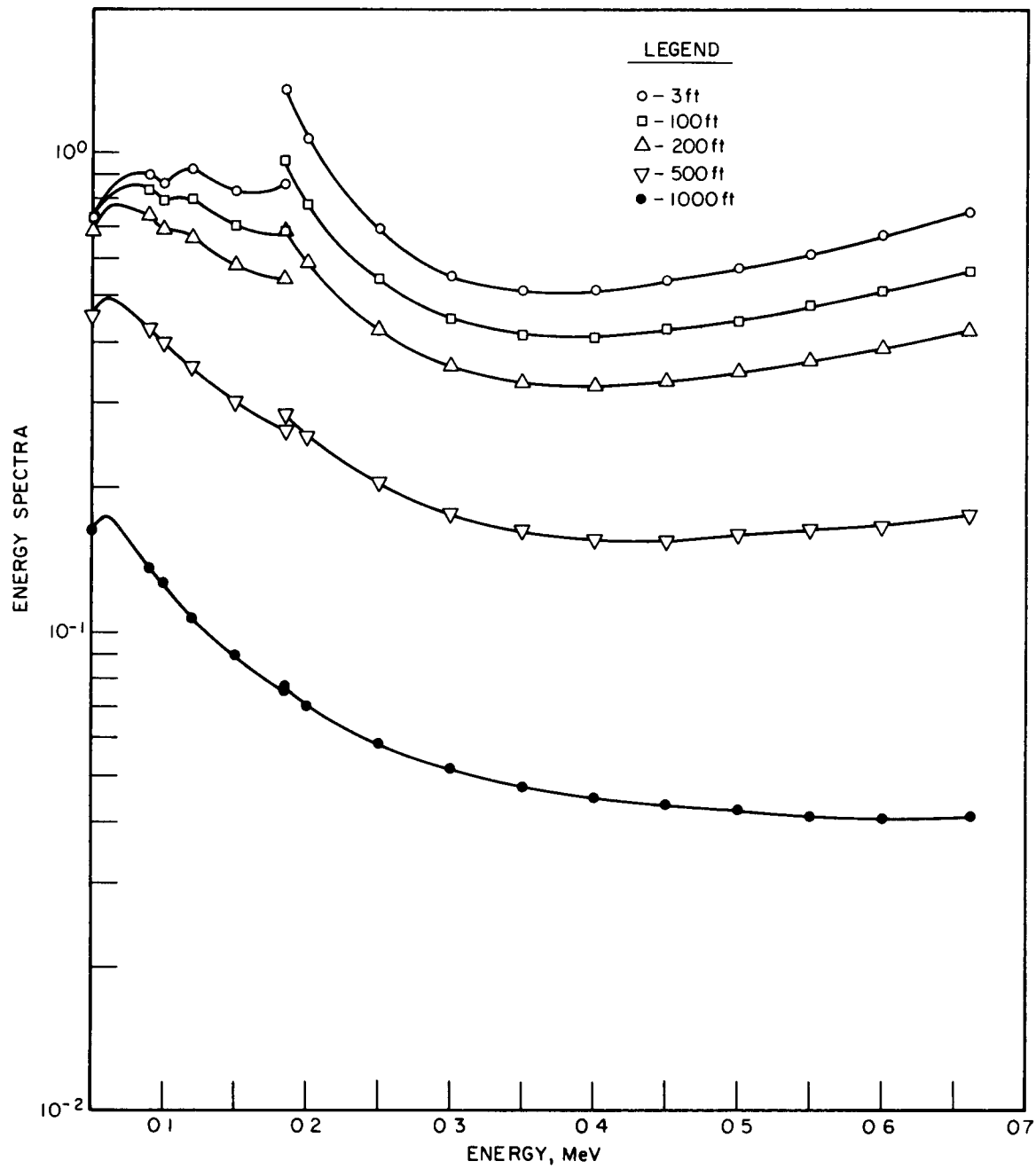

Fig. 2. Energy spectra for Cs^{137} at various altitudes.

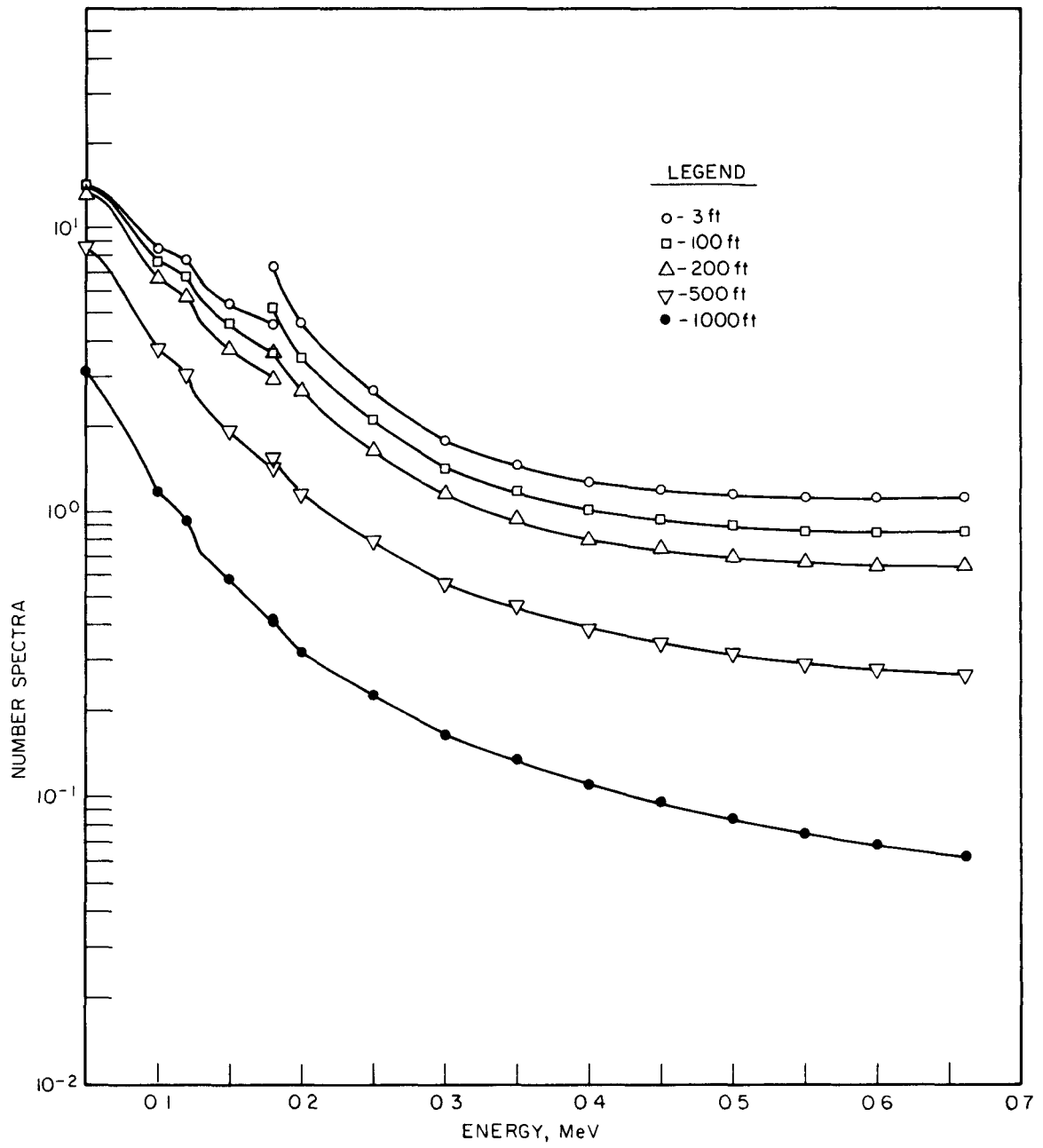

Fig. 3. Number spectra for Cs^{137} at various altitudes.

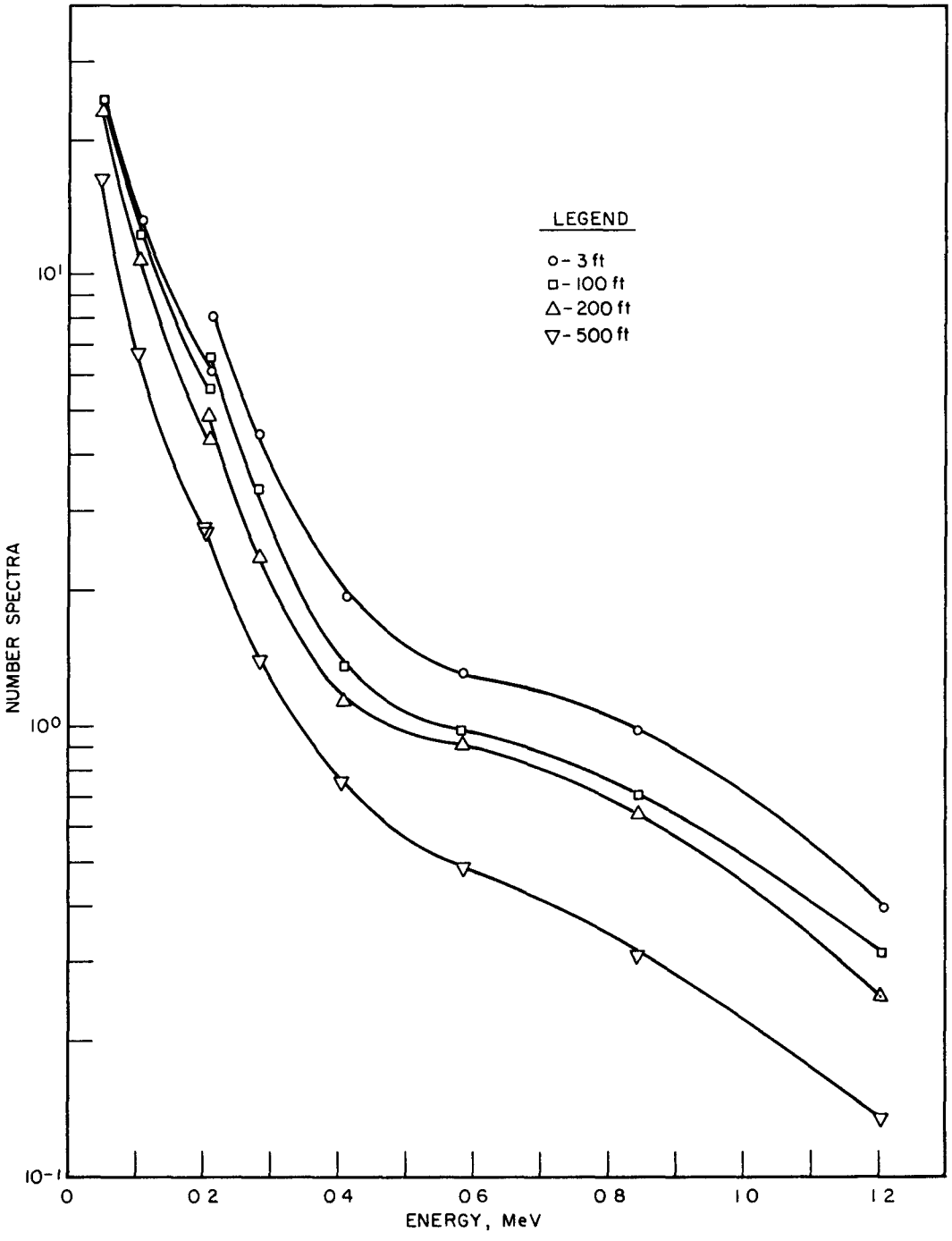

Fig. 4. Energy spectra for Co^{60} at various altitudes.

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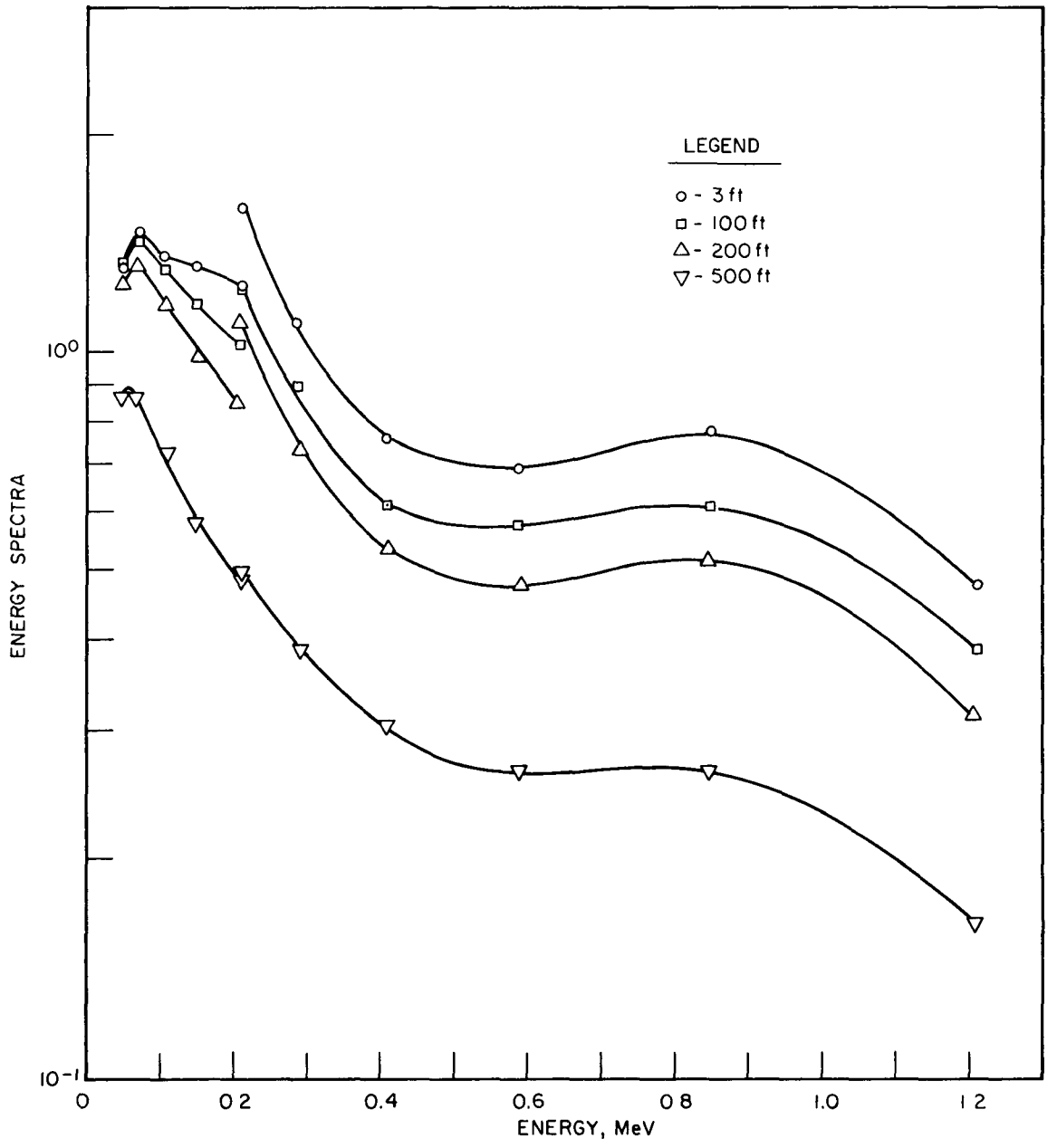

Fig. 5. Number spectra for Co^{60} at various altitudes.

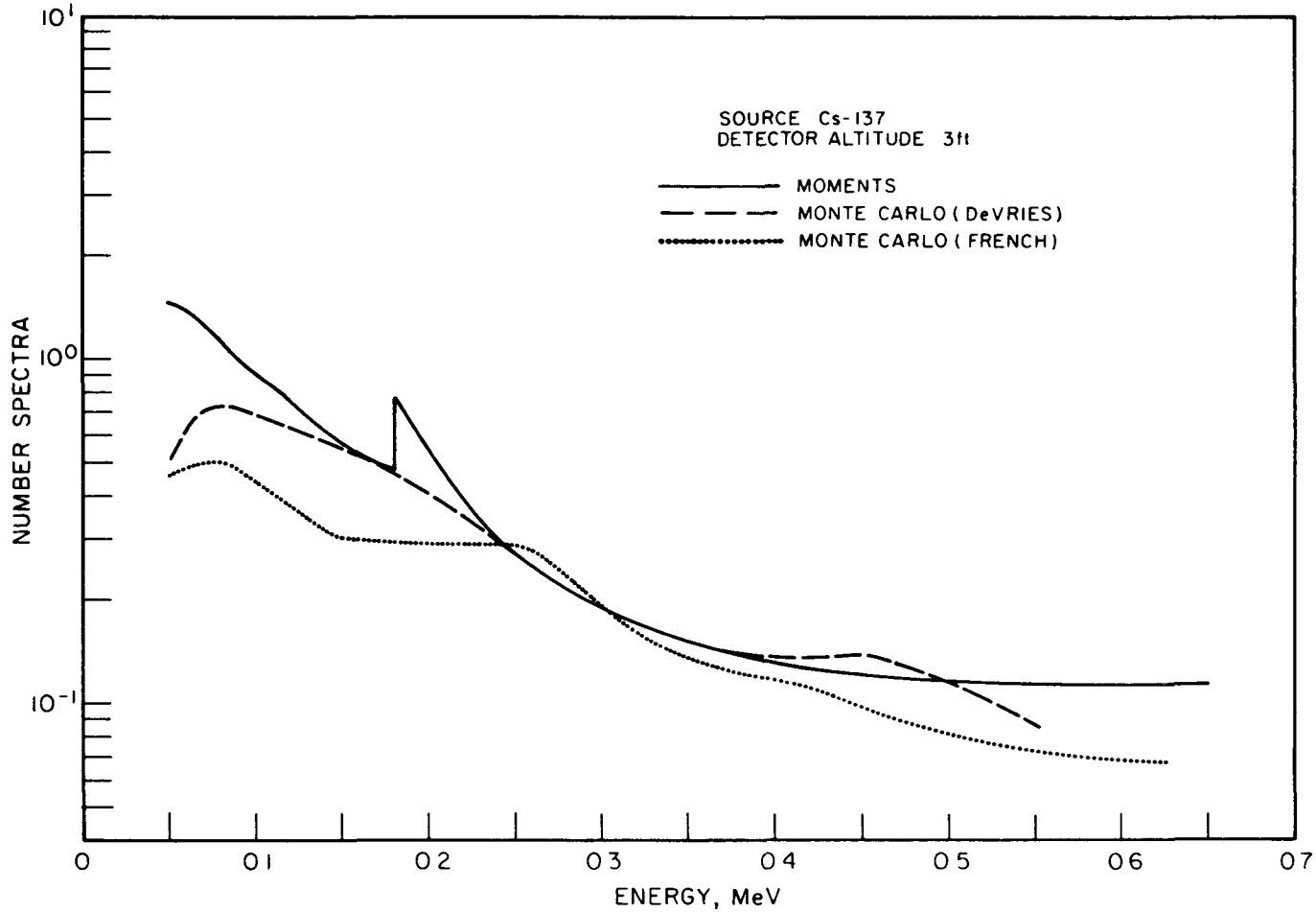

Fig. 6. Comparison of number spectra calculations.

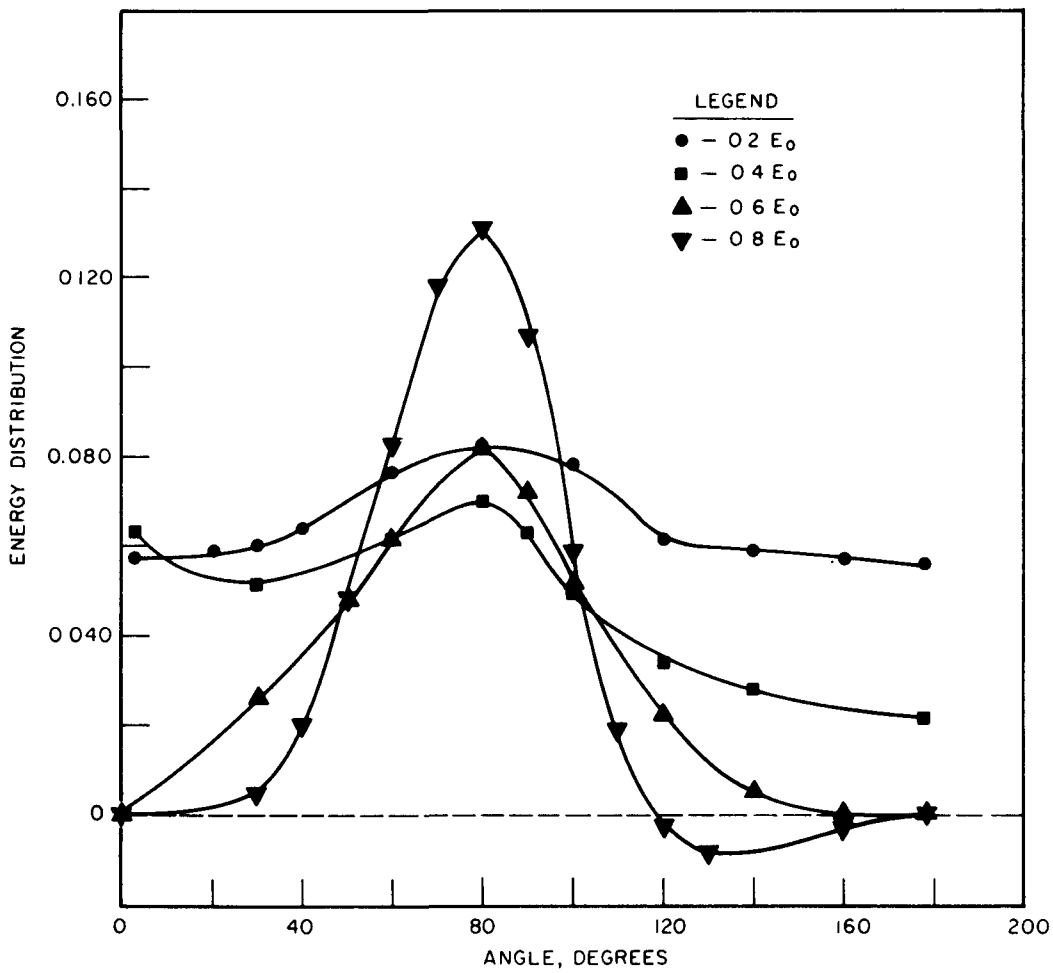

Fig. 7. Energy distribution of Cs^{137} spectral components versus angle at 3-feet.

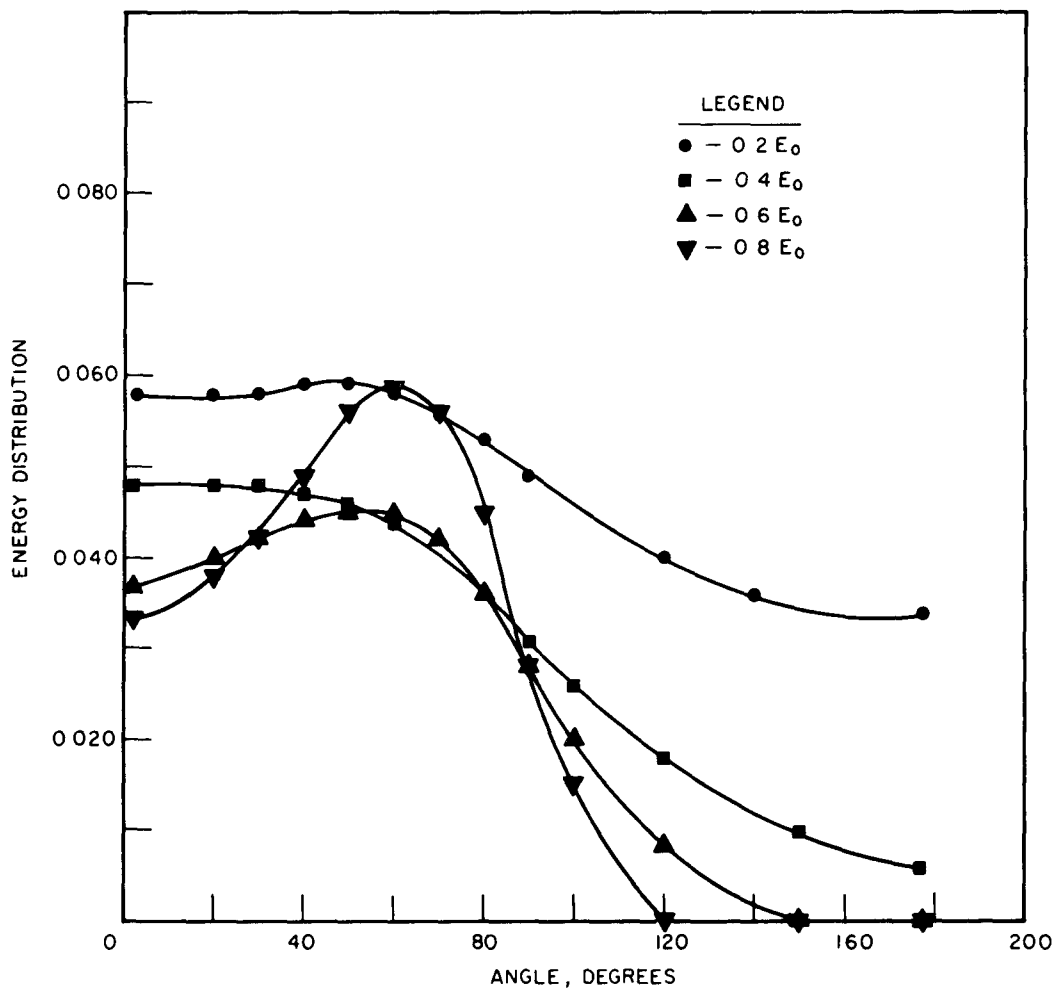

Fig. 8. Energy distribution of Cs^{137} spectral components versus angle at 200 feet.

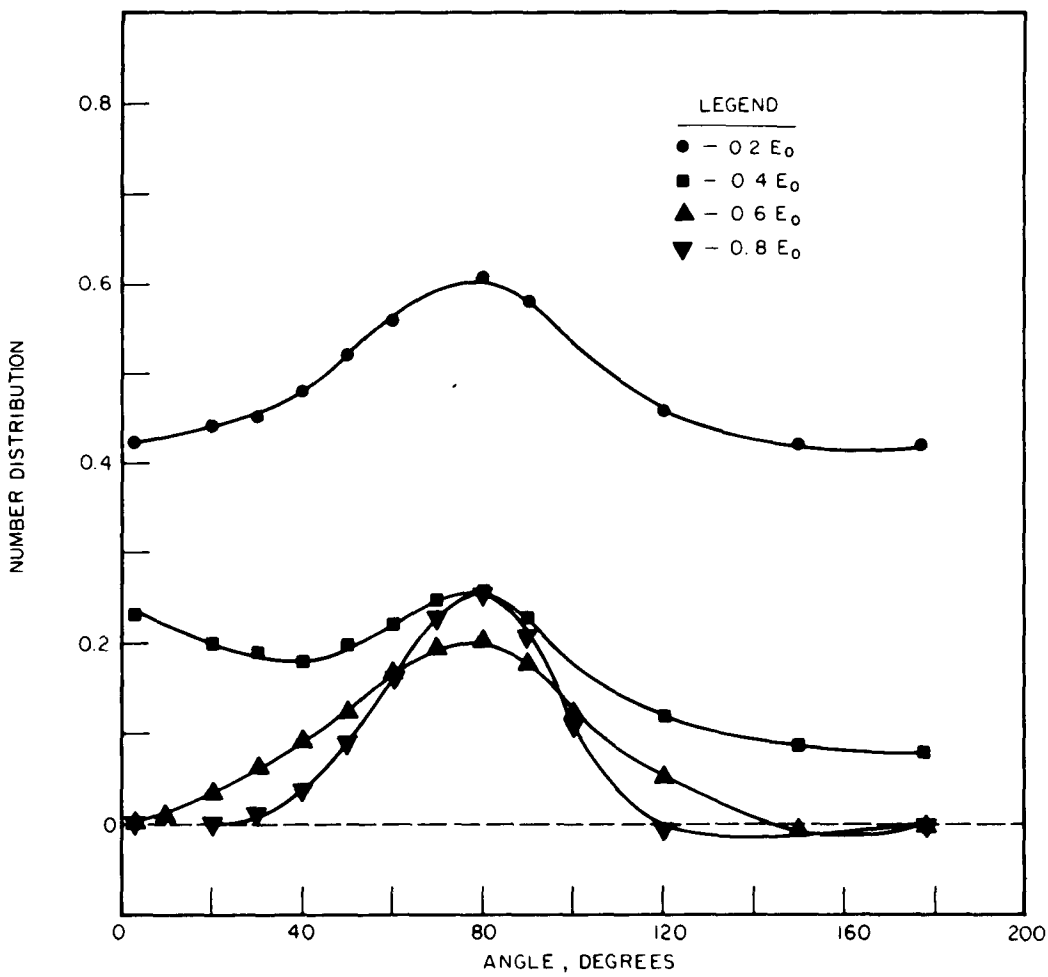

Fig. 9. Number distribution of Cs^{137} spectral components versus angle at 3 feet.

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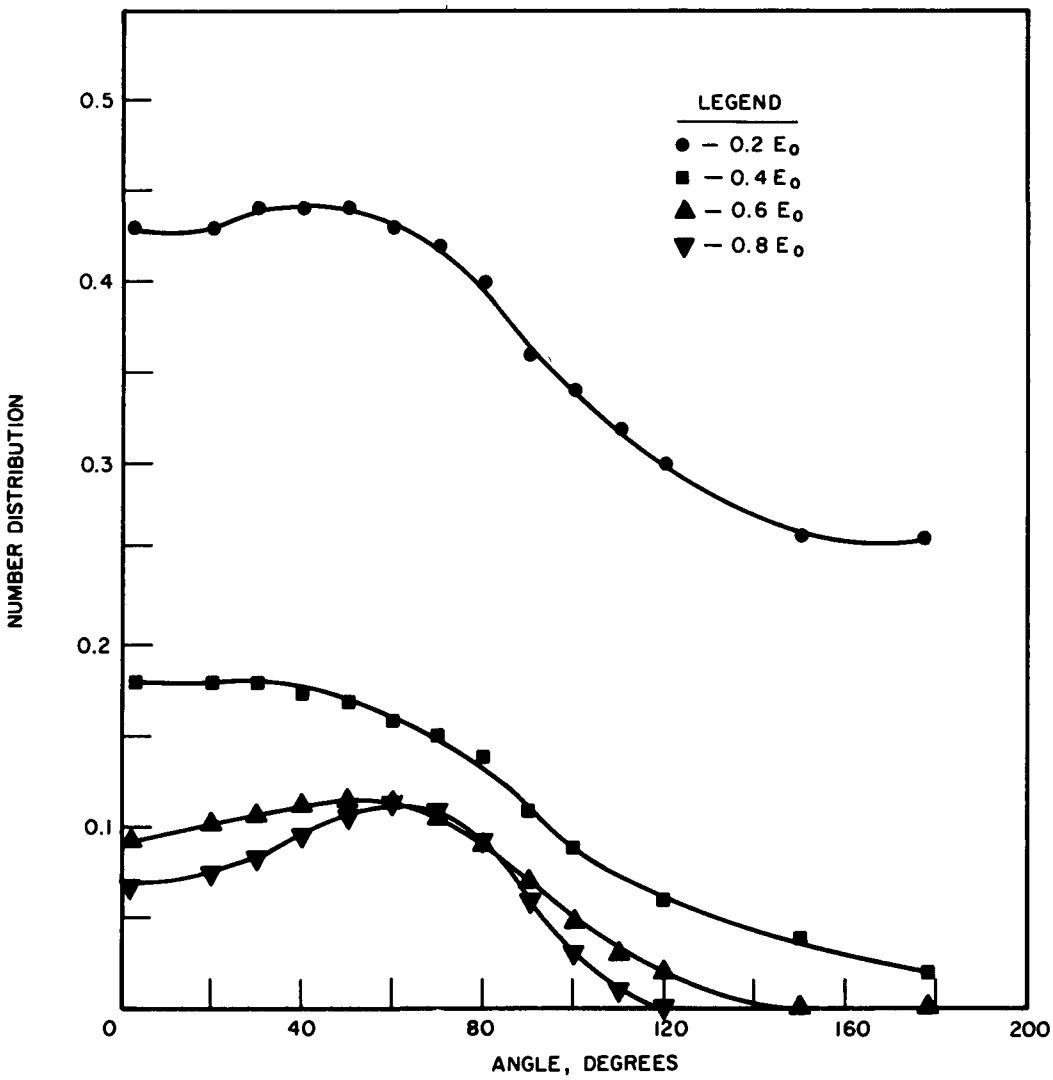

Fig. 10. Number distribution of Cs^{137} spectral components versus angle at 200 feet.

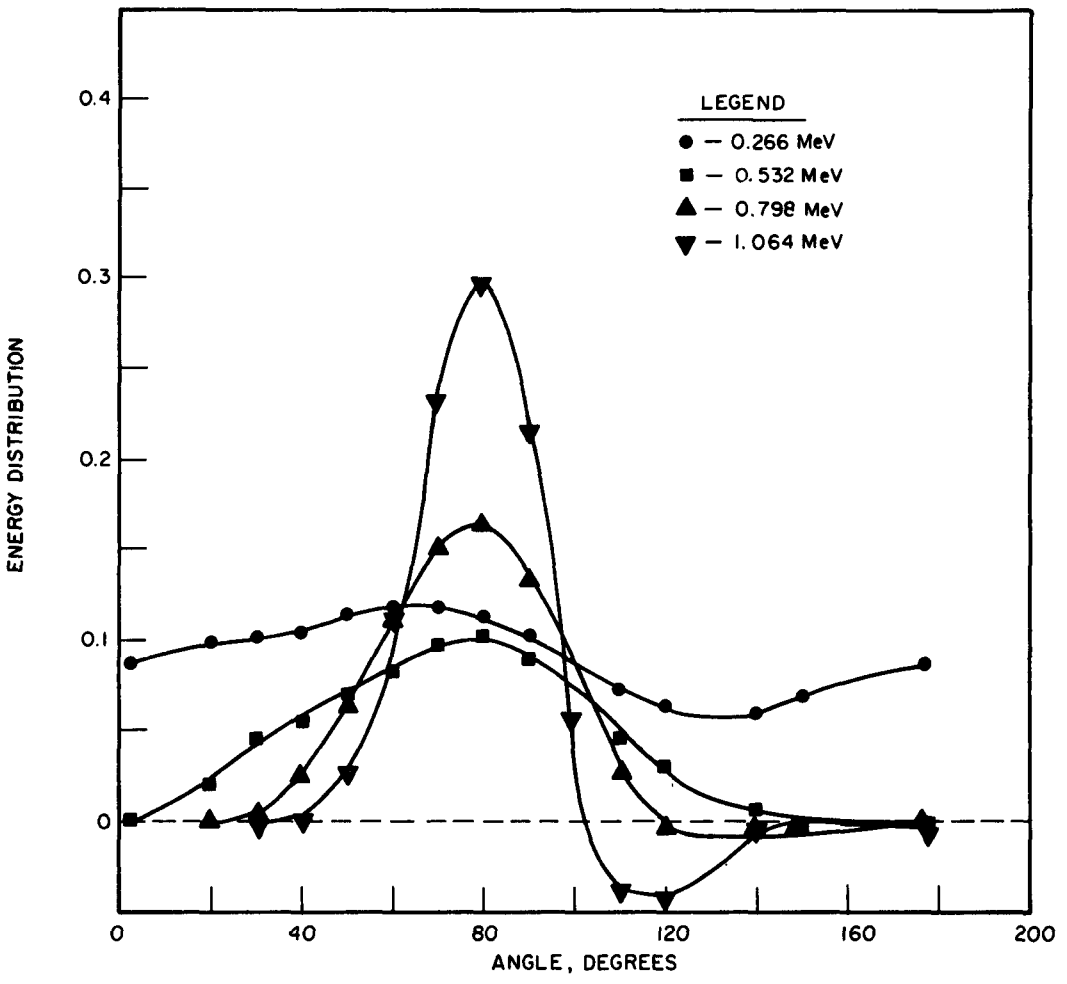

Fig. 11. Energy distribution of Co^{60} spectral components versus angle at 3 feet.

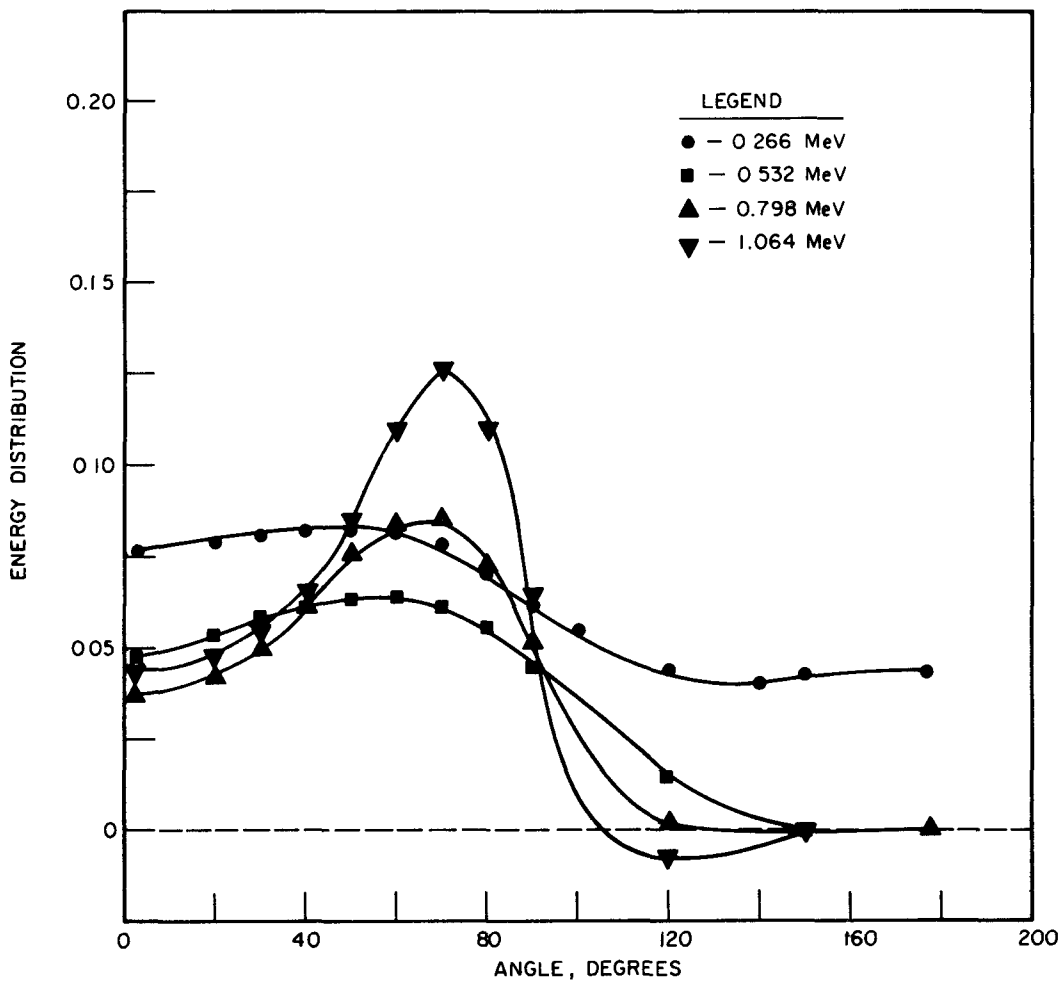

Fig. 12. Energy distribution of Co^{60} spectral components versus angle at 200 feet.

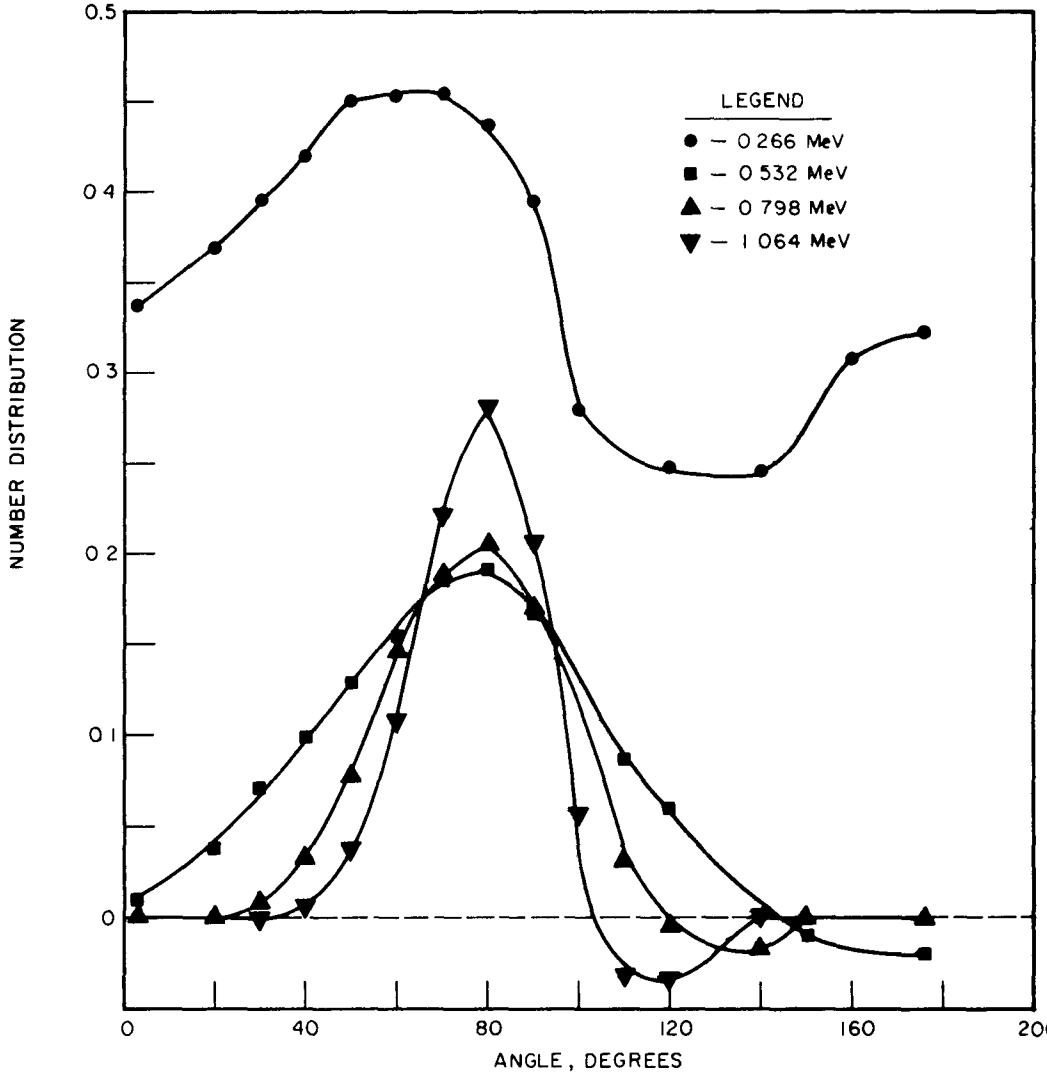

Fig. 13. Number distribution of Co^{60} spectral components versus angle at 3 feet.

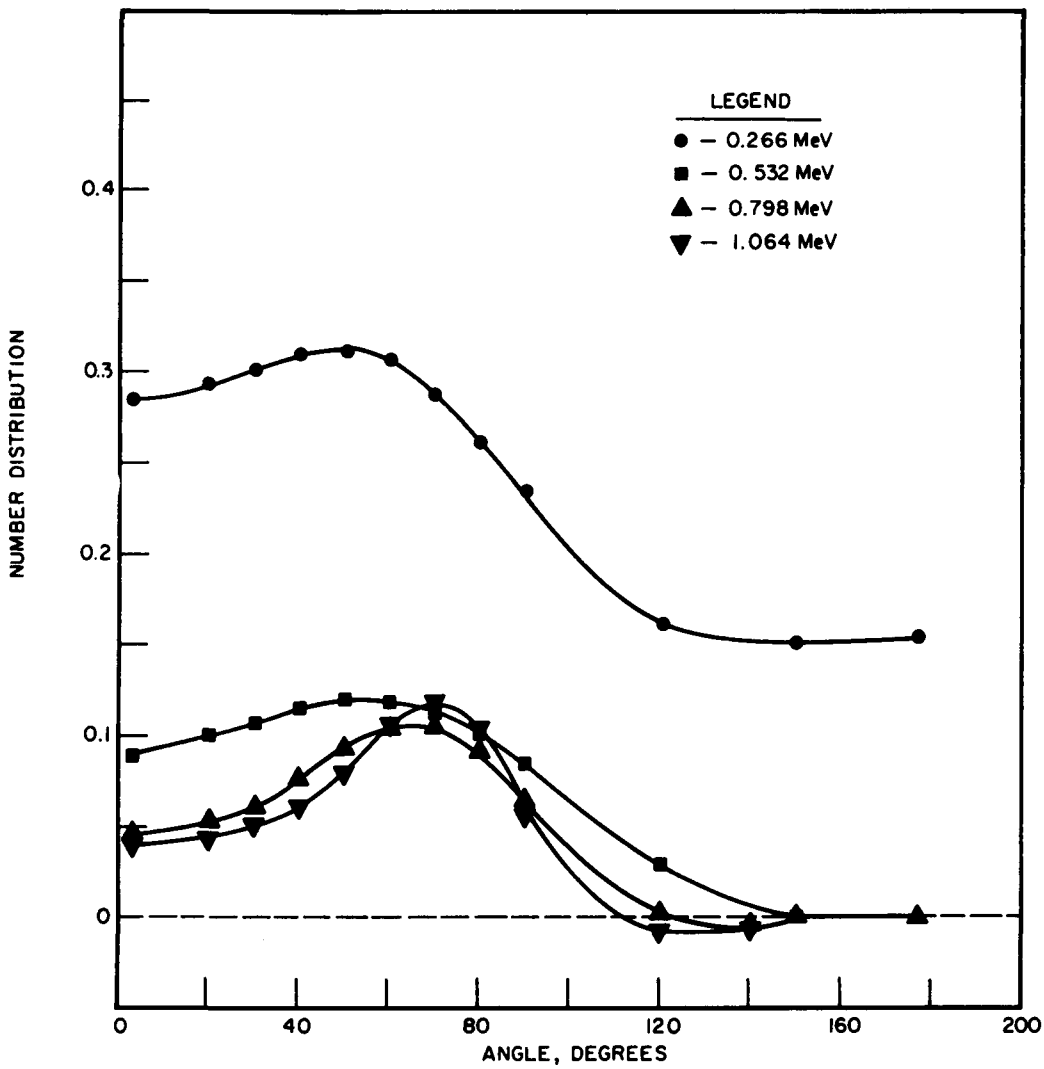

Fig. 14. Number distribution of Co^{60} spectral components versus angle at 200 feet.

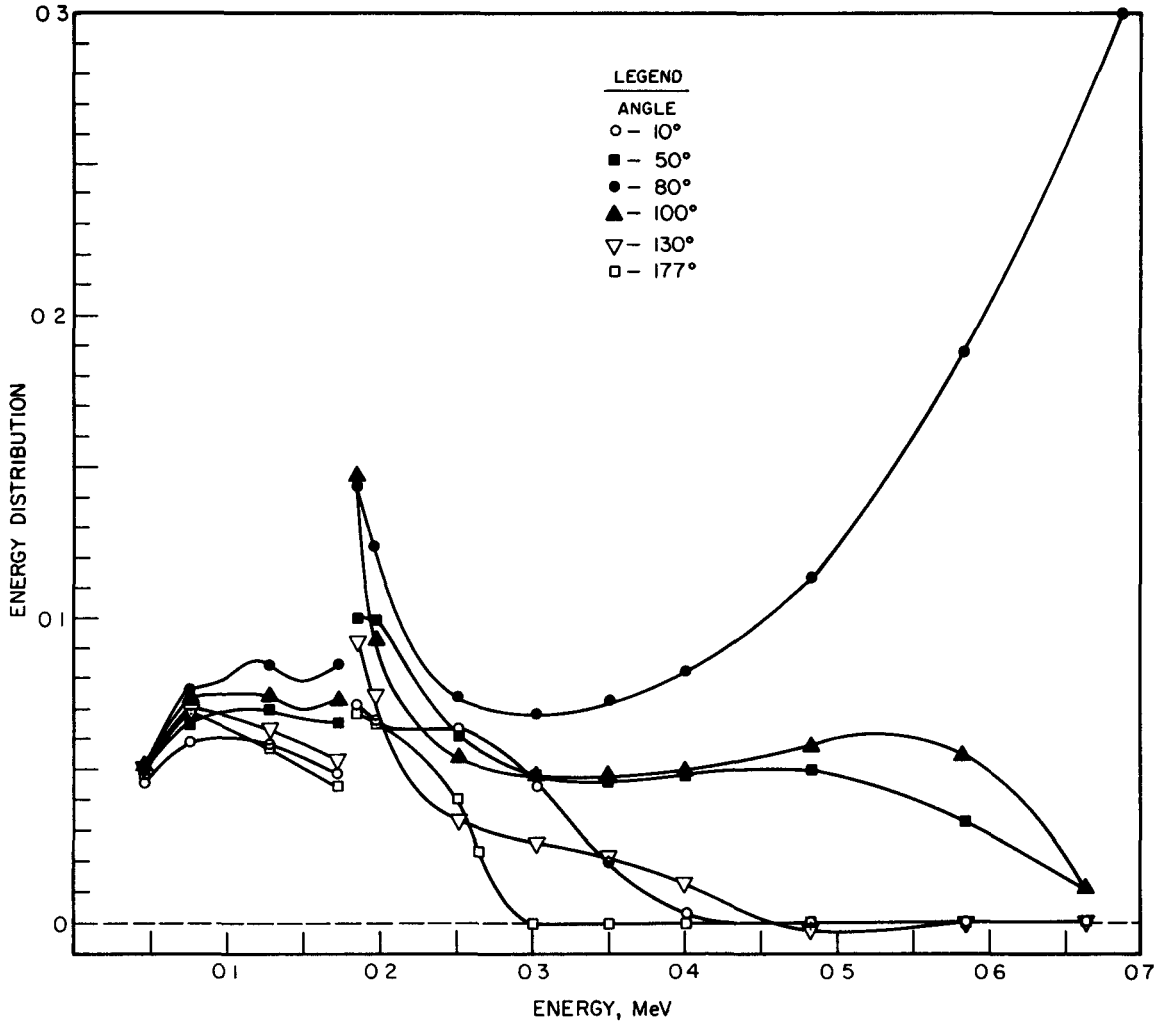

Fig. 15. Energy distribution of Cs^{137} angular components versus energy at 3 feet.

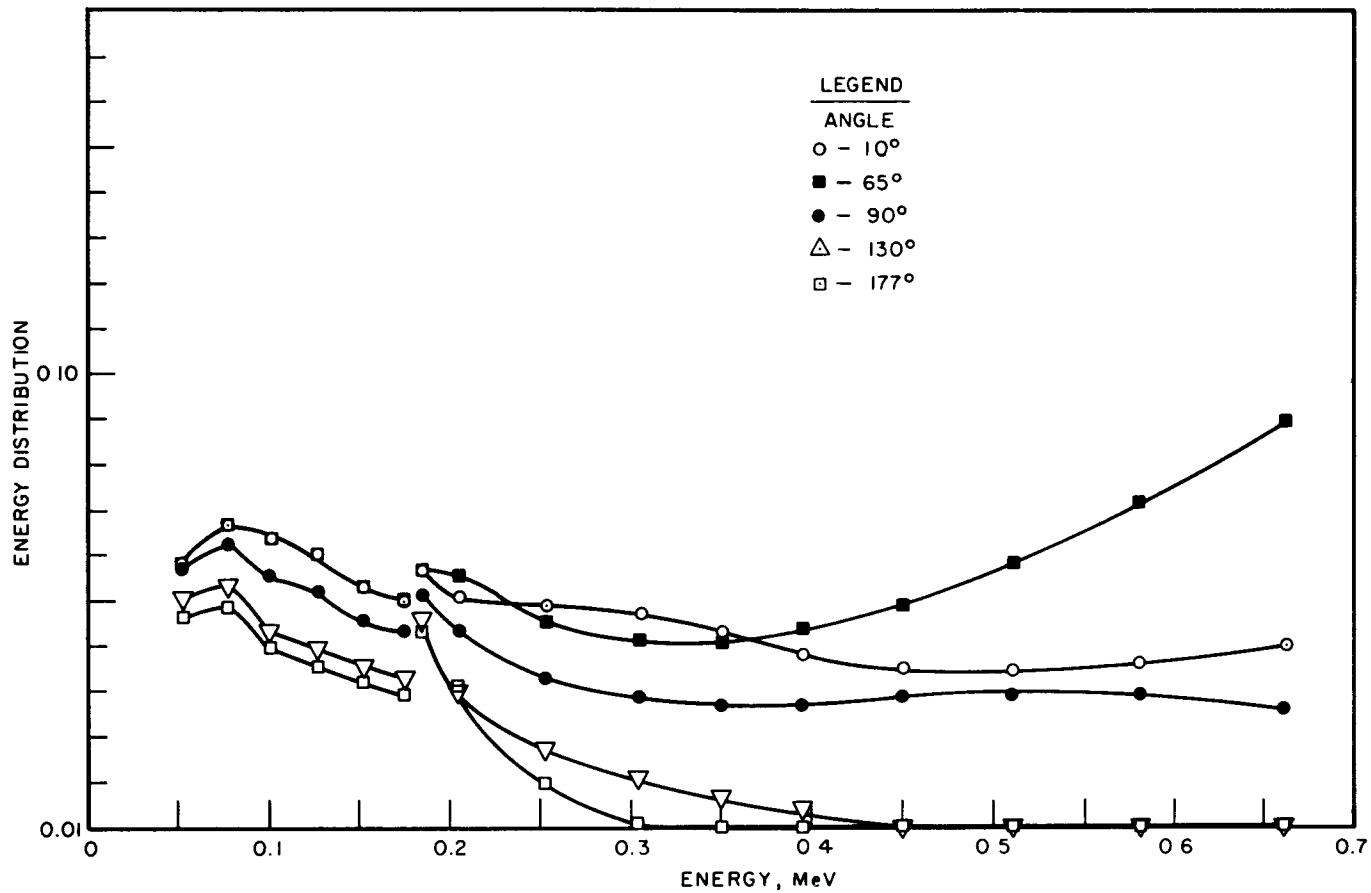

Fig. 16. Energy distribution of Cs^{137} angular components versus energy at 200 feet.

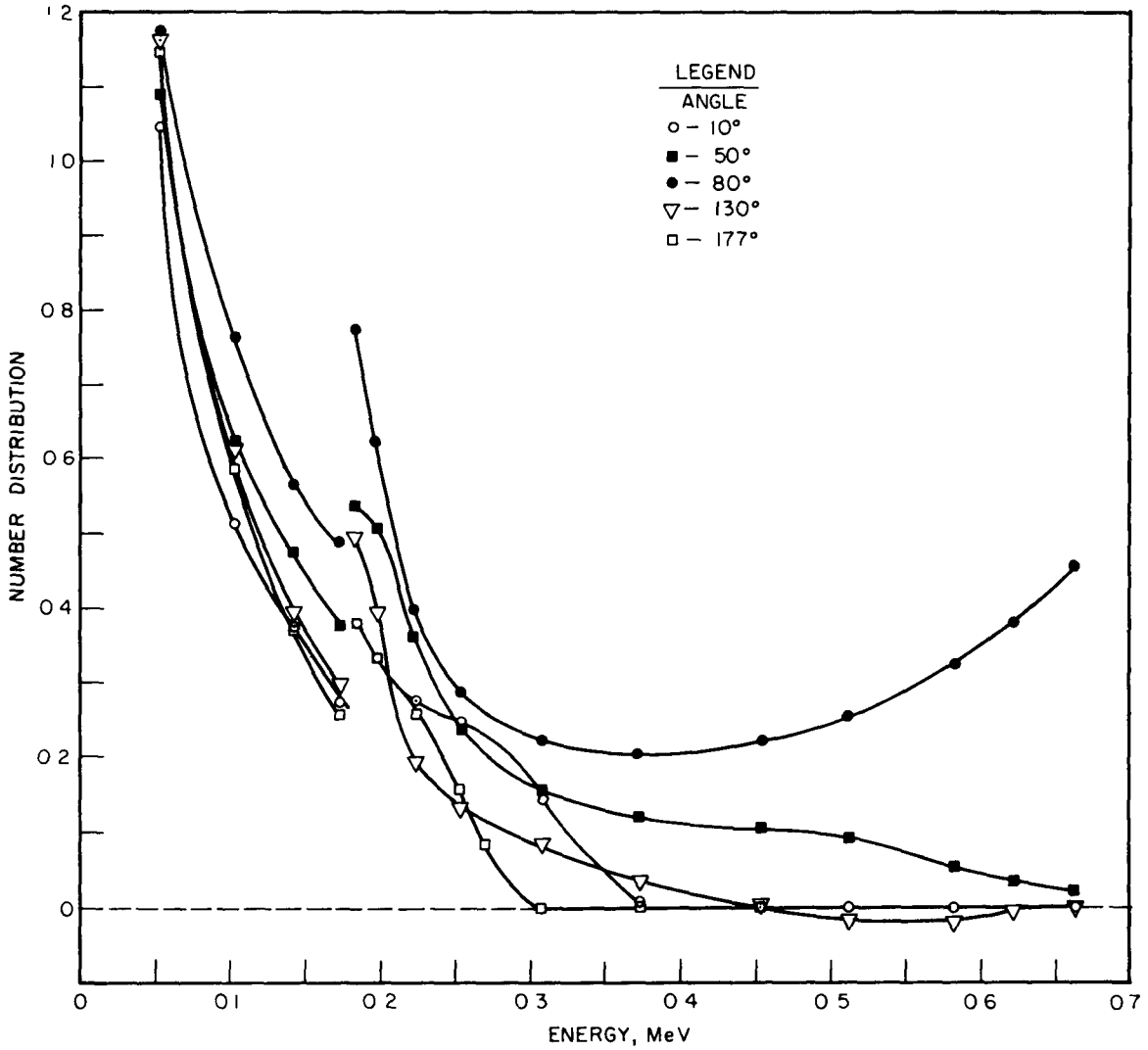

Fig. 17. Number distribution of Cs^{137} angular components versus energy at 3 feet.

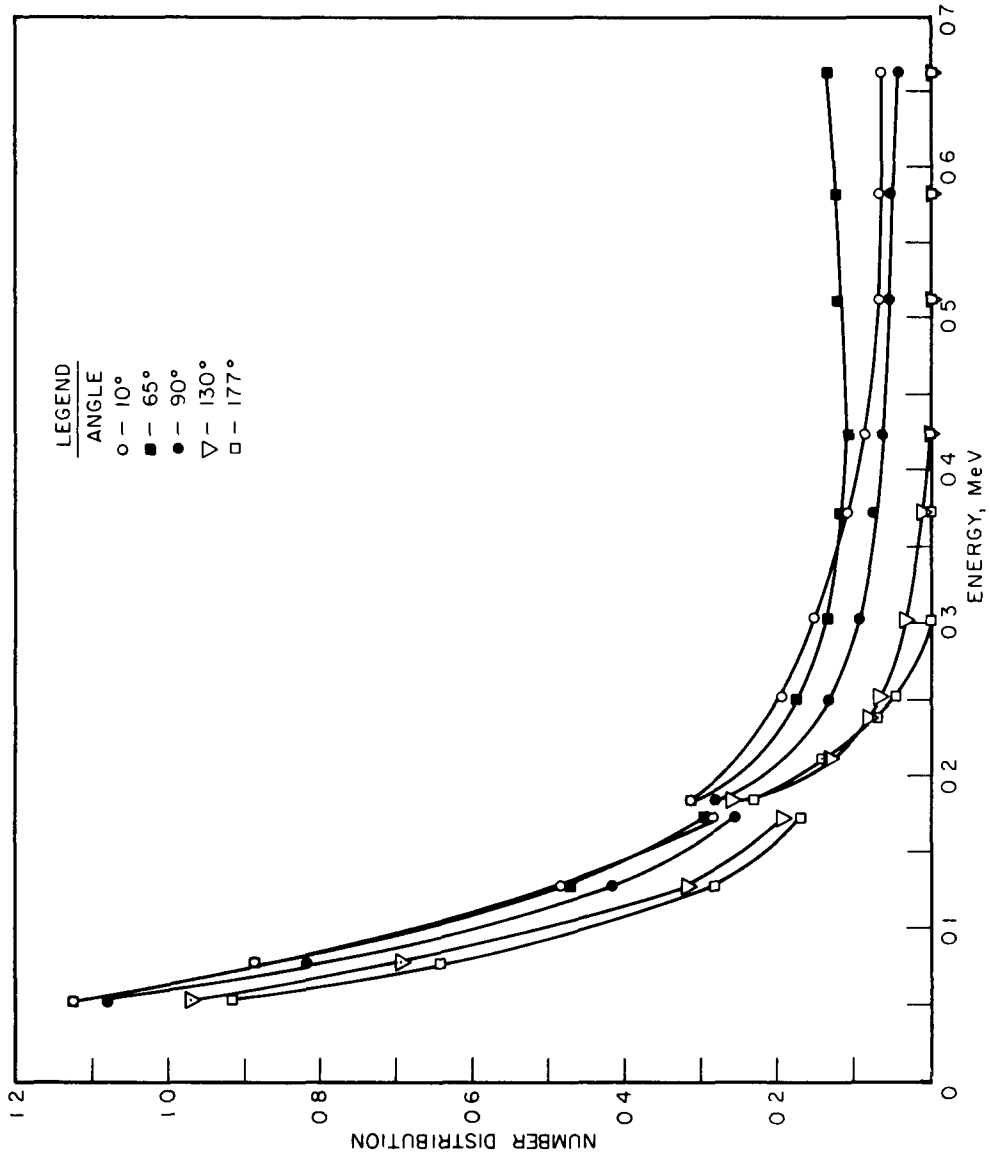

Fig. 18. Number distribution of Cs^{137} angular components versus energy at 200 feet.

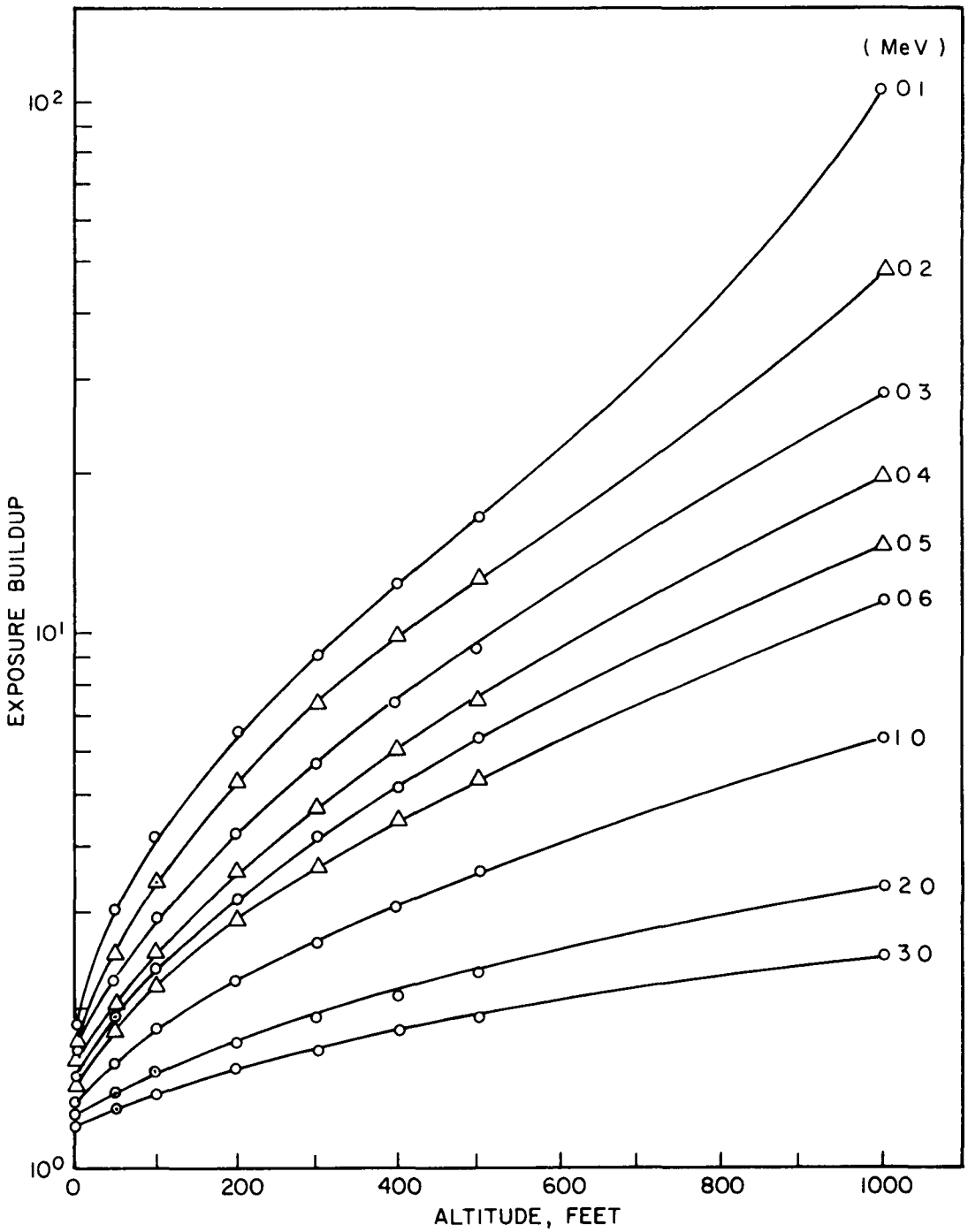

Fig. 19. Exposure buildup versus altitude.

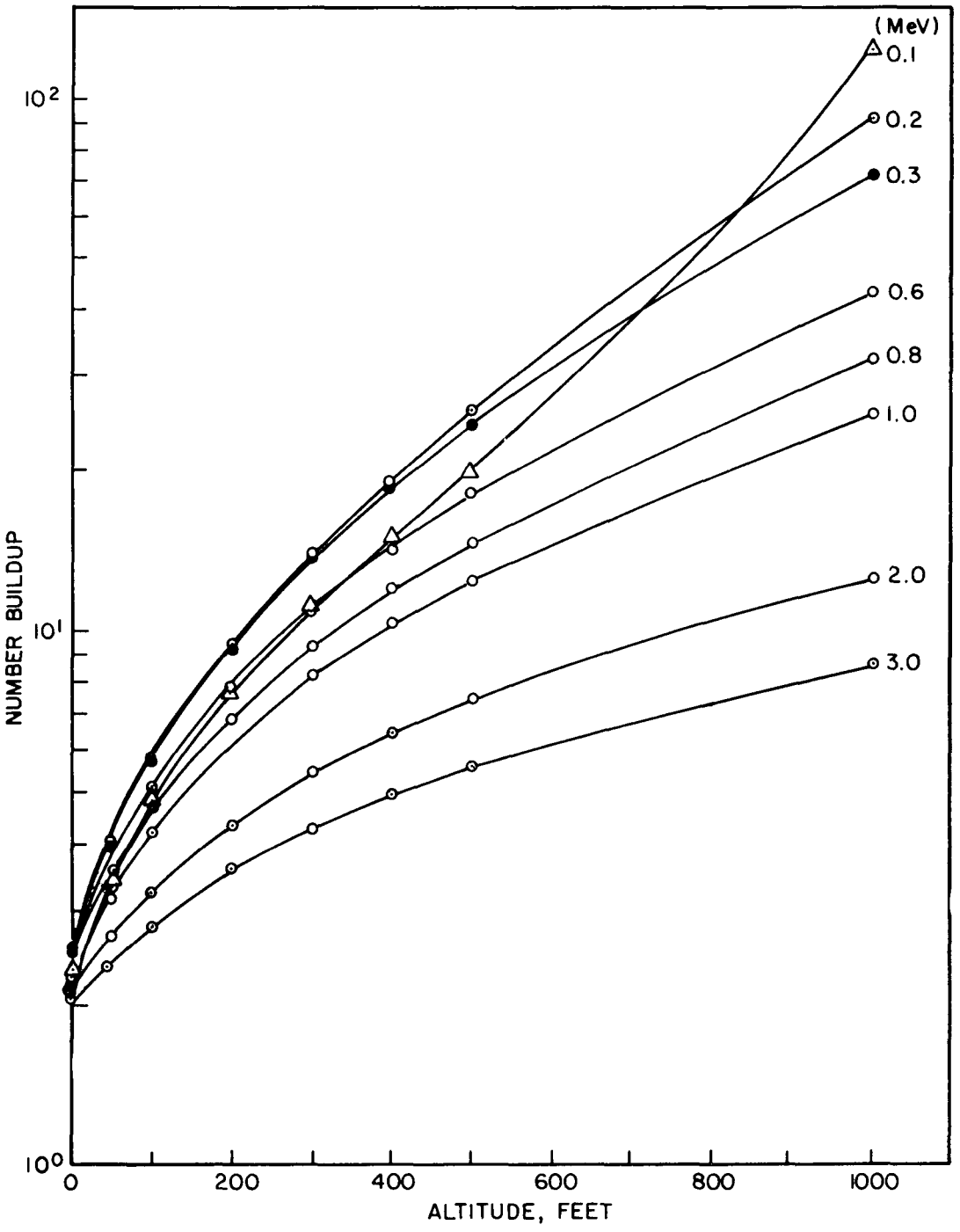

Fig. 20. Number buildup versus altitude.

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3. COMPUTATIONAL METHOD

Use of the moments method for solving gamma-ray scattering problems is well documented, and the reader is referred to the literature[1,3,4,6,7] for a detailed description. The results presented in this report were computed by the method due to Spencer and Fano.[1] The distribution functions were reconstructed from the moments by a technique first suggested by Berger.[2]

This section discusses the moments method, the technique used in fitting U polynomials, and the results of sensitivity studies. The notation used in outlining the moments method and fitting procedure is primarily that of Gates and Eisenhauer.[7]

3.1 COMPUTATION OF MOMENTS

The propagation of gamma rays through a scattering medium in which Compton, photoelectric, and pair-production interactions can take place is described by a Boltzman equation of the form

$$\underline{u} \cdot N(\underline{r},\underline{u},\lambda) = -\mu(\lambda)N + \int_0^{\lambda} k(\lambda',\lambda) \int_{4\pi} \tfrac{1}{2}\, \delta(1-\underline{u}\cdot\underline{u}' - \lambda+\lambda')\, N(\underline{r},\underline{u},'\lambda')d\underline{u}'d\lambda' + S \qquad (4)$$

where

$N(\underline{r},\underline{u},\lambda)$ = number distribution of photons per unit solid angle of wavelength λ (in Compton units) at the position $\underline{r}$ traveling in the direction defined by the unit vector $\underline{u}$. The units of N are photons/cm^2-sec-steradian-unit wavelength.

$\mu(\lambda)$ = total linear absorption coefficient. Coherent scattering is omitted from this calculation.

$k(\lambda',\lambda)$ = Klein-Nishina differential coefficient for Compton scattering from wavelength λ' to λ, or probability per unit path length per unit wavelength that a photon of wavelength λ' will be scattered into a photon of wavelength λ.

δ = Dirac delta function and expresses the Compton condition that change in wavelength is related to angle of scatter by the relation $\lambda-\lambda' = 1-\underline{u}.\underline{u}'$.

S = source units in photons/cm^3-sec-steradian-unit λ.

If the source is regarded as being uniformly distributed over the y,z plane, then the space variable x is the distance from the source plane. If $\underline{u}$ is a unit vector describing the photon direction, u_x is the direction cosine of that vector with the x axis. When using spherical polar coordinates with origin at the detector, and with the polar axis chosen parallel to the x axis, θ will designate the polar angle and ϕ the azimuthal angle. Note the correspondence $u_x = \cos\theta$.

It is possible to derive a scalar transport equation from Equation 4, which will be satisfied by an unknown distribution function $N(x,u_x,\lambda)$. To facilitate the solution of the transport equation, $N(x,u_x,\lambda)$ is expanded into a Legendre series,

$$N(x,u_x,\lambda) = \sum_{j=0}^{\infty} \frac{2j+1}{4\pi} N_j(x,\lambda) P_j(u_x) \qquad (5)$$

where $P_j(u_x)$ represents the ordinary (un-normalized) Legendre polynomials, and $N_j(x,\lambda)$ the Legendre coefficients of $N(x,u_x,\lambda)$.

When this series is substituted for $N(x,u_x,\lambda)$ in the transport equation, and the equation is integrated over all directions, a chain of equations involving $N_j(x,\lambda)$ results.

These equations are multiplied by t^m (where $t = \mu_o x$ is the distance from the source plane in mean free path lengths of source radiation) and integrated over t. The resulting doubly infinite chain of linked integral equations involving moments of the $N_j(x,\lambda)$, defined by

$$B_j^m(\lambda) = \frac{1}{m!} \int_{-\infty}^{\infty} \lambda \, N_j(x,\lambda) t^m dt \tag{6}$$

can be solved for the $B_j^m(\lambda)$ by numerical methods. The moments were computed by means of a program made available to us by Mr. Charles Eisenhauer of the National Bureau of Standards.

3.2 CALCULATION OF ANGULAR DEPENDENCE OF MOMENTS

If Equation 5 is regarded as describing the flux for a fixed angle w_x', it can be written

$$N(x,w_x',\lambda) = \sum_{j=0}^{\infty} \frac{2j+1}{4\pi} N_j(x,\lambda) P_j(w_x') \; * \tag{7}$$

If we then multiply Equation 7 by $\frac{\lambda t^m}{m!}$ and integrate over t, we get.

$$\frac{1}{m!} \int_{-\infty}^{\infty} \lambda \, N(x,w_x',\lambda) t^m dt = \sum_{j=0}^{\infty} \frac{2j+1}{4\pi} \left(\frac{1}{m!} \int_{-\infty}^{\infty} \lambda \, N_j(x,\lambda) t^m dt \right) P_j(w_x') \tag{8}$$

Berger[2] has pointed out that if the source is plane isotropic, the sum over j terminates when j = m, because of the property $B_j^m(\lambda) = 0$ if $j > m$ of the moments of plane isotropic sources.

*This equation differs by a factor $\frac{1}{2\pi}$ from that used by Berger. The difference is due to the normalization of 1 photon/cm^2-sec used in this report.

This means, in principle, that the exact moments for plane isotropic sources for any given angle, $M_n(\lambda,w_x')$, can be computed once the B_j^m's have been found. The formula is

$$M_n(\lambda,w_x') = \sum_{j=0}^{n} \frac{2j+1}{4\pi} B_j^n(\lambda) P_j(w_x') \tag{9}$$

We have now constructed the moments for the flux arriving in the solid angle element (ϕ to $\phi + d\phi$, w_x' to $w_x' + dw_x$). The similarity of this case to that of a monodirectional plane source treated by Spencer and Fano[1] suggests that the flux reconstruction can be handled in the same way. Berger used this technique to calculate the angular dependence of the energy flux from a 1.0-MeV isotropic plane source in water. We have applied the same technique to several source energies scattering in air.

3.3 RECONSTRUCTION OF THE FLUX FROM MOMENTS

The reconstruction was accomplished by use of the technique of fitting U_j^n polynomials. These polynomials are defined so they have the property

$$\tfrac{1}{2} \int_{-\infty}^{\infty} t^n e^{-t} U_j^n(t) U_k^{n\dagger}(t) dt = \delta_{jk} \tag{10}$$

The leading term $t^n e^{-t}$ is a weighting function.

The polynomial U_j^n may be thought of as a correction to the weight function at various thicknesses t. Thus, one would expect small, rapidly convergent terms near the source energy and a more complex behavior at spectral energies well below the source energy.

The required polynomials may be generated by use of the definitions and recursion formula given by Fano, Spencer, and Berger.[8]

$$U_n^{k\dagger}(x) = \sum_{j=0}^{n} (-1)^j \binom{n}{j} \frac{x^{2j}}{(2j+k)!} \tag{11}$$

$$U_n^k(x) = \frac{(-1)^{n+k}}{2^n n!} e^x \left(\frac{d}{dx}\right)^{2n+k} e^{-x} x^n \sum_{j=0}^{n} \frac{(n+j)!}{j!(n-j)!} \frac{1}{(2x)^j} \tag{12}$$

The polynomials have the recursion property

$$U_{n+1}^k(x) = \frac{1}{2(n+1)} \left[(2n+1+k) - x - x\frac{d}{dx} \right] U_n^k(x) \tag{13}$$

For this specific problem, the moments were separated into two groups; one with n even and the other with n odd. The first group is symmetrical in x and can be fitted with the weight function e^{-t}. The second group requires the use of the weight function te^{-t}. Thus, the required polynomials are U_k^o, U_k^1 and their adjoints $U_k^{o\dagger}$, $U_k^{1\dagger}$.

The formulae used for reconstructing the distributions are derived as follows. Let

$$H_\ell(t,\lambda) = \lambda N_\ell(x,\lambda)$$

We want to expand $H(t,\lambda)$ in a U polynomial. Taking the case of n even first, we can write

$$H_\ell(t,\lambda) \cong \tfrac{1}{2} e^{-t} \sum_{j=0}^{m} c_j(\lambda)\, U_j^o(t) \tag{14}$$

Note that the series terminates at m rather than ∞. This is due to the finite number of moments available for reconstruction. The expansion coefficients c_k can be found by employing the orthogonality properties of the polynomial.

Multiplying through Equation 14 by $U_k^{o\dagger}$ and integrating, we get

$$\int_{-\infty}^{\infty} H_\ell(t,\lambda)U_k^{o\dagger}(t)dt = c_k(\lambda) \tag{15}$$

Note that the polynomial parameter k in Equation 11 and the term index k in Equation 15 are different quantities. Substituting from Equation 11 with k = 0, and interchanging summation and integration, we then have

$$c_k(\lambda) = \sum_{j=0}^{k} (-1)^j \binom{k}{j} \int_{-\infty}^{\infty} \frac{t^{2j}}{(2j)!} H_\ell(t,\lambda)dt \tag{16}$$

but

$$\frac{1}{(2j)!} \int_{-\infty}^{\infty} H_\ell(t,\lambda)t^{2j}dt = B_\ell^{2j}(\lambda) \tag{17}$$

$$\therefore\ c_k(\lambda) = \sum_{j=0}^{k} (-1)^j \binom{k}{j} B_\ell^{2j}(\lambda) \tag{18}$$

In our calculation, the slant moments M_{2j} defined in Equation 9 are substituted for the general moment $B_\ell^{2j}(\lambda)$. Since the moments M_n are weighted values of B_ℓ^n summed over the ℓ index, the net effect is to make $c_k(\lambda)$ the result of a double summation over j and ℓ.

It should be remembered that this is the technique applied to the moments corresponding to even powers of t; these are the only ones present in Equation 18.

In treating the antisymmetric portion of the flux, it is again desirable to expand $H_\ell(t,\lambda)$ in a U polynomial representation

$$H_\ell(t,\lambda) \quad \tfrac{1}{2}te^{-t} \sum_{j=0}^{m} c_j(\lambda)U_j^1(t) \tag{19}$$

The equation for the expansion coefficient becomes

$$c_k(\lambda) = \sum_{j=0}^{k} (-1)^j \binom{k}{j} \int \frac{t^{2j+1}}{(2j+1)!} H_\ell(t,\lambda)dt \qquad (20)$$

or

$$c_k(\lambda) = \sum_{j=0}^{k} (-1)^j \binom{k}{j} B_\ell^{2j+1}(\lambda) \qquad (21)$$

Again in this calculation the slant moments $M_{2j+1}(\lambda,w_x')$ are substituted for $B_\ell^{j+1}(\lambda)$.

The total flux is computed by taking the sum of the symmetric and antisymmetric portions.

To summarize, the steps in the calculation are as follows:

1. Compute $B_\ell^n(\lambda)$ from moments code.
2. Compute slant moments $M_n(\lambda,w_x')$ using Equation 6.
3. Compute symmetric flux using Equations 14 and 18.
4. Compute antisymmetric flux using Equations 19 and 21.
5. Sum results of steps 3 and 4 to obtain total energy flux.

This calculation gives the energy distribution at the spectral energy corresponding to the wavelength (λ) of the moments, coming from the direction w_x' to a detector at distance t from the source. The units are MeV/cm^2-sec-MeV-steradian/unit source strength. The corresponding number flux is found by dividing the energy distribution by the energy corresponding to λ.

3.4 SENSITIVITY STUDIES

As a prelude to the calculation of the moments and the distribution functions that were reconstructed from the moments, studies were made of the

sensitivity of the moments to energy mesh spacing and the sensitivity of the distribution function to the total number of terms in the U polynomials.

3.4.1 Sensitivity of Moments to Energy Mesh Spacing

The moments are computed by solving a set of linked linear integral equations by numerical techniques. Apart from questions of the accuracy of the input parameters such as absorption cross section and various physical constants, the accuracy of the moments obtained in the calculation depends primarily on the spacing of the mesh points used in approximating the integrals in the moments equations. Control is exercised over this factor by specifying in the computer input the number of points in the single scattering region.

To test the sensitivity of the calculations to mesh point spacing, two sets of moments were calculated, one with 20 mesh points in the single scattering region and the other with 40 points. Moments were computed out to $n = 11$, $\ell = 11$. A comparison of typical results is shown in Table 2. Two spectral energies are illustrated: 0.621 MeV, which is near the source energy of 0.662 MeV; and 0.184 MeV, which is at the low-energy end of the single scattering region. The change in the moments and the change in the reconstructed distribution functions are both small. The conclusion is that the moments computed from a 20-point mesh give an accuracy of the order of three significant figures in the distribution function. Thus, the accuracy of the reconstructed distributions is limited by the uncertainty of the polynomial fitting technique rather than by the accuracy of the moments themselves. All subsequent calculations were therefore made with a 20-point mesh to span the single scattering region.

3.4.2 Sensitivity of Distribution Functions to Total Number of Terms in U Polynomials

Another computational parameter which directly affects the accuracy of the reconstructed distributions is the number of terms of the series used to approximate the functions via Equations 14 and 19. This depends on

Table 2. Sensitivity of moments to energy mesh spacing

n	ℓ	Spectral Energy = 0.621 MeV		Spectral Energy = 0.184 MeV	
		40-Point Mesh	20-Point Mesh	40-Point Mesh	20-Point Mesh
0	0	1.44019544	1.44026900	2.58282380	2.58293120
1	1	0.967422601	0.967480545	0.29546131	0.295225106
2	0	1.51351116	1.51370312	2.94293762	2.94250973
2	2	0.574027051	0.574034663	0.197413580	0.197600970
3	1	1.21816794	1.21830329	0.525500457	0.525117402
3	3	0.318208329	0.318172161	0.0110366457	0.0109792329
4	0	1.58663276	1.58695992	3.62047354	3.61989334
4	2	0.859049372	0.859050281	0.269999410	0.270180708
4	4	0.168128340	0.168073588	0.0198051225	0.0198381870
5	1	1.36635234	1.36655827	0.751025871	0.750436115
5	3	0.554561803	0.554436169	0.0268723453	0.0268008076
5	5	0.0854427983	0.0853915053	-0.00170841208	-0.00168398904
6	0	1.65954700	1.65999924	4.35853024	4.35766208
6	2	1.04758576	1.04754255	0.33385797	0.334043449
6	4	0.334961557	0.334770835	0.0313893939	0.0314444874
6	6	0.0419593147	0.0419221188	0.00271885718	0.00271770536
7	1	1.148020056	1.148044513	0.981674870	0.980885197
7	3	0.736505543	0.736218483	0.0454874483	0.0454176060
7	5	0.191639062	0.191448604	-0.00263443994	-0.00258119067
7	7	0.0199600917	0.0199379276	-0.000680197765	-0.000680065742

the number of n values for which moments are computed. The sensitivity of the distribution function to an increase in the number of n values for which moments are calculated was studied by examination of successive terms in the series. The U polynomials are particularily useful in studying convergence because each new moment computed adds a single term to the approximation sum. This would not be so if a simple polynomial was fitted by defining its coefficients such that the first n moments of the polynomial matched the calculated moments. The addition of one more moment would produce an entirely new set of expansion coefficients, and the effect on convergence would not be as clear cut as it is in the present case.

The values in Table 3 represent the terms $c_k U_k$ in Equations 14 and 19 as computed for various angles and altitudes by the program. It can be seen that the convergence is poorest for angles near the horizontal and for energies close to the source energy. After a few trial calculations with n = 10, it was decided to compute as many moments as possible for use in the fitting routines. With slight rearranging of the moments program it was possible to increase the maximum n to 18.

Inspection of Table 3 shows that the oscillatory nature of the series which is hinted at for n values less than 10 is indeed present in some cases. It appears that if details of the angular dependence are desired, it is necessary to compute as many moments as possible. The difficulties are most severe in the regions where the function is changing rapidly and thus contains contributions from the greatest number of harmonics.

For some combinations of energy and angle, the reconstructed flux is actually negative. The values shown in Table 3 for 115° and a 3-foot altitude are typical of the worst convergence problems in the entire calculation. It should be noted from Table 4 that one of the distribution functions at 105° is negative and the other positive; but in neither case does the value of the sum coverage to a stable value, even at n = 18. Table 4, which shows the same two spectral energies as Table 3, along with two different altitudes and all the angles for which calculations were made, further

Table 3. Individual terms ($C_k U_k$) of U polynomial approximation to energy distribution of Cs^{137} plane source at various spectral energies, altitudes, and angles as a function of moment number (n)

n	Energy 0.621 MeV Altitude 200 Feet Angle 10°	Energy 0.238 MeV Altitude 200 Feet Angle 10°	Energy 0.621 MeV Altitude 200 Feet Angle 85°	Energy 0.238 MeV Altitude 200 Feet Angle 85°	Energy 0.621 MeV Altitude 3 Feet Angle 115°	Energy 0.238 MeV Altitude 3 Feet Angle 115°
0	3.600673-001	4.319318-001	3.600673-001	4.319318-001	3.600673-001	4.319318-001
2	-1.371413-001	-4.628977-002	6.477171-002	-1.452384-002	7.341030-002	-5.125428-002
4	-8.978578-004	1.305899-003	1.237246-002	1.360429-003	9.272486-003	4.146203-003
6	7.661701-006	-4.731451-004	-5.318614-003	-5.546112-004	-1.411046-002	8.797693-004
8	-1.673615-005	-1.010569-003	-1.219422-003	-1.218867-003	-2.304423-002	-5.684810-004
10	-9.761301-006	-1.174339-003	-1.471967-002	-1.435580-003	-2.583570-002	-1.194322-003
12	-4.051570-006	-1.167032-003	-1.527458-002	-1.468459-003	-2.584314-002	-1.458731-003
14	-1.863628-006	-1.102393-003	-1.522182-002	-1.468459-003	-2.4591007-002	-1.549396-003
16	-1.222054-006	-1.075324-003	-1.578108-002	-1.499501-003	-2.281477-002	-1.552222-003
18	-9.647152-007	-9.432080-004	-1.476778-002	-1.402143-003	-2.087946-002	-1.509926-003
1	7.145868-001	4.279478-001	6.324111-002	3.787349-002	3.066562-001	-1.836486-001
3	-4.810938-001	-2.174219-001	3.855310-002	-7.270160-003	-1.676278-001	6.527211-002
5	-1.136943-002	-1.149985-002	2.503055-002	8.881342-004	-8.652392-002	-3.767635-003
7	-2.394264-004	-6.761899-003	1.668311-002	4.621681-004	-3.855520-002	-6.439435-005
9	8.156097-005	-3.822737-003	1.123096-002	2.958629-004	-1.005361-002	1.794678-003
11	3.001081-005	-2.100200-003	7.540710-003	2.076763-004	6.781839-003	2.670654-003
13	5.972484-006	-8.202194-004	3.544754-003	1.052960-004	1.651395-002	3.083059-003
15	1.406898-006	-3.576729-004	1.804871-003	5.836004-005	2.186917-002	3.255140-003
17	1.981611-007	-7.746684-005	4.414939-004	1.555315-005	2.450731-002	3.295154-003

Table 4. Sensitivity of number distribution functions to number of moments used in reconstruction at spectral energies of 0.621 and 0.238 MeV

Spectral Energy = 0.621 MeV					Spectral Energy = 0.238 MeV				
Angle (degrees)	3 Feet		200 Feet		Angle (degrees)	3 Feet		200 Feet	
	n = 18	n = 10	n = 18	n = 10		n = 18	n = 10	n = 18	n = 10
0	0.010494	0.010229	0.37997	0.37996	0	1.6088	1.6784	1.2800	1.2989
10	0.010723	0.010343	0.38845	0.38842	10	1.6454	1.7019	1.2896	1.3071
20	0.011669	0.014639	0.41524	0.41552	20	1.7163	1.7610	1.3144	1.3271
30	0.015402	0.052004	0.46505	0.46737	30	1.7565	1.8348	1.3422	1.3480
40	0.046986	0.21012	0.54652	0.55231	40	1.7681	1.9145	1.3571	1.3573
50	0.23558	0.60949	0.66298	0.66472	50	1.8205	2.0010	1.3464	1.3435
60	0.83827	1.2475	0.77709	0.7600	60	1.9488	2.0781	1.3008	1.2973
65	1.3170	1.5783	0.80188	0.77659	65	2.0228	2.0991	1.2622	1.2599
70	1.8526	1.8430	0.78427	0.75955	70	2.0811	2.0997	1.2124	1.2128
75	2.2314	1.9838	0.71517	0.70391	75	2.1049	2.0707	1.1522	1.1564
80	2.3877	1.9598	0.59757	0.61114	80	2.0797	2.0107	1.0836	1.0921
85	2.2103	1.7607	0.44794	0.48968	85	1.9999	1.9183	1.0096	1.0220
90	1.7238	1.4124	0.29155	0.35546	90	1.8714	1.7980	0.93403	0.94859
95	1.0607	0.97191	0.15386	0.21893	95	1.7099	1.6574	0.86062	0.87499
100	0.40539	0.51308	0.051981	0.10128	100	1.5367	1.5066	0.79234	0.80334
105	-0.087470	0.10745	-0.009291	0.011242	105	1.3724	1.3566	0.73106	0.73657
110	-0.34962	-0.19296	-0.036017	-0.04677	110	1.2321	1.2174	0.67741	0.67618
115	-0.40547	-0.36648	-0.039805	-0.074645	115	1.1228	1.0969	0.63111	0.62313
120	-0.33441	-0.42135	-0.032317	-0.078908	120	1.0444	1.0004	0.59132	0.57775
130	-0.12050	-0.30577	-0.012961	-0.051031	130	0.96139	0.88825	0.52748	0.50911
140	-0.02019	-0.12711	-0.0031534	-0.019443	140	0.95551	0.87945	0.48099	0.46681
150	-0.001167	-0.0296	-0.0004316	-0.0042106	150	1.0318	0.95173	0.45206	0.44660
160	0.00006	-0.0026096	-0.000009	-0.0034236	160	1.1788	1.0655	0.44192	0.44286
170	-0.00002	0.000282	-0.000002	0.000038	170	1.3237	1.1677	0.44484	0.44696
180	-0.00006	0.000117	-0.000015	0.000013	180	1.3829	1.2085	0.44815	0.44970

illustrates the sensitivity of flux distribution functions to a change in the total number of moments included.

In summary, these results lead to the conclusion that for energies near the source energy and for angles where the flux is changing rapidly, the approximate function is not well converged. For this reason, negative values have been reported where they occur so the reader will be alerted to the difficulty. In the integrations for incremental dose rate and number flux, zero was substituted for negative numbers when they were encountered. It was felt that in the regions where convergence was a problem, the contributions of the scattered photons to dose was small compared to the unscattered contribution, and that the resulting dose rates would still be useful.

3.4.3 Possible Methods for Improving Results

One method of improving the calculation in the energy region of interest would be to use the "brute-force" approach of computing still more moments. However, several factors make this approach unattractive. One disadvantage is that the moments for all the ℓ values must be computed for a given value of n in order to find the slant moments which characterize the angular dependence. For example, we found it necessary to calculate 100 moments for each spectral energy point to reach $n = 18$; 110 moments are required to reach $n = 19$ and 120 moments are required to reach $n = 20$. Tables 2 and 3 show that the series converges very slowly in the problem areas. Because of this slow convergence and the expense of computing still more moments, it is considered uneconomical to go much further in this direction. Another objection to the brute-force extension of the approximation is that the program as presently written nearly fills a computer with a 32-K memory. Thus, computation of enough moments to insure convergence of the approximations for all cases would require a larger machine.

Another method, and one that is more attractive, would be to compute the contributions of single scattering separately by analytical means and to subtract the corresponding single scattering moments from the total

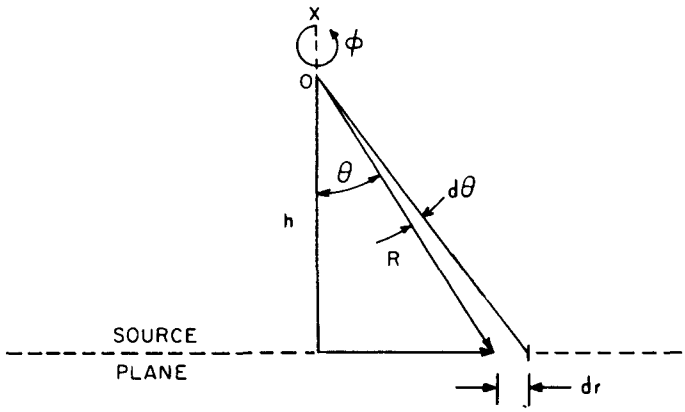
scattering moments before proceeding with reconstruction. The multiple scatter distribution should be more isotropic and easier to fit with a few moments.

The separate treatment of single scattering was not employed in our calculations because of time and funding limitations. The results of our sensitivity studies indicate, however, that if the moments technique is to be used to study plane source scattering near the plane, and for angles nearly parallel to the plane, the separate treatment of single scattering will be required to make good approximation to the flux.

3.5 UNCOLLIDED FLUX CALCULATIONS

The number of uncollided photons per second arriving at a unit detector through the element of solid angle $d\Omega$ was computed for use in studying number and dose buildup factors. This differential flux can be calculated analytically as follows.

Referring to the sketch that defines the geometry and symbols, consider a small element of area on the source plane located at the point (r,ϕ).



The area of the element is r dr dϕ. If the strength of the source is A_s photons/sec-cm^2, the total strength of the element of area is given by

$$dS = A_s \, r \, dr \, d\phi \tag{22}$$

The number of photons arriving at a detector of unit area, which originated in the element of area is expressed by

$$dN = \frac{A_s \, e^{-\mu R} r \, dr \, d\phi}{4\pi \, R^2} \tag{23}$$

where μ is the absorption coefficient for the energy of the source. Making the substitutions, we get

$$R = h/\cos\theta = h \sec\theta$$

$$r = h \tan\theta$$

$$dr = h \sec^2\theta d\theta$$

This can be written as

$$dN = \frac{A_s \exp\{-\mu h/\cos\theta\} \, h \tan\theta \, h \sec^2\theta \, d\theta d\phi}{4\pi \, h^2 \sec^2\theta}$$

$$= \frac{A_s \exp\{-\mu h/\cos\theta\} \tan\theta \, d\theta d\phi}{4\pi} \tag{24}$$

The solid angle subtended by the element of area is given by

$$d\Omega = \sin\theta \, d\theta d\phi \tag{25}$$

Thus, we can make the substitution

$$d\theta d\phi = d\Omega/\sin\theta \tag{26}$$

and the number equation becomes

$$dN = \frac{A_s \exp\{-\mu h/\cos\theta\}\, d\Omega}{4\pi \cos\theta} \tag{27}$$

The number per cm^2-sec-steradian can then be written

$$\frac{dN}{d\Omega} = \frac{A_s \exp\{-\mu h/\cos\theta\}}{4\pi \cos\theta} \tag{28}$$

This expression was evaluated by the program and is tabulated in Appendix 3 under the heading "Number Flux." The column headed "Energy Flux" was computed as

$$E_o \frac{dN}{d\Omega}$$

where

E_o = the source energy.

To find the total number entering through a spherical zone centered at θ of width $\Delta\theta$, it is necessary to find the solid angle subtended by the zone which is $\Delta\Omega = 2\pi \sin\theta\Delta\theta$ and multiply by the flux per steradian. The solid angles subtended by the various zones used in the calculation are tabulated in Appendix C under the heading "Incremental Solid Angle."

The final column headed "Incremental Dose" is computed from the formula

$$\Delta D_o = E_o \frac{dN}{d\Omega} \Delta\Omega\, R(E_o) \tag{29}$$

where $R(E_o)$ = the energy-to-dose conversion factor for the source energy.

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ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.100 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0179 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.064	0.067	0.071	0.073	0.077	0.081	0.085	0.089	0.094	0.098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.140725	0.129432	0.124232	0.249460	0.212038	0.217435	0.175583	0.048294	0.004808	0.007008	5.322-007	1.782+000
10(0.98)	0.141044	0.131029	0.125698	0.252545	0.217024	0.215379	0.168813	0.061574	0.007959	0.007219	4.298-006	1.782+000
20(0.94)	0.142387	0.135306	0.130550	0.263121	0.232655	0.207371	0.154642	0.093591	0.024792	0.008044	8.862-006	1.782+000
30(0.87)	0.145504	0.142047	0.139311	0.283727	0.254373	0.195418	0.146447	0.124448	0.066266	0.011797	1.402-005	1.780+000
40(0.77)	0.151448	0.151641	0.153319	0.321324	0.274193	0.188443	0.149990	0.148168	0.128964	0.033352	2.029-005	1.777+000
50(0.64)	0.162668	0.166755	0.175638	0.387945	0.292415	0.195988	0.166771	0.174641	0.198855	0.117245	2.867-005	1.776+000
60(0.50)	0.183489	0.192185	0.211110	0.488476	0.322001	0.224563	0.200875	0.218406	0.278659	0.317199	3.090-005	1.770+000
65(0.42)	0.197548	0.208707	0.233399	0.543704	0.342690	0.245820	0.224168	0.247794	0.323927	0.454512	2.498-005	1.745+000
70(0.34)	0.211969	0.225363	0.255645	0.591541	0.363215	0.267567	0.247866	0.277687	0.368496	0.589923	3.055-005	1.682+000
75(0.26)	0.223678	0.238661	0.273442	0.621448	0.377063	0.283954	0.266110	0.300726	0.401801	0.689912	3.804-005	1.568+000
80(0.17)	0.229375	0.244876	0.282079	0.624629	0.377292	0.288732	0.272387	0.308661	0.411878	0.721584	5.007-005	1.405+000
85(0.09)	0.226992	0.241714	0.278599	0.597947	0.359800	0.278086	0.262586	0.296248	0.391003	0.667041	7.891-005	1.217+000
90(-0.00)	0.216843	0.229816	0.263441	0.546260	0.325813	0.252909	0.237530	0.264513	0.340767	0.533774	1.269-005	0.000+000
95(-0.09)	0.201654	0.211782	0.240515	0.481429	0.281878	0.218848	0.203115	0.220921	0.272400	0.353946	1.069-005	0.000+000
100(-0.17)	0.185370	0.192787	0.215511	0.418032	0.237132	0.183833	0.167655	0.175993	0.201622	0.171720	8.587-006	0.000+000
105(-0.26)	0.171414	0.176574	0.193437	0.367874	0.199449	0.154558	0.138099	0.138451	0.141298	0.025501	6.928-006	0.000+000
110(-0.34)	0.161461	0.165028	0.176855	0.336154	0.172752	0.134079	0.117474	0.111966	0.096813	-0.065022	5.817-006	0.000+000
115(-0.42)	0.155292	0.157829	0.165672	0.321056	0.156800	0.121689	0.104856	0.095144	0.065342	-0.101185	5.090-006	0.000+000
120(-0.50)	0.151580	0.153373	0.158222	0.316381	0.148967	0.114594	0.097235	0.083923	0.041900	-0.098383	6.865-006	0.000+000
130(-0.64)	0.146338	0.146480	0.147775	0.312789	0.147591	0.105794	0.086132	0.063689	0.003731	-0.049356	7.485-006	0.000+000
140(-0.77)	0.140787	0.138539	0.138865	0.298597	0.138737	0.097685	0.072830	0.036987	-0.020155	-0.013064	5.853-006	0.000+000
150(-0.87)	0.135501	0.130749	0.131680	0.278683	0.127827	0.092965	0.064374	0.007477	-0.029768	-0.001664	4.281-006	0.000+000
160(-0.94)	0.131284	0.124779	0.126688	0.262362	0.119767	0.090841	0.028741	-0.013634	-0.009219	-0.000039	2.800-006	0.000+000
170(-0.98)	0.128506	0.121223	0.123799	0.252675	0.203002	0.107651	0.001551	-0.020481	-0.000916	0.000011	1.393-006	0.000+000
177(-1.00)	0.127587	0.120143	0.122919	0.249730	0.204732	0.113381	-0.010045	-0.020553	0.001148	0.000002	1.745-007	0.000+000
ENERGY SUM	2.172700	2.228107	2.404321	5.096348	3.188138	2.325539	1.985206	1.949899	2.108418	2.394959		

TOTAL DOSE RATE = 0.000468 (MR/HR)

TOTAL DOSE BUILDUP= 1.690667

LOWER ENERGY CUTOFF 0.0559MEV

LOWEST SINGLE SCATTERING ENERGY 0.0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,2975 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.064	0,067	0,071	0,073	0,077	0.081	0,085	0,089	0,094	0.098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,147359	0,141334	0,138334	0,227283	0,192890	0,187257	0,174967	0,121876	0.089993	0,088190	4,977-007	2.205+000
10(0,98)	0,147959	0,142358	0,139632	0,229454	0,195738	0,187515	0,171542	0,127087	0,094253	0,090545	4,004-006	2.206+000
20(0,94)	0,150004	0,145571	0,143827	0,236647	0,204867	0,187162	0,164241	0,139769	0,109633	0,098710	8,152-006	2.207+000
30(0,87)	0,153743	0,150817	0,150981	0,249644	0,218711	0,185571	0,159826	0,152765	0,137398	0.115229	1,259-005	2.208+000
40(0,77)	0,159487	0,158207	0,161327	0,270653	0,233675	0,185384	0,161502	0,164485	0,172870	0,147854	1,749-005	2.207+000
50(0,64)	0,167623	0,168222	0,175167	0,302835	0,247534	0.190013	0,169473	0,178227	0,208591	0,210742	2,303-005	2.204+000
60(0,50)	0,178024	0,180795	0,192014	0,344473	0,260928	0,200228	0,182637	0,196307	0,242197	0,308507	2,193-005	2.198+000
65(0,42)	0,183153	0,186990	0,200239	0,364105	0,266451	0,205819	0,189504	0,205455	0,256815	0,359913	1,617-005	2.189+000
70(0,34)	0,186981	0,191693	0,206603	0,378038	0,269039	0,209467	0,194303	0,211949	0,266698	0.399313	1,746-005	2.178+000
75(0,26)	0,188252	0,193470	0,209371	0,382204	0,266316	0,208851	0,194635	0,212790	0,267754	0,413979	1,803-005	2.190+000
80(0,17)	0,185940	0,191162	0,207120	0,373907	0,256358	0,202055	0,188459	0,205399	0,256325	0,394352	1,684-005	2.365+000
85(0,09)	0,179769	0,184462	0,199456	0,353212	0,238788	0,188560	0,175175	0,189006	0,231334	0,338857	1,177-005	4.495+000
90(-0,00)	0,170469	0,174219	0,187387	0,323420	0,215361	0,169784	0,156234	0,165433	0,195540	0,256106	8,193-006	0.000+000
95(-0,09)	0,159585	0,162205	0,173052	0,290202	0,189520	0,148698	0,134751	0,138614	0,154835	0.162627	7,032-006	0.000+000
100(-0,17)	0,148885	0,150443	0,156904	0,259654	0,165126	0,128649	0,114242	0,112974	0,115823	0,076846	5,898-006	0.000+000
105(-0,26)	0,139703	0,140442	0,146789	0,236238	0,145030	0,112065	0,097219	0,091643	0.083142	0.012451	4,997-006	0.000+000
110(-0,34)	0,132569	0,132780	0,137446	0,221571	0,130318	0,099761	0,084473	0,075547	0,058163	-0,025417	4,339-006	0.000+000
115(-0,42)	0,127277	0,127184	0,130600	0,214549	0,120498	0,091137	0,075310	0,063728	0,039585	-0,039759	3,849-006	0.000+000
120(-0,50)	0,123246	0,122952	0,125470	0,212466	0,114318	0,084927	0,068380	0,054412	0,025166	-0,038247	5,189-006	0.000+000
130(-0,64)	0,116889	0,116103	0,117608	0,212236	0,108758	0,075442	0,056774	0,037633	0,003550	-0,018791	5,575-006	0.000+000
140(-0,77)	0,111499	0,109896	0,111202	0,208386	0,109957	0,067118	0,044954	0,020275	-0,007838	-0,004941	4,328-006	0.000+000
150(-0,87)	0,107123	0,104634	0,106226	0,201318	0,116567	0,060573	0,031640	0,004580	-0,008055	-0,000654	3,164-006	0.000+000
160(-0,94)	0,103904	0,100815	0,102770	0,194674	0,124442	0,057665	0,016518	-0,005115	-0,003473	-0,000024	2,071-006	0.000+000
170(-0,98)	0.101895	0,098568	0,100755	0,190364	0,129578	0,058387	0,002607	-0,007819	-0,000347	0,000004	1,028-006	0.000+000
177(-1,00)	0,101249	0,097882	0,100136	0,188994	0,131067	0,059338	-0,002945	-0,007736	0,000409	0,000001	1,284-007	0.000+000
ENERGY SUM	1,889643	1,897766	1,983364	3,460940	2,381407	1,816360	1,572657	1,537089	1.635384	1,820059		

TOTAL DOSE RATE = 0.000224(MR/HR)

TOTAL DOSE BUILDUP= 3.071400

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,5951 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,142748	0,139280	0,137965	0,199974	0,170458	0,161032	0,162268	0,149797	0,131925	0,130760	4,445-007	2,652+000
10(0,98)	0,143301	0,139919	0,138889	0,201279	0,171945	0,161956	0,160767	0,150807	0,135535	0,133578	3,563-006	2,655+000
20(0,94)	0,145068	0,141937	0,141803	0,205445	0,176748	0,164127	0,157329	0,153283	0,146566	0,143113	7,167-006	2,663+000
30(0,87)	0,147969	0,145216	0,146486	0,212349	0,184464	0,166140	0,154640	0,156167	0,162387	0,160902	1,083-005	2,678+000
40(0,77)	0,151819	0,149586	0,152548	0,221839	0,193589	0,167616	0,154105	0,159548	0,178738	0,189383	1,451-005	2,700+000
50(0,64)	0,155985	0,154443	0,159033	0,232979	0,201309	0,168681	0,155245	0,163362	0,191737	0,227455	1,799-005	2,736+000
60(0,50)	0,158680	0,157907	0,163585	0,241984	0,203714	0,167718	0,155276	0,164974	0,197508	0,261003	1,548-005	2,814+000
65(0,42)	0,158465	0,158004	0,163843	0,243204	0,201302	0,165061	0,153170	0,162985	0,195389	0,266884	1,060-005	2,901+000
70(0,34)	0,156591	0,156315	0,161980	0,240624	0,195596	0,159977	0,148540	0,157781	0,188245	0,260032	1,040-005	3,098+000
75(0,26)	0,152779	0,152518	0,157659	0,233484	0,186292	0,151999	0,140836	0,148685	0,175226	0,238240	9,520-006	3,651+000
80(0,17)	0,147077	0,146656	0,150979	0,221895	0,173695	0,141217	0,130104	0,135756	0,156521	0,202418	7,829-006	6,102+000
85(0,09)	0,139911	0,139199	0,142540	0,206999	0,158809	0,128385	0,117109	0,119960	0,133618	0,156926	6,079-006	7,051+001
90(-0,00)	0,131993	0,130940	0,133300	0,190724	0,143124	0,114748	0,103153	0,102933	0,108976	0,108519	5,338-006	0,000+000
95(-0,09)	0,124100	0,122744	0,124279	0,175211	0,128185	0,101636	0,089640	0,086435	0,085215	0,064259	4,675-006	0,000+000
100(-0,17)	0,116854	0,115292	0,116253	0,162187	0,115140	0,090046	0,077619	0,071769	0,064271	0,029368	4,076-006	0,000+000
105(-0,26)	0,110583	0,108932	0,109583	0,152575	0,104506	0,080413	0,067539	0,059472	0,046972	0,006002	3,585-006	0,000+000
110(-0,34)	0,105330	0,103691	0,104246	0,146453	0,096215	0,072648	0,059291	0,049388	0,033180	-0,006634	3,186-006	0,000+000
115(-0,42)	0,100955	0,099392	0,099991	0,143276	0,089858	0,066361	0,052458	0,040984	0,022288	-0,011207	2,850-006	0,000+000
120(-0,50)	0,097262	0,095799	0,096512	0,142200	0,084964	0,061100	0,046567	0,033683	0,013704	-0,010906	3,839-006	0,000+000
130(-0,64)	0,091296	0,090001	0,091005	0,142961	0,078322	0,052331	0,036236	0,020939	0,002292	-0,005611	4,088-006	0,000+000
140(-0,77)	0,086706	0,085473	0,086770	0,143795	0,075246	0,044837	0,026668	0,010203	-0,002309	-0,001724	3,165-006	0,000+000
150(-0,87)	0,083261	0,082032	0,083579	0,143184	0,075560	0,038319	0,017386	0,002490	-0,002547	-0,000337	2,316-006	0,000+000
160(-0,94)	0,080850	0,079648	0,081360	0,141772	0,078089	0,033111	0,008792	-0,001344	-0,001048	-0,000036	1,518-006	0,000+000
170(-0,98)	0,079408	0,078262	0,080057	0,140544	0,080709	0,029798	0,002337	-0,002223	-0,000204	0,000001	7,525-007	0,000+000
177(-1,00)	0,078955	0,077836	0,079655	0,140107	0,081692	0,028756	0,000050	-0,002185	0,000014	0,000002	9,387-008	0,000+000
ENERGY SUM	1,579854	1,562871	1,593703	2,362301	1,762588	1,396933	1,224910	1,191371	1,247509	1,359504		

TOTAL DOSE RATE = 0.000154(MR/HR)

TOTAL DOSE BUILDUP= 4,194953

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.100 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 1.1902 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.064	0.067	0.071	0.073	0.077	0.081	0.085	0.089	0.094	0.098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.117380	0.115479	0.115607	0.145939	0.126432	0.118168	0.124805	0.138923	0.140080	0.143731	3.282-007	3.553+000
10(0.98)	0.117526	0.115514	0.115787	0.146050	0.126598	0.118643	0.124667	0.137310	0.141396	0.145388	2.614-006	3.564+000
20(0.94)	0.117890	0.115588	0.116261	0.146252	0.126994	0.120025	0.123773	0.133185	0.144246	0.150681	5.147-006	3.603+000
30(0.87)	0.118174	0.115549	0.116668	0.146028	0.127529	0.121323	0.121517	0.128545	0.145357	0.159304	7.489-006	3.681+000
40(0.77)	0.117910	0.115036	0.116372	0.144209	0.128038	0.120837	0.117751	0.123828	0.142487	0.169360	9.453-006	3.825+000
50(0.64)	0.116222	0.113165	0.114238	0.138425	0.126765	0.116981	0.111920	0.117394	0.134975	0.173058	1.072-005	4.114+000
60(0.50)	0.111480	0.108192	0.108281	0.125657	0.119776	0.107869	0.101930	0.105940	0.119980	0.155150	8.061-006	4.816+000
65(0.42)	0.107445	0.103989	0.103279	0.116392	0.113086	0.100762	0.094545	0.097242	0.108174	0.134286	5.053-006	5.655+000
70(0.34)	0.102369	0.098657	0.097002	0.105918	0.104433	0.092083	0.085566	0.086557	0.093468	0.106517	4.511-006	7.652+000
75(0.26)	0.096396	0.092559	0.089937	0.095392	0.094622	0.082463	0.075583	0.074627	0.076989	0.075453	3.841-006	1.468+001
80(0.17)	0.090236	0.086278	0.082835	0.086157	0.084820	0.072868	0.065575	0.062686	0.060618	0.046136	3.234-006	7.761+001
85(0.09)	0.084372	0.080412	0.076443	0.079261	0.076130	0.064242	0.056533	0.051981	0.046247	0.023197	2.832-006	3.032+004
90(-0.00)	0.079168	0.075342	0.071217	0.075018	0.069159	0.057118	0.049030	0.043224	0.034935	0.008991	2.539-006	0.000+000
95(-0.09)	0.074702	0.071124	0.067193	0.072917	0.063840	0.051447	0.043020	0.036343	0.026542	0.002840	2.303-006	0.000+000
100(-0.17)	0.070835	0.067565	0.064079	0.071943	0.059633	0.046761	0.038016	0.030702	0.020106	0.001845	2.107-006	0.000+000
105(-0.26)	0.067369	0.064416	0.061505	0.071141	0.055920	0.042530	0.033471	0.025610	0.014621	0.002654	1.929-006	0.000+000
110(-0.34)	0.064188	0.061533	0.059235	0.070053	0.052344	0.038456	0.029090	0.020707	0.009651	0.003009	1.747-006	0.000+000
115(-0.42)	0.061296	0.058918	0.057218	0.068799	0.048876	0.034527	0.024874	0.016031	0.005378	0.002241	1.566-006	0.000+000
120(-0.50)	0.058752	0.056648	0.055505	0.067820	0.045866	0.030872	0.020961	0.011808	0.002218	0.000800	2.093-006	0.000+000
130(-0.64)	0.054806	0.053284	0.053079	0.068025	0.040380	0.024688	0.014302	0.005352	-0.000313	-0.001382	2.216-006	0.000+000
140(-0.77)	0.052066	0.051159	0.051588	0.070657	0.036283	0.019671	0.008852	0.001636	-0.000094	-0.001312	1.724-006	0.000+000
150(-0.87)	0.050100	0.049745	0.050536	0.073488	0.033206	0.015134	0.004456	0.000256	-0.000049	-0.000496	1.269-006	0.000+000
160(-0.94)	0.048761	0.048808	0.049794	0.075337	0.031732	0.010676	0.001743	0.000081	-0.000377	-0.000081	8.356-007	0.000+000
170(-0.98)	0.047998	0.048265	0.049352	0.076249	0.031686	0.006799	0.000942	-0.000136	-0.000381	-0.000000	4.150-007	0.000+000
177(-1.00)	0.047766	0.048096	0.049215	0.076499	0.031877	0.005267	0.000959	-0.000335	-0.000282	0.000004	5.178-008	0.000+000
ENERGY SUM	1.048633	1.015568	1.002265	1.194348	0.989048	0.827357	0.739261	0.712485	0.724948	0.759146		

TOTAL DOSE RATE = 0.000084(MR/HR)

TOTAL DOSE BUILDUP= 6.555195

LOWER ENERGY CUTOFF 0.0559MEV

LOWEST SINGLE SCATTERING ENERGY 0.0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,7853 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,087713	0,086188	0,086389	0,101221	0,089447	0,084323	0,089190	0,105236	0,111850	0,118490	2,281-007	4,480+000
10(0,98)	0,087522	0,085877	0,086129	0,100780	0,089143	0,084145	0,089289	0,103269	0,111891	0,118726	1,807-006	4,509+000
20(0,94)	0,086814	0,084852	0,085217	0,099266	0,087870	0,083872	0,088662	0,098267	0,110891	0,119257	3,494-006	4,607+000
30(0,87)	0,085350	0,083030	0,083419	0,096421	0,085438	0,083242	0,085952	0,092223	0,106419	0,119540	4,924-006	4,811+000
40(0,77)	0,082875	0,080250	0,080399	0,091582	0,082306	0,080873	0,080959	0,085595	0,097723	0,118280	5,935-006	5,222+000
50(0,64)	0,079069	0,076172	0,075719	0,083094	0,078104	0,075641	0,073817	0,077118	0,086075	0,110495	6,343-006	6,143+000
60(0,50)	0,073126	0,069899	0,068401	0,068828	0,070322	0,066565	0,063627	0,064997	0,070247	0,086319	4,444-006	8,728+000
65(0,42)	0,069080	0,065653	0,063455	0,059711	0,064374	0,060310	0,056950	0,057008	0,059648	0,066274	2,685-006	1,228+001
70(0,34)	0,064423	0,060796	0,057838	0,050328	0,057355	0,053174	0,049388	0,047948	0,047453	0,042841	2,326-006	2,248+001
75(0,26)	0,059509	0,055729	0,052069	0,042046	0,050111	0,045842	0,041606	0,038651	0,034924	0,019853	1,958-006	7,460+001
80(0,17)	0,054823	0,050995	0,046835	0,036218	0,043716	0,039223	0,034542	0,030297	0,023889	0,001871	1,675-006	1,237+003
85(0,09)	0,050773	0,047041	0,042691	0,033568	0,038977	0,034032	0,028958	0,023847	0,015828	-0,007877	1,482-006	1,465+007
90(-0,00)	0,047499	0,044002	0,039788	0,033777	0,036013	0,030402	0,025015	0,019492	0,011020	-0,009201	1,348-006	0,000+000
95(-0,09)	0,044846	0,041670	0,037836	0,035583	0,034236	0,027843	0,022211	0,016580	0,008436	-0,005026	1,253-006	0,000+000
100(-0,17)	0,042514	0,039675	0,036332	0,037395	0,032748	0,025595	0,019755	0,014098	0,006509	0,000326	1,176-006	0,000+000
105(-0,26)	0,040279	0,037738	0,034890	0,038057	0,030892	0,023106	0,017085	0,011337	0,004180	0,003467	1,085-006	0,000+000
110(-0,34)	0,038110	0,035817	0,033420	0,037309	0,028546	0,020286	0,014135	0,008227	0,001413	0,003330	9,691-007	0,000+000
115(-0,42)	0,036134	0,034061	0,032078	0,035697	0,026023	0,017406	0,011200	0,005171	-0,001083	0,000923	8,508-007	0,000+000
120(-0,50)	0,034494	0,032644	0,031058	0,034099	0,023733	0,014796	0,008612	0,002624	-0,002577	-0,001948	1,131-006	0,000+000
130(-0,64)	0,032309	0,030980	0,030141	0,033282	0,020406	0,010837	0,004794	-0,000354	-0,002266	-0,004475	1,205-006	0,000+000
140(-0,77)	0,030994	0,030249	0,029990	0,035489	0,017743	0,007981	0,002011	-0,001172	-0,000820	-0,002849	9,517-007	0,000+000
150(-0,87)	0,030000	0,029773	0,029908	0,038238	0,014956	0,005490	-0,000098	-0,000786	-0,000792	-0,000892	7,083-007	0,000+000
160(-0,94)	0,029292	0,029411	0,029820	0,040181	0,012959	0,002869	-0,000843	-0,000471	-0,001079	-0,000125	4,693-007	0,000+000
170(-0,98)	0,028898	0,029181	0,029762	0,041245	0,012300	0,000207	-0,000113	-0,001059	-0,000698	0,000001	2,334-007	0,000+000
177(-1,00)	0,028782	0,029105	0,029743	0,041561	0,012262	-0,000955	0,000485	-0,001531	-0,000397	0,000005	2,922-008	0,000+000
ENERGY SUM	0,671034	0,640696	0,618977	0,648277	0,567997	0,490930	0,443783	0,423958	0,420556	0,424334		

TOTAL DOSE RATE = 0,000049(MR/HR)

TOTAL DOSE BUILDUP= 9,258493

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400,0 FT OR 2,3804 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,062133	0,060994	0,060814	0,067917	0,061424	0,058710	0,061618	0,075493	0,079846	0,086828	1,534-007	5,467+000
10(0,98)	0,061796	0,060539	0,060395	0,067327	0,061033	0,058152	0,061860	0,073400	0,079730	0,086213	1,209-006	5,522+000
20(0,94)	0,060644	0,059090	0,059025	0,065429	0,059326	0,057079	0,061361	0,068220	0,078248	0,084103	2,302-006	5,719+000
30(0,87)	0,058568	0,056709	0,056647	0,062320	0,056058	0,055794	0,058513	0,062529	0,073000	0,080726	3,162-006	6,143+000
40(0,77)	0,055638	0,053565	0,053293	0,057958	0,052379	0,053174	0,053612	0,056652	0,063998	0,077015	3,690-006	7,061+000
50(0,64)	0,052110	0,049869	0,049154	0,051117	0,048934	0,048708	0,047636	0,049793	0,054281	0,071037	3,835-006	9,375+000
60(0,50)	0,047501	0,045025	0,043569	0,039158	0,043316	0,041884	0,040111	0,040795	0,043188	0,053474	2,639-006	1,704+001
65(0,42)	0,044405	0,041760	0,039768	0,031171	0,038687	0,037122	0,035114	0,034759	0,035417	0,037568	1,573-006	2,942+001
70(0,34)	0,040783	0,037953	0,035351	0,022949	0,033027	0,031563	0,029287	0,027713	0,025996	0,018343	1,328-006	7,310+001
75(0,26)	0,036957	0,033982	0,030814	0,016087	0,027242	0,025881	0,023280	0,020479	0,016212	-0,000232	1,081-006	4,104+002
80(0,17)	0,033421	0,030408	0,026879	0,012178	0,022536	0,021060	0,018113	0,014349	0,008127	-0,013199	9,044-007	2,056+004
85(0,09)	0,030578	0,027681	0,024106	0,011980	0,019759	0,017841	0,014592	0,010345	0,003357	-0,017244	7,925-007	7,234+009
90(-0,00)	0,028498	0,025858	0,022544	0,014870	0,018859	0,016222	0,012751	0,008499	0,001939	-0,012866	7,367-007	0,000+000
95(-0,09)	0,026905	0,024590	0,021718	0,019021	0,018905	0,015436	0,011804	0,007799	0,002264	-0,004301	7,109-007	0,000+000
100(-0,17)	0,025402	0,023389	0,020970	0,022302	0,018695	0,014477	0,010714	0,006910	0,002233	0,002995	6,932-007	0,000+000
105(-0,26)	0,023760	0,021972	0,019902	0,023337	0,017502	0,012755	0,008894	0,005085	0,000696	0,005475	6,332-007	0,000+000
110(-0,34)	0,022051	0,020408	0,018573	0,022064	0,015417	0,010375	0,006490	0,002520	-0,001969	0,003015	5,392-007	0,000+000
115(-0,42)	0,020532	0,018999	0,017343	0,019494	0,013100	0,007888	0,004091	-0,000024	-0,004460	-0,001942	4,533-007	0,000+000
120(-0,50)	0,019427	0,018015	0,016548	0,016974	0,011219	0,005813	0,002206	-0,001881	-0,005662	-0,006468	5,912-007	0,000+000
130(-0,64)	0,018468	0,017414	0,016408	0,015244	0,009404	0,003353	0,000161	-0,003144	-0,004077	-0,008722	6,358-007	0,000+000
140(-0,77)	0,018168	0,017559	0,016990	0,017344	0,008227	0,002074	-0,001105	-0,002622	-0,001895	-0,004786	5,212-007	0,000+000
150(-0,87)	0,017811	0,017578	0,017367	0,019909	0,006186	0,001076	-0,002253	-0,001537	-0,001913	-0,001348	3,980-007	0,000+000
160(-0,94)	0,017493	0,017461	0,017560	0,021522	0,004505	-0,000283	-0,002293	-0,001226	-0,002015	-0,000166	2,662-007	0,000+000
170(-0,98)	0,017325	0,017338	0,017662	0,022340	0,004105	-0,002295	-0,000847	-0,002383	-0,001070	0,000003	1,339-007	0,000+000
177(-1,00)	0,017280	0,017290	0,017691	0,022580	0,004183	-0,003332	0,000093	-0,003190	-0,000494	0,000007	1,682-008	0,000+000
ENERGY SUM	0,422728	0,399384	0,379741	0,358704	0,330732	0,291798	0,265334	0,251241	0,243574	0,237396		

TOTAL DOSE RATE = 0,000029(MR/HR)

TOTAL DOSE BUILDUP= 12,471582

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 2,9755 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,042563	0,041906	0,041312	0,044497	0,041464	0,040420	0,041926	0,054241	0,053807	0,059649	1,013-007	6,551+000
10(0,98)	0,042216	0,041431	0,040900	0,043958	0,041174	0,039667	0,042425	0,051942	0,054101	0,058711	7,957-007	6,648+000
20(0,94)	0,041057	0,039961	0,039599	0,042304	0,039610	0,038408	0,042342	0,046606	0,053690	0,055756	1,496-006	7,001+000
30(0,87)	0,039079	0,037705	0,037490	0,039922	0,036449	0,037415	0,039752	0,041606	0,049578	0,052007	2,018-006	7,793+000
40(0,77)	0,036625	0,035121	0,034883	0,037222	0,033520	0,035557	0,035526	0,037376	0,042127	0,050579	2,320-006	9,653+000
50(0,64)	0,034347	0,032792	0,032358	0,032909	0,032144	0,032637	0,031385	0,033160	0,035925	0,051124	2,437-006	1,504+001
60(0,50)	0,031670	0,029973	0,029051	0,022993	0,029125	0,028135	0,026715	0,027642	0,030004	0,041416	1,731-006	3,674+001
65(0,42)	0,029525	0,027670	0,026285	0,015401	0,025422	0,024448	0,023064	0,023174	0,024404	0,027929	1,025-006	7,839+001
70(0,34)	0,026706	0,024651	0,022676	0,007292	0,020314	0,019726	0,018299	0,017322	0,016438	0,009666	8,222-007	2,579+002
75(0,26)	0,023546	0,021517	0,018770	0,000691	0,014902	0,014729	0,013139	0,011003	0,007599	-0,008667	6,185-007	2,341+003
80(0,17)	0,020636	0,018348	0,015448	-0,002323	0,010731	0,010679	0,008855	0,005836	0,000520	-0,020811	4,810-007	3,367+005
85(0,09)	0,018463	0,016294	0,013402	-0,000774	0,008890	0,008511	0,006473	0,003127	-0,002710	-0,022526	4,121-007	3,473+012
90(-0,00)	0,017092	0,015201	0,012658	0,004447	0,009256	0,008172	0,005988	0,002863	-0,002125	-0,014595	3,979-007	0,000+000
95(-0,09)	0,016138	0,014588	0,012560	0,010840	0,010536	0,008601	0,006320	0,003650	0,000044	-0,002680	4,171-007	0,000+000
100(-0,17)	0,015088	0,013824	0,012249	0,015558	0,011127	0,008469	0,006106	0,003731	0,001012	0,006183	4,352-007	0,000+000
105(-0,26)	0,013695	0,012592	0,011274	0,016871	0,010160	0,007084	0,004665	0,002232	-0,000580	0,007838	3,851-007	0,000+000
110(-0,34)	0,012122	0,011070	0,009824	0,014883	0,007914	0,004725	0,002340	-0,000405	-0,003944	0,002867	2,936-007	0,000+000
115(-0,42)	0,010773	0,009724	0,008475	0,011134	0,005418	0,002241	0,000032	-0,003028	-0,007103	-0,004863	2,244-007	0,000+000
120(-0,50)	0,009961	0,008937	0,007715	0,007531	0,003633	0,000361	-0,001552	-0,004725	-0,008476	-0,011221	2,779-007	0,000+000
130(-0,64)	0,009869	0,009055	0,008081	0,004959	0,002929	-0,001142	-0,002520	-0,005116	-0,005942	-0,013260	3,106-007	0,000+000
140(-0,77)	0,010320	0,009837	0,009181	0,007373	0,002995	-0,001311	-0,002935	-0,003806	-0,003004	-0,006850	2,771-007	0,000+000
150(-0,87)	0,010396	0,010166	0,009825	0,010122	0,001552	-0,001280	-0,003744	-0,002251	-0,003085	-0,001821	2,210-007	0,000+000
160(-0,94)	0,010328	0,010160	0,010155	0,011571	0,000241	-0,001891	-0,003503	-0,001992	-0,003019	-0,000204	1,517-007	0,000+000
170(-0,98)	0,010310	0,010065	0,010327	0,012182	0,000309	-0,003766	-0,001475	-0,003781	-0,001463	0,000006	7,767-008	0,000+000
177(-1,00)	0,010314	0,010020	0,010376	0,012346	0,000612	-0,004897	-0,000188	-0,004967	-0,000585	0,000009	9,808-009	0,000+000
ENERGY SUM	0,264873	0,248177	0,232822	0,193682	0,193856	0,173672	0,158143	0,148380	0,140852	0,132912		

TOTAL DOSE RATE = 0,000018(MR/HR)

TOTAL DOSE
BUILDUP= 16,517524

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.100 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 5.9509 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.064	0.067	0.071	0.073	0.077	0.081	0.085	0.089	0.094	0.098	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.005131	0.005703	0.004785	0.004226	0.005914	0.007779	0.006223	0.015099	0.005615	0.005979	1.278-008	1.623+001
10(0.98)	0.005096	0.005525	0.004740	0.004180	0.006228	0.006960	0.007498	0.012917	0.007135	0.005656	1.002-007	1.718+001
20(0.94)	0.004958	0.005058	0.004654	0.004180	0.006257	0.006230	0.009184	0.008747	0.010197	0.004972	1.897-007	2.106+001
30(0.87)	0.004756	0.004619	0.004677	0.004852	0.005210	0.007174	0.008689	0.006981	0.010782	0.006204	2.707-007	3.246+001
40(0.77)	0.004978	0.004835	0.005241	0.006950	0.005402	0.008452	0.007493	0.007760	0.009482	0.014146	3.833-007	7.756+001
50(0.64)	0.006382	0.006350	0.006965	0.008546	0.008677	0.009644	0.007907	0.009712	0.011909	0.028137	6.099-007	3.854+002
60(0.50)	0.007831	0.007760	0.008241	0.003179	0.010461	0.009618	0.008570	0.010673	0.015255	0.030578	5.960-007	4.860+003
65(0.42)	0.007511	0.007283	0.007398	-0.003258	0.008465	0.007798	0.007228	0.008890	0.013093	0.020473	3.444-007	3.007+004
70(0.34)	0.006219	0.005761	0.005326	-0.010639	0.004524	0.004556	0.004320	0.005119	0.007422	0.003785	2.041-007	3.842+005
75(0.26)	0.004345	0.003673	0.002686	-0.016268	0.000059	0.000844	0.000735	0.000506	0.000198	-0.013514	7.212-008	2.684+007
80(0.17)	0.002613	0.001862	0.000575	-0.017428	-0.002954	-0.001792	-0.001917	-0.002891	-0.005157	-0.023571	3.624-008	7.014+011
85(0.09)	0.001600	0.000974	-0.000201	-0.013000	-0.003229	-0.002251	-0.002418	-0.003511	-0.006108	-0.021496	2.238-008	1.265+026
90(-0.00)	0.001310	0.000978	0.000268	-0.004437	-0.001138	-0.000784	-0.000957	-0.001604	-0.003059	-0.009159	2.030-008	0.000+000
95(-0.09)	0.001200	0.001194	0.001040	0.004743	0.001468	0.001091	0.000921	0.000836	0.000793	0.005515	8.454-008	0.000+000
100(-0.17)	0.000645	0.000847	0.001049	0.010800	0.002535	0.001680	0.001485	0.001575	0.001888	0.013684	1.362-007	0.000+000
105(-0.26)	-0.000547	-0.000326	-0.000105	0.011743	0.001197	0.000319	0.000106	-0.000200	-0.001037	0.011219	7.529-008	0.000+000
110(-0.34)	-0.002000	-0.001910	-0.001930	0.008134	-0.001789	-0.002311	-0.002434	-0.003489	-0.006282	0.000560	1.747-008	0.000+000
115(-0.42)	-0.003089	-0.003176	-0.003506	0.002363	-0.004781	-0.004886	-0.004745	-0.006518	-0.010813	-0.012009	4.367-009	0.000+000
120(-0.50)	-0.003400	-0.003620	-0.004166	-0.002909	-0.006420	-0.006435	-0.005900	-0.008095	-0.012528	-0.020799	0.000+000	0.000+000
130(-0.64)	-0.002100	-0.002350	-0.002940	-0.006703	-0.005117	-0.006411	-0.005324	-0.007337	-0.008706	-0.020864	8.426-010	0.000+000
140(-0.77)	-0.000569	-0.000687	-0.001123	-0.003858	-0.002713	-0.005049	-0.004729	-0.005138	-0.005020	-0.009829	6.477-009	0.000+000
150(-0.87)	0.000065	-0.000012	-0.000204	-0.000804	-0.002843	-0.003657	-0.005360	-0.003247	-0.005266	-0.002363	9.809-009	0.000+000
160(-0.94)	0.000311	0.000060	0.000221	0.000492	-0.003421	-0.003129	-0.005064	-0.003414	-0.004645	-0.000215	8.821-009	0.000+000
170(-0.98)	0.000487	-0.000041	0.000429	0.000852	-0.002654	-0.004603	-0.002560	-0.006308	-0.001941	0.000013	5.080-009	0.000+000
177(-1.00)	0.000555	-0.000098	0.000484	0.000919	-0.002032	-0.005767	-0.000935	-0.008073	-0.000559	0.000010	6.892-010	0.000+000
ENERGY SUM	0.026071	0.023839	0.021111	-0.005680	0.012991	0.013066	0.011534	0.010282	0.008924	0.007371		

TOTAL DOSE RATE = 0.000003(MR/HR)

TOTAL DOSE
BUILDUP= 104.872806

LOWER ENERGY CUTOFF 0.0559MEV

LOWEST SINGLE SCATTERING ENERGY 0.0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0145 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,090563	0,089554	0,101189	0,090922	0,083900	0,129400	0,129398	0,060580	0,001156	0,003472	1,127-006	1.619+000
10(0,98)	0,090874	0,090092	0,101603	0,091638	0,084767	0,131759	0,126312	0,063999	0,004370	0,003576	9,106-006	1.620+000
20(0,94)	0,091854	0,091870	0,102881	0,093881	0,087689	0,140070	0,117924	0,071480	0,018115	0,003961	1,880-005	1.621+000
30(0,87)	0,093470	0,095124	0,105114	0,097616	0,093131	0,154540	0,109196	0,078495	0,045418	0,005644	2,980-005	1.622+000
40(0,77)	0,095944	0,100721	0,109119	0,103446	0,102450	0,172253	0,105905	0,086341	0,080176	0,016566	4,330-005	1.625+000
50(0,64)	0,100231	0,110587	0,116904	0,113229	0,118626	0,190426	0,112045	0,099542	0,115623	0,064453	6,160-005	1.634+000
60(0,50)	0,107724	0,126425	0,130635	0,129069	0,144488	0,211522	0,129837	0,122861	0,157236	0,188669	6,697-005	1.640+000
65(0,42)	0,112604	0,135920	0,139264	0,138709	0,159997	0,223260	0,142164	0,138131	0,182045	0,277726	5,443-005	1.624+000
70(0,34)	0,117622	0,145070	0,147683	0,147969	0,174874	0,233633	0,154362	0,153351	0,206518	0,367564	6,703-005	1.573+000
75(0,26)	0,121974	0,152301	0,154226	0,155011	0,186389	0,239496	0,163334	0,164905	0,224995	0,435428	8,435-005	1.478+000
80(0,17)	0,124832	0,156126	0,157259	0,158044	0,191855	0,237635	0,165914	0,168889	0,230997	0,458523	1,130-004	1.339+000
85(0,09)	0,125667	0,155710	0,155869	0,156066	0,189638	0,226303	0,160258	0,162901	0,220397	0,424146	1,843-004	1.178+000
90(-0,00)	0,124477	0,151258	0,150291	0,149390	0,179941	0,206329	0,146892	0,147481	0,194034	0,337065	2,505-005	0.000+000
95(-0,09)	0,121793	0,143984	0,141899	0,139613	0,164894	0,181076	0,128699	0,126158	0,157843	0,219091	2,101-005	0.000+000
100(-0,17)	0,118442	0,135636	0,132658	0,128992	0,147825	0,155200	0,109713	0,103907	0,120169	0,100279	1,676-005	0.000+000
105(-0,26)	0,115193	0,127841	0,124352	0,119553	0,132015	0,132881	0,093427	0,084952	0,087917	0,006575	1,345-005	0.000+000
110(-0,34)	0,112492	0,121578	0,117996	0,112420	0,119589	0,116530	0,081583	0,071248	0,063975	-0,049185	1,131-005	0.000+000
115(-0,42)	0,110387	0,117040	0,113697	0,107660	0,111078	0,106548	0,074023	0,062380	0,047225	-0,068764	9,907-006	0.000+000
120(-0,50)	0,108662	0,113842	0,110926	0,104619	0,105738	0,101987	0,069432	0,056593	0,034565	-0,063441	1,332-005	0.000+000
130(-0,64)	0,105312	0,109180	0,107282	0,100443	0,099658	0,103849	0,063586	0,047364	0,012234	-0,028851	1,442-005	0.000+000
140(-0,77)	0,101533	0,104695	0,103918	0,096034	0,094736	0,113496	0,057944	0,035696	-0,005900	-0,006730	1,123-005	0.000+000
150(-0,87)	0,097933	0,100376	0,100958	0,091433	0,090189	0,123729	0,052948	0,020105	-0,011727	-0,000707	8,180-006	0.000+000
160(-0,94)	0,095185	0,097004	0,099066	0,087620	0,086788	0,129043	0,051128	0,002474	-0,006980	-0,000004	5,338-006	0.000+000
170(-0,98)	0,093519	0,094946	0,098207	0,085163	0,084765	0,129657	0,053019	-0,011703	-0,001091	0,000004	2,651-006	0.000+000
177(-1,00)	0,092999	0,094303	0,098001	0,084370	0,084138	0,129277	0,054555	-0,016704	0,000855	0,000000	3,318-007	0.000+000
ENERGY SUM	1,370374	1,533868	1,553848	1,496578	1,633661	2,070730	1,348033	1,163820	1,241351	1,470887		

TOTAL DOSE RATE = 0.001052 (MR/HR)

TOTAL DOSE BUILDUP= 1.545777

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,2424 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0.112	0,122	0,137	0,154	0,173	0.194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,098036	0,100458	0,107154	0,097603	0,092357	0,122391	0,116377	0,084702	0,046266	0,046087	1,076-006	1.942+000
10(0,98)	0,098408	0,101074	0,107661	0,098215	0,093208	0,123981	0,115403	0,085739	0,049429	0,047350	8,665-006	1.943+000
20(0,94)	0,099591	0,103073	0,109255	0,100168	0,095992	0,129465	0,112596	0,088134	0,060463	0,051734	1,770-005	1.945+000
30(0,87)	0,101550	0,106514	0,111910	0,103458	0,100864	0,139020	0,109605	0,091048	0,078938	0,060686	2,750-005	1.947+000
40(0,77)	0,104335	0,111661	0,115868	0,108299	0,108287	0,151199	0,108981	0,095606	0,100576	0,079357	3,857-005	1.949+000
50(0,64)	0,108138	0,118904	0,121629	0,115144	0,119034	0,163635	0,112584	0,103407	0,121639	0,119703	5,159-005	1.951+000
60(0,50)	0,112946	0,127903	0,129151	0,123867	0,132885	0,174978	0,120474	0,114934	0,143057	0,191261	5,038-005	1.946+000
65(0,42)	0,115387	0,132280	0,132886	0,128169	0,139793	0,179361	0,124933	0,121106	0,153466	0,232980	3,782-005	1.934+000
70(0,34)	0,117423	0,135734	0,135763	0,131502	0,145313	0,181595	0,128283	0,125956	0,161583	0,268403	4,181-005	1.910+000
75(0,26)	0,118641	0,137519	0,136988	0,132991	0,148186	0,180308	0,129045	0,127721	0,164654	0,286856	4,461-005	1.885+000
80(0,17)	0,118695	0,137055	0,135933	0,131939	0,147422	0,174386	0,125969	0,124833	0,160088	0,279473	4,370-005	1.923+000
85(0,09)	0,117451	0,134176	0,132409	0,128148	0,142713	0,163599	0,118633	0,116706	0,146862	0,243524	3,133-005	2.733+000
90(-0,00)	0,115053	0,129244	0,126813	0,122073	0,134646	0,148949	0,107781	0,104216	0,126406	0,184737	1,779-005	0.000+000
95(-0,09)	0,111889	0,123053	0,120024	0,114716	0,124578	0,132467	0,095145	0,089488	0,102272	0,115842	1,518-005	0.000+000
100(-0,17)	0,108442	0,116568	0,113099	0,107270	0,114191	0,116524	0,082773	0,075042	0,078655	0,051731	1,260-005	0.000+000
105(-0,26)	0,105126	0,110601	0,106905	0,100703	0,104934	0,103034	0,072256	0,062787	0,058652	0,003796	1,058-005	0.000+000
110(-0,34)	0,102169	0,105603	0,101887	0,095493	0,097618	0,092947	0,064256	0,053445	0,043310	-0,023521	9,158-006	0.000+000
115(-0,42)	0,099598	0,101628	0,098045	0,091608	0,092321	0,086269	0,058547	0,046638	0,031874	-0,032591	8,114-006	0.000+000
120(-0,50)	0,097317	0,098466	0,095100	0,088699	0,088606	0,082438	0,054419	0,041436	0,022833	-0,029715	1,091-005	0.000+000
130(-0,64)	0,093167	0,093457	0,090592	0,084236	0,083580	0,080757	0,048150	0,032498	0,007902	-0,013260	1,170-005	0.000+000
140(-0,77)	0,089337	0,089163	0,086854	0,080254	0,079511	0,084061	0,042419	0,022949	-0,002514	-0,003072	9,068-006	0.000+000
150(-0,87)	0,086097	0,085517	0,083875	0,076707	0,076040	0,089084	0,037212	0,012380	-0,005522	-0,000331	6,609-006	0.000+000
160(-0,94)	0,083723	0,082818	0,081889	0,073982	0,073500	0,092681	0,033600	0,002122	-0,003213	-0,000004	4,318-006	0.000+000
170(-0,98)	0,082299	0,081194	0,080841	0,072292	0,071990	0,094024	0,032207	-0,005254	-0,000483	0,000002	2,140-006	0.000+000
177(-1,00)	0,081855	0,080689	0,080546	0,071757	0,071522	0,094223	0,032061	-0,007697	0,000393	0,000000	2,674-007	0.000+000
ENERGY SUM	1,315248	1,415568	1,408604	1,331136	1,391967	1,633576	1,118897	0,971239	1,018521	1,176997		

TOTAL DOSE RATE = 0.000513(MR/HR)

TOTAL DOSE BUILDUP= 2.592900

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,4848 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,100664	0,104817	0,107028	0,097805	0,093898	0,112788	0,104347	0,094350	0,072706	0,072354	9,948-007	2,288+000
10(0,98)	0,100993	0,105356	0,107480	0,098261	0,094592	0,113795	0,104396	0,094166	0,075275	0,074039	7,986-006	2,290+000
20(0,94)	0,102032	0,107069	0,108894	0,099720	0,096809	0,117161	0,104327	0,093843	0,083140	0,079787	1,614-005	2,296+000
30(0,87)	0,103712	0,109877	0,111150	0,102145	0,100486	0,122933	0,104097	0,094174	0,094427	0,090761	2,461-005	2,305+000
40(0,77)	0,105933	0,113648	0,114121	0,105469	0,105532	0,130389	0,104339	0,095942	0,106247	0,109554	3,343-005	2,318+000
50(0,64)	0,108449	0,117952	0,117482	0,109376	0,111534	0,137614	0,105530	0,099150	0,116542	0,138641	4,238-005	2,336+000
60(0,50)	0,110599	0,121587	0,120208	0,112767	0,116972	0,141857	0,106723	0,102314	0,123949	0,172870	3,775-005	2,368+000
65(0,42)	0,111148	0,122475	0,120689	0,113565	0,118482	0,141756	0,106379	0,102745	0,125353	0,185595	2,647-005	2,403+000
70(0,34)	0,111084	0,122306	0,120142	0,113276	0,118500	0,139511	0,104657	0,101497	0,123962	0,190079	2,676-005	2,484+000
75(0,26)	0,110246	0,120833	0,118303	0,111604	0,116639	0,134763	0,101052	0,097937	0,118799	0,182771	2,527-005	2,723+000
80(0,17)	0,108569	0,117982	0,115091	0,108455	0,112811	0,127488	0,095361	0,091781	0,109410	0,162301	2,101-005	3,734+000
85(0,09)	0,106120	0,113910	0,110671	0,104009	0,107320	0,118139	0,087844	0,083319	0,096267	0,130577	1,494-005	2,103+001
90(-0,00)	0,103092	0,108992	0,105444	0,098710	0,100811	0,107610	0,079206	0,073409	0,080787	0,092631	1,270-005	0,000+000
95(-0,09)	0,099753	0,103720	0,099935	0,093138	0,094075	0,097013	0,070391	0,063214	0,064892	0,055076	1,105-005	0,000+000
100(-0,17)	0,096370	0,098569	0,094646	0,087842	0,087823	0,087362	0,062266	0,053793	0,050323	0,023846	9,515-006	0,000+000
105(-0,26)	0,093146	0,093884	0,089922	0,083190	0,082503	0,079310	0,055363	0,045777	0,038084	0,002347	8,281-006	0,000+000
110(-0,34)	0,090181	0,089822	0,085902	0,079318	0,078252	0,073064	0,049799	0,039272	0,028317	+0,009137	7,323-006	0,000+000
115(-0,42)	0,087496	0,086379	0,082548	0,076164	0,074959	0,068483	0,045371	0,033994	0,020577	+0,012722	6,542-006	0,000+000
120(-0,50)	0,085056	0,083452	0,079730	0,073567	0,072385	0,065275	0,041740	0,029519	0,014277	+0,011529	8,803-006	0,000+000
130(-0,64)	0,080764	0,078667	0,075171	0,069405	0,068467	0,061946	0,035715	0,021627	0,004697	-0,005198	9,378-006	0,000+000
140(-0,77)	0,077164	0,074840	0,071577	0,066058	0,065360	0,061749	0,030383	0,014173	+0,000815	-0,001304	7,255-006	0,000+000
150(-0,87)	0,074314	0,071840	0,068839	0,063396	0,062870	0,063524	0,025516	0,007214	+0,002172	-0,000182	5,297-006	0,000+000
160(-0,94)	0,072277	0,069698	0,066964	0,061477	0,061077	0,065653	0,021426	0,001582	-0,001242	+0,000010	3,465-006	0,000+000
170(-0,98)	0,071062	0,068424	0,065899	0,060330	0,060009	0,067018	0,018698	-0,001842	+0,000220	0,000001	1,716-006	0,000+000
177(-1,00)	0,070684	0,068028	0,065580	0,059973	0,059677	0,067417	0,017813	+0,002857	0,000099	0,000000	2,141-007	0,000+000
ENERGY SUM	1,217008	1,269619	1,240493	1,153511	1,165046	1,280084	0,916775	0,799628	0,824605	0,928638		

TOTAL DOSE RATE = 0,000369(MR/HR)

TOTAL DOSE BUILDUP= 3,433991

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200,0 FT OR 0,9695 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,094952	0,099383	0,095571	0,086897	0,084521	0,091201	0,083220	0,089219	0,087302	0,089160	8,013-007	2,994+000
10(0,98)	0,095067	0,099595	0,095749	0,087032	0,084800	0,091494	0,083650	0,088355	0,088432	0,090518	6,397-006	3,001+000
20(0,94)	0,095402	0,100220	0,096271	0,087442	0,085628	0,092340	0,084652	0,08631o	0,091116	0,094964	1,270-005	3,025+000
30(0,87)	0,095838	0,101058	0,096947	0,088022	0,086771	0,093536	0,085323	0,084301	0,093362	0,102665	1,872-005	3,070+000
40(0,77)	0,096148	0,101713	0,097403	0,088486	0,087767	0,094809	0,084908	0,082491	0,093984	0,113204	2,412-005	3,149+000
50(0,64)	0,095873	0,101392	0,096910	0,088146	0,087631	0,095108	0,082796	0,079995	0,092336	0,122372	2,815-005	3,298+000
60(0,50)	0,094243	0,098892	0,094306	0,085800	0,084748	0,092045	0,077835	0,074891	0,086208	0,119095	2,201-005	3,640+000
65(0,42)	0,092677	0,096498	0,091873	0,083510	0,081822	0,088517	0,073838	0,070643	0,080383	0,108912	1,412-005	4,034+000
70(0,34)	0,090562	0,093324	0,088664	0,080444	0,077905	0,083629	0,068793	0,065128	0,072495	0,092669	1,287-005	4,929+000
75(0,26)	0,087956	0,089510	0,084825	0,076758	0,073255	0,077730	0,062950	0,058600	0,062976	0,072130	1,103-005	7,734+000
80(0,17)	0,084990	0,085304	0,080618	0,072731	0,068311	0,071399	0,056765	0,051597	0,052736	0,050454	9,104-006	2,638+001
85(0,09)	0,081829	0,080991	0,076348	0,068688	0,063579	0,065262	0,050761	0,044761	0,042855	0,031134	7,872-006	2,885+003
90(-0,00)	0,078635	0,076821	0,072269	0,064895	0,059463	0,059794	0,045339	0,038593	0,034160	0,016669	7,048-006	0,000+000
95(-0,09)	0,075525	0,072950	0,068527	0,061494	0,056150	0,055184	0,040659	0,033290	0,026947	0,007745	6,350-006	0,000+000
100(-0,17)	0,072566	0,069435	0,065157	0,058499	0,053587	0,051362	0,036649	0,028756	0,021026	0,003342	5,750-006	0,000+000
105(-0,26)	0,069789	0,066266	0,062122	0,055850	0,051568	0,048123	0,033124	0,024762	0,016011	0,001623	5,218-006	0,000+000
110(-0,34)	0,067267	0,063412	0,059376	0,053480	0,049875	0,045274	0,029921	0,021115	0,011628	0,000944	4,719-006	0,000+000
115(-0,42)	0,064831	0,060854	0,056895	0,051357	0,048370	0,042712	0,026961	0,017735	0,007839	0,000408	4,244-006	0,000+000
120(-0,50)	0,062674	0,058584	0,054676	0,049481	0,047013	0,040419	0,024234	0,014626	0,004762	-0,000173	5,704-006	0,000+000
130(-0,64)	0,059033	0,054888	0,051035	0,046484	0,044808	0,036721	0,019484	0,009284	0,001069	-0,000870	6,057-006	0,000+000
140(-0,77)	0,056216	0,052174	0,048330	0,044380	0,043261	0,034334	0,015476	0,005071	0,000002	-0,000628	4,696-006	0,000+000
150(-0,87)	0,054096	0,050209	0,046329	0,042924	0,042158	0,033395	0,011887	0,002107	-0,000075	-0,000201	3,445-006	0,000+000
160(-0,94)	0,052601	0,048848	0,044906	0,041956	0,041374	0,033687	0,008584	0,000585	-0,000134	-0,000026	2,262-006	0,000+000
170(-0,98)	0,051711	0,048041	0,044041	0,041404	0,040901	0,034403	0,005922	0,000165	-0,000189	0,000001	1,121-006	0,000+000
177(-1,00)	0,051434	0,047790	0,043768	0,041236	0,040753	0,034716	0,004913	0,000140	-0,000186	0,000001	1,398-007	0,000+000
ENERGY SUM	0,975725	0,973630	0,920097	0,834777	0,803200	0,803129	0,613892	0,539136	0,539381	0,578335		

TOTAL DOSE RATE = 0,000225(MR/HR)

TOTAL DOSE BUILDUP= 5,246121

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM*SEC
(MEV/SQCM*SEC-MEV*STER)
ALTITUDE 300,0 FT OR 1,4543 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,081595	0,084677	0,078272	0,070592	0,068884	0,070501	0,064830	0,073016	0,078526	0,082397	6,136-007	3,724+000
10(0,98)	0,081495	0,084588	0,078192	0,070488	0,068840	0,070444	0,065022	0,072142	0,078715	0,083008	4,875-006	3,741+000
20(0,94)	0,081139	0,084247	0,077898	0,070124	0,068631	0,070095	0,065419	0,069931	0,078512	0,084863	9,520-006	3,799+000
30(0,87)	0,080426	0,083498	0,077247	0,069410	0,068057	0,069144	0,065291	0,067204	0,076531	0,087614	1,365-005	3,917+000
40(0,77)	0,079188	0,082038	0,075954	0,068120	0,066750	0,067474	0,063783	0,063844	0,072512	0,090220	1,685-005	4,143+000
50(0,64)	0,077130	0,079342	0,073515	0,065780	0,064012	0,064756	0,060285	0,059164	0,066563	0,088651	1,854-005	4,618+000
60(0,50)	0,073801	0,074713	0,069207	0,061653	0,058843	0,059650	0,054089	0,052011	0,057121	0,074576	1,341-005	5,848+000
65(0,42)	0,071560	0,071571	0,066225	0,058781	0,055210	0,055818	0,049823	0,047173	0,050420	0,060960	8,239-006	7,413+000
70(0,34)	0,068970	0,067984	0,062791	0,055477	0,051071	0,051289	0,044947	0,041612	0,042541	0,044021	7,248-006	1,145+001
75(0,26)	0,066133	0,064158	0,059119	0,051971	0,046773	0,046495	0,039834	0,035743	0,034173	0,026351	6,175-006	2,818+001
80(0,17)	0,063195	0,060346	0,055481	0,048553	0,042746	0,041990	0,034972	0,030152	0,026311	0,011232	5,305-006	2,507+002
85(0,09)	0,060297	0,056773	0,052113	0,045476	0,039357	0,038226	0,030772	0,025353	0,019831	0,001273	4,731-006	4,513+005
90(-0,00)	0,057540	0,053567	0,049140	0,042860	0,036787	0,035372	0,027395	0,021551	0,015067	-0,002786	4,307-006	0,000+000
95(-0,09)	0,054966	0,050741	0,046552	0,040672	0,034978	0,033268	0,024708	0,018584	0,011711	-0,002321	3,964-006	0,000+000
100(-0,17)	0,052573	0,048227	0,044254	0,038783	0,033693	0,031569	0,022407	0,016072	0,009098	0,000082	3,672-006	0,000+000
105(-0,26)	0,050350	0,045947	0,042141	0,037062	0,032660	0,029949	0,020215	0,013683	0,006673	0,002053	3,390-006	0,000+000
110(-0,34)	0,048296	0,043857	0,040168	0,035449	0,031694	0,028252	0,018012	0,011289	0,004279	0,002453	3,075-006	0,000+000
115(-0,42)	0,046429	0,041967	0,038349	0,033961	0,030753	0,026503	0,015841	0,008968	0,002124	0,001468	2,749-006	0,000+000
120(-0,50)	0,044769	0,040308	0,036733	0,032657	0,029893	0,024814	0,013809	0,006861	0,000516	-0,000022	3,680-006	0,000+000
130(-0,64)	0,042074	0,037737	0,034200	0,030725	0,028677	0,021896	0,010392	0,003565	-0,000646	-0,001688	3,923-006	0,000+000
140(-0,77)	0,040069	0,035991	0,032438	0,029550	0,028090	0,019614	0,007677	0,001364	-0,000249	-0,001156	3,064-006	0,000+000
150(-0,87)	0,038559	0,034765	0,031138	0,028803	0,027765	0,018127	0,005343	0,000161	-0,000043	-0,000342	2,261-006	0,000+000
160(-0,94)	0,037477	0,033901	0,030171	0,028313	0,027524	0,017678	0,003221	-0,000101	-0,000268	-0,000040	1,490-006	0,000+000
170(-0,98)	0,036825	0,033380	0,029556	0,028034	0,027371	0,017871	0,001436	0,000079	-0,000357	0,000002	7,404-007	0,000+000
177(-1,00)	0,036622	0,033216	0,029357	0,027949	0,027322	0,018019	0,000727	0,000179	-0,000318	0,000002	9,240-008	0,000+000
ENERGY SUM	0,741515	0,717007	0,658743	0,586789	0,546631	0,514595	0,409987	0,361334	0,351923	0,360402		

TOTAL DOSE RATE = 0,000146(MR/HR)

TOTAL DOSE BUILDUP= 7,345087

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400,0 FT OR 1,9390 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,066040	0,067614	0,060874	0,054550	0,053119	0,052859	0,049266	0,056540	0,063066	0,067681	4,553-007	4,489+000
10(0,98)	0,065795	0,067338	0,060636	0,054306	0,052900	0,052666	0,049237	0,055674	0,062908	0,067673	3,601-006	4,521+000
20(0,94)	0,064986	0,066426	0,059858	0,053516	0,052152	0,051855	0,049080	0,053482	0,061639	0,067488	6,934-006	4,635+000
30(0,87)	0,063579	0,064829	0,058505	0,052162	0,050784	0,050076	0,048316	0,050649	0,058144	0,066835	9,705-006	4,875+000
40(0,77)	0,061546	0,062464	0,056486	0,050192	0,048662	0,047398	0,046274	0,046988	0,052752	0,065376	1,159-005	5,366+000
50(0,64)	0,058836	0,059140	0,053605	0,047425	0,045458	0,044060	0,042665	0,042171	0,046300	0,060890	1,227-005	6,499+000
60(0,50)	0,055251	0,054472	0,049422	0,043404	0,040504	0,039245	0,037125	0,035620	0,037746	0,047093	8,541-006	9,820+000
65(0,42)	0,053076	0,051581	0,046754	0,040827	0,037287	0,035955	0,033514	0,031455	0,032055	0,039162	5,158-006	1,461+001
70(0,34)	0,050687	0,048426	0,043801	0,037982	0,033773	0,032231	0,029503	0,026816	0,025552	0,020995	4,483-006	2,923+001
75(0,26)	0,048179	0,045197	0,040765	0,035088	0,030294	0,028502	0,025456	0,022113	0,018929	0,007168	3,811-006	1,132+002
80(0,17)	0,045678	0,042120	0,037889	0,032413	0,027232	0,025290	0,021832	0,017906	0,013156	-0,003202	3,327-006	2,564+003
85(0,09)	0,043297	0,039368	0,035364	0,030157	0,024869	0,022963	0,018973	0,014630	0,008991	-0,007976	2,990-006	7,425+007
90(-0,00)	0,041098	0,037004	0,033245	0,028368	0,023272	0,021540	0,016919	0,012348	0,006534	-0,007217	2,755-006	0,000+000
95(-0,09)	0,039085	0,034973	0,031450	0,026934	0,022273	0,020696	0,015400	0,010730	0,005186	-0,003187	2,571-006	0,000+000
100(-0,17)	0,037231	0,033161	0,029836	0,025674	0,021571	0,019968	0,014021	0,009286	0,004082	0,000978	2,428-006	0,000+000
105(-0,26)	0,035514	0,031479	0,028292	0,024451	0,020900	0,019015	0,012502	0,007685	0,002663	0,002989	2,243-006	0,000+000
110(-0,34)	0,033940	0,029910	0,026803	0,023243	0,020143	0,017767	0,010805	0,005910	0,000944	0,002367	2,005-006	0,000+000
115(-0,42)	0,032540	0,028497	0,025433	0,022121	0,019353	0,016378	0,009081	0,004167	-0,000647	0,000156	1,767-006	0,000+000
120(-0,50)	0,031337	0,027303	0,024263	0,021184	0,018667	0,015057	0,007515	0,002683	-0,001674	-0,002129	2,368-006	0,000+000
130(-0,64)	0,029503	0,025634	0,022624	0,020008	0,017956	0,012939	0,005130	0,000733	-0,001696	-0,003599	2,538-006	0,000+000
140(-0,77)	0,028189	0,024650	0,021634	0,019482	0,017933	0,011212	0,003431	-0,000305	-0,000681	-0,001956	2,005-006	0,000+000
150(-0,87)	0,027160	0,023959	0,020886	0,019175	0,018039	0,009843	0,002054	-0,000719	-0,000419	-0,000509	1,493-006	0,000+000
160(-0,94)	0,026383	0,023429	0,020274	0,018943	0,018080	0,009274	0,000831	-0,000592	-0,000657	-0,000053	9,887-007	0,000+000
170(-0,98)	0,025985	0,023088	0,019856	0,018796	0,018088	0,009321	-0,000301	-0,000381	-0,000576	0,000003	4,916-007	0,000+000
177(-1,00)	0,025754	0,022979	0,019716	0,018750	0,018090	0,009409	-0,000795	-0,000334	-0,000425	0,000002	6,149-008	0,000+000
ENERGY SUM	0,545597	0,514952	0,462548	0,406196	0,369563	0,333979	0,273251	0,240972	0,229090	0,224738		

TOTAL DOSE RATE = 0,000097(MR/HR)

TOTAL DOSE BUILDUP= 9,811173

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 2,4238 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,051218	0,051619	0,045744	0,040861	0,039553	0,038771	0,036706	0,042960	0,047775	0,052115	3,308-007	5,298+000
10(0,98)	0,050901	0,051262	0,045436	0,040560	0,039274	0,038573	0,036572	0,042034	0,047663	0,051729	2,607-006	5,354+000
20(0,94)	0,049879	0,050125	0,044472	0,039611	0,038365	0,037716	0,036196	0,039812	0,046401	0,050376	4,959-006	5,553+000
30(0,87)	0,048194	0,048276	0,042925	0,038097	0,036848	0,035808	0,035262	0,037133	0,042760	0,048138	6,806-006	5,983+000
40(0,77)	0,045975	0,045854	0,040903	0,036149	0,034819	0,033115	0,033248	0,033825	0,037513	0,045849	7,944-006	6,924+000
50(0,64)	0,043378	0,042909	0,038440	0,033803	0,032202	0,030316	0,030184	0,029827	0,032228	0,042927	8,273-006	9,312+000
60(0,50)	0,040306	0,039106	0,035129	0,030623	0,028291	0,026604	0,025830	0,024749	0,025921	0,032987	5,726-006	1,736+001
65(0,42)	0,038509	0,036767	0,032993	0,028547	0,025662	0,023913	0,022935	0,021445	0,021477	0,023084	3,437-006	3,066+001
70(0,34)	0,036549	0,034204	0,030596	0,026214	0,022740	0,020770	0,019653	0,017664	0,016154	0,010708	2,939-006	7,905+001
75(0,26)	0,034504	0,031595	0,028130	0,023840	0,019861	0,017642	0,016350	0,013815	0,010666	-0,001400	2,454-006	4,742+002
80(0,17)	0,032492	0,029162	0,025846	0,021705	0,017424	0,015125	0,013525	0,010511	0,006101	-0,009755	2,124-006	2,669+004
85(0,09)	0,030615	0,027071	0,023932	0,020014	0,015711	0,013616	0,011540	0,008225	0,003299	-0,012025	1,907-006	1,233+010
90(-0,00)	0,028919	0,025357	0,022417	0,018784	0,014744	0,013072	0,010382	0,006965	0,002272	-0,008573	1,777-006	0,000+000
95(-0,09)	0,027387	0,023921	0,021173	0,017852	0,014280	0,013033	0,009672	0,006266	0,002177	-0,002390	1,697-006	0,000+000
100(-0,17)	0,025976	0,022616	0,020013	0,016986	0,013950	0,012903	0,008910	0,005514	0,001915	0,002695	1,647-006	0,000+000
105(-0,26)	0,024662	0,021347	0,018824	0,016042	0,013464	0,012300	0,007791	0,004354	0,000874	0,004239	1,512-006	0,000+000
110(-0,34)	0,023465	0,020122	0,017622	0,015033	0,012751	0,011225	0,006348	0,002861	-0,000766	0,002251	1,311-006	0,000+000
115(-0,42)	0,022432	0,019030	0,016522	0,014093	0,011952	0,009965	0,004844	0,001382	-0,002333	-0,001418	1,130-006	0,000+000
120(-0,50)	0,021598	0,018164	0,015646	0,013365	0,011287	0,008835	0,003550	0,000233	-0,003215	-0,004614	1,502-006	0,000+000
130(-0,64)	0,020468	0,017188	0,014673	0,012704	0,010834	0,007327	0,001889	-0,000888	-0,002615	-0,005816	1,619-006	0,000+000
140(-0,77)	0,019716	0,016810	0,014292	0,012653	0,011186	0,006138	0,000936	-0,001254	-0,001143	-0,002864	1,307-006	0,000+000
150(-0,87)	0,019053	0,016525	0,013967	0,012647	0,011563	0,005031	0,000235	-0,001293	-0,000855	-0,000690	9,887-007	0,000+000
160(-0,94)	0,018494	0,016226	0,013608	0,012569	0,011759	0,004622	-0,000402	-0,001023	-0,001107	-0,000064	6,584-007	0,000+000
170(-0,98)	0,018135	0,016004	0,013325	0,012491	0,011851	0,004789	-0,001187	-0,000878	-0,000825	0,000004	3,293-007	0,000+000
177(-1,00)	0,018020	0,015929	0,013224	0,012463	0,011879	0,004915	-0,001596	-0,000908	-0,000540	0,000003	4,128-008	0,000+000
ENERGY SUM	0,393005	0,363765	0,321278	0,279012	0,249117	0,218145	0,181813	0,160034	0,148819	0,140228		

TOTAL DOSE RATE = 0,000065(MR/HR)

TOTAL DOSE BUILDUP= 12,750044

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000,0 FT OR 4,8475 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,009643	0,008706	0,008392	0,007878	0,006968	0,006890	0,007920	0,012268	0,008889	0,009237	5,904-008	1.070+001
10(0,98)	0,009439	0,008523	0,008222	0,007714	0,006899	0,007099	0,007815	0,011203	0,009805	0,008861	4,610-007	1.110+001
20(0,94)	0,008818	0,008007	0,007782	0,007275	0,006718	0,007394	0,007950	0,009303	0,010940	0,007821	8,565-007	1.265+001
30(0,87)	0,007964	0,007449	0,007370	0,006850	0,006641	0,006984	0,008305	0,008186	0,009885	0,007517	1,164-006	1.680+001
40(0,77)	0,007305	0,007352	0,007430	0,006907	0,007135	0,006389	0,008300	0,007625	0,008428	0,011745	1,473-006	3.038+001
50(0,64)	0,007256	0,007926	0,008159	0,007629	0,008196	0,007087	0,008312	0,007776	0,009663	0,021552	1,981-006	9.680+001
60(0,50)	0,007450	0,008182	0,008479	0,007860	0,008004	0,007220	0,007636	0,007645	0,010874	0,023895	1,750-006	6.758+002
65(0,42)	0,007306	0,007704	0,007921	0,007199	0,006751	0,005789	0,006249	0,006382	0,009125	0,016277	1,015-006	2.804+003
70(0,34)	0,006897	0,006779	0,006833	0,005982	0,004841	0,003363	0,004094	0,004092	0,005382	0,003255	6,548-007	2.107+004
75(0,26)	0,006285	0,005630	0,005480	0,004521	0,002798	0,000748	0,001735	0,001393	0,000803	-0,010557	3,450-007	7.782+005
80(0,17)	0,005614	0,004581	0,004255	0,003270	0,001267	-0,000983	0,000020	-0,000654	-0,002662	-0,018937	2,297-007	3.329+009
85(0,09)	0,005015	0,003872	0,003447	0,002551	0,000661	-0,001152	-0,000458	-0,001254	-0,003552	-0,017874	1,988-007	1.536+021
90(-0,00)	0,004531	0,003506	0,003052	0,002340	0,000910	0,000049	0,000173	-0,000505	-0,002045	-0,008565	1,870-007	0.000+000
95(-0,09)	0,004106	0,003272	0,002800	0,002294	0,001502	0,001649	0,001112	0,000620	0,000090	0,003014	3,085-007	0.000+000
100(-0,17)	0,003667	0,002913	0,002365	0,002008	0,001792	0,002535	0,001436	0,000993	0,000811	0,009976	4,351-007	0.000+000
105(-0,26)	0,003202	0,002521	0,001613	0,001303	0,001393	0,002156	0,000726	0,000142	-0,000711	0,008885	3,175-007	0.000+000
110(-0,34)	0,002791	0,001613	0,000689	0,000334	0,000379	0,000787	-0,000735	-0,001512	-0,003653	0,001359	1,310-007	0.000+000
115(-0,42)	0,002555	0,001036	-0,000100	-0,000543	-0,000811	-0,000780	-0,002266	-0,003108	-0,006370	-0,007859	7,886-008	0.000+000
120(-0,50)	0,002563	0,000804	-0,000490	-0,001019	-0,001674	-0,001828	-0,003307	-0,004012	-0,007613	-0,014322	9,431-008	0.000+000
130(-0,64)	0,003132	0,001434	0,000007	-0,000608	-0,001623	-0,001926	-0,003636	-0,003829	-0,005657	-0,014066	1,346-007	0.000+000
140(-0,77)	0,003693	0,002539	0,001072	0,000459	-0,000300	-0,001615	-0,003134	-0,003159	-0,002809	-0,006067	1,518-007	0.000+000
150(-0,87)	0,003787	0,003167	0,001667	0,001090	0,000689	-0,001897	-0,002633	-0,002765	-0,002513	-0,001263	1,390-007	0.000+000
160(-0,94)	0,003618	0,003315	0,001782	0,001263	0,001144	-0,001472	-0,002276	-0,002433	-0,002796	-0,000087	9,854-008	0.000+000
170(-0,98)	0,003454	0,003290	0,001708	0,001258	0,001347	-0,000457	-0,002650	-0,002743	-0,001696	0,000008	5,036-008	0.000+000
177(-1,00)	0,003399	0,003270	0,001660	0,001242	0,001407	-0,000006	-0,003057	-0,003123	-0,000881	0,000004	6,427-009	0.000+000
ENERGY SUM	0,064881	0,056589	0,049396	0,041872	0,034782	0,025284	0,023244	0,019760	0,016777	0,013373		

TOTAL DOSE RATE = 0.000012(MR/HR)

TOTAL DOSE BUILDUP= 48,130486

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,300 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0125 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.076	0,088	0,102	0,119	0.138	0.155	0,181	0,212	0,247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,080124	0,074164	0,082920	0,075052	0,067644	0,097371	0,098008	0,034680	0,000058	0,002296	1,689-006	1.507+000
10(0,98)	0,080321	0,074478	0,083269	0,075532	0,068336	0,099272	0,094659	0,038925	0,001544	0,002365	1,365-005	1.508+000
20(0,94)	0,080954	0,075502	0,084423	0,077085	0,070737	0,105755	0,086499	0,048480	0,009549	0,002611	2,821-005	1.511+000
30(0,87)	0,082083	0,077366	0,086638	0,079883	0,075334	0,116299	0,079335	0,057155	0,028752	0,003630	4,486-005	1.516+000
40(0,77)	0,084064	0,080625	0,090746	0,084657	0,083257	0,128196	0,077560	0,064938	0,056759	0,010874	6,553-005	1.527+000
50(0,64)	0,087653	0,086409	0,098110	0,092758	0,096526	0,139825	0,083240	0,076076	0,087567	0,045737	9,397-005	1.546+000
60(0,50)	0,093402	0,095489	0,109319	0,104835	0,116086	0,153115	0,096841	0,094428	0,122721	0,142155	1,031-004	1.565+000
65(0,42)	0,096824	0,100810	0,115619	0,111580	0,126983	0,160216	0,105510	0,105827	0,142619	0,213519	8,414-005	1.555+000
70(0,34)	0,100159	0,105903	0,121346	0,117675	0,136915	0,166142	0,113653	0,116755	0,161667	0,286713	1,041-004	1.512+000
75(0,26)	0,102934	0,109991	0,125477	0,121989	0,144201	0,169008	0,119285	0,124684	0,175652	0,342898	1,319-004	1.427+000
80(0,17)	0,104716	0,112372	0,127123	0,123535	0,147336	0,167028	0,120535	0,127059	0,179860	0,362884	1,785-004	1.301+000
85(0,09)	0,105255	0,112661	0,125852	0,121832	0,145490	0,159322	0,116407	0,122416	0,171373	0,335792	2,974-004	1.156+000
90(-0,00)	0,104576	0,110946	0,121887	0,117148	0,138857	0,146442	0,107323	0,111223	0,150901	0,265390	3,584-005	0.000+000
95(-0,09)	0,102970	0,107762	0,116064	0,110449	0,128684	0,130314	0,095065	0,095852	0,122845	0,169790	2,973-005	0.000+000
100(-0,17)	0,100881	0,103900	0,109547	0,103069	0,116915	0,113583	0,082101	0,079617	0,093364	0,074010	2,331-005	0.000+000
105(-0,26)	0,098742	0,100119	0,103439	0,096258	0,105573	0,098701	0,070634	0,065405	0,067631	-0,000502	1,837-005	0.000+000
110(-0,34)	0,096847	0,096916	0,098465	0,090805	0,096135	0,087232	0,061892	0,054695	0,047953	-0,043453	1,528-005	0.000+000
115(-0,42)	0,095294	0,094445	0,094847	0,086913	0,089192	0,079647	0,055975	0,047401	0,033731	-0,056858	1,327-005	0.000+000
120(-0,50)	0,094018	0,092574	0,092401	0,084318	0,084516	0,075612	0,052196	0,042442	0,022878	-0,050573	1,771-005	0.000+000
130(-0,64)	0,091758	0,089614	0,089481	0,081100	0,079187	0,075530	0,047495	0,034589	0,005056	-0,021383	1,900-005	0.000+000
140(-0,77)	0,089353	0,086603	0,087240	0,078244	0,075559	0,082090	0,043122	0,024813	-0,007000	-0,004518	1,476-005	0.000+000
150(-0,87)	0,086949	0,083555	0,085053	0,075180	0,072386	0,090407	0,038489	0,012188	-0,008704	-0,000404	1,076-005	0.000+000
160(-0,94)	0,085007	0,081057	0,083263	0,072478	0,069927	0,095811	0,034891	-0,000518	-0,003932	0,000003	7,004-006	0.000+000
170(-0,98)	0,083797	0,079483	0,082179	0,070667	0,068382	0,097368	0,033395	-0,009077	0,000034	0,000002	3,476-006	0.000+000
177(-1,00)	0,083417	0,078985	0,081855	0,070073	0,067884	0,097412	0,033225	-0,011662	0,001090	0,000000	4,356-007	0.000+000
ENERGY SUM	1,182431	1,190465	1,285065	1,203160	1,293854	1,504661	0,993767	0,872934	0,945494	1,135550		

TOTAL DOSE RATE = 0.001655(MR/HR)

TOTAL DOSE BUILDUP= 1.455625

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.2089 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.085572	0.081887	0.088714	0.079718	0.073776	0.093289	0.090210	0.056013	0.029812	0.031473	1.623-006	1.762+000
10(0.98)	0.085836	0.082271	0.089104	0.080169	0.074442	0.094608	0.088690	0.057970	0.031802	0.032348	1.308-005	1.763+000
20(0.94)	0.086682	0.083507	0.090365	0.081629	0.076662	0.099068	0.084914	0.062483	0.039505	0.035382	2.678-005	1.767+000
30(0.87)	0.088110	0.085625	0.092588	0.084169	0.080620	0.106438	0.081566	0.067025	0.054184	0.041593	4.181-005	1.773+000
40(0.77)	0.090227	0.088804	0.096077	0.088060	0.086730	0.115140	0.080962	0.071899	0.073359	0.054989	5.914-005	1.781+000
50(0.64)	0.093198	0.093310	0.101157	0.093642	0.095532	0.123460	0.084163	0.078918	0.093155	0.086390	8.015-005	1.790+000
60(0.50)	0.096866	0.098905	0.107406	0.100507	0.106509	0.130827	0.090709	0.088850	0.113127	0.147355	7.980-005	1.794+000
65(0.42)	0.098659	0.101634	0.110316	0.103730	0.111789	0.133587	0.094260	0.094073	0.122711	0.185208	6.067-005	1.784+000
70(0.34)	0.100123	0.103836	0.112456	0.106128	0.115917	0.134855	0.096900	0.098187	0.130322	0.219090	6.818-005	1.758+000
75(0.26)	0.101003	0.105101	0.113305	0.107124	0.118057	0.133737	0.097593	0.099848	0.133702	0.239036	7.444-005	1.720+000
80(0.17)	0.101100	0.105116	0.112486	0.106294	0.117587	0.129530	0.095501	0.097897	0.130696	0.236311	7.560-005	1.707+000
85(0.09)	0.100345	0.103780	0.109911	0.103539	0.114331	0.122096	0.090356	0.091902	0.120398	0.207634	5.670-005	2.096+000
90(-0.00)	0.098826	0.101261	0.105852	0.099169	0.108661	0.112052	0.082659	0.082492	0.103894	0.157634	2.638-005	0.000+000
95(-0.09)	0.096767	0.097948	0.100880	0.093832	0.101424	0.100654	0.073563	0.071204	0.084028	0.097715	2.223-005	0.000+000
100(-0.17)	0.094458	0.094335	0.095687	0.088312	0.093713	0.089404	0.064459	0.059902	0.064245	0.041583	1.809-005	0.000+000
105(-0.26)	0.092161	0.090860	0.090882	0.083283	0.086546	0.079581	0.056492	0.050072	0.047191	-0.000134	1.489-005	0.000+000
110(-0.34)	0.090046	0.087795	0.086836	0.079143	0.080598	0.071922	0.050226	0.042377	0.033889	-0.023271	1.274-005	0.000+000
115(-0.42)	0.088174	0.085218	0.083644	0.075965	0.076084	0.066576	0.045627	0.036657	0.023881	-0.030067	1.120-005	0.000+000
120(-0.50)	0.086516	0.083058	0.081189	0.073585	0.072824	0.063298	0.042272	0.032272	0.016042	-0.026436	1.498-005	0.000+000
130(-0.64)	0.083578	0.079454	0.077638	0.070166	0.068555	0.061457	0.037319	0.024831	0.003791	-0.010987	1.597-005	0.000+000
140(-0.77)	0.080895	0.076247	0.074863	0.067327	0.065410	0.063921	0.032792	0.016810	-0.003597	-0.002306	1.235-005	0.000+000
150(-0.87)	0.078554	0.073435	0.072519	0.064739	0.062776	0.068269	0.028248	0.008018	-0.004564	-0.000211	9.080-006	0.000+000
160(-0.94)	0.076779	0.071290	0.070751	0.062658	0.060801	0.071780	0.024296	0.000184	-0.002014	0.000000	5.868-006	0.000+000
170(-0.98)	0.075696	0.069975	0.069693	0.061326	0.059582	0.073336	0.021783	-0.004635	0.000027	0.000001	2.908-006	0.000+000
177(-1.00)	0.075357	0.069563	0.069370	0.060898	0.059194	0.073639	0.021030	-0.006005	0.000556	0.000000	3.635-007	0.000+000
ENERGY SUM	1.147632	1.137760	1.182805	1.090085	1.126212	1.236000	0.849991	0.748286	0.797832	0.937280		

TOTAL DOSE RATE = 0.000802 (MR/HR)

TOTAL DOSE BUILDUP= 2.266950

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.4178 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.087736	0.085513	0.089944	0.080201	0.075373	0.087423	0.082553	0.067335	0.049383	0.051133	1.520-006	2.035+000
10(0.98)	0.087986	0.085869	0.090285	0.080568	0.075929	0.088291	0.082087	0.067896	0.051350	0.052375	1.222-005	2.037+000
20(0.94)	0.088784	0.086999	0.091372	0.081748	0.077722	0.091179	0.080843	0.069260	0.057841	0.056626	2.478-005	2.043+000
30(0.87)	0.090076	0.088850	0.093175	0.083724	0.080735	0.095971	0.079636	0.070968	0.068242	0.064838	3.803-005	2.052+000
40(0.77)	0.091798	0.091351	0.095654	0.086467	0.084928	0.101763	0.079405	0.073383	0.080282	0.079479	5.221-005	2.065+000
50(0.64)	0.093770	0.094265	0.098549	0.089741	0.090006	0.106972	0.080506	0.076858	0.091490	0.104328	6.728-005	2.080+000
60(0.50)	0.095502	0.096888	0.101001	0.092674	0.094815	0.109907	0.082069	0.080544	0.100367	0.138332	6.145-005	2.098+000
65(0.42)	0.096002	0.097676	0.101555	0.093472	0.096361	0.109861	0.082262	0.081592	0.103009	0.153857	4.383-005	2.113+000
70(0.34)	0.096079	0.097839	0.101328	0.093458	0.096815	0.108354	0.081461	0.081352	0.103362	0.163145	4.524-005	2.149+000
75(0.26)	0.095623	0.097209	0.100122	0.092406	0.095869	0.105098	0.079241	0.079251	0.100434	0.161956	4.376-005	2.266+000
80(0.17)	0.094583	0.095711	0.097862	0.090228	0.093419	0.100013	0.075385	0.074968	0.093677	0.147799	3.699-005	2.782+000
85(0.09)	0.092990	0.093402	0.094645	0.087026	0.089624	0.093334	0.070013	0.068631	0.083220	0.121441	2.440-005	9.909+000
90(-0.00)	0.090958	0.090471	0.090733	0.083091	0.084886	0.085623	0.063596	0.060854	0.070192	0.087216	1.945-005	0.000+000
95(-0.09)	0.088654	0.087192	0.086496	0.078833	0.079749	0.077646	0.056826	0.052565	0.056301	0.051706	1.668-005	0.000+000
100(-0.17)	0.086260	0.083853	0.082313	0.074670	0.074755	0.070163	0.050400	0.044691	0.043241	0.021357	1.407-005	0.000+000
105(-0.26)	0.083924	0.080687	0.078479	0.070920	0.070314	0.063731	0.044808	0.037859	0.032120	0.000258	1.202-005	0.000+000
110(-0.34)	0.081741	0.077826	0.075154	0.067743	0.066638	0.058607	0.040234	0.032268	0.023240	-0.010817	1.051-005	0.000+000
115(-0.42)	0.079745	0.075306	0.072362	0.065146	0.063736	0.054780	0.036589	0.027754	0.016299	-0.013844	9.333-006	0.000+000
120(-0.50)	0.077928	0.073092	0.070033	0.063034	0.061477	0.052083	0.033634	0.023973	0.010745	-0.012054	1.251-005	0.000+000
130(-0.64)	0.074732	0.069337	0.066349	0.059755	0.058156	0.049345	0.028810	0.017351	0.002620	-0.005012	1.328-005	0.000+000
140(-0.77)	0.072022	0.066225	0.063470	0.057160	0.055602	0.049333	0.024470	0.010993	-0.001607	-0.001108	1.025-005	0.000+000
150(-0.87)	0.069827	0.063720	0.061200	0.055046	0.053542	0.051064	0.020283	0.005041	-0.002099	-0.000123	7.475-006	0.000+000
160(-0.94)	0.068227	0.061900	0.059560	0.053470	0.052034	0.053102	0.016475	0.000459	-0.000910	-0.000004	4.884-006	0.000+000
170(-0.98)	0.067264	0.060806	0.058582	0.052503	0.051117	0.054400	0.013696	-0.002021	-0.000003	0.000001	2.418-006	0.000+000
177(-1.00)	0.066964	0.060465	0.058280	0.052199	0.050827	0.054774	0.012734	-0.002664	0.000229	0.000000	3.017-007	0.000+000
ENERGY SUM	1.081182	1.056412	1.063596	0.966628	0.966014	1.008006	0.718810	0.634065	0.665595	0.764255		

TOTAL DOSE RATE = 0.000585(MR/HR)

TOTAL DOSE BUILDUP= 2.906852

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.8355 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.084160	0.083145	0.083225	0.073199	0.069760	0.073522	0.068353	0.070338	0.064769	0.067475	1.270-006	2.583+000
10(0.98)	0.084274	0.083314	0.083370	0.073352	0.070022	0.073823	0.068591	0.069775	0.066036	0.068649	1.016-005	2.588+000
20(0.94)	0.084615	0.083825	0.083800	0.073821	0.070812	0.074748	0.069029	0.068466	0.069475	0.072543	2.026-005	2.605+000
30(0.87)	0.085085	0.084547	0.084380	0.074502	0.071942	0.076179	0.069079	0.067295	0.073414	0.079494	3.015-005	2.636+000
40(0.77)	0.085487	0.085216	0.084815	0.075132	0.073038	0.077788	0.068444	0.066462	0.076316	0.089731	3.937-005	2.686+000
50(0.64)	0.085443	0.085310	0.084519	0.075143	0.073331	0.078522	0.066831	0.065262	0.077155	0.100861	4.681-005	2.772+000
60(0.50)	0.084411	0.084058	0.082647	0.073666	0.071666	0.076578	0.063384	0.062147	0.074158	0.104179	3.755-005	2.956+000
65(0.42)	0.083370	0.082707	0.080693	0.072120	0.069790	0.074130	0.060625	0.059296	0.070354	0.099061	2.444-005	3.165+000
70(0.34)	0.081947	0.080834	0.078571	0.070004	0.067200	0.070679	0.057105	0.055430	0.064735	0.088332	2.255-005	3.632+000
75(0.26)	0.080169	0.078488	0.075761	0.067398	0.064034	0.066420	0.052938	0.050664	0.057500	0.072780	1.929-005	5.018+000
80(0.17)	0.078104	0.075780	0.072610	0.064460	0.060543	0.061685	0.048372	0.045314	0.049229	0.054586	1.538-005	1.282+001
85(0.09)	0.075849	0.072858	0.069306	0.061388	0.057039	0.056862	0.043731	0.039809	0.040727	0.036662	1.276-005	6.254+002
90(-0.00)	0.073505	0.069874	0.066028	0.058373	0.053807	0.052295	0.039311	0.034554	0.032740	0.021605	1.131-005	0.000+000
95(-0.09)	0.071162	0.066954	0.062910	0.055551	0.051028	0.048202	0.035304	0.029803	0.025726	0.010817	1.004-005	0.000+000
100(-0.17)	0.068886	0.064181	0.060030	0.052994	0.048746	0.044659	0.031765	0.025624	0.019788	0.004270	8.954-006	0.000+000
105(-0.26)	0.066719	0.061600	0.057410	0.050713	0.046892	0.041631	0.028652	0.021952	0.014801	0.000935	8.021-006	0.000+000
110(-0.34)	0.064685	0.059226	0.055045	0.048687	0.045351	0.039036	0.025881	0.018676	0.010596	-0.000487	7.200-006	0.000+000
115(-0.42)	0.062798	0.057063	0.052916	0.046892	0.044021	0.036796	0.023378	0.015704	0.007094	-0.001002	6.460-006	0.000+000
120(-0.50)	0.061066	0.055110	0.051009	0.045308	0.042843	0.034863	0.021094	0.012989	0.004303	-0.001145	8.684-006	0.000+000
130(-0.64)	0.058079	0.051820	0.047816	0.042726	0.040878	0.031846	0.017062	0.008260	0.000903	-0.000946	9.200-006	0.000+000
140(-0.77)	0.055712	0.049292	0.045370	0.040834	0.039387	0.029974	0.013557	0.004471	-0.000176	-0.000460	7.113-006	0.000+000
150(-0.87)	0.053917	0.047421	0.043557	0.039494	0.038277	0.029301	0.010370	0.001802	-0.000239	-0.000118	5.206-006	0.000+000
160(-0.94)	0.052651	0.046123	0.042291	0.038594	0.037493	0.029595	0.007470	0.000381	-0.000154	-0.000012	3.413-006	0.000+000
170(-0.98)	0.051895	0.045356	0.041533	0.038076	0.037023	0.030208	0.005209	-0.000107	-0.000080	0.000001	1.691-006	0.000+000
177(-1.00)	0.051658	0.045117	0.041295	0.037918	0.036877	0.030473	0.004373	-0.000187	-0.000044	0.000001	2.108-007	0.000+000
ENERGY SUM	0.906557	0.863880	0.828258	0.736204	0.701588	0.679687	0.512211	0.453123	0.462472	0.508258		

TOTAL DOSE RATE = 0.000367(MR/HR)

TOTAL DOSE BUILDUP= 4.230113

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 1.2533 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.074	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.074509	0.073648	0.070885	0.061687	0.059045	0.059371	0.055383	0.061970	0.063180	0.066774	1.016-006	3.139+000
10(0.98)	0.074465	0.073617	0.070840	0.061657	0.059063	0.059378	0.055622	0.061173	0.063715	0.067488	8.089-006	3.150+000
20(0.94)	0.074299	0.073485	0.070660	0.061535	0.059062	0.059294	0.056035	0.059208	0.064758	0.069744	1.589-005	3.188+000
30(0.87)	0.073930	0.073139	0.070226	0.061220	0.058859	0.058956	0.055865	0.057001	0.064844	0.073390	2.303-005	3.261+000
40(0.77)	0.073185	0.072346	0.069263	0.060467	0.058109	0.058256	0.054559	0.054579	0.063140	0.077767	2.885-005	3.396+000
50(0.64)	0.071772	0.070695	0.067312	0.058816	0.056182	0.056673	0.051741	0.051213	0.059388	0.079561	3.231-005	3.664+000
60(0.50)	0.069344	0.067687	0.063837	0.055713	0.052344	0.053024	0.046875	0.045774	0.052323	0.070964	2.379-005	4.319+000
65(0.42)	0.067694	0.065599	0.061471	0.053548	0.049651	0.050177	0.043573	0.042007	0.047001	0.060574	1.470-005	5.115+000
70(0.34)	0.065784	0.063173	0.058770	0.051059	0.046588	0.046771	0.039811	0.037626	0.040565	0.046641	1.290-005	7.050+000
75(0.26)	0.063678	0.060514	0.055875	0.048393	0.043384	0.043084	0.035829	0.032922	0.033516	0.031180	1.081-005	1.413+001
80(0.17)	0.061464	0.057757	0.052956	0.045735	0.040310	0.039464	0.031937	0.028296	0.026611	0.016991	9.039-006	8.356+001
85(0.09)	0.059231	0.055035	0.050167	0.043245	0.037610	0.036209	0.028409	0.024122	0.020567	0.006551	7.945-006	4.701+004
90(-0.00)	0.057050	0.052443	0.047607	0.041023	0.035432	0.033478	0.025386	0.020600	0.015758	0.000944	7.155-006	0.000+000
95(-0.09)	0.054965	0.050030	0.045303	0.039085	0.033790	0.031251	0.022848	0.017697	0.012106	-0.000503	6.525-006	0.000+000
100(-0.17)	0.052994	0.047803	0.043226	0.037385	0.032579	0.029388	0.020653	0.015220	0.009231	0.000343	5.995-006	0.000+000
105(-0.26)	0.051145	0.045748	0.041329	0.035856	0.031636	0.027722	0.018643	0.012959	0.006750	0.001526	5.514-006	0.000+000
110(-0.34)	0.049420	0.043856	0.039575	0.034451	0.030819	0.026138	0.016717	0.010793	0.004498	0.001892	5.008-006	0.000+000
115(-0.42)	0.047830	0.042130	0.037956	0.033161	0.030051	0.024605	0.014854	0.008719	0.002553	0.001315	4.492-006	0.000+000
120(-0.50)	0.046385	0.040581	0.036484	0.032000	0.029329	0.023147	0.013090	0.006803	0.001088	0.000309	6.008-006	0.000+000
130(-0.64)	0.043952	0.038044	0.034040	0.030147	0.028149	0.020588	0.009982	0.003663	-0.000156	-0.000943	6.377-006	0.000+000
140(-0.77)	0.042097	0.036196	0.032245	0.028906	0.027392	0.018582	0.007400	0.001534	-0.000070	-0.000679	4.958-006	0.000+000
150(-0.87)	0.040720	0.034878	0.030954	0.028111	0.026910	0.017280	0.005176	0.000406	-0.000003	-0.000190	3.650-006	0.000+000
160(-0.94)	0.039750	0.033969	0.030058	0.027609	0.026584	0.016839	0.003246	0.000086	-0.000146	-0.000019	2.403-006	0.000+000
170(-0.98)	0.039166	0.033428	0.029513	0.027328	0.026390	0.016963	0.001767	0.000082	-0.000156	0.000001	1.193-006	0.000+000
177(-1.00)	0.038982	0.033259	0.029339	0.027243	0.026331	0.017081	0.001216	0.000088	-0.000110	0.000001	1.489-007	0.000+000
ENERGY SUM	0.723943	0.675551	0.624663	0.545813	0.503760	0.464654	0.363549	0.322058	0.328668	0.338150		

TOTAL DOSE RATE = 0.000248(MR/HR)

TOTAL DOSE BUILDUP= 5.717743

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.6710 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.062530	0.061517	0.057430	0.049613	0.047497	0.046617	0.043890	0.050912	0.054734	0.058733	7.897-007	3.706+000
10(0.98)	0.062369	0.061344	0.057258	0.049466	0.047367	0.046487	0.044010	0.050091	0.054825	0.058977	6.260-006	3.726+000
20(0.94)	0.061838	0.060769	0.056692	0.048979	0.046904	0.045937	0.044109	0.048032	0.054528	0.059641	1.214-005	3.796+000
30(0.87)	0.060908	0.059745	0.055679	0.048106	0.045997	0.044779	0.043543	0.045557	0.052698	0.060424	1.718-005	3.941+000
40(0.77)	0.059499	0.058160	0.054068	0.046709	0.044444	0.043064	0.041835	0.042610	0.049022	0.060769	2.082-005	4.227+000
50(0.64)	0.057461	0.055791	0.051582	0.044511	0.041848	0.040679	0.038761	0.038674	0.043842	0.058300	2.232-005	4.848+000
60(0.50)	0.054616	0.052361	0.047914	0.041181	0.037755	0.036879	0.034029	0.033078	0.036381	0.047147	1.560-005	6.533+000
65(0.42)	0.052881	0.050233	0.045640	0.039087	0.035176	0.034295	0.031024	0.029528	0.031386	0.036880	9.398-006	8.790+000
70(0.34)	0.050984	0.047900	0.043175	0.036815	0.032420	0.031404	0.027746	0.025620	0.025701	0.024378	8.113-006	1.504+001
75(0.26)	0.048992	0.045468	0.040640	0.034515	0.029713	0.028478	0.024444	0.021655	0.019861	0.011778	6.822-006	4.477+001
80(0.17)	0.046983	0.043059	0.038245	0.032348	0.027285	0.025822	0.021403	0.018013	0.014591	0.001714	5.864-006	6.010+002
85(0.09)	0.045029	0.040775	0.036046	0.030438	0.025311	0.023655	0.018835	0.014987	0.010474	-0.003887	5.256-006	3.753+006
90(-0.00)	0.043175	0.038673	0.034110	0.028826	0.023849	0.022024	0.016790	0.012653	0.007656	-0.004797	4.800-006	0.000+000
95(-0.09)	0.041440	0.036761	0.032412	0.027471	0.022836	0.020797	0.015148	0.010848	0.005810	-0.002567	4.445-006	0.000+000
100(-0.17)	0.039822	0.035014	0.030887	0.026287	0.022122	0.019758	0.013703	0.009294	0.004390	0.000404	4.153-006	0.000+000
105(-0.26)	0.038315	0.033406	0.029470	0.025193	0.021538	0.018718	0.012283	0.007766	0.002998	0.002185	3.853-006	0.000+000
110(-0.34)	0.036921	0.031927	0.028134	0.024153	0.020970	0.017595	0.010823	0.006196	0.001535	0.002131	3.480-006	0.000+000
115(-0.42)	0.035651	0.030589	0.026890	0.023181	0.020394	0.016421	0.009359	0.004662	0.000244	0.000798	3.090-006	0.000+000
120(-0.50)	0.034516	0.029413	0.025769	0.022316	0.019850	0.015275	0.007975	0.003283	-0.000624	-0.000774	4.141-006	0.000+000
130(-0.64)	0.032670	0.027588	0.023991	0.021029	0.019081	0.013271	0.005648	0.001257	-0.000870	-0.002030	4.421-006	0.000+000
140(-0.77)	0.031315	0.026334	0.022784	0.020288	0.018777	0.011607	0.003847	0.000144	-0.000505	-0.001128	3.463-006	0.000+000
150(-0.87)	0.030314	0.025464	0.021949	0.019871	0.018682	0.010311	0.002383	-0.000244	-0.000200	-0.000278	2.566-006	0.000+000
160(-0.94)	0.029594	0.024844	0.021358	0.019615	0.018627	0.009666	0.001197	-0.000198	-0.000336	-0.000025	1.697-006	0.000+000
170(-0.98)	0.029151	0.024469	0.020984	0.019468	0.018594	0.009587	0.000318	-0.000171	-0.000231	0.000002	8.439-007	0.000+000
177(-1.00)	0.029010	0.024349	0.020861	0.019423	0.018585	0.009632	-0.000012	-0.000211	-0.000118	0.000001	1.054-007	0.000+000
ENERGY SUM	0.560451	0.513852	0.462106	0.398369	0.359284	0.320506	0.257208	0.227847	0.221915	0.225082		

TOTAL DOSE RATE = 0.000172(MR/HR)

TOTAL DOSE BUILDUP= 7.417145

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 2.0888 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.050465	0.049294	0.044991	0.038711	0.036989	0.035863	0.034119	0.040569	0.044478	0.048427	6.014-007	4.287+000
10(0.98)	0.050236	0.049042	0.044756	0.038506	0.036794	0.035697	0.034166	0.039725	0.044411	0.048320	4.750-006	4.320+000
20(0.94)	0.049508	0.048240	0.044016	0.037856	0.036143	0.035000	0.034078	0.037664	0.043636	0.047847	9.099-006	4.440+000
30(0.87)	0.048314	0.046921	0.042803	0.036786	0.035010	0.033570	0.033367	0.035243	0.041127	0.046818	1.263-005	4.693+000
40(0.77)	0.046677	0.045107	0.041096	0.035278	0.033343	0.031611	0.031525	0.032389	0.038930	0.045305	1.491-005	5.224+000
50(0.64)	0.044572	0.042733	0.038757	0.033190	0.030909	0.029301	0.028712	0.028761	0.035944	0.042246	1.557-005	6.476+000
60(0.50)	0.041894	0.039606	0.035538	0.030250	0.027301	0.026009	0.024673	0.023916	0.025618	0.032622	1.063-005	1.027+001
65(0.42)	0.040334	0.037740	0.033590	0.028446	0.025074	0.023815	0.022149	0.020905	0.021454	0.023772	6.336-006	1.592+001
70(0.34)	0.038665	0.035734	0.031509	0.026517	0.022737	0.021395	0.019424	0.017621	0.016715	0.013005	5.415-006	3.405+001
75(0.26)	0.036948	0.033682	0.029427	0.024607	0.020506	0.019025	0.016737	0.014362	0.011935	0.002478	4.532-006	1.494+002
80(0.17)	0.035253	0.031694	0.027485	0.022870	0.018596	0.017009	0.014371	0.011503	0.007852	-0.005138	3.947-006	4.485+003
85(0.09)	0.033637	0.029856	0.025780	0.021412	0.017147	0.015540	0.012513	0.009316	0.005020	-0.008038	3.558-006	3.066+008
90(-0.00)	0.032133	0.028203	0.024333	0.020244	0.016177	0.014606	0.011166	0.007815	0.003477	-0.006381	3.286-006	0.000+000
95(-0.09)	0.030742	0.026720	0.023088	0.019293	0.015575	0.014005	0.010147	0.006754	0.002734	-0.002269	3.081-006	0.000+000
100(-0.17)	0.029454	0.025367	0.021958	0.018449	0.015161	0.013461	0.009206	0.005794	0.002113	0.001501	2.947-006	0.000+000
105(-0.26)	0.028258	0.024114	0.020875	0.017625	0.014762	0.012772	0.008161	0.004703	0.001191	0.003007	2.733-006	0.000+000
110(-0.34)	0.027157	0.022958	0.019824	0.016801	0.014289	0.011890	0.006982	0.003467	0.000002	0.002033	2.425-006	0.000+000
115(-0.42)	0.026169	0.021926	0.018837	0.016018	0.013759	0.010906	0.005765	0.002236	-0.001097	-0.000268	2.124-006	0.000+000
120(-0.50)	0.025309	0.021050	0.017970	0.015340	0.013263	0.009957	0.004637	0.001184	-0.001744	-0.002418	2.849-006	0.000+000
130(-0.64)	0.023985	0.019798	0.016710	0.014450	0.012688	0.008421	0.002894	-0.000123	-0.001470	-0.003423	3.049-006	0.000+000
140(-0.77)	0.023070	0.019052	0.015983	0.014085	0.012667	0.007163	0.001693	-0.000622	-0.000611	-0.001657	2.414-006	0.000+000
150(-0.87)	0.022389	0.018541	0.015516	0.013942	0.012816	0.006057	0.000785	-0.000627	-0.000491	-0.000373	1.808-006	0.000+000
160(-0.94)	0.021873	0.018147	0.015162	0.013852	0.012925	0.005461	0.000109	-0.000452	-0.000581	-0.000030	1.203-006	0.000+000
170(-0.98)	0.021540	0.017886	0.014915	0.013788	0.012986	0.005392	-0.000388	-0.000511	-0.000512	0.000002	5.998-007	0.000+000
177(-1.00)	0.021432	0.017800	0.014829	0.013767	0.013006	0.005436	-0.000586	-0.000629	-0.000113	0.000001	7.509-008	0.000+000
ENERGY SUM	0.424773	0.383783	0.337786	0.288139	0.255276	0.222199	0.181488	0.160555	0.153298	0.149896		

TOTAL DOSE RATE = 0.000121(MR/HR)

TOTAL DOSE BUILDUP= 9.373899

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 4.1776 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.011726	0.010815	0.010083	0.008966	0.008363	0.008198	0.008373	0.013283	0.010473	0.012082	1.323-007	7.633+000
10(0.98)	0.011547	0.010637	0.009939	0.008850	0.008310	0.008309	0.008582	0.012168	0.011076	0.011697	1.034-006	7.843+000
20(0.94)	0.011037	0.010144	0.009585	0.008556	0.008164	0.008318	0.009016	0.010089	0.011947	0.010537	1.922-006	8.658+000
30(0.87)	0.010408	0.009596	0.009291	0.008315	0.008081	0.007745	0.009067	0.008869	0.011169	0.009495	2.592-006	1.075+001
40(0.77)	0.009940	0.009340	0.009305	0.008371	0.008308	0.007218	0.008630	0.008333	0.009471	0.011564	3.154-006	1.689+001
50(0.64)	0.009729	0.009435	0.009494	0.008583	0.008548	0.007472	0.008144	0.008107	0.009460	0.018400	3.856-006	4.136+001
60(0.50)	0.009432	0.009272	0.009048	0.008097	0.007526	0.006922	0.006988	0.007223	0.009517	0.020019	3.123-006	1.966+002
65(0.42)	0.009098	0.008853	0.008345	0.007337	0.006291	0.005679	0.005731	0.005903	0.007840	0.013757	1.797-006	6.398+002
70(0.34)	0.008624	0.008198	0.007373	0.006297	0.004772	0.003925	0.004073	0.003968	0.004751	0.002975	1.207-006	3.409+003
75(0.26)	0.008060	0.007408	0.006317	0.005188	0.003316	0.002164	0.002368	0.001874	0.001119	-0.008593	7.323-007	7.722+004
80(0.17)	0.007483	0.006628	0.005394	0.004261	0.002268	0.000978	0.001164	0.000297	-0.001654	-0.015810	5.410-007	1.030+008
85(0.09)	0.006956	0.005964	0.004742	0.003675	0.001813	0.000701	0.000710	-0.000292	-0.002539	-0.015273	4.774-007	1.054+018
90(-0.00)	0.006501	0.005439	0.004349	0.003402	0.001893	0.001213	0.000938	0.000030	-0.001650	-0.007819	4.742-007	0.000+000
95(-0.09)	0.006094	0.004989	0.004067	0.003257	0.002233	0.002001	0.001395	0.000660	-0.000209	0.001763	6.242-007	0.000+000
100(-0.17)	0.005702	0.004532	0.003715	0.003012	0.002474	0.002468	0.001550	0.000882	0.000341	0.007819	8.141-007	0.000+000
105(-0.26)	0.005315	0.004032	0.003198	0.002543	0.002345	0.002274	0.001120	0.000347	-0.000648	0.007403	6.799-007	0.000+000
110(-0.34)	0.004963	0.003539	0.002556	0.001896	0.001799	0.001491	0.000203	-0.000759	-0.002675	0.001685	3.888-007	0.000+000
115(-0.42)	0.004702	0.003151	0.001936	0.001249	0.001019	0.000500	-0.000851	-0.001933	-0.004603	-0.005539	2.759-007	0.000+000
120(-0.50)	0.004578	0.002964	0.001498	0.000762	0.000301	-0.000287	-0.001693	-0.002736	-0.005504	-0.010627	3.425-007	0.000+000
130(-0.64)	0.004732	0.003241	0.001416	0.000656	-0.000142	-0.000710	-0.002314	-0.002940	-0.004051	-0.010326	3.885-007	0.000+000
140(-0.77)	0.005096	0.003907	0.001987	0.001274	0.000531	-0.000659	-0.002219	-0.002380	-0.002049	-0.004180	3.764-007	0.000+000
150(-0.87)	0.005289	0.004359	0.002502	0.001862	0.001280	-0.000981	-0.002055	-0.001765	-0.001898	-0.000780	3.283-007	0.000+000
160(-0.94)	0.005266	0.004485	0.002717	0.002158	0.001721	-0.000903	-0.001807	-0.001483	-0.001795	-0.000042	2.361-007	0.000+000
170(-0.98)	0.005171	0.004461	0.002727	0.002255	0.001951	-0.000272	-0.001678	-0.002122	-0.000692	0.000005	1.224-007	0.000+000
177(-1.00)	0.005128	0.004439	0.002705	0.002273	0.002023	0.000059	-0.001695	-0.002664	-0.000046	0.000001	1.562-008	0.000+000
ENERGY SUM	0.089788	0.078143	0.065813	0.055011	0.045734	0.035461	0.030827	0.026680	0.023953	0.019783		

TOTAL DOSE RATE = 0.000026(MR/HR)

TOTAL DOSE BUILDUP= 28.125868

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0113 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.071521	0.067595	0.070852	0.066042	0.058378	0.080318	0.080436	0.021231	-0.000086	0.001689	2.191-006	1.428+000
10(0.98)	0.071682	0.067836	0.071275	0.066422	0.058986	0.081984	0.077131	0.025649	0.000580	0.001755	1.770-005	1.428+000
20(0.94)	0.072224	0.068638	0.072711	0.067686	0.061123	0.087481	0.069527	0.035886	0.005524	0.001951	3.663-005	1.432+000
30(0.87)	0.073273	0.070157	0.075412	0.070087	0.065268	0.095886	0.063560	0.045368	0.019835	0.002643	5.839-005	1.441+000
40(0.77)	0.075171	0.072858	0.079975	0.074331	0.072353	0.104709	0.062740	0.053201	0.043408	0.007971	8.564-005	1.457+000
50(0.64)	0.078404	0.077435	0.087208	0.081328	0.083713	0.112962	0.068142	0.063207	0.071286	0.035632	1.236-004	1.484+000
60(0.50)	0.083075	0.084039	0.096966	0.091003	0.099376	0.122243	0.079474	0.078934	0.102903	0.115988	1.365-004	1.511+000
65(0.42)	0.085671	0.087685	0.102023	0.096066	0.107648	0.127026	0.086289	0.088463	0.120215	0.176927	1.118-004	1.506+000
70(0.34)	0.088118	0.091062	0.106400	0.100434	0.114922	0.130801	0.092464	0.097447	0.136456	0.240235	1.389-004	1.470+000
75(0.26)	0.090126	0.093726	0.109400	0.103346	0.120055	0.132295	0.096554	0.103850	0.148198	0.289426	1.769-004	1.393+000
80(0.17)	0.091442	0.095294	0.110469	0.104183	0.122089	0.130368	0.097254	0.105667	0.151582	0.307468	2.412-004	1.277+000
85(0.09)	0.091933	0.095572	0.109374	0.102684	0.120529	0.124504	0.093921	0.101787	0.144277	0.284562	4.077-004	1.142+000
90(-0.00)	0.091622	0.094624	0.106308	0.099067	0.115537	0.115106	0.086904	0.092613	0.126912	0.223889	4.494-005	0.000+000
95(-0.09)	0.090679	0.092748	0.101854	0.093988	0.107934	0.103443	0.077494	0.080025	0.103114	0.141386	3.685-005	0.000+000
100(-0.17)	0.089365	0.090384	0.096803	0.088347	0.099011	0.091243	0.067457	0.066640	0.077959	0.059096	2.838-005	0.000+000
105(-0.26)	0.087943	0.087967	0.091930	0.083004	0.090164	0.080151	0.058402	0.054765	0.055743	-0.004202	2.200-005	0.000+000
110(-0.34)	0.086609	0.085811	0.087786	0.078555	0.082496	0.071287	0.051291	0.045629	0.038459	-0.039738	1.810-005	0.000+000
115(-0.42)	0.085454	0.084048	0.084608	0.075227	0.076560	0.065091	0.046291	0.039234	0.025754	-0.049684	1.554-005	0.000+000
120(-0.50)	0.084473	0.082650	0.082343	0.072921	0.072339	0.061469	0.042982	0.034761	0.016069	-0.043017	2.063-005	0.000+000
130(-0.64)	0.082760	0.080447	0.079592	0.070190	0.067385	0.060481	0.038860	0.027549	0.001185	-0.017201	2.192-005	0.000+000
140(-0.77)	0.081000	0.078329	0.077638	0.068180	0.064379	0.065325	0.035121	0.018676	-0.007150	-0.003340	1.700-005	0.000+000
150(-0.87)	0.079177	0.076165	0.075678	0.066077	0.061982	0.072477	0.030732	0.007817	-0.006719	-0.000263	1.238-005	0.000+000
160(-0.94)	0.077598	0.074305	0.073863	0.064129	0.060108	0.077878	0.026238	-0.001827	-0.002340	-0.000019	8.066-006	0.000+000
170(-0.98)	0.076549	0.073088	0.072575	0.062781	0.058878	0.079994	0.022866	-0.007065	0.000393	0.000020	4.005-006	0.000+000
177(-1.00)	0.076208	0.072697	0.072137	0.062335	0.058470	0.080302	0.021717	-0.008286	0.000962	0.000053	5.022-007	0.000+000
ENERGY SUM	1.053349	1.049676	1.132592	1.038024	1.098232	1.204838	0.807443	0.717992	0.779119	0.944094		

TOTAL DOSE RATE = 0.002229 (MR/HR)

TOTAL DOSE BUILDUP= 1.396540

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1878 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.076280	0.073801	0.077199	0.069695	0.063214	0.077461	0.075416	0.040148	0.021731	0.023897	2.110-006	1.640+000
10(0.98)	0.076500	0.074090	0.077587	0.070066	0.063781	0.078635	0.073668	0.042549	0.023040	0.024577	1.701-005	1.642+000
20(0.94)	0.077212	0.075025	0.078874	0.071278	0.065689	0.082509	0.069591	0.048201	0.028624	0.026910	3.490-005	1.647+000
30(0.87)	0.078448	0.076647	0.081159	0.073435	0.069134	0.088583	0.066346	0.053783	0.040562	0.031649	5.471-005	1.655+000
40(0.77)	0.080310	0.079107	0.084649	0.076804	0.074466	0.095263	0.065977	0.058984	0.057754	0.042088	7.788-005	1.668+000
50(0.64)	0.082877	0.082542	0.089470	0.081583	0.082009	0.101274	0.069050	0.065637	0.076618	0.068055	1.066-004	1.685+000
60(0.50)	0.085809	0.086628	0.095009	0.087196	0.091070	0.106422	0.074839	0.074754	0.095755	0.121824	1.076-004	1.697+000
65(0.42)	0.087326	0.088548	0.097452	0.089705	0.095285	0.108259	0.077867	0.079526	0.104846	0.156650	8.262-005	1.690+000
70(0.34)	0.088483	0.090066	0.099186	0.091492	0.098514	0.108954	0.080089	0.083325	0.112124	0.188847	9.395-005	1.666+000
75(0.26)	0.089205	0.090934	0.099840	0.092151	0.100155	0.107868	0.080701	0.085001	0.115615	0.209036	1.043-004	1.624+000
80(0.17)	0.089370	0.090969	0.099864	0.091401	0.099788	0.104521	0.079076	0.083565	0.113418	0.208703	1.088-004	1.591+000
85(0.09)	0.088938	0.090119	0.097120	0.089195	0.097303	0.098828	0.075023	0.078645	0.104705	0.184316	8.532-005	1.811+000
90(-0.00)	0.087968	0.088486	0.093915	0.085764	0.092960	0.091219	0.068926	0.070750	0.090382	0.139840	3.377-005	0.000+000
95(-0.09)	0.086598	0.086601	0.089963	0.081569	0.087542	0.082561	0.061656	0.061159	0.072910	0.085786	2.809-005	0.000+000
100(-0.17)	0.085010	0.083857	0.085766	0.077169	0.081223	0.073905	0.054280	0.051440	0.055323	0.035005	2.241-005	0.000+000
105(-0.26)	0.083377	0.081429	0.081783	0.073070	0.075361	0.066176	0.047700	0.042877	0.040000	-0.002486	1.813-005	0.000+000
110(-0.34)	0.081825	0.079204	0.078327	0.069598	0.070317	0.059960	0.042405	0.036080	0.027930	-0.022793	1.532-005	0.000+000
115(-0.42)	0.080413	0.077264	0.075518	0.066863	0.066336	0.055445	0.038434	0.030967	0.018813	-0.028107	1.335-005	0.000+000
120(-0.50)	0.079143	0.075594	0.073314	0.064792	0.063369	0.052528	0.035503	0.027022	0.011752	-0.024066	1.777-005	0.000+000
130(-0.64)	0.076900	0.072792	0.070151	0.061938	0.059490	0.050590	0.031224	0.020316	0.001327	-0.009470	1.881-005	0.000+000
140(-0.77)	0.074864	0.070335	0.067758	0.059780	0.056852	0.052498	0.027326	0.013075	-0.004002	-0.001829	1.452-005	0.000+000
150(-0.87)	0.073040	0.068155	0.065684	0.057844	0.054752	0.056405	0.023138	0.005389	-0.003761	-0.000147	1.057-005	0.000+000
160(-0.94)	0.071595	0.066443	0.063998	0.056239	0.053163	0.059896	0.018934	-0.000786	-0.001279	-0.000010	6.893-006	0.000+000
170(-0.98)	0.070678	0.065368	0.062887	0.055188	0.052155	0.061651	0.015645	-0.003888	0.000221	0.000010	3.415-006	0.000+000
177(-1.00)	0.070385	0.065027	0.062522	0.054848	0.051827	0.062048	0.014467	-0.004563	0.000525	0.000027	4.274-007	0.000+000
ENERGY SUM	1.052358	1.013899	1.052762	0.951377	0.968605	1.013912	0.703398	0.626150	0.669062	0.794482		

TOTAL DOSE RATE = 0.001074 (MR/HR)

TOTAL DOSE BUILDUP= 2.068200

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,400 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,3756 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.075	0,090	0,108	0,130	0.156	0.180	0,217	0,262	0,316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,078479	0,076832	0,079587	0,070219	0,064672	0,073253	0,070137	0,051597	0,037091	0.039676	1,990-006	1.867+000
10(0,98)	0,078694	0,077101	0,079896	0,070533	0,065143	0,074040	0,069374	0,052648	0,038602	0,040671	1,601-005	1.869+000
20(0,94)	0,079377	0,077953	0,080899	0,071544	0,066676	0,076625	0,067526	0,055185	0,043902	0.044065	3,256-005	1.876+000
30(0,87)	0,080491	0,079348	0,082588	0,073246	0,069277	0,080742	0,065942	0,057935	0,053200	0.050639	5,022-005	1.887+000
40(0,77)	0,081984	0,081231	0,084915	0,075623	0,072922	0,085395	0,065635	0,060893	0,064936	0.062657	6,949-005	1.902+000
50(0,64)	0,083692	0,083411	0,087618	0,078455	0,077346	0,089279	0,066791	0,064608	0,076543	0.084372	9,065-005	1.919+000
60(0,50)	0,085208	0,085349	0,089913	0,080972	0,081568	0,091296	0,068535	0,068640	0,086253	0.117026	8,437-005	1.936+000
65(0,42)	0,085684	0,085935	0,090479	0,081668	0,082985	0,091163	0,068959	0,070040	0,089548	0.133527	6,096-005	1.944+000
70(0,34)	0,085844	0,086080	0,090390	0,081701	0,083529	0,089933	0,068567	0,070340	0,090810	0.145091	6,392-005	1.962+000
75(0,26)	0,085612	0,085670	0,089403	0,080900	0,082958	0,087379	0,066993	0,068992	0,089092	0.147180	6,304-005	2.028+000
80(0,17)	0,084951	0,084656	0,087727	0,079196	0,081191	0,083419	0,064037	0,065658	0,083730	0.136702	5,429-005	2.341+000
85(0,09)	0,083879	0,083067	0,085164	0,076662	0,078299	0,078201	0,059767	0,060392	0,074780	0.113752	3,424-005	6.267+000
90(-0,00)	0,082469	0,081019	0,081998	0,073510	0,074592	0,072123	0,054541	0,053701	0,063183	0.082182	2,534-005	0.000+000
95(-0,09)	0,080830	0,078684	0,078510	0,070048	0,070455	0,065744	0,048916	0,046404	0,050218	0.048450	2,142-005	0.000+000
100(-0,17)	0,079086	0,076249	0,074999	0,066602	0,066306	0,059649	0,043475	0,039355	0,038423	0.019191	1,771-005	0.000+000
105(-0,26)	0,077348	0,073879	0,071714	0,063437	0,062498	0,054295	0,038659	0,033171	0,028035	-0.001195	1,487-005	0.000+000
110(-0,34)	0,075691	0,071679	0,068811	0,060709	0,059249	0,049933	0,034666	0,028084	0,019734	-0.011702	1,285-005	0.000+000
115(-0,42)	0,074154	0,069695	0,066338	0,058457	0,056624	0,046605	0,031465	0,023984	0,013293	-0.014232	1,133-005	0.000+000
120(-0,50)	0,072743	0,067922	0,064267	0,056631	0,054560	0,044223	0,028876	0,020570	0,008250	-0.012056	1,513-005	0.000+000
130(-0,64)	0,070255	0,064881	0,061016	0,053872	0,051576	0,041780	0,024693	0,014613	0,001188	-0.004729	1,598-005	0.000+000
140(-0,77)	0,068133	0,062340	0,058499	0,051774	0,049380	0,041808	0,020900	0,008862	-0,002018	-0.000952	1,231-005	0.000+000
150(-0,87)	0,066384	0,060262	0,056480	0,050069	0,047643	0,043491	0,017072	0,003573	-0,001894	-0.000090	8,967-006	0.000+000
160(-0,94)	0,065078	0,058721	0,054966	0,048774	0,046363	0,045523	0,013334	-0,000192	-0,000634	-0.000006	5,852-006	0.000+000
170(-0,98)	0,064276	0,057780	0,054021	0,047967	0,045571	0,046849	0,010374	-0,001897	0,000102	0.000004	2,897-006	0.000+000
177(-1,00)	0,064024	0,057485	0,053719	0,047711	0,045317	0,047236	0,009291	-0,002236	0,000250	0.000010	3,618-007	0.000+000
ENERGY SUM	0,985725	0,954444	0,959240	0,855728	0,843467	0,847112	0,606543	0,540491	0,568728	0.661273		

TOTAL DOSE RATE = 0.000787(MR/HR)

TOTAL DOSE BUILDUP= 2,582712

LOWER ENERGY CUTOFF 0,0471MEV

LOWEST SINGLE SCATTERING ENERGY 0,1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.7511 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.076413	0.075268	0.075887	0.069017	0.060737	0.062987	0.059707	0.058325	0.051380	0.054650	1.698-006	2.321+000
10(0.98)	0.076526	0.075402	0.076005	0.065169	0.060974	0.063282	0.059759	0.058092	0.052594	0.055677	1.360-005	2.325+000
20(0.94)	0.076865	0.075802	0.076357	0.065635	0.061693	0.064210	0.059735	0.057561	0.056127	0.059098	2.723-005	2.340+000
30(0.87)	0.077337	0.076360	0.076839	0.066309	0.062737	0.065658	0.059377	0.057177	0.060746	0.065302	4.078-005	2.365+000
40(0.77)	0.077768	0.076858	0.077207	0.066948	0.063747	0.067233	0.058644	0.057072	0.064897	0.074828	5.379-005	2.404+000
50(0.64)	0.077854	0.076906	0.076983	0.067080	0.064222	0.067940	0.057353	0.056718	0.067262	0.086408	6.491-005	2.464+000
60(0.50)	0.077198	0.075981	0.075504	0.066029	0.063165	0.066403	0.054770	0.054821	0.066193	0.093158	5.314-005	2.584+000
65(0.42)	0.076483	0.075006	0.074118	0.064871	0.061841	0.064477	0.052687	0.052779	0.063612	0.091076	3.501-005	2.716+000
70(0.34)	0.075485	0.073660	0.072277	0.063258	0.059961	0.061768	0.049987	0.049831	0.059359	0.083863	3.268-005	3.008+000
75(0.26)	0.074217	0.071965	0.070027	0.061237	0.057606	0.058401	0.046719	0.046017	0.053501	0.071675	2.806-005	3.852+000
80(0.17)	0.072719	0.069982	0.067463	0.058910	0.054939	0.054593	0.043039	0.041548	0.046436	0.056011	2.180-005	8.176+000
85(0.09)	0.071040	0.067798	0.064718	0.056413	0.052175	0.050612	0.039177	0.036757	0.038812	0.039328	1.722-005	2.345+002
90(-0.00)	0.069281	0.065513	0.061927	0.053894	0.049525	0.046718	0.035373	0.032002	0.031325	0.024201	1.509-005	0.000+000
95(-0.09)	0.067477	0.063218	0.059209	0.051473	0.047147	0.043111	0.031814	0.027565	0.024506	0.012443	1.320-005	0.000+000
100(-0.17)	0.065606	0.060986	0.056649	0.049232	0.045112	0.039904	0.028604	0.023588	0.018614	0.004653	1.158-005	0.000+000
105(-0.26)	0.063979	0.058866	0.054203	0.047212	0.043409	0.037128	0.025760	0.020085	0.013672	0.000343	1.024-005	0.000+000
110(-0.34)	0.062353	0.056686	0.052156	0.045416	0.041981	0.034756	0.023245	0.016995	0.009590	-0.001529	9.170-006	0.000+000
115(-0.42)	0.060835	0.055060	0.050234	0.043833	0.040760	0.032740	0.020998	0.014235	0.006279	-0.002011	8.147-006	0.000+000
120(-0.50)	0.059434	0.053390	0.048512	0.042442	0.039695	0.031033	0.018965	0.011738	0.003697	-0.001852	1.092-005	0.000+000
130(-0.64)	0.056996	0.050518	0.045616	0.040170	0.037922	0.028436	0.015366	0.007391	0.000598	-0.001046	1.153-005	0.000+000
140(-0.77)	0.055043	0.048245	0.043374	0.038477	0.036537	0.026885	0.012175	0.003896	-0.000355	-0.000388	8.890-006	0.000+000
150(-0.87)	0.053557	0.046528	0.041707	0.037259	0.035482	0.026386	0.009220	0.001453	-0.000325	-0.000081	6.494-006	0.000+000
160(-0.94)	0.052512	0.045327	0.040557	0.036435	0.034735	0.026707	0.006519	0.000175	-0.000142	-0.000005	4.254-006	0.000+000
170(-0.98)	0.051893	0.044616	0.039882	0.035957	0.034289	0.027278	0.004438	-0.000255	-0.000023	-0.000001	2.106-006	0.000+000
177(-1.00)	0.051700	0.044395	0.039673	0.035811	0.034150	0.027521	0.003678	-0.000324	0.000017	-0.000003	2.626-007	0.000+000
ENERGY SUM	0.852882	0.805302	0.770421	0.672737	0.632667	0.597160	0.449326	0.401040	0.410373	0.458181		

TOTAL DOSE RATE = 0.000502(MR/HR)

TOTAL DOSE BUILDUP= 3.622186

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 1.1267 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.069060	0.067820	0.066498	0.055959	0.052532	0.052176	0.049696	0.054384	0.052795	0.056445	1.395-006	2.775+000
10(0.98)	0.069048	0.067804	0.066453	0.055963	0.052572	0.052210	0.049890	0.053752	0.053477	0.057163	1.112-005	2.784+000
20(0.94)	0.068985	0.067725	0.066278	0.055950	0.052649	0.052249	0.050153	0.052192	0.055143	0.059473	2.194-005	2.813+000
30(0.87)	0.068789	0.067483	0.065867	0.055810	0.052592	0.052198	0.049836	0.050499	0.056447	0.063349	3.204-005	2.867+000
40(0.77)	0.068298	0.066872	0.064988	0.055298	0.052086	0.051922	0.048590	0.048754	0.056267	0.068436	4.060-005	2.962+000
50(0.64)	0.067265	0.065570	0.063249	0.054011	0.050598	0.050837	0.046165	0.046271	0.054039	0.072074	4.612-005	3.141+000
60(0.50)	0.065435	0.063237	0.060252	0.051528	0.047579	0.047938	0.042116	0.041963	0.048632	0.067100	3.450-005	3.556+000
65(0.42)	0.064187	0.061639	0.058252	0.049797	0.045467	0.045639	0.039394	0.038861	0.044253	0.059026	2.145-005	4.047+000
70(0.34)	0.062737	0.059789	0.055981	0.047802	0.043064	0.042876	0.036288	0.035176	0.038783	0.047354	1.884-005	5.199+000
75(0.26)	0.061129	0.057750	0.053540	0.045648	0.040531	0.039848	0.032967	0.031126	0.032609	0.033670	1.557-005	9.120+000
80(0.17)	0.059419	0.055605	0.051049	0.043461	0.038058	0.036799	0.029654	0.027033	0.026353	0.020407	1.263-005	4.119+001
85(0.09)	0.057666	0.053437	0.048620	0.041360	0.035825	0.033949	0.026558	0.023212	0.020648	0.009914	1.086-005	1.100+004
90(-0.00)	0.055924	0.051315	0.046333	0.039426	0.033954	0.031434	0.023808	0.019863	0.015888	0.003469	9.685-006	0.000+000
95(-0.09)	0.054229	0.049286	0.044227	0.037690	0.032480	0.029283	0.021422	0.017013	0.012116	0.000832	8.731-006	0.000+000
100(-0.17)	0.052607	0.047371	0.042302	0.036143	0.031356	0.027438	0.019332	0.014557	0.009108	0.000615	7.942-006	0.000+000
105(-0.26)	0.051073	0.045578	0.040538	0.034752	0.030478	0.025809	0.017438	0.012345	0.006584	0.001167	7.253-006	0.000+000
110(-0.34)	0.049634	0.043909	0.038913	0.033486	0.029739	0.024315	0.015660	0.010276	0.004399	0.001380	6.566-006	0.000+000
115(-0.42)	0.048300	0.042368	0.037415	0.032328	0.029066	0.022918	0.013967	0.008325	0.002577	0.000975	5.884-006	0.000+000
120(-0.50)	0.047078	0.040963	0.036046	0.031282	0.028436	0.021615	0.012363	0.006523	0.001220	0.000248	7.861-006	0.000+000
130(-0.64)	0.044994	0.038586	0.033725	0.029557	0.027347	0.019335	0.009481	0.003535	0.000002	-0.000677	8.313-006	0.000+000
140(-0.77)	0.043385	0.036778	0.031975	0.028333	0.026552	0.017547	0.007019	0.001505	-0.000040	-0.000480	6.442-006	0.000+000
150(-0.87)	0.042204	0.035465	0.030733	0.027526	0.026003	0.016383	0.004882	0.000449	-0.000023	-0.000125	4.731-006	0.000+000
160(-0.94)	0.041391	0.034567	0.029907	0.027021	0.025635	0.015963	0.003075	0.000113	-0.000104	-0.000008	3.111-006	0.000+000
170(-0.98)	0.040914	0.034039	0.029434	0.026743	0.025423	0.016050	0.001774	0.000032	-0.000075	-0.000001	1.544-006	0.000+000
177(-1.00)	0.040765	0.033876	0.029289	0.026659	0.025359	0.016150	0.001315	0.000000	-0.000030	-0.000006	1.926-007	0.000+000
ENERGY SUM	0.704492	0.651111	0.600785	0.515734	0.469794	0.425202	0.331466	0.298110	0.295587	0.317556		

TOTAL DOSE RATE = 0.000345(MR/HR)

TOTAL DOSE BUILDUP= 4.762692

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.5023 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.059335	0.057933	0.055401	0.046096	0.043329	0.042108	0.040504	0.046780	0.048081	0.051814	1.115-006	3.232+000
10(0.98)	0.059227	0.057806	0.055253	0.046000	0.043243	0.042013	0.040656	0.046052	0.048341	0.052167	8.856-006	3.247+000
20(0.94)	0.058864	0.057384	0.054754	0.045674	0.042923	0.041611	0.040790	0.044214	0.048695	0.053223	1.726-005	3.298+000
30(0.87)	0.058205	0.056612	0.053842	0.045049	0.042251	0.040800	0.040250	0.042060	0.048020	0.054750	2.463-005	3.400+000
40(0.77)	0.057149	0.055362	0.052365	0.043955	0.041006	0.039601	0.038686	0.039618	0.045635	0.056232	3.018-005	3.595+000
50(0.64)	0.055548	0.053431	0.050072	0.042119	0.038826	0.037763	0.035935	0.036328	0.041533	0.055392	3.274-005	3.999+000
60(0.50)	0.053273	0.050639	0.046753	0.039309	0.035396	0.034621	0.031762	0.031467	0.035062	0.046553	2.307-005	5.039+000
65(0.42)	0.051886	0.048926	0.044740	0.037561	0.033269	0.032474	0.029147	0.028334	0.030617	0.037627	1.388-005	6.370+000
70(0.34)	0.050370	0.047055	0.042579	0.035672	0.031014	0.030071	0.026309	0.024856	0.025498	0.026365	1.189-005	9.844+000
75(0.26)	0.048772	0.045096	0.040375	0.033752	0.028793	0.027608	0.023435	0.021284	0.020153	0.014625	9.835-006	2.459+001
80(0.17)	0.047145	0.043125	0.038233	0.031915	0.026771	0.025298	0.020736	0.017925	0.015193	0.004787	8.262-006	2.343+002
85(0.09)	0.045537	0.041209	0.036239	0.030249	0.025073	0.023300	0.018372	0.015030	0.011135	-0.001288	7.306-006	5.504+005
90(-0.00)	0.043987	0.039394	0.034435	0.028792	0.023757	0.021668	0.016398	0.012689	0.008163	-0.003169	6.628-006	0.000+000
95(-0.09)	0.042513	0.037698	0.032817	0.027532	0.022800	0.020345	0.014753	0.010811	0.006084	-0.002000	6.081-006	0.000+000
100(-0.17)	0.041126	0.036121	0.031353	0.026422	0.022112	0.019212	0.013309	0.009202	0.004502	0.000225	5.642-006	0.000+000
105(-0.26)	0.039828	0.034654	0.030004	0.025413	0.021578	0.018150	0.011943	0.007688	0.003087	0.001771	5.230-006	0.000+000
110(-0.34)	0.038623	0.033296	0.028745	0.024471	0.021101	0.017089	0.010591	0.006193	0.001746	0.001923	4.738-006	0.000+000
115(-0.42)	0.037516	0.032050	0.027572	0.023594	0.020634	0.016023	0.009255	0.004749	0.000603	0.000992	4.216-006	0.000+000
120(-0.50)	0.036515	0.030928	0.026500	0.022798	0.020184	0.014987	0.007978	0.003436	-0.000171	-0.000228	5.629-006	0.000+000
130(-0.64)	0.034850	0.029082	0.024720	0.021525	0.019456	0.013120	0.005737	0.001434	-0.000493	-0.001343	5.991-006	0.000+000
140(-0.77)	0.033609	0.027739	0.023447	0.020699	0.019041	0.011543	0.003925	0.000323	-0.000150	-0.000769	4.672-006	0.000+000
150(-0.87)	0.032719	0.026794	0.022585	0.020209	0.018827	0.010311	0.002444	-0.000048	-0.000120	-0.000181	3.450-006	0.000+000
160(-0.94)	0.032108	0.026151	0.022024	0.019925	0.018706	0.009648	0.001300	-0.000049	-0.000207	-0.000011	2.279-006	0.000+000
170(-0.98)	0.031746	0.025769	0.021703	0.019771	0.018643	0.009511	0.000559	-0.000100	-0.000104	-0.000001	1.134-006	0.000+000
177(-1.00)	0.031633	0.025650	0.021606	0.019725	0.018625	0.009532	0.000314	-0.000168	-0.000017	-0.000006	1.417-007	0.000+000
ENERGY SUM	0.564426	0.512340	0.459780	0.389325	0.346634	0.304816	0.243673	0.217707	0.212553	0.220171		

TOTAL DOSE RATE = 0.000245(MR/HR)

TOTAL DOSE BUILDUP= 6.041446

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.8779 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.049102	0.047639	0.044624	0.036886	0.034671	0.033343	0.032418	0.038709	0.040994	0.044586	8.752-007	3.694+000
10(0.98)	0.048936	0.047450	0.044427	0.036737	0.034523	0.033200	0.032524	0.037955	0.041017	0.044633	6.924-006	3.718+000
20(0.94)	0.048404	0.046843	0.043785	0.036259	0.034022	0.032622	0.032525	0.036066	0.040681	0.044672	1.334-005	3.802+000
30(0.87)	0.047511	0.045821	0.042693	0.035437	0.033110	0.031501	0.031822	0.033841	0.039048	0.044470	1.867-005	3.976+000
40(0.77)	0.046228	0.044343	0.041088	0.034183	0.031675	0.029987	0.030169	0.031290	0.035769	0.043824	2.225-005	4.328+000
50(0.64)	0.044489	0.042307	0.038820	0.032327	0.029477	0.028054	0.027541	0.027994	0.031313	0.041423	2.337-005	5.121+000
60(0.50)	0.042232	0.039608	0.035753	0.029708	0.026285	0.025183	0.023798	0.023473	0.025318	0.032689	1.591-005	7.367+000
68(0.42)	0.040923	0.038028	0.033961	0.028146	0.024388	0.023321	0.021521	0.020682	0.021419	0.024604	9.427-006	1.052+001
70(0.34)	0.039531	0.036347	0.032082	0.026503	0.022436	0.021300	0.019101	0.017665	0.017035	0.014739	7.990-006	1.983+001
79(0.26)	0.038098	0.034629	0.030215	0.024883	0.020585	0.019312	0.016720	0.014667	0.012609	0.004963	6.597-006	7.040+001
80(0.17)	0.036673	0.032941	0.028454	0.023388	0.018977	0.017552	0.014575	0.011980	0.008735	-0.002412	5.681-006	1.401+003
89(0.09)	0.035294	0.031338	0.026865	0.022088	0.017703	0.016146	0.012799	0.009818	0.005868	-0.005771	5.089-006	2.852+007
90(-0.00)	0.033987	0.029848	0.025467	0.020996	0.016784	0.015097	0.011403	0.008207	0.004077	-0.005124	4.672-006	0.000+000
99(-0.09)	0.032761	0.028475	0.024235	0.020076	0.016163	0.014300	0.010280	0.006989	0.003029	-0.002115	4.339-006	0.000+000
100(-0.17)	0.031619	0.027206	0.023119	0.019263	0.015732	0.013600	0.009270	0.005925	0.002229	0.000953	4.108-006	0.000+000
109(-0.26)	0.030557	0.026029	0.022075	0.018502	0.015372	0.012866	0.008248	0.004836	0.001338	0.002401	3.820-006	0.000+000
110(-0.34)	0.029578	0.024942	0.021082	0.017768	0.015003	0.012050	0.007169	0.003684	0.000340	0.001897	3.421-006	0.000+000
119(-0.42)	0.028689	0.023955	0.020150	0.017071	0.014607	0.011181	0.006074	0.002551	-0.000542	0.000248	3.006-006	0.000+000
120(-0.50)	0.027899	0.023080	0.019304	0.016444	0.014219	0.010326	0.005033	0.001555	-0.001066	-0.001401	4.035-006	0.000+000
130(-0.64)	0.026630	0.021704	0.017961	0.015504	0.013662	0.008832	0.003298	0.000215	-0.000929	-0.002322	4.311-006	0.000+000
140(-0.77)	0.025731	0.020772	0.017087	0.014987	0.013479	0.007567	0.002003	-0.000326	-0.000372	-0.001125	3.385-006	0.000+000
150(-0.87)	0.025101	0.020141	0.016541	0.014741	0.013483	0.006472	0.001010	-0.000334	-0.000325	-0.000240	2.520-006	0.000+000
160(-0.94)	0.024664	0.019708	0.016192	0.014616	0.013519	0.005805	0.000326	-0.000217	-0.000354	-0.000013	1.674-006	0.000+000
170(-0.98)	0.024399	0.019444	0.015991	0.014548	0.013550	0.005629	-0.000043	-0.000339	-0.000128	-0.000001	8.341-007	0.000+000
177(-1.00)	0.024315	0.019359	0.015929	0.014527	0.013562	0.005633	-0.000149	-0.000470	0.000015	-0.000006	1.044-007	0.000+000
ENERGY SUM	0.442607	0.395815	0.347553	0.291137	0.254762	0.219410	0.178608	0.159471	0.152604	0.152715		

TOTAL DOSE RATE = 0.000176(MR/HR)

TOTAL DOSE BUILDUP= 7.483720

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.7557 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.012894	0.012280	0.011428	0.009700	0.009197	0.008916	0.008994	0.013887	0.011856	0.013774	2.228-007	6.160+000
10(0.98)	0.012769	0.012149	0.011337	0.009624	0.009154	0.008965	0.009311	0.012912	0.012180	0.013412	1.742-006	6.298+000
20(0.94)	0.012422	0.011794	0.011092	0.009441	0.009029	0.008829	0.009788	0.010965	0.012674	0.012280	3.245-006	6.824+000
30(0.87)	0.012000	0.011391	0.010846	0.009302	0.008911	0.008227	0.009634	0.009667	0.011983	0.010959	4.361-006	8.121+000
40(0.77)	0.011643	0.011102	0.010718	0.009276	0.008847	0.007738	0.008969	0.008993	0.010226	0.011766	5.166-006	1.166+001
50(0.64)	0.011336	0.010862	0.010500	0.009138	0.008620	0.007685	0.008202	0.008441	0.009424	0.016451	5.932-006	2.414+001
60(0.50)	0.010857	0.010317	0.009664	0.008343	0.007305	0.006829	0.006845	0.007177	0.008726	0.017266	4.538-006	8.985+001
65(0.42)	0.010488	0.009836	0.008927	0.007603	0.006194	0.005749	0.005696	0.005870	0.007117	0.011912	2.604-006	2.472+002
70(0.34)	0.010039	0.009232	0.008052	0.006714	0.004969	0.004389	0.004314	0.004142	0.004457	0.002779	1.810-006	1.088+003
75(0.26)	0.009542	0.008568	0.007164	0.005822	0.003861	0.003086	0.002963	0.002346	0.001413	-0.007060	1.192-006	1.801+004
80(0.17)	0.009043	0.007920	0.006393	0.005075	0.003071	0.002187	0.001961	0.000972	-0.000944	-0.013307	9.280-007	1.138+007
85(0.09)	0.008575	0.007341	0.005815	0.004563	0.002691	0.001873	0.001496	0.000355	-0.001826	-0.013062	8.301-007	1.059+016
90(-0.00)	0.008153	0.006843	0.005416	0.004262	0.002677	0.002063	0.001505	0.000436	-0.001305	-0.006945	8.192-007	0.000+000
95(-0.09)	0.007771	0.006401	0.005107	0.004062	0.002865	0.002452	0.001696	0.000786	-0.000293	0.001101	9.650-007	0.000+000
100(-0.17)	0.007413	0.005976	0.004777	0.003824	0.003034	0.002682	0.001724	0.000884	0.000115	0.006345	1.198-006	0.000+000
105(-0.26)	0.007076	0.005551	0.004358	0.003461	0.002994	0.002529	0.001383	0.000456	-0.000598	0.006263	1.055-006	0.000+000
110(-0.34)	0.006774	0.005145	0.003856	0.002983	0.002672	0.001999	0.000787	-0.000395	-0.002085	0.001749	6.879-007	0.000+000
115(-0.42)	0.006533	0.004802	0.003345	0.002475	0.002146	0.001295	-0.000097	-0.001328	-0.003503	-0.004077	5.175-007	0.000+000
120(-0.50)	0.006381	0.004573	0.002923	0.002053	0.001592	0.000669	-0.000798	-0.002017	-0.004146	-0.008190	6.691-007	0.000+000
130(-0.64)	0.006362	0.004527	0.002581	0.001742	0.001031	0.000119	-0.001502	-0.002323	-0.003003	-0.007907	7.196-007	0.000+000
140(-0.77)	0.006578	0.004843	0.002816	0.002041	0.001311	-0.000012	-0.001627	-0.001833	-0.001581	-0.003063	6.294-007	0.000+000
150(-0.87)	0.006787	0.005166	0.003195	0.002499	0.001821	-0.000377	-0.001650	-0.001176	-0.001479	-0.000526	5.296-007	0.000+000
160(-0.94)	0.006878	0.005330	0.003445	0.002822	0.002199	-0.000497	-0.001479	-0.000964	-0.001188	-0.000017	3.822-007	0.000+000
170(-0.98)	0.006886	0.005369	0.003560	0.002974	0.002424	-0.000124	-0.001115	-0.001655	-0.000242	-0.000001	2.001-007	0.000+000
177(-1.00)	0.006879	0.005371	0.003592	0.003011	0.002498	0.000115	-0.000934	-0.002174	0.000230	-0.000012	2.566-008	0.000+000
ENERGY SUM	0.109952	0.094954	0.079144	0.065069	0.053725	0.042561	0.036587	0.032228	0.028511	0.024684		

TOTAL DOSE RATE = 0.000041(MR/HR)

TOTAL DOSE BUILDUP= 19.726165

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0103 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,065742	0,063903	0,062009	0,060657	0,052707	0,070245	0,069619	0,013512	-0,000073	0,001358	2,649-006	1,375+000
10(0,98)	0,065850	0,064091	0,062568	0,060999	0,053287	0,071797	0,066442	0,017856	0,000177	0,001401	2,140-005	1,376+000
20(0,94)	0,066247	0,064758	0,064397	0,062165	0,055325	0,076749	0,059385	0,028208	0,003375	0,001543	4,431-005	1,381+000
30(0,87)	0,067100	0,066123	0,067646	0,064447	0,059274	0,083895	0,054280	0,038118	0,014586	0,002065	7,076-005	1,391+000
40(0,77)	0,068727	0,068609	0,072710	0,068457	0,065879	0,090905	0,054085	0,046087	0,035209	0,006280	1,041-004	1,411+000
50(0,64)	0,071451	0,072635	0,079942	0,074736	0,075948	0,097165	0,059323	0,055477	0,061303	0,029528	1,509-004	1,443+000
60(0,50)	0,075202	0,078026	0,088746	0,082779	0,088956	0,104036	0,069275	0,069469	0,090774	0,099926	1,676-004	1,477+000
65(0,42)	0,077221	0,080842	0,093022	0,086735	0,095496	0,107435	0,074980	0,077663	0,106285	0,154403	1,376-004	1,475+000
70(0,34)	0,079111	0,083379	0,096587	0,089993	0,101069	0,109949	0,079993	0,085201	0,120422	0,211598	1,715-004	1,443+000
75(0,26)	0,080680	0,085340	0,098948	0,092020	0,104866	0,110659	0,083182	0,090408	0,130310	0,256475	2,191-004	1,371+000
80(0,17)	0,081774	0,086489	0,099733	0,092411	0,106248	0,108779	0,083565	0,091701	0,132848	0,273318	3,004-004	1,261+000
85(0,09)	0,082311	0,086717	0,098813	0,091021	0,104904	0,103987	0,080691	0,088243	0,126203	0,252985	5,128-004	1,132+000
90(-0,00)	0,082305	0,086078	0,096353	0,088033	0,100959	0,096594	0,074863	0,080404	0,110970	0,198290	5,300-005	0,000+000
95(-0,09)	0,081855	0,084771	0,092780	0,083924	0,094974	0,087500	0,067090	0,069708	0,090182	0,123843	4,306-005	0,000+000
100(-0,17)	0,081118	0,083080	0,088671	0,079336	0,087848	0,077929	0,058743	0,058257	0,068052	0,049874	3,269-005	0,000+000
105(-0,26)	0,080255	0,081300	0,084596	0,074900	0,080593	0,069069	0,051094	0,047936	0,048197	-0,006479	2,500-005	0,000+000
110(-0,34)	0,079398	0,079656	0,080987	0,071082	0,074069	0,061773	0,044938	0,039802	0,032403	-0,037402	2,039-005	0,000+000
115(-0,42)	0,078619	0,078268	0,078067	0,068107	0,068783	0,056442	0,040476	0,033935	0,020558	-0,045185	1,739-005	0,000+000
120(-0,50)	0,077932	0,077150	0,075850	0,065967	0,064832	0,053099	0,037434	0,029717	0,011551	-0,038288	2,288-005	0,000+000
130(-0,64)	0,076712	0,075467	0,072960	0,063465	0,059994	0,051575	0,033624	0,022878	-0,001317	-0,014632	2,416-005	0,000+000
140(-0,77)	0,075467	0,074009	0,071010	0,061943	0,057258	0,055329	0,030259	0,014651	-0,007085	-0,002669	1,871-005	0,000+000
150(-0,87)	0,074151	0,072539	0,069304	0,060502	0,055317	0,061713	0,026040	0,005079	-0,005391	-0,000181	1,362-005	0,000+000
160(-0,94)	0,072966	0,071224	0,067850	0,059149	0,053836	0,067108	0,021025	-0,002459	-0,001430	-0,000001	8,886-006	0,000+000
170(-0,98)	0,072152	0,070322	0,066868	0,058204	0,052839	0,069613	0,016493	-0,005588	0,000515	0,000003	4,419-006	0,000+000
177(-1,00)	0,071882	0,070024	0,066544	0,057892	0,052501	0,070108	0,014727	-0,005992	0,000810	0,000011	5,537-007	0,000+000
ENERGY SUM	0,961525	0,975067	1,032353	0,938425	0,976481	1,027516	0,697025	0,619617	0,672862	0,826381		

TOTAL DOSE RATE = 0.002779 (MR/HR)

TOTAL DOSE BUILDUP= 1.358060

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1710 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.072	0.089	0.110	0.137	0.169	0.199	0.247	0.307	0.381	0.474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.070333	0.069365	0.068853	0.063696	0.056697	0.068024	0.066337	0.030361	0.017001	0.019317	2.557-006	1.559+000
10(0.98)	0.070498	0.069593	0.069322	0.064029	0.057213	0.069133	0.064481	0.032968	0.017899	0.019862	2.063-005	1.561+000
20(0.94)	0.071048	0.070350	0.070829	0.065127	0.058956	0.072694	0.060305	0.039241	0.022115	0.021748	4.238-005	1.567+000
30(0.87)	0.072039	0.071716	0.073388	0.067104	0.062123	0.077989	0.057218	0.045501	0.032126	0.025595	6.663-005	1.577+000
40(0.77)	0.073576	0.073832	0.077082	0.070190	0.066988	0.083422	0.057071	0.050970	0.047868	0.034203	9.531-005	1.593+000
50(0.64)	0.075695	0.076746	0.081840	0.074438	0.073682	0.088014	0.060116	0.057390	0.066158	0.056703	1.315-004	1.615+000
60(0.50)	0.078141	0.080071	0.086928	0.079161	0.081387	0.091782	0.065455	0.065853	0.084763	0.105893	1.343-004	1.633+000
65(0.42)	0.079283	0.081576	0.089067	0.081160	0.084850	0.093033	0.068156	0.070198	0.093397	0.138854	1.039-004	1.629+000
70(0.34)	0.080220	0.082741	0.090547	0.082507	0.087443	0.093352	0.070107	0.073625	0.100222	0.170086	1.192-004	1.606+000
75(0.26)	0.080838	0.083396	0.091091	0.082907	0.088727	0.092258	0.070648	0.075145	0.103522	0.190540	1.341-004	1.561+000
80(0.17)	0.081058	0.083425	0.090528	0.082170	0.088408	0.089402	0.069277	0.073929	0.101667	0.191778	1.432-004	1.517+000
85(0.09)	0.080855	0.082799	0.088844	0.080280	0.086416	0.084732	0.065852	0.069677	0.093956	0.170062	1.177-004	1.644+000
90(-0.00)	0.080263	0.081593	0.086205	0.077420	0.082937	0.078573	0.060691	0.062821	0.081179	0.128934	4.052-005	0.000+000
95(-0.09)	0.079370	0.079963	0.082925	0.073933	0.078387	0.071563	0.054501	0.054433	0.065469	0.078391	3.335-005	0.000+000
100(-0.17)	0.078291	0.078112	0.079387	0.070242	0.073328	0.064483	0.048150	0.045841	0.049481	0.038820	2.618-005	0.000+000
105(-0.26)	0.077141	0.076234	0.075951	0.066738	0.068346	0.058045	0.042396	0.038158	0.035346	-0.004095	2.086-005	0.000+000
110(-0.34)	0.076011	0.074475	0.072878	0.063696	0.063908	0.052730	0.037677	0.031952	0.024035	-0.022621	1.746-005	0.000+000
115(-0.42)	0.074950	0.072912	0.070296	0.061239	0.060272	0.048738	0.034072	0.027207	0.015410	-0.026951	1.509-005	0.000+000
120(-0.50)	0.073973	0.071557	0.068206	0.059351	0.057466	0.046044	0.031380	0.023515	0.008794	-0.022595	1.998-005	0.000+000
130(-0.64)	0.072221	0.069324	0.065150	0.056815	0.053735	0.044014	0.027485	0.017259	-0.000372	-0.008506	2.104-005	0.000+000
140(-0.77)	0.070623	0.067441	0.062923	0.055091	0.051350	0.045543	0.023970	0.010551	-0.004205	-0.001544	1.624-005	0.000+000
150(-0.87)	0.069172	0.065783	0.061112	0.053632	0.049580	0.049173	0.020001	0.003664	-0.003177	-0.000107	1.181-005	0.000+000
160(-0.94)	0.067994	0.064448	0.059705	0.052421	0.048258	0.052698	0.015605	-0.001321	-0.000822	-0.000001	7.709-006	0.000+000
170(-0.98)	0.067228	0.063585	0.058811	0.051624	0.047403	0.054640	0.011757	-0.003253	0.000302	0.000002	3.824-006	0.000+000
177(-1.00)	0.066980	0.063306	0.058524	0.051367	0.047121	0.055122	0.010272	-0.003476	0.000467	0.000006	4.784-007	0.000+000
ENERGY SUM	0.951724	0.947967	0.967534	0.866629	0.869340	0.880132	0.615483	0.546934	0.585276	0.706159		

TOTAL DOSE RATE = 0.001339 MR/HR)

TOTAL DOSE BUILDUP= 1.938450

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.3421 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.672	0.589	0.510	0.437	0.369	0.309	0.247	0.207	0.181	0.174	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.072690	0.072106	0.072143	0.064200	0.057993	0.064719	0.062559	0.041399	0.029607	0.032604	2.425-006	1.755+000
10(0.98)	0.072860	0.072321	0.072499	0.064487	0.058413	0.065475	0.061596	0.042765	0.030796	0.033432	1.952-005	1.758+000
20(0.94)	0.073404	0.073009	0.073621	0.065404	0.059786	0.067910	0.059364	0.046093	0.035196	0.036268	3.979-005	1.765+000
30(0.87)	0.074304	0.074154	0.075438	0.066946	0.062133	0.071613	0.057590	0.049589	0.043550	0.041800	6.161-005	1.777+000
40(0.77)	0.075523	0.075715	0.077834	0.069093	0.065424	0.075520	0.057305	0.052922	0.054926	0.052108	8.581-005	1.793+000
50(0.64)	0.076925	0.077517	0.080502	0.071611	0.069389	0.078532	0.058557	0.056735	0.066797	0.071710	1.131-004	1.812+000
60(0.50)	0.078182	0.079096	0.082710	0.073782	0.073141	0.079928	0.060437	0.060850	0.077007	0.103483	1.069-004	1.830+000
68(0.42)	0.078595	0.079570	0.083276	0.074359	0.074415	0.079704	0.060993	0.062375	0.080629	0.120725	7.810-005	1.836+000
70(0.34)	0.078772	0.079694	0.083266	0.074367	0.074959	0.078600	0.060830	0.062915	0.082349	0.133937	8.302-005	1.843+000
75(0.26)	0.078656	0.079388	0.082559	0.073675	0.074581	0.076433	0.059622	0.061965	0.081285	0.138328	8.335-005	1.879+000
80(0.17)	0.078221	0.078616	0.081109	0.072233	0.073210	0.073128	0.057184	0.059202	0.076791	0.130331	7.336-005	2.081+000
85(0.09)	0.077477	0.077399	0.078971	0.070097	0.070915	0.068791	0.053560	0.054649	0.068865	0.109535	4.532-005	4.505+000
90(-0.00)	0.076470	0.075820	0.076299	0.067436	0.067898	0.063720	0.049045	0.048734	0.058324	0.079481	3.087-005	0.000+000
95(-0.09)	0.075273	0.073999	0.073315	0.064487	0.064453	0.058350	0.044111	0.042174	0.046600	0.046615	2.580-005	0.000+000
100(-0.17)	0.073970	0.072075	0.070260	0.061513	0.060904	0.053145	0.039269	0.035744	0.035234	0.017792	2.096-005	0.000+000
105(-0.26)	0.072642	0.070172	0.067347	0.058736	0.057549	0.048490	0.034920	0.030029	0.025348	-0.002304	1.733-005	0.000+000
110(-0.34)	0.071348	0.068379	0.064719	0.056303	0.054597	0.044619	0.031271	0.025283	0.017384	-0.012492	1.484-005	0.000+000
115(-0.42)	0.070123	0.066743	0.062441	0.054270	0.052147	0.041605	0.028325	0.021443	0.011211	-0.014659	1.298-005	0.000+000
120(-0.50)	0.068982	0.065274	0.060508	0.052618	0.050183	0.039407	0.025946	0.018254	0.006450	-0.012159	1.727-005	0.000+000
130(-0.64)	0.066937	0.062765	0.057473	0.050182	0.047349	0.037111	0.022143	0.012721	0.000123	-0.004554	1.816-005	0.000+000
140(-0.77)	0.065169	0.060687	0.055180	0.048429	0.045350	0.037147	0.018689	0.007375	-0.002291	-0.000854	1.398-005	0.000+000
150(-0.87)	0.063686	0.058978	0.053394	0.047047	0.043824	0.038826	0.015075	0.002555	-0.001714	-0.000069	1.018-005	0.000+000
160(-0.94)	0.062555	0.057687	0.052088	0.045996	0.042703	0.040918	0.011322	-0.000596	-0.000436	-0.000001	6.645-006	0.000+000
170(-0.98)	0.061849	0.056883	0.051292	0.045337	0.042000	0.042323	0.008157	-0.001719	0.000157	0.000001	3.291-006	0.000+000
177(-1.00)	0.061623	0.056628	0.051042	0.045128	0.041773	0.042741	0.006953	-0.001832	0.000244	0.000002	4.112-007	0.000+000
ENERGY SUM	0.919296	0.900382	0.890798	0.787085	0.765254	0.748541	0.538427	0.478309	0.504390	0.597403		

TOTAL DOSE RATE = 0.000985(MR/HR)

TOTAL DOSE BUILDUP= 2.369880

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RA
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200,0 FT OR 0,6842 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,071639	0,070987	0,070695	0,059988	0,054958	0,056518	0,054489	0,049911	0,042651	0,046438	2,104-006	2.144+000
10(0,98)	0,071736	0,071099	0,070832	0,060138	0,055172	0,056818	0,054372	0,049957	0,043771	0,047358	1,686-005	2.148+000
20(0,94)	0,072028	0,071433	0,071233	0,060591	0,055824	0,057768	0,053962	0,050081	0,047197	0,050439	3,386-005	2.161+000
30(0,87)	0,072431	0,071888	0,071763	0,061232	0,056777	0,059226	0,053308	0,050315	0,052092	0,056097	5,100-005	2.183+000
40(0,77)	0,072797	0,072278	0,072169	0,061838	0,057753	0,060726	0,052533	0,050686	0,057006	0,065057	6,784-005	2.216+000
50(0,64)	0,072887	0,072295	0,072033	0,062001	0,058239	0,061334	0,051484	0,050817	0,060392	0,076841	8,291-005	2.263+000
60(0,50)	0,072402	0,071537	0,070824	0,061173	0,057540	0,059980	0,049475	0,049643	0,060587	0,085997	6,917-005	2.347+000
69(0,42)	0,071864	0,070764	0,069676	0,060236	0,056557	0,058349	0,047819	0,048110	0,058813	0,086135	4,613-005	2.436+000
70(0,34)	0,071108	0,069701	0,068142	0,058919	0,055124	0,056076	0,045627	0,045764	0,055486	0,081520	4,361-005	2.632+000
79(0,26)	0,070140	0,068361	0,066249	0,057250	0,053288	0,053245	0,042912	0,042601	0,050597	0,071806	3,777-005	3.193+000
80(0,17)	0,068984	0,066784	0,064065	0,055301	0,051163	0,050010	0,039776	0,038759	0,044419	0,057944	2,891-005	5.881+000
89(0,09)	0,067679	0,065028	0,061687	0,053173	0,048904	0,046567	0,036393	0,034502	0,037473	0,042030	2,168-005	1.092+002
90(-0,00)	0,066273	0,063166	0,059225	0,050983	0,046671	0,043124	0,032970	0,030144	0,030393	0,026632	1,878-005	0.000+000
95(-0,09)	0,064817	0,061268	0,056784	0,048837	0,044599	0,039860	0,029691	0,025967	0,023740	0,013911	1,620-005	0.000+000
100(-0,17)	0,063356	0,059398	0,054447	0,046818	0,042762	0,036900	0,026681	0,022158	0,017874	0,004983	1,398-005	0.000+000
105(-0,26)	0,061927	0,057600	0,052271	0,044978	0,041179	0,034303	0,023993	0,018784	0,012928	-0,000194	1,221-005	0.000+000
110(-0,34)	0,060557	0,055907	0,050284	0,043336	0,039829	0,032076	0,021621	0,015822	0,008883	-0,002459	1,079-005	0.000+000
115(-0,42)	0,059264	0,054334	0,048493	0,041892	0,038672	0,030194	0,019521	0,013203	0,005661	-0,002911	9,602-006	0.000+000
120(-0,50)	0,058058	0,052887	0,046893	0,040631	0,037669	0,028621	0,017636	0,010854	0,003194	+0,002491	1,284-005	0.000+000
130(-0,64)	0,055926	0,050373	0,044214	0,038584	0,036009	0,026281	0,014309	0,006767	0,000295	+0,001164	1,352-005	0.000+000
140(-0,77)	0,054180	0,048347	0,042150	0,037059	0,034699	0,024950	0,011321	0,003462	+0,000525	+0,000351	1,041-005	0.000+000
150(-0,87)	0,052823	0,046789	0,040624	0,035955	0,033685	0,024603	0,008498	0,001165	-0,000381	+0,000061	7,595-006	0.000+000
160(-0,94)	0,051853	0,045684	0,039580	0,035204	0,032962	0,024994	0,005877	0,000005	+0,000121	+0,000003	4,970-006	0.000+000
170(-0,98)	0,051272	0,045023	0,038974	0,034766	0,032528	0,025579	0,003848	-0,000338	0,000014	0,000000	2,461-006	0.000+000
177(-1,00)	0,051090	0,044817	0,038788	0,034630	0,032392	0,025821	0,003108	-0,000374	0,000048	-0,000001	3,068-007	0.000+000
ENERGY SUM	0,815262	0,775935	0,732491	0,632673	0,587511	0,545341	0,410486	0,364443	0,374181	0,427594		

TOTAL DOSE RATE = 0.000636(MR/HR)

TOTAL DOSE BUILDUP= 3.225199

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,0262 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,065721	0,064673	0,063485	0,052377	0,048242	0,047683	0,046308	0,048661	0,045529	0,049602	1,762-006	2.529+000
10(0,98)	0,065721	0,064667	0,063455	0,052400	0,048288	0,047736	0,046424	0,048201	0,046270	0,050313	1,406-005	2.536+000
20(0,94)	0,065696	0,064619	0,063324	0,052441	0,048387	0,047862	0,046495	0,047039	0,048260	0,052623	2,787-005	2.560+000
30(0,87)	0,065567	0,064428	0,062971	0,052381	0,048383	0,047995	0,046022	0,045767	0,050329	0,056597	4,096-005	2.603+000
40(0,77)	0,065188	0,063909	0,062167	0,051981	0,047988	0,047955	0,044798	0,044474	0,051211	0,062113	5,241-005	2.675+000
50(0,64)	0,064356	0,062799	0,060579	0,050896	0,046760	0,047129	0,042639	0,042556	0,050067	0,067090	6,033-005	2.803+000
60(0,50)	0,062883	0,060853	0,057911	0,048799	0,044286	0,044662	0,039139	0,039008	0,045821	0,064802	4,590-005	3.086+000
65(0,42)	0,061882	0,059539	0,056157	0,047345	0,042567	0,042697	0,036797	0,036379	0,042125	0,058506	2,877-005	3.413+000
70(0,34)	0,060718	0,058024	0,054172	0,045669	0,040614	0,040330	0,034114	0,033207	0,037383	0,048566	2,538-005	4.165+000
75(0,26)	0,059420	0,056350	0,052031	0,043847	0,038541	0,037714	0,031215	0,029661	0,031900	0,036218	2,081-005	6.596+000
80(0,17)	0,058026	0,054576	0,049824	0,041972	0,036490	0,035032	0,028271	0,025996	0,026185	0,023602	1,641-005	2.393+001
85(0,09)	0,056578	0,052760	0,047637	0,040134	0,034598	0,032457	0,025453	0,022477	0,020787	0,012967	1,381-005	3.521+003
90(-0,00)	0,055115	0,050956	0,045540	0,038403	0,032964	0,030108	0,022877	0,019294	0,016096	0,005748	1,215-005	0.000+000
95(-0,09)	0,053671	0,049204	0,043574	0,036816	0,031635	0,028032	0,020588	0,016511	0,012236	0,002059	1,085-005	0.000+000
100(-0,17)	0,052270	0,047528	0,041753	0,035380	0,030590	0,026218	0,018557	0,014080	0,009101	0,000896	9,798-006	0.000+000
105(-0,26)	0,050930	0,045944	0,040077	0,034084	0,029764	0,024616	0,016722	0,011904	0,006505	0,000857	8,834-006	0.000+000
110(-0,34)	0,049662	0,044459	0,038534	0,032909	0,029075	0,023173	0,015024	0,009900	0,004329	0,000882	7,962-006	0.000+000
115(-0,42)	0,048476	0,043078	0,037118	0,031843	0,028462	0,021855	0,013426	0,008033	0,002565	0,000574	7,122-006	0.000+000
120(-0,50)	0,047379	0,041807	0,035828	0,030879	0,027893	0,020647	0,011919	0,006313	0,001265	0,000059	9,509-006	0.000+000
130(-0,64)	0,045475	0,039613	0,033635	0,029267	0,026880	0,018559	0,009185	0,003432	0,000030	-0,000572	1,004-005	0.000+000
140(-0,77)	0,043968	0,037892	0,031968	0,028083	0,026076	0,016938	0,006801	0,001461	-0,000068	-0,000371	7,762-006	0.000+000
150(-0,87)	0,042840	0,036615	0,030782	0,027280	0,025483	0,015894	0,004708	0,000439	-0,000055	-0,000090	5,690-006	0.000+000
160(-0,94)	0,042058	0,035736	0,030000	0,026773	0,025077	0,015520	0,002955	0,000093	-0,000083	-0,000005	3,737-006	0.000+000
170(-0,98)	0,041598	0,035220	0,029558	0,026492	0,024843	0,015606	0,001736	-0,000017	-0,000033	0,000000	1,854-006	0.000+000
177(-1,00)	0,041455	0,035060	0,029423	0,026406	0,024773	0,015702	0,001321	-0,000059	0,000008	-0,000001	2,313-007	0.000+000
ENERGY SUM	0,690758	0,642108	0,585754	0,496799	0,447064	0,400257	0,311592	0,276454	0,277177	0,306113		

TOTAL DOSE RATE = 0.000444(MR/HR)

TOTAL DOSE BUILDUP= 4,140929

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.3683 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.072	0.089	0.110	0.137	0.169	0.199	0.247	0.307	0.381	0.474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.057435	0.056072	0.054143	0.043879	0.040497	0.039262	0.038547	0.043387	0.043034	0.047090	1.441-006	2.912+000
10(0.98)	0.057356	0.055976	0.054011	0.043813	0.040433	0.039187	0.038686	0.042760	0.043404	0.047512	1.145-005	2.924+000
20(0.94)	0.057086	0.055648	0.053561	0.043579	0.040186	0.038885	0.038772	0.041149	0.044197	0.048816	2.242-005	2.964+000
30(0.87)	0.056574	0.055021	0.052719	0.043088	0.039634	0.038301	0.038200	0.039259	0.044348	0.050841	3.223-005	3.041+000
40(0.77)	0.055719	0.053963	0.051322	0.042160	0.038560	0.037422	0.036706	0.037174	0.042943	0.053169	3.990-005	3.183+000
50(0.64)	0.054388	0.052299	0.049157	0.040551	0.036653	0.035919	0.034166	0.034344	0.039682	0.053669	4.380-005	3.465+000
60(0.50)	0.052490	0.049907	0.046091	0.038098	0.033704	0.033195	0.030376	0.030043	0.033974	0.046746	3.121-005	4.160+000
65(0.42)	0.051335	0.048453	0.044260	0.036587	0.031903	0.031325	0.028021	0.027239	0.029959	0.038863	1.883-005	5.019+000
70(0.34)	0.050070	0.046870	0.042305	0.034959	0.030002	0.029225	0.025467	0.024109	0.025293	0.028497	1.607-005	7.169+000
75(0.26)	0.048728	0.045207	0.040305	0.033296	0.028124	0.027047	0.022863	0.020861	0.020357	0.017300	1.308-005	1.555+001
80(0.17)	0.047348	0.043520	0.038343	0.031683	0.026393	0.024956	0.020377	0.017750	0.015671	0.007495	1.072-005	1.121+002
85(0.09)	0.045967	0.041858	0.036487	0.030189	0.024906	0.023077	0.018143	0.014993	0.011692	0.000936	9.345-006	1.207+005
90(-0.00)	0.044613	0.040256	0.034773	0.028848	0.023718	0.021466	0.016219	0.012683	0.008627	-0.001763	8.406-006	0.000+000
95(-0.09)	0.043308	0.038737	0.033211	0.027664	0.022824	0.020104	0.014575	0.010777	0.006374	-0.001445	7.658-006	0.000+000
100(-0.17)	0.042064	0.037307	0.031786	0.026611	0.022173	0.018923	0.013127	0.009140	0.004651	0.000173	7.051-006	0.000+000
105(-0.26)	0.040891	0.035968	0.030476	0.025657	0.021679	0.017844	0.011783	0.007634	0.003194	0.001488	6.517-006	0.000+000
110(-0.34)	0.039793	0.034718	0.029261	0.024778	0.021261	0.016811	0.010485	0.006187	0.001904	0.001726	5.913-006	0.000+000
115(-0.42)	0.038777	0.033563	0.028137	0.023964	0.020868	0.015805	0.009219	0.004802	0.000840	0.001034	5.271-006	0.000+000
120(-0.50)	0.037848	0.032506	0.027107	0.023219	0.020487	0.014837	0.008004	0.003532	0.000115	0.000036	7.015-006	0.000+000
130(-0.64)	0.036268	0.030713	0.025373	0.021981	0.019817	0.013077	0.005822	0.001544	-0.000282	-0.000965	7.446-006	0.000+000
140(-0.77)	0.035058	0.029351	0.024100	0.021115	0.019346	0.011576	0.004001	0.000423	-0.000086	-0.000568	5.787-006	0.000+000
150(-0.87)	0.034177	0.028370	0.023233	0.020572	0.019049	0.010402	0.002499	0.000050	-0.000089	-0.000129	4.264-006	0.000+000
160(-0.94)	0.033578	0.027708	0.022680	0.020254	0.018869	0.009748	0.001367	0.000015	-0.000142	-0.000008	2.813-006	0.000+000
170(-0.98)	0.033227	0.027322	0.022371	0.020085	0.018774	0.009589	0.000693	-0.000070	-0.000045	0.000001	1.400-006	0.000+000
177(-1.00)	0.033118	0.027203	0.022278	0.020034	0.018747	0.009600	0.000491	-0.000146	0.000024	-0.000001	1.748-007	0.000+000
ENERGY SUM	0.567724	0.517535	0.459869	0.384340	0.338187	0.295279	0.235663	0.208896	0.205030	0.219206		

TOTAL DOSE RATE = 0.000320(MR/HR)

TOTAL DOSE BUILDUP= 5.149268

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH= 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 1,7104 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,048415	0,046929	0,044625	0,035760	0,033041	0,031756	0,031537	0,036975	0,038046	0,041908	1,157-006	3.294+000
10(0,98)	0,048288	0,046782	0,044442	0,035647	0,032920	0,031628	0,031655	0,036303	0,038156	0,042063	9,167-006	3.312+000
20(0,94)	0,047875	0,046299	0,043854	0,035272	0,032503	0,031132	0,031670	0,034572	0,038178	0,042467	1,774-005	3.375+000
30(0,87)	0,047160	0,045457	0,042826	0,034590	0,031716	0,030219	0,030987	0,032507	0,037231	0,042889	2,502-005	3.503+000
40(0,77)	0,046094	0,044184	0,041267	0,033484	0,030420	0,028993	0,029406	0,030188	0,034714	0,043027	3,011-005	3.754+000
50(0,64)	0,044605	0,042380	0,039048	0,031792	0,028407	0,027320	0,026900	0,027174	0,030760	0,041416	3,189-005	4.295+000
60(0,50)	0,042657	0,039990	0,036113	0,029429	0,025559	0,024754	0,023366	0,022960	0,025089	0,033572	2,178-005	5.753+000
65(0,42)	0,041529	0,038605	0,034433	0,028044	0,023910	0,023106	0,021248	0,020363	0,021406	0,026018	1,286-005	7.702+000
70(0,34)	0,040329	0,037139	0,032688	0,026601	0,022232	0,021326	0,019013	0,017567	0,017292	0,016660	1,082-005	1.312+001
75(0,26)	0,039089	0,035637	0,030953	0,025176	0,020642	0,019558	0,016807	0,014780	0,013130	0,007198	8,823-006	3.932+001
80(0,17)	0,037841	0,034150	0,029301	0,023844	0,019242	0,017944	0,014785	0,012241	0,009414	-0,000233	7,427-006	5.569+002
85(0,09)	0,036618	0,032716	0,027780	0,022656	0,018101	0,016578	0,013052	0,010124	0,006531	-0,004080	6,615-006	4.328+006
90(-0,00)	0,035439	0,031359	0,026412	0,021626	0,017240	0,015475	0,011627	0,008465	0,004570	-0,004212	6,033-006	0.000+000
95(-0,09)	0,034320	0,030090	0,025185	0,020738	0,016632	0,014578	0,010444	0,007159	0,003306	-0,001974	5,567-006	0.000+000
100(-0,17)	0,033265	0,028905	0,024071	0,019951	0,016207	0,013790	0,009391	0,006033	0,002367	0,000624	5,223-006	0.000+000
105(-0,26)	0,032279	0,027800	0,023039	0,019227	0,015880	0,013023	0,008370	0,004943	0,001477	0,002027	4,865-006	0.000+000
110(-0,34)	0,031364	0,026775	0,022073	0,018544	0,015580	0,012232	0,007337	0,003840	0,000586	0,001808	4,381-006	0.000+000
115(-0,42)	0,030527	0,025831	0,021171	0,017901	0,015272	0,011420	0,006302	0,002765	-0,000172	0,000553	3,862-006	0.000+000
120(-0,50)	0,029772	0,024979	0,020347	0,017310	0,014964	0,010620	0,005307	0,001799	-0,000634	-0,000800	5,174-006	0.000+000
130(-0,64)	0,028522	0,023569	0,018994	0,016358	0,014458	0,009170	0,003579	0,000427	-0,000617	-0,001686	5,516-006	0.000+000
140(-0,77)	0,027603	0,022546	0,018059	0,015750	0,014193	0,007910	0,002222	-0,000155	-0,000252	-0,000825	4,312-006	0.000+000
150(-0,87)	0,026956	0,021838	0,017464	0,015418	0,014093	0,006825	0,001169	-0,000180	-0,000237	-0,000170	3,196-006	0.000+000
160(-0,94)	0,026521	0,021369	0,017102	0,015248	0,014064	0,006128	0,000467	-0,000101	-0,000234	-0,000009	2,119-006	0.000+000
170(-0,98)	0,026266	0,021095	0,016904	0,015161	0,014063	0,005896	0,000152	-0,000239	-0,000046	0,000001	1,056-006	0.000+000
177(-1,00)	0,026187	0,021010	0,016844	0,015135	0,014065	0,005877	0,000089	-0,000362	0,000060	-0,000001	1,322-007	0.000+000
ENERGY SUM	0,456614	0,409644	0,356540	0,294524	0,254841	0,218537	0,177684	0,157307	0,151457	0,157025		

TOTAL DOSE RATE = 0,000235(MR/HR)

TOTAL DOSE BUILDUP= 6,265707

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.4208 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.672	0.589	0.110	0.137	0.169	0.199	0.247	0.307	0.381	0.474	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.014083	0.013618	0.012801	0.010429	0.009883	0.009540	0.009772	0.014227	0.013034	0.015316	3.316-007	5.230+000
10(0.98)	0.013999	0.013531	0.012736	0.010381	0.009843	0.009545	0.010099	0.013421	0.013163	0.014990	2.596-006	5.326+000
20(0.94)	0.013766	0.013291	0.012560	0.010270	0.009719	0.009321	0.010515	0.011692	0.013347	0.013932	4.846-006	5.691+000
30(0.87)	0.013469	0.012987	0.012337	0.010163	0.009541	0.008718	0.010219	0.010369	0.012679	0.012497	6.503-006	6.562+000
40(0.77)	0.013162	0.012666	0.012062	0.010027	0.009297	0.008225	0.009420	0.009571	0.010967	0.012491	7.574-006	8.806+000
50(0.64)	0.012800	0.012236	0.011536	0.009636	0.008690	0.007943	0.008466	0.008767	0.009648	0.015572	8.303-006	1.600+001
60(0.50)	0.012247	0.011497	0.010462	0.008679	0.007265	0.006930	0.006980	0.007205	0.008271	0.015555	6.040-006	4.882+001
69(0.42)	0.011874	0.010984	0.009709	0.007974	0.006278	0.005973	0.005895	0.005895	0.006637	0.010741	3.448-006	1.182+002
70(0.34)	0.011448	0.010400	0.008884	0.007195	0.005266	0.004862	0.004670	0.004306	0.004247	0.002737	2.468-006	4.446+002
79(0.26)	0.010990	0.009789	0.008077	0.006442	0.004386	0.003828	0.003502	0.002720	0.001631	-0.005865	1.720-006	5.681+003
80(0.17)	0.010528	0.009195	0.007371	0.005808	0.003755	0.003091	0.002610	0.001496	-0.000400	-0.011399	1.390-006	1.976+006
89(0.09)	0.010084	0.008651	0.006811	0.005343	0.003420	0.002756	0.002120	0.000865	-0.001257	-0.011361	1.255-006	2.736+014
90(-0.00)	0.009670	0.008164	0.006385	0.005031	0.003347	0.002763	0.001984	0.000778	-0.001000	-0.006234	1.211-006	0.000+000
99(-0.09)	0.009287	0.007722	0.006035	0.004800	0.003435	0.002921	0.002000	0.000925	-0.000308	0.000655	1.331-006	0.000+000
100(-0.17)	0.008932	0.007306	0.005690	0.004563	0.003545	0.002999	0.001928	0.000926	-0.000007	0.005265	1.591-006	0.000+000
109(-0.26)	0.008606	0.006906	0.005299	0.004257	0.003543	0.002844	0.001613	0.000563	-0.000513	0.005394	1.444-006	0.000+000
110(-0.34)	0.008317	0.006528	0.004859	0.003876	0.003353	0.002440	0.001061	-0.000117	-0.001601	0.001741	1.019-006	0.000+000
119(-0.42)	0.008080	0.006195	0.004408	0.003464	0.002998	0.001897	0.000400	-0.000887	-0.002660	-0.003077	7.994-007	0.000+000
120(-0.50)	0.007910	0.005936	0.004007	0.003092	0.002582	0.001374	-0.000211	-0.001502	-0.003156	-0.006498	1.039-006	0.000+000
130(-0.64)	0.007789	0.005701	0.003548	0.002677	0.002025	0.000765	-0.000951	-0.001897	-0.002339	-0.006269	1.111-006	0.000+000
140(-0.77)	0.007891	0.005785	0.003572	0.002745	0.002061	0.000495	-0.001216	-0.001480	-0.001323	-0.002343	9.266-007	0.000+000
150(-0.87)	0.008059	0.005983	0.003828	0.003051	0.002371	0.000080	-0.001353	-0.000837	-0.001196	-0.000378	7.478-007	0.000+000
160(-0.94)	0.008183	0.006141	0.004078	0.003341	0.002671	0.000170	-0.001240	-0.000676	-0.000809	-0.000012	5.332-007	0.000+000
170(-0.98)	0.008240	0.006219	0.004231	0.003504	0.002875	0.000019	-0.000784	-0.001306	-0.000030	0.000002	2.797-007	0.000+000
177(-1.00)	0.008253	0.006239	0.004277	0.003549	0.002944	0.000186	-0.000515	-0.001746	0.000311	-0.000003	3.588-008	0.000+000
ENERGY SUM	0.128168	0.110847	0.091494	0.074012	0.060700	0.048797	0.041832	0.036598	0.032709	0.029795		

TOTAL DOSE RATE = 0.000059(MR/HR)

TOTAL DOSE BUILDUP= 14.892932

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0095 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.061601	0.060565	0.055685	0.056798	0.048587	0.063303	0.061563	0.008596	0.000011	0.001137	3.056-006	1.325+000
10(0.98)	0.061706	0.060762	0.056182	0.057128	0.049157	0.064778	0.058602	0.012722	0.000034	0.001165	2.469-005	1.326+000
20(0.94)	0.062095	0.061460	0.057893	0.058274	0.051146	0.069334	0.052173	0.022835	0.002108	0.001273	5.117-005	1.332+000
30(0.87)	0.062933	0.062863	0.061129	0.060527	0.054946	0.075551	0.047815	0.032911	0.011050	0.001689	8.186-005	1.344+000
40(0.77)	0.064478	0.065299	0.066302	0.064364	0.061132	0.081263	0.048078	0.041023	0.029293	0.005151	1.208-004	1.367+000
50(0.64)	0.066926	0.068989	0.073436	0.070037	0.070131	0.086150	0.053144	0.050004	0.053892	0.025265	1.758-004	1.405+000
60(0.50)	0.070122	0.073609	0.081520	0.076847	0.081134	0.091439	0.062027	0.062684	0.081890	0.088365	1.962-004	1.443+000
65(0.42)	0.071797	0.075924	0.085228	0.080032	0.086451	0.093972	0.066908	0.069869	0.096270	0.138046	1.616-004	1.445+000
70(0.34)	0.073353	0.077966	0.088227	0.082554	0.090869	0.095729	0.071076	0.076330	0.109120	0.190684	2.020-004	1.41/+000
75(0.26)	0.074660	0.079523	0.090169	0.084019	0.093798	0.096004	0.073618	0.080655	0.117923	0.232337	2.590-004	1.350+000
80(0.17)	0.075611	0.080435	0.090814	0.084144	0.094786	0.094217	0.073771	0.081559	0.120016	0.248275	3.567-004	1.246+000
85(0.09)	0.076153	0.080635	0.090094	0.082844	0.093624	0.090145	0.071207	0.078399	0.113859	0.229835	6.144-004	1.124+000
90(-0.00)	0.076295	0.080169	0.088142	0.080274	0.090402	0.084041	0.066198	0.071513	0.100018	0.179556	5.961-005	0.000+000
95(-0.09)	0.076104	0.079182	0.085268	0.076802	0.085522	0.076586	0.059559	0.062173	0.081161	0.111065	4.792-005	0.000+000
100(-0.17)	0.075682	0.077881	0.081885	0.072915	0.079634	0.068705	0.052395	0.052121	0.060986	0.043244	3.576-005	0.000+000
105(-0.26)	0.075142	0.076482	0.078416	0.069102	0.073507	0.061309	0.045741	0.042937	0.042696	-0.007987	2.689-005	0.000+000
110(-0.34)	0.074578	0.075160	0.075204	0.065741	0.067831	0.055081	0.040277	0.035544	0.027947	-0.035532	2.168-005	0.000+000
115(-0.42)	0.074048	0.074021	0.072463	0.063039	0.063061	0.050379	0.036212	0.030068	0.016772	-0.041772	1.833-005	0.000+000
120(-0.50)	0.073573	0.073094	0.070269	0.061032	0.059348	0.047275	0.033370	0.026031	0.008341	-0.034768	2.393-005	0.000+000
130(-0.64)	0.072732	0.071749	0.067331	0.058659	0.054603	0.045436	0.029784	0.019429	-0.002905	-0.012783	2.504-005	0.000+000
140(-0.77)	0.071886	0.070711	0.065610	0.057412	0.051986	0.048396	0.026698	0.011699	-0.006807	-0.002207	1.929-005	0.000+000
150(-0.87)	0.070979	0.069726	0.064393	0.056419	0.050299	0.054162	0.022649	0.003185	-0.004372	0.000135	1.404-005	0.000+000
160(-0.94)	0.070131	0.068834	0.063431	0.055512	0.049072	0.059512	0.017347	-0.002740	-0.000855	0.000004	9.147-006	0.000+000
170(-0.98)	0.069531	0.068205	0.062775	0.054873	0.048244	0.062312	0.012092	-0.004417	0.000525	-0.000000	4.554-006	0.000+000
177(-1.00)	0.069328	0.067993	0.062556	0.054663	0.047960	0.062958	0.009931	-0.004303	0.000649	-0.000000	5.717-007	0.000+000
ENERGY SUM	0.901667	0.920574	0.948393	0.867584	0.887018	0.905292	0.617891	0.548636	0.598177	0.740998		

TOTAL DOSE RATE = 0.003304 (MR/HR)

TOTAL DOSE BUILDUP= 1.322202

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1584 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.066167	0.065665	0.062389	0.059433	0.051936	0.061442	0.059499	0.023656	0.013939	0.016210	2.953-006	1.486+000
10(0.98)	0.066312	0.065877	0.062830	0.059746	0.052422	0.062510	0.057641	0.026309	0.014969	0.016665	2.383-005	1.488+000
20(0.94)	0.066801	0.066588	0.064289	0.060785	0.054064	0.065841	0.053555	0.032848	0.017809	0.018247	4.902-005	1.495+000
30(0.87)	0.067692	0.067872	0.066863	0.062662	0.057034	0.070541	0.050697	0.039539	0.026288	0.021483	7.727-005	1.507+000
40(0.77)	0.069067	0.069832	0.070634	0.065544	0.061533	0.075051	0.050747	0.045238	0.040743	0.028799	1.110-004	1.525+000
50(0.64)	0.070922	0.072442	0.075359	0.069361	0.067539	0.078642	0.053743	0.051490	0.058507	0.048716	1.542-004	1.552+000
60(0.50)	0.073007	0.075299	0.080131	0.073391	0.074183	0.081479	0.058672	0.059390	0.076811	0.094245	1.591-004	1.577+000
65(0.42)	0.073969	0.076554	0.082045	0.075015	0.077079	0.082351	0.061083	0.063355	0.085201	0.125595	1.238-004	1.575+000
70(0.34)	0.074763	0.077513	0.083337	0.076050	0.079206	0.082437	0.062785	0.066440	0.091790	0.155871	1.433-004	1.555+000
75(0.26)	0.075306	0.078050	0.083811	0.076272	0.080233	0.081358	0.063229	0.067783	0.095024	0.176322	1.630-004	1.511+000
80(0.17)	0.075545	0.078084	0.083355	0.075545	0.079947	0.078844	0.062007	0.066685	0.093440	0.178616	1.773-004	1.460+000
85(0.09)	0.075461	0.077600	0.081971	0.073869	0.078301	0.074862	0.059013	0.062901	0.086412	0.158882	1.517-004	1.533+000
90(-0.00)	0.075078	0.076655	0.079791	0.071394	0.075430	0.069666	0.054520	0.056810	0.074654	0.120339	4.607-005	0.000+000
95(-0.09)	0.074457	0.075368	0.077051	0.068391	0.071638	0.063756	0.049115	0.049330	0.060101	0.072576	3.746-005	0.000+000
100(-0.17)	0.073679	0.073890	0.074038	0.065193	0.067349	0.057744	0.043524	0.041601	0.045172	0.027582	2.886-005	0.000+000
105(-0.26)	0.072828	0.072370	0.071032	0.062115	0.063025	0.052202	0.038392	0.034599	0.031845	-0.005251	2.259-005	0.000+000
110(-0.34)	0.071970	0.070926	0.068256	0.059392	0.059064	0.047534	0.034115	0.028852	0.021079	-0.022349	1.868-005	0.000+000
115(-0.42)	0.071151	0.069629	0.065841	0.056746	0.055713	0.043934	0.030790	0.024386	0.012839	-0.025916	1.601-005	0.000+000
120(-0.50)	0.070387	0.068501	0.063833	0.055391	0.053045	0.041421	0.028280	0.020872	0.006595	-0.021352	2.102-005	0.000+000
130(-0.64)	0.069012	0.066676	0.060899	0.053051	0.049411	0.039335	0.024664	0.014918	-0.001531	-0.007741	2.199-005	0.000+000
140(-0.77)	0.067770	0.065212	0.058949	0.051599	0.047161	0.040550	0.021440	0.008619	-0.004210	-0.001330	1.689-005	0.000+000
150(-0.87)	0.066643	0.063962	0.057529	0.050484	0.045595	0.043935	0.017657	0.002410	-0.002677	-0.000083	1.228-005	0.000+000
160(-0.94)	0.065715	0.062957	0.056469	0.049585	0.044457	0.047478	0.013152	-0.001610	-0.000509	0.000002	7.998-006	0.000+000
170(-0.98)	0.065102	0.062297	0.055791	0.048994	0.043719	0.049587	0.008924	-0.002679	0.000319	-0.000000	3.970-006	0.000+000
177(-1.00)	0.064902	0.062082	0.055572	0.048803	0.043473	0.050149	0.007226	-0.002592	0.000390	-0.000001	4.969-007	0.000+000
ENERGY SUM	0.897473	0.899263	0.896465	0.805470	0.795202	0.785549	0.550800	0.488490	0.525516	0.640533		

TOTAL DOSE RATE = 0.001583 (MR/HR)

TOTAL DOSE BUILDUP= 1.827270

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,3169 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0.669	0,087	0.111	0.141	0.179	0.215	0,274	0,348	0,444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0,068679	0,068307	0,066005	0,059914	0,053059	0,058683	0,056789	0,034061	0,024588	0,027701	2,809-006	1,657+000
10(0,98)	0,068825	0,068498	0,066358	0,060181	0,053446	0,059422	0,055715	0,035610	0,025539	0,028410	2,262-005	1,659+000
20(0,94)	0,069295	0,069114	0,067493	0,061035	0,054711	0,061746	0,053288	0,039447	0,029217	0,030851	4,619-005	1,667+000
30(0,87)	0,070075	0,070141	0,069364	0,062469	0,056877	0,065117	0,051452	0,043489	0,036700	0,035629	7,177-005	1,680+000
40(0,77)	0,071132	0,071538	0,071847	0,064443	0,059899	0,068441	0,051219	0,047123	0,047027	0,044654	1,005-004	1,699+000
50(0,64)	0,072341	0,073128	0,074560	0,066702	0,063491	0,070807	0,052523	0,050984	0,059657	0,062533	1,336-004	1,721+000
60(0,50)	0,073420	0,074502	0,076740	0,068577	0,066836	0,071757	0,054427	0,055066	0,070521	0,093268	1,281-004	1,742+000
65(0,42)	0,073783	0,074914	0,077305	0,069046	0,067970	0,071465	0,055026	0,056615	0,074228	0,110818	9,441-005	1,747+000
70(0,34)	0,073955	0,075035	0,077546	0,069015	0,068477	0,070438	0,054973	0,057258	0,076508	0,120038	1,015-004	1,750+000
75(0,26)	0,073896	0,074802	0,076774	0,068380	0,068206	0,068526	0,053981	0,056537	0,075718	0,130996	1,034-004	1,768+000
80(0,17)	0,073585	0,074189	0,075563	0,067105	0,067101	0,065661	0,051885	0,054152	0,071825	0,124796	9,284-005	1,904+000
85(0,09)	0,073028	0,073215	0,073758	0,065238	0,065213	0,061924	0,048720	0,050114	0,064590	0,105658	5,679-005	3,534+000
90(-0,00)	0,072258	0,071942	0,071482	0,062914	0,062691	0,057550	0,044734	0,044793	0,054754	0,076873	3,541-005	0,000+000
95(-0,09)	0,071329	0,070462	0,068907	0,060329	0,059759	0,052890	0,040334	0,038822	0,043659	0,044841	2,919-005	0,000+000
100(-0,17)	0,070303	0,068883	0,066226	0,057697	0,056672	0,048328	0,035966	0,032900	0,032786	0,016543	2,324-005	0,000+000
105(-0,26)	0,069241	0,067306	0,063616	0,055209	0,053680	0,044192	0,031996	0,027575	0,023247	-0,003167	1,889-005	0,000+000
110(-0,34)	0,068192	0,065808	0,061210	0,052999	0,050978	0,040696	0,028627	0,023106	0,015527	-0,013002	1,598-005	0,000+000
115(-0,42)	0,067187	0,064432	0,059084	0,051130	0,048676	0,037925	0,025885	0,019466	0,009561	-0,014845	1,386-005	0,000+000
120(-0,50)	0,066242	0,063195	0,057261	0,049602	0,046793	0,035869	0,023667	0,016439	0,005033	-0,012103	1,231-005	0,000+000
130(-0,64)	0,064541	0,061101	0,054432	0,047378	0,044051	0,033666	0,020150	0,011205	-0,000665	-0,004361	1,914-005	0,000+000
140(-0,77)	0,063070	0,059402	0,052411	0,045862	0,042172	0,033670	0,016962	0,006175	-0,002419	-0,000770	1,467-005	0,000+000
150(-0,87)	0,061833	0,058023	0,050922	0,044727	0,040792	0,035322	0,013521	0,001768	-0,001518	-0,000056	1,066-005	0,000+000
160(-0,94)	0,060882	0,056979	0,049849	0,043881	0,039791	0,037469	0,009761	-0,000846	-0,000284	0,000001	6,948-006	0,000+000
170(-0,98)	0,060281	0,056325	0,049190	0,043351	0,039161	0,038966	0,006432	-0,001496	0,000176	-0,000000	3,441-006	0,000+000
177(-1,00)	0,060089	0,056115	0,048981	0,043184	0,038956	0,039422	0,005131	-0,001438	0,000217	-0,000001	4,298-007	0,000+000
ENERGY SUM	0,873154	0,859713	0,833321	0,736591	0,705602	0,676907	0,486752	0,431223	0,457738	0,548559		

TOTAL DOSE RATE = 0.001165(MR/HR)

TOTAL DOSE BUILDUP= 2,191624

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.633/ MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.068341	0.067593	0.065942	0.056341	0.050559	0.051793	0.050402	0.043350	0.036456	0.040459	2.461-006	1.993+000
10(0.98)	0.068425	0.067691	0.066109	0.056484	0.050753	0.052101	0.050143	0.043624	0.037470	0.041290	1.974-005	1.997+000
20(0.94)	0.068676	0.067981	0.066596	0.056912	0.051347	0.053069	0.049423	0.044299	0.040696	0.044088	3.975-005	2.010+000
30(0.87)	0.069018	0.068374	0.067251	0.057510	0.052222	0.054512	0.048550	0.045057	0.045639	0.049269	6.015-005	2.030+000
40(0.77)	0.069324	0.068708	0.067794	0.058067	0.053131	0.055904	0.047752	0.045795	0.051042	0.057657	8.060-005	2.060+000
50(0.64)	0.069397	0.068726	0.067818	0.058228	0.053639	0.056384	0.046871	0.046247	0.055237	0.069336	9.959-005	2.100+000
60(0.50)	0.068999	0.068109	0.066859	0.057529	0.053172	0.055118	0.045251	0.045547	0.056461	0.080030	8.445-005	2.165+000
65(0.42)	0.068560	0.067478	0.065898	0.056729	0.052416	0.053675	0.043888	0.044359	0.055309	0.081770	5.690-005	2.229+000
70(0.34)	0.067944	0.066611	0.064595	0.055601	0.051281	0.051688	0.042050	0.042431	0.052668	0.079116	5.440-005	2.368+000
75(0.26)	0.067153	0.065513	0.062970	0.054163	0.049799	0.049218	0.039728	0.039733	0.048474	0.071341	4.752-005	2.765+000
80(0.17)	0.066204	0.064214	0.061074	0.052469	0.048053	0.046379	0.036992	0.036359	0.042918	0.058956	3.597-005	4.574+000
85(0.09)	0.065124	0.062757	0.058983	0.050598	0.046158	0.043324	0.033982	0.032520	0.036440	0.043748	2.552-005	6.026+001
90(-0.00)	0.063950	0.061197	0.056787	0.048646	0.044242	0.040224	0.030873	0.028496	0.029638	0.028251	2.173-005	0.000+000
95(-0.09)	0.062721	0.059594	0.054577	0.046707	0.042415	0.037239	0.027842	0.024562	0.023094	0.014874	1.847-005	0.000+000
100(-0.17)	0.061475	0.058000	0.052431	0.044861	0.040750	0.034492	0.025021	0.020919	0.017236	0.005132	1.564-005	0.000+000
105(-0.26)	0.060244	0.056458	0.050412	0.043162	0.039277	0.032055	0.022483	0.017670	0.012477	-0.000668	1.345-005	0.000+000
110(-0.34)	0.059055	0.054998	0.048556	0.041638	0.037996	0.029954	0.020240	0.014820	0.008247	-0.003205	1.176-005	0.000+000
115(-0.42)	0.057924	0.053638	0.046882	0.040297	0.036887	0.028180	0.018262	0.012513	0.005085	-0.005613	1.039-005	0.000+000
120(-0.50)	0.056862	0.052385	0.045392	0.039130	0.035925	0.026704	0.016497	0.010076	0.002710	-0.002978	1.383-005	0.000+000
130(-0.64)	0.054970	0.050203	0.042928	0.037249	0.034341	0.024545	0.013394	0.006196	0.000008	-0.001249	1.447-005	0.000+000
140(-0.77)	0.053405	0.048439	0.041057	0.035861	0.033094	0.023370	0.010581	0.003054	-0.000652	-0.000325	1.110-005	0.000+000
150(-0.87)	0.052176	0.047074	0.039680	0.034860	0.032127	0.023141	0.007868	0.000899	-0.000398	-0.000048	8.071-006	0.000+000
160(-0.94)	0.051291	0.046099	0.038730	0.034180	0.031432	0.023603	0.005301	-0.000129	-0.000093	-0.000002	5.271-006	0.000+000
170(-0.98)	0.050758	0.045514	0.038172	0.033782	0.031013	0.024217	0.003289	-0.000364	0.000035	-0.000000	2.607-006	0.000+000
177(-1.00)	0.050591	0.045331	0.037999	0.033658	0.030881	0.024467	0.002552	-0.000360	0.000060	-0.000001	3.251-007	0.000+000
ENERGY SUM	0.787227	0.752480	0.699047	0.601662	0.551110	0.505354	0.378740	0.334934	0.346951	0.402347		

TOTAL DOSE RATE = 0.000754(MR/HR)

TOTAL DOSE BUILDUP= 2.899847

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.9506 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.063408	0.062106	0.060373	0.049705	0.044842	0.044270	0.043520	0.043823	0.040063	0.044320	2.090-006	2.324+000
10(0.98)	0.063411	0.062103	0.060381	0.049736	0.044887	0.044340	0.043545	0.043534	0.040814	0.045008	1.669-005	2.331+000
20(0.94)	0.063495	0.062066	0.060365	0.049798	0.044988	0.044534	0.043403	0.042773	0.042955	0.047261	3.319-005	2.351+000
30(0.87)	0.063286	0.061902	0.060165	0.049766	0.045002	0.044791	0.044772	0.041892	0.045519	0.051199	4.905-005	2.387+000
40(0.77)	0.062955	0.061448	0.059519	0.049420	0.044674	0.044885	0.041550	0.040951	0.047211	0.056873	6.328-005	2.446+000
50(0.64)	0.062233	0.060488	0.058125	0.048463	0.043635	0.044199	0.039587	0.039437	0.046972	0.062620	7.368-005	2.544+000
60(0.50)	0.060974	0.058632	0.055759	0.046632	0.041564	0.042006	0.036503	0.036448	0.043696	0.062415	5.687-005	2.748+000
65(0.42)	0.060125	0.057123	0.054208	0.045369	0.040134	0.040265	0.034453	0.034178	0.040939	0.057557	3.592-005	2.978+000
70(0.34)	0.059158	0.056450	0.052456	0.043913	0.038207	0.038170	0.032098	0.032404	0.038353	0.049080	3.182-005	3.499+000
75(0.26)	0.058035	0.055059	0.050551	0.042321	0.036171	0.035842	0.029532	0.030256	0.031390	0.037923	2.592-005	5.126+000
80(0.17)	0.056845	0.053535	0.048571	0.040666	0.033954	0.033427	0.026891	0.024943	0.026054	0.025959	1.982-005	1.563+001
85(0.09)	0.055593	0.051984	0.046582	0.038921	0.033414	0.031067	0.024314	0.021690	0.020873	0.015326	1.620-005	1.450+003
90(-0.00)	0.054319	0.050429	0.044643	0.037444	0.031965	0.028865	0.021909	0.018673	0.016428	0.007561	1.408-005	0.000+000
95(-0.09)	0.053047	0.048904	0.042794	0.035976	0.030762	0.026878	0.019730	0.015976	0.012296	0.003054	1.236-005	0.000+000
100(-0.17)	0.051800	0.047434	0.041027	0.034631	0.029791	0.025115	0.017776	0.013590	0.009056	0.001119	1.097-005	0.000+000
105(-0.26)	0.050597	0.046057	0.039477	0.033411	0.029009	0.023552	0.016009	0.011456	0.006389	0.000576	9.813-006	0.000+000
110(-0.34)	0.049456	0.044721	0.038014	0.032305	0.028356	0.022157	0.014385	0.009509	0.004203	0.000421	8.770-006	0.000+000
115(-0.42)	0.048372	0.043494	0.036680	0.031306	0.027781	0.020899	0.012870	0.007710	0.002472	0.000177	7.803-006	0.000+000
120(-0.50)	0.047367	0.042360	0.035473	0.030405	0.027251	0.019762	0.011448	0.006059	0.001216	-0.000169	1.040-005	0.000+000
130(-0.64)	0.045603	0.040386	0.033436	0.028891	0.026301	0.017826	0.008853	0.003282	0.000330	-0.000536	1.092-005	0.000+000
140(-0.77)	0.044184	0.038813	0.03186	0.027757	0.025512	0.016347	0.006553	0.001376	-0.000111	-0.000307	8.398-006	0.000+000
150(-0.87)	0.043108	0.037630	0.030734	0.026970	0.024903	0.015409	0.004506	0.000392	-0.000084	-0.000069	6.132-006	0.000+000
160(-0.94)	0.042358	0.036809	0.029977	0.026466	0.024478	0.015086	0.004793	0.000054	-0.000068	-0.000004	4.017-006	0.000+000
170(-0.98)	0.041915	0.036327	0.029543	0.026185	0.024231	0.015181	0.001627	-0.000053	-0.000009	0.000000	1.990-006	0.000+000
177(-1.00)	0.041778	0.036177	0.029413	0.026099	0.024156	0.015276	0.001239	-0.000092	0.000026	-0.000001	2.481-007	0.000+000
ENERGY SUM	0.679146	0.633483	0.570475	0.480844	0.427055	0.379415	0.293453	0.259121	0.262651	0.295146		

TOTAL DOSE RATE = 0.000530(MR/HR)

TOTAL DOSE BUILDUP= 3.639199

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.2675 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.056131	0.054439	0.052495	0.042162	0.038127	0.036987	0.036785	0.040227	0.038976	0.043152	1.735-006	2.651+000
10(0.98)	0.056067	0.054360	0.052399	0.042113	0.038075	0.036930	0.036880	0.039715	0.039413	0.043608	1.381-005	2.660+000
20(0.94)	0.055843	0.054085	0.052060	0.041928	0.037865	0.036705	0.036863	0.038363	0.040204	0.045042	2.713-005	2.693+000
30(0.87)	0.055480	0.053546	0.051557	0.041507	0.037343	0.036286	0.036220	0.036735	0.041276	0.047354	3.925-005	2.754+000
40(0.77)	0.054660	0.052621	0.050102	0.040677	0.036426	0.035627	0.034761	0.034937	0.040091	0.050236	4.899-005	2.865+000
50(0.64)	0.053494	0.051165	0.048100	0.039226	0.034737	0.034348	0.032688	0.032466	0.038168	0.051754	5.434-005	3.071+000
60(0.50)	0.051837	0.049187	0.045282	0.037042	0.032172	0.031916	0.028922	0.028624	0.033141	0.046465	3.911-005	3.561+000
65(0.42)	0.050832	0.048032	0.043615	0.035705	0.030624	0.030259	0.026787	0.026096	0.029482	0.039520	2.365-005	4.150+000
70(0.34)	0.049736	0.046867	0.041835	0.034264	0.028994	0.028350	0.024473	0.023259	0.025167	0.029988	2.010-005	5.580+000
75(0.26)	0.048557	0.045631	0.040008	0.032786	0.027379	0.026374	0.022101	0.020289	0.020231	0.019333	1.608-005	1.082+001
80(0.17)	0.047342	0.044363	0.038197	0.031337	0.025873	0.024445	0.019809	0.017402	0.016035	0.009644	1.281-005	6.265+001
85(0.09)	0.046114	0.043108	0.036457	0.029972	0.024559	0.022669	0.017710	0.014787	0.012108	0.002763	1.094-005	3.713+004
90(-0.00)	0.044897	0.041891	0.034824	0.028726	0.023444	0.021099	0.015862	0.012538	0.008972	-0.000555	9.688-006	0.000+000
95(-0.09)	0.043717	0.040734	0.033319	0.027607	0.022656	0.019758	0.014254	0.010641	0.006290	-0.000917	8.742-006	0.000+000
100(-0.17)	0.042572	0.039648	0.031929	0.026603	0.021942	0.018545	0.012830	0.009000	0.004754	0.000187	7.973-006	0.000+000
105(-0.26)	0.041488	0.038637	0.030658	0.025693	0.021279	0.017465	0.011519	0.007509	0.003248	0.001264	7.324-006	0.000+000
110(-0.34)	0.040466	0.037703	0.029490	0.024859	0.020730	0.016454	0.010271	0.006099	0.001973	0.001516	6.623-006	0.000+000
115(-0.42)	0.039515	0.036849	0.028426	0.024090	0.020054	0.015492	0.009066	0.004762	0.000959	0.000973	5.891-006	0.000+000
120(-0.50)	0.038635	0.035981	0.027444	0.023366	0.019521	0.014576	0.007908	0.003532	0.000265	0.000138	7.804-006	0.000+000
130(-0.64)	0.037119	0.034509	0.025799	0.022193	0.018417	0.012914	0.005797	0.001578	-0.000165	-0.000748	8.219-006	0.000+000
140(-0.77)	0.035932	0.033407	0.024554	0.021317	0.017422	0.011495	0.003997	0.000466	-0.000058	-0.000446	6.352-006	0.000+000
150(-0.87)	0.035055	0.032751	0.023682	0.020740	0.016878	0.010384	0.002490	0.000093	-0.000077	-0.000098	4.661-006	0.000+000
160(-0.94)	0.034456	0.032105	0.023119	0.020392	0.016556	0.009750	0.001574	0.000036	-0.000105	-0.000005	3.065-006	0.000+000
170(-0.98)	0.034107	0.031724	0.022805	0.020205	0.016757	0.009581	0.000745	-0.000061	-0.000019	0.000001	1.523-006	0.000+000
177(-1.00)	0.034003	0.031612	0.022711	0.020149	0.016702	0.009585	0.000570	-0.000136	0.000041	-0.000000	1.901-007	0.000+000
ENERGY SUM	0.568511	0.536796	0.457013	0.378838	0.329128	0.285994	0.226558	0.199770	0.198594	0.216555		

TOTAL DOSE RATE = 0.000386(MR/HR)

TOTAL DOSE BUILDUP= 4.459478

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.5844 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.047995	0.046159	0.044104	0.034839	0.031555	0.030387	0.030569	0.035123	0.035457	0.039386	1.417-006	2.973+000
10(0.98)	0.047890	0.046036	0.043957	0.034746	0.031450	0.030272	0.030671	0.034536	0.035639	0.039610	1.124-005	2.987+000
20(0.94)	0.047543	0.045627	0.043460	0.034430	0.031083	0.029844	0.030645	0.032982	0.035955	0.040254	2.184-005	3.037+000
30(0.87)	0.046927	0.044898	0.042545	0.033827	0.030373	0.029090	0.029947	0.031084	0.035573	0.041113	3.099-005	3.136+000
40(0.77)	0.045986	0.043772	0.041079	0.032813	0.029184	0.028076	0.028413	0.028964	0.033724	0.041871	3.760-005	3.323+000
50(0.64)	0.044657	0.042161	0.038954	0.031252	0.027343	0.026604	0.026020	0.026199	0.030271	0.041024	4.013-005	3.714+000
60(0.50)	0.042918	0.040039	0.036178	0.029101	0.024800	0.024275	0.022694	0.022285	0.024957	0.034126	2.750-005	4.719+000
65(0.42)	0.041913	0.038817	0.034610	0.027855	0.023353	0.022781	0.020725	0.019871	0.021464	0.027093	1.619-005	6.013+000
70(0.34)	0.040842	0.037524	0.032988	0.026559	0.021889	0.021166	0.018654	0.017274	0.017552	0.018191	1.348-005	9.452+000
75(0.26)	0.039731	0.036199	0.031368	0.025275	0.020498	0.019545	0.016603	0.014674	0.013561	0.008988	1.078-005	2.468+001
80(0.17)	0.038606	0.034877	0.029808	0.024062	0.019259	0.018034	0.014699	0.012273	0.009952	0.001504	8.843-006	2.682+002
85(0.09)	0.037491	0.033592	0.028347	0.022959	0.018229	0.016708	0.013031	0.010219	0.007021	-0.002727	7.756-006	9.987+005
90(-0.00)	0.036406	0.032363	0.027007	0.021984	0.017430	0.015590	0.011621	0.008555	0.004936	-0.003452	6.989-006	0.000+000
95(-0.09)	0.035364	0.031203	0.025789	0.021128	0.016849	0.014646	0.010425	0.007211	0.003519	-0.001797	6.398-006	0.000+000
100(-0.17)	0.034373	0.030113	0.024680	0.020365	0.016440	0.013815	0.009362	0.006055	0.002476	0.000433	5.948-006	0.000+000
105(-0.26)	0.033440	0.029092	0.023662	0.019669	0.016139	0.013031	0.008355	0.004968	0.001969	0.001767	5.533-006	0.000+000
110(-0.34)	0.032569	0.028141	0.022724	0.019019	0.015882	0.012254	0.007359	0.003898	0.000731	0.001716	4.986-006	0.000+000
115(-0.42)	0.031764	0.027261	0.021860	0.018411	0.015632	0.011478	0.006373	0.002864	0.000047	0.000712	4.388-006	0.000+000
120(-0.50)	0.031031	0.026457	0.021074	0.017849	0.015381	0.010719	0.005420	0.001926	-0.000673	-0.000444	5.831-006	0.000+000
130(-0.64)	0.029791	0.025097	0.019757	0.016908	0.014932	0.009322	0.003718	0.000550	-0.000421	-0.001293	6.180-006	0.000+000
140(-0.77)	0.028851	0.024070	0.018798	0.016252	0.014634	0.008092	0.002334	-0.000053	-0.000178	-0.000642	4.800-006	0.000+000
150(-0.87)	0.028177	0.023342	0.018162	0.015855	0.014471	0.007030	0.001251	-0.000094	-0.000154	-0.000128	3.539-006	0.000+000
160(-0.94)	0.027726	0.022858	0.017773	0.015637	0.014392	0.006323	0.000544	-0.000042	-0.000164	-0.000007	2.338-006	0.000+000
170(-0.98)	0.027466	0.022580	0.017565	0.015527	0.014363	0.006057	0.000262	-0.000180	-0.000008	0.000001	1.165-006	0.000+000
177(-1.00)	0.027385	0.022495	0.017503	0.015494	0.014357	0.006023	0.000222	-0.000291	0.000073	0.000000	1.457-007	0.000+000
ENERGY SUM	0.465884	0.418980	0.361461	0.295684	0.252721	0.216129	0.174375	0.153536	0.149983	0.158935		

TOTAL DOSE RATE = 0.000286(MR/HR)

TOTAL DOSE BUILDUP= 5.311104

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.1687 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.015280	0.014739	0.013936	0.011065	0.010324	0.009960	0.010319	0.014351	0.013982	0.016631	4.463-007	4.571+000
10(0.98)	0.015220	0.014673	0.013890	0.011032	0.010280	0.009931	0.010614	0.013698	0.013982	0.016046	3.497-006	4.642+000
20(0.94)	0.015045	0.014479	0.013760	0.010943	0.010187	0.009852	0.010943	0.012187	0.013933	0.015091	6.538-006	4.907+000
30(0.87)	0.014796	0.014201	0.013539	0.010809	0.009891	0.009060	0.010570	0.010869	0.013249	0.013668	8.764-006	5.525+000
40(0.77)	0.014486	0.013836	0.013141	0.010555	0.009484	0.008562	0.009710	0.009962	0.011579	0.013182	1.008-005	7.051+000
50(0.64)	0.014066	0.013301	0.012401	0.010004	0.008691	0.008139	0.008644	0.008970	0.009917	0.015114	1.070-005	1.164+001
60(0.50)	0.013462	0.012486	0.011204	0.008990	0.007277	0.007070	0.007093	0.007222	0.008083	0.014409	7.473-006	3.049+001
65(0.42)	0.013083	0.011972	0.010464	0.008329	0.006405	0.006210	0.006063	0.005923	0.006433	0.009961	4.230-006	6.672+001
70(0.34)	0.012665	0.011413	0.009689	0.007632	0.005552	0.005262	0.004947	0.004440	0.004219	0.002782	3.063-006	2.207+002
75(0.26)	0.012225	0.010838	0.008934	0.006971	0.004823	0.004393	0.003899	0.003002	0.001869	-0.004892	2.178-006	2.271+003
80(0.17)	0.011782	0.010281	0.008262	0.006408	0.004292	0.003750	0.003078	0.001881	0.000030	-0.009882	1.779-006	4.947+005
85(0.09)	0.011351	0.009761	0.007691	0.005976	0.003984	0.003401	0.002571	0.001241	-0.000830	-0.009997	1.600-006	1.617+013
90(-0.00)	0.010942	0.009285	0.007217	0.005661	0.003874	0.003301	0.002340	0.001042	-0.000755	-0.009625	1.522-006	0.000+000
95(-0.09)	0.010560	0.008848	0.006811	0.005415	0.003897	0.003319	0.002240	0.001049	-0.000291	0.000364	1.602-006	0.000+000
100(-0.17)	0.010205	0.008439	0.006427	0.005176	0.003962	0.003298	0.002094	0.000975	-0.000066	0.004457	1.880-006	0.000+000
105(-0.26)	0.009880	0.008050	0.006037	0.004899	0.003969	0.003126	0.001786	0.000646	-0.000454	0.004709	1.732-006	0.000+000
110(-0.34)	0.009591	0.007686	0.005634	0.004574	0.003852	0.002780	0.001306	0.000074	-0.001287	0.001681	1.262-006	0.000+000
115(-0.42)	0.009346	0.007358	0.005235	0.004223	0.003609	0.002325	0.000735	-0.000584	-0.002100	-0.002586	9.974-007	0.000+000
120(-0.50)	0.009155	0.007086	0.004874	0.003890	0.003300	0.001867	0.000187	-0.001140	-0.002480	-0.005287	1.393-006	0.000+000
130(-0.64)	0.008951	0.006754	0.004383	0.003440	0.002809	0.001239	-0.000567	-0.001578	-0.001866	-0.003106	1.367-006	0.000+000
140(-0.77)	0.008950	0.006690	0.004262	0.003357	0.002721	0.000885	-0.000924	-0.001227	-0.001125	-0.001856	1.112-006	0.000+000
150(-0.87)	0.009049	0.006774	0.004402	0.003519	0.002890	0.000433	-0.001129	-0.000630	-0.000979	-0.000284	8.756-007	0.000+000
160(-0.94)	0.009152	0.006879	0.004620	0.003734	0.003109	0.000094	-0.001053	-0.000504	-0.000561	-0.000009	6.133-007	0.000+000
170(-0.98)	0.009217	0.006947	0.004783	0.003877	0.003277	0.000146	-0.000576	-0.001038	0.000067	0.000002	3.220-007	0.000+000
177(-1.00)	0.009236	0.006968	0.004837	0.003920	0.003336	0.000254	-0.000277	-0.001389	0.000310	0.000001	4.129-008	0.000+000
ENERGY SUM	0.143515	0.124218	0.101992	0.081229	0.066045	0.053580	0.045516	0.039690	0.036256	0.034022		

TOTAL DOSE RATE = 0.000075(MR/HR)

TOTAL DOSE BUILDUP= 11.639058

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0083 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.067	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.057901	0.057616	0.051650	0.053810	0.045699	0.058361	0.055430	0.005241	0.000028	0.000922	3.433-006	1.289+000
10(0.98)	0.058035	0.057837	0.052299	0.054154	0.046270	0.059783	0.052712	0.009120	-0.000081	0.000938	2.774-005	1.290+000
20(0.94)	0.058509	0.058612	0.053864	0.055347	0.048237	0.064043	0.046906	0.018891	0.001244	0.001016	5.752-005	1.296+000
30(0.87)	0.059474	0.060127	0.056865	0.057641	0.051923	0.069566	0.043183	0.029031	0.008521	0.001348	9.213-005	1.310+000
40(0.77)	0.061125	0.062630	0.061700	0.061370	0.057751	0.074336	0.043799	0.037309	0.024908	0.004277	1.362-004	1.334+000
50(0.64)	0.063557	0.066201	0.068351	0.066578	0.065885	0.078236	0.048716	0.046052	0.048349	0.022155	1.989-004	1.375+000
60(0.50)	0.066547	0.070422	0.075765	0.072476	0.075385	0.082390	0.056766	0.057782	0.075327	0.079939	2.230-004	1.419+000
65(0.42)	0.068065	0.072460	0.079096	0.075110	0.079832	0.084312	0.061018	0.064234	0.088919	0.126066	1.841-004	1.423+000
70(0.34)	0.069459	0.074222	0.081745	0.077114	0.083457	0.085547	0.064549	0.069917	0.100856	0.175287	2.307-004	1.399+000
75(0.26)	0.070628	0.075545	0.083421	0.078189	0.085810	0.085533	0.066607	0.073615	0.108878	0.214491	2.967-004	1.335+000
80(0.17)	0.071495	0.076310	0.083964	0.078128	0.086559	0.083825	0.066587	0.074250	0.110645	0.229714	4.106-004	1.235+000
85(0.09)	0.072022	0.076475	0.083314	0.076884	0.085550	0.080266	0.064248	0.071309	0.104835	0.212678	7.140-004	1.118+000
90(-0.00)	0.072218	0.076081	0.081599	0.074591	0.082845	0.075062	0.059833	0.065106	0.091993	0.165718	6.569-005	0.000+000
95(-0.09)	0.072136	0.075245	0.079077	0.071545	0.078736	0.068748	0.054020	0.056733	0.074524	0.101701	5.234-005	0.000+000
100(-0.17)	0.071855	0.074134	0.076080	0.068134	0.073716	0.062050	0.047720	0.047680	0.055750	0.038474	3.848-005	0.000+000
105(-0.26)	0.071464	0.072921	0.072988	0.064750	0.068389	0.055691	0.041800	0.039310	0.038580	-0.008975	2.850-005	0.000+000
110(-0.34)	0.071038	0.071754	0.070082	0.061710	0.063528	0.050233	0.036847	0.032448	0.024580	-0.034073	2.274-005	0.000+000
115(-0.42)	0.070631	0.070729	0.067579	0.059204	0.059843	0.045998	0.033078	0.027244	0.013902	-0.039242	1.908-005	0.000+000
120(-0.50)	0.070267	0.069888	0.065575	0.057290	0.056416	0.043085	0.030379	0.023319	0.005925	-0.032213	2.476-005	0.000+000
130(-0.64)	0.069649	0.068693	0.062972	0.054972	0.050730	0.041039	0.026940	0.016847	-0.004017	-0.011485	2.565-005	0.000+000
140(-0.77)	0.069072	0.067872	0.061590	0.053842	0.048149	0.043409	0.024044	0.009488	-0.006508	-0.001894	1.968-005	0.000+000
150(-0.87)	0.068461	0.067168	0.060704	0.053100	0.046598	0.048690	0.020125	0.001838	-0.003599	-0.000106	1.432-005	0.000+000
160(-0.94)	0.067876	0.066644	0.059982	0.052476	0.045534	0.053988	0.014654	-0.002840	-0.000473	0.000007	9.332-006	0.000+000
170(-0.98)	0.067449	0.066100	0.059471	0.052040	0.044827	0.057020	0.008945	-0.003492	0.000505	-0.000003	4.645-006	0.000+000
177(-1.00)	0.067303	0.065948	0.059290	0.051895	0.044584	0.057790	0.006536	-0.003040	0.000523	-0.000009	5.845-007	0.000+000
ENERGY SUM	0.878884	0.879372	0.882837	0.814596	0.822445	0.817535	0.560026	0.497150	0.543258	0.678058		

TOTAL DOSE RATE = 0.003846(MR/HR)

TOTAL DOSE BUILDUP= 1.292318

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0,1390 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,867	0,087	0,112	0,145	0.187	0.228	0,297	0,387	0,503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,062455	0,062346	0,057797	0,056051	0,048429	0,056840	0,054358	0,018148	0,011143	0.015248	3,327-006	1.424+000
10(0,98)	0,062605	0,062562	0,058199	0,056362	0,048906	0,057901	0,052508	0,020846	0,011567	0.013618	2,686-005	1.426+000
20(0,94)	0,063110	0,063288	0,059548	0,057402	0,050510	0,061120	0,048504	0,027650	0,014047	0.014915	5,535-005	1.433+000
30(0,87)	0,064024	0,064596	0,061973	0,059270	0,053389	0,065435	0,045835	0,034818	0,021346	0.017589	8,750-005	1.446+000
40(0,77)	0,065410	0,066561	0,065589	0,062073	0,057691	0,069308	0,046082	0,040882	0,034912	0.023810	1,263-004	1.467+000
50(0,64)	0,067230	0,069106	0,070171	0,065659	0,063298	0,072223	0,049140	0,047204	0,052992	0.041855	1,769-004	1.498+000
60(0,50)	0,069225	0,071808	0,074802	0,069300	0,069327	0,074482	0,053906	0,054925	0,071211	0.085453	1,849-004	1.528+000
65(0,42)	0,070137	0,072975	0,076656	0,070717	0,071909	0,075143	0,056182	0,058751	0,079730	0.116405	1,452-004	1.529+000
70(0,34)	0,070895	0,073864	0,077920	0,071587	0,073798	0,075125	0,057779	0,061723	0,086440	0.146934	1,699-004	1.510+000
75(0,26)	0,071435	0,074374	0,078422	0,071729	0,074725	0,074107	0,058213	0,063056	0,089867	0.168292	1,965-004	1.464+000
80(0,17)	0,071713	0,074440	0,078072	0,071039	0,074523	0,071862	0,057139	0,062117	0,088624	0.171948	2,201-004	1.405+000
85(0,09)	0,071715	0,074055	0,076881	0,069522	0,073148	0,068363	0,054472	0,058690	0,082112	0.153727	2,025-004	1.419+000
90(-0,00)	0,071461	0,073266	0,074963	0,067306	0,070697	0,063817	0,050448	0,053113	0,070990	0.116579	5,204-005	0.000+000
95(-0,09)	0,070999	0,072173	0,072526	0,064618	0,067403	0,058632	0,045576	0,046208	0,057075	0.069961	4,186-005	0.000+000
100(-0,17)	0,070395	0,070900	0,069813	0,061737	0,063603	0,053315	0,040491	0,039004	0,042668	0,025870	3,166-005	0.000+000
105(-0,26)	0,069716	0,069575	0,067077	0,058931	0,059683	0,048351	0,035764	0,032399	0,029048	-0,006236	2,433-005	0.000+000
110(-0,34)	0,069023	0,068304	0,064527	0,056412	0,055999	0,044098	0,031768	0,026903	0,019116	-0,022741	1,987-005	0.000+000
115(-0,42)	0,068354	0,067153	0,062299	0,054299	0,052798	0,040747	0,028619	0,022577	0,011011	-0,025864	1,690-005	0.000+000
120(-0,50)	0,067731	0,066153	0,060455	0,052624	0,050181	0,038345	0,026221	0,019145	0,004948	-0,021038	2,206-005	0.000+000
130(-0,64)	0,066625	0,064569	0,057839	0,050396	0,046536	0,036220	0,022795	0,013332	-0,002471	-0,007406	2,287-005	0.000+000
140(-0,77)	0,065653	0,063367	0,056208	0,049105	0,044323	0,037259	0,019781	0,007260	-0,004273	-0,001215	1,749-005	0.000+000
150(-0,87)	0,064782	0,062388	0,055063	0,048214	0,042872	0,040554	0,016118	0,001505	-0,002340	-0,000069	1,271-005	0.000+000
160(-0,94)	0,064061	0,061610	0,054199	0,047531	0,041855	0,044206	0,011491	-0,001815	-0,000298	0,000005	8,275-006	0.000+000
170(-0,98)	0,063579	0,061098	0,053636	0,047086	0,041201	0,046506	0,006937	-0,002254	0,000326	-0,000002	4,109-006	0.000+000
177(-1,00)	0,063420	0,060931	0,053446	0,046943	0,040983	0,047148	0,005063	-0,001943	0,000335	-0,000007	5,154-007	0.000+000
ENERGY SUM	0,857289	0,862769	0,842599	0,762310	0,746178	0,722399	0,506222	0,448740	0,484712	0.596595		

TOTAL DOSE RATE = 0.001862 (MR/HR)

TOTAL DOSE BUILDUP= 1.726300

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.187MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2780 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.065224	0.065035	0.061339	0.056612	0.049477	0.054626	0.052617	0.027681	0.020055	0.023071	3.186-006	1.567+000
10(0.98)	0.065367	0.065224	0.061669	0.056874	0.049855	0.055389	0.051423	0.029438	0.020802	0.023672	2.567-005	1.570+000
20(0.94)	0.065825	0.065836	0.062750	0.057720	0.051095	0.057728.	0.048778	0.033872	0.023874	0.025748	5.255-005	1.578+000
30(0.87)	0.066593	0.066864	0.064574	0.059143	0.053221	0.060956	0.046875	0.038609	0.030697	0.029844	8.200-005	1.592+000
40(0.77)	0.067638	0.068267	0.067067	0.061095	0.056192	0.063927	0.046752	0.042743	0.041514	0.037779	1.157-004	1.612+000
50(0.64)	0.068841	0.069872	0.069888	0.063311	0.059720	0.065906	0.048262	0.046921	0.054211	0.054547	1.558-004	1.637+000
60(0.50)	0.069942	0.071284	0.072274	0.065152	0.063029	0.066670	0.050425	0.051340	0.066011	0.085795	1.522-004	1.661+000
69(0.42)	0.070338	0.071740	0.072975	0.065635	0.064195	0.066407	0.051186	0.053112	0.070568	0.104799	1.138-004	1.665+000
70(0.34)	0.070568	0.071932	0.073179	0.065656	0.064795	0.065512	0.051334	0.054030	0.073527	0.121209	1.246-004	1.662+000
79(0.26)	0.070595	0.071805	0.072799	0.065124	0.064696	0.063835	0.050595	0.053634	0.073415	0.129638	1.302-004	1.660+000
80(0.17)	0.070402	0.071335	0.071808	0.064005	0.063842	0.061304	0.048805	0.051616	0.070147	0.125540	1.215-004	1.727+000
89(0.09)	0.069991	0.070537	0.070249	0.062339	0.062262	0.057975	0.045985	0.047962	0.063416	0.107571	7.625-005	2.634+000
90(-0.00)	0.069390	0.069462	0.068229	0.060242	0.060070	0.054042	0.042352	0.043000	0.053908	0.078826	4.093-005	0.000+000
99(-0.09)	0.068641	0.068190	0.065902	0.057882	0.057443	0.049806	0.038275	0.037328	0.042952	0.045966	3.330-005	0.000+000
100(-0.17)	0.067798	0.066816	0.063446	0.055453	0.054600	0.045608	0.034172	0.031622	0.032058	0.016533	2.596-005	0.000+000
109(-0.26)	0.066913	0.065429	0.061029	0.053129	0.051768	0.041750	0.030397	0.026431	0.022409	-0.004072	2.066-005	0.000+000
110(-0.34)	0.066030	0.064101	0.058787	0.051040	0.049145	0.038442	0.027164	0.022040	0.014563	-0.014280	1.725-005	0.000+000
119(-0.42)	0.065179	0.062880	0.056809	0.049259	0.046857	0.035786	0.024520	0.018452	0.008519	-0.016009	1.484-005	0.000+000
120(-0.50)	0.064379	0.061785	0.055118	0.047798	0.044952	0.033793	0.022388	0.015475	0.004001	-0.012896	1.947-005	0.000+000
130(-0.64)	0.062945	0.059961	0.052562	0.045702	0.042160	0.031648	0.019059	0.010349	-0.001490	-0.004507	2.021-005	0.000+000
140(-0.77)	0.061716	0.058522	0.050806	0.044346	0.040502	0.031712	0.016058	0.005423	-0.002649	-0.000754	1.544-005	0.000+000
150(-0.87)	0.060685	0.057378	0.049530	0.043390	0.038997	0.033494	0.012704	0.001198	-0.001432	-0.000048	1.120-005	0.000+000
160(-0.94)	0.059888	0.056515	0.048600	0.042697	0.038072	0.035835	0.008843	-0.001076	-0.000179	0.000003	7.294-006	0.000+000
170(-0.98)	0.059379	0.055972	0.048017	0.042266	0.037490	0.037496	0.005276	-0.001365	0.000197	-0.000002	3.614-006	0.000+000
177(-1.00)	0.059216	0.055798	0.047830	0.042129	0.037300	0.038008	0.003850	-0.001165	0.000203	-0.000005	4.522-007	0.000+000
ENERGY SUM	0.840183	0.831337	0.792698	0.704534	0.671087	0.634208	0.454134	0.402035	0.429239	0.520639		

TOTAL DOSE RATE = 0.001384(MR/HR)

TOTAL DOSE BUILDUP= 2.026912

LOWER ENERGY CUTOFF 0.0427MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5561 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.065968	0.065243	0.062595	0.054011	0.047791	0.049080	0.047934	0.037631	0.030990	0.035013	2.845-006	1.848+000
10(0.98)	0.066052	0.065346	0.062572	0.054161	0.047991	0.049435	0.047501	0.038194	0.031911	0.035774	2.284-005	1.852+000
20(0.94)	0.066306	0.065656	0.063113	0.054609	0.048612	0.050539	0.048420	0.039596	0.033988	0.038348	4.617-005	1.863+000
30(0.87)	0.066662	0.066091	0.063886	0.055251	0.049553	0.052121	0.049333	0.041107	0.040116	0.043176	7.035-005	1.882+000
40(0.77)	0.067009	0.066509	0.064653	0.055899	0.050603	0.053561	0.044593	0.042443	0.046336	0.051241	9.533-005	1.908+000
50(0.64)	0.067175	0.066680	0.065032	0.056231	0.051379	0.054061	0.044027	0.043468	0.051872	0.063400	1.199-004	1.942+000
60(0.50)	0.066951	0.066316	0.064550	0.055817	0.051355	0.052986	0.042959	0.043521	0.054737	0.076923	1.045-004	1.988+000
69(0.42)	0.066634	0.065851	0.063857	0.055204	0.050885	0.051739	0.041946	0.042796	0.054480	0.081170	7.177-005	2.028+000
70(0.34)	0.066162	0.065173	0.062830	0.054282	0.050064	0.050003	0.040483	0.041357	0.052722	0.081362	7.025-005	2.115+000
75(0.26)	0.065531	0.064281	0.061477	0.053057	0.048904	0.047809	0.038530	0.039126	0.049305	0.076132	6.294-005	2.350+000
80(0.17)	0.064754	0.063194	0.059834	0.051566	0.047458	0.045236	0.036121	0.036143	0.044301	0.065293	4.802-005	3.385+000
85(0.09)	0.063850	0.062047	0.057968	0.049875	0.045817	0.042404	0.033366	0.032572	0.038067	0.050195	3.146-005	2.640+001
90(-0.00)	0.062850	0.060588	0.055960	0.048068	0.044086	0.039465	0.030428	0.028677	0.031187	0.033433	2.602-005	0.000+000
95(-0.09)	0.061788	0.059169	0.053900	0.046236	0.042362	0.036573	0.027487	0.024751	0.024323	0.017959	2.174-005	0.000+000
100(-0.17)	0.060699	0.057742	0.051873	0.044463	0.040725	0.033864	0.024699	0.021045	0.018035	0.006056	1.795-005	0.000+000
105(-0.26)	0.059613	0.056352	0.049948	0.042814	0.039225	0.031432	0.022168	0.017711	0.012661	-0.001334	1.513-005	0.000+000
110(-0.34)	0.058556	0.055030	0.048175	0.041329	0.037887	0.029326	0.019935	0.014795	0.008510	-0.004624	1.306-005	0.000+000
115(-0.42)	0.057546	0.053798	0.046580	0.040024	0.036714	0.027554	0.017983	0.012236	0.004936	-0.005062	1.144-005	0.000+000
120(-0.50)	0.056596	0.052665	0.045170	0.038896	0.035695	0.026099	0.016263	0.010015	0.002442	-0.004057	1.514-005	0.000+000
130(-0.64)	0.054895	0.050704	0.042864	0.037110	0.034042	0.024048	0.013278	0.006134	-0.000324	-0.001529	1.576-005	0.000+000
140(-0.77)	0.053478	0.049124	0.041130	0.035821	0.032772	0.023063	0.010551	0.002938	-0.000886	-0.000331	1.203-005	0.000+000
150(-0.87)	0.052356	0.047899	0.039844	0.034902	0.031800	0.023075	0.007841	0.000719	-0.000468	-0.000039	8.730-006	0.000+000
160(-0.94)	0.051540	0.047021	0.038944	0.034276	0.031102	0.023754	0.005175	-0.000290	-0.000070	-0.000000	5.691-006	0.000+000
170(-0.98)	0.051044	0.046491	0.038406	0.033909	0.030679	0.024498	0.003017	-0.000427	0.000060	-0.000000	2.814-006	0.000+000
177(-1.00)	0.050888	0.046325	0.038238	0.033795	0.030545	0.024783	0.002213	-0.000370	0.000072	-0.000002	3.509-007	0.000+000
ENERGY SUM	0.773110	0.743558	0.683344	0.590238	0.539372	0.490638	0.364343	0.321855	0.336668	0.396507		

TOTAL DOSE RATE = 0.000912(MR/HR)

TOTAL DOSE BUILDUP= 2.598371

LOWER ENERGY CUTOFF 0.0427MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.8341 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.062475	0.061149	0.058580	0.048692	0.043333	0.042902	0.042455	0.040009	0.035501	0.039857	2.475-006	2.123+000
10(0.98)	0.062489	0.061163	0.058630	0.048740	0.043397	0.043019	0.042354	0.039955	0.036282	0.040549	1.980-005	2.129+000
20(0.94)	0.062510	0.061182	0.058720	0.048856	0.043563	0.043373	0.041943	0.039769	0.038646	0.042836	3.955-005	2.146+000
30(0.87)	0.062465	0.061115	0.058720	0.048917	0.043704	0.043872	0.041146	0.039489	0.041875	0.046925	5.897-005	2.175+000
40(0.77)	0.062236	0.060808	0.058356	0.048719	0.043587	0.044205	0.039981	0.039093	0.044711	0.053099	7.713-005	2.220+000
50(0.64)	0.061672	0.060064	0.057355	0.047991	0.042881	0.043728	0.038302	0.038166	0.045835	0.060280	9.165-005	2.288+000
60(0.50)	0.060634	0.058711	0.055439	0.046485	0.041288	0.041807	0.035706	0.035898	0.043954	0.063135	7.288-005	2.418+000
65(0.42)	0.059927	0.057782	0.054124	0.045411	0.040137	0.040244	0.033951	0.034028	0.041479	0.060285	4.690-005	2.559+000
70(0.34)	0.059089	0.056697	0.052598	0.044146	0.038791	0.038339	0.031894	0.031642	0.037906	0.053726	4.234-005	2.871+000
75(0.26)	0.058139	0.055479	0.050907	0.042733	0.037315	0.036187	0.029598	0.028829	0.033399	0.043928	3.478-005	3.802+000
80(0.17)	0.057100	0.054160	0.049106	0.041229	0.035793	0.033906	0.027166	0.025749	0.028308	0.032369	2.584-005	9.031+000
85(0.09)	0.055996	0.052779	0.047261	0.039696	0.034317	0.031615	0.024716	0.022602	0.023089	0.021053	2.009-005	4.096+002
90(-0.00)	0.054855	0.051374	0.045426	0.038192	0.032964	0.029419	0.022357	0.019567	0.018163	0.011750	1.724-005	0.000+000
95(-0.09)	0.053703	0.049980	0.043652	0.036760	0.031785	0.027386	0.020162	0.016765	0.013804	0.005358	1.482-005	0.000+000
100(-0.17)	0.052563	0.048624	0.041974	0.035429	0.030790	0.025551	0.018161	0.014240	0.010111	0.001749	1.287-005	0.000+000
105(-0.26)	0.051454	0.047327	0.040414	0.034213	0.029958	0.023917	0.016349	0.011978	0.007061	0.000117	1.128-005	0.000+000
110(-0.34)	0.050390	0.046102	0.038982	0.033112	0.029251	0.022471	0.014700	0.009937	0.004598	-0.000466	9.959-006	0.000+000
115(-0.42)	0.049382	0.044958	0.037684	0.032122	0.028628	0.021198	0.013183	0.008079	0.002687	-0.000649	8.824-006	0.000+000
120(-0.50)	0.048438	0.043900	0.036507	0.031238	0.028064	0.020059	0.011774	0.006387	0.001310	-0.000709	1.174-005	0.000+000
130(-0.64)	0.046767	0.042052	0.034521	0.029764	0.027063	0.018197	0.009209	0.003521	-0.000031	-0.000590	1.225-005	0.000+000
140(-0.77)	0.045404	0.040568	0.032985	0.028656	0.026222	0.016857	0.006895	0.001490	-0.000220	-0.000260	9.377-006	0.000+000
150(-0.87)	0.044355	0.039439	0.031850	0.027873	0.025555	0.016095	0.004779	0.000385	-0.000128	-0.000052	6.819-006	0.000+000
160(-0.94)	0.043615	0.038649	0.031078	0.027363	0.025081	0.015927	0.002958	-0.000011	-0.000052	-0.000002	4.455-006	0.000+000
170(-0.98)	0.043176	0.038183	0.030630	0.027074	0.024801	0.016115	0.001687	-0.000103	0.000011	0.000000	2.203-006	0.000+000
177(-1.00)	0.043039	0.038038	0.030492	0.026986	0.024715	0.016236	0.001258	-0.000121	0.000037	-0.000000	2.746-007	0.000+000
ENERGY SUM	0.683669	0.642470	0.574459	0.485345	0.430694	0.381083	0.291240	0.256849	0.263339	0.301992		

TOTAL DOSE RATE = 0.000654(MR/HR)

TOTAL DOSE BUILDUP= 3.175930

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.1122 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.056649	0.054888	0.052432	0.042359	0.037810	0.036760	0.036829	0.036380	0.036004	0.040330	2.111-006	2.393+000
10(0.98)	0.056603	0.054834	0.052377	0.042332	0.037781	0.036740	0.036853	0.036028	0.036545	0.040854	1.683-005	2.401+000
20(0.94)	0.056435	0.054633	0.052160	0.042213	0.037649	0.036656	0.036685	0.037061	0.038047	0.042538	3.326-005	2.426+000
30(0.87)	0.056086	0.054211	0.051654	0.041896	0.037299	0.036485	0.035955	0.035842	0.039643	0.045375	4.861-005	2.472+000
40(0.77)	0.055465	0.053444	0.050656	0.041210	0.036536	0.036103	0.034546	0.034455	0.040159	0.049226	6.162-005	2.549+000
50(0.64)	0.054459	0.052191	0.048950	0.039958	0.035120	0.035064	0.032364	0.032445	0.038732	0.052379	6.982-005	2.687+000
60(0.50)	0.053004	0.050370	0.046445	0.038024	0.032920	0.032859	0.029208	0.029112	0.034609	0.049410	5.164-005	2.988+000
65(0.42)	0.052111	0.049258	0.044930	0.036824	0.031571	0.031298	0.027253	0.026837	0.031323	0.043640	3.168-005	3.337+000
70(0.34)	0.051124	0.048037	0.043293	0.035516	0.030132	0.029515	0.025111	0.024225	0.027298	0.034994	2.716-005	4.152+000
75(0.26)	0.050065	0.046740	0.041588	0.034151	0.028680	0.027614	0.022680	0.021421	0.022814	0.024676	2.159-005	6.898+000
80(0.17)	0.048956	0.045401	0.039870	0.032787	0.027296	0.025717	0.020676	0.018613	0.018292	0.014620	1.656-005	2.871+001
85(0.09)	0.047822	0.044054	0.038192	0.031474	0.026053	0.023915	0.018599	0.015978	0.014148	0.006718	1.371-005	6.793+003
90(-0.00)	0.046687	0.042729	0.036591	0.030247	0.025002	0.022271	0.016716	0.013626	0.010653	0.002001	1.195-005	0.000+000
95(-0.09)	0.045569	0.041447	0.035092	0.029124	0.024164	0.020808	0.015038	0.011579	0.007858	0.000258	1.058-005	0.000+000
100(-0.17)	0.044484	0.040223	0.033705	0.028104	0.023519	0.019510	0.013539	0.009788	0.005649	0.000343	9.506-006	0.000+000
105(-0.26)	0.043444	0.039064	0.032430	0.027178	0.023023	0.018345	0.012170	0.008174	0.003866	0.000915	8.616-006	0.000+000
110(-0.34)	0.042456	0.037976	0.031261	0.026334	0.022619	0.017279	0.010887	0.006677	0.002415	0.001108	7.742-006	0.000+000
115(-0.42)	0.041529	0.036962	0.030192	0.025583	0.022262	0.016292	0.009666	0.005276	0.001288	0.000752	6.872-006	0.000+000
120(-0.50)	0.040668	0.036024	0.029215	0.024860	0.021924	0.015372	0.008500	0.003989	0.000517	0.000145	9.090-006	0.000+000
130(-0.64)	0.039161	0.034394	0.027550	0.023662	0.021288	0.013734	0.006349	0.001901	-0.000067	-0.000550	9.501-006	0.000+000
140(-0.77)	0.037955	0.033099	0.026259	0.022756	0.020741	0.012368	0.004459	0.000645	-0.000054	-0.000336	7.300-006	0.000+000
150(-0.87)	0.037049	0.032134	0.025326	0.022133	0.020317	0.011340	0.002845	0.000158	-0.000067	-0.000072	5.330-006	0.000+000
160(-0.94)	0.036422	0.031471	0.024709	0.021742	0.020026	0.010784	0.001616	0.000044	-0.000072	-0.000004	3.493-006	0.000+000
170(-0.98)	0.036056	0.031084	0.024361	0.021529	0.019862	0.010663	0.000904	-0.000052	0.000002	0.000001	1.731-006	0.000+000
177(-1.00)	0.035943	0.030965	0.024254	0.021465	0.019813	0.010682	0.000702	-0.000113	0.000044	0.000001	2.160-007	0.000+000
ENERGY SUM	0.588316	0.542305	0.474629	0.394025	0.342295	0.296855	0.232073	0.204390	0.205970	0.230039		

TOTAL DOSE RATE = 0.000486(MR/HR)

TOTAL DOSE BUILDUP= 3.787292

LOWER ENERGY CUTOFF 0.042/MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.3902 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.049768	0.047805	0.045443	0.035973	0.032175	0.031027	0.031441	0.034857	0.034146	0.038255	1.775-006	2.658+000
10(0.98)	0.049682	0.047703	0.045331	0.035900	0.032090	0.030936	0.031505	0.034375	0.034452	0.038588	1.411-005	2.669+000
20(0.94)	0.049392	0.047366	0.044932	0.035642	0.031787	0.030611	0.031404	0.033061	0.035201	0.039607	2.759-005	2.705+000
30(0.87)	0.048861	0.046739	0.044158	0.035119	0.031177	0.030059	0.030672	0.031403	0.035582	0.041170	3.960-005	2.776+000
40(0.77)	0.048022	0.045736	0.042860	0.034202	0.030116	0.029279	0.029167	0.029533	0.034635	0.042983	4.881-005	2.903+000
50(0.64)	0.046809	0.044268	0.040903	0.032761	0.028444	0.027988	0.026854	0.027039	0.031888	0.043427	5.315-005	3.152+000
60(0.50)	0.045202	0.042312	0.038285	0.030762	0.026128	0.025800	0.023657	0.023384	0.026975	0.037810	3.719-005	3.753+000
65(0.42)	0.044267	0.041179	0.036789	0.029599	0.024806	0.024370	0.021765	0.021085	0.023597	0.031258	2.207-005	4.489+000
70(0.34)	0.043266	0.039974	0.035229	0.028380	0.023457	0.022804	0.019764	0.018579	0.019737	0.022578	1.837-005	6.332+000
75(0.26)	0.042219	0.038729	0.033656	0.027157	0.022157	0.021202	0.017760	0.016024	0.015707	0.015202	1.446-005	1.356+001
80(0.17)	0.041149	0.037477	0.032120	0.025980	0.020974	0.019664	0.015859	0.013601	0.011914	0.009081	1.144-005	9.836+001
85(0.09)	0.040079	0.036246	0.030660	0.024887	0.019962	0.018264	0.014144	0.011453	0.008711	-0.000174	9.779-006	1.177+005
90(-0.00)	0.039027	0.035057	0.029302	0.023898	0.019150	0.017034	0.012648	0.009639	0.006255	-0.002071	8.706-006	0.000+000
95(-0.09)	0.038006	0.033925	0.028053	0.023013	0.018539	0.015964	0.011351	0.008126	0.004468	-0.001421	7.856-006	0.000+000
100(-0.17)	0.037027	0.032854	0.026910	0.022219	0.018099	0.015018	0.010197	0.006819	0.003133	0.000217	7.205-006	0.000+000
105(-0.26)	0.036098	0.031847	0.025864	0.021499	0.017778	0.014149	0.009125	0.005623	0.002048	0.001425	6.661-006	0.000+000
110(-0.34)	0.035224	0.030906	0.024904	0.020835	0.017521	0.013323	0.008093	0.004681	0.001130	0.001577	6.012-006	0.000+000
115(-0.42)	0.034410	0.030031	0.024020	0.020219	0.017287	0.012525	0.007085	0.003394	0.000411	0.000883	5.305-006	0.000+000
120(-0.50)	0.033660	0.029226	0.023212	0.019651	0.017056	0.011756	0.006112	0.002401	-0.000045	-0.000045	6.990-006	0.000+000
130(-0.64)	0.032366	0.027840	0.021830	0.018679	0.016616	0.010341	0.004329	0.000882	-0.000227	-0.000884	7.354-006	0.000+000
140(-0.77)	0.031354	0.026761	0.020778	0.017959	0.016262	0.009092	0.002819	0.000139	-0.000098	-0.000472	5.675-006	0.000+000
150(-0.87)	0.030610	0.025974	0.020045	0.017484	0.016013	0.008038	0.001605	-0.000000	-0.000121	-0.000094	4.159-006	0.000+000
160(-0.94)	0.030106	0.025445	0.019574	0.017202	0.015859	0.007344	0.000790	0.000009	-0.000107	-0.000005	2.736-006	0.000+000
170(-0.98)	0.029815	0.025140	0.019323	0.017055	0.015782	0.007078	0.000438	-0.000114	0.000009	0.000001	1.360-006	0.000+000
177(-1.00)	0.029726	0.025046	0.019246	0.017011	0.015761	0.007042	0.000376	-0.000204	0.000068	0.000001	1.699-007	0.000+000
ENERGY SUM	0.496350	0.450241	0.387358	0.317081	0.271122	0.231707	0.184423	0.162229	0.160950	0.175263		

TOTAL DOSE RATE = 0.000369(MR/HR)

TOTAL DOSE BUILDUP= 4.439930

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.187MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.7804 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.019132	0.018265	0.017229	0.013328	0.012186	0.011748	0.012310	0.016162	0.016653	0.019234	6.556-007	3.947+000
10(0.98)	0.019068	0.018192	0.017154	0.013281	0.012120	0.011675	0.012525	0.015628	0.016559	0.019006	5.146-006	3.993+000
20(0.94)	0.018868	0.017965	0.016932	0.013131	0.011900	0.011319	0.012696	0.014273	0.016283	0.018208	9.671-006	4.163+000
30(0.87)	0.018548	0.017593	0.016541	0.012861	0.011508	0.010684	0.012211	0.012861	0.015453	0.016879	1.502-005	4.545+000
40(0.77)	0.018097	0.017056	0.015901	0.012399	0.010881	0.010080	0.011222	0.011654	0.013947	0.015920	1.487-005	5.431+000
50(0.64)	0.017483	0.016298	0.014886	0.011634	0.009881	0.009432	0.009931	0.010266	0.011449	0.016341	1.521-005	7.843+000
60(0.50)	0.016680	0.015282	0.013474	0.010508	0.008434	0.008248	0.008187	0.008169	0.008881	0.014211	1.009-005	1.642+001
65(0.42)	0.016215	0.014694	0.012666	0.009849	0.007623	0.007431	0.007130	0.006798	0.007057	0.009852	5.680-006	3.099+001
70(0.34)	0.015720	0.014076	0.011851	0.009179	0.006850	0.006569	0.006033	0.005319	0.004859	0.003327	4.266-006	8.564+001
75(0.26)	0.015212	0.013454	0.011066	0.008551	0.006187	0.005777	0.005007	0.003915	0.002625	-0.003464	3.149-006	6.349+002
80(0.17)	0.014704	0.012851	0.010354	0.008005	0.005680	0.005152	0.004166	0.002785	0.000846	-0.007957	2.622-006	6.758+004
85(0.09)	0.014211	0.012282	0.009728	0.007563	0.005345	0.004737	0.003567	0.002044	-0.000125	-0.008372	2.344-006	2.386+011
90(-0.00)	0.013739	0.011754	0.009186	0.007214	0.005166	0.004502	0.003185	0.001661	-0.000315	-0.004999	2.193-006	0.000+000
95(-0.09)	0.013294	0.011264	0.008715	0.006926	0.005106	0.004363	0.002923	0.001471	-0.000119	-0.000140	2.168-006	0.000+000
100(-0.17)	0.012878	0.010806	0.008277	0.006663	0.005103	0.004217	0.002656	0.001266	-0.000032	0.003345	2.391-006	0.000+000
105(-0.26)	0.012492	0.010376	0.007856	0.006387	0.005090	0.003987	0.002299	0.000910	-0.000330	0.003812	2.233-006	0.000+000
110(-0.34)	0.012143	0.009972	0.007440	0.006067	0.005011	0.003648	0.001833	0.000393	-0.000928	0.001615	1.752-006	0.000+000
115(-0.42)	0.011833	0.009603	0.007034	0.005772	0.004850	0.003233	0.001303	-0.000185	-0.001508	-0.001518	1.414-006	0.000+000
120(-0.50)	0.011571	0.009280	0.006656	0.005467	0.004636	0.002806	0.000783	-0.000693	-0.001782	-0.003825	1.866-006	0.000+000
130(-0.64)	0.011200	0.008805	0.006060	0.004992	0.004253	0.002124	-0.000025	-0.001174	-0.001369	-0.003834	1.942-006	0.000+000
140(-0.77)	0.011021	0.008559	0.005781	0.004781	0.004115	0.001637	-0.000508	-0.000936	-0.000873	-0.001393	1.539-006	0.000+000
150(-0.87)	0.010973	0.008484	0.005752	0.004787	0.004177	0.001096	-0.000864	-0.000448	-0.000729	-0.000210	1.177-006	0.000+000
160(-0.94)	0.010983	0.008486	0.005840	0.004883	0.004311	0.000651	-0.000794	-0.000350	-0.000557	-0.000007	8.028-007	0.000+000
170(-0.98)	0.011002	0.008503	0.005928	0.004966	0.004429	0.000553	-0.000385	-0.000747	0.000102	0.000003	4.149-007	0.000+000
177(-1.00)	0.011009	0.008510	0.005960	0.004994	0.004472	0.000592	-0.000119	-0.000997	0.000261	0.000004	5.288-008	0.000+000
ENERGY SUM	0.178991	0.155747	0.127865	0.101134	0.082629	0.067645	0.056674	0.049547	0.046285	0.045171		

TOTAL DOSE RATE = 0.000107(MR/HR)

TOTAL DOSE BUILDUP= 8.762999

LOWER ENERGY CUTOFF 0.042/MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0083 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,065	0,085	0,112	0,147	0,194	0,240	0,318	0,423	0,501	0,745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,054631	0,054950	0,049064	0,051719	0,043555	0,054600	0,050475	0,002996	0,000135	0,000844	3,796-006	1,262+000
10(0,98)	0,054790	0,055210	0,049476	0,052073	0,044128	0,055976	0,048020	0,006605	-0,000042	0,000864	3,067-005	1,262+000
20(0,94)	0,055343	0,056097	0,050902	0,053295	0,046074	0,059986	0,042838	0,015945	0,000787	0,000946	6,361-005	1,268+000
30(0,87)	0,056405	0,057741	0,053590	0,055595	0,049637	0,064938	0,039687	0,026043	0,006801	0,001233	1,020-004	1,283+000
40(0,77)	0,058108	0,060296	0,057846	0,059183	0,055112	0,068955	0,040580	0,034457	0,021653	0,003778	1,510-004	1,309+000
50(0,64)	0,060471	0,063735	0,063649	0,063947	0,062477	0,072086	0,045533	0,043017	0,044071	0,019923	2,209-004	1,351+000
60(0,50)	0,063243	0,067600	0,070144	0,069047	0,070751	0,075374	0,052664	0,053968	0,070133	0,073596	2,484-004	1,399+000
65(0,42)	0,064617	0,069411	0,073092	0,071257	0,074521	0,076842	0,056399	0,059828	0,083013	0,116604	2,054-004	1,405+000
70(0,34)	0,065873	0,070954	0,075458	0,072857	0,077546	0,077698	0,059418	0,064894	0,094107	0,163013	2,578-004	1,383+000
75(0,26)	0,066931	0,072103	0,076983	0,073633	0,079477	0,077483	0,061092	0,068100	0,101387	0,200200	3,321-004	1,323+000
80(0,17)	0,067734	0,072769	0,077496	0,073435	0,080061	0,075847	0,060933	0,068525	0,102809	0,214817	4,607-004	1,226+000
85(0,09)	0,068254	0,072924	0,076958	0,072238	0,079178	0,072674	0,058764	0,065749	0,097255	0,198884	8,035-004	1,113+000
90(-0,00)	0,068500	0,072605	0,075474	0,070159	0,076868	0,068136	0,054803	0,060067	0,085257	0,154572	7,111-005	0,000+000
95(-0,09)	0,068512	0,071908	0,073231	0,067442	0,073345	0,062667	0,049626	0,052437	0,068987	0,094147	5,621-005	0,000+000
100(-0,17)	0,068353	0,070966	0,070687	0,064400	0,068990	0,056849	0,043999	0,044156	0,051430	0,034636	4,077-005	0,000+000
105(-0,26)	0,068090	0,069921	0,068014	0,061355	0,064248	0,051275	0,038656	0,036422	0,035227	-0,009724	2,979-005	0,000+000
110(-0,34)	0,067786	0,068896	0,065532	0,058576	0,059723	0,046415	0,034115	0,029980	0,021862	-0,032810	2,355-005	0,000+000
115(-0,42)	0,067486	0,067978	0,063418	0,056235	0,055666	0,042557	0,030587	0,024995	0,011805	-0,037100	1,962-005	0,000+000
120(-0,50)	0,067215	0,067211	0,061744	0,054401	0,052310	0,039813	0,028007	0,021157	0,004014	-0,030069	2,534-005	0,000+000
130(-0,64)	0,066769	0,066121	0,059587	0,052118	0,047690	0,037636	0,024672	0,014772	-0,004822	-0,010421	2,600-005	0,000+000
140(-0,77)	0,066379	0,065428	0,058439	0,051053	0,045110	0,039533	0,021906	0,007731	-0,006175	-0,001644	1,990-005	0,000+000
150(-0,87)	0,065978	0,064899	0,057686	0,050486	0,043625	0,044382	0,018092	0,000837	-0,002987	-0,000086	1,445-005	0,000+000
160(-0,94)	0,065588	0,064461	0,057083	0,050075	0,042665	0,049591	0,012537	-0,002824	-0,000216	0,000005	9,421-006	0,000+000
170(-0,98)	0,065297	0,064153	0,056654	0,049794	0,042046	0,052792	0,006564	-0,002724	0,000468	-0,000001	4,697-006	0,000+000
177(-1,00)	0,065196	0,064049	0,056506	0,049701	0,041836	0,053662	0,004009	-0,002049	0,000420	-0,000005	5,911-007	0,000+000
ENERGY SUM	0,817530	0,843855	0,824426	0,773673	0,771226	0,749450	0,514627	0,456948	0,499062	0,628508		

TOTAL DOSE RATE = 0.004431(MR/HR)

TOTAL DOSE BUILDUP= 1.317713

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,1391 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,065	0,085	0,112	0,147	0.194	0.240	0,318	0,423	0,561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,059520	0,059814	0,054762	0,053736	0,045948	0,053095	0,050005	0,015313	0,010216	0,012268	3,671-006	1.390+000
10(0,98)	0,059677	0,060047	0,055120	0,054041	0,046409	0,054113	0,048297	0,017872	0,010244	0,012612	2,964-005	1.393+000
20(0,94)	0,060199	0,060812	0,056317	0,055057	0,047943	0,057125	0,044638	0,024478	0,012558	0,013816	6,109-005	1.400+000
30(0,87)	0,061119	0,062146	0,058445	0,056855	0,050649	0,060980	0,042286	0,031671	0,018871	0,016271	9,665-005	1.414+000
40(0,77)	0,062463	0,064067	0,061583	0,059465	0,054598	0,064230	0,042662	0,037808	0,031317	0,021919	1,397-004	1.437+000
50(0,64)	0,064158	0,066441	0,065536	0,062655	0,059581	0,066502	0,045554	0,043941	0,048235	0,038397	1,961-004	1.470+000
60(0,50)	0,065948	0,068850	0,069548	0,065718	0,064743	0,068127	0,049816	0,051088	0,066159	0,078839	2,054-004	1.503+000
65(0,42)	0,066751	0,069857	0,071169	0,066838	0,066889	0,068509	0,051767	0,054527	0,074216	0,107858	1,615-004	1.506+000
70(0,34)	0,067414	0,070607	0,072284	0,067459	0,068422	0,068298	0,053070	0,057129	0,080420	0,136670	1,893-004	1.489+000
75(0,26)	0,067889	0,071023	0,072739	0,067444	0,069140	0,067239	0,053326	0,058212	0,083467	0,156976	2,191-004	1.446+000
80(0,17)	0,068143	0,071058	0,072436	0,066720	0,068916	0,065155	0,052258	0,057239	0,082158	0,160614	2,457-004	1.389+000
85(0,09)	0,068169	0,070711	0,071392	0,065302	0,067720	0,062035	0,049812	0,054043	0,076003	0,145548	2,257-004	1.402+000
90(-0,00)	0,067981	0,070022	0,069708	0,063298	0,065623	0,058049	0,046196	0,048932	0,065626	0,108548	5,602-005	0.000+000
95(-0,09)	0,067620	0,069073	0,067566	0,060894	0,062797	0,053528	0,041842	0,042624	0,052668	0,064621	4,469-005	0.000+000
100(-0,17)	0,067134	0,067966	0,065193	0,058318	0,059502	0,048882	0,037282	0,036020	0,039201	0,023198	3,339-005	0.000+000
105(-0,26)	0,066580	0,066803	0,062812	0,055790	0,056047	0,044507	0,033005	0,029907	0,026976	-0,006755	2,532-005	0.000+000
110(-0,34)	0,066004	0,065674	0,060606	0,053489	0,052733	0,040704	0,029336	0,024752	0,016932	-0,021892	2,051-005	0.000+000
115(-0,42)	0,065442	0,064640	0,058691	0,051526	0,049782	0,037648	0,026395	0,020627	0,009207	-0,024436	1,733-005	0.000+000
120(-0,50)	0,064914	0,063732	0,057111	0,049941	0,047309	0,035397	0,024120	0,017307	0,003495	-0,019622	2,252-005	0.000+000
130(-0,64)	0,063981	0,062296	0,054862	0,047802	0,043763	0,033245	0,020838	0,011666	-0,003048	-0,006715	2,316-005	0.000+000
140(-0,77)	0,063181	0,061244	0,053432	0,046605	0,041596	0,034000	0,017974	0,005924	-0,004055	-0,001054	1,767-005	0.000+000
150(-0,87)	0,062484	0,060433	0,052415	0,045868	0,040222	0,036996	0,014440	0,000773	-0,001937	-0,000056	1,281-005	0.000+000
160(-0,94)	0,061916	0,059816	0,051651	0,045352	0,039298	0,040549	0,009830	-0,001819	-0,000135	0,000003	8,343-006	0.000+000
170(-0,98)	0,061536	0,059418	0,051150	0,045025	0,038716	0,042924	0,005179	-0,001755	0,000301	-0,000000	4,144-006	0.000+000
177(-1,00)	0,061411	0,059289	0,050985	0,044920	0,038523	0,043621	0,003244	-0,001300	0,000268	-0,000003	5,202-007	0.000+000
ENERGY SUM	0,819115	0,828835	0,789711	0,722710	0,698533	0,662550	0,464935	0,412145	0,444965	0,552906		

TOTAL DOSE RATE = 0.002051(MR/HR)

TOTAL DOSE BUILDUP= 1.683690

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,2782 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.065	0,085	0,112	0,147	0.194	0.240	0,318	0,423	0,561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,062463	0,062522	0,058080	0,054098	0,046733	0,050931	0,048737	0,024464	0,018814	0,021370	3,509-006	1.528+000
10(0,98)	0,062599	0,062711	0,058369	0,054343	0,047084	0,051654	0,047602	0,026173	0,018954	0,021926	2,827-005	1.530+000
20(0,94)	0,063033	0,063514	0,059301	0,055133	0,048228	0,053824	0,045103	0,030567	0,021611	0,023847	5,790-005	1.539+000
30(0,87)	0,063749	0,064303	0,060864	0,056444	0,050162	0,056694	0,043335	0,035374	0,027692	0,027620	9,041-005	1.553+000
40(0,77)	0,064699	0,065609	0,062983	0,058188	0,052809	0,059167	0,043240	0,039542	0,037727	0,034899	1,277-004	1.575+000
50(0,64)	0,065756	0,067039	0,065367	0,060073	0,055858	0,060635	0,044601	0,043552	0,049885	0,050322	1,722-004	1.602+000
60(0,50)	0,066686	0,068232	0,067381	0,061516	0,058599	0,060969	0,046446	0,047584	0,061219	0,079383	1,686-004	1.629+000
65(0,42)	0,067006	0,068590	0,067970	0,061821	0,059519	0,060563	0,047034	0,049134	0,065503	0,097228	1,261-004	1.634+000
70(0,34)	0,067181	0,068711	0,068128	0,061717	0,059951	0,059615	0,047058	0,049874	0,068020	0,112746	1,382-004	1.632+000
75(0,26)	0,067184	0,068557	0,067778	0,061137	0,059798	0,058009	0,046291	0,049409	0,068000	0,120822	1,444-004	1.631+000
80(0,17)	0,067003	0,068111	0,066892	0,060060	0,059023	0,055695	0,044610	0,047484	0,064861	0,117100	1,345-004	1.694+000
85(0,09)	0,066641	0,067388	0,065505	0,058527	0,057653	0,052724	0,042039	0,044099	0,058244	0,100261	8,349-005	2.559+000
90(-0,00)	0,066121	0,066433	0,063712	0,056634	0,055774	0,049257	0,038770	0,039549	0,049685	0,073226	4,377-005	0.000+000
95(-0,09)	0,065477	0,065310	0,061654	0,054521	0,053920	0,045539	0,035112	0,034356	0,039486	0,042332	3,531-005	0.000+000
100(-0,17)	0,064751	0,064096	0,059488	0,052343	0,051056	0,041845	0,031418	0,029112	0,029313	0,014749	2,718-005	0.000+000
105(-0,26)	0,063985	0,062865	0,057366	0,050246	0,048566	0,038423	0,027992	0,024302	0,020248	-0,004419	2,140-005	0.000+000
110(-0,34)	0,063215	0,061679	0,055404	0,048342	0,046214	0,035452	0,025020	0,020187	0,012838	-0,015742	1,774-005	0.000+000
115(-0,42)	0,062470	0,060580	0,053673	0,046696	0,044118	0,033026	0,022557	0,016784	0,007131	-0,015111	1,518-005	0.000+000
120(-0,50)	0,061765	0,059589	0,052197	0,045330	0,042334	0,031166	0,020547	0,013935	0,002926	-0,012016	1,984-005	0.000+000
130(-0,64)	0,060500	0,057940	0,049942	0,043355	0,039657	0,029067	0,017389	0,009032	-0,001789	-0,004083	2,045-005	0.000+000
140(-0,77)	0,059428	0,056664	0,048362	0,042109	0,037872	0,028988	0,014548	0,004429	-0,002911	-0,000655	1,557-005	0.000+000
150(-0,87)	0,058542	0,055679	0,047200	0,041285	0,036648	0,030577	0,011337	0,000679	-0,001183	-0,000039	1,128-005	0.000+000
160(-0,94)	0,057863	0,054956	0,046354	0,040720	0,035801	0,032820	0,007560	-0,001092	-0,000079	0,000002	7,341-006	0.000+000
170(-0,98)	0,057433	0,054507	0,045824	0,040377	0,035277	0,034494	0,004011	-0,001061	0,000182	-0,000000	5,637-006	0.000+000
177(-1,00)	0,057294	0,054365	0,045654	0,040268	0,035107	0,035027	0,002580	-0,000775	0,000164	-0,000002	4,554-007	0.000+000
ENERGY SUM	0,803735	0,798762	0,744741	0,666644	0,627150	0,581847	0,416829	0,368953	0,393750	0,482424		

TOTAL DOSE RATE = 0.001514(MR/HR)

TOTAL DOSE BUILDUP= 1,964167

LOWER ENERGY CUTOFF 0,0428MEV

LOWEST SINGLE SCATTERING ENERGY 0,1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5565 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.063249	0.062592	0.058865	0.051239	0.044764	0.045563	0.044678	0.034148	0.028678	0.032432	5.122-006	1.796+000
10(0.98)	0.063317	0.062682	0.059008	0.051366	0.044933	0.045889	0.044219	0.034752	0.029103	0.033135	2.507-005	1.800+000
20(0.94)	0.063515	0.062945	0.059436	0.051742	0.045453	0.046887	0.043085	0.036265	0.031889	0.035512	5.068-005	1.811+000
30(0.87)	0.063782	0.063299	0.060039	0.052261	0.046227	0.048266	0.041950	0.037881	0.036633	0.039971	7.726-005	1.831+000
40(0.77)	0.064013	0.063604	0.060613	0.052737	0.047054	0.049420	0.041152	0.039231	0.042527	0.047422	1.048-004	1.857+000
50(0.64)	0.064060	0.063656	0.060837	0.052881	0.047592	0.049642	0.040504	0.040169	0.047851	0.058709	1.318-004	1.892+000
60(0.50)	0.063751	0.063214	0.060311	0.052331	0.047408	0.048432	0.039377	0.040117	0.050586	0.071377	1.149-004	1.937+000
65(0.42)	0.063420	0.062745	0.059657	0.051693	0.046926	0.047210	0.038383	0.039383	0.050523	0.075408	7.895-005	1.976+000
70(0.34)	0.062956	0.062094	0.058712	0.050805	0.046156	0.045576	0.036993	0.038000	0.048641	0.075654	7.715-005	2.056+000
75(0.26)	0.062361	0.061263	0.057481	0.049657	0.045112	0.043563	0.035180	0.035904	0.045418	0.070809	6.888-005	2.280+000
80(0.17)	0.061644	0.060270	0.055997	0.048290	0.043845	0.041240	0.032978	0.033138	0.040737	0.060679	5.206-005	3.255+000
85(0.09)	0.060825	0.059144	0.054322	0.046760	0.042426	0.038709	0.030482	0.029852	0.034932	0.046538	3.346-005	2.497+001
90(-0.00)	0.059922	0.057925	0.052524	0.045135	0.040938	0.036094	0.027829	0.026277	0.028240	0.030841	2.745-005	0.000+000
95(-0.09)	0.058970	0.056656	0.050684	0.043492	0.039458	0.033522	0.025173	0.022670	0.022160	0.016386	2.272-005	0.000+000
100(-0.17)	0.057993	0.055381	0.048876	0.041898	0.038043	0.031103	0.022644	0.019251	0.016306	0.009321	1.857-005	0.000+000
105(-0.26)	0.057018	0.054136	0.047161	0.040409	0.036732	0.028918	0.020334	0.016157	0.011296	-0.001484	1.553-005	0.000+000
110(-0.34)	0.056067	0.052949	0.045580	0.039059	0.035546	0.027008	0.018278	0.013434	0.007247	-0.004445	1.333-005	0.000+000
115(-0.42)	0.055155	0.051840	0.044153	0.037866	0.034490	0.025385	0.016468	0.011051	0.004134	-0.004763	1.163-005	0.000+000
120(-0.50)	0.054295	0.050819	0.042883	0.036830	0.033561	0.024038	0.014864	0.008943	0.001872	-0.003769	1.533-005	0.000+000
130(-0.64)	0.052751	0.049052	0.040790	0.035185	0.032030	0.022105	0.012064	0.005315	-0.000499	-0.001390	1.588-005	0.000+000
140(-0.77)	0.051464	0.047637	0.039191	0.034006	0.030846	0.021133	0.009497	0.002395	-0.000839	-0.000294	1.209-005	0.000+000
150(-0.87)	0.050445	0.046551	0.037993	0.033180	0.029944	0.021084	0.006935	0.000466	-0.000589	-0.000034	8.759-006	0.000+000
160(-0.94)	0.049706	0.045780	0.037153	0.032629	0.029330	0.021686	0.004410	-0.000313	-0.000039	-0.000001	5.702-006	0.000+000
170(-0.98)	0.049257	0.045318	0.036647	0.032309	0.028912	0.022386	0.002372	-0.000337	0.000058	0.000000	2.818-006	0.000+000
177(-1.00)	0.049116	0.045173	0.036492	0.032210	0.028790	0.022661	0.001615	-0.000253	0.000064	-0.000001	3.515-007	0.000+000
ENERGY SUM	0.739201	0.713271	0.643237	0.556313	0.502388	0.450171	0.333926	0.294893	0.308111	0.367262		

TOTAL DOSE RATE = 0.000988(MR/HR)

TOTAL DOSE BUILDUP= 2.493857

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 0,8347 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,065	0,085	0,112	0,147	0.194	0.240	0,318	0,423	0,561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0.059668	0.058337	0.055001	0.045843	0,040270	0,039644	0,039595	0,036637	0,032411	0,036915	2,706-006	2.05/*000
10(0,98)	0,059665	0,058338	0,055023	0,045874	0,040310	0,039741	0,039446	0,036649	0,033122	0,037554	2,165-005	2.062*000
20(0,94)	0,059637	0,058314	0,055053	0,045932	0,040403	0,040036	0,038927	0,036610	0,035312	0,039666	4,326-005	2.079*000
30(0,87)	0.059519	0,058182	0.054967	0.045904	0,040434	0,040439	0,038034	0,036439	0,038388	0,043446	6,452-005	2.108*000
40(0,77)	0,059209	0,057805	0,054558	0,045605	0,040200	0,040644	0,036807	0,036073	0,041161	0,049171	8,442-005	2.152*000
50(0,64)	0,058587	0,057023	0,053567	0,044810	0,039430	0,040065	0,035117	0,035148	0,042282	0,055889	1,003-004	2.218*000
60(0,50)	0,057554	0,055706	0,051786	0,043333	0,037905	0,038187	0,032616	0,032954	0,040490	0,058649	7,962-005	2.341*000
65(0,42)	0,056872	0,054834	0,050583	0,042325	0,036855	0,036729	0,030972	0,031187	0,038149	0,056029	5,112-005	2.472*000
70(0,34)	0,056086	0,053832	0,049195	0,041160	0,035654	0,034986	0,029075	0,028962	0,034799	0,049914	4,597-005	2.763*000
75(0,26)	0,055208	0,052722	0,047664	0,039877	0,034357	0,033040	0,026980	0,026362	0,030599	0,040741	3,745-005	3.633*000
80(0,17)	0,054257	0,051530	0,046039	0,038523	0,033035	0,030993	0,024774	0,023531	0,025875	0,029910	2,742-005	8.511*000
85(0,09)	0,053253	0,050288	0,044376	0,037149	0,031761	0,028942	0,022559	0,020643	0,021040	0,019327	2,102-005	3.819*002
90(-0,00)	0,052218	0,049029	0,042726	0,035802	0,030597	0,026973	0,020424	0,017856	0,016477	0,010669	1,789-005	0.000*000
95(-0,09)	0,051175	0,047780	0,041133	0,034518	0,029582	0,025143	0,018430	0,015276	0,012436	0,004774	1,527-005	0.000*000
100(-0,17)	0,050141	0,046565	0,039626	0,033321	0,028726	0,023483	0,016605	0,012941	0,009016	0,001496	1,317-005	0.000*000
105(-0,26)	0,049135	0,045401	0,038222	0,032223	0,028007	0,021997	0,014944	0,010843	0,006204	0,000052	1,148-005	0.000*000
110(-0,34)	0,048167	0,044301	0,036926	0,031226	0,027393	0,020675	0,013426	0,008947	0,003957	-0,000445	1,009-005	0.000*000
115(-0,42)	0,047248	0,043273	0,035746	0,030329	0,026851	0,019500	0,012025	0,007221	0,002240	-0,000600	8,913-006	0.000*000
120(-0,50)	0,046387	0,042322	0,034674	0,029525	0,026355	0,018457	0,010720	0,005651	0,001031	-0,000657	1,183-005	0.000*000
130(-0,64)	0,044854	0,040660	0,032843	0,028182	0,025464	0,016731	0,008530	0,003016	-0,000092	-0,000550	1,229-005	0.000*000
140(-0,77)	0,043598	0,039325	0,031409	0,027167	0,024698	0,015464	0,006160	0,001201	-0,000212	-0,000238	9,381-006	0.000*000
150(-0,87)	0,042627	0,038313	0,030344	0,026446	0,024083	0,014708	0,004180	0,000272	-0,000116	-0,000045	6,809-006	0.000*000
160(-0,94)	0,041940	0,037607	0,029612	0,025977	0,023643	0,014493	0,002502	-0,000030	-0,000042	-0,000002	4,442-006	0.000*000
170(-0,98)	0,041531	0,037191	0,029186	0,025713	0,023383	0,014628	0,001367	-0,000094	0,000018	0,000000	2,196-006	0.000*000
177(-1,00)	0,041404	0,037063	0,029055	0,025632	0,023303	0,014730	0,000994	-0,000108	0,000041	0,000000	2,736-007	0.000*000
ENERGY SUM	0,651960	0,614413	0,540502	0,455651	0,399885	0,349471	0,266482	0,234944	0,240874	0,279607		

TOTAL DOSE RATE = 0.000703(MR/HR)

TOTAL DOSE BUILDUP= 3,024696

LOWER ENERGY CUTOFF 0,0428MEV

LOWEST SINGLE SCATTERING ENERGY 0,1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.1130 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.053783	0.052006	0.048967	0.039584	0.034881	0.033807	0.034271	0.035285	0.032890	0.037348	2.302-006	2.311+000
10(0.98)	0.053727	0.051943	0.048903	0.039547	0.034837	0.033776	0.034250	0.035000	0.033388	0.037832	1.835-005	2.318+000
20(0.94)	0.053531	0.051720	0.048665	0.039396	0.034664	0.033667	0.033980	0.034175	0.034806	0.039388	3.626-005	2.343+000
30(0.87)	0.053145	0.051270	0.048148	0.039033	0.034263	0.033473	0.033165	0.033061	0.036393	0.042012	5.300-005	2.388+000
40(0.77)	0.052491	0.050489	0.047186	0.038312	0.033471	0.033072	0.031725	0.031731	0.036998	0.045592	6.717-005	2.462+000
50(0.64)	0.051489	0.049269	0.045602	0.037082	0.032102	0.032050	0.029590	0.029794	0.035693	0.048585	7.602-005	2.592+000
60(0.50)	0.050100	0.047562	0.043519	0.035272	0.030085	0.029986	0.026609	0.026637	0.031784	0.045918	8.601-005	2.875+000
65(0.42)	0.049267	0.046541	0.041945	0.034177	0.028884	0.028561	0.024804	0.024515	0.028697	0.040557	3.422-005	3.196+000
70(0.34)	0.048356	0.045433	0.040464	0.032997	0.027619	0.026952	0.022848	0.022101	0.024945	0.032469	2.913-005	3.950+000
75(0.26)	0.047389	0.044264	0.038924	0.031777	0.026356	0.025250	0.020826	0.019525	0.020791	0.022792	2.283-005	6.489+000
80(0.17)	0.046380	0.043063	0.037375	0.030562	0.025160	0.023551	0.018835	0.016955	0.016813	0.013364	1.727-005	2.662+001
85(0.09)	0.045351	0.041858	0.035863	0.029393	0.024089	0.021935	0.016958	0.014542	0.012789	0.005991	1.413-005	6.253+003
90(-0.00)	0.044322	0.040673	0.034424	0.028298	0.023184	0.020452	0.015250	0.012382	0.009561	0.001648	1.222-005	0.000+000
95(-0.09)	0.043308	0.039526	0.033073	0.027292	0.022463	0.019122	0.013720	0.010494	0.006981	0.000119	1.076-005	0.000+000
100(-0.17)	0.042322	0.038430	0.031821	0.026375	0.021911	0.017935	0.012346	0.008837	0.004950	0.000292	9.637-006	0.000+000
105(-0.26)	0.041375	0.037392	0.030666	0.025541	0.021489	0.016865	0.011089	0.007343	0.003532	0.000880	8.717-006	0.000+000
110(-0.34)	0.040474	0.036416	0.029601	0.024781	0.021150	0.015887	0.009910	0.005961	0.002039	0.001068	7.814-006	0.000+000
115(-0.42)	0.039626	0.035507	0.028621	0.024086	0.020852	0.014979	0.008787	0.004672	0.001059	0.000717	6.914-006	0.000+000
120(-0.50)	0.038837	0.034666	0.027722	0.023452	0.020570	0.014135	0.007712	0.003491	0.000404	0.000127	9.111-006	0.000+000
130(-0.64)	0.037449	0.033201	0.026173	0.022364	0.020027	0.012625	0.005715	0.001595	-0.000069	-0.000527	9.483-006	0.000+000
140(-0.77)	0.036330	0.032035	0.024963	0.021528	0.019540	0.011350	0.003948	0.000499	-0.000059	-0.000311	7.264-006	0.000+000
150(-0.87)	0.035483	0.031163	0.024080	0.020943	0.019148	0.010358	0.002449	0.000115	-0.000075	-0.000063	5.293-006	0.000+000
160(-0.94)	0.034895	0.030566	0.023490	0.020572	0.018875	0.009779	0.001344	0.000032	-0.000053	-0.000003	3.463-006	0.000+000
170(-0.98)	0.034550	0.030218	0.023153	0.020369	0.018719	0.009613	0.000752	-0.000064	0.000014	0.000001	1.715-006	0.000+000
177(-1.00)	0.034444	0.030112	0.023051	0.020308	0.018673	0.009612	0.000598	-0.000126	0.000052	0.000001	2.140-007	0.000+000
ENERGY SUM	0.558936	0.516644	0.445782	0.368469	0.316826	0.271954	0.211957	0.186646	0.188136	0.212900		

TOTAL DOSE RATE = 0.000519(MR/HR)

TOTAL DOSE BUILDUP= 3.582972

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1,3912 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0,046934	0.044967	0.042226	0,033380	0,029482	0,028400	0,029153	0,032093	0,031408	0,035422	1,930-006	2.560+000
10(0,98)	0,046845	0.044867	0.042113	0,033304	0,029392	0,028305	0,029182	0,031674	0,031490	0,035729	1,534-005	2.570+000
20(0,94)	0,046549	0.044530	0.041729	0,033037	0,029076	0,027980	0,029004	0,030490	0,032217	0,036671	2,999-005	2.605+000
30(0,87)	0,046015	0.043912	0.040988	0,032507	0,028462	0,027453	0,028218	0,028933	0,032679	0,038117	4,302-005	2.672+000
40(0,77)	0,045190	0.042943	0.039781	0,031606	0,027430	0,026722	0,026717	0,027142	0,031901	0,039809	5,299-005	2.793+000
50(0,64)	0,044030	0.041559	0.037997	0,030241	0,025866	0,025518	0,024492	0,024769	0,029345	0,040285	5,758-005	3.027+000
60(0,50)	0,042532	0.039762	0.035631	0,028409	0,023782	0,023515	0,021505	0,021338	0,024702	0,039145	4,005-005	3.584+000
65(0,42)	0,041673	0.038736	0.034282	0,027364	0,022618	0,022227	0,019770	0,019207	0,021940	0,038045	2,362-005	4.262+000
70(0,34)	0,040761	0.037654	0.032879	0,026278	0,021444	0,020827	0,017953	0,016900	0,017957	0,036915	1,947-005	5.956+000
75(0,26)	0,039812	0.036542	0.031458	0,025196	0,020321	0,019400	0,016144	0,014562	0,014437	0,035712	1,510-005	1.258+001
80(0,17)	0,038844	0.035426	0.030074	0,024155	0,019303	0,018028	0,014431	0,012350	0,010747	0,004496	1,176-005	8.996+001
85(0,09)	0,037877	0.034329	0.028761	0,023188	0,018432	0,016771	0,012882	0,010386	0,007802	-0,000392	9,960-006	1.073+005
90(-0,00)	0,036925	0.033270	0.027537	0,022308	0,017733	0,015656	0,011522	0,008720	0,005541	-0,002087	8,814-006	0.000+000
95(-0,09)	0,036000	0.032259	0.026411	0,021517	0,017208	0,014677	0,010336	0,007324	0,003898	-0,001577	7,924-006	0.000+000
100(-0,17)	0,035111	0.031302	0.025378	0,020806	0,016834	0,013804	0,009276	0,006116	0,002694	0,000234	7,252-006	0.000+000
105(-0,26)	0,034265	0.030402	0.024426	0,020159	0,016567	0,013002	0,008291	0,005014	0,001718	0,001394	6,707-006	0.000+000
110(-0,34)	0,033467	0.029560	0.023546	0,019563	0,016360	0,012241	0,007345	0,003967	0,000922	0,001519	6,042-006	0.000+000
115(-0,42)	0,032723	0.028777	0.022732	0,019011	0,016175	0,011509	0,006422	0,002974	0,000314	0,000833	5,310-006	0.000+000
120(-0,50)	0,032035	0.028057	0.021982	0,018500	0,015992	0,010804	0,005527	0,002069	-0,000060	-0,000062	6,963-006	0.000+000
130(-0,64)	0,030840	0.026811	0.020693	0,017617	0,015630	0,009502	0,003876	0,000703	-0,000199	-0,000842	7,299-006	0.000+000
140(-0,77)	0,029897	0.025836	0.019703	0,016945	0,015317	0,008341	0,002466	0,000074	-0,000106	-0,000436	5,615-006	0.000+000
150(-0,87)	0,029198	0.025122	0.019005	0,016488	0,015084	0,007334	0,001345	-0,000007	-0,000130	-0,000083	4,105-006	0.000+000
160(-0,94)	0,028722	0.024643	0.018554	0,016212	0,014936	0,006633	0,000629	0,000005	-0,000091	-0,000003	2,695-006	0.000+000
170(-0,98)	0,028447	0.024368	0.018303	0,016067	0,014861	0,006332	0,000371	-0,000123	0,000025	0,000001	1,340-006	0.000+000
177(-1,00)	0,028362	0.024284	0.018228	0,016024	0,014840	0,006279	0,000348	-0,000210	0,000076	0,000001	1,674-007	0.000+000
ENERGY SUM	0,469529	0.427142	0,362904	0,295373	0,250189	0,211974	0,168108	0,147893	0,146811	0,162139		

TOTAL DOSE RATE = 0.000391(MR/HR)

TOTAL DOSE BUILDUP= 4,175933

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.193/MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.7824 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.017455	0.016693	0.015755	0.012122	0.010971	0.010570	0.011205	0.014705	0.015216	0.017798	7.046-007	5.762+000
10(0.98)	0.017406	0.016637	0.015693	0.012087	0.010911	0.010496	0.011405	0.014262	0.015096	0.017587	2.529-006	3.805+000
20(0.94)	0.017251	0.016456	0.015500	0.011965	0.010712	0.010155	0.011561	0.013073	0.014809	0.016846	1.038-005	3.963+000
30(0.87)	0.016990	0.016147	0.015152	0.011722	0.010346	0.009590	0.011107	0.011765	0.014124	0.015601	1.395-005	4.320+000
40(0.77)	0.016604	0.015677	0.014583	0.011283	0.009745	0.009079	0.010185	0.010647	0.012575	0.014692	1.589-005	5.151+000
50(0.64)	0.016062	0.014997	0.013687	0.010562	0.008805	0.008504	0.009377	0.009365	0.010530	0.013151	1.619-005	7.414+000
60(0.50)	0.015350	0.014090	0.012427	0.009538	0.007506	0.007434	0.007361	0.007402	0.008063	0.013314	1.065-005	1.539+001
65(0.42)	0.014939	0.013569	0.011702	0.008953	0.006804	0.006712	0.006403	0.006129	0.006355	0.009237	5.923-006	2.874+001
70(0.34)	0.014504	0.013026	0.010964	0.008366	0.006146	0.005960	0.005421	0.004774	0.004332	0.005090	4.347-006	7.768+001
75(0.26)	0.014056	0.012480	0.010255	0.007824	0.005589	0.005275	0.004511	0.003501	0.002296	-0.003369	3.133-006	5.634+002
80(0.17)	0.013608	0.011950	0.009609	0.007351	0.005167	0.004731	0.003766	0.002481	0.000683	-0.007645	2.590-006	5.976+004
85(0.09)	0.013170	0.011448	0.009045	0.006964	0.004887	0.004360	0.003229	0.001810	-0.000197	-0.008006	2.307-006	2.126+011
90(-0.00)	0.012749	0.010979	0.008558	0.006656	0.004736	0.004136	0.002878	0.001458	-0.000371	-0.004727	2.150-006	0.000+000
95(-0.09)	0.012350	0.010542	0.008128	0.006400	0.004688	0.003993	0.002630	0.001279	-0.000192	-0.000036	2.133-006	0.000+000
100(-0.17)	0.011975	0.010132	0.007730	0.006163	0.004694	0.003846	0.002384	0.001092	-0.000101	0.003503	2.415-006	0.000+000
105(-0.26)	0.011626	0.009746	0.007340	0.005919	0.004699	0.003633	0.002064	0.000776	-0.000344	0.003712	2.260-006	0.000+000
110(-0.34)	0.011308	0.009385	0.006949	0.005656	0.004653	0.003331	0.001651	0.000316	-0.000853	0.001560	1.737-006	0.000+000
115(-0.42)	0.011025	0.009052	0.006564	0.005377	0.004537	0.002962	0.001179	-0.000206	-0.001553	-0.001462	1.375-006	0.000+000
120(-0.50)	0.010781	0.008757	0.006204	0.005102	0.004368	0.002578	0.000707	-0.000675	-0.001994	-0.003656	1.809-006	0.000+000
130(-0.64)	0.010426	0.008309	0.005639	0.004643	0.004032	0.001945	-0.000054	-0.001126	-0.001272	-0.003595	1.867-006	0.000+000
140(-0.77)	0.010239	0.008063	0.005353	0.004404	0.003872	0.001487	-0.000530	-0.000879	-0.000874	-0.001268	1.464-006	0.000+000
150(-0.87)	0.010178	0.007976	0.005297	0.004358	0.003886	0.000975	-0.000819	-0.000403	-0.000690	-0.000180	1.111-006	0.000+000
160(-0.94)	0.010181	0.007974	0.005351	0.004415	0.003983	0.000521	-0.000789	-0.000325	-0.000277	-0.000005	7.553-007	0.000+000
170(-0.98)	0.010201	0.007994	0.005417	0.004482	0.004079	0.000382	-0.000351	-0.000678	0.000136	0.000001	3.921-007	0.000+000
177(-1.00)	0.010209	0.008003	0.005441	0.004506	0.004116	0.000401	-0.000068	-0.000887	0.000261	0.000002	5.006-008	0.000+000
ENERGY SUM	0.165438	0.144772	0.118179	0.092648	0.075171	0.061262	0.051095	0.044773	0.041929	0.041709		

TOTAL DOSE RATE = 0.000111(MR/HR)

TOTAL DOSE BUILDUP= 8.099875

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0079 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.051639	0.052587	0.047162	0.050236	0.041864	0.051733	0.046345	0.001338	0.000178	0.000745	4,128-006	1.240+000
10(0.98)	0.051815	0.052871	0.047569	0.050593	0.042438	0.053074	0.044151	0.004682	-0.000034	0.000767	3,335-005	1.241+000
20(0.94)	0.052413	0.053824	0.048939	0.051823	0.044358	0.056874	0.039564	0.013574	0.000443	0.000843	6,918-005	1.247+000
30(0.87)	0.053512	0.055536	0.051423	0.054097	0.047796	0.061348	0.036919	0.023589	0.005465	0.001087	1,110-004	1.262+000
40(0.77)	0.055191	0.058091	0.055178	0.057517	0.052939	0.064757	0.038036	0.032138	0.019031	0.003336	1,645-004	1.289+000
50(0.64)	0.057419	0.061386	0.060073	0.061865	0.059642	0.067302	0.042636	0.040584	0.040564	0.018102	2,412-004	1.333+000
60(0.50)	0.059945	0.064956	0.065343	0.066337	0.066927	0.069974	0.049367	0.050930	0.065905	0.068114	2,718-004	1.383+000
65(0.42)	0.061179	0.066595	0.067684	0.068177	0.070174	0.071136	0.052685	0.056336	0.078244	0.108973	2,251-004	1.392+000
70(0.34)	0.062305	0.067981	0.069553	0.069468	0.072747	0.071746	0.055299	0.060936	0.088701	0.153119	2,829-004	1.371+000
75(0.26)	0.063262	0.069015	0.070768	0.070024	0.074370	0.071416	0.056675	0.063777	0.095420	0.188684	3,653-004	1.313+000
80(0.17)	0.064007	0.069629	0.071214	0.069730	0.074843	0.069855	0.056415	0.064053	0.096587	0.202818	5,079-004	1.220+000
85(0.09)	0.064520	0.069804	0.070865	0.068575	0.074069	0.066973	0.054384	0.061410	0.091241	0.187786	8,897-004	1.109+000
90(-0.00)	0.064807	0.069572	0.069798	0.066665	0.072068	0.062917	0.050782	0.056125	0.079906	0.145622	7,612-005	0.000+000
95(-0.09)	0.064900	0.069011	0.068179	0.064201	0.068999	0.058052	0.046104	0.049057	0.064571	0.088108	5,974-005	0.000+000
100(-0.17)	0.064845	0.068229	0.066226	0.061446	0.065160	0.052867	0.041007	0.041363	0.047960	0.031599	4,280-005	0.000+000
105(-0.26)	0.064696	0.067343	0.064170	0.058670	0.060949	0.047862	0.036125	0.034118	0.032513	-0.010279	3,088-005	0.000+000
110(-0.34)	0.064503	0.066456	0.062209	0.056104	0.056782	0.043447	0.031917	0.028004	0.019658	-0.031761	2,419-005	0.000+000
115(-0.42)	0.064303	0.065644	0.060483	0.053903	0.052996	0.039880	0.028587	0.023192	0.009745	-0.035365	2,004-005	0.000+000
120(-0.50)	0.064119	0.064950	0.059060	0.052141	0.049790	0.037278	0.026103	0.019422	0.002489	-0.028353	2,575-005	0.000+000
130(-0.64)	0.063823	0.063941	0.057106	0.049884	0.045237	0.035023	0.022842	0.013097	-0.005405	-0.009592	2,622-005	0.000+000
140(-0.77)	0.063583	0.063304	0.055993	0.048845	0.042640	0.036547	0.020166	0.006323	-0.005860	-0.001459	2,000-005	0.000+000
150(-0.87)	0.063343	0.062847	0.055281	0.048391	0.041179	0.041030	0.018434	0.000084	-0.002501	-0.000070	1,449-005	0.000+000
160(-0.94)	0.063104	0.062485	0.054756	0.048136	0.040282	0.046148	0.018844	-0.002744	-0.000039	0.000002	9,451-006	0.000+000
170(-0.98)	0.062920	0.062234	0.054403	0.047969	0.039728	0.049486	0.004725	-0.002090	0.000427	-0.000000	4,721-006	0.000+000
177(-1.00)	0.062855	0.062149	0.054284	0.047912	0.039544	0.050442	0.002090	-0.001268	0.000338	-0.000000	5,942-007	0.000+000
ENERGY SUM	0.777197	0.812194	0.776139	0.741479	0.729615	0.697261	0.478228	0.425085	0.463687	0.588555		

TOTAL DOSE RATE = 0.004739(MR/HR)

TOTAL DOSE BUILDUP= 1.259888

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1321 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.056515	0.057418	0.052363	0.051975	0.043876	0.050328	0.046421	0.012619	0.009036	0.010970	3.993-006	1.358+000
10(0.98)	0.056674	0.057659	0.052702	0.052273	0.044329	0.051330	0.044833	0.015076	0.009280	0.011282	3.224-005	1.360+000
20(0.94)	0.057197	0.058444	0.053814	0.053268	0.045821	0.054214	0.041456	0.021570	0.010901	0.012363	6.650-005	1.368+000
30(0.87)	0.058101	0.059788	0.055741	0.055010	0.048412	0.057739	0.039364	0.028886	0.016418	0.014557	1.053-004	1.383+000
40(0.77)	0.059388	0.061676	0.058488	0.057472	0.052117	0.060523	0.039873	0.035209	0.028027	0.019640	1.526-004	1.406+000
50(0.64)	0.060965	0.063942	0.061826	0.060375	0.056678	0.062344	0.042701	0.041327	0.044534	0.034876	2.149-004	1.441+000
60(0.50)	0.062597	0.066182	0.065101	0.063046	0.061275	0.063588	0.046675	0.048197	0.062295	0.073343	2.265-004	1.478+000
65(0.42)	0.063324	0.067107	0.066396	0.063975	0.063151	0.063825	0.048436	0.051439	0.070192	0.101402	1.787-004	1.483+000
70(0.34)	0.063929	0.067796	0.067277	0.064446	0.064477	0.063536	0.049575	0.053863	0.076219	0.129559	2.104-004	1.467+000
75(0.26)	0.064374	0.068187	0.067633	0.064347	0.065092	0.062498	0.049749	0.054848	0.079153	0.149709	2.452-004	1.425+000
80(0.17)	0.064635	0.068246	0.067405	0.063623	0.064894	0.060562	0.048725	0.053911	0.077908	0.153775	2.781-004	1.366+000
85(0.09)	0.064706	0.067971	0.066598	0.062292	0.063856	0.057719	0.046465	0.050910	0.072056	0.137672	2.630-004	1.363+000
90(-0.00)	0.064599	0.067399	0.065288	0.060449	0.062027	0.054116	0.043157	0.046129	0.062190	0.104007	6.040-005	0.000+000
95(-0.09)	0.064343	0.066596	0.063608	0.058252	0.059538	0.050035	0.039177	0.040221	0.049840	0.061561	4.780-005	0.000+000
100(-0.17)	0.063980	0.065647	0.061722	0.055894	0.056594	0.045827	0.034991	0.034004	0.036936	0.021538	3.519-005	0.000+000
105(-0.26)	0.063551	0.064637	0.059796	0.053564	0.053456	0.041834	0.031029	0.028205	0.025134	-0.007279	2.635-005	0.000+000
110(-0.34)	0.063097	0.063643	0.057970	0.051420	0.050387	0.038325	0.027589	0.023260	0.015370	-0.021644	2.116-005	0.000+000
115(-0.42)	0.062647	0.062721	0.056341	0.049566	0.047597	0.035464	0.024794	0.019257	0.007847	-0.023798	1.777-005	0.000+000
120(-0.50)	0.062221	0.061901	0.054954	0.048047	0.045209	0.033315	0.022604	0.016001	0.002354	-0.018910	2.299-005	0.000+000
130(-0.64)	0.061467	0.060592	0.052888	0.045966	0.041702	0.031151	0.019428	0.010453	-0.003546	-0.006320	2.346-005	0.000+000
140(-0.77)	0.060831	0.059639	0.051528	0.044829	0.039538	0.031725	0.016676	0.004926	-0.003929	-0.000957	1.786-005	0.000+000
150(-0.87)	0.060291	0.058922	0.050576	0.044202	0.038201	0.034544	0.013231	0.000221	-0.001656	-0.000047	1.292-005	0.000+000
160(-0.94)	0.059855	0.058386	0.049889	0.043815	0.037335	0.038076	0.008612	-0.001817	-0.000020	0.000001	8.416-006	0.000+000
170(-0.98)	0.059566	0.058043	0.049453	0.043578	0.036806	0.040552	0.003868	-0.001374	0.000280	-0.000000	4.186-006	0.000+000
177(-1.00)	0.059470	0.057931	0.049311	0.043501	0.036633	0.041305	0.001879	-0.000814	0.000221	-0.000000	5.256-007	0.000+000
ENERGY SUM	0.781387	0.800408	0.748166	0.694020	0.663171	0.620550	0.434025	0.385175	0.415584	0.521055		

TOTAL DOSE RATE = 0.002269(MR/HR)

TOTAL DOSE BUILDUP= 1.635850

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2642 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.059526	0.060197	0.055434	0.052231	0.044489	0.048339	0.045663	0.021209	0.016272	0.019247	3.822-006	1.484+000
10(0.98)	0.059657	0.060385	0.055697	0.052465	0.044828	0.049058	0.044553	0.022927	0.016810	0.019753	3.081-005	1.487+000
20(0.94)	0.060071	0.060983	0.056540	0.053221	0.045927	0.051163	0.042125	0.027432	0.019102	0.021496	6.315-005	1.495+000
30(0.87)	0.060748	0.061955	0.057928	0.054469	0.047767	0.053824	0.040449	0.032487	0.024608	0.024919	9.879-005	1.510+000
40(0.77)	0.061634	0.063221	0.059766	0.056097	0.050252	0.055969	0.040426	0.036878	0.034190	0.031575	1.400-004	1.536+000
50(0.64)	0.062607	0.064586	0.061778	0.057804	0.053066	0.057117	0.041791	0.040958	0.046301	0.046047	1.897-004	1.562+000
60(0.50)	0.063458	0.065714	0.063426	0.059047	0.055551	0.057246	0.043567	0.044953	0.057834	0.074299	1.873-004	1.591+000
65(0.42)	0.063757	0.066057	0.063891	0.059277	0.056377	0.056807	0.044122	0.046485	0.062223	0.092110	1.409-004	1.598+000
70(0.34)	0.063930	0.066188	0.064003	0.059133	0.056770	0.055886	0.044145	0.047238	0.064854	0.107967	1.555-004	1.594+000
75(0.26)	0.063958	0.066074	0.063704	0.058560	0.056648	0.054381	0.043436	0.046844	0.064994	0.116716	1.641-004	1.589+000
80(0.17)	0.063830	0.065703	0.062975	0.057544	0.055982	0.052246	0.041886	0.045064	0.062097	0.113854	1.553-004	1.632+000
85(0.09)	0.063549	0.065087	0.061842	0.056122	0.054791	0.049524	0.039521	0.041896	0.056108	0.097872	9.780-005	2.309+000
90(-0.00)	0.063134	0.064264	0.060377	0.054377	0.053140	0.046354	0.036509	0.037612	0.047627	0.071550	4.750-005	0.000+000
95(-0.09)	0.062611	0.063289	0.058683	0.052430	0.051131	0.042947	0.033128	0.032696	0.037793	0.041181	3.797-005	0.000+000
100(-0.17)	0.062014	0.062227	0.056882	0.050416	0.048902	0.039545	0.029692	0.027698	0.027917	0.013980	2.880-005	0.000+000
105(-0.26)	0.061378	0.061139	0.055089	0.048464	0.046607	0.036370	0.026478	0.023078	0.019055	-0.004886	2.237-005	0.000+000
110(-0.34)	0.060733	0.060083	0.053399	0.046676	0.044397	0.033588	0.023662	0.019094	0.011775	-0.013952	1.838-005	0.000+000
115(-0.42)	0.060103	0.059095	0.051873	0.045114	0.042390	0.031289	0.021307	0.015775	0.006177	-0.015118	1.563-005	0.000+000
120(-0.50)	0.059504	0.058198	0.050542	0.043806	0.040651	0.029503	0.019373	0.012983	0.002108	-0.011899	2.034-005	0.000+000
130(-0.64)	0.058427	0.056698	0.048447	0.041906	0.037996	0.027438	0.016334	0.008185	-0.002186	-0.003949	2.083-005	0.000+000
140(-0.77)	0.057518	0.055543	0.046950	0.040735	0.036225	0.027304	0.013610	0.003749	-0.002497	-0.000609	1.583-005	0.000+000
150(-0.87)	0.056775	0.054660	0.045860	0.040009	0.035038	0.028841	0.010484	0.000289	-0.001038	-0.000034	1.144-005	0.000+000
160(-0.94)	0.056210	0.054017	0.045081	0.039544	0.034239	0.031106	0.006715	-0.001131	-0.000012	0.000001	7.445-006	0.000+000
170(-0.98)	0.055852	0.053618	0.044603	0.039267	0.033754	0.032854	0.003111	-0.000853	0.000175	0.000000	3.690-006	0.000+000
177(-1.00)	0.055737	0.053491	0.044450	0.039180	0.033598	0.033423	0.001648	-0.000495	0.000139	-0.000000	4.623-007	0.000+000
ENERGY SUM	0.769701	0.774433	0.710101	0.642011	0.597803	0.548692	0.391034	0.346529	0.369805	0.457711		

TOTAL DOSE RATE = 0.001678(MR/HR)

TOTAL DOSE BUILDUP= 1.889469

LOWER ENERGY CUTOFF 0.043?MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5285 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.060648	0.060619	0.056277	0.049513	0.042610	0.043433	0.042444	0.030794	0.025447	0.029420	3.419-006	1.730+000
10(0.98)	0.060708	0.060704	0.056399	0.049631	0.042770	0.043767	0.041928	0.031505	0.026213	0.030274	2.746-005	1.735+000
20(0.94)	0.060882	0.060951	0.056764	0.049978	0.043261	0.044771	0.040677	0.033310	0.028786	0.032490	5.561-005	1.745+000
30(0.87)	0.061115	0.061286	0.057271	0.050453	0.043992	0.046104	0.039477	0.035257	0.033347	0.036660	8.502-005	1.764+000
40(0.77)	0.061315	0.061578	0.057744	0.050880	0.044777	0.047140	0.038694	0.036855	0.039306	0.043709	1.158-004	1.790+000
50(0.64)	0.061352	0.061643	0.057912	0.050990	0.045306	0.047245	0.038123	0.037972	0.044987	0.054719	1.468-004	1.823+000
60(0.50)	0.061085	0.061270	0.057445	0.050462	0.045195	0.046036	0.037148	0.038135	0.048255	0.067926	1.294-004	1.865+000
65(0.42)	0.060799	0.060864	0.056883	0.049873	0.044795	0.044881	0.036268	0.037549	0.048301	0.072724	8.955-005	1.897+000
70(0.34)	0.060400	0.060296	0.056076	0.049046	0.044138	0.043358	0.035022	0.036343	0.046953	0.074001	8.834-005	1.962+000
75(0.26)	0.059889	0.059569	0.055027	0.047988	0.043239	0.041491	0.033378	0.034447	0.044070	0.070240	7.970-005	2.141+000
80(0.17)	0.059272	0.058695	0.053760	0.046727	0.042134	0.039337	0.031362	0.031886	0.039708	0.060985	6.051-005	2.912+000
85(0.09)	0.058565	0.057700	0.052317	0.045312	0.040885	0.036983	0.029053	0.028793	0.034166	0.047302	3.740-005	1.831+001
90(-0.00)	0.057785	0.056617	0.050757	0.043803	0.039557	0.034538	0.026577	0.025383	0.027955	0.031602	3.003-005	0.000+000
95(-0.09)	0.056957	0.055484	0.049144	0.042268	0.038214	0.032117	0.024073	0.021903	0.021673	0.016812	2.460-005	0.000+000
100(-0.17)	0.056105	0.054338	0.047538	0.040770	0.036905	0.029824	0.021670	0.018575	0.015851	0.005312	1.980-005	0.000+000
105(-0.26)	0.055250	0.053214	0.045994	0.039361	0.035668	0.027738	0.019459	0.015545	0.010842	-0.001821	1.635-005	0.000+000
110(-0.34)	0.054411	0.052137	0.044550	0.038078	0.034527	0.025904	0.017482	0.012871	0.006795	-0.004908	1.392-005	0.000+000
115(-0.42)	0.053604	0.051128	0.043230	0.036938	0.033497	0.024339	0.015738	0.010533	0.003706	-0.005174	1.208-005	0.000+000
120(-0.50)	0.052840	0.050195	0.042044	0.035947	0.032580	0.023038	0.014194	0.008468	0.001497	-0.004041	1.587-005	0.000+000
130(-0.64)	0.051463	0.048578	0.040060	0.034378	0.031061	0.021175	0.011505	0.004929	-0.000711	-0.001431	1.635-005	0.000+000
140(-0.77)	0.050312	0.047284	0.038534	0.033268	0.029893	0.020261	0.009033	0.002104	-0.000895	-0.000281	1.241-005	0.000+000
150(-0.87)	0.049400	0.046291	0.037392	0.032505	0.029014	0.020264	0.006531	0.000288	-0.000368	-0.000029	8.975-006	0.000+000
160(-0.94)	0.048736	0.045584	0.036590	0.032005	0.028393	0.020919	0.004025	-0.000367	-0.000015	-0.000000	5.837-006	0.000+000
170(-0.98)	0.048332	0.045161	0.036112	0.031717	0.028020	0.021659	0.001976	-0.000295	0.000063	0.000000	2.884-006	0.000+000
177(-1.00)	0.048205	0.045028	0.035963	0.031628	0.027903	0.021948	0.001210	-0.000179	0.000060	-0.000000	3.600-007	0.000+000
ENERGY SUM	0.713757	0.697572	0.620825	0.539639	0.483061	0.430016	0.316408	0.279803	0.292647	0.353177		

TOTAL DOSE RATE = 0.001098(MR/HR)

TOTAL DOSE BUILDUP= 2.363600

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.7927 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.057559	0.056846	0.052854	0.044476	0.038482	0.038015	0.038018	0.033834	0.029616	0.034186	2.986-006	1.967+000
10(0.98)	0.057554	0.056845	0.052866	0.044502	0.038518	0.038123	0.037798	0.033966	0.030293	0.034798	2.390-005	1.972+000
20(0.94)	0.057517	0.056817	0.052869	0.044549	0.038603	0.038454	0.037131	0.034226	0.032434	0.036833	4.785-005	1.988+000
30(0.87)	0.057394	0.056686	0.052760	0.044507	0.038634	0.038896	0.036141	0.034357	0.035601	0.040502	7.161-005	2.016+000
40(0.77)	0.057096	0.056332	0.052365	0.044209	0.038428	0.039110	0.034916	0.034224	0.038701	0.046151	9.421-005	2.056+000
50(0.64)	0.056526	0.055616	0.051476	0.043457	0.037748	0.038539	0.033325	0.033514	0.040309	0.053101	1.129-004	2.115+000
60(0.50)	0.055597	0.054429	0.049924	0.042088	0.036410	0.036748	0.031030	0.031603	0.039077	0.056878	9.067-005	2.217+000
65(0.42)	0.054991	0.053648	0.048883	0.041161	0.035490	0.035378	0.029531	0.030014	0.037045	0.055103	5.866-005	2.323+000
70(0.34)	0.054295	0.052752	0.047681	0.040091	0.034436	0.033748	0.027798	0.027984	0.034014	0.049922	5.315-005	2.556+000
75(0.26)	0.053519	0.051757	0.046348	0.038911	0.033293	0.031928	0.025875	0.025578	0.030116	0.041574	4.347-005	3.242+000
80(0.17)	0.052677	0.050687	0.044921	0.037659	0.032121	0.030005	0.023833	0.022922	0.025638	0.031257	3.138-005	6.917+000
85(0.09)	0.051786	0.049569	0.043443	0.036381	0.030981	0.028066	0.021761	0.020171	0.020961	0.020768	2.330-005	2.365+002
90(-0.00)	0.050865	0.048429	0.041957	0.035118	0.029927	0.026187	0.019740	0.017477	0.016458	0.011818	1.965-005	0.000+000
95(-0.09)	0.049934	0.047293	0.040500	0.033904	0.028993	0.024424	0.017832	0.014949	0.012402	0.005412	1.657-005	0.000+000
100(-0.17)	0.049005	0.046183	0.039103	0.032764	0.028190	0.022812	0.016070	0.012641	0.008930	0.001620	1.410-005	0.000+000
105(-0.26)	0.048097	0.045115	0.037786	0.031713	0.027503	0.021363	0.014459	0.010560	0.006071	-0.000178	1.216-005	0.000+000
110(-0.34)	0.047221	0.044104	0.036561	0.030757	0.026907	0.020071	0.012987	0.008683	0.003802	-0.000812	1.061-005	0.000+000
115(-0.42)	0.046387	0.043156	0.035434	0.029896	0.026376	0.018927	0.011632	0.006983	0.002092	-0.000932	9.328-006	0.000+000
120(-0.50)	0.045601	0.042278	0.034407	0.029126	0.025890	0.017918	0.010373	0.005444	0.000906	-0.000872	1.234-005	0.000+000
130(-0.64)	0.044198	0.040742	0.032646	0.027843	0.025015	0.016262	0.008067	0.002869	-0.000170	-0.000570	1.278-005	0.000+000
140(-0.77)	0.043038	0.039504	0.031258	0.026872	0.024261	0.015070	0.005957	0.001101	-0.000254	-0.000218	9.719-006	0.000+000
150(-0.87)	0.042136	0.038561	0.030218	0.026181	0.023652	0.014381	0.004010	0.000206	-0.000124	-0.000038	7.039-006	0.000+000
160(-0.94)	0.041494	0.037901	0.029499	0.025727	0.023212	0.014211	0.002347	-0.000065	-0.000031	-0.000001	4.586-006	0.000+000
170(-0.98)	0.041111	0.037512	0.029078	0.025472	0.022951	0.014365	0.001218	-0.000097	0.000025	0.000000	2.265-006	0.000+000
177(-1.00)	0.040991	0.037391	0.028948	0.025394	0.022871	0.014471	0.000847	-0.000097	0.000043	0.000000	2.822-007	0.000+000
ENERGY SUM	0.634994	0.606442	0.527727	0.445732	0.388084	0.337872	0.255084	0.225259	0.231400	0.272525		

TOTAL DOSE RATE = 0.000785(MR/HR)

TOTAL DOSE BUILDUP= 2.831400

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.0570 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.052224	0.051015	0.047385	0.038620	0.033526	0.032643	0.033208	0.033209	0.030501	0.035069	2.561-006	2.199+000
10(0.98)	0.052170	0.050955	0.047320	0.038585	0.033484	0.032624	0.033129	0.033027	0.031003	0.035553	2.044-005	2.206+000
20(0.94)	0.051981	0.050740	0.047083	0.038436	0.033318	0.032558	0.032735	0.032448	0.032489	0.037121	4.047-005	2.228+000
30(0.87)	0.051614	0.050311	0.046589	0.038081	0.032942	0.032438	0.031838	0.031570	0.034314	0.039803	5.939-005	2.268+000
40(0.77)	0.051005	0.049576	0.045699	0.037390	0.032208	0.032111	0.030400	0.030433	0.035340	0.043559	7.573-005	2.333+000
50(0.64)	0.050084	0.048446	0.044277	0.036231	0.030960	0.031157	0.028357	0.028698	0.034506	0.047035	8.644-005	2.443+000
60(0.50)	0.048824	0.046884	0.042261	0.034550	0.029146	0.029204	0.025565	0.025801	0.031053	0.045378	6.440-005	2.671+000
65(0.42)	0.048074	0.045956	0.041054	0.033538	0.028072	0.027859	0.023887	0.023833	0.028202	0.040677	3.956-005	2.928+000
70(0.34)	0.047257	0.044949	0.039748	0.032449	0.026942	0.026642	0.022071	0.021578	0.024685	0.033224	3.380-005	3.219+000
75(0.26)	0.046385	0.043886	0.038379	0.031319	0.025810	0.024732	0.020188	0.019152	0.020740	0.024014	2.636-005	5.457+000
80(0.17)	0.045477	0.042792	0.036988	0.030188	0.024731	0.023114	0.018319	0.016704	0.016713	0.014769	1.951-005	1.970+001
85(0.09)	0.044547	0.041689	0.035609	0.029090	0.023758	0.021559	0.016541	0.014375	0.012957	0.007265	1.567-005	3.300+003
90(-0.00)	0.043615	0.040601	0.034273	0.028053	0.022927	0.020117	0.014901	0.012258	0.009720	0.002592	1.338-005	0.000+000
95(-0.09)	0.042689	0.039543	0.033002	0.027091	0.022256	0.018810	0.013416	0.010384	0.007082	0.000566	1.167-005	0.000+000
100(-0.17)	0.041787	0.038527	0.031808	0.026209	0.021735	0.017635	0.012074	0.008726	0.004986	0.000351	1.034-005	0.000+000
105(-0.26)	0.040916	0.037563	0.030694	0.025405	0.021333	0.016575	0.010844	0.007234	0.003325	0.000716	9.271-006	0.000+000
110(-0.34)	0.040085	0.036655	0.029661	0.024671	0.021009	0.015610	0.009696	0.005861	0.002022	0.000852	8.268-006	0.000+000
115(-0.42)	0.039300	0.035807	0.028709	0.024001	0.020726	0.014722	0.008606	0.004589	0.001054	0.000561	7.293-006	0.000+000
120(-0.50)	0.038566	0.035022	0.027835	0.023391	0.020459	0.013902	0.007565	0.003429	0.000415	0.000067	9.590-006	0.000+000
130(-0.64)	0.037266	0.033651	0.026326	0.022344	0.019940	0.012449	0.005624	0.001567	-0.000061	-0.000475	9.948-006	0.000+000
140(-0.77)	0.036209	0.032553	0.025134	0.021530	0.019459	0.011233	0.003885	0.000489	-0.000072	-0.000272	7.594-006	0.000+000
150(-0.87)	0.035399	0.031727	0.024251	0.020946	0.019060	0.010291	0.002397	0.000106	-0.000078	-0.000053	5.518-006	0.000+000
160(-0.94)	0.034833	0.031158	0.023652	0.020568	0.018774	0.009739	0.001300	0.000020	-0.000051	-0.000002	3.604-006	0.000+000
170(-0.98)	0.034498	0.030827	0.023306	0.020360	0.018609	0.009577	0.000717	-0.000067	0.000021	0.000000	1.783-006	0.000+000
177(-1.00)	0.034395	0.030725	0.023200	0.020298	0.018559	0.009574	0.000568	-0.000120	0.000052	0.000000	2.224-007	0.000+000
ENERGY SUM	0.549292	0.514785	0.440111	0.363727	0.310449	0.265964	0.204997	0.180867	0.182823	0.210312		

TOTAL DOSE RATE = 0.000583(MR/HR)

TOTAL DOSE BUILDUP= 3.317741

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.3212 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.045912	0.044437	0.041201	0.032787	0.028534	0.027634	0.028492	0.030699	0.029375	0.033726	2.168-006	2.424+000
10(0.98)	0.045829	0.044341	0.041091	0.032715	0.028447	0.027547	0.028477	0.030361	0.029684	0.034054	1.724-005	2.434+000
20(0.94)	0.045549	0.044019	0.040719	0.032457	0.028146	0.027262	0.028209	0.029362	0.030535	0.035076	3.380-005	2.465+000
30(0.87)	0.045047	0.043432	0.040022	0.031944	0.027564	0.026817	0.027366	0.027974	0.031282	0.036695	4.870-005	2.523+000
40(0.77)	0.044278	0.042516	0.038904	0.031080	0.026595	0.026179	0.025870	0.026325	0.030922	0.038694	6.037-005	2.627+000
50(0.64)	0.043206	0.041222	0.037283	0.029789	0.025147	0.025061	0.023715	0.024110	0.028751	0.039682	6.613-005	2.820+000
60(0.50)	0.041834	0.039558	0.035165	0.028076	0.023245	0.023163	0.020873	0.020880	0.024418	0.035316	4.640-005	3.264+000
69(0.42)	0.041052	0.038613	0.033960	0.027104	0.022189	0.021941	0.019237	0.018863	0.021410	0.029649	2.744-005	3.795+000
70(0.34)	0.040220	0.037617	0.032698	0.026094	0.021126	0.020611	0.017526	0.016672	0.017978	0.021890	2.259-005	5.093+000
79(0.26)	0.039354	0.036593	0.031416	0.025084	0.020106	0.019248	0.015819	0.014438	0.014386	0.013301	1.733-005	9.958+000
80(0.17)	0.038470	0.035562	0.030148	0.024108	0.019175	0.017925	0.014191	0.012303	0.010973	0.005677	1.322-005	6.113+001
89(0.09)	0.037583	0.034546	0.028923	0.023191	0.018373	0.016697	0.012702	0.010382	0.008040	0.000562	1.099-005	4.797+004
90(-0.00)	0.036705	0.033560	0.027763	0.022349	0.017722	0.015592	0.011379	0.008727	0.005733	-0.001496	9.625-006	0.000+000
99(-0.09)	0.035849	0.032615	0.026677	0.021586	0.017228	0.014611	0.010211	0.007321	0.004018	-0.001156	8.583-006	0.000+000
100(-0.17)	0.035027	0.031718	0.025668	0.020895	0.016873	0.013731	0.009164	0.006100	0.002743	0.000194	7.797-006	0.000+000
109(-0.26)	0.034232	0.030873	0.024732	0.020266	0.016622	0.012927	0.008194	0.004993	0.001752	0.001253	7.181-006	0.000+000
110(-0.34)	0.033484	0.030081	0.023865	0.019689	0.016432	0.012173	0.007270	0.003953	0.000965	0.001412	6.460-006	0.000+000
119(-0.42)	0.032783	0.029343	0.023065	0.019155	0.016268	0.011454	0.006373	0.002975	0.000383	0.000824	5.674-006	0.000+000
120(-0.50)	0.032131	0.028663	0.022329	0.018662	0.016107	0.010768	0.005504	0.002084	0.000025	0.000020	7.410-006	0.000+000
130(-0.64)	0.030991	0.027482	0.021059	0.017804	0.015778	0.009505	0.003884	0.000735	-0.000139	-0.000715	7.723-006	0.000+000
140(-0.77)	0.030079	0.026549	0.020068	0.017135	0.015470	0.008380	0.002479	0.000107	-0.000093	-0.000374	5.920-006	0.000+000
150(-0.87)	0.029392	0.025859	0.019349	0.016661	0.015222	0.007403	0.001353	0.000012	-0.000118	-0.000070	4.315-006	0.000+000
160(-0.94)	0.028920	0.025392	0.018873	0.016363	0.015054	0.006710	0.000638	0.000010	-0.000072	-0.000002	2.827-006	0.000+000
170(-0.98)	0.028645	0.025124	0.018603	0.016203	0.014962	0.006399	0.000386	-0.000109	0.000032	0.000001	1.403-006	0.000+000
177(-1.00)	0.028560	0.025042	0.018521	0.016156	0.014936	0.006340	0.000366	-0.000187	0.000000	0.000074	1.753-007	0.000+000
ENERGY SUM	0.465699	0.429706	0.362185	0.294314	0.247571	0.209619	0.164294	0.144875	0.144327	0.162327		

TOTAL DOSE RATE = 0.000441(MR/HR)

TOTAL DOSE BUILDUP= 3.830031

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.6425 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.018092	0.017416	0.016288	0.012464	0.011080	0.010750	0.011469	0.014781	0.015454	0.018169	8.351-007	3.505+000
10(0.98)	0.018042	0.017358	0.016218	0.012425	0.011013	0.010661	0.011623	0.014407	0.015315	0.017985	6.559-006	3.541+000
20(0.94)	0.017880	0.017167	0.015989	0.012282	0.010792	0.010305	0.011704	0.013337	0.014989	0.017344	1.234-005	3.672+000
30(0.87)	0.017601	0.016832	0.015584	0.011994	0.010390	0.009757	0.011223	0.012041	0.014333	0.016220	1.663-005	3.961+000
40(0.77)	0.017187	0.016324	0.014955	0.011500	0.009748	0.009252	0.010285	0.010847	0.012863	0.015258	1.893-005	4.621+000
50(0.64)	0.016619	0.015609	0.014041	0.010747	0.008800	0.008648	0.009040	0.009475	0.010741	0.015300	1.909-005	6.357+000
60(0.50)	0.015896	0.014694	0.012846	0.009747	0.007575	0.007598	0.007423	0.007465	0.008086	0.013098	1.231-005	1.216+001
65(0.42)	0.015488	0.014182	0.012179	0.009196	0.006936	0.006920	0.006496	0.006211	0.006358	0.009125	6.795-006	2.141+001
70(0.34)	0.015060	0.013653	0.011500	0.008652	0.006345	0.006224	0.005560	0.004899	0.004393	0.003298	4.993-006	5.361+001
75(0.26)	0.014622	0.013124	0.010840	0.008145	0.005844	0.005587	0.004695	0.003675	0.002455	-0.002782	3.581-006	3.392+002
80(0.17)	0.014184	0.012609	0.010220	0.007701	0.005457	0.005066	0.003974	0.002682	0.000912	-0.006843	2.966-006	2.765+004
85(0.09)	0.013754	0.012119	0.009655	0.007331	0.005188	0.004687	0.003431	0.001999	0.000023	-0.007305	2.625-006	4.394+010
90(-0.00)	0.013339	0.011658	0.009147	0.007026	0.005030	0.004428	0.003046	0.001598	-0.000234	-0.004406	2.430-006	0.000+000
95(-0.09)	0.012943	0.011226	0.008685	0.006769	0.004964	0.004238	0.002755	0.001360	-0.000151	-0.000162	2.369-006	0.000+000
100(-0.17)	0.012569	0.010821	0.008256	0.006532	0.004955	0.004054	0.002478	0.001135	-0.000101	0.002913	2.641-006	0.000+000
105(-0.26)	0.012220	0.010440	0.007847	0.006296	0.004958	0.003823	0.002151	0.000817	-0.000301	0.003366	2.483-006	0.000+000
110(-0.34)	0.011898	0.010083	0.007454	0.006047	0.004932	0.003525	0.001755	0.000386	-0.000707	0.001503	1.942-006	0.000+000
115(-0.42)	0.011608	0.009754	0.007081	0.005789	0.004853	0.003174	0.001312	-0.000095	-0.001107	-0.001170	1.534-006	0.000+000
120(-0.50)	0.011353	0.009458	0.006735	0.005532	0.004731	0.002808	0.000864	-0.000532	-0.001307	-0.003127	2.024-006	0.000+000
130(-0.64)	0.010956	0.008988	0.006179	0.005086	0.004462	0.002177	0.000109	-0.000972	-0.001085	-0.003107	2.085-006	0.000+000
140(-0.77)	0.010711	0.008695	0.005844	0.004803	0.004304	0.001693	-0.000402	-0.000760	-0.000792	-0.001084	1.616-006	0.000+000
150(-0.87)	0.010588	0.008553	0.005703	0.004687	0.004283	0.001167	-0.000715	-0.000340	-0.000596	-0.000151	1.212-006	0.000+000
160(-0.94)	0.010541	0.008506	0.005676	0.004681	0.004341	0.000677	-0.000702	-0.000276	-0.000197	-0.000003	8.155-007	0.000+000
170(-0.98)	0.010530	0.008500	0.005688	0.004712	0.004409	0.000474	-0.000297	-0.000556	0.000143	0.000001	4.208-007	0.000+000
177(-1.00)	0.010530	0.008502	0.005696	0.004727	0.004436	0.000461	-0.000035	-0.000714	0.000233	0.000000	5.362-008	0.000+000
ENERGY SUM	0.172393	0.152996	0.124332	0.096767	0.078156	0.063968	0.052681	0.046394	0.043736	0.044629		

TOTAL DOSE RATE = 0.000129(MR/HR)

TOTAL DOSE BUILDUP= 7.110305

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0075 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.049082	0.050976	0.046326	0.049138	0.040522	0.049322	0.042841	0.000127	0.000203	0.000850	4.447-006	1.223+000
10(0.98)	0.049266	0.051268	0.046742	0.049496	0.041088	0.050632	0.040902	0.003218	-0.000025	0.000648	3.591-005	1.223+000
20(0.94)	0.049878	0.052236	0.048123	0.050728	0.042973	0.054247	0.036878	0.011658	0.000201	0.000758	7.450-005	1.229+000
30(0.87)	0.050966	0.053940	0.050555	0.052954	0.046277	0.058310	0.034683	0.021554	0.004433	0.000972	1.196-004	1.245+000
40(0.77)	0.052564	0.056411	0.054107	0.056188	0.051100	0.061210	0.035972	0.030224	0.016905	0.002971	1.774-004	1.272+000
50(0.64)	0.054608	0.059499	0.058568	0.060145	0.057218	0.063251	0.040408	0.038591	0.037648	0.016644	2.604-004	1.317+000
60(0.50)	0.056863	0.062752	0.063209	0.064060	0.063680	0.065371	0.046595	0.048410	0.062381	0.063826	2.942-004	1.370+000
65(0.42)	0.057952	0.064222	0.065223	0.065613	0.066505	0.066255	0.049548	0.053415	0.074285	0.102684	2.439-004	1.380+000
70(0.34)	0.058946	0.065460	0.066808	0.066658	0.068722	0.066642	0.051815	0.057606	0.084230	0.144895	3.070-004	1.361+000
75(0.26)	0.059798	0.066384	0.067821	0.067043	0.070110	0.066204	0.052940	0.060128	0.090500	0.179088	3.970-004	1.305+000
80(0.17)	0.060476	0.066943	0.068172	0.066679	0.070505	0.064700	0.052596	0.060271	0.091462	0.192798	5.532-004	1.214+000
85(0.09)	0.060965	0.067124	0.067849	0.065564	0.069824	0.062061	0.050682	0.057737	0.086287	0.178476	9.732-004	1.106+000
90(-0.00)	0.061270	0.066955	0.066916	0.063790	0.068073	0.058414	0.047382	0.052789	0.075490	0.138111	8.073-005	0.000+000
95(-0.09)	0.061416	0.066500	0.065509	0.061531	0.065368	0.054062	0.043125	0.046200	0.060913	0.083111	6.296-005	0.000+000
100(-0.17)	0.061437	0.065847	0.063804	0.059010	0.061944	0.049417	0.038476	0.039006	0.045073	0.029187	4.461-005	0.000+000
105(-0.26)	0.061374	0.065092	0.061992	0.056455	0.058131	0.044905	0.033985	0.032179	0.030243	-0.010634	3.180-005	0.000+000
110(-0.34)	0.061267	0.064322	0.060238	0.054067	0.054292	0.040878	0.030062	0.026346	0.017812	-0.030845	2.471-005	0.000+000
115(-0.42)	0.061146	0.063605	0.058664	0.051988	0.050738	0.037569	0.026904	0.021678	0.008200	-0.033914	2.034-005	0.000+000
120(-0.50)	0.061033	0.062980	0.057338	0.050292	0.047667	0.035098	0.024504	0.017959	0.001243	-0.026924	2.603-005	0.000+000
130(-0.64)	0.060856	0.062052	0.055458	0.048055	0.043187	0.032791	0.021295	0.011675	-0.005831	-0.008925	2.635-005	0.000+000
140(-0.77)	0.060729	0.061468	0.054366	0.047015	0.040569	0.034007	0.018679	0.005145	-0.005559	-0.001325	2.000-005	0.000+000
150(-0.87)	0.060609	0.061073	0.053703	0.046633	0.039110	0.038162	0.015014	-0.000501	-0.002106	-0.000052	1.448-005	0.000+000
160(-0.94)	0.060485	0.060778	0.053257	0.046497	0.038248	0.043177	0.009427	-0.002633	0.000086	0.000012	9.434-006	0.000+000
170(-0.98)	0.060385	0.060580	0.052976	0.046424	0.037741	0.046617	0.003257	-0.001567	0.000388	-0.000040	4.718-006	0.000+000
177(-1.00)	0.060348	0.060512	0.052884	0.046396	0.037581	0.047641	0.000594	-0.000652	0.000271	0.000173	5.957-007	0.000+000
ENERGY SUM	0.738472	0.785605	0.751242	0.715034	0.694691	0.652555	0.447676	0.398447	0.434545	0.555500		

TOTAL DOSE RATE = 0.001023 (MR/HR)

TOTAL DOSE BUILDUP= 1.246000

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1251 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.053769	0.055669	0.051080	0.050615	0.042180	0.047972	0.043340	0.010445	0.008047	0.009973	4.302-006	1.331+000
10(0.98)	0.053926	0.055908	0.051416	0.050907	0.042623	0.048960	0.041880	0.012792	0.008229	0.010122	5.473-005	1.333+000
20(0.94)	0.054434	0.056683	0.052510	0.051881	0.044076	0.051732	0.038793	0.019140	0.009540	0.011128	7.169-005	1.341+000
30(0.87)	0.055298	0.057994	0.054367	0.053565	0.046559	0.054967	0.036948	0.026536	0.014395	0.013094	1.137-004	1.356+000
40(0.77)	0.056497	0.059800	0.056947	0.055880	0.050044	0.057353	0.037569	0.033038	0.025277	0.017706	1.650-004	1.380+000
50(0.64)	0.057932	0.061923	0.059991	0.058519	0.054242	0.058784	0.040329	0.039169	0.041432	0.031920	2.332-004	1.417+000
60(0.50)	0.059391	0.063978	0.062892	0.060857	0.058377	0.059684	0.044040	0.045801	0.059091	0.068807	2.471-004	1.456+000
65(0.42)	0.060039	0.064818	0.064012	0.061631	0.060037	0.059788	0.045634	0.048869	0.066897	0.096081	1.957-004	1.462+000
70(0.34)	0.060583	0.065443	0.064759	0.061983	0.061203	0.059422	0.046631	0.051135	0.072807	0.123720	2.314-004	1.447+000
75(0.26)	0.060993	0.065805	0.065043	0.061820	0.061743	0.058394	0.046733	0.052030	0.075670	0.143792	2.715-004	1.406+000
80(0.17)	0.061251	0.065875	0.064818	0.061100	0.061573	0.056581	0.045746	0.051120	0.074487	0.148252	3.115-004	1.346+000
85(0.09)	0.061352	0.065654	0.064094	0.059842	0.060666	0.053974	0.043644	0.048281	0.068882	0.132939	3.034-004	1.329+000
90(-0.00)	0.061306	0.065172	0.062932	0.058130	0.059055	0.050700	0.040596	0.043780	0.059426	0.100356	6.459-005	0.000+000
95(-0.09)	0.061136	0.064486	0.061445	0.056100	0.056837	0.046999	0.036933	0.038212	0.047555	0.059133	5.074-005	0.000+000
100(-0.17)	0.060873	0.063664	0.059768	0.053919	0.054177	0.043172	0.033063	0.032326	0.035092	0.020254	5.690-005	0.000+000
105(-0.26)	0.060551	0.062781	0.058040	0.051752	0.051296	0.039514	0.029371	0.026793	0.023619	-0.007678	2.727-005	0.000+000
110(-0.34)	0.060201	0.061900	0.056383	0.049739	0.048428	0.036266	0.026128	0.022025	0.014070	-0.021465	2.171-005	0.000+000
115(-0.42)	0.059850	0.061073	0.054882	0.047976	0.045773	0.033579	0.023457	0.018118	0.006709	-0.023515	1.812-005	0.000+000
120(-0.50)	0.059513	0.060330	0.053585	0.046512	0.043459	0.031523	0.021338	0.014908	0.001401	-0.018352	2.335-005	0.000+000
130(-0.64)	0.058916	0.059128	0.051617	0.044472	0.039985	0.029357	0.018242	0.009423	-0.003943	-0.006018	2.369-005	0.000+000
140(-0.77)	0.058422	0.058257	0.050316	0.043367	0.037815	0.029782	0.015576	0.004083	-0.003806	-0.000882	1.796-005	0.000+000
150(-0.87)	0.058013	0.057614	0.049433	0.042817	0.036493	0.032448	0.012202	-0.000222	-0.001424	-0.000042	1.298-005	0.000+000
160(-0.94)	0.057690	0.057145	0.048824	0.042531	0.035665	0.035957	0.007589	-0.001788	0.000063	0.000012	8.451-006	0.000+000
170(-0.98)	0.057478	0.056847	0.048450	0.042370	0.035174	0.038520	0.002799	-0.001051	0.000260	-0.000026	4.207-006	0.000+000
177(-1.00)	0.057407	0.056751	0.048331	0.042317	0.035020	0.039322	0.000785	-0.000418	0.000182	0.000099	5.292-007	0.000+000
ENERGY SUM	0.744566	0.776736	0.725690	0.670692	0.633733	0.584369	0.408099	0.362681	0.391524	0.494924		

TOTAL DOSE RATE = 0.002487 (MR/HR)

TOTAL DOSE BUILDUP= 1.594090

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2503 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.056723	0.058443	0.053915	0.050771	0.042629	0.046109	0.042998	0.018484	0.014558	0.017481	4.124-006	1.446+000
10(0.98)	0.056845	0.058625	0.054170	0.050996	0.042959	0.046827	0.041928	0.020192	0.015016	0.017875	3.325-005	1.449+000
20(0.94)	0.057233	0.059201	0.054981	0.051723	0.044023	0.048876	0.039600	0.024760	0.017002	0.019487	6.821-005	1.457+000
30(0.87)	0.057859	0.060132	0.056300	0.052914	0.045784	0.051351	0.038027	0.030027	0.022010	0.022598	1.069-004	1.473+000
40(0.77)	0.058670	0.061333	0.058016	0.054435	0.048134	0.053206	0.038073	0.034637	0.031199	0.028735	1.519-004	1.496+000
50(0.64)	0.059550	0.062614	0.059854	0.055983	0.050756	0.054073	0.039443	0.038806	0.043283	0.042406	2.069-004	1.527+000
60(0.50)	0.060317	0.063663	0.061323	0.057061	0.053040	0.054018	0.041157	0.042778	0.055062	0.070065	2.059-004	1.558+000
65(0.42)	0.060590	0.063986	0.061725	0.057229	0.053796	0.053543	0.041682	0.044294	0.059585	0.087916	1.558-004	1.565+000
70(0.34)	0.060759	0.064117	0.061810	0.057054	0.054162	0.052641	0.041703	0.045057	0.062549	0.104141	1.731-004	1.561+000
75(0.26)	0.060804	0.064030	0.061529	0.056490	0.054072	0.051219	0.041041	0.044721	0.062649	0.113555	1.847-004	1.551+000
80(0.17)	0.060720	0.063715	0.060868	0.055525	0.053499	0.049237	0.039601	0.043062	0.059963	0.111483	1.776-004	1.577+000
85(0.09)	0.060509	0.063184	0.059851	0.054193	0.052456	0.046731	0.037410	0.040078	0.054240	0.096216	1.145-004	2.104+000
90(-0.00)	0.060184	0.062467	0.058537	0.052568	0.050990	0.043819	0.034617	0.036020	0.046053	0.070426	5.118-005	0.000+000
95(-0.09)	0.059767	0.061612	0.057015	0.050756	0.049182	0.040687	0.031472	0.031337	0.036494	0.040410	4.058-005	0.000+000
100(-0.17)	0.059285	0.060672	0.055388	0.048875	0.047141	0.037544	0.028256	0.026546	0.026829	0.013428	3.036-005	0.000+000
105(-0.26)	0.058766	0.059703	0.053754	0.047041	0.045004	0.034590	0.025221	0.022085	0.018102	-0.005286	2.326-005	0.000+000
110(-0.34)	0.058234	0.058753	0.052199	0.045347	0.042909	0.031976	0.022539	0.018205	0.010901	-0.014200	1.894-005	0.000+000
115(-0.42)	0.057711	0.057857	0.050781	0.043854	0.040973	0.029792	0.020274	0.014949	0.005373	-0.015204	1.602-005	0.000+000
120(-0.50)	0.057210	0.057038	0.049530	0.042592	0.039268	0.028074	0.018401	0.012196	0.001409	-0.011861	2.076-005	0.000+000
130(-0.64)	0.056308	0.055658	0.047540	0.040744	0.036623	0.026042	0.015455	0.007468	-0.002526	-0.003867	2.113-005	0.000+000
140(-0.77)	0.055551	0.054595	0.046119	0.039621	0.034852	0.025866	0.012825	0.003170	-0.002481	-0.000570	1.601-005	0.000+000
150(-0.87)	0.054939	0.053790	0.045103	0.038967	0.033685	0.027364	0.009766	-0.000033	-0.000916	-0.000036	1.156-005	0.000+000
160(-0.94)	0.054478	0.053206	0.044395	0.038583	0.032919	0.029657	0.006003	-0.001149	0.000041	0.000011	7.520-006	0.000+000
170(-0.98)	0.054188	0.052846	0.043967	0.038364	0.032464	0.031479	0.002360	-0.000669	0.000167	-0.000016	3.730-006	0.000+000
177(-1.00)	0.054095	0.052732	0.043832	0.038295	0.032321	0.032083	0.000875	-0.000256	0.000118	0.000047	4.676-007	0.000+000
ENERGY SUM	0.736019	0.754530	0.690895	0.622284	0.573637	0.520003	0.369441	0.327899	0.350367	0.437701		

TOTAL DOSE RATE = 0.001844(MR/HR)

TOTAL DOSE BUILDUP= 1.824442

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5005 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.058036	0.059125	0.054760	0.048184	0.040824	0.041577	0.040510	0.027880	0.023090	0.027192	3.709-006	1.671+000
10(0.98)	0.058088	0.059203	0.054874	0.048293	0.040979	0.041921	0.039950	0.028680	0.023767	0.027803	2.981-005	1.674+000
20(0.94)	0.058240	0.059431	0.055212	0.048616	0.041453	0.042934	0.038612	0.030740	0.026147	0.029889	6.044-005	1.686+000
30(0.87)	0.058442	0.059740	0.055678	0.049057	0.042158	0.044222	0.037371	0.032999	0.030530	0.033793	9.264-005	1.704+000
40(0.77)	0.058614	0.060013	0.056111	0.049446	0.042922	0.045145	0.036615	0.034846	0.036543	0.040512	1.268-004	1.730+000
50(0.64)	0.058646	0.060084	0.056265	0.049531	0.043460	0.045141	0.036125	0.036144	0.042595	0.051282	1.618-004	1.763+000
60(0.50)	0.058420	0.059766	0.055847	0.049024	0.043426	0.043930	0.035291	0.036509	0.046406	0.065064	1.444-004	1.802+000
65(0.42)	0.058178	0.059411	0.055542	0.048472	0.043100	0.042834	0.034512	0.036057	0.046761	0.070624	1.007-004	1.829+000
70(0.34)	0.057841	0.058911	0.054616	0.047700	0.042542	0.041407	0.033390	0.035009	0.045732	0.072901	1.004-004	1.881+000
75(0.26)	0.057408	0.058267	0.053670	0.046715	0.041763	0.039669	0.031891	0.033287	0.043159	0.070182	9.164-005	2.024+000
80(0.17)	0.056886	0.057491	0.052523	0.045540	0.040795	0.037666	0.030033	0.030904	0.039071	0.061744	7.016-005	2.633+000
85(0.09)	0.056284	0.056602	0.051212	0.044217	0.039686	0.035470	0.027884	0.027976	0.033739	0.048437	4.180-005	1.359+001
90(-0.00)	0.055620	0.055631	0.049787	0.042801	0.038490	0.033179	0.025558	0.024704	0.027654	0.032631	3.274-005	0.000+000
95(-0.09)	0.054911	0.054608	0.048302	0.041352	0.037259	0.030896	0.023185	0.021328	0.021415	0.017405	2.654-005	0.000+000
100(-0.17)	0.054177	0.053568	0.046815	0.039930	0.036035	0.028719	0.020888	0.018070	0.015577	0.005377	2.103-005	0.000+000
105(-0.26)	0.053438	0.052542	0.045374	0.038584	0.034855	0.026723	0.018758	0.015086	0.010525	-0.002154	1.715-005	0.000+000
110(-0.34)	0.052710	0.051554	0.044017	0.037350	0.033746	0.024959	0.016845	0.012443	0.006441	-0.005402	1.448-005	0.000+000
115(-0.42)	0.052007	0.050622	0.042769	0.036251	0.032729	0.023446	0.015154	0.010131	0.003343	-0.005620	1.249-005	0.000+000
120(-0.50)	0.051338	0.049759	0.041642	0.035292	0.031814	0.022186	0.013656	0.008093	0.001140	-0.004343	1.635-005	0.000+000
130(-0.64)	0.050130	0.048256	0.039751	0.033776	0.030290	0.020386	0.011057	0.004612	-0.000916	-0.001494	1.676-005	0.000+000
140(-0.77)	0.049118	0.047048	0.038296	0.032715	0.029126	0.019527	0.008663	0.001853	-0.000951	-0.000264	1.270-005	0.000+000
150(-0.87)	0.048314	0.046118	0.037212	0.032000	0.028260	0.019591	0.006208	0.000130	-0.000349	-0.000035	9.164-006	0.000+000
160(-0.94)	0.047729	0.045455	0.036454	0.031543	0.027655	0.020310	0.003704	-0.000412	0.000006	0.000008	5.957-006	0.000+000
170(-0.98)	0.047373	0.045055	0.036003	0.031283	0.027294	0.021102	0.001630	-0.000251	0.000066	-0.000004	2.942-006	0.000+000
177(-1.00)	0.047261	0.044929	0.035863	0.031203	0.027182	0.021410	0.000851	-0.000105	0.000056	-0.000004	3.674-007	0.000+000
ENERGY SUM	0.688008	0.685718	0.608761	0.526976	0.467680	0.412529	0.301883	0.267436	0.280434	0.342324		

TOTAL DOSE RATE = 0.001213(MR/HR)

TOTAL DOSE
BUILDUP= 2.291048

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.7508 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.055382	0.055783	0.051664	0.043478	0.037024	0.036588	0.036682	0.031349	0.027235	0.031804	3.263-006	1.888+000
10(0.98)	0.055374	0.055779	0.051672	0.043500	0.037060	0.036709	0.036399	0.031593	0.027880	0.032415	2.614-005	1.893+000
20(0.94)	0.055332	0.055746	0.051665	0.043537	0.037145	0.037076	0.035599	0.032136	0.029966	0.034387	5.242-005	1.908+000
30(0.87)	0.055209	0.055615	0.051549	0.043486	0.037186	0.037551	0.034529	0.032566	0.033198	0.037946	7.873-005	1.934+000
40(0.77)	0.054930	0.055280	0.051171	0.043195	0.037020	0.037765	0.033316	0.032666	0.036598	0.043553	1.042-004	1.971+000
50(0.64)	0.054415	0.054623	0.050350	0.042483	0.036433	0.037193	0.031824	0.032165	0.038694	0.050718	1.259-004	2.024+000
60(0.50)	0.053598	0.053548	0.048936	0.041207	0.035266	0.035478	0.029722	0.030517	0.038031	0.055496	1.024-004	2.109+000
65(0.42)	0.053068	0.052844	0.047992	0.040346	0.034459	0.034188	0.028352	0.029091	0.036301	0.054553	6.684-005	2.195+000
70(0.34)	0.052460	0.052036	0.046900	0.039353	0.033529	0.032659	0.026764	0.027236	0.033568	0.050285	6.113-005	2.382+000
75(0.26)	0.051783	0.051138	0.045685	0.038255	0.032516	0.030954	0.024989	0.025003	0.029940	0.042737	5.034-005	2.924+000
80(0.17)	0.051048	0.050169	0.044378	0.037085	0.031468	0.029144	0.023090	0.022499	0.025668	0.032903	3.597-005	5.704+000
85(0.09)	0.050268	0.049152	0.043014	0.035882	0.030440	0.027307	0.021140	0.019866	0.021107	0.022459	2.579-005	1.481+002
90(-0.00)	0.049460	0.048109	0.041632	0.034683	0.029476	0.025512	0.019216	0.017246	0.016626	0.013148	2.156-005	0.000+000
95(-0.09)	0.048637	0.047065	0.040267	0.033523	0.028609	0.023814	0.017380	0.014756	0.012519	0.006153	1.797-005	0.000+000
100(-0.17)	0.047816	0.046040	0.038948	0.032427	0.027847	0.022249	0.015669	0.012461	0.008963	0.001775	1.505-005	0.000+000
105(-0.26)	0.047010	0.045049	0.037696	0.031410	0.027183	0.020834	0.014097	0.010383	0.006023	-0.000424	1.284-005	0.000+000
110(-0.34)	0.046228	0.044106	0.036526	0.030482	0.026596	0.019571	0.012659	0.008511	0.003701	-0.001212	1.113-005	0.000+000
115(-0.42)	0.045481	0.043220	0.035445	0.029645	0.026067	0.018454	0.011339	0.006822	0.001970	-0.001294	9.738-006	0.000+000
120(-0.50)	0.044775	0.042397	0.034458	0.028898	0.025581	0.017473	0.010115	0.005299	0.000785	-0.001114	1.284-005	0.000+000
130(-0.64)	0.043509	0.040950	0.032762	0.027655	0.024705	0.015881	0.007876	0.002758	-0.000258	-0.000609	1.324-005	0.000+000
140(-0.77)	0.042457	0.039778	0.031421	0.026717	0.023953	0.014760	0.005815	0.001016	-0.000301	-0.000195	1.004-005	0.000+000
150(-0.87)	0.041633	0.038878	0.030412	0.026048	0.023344	0.014145	0.003889	0.000142	-0.000130	-0.000041	7.260-006	0.000+000
160(-0.94)	0.041044	0.038243	0.029710	0.025607	0.022905	0.014033	0.002225	-0.000099	-0.000020	0.000004	4.723-006	0.000+000
170(-0.98)	0.040690	0.037865	0.029298	0.025359	0.022643	0.014220	0.001082	-0.000096	0.000030	0.000001	2.332-006	0.000+000
177(-1.00)	0.040580	0.037748	0.029170	0.025284	0.022562	0.014336	0.000703	-0.000080	0.000043	-0.000020	2.904-007	0.000+000
ENERGY SUM	0.617488	0.601869	0.522172	0.439075	0.379306	0.327918	0.245835	0.217539	0.224304	0.267731		

TOTAL DOSE RATE = 0.000872(MR/HR)

TOTAL DOSE BUILDUP= 2.665799

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.0010 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.050580	0.050416	0.046627	0.037992	0.032459	0.031628	0.032351	0.031353	0.028458	0.033078	2.823-006	2.099+000
10(0.98)	0.050528	0.050357	0.046563	0.037957	0.032420	0.031620	0.032214	0.031272	0.028962	0.033588	2.255-005	2.106+000
20(0.94)	0.050349	0.050148	0.046329	0.037809	0.032266	0.031597	0.031699	0.030937	0.030500	0.035170	4.475-005	2.126+000
30(0.87)	0.050007	0.049737	0.045850	0.037463	0.031918	0.031544	0.030726	0.030302	0.032534	0.037898	6.595-005	2.162+000
40(0.77)	0.049446	0.049044	0.045007	0.036799	0.031248	0.031276	0.029294	0.029359	0.033958	0.041841	8.464-005	2.220+000
50(0.64)	0.048616	0.047994	0.043680	0.035704	0.030116	0.030379	0.027340	0.027816	0.033598	0.045776	9.750-005	2.314+000
60(0.50)	0.047491	0.046558	0.041821	0.034130	0.028482	0.028523	0.024723	0.025162	0.030607	0.045117	7.357-005	2.499+000
65(0.42)	0.046825	0.045708	0.040711	0.033186	0.027517	0.027252	0.023160	0.023335	0.027992	0.041072	4.553-005	2.703+000
70(0.34)	0.046100	0.044787	0.039509	0.032168	0.026500	0.025818	0.021468	0.021224	0.024680	0.034244	3.912-005	3.168+000
75(0.26)	0.045326	0.043812	0.038244	0.031108	0.025476	0.024292	0.019705	0.018931	0.020914	0.025483	3.047-005	4.654+000
80(0.17)	0.044518	0.042805	0.036950	0.030042	0.024495	0.022749	0.017944	0.016589	0.017005	0.016397	2.210-005	1.481+001
85(0.09)	0.043689	0.041788	0.035659	0.028999	0.023603	0.021253	0.016248	0.014329	0.013287	0.008725	1.739-005	1.764+003
90(-0.00)	0.042853	0.040778	0.034397	0.028005	0.022833	0.019851	0.014666	0.012244	0.010013	0.003590	1.467-005	0.000+000
95(-0.09)	0.042022	0.039791	0.033187	0.027075	0.022203	0.018567	0.013218	0.010372	0.007291	0.001085	1.265-005	0.000+000
100(-0.17)	0.041207	0.038839	0.032040	0.026217	0.021706	0.017405	0.011899	0.008704	0.005103	0.000428	1.108-005	0.000+000
105(-0.26)	0.040417	0.037931	0.030966	0.025430	0.021317	0.016355	0.010688	0.007201	0.003573	0.000536	9.834-006	0.000+000
110(-0.34)	0.039661	0.037074	0.029966	0.024712	0.021001	0.015402	0.009561	0.005825	0.002034	0.000608	8.715-006	0.000+000
115(-0.42)	0.038943	0.036272	0.029041	0.024058	0.020724	0.014531	0.008496	0.004558	0.001056	0.000378	7.663-006	0.000+000
120(-0.50)	0.038270	0.035527	0.028193	0.023463	0.020462	0.013732	0.007481	0.003406	0.000416	-0.000020	1.006-005	0.000+000
130(-0.64)	0.037072	0.034220	0.026721	0.022442	0.019954	0.012331	0.005583	0.001560	-0.000069	-0.000446	1.041-005	0.000+000
140(-0.77)	0.036087	0.033164	0.025550	0.021643	0.019474	0.011172	0.003864	0.000484	-0.000090	-0.000235	7.925-006	0.000+000
150(-0.87)	0.035327	0.032361	0.024672	0.021059	0.019067	0.010286	0.002377	0.000093	-0.000080	-0.000051	5.744-006	0.000+000
160(-0.94)	0.034790	0.031801	0.024069	0.020673	0.018770	0.009773	0.001274	0.000004	-0.000040	0.000002	3.745-006	0.000+000
170(-0.98)	0.034471	0.031473	0.023718	0.020459	0.018505	0.009627	0.000682	-0.000069	0.000025	0.000002	1.852-006	0.000+000
177(-1.00)	0.034372	0.031371	0.023610	0.020394	0.018541	0.009627	0.000529	-0.000111	0.000051	-0.000021	2.307-007	0.000+000
ENERGY SUM	0.539126	0.515988	0.439714	0.361668	0.306427	0.261039	0.199603	0.176523	0.179283	0.209408		

TOTAL DOSE RATE = 0.000651(MR/HR)

TOTAL DOSE
BUILDUP= 3.091896

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.2513 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.044808	0.044263	0.040867	0.032492	0.027832	0.026976	0.028009	0.029461	0.027810	0.032255	2.412-006	2.304+000
10(0.98)	0.044729	0.044171	0.040760	0.032422	0.027749	0.026897	0.027948	0.029204	0.028145	0.032626	1.921-005	2.313+000
20(0.94)	0.044469	0.043861	0.040397	0.032171	0.027463	0.026652	0.027584	0.028395	0.029108	0.033726	3.775-005	2.341+000
30(0.87)	0.044004	0.043299	0.039724	0.031672	0.026914	0.026282	0.026682	0.027186	0.030123	0.035503	5.465-005	2.392+000
40(0.77)	0.043296	0.042430	0.038656	0.030840	0.026009	0.025726	0.025189	0.025680	0.030162	0.037815	6.822-005	2.481+000
50(0.64)	0.042321	0.041216	0.037128	0.029612	0.024669	0.024681	0.023100	0.023616	0.028383	0.039310	7.541-005	2.641+000
60(0.50)	0.041082	0.039666	0.035148	0.027996	0.022925	0.022878	0.020393	0.020571	0.024365	0.039724	5.349-005	2.997+000
65(0.42)	0.040378	0.038790	0.034026	0.027082	0.021962	0.021717	0.018845	0.018659	0.021499	0.039489	3.180-005	3.413+000
70(0.34)	0.039629	0.037866	0.032849	0.026131	0.020990	0.020449	0.017227	0.016572	0.018197	0.038085	2.621-005	4.412+000
75(0.26)	0.038850	0.036914	0.031648	0.025175	0.020053	0.019144	0.015607	0.014428	0.014705	0.036684	1.994-005	8.009+000
80(0.17)	0.038051	0.035954	0.030452	0.024246	0.019195	0.017867	0.014052	0.012357	0.011542	0.035020	1.490-005	4.218+001
85(0.09)	0.037247	0.035003	0.029289	0.023366	0.018448	0.016668	0.012614	0.010468	0.008394	0.031643	1.216-005	2.180+004
90(-0.00)	0.036448	0.034076	0.028176	0.022550	0.017837	0.015575	0.011319	0.008816	0.006020	-0.000818	1.052-005	0.000+000
95(-0.09)	0.035665	0.033183	0.027127	0.021804	0.017368	0.014593	0.010165	0.007393	0.004215	-0.000889	9.306-006	0.000+000
100(-0.17)	0.034906	0.032331	0.026145	0.021125	0.017029	0.013710	0.009124	0.006151	0.002861	0.000166	8.380-006	0.000+000
105(-0.26)	0.034177	0.031526	0.025231	0.020506	0.016789	0.012903	0.008163	0.005029	0.001824	0.001104	7.673-006	0.000+000
110(-0.34)	0.033485	0.030770	0.024382	0.019938	0.016610	0.012153	0.007252	0.003985	0.001025	0.001289	6.888-006	0.000+000
115(-0.42)	0.032833	0.030064	0.023597	0.019414	0.016459	0.011446	0.006373	0.003010	0.000448	0.000794	6.047-006	0.000+000
120(-0.50)	0.032224	0.029411	0.022875	0.018931	0.016311	0.010777	0.005522	0.002125	0.000096	0.000076	7.882-006	0.000+000
130(-0.64)	0.031152	0.028271	0.021621	0.018088	0.016003	0.009551	0.003927	0.000779	-0.000096	-0.000614	8.162-006	0.000+000
140(-0.77)	0.030282	0.027359	0.020628	0.017418	0.015697	0.008461	0.002520	0.000140	-0.000084	-0.000320	6.236-006	0.000+000
150(-0.87)	0.029620	0.026675	0.019895	0.016929	0.015436	0.007517	0.001382	0.000025	-0.000108	-0.000064	4.534-006	0.000+000
160(-0.94)	0.029159	0.026206	0.019399	0.016608	0.015251	0.006842	0.000657	0.000010	-0.000057	0.000000	2.964-006	0.000+000
170(-0.98)	0.028888	0.025934	0.019114	0.016434	0.015145	0.006531	0.000396	-0.000099	0.000035	0.000003	1.470-006	0.000+000
177(-1.00)	0.028804	0.025850	0.019027	0.016382	0.015113	0.006470	0.000373	-0.000167	0.000070	-0.000019	1.834-007	0.000+000
ENERGY SUM	0.461501	0.435074	0.365495	0.295504	0.246832	0.208005	0.161649	0.142925	0.143196	0.163812		

TOTAL DOSE RATE = 0.000496(MR/HR)

TOTAL DOSE
BUILDUP= 3.537670

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.5026 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.018730	0.018340	0.017069	0.012937	0.011278	0.010965	0.011425	0.014987	0.015775	0.018603	9.814-007	3.280+000
10(0.98)	0.018677	0.018275	0.016990	0.012890	0.011205	0.010863	0.011934	0.014666	0.015633	0.018485	7.718-006	3.311+000
20(0.94)	0.018504	0.018065	0.016728	0.012721	0.010963	0.010497	0.011940	0.013686	0.015299	0.017950	1.456-005	3.419+000
30(0.87)	0.018206	0.017697	0.016270	0.012388	0.010530	0.009966	0.011429	0.012398	0.014676	0.016953	1.968-005	3.654+000
40(0.77)	0.017769	0.017148	0.015577	0.011848	0.009860	0.009461	0.010468	0.011128	0.013271	0.016003	2.244-005	4.180+000
50(0.64)	0.017185	0.016402	0.014619	0.011072	0.008915	0.008835	0.009183	0.009663	0.011082	0.015693	2.247-005	5.514+000
60(0.50)	0.016464	0.015479	0.013422	0.010093	0.007756	0.007809	0.007560	0.007607	0.008251	0.013118	1.426-005	9.756+000
69(0.42)	0.016064	0.014972	0.012770	0.009567	0.007168	0.007171	0.006655	0.006363	0.006489	0.009197	7.824-006	1.622+001
70(0.34)	0.015647	0.014453	0.012112	0.009051	0.006626	0.006521	0.005752	0.005081	0.004551	0.003605	5.762-006	3.763+001
75(0.26)	0.015222	0.013934	0.011470	0.008571	0.006165	0.005921	0.004918	0.003890	0.002671	-0.002181	4.099-006	2.071+002
80(0.17)	0.014797	0.013428	0.010863	0.008145	0.005801	0.005418	0.004210	0.002911	0.001165	-0.006084	3.399-006	1.297+004
85(0.09)	0.014379	0.012943	0.010306	0.007782	0.005539	0.005028	0.003655	0.002208	0.000251	-0.006660	2.995-006	9.224+009
90(-0.00)	0.013974	0.012484	0.009791	0.007477	0.005375	0.004739	0.003238	0.001760	-0.000088	-0.004123	2.747-006	0.000+000
95(-0.09)	0.013585	0.012053	0.009321	0.007214	0.005294	0.004510	0.002908	0.001466	-0.000095	-0.000299	2.633-006	0.000+000
100(-0.17)	0.013217	0.011647	0.008885	0.006974	0.005272	0.004291	0.002599	0.001201	-0.000087	0.002534	2.879-006	0.000+000
105(-0.26)	0.012871	0.011265	0.008473	0.006739	0.005273	0.004043	0.002261	0.000874	-0.000255	0.003041	2.720-006	0.000+000
110(-0.34)	0.012550	0.010908	0.008081	0.006499	0.005260	0.003745	0.001874	0.000463	-0.000580	0.001457	2.169-006	0.000+000
115(-0.42)	0.012256	0.010578	0.007711	0.006253	0.005210	0.003407	0.001449	0.000012	-0.000899	-0.000893	1.711-006	0.000+000
120(-0.50)	0.011994	0.010278	0.007367	0.006009	0.005125	0.003055	0.001019	-0.000399	-0.001065	-0.002646	2.264-006	0.000+000
130(-0.64)	0.011567	0.009785	0.006794	0.005570	0.004917	0.002426	0.000266	-0.000829	-0.000923	-0.002688	2.333-006	0.000+000
140(-0.77)	0.011275	0.009449	0.006408	0.005258	0.004775	0.001914	-0.000277	-0.000655	-0.000713	-0.000928	1.792-006	0.000+000
150(-0.87)	0.011098	0.009255	0.006197	0.005086	0.004735	0.001369	-0.000614	-0.000291	-0.000514	-0.000133	1.352-006	0.000+000
160(-0.94)	0.011005	0.009161	0.006105	0.005023	0.004743	0.000849	-0.000620	-0.000240	-0.000140	0.000000	8.895-007	0.000+000
170(-0.98)	0.010963	0.009124	0.006075	0.005018	0.004808	0.000590	-0.000257	-0.000457	0.000141	0.000004	4.557-007	0.000+000
177(-1.00)	0.010952	0.009115	0.006069	0.005023	0.004825	0.000549	-0.000022	-0.000572	0.000207	-0.000024	5.789-008	0.000+000
ENERGY SUM	0.179930	0.163107	0.132016	0.102022	0.081990	0.067019	0.054709	0.048409	0.046045	0.048142		

TOTAL DOSE RATE = 0.000150(MR/HR)

TOTAL DOSE BUILDUP= 6.300316

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0052 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.043821	0.045283	0.035739	0.038655	0.040948	0.023631	-0.002216	-0.000897	0.000271	0.000323	7.070-006	1.140+000
10(0.98)	0.044153	0.045507	0.036051	0.039114	0.040780	0.023576	0.000195	-0.001113	0.000225	0.000333	5.710-005	1.140+000
20(0.94)	0.045166	0.046210	0.037091	0.040739	0.039745	0.023539	0.006943	-0.000464	-0.000004	0.000366	1.183-004	1.144+000
30(0.87)	0.046797	0.047451	0.038638	0.043773	0.037943	0.024139	0.015161	0.004163	0.000236	0.000455	1.896-004	1.157+000
40(0.77)	0.048786	0.048841	0.041131	0.048379	0.036566	0.026061	0.022386	0.014211	0.004706	0.001476	2.817-004	1.184+000
50(0.64)	0.050835	0.050423	0.043600	0.053569	0.036462	0.029182	0.028431	0.027242	0.019454	0.009869	4.156-004	1.231+000
60(0.50)	0.052531	0.051443	0.045728	0.057081	0.037183	0.032504	0.033913	0.039552	0.044779	0.042401	4.744-004	1.292+000
65(0.42)	0.053115	0.051953	0.046482	0.057600	0.037477	0.033795	0.036196	0.044507	0.058248	0.070764	3.961-004	1.310+000
70(0.34)	0.053465	0.051991	0.046934	0.057210	0.037512	0.034589	0.037813	0.048125	0.069439	0.102510	5.027-004	1.301+000
75(0.26)	0.053552	0.051722	0.047028	0.056001	0.037161	0.034737	0.038470	0.049930	0.076242	0.128911	6.565-004	1.257+000
80(0.17)	0.053368	0.051139	0.046731	0.054133	0.036347	0.034152	0.037967	0.049523	0.077144	0.140059	9.272-004	1.180+000
85(0.09)	0.052920	0.050256	0.046042	0.051794	0.035061	0.032836	0.036257	0.046767	0.071662	0.129711	1.671-003	1.088+000
90(-0.00)	0.052236	0.049113	0.044996	0.049180	0.033356	0.030883	0.033483	0.041905	0.060550	0.099191	1.138-004	0.000+000
95(-0.09)	0.051359	0.047764	0.043654	0.046487	0.031341	0.028467	0.029941	0.035533	0.045641	0.057493	8.478-005	0.000+000
100(-0.17)	0.050344	0.046293	0.042098	0.043917	0.029154	0.025806	0.026015	0.028436	0.029477	0.017146	5.519-005	0.000+000
105(-0.26)	0.049249	0.044765	0.040414	0.041673	0.026940	0.023125	0.022077	0.021352	0.014470	-0.011668	3.584-005	0.000+000
110(-0.34)	0.048153	0.043257	0.038684	0.039933	0.024827	0.020610	0.018408	0.014807	0.002541	-0.025104	2.682-005	0.000+000
115(-0.42)	0.047047	0.041435	0.036982	0.038813	0.022909	0.018385	0.015139	0.009074	-0.005309	-0.025714	2.125-005	0.000+000
120(-0.50)	0.046032	0.040547	0.035368	0.038314	0.021241	0.016497	0.012252	0.004263	-0.009033	-0.019376	2.627-005	0.000+000
130(-0.64)	0.044318	0.038477	0.032570	0.038577	0.018718	0.013568	0.007099	-0.002214	-0.007586	-0.005691	2.526-005	0.000+000
140(-0.77)	0.043081	0.037187	0.030463	0.038902	0.017238	0.010966	0.002229	-0.003902	-0.002562	-0.000691	1.852-005	0.000+000
150(-0.87)	0.042276	0.036249	0.029005	0.038167	0.017216	0.009415	-0.001340	-0.002014	-0.000031	-0.000019	1.315-005	0.000+000
160(-0.94)	0.041802	0.035795	0.028052	0.036862	0.018928	0.009345	-0.002007	0.000147	0.000206	0.000001	8.550-006	0.000+000
170(-0.98)	0.041561	0.035589	0.027497	0.035866	0.021696	-0.002777	-0.000503	0.000841	0.000040	-0.000000	4.323-006	0.000+000
177(-1.00)	0.041493	0.035538	0.027323	0.035546	0.023019	-0.004858	0.000409	0.000834	-0.000005	0.000000	5.461-007	0.000+000
ENERGY SUM	0.612895	0.574757	0.500992	0.580255	0.377615	0.296145	0.265021	0.267338	0.303474	0.386808		

TOTAL DOSE RATE = 0.008992(MR/HR)

TOTAL DOSE BUILDUP= 1.172670

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2,000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,0874 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,106	0,147	0,203	0,253	0,350	0,486	0,673	0,933	1,294	1,794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,045181	0,044893	0,035277	0,037389	0,038890	0,025776	0,003648	0,003042	0,004017	0,004967	6,830-006	1,196+000
10(0,98)	0,045431	0,045053	0,035520	0,037766	0,038780	0,025588	0,005632	0,003083	0,004109	0,005110	5,519-005	1,198+000
20(0,94)	0,044202	0,045554	0,036317	0,039031	0,038084	0,025208	0,011126	0,004236	0,004394	0,005604	1,141-004	1,205+000
30(0,87)	0,047383	0,046349	0,037638	0,041371	0,036707	0,025312	0,017719	0,008742	0,005517	0,006599	1,817-004	1,219+000
40(0,77)	0,048800	0,047353	0,039341	0,044897	0,035474	0,026493	0,023425	0,017386	0,010431	0,009043	2,660-004	1,244+000
50(0,64)	0,050184	0,048348	0,041121	0,048849	0,035035	0,028598	0,028065	0,027962	0,023378	0,018095	3,822-004	1,287+000
60(0,50)	0,051209	0,048978	0,042571	0,051454	0,035084	0,030763	0,032031	0,037419	0,043696	0,045740	4,169-004	1,339+000
65(0,42)	0,051485	0,049032	0,043032	0,051761	0,035016	0,031506	0,033546	0,040980	0,053899	0,068038	3,369-004	1,353+000
70(0,34)	0,051561	0,048859	0,043247	0,051327	0,034729	0,031828	0,034469	0,043346	0,061932	0,091876	4,090-004	1,346+000
75(0,26)	0,051420	0,048439	0,043177	0,050220	0,034131	0,031620	0,034585	0,044171	0,066199	0,110419	4,980-004	1,310+000
80(0,17)	0,051057	0,047764	0,042801	0,048548	0,033172	0,030826	0,033756	0,043183	0,065642	0,116300	6,110-004	1,248+000
85(0,09)	0,050483	0,046863	0,042122	0,046527	0,031854	0,029459	0,031972	0,040326	0,060038	0,105302	7,124-004	1,190+000
90(-0,00)	0,049726	0,045764	0,041172	0,044260	0,030226	0,027604	0,029365	0,035839	0,050125	0,079115	9,563-005	0,000+000
95(-0,09)	0,048821	0,044514	0,040000	0,041934	0,028376	0,025405	0,026182	0,030225	0,037465	0,045139	7,146-005	0,000+000
100(-0,17)	0,047814	0,043174	0,038672	0,039717	0,026417	0,023037	0,022730	0,024114	0,024056	0,013128	4,735-005	0,000+000
105(-0,26)	0,046755	0,041805	0,037255	0,037775	0,024461	0,020676	0,019299	0,018091	0,011832	-0,009298	3,169-005	0,000+000
110(-0,34)	0,045690	0,040464	0,035814	0,036253	0,022607	0,018463	0,016103	0,012563	0,002234	-0,019529	2,412-005	0,000+000
115(-0,42)	0,044661	0,039211	0,034402	0,035246	0,020925	0,016491	0,013239	0,007745	-0,004016	-0,019823	1,935-005	0,000+000
120(-0,50)	0,043700	0,038073	0,033066	0,034762	0,019455	0,014790	0,010689	0,003728	-0,006954	-0,014844	2,410-005	0,000+000
130(-0,64)	0,042064	0,036226	0,030742	0,034902	0,017184	0,012055	0,006140	-0,001614	-0,005824	-0,004323	2,334-005	0,000+000
140(-0,77)	0,040853	0,034952	0,028970	0,035238	0,015791	0,009573	0,001971	-0,002997	-0,001949	-0,000523	1,715-005	0,000+000
150(-0,87)	0,040034	0,034144	0,027719	0,034803	0,015456	0,006384	-0,000978	-0,001538	-0,000036	-0,000015	1,219-005	0,000+000
160(-0,94)	0,039526	0,033676	0,026885	0,033885	0,016511	0,002127	-0,001533	0,000117	0,000136	0,000001	7,914-006	0,000+000
170(-0,98)	0,039255	0,033444	0,026393	0,033150	0,018437	-0,002007	-0,000372	0,000639	0,000030	-0,000000	3,980-006	0,000+000
177(-1,00)	0,039176	0,033381	0,026238	0,032908	0,019382	-0,003657	0,000332	0,000631	-0,000003	0,000000	5,016-007	0,000+000
ENERGY SUM	0,591300	0,543525	0,468440	0,527781	0,350241	0,276321	0,247151	0,248487	0,280840	0,356621		

TOTAL DOSE RATE = 0.004413 (MR/HR)

TOTAL DOSE BUILDUP= 1.386580

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.1748 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.045785	0.044008	0.034455	0.035899	0.036728	0.027269	0.008645	0.006561	0.007374	0.009106	6.592-006	1.260+000
10(0.98)	0.045962	0.044112	0.034634	0.036184	0.036693	0.026982	0.010238	0.006800	0.007576	0.009355	5.321-005	1.262+000
20(0.94)	0.046499	0.044434	0.035215	0.037134	0.036262	0.026336	0.014592	0.008303	0.008266	0.010214	1.096-004	1.270+000
30(0.87)	0.047300	0.044929	0.036162	0.038866	0.035232	0.026029	0.019721	0.012574	0.010050	0.011910	1.731-004	1.285+000
40(0.77)	0.048214	0.045513	0.037351	0.041455	0.034122	0.026569	0.024060	0.019867	0.015154	0.015395	2.496-004	1.309+000
50(0.64)	0.049021	0.046008	0.038537	0.044334	0.033412	0.027788	0.027440	0.028213	0.026304	0.024650	3.492-004	1.347+000
60(0.50)	0.049469	0.046142	0.039409	0.046153	0.032911	0.028955	0.030074	0.035151	0.042108	0.047626	3.638-004	1.391+000
65(0.42)	0.049484	0.045985	0.039624	0.046279	0.032548	0.029230	0.030926	0.037504	0.049488	0.064557	2.843-004	1.405+000
70(0.34)	0.049331	0.045643	0.039643	0.045814	0.032002	0.029156	0.031260	0.038805	0.054820	0.081579	3.297-004	1.401+000
75(0.26)	0.049080	0.045104	0.039441	0.044806	0.031211	0.028656	0.030927	0.038814	0.056972	0.093515	3.738-004	1.379+000
80(0.17)	0.048492	0.044372	0.039007	0.043355	0.030148	0.027699	0.029842	0.037368	0.055261	0.095151	3.993-004	1.350+000
85(0.09)	0.047820	0.043464	0.038348	0.041589	0.028822	0.026306	0.028021	0.034474	0.049669	0.083923	3.149-004	1.434+000
90(-0.00)	0.047009	0.042411	0.037489	0.039642	0.027276	0.024553	0.025585	0.030361	0.040903	0.061742	7.953-005	0.000+000
95(-0.09)	0.046090	0.041255	0.036474	0.037651	0.025584	0.022557	0.022736	0.025447	0.030258	0.034567	5.965-005	0.000+000
100(-0.17)	0.045102	0.040042	0.035351	0.035756	0.023833	0.020456	0.019714	0.020229	0.019306	0.009757	4.033-005	0.000+000
105(-0.26)	0.044083	0.038822	0.034172	0.034089	0.022110	0.018382	0.016740	0.015154	0.009515	-0.007223	2.785-005	0.000+000
110(-0.34)	0.043072	0.037640	0.032985	0.032767	0.020487	0.016441	0.013971	0.010534	0.001941	-0.014768	2.157-005	0.000+000
115(-0.42)	0.042100	0.036533	0.031831	0.031866	0.019014	0.014697	0.011475	0.006531	-0.002932	-0.014836	1.751-005	0.000+000
120(-0.50)	0.041194	0.035530	0.030740	0.031399	0.017719	0.013167	0.009236	0.003219	-0.005198	-0.011034	2.198-005	0.000+000
130(-0.64)	0.039640	0.033886	0.028837	0.031429	0.015672	0.010624	0.005249	-0.001123	-0.004344	-0.003192	2.143-005	0.000+000
140(-0.77)	0.038465	0.032720	0.027366	0.031756	0.014317	0.008276	0.001718	-0.002237	-0.001442	-0.000389	1.578-005	0.000+000
150(-0.87)	0.037643	0.031948	0.026305	0.031559	0.013770	0.005433	-0.000681	-0.001142	-0.000027	-0.000012	1.124-005	0.000+000
160(-0.94)	0.037114	0.031473	0.025583	0.030964	0.014277	0.001901	-0.001137	0.000090	0.000114	0.000000	7.281-006	0.000+000
170(-0.98)	0.036822	0.031223	0.025152	0.030451	0.015497	-0.001373	-0.000268	0.000471	0.000023	-0.000000	3.645-006	0.000+000
177(-1.00)	0.036735	0.031151	0.025015	0.030277	0.016123	-0.002652	0.000259	0.000463	-0.000002	0.000000	4.583-007	0.000+000
ENERGY SUM	0.565862	0.510681	0.435539	0.477763	0.323196	0.256530	0.229365	0.229851	0.258611	0.327080		

TOTAL DOSE RATE = 0.003335(MR/HR)

TOTAL DOSE BUILDUP= 1.513261

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.3497 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.045069	0.041228	0.032105	0.032618	0.032632	0.028415	0.015567	0.011838	0.012441	0.015303	6.080-006	1.384+000
10(0.98)	0.045133	0.041251	0.032187	0.032765	0.032678	0.028024	0.016540	0.012295	0.012774	0.015679	4.896-005	1.387+000
20(0.94)	0.045318	0.041311	0.032444	0.033242	0.032569	0.027073	0.019116	0.014086	0.013935	0.016966	1.000-004	1.396+000
30(0.87)	0.045551	0.041368	0.032838	0.034084	0.031991	0.026222	0.021990	0.017688	0.016400	0.019441	1.555-004	1.413+000
40(0.77)	0.045724	0.041352	0.033277	0.035313	0.031060	0.025842	0.024230	0.022688	0.021299	0.023925	2.182-004	1.437+000
50(0.64)	0.045697	0.041147	0.033614	0.036636	0.030005	0.025772	0.025686	0.027557	0.029248	0.032554	2.906-004	1.471+000
60(0.50)	0.045329	0.040609	0.033676	0.037320	0.028793	0.025510	0.026349	0.030734	0.038146	0.047720	2.781-004	1.509+000
69(0.42)	0.044983	0.040176	0.033555	0.037193	0.028055	0.025134	0.026254	0.031346	0.041399	0.056617	2.041-004	1.524+000
70(0.34)	0.044519	0.039621	0.033315	0.036700	0.027189	0.024521	0.025772	0.031155	0.042923	0.063877	2.170-004	1.538+000
79(0.26)	0.043938	0.038946	0.032949	0.035865	0.026177	0.023643	0.024843	0.030075	0.042221	0.066750	2.160-004	1.565+000
80(0.17)	0.043248	0.038160	0.032458	0.034744	0.025018	0.022498	0.023455	0.028086	0.039122	0.063028	1.832-004	1.695+000
85(0.09)	0.042464	0.037281	0.031852	0.033420	0.023731	0.021118	0.021653	0.025272	0.033854	0.052307	9.659-005	3.270+000
90(-0.00)	0.041605	0.036333	0.031153	0.031983	0.022352	0.019561	0.019535	0.021833	0.027030	0.036565	5.516-005	0.000+000
95(-0.09)	0.040696	0.035344	0.030386	0.030525	0.020929	0.017903	0.017235	0.018050	0.019522	0.019535	4.179-005	0.000+000
100(-0.17)	0.039762	0.034345	0.029581	0.029138	0.019513	0.016225	0.014894	0.014223	0.012270	0.005133	2.952-005	0.000+000
105(-0.26)	0.038829	0.033365	0.028765	0.027906	0.018151	0.014599	0.012632	0.010606	0.006075	-0.004159	2.165-005	0.000+000
110(-0.34)	0.037921	0.032429	0.027963	0.026904	0.016891	0.013079	0.010527	0.007371	0.001448	-0.008823	1.731-005	0.000+000
115(-0.42)	0.037057	0.031558	0.027194	0.026180	0.015727	0.011690	0.008611	0.004609	-0.001445	-0.007879	1.435-005	0.000+000
120(-0.50)	0.036252	0.030767	0.026472	0.025751	0.014696	0.010436	0.006873	0.002364	-0.002760	-0.005790	1.824-005	0.000+000
130(-0.64)	0.034857	0.029447	0.025205	0.025614	0.012993	0.008234	0.003806	-0.000477	-0.002307	-0.001686	1.800-005	0.000+000
140(-0.77)	0.033769	0.028461	0.024197	0.025881	0.011719	0.006163	0.001281	-0.001191	-0.000753	-0.000224	1.333-005	0.000+000
150(-0.87)	0.032972	0.027761	0.023439	0.025976	0.010902	0.003905	-0.000290	-0.000604	-0.000022	-0.000011	9.505-006	0.000+000
160(-0.94)	0.032436	0.027295	0.022904	0.025817	0.010674	0.001481	-0.000598	0.000045	0.000039	0.000000	6.153-006	0.000+000
170(-0.98)	0.032127	0.027030	0.022577	0.025616	0.010928	-0.000536	-0.000142	0.000243	0.000015	0.000000	3.055-006	0.000+000
177(-1.00)	0.032033	0.026950	0.022472	0.025540	0.011117	-0.001283	0.000134	0.000241	0.000003	0.000000	3.827-007	0.000+000
ENERGY SUM	0.516728	0.447433	0.375141	0.392944	0.274977	0.220719	0.197300	0.196566	0.219290	0.275118		

TOTAL DOSE RATE = 0.002263(MR/HR)

TOTAL DOSE BUILDUP= 1.733099

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 0.5245 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.106	0.147	0.205	0.255	1.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.042667	0.037673	0.029224	0.029190	0.028855	0.027886	0.019429	0.015223	0.015739	0.019287	5.546-006	1.504+000
10(0.99)	0.042656	0.037649	0.029241	0.029244	0.028925	0.027470	0.019958	0.015741	0.016118	0.019709	4.456-005	1.507+000
20(0.94)	0.042606	0.037532	0.029285	0.029410	0.028955	0.026415	0.021282	0.017473	0.017434	0.021136	9.052-005	1.519+000
30(0.87)	0.042467	0.037318	0.029321	0.029681	0.028615	0.025284	0.022597	0.020297	0.020009	0.023814	1.384-004	1.538+000
40(0.77)	0.042166	0.036935	0.029280	0.030051	0.027802	0.024544	0.023392	0.023490	0.024221	0.028348	1.892-004	1.566+000
50(0.64)	0.041622	0.036322	0.029100	0.030394	0.026530	0.023469	0.023542	0.025905	0.029544	0.035592	2.410-004	1.602+000
60(0.50)	0.040769	0.035413	0.028685	0.030369	0.025040	0.022540	0.022932	0.026607	0.033699	0.044758	2.137-004	1.644+000
65(0.42)	0.040218	0.034842	0.028378	0.030093	0.024116	0.021587	0.022261	0.026138	0.034336	0.048344	1.480-004	1.672+000
70(0.34)	0.039588	0.034192	0.028002	0.029606	0.023113	0.020678	0.021509	0.025072	0.033581	0.049585	1.456-004	1.720+000
75(0.26)	0.038880	0.033472	0.027563	0.029013	0.022027	0.019614	0.020071	0.023415	0.031319	0.047295	1.297-004	1.846+000
80(0.17)	0.038111	0.032696	0.027067	0.028345	0.020874	0.018410	0.018573	0.021224	0.027661	0.041042	9.424-005	2.386+000
85(0.09)	0.037294	0.031874	0.026528	0.027652	0.019674	0.017099	0.016869	0.018615	0.022941	0.031542	5.134-005	1.292+001
90(-0.00)	0.036448	0.031037	0.025958	0.026990	0.018457	0.015724	0.015038	0.015753	0.017659	0.020564	3.848-005	0.000+000
95(-0.09)	0.035574	0.030194	0.025375	0.026322	0.017252	0.014353	0.013162	0.012822	0.012584	0.010289	2.958-005	0.000+000
100(-0.17)	0.034718	0.029364	0.024794	0.025704	0.016048	0.012968	0.011320	0.009994	0.007638	0.002471	2.194-005	0.000+000
105(-0.26)	0.033865	0.028565	0.024228	0.025091	0.014888	0.011666	0.009570	0.007399	0.003801	-0.002149	1.699-005	0.000+000
110(-0.34)	0.033054	0.027812	0.023687	0.024526	0.013958	0.010447	0.007945	0.005125	0.001063	-0.003895	1.395-005	0.000+000
115(-0.42)	0.032288	0.027115	0.023178	0.024041	0.013056	0.009317	0.006453	0.003214	-0.000588	-0.003741	1.176-005	0.000+000
120(-0.50)	0.031575	0.026479	0.022705	0.023581	0.012190	0.008272	0.005091	0.001697	-0.001322	-0.002748	1.011-005	0.000+000
130(0.64)	0.030331	0.025339	0.021871	0.022804	0.010715	0.006566	0.003725	-0.000139	-0.001129	-0.000869	1.507-005	0.000+000
140(-0.77)	0.029339	0.024557	0.021188	0.022187	0.009545	0.005364	0.002925	-0.000585	-0.000391	-0.000151	1.122-005	0.000+000
150(-0.87)	0.028594	0.023982	0.020653	0.021709	0.008636	0.004773	-0.000084	-0.000302	-0.000029	-0.000013	8.008-006	0.000+000
160(-0.94)	0.028078	0.023486	0.020262	0.021490	0.007978	0.004113	-0.000291	0.000010	0.000028	0.000000	5.181-006	0.000+000
170(-0.98)	0.027775	0.023224	0.020018	0.021475	0.007647	-0.000092	-0.000089	0.000116	0.000014	0.000000	2.559-006	0.000+000
177(-1.00)	0.027682	0.023144	0.019940	0.021459	0.007624	-0.000503	0.000054	0.000123	0.000007	-0.000000	3.197-007	0.000+000
ENERGY SUM	0.454037	0.388819	0.321813	0.324633	0.233719	0.189519	0.169464	0.167990	0.185942	0.231398		

TOTAL DOSE RATE = 0.001682(MR/HR)

TOTAL DOSE BUILDUP= 1.931197

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.6993 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.039541	0.033606	0.026158	0.025823	0.025405	0.026362	0.021182	0.017170	0.017689	0.021607	5.013-006	1.620+000
10(0.98)	0.039285	0.033746	0.026133	0.025817	0.025468	0.025963	0.021400	0.017661	0.018060	0.022021	4.019-005	1.624+000
20(0.94)	0.039085	0.033436	0.026041	0.025765	0.025555	0.024919	0.021663	0.019155	0.019334	0.023405	8.085-005	1.637+000
30(0.87)	0.038712	0.033161	0.025855	0.025703	0.025318	0.023677	0.022126	0.021212	0.021691	0.025936	1.221-004	1.661+000
40(0.77)	0.038124	0.032575	0.025535	0.025551	0.024578	0.022426	0.021954	0.023014	0.025039	0.029991	1.629-004	1.694+000
50(0.64)	0.037281	0.031747	0.025046	0.025301	0.023328	0.021084	0.021247	0.023733	0.028236	0.035583	1.994-004	1.739+000
60(0.50)	0.036169	0.030606	0.024374	0.024854	0.021648	0.019469	0.019855	0.022859	0.029234	0.040280	1.649-004	1.801+000
65(0.42)	0.035517	[illegible]	0.023974	0.024502	0.020685	0.018520	0.018659	0.021757	0.028282	0.040467	1.085-004	1.853+000
70(0.34)	0.034811	0.029471	0.023542	0.024039	0.019655	0.017476	0.017667	0.020224	0.026255	0.038182	9.961-005	1.962+000
75(0.26)	0.034060	0.028665	0.023085	0.023464	0.018585	0.016550	0.016303	0.018317	0.023255	0.033213	8.119-005	2.272+000
80(0.17)	0.033276	0.027931	0.022616	0.022789	0.017495	0.015166	0.014812	0.016129	0.019533	0.026112	5.455-005	3.780+000
85(0.09)	0.032471	0.027191	0.022144	0.022042	0.016406	0.013955	0.013249	0.013784	0.015444	0.018101	3.420-005	6.397+001
90(-0.00)	0.031660	0.026452	0.021680	0.021258	0.015339	0.012746	0.011670	0.011412	0.011380	0.010621	2.708-005	0.000+000
95(-0.09)	0.030856	0.025731	0.021233	0.020474	0.014315	0.011567	0.010128	0.009129	0.007690	0.004788	2.123-005	0.000+000
100(-0.17)	0.030069	0.025 36	0.020811	0.019727	0.013345	0.010440	0.008658	0.007020	0.004628	0.001040	1.660-005	0.000+000
105(-0.26)	0.029311	0.024381	0.020417	0.019047	0.012439	0.009376	0.007281	0.005143	0.002320	-0.000844	1.345-005	0.000+000
110(-0.34)	0.02859	0.023767	0.020053	0.018459	0.011600	0.008378	0.006005	0.003531	0.000767	-0.001453	1.128-005	0.000+000
115(-0.42)	0.027913	0.023198	0.019719	0.017984	0.010826	0.007441	0.004679	0.002208	-0.000126	-0.001394	9.648-006	0.000+000
120(-0.5)	0.027283	0.022678	0.019412	0.017634	0.010114	0.006558	0.003751	0.001184	-0.000517	-0.001092	1.250-005	0.000+000
130(-0.64)	0.026179	0.021778	0.018870	0.017320	0.008844	0.004908	0.001920	0.000015	-0.000491	-0.000479	1.258-005	0.000+000
140(-0.77)	0.025286	0.021 55	0.018414	0.017414	0.007742	0.003357	0.000642	-0.000257	-0.000209	-0.000133	9.400-006	0.000+000
150(-0.87)	0.024604	0.020493	0.018041	0.017668	0.006774	0.001936	0.000009	-0.000147	-0.000042	-0.000017	6.723-006	0.000+000
160(-0.94)	0.024125	0.020089	0.017760	0.017865	0.005961	0.000801	-0.000131	-0.000016	0.000013	-0.000000	4.350-006	0.000+000
170(-0.98)	0.023641	0.019844	0.017582	0.017952	0.005390	0.000113	-0.000080	0.000051	0.000015	0.000000	2.145-006	0.000+000
177(-1.00)	0.023762	0.019767	0.017525	0.017971	0.005194	-0.000093	-0.000046	0.000069	0.000011	-0.000000	2.673-007	0.000+000
ENERGY SUM	0.399062	0.335726	0.275170	0.269251	0.198482	0.162436	0.145357	0.143476	0.157655	0.194622		

TOTAL DOSE RATE = 0.001301(MR/HR)

TOTAL DOSE
BUILDUP= 2.121345

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 0.8742 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.035604	0.029948	0.023126	0.022645	0.022280	0.024303	0.021518	0.018044	0.018830	0.022692	4.500-006	1.732+000
10(0.98)	0.035516	0.029868	0.023075	0.022601	0.022323	0.023943	0.021525	0.018463	0.018959	0.023066	5.599-005	1.737+000
20(0.94)	0.035228	0.029604	0.022902	0.022450	0.022375	0.022970	0.021415	0.019647	0.020077	0.024299	7.186-005	1.755+000
30(0.87)	0.034723	0.029144	0.022586	0.022162	0.022192	0.021720	0.020991	0.021015	0.022051	0.026487	1.070-004	1.781+000
40(0.77)	0.033978	0.028460	0.022106	0.021710	0.021527	0.020326	0.020198	0.021773	0.024313	0.029809	1.596-004	1.824+000
50(0.64)	0.032984	0.027542	0.021460	0.021123	0.020311	0.018746	0.018959	0.021351	0.024105	0.033778	1.646-004	1.884+000
60(0.50)	0.031759	0.026414	0.020670	0.020444	0.018648	0.016901	0.017123	0.019527	0.022025	0.033264	1.279-004	1.982+000
65(0.42)	0.031074	0.025789	0.020239	0.020060	0.017704	0.015875	0.015969	0.018090	0.023172	0.033678	8.036-005	2.077+000
70(0.34)	0.030354	0.025138	0.019797	0.019633	0.016717	0.014796	0.014683	0.016352	0.020219	0.029187	5.959-005	2.285+000
75(0.26)	0.029608	0.024472	0.019356	0.019155	0.015713	0.013684	0.013307	0.014395	0.017283	0.023058	5.307-005	2.918+000
80(0.17)	0.028849	0.023804	0.018927	0.018628	0.014716	0.012566	0.011891	0.012527	0.013769	0.016050	5.484-005	6.608+000
85(0.09)	0.028088	0.023144	0.018520	0.018065	0.013745	0.011466	0.010485	0.010264	0.010512	0.009553	2.417-005	3.361+002
90(-0.00)	0.027336	0.022503	0.018143	0.017486	0.012818	0.010408	0.009129	0.008305	0.007203	0.004606	1.927-005	0.000+000
95(-0.09)	0.026602	0.021888	0.017798	0.016911	0.011943	0.009404	0.007852	0.006516	0.004640	0.001661	1.550-005	0.000+000
100(-0.17)	0.025895	0.021306	0.017489	0.016362	0.011127	0.008460	0.006664	0.004931	0.002704	0.000362	1.277-005	0.000+000
105(-0.26)	0.025219	0.020759	0.017213	0.015854	0.010368	0.007576	0.005564	0.003560	0.001370	-0.000002	1.075-005	0.000+000
110(-0.34)	0.024581	0.020251	0.016969	0.015401	0.009663	0.006743	0.004547	0.002408	0.000545	-0.000070	9.190-006	0.000+000
115(-0.42)	0.023984	0.019781	0.016750	0.015013	0.009007	0.005955	0.003606	0.001484	0.000038	-0.000157	7.954-006	0.000+000
120(-0.50)	0.023429	0.019348	0.016554	0.014701	0.008393	0.005201	0.002745	0.000793	-0.000104	-0.000285	1.034-005	0.000+000
130(-0.64)	0.022452	0.018588	0.016208	0.014350	0.007270	0.003772	0.001321	0.000059	-0.000184	-0.000345	1.048-005	0.000+000
140(-0.77)	0.021655	0.017961	0.015907	0.014364	0.006255	0.002447	0.000419	-0.000100	-0.000142	-0.000146	7.853-006	0.000+000
150(-0.87)	0.021040	0.017463	0.015692	0.014598	0.005317	0.001318	0.000036	-0.000081	-0.000058	-0.000022	5.629-006	0.000+000
160(-0.94)	0.020604	0.017098	0.015455	0.014837	0.004448	0.000542	-0.000060	-0.000037	0.000007	-0.000000	3.645-006	0.000+000
170(-0.98)	0.020345	0.016873	0.015329	0.014972	0.003759	0.000177	-0.000095	0.000023	0.000019	0.000000	1.798-006	0.000+000
177(-1.00)	0.020264	0.016802	0.015289	0.015008	0.003504	0.000095	-0.000111	0.000052	-0.000015	-0.000000	2.240-007	0.000+000
ENERGY SUM	0.347710	0.288443	0.234681	0.224064	0.168436	0.139005	0.124524	0.122464	0.133641	0.164693		

TOTAL DOSE RATE = 0.001029(MR/HR)

TOTAL DOSE
BUILDUP= 2.309456

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 1.7483 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.018789	0.014844	0.011397	0.010942	0.011106	0.013553	0.015106	0.014490	0.015696	0.018495	2.438-006	2.250+000
10(0.98)	0.018690	0.014766	0.011330	0.010868	0.011056	0.013481	0.014836	0.014547	0.015710	0.019057	1.929-005	2.261+000
20(0.94)	0.018375	0.014517	0.011109	0.010634	0.010957	0.012867	0.014000	0.014592	0.015765	0.019210	3.718-005	2.300+000
30(0.87)	0.017855	0.014102	0.010733	0.010226	0.010799	0.012056	0.012795	0.014198	0.015850	0.019331	5.201-005	2.375+000
40(0.77)	0.017146	0.013527	0.010217	0.009603	0.010390	0.010948	0.011423	0.012999	0.015592	0.019348	6.158-005	2.518+000
50(0.64)	0.016282	0.012816	0.009603	0.008809	0.009619	0.009586	0.009848	0.011066	0.014049	0.018881	6.299-005	2.810+000
60(0.50)	0.015317	0.012026	0.008959	0.008058	0.008571	0.008064	0.007984	0.008615	0.010814	0.016925	5.946-005	3.311+000
65(0.42)	0.014817	0.011625	0.008650	0.007761	0.007999	0.007287	0.006986	0.007254	0.008364	0.015965	5.155-005	4.365+000
70(0.34)	0.014318	0.011233	0.008363	0.007523	0.007427	0.006530	0.006000	0.005874	0.006027	0.007155	1.256-005	6.585+000
75(0.26)	0.013827	0.010857	0.008109	0.007335	0.006875	0.005815	0.005071	0.004561	0.003852	0.002128	1.925-005	1.651+001
80(0.17)	0.013351	0.010503	0.007892	0.007181	0.006358	0.005160	0.004236	0.003403	0.002067	-0.001709	7.276-006	2.119+002
85(0.09)	0.012894	0.010174	0.007716	0.007052	0.005884	0.004573	0.003515	0.002460	0.000816	-0.003459	6.042-006	1.919+006
90(-0.00)	0.012460	0.009871	0.007583	0.006938	0.005452	0.004053	0.002907	0.001741	0.000117	-0.002775	5.5 6-006	0.000+000
95(-0.09)	0.012049	0.009591	0.007485	0.006836	0.005057	0.003590	0.002392	0.001209	-0.000136	-0.002912	4.722-006	0.000+000
100(-0.17)	0.011663	0.009333	0.007416	0.006738	0.004687	0.003166	0.001942	0.000801	-0.000120	-0.002870	4.605-006	0.000+000
105(-0.26)	0.011300	0.009092	0.007369	0.006634	0.004333	0.002767	0.001528	0.000468	-0.000014	-0.002619	4.479-006	0.000+000
110(-0.34)	0.010958	0.008864	0.007338	0.006515	0.003985	0.002378	0.001136	0.000190	0.000056	-0.002219	3.895-006	0.000+000
115(-0.42)	0.010638	0.008648	0.007315	0.006371	0.003638	0.001995	0.000763	-0.000025	0.000052	-0.002029	3.048-006	0.000+000
120(-0.50)	0.010339	0.008440	0.007298	0.006201	0.003291	0.001616	0.000424	-0.000159	-0.000041	-0.002059	3.949-006	0.000+000
130(-0.64)	0.009804	0.008049	0.007265	0.005845	0.002613	0.000893	-0.000055	-0.000214	-0.000372	-0.002985	4.076-006	0.000+000
140(-0.77)	0.009361	0.007703	0.007226	0.005636	0.001993	0.000280	-0.000185	-0.000197	-0.000392	-0.003365	3.080-006	0.000+000
150(-0.87)	0.009015	0.007419	0.007188	0.005653	0.001442	-0.000120	-0.000127	-0.000210	-0.000147	-0.003048	2.227-006	0.000+000
160(-0.94)	0.008769	0.007209	0.007162	0.005773	0.000895	-0.000227	-0.000153	-0.000108	0.000026	-0.002001	1.458-006	0.000+000
170(-0.98)	0.008624	0.007078	0.007151	0.005865	0.000374	-0.000277	-0.000285	0.000083	0.000044	-0.000001	7.293-007	0.000+000
177(-1.00)	0.008579	0.007036	0.007149	0.005893	0.000154	-0.000057	-0.000351	0.000169	0.000052	-0.000106	9.157-008	0.000+000
ENERGY SUM	0.162586	0.129617	0.103636	0.092219	0.073585	0.062669	0.056579	0.055011	0.058441	0.088976		

TOTAL DOSE RATE = 0.000477(MR/HR)

TOTAL DOSE
FOR FLIGHT = 3.517254

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0042 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.044105	0.042079	0.032316	0.032827	0.036486	0.015784	-0.003453	-0.000556	0.000172	0.000213	9.154-006	1.107+000
10(0.98)	0.044171	0.042234	0.032511	0.032942	0.035780	0.016569	-0.001759	-0.000858	0.000148	0.000219	7.393-005	1.107+000
20(0.94)	0.044680	0.042696	0.033139	0.034043	0.033756	0.018336	0.003547	-0.000948	-0.000019	0.000241	1.530-004	1.110+000
30(0.87)	0.045443	0.043458	0.034168	0.035162	0.031333	0.020104	0.011085	0.001843	-0.000060	0.000298	2.447-004	1.120+000
40(0.77)	0.046322	0.044281	0.035436	0.036300	0.029608	0.021986	0.018396	0.009857	0.002740	0.001020	3.630-004	1.144+000
50(0.64)	0.047133	0.045102	0.036726	0.042494	0.028955	0.024175	0.024079	0.021692	0.014055	0.007480	5.356-004	1.189+000
60(0.50)	0.047662	0.045615	0.037733	0.044101	0.028883	0.026183	0.028257	0.032961	0.033876	0.033876	6.133-004	1.252+000
65(0.42)	0.047759	0.044977	0.038041	0.043992	0.028812	0.026852	0.029706	0.037148	0.047411	0.057517	5.137-004	1.276+000
70(0.34)	0.047721	0.044779	0.038167	0.043296	0.028590	0.027160	0.030607	0.039929	0.057343	0.084580	6.547-004	1.268+000
75(0.26)	0.047537	0.044497	0.038088	0.042122	0.028151	0.027034	0.030794	0.041042	0.063350	0.107028	8.597-004	1.231+000
80(0.17)	0.047205	0.043927	0.037784	0.040602	0.027456	0.026439	0.030166	0.040369	0.064091	0.116819	1.223-003	1.162+000
85(0.09)	0.046732	0.043274	0.037256	0.038867	0.026502	0.025388	0.028715	0.037912	0.059218	0.104199	2.232-003	1.078+000
90(-0.00)	0.046134	0.042163	0.036526	0.037035	0.025317	0.023940	0.026536	0.033835	0.049458	0.082228	1.345-004	0.000+000
95(-0.09)	0.045433	0.041124	0.035607	0.035215	0.023952	0.022195	0.023813	0.028567	0.036451	0.046731	9.738-005	0.000+000
100(-0.17)	0.044654	0.040108	0.034549	0.033517	0.022477	0.020274	0.020775	0.022625	0.022367	0.017626	5.975-005	0.000+000
105(-0.26)	0.043829	0.039052	0.033483	0.032051	0.020944	0.018302	0.017648	0.016524	0.009425	-0.011320	3.671-005	0.000+000
110(-0.34)	0.042987	0.037709	0.032316	0.030924	0.019479	0.016390	0.014599	0.010696	-0.000619	-0.021985	2.655-005	0.000+000
115(-0.42)	0.042156	0.036584	0.031133	0.030212	0.018075	0.014616	0.011715	0.005482	-0.006792	-0.021823	2.074-005	0.000+000
120(-0.50)	0.041360	0.035526	0.029965	0.029930	0.016789	0.013018	0.008996	0.001166	-0.009155	-0.016046	2.520-005	0.000+000
130(-0.64)	0.039941	0.033633	0.027765	0.030301	0.014643	0.010260	0.003908	-0.003834	-0.006345	-0.004464	2.347-005	0.000+000
140(-0.77)	0.038815	0.032050	0.025968	0.030773	0.013127	0.008525	-0.000390	-0.003787	-0.001636	-0.000502	1.681-005	0.000+000
150(-0.87)	0.037997	0.031778	0.024614	0.030366	0.012436	0.007967	-0.002485	-0.001253	0.000102	-0.000012	1.179-005	0.000+000
160(-0.94)	0.037456	0.029443	0.023646	0.029343	0.012910	-0.000419	-0.001693	0.000465	0.000153	0.000001	7.668-006	0.000+000
170(-0.98)	0.037153	0.029275	0.023055	0.028472	0.014255	-0.004219	0.000357	0.000692	0.000023	0.000000	3.921-006	0.000+000
177(-1.00)	0.037062	0.029196	0.022865	0.028176	0.014973	-0.005618	0.001287	0.000572	-0.000002	0.000000	4.992-007	0.000+000
ENERGY SUM	0.555602	0.501511	0.418665	0.451673	0.294023	0.231563	0.208096	0.210358	0.240145	0.316080		

TOTAL DOSE RATE = 0.012189(MR/HR)

TOTAL DOSE
BUILDUP= 1.141452

LOWER ENERGY CUTOFF 0.0454EV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.0703 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.297	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.043695	0.041107	0.031243	0.031300	0.034484	0.017911	0.000546	0.001916	0.002608	0.003323	8.842-006	1.142+000
10(0.98)	0.043818	0.041212	0.031394	0.031553	0.033934	0.018436	0.002038	0.001796	0.002668	0.003419	7.146-005	1.144+000
20(0.94)	0.044188	0.041521	0.031883	0.032476	0.032313	0.019589	0.006626	0.002148	0.002821	0.003750	1.478-004	1.150+000
30(0.87)	0.044730	0.041951	0.032672	0.033429	0.030276	0.020722	0.012985	0.005054	0.003382	0.004417	2.354-004	1.163+000
40(0.77)	0.045529	0.042584	0.033647	0.034641	0.028680	0.021985	0.019011	0.012223	0.006628	0.006119	3.453-004	1.186+000
50(0.64)	0.045831	0.042705	0.034694	0.035797	0.027851	0.023505	0.025556	0.022217	0.014922	0.013126	4.989-004	1.228+000
60(0.50)	0.046064	0.042733	0.035317	0.036447	0.027452	0.024837	0.026700	0.031309	0.034951	0.036361	5.510-004	1.283+000
65(0.42)	0.046041	0.042677	0.035493	0.036609	0.027179	0.025205	0.027711	0.0345 8	0.044471	0.055885	4.495-004	1 302+000
70(0.34)	0.045881	0.042284	0.035578	0.036672	0.026810	0.025265	0.028219	0.036460	0.052115	0.077281	5.526-004	1.299+000
75(0.26)	0.045607	0.041838	0.035390	0.036622	0.026242	0.024958	0.028110	0.036945	0.056303	0.094425	6.853-004	1.267+000
80(0.17)	0.045219	0.041235	0.035070	0.036270	0.025480	0.024262	0.027315	0.035942	0.056028	0.100488	8.693-004	1.208+000
85(0.09)	0.044695	0.040465	0.034570	0.035728	0.024511	0.023192	0.025837	0.0334 8	0.051115	0.091385	1.110-003	1.144+000
90(-0.00)	0.044079	0.039608	0.033917	0.034998	0.023363	0.021803	0.023767	0.029672	0.042267	0.068459	1.161-004	0 000+000
95(-0.09)	0.043381	0.038635	0.033110	0.032479	0.022079	0.021178	0.021263	0.024920	0.030908	0.038396	8.407-005	0.000+000
100(-0.17)	0.042625	0.037601	0.032211	0.030964	0.020717	0.018421	0.018516	0.019662	0.018844	0.010119	3.228-005	0 000+000
105(-0.26)	0.041836	0.036541	0.031246	0.029650	0.019337	0.016631	0.015711	0.014330	0.007952	-0.009430	3.295-005	0.000+000
110(-0.34)	0.041045	0.035492	0.030265	0.028627	0.017993	0.014900	0.012986	0.009242	-0.000411	-0.017973	2.418-005	0 000+000
115(-0.42)	0.040257	0.034481	0.029295	0.027961	0.016725	0 013290	0.010410	0.004802	-0.005316	-0.017708	1.907-005	0.000+000
120(-0.50)	0.039511	0.033523	0.028341	0.027670	0.015563	0.011827	0.007984	0.001125	-0.007471	-0.012954	2.335-005	0.000+000
130(-0.64)	0.038183	0.031811	0.026395	0.027929	0.013608	0.009263	0.003489	-0.003090	-0.005124	-0.003579	2.191-0 5	0.000+000
140(-0.77)	0.037125	0.030578	0.024853	0.028379	0.012180	0.006720	-0.000223	-0.003063	-0.001356	-0.000401	1.576-005	0.000+000
150(-0.87)	0.036348	0.029731	0.023670	0.028156	0.011418	0.005546	-0.001999	-0.001065	0.000084	-0.000010	1.107-005	0 000+000
160(-0.94)	0.035829	0.029186	0.022830	0.027310	0.011093	-0.000203	-0.001362	0.000377	0.000122	0.000000	7.187-006	0.000+000
170(-0.98)	0.035534	0.028875	0.022315	0.026706	0.010902	-0.003562	0.000301	0.000554	0.000019	0.000000	3.653-006	0.000+000
177(-1.00)	0.035445	0.028772	0.022149	0.026473	0.010815	-0.004510	0.001051	0.000456	0.000002	0.000000	4.638-007	0 000+000
ENERGY SUM	0.534805	0.476834	0.393912	0.417856	0.275803	0.218167	0.196058	0.197741	0.225247	0.293974		

TOTAL DOSE RATE = 0.005947(MR/HR)

TOTAL DOSE BUILDUP= 1.07960

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.1407 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.043043	0.039895	0.030030	0.029872	0.032467	0.019604	0.004116	0.004201	0.004863	0.006195	8.558-006	1.186+000
10(0.98)	0.043126	0.039956	0.030143	0.030069	0.032052	0.019905	0.005412	0.004233	0.004995	0.006366	6.909-005	1.188+000
20(0.94)	0.043370	0.040129	0.030506	0.030755	0.030784	0.020527	0.009311	0.004922	0.005415	0.006959	1.424-004	1.195+000
30(0.87)	0.043715	0.040352	0.031087	0.032067	0.029092	0.021104	0.014568	0.007877	0.006467	0.008131	2.255-004	1.208+000
40(0.77)	0.044064	0.040540	0.031791	0.034016	0.027621	0.021816	0.019408	0.014203	0.010012	0.010612	3.270-004	1.231+000
50(0.64)	0.044293	0.040589	0.032455	0.035999	0.026651	0.022737	0.022912	0.022478	0.019248	0.017911	4.624-004	1.269+000
60(0.50)	0.044266	0.040372	0.032893	0.036928	0.025939	0.023464	0.025138	0.029587	0.034062	0.038046	4.919-004	1.319+000
65(0.42)	0.044121	0.040118	0.032969	0.036764	0.025534	0.023568	0.025739	0.031898	0.041461	0.053789	3.905-004	1.336+000
70(0.34)	0.043875	0.039746	0.032924	0.036183	0.025023	0.023410	0.025900	0.033115	0.047065	0.070270	4.623-004	1.335+000
75(0.26)	0.043525	0.039249	0.032740	0.035250	0.024370	0.022949	0.025536	0.033113	0.049662	0.082561	5.406-004	1.312+000
80(0.17)	0.043074	0.038625	0.032410	0.034057	0.023556	0.022170	0.024603	0.031837	0.048535	0.085442	6.104-004	1.272+000
85(0.09)	0.042528	0.037885	0.031939	0.032697	0.022584	0.021093	0.023117	0.029337	0.043654	0.076095	5.531-004	1.278+000
90(-0.00)	0.041902	0.037045	0.031340	0.031260	0.021477	0.019765	0.021159	0.025803	0.035691	0.056060	9.913-005	0.000+000
95(-0.09)	0.041213	0.036133	0.030638	0.029829	0.020273	0.018257	0.018864	0.021542	0.025867	0.030959	7.190-005	0.000+000
100(-0.17)	0.040481	0.035179	0.029861	0.028488	0.019020	0.016652	0.016391	0.016923	0.015689	0.007923	4.540-005	0.000+000
105(-0.26)	0.039729	0.034213	0.029035	0.027318	0.017764	0.015035	0.013888	0.012302	0.006618	-0.007712	2.941-005	0.000+000
110(-0.34)	0.038976	0.033262	0.028186	0.026395	0.016550	0.013474	0.011466	0.007972	-0.000247	-0.014394	2.190-005	0.000+000
115(-0.42)	0.038243	0.032347	0.027334	0.025776	0.015408	0.012016	0.009177	0.004164	-0.004585	-0.014064	1.744-005	0.000+000
120(-0.50)	0.037546	0.031484	0.026499	0.025479	0.014360	0.010681	0.007027	0.001069	-0.005923	-0.010231	2.149-005	0.000+000
130(-0.64)	0.036307	0.029941	0.024951	0.025636	0.012580	0.008305	0.003086	-0.002435	-0.004051	-0.002810	2.035-005	0.000+000
140(-0.77)	0.035315	0.028659	0.023651	0.026037	0.011234	0.005952	-0.000086	-0.002425	-0.001064	-0.000316	1.469-005	0.000+000
150(-0.87)	0.034580	0.027616	0.022645	0.025949	0.010416	0.003140	-0.001573	-0.000786	0.000066	-0.000008	1.035-005	0.000+000
160(-0.94)	0.034083	0.026858	0.021925	0.025426	0.010335	-0.000027	-0.001072	0.000299	0.000096	0.000000	6.702-006	0.000+000
170(-0.98)	0.033798	0.026397	0.021481	0.024927	0.010869	-0.002613	0.000246	0.000434	0.000015	0.000000	3.388-006	0.000+000
177(-1.00)	0.033712	0.026252	0.021338	0.024750	0.011202	-0.003536	0.000838	0.000356	-0.000001	0.000000	4.290-007	0.000+000
ENERGY SUM	0.511949	0.448943	0.368957	0.384745	0.257608	0.204729	0.183934	0.185231	0.210414	0.275981		

TOTAL DOSE RATE = 0.004646(MR/HR)

TOTAL DOSE BUILDUP= 1.392236

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2353MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.2814 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.040997	0.037091	0.027481	0.027029	0.028761	0.021584	0.009487	0.007837	0.008462	0.010765	7.970-006	1.272+000
10(0.98)	0.041018	0.037087	0.027534	0.027139	0.028539	0.021567	0.010437	0.008071	0.008690	0.011039	6.423-005	1.274+000
20(0.94)	0.041071	0.037060	0.027703	0.027520	0.027790	0.021430	0.013174	0.009180	0.009468	0.011981	1.316-004	1.282+000
30(0.87)	0.041116	0.036979	0.027966	0.028247	0.026625	0.021197	0.016662	0.012003	0.011133	0.013805	2.058-004	1.297+000
40(0.77)	0.041088	0.036799	0.028259	0.029335	0.025369	0.021080	0.019575	0.016817	0.014864	0.017206	2.918-004	1.320+000
50(0.64)	0.040911	0.036462	0.028482	0.030437	0.024228	0.021087	0.021433	0.022288	0.022116	0.024424	3.964-004	1.355+000
60(0.50)	0.040505	0.035898	0.028523	0.030871	0.023121	0.020903	0.022236	0.026284	0.031729	0.039142	3.930-004	1.396+000
65(0.42)	0.040199	0.035506	0.028446	0.030672	0.022511	0.020613	0.022218	0.027238	0.035839	0.048878	2.960-004	1.412+000
70(0.34)	0.039820	0.035033	0.028298	0.030186	0.021828	0.020141	0.021865	0.027358	0.038359	0.057820	3.259-004	1.420+000
75(0.26)	0.039368	0.034475	0.028045	0.029449	0.021057	0.019465	0.021139	0.026599	0.038630	0.062911	3.408-004	1.424+000
80(0.17)	0.038849	0.033838	0.027714	0.028519	0.020191	0.018585	0.020041	0.024970	0.036362	0.061547	3.127-004	1.466+000
85(0.09)	0.038270	0.033130	0.027298	0.027463	0.019239	0.017522	0.018569	0.022555	0.031716	0.052123	1.752-004	2.034+000
90(-0.00)	0.037644	0.032367	0.026810	0.026346	0.018219	0.016312	0.016823	0.019516	0.025284	0.036930	7.226-005	0.000+000
95(-0.09)	0.036984	0.031568	0.026267	0.025231	0.017159	0.015007	0.014888	0.016082	0.017956	0.019661	5.264-005	0.000+000
100(-0.17)	0.036305	0.030753	0.025685	0.024180	0.016089	0.013660	0.012871	0.012510	0.010738	0.004695	3.440-005	0.000+000
105(-0.26)	0.035622	0.029943	0.025083	0.023252	0.015040	0.012325	0.010866	0.009036	0.004539	-0.003024	2.352-005	0.000+000
110(-0.34)	0.034951	0.029156	0.024475	0.022501	0.014036	0.011041	0.008940	0.005855	-0.000013	-0.008960	1.802-005	0.000+000
115(-0.42)	0.034305	0.028403	0.023875	0.021968	0.013097	0.009835	0.007126	0.003115	-0.002684	-0.008597	1.461-005	0.000+000
120(-0.50)	0.033694	0.027695	0.023291	0.021670	0.012231	0.008714	0.005430	0.000935	-0.003645	-0.006189	1.824-005	0.000+000
130(-0.64)	0.032609	0.026429	0.022214	0.021668	0.010732	0.006666	0.002397	-0.001463	-0.002460	-0.001697	1.752-005	0.000+000
140(-0.77)	0.031735	0.025372	0.021301	0.021987	0.009526	0.004654	0.000090	-0.001479	-0.000643	-0.000201	1.276-005	0.000+000
150(-0.87)	0.031076	0.024527	0.020581	0.022090	0.008643	0.002445	-0.000942	-0.000473	0.000014	-0.000007	9.011-006	0.000+000
160(-0.94)	0.030623	0.023910	0.020056	0.021903	0.008214	0.000193	-0.000648	0.000178	0.000057	0.000000	5.828-006	0.000+000
170(-0.98)	0.030358	0.023534	0.019730	0.021665	0.008210	-0.001511	0.000150	0.000258	0.000011	0.000000	2.913-006	0.000+000
177(-1.00)	0.030277	0.023416	0.019624	0.021573	0.008276	-0.002096	0.000505	0.000213	0.000001	0.000000	3.671-007	0.000+000
ENERGY SUM	0.465309	0.398450	0.323203	0.326867	0.224619	0.180066	0.161613	0.162417	0.183621	0.239940		

TOTAL DOSE RATE = 0.003224(MR/HR)

TOTAL DOSE BUILDUP= 1.541574

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.4221 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.038306	0.034012	0.024887	0.024275	0.025452	0.022181	0.012987	0.010425	0.011043	0.014030	7.373-006	1.355+000
10(0.98)	0.038285	0.033964	0.024899	0.024324	0.025352	0.021973	0.013652	0.010761	0.011319	0.014357	5.932-005	1.358+000
20(0.94)	0.038208	0.033808	0.024934	0.024493	0.024935	0.021378	0.015472	0.012028	0.012272	0.015470	1.208-004	1.367+000
30(0.87)	0.038051	0.033533	0.024980	0.024819	0.024130	0.020639	0.017576	0.014543	0.014192	0.017586	1.866-004	1.384+000
40(0.77)	0.037774	0.033121	0.024996	0.025317	0.023054	0.019976	0.019130	0.018071	0.017739	0.021292	2.591-004	1.409+000
50(0.64)	0.037334	0.032547	0.024926	0.025812	0.021849	0.019367	0.019808	0.021430	0.023222	0.027859	3.392-004	1.443+000
60(0.50)	0.036692	0.031778	0.024715	0.025905	0.020536	0.018578	0.019622	0.023214	0.028967	0.038129	3.149-004	1.482+000
65(0.42)	0.036291	0.031315	0.024543	0.025686	0.019820	0.018038	0.019190	0.023244	0.030781	0.043518	2.256-004	1.502+000
70(0.34)	0.035836	0.030791	0.024321	0.025279	0.019053	0.017372	0.018509	0.022646	0.031236	0.047287	2.321-004	1.526+000
75(0.26)	0.035335	0.030215	0.024051	0.024694	0.018234	0.016577	0.017570	0.021428	0.030043	0.047705	2.193-004	1.578+000
80(0.17)	0.034786	0.029591	0.023732	0.023970	0.017367	0.015658	0.016385	0.019639	0.027181	0.043575	1.705-004	1.797+000
85(0.09)	0.034204	0.028930	0.023370	0.023151	0.016460	0.014636	0.014988	0.017372	0.022912	0.034997	8.296-005	4.840+000
90(-0.00)	0.033597	0.028242	0.022973	0.022285	0.015529	0.013539	0.013436	0.014768	0.017739	0.023602	5.265-005	0.000+000
95(-0.09)	0.032976	0.027541	0.022551	0.021418	0.014593	0.012402	0.011797	0.011993	0.012296	0.011985	3.864-005	0.000+000
100(-0.17)	0.032351	0.026842	0.022117	0.020595	0.013672	0.011260	0.010138	0.009222	0.007229	0.002624	2.627-005	0.000+000
105(-0.26)	0.031735	0.026158	0.021681	0.019858	0.012784	0.010144	0.008517	0.006608	0.003067	-0.003107	1.892-005	0.000+000
110(-0.34)	0.031136	0.025499	0.021250	0.019246	0.011941	0.009075	0.006973	0.004273	0.000123	-0.005270	1.490-005	0.000+000
115(-0.42)	0.030564	0.024873	0.020832	0.018788	0.011154	0.008064	0.005525	0.002310	-0.001548	-0.004959	1.226-005	0.000+000
120(-0.50)	0.030026	0.024286	0.020431	0.018500	0.010426	0.007113	0.004181	0.000788	-0.002128	-0.003546	1.548-005	0.000+000
130(-0.64)	0.029073	0.023236	0.019695	0.018390	0.009138	0.005341	0.001844	-0.000829	-0.001426	-0.001004	1.506-005	0.000+000
140(-0.77)	0.028298	0.022358	0.019066	0.018624	0.008046	0.003623	0.000174	-0.000861	-0.000383	-0.000138	1.185-005	0.000+000
150(-0.87)	0.027708	0.021660	0.018560	0.018825	0.007146	0.001882	-0.000533	-0.000278	0.000009	-0.000008	7.816-006	0.000+000
160(-0.94)	0.027295	0.021151	0.018183	0.018846	0.006502	0.000291	-0.000378	0.000093	0.000033	0.000000	5.052-006	0.000+000
170(-0.98)	0.027052	0.020841	0.017946	0.018778	0.006171	-0.000806	0.000072	0.000147	0.000009	0.000000	2.505-006	0.000+000
177(-1.00)	0.026977	0.020744	0.017870	0.018744	0.006090	-0.001162	0.000268	0.000126	0.000004	-0.000000	3.145-007	0.000+000
ENERGY SUM	0.419131	0.352107	0.282013	0.278424	0.195731	0.158176	0.142233	0.142371	0.160243	0.208595		

TOTAL DOSE RATE = 0.002439(MR/HR)

TOTAL DOSE BUILDUP= 1.673465

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.5628 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.035279	0.[illegible]	0.022356	0.021671	0.022502	0.021849	0.015088	0.012170	0.012807	0.016253	6.784-006	1.435+000
10(0.98)	0.035231	0.[illegible]	0.022337	0.021678	0.022472	0.021535	0.015523	0.012540	0.013097	0.016597	5.448-005	1.438+000
20(0.94)	0.035069	0.[illegible]	0.022284	0.021704	0.022262	0.020688	0.016632	0.013799	0.014098	0.017756	1.102-004	1.449+000
30(0.87)	0.034782	0.[illegible]	0.022185	0.021761	0.021701	0.019656	0.017730	0.015919	0.016034	0.019918	1.684-004	1.468+000
40(0.77)	0.034349	0.[illegible]	0.022021	0.021865	0.020774	0.018653	0.018284	0.018376	0.019183	0.023530	2.291-004	1.496+000
50(0.64)	0.033749	0.[illegible]	0.021766	0.021952	0.019576	0.017648	0.018132	0.020162	0.023137	0.029146	2.896-004	1.533+000
60(0.50)	0.032974	0.[illegible]	0.021401	0.021817	0.018185	0.016480	0.017280	0.020405	0.026045	0.035836	2.530-004	1.578+000
65(0.42)	0.032523	0.[illegible]	0.021176	0.021595	0.017429	0.015790	0.016586	0.019826	0.026293	0.038136	1.730-004	1.607+000
70(0.34)	0.032035	0.[illegible]	0.020924	0.021246	0.016639	0.015019	0.015709	0.018783	0.025415	0.038451	1.671-004	1.657+000
75(0.26)	0.031514	0.[illegible]	0.020648	0.020781	0.015821	0.014169	0.014661	0.017316	0.023361	0.035972	1.444-004	1.789+000
80(0.17)	0.030967	0.[illegible]	0.020351	0.020217	0.014983	0.013254	0.013465	0.015493	0.020270	0.030538	9.979-005	2.364+000
85(0.09)	0.030401	0.[illegible]	0.020037	0.019585	0.014136	0.012289	0.012157	0.013410	0.016447	0.022877	5.207-005	1.527+001
90(-0.00)	0.029826	0.[illegible]	0.019714	0.018912	0.013293	0.011299	0.010782	0.011184	0.012303	0.014445	3.840-005	0.000+000
95(-0.09)	0.029249	0.[illegible]	0.019388	0.018239	0.012466	0.010304	0.009387	0.008936	0.008280	0.006873	2.849-005	0.000+000
100(-0.17)	0.028678	0.[illegible]	0.019064	0.017595	0.011667	0.009327	0.008012	0.006779	0.004768	0.001349	2.027-005	0.000+000
105(-0.26)	0.028123	0.[illegible]	0.018750	0.017011	0.010906	0.008382	0.006690	0.004808	0.002036	-0.001753	1.531-005	0.000+000
110(-0.34)	0.027589	0.[illegible]	0.018448	0.016512	0.010188	0.007480	0.005441	0.003095	0.000195	-0.002812	1.236-005	0.000+000
115(-0.42)	0.027082	0.[illegible]	0.018162	0.016120	0.009518	0.006624	0.004277	0.001696	-0.000807	-0.002601	1.030-005	0.000+000
120(-0.50)	0.026607	0.[illegible]	0.017892	0.015849	0.008893	0.005809	0.003206	0.000644	-0.001145	-0.001877	1.313-005	0.000+000
130(-0.64)	0.025765	0.[illegible]	0.017402	0.015666	0.007767	0.004271	0.001400	-0.000428	-0.000776	-0.000598	1.292-005	0.000+000
140(-0.77)	0.025077	0.[illegible]	0.016979	0.015822	0.006773	0.002804	0.000200	-0.000473	-0.000233	-0.000111	9.536-006	0.000+000
150(-0.87)	0.024548	0.[illegible]	0.016634	0.016058	0.005888	0.001429	-0.000278	-0.000165	-0.000012	-0.000010	6.762-006	0.000+000
160(-0.94)	0.024173	0.[illegible]	0.016367	0.016199	0.005144	0.000311	-0.000215	0.000035	0.000018	-0.000000	4.368-006	0.000+000
170(-0.98)	0.023951	0.[illegible]	0.016199	0.016238	0.004632	-0.000373	0.000007	0.000079	0.000010	0.000000	2.158-006	0.000+000
177(-1.00)	0.023881	0.[illegible]	0.016144	0.016241	0.004459	-0.000578	0.000102	0.000078	0.000006	-0.000000	2.696-007	0.000+000
ENERGY SUM	0.374827	0.[illegible]	0.246750	0.237733	0.170465	0.138793	0.124927	0.124763	0.139845	0.181338		

TOTAL DOSE RATE = 0.001922(MR/HR)

TOTAL DOSE BUILDUP= 1.795673

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 0.7035 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.032134	0.027758	0.019945	0.019259	0.019874	0.020918	0.016156	0.013243	0.013920	0.017651	6.212-006	1.513+000
10(0.98)	0.032069	0.027670	0.019911	0.019230	0.019883	0.020557	0.016411	0.013605	0.014201	0.017986	4.980-005	1.517+000
20(0.94)	0.031855	0.027394	0.019801	0.019162	0.019795	0.019593	0.016979	0.014757	0.015164	0.019106	1.002-004	1.529+000
30(0.87)	0.031491	0.026941	0.019612	0.019047	0.019396	0.018416	0.017342	0.016455	0.016966	0.021151	1.512-004	1.552+000
40(0.77)	0.030967	0.026325	0.019336	0.018896	0.018595	0.017221	0.017191	0.018035	0.019614	0.024427	2.018-004	1.584+000
50(0.64)	0.030281	0.025556	0.018971	0.018717	0.017447	0.015981	0.016474	0.018667	0.022290	0.028978	2.470-004	1.627+000
60(0.50)	0.029443	0.024648	0.018523	0.018435	0.016061	0.014595	0.015194	0.017866	0.023143	0.032849	2.038-004	1.684+000
65(0.42)	0.028975	0.024150	0.018274	0.018215	0.015310	0.013827	0.014343	0.016905	0.022357	0.033005	1.335-004	1.730+000
70(0.34)	0.028481	0.023627	0.018013	0.017918	0.014535	0.013009	0.013565	0.015609	0.020663	0.031098	1.216-004	1.821+000
75(0.26)	0.027965	0.023086	0.017744	0.017546	0.013748	0.012152	0.012780	0.014035	0.018161	0.026945	9.740-005	2.079+000
80(0.17)	0.027436	0.022535	0.017473	0.017107	0.012960	0.011267	0.011117	0.012261	0.015076	0.021025	6.269-005	3.340+000
85(0.09)	0.026899	0.021981	0.017204	0.016617	0.012181	0.010370	0.009910	0.010378	0.011717	0.014386	3.668-005	5.405+001
90(-0.00)	0.026362	0.021431	0.016941	0.016099	0.011422	0.009478	0.008695	0.008481	0.008413	0.008255	2.806-005	0.000+000
95(-0.09)	0.025832	0.020894	0.016688	0.015577	0.010690	0.008605	0.007502	0.006654	0.005458	0.003555	2.114-005	0.000+000
100(-0.17)	0.025315	0.020373	0.016448	0.015074	0.009993	0.007761	0.006354	0.004969	0.003063	0.000614	1.583-005	0.000+000
105(-0.26)	0.024815	0.019875	0.016223	0.014611	0.009334	0.006954	0.005267	0.003478	0.001325	-0.000802	1.247-005	0.000+000
110(-0.34)	0.024339	0.019401	0.016015	0.014204	0.008715	0.006184	0.004248	0.002222	0.000226	-0.001213	1.029-005	0.000+000
115(-0.42)	0.023889	0.018955	0.015823	0.013870	0.008135	0.005450	0.003305	0.001229	-0.000339	-0.001126	8.685-006	0.000+000
120(-0.50)	0.023468	0.018537	0.015647	0.013619	0.007590	0.004746	0.002446	0.000509	-0.000530	-0.000872	1.115-005	0.000+000
130(-0.64)	0.022722	0.017790	0.015332	0.013390	0.006592	0.003408	0.001047	-0.000188	-0.000590	-0.000384	1.108-005	0.000+000
140(-0.77)	0.022110	0.017165	0.015058	0.013477	0.005684	0.002155	0.000190	-0.000240	-0.000156	-0.000106	8.211-006	0.000+000
150(-0.87)	0.021635	0.016671	0.014826	0.013712	0.004836	0.001064	-0.000128	-0.000105	-0.000030	-0.000013	5.842-006	0.000+000
160(-0.94)	0.021296	0.016312	0.014646	0.013912	0.004061	0.000283	-0.000124	-0.000005	0.000011	-0.000000	3.770-006	0.000+000
170(-0.98)	0.021093	0.016094	0.014530	0.014014	0.003464	-0.000125	-0.000047	0.000042	0.000012	0.000000	1.859-006	0.000+000
177(-1.00)	0.021030	0.016026	0.014493	0.014039	0.003246	-0.000232	-0.000016	0.000055	0.000008	-0.000000	2.316-007	0.000+000
ENERGY SUM	0.333268	0.272200	0.215169	0.203433	0.148392	0.121666	0.109649	0.109301	0.122043	0.157640		

TOTAL DOSE RATE = 0.001551(MR/HR)

TOTAL DOSE BUILDUP= 1.913359

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 1.4070 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.018324	0.015218	0.010651	0.010184	0.010561	0.013631	0.013949	0.012759	0.013778	0.017474	3.803-006	1.873+000
10(0.98)	0.018250	0.015136	0.010599	0.010130	0.010582	0.013540	0.013811	0.012691	0.013878	0.017619	3.022-005	1.880+000
20(0.94)	0.018013	0.014880	0.010435	0.009954	0.010606	0.013277	0.013218	0.014204	0.018065	5.900-005	1.905+000
30(0.87)	0.017627	0.014472	0.010164	0.009646	0.010491	0.011572	0.012294	0.013343	0.014738	0.018741	8.439-005	1.951+000
40(0.77)	0.017108	0.013939	0.009806	0.009196	0.010082	0.010437	0.011010	0.012717	0.015145	0.019565	1.032-004	2.030+000
50(0.64)	0.016483	0.013310	0.009396	0.008686	0.009359	0.009168	0.009542	0.011150	0.014422	0.019987	1.101-004	2.168+000
60(0.50)	0.015785	0.012622	0.008975	0.008255	0.008421	0.007818	0.007890	0.009906	0.011615	0.017665	7.257-005	2.449+000
65(0.42)	0.015423	0.012269	0.008774	0.008090	0.007916	0.007140	0.007016	0.007647	0.009556	0.014504	4.029-005	2.758+000
70(0.34)	0.015058	0.011919	0.008587	0.007951	0.007407	0.006478	0.006142	0.006366	0.007280	0.010088	2.981-005	3.490+000
75(0.26)	0.014695	0.011577	0.008426	0.007824	0.006909	0.005842	0.005300	0.005121	0.005062	0.005213	1.923-005	6.218+000
80(0.17)	0.014339	0.011248	0.008276	0.007700	0.006451	0.005245	0.004513	0.003975	0.003135	0.001060	1.170-005	3.581+001
85(0.09)	0.013992	0.010934	0.008158	0.007572	0.005940	0.004690	0.003799	0.002975	0.001659	-0.001378	8.731-006	4.118+004
90(-0.00)	0.013659	0.010638	0.008065	0.007440	0.005557	0.004180	0.003163	0.002146	0.000694	-0.001837	7.276-006	0.000+000
95(-0.09)	0.013340	0.010360	0.007996	0.007305	0.005163	0.003712	0.002600	0.001485	0.000198	-0.000912	6.272-006	0.000+000
100(-0.17)	0.013037	0.010099	0.007948	0.007169	0.004792	0.003277	0.002098	0.000972	0.000053	0.000352	5.711-006	0.000+000
105(-0.26)	0.012750	0.009853	0.007917	0.007031	0.004441	0.002869	0.001645	0.000585	0.000098	0.001093	5.573-006	0.000+000
110(-0.34)	0.012479	0.009621	0.007901	0.006892	0.004105	0.002479	0.001232	0.000310	0.000183	0.001040	5.002-006	0.000+000
115(-0.42)	0.012226	0.009401	0.007896	0.006748	0.003779	0.002102	0.000861	0.000134	0.000204	0.000472	4.130-006	0.000+000
120(-0.50)	0.011988	0.009194	0.007900	0.006602	0.003461	0.001734	0.000541	0.000042	0.000127	-0.000145	5.010-006	0.000+000
130(-0.64)	0.011564	0.008817	0.007917	0.006341	0.002843	0.001037	0.000113	-0.000016	-0.000156	-0.000529	5.006-006	0.000+000
140(-0.77)	0.011208	0.008502	0.007931	0.006222	0.002254	0.000445	-0.000023	-0.000087	-0.000234	-0.000215	3.767-006	0.000+000
150(-0.87)	0.010925	0.008253	0.007935	0.006291	0.001696	0.000067	-0.000044	-0.000150	-0.000089	-0.000029	2.707-006	0.000+000
160(-0.94)	0.010719	0.008069	0.007933	0.006447	0.001156	-0.000059	-0.000123	-0.000081	0.000016	-0.000000	1.767-006	0.000+000
170(-0.98)	0.010594	0.007958	0.007932	0.006567	0.000646	-0.000043	-0.000228	0.000047	0.000026	0.000000	8.822-007	0.000+000
177(-1.00)	0.010555	0.007923	0.007932	0.006606	0.000498	-0.000024	-0.000267	0.000099	0.000019	-0.000000	1.105-007	0.000+000
ENERGY SUM	0.175583	0.138174	0.107290	0.095668	0.073862	0.062282	0.056616	0.056175	0.061741	0.078295		

TOTAL DOSE RATE = 0.000626(MR/HR)

TOTAL DOSE
BUILDUP= 2.503161

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0092 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.066	0.111	0.141	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.059244	0.058925	0.052994	0.055009	0.046695	0.060056	0.057568	0.006418	0.000063	0.001038	3.291-006	1.302+000
10(0.98)	0.059360	0.059131	0.053425	0.055343	0.047264	0.061494	0.054760	0.010387	-0.000003	0.001060	2.659-005	1.305+000
20(0.94)	0.059785	0.059864	0.054939	0.056507	0.049237	0.065852	0.048729	0.020283	0.001575	0.001153	5.513-005	1.309+000
30(0.87)	0.060670	0.061515	0.057879	0.058774	0.052961	0.071612	0.044781	0.030396	0.009423	0.001522	8.826-005	1.322+000
40(0.77)	0.062232	0.063762	0.062704	0.062521	0.058915	0.076705	0.045272	0.038603	0.026447	0.004644	1.304-004	1.346+000
50(0.64)	0.064601	0.067332	0.069479	0.067864	0.067353	0.080946	0.050238	0.047414	0.050270	0.023284	1.902-004	1.385+000
60(0.50)	0.067582	0.071642	0.077192	0.074052	0.077372	0.085489	0.058573	0.059462	0.077582	0.082852	2.128-004	1.428+000
65(0.42)	0.069116	0.073751	0.080711	0.076866	0.082116	0.087620	0.063041	0.066163	0.091449	0.130166	1.755-004	1.431+000
70(0.34)	0.070535	0.075597	0.083548	0.079042	0.086009	0.089031	0.066791	0.072110	0.103714	0.180525	2.197-004	1.406+000
75(0.26)	0.071731	0.076981	0.085360	0.080248	0.088554	0.089113	0.069014	0.076020	0.112022	0.220540	2.822-004	1.341+000
80(0.17)	0.072619	0.077795	0.085984	0.080252	0.089379	0.087376	0.069052	0.076745	0.113915	0.235989	3.896-004	1.239+000
85(0.09)	0.073159	0.077981	0.085344	0.078995	0.088513	0.083642	0.066634	0.073727	0.107985	0.218463	6.736-004	1.120+000
90(-0.00)	0.073356	0.077581	0.083573	0.076616	0.085429	0.078132	0.062014	0.067289	0.094786	0.170371	6.341-005	0.000+000
95(-0.09)	0.073268	0.076719	0.080947	0.073436	0.081055	0.071431	0.055916	0.058586	0.076820	0.104839	5.069-005	0.000+000
100(-0.17)	0.072972	0.075571	0.077832	0.069874	0.075739	0.064331	0.049320	0.049192	0.057548	0.040067	3.747-005	0.000+000
105(-0.26)	0.072564	0.074421	0.074621	0.066354	0.070139	0.057620	0.043148	0.040545	0.039988	-0.008645	2.791-005	0.000+000
110(-0.34)	0.072121	0.073123	0.071628	0.063212	0.064868	0.051900	0.038020	0.033504	0.025736	-0.034555	2.235-005	0.000+000
115(-0.42)	0.071699	0.072079	0.069073	0.060646	0.060352	0.047504	0.034150	0.028211	0.014897	-0.040075	1.881-005	0.000+000
120(-0.50)	0.071317	0.071222	0.067048	0.058705	0.056763	0.044524	0.031403	0.024251	0.006772	-0.033052	2.447-005	0.000+000
130(-0.64)	0.070648	0.069993	0.064440	0.056378	0.052063	0.042545	0.027917	0.017741	-0.003622	-0.011910	2.544-005	0.000+000
140(-0.77)	0.069991	0.069110	0.063036	0.055229	0.049477	0.041115	0.024957	0.010254	-0.006603	-0.001996	1.954-005	0.000+000
150(-0.87)	0.069286	0.068321	0.062063	0.054432	0.047884	0.040561	0.020994	0.002299	-0.003861	0.000115	1.423-005	0.000+000
160(-0.94)	0.068615	0.067614	0.061253	0.053741	0.046764	0.039873	0.015579	-0.002813	-0.000600	0.000006	9.267-006	0.000+000
170(-0.98)	0.068131	0.067112	0.060673	0.053253	0.046014	0.038821	0.010021	-0.003815	0.000513	-0.000002	4.614-006	0.000+000
177(-1.00)	0.067966	0.066942	0.060474	0.053091	0.045757	0.038547	0.007695	-0.003476	0.000556	-0.000006	5.801-007	0.000+000
ENERGY SUM	0.671212	0.895806	0.901891	0.834231	0.844659	0.847573	0.579897	0.514824	0.562345	0.699607		

TOTAL DOSE RATE = 0.003605(MR/HR)

TOTAL DOSE BUILDUP= 1.306650

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1525 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.046	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.063900	0.063901	0.059403	0.057456	0.049724	0.058332	0.056085	0.020581	0.012590	0.014808	3.181-006	1.453+000
10(0.98)	0.064044	0.064112	0.059796	0.057763	0.050199	0.059379	0.054263	0.023218	0.013104	0.015221	2.567-005	1.455+000
20(0.94)	0.064526	0.064819	0.061113	0.058787	0.051797	0.062590	0.050295	0.029811	0.015885	0.016665	5.285-005	1.462+000
30(0.87)	0.065401	0.066090	0.063486	0.060629	0.054670	0.066985	0.047597	0.036684	0.023543	0.019622	8.341-005	1.474+000
40(0.77)	0.066732	0.068007	0.067044	0.063403	0.058975	0.071037	0.047755	0.042514	0.037330	0.026337	1.201-004	1.495+000
50(0.64)	0.068488	0.070504	0.071587	0.066981	0.064617	0.074141	0.050710	0.048697	0.054782	0.044992	1.674-004	1.524+000
60(0.50)	0.070427	0.073167	0.076210	0.070644	0.070717	0.076523	0.055397	0.056305	0.072934	0.088614	1.736-004	1.561+000
65(0.42)	0.071305	0.074417	0.078076	0.072076	0.073331	0.077206	0.057641	0.060070	0.081204	0.119055	1.355-004	1.552+000
70(0.34)	0.072035	0.075187	0.079337	0.072952	0.075231	0.077175	0.059197	0.062970	0.087671	0.148718	1.574-004	1.532+000
75(0.26)	0.072543	0.075672	0.079821	0.073082	0.076134	0.076097	0.059571	0.064212	0.090651	0.169037	1.801-004	1.489+000
80(0.17)	0.072787	0.075705	0.079431	0.072355	0.075864	0.073741	0.058405	0.063156	0.089391	0.171767	1.977-004	1.436+000
85(0.09)	0.072750	0.075277	0.078176	0.070776	0.074380	0.070082	0.055614	0.059590	0.082678	0.153004	1.726-004	1.487+000
90(-0.00)	0.072465	0.074439	0.076179	0.068481	0.071795	0.065343	0.051445	0.053865	0.071403	0.115806	4.925-005	0.000+000
95(-0.09)	0.071950	0.073292	0.073653	0.065706	0.068363	0.059958	0.046429	0.046824	0.057403	0.069530	3.979-005	0.000+000
100(-0.17)	0.071302	0.071968	0.070861	0.062744	0.064444	0.054461	0.041219	0.039518	0.042986	0.029931	3.034-005	0.000+000
105(-0.26)	0.070582	0.070595	0.068056	0.059874	0.060442	0.049356	0.036401	0.032851	0.030036	-0.005785	2.351-005	0.000+000
110(-0.34)	0.069847	0.069282	0.065461	0.057310	0.056719	0.045009	0.032348	0.027328	0.019563	-0.022134	1.931-005	0.000+000
115(-0.42)	0.069138	0.068093	0.063205	0.055171	0.053515	0.041608	0.029165	0.022994	0.011526	-0.029323	1.648-005	0.000+000
120(-0.50)	0.068473	0.067057	0.061344	0.053480	0.050920	0.039189	0.026743	0.019559	0.005495	-0.020679	2.156-005	0.000+000
130(-0.64)	0.067279	0.065397	0.058695	0.051223	0.047328	0.037073	0.023256	0.013733	-0.002076	-0.007350	2.243-005	0.000+000
140(-0.77)	0.066213	0.064107	0.057004	0.049880	0.045124	0.038118	0.020169	0.007641	-0.004161	-0.001226	1.718-005	0.000+000
150(-0.87)	0.065253	0.063138	0.055774	0.048924	0.043642	0.041362	0.016478	0.001803	-0.002406	-0.000072	1.248-005	0.000+000
160(-0.94)	0.064460	0.062188	0.054830	0.048183	0.042587	0.044905	0.011931	-0.001708	-0.000363	0.000004	8.128-006	0.000+000
170(-0.98)	0.063934	0.061630	0.054209	0.047698	0.041906	0.047102	0.007538	-0.002358	0.000317	-0.000001	4.036-006	0.000+000
177(-1.00)	0.063761	0.061448	0.054005	0.047541	0.041679	0.047709	0.005747	-0.002128	0.000346	-0.000004	5.058-007	0.000+000
ENERGY SUM	0.869408	0.876934	0.857159	0.776164	0.759545	0.739855	0.519116	0.460205	0.496332	0.608002		

TOTAL DOSE RATE = 0.001726 (MR/HR)

TOTAL DOSE
BUILDUP= 1.777110

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,662 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,3050 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,067	0,086	0,111	0,143	0,184	0,223	0,288	0,372	0,481	0,621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,066541	0,066516	0,062975	0,057907	0,050735	0,055792	0,053885	0,030604	0,022326	0,025449	3,030-006	1,612+000
10(0,98)	0,066680	0,066701	0,063299	0,058164	0,051106	0,056522	0,052780	0,032217	0,023163	0,026103	2,441-005	1,615+000
20(0,94)	0,067124	0,067297	0,064347	0,058989	0,052321	0,058783	0,050308	0,036259	0,026476	0,028357	4,989-005	1,623+000
30(0,87)	0,067860	0,068288	0,066104	0,060371	0,054396	0,061971	0,048480	0,040556	0,033474	0,032778	7,764-005	1,637+000
40(0,77)	0,068852	0,069628	0,068489	0,062249	0,057275	0,064987	0,048284	0,044349	0,044095	0,041179	1,090-004	1,656+000
50(0,64)	0,069975	0,071136	0,071156	0,064355	0,060662	0,067022	0,049596	0,048232	0,056149	0,058160	1,456-004	1,681+000
60(0,50)	0,070970	0,072421	0,073354	0,066053	0,063774	0,067736	0,051469	0,052269	0,067013	0,088198	1,405-004	1,703+000
65(0,42)	0,071306	0,072805	0,073953	0,066454	0,064823	0,067395	0,052059	0,053805	0,071043	0,105758	1,040-004	1,709+000
70(0,34)	0,071471	0,072920	0,074051	0,066389	0,065295	0,066393	0,052031	0,054473	0,073275	0,120327	1,125-004	1,709+000
75(0,26)	0,071432	0,072714	0,073565	0,065770	0,065061	0,064592	0,051120	0,053837	0,072890	0,126937	1,155-004	1,721+000
80(0,17)	0,071171	0,072166	0,072472	0,064566	0,064073	0,061931	0,049175	0,051618	0,069267	0,121567	1,047-004	1,831+000
85(0,09)	0,070694	0,071292	0,070818	0,062823	0,062374	0,058481	0,046229	0,047822	0,062357	0,103271	6,403-005	3,175+000
90(-0,00)	0,070029	0,070147	0,068715	0,060661	0,060090	0,054448	0,042508	0,042790	0,052865	0,075209	3,800-005	0,000+000
95(-0,09)	0,069221	0,068813	0,066322	0,058252	0,057409	0,050143	0,038383	0,037115	0,042088	0,043725	3,111-005	0,000+000
100(-0,17)	0,068321	0,067383	0,063818	0,055791	0,054555	0,045907	0,034265	0,031454	0,031471	0,015825	2,450-005	0,000+000
105(-0,26)	0,067383	0,065947	0,061371	0,053450	0,051751	0,042039	0,030497	0,026329	0,022119	-0,003586	1,971-005	0,000+000
110(-0,34)	0,066450	0,064576	0,059111	0,051354	0,049181	0,038739	0,027276	0,022001	0,014533	-0,013187	1,657-005	0,000+000
115(-0,42)	0,065551	0,063314	0,057118	0,049569	0,046960	0,036096	0,024640	0,018457	0,008683	-0,014855	1,431-005	0,000+000
120(-0,50)	0,064703	0,062178	0,055420	0,048102	0,045119	0,034113	0,022501	0,015504	0,004287	-0,012005	1,883-005	0,000+000
130(-0,64)	0,063175	0,060267	0,052828	0,045973	0,042416	0,031948	0,019121	0,010406	-0,001053	-0,004240	1,960-005	0,000+000
140(-0,77)	0,061857	0,058742	0,051008	0,044561	0,040585	0,031919	0,016063	0,005541	-0,002448	-0,000726	1,499-005	0,000+000
150(-0,87)	0,060753	0,057520	0,049661	0,043547	0,039271	0,033539	0,012709	0,001372	-0,001396	-0,000049	1,088-005	0,000+000
160(-0,94)	0,059903	0,056602	0,048672	0,042809	0,038329	0,035706	0,008949	-0,000944	-0,000207	0,000002	7,087-006	0,000+000
170(-0,98)	0,059365	0,056026	0,048053	0,042351	0,037736	0,037254	0,005547	-0,001350	0,000180	-0,000001	3,511-006	0,000+000
177(-1,00)	0,059192	0,055842	0,047854	0,042206	0,037544	0,037733	0,004201	-0,001209	0,000198	-0,000003	4,389-007	0,000+000
ENERGY SUM	0,848540	0,840767	0,801222	0,711828	0,676356	0,641386	0,460828	0,408001	0,434447	0,523670		

TOTAL DOSE RATE = 0,001270(MR/HR)

TOTAL DOSE BUILDUP= 2,112730

LOWER ENERGY CUTOFF 0,0426MEV

LOWEST SINGLE SCATTERING ENERGY 0,1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.6101 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.096	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.066559	0.065975	0.063314	0.054570	0.048415	0.049451	0.048300	0.040099	0.033540	0.037607	2.667-006	1.926+000
10(0.98)	0.066635	0.066068	0.063477	0.054707	0.048599	0.049762	0.047972	0.040485	0.034490	0.038393	2.140-005	1.930+000
20(0.94)	0.066661	0.066343	0.063960	0.055113	0.049160	0.050731	0.047107	0.041433	0.037575	0.041041	4.315-005	1.942+000
30(0.87)	0.067166	0.066713	0.064624	0.055675	0.049988	0.052145	0.046136	0.042460	0.042468	0.045964	6.545-005	1.962+000
40(0.77)	0.067431	0.067025	0.065217	0.056190	0.050853	0.053450	0.045327	0.043382	0.048045	0.054016	8.802-005	1.991+000
50(0.64)	0.067479	0.067242	0.065348	0.056327	0.051354	0.053835	0.044513	0.043978	0.052604	0.065527	1.094-004	2.029+000
60(0.50)	0.067104	0.066481	0.064560	0.055664	0.050972	0.052584	0.043055	0.043481	0.054313	0.076805	9.347-005	2.086+000
65(0.42)	0.066703	0.065909	0.063708	0.054917	0.050309	0.051220	0.041818	0.042444	0.053453	0.079255	6.333-005	2.141+000
70(0.34)	0.066144	0.065122	0.062527	0.053869	0.049303	0.049362	0.040138	0.040702	0.051132	0.077515	6.091-005	2.259+000
75(0.26)	0.065429	0.064127	0.061037	0.052534	0.047979	0.047061	0.037998	0.038216	0.047267	0.070685	5.349-005	2.591+000
80(0.17)	0.064572	0.062947	0.059283	0.050957	0.046407	0.044414	0.035456	0.035062	0.042010	0.059062	4.036-005	4.088+000
85(0.09)	0.063595	0.061621	0.057334	0.049209	0.044686	0.041556	0.032634	0.031430	0.035767	0.044273	2.779-005	4.563+001
90(-0.00)	0.062531	0.060198	0.055275	0.047377	0.042928	0.038639	0.029695	0.027579	0.029116	0.028816	2.342-005	0.000+000
95(-0.09)	0.061412	0.058728	0.053192	0.045547	0.041230	0.035810	0.026804	0.023776	0.022647	0.015207	1.974-005	0.000+000
100(-0.17)	0.060274	0.057263	0.051163	0.043793	0.039660	0.033187	0.024095	0.020230	0.016814	0.005138	1.654-005	0.000+000
105(-0.26)	0.059145	0.055840	0.049250	0.042171	0.038251	0.030847	0.021645	0.017052	0.011866	-0.000918	1.410-005	0.000+000
110(-0.34)	0.058049	0.054491	0.047492	0.040712	0.037012	0.028820	0.019476	0.014261	0.007857	-0.003560	1.226-005	0.000+000
115(-0.42)	0.057003	0.053252	0.045910	0.039425	0.035931	0.027105	0.017564	0.011812	0.004737	-0.003934	1.078-005	0.000+000
120(-0.50)	0.056019	0.052073	0.044506	0.038306	0.034990	0.025679	0.015863	0.009631	0.002419	-0.003194	1.432-005	0.000+000
130(-0.64)	0.054260	0.050059	0.042191	0.036509	0.033440	0.023605	0.012874	0.005858	-0.000153	-0.001281	1.493-005	0.000+000
140(-0.77)	0.052798	0.048434	0.040432	0.035191	0.032226	0.022499	0.010153	0.002811	-0.000707	-0.000312	1.142-005	0.000+000
150(-0.87)	0.051646	0.047178	0.039125	0.034249	0.031286	0.022321	0.007502	0.000747	-0.000394	-0.000043	8.295-006	0.000+000
160(-0.94)	0.050815	0.046282	0.038212	0.033611	0.030611	0.022816	0.004964	-0.000193	-0.000075	-0.000001	5.412-006	0.000+000
170(-0.98)	0.050312	0.045743	0.037669	0.033239	0.030203	0.023447	0.002961	-0.000359	0.000044	-0.000000	2.676-006	0.000+000
177(-1.00)	0.050154	0.045575	0.037500	0.033124	0.030074	0.023701	0.002225	-0.000330	0.000062	-0.000001	3.337-007	0.000+000
ENERGY SUM	0.770484	0.740881	0.679267	0.585433	0.532330	0.484258	0.361849	0.319694	0.332618	0.388482		

TOTAL DOSE RATE = 0.000824(MR/HR)

TOTAL DOSE BUILDUP= 2.757827

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.9151 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.062062	0.060827	0.058410	0.048336	0.043114	0.042500	0.042027	0.041293	0.037361	0.041682	2.279-006	2.233+000
10(0.98)	0.062063	0.060826	0.058431	0.048366	0.043156	0.042576	0.041997	0.041099	0.038102	0.042352	1.821-005	2.239+000
20(0.94)	0.062041	0.060795	0.058452	0.048425	0.043250	0.042798	0.041734	0.040560	0.040272	0.044553	3.626-005	2.258+000
30(0.87)	0.061925	0.060642	0.058323	0.048389	0.043262	0.043099	0.041014	0.039894	0.043025	0.048428	5.374-005	2.292+000
40(0.77)	0.061597	0.060214	0.057793	0.048051	0.042955	0.043230	0.039786	0.039129	0.045081	0.054103	6.963-005	2.345+000
50(0.64)	0.060908	0.059316	0.056555	0.047140	0.041998	0.042583	0.037909	0.037801	0.045281	0.060146	8.154-005	2.431+000
60(0.50)	0.059734	0.057786	0.054886	0.045424	0.040111	0.040504	0.035021	0.035074	0.042484	0.060872	8.343-005	2.605+000
65(0.42)	0.058949	0.056769	0.052948	0.044249	0.038815	0.038867	0.033112	0.032975	0.039594	0.056720	4.023-005	2.799+000
70(0.34)	0.058041	0.055600	0.051313	0.042895	0.037341	0.036903	0.030919	0.030392	0.035684	0.048997	3.575-005	3.234+000
75(0.26)	0.057027	0.054306	0.049534	0.041413	0.035765	0.034719	0.028522	0.027440	0.030968	0.038488	2.906-005	4.574+000
80(0.17)	0.055930	0.052926	0.047672	0.039866	0.034180	0.032443	0.026039	0.024304	0.025846	0.026923	2.189-005	1.285+001
85(0.09)	0.054778	0.051498	0.045792	0.038318	0.032680	0.030200	0.023595	0.021190	0.020789	0.016366	1.758-005	9.559+002
90(-0.00)	0.053598	0.050060	0.043950	0.036824	0.031342	0.028088	0.021292	0.018267	0.016185	0.008390	1.517-005	0.000+000
95(-0.09)	0.052416	0.048646	0.042190	0.035422	0.030210	0.026163	0.019185	0.015625	0.012236	0.003515	1.320-005	0.000+000
100(-0.17)	0.051253	0.047279	0.040540	0.034131	0.029284	0.024441	0.017283	0.013273	0.008959	0.001213	1.163-005	0.000+000
105(-0.26)	0.050126	0.045975	0.039014	0.032955	0.028530	0.022911	0.015560	0.011166	0.006269	0.000423	1.032-005	0.000+000
110(-0.34)	0.049048	0.044747	0.037616	0.031889	0.027898	0.021547	0.013981	0.009250	0.004085	0.000177	9.176-006	0.000+000
115(-0.42)	0.048031	0.043601	0.036343	0.030926	0.027342	0.020324	0.012513	0.007489	0.002378	-0.000037	8.139-006	0.000+000
120(-0.50)	0.047080	0.042541	0.035191	0.030059	0.026832	0.019225	0.011137	0.005876	0.001152	-0.000298	1.084-005	0.000+000
130(-0.64)	0.045403	0.040692	0.033235	0.028602	0.025913	0.017367	0.008622	0.003164	0.000000	-0.000529	1.135-005	0.000+000
140(-0.77)	0.044044	0.039214	0.031720	0.027503	0.025138	0.015960	0.006373	0.001305	-0.000137	-0.000281	8.705-006	0.000+000
150(-0.87)	0.043006	0.038098	0.030612	0.026732	0.024530	0.015077	0.004359	0.000352	-0.000092	-0.000060	6.343-006	0.000+000
160(-0.94)	0.042280	0.037322	0.029864	0.026234	0.024100	0.014778	0.002673	0.000029	-0.000059	-0.000003	4.149-006	0.000+000
170(-0.98)	0.041850	0.036866	0.029433	0.025955	0.023850	0.014877	0.001535	-0.000069	0.000001	0.000000	2.054-006	0.000+000
177(-1.00)	0.041717	0.036724	0.029301	0.025870	0.023774	0.014971	0.001159	-0.000102	0.000033	-0.000000	2.560-007	0.000+000
ENERGY SUM	0.669694	0.628387	0.559927	0.471472	0.415870	0.367395	0.282949	0.249570	0.254351	0.288224		

TOTAL DOSE RATE = 0.000581(MR/HR)

TOTAL DOSE BUILDUP= 3.422452

LOWER ENERGY CUTOFF 0.0426MEV

[illegible] SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,662 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400,0 FT OR 1,2202 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,067	0,086	0,111	0,143	0,184	0,223	0,288	0,372	0,481	0,621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,055235	0,053554	0,051207	0,041208	0,036852	0,035729	0,035770	0,038463	0,036842	0,041063	1,906-006	2.534+000
10(0,98)	0,055174	0,053482	0,051130	0,041164	0,036802	0,035679	0,035832	0,038020	0,037301	0,041528	1,518-005	2.543+000
20(0,94)	0,054961	0,053230	0,050846	0,040990	0,036604	0,035489	0,035741	0,036825	0,038510	0,042999	2,987-005	2.573+000
30(0,87)	0,054544	0,052728	0,050235	0,040587	0,036146	0,035145	0,035046	0,035349	0,039262	0,045406	4,334-005	2.628+000
40(0,77)	0,053834	0,051860	0,049104	0,039791	0,035240	0,034573	0,033593	0,033697	0,039361	0,048502	5,433-005	2.725+000
50(0,64)	0,052732	0,050494	0,047250	0,038413	0,033655	0,033386	0,031301	0,031400	0,037234	0,050477	6,060-005	2.905+000
60(0,50)	0,051180	0,048561	0,044600	0,036355	0,031281	0,031091	0,028001	0,027788	0,032567	0,046010	4,387-005	3.317+000
65(0,42)	0,050244	0,047398	0,043024	0,035103	0,029857	0,029508	0,025982	0,025401	0,029094	0,039569	2,658-005	3.806+000
70(0,34)	0,049220	0,046135	0,041341	0,033756	0,028360	0,027726	0,023796	0,022714	0,024966	0,030509	2,256-005	4.978+000
75(0,26)	0,048129	0,044805	0,039607	0,032370	0,026874	0,025856	0,021552	0,019889	0,020492	0,020192	1,790-005	9.158+000
80(0,17)	0,046997	0,043445	0,037883	0,031006	0,025483	0,024017	0,019371	0,017123	0,016107	0,010628	1,404-005	4.771+001
85(0,09)	0,045848	0,042090	0,036218	0,029712	0,024259	0,022304	0,017356	0,014589	0,012224	0,003642	1,183-005	2.130+004
90(-0,00)	0,044706	0,040766	0,034648	0,028520	0,023248	0,020772	0,015562	0,012384	0,009071	0,000050	1,039-005	0.000+000
95(-0,09)	0,043588	0,039495	0,033191	0,027441	0,022461	0,019426	0,013988	0,010502	0,006640	-0,000637	9,326-006	0.000+000
100(-0,17)	0,042508	0,038286	0,031852	0,026468	0,021872	0,018239	0,012587	0,008868	0,004759	0,000206	8,460-006	0.000+000
105(-0,26)	0,041477	0,037146	0,030625	0,025585	0,021427	0,017168	0,011302	0,007389	0,003235	0,001150	7,742-006	0.000+000
110(-0,34)	0,040502	0,036077	0,029500	0,024778	0,021067	0,016173	0,010085	0,006000	0,001971	0,001392	6,985-006	0.000+000
115(-0,42)	0,039590	0,035082	0,028469	0,024035	0,020744	0,015235	0,008914	0,004689	0,000979	0,000914	6,263-006	0.000+000
120(-0,50)	0,038746	0,034165	0,027528	0,023354	0,020434	0,014348	0,007790	0,003485	0,000311	0,000155	5,200-006	0.000+000
130(-0,64)	0,037278	0,032578	0,025921	0,022194	0,019851	0,012743	0,005726	0,001564	-0,000124	-0,000664	8,598-006	0.000+000
140(-0,77)	0,036117	0,031332	0,024689	0,021324	0,019347	0,011374	0,003942	0,000470	-0,000053	-0,000397	6,626-006	0.000+000
150(-0,87)	0,035252	0,030412	0,023815	0,020736	0,019008	0,010299	0,002449	0,000103	-0,000075	-0,000085	4,851-006	0.000+000
160(-0,94)	0,034659	0,029785	0,023246	0,020374	0,018770	0,009676	0,001349	0,000040	-0,000089	-0,000004	3,185-006	0.000+000
170(-0,98)	0,034313	0,029421	0,022927	0,020179	0,018640	0,009501	0,000746	-0,000062	-0,000003	0,000001	1,581-006	0.000+000
177(-1,00)	0,034207	0,029309	0,022830	0,020121	0,018602	0,009501	0,000585	-0,000134	0,000047	0,000001	1,973-007	0.000+000
ENERGY SUM	0,565127	0,519643	0,452915	0,374444	0,323202	0,279687	0,220472	0,194185	0,194281	0,213881		

TOTAL DOSE RATE = 0,000424(MR/HR)

TOTAL DOSE BUILDUP= 4,135426

LOWER ENERGY CUTOFF 0,0426MEV

LOWEST SINGLE SCATTERING ENERGY 0,1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,662 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 1,5252 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,067	0,086	0,111	0,143	0,184	0,223	0,288	0,372	0,481	0,621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,047511	0,045651	0,043398	0,034248	0,030686	0,029551	0,029931	0,033995	0,033949	0,037922	1,569-006	2,831+000
10(0,98)	0,047413	0,045538	0,043269	0,034162	0,030586	0,029442	0,030013	0,033459	0,034184	0,038174	1,245-005	2,844+000
20(0,94)	0,047088	0,045162	0,042825	0,033865	0,030237	0,029046	0,029948	0,032015	0,034635	0,038913	2,424-005	2,889+000
30(0,87)	0,046507	0,044482	0,041991	0,033287	0,029559	0,028368	0,029228	0,030218	0,034531	0,039955	3,450-005	2,976+000
40(0,77)	0,045615	0,043422	0,040631	0,032312	0,028422	0,027452	0,027710	0,028203	0,033028	0,040998	4,203-005	3,139+000
50(0,64)	0,044356	0,041903	0,038620	0,030817	0,026674	0,026076	0,025378	0,025569	0,029857	0,040547	4,567-005	3,472+000
60(0,50)	0,042716	0,039912	0,035967	0,028778	0,024293	0,023868	0,022172	0,021820	0,024757	0,034194	3,096-005	4,309+000
65(0,42)	0,041772	0,038769	0,034466	0,027604	0,022949	0,022454	0,020287	0,019508	0,021375	0,027467	1,821-005	5,368+000
70(0,34)	0,040747	0,037562	0,032911	0,026384	0,021593	0,020924	0,018310	0,017018	0,017577	0,018839	1,509-005	8,125+000
75(0,26)	0,039723	0,036324	0,031357	0,025174	0,020302	0,019381	0,016350	0,014520	0,013642	0,009806	1,195-005	1,986+001
80(0,17)	0,038663	0,035087	0,029855	0,024024	0,019147	0,017928	0,014520	0,012196	0,010108	0,002331	9,648-006	1,900+002
85(0,09)	0,037609	0,033879	0,028443	0,022971	0,018178	0,016634	0,012899	0,010185	0,007196	-0,002062	8,381-006	4,997+005
90(-0,00)	0,036578	0,032720	0,027140	0,022031	0,017417	0,015521	0,011512	0,008532	0,005066	-0,003060	7,502-006	0,000+000
95(-0,09)	0,035583	0,031622	0,025952	0,021198	0,016858	0,014569	0,010324	0,007179	0,003598	-0,001684	6,837-006	0,000+000
100(-0,17)	0,034633	0,030588	0,024870	0,020453	0,016463	0,013726	0,009267	0,006015	0,002502	0,000361	6,325-006	0,000+000
105(-0,26)	0,033735	0,029618	0,023880	0,019774	0,016176	0,012940	0,008274	0,004933	0,001590	0,001648	5,878-006	0,000+000
110(-0,34)	0,032894	0,028713	0,022968	0,019144	0,015940	0,012174	0,007302	0,003881	0,000778	0,001660	5,297-006	0,000+000
115(-0,42)	0,032114	0,027874	0,022129	0,018555	0,015717	0,011418	0,006343	0,002870	0,000130	0,000764	4,656-006	0,000+000
120(-0,50)	0,031399	0,027105	0,021360	0,018010	0,015493	0,010681	0,005416	0,001950	-0,000267	-0,000305	6,160-006	0,000+000
130(-0,64)	0,030179	0,025794	0,020056	0,017084	0,015078	0,009320	0,003738	0,000588	-0,000340	-0,001132	6,508-006	0,000+000
140(-0,77)	0,029240	0,024791	0,019087	0,016416	0,014774	0,008115	0,002352	-0,000014	-0,000150	-0,000567	5,038-006	0,000+000
150(-0,87)	0,028560	0,024072	0,018433	0,015991	0,014587	0,007071	0,001263	-0,000062	-0,000164	-0,000111	3,704-006	0,000+000
160(-0,94)	0,028103	0,023593	0,018029	0,015749	0,014485	0,006361	0,000563	-0,000022	-0,000136	-0,000006	2,442-006	0,000+000
170(-0,98)	0,027840	0,023319	0,017811	0,015625	0,014441	0,006079	0,000300	-0,000159	0,000007	0,000001	1,216-006	0,000+000
177(-1,00)	0,027759	0,023235	0,017746	0,015589	0,014431	0,006037	0,000271	-0,000263	0,000077	0,000001	1,520-007	0,000+000
ENERGY SUM	0,466851	0,422195	0,361582	0,294641	0,250283	0,213392	0,171268	0,150647	0,148234	0,158753		

TOTAL DOSE RATE = 0.000316(MR/HR)

TOTAL DOSE BUILDUP= 4,905752

LOWER ENERGY CUTOFF 0,0426MEV

LOWEST SINGLE SCATTERING ENERGY 0,1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,662 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000,0 FT OR 3,0504 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,067	0,086	0,111	0,143	0,184	0,223	0,288	0,372	0,481	0,621	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1,00)	0,015775	0,015205	0,014400	0,011318	0,010445	0,010067	0,010498	0,014328	0,014320	0,016676	5,164-007	4,289+000
10(0,98)	0,015724	0,015148	0,014356	0,011288	0,010398	0,010023	0,010769	0,013751	0,014269	0,016414	4,048-006	4,350+000
20(0,94)	0,015571	0,014976	0,014220	0,011200	0,010242	0,009724	0,011048	0,012357	0,014124	0,015525	7,575-006	4,576+000
30(0,87)	0,015339	0,014708	0,013983	0,011039	0,009961	0,009145	0,010650	0,011050	0,013443	0,014143	1,016-005	5,097+000
40(0,77)	0,015023	0,014326	0,013555	0,010727	0,009486	0,008650	0,009775	0,010089	0,011817	0,013489	1,163-005	6,363+000
50(0,64)	0,014579	0,013754	0,012768	0,010116	0,008633	0,008175	0,008668	0,009015	0,010026	0,014928	1,217-005	1,005+001
60(0,50)	0,013956	0,012920	0,011535	0,009096	0,007254	0,007103	0,007102	0,007200	0,007997	0,013897	8,334-006	2,450+001
65(0,42)	0,013577	0,012412	0,010797	0,008464	0,006445	0,006295	0,006102	0,005916	0,006344	0,009611	4,689-006	5,104+001
70(0,34)	0,013165	0,011868	0,010036	0,007809	0,005666	0,005424	0,005042	0,004486	0,004209	0,002815	3,405-006	1,585+002
75(0,26)	0,012735	0,011314	0,009305	0,007193	0,005006	0,004629	0,004052	0,003118	0,001978	-0,004421	2,433-006	1,466+003
80(0,17)	0,012302	0,010775	0,008645	0,006665	0,004521	0,004029	0,003267	0,002043	0,000224	-0,009149	1,997-006	2,565+005
85(0,09)	0,011880	0,010270	0,008079	0,006251	0,004227	0,003676	0,002755	0,001402	-0,000636	-0,009330	1,787-006	4,243+012
90(-0,00)	0,011477	0,009804	0,007601	0,005939	0,004104	0,003534	0,002485	0,001155	-0,000642	-0,005314	1,690-006	0,000+000
95(-0,09)	0,011098	0,009374	0,007186	0,005689	0,004102	0,003494	0,002336	0,001101	-0,000264	0,000245	1,748-006	0,000+000
100(-0,17)	0,010744	0,008971	0,006801	0,005451	0,004147	0,003430	0,002160	0,000994	-0,000089	0,004084	2,035-006	0,000+000
105(-0,26)	0,010420	0,008590	0,006419	0,005187	0,004156	0,003248	0,001853	0,000676	-0,000425	0,004385	1,885-006	0,000+000
110(-0,34)	0,010129	0,008233	0,006031	0,004885	0,004068	0,002924	0,001404	0,000150	-0,001146	0,001646	1,395-006	0,000+000
115(-0,42)	0,009879	0,007909	0,005646	0,004560	0,003874	0,002506	0,000873	-0,000457	-0,001849	-0,002074	1,100-006	0,000+000
120(-0,50)	0,009677	0,007633	0,005288	0,004248	0,003615	0,002078	0,000355	-0,000983	-0,002176	-0,004736	1,440-006	0,000+000
130(-0,64)	0,009431	0,007264	0,004767	0,003790	0,003170	0,001450	-0,000399	-0,001430	-0,001655	-0,004583	1,498-006	0,000+000
140(-0,77)	0,009374	0,007141	0,004591	0,003643	0,003042	0,001061	-0,000796	-0,001110	-0,001037	-0,001644	1,204-006	0,000+000
150(-0,87)	0,009428	0,007173	0,004684	0,003730	0,003149	0,000592	-0,001029	-0,000544	-0,000877	-0,000245	9,365-007	0,000+000
160(-0,94)	0,009509	0,007252	0,004867	0,003893	0,003326	0,000214	-0,000967	-0,000435	-0,000451	-0,000008	6,499-007	0,000+000
170(-0,98)	0,009568	0,007312	0,005012	0,004015	0,003472	0,000202	-0,000889	-0,000914	0,000101	0,000002	3,406-007	0,000+000
177(-1,00)	0,009587	0,007332	0,005061	0,004054	0,003524	0,000280	-0,000186	-0,001218	0,000300	0,000003	4,367-008	0,000+000
ENERGY SUM	0,149821	0,130343	0,106675	0,084247	0,068216	0,055459	0,046836	0,040873	0,037745	0,035944		

TOTAL DOSE RATE = 0,000085(MR/HR)

TOTAL DOSE BUILDUP= 10,339610

LOWER ENERGY CUTOFF 0,0426MEV

LOWEST SINGLE SCATTERING ENERGY 0,1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0070 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	BU...
2(1.00)	0.045500	0.049183	0.045374	0.047624	0.038776	0.046140	0.037923	-0.001250	0.000239	0.000573	4.965-006	1.1[illegible]
10(0.98)	0.045693	0.049485	0.045792	0.047988	0.039336	0.047396	0.036397	0.001447	0.000003	0.000590	4.011-005	1.200+[illegible]
20(0.94)	0.046322	0.050465	0.047153	0.049212	0.041146	0.050727	0.033260	0.009149	-0.000048	0.000648	8.317-005	1.206+000
30(0.87)	0.047392	0.052132	0.049475	0.051337	0.044219	0.054198	0.031735	0.018789	0.003166	0.000825	1.335-004	1.221+000
40(0.77)	0.048887	0.054448	0.052710	0.054270	0.048543	0.056388	0.033248	0.027628	0.014106	0.002543	1.983-004	1.249+000
50(0.64)	0.050707	0.057219	0.056566	0.057665	0.053808	0.057744	0.037428	0.035907	0.033669	0.014730	2.916-004	1.295+000
60(0.50)	0.052638	0.060025	0.060376	0.060829	0.059150	0.059129	0.042885	0.044977	0.057533	0.057999	3.303-004	1.350+000
65(0.42)	0.053553	0.061262	0.061967	0.062009	0.061425	0.059655	0.045374	0.049411	0.068857	0.094155	2.743-004	1.362+000
70(0.34)	0.054384	0.062290	0.063185	0.062738	0.063189	0.059762	0.047208	0.053023	0.078126	0.133694	3.460-004	1.346+000
75(0.26)	0.055099	0.063050	0.063929	0.062906	0.064283	0.059197	0.048031	0.055098	0.083802	0.165894	4.484-004	1.293+000
80(0.17)	0.055676	0.063508	0.064145	0.062454	0.064594	0.057780	0.047596	0.055057	0.084496	0.178968	6.268-004	1.205+000
85(0.09)	0.056107	0.063656	0.063827	0.061389	0.064048	0.055463	0.045840	0.052673	0.079547	0.165711	1.109-003	1.101+000
90(-0.00)	0.056395	0.063518	0.063029	0.059789	0.062631	0.052345	0.042923	0.048187	0.069466	0.127893	9.784-005	0.000+000
95(-0.09)	0.056559	0.063145	0.061851	0.057789	0.060402	0.048659	0.039195	0.042255	0.055902	0.076276	6.783-005	0.000+000
100(-0.17)	0.056623	0.062603	0.060424	0.055564	0.057521	0.044720	0.035113	0.035752	0.041093	0.025820	4.722-005	0.000+000
105(-0.26)	0.056616	0.061967	0.058890	0.053295	0.054239	0.040856	0.031126	0.029505	0.027101	-0.011112	3.305-005	0.000+000
110(-0.34)	0.056569	0.061307	0.057377	0.051143	0.050848	0.037350	0.027579	0.024061	0.015260	-0.029475	2.539-005	0.000+000
115(-0.42)	0.056505	0.060679	0.055983	0.049229	0.047621	0.034400	0.024655	0.019593	0.006092	-0.031829	2.077-005	0.000+000
120(-0.50)	0.056442	0.060120	0.054773	0.047623	0.044752	0.032123	0.022374	0.015938	-0.000413	-0.024961	2.633-005	0.000+000
130(-0.64)	0.056353	0.059272	0.052972	0.045403	0.040398	0.029780	0.019236	0.009694	-0.006309	-0.008031	2.639-005	0.000+000
140(-0.77)	0.056315	0.058749	0.051885	0.044319	0.037749	0.030573	0.016672	0.003539	-0.005085	-0.001128	1.987-005	0.000+000
150(-0.87)	0.056299	0.058436	0.051256	0.043974	0.036258	0.034244	0.013072	-0.001227	-0.001585	-0.000045	1.436-005	0.000+000
160(-0.94)	0.056281	0.058240	0.050884	0.043963	0.035417	0.039059	0.007520	-0.002410	0.000224	0.000002	9.348-006	0.000+000
170(-0.98)	0.056262	0.058122	0.050675	0.044012	0.034958	0.042611	0.001382	-0.000867	0.000328	-0.000000	4.685-006	0.000+000
177(-1.00)	0.056254	0.058084	0.050610	0.044029	0.034815	0.043732	-0.001261	0.000126	0.000192	-0.000000	5.906-007	0.000+000
ENERGY SUM	0.683107	0.750362	0.716688	0.677353	0.646700	0.591969	0.407109	0.362031	0.395024	0.510487		

TOTAL DOSE RATE = 0.001094 (MR/HR)

TOTAL DOSE BUILDUP= 1.227620

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1172 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.049888	0.053552	0.049452	0.048675	0.039940	0.044800	0.038991	0.007853	0.006889	0.008553	4.800-006	1.295+000
10(0.98)	0.050041	0.053788	0.049778	0.048962	0.040370	0.045757	0.037773	0.009989	0.007005	0.008796	3.877-005	1.297+000
20(0.94)	0.050533	0.054543	0.050825	0.049906	0.041750	0.048341	0.035209	0.015996	0.007947	0.009641	8.006-005	1.305+000
30(0.87)	0.051344	0.055790	0.052558	0.051487	0.044045	0.051135	0.033771	0.023396	0.011914	0.011352	1.271-004	1.320+000
40(0.77)	0.052431	0.057454	0.054876	0.053565	0.047170	0.052947	0.034545	0.030123	0.021708	0.015371	1.849-004	1.345+000
50(0.64)	0.053687	0.059340	0.057490	0.055813	0.050808	0.053833	0.037177	0.036254	0.037226	0.028199	2.624-004	1.384+000
60(0.50)	0.054928	0.061105	0.059858	0.057676	0.054265	0.054254	0.040497	0.042485	0.054622	0.062452	2.798-004	1.426+000
65(0.42)	0.055473	0.061808	0.060731	0.058235	0.055621	0.054170	0.041856	0.045260	0.062252	0.088656	2.226-004	1.435+000
70(0.34)	0.055931	0.062324	0.061283	0.058422	0.056563	0.053696	0.042657	0.047255	0.067950	0.115327	2.647-004	1.422+000
75(0.26)	0.056281	0.062614	0.061451	0.058170	0.056997	0.052681	0.042660	0.047983	0.070666	0.134996	3.129-004	1.381+000
80(0.17)	0.056511	0.062661	0.061207	0.057451	0.056863	0.051030	0.041717	0.047083	0.069531	0.139815	3.640-004	1.320+000
85(0.09)	0.056619	0.062467	0.060561	0.056287	0.056133	0.048738	0.039817	0.044461	0.064249	0.125632	3.673-004	1.292+000
90(-0.00)	0.056612	0.062057	0.059564	0.054745	0.054817	0.045905	0.037105	0.040355	0.055362	0.094721	7.088-005	0.000+000
95(-0.09)	0.056508	0.061474	0.058299	0.052936	0.052968	0.042718	0.033855	0.035279	0.044180	0.055371	5.508-005	0.000+000
100(-0.17)	0.056328	0.060774	0.056870	0.050992	0.050700	0.039410	0.030405	0.029880	0.032365	0.018276	3.929-005	0.000+000
105(-0.26)	0.056099	0.060014	0.055382	0.049046	0.048182	0.036219	0.027075	0.024743	0.021392	-0.008188	2.849-005	0.000+000
110(-0.34)	0.055843	0.059248	0.053932	0.047215	0.045609	0.033341	0.024104	0.020241	0.012189	-0.021002	2.238-005	0.000+000
115(-0.42)	0.055581	0.058519	0.052593	0.045582	0.043163	0.030911	0.021609	0.016479	0.005102	-0.022417	1.855-005	0.000+000
120(-0.50)	0.055328	0.057856	0.051409	0.044198	0.040972	0.029000	0.019593	0.013331	0.000100	-0.017438	2.370-005	0.000+000
130(-0.64)	0.054882	0.056772	0.049561	0.042208	0.037571	0.026849	0.016600	0.007929	-0.004403	-0.005549	2.587-005	0.000+000
140(-0.77)	0.054526	0.055996	0.048321	0.041115	0.035387	0.027048	0.014026	0.002892	-0.003562	-0.000776	1.797-005	0.000+000
150(-0.87)	0.054251	0.055454	0.047510	0.040629	0.034063	0.029449	0.010734	-0.000785	-0.001096	-0.000032	1.297-005	0.000+000
160(-0.94)	0.054045	0.055082	0.046985	0.040458	0.033266	0.032870	0.006159	-0.001681	0.000158	0.000001	9.430-006	0.000+000
170(-0.98)	0.053914	0.054858	0.046681	0.040399	0.032820	0.035528	0.001387	-0.000592	0.000226	-0.000000	4.206-006	0.000+000
177(-1.00)	0.053872	0.054787	0.046587	0.040383	0.032682	0.036399	-0.000618	0.000108	0.000132	-0.000000	5.283-007	0.000+000
ENERGY SUM	0.690593	0.743398	0.693045	0.636232	0.592081	0.533702	0.372909	0.331107	0.357980	0.458072		

TOTAL DOSE RATE = 0.002832 (MR/HR)

TOTAL DOSE BUILDUP= 1.540290

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2344 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.052682	0.056164	0.051861	0.048607	0.040115	0.043035	0.039205	0.015129	0.012508	0.015227	4.607-006	1.398+000
10(0.98)	0.052795	0.056336	0.052100	0.048822	0.040431	0.043739	0.038249	0.016763	0.012870	0.015632	3.716-005	1.400+000
20(0.94)	0.053149	0.056877	0.052853	0.049509	0.041430	0.045674	0.036173	0.021279	0.014472	0.017030	7.630-005	1.409+000
30(0.87)	0.053712	0.057737	0.054054	0.050607	0.043049	0.047840	0.034811	0.026730	0.018768	0.019781	1.198-004	1.424+000
40(0.77)	0.054423	0.058820	0.055569	0.051953	0.045158	0.049258	0.034958	0.031603	0.027259	0.025216	1.708-004	1.448+000
50(0.64)	0.055177	0.059942	0.057126	0.053250	0.047450	0.049716	0.036298	0.035850	0.039147	0.037755	2.340-004	1.481+000
60(0.50)	0.055822	0.060832	0.058301	0.054066	0.049390	0.049380	0.037873	0.039688	0.051096	0.064194	2.352-004	1.515+000
65(0.42)	0.056052	0.061094	0.058591	0.054138	0.050022	0.048841	0.038329	0.041114	0.055717	0.081789	1.792-004	1.524+000
70(0.34)	0.056197	0.061191	0.058610	0.053909	0.050327	0.047949	0.038321	0.041824	0.058579	0.098176	2.008-004	1.519+000
75(0.26)	0.056244	0.061103	0.058325	0.053346	0.050261	0.046629	0.037700	0.041514	0.059021	0.108165	2.168-004	1.505+000
80(0.17)	0.056190	0.060823	0.057728	0.052443	0.049802	0.044848	0.036392	0.039990	0.056574	0.106985	2.127-004	1.516+000
85(0.09)	0.056035	0.060361	0.056837	0.051229	0.048956	0.042635	0.034422	0.037253	0.051206	0.092753	1.408-004	1.900+000
90(-0.00)	0.055792	0.059742	0.055702	0.049766	0.047746	0.040083	0.031919	0.033526	0.043457	0.067943	5.661-005	0.000+000
95(-0.09)	0.055475	0.059003	0.054390	0.048139	0.046221	0.037340	0.029092	0.029205	0.034540	0.038736	4.435-005	0.000+000
100(-0.17)	0.055104	0.058189	0.052980	0.046446	0.044458	0.034573	0.026182	0.024746	0.025045	0.012400	3.250-005	0.000+000
105(-0.26)	0.054701	0.057344	0.051552	0.044782	0.042562	0.031947	0.023405	0.020546	0.016581	-0.005787	2.442-005	0.000+000
110(-0.34)	0.054284	0.056507	0.050175	0.043228	0.040653	0.029590	0.020917	0.016843	0.009559	-0.014306	1.962-005	0.000+000
115(-0.42)	0.053872	0.055712	0.048899	0.041839	0.038841	0.027587	0.018785	0.013691	0.004198	-0.015062	1.645-005	0.000+000
120(-0.50)	0.053476	0.054979	0.047757	0.040647	0.037207	0.025979	0.017002	0.010998	0.000423	-0.011614	2.119-005	0.000+000
130(-0.64)	0.052762	0.053737	0.045907	0.038870	0.034601	0.024000	0.014177	0.006374	-0.002933	-0.003670	2.142-005	0.000+000
140(-0.77)	0.052172	0.052787	0.044579	0.037794	0.032827	0.023737	0.011657	0.002314	-0.002387	-0.000521	1.613-005	0.000+000
150(-0.87)	0.051706	0.052086	0.043652	0.037216	0.031674	0.025125	0.008686	-0.000457	-0.000726	-0.000024	1.162-005	0.000+000
160(-0.94)	0.051363	0.051593	0.043029	0.036930	0.030942	0.027405	0.004961	-0.001118	0.000105	0.000001	7.552-006	0.000+000
170(-0.98)	0.051152	0.051297	0.042663	0.036794	0.030524	0.029306	0.001328	-0.000386	0.000150	-0.000000	3.753-006	0.000+000
177(-1.00)	0.051084	0.051203	0.042549	0.036753	0.030395	0.029958	-0.000153	0.000081	0.000089	-0.000000	4.700-007	0.000+000
ENERGY SUM	0.684848	0.724265	0.661269	0.591707	0.538158	0.478224	0.339345	0.300903	0.322336	0.408192		

TOTAL DOSE RATE = 0.002104(MR/HR)

TOTAL DOSE BUILDUP= 1.742670

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.4689 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.054047	0.056902	0.052459	0.046020	0.038262	0.038861	0.037672	0.024070	0.020120	0.024131	4.164-005	1.[illegible]
10(0.98)	0.054089	0.056969	0.052557	0.046117	0.038404	0.039210	0.037088	0.024945	0.020704	0.024684	3.348-005	1.601+000
20(0.94)	0.054208	0.057162	0.052845	0.046406	0.038839	0.040202	0.035708	0.027255	0.022796	0.026565	6.800-005	1.612+000
30(0.87)	0.054363	0.057418	0.053234	0.046789	0.039480	0.041372	0.034460	0.029863	0.026839	0.030131	1.046-004	1.630+000
40(0.77)	0.054488	0.057635	0.053577	0.047104	0.040171	0.042083	0.033746	0.032004	0.032753	0.036301	1.438-004	1.656+000
50(0.64)	0.054496	0.057668	0.053662	0.047124	0.040664	0.041889	0.033336	0.033484	0.039109	0.046594	1.852-004	1.688+000
60(0.50)	0.054293	0.057363	0.053247	0.046611	0.040667	0.040643	0.032637	0.034022	0.043524	0.060689	1.675-004	1.725+000
65(0.42)	0.054089	0.057042	0.052787	0.046093	0.040408	0.039610	0.031963	0.033695	0.044223	0.066990	1.180-004	1.748+000
70(0.34)	0.053811	0.056597	0.052140	0.045384	0.039958	0.038302	0.030978	0.032809	0.043554	0.070366	1.190-004	1.787+000
75(0.26)	0.053456	0.056030	0.051307	0.044490	0.039324	0.036732	0.029649	0.031289	0.041348	0.068877	1.103-004	1.894+000
80(0.17)	0.053030	0.055348	0.050302	0.043428	0.038531	0.034936	0.027988	0.029135	0.037613	0.061495	8.544-005	2.348+000
85(0.09)	0.052541	0.054568	0.049156	0.042234	0.037613	0.032970	0.026051	0.026445	0.032588	0.048824	4.865-005	9.674+000
90(-0.00)	0.052001	0.053715	0.047905	0.040952	0.036607	0.030913	0.023935	0.023397	0.026738	0.033150	3.662-005	0.000+000
95(-0.09)	0.051425	0.052813	0.046597	0.039635	0.035548	0.028852	0.021755	0.020213	0.020649	0.017669	2.927-005	0.000+000
100(-0.17)	0.050826	0.051893	0.045276	0.038334	0.034468	0.026870	0.019623	0.017105	0.014883	0.005254	2.268-005	0.000+000
105(-0.26)	0.050221	0.050979	0.043986	0.037093	0.033394	0.025036	0.017627	0.014231	0.009858	-0.002570	1.814-005	0.000+000
110(-0.34)	0.049623	0.050094	0.042759	0.035946	0.032357	0.023398	0.015819	0.011666	0.005793	-0.005913	1.514-005	0.000+000
115(-0.42)	0.049044	0.049255	0.041621	0.034916	0.031382	0.021981	0.014210	0.009412	0.002739	-0.006054	1.[illegible]96-005	0.000+000
120(-0.50)	0.048491	0.048475	0.040585	0.034012	0.030488	0.020791	0.012783	0.007426	0.000639	-0.004616	1.6[illegible]8-005	0.000+000
130(-0.64)	0.047491	0.047110	0.038834	0.032580	0.028976	0.019082	0.010307	0.004052	-0.001179	-0.001514	1.717-005	0.000+000
140(-0.77)	0.046653	0.046014	0.037485	0.031589	0.027820	0.018275	0.008021	0.001437	-0.000993	-0.000257	1.295-005	0.000+000
150(-0.87)	0.045990	0.045174	0.036487	0.030944	0.026973	0.018382	0.005642	-0.000094	-0.000300	-0.000021	9.328-006	0.000+000
160(-0.94)	0.045510	0.044578	0.035796	0.030551	0.026392	0.019154	0.003171	-0.000444	0.000034	-0.000000	6.057-006	0.000+000
170(-0.98)	0.045218	0.044220	0.035388	0.030337	0.026052	0.020000	0.001105	-0.000160	0.000065	0.000000	2.994-006	0.000+000
177(-1.00)	0.045127	0.044108	0.035261	0.030273	0.025947	0.020330	0.000325	0.000020	0.000048	-0.000000	3.738-007	0.000+000
ENERGY SUM	0.644726	0.663049	0.586474	0.504416	0.442723	0.384447	0.280249	0.248031	0.261235	0.324117		

TOTAL DOSE RATE = 0.001389(MR/HR)

TOTAL DOSE BUILDUP= 2.112688

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.7033 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.051767	0.053898	0.049575	0.041622	0.034761	0.034331	0.034615	0.027868	0.024107	0.028680	3.690-006	1.790+000
10(0.98)	0.051753	0.053888	0.049573	0.041637	0.034790	0.034463	0.034259	0.028238	0.024694	0.029232	2.958-005	1.794+000
20(0.94)	0.051697	0.053835	0.049539	0.041656	0.034861	0.034854	0.033311	0.029117	0.026644	0.031079	5.946-005	1.808+000
30(0.87)	0.051563	0.053684	0.049393	0.041583	0.034894	0.035325	0.032154	0.029916	0.029840	0.034457	8.968-005	1.832+000
40(0.77)	0.051294	0.053347	0.049007	0.041285	0.034749	0.035484	0.030959	0.030295	0.033492	0.039836	1.194-004	1.867+000
50(0.64)	0.050830	0.052729	0.048237	0.040607	0.034253	0.034870	0.029585	0.030020	0.036117	0.047089	1.458-004	1.913+000
60(0.50)	0.050125	0.051756	0.046967	0.039438	0.033277	0.033236	0.027710	0.028661	0.036130	0.052861	1.205-004	1.984+000
65(0.42)	0.049677	0.051127	0.046131	0.038661	0.032605	0.032049	0.026496	0.027425	0.034768	0.052880	7.947-005	2.050+000
70(0.34)	0.049167	0.050411	0.045172	0.037770	0.031831	0.030659	0.025086	0.025787	0.032412	0.049757	7.352-005	2.191+000
75(0.26)	0.048602	0.049616	0.044104	0.036783	0.030986	0.029115	0.023503	0.023783	0.029142	0.043286	6.110-005	2.596+000
80(0.17)	0.047989	0.048758	0.042953	0.035730	0.030109	0.027476	0.021791	0.021498	0.025170	0.034191	4.318-005	4.579+000
85(0.09)	0.047340	0.047855	0.041747	0.034641	0.029240	0.025804	0.020014	0.019053	0.020818	0.023977	2.942-005	8.617+001
90(-0.00)	0.046666	0.046926	0.040517	0.033548	0.028416	0.024156	0.018238	0.016577	0.016438	0.014407	2.425-005	0.000+000
95(-0.09)	0.045980	0.045991	0.039291	0.032481	0.027659	0.022582	0.016520	0.014186	0.012344	0.006854	1.988-005	0.000+000
100(-0.17)	0.045292	0.045068	0.038097	0.031464	0.026978	0.021117	0.014901	0.011955	0.008750	0.001883	1.630-005	0.000+000
105(-0.26)	0.044614	0.044173	0.036955	0.030515	0.026366	0.019782	0.013403	0.009921	0.005766	-0.000734	1.368-005	0.000+000
110(-0.34)	0.043955	0.043316	0.035879	0.029644	0.025810	0.018585	0.012029	0.008085	0.003423	-0.001690	1.174-005	0.000+000
115(-0.42)	0.043324	0.042508	0.034881	0.028857	0.025299	0.017525	0.010767	0.006434	0.001704	-0.001729	1.020-005	0.000+000
120(-0.50)	0.042726	0.041754	0.033965	0.028153	0.024822	0.016596	0.009599	0.004953	0.000556	-0.001398	1.339-005	0.000+000
130(-0.64)	0.041647	0.040424	0.032384	0.026987	0.023958	0.015099	0.007464	0.002499	-0.000389	-0.000637	1.371-005	0.000+000
140(-0.77)	0.040747	0.039341	0.031130	0.026112	0.023217	0.014070	0.005484	0.000838	-0.000349	-0.000185	1.037-005	0.000+000
150(-0.87)	0.040039	0.038504	0.030183	0.025490	0.022620	0.013537	0.003612	0.000038	-0.000127	-0.000027	7.472-006	0.000+000
160(-0.94)	0.039531	0.037911	0.029522	0.025082	0.022189	0.013487	0.001973	-0.000136	-0.000005	-0.000000	4.853-006	0.000+000
170(-0.98)	0.039225	0.037557	0.029132	0.024853	0.021933	0.013707	0.000837	-0.000078	0.000034	0.000000	2.395-006	0.000+000
177(-1.00)	0.039129	0.037446	0.029011	0.024783	0.021854	0.013832	0.000459	-0.000040	-0.000000	0.000040	2.984-007	0.000+000
ENERGY SUM	0.583141	0.586904	0.507210	0.423764	0.362568	0.309469	0.230709	0.203966	0.211596	0.257356		

TOTAL DOSE RATE = 0.001003(MR/HR)

TOTAL DOSE
BUILDUP= 2.465752

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.9378 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.047506	0.048980	0.044947	0.036548	0.030619	0.029840	0.030895	0.028511	0.025597	0.030799	3.222-006	1.976+000
10(0.98)	0.047455	0.048919	0.044880	0.036510	0.030578	0.029844	0.030678	0.028560	0.026043	0.030771	2.575-005	1.982+000
20(0.94)	0.047282	0.048708	0.044641	0.036359	0.030428	0.029864	0.029999	0.028547	0.027619	0.032522	9.125-005	2.000+000
30(0.87)	0.046961	0.048304	0.044167	0.036017	0.030106	0.029868	0.028925	0.028235	0.029820	0.035042	7.590-005	2.033+000
40(0.77)	0.046450	0.047645	0.043365	0.035384	0.029502	0.029640	0.027501	0.027532	0.031666	0.039051	9.815-005	2.083+000
50(0.64)	0.045718	0.046675	0.042147	0.034368	0.028512	0.028787	0.025664	0.026213	0.031875	0.043422	1.143-004	2.161+000
60(0.50)	0.044749	0.045575	0.040480	0.032939	0.027112	0.027058	0.023277	0.023859	0.029476	0.043912	8.761-005	2.304+000
65(0.42)	0.044181	0.044612	0.039495	0.032089	0.026291	0.025892	0.021866	0.022219	0.027157	0.040713	5.471-005	2.458+000
70(0.34)	0.043566	0.043789	0.038431	0.031174	0.025427	0.024582	0.020341	0.020310	0.024156	0.034765	4.738-005	2.805+000
75(0.26)	0.042913	0.042918	0.037310	0.030220	0.024556	0.023188	0.018745	0.018215	0.020664	0.026720	3.687-005	3.876+000
80(0.17)	0.042230	0.042017	0.036158	0.029254	0.023719	0.021772	0.017137	0.016047	0.016960	0.018002	2.603-005	1.065+001
85(0.09)	0.041528	0.041103	0.035000	0.028303	0.022950	0.020385	0.015570	0.013919	0.013356	0.010273	1.982-005	8.551+002
90(-0.00)	0.040819	0.040191	0.033860	0.027387	0.022281	0.019071	0.014087	0.011919	0.010101	0.004737	1.651-005	0.000+000
95(-0.09)	0.040117	0.039295	0.032755	0.026523	0.021725	0.017853	0.012711	0.010094	0.007333	0.001676	1.395-005	0.000+000
100(-0.17)	0.039417	0.038427	0.031700	0.025718	0.021278	0.016740	0.011445	0.008449	0.005079	0.000516	1.202-005	0.000+000
105(-0.26)	0.038740	0.037596	0.030704	0.024977	0.020922	0.015731	0.010278	0.006962	0.003299	0.000308	1.051-005	0.000+000
110(-0.34)	0.038090	0.036807	0.029773	0.024299	0.020626	0.014815	0.009193	0.005607	0.001946	0.000281	9.219-006	0.000+000
115(-0.42)	0.03747	0.036066	0.028908	0.023681	0.020365	0.013983	0.008171	0.004368	0.000980	0.000110	8.057-006	0.000+000
120(-0.50)	0.036888	0.035375	0.028111	0.023120	0.020117	0.013225	0.007201	0.003249	0.000363	-0.000161	1.059-005	0.000+000
130(-0.64)	0.035845	0.034156	0.026725	0.022161	0.019629	0.011908	0.005381	0.001466	-0.000101	-0.000414	1.091-005	0.000+000
140(-0.77)	0.034980	0.033162	0.025612	0.021408	0.019162	0.010836	0.003714	0.000432	-0.000116	-0.000207	9.268-006	0.000+000
150(-0.87)	0.034305	0.032396	0.024769	0.020848	0.018757	0.010026	0.002258	0.000057	-0.000083	-0.000037	5.973-006	0.000+000
160(-0.94)	0.033825	0.031856	0.024182	0.020469	0.018456	0.009561	0.001171	-0.000021	-0.000027	-0.000001	3.886-006	0.000+000
170(-0.98)	0.033538	0.031536	0.023837	0.020255	0.018276	0.009429	0.000586	-0.000069	0.000030	0.000000	1.919-006	0.000+000
177(-1.00)	0.033448	0.031437	0.023731	0.020190	0.018220	0.009430	0.000434	-0.000096	0.000049	-0.000000	2.392-007	0.000+000
ENERGY SUM	0.513362	0.507742	0.431048	0.352288	0.295900	0.249356	0.189404	0.167370	0.171299	0.204356		

TOTAL DOSE RATE = 0.000753(MR/HR)

TOTAL DOSE
BUILDUP= 2.822972

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.1722 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.042340	0.043292	0.039649	0.031458	0.026420	0.025621	0.027034	0.027316	0.025426	0.030086	2.781-006	2.157+000
10(0.98)	0.042267	0.043202	0.039544	0.031389	0.026340	0.025552	0.026901	0.027173	0.025773	0.030366	2.216-005	2.164+000
20(0.94)	0.042025	0.042900	0.039189	0.031143	0.026068	0.025354	0.026391	0.026636	0.026825	0.031515	4.370-005	2.189+000
30(0.87)	0.041600	0.042360	0.038540	0.030661	0.025558	0.025067	0.025399	0.025683	0.028111	0.033425	6.361-005	2.233+000
40(0.77)	0.040965	0.041541	0.037535	0.029875	0.024736	0.024596	0.023910	0.024366	0.028623	0.035997	8.005-005	2.308+000
50(0.64)	0.040107	0.040419	0.036129	0.028738	0.023545	0.023637	0.021920	0.022493	0.027354	0.038058	8.948-005	2.436+000
60(0.50)	0.039035	0.039009	0.034344	0.027268	0.022026	0.021970	0.019407	0.019709	0.023785	0.035484	6.435-005	2.705+000
65(0.42)	0.038429	0.038216	0.033339	0.026441	0.021193	0.020902	0.017987	0.017954	0.021137	0.030873	3.850-005	3.011+000
70(0.34)	0.037789	0.037382	0.032286	0.025582	0.020355	0.019737	0.016506	0.016031	0.018046	0.024051	3.180-005	3.733+000
75(0.26)	0.037121	0.036523	0.031209	0.024716	0.019545	0.018533	0.015018	0.014041	0.014736	0.016047	2.393-005	6.224+000
80(0.17)	0.036438	0.035654	0.030131	0.023868	0.018799	0.017544	0.013577	0.012095	0.011496	0.008484	1.734-005	2.737+001
85(0.09)	0.035747	0.034789	0.029073	0.023058	0.018145	0.016214	0.012228	0.010291	0.008591	0.002895	1.377-005	8.754+003
90(-0.00)	0.035060	0.033941	0.028053	0.022299	0.017605	0.015169	0.010996	0.008682	0.006189	0.000008	1.169-005	0.000+000
95(-0.09)	0.034384	0.033121	0.027081	0.021598	0.017187	0.014218	0.009883	0.007274	0.004315	-0.000532	1.023-005	0.000+000
100(-0.17)	0.033725	0.032335	0.026165	0.020955	0.016883	0.013355	0.008872	0.006034	0.002896	0.000162	9.106-006	0.000+000
105(-0.26)	0.033091	0.031588	0.025306	0.020367	0.016668	0.012568	0.007938	0.004917	0.001826	0.000921	8.263-006	0.000+000
110(-0.34)	0.032485	0.030883	0.024505	0.019827	0.016510	0.011842	0.007057	0.003887	0.001031	0.001100	7.384-006	0.000+000
115(-0.42)	0.031912	0.030223	0.023762	0.019331	0.016379	0.011163	0.006212	0.002935	0.000478	0.000698	6.466-006	0.000+000
120(-0.50)	0.031376	0.029610	0.023077	0.018876	0.016251	0.010527	0.005396	0.002077	0.000145	0.000092	8.404-006	0.000+000
130(-0.64)	0.030422	0.028531	0.021880	0.018080	0.015976	0.009369	0.003855	0.000776	-0.000061	-0.000508	8.641-006	0.000+000
140(-0.77)	0.029639	0.027655	0.020920	0.017438	0.015684	0.008345	0.002475	0.000153	-0.000083	-0.000271	6.573-006	0.000+000
150(-0.87)	0.029034	0.026986	0.020196	0.016952	0.015420	0.007456	0.001349	0.000027	-0.000100	-0.000048	4.762-006	0.000+000
160(-0.94)	0.028607	0.026519	0.019696	0.016620	0.015221	0.006810	0.000632	0.000000	-0.000040	-0.000001	3.105-006	0.000+000
170(-0.98)	0.028354	0.026245	0.019405	0.016433	0.015104	0.006497	0.000374	-0.000093	0.000039	0.000000	1.537-006	0.000+000
177(-1.00)	0.028275	0.026160	0.019316	0.016378	0.015068	0.006430	0.000349	-0.000147	0.000064	-0.000000	1.918-007	0.000+000
ENERGY SUM	0.443294	0.432193	0.361785	0.290661	0.240861	0.201054	0.155121	0.137071	0.138577	0.162287		

TOTAL DOSE RATE = 0.000578(MR/HR)

TOTAL DOSE BUILDUP= 3.192831

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.3445 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.018732	0.018943	0.017450	0.013106	0.011157	0.010876	0.012021	0.014834	0.015699	0.018722	1.200-006	3.009+000
10(0.98)	0.018677	0.018872	0.017363	0.013051	0.011077	0.010763	0.012066	0.014580	0.015557	0.018618	9.446-006	3.033+000
20(0.94)	0.018497	0.018642	0.017076	0.012854	0.010819	0.010496	0.011968	0.013733	0.015248	0.018220	1.788-005	3.118+000
30(0.87)	0.018189	0.018244	0.016579	0.012484	0.010370	0.009903	0.011416	0.012488	0.014714	0.017429	2.429-005	3.301+000
40(0.77)	0.017748	0.017665	0.015849	0.011917	0.009698	0.009426	0.010438	0.011158	0.013458	0.016552	2.778-005	3.699+000
50(0.64)	0.017175	0.016907	0.014886	0.011150	0.008801	0.008809	0.009135	0.009626	0.011272	0.015986	2.768-005	4.667+000
60(0.50)	0.016488	0.016000	0.013734	0.010232	0.007759	0.007850	0.007542	0.007570	0.008308	0.013112	1.727-005	7.569+000
65(0.42)	0.016113	0.015512	0.013121	0.009751	0.007246	0.007273	0.006680	0.006368	0.006532	0.009286	9.387-006	1.176+001
70(0.34)	0.015725	0.015014	0.012506	0.009283	0.006776	0.006689	0.005830	0.005148	0.004647	0.003988	6.880-006	2.487+001
75(0.26)	0.015331	0.014518	0.011905	0.008846	0.006374	0.006144	0.005044	0.004018	0.002852	-0.001453	4.887-006	1.159+002
80(0.17)	0.014937	0.014033	0.011333	0.008454	0.006049	0.005671	0.004364	0.003075	0.001402	-0.005184	3.947-006	5.323+003
85(0.09)	0.014549	0.013566	0.010798	0.008113	0.005807	0.005283	0.003809	0.002369	0.000473	-0.005907	3.454-006	1.525+009
90(-0.00)	0.014172	0.013121	0.010303	0.007819	0.005645	0.004970	0.003368	0.001880	0.000055	-0.003788	3.135-006	0.000+000
95(-0.09)	0.013808	0.012700	0.009843	0.007561	0.005557	0.004706	0.003004	0.001534	-0.000045	-0.000428	2.949-006	0.000+000
100(-0.17)	0.013461	0.012303	0.009415	0.007326	0.005528	0.004458	0.002670	0.001233	-0.000078	0.002137	3.177-006	0.000+000
105(-0.26)	0.013132	0.011928	0.009012	0.007101	0.005531	0.004195	0.002325	0.000902	-0.000207	0.002687	3.024-006	0.000+000
110(-0.34)	0.012825	0.011576	0.008632	0.006876	0.005537	0.003903	0.001950	0.000518	-0.000436	0.001590	2.444-006	0.000+000
115(-0.42)	0.012540	0.011249	0.008273	0.006650	0.005522	0.003583	0.001551	0.000109	-0.000664	-0.000612	1.920-006	0.000+000
120(-0.50)	0.012281	0.010948	0.007938	0.006426	0.005481	0.003252	0.001147	-0.000263	-0.000792	-0.002126	2.542-006	0.000+000
130(-0.64)	0.011842	0.010437	0.007362	0.006011	0.005353	0.002638	0.000411	-0.000667	-0.000745	-0.002 16	2.620-006	0.000+000
140(-0.77)	0.011515	0.010056	0.006934	0.005683	0.005241	0.002112	-0.000152	-0.000535	-0.000628	-0.000766	1.997-006	0.000+000
150(-0.87)	0.011291	0.009803	0.006656	0.005460	0.005189	0.001557	-0.000507	-0.000246	-0.000423	-0.000102	1.469-006	0.000+000
160(-0.94)	0.011153	0.009654	0.006498	0.005336	0.005188	0.001009	-0.000534	-0.000210	-0.000077	-0.000001	9.712-007	0.000+000
170(-0.98)	0.011080	0.009579	0.006422	0.005287	0.005205	0.000686	-0.000227	-0.000350	0.000136	0.000001	4.946-007	0.000+000
177(-1.00)	0.011059	0.009558	0.006402	0.005277	0.005213	0.000610	-0.000029	-0.000414	0.000175	-0.000000	6.276-008	0.000+000
ENERGY SUM	0.181777	0.170565	0.137596	0.105572	0.084427	0.068651	0.055639	0.049290	0.047601	0.051400		

TOTAL DOSE RATE = 0.000181(MR/HR)

TOTAL DOSE BUILDUP= 5.406823

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0066 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.042024	0.048181	0.045291	0.046970	0.037593	0.043903	0.034217	-0.002078	0.000246	0.000502	5.421-006	1.183+000
10(0.98)	0.042208	0.048379	0.045685	0.047315	0.038134	0.045110	0.033040	0.000302	0.000017	0.000517	4.379-005	1.183+000
20(0.94)	0.042799	0.049336	0.046955	0.048457	0.039856	0.048202	0.030646	0.007384	-0.000193	0.000568	9.079-005	1.189+000
30(0.87)	0.043776	0.050924	0.049072	0.050395	0.042702	0.051203	0.029653	0.016775	0.002335	0.000717	1.457-004	1.204+000
40(0.77)	0.045097	0.053064	0.051928	0.053004	0.046591	0.052856	0.031311	0.025741	0.012150	0.002239	2.165-004	1.232+000
50(0.64)	0.046655	0.055541	0.055205	0.055930	0.051180	0.053705	0.035260	0.033970	0.030786	0.013407	3.188-004	1.279+000
60(0.50)	0.048267	0.057976	0.058315	0.058532	0.055694	0.054556	0.040150	0.042456	0.053961	0.053858	3.619-004	1.336+000
65(0.42)	0.049022	0.059030	0.059572	0.059444	0.057579	0.054830	0.042295	0.046443	0.064841	0.087974	3.010-004	1.349+000
70(0.34)	0.049706	0.059899	0.060509	0.059953	0.059030	0.054746	0.043820	0.049608	0.073593	0.125463	3.802-004	1.335+000
75(0.26)	0.050300	0.060538	0.061056	0.059974	0.059931	0.054101	0.044431	0.051340	0.078812	0.156124	4.936-004	1.284+000
80(0.17)	0.050786	0.060922	0.061175	0.059466	0.060194	0.052753	0.043936	0.051158	0.079291	0.168669	6.917-004	1.199+000
85(0.09)	0.051158	0.061047	0.060870	0.058441	0.059753	0.050665	0.042297	0.048886	0.074505	0.156162	1.229-003	1.098+000
90(-0.00)	0.051422	0.060936	0.060180	0.056965	0.058576	0.047920	0.039656	0.044746	0.064959	0.120261	9.387-005	0.000+000
95(-0.09)	0.051588	0.060626	0.059185	0.055150	0.056687	0.044701	0.036306	0.039307	0.052155	0.071259	7.191-005	0.000+000
100(-0.17)	0.051674	0.060172	0.057981	0.053137	0.054194	0.041259	0.032631	0.033324	0.038124	0.023467	4.933-005	0.000+000
105(-0.26)	0.051703	0.059632	0.056677	0.051075	0.051292	0.037857	0.029011	0.027515	0.024765	-0.011331	3.398-005	0.000+000
110(-0.34)	0.051695	0.059063	0.055372	0.049097	0.048231	0.034730	0.025744	0.022366	0.013375	-0.028397	2.594-005	0.000+000
115(-0.42)	0.051668	0.058513	0.054145	0.047309	0.045254	0.032050	0.023000	0.018045	0.004553	-0.030281	2.107-005	0.000+000
120(-0.50)	0.051638	0.058016	0.053054	0.045776	0.042549	0.029925	0.020812	0.014429	-0.001597	-0.023530	2.655-005	0.000+000
130(-0.64)	0.051599	0.057243	0.051366	0.043575	0.038318	0.027580	0.017720	0.008201	-0.006597	-0.007413	2.628-005	0.000+000
140(-0.77)	0.051601	0.056763	0.050299	0.042430	0.035648	0.028068	0.015169	0.002355	-0.004709	-0.001006	1.971-005	0.000+000
150(-0.87)	0.051626	0.056494	0.049678	0.042034	0.034115	0.031349	0.011598	-0.001705	-0.001227	-0.000037	1.418-005	0.000+000
160(-0.94)	0.051652	0.056346	0.049328	0.042008	0.033265	0.035969	0.006108	-0.002197	0.000302	0.000002	9.235-006	0.000+000
170(-0.98)	0.051669	0.056270	0.049143	0.042065	0.032823	0.039576	0.000090	-0.000372	0.000286	0.000000	4.627-006	0.000+000
177(-1.00)	0.051673	0.056247	0.049088	0.042087	0.032692	0.040763	-0.002483	0.000645	0.000142	0.000000	5.858-007	0.000+000
ENERGY SUM	0.625666	0.724352	0.692974	0.651055	0.610630	0.547596	0.377374	0.335130	0.365935	0.477485		

TOTAL DOSE RATE = 0.006540 (MR/HR)

TOTAL DOSE BUILDUP= 1.213812

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1098 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.045941	0.052093	0.048689	0.047632	0.038340	0.042551	0.035663	0.006032	0.006016	0.007546	5.240-006	1.268+000
10(0.98)	0.046082	0.052321	0.048991	0.047898	0.038755	0.043482	0.034664	0.007985	0.006090	0.007762	4.233-005	1.270+000
20(0.94)	0.046530	0.053044	0.049950	0.048763	0.040063	0.045909	0.032569	0.013677	0.006785	0.008508	8.745-005	1.278+000
30(0.87)	0.047255	0.054214	0.051510	0.050188	0.042191	0.048352	0.031478	0.021049	0.010116	0.010018	1.390-004	1.293+000
40(0.77)	0.048203	0.055739	0.053540	0.052023	0.045017	0.049728	0.032367	0.027971	0.019086	0.013603	2.026-004	1.318+000
50(0.64)	0.049272	0.057420	0.055751	0.053948	0.048218	0.050212	0.034890	0.034138	0.034113	0.025435	2.884-004	1.358+000
60(0.50)	0.050310	0.058951	0.057672	0.055459	0.051180	0.050287	0.037913	0.040067	0.051340	0.058174	3.993-004	1.403+000
65(0.42)	0.050763	0.059550	0.058349	0.055864	0.052322	0.050074	0.039101	0.042614	0.058857	0.083266	2.470-004	1.413+000
70(0.34)	0.051146	0.059983	0.058753	0.055937	0.053112	0.049530	0.039763	0.044398	0.064409	0.109250	2.952-004	1.402+000
75(0.26)	0.051443	0.060222	0.058838	0.055625	0.053482	0.048531	0.039700	0.044996	0.067019	0.128660	3.515-004	1.362+000
80(0.17)	0.051647	0.060254	0.058586	0.054911	0.053383	0.046999	0.038792	0.044101	0.065916	0.133769	4.142-004	1.301+000
85(0.09)	0.051757	0.060083	0.058009	0.053814	0.052787	0.044933	0.037039	0.041641	0.060869	0.120412	4.325-004	1.262+000
90(-0.00)	0.051778	0.059730	0.057146	0.052394	0.051684	0.042413	0.034568	0.037830	0.052401	0.090717	7.646-005	0.000+000
95(-0.09)	0.051721	0.059229	0.056061	0.050741	0.050101	0.039589	0.031615	0.033123	0.041726	0.052741	5.889-005	0.000+000
100(-0.17)	0.051604	0.058625	0.054835	0.048965	0.048114	0.036652	0.028467	0.028089	0.030382	0.016935	4.133-005	0.000+000
105(-0.26)	0.051445	0.057966	0.053549	0.047178	0.045858	0.033797	0.025402	0.023248	0.019765	-0.008517	2.946-005	0.000+000
110(-0.34)	0.051262	0.057294	0.052281	0.045479	0.043501	0.031189	0.022631	0.018942	0.010804	-0.020686	2.297-005	0.000+000
115(-0.42)	0.051070	0.056648	0.051090	0.043943	0.041211	0.028950	0.020268	0.015280	0.003912	-0.021816	1.890-005	0.000+000
120(-0.50)	0.050883	0.056054	0.050019	0.042617	0.039118	0.027151	0.018328	0.012165	-0.000862	-0.016822	2.400-005	0.000+000
130(-0.64)	0.050549	0.055074	0.048299	0.040659	0.036779	0.025023	0.015403	0.006800	-0.004725	-0.005245	2.391-005	0.000+000
140(-0.77)	0.050288	0.054373	0.047118	0.039545	0.035578	0.025055	0.012876	0.001999	-0.003372	-0.000709	1.793-005	0.000+000
150(-0.87)	0.050094	0.053897	0.046348	0.039044	0.035233	0.027244	0.009627	-0.001175	-0.000867	-0.000026	1.289-005	0.000+000
160(-0.94)	0.049959	0.053587	0.045865	0.038877	0.035441	0.030580	0.005092	-0.001570	0.000216	0.000001	8.382-006	0.000+000
170(-0.98)	0.049876	0.053409	0.045594	0.038834	0.035916	0.033303	0.000384	-0.000254	0.000201	0.000000	4.182-006	0.000+000
177(-1.00)	0.049850	0.053353	0.045511	0.038824	0.036088	0.034226	-0.001585	0.000475	0.000100	0.000000	5.273-007	0.000+000
ENERGY SUM	0.634019	0.718842	0.670930	0.612490	0.561067	0.496727	0.347255	0.307896	0.333440	0.431330		

TOTAL DOSE RATE = 0.003156 (MR/HR)

TOTAL DOSE BUILDUP= 1.499140

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2196 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.048468	0.054528	0.050655	0.047347	0.038281	0.040845	0.036276	0.012657	0.010969	0.013533	5.037-006	1.360+000
10(0.98)	0.048568	0.054690	0.050872	0.047541	0.038584	0.041540	0.035439	0.014214	0.011264	0.013896	4.063-005	1.363+000
20(0.94)	0.048882	0.055197	0.051549	0.048159	0.039529	0.043384	0.033621	0.018647	0.012587	0.015146	8.350-005	1.371+000
30(0.87)	0.049373	0.055991	0.052612	0.049134	0.041034	0.045305	0.032461	0.024231	0.016347	0.017610	1.313-004	1.387+000
40(0.77)	0.049984	0.056972	0.053922	0.050308	0.042954	0.046387	0.032699	0.029347	0.024300	0.022524	1.878-004	1.411+000
50(0.64)	0.050622	0.057966	0.055224	0.051400	0.044999	0.046543	0.034021	0.033699	0.036047	0.034228	2.587-004	1.445+000
60(0.50)	0.051164	0.058734	0.056153	0.052025	0.046695	0.046009	0.035500	0.037451	0.048198	0.059869	2.623-004	1.482+000
69(0.42)	0.051359	0.058953	0.056354	0.052027	0.047242	0.045428	0.035911	0.038810	0.052935	0.077362	2.010-004	1.492+000
70(0.34)	0.051487	0.059027	0.056325	0.051761	0.047513	0.044548	0.035886	0.039479	0.055901	0.093974	2.272-004	1.487+000
79(0.26)	0.051538	0.058940	0.056042	0.051200	0.047471	0.043306	0.035299	0.039187	0.056466	0.104506	2.482-004	1.470+000
80(0.17)	0.051509	0.058689	0.055500	0.050342	0.047102	0.041672	0.034089	0.037763	0.054202	0.104067	2.484-004	1.468+000
89(0.09)	0.051402	0.058282	0.054715	0.049212	0.046403	0.039669	0.032279	0.035211	0.049095	0.090604	1.702-004	1.750+000
90(-0.00)	0.051225	0.057740	0.053727	0.047862	0.045381	0.037375	0.029985	0.031730	0.041659	0.066452	6.163-005	0.000+000
99(-0.09)	0.050989	0.057093	0.052588	0.046366	0.044063	0.034909	0.027387	0.027677	0.032851	0.037737	4.779-005	0.000+000
100(-0.17)	0.050710	0.056378	0.051361	0.044805	0.042499	0.032413	0.024696	0.023464	0.023804	0.011751	3.441-005	0.000+000
109(-0.26)	0.050402	0.055632	0.050108	0.043262	0.040777	0.030023	0.022106	0.019454	0.015502	-0.006170	2.539-005	0.000+000
110(-0.34)	0.050081	0.054889	0.048887	0.041806	0.039002	0.027855	0.019758	0.015874	0.008578	-0.014470	2.020-005	0.000+000
119(-0.42)	0.049761	0.054177	0.047742	0.040490	0.037280	0.025986	0.017724	0.012788	0.003298	-0.015067	1.683-005	0.000+000
120(-0.50)	0.049451	0.053516	0.046702	0.039346	0.035696	0.024461	0.016003	0.010123	-0.000331	-0.011522	2.153-005	0.000+000
130(-0.64)	0.048891	0.052390	0.044987	0.037608	0.033113	0.022522	0.013257	0.005547	-0.003248	-0.003567	2.159-005	0.000+000
140(-0.77)	0.048430	0.051532	0.043739	0.036538	0.031325	0.022193	0.010803	0.001662	-0.002319	-0.000488	1.619-005	0.000+000
150(-0.87)	0.048072	0.050908	0.042872	0.035967	0.030165	0.023495	0.007880	-0.000764	-0.000589	-0.000020	1.164-005	0.000+000
160(-0.94)	0.047814	0.050481	0.042299	0.035698	0.029444	0.025766	0.004179	-0.001075	0.000147	0.000001	7.557-006	0.000+000
170(-0.98)	0.047658	0.050229	0.041969	0.035579	0.029046	0.027737	0.000571	-0.000168	0.000137	0.000000	3.757-006	0.000+000
177(-1.00)	0.047608	0.050151	0.041867	0.035545	0.028925	0.028429	-0.000896	0.000332	0.000070	0.000000	4.719-007	0.000+000
ENERGY SUM	0.630738	0.702284	0.641665	0.571038	0.512055	0.447927	0.317566	0.281185	0.302001	0.387104		

TOTAL DOSE RATE = 0.002353(MR/HR)

TOTAL DOSE BUILDUP= 1.679749

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.4391 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.049804	0.055312	0.050946	0.044718	0.036374	0.036933	0.035494	0.021145	0.017875	0.021760	4.576-006	1.540+000
10(0.98)	0.049838	0.055370	0.051029	0.044800	0.036510	0.037290	0.034911	0.022067	0.018387	0.022268	3.681-005	1.543+000
20(0.94)	0.049934	0.055540	0.051270	0.045042	0.036922	0.038273	0.033538	0.024556	0.020253	0.023997	7.488-005	1.553+000
30(0.87)	0.050059	0.055761	0.051590	0.045360	0.037525	0.039352	0.032318	0.027461	0.024010	0.027289	1.155-004	1.571+000
40(0.77)	0.050158	0.055942	0.051855	0.045602	0.038174	0.039896	0.031659	0.029882	0.029834	0.033049	1.596-004	1.597+000
50(0.64)	0.050161	0.055957	0.051883	0.045570	0.038648	0.039559	0.031332	0.031551	0.036484	0.042984	2.072-004	1.629+000
60(0.50)	0.049996	0.055670	0.051473	0.045053	0.038694	0.038291	0.030755	0.032251	0.041466	0.057463	1.899-004	1.665+000
65(0.42)	0.049835	0.055378	0.051050	0.044560	0.038492	0.037307	0.030166	0.032028	0.042484	0.064467	1.351-004	1.685+000
70(0.34)	0.049610	0.054979	0.050468	0.043896	0.038126	0.036088	0.029287	0.031272	0.042132	0.068845	1.379-004	1.715+000
75(0.26)	0.049328	0.054472	0.049728	0.043064	0.037603	0.034641	0.028086	0.029908	0.040230	0.068450	1.298-004	1.796+000
80(0.17)	0.048989	0.053864	0.048841	0.042081	0.036941	0.032995	0.026570	0.027927	0.036770	0.061966	1.022-004	2.139+000
85(0.09)	0.048600	0.053169	0.047830	0.040976	0.036166	0.031195	0.024786	0.025414	0.031969	0.049762	5.627-005	7.187+000
90(-0.00)	0.048169	0.052407	0.046726	0.039787	0.035302	0.029307	0.022821	0.022531	0.026272	0.034056	4.046-005	0.000+000
95(-0.09)	0.047708	0.051599	0.045566	0.038560	0.034371	0.027406	0.020778	0.019484	0.020255	0.018179	3.193-005	0.000+000
100(-0.17)	0.047228	0.050771	0.044389	0.037340	0.033394	0.025565	0.018762	0.016479	0.014495	0.005258	2.425-005	0.000+000
105(-0.26)	0.046741	0.049946	0.043230	0.036169	0.032396	0.023848	0.016860	0.013673	0.009437	-0.002948	1.905-005	0.000+000
110(-0.34)	0.046257	0.049143	0.042119	0.035079	0.031406	0.022301	0.015123	0.011151	0.005335	-0.006439	1.572-005	0.000+000
115(-0.42)	0.045787	0.048379	0.041079	0.034093	0.030455	0.020951	0.013570	0.008925	0.002273	-0.006523	1.336-005	0.000+000
120(-0.50)	0.045337	0.047665	0.040124	0.033222	0.029567	0.019810	0.012189	0.006959	0.000212	-0.004928	1.731-005	0.000+000
130(-0.64)	0.044520	0.046413	0.038496	0.031832	0.028044	0.018162	0.009792	0.003634	-0.001415	-0.001567	1.752-005	0.000+000
140(-0.77)	0.043836	0.045409	0.037234	0.030869	0.026878	0.017393	0.007575	0.001110	-0.001020	-0.000250	1.316-005	0.000+000
150(-0.87)	0.043295	0.044643	0.036301	0.030247	0.026033	0.017542	0.005237	-0.000272	-0.000262	-0.000018	9.460-006	0.000+000
160(-0.94)	0.042905	0.044103	0.035657	0.029872	0.025463	0.018375	0.002772	-0.000463	0.000057	0.000000	6.135-006	0.000+000
170(-0.98)	0.042669	0.043780	0.035278	0.029672	0.025135	0.019284	0.000694	-0.000079	0.000064	0.000000	3.035-006	0.000+000
177(-1.00)	0.042595	0.043679	0.035161	0.029613	0.025035	0.019639	-0.000091	0.000129	0.000041	-0.000000	3.791-007	0.000+000
ENERGY SUM	0.598297	0.647690	0.572953	0.490080	0.424984	0.364537	0.264928	0.234121	0.247655	0.311771		

TOTAL DOSE RATE = 0.001561(MR/HR)

TOTAL DOSE BUILDUP= 2.006652

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.6587 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.047904	0.052638	0.048195	0.040548	0.033112	0.032754	0.033083	0.025141	0.021723	0.026240	4.085-006	1.712+000
10(0.98)	0.047889	0.052624	0.048186	0.040554	0.033140	0.032901	0.032679	0.025608	0.022263	0.026763	3.276-005	1.716+000
20(0.94)	0.047837	0.052562	0.048133	0.040548	0.033210	0.033322	0.031631	0.026761	0.024097	0.028515	6.600-005	1.730+000
30(0.87)	0.047706	0.052405	0.047968	0.040451	0.033251	0.033793	0.030423	0.027889	0.027240	0.031742	9.993-005	1.752+000
40(0.77)	0.047467	0.052079	0.047585	0.040140	0.033141	0.033905	0.029260	0.028539	0.031089	0.036963	1.339-004	1.785+000
50(0.64)	0.047071	0.051504	0.046866	0.039486	0.032731	0.033255	0.027999	0.028480	0.034195	0.044305	1.651-004	1.827+000
60(0.50)	0.046483	0.050617	0.045719	0.038393	0.031913	0.031680	0.026316	0.027372	0.034840	0.051001	1.387-004	1.887+000
65(0.42)	0.046114	0.050050	0.044974	0.037676	0.031346	0.030569	0.025226	0.026294	0.033813	0.051903	9.245-005	1.939+000
70(0.34)	0.045696	0.049404	0.044122	0.036854	0.030691	0.029279	0.023954	0.024830	0.031785	0.049820	8.666-005	2.048+000
75(0.26)	0.045231	0.048689	0.043176	0.035945	0.029974	0.027853	0.022513	0.023005	0.028810	0.044317	7.294-005	2.357+000
80(0.17)	0.044732	0.047916	0.042154	0.034971	0.029224	0.026337	0.020939	0.020887	0.025072	0.035857	5.140-005	3.809+000
85(0.09)	0.044201	0.047100	0.041079	0.033958	0.028476	0.024782	0.019287	0.018580	0.020864	0.025778	3.329-005	5.279+001
90(-0.00)	0.043649	0.046257	0.039977	0.032936	0.027756	0.023240	0.017615	0.016206	0.016531	0.015861	2.705-005	0.000+000
95(-0.09)	0.043085	0.045406	0.038871	0.031929	0.027082	0.021755	0.015979	0.013878	0.012401	0.007667	2.184-005	0.000+000
100(-0.17)	0.042516	0.044561	0.037786	0.030963	0.026459	0.020361	0.014423	0.011681	0.008725	0.002036	1.754-005	0.000+000
105(-0.26)	0.041957	0.043738	0.036740	0.030055	0.025882	0.019082	0.012972	0.009663	0.005652	-0.001045	1.449-005	0.000+000
110(-0.34)	0.041413	0.042947	0.035748	0.029218	0.025343	0.017931	0.011636	0.007837	0.003244	-0.002186	1.231-005	0.000+000
115(-0.42)	0.040885	0.042198	0.034821	0.028457	0.024835	0.016908	0.010409	0.006197	0.001495	-0.002185	1.063-005	0.000+000
120(-0.50)	0.040386	0.041498	0.033966	0.027777	0.024355	0.016012	0.009275	0.004731	0.000352	-0.001704	1.388-005	0.000+000
130(-0.64)	0.039484	0.040260	0.032483	0.026648	0.023479	0.014580	0.007207	0.002316	-0.000524	-0.000687	1.414-005	0.000+000
140(-0.77)	0.038727	0.039249	0.031299	0.025801	0.022731	0.013620	0.005278	0.000697	-0.000398	-0.000175	1.066-005	0.000+000
150(-0.87)	0.038131	0.038467	0.030402	0.025198	0.022134	0.013163	0.003431	-0.000053	-0.000123	-0.000023	7.665-006	0.000+000
160(-0.94)	0.03770	0.037912	0.029774	0.024800	0.021707	0.013184	0.001789	-0.000167	0.000008	-0.000000	4.973-006	0.000+000
170(-0.98)	0.037442	0.037580	0.029402	0.024576	0.021454	0.013452	0.000634	-0.000055	0.000037	0.000000	2.453-006	0.000+000
177(-1.00)	0.037361	0.037477	0.029286	0.024508	0.021376	0.013592	0.000245	0.000003	0.000037	-0.000000	3.058-007	0.000+000
ENERGY SUM	0.545796	0.578674	0.499727	0.415148	0.351354	0.296933	0.220367	0.194531	0.202995	0.251092		

TOTAL DOSE RATE = 0.001135(MR/HR)

TOTAL DOSE BUILDUP= 2.313694

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.8783 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.044217	0.048149	0.043889	0.035791	0.029312	0.028628	0.029893	0.026266	0.023405	0.028126	3.599-006	1.879+000
10(0.98)	0.044176	0.048088	0.043821	0.035749	0.029274	0.028647	0.029612	0.026422	0.023875	0.028590	2.878-005	1.884+000
20(0.94)	0.044015	0.047879	0.043583	0.035590	0.029136	0.028712	0.028800	0.026690	0.025400	0.030119	5.744-005	1.901+000
30(0.87)	0.043727	0.047488	0.043124	0.035248	0.028845	0.028766	0.027648	0.026678	0.027719	0.032833	8.546-005	1.931+000
40(0.77)	0.043285	0.046866	0.042368	0.034635	0.028311	0.028563	0.026241	0.026208	0.029916	0.036923	1.113-004	1.976+000
50(0.64)	0.042658	0.045967	0.041250	0.033674	0.027444	0.027738	0.024511	0.025094	0.030642	0.041679	1.311-004	2.042+000
60(0.50)	0.041843	0.044778	0.039749	0.032345	0.026229	0.026099	0.022314	0.022995	0.028799	0.043220	1.022-004	2.156+000
65(0.42)	0.041370	0.044085	0.038868	0.031560	0.025519	0.025007	0.021022	0.021509	0.026753	0.040799	6.449-005	2.274+000
70(0.34)	0.040858	0.043336	0.037918	0.030715	0.024772	0.023786	0.019623	0.019761	0.024012	0.035657	5.646-005	2.536+000
75(0.26)	0.040314	0.042544	0.036915	0.029832	0.024016	0.022485	0.018151	0.017821	0.020740	0.028258	4.414-005	3.332+000
80(0.17)	0.039746	0.041722	0.035881	0.028933	0.023285	0.021157	0.016654	0.015784	0.017191	0.019846	3.054-005	8.013+000
85(0.09)	0.039162	0.040885	0.034836	0.028041	0.022611	0.019848	0.015179	0.013751	0.013654	0.012009	2.244-005	4.420+002
90(-0.00)	0.038578	0.040045	0.033798	0.027175	0.022017	0.018595	0.013764	0.011807	0.010381	0.006016	1.849-005	0.000+000
95(-0.09)	0.037998	0.039217	0.032785	0.026350	0.021517	0.017423	0.012435	0.010004	0.007534	0.002340	1.536-005	0.000+000
100(-0.17)	0.037398	0.038410	0.031811	0.025576	0.021108	0.016343	0.011202	0.008360	0.005180	0.000624	1.300-005	0.000+000
105(-0.26)	0.036823	0.037634	0.030883	0.024859	0.020772	0.015360	0.010060	0.006868	0.003315	0.000068	1.116-005	0.000+000
110(-0.34)	0.036275	0.036895	0.030011	0.024201	0.020487	0.014467	0.008997	0.005511	0.001909	-0.000070	9.684-006	0.000+000
115(-0.42)	0.035748	0.036198	0.029197	0.023601	0.020228	0.013658	0.008000	0.004277	0.000921	-0.000184	8.447-006	0.000+000
120(-0.50)	0.035252	0.035548	0.028444	0.023056	0.019981	0.012925	0.007055	0.003169	0.000301	-0.000330	1.110-005	0.000+000
130(-0.64)	0.03436	0.034394	0.027127	0.022126	0.019492	0.011666	0.005283	0.001412	-0.000151	-0.000409	1.138-005	0.000+000
140(-0.77)	0.033616	0.033448	0.026063	0.021392	0.019022	0.010660	0.003646	0.000391	-0.000145	-0.000183	8.598-006	0.000+000
150(-0.87)	0.033032	0.032716	0.025249	0.020841	0.018614	0.009921	0.002199	0.000021	-0.000083	-0.000031	6.196-006	0.000+000
160(-0.94)	0.032615	0.032196	0.024677	0.020462	0.018308	0.009513	0.001105	-0.000045	-0.000017	-0.000001	4.024-006	0.000+000
170(-0.98)	0.032362	0.031886	0.024339	0.020244	0.018124	0.009411	0.000501	-0.000065	0.000032	0.000000	1.987-006	0.000+000
177(-1.00)	0.032284	0.031789	0.024234	0.020178	0.018067	0.009419	0.000338	-0.000077	0.000045	-0.000000	2.475-007	0.000+000
ENERGY SUM	0.484905	0.505166	0.428702	0.348325	0.289606	0.242024	0.182836	0.161330	0.166309	0.202228		

TOTAL DOSE RATE = 0.000858(MR/HR)

TOTAL DOSE BUILDUP= 2.620028

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.0978 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.039688	0.042887	0.038964	0.031017	0.025462	0.024745	0.026449	0.025630	0.023595	0.028263	3.137-006	2.041+000
10(0.98)	0.039622	0.042798	0.038861	0.030947	0.025386	0.024690	0.026253	0.025586	0.023952	0.028633	2.502-005	2.047+000
20(0.94)	0.039406	0.042506	0.038518	0.030701	0.025131	0.024537	0.025613	0.025296	0.025071	0.029827	4.948-005	2.069+000
30(0.87)	0.039031	0.041989	0.037900	0.030231	0.024661	0.024322	0.024541	0.024588	0.026576	0.031851	7.241-005	2.109+000
40(0.77)	0.038479	0.041216	0.036959	0.029477	0.023915	0.023914	0.023057	0.023454	0.027492	0.034671	9.189-005	2.172+000
50(0.64)	0.037744	0.040171	0.035667	0.028403	0.022851	0.023014	0.021150	0.021751	0.026694	0.037247	1.039-004	2.271+000
60(0.50)	0.036833	0.038871	0.034048	0.027031	0.021508	0.021441	0.018794	0.019184	0.023548	0.035608	7.593-005	2.485+000
69(0.42)	0.036323	0.038142	0.033142	0.026262	0.020775	0.020437	0.017472	0.017658	0.021091	0.031574	4.583-005	2.717+000
70(0.34)	0.035782	0.037376	0.032192	0.025463	0.020036	0.019342	0.016093	0.015764	0.018176	0.025280	3.811-005	3.252+000
79(0.26)	0.035220	0.036585	0.031218	0.024655	0.019320	0.018207	0.014700	0.013891	0.015007	0.017622	2.856-005	5.035+000
80(0.17)	0.034643	0.035782	0.030238	0.023858	0.018657	0.017077	0.013341	0.012037	0.011847	0.010115	2.015-005	1.872+001
89(0.09)	0.034059	0.034980	0.029270	0.023091	0.018073	0.015993	0.012054	0.010290	0.008952	0.004277	1.562-005	3.821+003
90(-0.00)	0.033476	0.034189	0.028328	0.022365	0.017587	0.014979	0.010862	0.008703	0.006494	0.000930	1.304-005	0.000+000
99(-0.09)	0.032900	0.033420	0.027423	0.021689	0.017209	0.014046	0.009772	0.007293	0.004529	-0.000123	1.121-005	0.000+000
100(-0.17)	0.032338	0.032679	0.026563	0.021064	0.016931	0.013195	0.008776	0.006039	0.003019	0.000175	9.865-006	0.000+000
109(-0.26)	0.031794	0.031972	0.025752	0.020490	0.016733	0.012418	0.007854	0.004909	0.001885	0.000732	8.850-006	0.000+000
110(-0.34)	0.031273	0.031303	0.024992	0.019962	0.016586	0.011703	0.006987	0.003875	0.001062	0.000890	7.861-006	0.000+000
119(-0.42)	0.030778	0.030674	0.024284	0.019478	0.016464	0.011041	0.006159	0.002926	0.000504	0.000574	6.866-006	0.000+000
120(-0.50)	0.030313	0.030088	0.023628	0.019034	0.016344	0.010424	0.005362	0.002077	0.000172	0.000071	8.910-006	0.000+000
130(-0.64)	0.029482	0.029051	0.022478	0.018258	0.016081	0.009313	0.003852	0.000792	-0.000049	-0.000438	9.121-006	0.000+000
140(-0.77)	0.028794	0.028201	0.021544	0.017626	0.015792	0.008340	0.002483	0.000167	-0.000087	-0.000233	6.913-006	0.000+000
150(-0.87)	0.028257	0.027546	0.020830	0.017138	0.015523	0.007504	0.001354	0.000022	-0.000095	-0.000040	4.995-006	0.000+000
160(-0.94)	0.027874	0.027083	0.020330	0.016796	0.015314	0.006893	0.000627	-0.000013	-0.000029	-0.000001	3.250-006	0.000+000
170(-0.98)	0.027646	0.026808	0.020036	0.016599	0.015187	0.006593	0.000351	-0.000090	0.000040	0.000000	1.608-006	0.000+000
177(-1.00)	0.027575	0.026723	0.019946	0.016539	0.015147	0.006525	0.000316	-0.000131	0.000059	-0.000000	2.005-007	0.000+000
ENERGY SUM	0.422753	0.434316	0.363409	0.290215	0.238158	0.197358	0.151360	0.133564	0.136185	0.162886		

TOTAL DOSE RATE = 0.000663(MR/HR)

TOTAL DOSE BUILDUP= 2.934492

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
ENERGY DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(MEV/SQCM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.1957 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL DOSE RATE	DOSE BUILDUP
2(1.00)	0.018533	0.019771	0.017969	0.013486	0.011188	0.010957	0.012382	0.014902	0.015718	0.018964	1.433-006	2.797+000
10(0.98)	0.018478	0.019695	0.017877	0.013422	0.011104	0.010837	0.012373	0.014691	0.015610	0.018900	1.129-005	2.816+000
20(0.94)	0.018299	0.019447	0.017575	0.013204	0.010836	0.010474	0.012180	0.013931	0.015359	0.018631	2.145-005	2.885+000
30(0.87)	0.017997	0.019026	0.017059	0.012810	0.010380	0.010011	0.011579	0.012715	0.014923	0.018039	2.930-005	3.031+000
40(0.77)	0.017573	0.018428	0.016521	0.012227	0.009719	0.009554	0.010572	0.011329	0.013792	0.017298	3.370-005	3.339+000
50(0.64)	0.017033	0.017664	0.015373	0.011468	0.008868	0.008947	0.009244	0.009729	0.011620	0.016582	3.359-005	4.060+000
60(0.50)	0.016398	0.016770	0.014271	0.010588	0.007915	0.008035	0.007662	0.007667	0.008542	0.013442	2.077-005	6.108+000
69(0.42)	0.016056	0.016293	0.013691	0.010135	0.007452	0.007498	0.006825	0.006491	0.006738	0.009642	1.122-005	8.936+000
70(0.34)	0.015703	0.015809	0.013110	0.009694	0.007031	0.006953	0.006003	0.005308	0.004866	0.004512	8.206-006	1.735+001
75(0.26)	0.015346	0.015327	0.012542	0.009281	0.006666	0.006437	0.005241	0.004212	0.003105	-0.000724	5.638-006	6.911+001
80(0.17)	0.014988	0.014854	0.011997	0.008906	0.006366	0.005977	0.004570	0.003283	0.001670	-0.004381	4.552-006	2.355+003
85(0.09)	0.014635	0.014396	0.011482	0.008573	0.006136	0.005582	0.004006	0.002561	0.000705	-0.005273	3.956-006	2.959+008
90(-0.00)	0.014290	0.013957	0.010999	0.008280	0.005976	0.005247	0.003541	0.002032	0.000207	-0.003528	3.569-006	0.000+000
95(-0.09)	0.013957	0.013540	0.010549	0.008020	0.005885	0.004955	0.003147	0.001637	0.000024	-0.000566	3.295-006	0.000+000
100(-0.17)	0.013638	0.013144	0.010126	0.007783	0.005852	0.004680	0.002786	0.001299	-0.000050	0.001783	3.479-006	0.000+000
105(-0.26)	0.013334	0.012770	0.009729	0.007558	0.005858	0.004401	0.002428	0.000955	-0.000157	0.002488	3.334-006	0.000+000
110(-0.34)	0.013048	0.012418	0.009354	0.007338	0.005877	0.004106	0.002055	0.000582	-0.000321	0.001648	2.747-006	0.000+000
115(-0.42)	0.012781	0.012089	0.009000	0.007121	0.005887	0.003793	0.001666	0.000199	-0.000484	-0.000562	2.146-006	0.000+000
120(-0.50)	0.012535	0.011784	0.008670	0.006907	0.005877	0.003473	0.001274	-0.000146	-0.000585	-0.001695	2.846-006	0.000+000
130(-0.64)	0.012109	0.011256	0.008091	0.006504	0.005811	0.002868	0.000546	-0.000531	-0.000604	-0.001853	2.937-006	0.000+000
140(-0.77)	0.011777	0.010844	0.007638	0.006166	0.005732	0.002328	-0.000037	-0.000439	-0.000553	-0.000646	2.228-006	0.000+000
150(-0.87)	0.011536	0.010549	0.007318	0.005913	0.005683	0.001761	-0.000409	-0.000214	-0.000356	-0.000086	1.629-006	0.000+000
160(-0.94)	0.011376	0.010359	0.007116	0.005750	0.005666	0.001193	-0.000456	-0.000191	-0.000042	-0.000000	1.072-006	0.000+000
170(-0.98)	0.011286	0.010256	0.007008	0.005670	0.005665	0.000824	-0.000205	-0.000280	0.000127	0.000000	5.428-007	0.000+000
177(-1.00)	0.011260	0.010225	0.006977	0.005649	0.005667	0.000723	-0.000042	-0.000313	0.000151	-0.000000	6.865-008	0.000+000
ENERGY SUM	0.182726	0.180644	0.145558	0.110878	0.087992	0.071265	0.057404	0.050839	0.049761	0.055347		

TOTAL DOSE RATE = 0.000215(MR/HR)

TOTAL DOSE BUILDUP= 4.756458

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0179 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	2,186056	1,920869	1,755959	3,414092	2,761675	2,695074	2,071123	0,542130	0,051361	0,071252	3,696-003	4,723+002
10(0,98)	2,191010	1,941569	1,776678	3,456315	2,826611	2,669586	1,991266	0,691204	0,085023	0,073395	2,983-002	3,759+001
20(0,94)	2,211868	2,004946	1,845259	3,601061	3,030192	2,570333	1,824110	1,050603	0,264854	0,081782	6,141-002	7,391+001
30(0,87)	2,260297	2,104836	1,969096	3,883069	3,313056	2,422167	1,727445	1,396997	0,707914	0,119930	9,690-002	1,076+000
40(0,77)	2,352625	2,247003	2,167093	4,397618	3,571196	2,335722	1,769234	1,663265	1,377709	0,339070	1,396-001	1,376+000
50(0,64)	2,526927	2,470962	2,482565	5,309388	3,808527	2,429243	1,967182	1,960441	2,124348	1,191970	1,963-001	1,630+000
60(0,50)	2,850357	2,847772	2,983940	6,685250	4,193869	2,783423	2,369455	2,451721	2,972617	3,224807	2,102-001	1,369+000
65(0,42)	3,068766	3,092586	3,298993	7,441100	4,463332	3,046895	2,644219	2,781617	3,460478	4,620804	1,692-001	9,375+001
70(0,34)	3,292782	3,539402	3,613422	8,095802	4,730663	3,316448	2,923753	3,117177	3,936608	5,997462	2,057-001	9,315-001
75(0,26)	3,474671	3,736445	3,864976	8,505109	4,911021	3,519558	3,138952	3,375808	4,292406	7,014007	2,539-001	8,849-001
80(0,17)	3,563163	3,828537	3,987053	8,548631	4,913999	3,578780	3,212999	3,464878	4,400055	7,336003	3,299-001	7,979+001
85(0,09)	3,526154	3,781695	3,937866	8,183466	4,686179	3,446828	3,097385	3,325544	4,177052	6,781490	5,104-001	6,861-001
90(-0,00)	3,368494	3,602417	3,723616	7,476090	4,243524	3,134761	2,801838	2,969297	3,640387	5,426626	9,441-002	0,000+000
95(-0,09)	3,132549	3,338153	3,399565	6,588814	3,671297	2,712582	2,395880	2,479953	2,910019	3,598404	8,027-002	0,000+000
100(-0,17)	2,879576	2,856694	3,046145	5,721168	3,088503	2,278573	1,977609	1,975613	2,153913	1,745796	6,533-002	0,000+000
105(-0,26)	2,662793	2,616456	2,734143	5,034708	2,597698	1,915722	1,628971	1,554181	1,509470	0,259258	5,335-002	0,000+000
110(-0,34)	2,508177	2,445164	2,499762	4,600585	2,249996	1,661886	1,385684	1,256878	1,032112	-0,661051	4,517-002	0,000+000
115(-0,42)	2,412347	2,338695	2,341693	4,393961	2,042231	1,508318	1,236849	1,068038	0,698042	-1,028701	3,975-002	0,000+000
120(-0,50)	2,354687	2,272868	2,236389	4,329970	1,940209	1,420376	1,146954	0,942079	0,447616	-1,000215	5,379-002	0,000+000
130(-0,64)	2,273247	2,170526	2,088735	4,280807	1,922289	1,311300	1,015981	0,714937	0,039862	-0,501777	5,894-002	0,000+000
140(-0,77)	2,187016	2,052849	1,962790	4,086576	2,067452	1,210789	0,859079	0,415193	-0,215318	-0,132811	4,629-002	0,000+000
150(-0,87)	2,104906	1,937426	1,861235	3,814035	2,316093	1,152285	0,641376	0,083935	-0,221867	-0,016917	3,396-002	0,000+000
160(-0,94)	2,039400	1,848954	1,790680	3,590669	2,536723	1,200323	0,339023	-0,153053	-0,098481	-0,000394	2,227-002	0,000+000
170(-0,98)	1,996238	1,796274	1,749836	3,458095	2,643975	1,334321	0,018291	-0,229913	-0,009784	0,000109	1,108-002	0,000+000
177(-1,00)	1,981964	1,780265	1,737400	3,417796	2,666506	1,405340	-0,118493	-0,230714	0,012268	0,000020	1,389-003	0,000+000
NUMBER SUM	33,751251	33,015816	33,983978	69,748337	41,523598	28,824664	23,416890	21,888628	22,524034	24,348407		

TOTAL NUMBER= 3,183097

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 1,835135

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,2975 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	2,289113	2,094267	1,955290	3,110581	2,512282	2,321020	2,063860	1,368119	0,961385	0,896585	3,496-003	5,912-002
10(0,98)	2,298439	2,109440	1,973631	3,140300	2,549365	2,324211	2,023453	1,426623	1,006892	0,920530	2,812-002	4,707-001
20(0,94)	2,330201	2,157058	2,032933	3,238732	2,668268	2,319840	1,937331	1,568985	1,171201	1,003533	5,718-002	9,268-001
30(0,87)	2,388280	2,234785	2,134054	3,416608	2,848575	2,300123	1,885258	1,714864	1,467810	1,171478	8,818-002	1,353+000
40(0,77)	2,477505	2,344289	2,280279	3,704138	3,043443	2,297808	1,905029	1,846433	1,846755	1,503165	1,222-001	1,734+000
50(0,64)	2,603901	2,492689	2,475904	4,144589	3,223988	2,355177	1,999051	2,000695	2,228356	2,142513	1,604-001	2,058+000
60(0,50)	2,765466	2,678993	2,714027	4,714433	3,398432	2,481793	2,154330	2,203651	2,587364	3,136439	1,521-001	1,733+000
65(0,42)	2,845137	2,770789	2,830287	4,983115	3,470371	2,551091	2,235333	2,306343	2,743528	3,659066	1,119-001	1,202+000
70(0,34)	2,904615	2,840477	2,920246	5,173806	3,504066	2,596305	2,291942	2,379242	2,849110	4,059621	1,207-001	1,238+000
75(0,26)	2,924350	2,866822	2,959357	5,230820	3,468613	2,588671	2,295857	2,388680	2,860394	4,209724	1,247-001	1,280+000
80(0,17)	2,888442	2,832621	2,927541	5,117274	3,338905	2,504435	2,223011	2,305715	2,738293	4,009188	1,171-001	1,418+000
85(0,09)	2,792571	2,733341	2,819225	4,834038	3,110077	2,337175	2,066317	2,121688	2,471314	3,444995	8,497-002	2,828+000
90(-0,00)	2,648101	2,581549	2,648634	4,426313	2,804943	2,104448	1,842888	1,857074	2,088912	2,603705	6,173-002	0,000+000
95(-0,09)	2,479027	2,403540	2,446016	3,971684	2,468390	1,843082	1,589480	1,556017	1,654092	1,653353	5,344-002	0,000+000
100(-0,17)	2,312815	2,229253	2,246032	3,553615	2,150664	1,594584	1,347561	1,268194	1,237324	0,781254	4,530-002	0,000+000
105(-0,26)	2,170178	2,081053	2,074799	3,233136	1,888929	1,389023	1,146770	1,028746	0,888195	0,126588	3,873-002	0,000+000
110(-0,34)	2,059360	1,967512	1,942738	3,032410	1,697320	1,236521	0,996421	0,848060	0,621345	-0,258406	3,385-002	0,000+000
115(-0,42)	1,977159	1,884594	1,845972	2,936308	1,569411	1,129633	0,888339	0,715385	0,422878	-0,404212	3,017-002	0,000+000
120(-0,50)	1,914530	1,821888	1,773462	2,907802	1,488925	1,052653	0,806593	0,610808	0,268849	-0,388840	4,080-002	0,000+000
130(-0,64)	1,815786	1,720396	1,662331	2,904649	1,416510	0,935096	0,669685	0,422451	0,037924	-0,191042	4,405-002	0,000+000
140(-0,77)	1,732061	1,628425	1,571788	2,851958	1,432127	0,831913	0,530263	0,227596	-0,083728	-0,050230	3,434-002	0,000+000
150(-0,87)	1,664069	1,550458	1,501452	2,755228	1,518220	0,750791	0,373221	0,051418	-0,086051	-0,006649	2,518-002	0,000+000
160(-0,94)	1,614070	1,493862	1,452611	2,664297	1,620786	0,714754	0,194836	-0,057416	-0,037106	0,000239	1,651-002	0,000+000
170(-0,98)	1,582865	1,460572	1,424119	2,605309	1,687675	0,723692	0,030752	-0,087771	-0,003704	0,000038	8,202-003	0,000+000
177(-1,00)	1,572823	1,450402	1,415380	2,586561	1,707067	0,735486	-0,034741	-0,086839	0,004367	0,000011	1,025-003	0,000+000
NUMBER SUM	29,338646	28,120873	28,033937	47,366239	31,016397	22,513475	18,550591	17,254629	17,470651	18,503668		

TOTAL NUMBER* 1.601882

(PHOTONS/SQ CM*SEC)

TOTAL NUMBER BUILDUP* 3.513300

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,5951 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	2,217483	2,063830	1,950066	2,736828	2,220115	1,995968	1,914066	1,681550	1,409342	1,329377	3,150-003	7,175+002
10(0,98)	2,226077	2,073304	1,963127	2,754695	2,239476	2,007414	1,896364	1,692887	1,447908	1,358019	2,525-002	5,717-001
20(0,94)	2,253516	2,103199	2,004324	2,811708	2,302032	2,034326	1,855805	1,720678	1,565746	1,454965	5,075-002	1,129+000
30(0,87)	2,298583	2,151787	2,070519	2,906203	2,402533	2,059273	1,824084	1,753054	1,734768	1,635818	7,662-002	1,658+000
40(0,77)	2,358396	2,216543	2,156201	3,036078	2,521385	2,077577	1,817778	1,791006	1,909437	1,925369	1,025-001	2,146+000
50(0,64)	2,423109	2,288520	2,247861	3,188541	2,621934	2,090778	1,831227	1,833823	2,048311	2,312430	1,271-001	2,590+000
60(0,50)	2,464981	2,339852	2,312194	3,311779	2,653258	2,078834	1,831587	1,851922	2,109955	2,653490	1,094-001	2,259+000
69(0,42)	2,461630	2,341278	2,315841	3,328472	2,621841	2,045903	1,806749	1,829589	2,087318	2,713283	7,499-002	1,628+000
70(0,34)	2,432523	2,316261	2,289509	3,293171	2,547520	1,982885	1,752134	1,771174	2,011006	2,643625	7,392-002	1,810+000
79(0,26)	2,373307	2,259997	2,228434	3,195453	2,426336	1,883999	1,661263	1,669061	1,871927	2,422073	6,831-002	2,214+000
80(0,17)	2,284723	2,173125	2,134021	3,036836	2,262277	1,750358	1,534670	1,523935	1,672101	2,057892	5,742-002	3,857+000
85(0,09)	2,173411	2,062638	2,014739	2,832971	2,068396	1,591315	1,381383	1,346617	1,427432	1,595395	4,597-002	4,649+001
90(-0,00)	2,050406	1,940259	1,884135	2,610243	1,864109	1,422282	1,216759	1,155481	1,164183	1,103259	4,073-002	0,000+000
95(-0,09)	1,927805	1,818809	1,756631	2,397934	1,669527	1,259758	1,057365	0,970281	0,910340	0,653293	3,594-002	0,000+000
100(-0,17)	1,815241	1,708380	1,643179	2,219684	1,499628	1,116103	0,915576	0,805642	0,686596	0,298571	3,158-002	0,000+000
105(-0,26)	1,717825	1,614141	1,548904	2,088133	1,361134	0,996702	0,796664	0,667602	0,501794	0,061024	2,795-002	0,000+000
110(-0,34)	1,636223	1,536475	1,473474	2,004342	1,253145	0,900459	0,699376	0,554410	0,354458	-0,067446	2,497-002	0,000+000
115(-0,42)	1,568267	1,472773	1,413325	1,960873	1,170346	0,822534	0,618779	0,460071	0,238097	-0,113933	2,242-002	0,000+000
120(-0,50)	1,518889	1,419537	1,364159	1,946136	1,106606	0,757324	0,549291	0,378113	0,146394	-0,110872	3,030-002	0,000+000
130(-0,64)	1,418207	1,333626	1,286319	1,956555	1,020099	0,648636	0,427425	0,235055	0,024487	-0,057046	3,241-002	0,000+000
140(-0,77)	1,346908	1,266523	1,226454	1,967974	0,980034	0,555745	0,314565	0,114530	-0,024667	-0,017532	2,519-002	0,000+000
150(-0,87)	1,293404	1,215546	1,181353	1,959612	0,984120	0,474954	0,205084	0,027950	-0,025075	-0,003424	1,848-002	0,000+000
160(-0,94)	1,255946	1,180219	1,149989	1,940287	1,017060	0,410404	0,103711	-0,015089	-0,011199	-0,000361	1,213-002	0,000+000
170(-0,98)	1,233536	1,159671	1,131570	1,923476	1,051190	0,369338	0,027564	-0,024957	-0,002177	0,000007	6,021-003	0,000+000
177(-1,00)	1,226502	1,153366	1,125886	1,917495	1,063988	0,356427	0,000593	-0,024531	0,000150	0,000016	7,511-004	0,000+000
NUMBER SUM	24,541838	23,158441	22,526260	32,330317	22,956653	17,314748	14,448664	13,373762	13,327017	13,821432		

TOTAL NUMBER= 1,12419R

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4,890542

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200,0 FT OR 1,1902 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,823411	1,711149	1,634048	1,997313	1,646696	1,464671	1,472165	1,559481	1,496445	1,461241	2,354-003	9,727-002
10(0,98)	1,825671	1,711671	1,636602	1,998830	1,648858	1,470566	1,470532	1,541380	1,510525	1,478094	1,875-002	7,770-001
20(0,94)	1,831335	1,712763	1,643297	2,001599	1,654025	1,487692	1,459991	1,495075	1,540971	1,531904	3,693-002	1,548+000
30(0,87)	1,835751	1,712196	1,649051	1,998529	1,660984	1,503781	1,433377	1,442983	1,552833	1,619562	5,376-002	2,312+000
40(0,77)	1,831639	1,704593	1,644867	1,973639	1,667624	1,497748	1,388951	1,390039	1,522177	1,721807	6,795-002	3,093+000
50(0,64)	1,805425	1,676863	1,614699	1,894473	1,651042	1,449964	1,320177	1,317811	1,441920	1,759396	7,732-002	3,978+000
60(0,50)	1,731752	1,603170	1,530507	1,719740	1,560005	1,337019	1,202330	1,189236	1,281731	1,577332	5,859-002	3,979+000
65(0,42)	1,669076	1,540892	1,459801	1,592933	1,472884	1,248929	1,115220	1,091589	1,155611	1,365218	3,701-002	3,285+000
70(0,34)	1,589286	1,461882	1,371075	1,449593	1,360177	1,141350	1,009309	0,971650	0,998511	1,082907	3,344-002	4,664+000
75(0,26)	1,497445	1,371525	1,271224	1,305524	1,232389	1,022116	0,891553	0,837732	0,822462	0,767098	2,895-002	9,353+000
80(0,17)	1,401743	1,278463	1,170837	1,179140	1,104726	0,903184	0,773501	0,703684	0,647574	0,469042	2,480-002	5,129+001
85(0,09)	1,310658	1,191543	1,080480	1,084760	0,991551	0,796266	0,666850	0,583515	0,494057	0,235830	2,195-002	2,047+004
90(-0,00)	1,229809	1,116410	1,006620	1,026697	0,900750	0,707970	0,578341	0,485214	0,373206	0,091407	1,977-002	0,000+000
95(-0,09)	1,160438	1,053903	0,949735	0,997932	0,831482	0,637683	0,507454	0,407964	0,283548	0,028875	1,801-002	0,000+000
100(-0,17)	1,100368	1,001173	0,905721	0,984604	0,776683	0,579595	0,448427	0,344651	0,214786	0,018756	1,653-002	0,000+000
105(-0,26)	1,046525	0,954512	0,869351	0,973633	0,728326	0,527151	0,394814	0,287484	0,156194	0,026985	1,516-002	0,000+000
110(-0,34)	0,997118	0,911791	0,837263	0,958744	0,681747	0,476657	0,343131	0,232445	0,103096	0,030586	1,378-002	0,000+000
115(-0,42)	0,952187	0,873045	0,808745	0,941576	0,636587	0,427952	0,293403	0,179953	0,057450	0,022783	1,239-002	0,000+000
120(-0,50)	0,912675	0,839402	0,784534	0,928182	0,594774	0,382649	0,247251	0,132556	0,023692	0,008130	1,663-002	0,000+000
130(-0,64)	0,851371	0,789556	0,750245	0,930983	0,525928	0,306004	0,168706	0,060081	-0,003348	-0,014051	1,768-002	0,000+000
140(-0,77)	0,808805	0,758067	0,729179	0,967001	0,472563	0,243825	0,104415	0,018367	-0,001002	-0,013336	1,379-002	0,000+000
150(-0,87)	0,778263	0,737120	0,714306	1,005756	0,432483	0,197582	0,052557	0,002878	-0,000521	-0,005039	1,017-002	0,000+000
160(-0,94)	0,757471	0,723230	0,703810	1,031053	0,413296	0,132333	0,020558	0,000910	-0,004031	-0,000819	6,707-003	0,000+000
170(-0,98)	0,745606	0,715183	0,697574	1,043540	0,412692	0,084271	0,011106	-0,001526	-0,004074	-0,000002	3,333-003	0,000+000
177(-1,00)	0,742016	0,712685	0,695629	1,046956	0,415184	0,065286	0,011317	-0,003758	-0,003012	0,000036	4,159-004	0,000+000
NUMBER SUM	16,289721	15,648561	14,166558	16,345778	12,881761	10,254945	8,720104	7,998018	7,744551	7,717871		

TOTAL NUMBER= 0,626155

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7,791382

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,7853 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0.064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,362550	1,277119	1,221075	1,385308	1,164991	1,045171	1,052058	1,181331	1,194880	1,204628	1,650-003	1,237+001
10(0,98)	1,359592	1,272517	1,217401	1,379263	1,161030	1,042958	1,053225	1,159249	1,195320	1,207034	1,307-002	9,913+001
20(0,94)	1,348588	1,257324	1,204501	1,358548	1,144458	1,039575	1,045835	1,102420	1,184640	1,212426	2,530-002	1,997+000
30(0,87)	1,325852	1,230332	1,179095	1,319619	1,112778	1,031767	1,013869	1,035255	1,136861	1,215310	3,571-002	3,054+000
40(0,77)	1,287394	1,189142	1,136404	1,253386	1,071980	1,002410	0,954973	0,960850	1,043962	1,202496	4,319-002	4,276+000
50(0,64)	1,228281	1,128710	1,070252	1,137215	1,017262	0,937561	0,870717	0,865685	0,919535	1,123354	4,645-002	6,032+000
60(0,50)	1,135950	1,035753	0,966824	0,941977	0,915903	0,825063	0,750529	0,729624	0,750437	0,877564	3,294-002	7,355+000
65(0,42)	1,073109	0,972843	0,896910	0,817208	0,838435	0,747532	0,671766	0,639945	0,637217	0,673781	2,010-002	7,294+000
70(0,34)	1,000770	0,900868	0,817516	0,688787	0,747013	0,659078	0,582566	0,538246	0,506938	0,435546	1,765-002	1,402+001
75(0,26)	0,924433	0,825780	0,735968	0,575444	0,652663	0,568198	0,490768	0,433877	0,373085	0,201835	1,509-002	4,859+001
80(0,17)	0,851638	0,755431	0,661988	0,495681	0,569381	0,486166	0,407442	0,340102	0,255201	0,019021	1,305-002	8,309+002
85(0,09)	0,788715	0,697042	0,603418	0,459408	0,507654	0,421822	0,341582	0,267692	0,169092	-0,080083	1,162-002	1,002+007
90(-0,00)	0,737858	0,652016	0,562391	0,462269	0,469052	0,376824	0,295075	0,218803	0,117725	-0,093539	1,061-002	0,000+000
95(-0,09)	0,696644	0,617466	0,534795	0,486991	0,445897	0,345109	0,261994	0,186116	0,090118	-0,051092	9,883-003	0,000+000
100(-0,17)	0,660424	0,587897	0,513536	0,511782	0,426526	0,317249	0,233020	0,158260	0,069539	0,003311	9,276-003	0,000+000
105(-0,26)	0,625697	0,559193	0,493147	0,520844	0,402355	0,286396	0,201532	0,127263	0,044649	0,035244	8,566-003	0,000+000
110(-0,34)	0,592009	0,530739	0,472382	0,510603	0,371793	0,251446	0,166726	0,092348	0,019093	0,033852	7,682-003	0,000+000
115(-0,42)	0,561314	0,504718	0,453409	0,488545	0,338937	0,215748	0,132107	0,058047	-0,011568	0,009386	6,782-003	0,000+000
120(-0,50)	0,535836	0,483718	0,438996	0,466674	0,309110	0,183396	0,101588	0,029461	-0,027526	-0,019809	9,043-003	0,000+000
130(-0,64)	0,501895	0,459063	0,426035	0,455492	0,285779	0,134327	0,056553	-0,003972	-0,024204	-0,045495	9,665-003	0,000+000
140(-0,77)	0,481461	0,448222	0,423896	0,485697	0,281089	0,098927	0,023723	-0,013155	-0,008759	-0,028968	7,649-003	0,000+000
150(-0,87)	0,466027	0,441167	0,422732	0,523326	0,194798	0,068045	-0,001150	-0,008820	-0,008456	-0,009069	5,700-003	0,000+000
160(-0,94)	0,455033	0,435814	0,421488	0,549913	0,168788	0,035560	-0,009948	-0,005291	-0,011529	-0,001269	3,779-003	0,000+000
170(-0,98)	0,448903	0,432396	0,420675	0,564478	0,160203	0,002567	-0,001330	-0,011889	-0,007462	0,000010	1,880-003	0,000+000
177(-1,00)	0,447108	0,431270	0,420404	0,568807	0,159711	-0,011842	0,005722	-0,017181	-0,004243	0,000056	2,354-004	0,000+000
NUMBER SUM	10,424012	9,493755	8,748962	8,872288	7,397822	6,084992	5,234730	4,759155	4,492762	4,313997		

TOTAL NUMBER= 0,366580

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 11,120506

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400,0 FT OR 2,3804 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,965196	0,903800	0,859581	0,929505	0,800011	0,727701	0,726827	0,847444	0,852993	0,882736	1,117-003	1.519-001
10(0,98)	0,959952	0,897264	0,853662	0,921429	0,794922	0,720785	0,729677	0,823956	0,851752	0,876484	8,805-003	1.222+000
20(0,94)	0,942061	0,875588	0,834293	0,895464	0,772690	0,707478	0,723802	0,765800	0,835916	0,855032	1,679-002	2.496+000
30(0,87)	0,909807	0,840313	0,800678	0,852910	0,730125	0,691557	0,690205	0,701918	0,779852	0,820706	2,312-002	3.930+000
40(0,77)	0,864287	0,793714	0,753266	0,793215	0,682206	0,659086	0,632390	0,635943	0,683688	0,782972	2,711-002	5.835+000
50(0,64)	0,809484	0,738956	0,694770	0,699584	0,637339	0,603732	0,561903	0,558948	0,579882	0,722195	2,839-002	9.304+000
60(0,50)	0,737885	0,667177	0,615827	0,535919	0,564164	0,519147	0,473137	0,457944	0,461375	0,543650	1,978-002	1.452+001
65(0,42)	0,689803	0,618797	0,562097	0,426605	0,503876	0,460122	0,414194	0,390183	0,378358	0,381938	1,190-002	1.766+001
70(0,34)	0,633535	0,562384	0,499666	0,314082	0,430155	0,391217	0,345466	0,311097	0,277716	0,186489	1,019-002	4.612+001
75(0,26)	0,574102	0,503537	0,435545	0,220172	0,354808	0,320794	0,274603	0,229888	0,173194	+0,002357	8,425-003	2.704+002
80(0,17)	0,519175	0,450588	0,379928	0,166665	0,293522	0,261035	0,213650	0,161072	0,086820	-0,134193	7,119-003	1.395+004
85(0,09)	0,474999	0,410173	0,340723	0,163961	0,257343	0,221138	0,172126	0,116127	0,035867	+0,175308	6,274-003	4.993+009
90(-0,00)	0,442688	0,383159	0,318651	0,203513	0,245622	0,201070	0,150402	0,095404	0,020716	-0,130802	5,842-003	0.000+000
95(-0,09)	0,417945	0,364372	0,306977	0,260323	0,246232	0,191326	0,139232	0,087543	0,024187	-0,043729	5,629-003	0.000+000
100(-0,17)	0,394594	0,346562	0,296405	0,305218	0,243492	0,179435	0,126376	0,077571	0,023855	0,030445	5,460-003	0.000+000
105(-0,26)	0,369100	0,325578	0,281309	0,319387	0,227948	0,158092	0,104906	0,057084	0,007437	0,055664	4,992-003	0.000+000
110(-0,34)	0,342551	0,302408	0,262521	0,301960	0,200800	0,128596	0,076550	0,028284	-0,021032	0,030649	4,287-003	0.000+000
115(-0,42)	0,318954	0,281523	0,245130	0,266799	0,170615	0,097771	0,048250	-0,000270	-0,047649	+0,019746	3,634-003	0.000+000
120(-0,50)	0,301791	0,266946	0,233894	0,232299	0,146119	0,072053	0,026019	-0,021114	-0,060487	-0,065761	4,752-003	0.000+000
130(-0,64)	0,286889	0,253837	0,221922	0,208630	0,122480	0,041561	0,001896	-0,035290	-0,043552	-0,088672	5,125-003	0.000+000
140(-0,77)	0,282224	0,250187	0,240146	0,237368	0,107152	0,025707	-0,013040	-0,029429	-0,020245	-0,048655	4,205-003	0.000+000
150(-0,87)	0,276686	0,260470	0,245470	0,272475	0,080566	0,013341	-0,026576	-0,017254	-0,020436	-0,013707	3,212-003	0.000+000
160(-0,94)	0,271743	0,258731	0,248201	0,294542	0,058677	-0,003502	-0,027047	-0,013766	-0,021530	+0,001690	2,149-003	0.000+000
170(-0,98)	0,269129	0,256916	0,249646	0,305747	0,053463	-0,028443	-0,009993	-0,026753	-0,011429	0,000033	1,081-003	0.000+000
177(-1,00)	0,268434	0,256202	0,250055	0,309027	0,054481	-0,041297	0,001099	-0,035806	-0,005280	0,000075	1,358-004	0.000+000
NUMBER SUM	6,566765	6,218018	5,367466	4,909205	4,307591	3,616784	3,129794	2,820311	2,602080	2,413491		

TOTAL NUMBER= 0,219507

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 15,066473

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 2,9755 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,661178	0,620954	0,583922	0,608987	0,540042	0,500998	0,494548	0,608882	0,574813	0,606428	7,413-004	1.829+001
10(0,98)	0,655787	0,613916	0,578105	0,601610	0,536268	0,491665	0,500436	0,583076	0,577954	0,596882	5,823-003	1.479+000
20(0,94)	0,637796	0,592132	0,559717	0,578977	0,515895	0,476061	0,499450	0,523177	0,573569	0,566849	1,097-002	3.072+000
30(0,87)	0,607070	0,558702	0,529902	0,546367	0,474728	0,463758	0,468907	0,467048	0,529633	0,528735	1,484-002	5.015+000
40(0,77)	0,568940	0,520413	0,493056	0,509421	0,436578	0,440728	0,419049	0,419560	0,450037	0,514216	1,715-002	8.029+000
50(0,64)	0,533550	0,485914	0,457359	0,450394	0,418650	0,404524	0,370211	0,372236	0,383787	0,519748	1,814-002	1.500+001
60(0,50)	0,491974	0,444129	0,410627	0,314686	0,379332	0,348729	0,315123	0,310295	0,320532	0,421056	1,299-002	3.136+001
69(0,42)	0,458652	0,410005	0,371525	0,210776	0,331111	0,303034	0,272052	0,260142	0,260708	0,283942	7,762-003	4.708+001
70(0,34)	0,414853	0,365272	0,320520	0,099800	0,264576	0,244503	0,215849	0,194449	0,175609	0,098274	6,327-003	1.632+002
79(0,26)	0,365775	0,315875	0,265308	0,009463	0,194086	0,182559	0,154980	0,123509	0,081183	+0,088112	4,854-003	1.553+003
80(0,17)	0,320561	0,271883	0,218345	+0,031797	0,139770	0,132361	0,104455	0,065508	0,005555	-0,211575	3,825-003	2.307+005
89(0,09)	0,286811	0,241450	0,189425	+0,010592	0,115787	0,105495	0,076357	0,035098	-0,028947	+0,229014	3,296-003	2.421+012
90(+0,00)	0,265506	0,225247	0,178921	0,060864	0,120552	0,101294	0,070635	0,032135	+0,022704	+0,148383	3,179-003	0.000+000
99(+0,09)	0,250689	0,216160	0,177525	0,148357	0,137219	0,106607	0,074554	0,040968	0,000473	+0,027248	3,302-003	0.000+000
100(+0,17)	0,234388	0,204839	0,173132	0,212928	0,144929	0,104976	0,072026	0,041879	0,010807	0,062858	3,396-003	0.000+000
109(+0,26)	0,212735	0,186585	0,159346	0,230900	0,132322	0,087810	0,055025	0,025055	+0,006197	0,079684	3,012-003	0.000+000
110(+0,34)	0,188313	0,164036	0,138855	0,203683	0,103081	0,058570	0,027600	+0,004549	+0,042132	0,029147	2,336-003	0.000+000
119(+0,42)	0,167348	0,144095	0,119785	0,152377	0,070561	0,027774	0,000375	+0,033990	+0,075877	+0,049435	1,808-003	0.000+000
120(+0,50)	0,154742	0,132432	0,109051	0,103068	0,047316	0,004469	+0,018303	+0,053046	+0,090549	+0,114082	2,248-003	0.000+000
130(+0,64)	0,153302	0,134183	0,114219	0,067870	0,038143	+0,014161	+0,029728	+0,057430	+0,063476	+0,134809	2,517-003	0.000+000
140(+0,77)	0,166312	0,145762	0,129762	0,100904	0,039007	+0,016244	+0,034615	+0,042723	+0,032097	+0,069639	2,244-003	0.000+000
150(+0,87)	0,161488	0,150634	0,138874	0,138534	0,020217	+0,015871	+0,044168	+0,029265	+0,032960	+0,018512	1,788-003	0.000+000
160(+0,94)	0,160441	0,150544	0,143531	0,158364	0,003142	+0,023440	+0,041324	+0,022357	+0,032249	+0,002073	1,227-003	0.000+000
170(+0,98)	0,160158	0,149149	0,145971	0,166721	0,004021	+0,046676	+0,017399	+0,042447	+0,015633	0,000064	6,279-004	0.000+000
177(+1,00)	0,160214	0,148469	0,146657	0,168968	0,007974	+0,060696	+0,002218	+0,055762	+0,006250	0,000093	7,925-005	0.000+000
NUMBER SUM	4,114605	3,677453	3,290838	2,650720	2,524860	2,152633	1,865405	1,665644	1,504711	1,351258		

TOTAL NUMBER= 0,134481

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 19,987535

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,100 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000,0 FT OR 5,9509 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,064	0,067	0,071	0,073	0,077	0,081	0,085	0,089	0,094	0,098	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,079699	0,084501	0,067631	0,057838	0,077028	0,096418	0,073400	0,169491	0,059984	0,060786	9,435-005	4,575+001
10(0,98)	0,079156	0,081865	0,066994	0,057209	0,081120	0,086272	0,088442	0,145005	0,076227	0,057500	7,399-004	3,855+000
20(0,94)	0,077026	0,074943	0,065779	0,057203	0,081489	0,077216	0,108337	0,098187	0,108932	0,050544	1,400-003	9,304+000
30(0,87)	0,073888	0,068442	0,066113	0,066402	0,067861	0,088914	0,102499	0,078363	0,115182	0,063077	1,994-003	2,093+001
40(0,77)	0,077325	0,071643	0,074085	0,095121	0,070352	0,104762	0,088389	0,087109	0,101297	0,143811	2,812-003	6,400+001
50(0,64)	0,099146	0,094100	0,098442	0,116958	0,113018	0,119535	0,093270	0,109018	0,127220	0,286053	4,438-003	3,760+002
60(0,50)	0,121651	0,114983	0,116489	0,043503	0,136247	0,119213	0,101093	0,119812	0,162966	0,310874	4,316-003	4,001+003
65(0,42)	0,116679	0,107921	0,104572	-0,044583	0,110257	0,096653	0,085258	0,099790	0,139876	0,208142	2,508-003	1,737+004
70(0,34)	0,096604	0,085371	0,075282	-0,145603	0,058919	0,056471	0,050961	0,057467	0,079283	0,038478	1,533-003	2,373+005
75(0,26)	0,067490	0,054431	0,037968	-0,222637	0,000762	0,010460	0,008671	0,005680	0,002114	-0,137394	5,808-004	1,827+007
80(0,17)	0,040598	0,027592	0,008123	-0,238523	-0,038472	-0,022213	-0,022614	-0,032449	-0,055093	-0,239631	2,964-004	4,944+011
85(0,09)	0,024854	0,014437	-0,002838	-0,177916	-0,042057	-0,027903	-0,028523	-0,039413	-0,065248	-0,218538	1,834-004	9,039+025
90(-0,00)	0,020348	0,014494	0,003783	-0,060723	-0,014822	-0,009715	-0,011287	-0,018002	-0,032680	-0,093117	1,661-004	0,000+000
95(-0,09)	0,018645	0,017699	0,014702	0,064915	0,019119	0,013521	0,010863	0,009385	0,008469	0,056072	6,064-004	0,000+000
100(-0,17)	0,010027	0,012552	0,014831	0,147812	0,033014	0,020827	0,017515	0,017681	0,020169	0,139121	9,510-004	0,000+000
105(-0,26)	-0,008493	-0,004834	-0,001478	0,160709	0,015592	0,003958	0,001249	-0,002242	-0,011079	0,114058	5,186-004	0,000+000
110(-0,34)	-0,031067	-0,028297	-0,027279	0,111326	-0,023305	-0,028639	-0,028714	-0,039171	-0,067114	0,005697	1,327-004	0,000+000
115(-0,42)	-0,047985	-0,047062	-0,049560	0,032346	-0,062275	-0,060565	-0,055973	-0,073172	-0,115518	-0,122088	3,413-005	0,000+000
120(-0,50)	-0,052809	-0,053639	-0,058884	-0,039808	-0,083622	-0,079764	-0,069598	-0,090873	-0,133841	-0,211452	0,000+000	0,000+000
130(-0,64)	-0,042623	-0,034819	-0,041558	-0,091733	-0,066646	-0,079468	-0,062801	-0,082366	-0,093008	-0,212114	6,761-006	0,000+000
140(-0,77)	-0,008833	-0,010180	-0,015880	-0,052804	-0,035332	-0,062577	-0,055777	-0,057678	-0,053628	-0,099931	5,271-005	0,000+000
150(-0,87)	0,001010	-0,000180	-0,002890	-0,011003	-0,037033	-0,045331	-0,063220	-0,036453	-0,056255	-0,024019	8,033-005	0,000+000
160(-0,94)	0,004835	0,000887	0,003129	0,006732	-0,044558	-0,038782	-0,059728	-0,038324	-0,049624	-0,002181	7,191-005	0,000+000
170(-0,98)	0,007573	-0,000609	0,006069	0,011662	-0,034572	-0,057050	-0,030200	-0,070813	-0,020730	0,000133	4,120-005	0,000+000
177(-1,00)	0,008627	-0,001445	0,006845	0,012581	-0,026460	-0,071481	-0,011028	-0,090619	-0,005974	0,000100	5,539-006	0,000+000
NUMBER SUM	0,405001	0,353243	0,298398	-0,077736	0,169205	0,161947	0,136048	0,115423	0,095337	0,074937		

TOTAL NUMBER= 0,023563

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 122,797222

LOWER ENERGY CUTOFF 0,0559MEV

LOWEST SINGLE SCATTERING ENERGY 0,0719MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0145 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,273921	1,123942	1,133085	0,908374	0,747870	1,057635	0,942130	0,392906	0,006677	0,017867	4,373-003	5.571-002
10(0,98)	1,278293	1,130695	1,137717	0,915527	0,755596	1,076915	0,919657	0,415084	0,025249	0,018405	3,525-002	4.427-001
20(0,94)	1,292080	1,153017	1,152030	0,937936	0,781643	1,144846	0,858587	0,463602	0,104662	0,020385	7,224-002	8.664-001
30(0,87)	1,314812	1,193845	1,177033	0,975254	0,830158	1,263110	0,795039	0,509100	0,262404	0,029046	1,132-001	1.252+000
40(0,77)	1,349611	1,264100	1,221879	1,033496	0,913222	1,407886	0,771077	0,559989	0,463220	0,085261	1,615-001	1.585+000
50(0,64)	1,409911	1,387912	1,309050	1,131241	1,057416	1,556417	0,815784	0,645605	0,668019	0,331716	2,246-001	1.856+000
60(0,50)	1,515324	1,586690	1,462813	1,289492	1,287946	1,728848	0,945326	0,796850	0,908438	0,971015	2,372-001	1.534+000
65(0,42)	1,583957	1,705864	1,559437	1,385798	1,426185	1,824785	1,035071	0,895885	1,051777	1,429360	1,892-001	1.040+000
70(0,34)	1,654557	1,820696	1,653707	1,478315	1,558799	1,909571	1,123889	0,994603	1,193167	1,891722	2,278-001	1.021+000
75(0,26)	1,715775	1,911452	1,726940	1,548673	1,661441	1,957487	1,189207	1,069541	1,299923	2,240999	2,781-001	9.568-001
80(0,17)	1,755976	1,959455	1,760940	1,578976	1,710164	1,942277	1,207993	1,095379	1,334996	2,359858	3,572-001	8.476-001
85(0,09)	1,767714	1,954230	1,745370	1,559212	1,690405	1,849660	1,166812	1,056539	1,273355	2,182933	5,495-001	7.111-001
90(-0,00)	1,750974	1,898361	1,682910	1,492511	1,603963	1,686399	1,069501	0,956530	1,121042	1,734759	1,176-001	0.000+000
95(-0,09)	1,713226	1,807063	1,588941	1,394834	1,469843	1,480000	0,937037	0,818232	0,911947	1,127586	1,029-001	0.000+000
100(-0,17)	1,666085	1,702300	1,485463	1,288722	1,317692	1,268503	0,798803	0,673917	0,694281	0,516102	8,695-002	0.000+000
105(-0,26)	1,620386	1,604457	1,392454	1,194421	1,176756	1,086081	0,680229	0,550984	0,507944	0,033842	7,382-002	0.000+000
110(-0,34)	1,582381	1,525855	1,321284	1,123152	1,065996	0,952442	0,593992	0,462101	0,369620	-0,253138	6,454-002	0.000+000
115(-0,42)	1,552781	1,468911	1,273138	1,075601	0,990134	0,870853	0,538951	0,404586	0,272848	-0,353906	5,793-002	0.000+000
120(-0,50)	1,528517	1,428772	1,242116	1,045218	0,942533	0,833579	0,505524	0,367048	0,199700	-0,326511	7,915-002	0.000+000
130(-0,64)	1,481395	1,370255	1,201314	1,003500	0,888338	0,848797	0,462958	0,307192	0,070692	-0,148484	8,756-002	0.000+000
140(-0,77)	1,428225	1,313964	1,163645	0,959448	0,844464	0,927643	0,421884	0,231517	-0,034065	-0,034640	6,939-002	0.000+000
150(-0,87)	1,377594	1,259770	1,130501	0,913480	0,803932	1,011284	0,385504	0,130397	-0,067753	-0,003639	5,124-002	0.000+000
160(-0,94)	1,338943	1,217447	1,109310	0,875390	0,773618	1,054719	0,372253	0,016048	-0,040326	-0,000020	3,373-002	0.000+000
170(-0,98)	1,315508	1,191610	1,099690	0,850840	0,755581	1,059732	0,386024	-0,075905	-0,006304	0,000020	1,680-002	0.000+000
177(-1,00)	1,308188	1,183547	1,097387	0,842918	0,749989	1,056626	0,397210	-0,108340	0,004939	0,000000	2,101-003	0.000+000
NUMBER SUM	19,276599	19,250753	17,399496	14,951887	14,562192	16,924829	9,814817	7,548292	7,171970	7,570145		

TOTAL NUMBER= 3,738870

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 2,037066

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,2424 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,379047	1,760791	1,199878	0,975128	0,823260	1,000344	0,847322	0,549358	0,267302	0,237193	4,326-003	6,923-002
10(0,98)	1,384274	1,268531	1,205559	0,981235	0,830838	1,013345	0,840233	0,556088	0,285580	0,243695	3,478-002	5,505-001
20(0,94)	1,400914	1,293613	1,223402	1,000749	0,855659	1,058164	0,819797	0,571616	0,349326	0,266255	7,066-002	1,080+000
30(0,87)	1,428474	1,336799	1,253138	1,033621	0,899085	1,136260	0,798020	0,590521	0,456069	0,312328	1,088-001	1,567+000
40(0,77)	1,467650	1,401391	1,297456	1,081987	0,965256	1,235808	0,793477	0,620082	0,581081	0,408421	1,507-001	1,991+000
50(0,64)	1,521148	1,492297	1,361962	1,150373	1,061050	1,337446	0,819706	0,670679	0,702776	0,616068	1,983-001	2,335+000
60(0,50)	1,588771	1,605240	1,446190	1,237520	1,184518	1,430158	0,877150	0,745440	0,826521	0,984356	1,898-001	1,936+000
65(0,42)	1,623108	1,660173	1,488019	1,280496	1,246089	1,465980	0,909616	0,785470	0,886656	1,199069	1,409-001	1,328+000
70(0,34)	1,651753	1,703529	1,520230	1,313798	1,295293	1,484242	0,934009	0,816926	0,933552	1,381379	1,541-001	1,346+000
75(0,26)	1,668881	1,725921	1,533950	1,328672	1,320907	1,473725	0,939559	0,828370	0,951297	1,476347	1,633-001	1,355+000
80(0,17)	1,669650	1,720100	1,522133	1,318168	1,314100	1,425318	0,917163	0,809637	0,924920	1,438352	1,612-001	1,421+000
85(0,09)	1,652147	1,683976	1,482678	1,280287	1,272121	1,337153	0,863745	0,756930	0,848504	1,253333	1,270-001	2,243+000
90(-0,00)	1,618419	1,622070	1,420014	1,219593	1,200214	1,217415	0,784736	0,675922	0,730316	0,950775	8,837-002	0,000+000
95(-0,09)	1,573901	1,544375	1,343995	1,146091	1,110472	1,082699	0,692734	0,580397	0,590881	0,596199	7,853-002	0,000+000
100(-0,17)	1,525415	1,462983	1,266444	1,071700	1,017883	0,952396	0,602660	0,486704	0,454432	0,266240	6,847-002	0,000+000
105(-0,26)	1,478775	1,388100	1,197086	1,006098	0,935369	0,842130	0,526085	0,407225	0,338867	0,019539	6,006-002	0,000+000
110(-0,34)	1,437173	1,325363	1,140894	0,954046	0,870147	0,759692	0,467835	0,346633	0,250228	-0,121055	5,361-002	0,000+000
115(-0,42)	1,401014	1,275476	1,097879	0,915232	0,822934	0,705108	0,426272	0,302483	0,184152	-0,167733	4,850-002	0,000+000
120(-0,50)	1,368923	1,235793	1,064896	0,886170	0,789821	0,673800	0,396213	0,268743	0,131921	-0,152931	6,621-002	0,000+000
130(-0,64)	1,310549	1,172928	1,014425	0,841574	0,745021	0,660060	0,350573	0,210775	0,045656	-0,068243	7,254-002	0,000+000
140(-0,77)	1,256670	1,119033	0,972566	0,801791	0,708746	0,687065	0,308845	0,148841	-0,014525	-0,015809	5,719-002	0,000+000
150(-0,87)	1,211093	1,073278	0,939203	0,766359	0,677805	0,728116	0,270937	0,080292	-0,031904	-0,001706	4,223-002	0,000+000
160(-0,94)	1,177708	1,039399	0,916964	0,739131	0,655172	0,757512	0,244633	0,013760	-0,018563	-0,000023	2,782-002	0,000+000
170(-0,98)	1,157675	1,019025	0,905231	0,722251	0,641712	0,768489	0,234496	-0,034075	-0,002793	0,000009	1,384-002	0,000+000
177(-1,00)	1,151432	1,012687	0,901927	0,716905	0,637537	0,770117	0,233429	-0,049922	0,002273	0,000001	1,730-003	0,000+000
NUMBER SUM	18,501159	17,766028	15,773097	13,299003	12,407768	13,351805	8,146511	6,299250	5,884560	6,057593		

TOTAL NUMBER= 2,178753

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 4,078460

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,4848 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,416009	1,315506	1,198465	0,977146	0,836996	0,921855	0,759733	0,611936	0,420062	0,372379	4,119-003	8.400+002
10(0,98)	1,420639	1,322266	1,203532	0,981696	0,843176	0,930084	0,760089	0,610742	0,434904	0,381055	3,303-002	6.686+001
20(0,94)	1,435254	1,343764	1,219358	0,996271	0,862939	0,957601	0,759591	0,608648	0,480344	0,410636	6,651-002	1.316+000
30(0,87)	1,458880	1,379003	1,244628	1,020497	0,895717	1,004780	0,757914	0,610792	0,545555	0,467115	1,008-001	1.920+000
40(0,77)	1,490118	1,426331	1,277894	1,053708	0,940699	1,065715	0,759679	0,622257	0,613848	0,563838	1,359-001	2.462+000
50(0,64)	1,525512	1,480349	1,315521	1,092744	0,994196	1,124773	0,768345	0,643065	0,673329	0,713536	1,707-001	2.931+000
60(0,50)	1,555760	1,525975	1,346047	1,126625	1,042668	1,159447	0,777031	0,663586	0,716124	0,889703	1,510-001	2.502+000
65(0,42)	1,563482	1,537113	1,351442	1,134600	1,056127	1,158626	0,774530	0,666379	0,724231	0,955194	1,059-001	1.771+000
70(0,34)	1,562583	1,534998	1,345316	1,131712	1,056294	1,140277	0,761989	0,658291	0,716197	0,978273	1,078-001	1.912+000
75(0,26)	1,550800	1,516510	1,324724	1,115009	1,039702	1,101465	0,735741	0,635197	0,686366	0,940659	1,042-001	2.204+000
80(0,17)	1,527211	1,480724	1,288747	1,083539	1,005576	1,042007	0,694312	0,595272	0,632123	0,835308	9,224-002	3.282+000
85(0,09)	1,492797	1,429629	1,239256	1,039124	0,956637	0,965595	0,639581	0,540391	0,556188	0,672035	7,468-002	2.129+001
90(-0,00)	1,450158	1,367904	1,180725	0,986181	0,898614	0,879533	0,576689	0,476118	0,466751	0,476740	6,686-002	0.000+000
95(-0,09)	1,403188	1,301729	1,119046	0,930517	0,838573	0,792920	0,512506	0,409990	0,374920	0,283456	6,031-002	0.000+000
100(-0,17)	1,355610	1,237084	1,059821	0,877604	0,782839	0,714039	0,453346	0,348890	0,290743	0,122725	5,395-002	0.000+000
105(-0,26)	1,310248	1,178283	1,006922	0,831130	0,735417	0,648228	0,403089	0,296903	0,220031	0,012077	4,849-002	0.000+000
110(-0,34)	1,268554	1,127311	0,961901	0,792441	0,697530	0,597177	0,362580	0,254707	0,163601	-0,047024	4,392-002	0.000+000
115(-0,42)	1,230774	1,084098	0,924346	0,760933	0,668176	0,559740	0,330339	0,220477	0,118885	-0,065476	3,994-002	0.000+000
120(-0,50)	1,196462	1,047360	0,892796	0,734989	0,645228	0,533515	0,303904	0,191456	0,082489	-0,059334	5,451-002	0.000+000
130(-0,64)	1,136084	0,987307	0,841737	0,693409	0,610304	0,506306	0,260036	0,140267	0,027139	-0,026753	5,933-002	0.000+000
140(-0,77)	1,085436	0,939272	0,801560	0,659964	0,582606	0,504696	0,221215	0,091923	-0,004708	-0,006710	4,665-002	0.000+000
150(-0,87)	1,045345	0,901623	0,770841	0,633374	0,560416	0,519203	0,185780	0,046789	-0,012548	-0,000935	3,448-002	0.000+000
160(-0,94)	1,016693	0,874747	0,749838	0,614203	0,544433	0,536604	0,156003	0,010262	-0,007179	-0,000052	2,274-002	0.000+000
170(-0,98)	0,999606	0,858748	0,737920	0,602736	0,534909	0,547764	0,136138	-0,011946	-0,001270	0,000005	1,131-002	0.000+000
177(-1,00)	0,994289	0,853780	0,734348	0,599169	0,531950	0,551023	0,129694	-0,018531	0,000569	0,000002	1,412-003	0.000+000
NUMBER SUM	17,119247	15,934300	13,890642	11,524398	10,385030	10,462590	6,674895	5,186215	4,764198	4,779376		

TOTAL NUMBER= 1,690743

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5,829731

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200,0 FT OR 0,9695 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,335657	1,247309	1,070173	0,868161	0,753411	0,745420	0,605911	0,578654	0,504392	0,458877	3,465-003	1.148+001
10(0,98)	1,337282	1,249969	1,072169	0,869508	0,755896	0,747812	0,609046	0,573051	0,510918	0,465864	2,766-002	9.160+001
20(0,94)	1,341991	1,257804	1,078009	0,873611	0,763274	0,754725	0,616338	0,559826	0,526427	0,488746	5,483-002	1.817+000
30(0,87)	1,348116	1,268330	1,085581	0,879406	0,773467	0,764506	0,621226	0,546761	0,539402	0,528381	8,079-002	2.693+000
40(0,77)	1,352485	1,276546	1,090686	0,884043	0,782338	0,774911	0,618198	0,535019	0,542995	0,582623	1,042-001	3.555+000
50(0,64)	1,348619	1,272513	1,085172	0,880644	0,781129	0,777353	0,602825	0,518829	0,533478	0,629807	1,222-001	4.462+000
60(0,50)	1,325692	1,241141	1,056006	0,857202	0,755431	0,752316	0,566704	0,485728	0,498073	0,612942	9,747-002	4.257+000
65(0,42)	1,303655	1,211095	1,028766	0,834322	0,729345	0,723478	0,537605	0,458178	0,464415	0,560530	6,390-002	3.365+000
70(0,34)	1,273902	1,171254	0,992826	0,803693	0,694430	0,683532	0,500874	0,422405	0,418844	0,476934	6,043-002	4.422+000
75(0,26)	1,237251	1,123393	0,949839	0,766864	0,652979	0,635319	0,458329	0,380065	0,363849	0,371226	5,489-002	7.561+000
80(0,17)	1,195522	1,070601	0,902738	0,726634	0,608916	0,583568	0,413299	0,334646	0,304687	0,259671	4,877-002	2.830+001
85(0,09)	1,151063	1,016475	0,854919	0,686240	0,566730	0,533414	0,369584	0,290311	0,247598	0,160234	4,428-002	3.287+003
90(-0,00)	1,106128	0,964140	0,809241	0,648348	0,530045	0,488714	0,330108	0,250308	0,197359	0,085790	4,080-002	0.000+000
95(-0,09)	1,062381	0,915558	0,767344	0,614372	0,500516	0,451035	0,296031	0,215910	0,155688	0,039860	3,763-002	0.000+000
100(-0,17)	1,020769	0,871441	0,729603	0,584449	0,477662	0,419796	0,266832	0,186503	0,121481	0,017200	3,474-002	0.000+000
105(-0,26)	0,981705	0,831666	0,695623	0,557981	0,459666	0,393323	0,241170	0,160600	0,092506	0,008354	3,204-002	0.000+000
110(-0,34)	0,945378	0,795850	0,664875	0,534307	0,444574	0,370037	0,217850	0,136945	0,067182	0,004859	2,942-002	0.000+000
115(-0,42)	0,911958	0,763739	0,637087	0,513097	0,431159	0,349097	0,196298	0,115022	0,045291	0,002102	2,686-002	0.000+000
120(-0,50)	0,881618	0,735256	0,612249	0,494348	0,419070	0,330358	0,176442	0,094859	0,027513	-0,000889	3,659-002	0.000+000
130(-0,64)	0,830392	0,688874	0,571477	0,464413	0,399413	0,300135	0,141859	0,060211	0,006178	-0,004477	3,965-002	0.000+000
140(-0,77)	0,790770	0,654804	0,541179	0,443387	0,385626	0,280627	0,112676	0,032888	0,000010	-0,003234	3,118-002	0.000+000
150(-0,87)	0,760948	0,630142	0,518783	0,428839	0,375790	0,272953	0,086545	0,013664	-0,000435	-0,001035	2,311-002	0.000+000
160(-0,94)	0,739925	0,613062	0,502842	0,419169	0,368803	0,275338	0,062496	0,003795	-0,000777	-0,000133	1,528-002	0.000+000
170(-0,98)	0,727404	0,602936	0,493156	0,413654	0,364586	0,281188	0,043120	0,001072	-0,001092	0,000005	7,602-003	0.000+000
177(-1,00)	0,723510	0,599788	0,490103	0,411982	0,363269	0,283746	0,035770	0,000905	-0,001073	0,000006	9,488-004	0.000+000
NUMBER SUM	13,725206	12,219506	10,302954	8,340018	7,159593	6,564265	4,469653	3,496722	3,116302	2,976490		

TOTAL NUMBER= 1,118733

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 9,687992

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,4543 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,147768	1,062735	0,876461	0,705268	0,614022	0,576234	0,472016	0,473569	0,453688	0,424067	2,740-003	1.475+001
10(0,98)	1,146367	1,061614	0,875573	0,704221	0,613629	0,575764	0,473417	0,467896	0,454781	0,427215	2,178-002	1.180+000
20(0,94)	1,141352	1,057344	0,872272	0,700590	0,611766	0,572915	0,476309	0,453558	0,453607	0,436763	4,258-002	2.364+000
30(0,87)	1,131328	1,047933	0,864984	0,693453	0,606650	0,565135	0,475374	0,435869	0,442161	0,450917	6,126-002	3.574+000
40(0,77)	1,113917	1,029618	0,850512	0,680568	0,595001	0,551488	0,464395	0,414076	0,418944	0,464329	7,625-002	4.900+000
50(0,64)	1,084958	0,995776	0,823193	0,657190	0,570590	0,529276	0,438927	0,383725	0,384574	0,456255	8,536-002	6.624+000
60(0,50)	1,038136	0,937681	0,774961	0,615953	0,524519	0,487539	0,393813	0,337331	0,330019	0,383817	6,419-002	7.393+000
65(0,42)	1,006612	0,898245	0,741561	0,587261	0,492137	0,456221	0,362756	0,305955	0,291306	0,313739	4,083-002	6.770+000
70(0,34)	0,970172	0,853235	0,703109	0,554253	0,455239	0,419205	0,327250	0,269885	0,245783	0,226561	3,772-002	1.139+001
75(0,26)	0,930275	0,805214	0,661996	0,519225	0,416930	0,380022	0,290024	0,231821	0,197435	0,135622	3,411-002	3.058+001
80(0,17)	0,888946	0,757568	0,621254	0,485084	0,381028	0,343196	0,254626	0,195559	0,152014	0,057808	3,089-002	2.923+002
85(0,09)	0,848184	0,712522	0,583541	0,454340	0,350822	0,312437	0,224048	0,164431	0,114572	0,006552	2,844-002	5.495+005
90(-0,00)	0,809397	0,672288	0,550252	0,428202	0,327916	0,289105	0,199459	0,139776	0,087049	-0,014341	2,642-002	0.000+000
95(-0,09)	0,773183	0,636818	0,521279	0,406344	0,311786	0,271913	0,179893	0,120529	0,067659	-0,011947	2,467-002	0.000+000
100(-0,17)	0,739529	0,605273	0,495540	0,387472	0,300336	0,258026	0,163142	0,104243	0,052566	0,000424	2,305-002	0.000+000
105(-0,26)	0,708257	0,576650	0,471886	0,370280	0,291125	0,244782	0,147181	0,088742	0,038554	0,010566	2,144-002	0.000+000
110(-0,34)	0,679370	0,550429	0,449784	0,354159	0,282516	0,230911	0,131143	0,073220	0,024722	0,012623	1,971-002	0.000+000
115(-0,42)	0,653106	0,526709	0,429424	0,339298	0,274125	0,216621	0,115334	0,058162	0,012270	0,007553	1,792-002	0.000+000
120(-0,50)	0,629747	0,505886	0,411527	0,326263	0,266462	0,202812	0,100538	0,044497	0,002982	-0,000116	2,435-002	0.000+000
130(-0,64)	0,591846	0,473611	0,382969	0,306963	0,255623	0,178963	0,075660	0,023122	-0,003732	-0,008686	2,642-002	0.000+000
140(-0,77)	0,563640	0,451706	0,363235	0,295226	0,250393	0,160311	0,055896	0,008849	-0,001441	-0,005952	2,088-002	0.000+000
150(-0,87)	0,542399	0,436411	0,348675	0,287766	0,247490	0,148162	0,038899	0,001042	-0,000246	-0,001762	1,553-002	0.000+000
160(-0,94)	0,527172	0,425479	0,337841	0,282871	0,245347	0,144489	0,023450	-0,000653	-0,001547	-0,000208	1,029-002	0.000+000
170(-0,98)	0,518009	0,418929	0,330955	0,280075	0,243977	0,146068	0,010456	0,000514	-0,002063	0,000008	5,128-003	0.000+000
177(-1,00)	0,515151	0,416875	0,328725	0,279229	0,243544	0,147274	0,005290	0,001163	-0,001836	0,000010	6,405-004	0.000+000
NUMBER SUM	10,430647	8,998768	7,376397	5,862443	4,872586	4,205973	2,985051	2,343535	2,033251	1,854866		

TOTAL NUMBER= 0,762612

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 14,268827

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.200 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.9390 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.071	0.080	0.089	0.100	0.112	0.122	0.137	0.154	0.173	0.194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.928956	0.848589	0.681651	0.544992	0.473495	0.432032	0.358697	0.366704	0.364366	0.348329	2.084-003	1.822+001
10(0.98)	0.925513	0.845129	0.678980	0.542561	0.471538	0.430456	0.358489	0.361093	0.363454	0.348288	1.650-002	1.463+000
20(0.94)	0.914136	0.833682	0.670276	0.534659	0.464873	0.423829	0.357346	0.346872	0.356122	0.347335	3.188-002	2.964+000
30(0.87)	0.894342	0.813633	0.655119	0.521133	0.452682	0.409286	0.351778	0.328498	0.335931	0.343977	4.494-002	4.589+000
40(0.77)	0.865749	0.783955	0.632517	0.501457	0.433767	0.387399	0.336915	0.304752	0.304778	0.336470	5.443-002	6.586+000
50(0.64)	0.827623	0.742733	0.600256	0.473805	0.405204	0.360115	0.310636	0.273515	0.267502	0.313378	5.911-002	9.751+000
60(0.50)	0.777191	0.688651	0.553417	0.433632	0.361050	0.320765	0.270303	0.231027	0.218080	0.242370	4.317-002	1.311+001
65(0.42)	0.746603	0.647361	0.523538	0.407895	0.332368	0.293871	0.244014	0.204010	0.185198	0.180968	2.711-002	1.415+001
70(0.34)	0.712996	0.607765	0.490469	0.379470	0.301043	0.263436	0.214808	0.173924	0.147630	0.108053	2.481-002	3.091+001
75(0.26)	0.677717	0.567247	0.456469	0.350559	0.270035	0.232955	0.185339	0.143423	0.109364	0.036893	2.234-002	1.303+002
80(0.17)	0.642538	0.528621	0.424272	0.323827	0.242739	0.206704	0.158955	0.116135	0.076008	-0.016478	2.032-002	3.136+003
85(0.09)	0.609046	0.494385	0.395994	0.301288	0.221680	0.187685	0.138139	0.094886	0.051948	-0.041051	1.874-002	9.427+007
90(-0.00)	0.578113	0.464419	0.372263	0.283414	0.207445	0.176054	0.123183	0.080088	0.037752	-0.037146	1.752-002	0.000+000
95(-0.09)	0.549800	0.438927	0.352169	0.269094	0.198535	0.169160	0.112125	0.069591	0.029961	-0.016400	1.647-002	0.000+000
100(-0.17)	0.523716	0.416190	0.334090	0.256506	0.192284	0.163206	0.102086	0.060226	0.023584	0.005035	1.553-002	0.000+000
105(-0.26)	0.499559	0.395082	0.316804	0.244288	0.186299	0.155414	0.091025	0.049846	0.015383	0.015382	1.444-002	0.000+000
110(-0.34)	0.477426	0.375379	0.300133	0.232209	0.179553	0.145216	0.078668	0.038331	0.005456	0.012180	1.315-002	0.000+000
115(-0.42)	0.457723	0.357651	0.284792	0.221005	0.172512	0.133866	0.066115	0.027028	-0.003740	0.000803	1.185-002	0.000+000
120(-0.50)	0.440811	0.342659	0.271686	0.211644	0.166391	0.123063	0.054713	0.017402	-0.009671	-0.010955	1.608-002	0.000+000
130(-0.64)	0.415003	0.321713	0.253336	0.199892	0.160057	0.105752	0.037349	0.004755	-0.009801	-0.018521	1.750-002	0.000+000
140(-0.77)	0.396529	0.309374	0.242247	0.194634	0.159853	0.091643	0.024982	-0.001976	-0.003936	-0.010065	1.395-002	0.000+000
150(-0.87)	0.382050	0.300700	0.233879	0.191568	0.160797	0.080454	0.014955	-0.004661	-0.002421	-0.002621	1.045-002	0.000+000
160(-0.94)	0.371127	0.294044	0.227018	0.189256	0.161162	0.075798	0.006047	-0.003841	-0.003794	-0.000273	6.947-003	0.000+000
170(-0.98)	0.364392	0.289771	0.222342	0.187786	0.161238	0.076183	-0.002193	-0.002470	-0.003327	0.000013	3.463-003	0.000+000
177(-1.00)	0.362278	0.288400	0.220776	0.187322	0.161253	0.076906	-0.005789	-0.002166	-0.002455	0.000012	4.330-004	0.000+000
NUMBER SUM	7.674730	6.462689	5.179468	4.058186	3.294227	2.729733	1.989496	1.562894	1.323977	1.156647		

TOTAL NUMBER= 0.523234

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 19.707987

LOWER ENERGY CUTOFF 0.0566MEV

LOWEST SINGLE SCATTERING ENERGY 0.1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 2,4238 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,720468	0,647838	0,512225	0,408228	0,352565	0,316888	0,267253	0,278628	0,276022	0,268218	1,544-003	2,193-001
10(0,98)	0,716010	0,643367	0,508780	0,405221	0,350078	0,315268	0,266273	0,272623	0,275375	0,266230	1,218-002	1,767+000
20(0,94)	0,701637	0,629087	0,497979	0,395744	0,341975	0,308270	0,263540	0,258214	0,268085	0,259266	2,329-002	3,627+000
30(0,87)	0,677935	0,605887	0,480658	0,380617	0,328458	0,292674	0,256736	0,240837	0,247049	0,247749	3,229-002	5,772+000
40(0,77)	0,646716	0,575485	0,458026	0,361156	0,310374	0,270662	0,242070	0,219379	0,216730	0,235967	3,838-002	8,744+000
50(0,64)	0,610187	0,538529	0,430438	0,337715	0,287041	0,247786	0,219769	0,193449	0,186200	0,220928	4,111-002	1,442+001
60(0,50)	0,566974	0,490803	0,393365	0,305945	0,252178	0,217443	0,188062	0,160515	0,149741	0,169770	2,983-002	2,388+001
65(0,42)	0,541694	0,461439	0,369450	0,285205	0,228744	0,195448	0,166988	0,139088	0,124083	0,118804	1,861-002	3,060+001
70(0,34)	0,514117	0,429274	0,342600	0,261892	0,202699	0,169757	0,143089	0,114563	0,093331	0,055111	1,681-002	8,642+001
75(0,26)	0,485361	0,396535	0,314987	0,238176	0,177040	0,144195	0,119040	0,089599	0,061622	-0,007206	1,493-002	5,665+002
80(0,17)	0,457060	0,366000	0,289416	0,216848	0,155318	0,123620	0,098475	0,068174	0,035249	-0,050208	1,345-002	3,384+004
85(0,09)	0,430657	0,339760	0,267984	0,199949	0,140044	0,111285	0,084018	0,053344	0,019061	-0,061886	1,237-002	1,619+010
90(-0,00)	0,406798	0,318240	0,251019	0,187667	0,131423	0,106844	0,075592	0,045173	0,013125	-0,044120	1,162-002	0,000+000
95(-0,09)	0,385248	0,300220	0,237083	0,178352	0,127287	0,106525	0,070423	0,040641	0,012576	-0,012300	1,107-002	0,000+000
100(-0,17)	0,365395	0,283844	0,224104	0,169703	0,124345	0,105460	0,064873	0,035762	0,011063	0,013872	1,057-002	0,000+000
105(-0,26)	0,346912	0,267910	0,210786	0,160268	0,120014	0,100529	0,056725	0,028236	0,005050	0,021814	9,767-003	0,000+000
110(-0,34)	0,330079	0,252537	0,197324	0,150192	0,113664	0,091749	0,046217	0,018555	-0,004428	0,011586	8,734-003	0,000+000
115(-0,42)	0,315547	0,238829	0,185010	0,140802	0,106540	0,081450	0,035270	0,008965	-0,013477	-0,007299	7,760-003	0,000+000
120(-0,50)	0,303808	0,227965	0,175194	0,133529	0,100610	0,072208	0,025845	0,001511	-0,018575	-0,023748	1,046-002	0,000+000
130(-0,64)	0,287922	0,215717	0,164303	0,126922	0,096569	0,059889	0,013750	-0,005762	-0,015110	-0,029934	1,144-002	0,000+000
140(-0,77)	0,277333	0,210976	0,160032	0,126409	0,099711	0,050168	0,006818	-0,008136	-0,006605	-0,014739	9,276-003	0,000+000
150(-0,87)	0,268007	0,207392	0,156393	0,126348	0,103073	0,041118	0,001712	-0,008384	-0,004942	-0,003549	7,031-003	0,000+000
160(-0,94)	0,260155	0,203647	0,152382	0,125575	0,104818	0,037778	-0,002924	-0,006635	-0,006395	-0,000332	4,693-003	0,000+000
170(-0,98)	0,255092	0,200857	0,149209	0,124793	0,105638	0,039140	-0,008640	-0,005698	-0,004765	0,000019	2,347-003	0,000+000
177(-1,00)	0,253487	0,199920	0,148080	0,124511	0,105884	0,040173	-0,011621	-0,005891	-0,003121	0,000015	2,939-004	0,000+000
NUMBER SUM	5,528277	4,565418	3,597574	2,787526	2,220588	1,782981	1,323755	1,037949	0,859810	0,721707		

TOTAL NUMBER= 0,359857

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 26,164111

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,200 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000,0 FT OR 4,8475 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,071	0,080	0,089	0,100	0,112	0,122	0,137	0,154	0,173	0,194	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,135640	0,109259	0,093970	0,078703	0,062111	0,056314	0,057666	0,079568	0,051356	0,047540	2,851-004	4,581-001
10(0,98)	0,132772	0,106963	0,092064	0,077072	0,061496	0,058020	0,056902	0,072662	0,056646	0,045602	2,228-003	3,785+000
20(0,94)	0,124038	0,100496	0,087139	0,072687	0,059885	0,060431	0,057882	0,060335	0,063205	0,040254	4,147-003	8,517+000
30(0,87)	0,112032	0,093490	0,082523	0,068440	0,059197	0,057082	0,060469	0,053095	0,057108	0,038688	5,640-003	1,656+001
40(0,77)	0,102761	0,092276	0,083198	0,069007	0,063604	0,052216	0,060434	0,049451	0,048691	0,060449	7,083-003	3,819+001
50(0,64)	0,102074	0,099476	0,091364	0,076219	0,073060	0,057926	0,060518	0,050433	0,055830	0,110919	9,221-003	1,404+002
60(0,50)	0,104792	0,102689	0,094941	0,078526	0,071348	0,059016	0,055598	0,049584	0,062827	0,122981	7,983-003	8,144+002
65(0,42)	0,102767	0,096684	0,088700	0,071923	0,060178	0,047316	0,045495	0,041393	0,052719	0,083774	4,790-003	2,438+003
70(0,34)	0,097019	0,085079	0,076514	0,059763	0,043149	0,027489	0,029809	0,026542	0,031097	0,016750	3,518-003	2,162+004
75(0,26)	0,088413	0,070655	0,061358	0,045168	0,024940	0,006115	0,012629	0,009036	0,004619	-0,054333	2,303-003	1,020+006
80(0,17)	0,078967	0,057499	0,047647	0,032673	0,011298	-0,008034	0,000149	-0,004245	-0,015381	-0,097463	1,715-003	4,976+009
85(0,09)	0,070546	0,048595	0,038593	0,025484	0,005894	-0,009412	-0,003332	-0,008132	-0,020524	-0,091991	1,497-003	2,344+021
90(-0,00)	0,063731	0,044005	0,034173	0,023373	0,008113	0,000399	0,001260	-0,003274	-0,011816	-0,044083	1,396-003	0,000+000
95(-0,09)	0,057762	0,041070	0,031353	0,022919	0,013387	0,013477	0,008096	0,004024	0,000520	0,015513	1,765-003	0,000+000
100(-0,17)	0,051579	0,036561	0,026488	0,020062	0,015975	0,020723	0,010459	0,006443	0,004884	0,051344	2,094-003	0,000+000
105(-0,26)	0,045035	0,029131	0,018066	0,013015	0,012419	0,017624	0,005283	0,000922	-0,004107	0,045726	1,595-003	0,000+000
110(-0,34)	0,039266	0,020240	0,007711	0,003337	0,003379	0,006435	-0,005349	-0,009808	-0,021103	0,006993	8,714-004	0,000+000
115(-0,42)	0,035938	0,013007	-0,001115	-0,005422	-0,007226	-0,006375	-0,016502	-0,020161	-0,036801	-0,040446	6,024-004	0,000+000
120(-0,50)	0,036054	0,010093	-0,005484	-0,010178	-0,014923	-0,014938	-0,024076	-0,026022	-0,043984	-0,073713	7,609-004	0,000+000
130(-0,64)	0,044063	0,017998	0,000076	-0,006076	-0,014464	-0,015741	-0,026470	-0,024833	-0,032695	-0,072392	1,082-003	0,000+000
140(-0,77)	0,051944	0,031860	0,012008	0,004586	-0,002670	-0,013201	-0,022821	-0,020487	-0,016232	-0,031223	1,191-003	0,000+000
150(-0,87)	0,053276	0,039745	0,018668	0,010894	0,006138	-0,015505	-0,019171	-0,017930	-0,014519	-0,006499	1,063-003	0,000+000
160(-0,94)	0,050887	0,041602	0,019960	0,012622	0,010197	-0,012035	-0,016570	-0,015781	-0,016157	-0,000445	7,414-004	0,000+000
170(-0,98)	0,048584	0,041293	0,019128	0,012571	0,012010	-0,003732	-0,019295	-0,017793	-0,009797	0,000041	3,737-004	0,000+000
177(-1,00)	0,047808	0,041035	0,018587	0,012411	0,012543	-0,000051	-0,022257	-0,020258	-0,005091	0,000019	4,703-005	0,000+000
NUMBER SUM	0,912656	0,710219	0,553124	0,418333	0,310039	0,206656	0,169233	0,128160	0,096930	0,068827		

TOTAL NUMBER= 0,063993

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 92,700805

LOWER ENERGY CUTOFF 0,0566MEV

LOWEST SINGLE SCATTERING ENERGY 0,1122MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0125 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	1.059698	0.843921	0.811808	0.632188	0.490225	0.628065	0.541225	0.163960	0.000236	0.007955	4.647-003	5.907-002
10(0.98)	1.062307	0.847487	0.815229	0.636224	0.495245	0.640328	0.522730	0.184031	0.006248	0.008195	3.742-002	4.691-001
20(0.94)	1.070675	0.859139	0.826521	0.649307	0.512640	0.682141	0.477673	0.229203	0.038651	0.009048	7.653-002	9.159-001
30(0.87)	1.085613	0.880356	0.848205	0.672880	0.545956	0.750154	0.438108	0.270216	0.116377	0.012579	1.195-001	1.320+000
40(0.77)	1.111806	0.917436	0.888429	0.713092	0.603378	0.826897	0.428308	0.307016	0.229738	0.037683	1.782-001	1.665+000
50(0.64)	1.159282	0.983252	0.960520	0.781330	0.699542	0.901905	0.459675	0.359674	0.354440	0.158494	2.361-001	1.944+000
60(0.50)	1.235308	1.086574	1.070265	0.883052	0.841299	0.987626	0.534782	0.446436	0.496730	0.492613	2.478-001	1.597+000
65(0.42)	1.280571	1.147124	1.131943	0.939873	0.920269	1.033429	0.582657	0.500328	0.577269	0.739910	1.968-001	1.076+000
70(0.34)	1.324676	1.205077	1.188006	0.991206	0.992250	1.071651	0.627619	0.551993	0.654367	0.993551	2.356-001	1.050+000
75(0.26)	1.361377	1.251597	1.228448	1.027552	1.045050	1.090137	0.658724	0.589481	0.710976	1.188251	2.863-001	9.772-001
80(0.17)	1.384944	1.278493	1.244562	1.040570	1.067769	1.077369	0.665626	0.600708	0.728009	1.257510	3.667-001	8.600-001
85(0.09)	1.393072	1.281985	1.232121	1.024229	1.054390	1.027663	0.642829	0.578758	0.693655	1.166628	5.661-001	7.159-001
90(-0.00)	1.383096	1.262460	1.193309	0.986775	1.006321	0.944586	0.592664	0.525839	0.610794	0.919661	1.246-001	0.000+000
95(-0.09)	1.361858	1.226237	1.136300	0.930343	0.932594	0.860556	0.524975	0.453169	0.497233	0.588377	1.101-001	0.000+000
100(-0.17)	1.334220	1.182290	1.072495	0.868183	0.847306	0.732634	0.453385	0.376412	0.377905	0.256467	9.436-002	0.000+000
105(-0.26)	1.305936	1.139254	1.012699	0.810806	0.765109	0.636647	0.390059	0.309224	0.273745	-0.001740	8.116-002	0.000+000
110(-0.34)	1.280877	1.102617	0.963994	0.764873	0.696706	0.562666	0.341785	0.258585	0.194097	-0.150577	7.166-002	0.000+000
115(-0.42)	1.260329	1.074692	0.928575	0.732096	0.646387	0.513739	0.309109	0.224101	0.136530	-0.197032	6.465-002	0.000+000
120(-0.50)	1.243456	1.053405	0.904633	0.710236	0.612501	0.487714	0.288242	0.200659	0.092602	-0.175252	8.853-002	0.000+000
130(-0.64)	1.213570	1.019727	0.876038	0.683131	0.573885	0.487184	0.262279	0.163531	0.020463	-0.074100	9.828-002	0.000+000
140(-0.77)	1.181757	0.985466	0.854099	0.659075	0.547593	0.529496	0.238129	0.117311	-0.028332	-0.015655	7.846-002	0.000+000
150(-0.87)	1.149969	0.950078	0.832696	0.633261	0.524594	0.583145	0.212545	0.057624	-0.035232	-0.001399	5.837-002	0.000+000
160(-0.94)	1.124282	0.922354	0.815163	0.610504	0.506776	0.618004	0.192677	-0.002449	-0.015914	0.000010	3.855-002	0.000+000
170(-0.98)	1.109276	0.904445	0.804553	0.595252	0.495576	0.628045	0.184416	-0.042915	0.000136	0.000007	1.922-002	0.000+000
177(-1.00)	1.103250	0.898780	0.801380	0.590243	0.491964	0.628329	0.183478	-0.055135	0.004411	0.000000	2.406-003	0.000+000
NUMBER SUM	15.634532	13.546398	12.581123	10.134564	9.376784	9.705408	5.487845	4.127058	3.827016	3.935045		

TOTAL NUMBER= 3.976116

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 2.083223

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.2089 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	1.131751	0.931799	0.868537	0.671489	0.534665	0.601734	0.498163	0.264819	0.120667	0.109066	4.656-003	7.205+002
10(0.98)	1.135251	0.936165	0.872350	0.675285	0.539497	0.610245	0.489768	0.274071	0.128724	0.112097	3.742-002	5.726+001
20(0.94)	1.146431	0.950230	0.884693	0.687586	0.555580	0.639010	0.468920	0.295408	0.159902	0.122610	7.599-002	1.121+000
30(0.87)	1.165324	0.974328	0.906459	0.708979	0.584267	0.686551	0.450431	0.316883	0.219318	0.144133	1.170-001	1.620+000
40(0.77)	1.193324	1.010507	0.940615	0.741753	0.628545	0.742683	0.447093	0.339923	0.296930	0.190554	1.622-001	2.050+000
50(0.64)	1.232612	1.061778	0.990349	0.788771	0.692336	0.796348	0.464772	0.373110	0.377058	0.299370	2.140-001	2.393+000
60(0.50)	1.281122	1.125449	1.051530	0.846602	0.771889	0.843866	0.500916	0.420067	0.457898	0.510634	2.061-001	1.967+000
65(0.42)	1.304833	1.156502	1.080020	0.873746	0.810151	0.861668	0.520531	0.444759	0.496688	0.641805	1.538-001	1.339+000
70(0.34)	1.324200	1.181561	1.100971	0.893946	0.840073	0.869848	0.535109	0.464209	0.527497	0.759217	1.696-001	1.342+000
75(0.26)	1.335838	1.195958	1.109290	0.902338	0.855579	0.862637	0.538935	0.472063	0.541177	0.828337	1.822-001	1.328+000
80(0.17)	1.337128	1.196126	1.101267	0.895342	0.852174	0.835501	0.527383	0.462836	0.529008	0.818893	1.848-001	1.343+000
85(0.09)	1.327139	1.180925	1.076053	0.872135	0.828579	0.787549	0.498971	0.434497	0.487329	0.719517	1.522-001	1.831+000
90(-0.00)	1.307046	1.152251	1.036318	0.835330	0.787482	0.722763	0.456466	0.390007	0.420527	0.546253	9.898-002	0.000+000
95(-0.09)	1.279821	1.114562	0.987637	0.790378	0.735036	0.649241	0.406232	0.336636	0.340115	0.338614	8.871-002	0.000+000
100(-0.17)	1.249278	1.073448	0.936798	0.743874	0.679151	0.576675	0.355961	0.283203	0.260041	0.144099	7.883-002	0.000+000
105(-0.26)	1.218893	1.033898	0.889755	0.701517	0.627212	0.513315	0.311961	0.236731	0.191012	-0.000464	6.894-002	0.000+000
110(-0.34)	1.190930	0.999022	0.850147	0.666642	0.584109	0.463911	0.277360	0.200350	0.137170	-0.080642	6.193-002	0.000+000
115(-0.42)	1.168167	0.969703	0.819931	0.639878	0.551392	0.429432	0.251963	0.173307	0.096642	-0.104193	5.629-002	0.000+000
120(-0.50)	1.144232	0.945124	0.794864	0.619828	0.527768	0.408287	0.233439	0.152573	0.064932	-0.091609	7.711-002	0.000+000
130(-0.64)	1.105379	0.904115	0.760091	0.591027	0.496831	0.396413	0.206087	0.117397	0.015345	-0.038072	8.503-002	0.000+000
140(-0.77)	1.069900	0.867625	0.732924	0.567117	0.474035	0.412307	0.181084	0.079472	-0.014559	-0.007991	6.754-002	0.000+000
150(-0.87)	1.038930	0.835623	0.709980	0.545317	0.454951	0.440348	0.155992	0.037906	-0.018472	-0.000730	5.018-002	0.000+000
160(-0.94)	1.015453	0.811217	0.692672	0.527782	0.440633	0.462996	0.134170	0.000868	-0.008153	0.000001	3.317-002	0.000+000
170(-0.98)	1.001133	0.796250	0.682308	0.516563	0.431803	0.473036	0.120291	-0.021912	0.000107	0.000004	1.653-002	0.000+000
177(-1.00)	0.996656	0.791559	0.679148	0.512957	0.428989	0.474991	0.116132	-0.028392	0.002252	0.000000	2.066-003	0.000+000
NUMBER SUM	15.178279	12.946663	11.579967	9.162097	8.161855	7.972486	4.693877	3.537746	3.229333	3.247976		

TOTAL NUMBER= 2.438945

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 4.108860

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,300 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,4178 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,076	0,088	0,102	0,119	0,138	0,155	0,181	0,212	0,247	0,289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,160372	0,973064	0,880571	0,675555	0,546242	0,563898	0,455881	0,318346	0,199883	0,177191	4,519-003	8,618+002
10(0,98)	1,163708	0,977114	0,883917	0,678646	0,550267	0,569497	0,453306	0,320998	0,207846	0,181496	3,624-002	6,855+001
20(0,94)	1,174240	0,989968	0,894559	0,688584	0,563263	0,588127	0,446438	0,327450	0,234119	0,196227	7,305-002	1,346+000
30(0,87)	1,191323	1,011028	0,912204	0,705230	0,585101	0,619035	0,439773	0,335523	0,276220	0,224685	1,109-001	1,955+000
40(0,77)	1,214096	1,039485	0,936474	0,728339	0,615487	0,656392	0,438497	0,346942	0,324953	0,275419	1,501-001	2,493+000
50(0,64)	1,240176	1,072654	0,964825	0,755913	0,652289	0,689994	0,444575	0,363371	0,370277	0,361530	1,900-001	2,940+000
60(0,50)	1,263081	1,102496	0,988829	0,780619	0,687144	0,708928	0,453205	0,380794	0,406250	0,479365	1,705-001	2,471+000
65(0,42)	1,269697	1,111458	0,994249	0,787343	0,698345	0,708628	0,454274	0,385749	0,416943	0,533162	1,210-001	1,726+000
70(0,34)	1,270718	1,113321	0,992028	0,787223	0,701632	0,698906	0,449848	0,384615	0,418373	0,565350	1,250-001	1,823+000
75(0,26)	1,264685	1,106154	0,980222	0,778362	0,694779	0,677909	0,437587	0,374682	0,406600	0,561231	1,234-001	2,015+000
80(0,17)	1,250927	1,089107	0,958098	0,760014	0,677022	0,645107	0,416296	0,354434	0,379170	0,512170	1,117-001	2,703+000
85(0,09)	1,229861	1,062833	0,926598	0,733041	0,649519	0,602023	0,386631	0,324473	0,336846	0,420832	8,932-002	1,181+001
90(-0,00)	1,202982	1,029475	0,888298	0,699897	0,615186	0,552287	0,351192	0,287704	0,284111	0,302233	7,894-002	0,000+000
95(-0,09)	1,172517	0,992160	0,846816	0,664034	0,577958	0,500837	0,313807	0,248516	0,227886	0,179178	7,167-002	0,000+000
100(-0,17)	1,140850	0,954170	0,805862	0,628968	0,541761	0,452569	0,278323	0,211288	0,175025	0,074007	6,444-002	0,000+000
105(-0,26)	1,109961	0,918141	0,768329	0,597378	0,509577	0,411078	0,247443	0,178989	0,130012	0,000893	5,814-002	0,000+000
110(-0,34)	1,081085	0,885594	0,735778	0,570616	0,482935	0,378028	0,222183	0,152556	0,094048	-0,037485	5,290-002	0,000+000
115(-0,42)	1,054684	0,856917	0,708442	0,548742	0,461907	0,353343	0,202054	0,131214	0,065931	-0,047973	4,833-002	0,000+000
120(-0,50)	1,030657	0,831716	0,685642	0,530952	0,445536	0,335950	0,185736	0,113339	0,043493	-0,041769	6,623-002	0,000+000
130(-0,64)	0,988392	0,788994	0,649574	0,503334	0,421468	0,318286	0,159095	0,082032	0,010606	-0,017367	7,270-002	0,000+000
140(-0,77)	0,952545	0,753578	0,621385	0,481478	0,402957	0,318212	0,135129	0,051973	-0,006503	-0,003841	5,757-002	0,000+000
150(-0,87)	0,923513	0,725075	0,599162	0,463669	0,388032	0,329376	0,112009	0,023833	-0,008498	-0,000427	4,276-002	0,000+000
160(-0,94)	0,902358	0,704362	0,583107	0,450391	0,377101	0,342523	0,090982	0,002170	-0,003685	-0,000012	2,829-002	0,000+000
170(-0,98)	0,889622	0,691915	0,573533	0,442248	0,370453	0,350892	0,075632	-0,009555	-0,000012	0,000002	1,409-002	0,000+000
177(-1,00)	0,885649	0,688035	0,570575	0,439684	0,368355	0,353304	0,070319	-0,012595	0,000925	0,000001	1,760-003	0,000+000
NUMBER SUM	14,299432	12,020993	10,412886	8,142179	7,000872	6,501873	3,969462	2,997732	2,694087	2,648387		

TOTAL NUMBER= 1,963563

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5,814186

LOWER ENERGY CUTOFF 0,0519MEV

LOWEST SINGLE SCATTERING ENERGY 0,1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.8355 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	1.113072	0.946109	0.814798	0.616573	0.505560	0.474232	0.377461	0.332543	0.262162	0.233821	3.984-003	1.154-001
10(0.98)	1.114587	0.948040	0.816213	0.617861	0.507463	0.476175	0.378776	0.329883	0.267292	0.237892	3.182-002	9.199-001
20(0.94)	1.119098	0.953847	0.820420	0.621814	0.513185	0.482142	0.381195	0.323696	0.281208	0.251385	6.329-002	1.818+000
30(0.87)	1.125317	0.962067	0.826104	0.627552	0.521380	0.491369	0.381471	0.318156	0.297152	0.275471	9.377-002	2.678+000
40(0.77)	1.130624	0.969674	0.830359	0.632855	0.529320	0.501750	0.377968	0.314217	0.308901	0.310945	1.220-001	3.494+000
50(0.64)	1.130043	0.970745	0.827460	0.632952	0.531441	0.506482	0.369058	0.308547	0.312294	0.349515	1.451-001	4.300+000
60(0.50)	1.116404	0.956502	0.809132	0.620506	0.519377	0.493943	0.350025	0.293818	0.300165	0.361013	1.183-001	3.952+000
65(0.42)	1.102634	0.941134	0.791961	0.607486	0.505780	0.478154	0.334788	0.280341	0.284745	0.343278	7.875-002	3.020+000
70(0.34)	1.083807	0.919819	0.769231	0.589666	0.487009	0.455896	0.315351	0.262063	0.262025	0.306097	7.580-002	3.749+000
75(0.26)	1.060290	0.893125	0.741716	0.567716	0.464063	0.428423	0.292336	0.239529	0.232738	0.252205	6.993-002	5.739+000
80(0.17)	1.032988	0.862306	0.710874	0.542967	0.438766	0.397880	0.267124	0.214234	0.199262	0.189158	6.239-002	1.674+001
85(0.09)	1.003163	0.829057	0.678525	0.517092	0.413373	0.366774	0.241495	0.188211	0.164847	0.127047	5.662-002	9.033+002
90(-0.00)	0.972161	0.795103	0.646427	0.491690	0.389951	0.337313	0.217088	0.163366	0.132520	0.074868	5.258-002	0.000+000
95(-0.09)	0.941169	0.761875	0.615906	0.467926	0.369812	0.310913	0.194956	0.140902	0.104130	0.037484	4.868-002	0.000+000
100(-0.17)	0.911064	0.730324	0.587706	0.446385	0.353272	0.288059	0.175415	0.121146	0.080097	0.014798	4.504-002	0.000+000
105(-0.26)	0.882404	0.700947	0.562062	0.427166	0.339837	0.268527	0.158224	0.103787	0.059908	0.003242	4.162-002	0.000+000
110(-0.34)	0.855507	0.673932	0.538903	0.410105	0.328666	0.251789	0.142924	0.088296	0.042890	-0.001687	3.836-002	0.000+000
115(-0.42)	0.830552	0.649319	0.518062	0.394984	0.319024	0.237344	0.129101	0.074247	0.028714	-0.003472	3.523-002	0.000+000
120(-0.50)	0.807643	0.627098	0.499392	0.381642	0.310490	0.224876	0.116486	0.061410	0.017415	-0.003966	4.830-002	0.000+000
130(-0.64)	0.768134	0.589665	0.468134	0.359891	0.296253	0.205411	0.094223	0.039051	0.003655	-0.003277	5.280-002	0.000+000
140(-0.77)	0.736833	0.560896	0.444185	0.343958	0.285444	0.193341	0.074865	0.021136	-0.000711	-0.001595	4.175-002	0.000+000
150(-0.87)	0.713091	0.539607	0.426433	0.332670	0.277401	0.188997	0.057266	0.008517	-0.000949	-0.000410	3.106-002	0.000+000
160(-0.94)	0.696346	0.524839	0.414035	0.325090	0.271715	0.190896	0.041250	0.001803	-0.000624	-0.000040	2.059-002	0.000+000
170(-0.98)	0.686345	0.516105	0.406616	0.320724	0.268314	0.194846	0.028765	-0.000504	-0.000326	0.000003	1.026-002	0.000+000
177(-1.00)	0.683222	0.513393	0.404286	0.319391	0.267254	0.196560	0.024148	-0.000886	-0.000178	0.000002	1.281-003	0.000+000
NUMBER SUM	11.989886	9.830164	8.108861	6.201260	5.084528	4.384140	2.828563	2.142273	1.871916	1.761275		

TOTAL NUMBER= 1.389222

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 9.527414

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,300 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,2533 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,076	0,088	0,102	0,119	0,138	0,155	0,181	0,212	0,247	0,289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,984435	0,838045	0,693987	0,519608	0,427906	0,382960	0,305839	0,292982	0,255728	0,231392	3,314-003	1,459+001
10(0,98)	0,984857	0,837694	0,693538	0,519357	0,428040	0,383002	0,307159	0,289216	0,257896	0,233867	2,638-002	1,165+000
20(0,94)	0,982666	0,836194	0,691781	0,518330	0,428030	0,382462	0,309439	0,279926	0,262116	0,241685	5,184-002	2,323+000
30(0,87)	0,977776	0,832258	0,687529	0,515676	0,426562	0,380279	0,308503	0,269490	0,262465	0,254318	7,521-002	3,479+000
40(0,77)	0,967922	0,823233	0,678124	0,509327	0,421124	0,375765	0,301291	0,258039	0,255567	0,269488	9,481-002	4,686+000
50(0,64)	0,949234	0,804440	0,659002	0,495423	0,407161	0,365555	0,285730	0,242124	0,240381	0,275703	1,080-001	6,129+000
60(0,50)	0,917129	0,770220	0,624981	0,469288	0,379347	0,342014	0,258855	0,216410	0,211783	0,245913	8,312-002	6,405+000
65(0,42)	0,895308	0,746459	0,601819	0,451052	0,359826	0,323650	0,240622	0,198598	0,190245	0,209908	5,365-002	5,529+000
70(0,34)	0,870038	0,718853	0,575377	0,430082	0,337630	0,301681	0,219846	0,177890	0,164192	0,161626	5,033-002	8,442+000
75(0,26)	0,842187	0,688594	0,547032	0,407632	0,314409	0,277902	0,197859	0,155647	0,135661	0,108050	4,609-002	1,900+001
80(0,17)	0,812908	0,657224	0,518454	0,385235	0,292131	0,254549	0,176366	0,133776	0,107711	0,058879	4,210-002	1,252+002
85(0,09)	0,783376	0,626243	0,491152	0,364266	0,272564	0,233559	0,156880	0,114046	0,083246	0,022700	3,909-002	7,527+004
90(-0,00)	0,754529	0,596755	0,466086	0,345551	0,256781	0,215938	0,140190	0,097393	0,063782	0,003272	3,654-002	0,000+000
95(-0,09)	0,726947	0,568501	0,443228	0,329226	0,244881	0,201573	0,126171	0,083666	0,048999	-0,001744	3,424-002	0,000+000
100(-0,17)	0,700886	0,542055	0,423196	0,314901	0,236105	0,189559	0,114053	0,071959	0,037364	0,001190	3,208-002	0,000+000
105(-0,26)	0,676424	0,520674	0,404621	0,302022	0,229275	0,178812	0,102954	0,061267	0,027321	0,005288	2,996-002	0,000+000
110(-0,34)	0,653621	0,499044	0,387450	0,290194	0,223349	0,168595	0,092314	0,051025	0,018206	0,006555	2,774-002	0,000+000
115(-0,42)	0,632588	0,479497	0,371599	0,279323	0,217784	0,158706	0,082030	0,041222	0,010332	0,004556	2,547-002	0,000+000
120(-0,50)	0,613471	0,461768	0,357187	0,269547	0,212550	0,149304	0,072287	0,032163	0,004405	0,001072	3,484-002	0,000+000
130(-0,64)	0,581302	0,432903	0,333257	0,253938	0,203999	0,132795	0,055122	0,017316	-0,000633	-0,003269	3,807-002	0,000+000
140(-0,77)	0,556761	0,411878	0,315664	0,243485	0,198512	0,119856	0,040866	0,007252	-0,000283	-0,002354	3,017-002	0,000+000
150(-0,87)	0,538549	0,396877	0,303051	0,236785	0,195025	0,111460	0,028582	0,001921	-0,000013	-0,000657	2,250-002	0,000+000
160(-0,94)	0,525717	0,386539	0,294276	0,232557	0,192659	0,108615	0,017923	0,000406	-0,000589	-0,000065	1,495-002	0,000+000
170(-0,98)	0,517995	0,380584	0,288940	0,230191	0,191255	0,109414	0,009755	0,000389	-0,000632	0,000004	7,459-003	0,000+000
177(-1,00)	0,515572	0,378461	0,287236	0,229478	0,190824	0,110179	0,006717	0,000415	-0,000443	0,000003	9,319-004	0,000+000
NUMBER SUM	9,574685	7,687149	6,115615	4,597539	3,650840	2,997126	2,007614	1,522625	1,297948	1,171798		

TOTAL NUMBER= 1,008849

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 13,869172

LOWER ENERGY CUTOFF 0,0519MEV

LOWEST SINGLE-SCATTERING ENERGY 0,1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.6710 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.827005	0.700012	0.562258	0.417907	0.344223	0.300687	0.242371	0.240701	0.221542	0.203528	2.655-003	1.775+001
10(0.98)	0.824870	0.698737	0.560570	0.416667	0.343278	0.299853	0.243035	0.236819	0.221910	0.204374	2.106-002	1.422+000
20(0.94)	0.817855	0.691491	0.555025	0.412568	0.339920	0.296307	0.243582	0.227086	0.220710	0.206676	4.095-002	2.862+000
30(0.87)	0.805556	0.679844	0.545108	0.405213	0.333347	0.288838	0.240456	0.215383	0.213301	0.209389	5.836-002	4.374+000
40(0.77)	0.786919	0.661406	0.529337	0.393446	0.322090	0.277771	0.231026	0.201452	0.198421	0.210584	7.176-002	6.120+000
50(0.64)	0.759970	0.634848	0.505009	0.374932	0.304281	0.262390	0.214050	0.182844	0.177456	0.202029	7.929-002	8.620+000
60(0.50)	0.722340	0.595819	0.469095	0.348878	0.277615	0.237876	0.187918	0.156384	0.147258	0.163380	5.908-002	1.050+001
65(0.42)	0.699396	0.571601	0.446828	0.329242	0.254923	0.221210	0.171321	0.139604	0.127040	0.127801	3.759-002	1.041+001
70(0.34)	0.674302	0.545055	0.422609	0.311105	0.234956	0.202563	0.153219	0.121125	0.104028	0.084476	3.497-002	1.990+001
75(0.26)	0.647949	0.517387	0.398073	0.290726	0.215334	0.183687	0.134984	0.102381	0.080390	0.040816	3.206-002	6.639+001
80(0.17)	0.621383	0.489974	0.374430	0.272478	0.197742	0.166557	0.118193	0.085160	0.059060	0.005940	2.956-002	9.748+002
85(0.09)	0.595536	0.463982	0.352902	0.256388	0.183430	0.152583	0.104013	0.070857	0.042393	-0.013471	2.762-002	6.419+006
90(-0.00)	0.571020	0.441064	0.333948	0.242809	0.172837	0.142057	0.092718	0.059822	0.030987	-0.016623	2.595-002	0.000+000
95(-0.09)	0.548072	0.418505	0.317325	0.231398	0.165499	0.134146	0.083649	0.051289	0.023517	-0.008896	2.446-002	0.000+000
100(-0.17)	0.526673	0.398430	0.302389	0.221424	0.160320	0.127444	0.075673	0.043940	0.017770	0.001400	2.306-002	0.000+000
105(-0.26)	0.506748	0.380129	0.288521	0.212208	0.156086	0.120734	0.067833	0.036714	0.012093	0.007570	2.159-002	0.000+000
110(-0.34)	0.488314	0.363298	0.275440	0.203449	0.151976	0.113495	0.059765	0.029296	0.006213	0.007384	1.993-002	0.000+000
115(-0.42)	0.471307	0.348073	0.263255	0.195260	0.147796	0.105919	0.051683	0.022040	0.000988	0.002766	1.821-002	0.000+000
120(-0.50)	0.456499	0.334691	0.252283	0.187977	0.143855	0.098528	0.044041	0.015524	-0.002526	-0.002682	2.490-002	0.000+000
130(-0.64)	0.432787	0.311439	0.234882	0.177132	0.138282	0.085601	0.031189	0.005945	-0.003521	-0.007034	2.726-002	0.000+000
140(-0.77)	0.414163	0.293660	0.223058	0.171893	0.136082	0.074868	0.021243	0.000680	-0.001236	-0.003907	2.170-002	0.000+000
150(-0.87)	0.400326	0.280754	0.214890	0.167377	0.135390	0.066508	0.013159	-0.001153	-0.000811	-0.000963	1.625-002	0.000+000
160(-0.94)	0.391401	0.272744	0.209097	0.165220	0.134995	0.062349	0.006809	-0.000936	-0.001360	-0.000085	1.082-002	0.000+000
170(-0.98)	0.385541	0.268435	0.205435	0.163986	0.134757	0.061840	0.001755	-0.000810	-0.000934	0.000006	5.405-003	0.000+000
177(-1.00)	0.383681	0.267067	0.204234	0.163608	0.134690	0.062126	-0.000066	-0.000998	-0.000477	0.000003	6.756-004	0.000+000
NUMBER SUM	7.412382	5.847165	4.524136	3.355572	2.693797	2.067339	1.420371	1.077215	0.898233	0.779981		

TOTAL NUMBER= 0.735180

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 18.931483

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1180MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 2,0888 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,076	0,088	0,102	0,119	0,138	0,155	0,181	0,212	0,247	0,289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,667438	0,560916	0,440474	0,326070	0,268068	0,231327	0,188412	0,191802	0,180030	0,167816	2,070-003	2.103+001
10(0,98)	0,664414	0,558054	0,438173	0,324347	0,266652	0,230251	0,188675	0,187813	0,179760	0,167445	1,637-002	1.690+000
20(0,94)	0,654782	0,548922	0,430929	0,318874	0,261937	0,225760	0,188188	0,178066	0,176624	0,165803	3,154-002	3.439+000
30(0,87)	0,638982	0,533913	0,419052	0,309857	0,253723	0,216536	0,183933	0,166624	0,166465	0,162240	4,429-002	5.376+000
40(0,77)	0,617342	0,513279	0,402336	0,297158	0,241642	0,203897	0,174089	0,153129	0,149480	0,156996	5,346-002	7.865+000
50(0,64)	0,589492	0,486262	0,379441	0,279572	0,224001	0,189001	0,158553	0,135978	0,129299	0,146395	5,799-002	1.208+001
60(0,50)	0,554079	0,450676	0,347923	0,254805	0,197857	0,167762	0,136249	0,113069	0,103692	0,113045	4,255-002	1.743+001
65(0,42)	0,533443	0,429447	0,328853	0,239608	0,181717	0,153612	0,122315	0,098833	0,086836	0,082377	2,689-002	2.001+001
70(0,34)	0,511374	0,406615	0,308481	0,223360	0,164778	0,138003	0,107262	0,083309	0,067657	0,045067	2,485-002	4.797+001
75(0,26)	0,488668	0,383271	0,288100	0,207273	0,148607	0,122714	0,092428	0,067900	0,048310	0,008588	2,269-002	2.361+002
80(0,17)	0,466246	0,360653	0,269086	0,192644	0,134765	0,109710	0,079359	0,054385	0,031791	-0,017806	2,097-002	7.666+003
85(0,09)	0,444878	0,339735	0,252396	0,180356	0,124269	0,100234	0,069101	0,044045	0,020317	-0,027853	1,961-002	5.499+008
90(-0,00)	0,424978	0,320922	0,238224	0,170519	0,117235	0,094210	0,061660	0,036947	0,014075	-0,022114	1,849-002	0.000+000
95(-0,09)	0,406590	0,304047	0,226036	0,162512	0,112877	0,090334	0,056036	0,031934	0,011067	-0,007862	1,752-002	0.000+000
100(-0,17)	0,389550	0,288654	0,214974	0,155397	0,109874	0,086828	0,050836	0,027392	0,008554	0,005202	1,663-002	0.000+000
105(-0,26)	0,373729	0,274391	0,204372	0,148457	0,106981	0,082381	0,045065	0,022234	0,004820	0,010419	1,555-002	0.000+000
110(-0,34)	0,359176	0,261243	0,194077	0,141519	0,103551	0,076692	0,038558	0,016393	0,000007	0,007046	1,425-002	0.000+000
115(-0,42)	0,346102	0,249501	0,184423	0,134925	0,099717	0,070348	0,031836	0,010574	-0,004439	-0,000929	1,294-002	0.000+000
120(-0,50)	0,334731	0,239526	0,175930	0,129216	0,096121	0,064227	0,025605	0,005600	-0,007060	+0,008381	1,766-002	0.000+000
130(-0,64)	0,317215	0,225288	0,163597	0,121718	0,091949	0,054320	0,015983	-0,000582	-0,005951	+0,011863	1,936-002	0.000+000
140(-0,77)	0,305117	0,216798	0,156480	0,118638	0,091800	0,046206	0,009352	-0,002938	-0,002475	-0,005741	1,552-002	0.000+000
150(-0,87)	0,296114	0,210980	0,151906	0,117441	0,092878	0,039066	0,004334	+0,002964	-0,001986	-0,001291	1,171-002	0.000+000
160(-0,94)	0,289280	0,206498	0,148438	0,116676	0,093668	0,035225	0,000603	+0,002135	-0,002352	-0,000103	7,825-003	0.000+000
170(-0,98)	0,284882	0,203527	0,146023	0,116141	0,094113	0,034778	-0,002142	-0,002417	-0,001263	0,000008	3,914-003	0.000+000
177(-1,00)	0,283456	0,202551	0,145181	0,115960	0,094260	0,035066	+0,003238	+0,002974	-0,000459	0,000004	4,897-004	0.000+000
NUMBER SUM	5,617933	4,367091	3,307009	2,427078	1,850032	1,433233	1,002223	0,759073	0,620496	0,519437		

TOTAL NUMBER= 0,535134

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 24,788512

LOWER ENERGY CUTOFF 0,0519MEV

LOWEST SINGLE SCATTERING ENERGY 0,1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.300 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 4.1776 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.076	0.088	0.102	0.119	0.138	0.155	0.181	0.212	0.247	0.289	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.155090	0.123061	0.098717	0.075519	0.060610	0.052878	0.046237	0.062799	0.042590	0.041867	4.748-004	3.903+001
10(0.98)	0.152724	0.121040	0.097301	0.074544	0.060227	0.053595	0.047392	0.057530	0.044831	0.040535	3.719-003	3.201+000
20(0.94)	0.145975	0.115428	0.093830	0.072070	0.059168	0.053652	0.049789	0.047699	0.048358	0.036516	6.978-003	7.026+000
30(0.87)	0.137650	0.109188	0.090960	0.070041	0.058562	0.049957	0.050073	0.041930	0.045207	0.032905	9.568-003	1.296+001
40(0.77)	0.131458	0.106282	0.091094	0.070513	0.060210	0.046556	0.047657	0.039397	0.038334	0.040074	1.179-002	2.650+001
50(0.64)	0.128669	0.107363	0.092950	0.072298	0.061947	0.048194	0.044972	0.038327	0.038289	0.063763	1.412-002	7.583+001
60(0.50)	0.124739	0.105508	0.088584	0.068205	0.054546	0.044649	0.038590	0.034150	0.038523	0.069371	1.130-002	3.019+002
65(0.42)	0.120333	0.100741	0.084697	0.061804	0.045590	0.036631	0.031646	0.027910	0.031732	0.047672	6.859-003	7.152+002
70(0.34)	0.114063	0.093285	0.077184	0.053040	0.034583	0.025315	0.022492	0.018762	0.019230	0.010311	2.487-003	4.757+003
75(0.26)	0.106598	0.084301	0.061845	0.043698	0.024033	0.013957	0.013189	0.008862	0.004530	-0.029776	4.231-003	1.408+005
80(0.17)	0.098962	0.075416	0.052806	0.035895	0.016436	0.006309	0.006429	0.001402	-0.006696	-0.054785	3.552-003	2.175+008
85(0.09)	0.091999	0.067866	0.046427	0.030953	0.013139	0.004524	0.003922	-0.001380	-0.010277	-0.052927	3.237-003	2.325+018
90(-0.00)	0.085975	0.061887	0.042578	0.028658	0.012719	0.004822	0.005178	0.000143	-0.006679	-0.027096	3.137-003	0.000+000
95(-0.09)	0.080598	0.056773	0.039816	0.027435	0.012185	0.012906	0.007701	0.003120	-0.000845	0.006110	3.374-003	0.000+000
100(-0.17)	0.075414	0.051568	0.036575	0.025373	0.011927	0.015922	0.008559	0.004171	0.001378	0.027094	3.621-003	0.000+000
105(-0.26)	0.070296	0.045885	0.031304	0.021424	0.016993	0.014668	0.006185	0.001640	-0.002624	0.025654	3.172-003	0.000+000
110(-0.34)	0.065645	0.040264	0.025019	0.015967	0.013035	0.009620	0.001118	-0.003591	-0.010828	0.005838	2.383-003	0.000+000
115(-0.42)	0.062191	0.035859	0.018955	0.010439	0.007392	0.003228	-0.004701	-0.009139	-0.018633	-0.019193	1.938-003	0.000+000
120(-0.50)	0.060545	0.033727	0.014668	0.006422	0.002185	-0.001852	-0.009349	-0.012933	-0.022279	-0.036827	2.516-003	0.000+000
130(-0.64)	0.062589	0.036876	0.013863	0.005529	-0.001030	-0.004581	-0.012777	-0.013901	-0.016399	-0.035785	2.934-003	0.000+000
140(-0.77)	0.067394	0.044457	0.019453	0.010734	0.003845	-0.004250	-0.012252	-0.011252	-0.008292	-0.014487	2.768-003	0.000+000
150(-0.87)	0.069955	0.049601	0.024494	0.015686	0.009273	-0.006327	-0.011347	-0.008345	-0.007684	-0.002703	2.349-003	0.000+000
160(-0.94)	0.069648	0.051036	0.026597	0.018175	0.012470	-0.005822	-0.009977	-0.007012	-0.007264	-0.000146	1.658-003	0.000+000
170(-0.98)	0.068385	0.050762	0.026702	0.018994	0.014136	-0.001752	-0.009269	-0.010033	-0.002800	0.000016	8.462-004	0.000+000
177(-1.00)	0.067827	0.050510	0.026479	0.019145	0.014664	0.000383	-0.009363	-0.012594	-0.000197	0.000005	1.066-004	0.000+000
NUMBER SUM	1.187515	0.889191	0.644327	0.463370	0.331441	0.228733	0.170235	0.126137	0.095376	0.069553		

TOTAL NUMBER= 0.112121

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 73.292058

LOWER ENERGY CUTOFF 0.0519MEV

LOWEST SINGLE SCATTERING ENERGY 0.1380MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0113 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.188	0.217	0.262	0.316	0.382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.957984	0.753158	0.656712	0.509203	0.374425	0.447256	0.370986	0.081103	-0.000271	0.004426	4.759-003	6.042+002
10(0.98)	0.960135	0.755841	0.660625	0.512130	0.378329	0.456532	0.355740	0.097980	0.001835	0.004599	3.830-002	4.795-001
20(0.94)	0.967399	0.764780	0.673941	0.521875	0.392035	0.487141	0.320672	0.137086	0.017479	0.005113	7.825-002	9.351-001
30(0.87)	0.981450	0.781702	0.698976	0.540391	0.418619	0.533947	0.293149	0.173310	0.062757	0.006926	1.221-001	1.346+000
40(0.77)	1.006869	0.811798	0.741269	0.573111	0.464059	0.583077	0.289367	0.203231	0.137343	0.020889	1.737-001	1.697+000
50(0.64)	1.050176	0.862797	0.808310	0.627061	0.536921	0.629032	0.314284	0.241455	0.225548	0.093378	2.408-001	1.979+000
60(0.50)	1.112738	0.936385	0.898750	0.701653	0.637383	0.680718	0.366549	0.301533	0.325584	0.303957	2.520-001	1.620+000
69(0.42)	1.147505	0.976978	0.945624	0.740696	0.690434	0.707348	0.397980	0.337933	0.380340	0.463652	1.996-001	1.089+000
70(0.34)	1.180291	1.014626	0.986169	0.774371	0.737092	0.728371	0.426462	0.372254	0.431776	0.629558	2.384-001	1.059+000
79(0.26)	1.207175	1.044313	1.014003	0.796825	0.770016	0.736691	0.445322	0.396712	0.468896	0.758467	2.892-001	9.824-001
80(0.17)	1.224806	1.061786	1.023906	0.803282	0.783056	0.725960	0.448552	0.403653	0.479602	0.805746	3.703-001	8.623-001
85(0.09)	1.231383	1.064888	1.013754	0.791722	0.773056	0.693304	0.433179	0.388831	0.456492	0.745720	5.744-001	7.159-001
90(-0.00)	1.227214	1.054315	0.985345	0.763830	0.741036	0.640975	0.400818	0.353787	0.401546	0.586721	1.267-001	0.000+000
95(-0.09)	1.214590	1.033416	0.944054	0.724676	0.692272	0.576026	0.357415	0.305702	0.326252	0.370515	1.125-001	0.000+000
100(-0.17)	1.196985	1.007077	0.897243	0.681179	0.635041	0.508091	0.311121	0.254570	0.246662	0.154866	9.705-002	0.000+000
105(-0.26)	1.177939	0.980151	0.852076	0.639984	0.578295	0.446326	0.269362	0.209207	0.176369	-0.011011	8.405-002	0.000+000
110(-0.34)	1.160073	0.956123	0.813667	0.605681	0.529115	0.396963	0.236563	0.174305	0.121684	-0.104138	7.462-002	0.000+000
115(-0.42)	1.144607	0.936477	0.784206	0.580018	0.491042	0.362463	0.213504	0.149877	0.081485	-0.130201	6.744-002	0.000+000
120(-0.50)	1.131459	0.920901	0.763217	0.562240	0.463969	0.342292	0.198240	0.132789	0.050844	-0.112731	9.248-002	0.000+000
130(-0.64)	1.108516	0.896354	0.737721	0.541183	0.432198	0.336790	0.179227	0.105241	0.003751	-0.045076	1.028-001	0.000+000
140(-0.77)	1.084940	0.872758	0.719604	0.525685	0.412914	0.363764	0.161986	0.071345	-0.022621	-0.008753	8.253-002	0.000+000
150(-0.87)	1.060532	0.848622	0.701437	0.509468	0.397541	0.403591	0.141743	0.029863	-0.021258	-0.000689	6.171-002	0.000+000
160(-0.94)	1.039370	0.827920	0.684620	0.494454	0.385523	0.433667	0.121016	-0.006980	-0.007403	-0.000049	4.092-002	0.000+000
170(-0.98)	1.025322	0.814367	0.672677	0.484061	0.377636	0.445452	0.105463	-0.026988	0.001245	0.000051	2.043-002	0.000+000
177(-1.00)	1.020753	0.810001	0.668617	0.480617	0.375017	0.447165	0.100163	-0.031652	0.003045	0.000139	2.558-003	0.000+000
NUMBER SUM	14.108947	11.695710	10.497691	8.003436	7.043882	6.709191	3.724067	2.742772	2.465122	2.474083		

TOTAL NUMBER= 4.089767

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUI DUP= 2.088212

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1878 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	1.021728	0.822303	0.715539	0.537366	0.405447	0.431345	0.347830	0.153368	0.068756	0.062624	4.796-003	7.266-002
10(0.98)	1.024668	0.825522	0.719137	0.540226	0.409083	0.437883	0.339768	0.162538	0.072898	0.064406	3.854-002	5.772-001
20(0.94)	1.034205	0.835941	0.731062	0.549574	0.421316	0.459457	0.320968	0.184131	0.090566	0.070520	7.824-002	1.128+000
30(0.87)	1.050759	0.854015	0.752240	0.566200	0.443416	0.493279	0.305997	0.205453	0.128336	0.082940	1.205-001	1.629+000
40(0.77)	1.075706	0.881426	0.784588	0.592180	0.477614	0.530476	0.304298	0.225321	0.182731	0.110294	1.672-001	2.057+000
50(0.64)	1.110085	0.919697	0.829274	0.629027	0.525992	0.563948	0.318471	0.250739	0.242419	0.178343	2.213-001	2.394+000
60(0.50)	1.150566	0.965230	0.880612	0.672304	0.584108	0.592616	0.345169	0.285566	0.302968	0.319251	2.141-001	1.958+000
65(0.42)	1.169676	0.986617	0.903253	0.691647	0.611146	0.602847	0.359137	0.303794	0.331731	0.410514	1.603-001	1.328+000
70(0.34)	1.185173	1.003536	0.919325	0.705428	0.631850	0.606713	0.369384	0.318308	0.354759	0.494891	1.777-001	1.323+000
75(0.26)	1.194838	1.013201	0.925391	0.710509	0.642377	0.600670	0.372209	0.324709	0.365805	0.547799	1.927-001	1.295+000
80(0.17)	1.197048	1.013593	0.919127	0.704727	0.640023	0.582031	0.364713	0.319222	0.358854	0.546924	1.991-001	1.281+000
85(0.09)	1.191273	1.004128	0.900177	0.687719	0.624086	0.550327	0.346018	0.300427	0.331286	0.483016	1.694-001	1.601+000
90(-0.00)	1.178278	0.985935	0.870476	0.661267	0.596228	0.507957	0.317897	0.270271	0.285956	0.366462	1.038-001	0.000+000
95(-0.09)	1.159930	0.961588	0.833842	0.628918	0.560200	0.459746	0.284370	0.233630	0.230687	0.224810	9.336-002	0.000+000
100(-0.17)	1.138660	0.934357	0.794939	0.594996	0.520949	0.411540	0.250350	0.196504	0.175043	0.091735	8.240-002	0.000+000
105(-0.26)	1.116789	0.907294	0.758028	0.563386	0.483355	0.368504	0.219999	0.163791	0.126558	-0.006514	7.309-002	0.000+000
110(-0.34)	1.095994	0.882508	0.725992	0.536616	0.451001	0.333889	0.195581	0.137828	0.088369	-0.059732	6.586-002	0.000+000
115(-0.42)	1.077078	0.860888	0.699953	0.515528	0.425471	0.308746	0.177264	0.118297	0.059524	-0.073658	5.998-002	0.000+000
120(-0.50)	1.060073	0.842280	0.679526	0.499560	0.406439	0.292505	0.163745	0.103225	0.037193	-0.063066	8.234-002	0.000+000
130(-0.64)	1.030029	0.811068	0.650214	0.477558	0.381556	0.281710	0.144010	0.077607	0.004198	-0.024816	9.112-002	0.000+000
140(-0.77)	1.002754	0.783683	0.628027	0.464922	0.364639	0.292337	0.126034	0.049947	-0.012664	-0.004792	7.274-002	0.000+000
150(-0.87)	0.978328	0.759401	0.608806	0.445990	0.351168	0.314094	0.106717	0.020587	-0.011900	-0.000385	5.430-002	0.000+000
160(-0.94)	0.958969	0.740326	0.593182	0.433615	0.340981	0.333534	0.087326	-0.003002	-0.004048	-0.000026	3.600-002	0.000+000
170(-0.98)	0.946683	0.728343	0.582887	0.425513	0.334515	0.343307	0.072157	-0.014852	0.000700	0.000026	1.796-002	0.000+000
177(-1.00)	0.942757	0.724540	0.579504	0.422889	0.332410	0.345520	0.066723	-0.017432	0.001662	0.000070	2.247-003	0.000+000
NUMBER SUM	13.827788	11.297074	9.757770	7.335369	6.212476	5.646012	3.244195	2.391932	2.116903	2.082011		

TOTAL NUMBER= 2.579129

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4.008030

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,400 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,3756 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,075	0,090	0,108	0,130	0,156	0,180	0,217	0,262	0,316	0,382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,051172	0,856075	0,737668	0,641407	0,414795	0,407911	0,323485	0,197105	0,117354	0,103974	4,700-003	8,593-002
10(0,98)	1,054055	0,859070	0,740539	0,543832	0,417817	0,412297	0,319966	0,201120	0,122135	0,106581	3,770-002	6,832-001
20(0,94)	1,063199	0,868567	0,749834	0,551626	0,427647	0,426692	0,311441	0,210808	0,138904	0,115475	7,603-002	1,339+000
30(0,87)	1,078130	0,884116	0,765483	0,564742	0,444335	0,449616	0,304138	0,221315	0,168524	0,132705	1,156-001	1,941+000
40(0,77)	1,098123	0,905098	0,787057	0,583071	0,467710	0,475528	0,302719	0,232615	0,205457	0,164197	1,569-001	2,465+000
50(0,64)	1,120996	0,929378	0,812110	0,604905	0,496083	0,497151	0,308052	0,246806	0,242182	0,221105	1,996-001	2,892+000
60(0,50)	1,141301	0,950979	0,833380	0,624313	0,523163	0,508387	0,316097	0,262210	0,272904	0,306677	1,809-001	2,409+000
65(0,42)	1,147683	0,957506	0,838624	0,629678	0,532254	0,507644	0,318051	0,267559	0,283327	0,349920	1,293-001	1,670+000
70(0,34)	1,149833	0,959116	0,837802	0,629936	0,535742	0,500796	0,316243	0,268703	0,287321	0,380223	1,350-001	1,740+000
75(0,26)	1,146722	0,954556	0,829482	0,623762	0,532080	0,486576	0,308986	0,263555	0,281885	0,385698	1,350-001	1,873+000
80(0,17)	1,137867	0,943252	0,813120	0,610625	0,520683	0,464521	0,295351	0,250817	0,264921	0,358241	1,241-001	2,355+000
85(0,09)	1,123510	0,925554	0,789362	0,591083	0,502198	0,435467	0,275655	0,230702	0,236602	0,298096	9,828-002	8,007+000
90(-0,00)	1,104615	0,902732	0,760018	0,566781	0,478421	0,401617	0,251552	0,205143	0,199911	0,215365	9,517-002	0,000+000
95(-0,09)	1,082664	0,876708	0,727690	0,540089	0,451886	0,366098	0,225608	0,177266	0,159839	0,126969	7,753-002	0,000+000
100(-0,17)	1,059311	0,849585	0,695148	0,513518	0,425279	0,332156	0,200516	0,150340	0,121571	0,050293	6,982-002	0,000+000
105(-0,26)	1,036023	0,823173	0,664702	0,489116	0,400854	0,302344	0,178303	0,126715	0,088703	-0,003131	6,312-002	0,000+000
110(-0,34)	1,013828	0,798662	0,637787	0,468084	0,380015	0,278051	0,159887	0,107284	0,062439	-0,030665	5,753-002	0,000+000
115(-0,42)	0,993240	0,776554	0,614873	0,450721	0,363180	0,259523	0,145121	0,091621	0,042058	-0,037296	5,268-002	0,000+000
120(-0,50)	0,974353	0,756797	0,595669	0,436637	0,349941	0,246256	0,133182	0,078580	0,026104	-0,031594	7,238-002	0,000+000
130(-0,64)	0,941022	0,722922	0,565537	0,415364	0,330801	0,232654	0,113891	0,055823	0,003760	-0,012393	7,983-002	0,000+000
140(-0,77)	0,912600	0,694609	0,542208	0,399188	0,316715	0,232810	0,096392	0,033854	-0,006384	-0,002495	6,352-002	0,000+000
150(-0,87)	0,889170	0,671452	0,523494	0,386047	0,305577	0,242182	0,078741	0,013649	-0,005993	-0,000237	4,737-002	0,000+000
160(-0,94)	0,871682	0,654277	0,509463	0,376060	0,297366	0,253498	0,061497	-0,000732	-0,002005	-0,000014	3,142-002	0,000+000
170(-0,98)	0,860941	0,643798	0,500707	0,369835	0,292285	0,260883	0,047846	-0,007248	0,000323	0,000010	1,567-002	0,000+000
177(-1,00)	0,857555	0,640508	0,497907	0,367861	0,290659	0,263037	0,042854	-0,008541	0,000791	0,000027	1,959-003	0,000+000
NUMBER SUM	13,203164	10,634612	8,890942	6,597891	5,409864	4,717180	2,797481	2,064707	1,799448	1,732924		

TOTAL NUMBER= 2,110983

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5,646488

LOWER ENERGY CUTOFF 0,0471MEV

LOWEST SINGLE SCATTERING ENERGY 0,1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.7511 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.315	0.382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	1.023509	0.838650	0.703379	0.501296	0.389555	0.350744	0.275379	0.222806	0.162564	0.143216	4.249-003	1.131-001
10(0.98)	1.025023	0.840142	0.704469	0.502470	0.391078	0.352390	0.275618	0.221913	0.166406	0.145907	3.396-002	9.010-001
20(0.94)	1.029552	0.844604	0.707730	0.506061	0.395691	0.357555	0.275510	0.219885	0.177584	0.154872	6.766-002	1.777+000
30(0.87)	1.035879	0.850820	0.712196	0.511256	0.402387	0.365620	0.273856	0.218418	0.192199	0.171129	1.006-001	2.606+000
40(0.77)	1.041650	0.856565	0.715613	0.516187	0.409117	0.374392	0.270477	0.218017	0.205332	0.186095	1.316-001	3.376+000
50(0.64)	1.042803	0.856908	0.713537	0.517205	0.411909	0.378328	0.264521	0.216665	0.212816	0.226439	1.579-001	4.103+000
60(0.50)	1.034020	0.846591	0.699825	0.509101	0.405129	0.369768	0.252610	0.209419	0.209435	0.244128	1.385-001	3.684+000
65(0.42)	1.024442	0.835737	0.686983	0.500170	0.394639	0.359041	0.243002	0.201619	0.201269	0.238672	8.776-002	2.757+000
70(0.34)	1.011070	0.820739	0.669917	0.487737	0.384581	0.343956	0.230547	0.190358	0.187811	0.219770	8.540-002	3.300+000
75(0.26)	0.994085	0.801853	0.649057	0.472155	0.369476	0.325208	0.215475	0.175788	0.169276	0.187832	7.950-002	4.709+000
80(0.17)	0.974019	0.779755	0.625301	0.454209	0.352371	0.304004	0.198505	0.158714	0.146923	0.146783	7.093-002	1.170+001
85(0.09)	0.951674	0.755425	0.599852	0.434963	0.334640	0.281835	0.180692	0.140412	0.122802	0.103063	6.390-002	3.872+002
90(-0.00)	0.927974	0.729961	0.573981	0.415534	0.317646	0.260149	0.163144	0.122251	0.099112	0.063420	5.951-002	0.000+000
95(-0.09)	0.903818	0.704388	0.548791	0.396867	0.302395	0.240063	0.146732	0.105300	0.077536	0.032608	5.518-002	0.000+000
100(-0.17)	0.879960	0.679518	0.525066	0.379594	0.289342	0.222207	0.131928	0.090107	0.058894	0.012193	5.107-002	0.000+000
105(-0.26)	0.856959	0.655897	0.503231	0.364014	0.278419	0.206748	0.118812	0.076727	0.043258	0.001899	4.723-002	0.000+000
110(-0.34)	0.835184	0.633839	0.483424	0.350170	0.269257	0.193541	0.107208	0.064923	0.030342	-0.004007	4.363-002	0.000+000
115(-0.42)	0.814853	0.613486	0.465601	0.337962	0.261427	0.182314	0.096846	0.054379	0.019867	-0.009270	4.018-002	0.000+000
120(-0.50)	0.796085	0.594883	0.449643	0.327242	0.254597	0.172811	0.087468	0.044840	0.011698	-0.004853	5.526-002	0.000+000
130(-0.64)	0.763429	0.562885	0.422804	0.309724	0.243228	0.158348	0.070870	0.028235	0.001893	-0.002742	6.075-002	0.000+000
140(-0.77)	0.737271	0.537554	0.402017	0.296671	0.234346	0.149710	0.056154	0.014882	-0.001122	-0.001018	4.823-002	0.000+000
150(-0.87)	0.717358	0.518421	0.386574	0.287276	0.227579	0.146930	0.042526	0.005552	-0.001029	-0.000213	3.597-002	0.000+000
160(-0.94)	0.703372	0.505043	0.375913	0.280922	0.222786	0.148719	0.030068	0.000668	-0.000449	-0.000012	2.389-002	0.000+000
170(-0.98)	0.695069	0.497118	0.369655	0.277241	0.219926	0.151898	0.020467	-0.000975	-0.000072	-0.000002	1.192-002	0.000+000
177(-1.00)	0.692488	0.494657	0.367720	0.276112	0.219034	0.153254	0.016962	-0.001239	0.000055	-0.000009	1.489-003	0.000+000
NUMBER SUM	11.423820	8.972841	7.140829	5.186978	4.057827	3.325312	2.072368	1.531995	1.298414	1.201705		

TOTAL NUMBER= 1.548222

(PHOTONS/S) CM-SEC)

TOTAL NUMBER
BUILDUP= 9.106917

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,400 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,1267 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,075	0,090	0,108	0,130	0,156	0,180	0,217	0,262	0,316	0,382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,925010	0,755659	0,616349	0,431459	0,336931	0,290546	0,229207	0,207748	0,167042	0,147918	3,638-003	1.411+001
10(0,98)	0,924849	0,755485	0,615934	0,431493	0,337192	0,290732	0,230099	0,205335	0,169200	0,149800	2,898-002	1.126+000
20(0,94)	0,924007	0,754604	0,614312	0,431390	0,337680	0,290951	0,231313	0,199376	0,174472	0,155853	5,712-002	2.237+000
30(0,87)	0,921385	0,751904	0,610504	0,430310	0,337318	0,290667	0,229855	0,192910	0,178597	0,166011	8,330-002	3.330+000
40(0,77)	0,914811	0,745103	0,602354	0,426361	0,334071	0,289131	0,224104	0,186242	0,178027	0,179343	1,058-001	4.434+000
50(0,64)	0,900966	0,730592	0,586237	0,416439	0,324530	0,283089	0,212923	0,176759	0,170979	0,188877	1,218-001	5.678+000
60(0,50)	0,876458	0,704595	0,558463	0,397297	0,305167	0,266942	0,194248	0,160300	0,153870	0,175841	9,517-002	5.693+000
65(0,42)	0,859738	0,686801	0,539919	0,383947	0,291620	0,254145	0,181694	0,148450	0,140016	0,154683	6,197-002	4.734+000
70(0,34)	0,840325	0,666186	0,518873	0,368566	0,276206	0,238759	0,167565	0,134375	0,122709	0,124095	5,861-002	6.791+000
75(0,26)	0,818788	0,643465	0,496250	0,351957	0,259958	0,221895	0,152048	0,118904	0,103174	0,088234	5,395-002	1.364+001
80(0,17)	0,795882	0,619554	0,473160	0,336096	0,244099	0,204915	0,136770	0,103268	0,083380	0,053477	4,931-002	7.076+001
85(0,09)	0,772406	0,595402	0,450643	0,318894	0,229775	0,189045	0,122492	0,088673	0,065329	0,025981	4,587-002	2.068+004
90(-0,00)	0,749061	0,571767	0,429450	0,303982	0,217772	0,175040	0,109807	0,075878	0,050270	0,009090	4,303-002	0.000+000
95(-0,09)	0,726365	0,549158	0,409931	0,290604	0,208324	0,163061	0,098802	0,064992	0,038336	0,002181	4,038-002	0.000+000
100(-0,17)	0,704644	0,527821	0,392090	0,278676	0,201114	0,152792	0,089163	0,055608	0,028816	0,001613	3,788-002	0.000+000
105(-0,26)	0,684088	0,507839	0,375738	0,267948	0,195484	0,143717	0,080426	0,047159	0,020832	0,003058	3,544-002	0.000+000
110(-0,34)	0,664820	0,489237	0,360672	0,258183	0,190742	0,135399	0,072227	0,039254	0,013919	0,003617	3,292-002	0.000+000
115(-0,42)	0,646951	0,472072	0,346787	0,249261	0,186427	0,127621	0,064418	0,031800	0,008153	0,002554	3,035-002	0.000+000
120(-0,50)	0,630587	0,456421	0,334097	0,241192	0,182383	0,120364	0,057020	0,024918	0,003860	0,000650	4,169-002	0.000+000
130(-0,64)	0,602667	0,429938	0,312584	0,227889	0,175397	0,107667	0,043726	0,013503	0,000007	-0,001775	4,580-002	0.000+000
140(-0,77)	0,581120	0,409783	0,296367	0,218454	0,170300	0,097714	0,032371	0,005750	-0,000127	-0,001258	3,639-002	0.000+000
150(-0,87)	0,565292	0,395155	0,284855	0,212233	0,166781	0,091229	0,022516	0,001714	-0,000071	-0,000327	2,720-002	0.000+000
160(-0,94)	0,554413	0,385156	0,277198	0,208343	0,164420	0,088889	0,014164	0,000430	-0,000330	-0,000020	1,810-002	0.000+000
170(-0,98)	0,548611	0,379275	0,272813	0,206192	0,163060	0,089373	0,008182	0,000123	-0,000239	-0,000003	9,038-003	0.000+000
177(-1,00)	0,546825	0,377449	0,271476	0,205544	0,162648	0,089933	0,006063	0,000002	-0,000094	-0,000016	1,130-003	0.000+000
NUMBER SUM	9,436232	7,254804	5,568512	3,976446	3,013184	2,367755	1,528779	1,131156	0,935234	0,832183		

TOTAL NUMBER= 1,164872

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 13,090561

LOWER ENERGY CUTOFF 0,0471MEV

LOWEST SINGLE SCATTERING ENERGY 0,1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.5023 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.105	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.794760	0.646497	0.515500	0.355413	0.277914	0.234483	0.186812	0.158704	0.152129	0.135783	3,003-003	1.696+001
10(0.98)	0.793516	0.644489	0.512124	0.354673	0.277354	0.233950	0.187513	0.175922	0.152950	0.136709	2,385-002	1.357+000
20(0.94)	0.788449	0.636385	0.502501	0.352163	0.275314	0.231711	0.188130	0.168900	0.154071	0.139475	4,656-002	2.720+000
30(0.87)	0.779614	0.622782	0.489047	0.347345	0.270992	0.227195	0.185642	0.160672	0.151935	0.143476	6,680-002	4.120+000
40(0.77)	0.765473	0.601454	0.465360	0.338904	0.263006	0.220521	0.178426	0.151345	0.144387	0.147361	8,289-002	5.671+000
50(0.64)	0.744027	0.568344	0.464104	0.324751	0.249021	0.210285	0.165737	0.138775	0.131411	0.145159	9,261-002	7.743+000
60(0.50)	0.713552	0.524229	0.433644	0.303085	0.227023	0.192786	0.146492	0.120206	0.110936	0.121997	6,992-002	8.865+000
65(0.42)	0.694982	0.545141	0.414684	0.289604	0.213584	0.180835	0.134433	0.108237	0.096872	0.098605	4,482-002	8.327+000
70(0.34)	0.674681	0.524293	0.394657	0.275043	0.198919	0.167452	0.121344	0.094953	0.080676	0.069092	4,199-002	1.459+001
75(0.26)	0.654273	0.502468	0.374221	0.260240	0.184674	0.153735	0.108088	0.081306	0.063764	0.038326	3,874-002	4.180+001
80(0.17)	0.631475	0.479506	0.354373	0.246075	0.171702	0.140872	0.095638	0.068474	0.048071	0.012545	3,587-002	4.475+002
85(0.09)	0.609945	0.459164	0.335892	0.233226	0.160813	0.129748	0.084736	0.057416	0.035230	-0.003376	3,365-002	1.128+006
90(-0.00)	0.589172	0.439243	0.319168	0.221992	0.152374	0.120658	0.075631	0.048474	0.025827	-0.008305	3,174-002	0.000+000
95(-0.09)	0.569438	0.420245	0.304173	0.212277	0.146235	0.113294	0.068044	0.041299	0.019250	-0.005241	2,996-002	0.000+000
100(-0.17)	0.550858	0.402469	0.290654	0.203723	0.141822	0.106985	0.061384	0.035154	0.014244	0.000589	2,828-002	0.000+000
105(-0.26)	0.533472	0.386125	0.278106	0.196938	0.138397	0.101067	0.055084	0.029368	0.009766	0.004642	2,656-002	0.000+000
110(-0.34)	0.517325	0.371089	0.266429	0.188680	0.135336	0.095159	0.048848	0.023658	0.005526	0.005039	2,467-002	0.000+000
115(-0.42)	0.502409	0.357113	0.255560	0.181918	0.132345	0.089227	0.042688	0.018142	0.001908	0.002600	2,269-002	0.000+000
120(-0.50)	0.488096	0.344603	0.245619	0.175778	0.129458	0.083456	0.036796	0.013125	-0.000540	-0.000598	3,115-002	0.000+000
130(-0.64)	0.464789	0.324135	0.229122	0.165963	0.124790	0.073058	0.026462	0.005479	-0.001559	-0.003518	3,425-002	0.000+000
140(-0.77)	0.445127	0.306971	0.217320	0.159593	0.122124	0.064276	0.018101	0.001232	-0.000475	-0.002015	2,729-002	0.000+000
150(-0.87)	0.428244	0.292540	0.209333	0.155818	0.120755	0.057418	0.011271	-0.000184	-0.000380	-0.000473	2,046-002	0.000+000
160(-0.94)	0.413068	0.281378	0.204131	0.153624	0.119975	0.053726	0.005996	-0.000186	-0.000656	-0.000028	1,364-002	0.000+000
170(-0.98)	0.402922	0.274127	0.201163	0.152440	0.119570	0.052961	0.002579	-0.000380	-0.000329	-0.000002	6,823-003	0.000+000
177(-1.00)	0.397709	0.270796	0.200261	0.152083	0.119458	0.053078	0.001449	-0.000643	-0.000052	-0.000016	8,532-004	0.000+000
NUMBER SUM	7,560136	5,708801	4,261578	3,001799	2,223256	1,697382	1,123862	0,831655	0,672515	0,576979		

TOTAL NUMBER= 0,879074

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 17,672806

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.8779 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.657692	0.530804	0.413610	0.284400	0.222375	0.185672	0.149517	0.147869	0.129704	0.116842	2.414-003	1.986+001
10(0.98)	0.655469	0.528695	0.411778	0.283255	0.221427	0.184873	0.150007	0.144991	0.129777	0.116964	1.913-002	1.593+000
20(0.94)	0.648343	0.521930	0.405835	0.279570	0.218213	0.181655	0.150012	0.137775	0.128713	0.117068	3.702-002	3.225+000
30(0.87)	0.636374	0.510544	0.395711	0.273228	0.212364	0.175413	0.146769	0.129275	0.123546	0.116538	5.239-002	4.985+000
40(0.77)	0.619191	0.494077	0.380835	0.263562	0.203159	0.166982	0.139145	0.119530	0.113174	0.114845	6.385-002	7.132+000
50(0.64)	0.595903	0.471393	0.359814	0.249247	0.189061	0.156222	0.127024	0.106940	0.099074	0.108552	6.991-002	1.049+001
60(0.50)	0.565665	0.441325	0.331389	0.229058	0.168589	0.140232	0.109760	0.089669	0.080106	0.085664	5.179-002	1.392+001
65(0.42)	0.548136	0.423717	0.314772	0.217012	0.156418	0.129861	0.099260	0.079007	0.067759	0.064477	3.295-002	1.489+001
70(0.34)	0.529489	0.404984	0.297360	0.204345	0.143992	0.118610	0.088098	0.067482	0.053898	0.038626	3.073-002	3.202+001
75(0.26)	0.510305	0.385839	0.280051	0.191855	0.132029	0.107539	0.077117	0.056029	0.039894	0.013006	2.833-002	1.305+002
80(0.17)	0.491211	0.367033	0.263730	0.180330	0.121713	0.097741	0.067225	0.045766	0.027637	-0.006321	2.640-002	2.865+003
85(0.09)	0.472739	0.349170	0.249005	0.170304	0.113547	0.089908	0.059032	0.037505	0.018567	-0.015124	2.485-002	6.197+007
90(-0.00)	0.455229	0.332570	0.236050	0.161887	0.107653	0.084069	0.052591	0.031352	0.012900	-0.013429	2.352-002	0.000+000
95(-0.09)	0.438819	0.317271	0.224629	0.154791	0.103669	0.079632	0.047411	0.026700	0.009583	-0.005543	2.229-002	0.000+000
100(-0.17)	0.423513	0.303136	0.214286	0.148523	0.100901	0.075730	0.042756	0.022634	0.007051	0.002497	2.115-002	0.000+000
105(-0.26)	0.409288	0.290026	0.204607	0.142653	0.098594	0.071645	0.038040	0.018473	0.004234	0.006291	1.987-002	0.000+000
110(-0.34)	0.396175	0.277914	0.195407	0.136993	0.096230	0.067100	0.033067	0.014073	0.001076	0.004971	1.838-002	0.000+000
115(-0.42)	0.384269	0.266907	0.186768	0.131626	0.093690	0.062260	0.028013	0.009746	-0.001714	0.000650	1.683-002	0.000+000
120(-0.50)	0.373689	0.257166	0.178928	0.126791	0.091198	0.057500	0.023211	0.005941	-0.003373	-0.003671	2.311-002	0.000+000
130(-0.64)	0.356692	0.241833	0.166478	0.119538	0.087628	0.049183	0.015213	0.000822	-0.002940	-0.006085	2.543-002	0.000+000
140(-0.77)	0.344650	0.231442	0.158375	0.115554	0.086454	0.042138	0.009239	-0.001246	-0.001176	-0.002947	2.035-002	0.000+000
150(-0.87)	0.336206	0.224419	0.153318	0.113656	0.086475	0.036038	0.004660	-0.001277	-0.001030	-0.000629	1.533-002	0.000+000
160(-0.94)	0.330357	0.219596	0.150083	0.112695	0.086707	0.032327	0.001503	-0.000828	-0.001119	-0.000035	1.025-002	0.000+000
170(-0.98)	0.326806	0.216645	0.148213	0.112172	0.086905	0.031344	-0.000198	-0.001297	-0.000403	-0.000001	5.134-003	0.000+000
177(-1.00)	0.325680	0.215702	0.147641	0.112007	0.086942	0.031367	-0.000686	-0.001796	0.000048	-0.000016	6.426-004	0.000+000
NUMBER SUM	5.928442	4.410257	3.221375	2.244745	1.634002	1.221796	0.823773	0.609189	0.482836	0.400203		

TOTAL NUMBER= 0.662046

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 22.891974

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.400 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.7557 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.075	0.090	0.108	0.130	0.156	0.180	0.217	0.262	0.316	0.382	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.172701	0.136824	0.105921	0.074792	0.058991	0.049648	0.041481	0.053051	0.037511	0.035097	6.384-004	3.440-001
10(0.98)	0.171034	0.135371	0.105083	0.074200	0.058713	0.049922	0.042946	0.049325	0.038537	0.035148	2.015-003	2.812+000
20(0.94)	0.166386	0.131415	0.102813	0.072793	0.057910	0.049163	0.045146	0.041888	0.040101	0.032181	9.486-003	6.096+000
30(0.87)	0.160731	0.126925	0.100529	0.071719	0.057152	0.045814	0.044433	0.036927	0.037915	0.028719	1.310-002	1.090+001
40(0.77)	0.155952	0.123499	0.099342	0.071523	0.056999	0.043090	0.041365	0.034352	0.032556	0.030834	1.599-002	2.072+001
50(0.64)	0.151840	0.121029	0.097317	0.070454	0.055285	0.042796	0.037831	0.032244	0.029818	0.045112	1.839-002	5.122+001
60(0.50)	0.145428	0.114959	0.089569	0.064330	0.046856	0.038028	0.031570	0.027415	0.027609	0.045246	1.421-002	1.633+002
65(0.42)	0.140486	0.110992	0.082741	0.058622	0.039730	0.032012	0.026271	0.022425	0.022519	0.031215	8.744-003	3.360+002
70(0.34)	0.134460	0.106865	0.074628	0.051770	0.031871	0.024443	0.019897	0.015824	0.014103	0.007284	7.358-003	1.858+003
75(0.26)	0.127809	0.095471	0.066399	0.044886	0.024765	0.017186	0.013667	0.008962	0.004470	-0.018501	6.127-003	3.995+004
80(0.17)	0.121119	0.088244	0.059257	0.039133	0.019697	0.012177	0.009042	0.003713	-0.002998	-0.034872	5.414-003	2.921+007
85(0.09)	0.114860	0.081797	0.053899	0.035178	0.017262	0.010430	0.006899	0.001357	-0.005777	-0.034231	5.040-003	2.862+010
90(-0.00)	0.109211	0.076244	0.050199	0.032862	0.017171	0.011486	0.006940	0.001667	-0.004128	-0.018199	4.898-003	0.000+000
95(-0.09)	0.104081	0.071617	0.047333	0.031318	0.018376	0.013654	0.007824	0.003001	-0.000926	0.002885	4.989-003	0.000+000
100(-0.17)	0.099288	0.066588	0.044277	0.029482	0.019457	0.014937	0.007949	0.003376	0.000343	0.016628	5.140-003	0.000+000
105(-0.26)	0.094776	0.061855	0.040389	0.026688	0.019201	0.014081	0.006377	0.001742	-0.001891	0.016413	4.699-003	0.000+000
110(-0.34)	0.090729	0.057522	0.035738	0.022996	0.017139	0.011133	0.003259	-0.001511	-0.006596	0.004583	3.900-003	0.000+000
115(-0.42)	0.087509	0.053506	0.031006	0.019083	0.013762	0.007213	-0.000449	-0.005073	-0.011082	-0.010683	3.356-003	0.000+000
120(-0.50)	0.085465	0.050956	0.027093	0.015832	0.010211	0.003726	-0.003681	-0.007705	-0.013117	-0.021462	4.495-003	0.000+000
130(-0.64)	0.085209	0.050439	0.023924	0.013428	0.006615	0.000663	-0.006927	-0.008874	-0.009503	-0.021722	5.028-003	0.000+000
140(-0.77)	0.088112	0.053957	0.026105	0.015734	0.008409	-0.000066	-0.007505	-0.007001	-0.005001	-0.008027	4.385-003	0.000+000
150(-0.87)	0.090904	0.057562	0.029613	0.019264	0.011678	-0.002099	-0.007611	-0.004494	-0.004679	-0.001378	3.614-003	0.000+000
160(-0.94)	0.092121	0.059385	0.031933	0.021762	0.014114	-0.002767	-0.006822	-0.003684	-0.003758	-0.000044	2.561-003	0.000+000
170(-0.98)	0.092227	0.059825	0.032999	0.022928	0.015548	-0.000691	-0.005142	-0.006321	-0.000747	-0.000002	1.320-003	0.000+000
177(-1.00)	0.092143	0.059840	0.033292	0.023214	0.016019	0.000639	-0.004306	-0.008305	0.000727	-0.000032	1.668-004	0.000+000
NUMBER SUM	1.472735	1.057994	0.733568	0.501699	0.344582	0.237001	0.168747	0.123112	0.090208	0.064687		

TOTAL NUMBER= 0.158071

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUI DUP= 62.014105

LOWER ENERGY CUTOFF 0.0471MEV

LOWEST SINGLE SCATTERING ENERGY 0.1559MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0103 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,913516	0,717207	0,562119	0,444125	0,311702	0,353069	0,281712	0,044019	-0,000192	0,002868	4,827-003	6,123+002
10(0,98)	0,915025	0,719315	0,567183	0,446628	0,315130	0,360868	0,268855	0,058171	0,000465	0,002958	3,884-002	4,857+001
20(0,94)	0,920541	0,726799	0,583763	0,459166	0,327185	0,385761	0,240300	0,091893	0,008853	0,003258	7,932-002	9,470+001
30(0,87)	0,932392	0,742124	0,613217	0,471872	0,350534	0,421678	0,219644	0,124177	0,038254	0,004360	1,238-001	1,363+000
40(0,77)	0,954996	0,770022	0,659127	0,501233	0,389597	0,456909	0,218854	0,150135	0,092340	0,013260	1,763-001	1,720+000
50(0,64)	0,992854	0,815214	0,724681	0,547203	0,449147	0,488373	0,240047	0,180726	0,160776	0,062346	2,443-001	2,005+000
60(0,50)	1,044963	0,875710	0,804505	0,606092	0,526069	0,522912	0,280318	0,226309	0,238069	0,210984	2,551-001	1,636+000
65(0,42)	1,073029	0,907323	0,843255	0,635060	0,564749	0,539995	0,303402	0,253000	0,278747	0,326008	2,016-001	1,097+000
70(0,34)	1,099281	0,935798	0,875573	0,658916	0,597705	0,552633	0,323691	0,277558	0,315825	0,446770	2,403-001	1,064+000
75(0,26)	1,121086	0,957803	0,896970	0,673758	0,620161	0,556197	0,336592	0,294521	0,341797	0,541522	2,911-001	9,851+001
80(0,17)	1,136288	0,970695	0,904090	0,676620	0,628331	0,546752	0,338144	0,298731	0,348414	0,577087	3,728-001	8,630+001
85(0,09)	1,143754	0,973261	0,895751	0,666441	0,620388	0,522664	0,326512	0,287467	0,330986	0,534154	5,806-001	7,153+001
90(-0,00)	1,143666	0,966090	0,873450	0,644563	0,597055	0,485504	0,302930	0,261932	0,291036	0,418670	1,279-001	0,000+000
95(-0,09)	1,137420	0,951413	0,841062	0,614479	0,561663	0,439797	0,271476	0,227085	0,236515	0,261483	1,140-001	0,000+000
100(-0,17)	1,127170	0,932442	0,803807	0,580887	0,519520	0,391693	0,237703	0,189783	0,178476	0,105304	9,875-002	0,000+000
105(-0,26)	1,115188	0,912461	0,766867	0,548403	0,476613	0,347158	0,206750	0,156162	0,126404	-0,013680	8,597-002	0,000+000
110(-0,34)	1,103279	0,894007	0,734158	0,520448	0,438035	0,310485	0,181841	0,129662	0,084981	-0,078971	7,663-002	0,000+000
115(-0,42)	1,092450	0,878427	0,707683	0,498666	0,406773	0,283694	0,163786	0,110548	0,053916	-0,095404	6,940-002	0,000+000
120(-0,50)	1,082899	0,865887	0,687584	0,482998	0,383406	0,266887	0,151475	0,096808	0,030294	-0,080841	9,515-002	0,000+000
130(-0,64)	1,065955	0,846997	0,661389	0,464684	0,354793	0,259227	0,136057	0,074528	-0,003453	-0,030894	1,060-001	0,000+000
140(-0,77)	1,048647	0,830630	0,643713	0,453540	0,338615	0,278099	0,122440	0,047729	-0,018582	-0,005636	8,542-002	0,000+000
150(-0,87)	1,030368	0,814136	0,628248	0,442987	0,327133	0,310187	0,105372	0,016546	-0,014139	-0,000383	6,418-002	0,000+000
160(-0,94)	1,013981	0,799370	0,615062	0,433084	0,318376	0,337300	0,085075	-0,008010	-0,003749	-0,000002	4,273-002	0,000+000
170(-0,98)	1,002589	0,789247	0,606160	0,426160	0,312481	0,349893	0,066739	-0,018203	0,001352	0,000007	2,139-002	0,000+000
177(-1,00)	0,998842	0,785900	0,603228	0,423878	0,310481	0,352380	0,059591	-0,019521	0,002124	0,000024	2,678-003	0,000+000
NUMBER SUM	13,360870	10,943533	9,358374	6,871007	5,774751	5,164548	2,820488	2,018513	1,764679	1,744828		

TOTAL NUMBER= 4.178672

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 2.084817

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50,0 FT OR 0,1710 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,072	0,089	0,110	0,137	0.169	0.199	0,247	0,307	0,381	0.474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,977306	0,778511	0,624161	0,466371	0,335298	0,341906	0,268430	0,098906	0,044587	0,040785	4,889-003	7.283+002
10(0,98)	0,979605	0,781068	0,628409	0,468811	0,338346	0,347479	0,260919	0,107398	0,046944	0,041936	3,929-002	5.784+001
20(0,94)	0,987246	0,789569	0,642070	0,476851	0,348657	0,365379	0,244022	0,127836	0,057999	0,045918	7,976-002	1.130+000
30(0,87)	1,001023	0,804894	0,665272	0,491324	0,367383	0,391990	0,231530	0,148229	0,084256	0,054042	1,229-001	1.629+000
40(0,77)	1,022378	0,828646	0,698759	0,513918	0,396158	0,419297	0,230936	0,166044	0,125540	0,072217	1,708-001	2.055+000
50(0,64)	1,051813	0,861345	0,741884	0,545021	0,435744	0,442379	0,243258	0,186958	0,173508	0,119723	2,266-001	2.388+000
60(0,50)	1,085886	0,898662	0,788013	0,579604	0,481312	0,461319	0,264862	0,214528	0,222305	0,223583	2,200-001	1.946+000
65(0,42)	1,101684	0,915557	0,807403	0,594240	0,501789	0,467609	0,275792	0,228683	0,244948	0,293177	1,652-001	1.315+000
70(0,34)	1,114692	0,928637	0,820812	0,604103	0,517123	0,469208	0,283686	0,239847	0,262847	0,359121	1,840-001	1.304+000
75(0,26)	1,123278	0,935990	0,825752	0,607034	0,524717	0,463709	0,285874	0,244798	0,271502	0,402308	2,010-001	1.266+000
80(0,17)	1,126341	0,936310	0,820649	0,601639	0,522829	0,449355	0,280327	0,240837	0,266637	0,404921	2,108-001	1.232+000
85(0,09)	1,123519	0,929288	0,805382	0,587801	0,511050	0,425886	0,266469	0,226984	0,246414	0,359071	1,850-001	1.442+000
90(-0,00)	1,115298	0,915745	0,781460	0,566856	0,490479	0,394927	0,245585	0,204650	0,212903	0,272231	1,071-001	0.000+000
95(-0,09)	1,102888	0,897454	0,751724	0,541329	0,463570	0,359691	0,220535	0,177325	0,171703	0,165516	9,655-002	0.000+000
100(-0,17)	1,087896	0,876676	0,719649	0,514305	0,433652	0,324107	0,194838	0,149336	0,129772	0,065073	8,542-002	0.000+000
105(-0,26)	1,071920	0,855598	0,688501	0,488647	0,404185	0,291750	0,171552	0,124305	0,092700	-0,008647	7,598-002	0.000+000
110(-0,34)	1,056204	0,835859	0,660649	0,466375	0,377943	0,265036	0,152460	0,104088	0,063036	-0,047763	6,863-002	0.000+000
115(-0,42)	1,041463	0,818322	0,637240	0,448386	0,356441	0,244967	0,137870	0,088633	0,040416	-0,056904	6,258-002	0.000+000
120(-0,50)	1,027895	0,803115	0,618295	0,434556	0,339842	0,231428	0,126979	0,076604	0,023063	-0,047707	8,599-002	0.000+000
130(-0,64)	1,003546	0,778054	0,590594	0,415990	0,317782	0,221227	0,111216	0,056223	-0,000975	-0,017961	9,543-002	0.000+000
140(-0,77)	0,981338	0,756921	0,570407	0,403365	0,303678	0,228909	0,096994	0,034372	-0,011029	-0,003259	7,652-002	0.000+000
150(-0,87)	0,961182	0,738307	0,553986	0,392685	0,293208	0,247157	0,080932	0,011936	-0,008332	-0,000226	5,736-002	0.000+000
160(-0,94)	0,944868	0,723326	0,541233	0,383819	0,285389	0,264874	0,063143	-0,004303	-0,002156	-0,000001	3,816-002	0.000+000
170(-0,98)	0,934168	0,713635	0,533123	0,377982	0,280334	0,274634	0,047574	-0,010598	0,000792	0,000003	1,907-002	0.000+000
177(-1,00)	0,930723	0,710504	0,530522	0,376098	0,278664	0,277057	0,041564	-0,011324	0,001224	0,000012	2,387-003	0.000+000
NUMBER SUM	13,224685	10,639384	8,770777	6,345326	5,141142	4,423759	2,490532	1,781735	1,534973	1,490988		

TOTAL NUMBER= 2.674769

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 3.954310

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100,0 FT OR 0,3421 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	1,010063	0,809269	0,653981	0,470065	0,342962	0,325293	0,253145	0,134865	0,077649	0,068840	4,826-003	8.532+002
10(0,98)	1,012428	0,811682	0,657207	0,472162	0,345444	0,329095	0,249248	0,139315	0,080767	0,070588	3,871-002	6.781+001
20(0,94)	1,019988	0,819410	0,667384	0,478881	0,353565	0,341331	0,240216	0,150158	0,092307	0,076577	7,812-002	1.328+000
30(0,87)	1,032491	0,832259	0,683850	0,490171	0,367446	0,359944	0,233037	0,161546	0,114215	0,088258	1,189-001	1.921+000
40(0,77)	1,049427	0,849782	0,705572	0,505890	0,386909	0,379584	0,231882	0,172484	0,144051	0,110021	1,617-001	2.433+000
50(0,64)	1,068912	0,869999	0,729755	0,524322	0,410357	0,394723	0,236948	0,184824	0,175185	0,151408	2,067-001	2.843+000
60(0,50)	1,086374	0,887729	0,749776	0,540220	0,432542	0,401740	0,244557	0,198231	0,201962	0,218496	1,887-001	2.350+000
69(0,42)	1,092122	0,893045	0,754907	0,544446	0,440081	0,400610	0,246807	0,203199	0,211462	0,254899	1,357-001	1.619+000
70(0,34)	1,094575	0,894436	0,754817	0,544507	0,443293	0,395063	0,246147	0,204957	0,215973	0,282795	1,428-001	1.669+000
79(0,26)	1,092968	0,891000	0,748403	0,539439	0,441061	0,384171	0,241258	0,201862	0,213181	0,292067	1,444-001	1.761+000
80(0,17)	1,086926	0,882331	0,735258	0,528876	0,432952	0,367560	0,231392	0,192860	0,201396	0,275181	1,347-001	2.107+000
89(0,09)	1,076585	0,868682	0,715880	0,513243	0,419381	0,345761	0,216728	0,178030	0,180609	0,231272	1,060-001	5.881+000
90(-0,00)	1,062587	0,850953	0,691659	0,493753	0,401540	0,320274	0,198459	0,158759	0,152963	0,167817	8,966-002	0.000+000
99(-0,09)	1,045950	0,830518	0,664604	0,472164	0,381162	0,293281	0,178494	0,137389	0,122215	0,098422	8,175-002	0.000+000
100(-0,17)	1,027855	0,808923	0,636913	0,450386	0,360177	0,267119	0,158899	0,116442	0,092406	0,037567	7,368-002	0.000+000
109(-0,26)	1,009397	0,787562	0,610503	0,430055	0,340333	0,243723	0,141303	0,097824	0,066478	-0,004865	6,669-002	0.000+000
110(-0,34)	0,991412	0,767441	0,586681	0,412241	0,322881	0,224266	0,126538	0,082363	0,045592	-0,026376	6,088-002	0.000+000
119(-0,42)	0,974396	0,749086	0,566030	0,397357	0,308389	0,209117	0,114618	0,069854	0,029402	-0,030951	5,581-002	0.000+000
120(-0,50)	0,958535	0,732598	0,548509	0,385261	0,296776	0,198069	0,104989	0,059467	0,016917	-0,025672	7,682-002	0.000+000
130(-0,64)	0,930121	0,704439	0,521002	0,367422	0,280014	0,186531	0,089600	0,041441	0,000323	-0,009616	8,502-002	0.000+000
140(-0,77)	0,905551	0,681114	0,500210	0,354589	0,268192	0,186708	0,075626	0,024024	-0,006010	-0,001803	6,794-002	0.000+000
150(-0,87)	0,884945	0,661935	0,484025	0,344470	0,259168	0,195148	0,061000	0,008322	-0,004495	-0,000146	5,085-002	0.000+000
160(-0,94)	0,869238	0,647443	0,472187	0,336774	0,252538	0,205661	0,045816	-0,001943	-0,001145	-0,000002	3,381-002	0.000+000
170(-0,98)	0,859416	0,638420	0,464969	0,331952	0,248382	0,212728	0,033009	-0,005600	0,000411	0,000001	1,689-002	0.000+000
177(-1,00)	0,856289	0,635554	0,462701	0,330423	0,247039	0,214826	0,028136	-0,005969	0,000639	0,000004	2,112-003	0.000+000
NUMBER SUM	12,774082	10,105318	8,075161	5,762920	4,525588	3,762351	2,178728	1,558176	1,322837	1,261360		

TOTAL NUMBER= 2,223160

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5,463713

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200,0 FT OR 0,6842 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,072	0,089	0,110	0,137	0.169	0.199	0,247	0,307	0,381	0.474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,995455	0,796714	0,640860	0,439225	0,325014	0,284072	0,220489	0,162594	0,111859	0,098050	4,440-003	1.106+001
10(0,98)	0,996813	0,797975	0,642099	0,440324	0,326280	0,285582	0,220014	0,162743	0,114796	0,099991	3,550-002	8.801+001
20(0,94)	1,000858	0,801716	0,645733	0,443635	0,330133	0,290355	0,218356	0,163148	0,123782	0,106497	7,084-002	1.732+000
30(0,87)	1,006463	0,806827	0,650540	0,448334	0,335768	0,297685	0,215708	0,163911	0,136619	0,118443	1,056-001	2.532+000
40(0,77)	1,011554	0,811208	0,654222	0,452765	0,341540	0,305226	0,212574	0,165119	0,149506	0,137362	1,386-001	3.260+000
50(0,64)	1,012797	0,811372	0,652988	0,453962	0,344416	0,308280	0,208328	0,165546	0,158347	0,162242	1,675-001	3.923+000
60(0,50)	1,006063	0,802890	0,642023	0,447901	0,340280	0,301476	0,200197	0,161721	0,158898	0,181575	1,401-001	3.458+000
69(0,42)	0,998587	0,794205	0,631622	0,441037	0,334472	0,293277	0,193499	0,156728	0,154246	0,181867	9,493-002	2.545+000
70(0,34)	0,988082	0,782277	0,617712	0,431393	0,325992	0,281850	0,184630	0,149085	0,145519	0,172121	9,320-002	2.961+000
79(0,26)	0,974631	0,767243	0,600552	0,419176	0,315139	0,267624	0,173642	0,138779	0,132698	0,151611	8,743-002	3.998+000
80(0,17)	0,958567	0,749539	0,580753	0,404904	0,302573	0,251363	0,160951	0,126264	0,116494	0,122344	7,796-002	8.747+000
89(0,09)	0,940434	0,729836	0,559197	0,389327	0,289209	0,234059	0,147264	0,112395	0,098278	0,088743	6,949-002	1.952+002
90(-0,00)	0,920901	0,708935	0,536879	0,373290	0,276007	0,216754	0,133413	0,098198	0,079709	0,056231	6,479-002	0.000+000
95(-0,09)	0,900665	0,687638	0,514748	0,357577	0,263749	0,200348	0,120143	0,084593	0,062262	0,029372	6,012-002	0.000+000
100(-0,17)	0,880362	0,666642	0,493566	0,342795	0,252886	0,185467	0,107963	0,072183	0,046877	0,010521	5,561-002	0.000+000
109(-0,26)	0,860506	0,646471	0,473840	0,329319	0,243527	0,172413	0,097089	0,061191	0,033906	-0,000409	5,145-002	0.000+000
110(-0,34)	0,841471	0,627466	0,455829	0,317301	0,235544	0,161222	0,087490	0,051543	0,023296	-0,005192	4,759-002	0.000+000
119(-0,42)	0,823502	0,609810	0,439598	0,306727	0,228703	0,151765	0,078990	0,043013	0,014847	-0,006147	4,392-002	0.000+000
120(-0,50)	0,806743	0,593575	0,425090	0,297494	0,222771	0,143855	0,071362	0,035357	0,008377	-0,005259	6,053-002	0.000+000
130(-0,64)	0,777126	0,565357	0,400802	0,282505	0,212953	0,132094	0,057899	0,022044	0,000774	-0,002458	6,683-002	0.000+000
140(-0,77)	0,752865	0,542619	0,382091	0,271340	0,205203	0,125403	0,045810	0,011277	-0,001376	-0,000741	5,324-002	0.000+000
150(-0,87)	0,734000	0,525129	0,368264	0,263258	0,199209	0,123660	0,034387	0,003797	-0,000999	-0,000129	3,981-002	0.000+000
160(-0,94)	0,720530	0,512725	0,358799	0,257758	0,194930	0,125628	0,023782	0,000016	-0,000316	-0,000006	2,648-002	0.000+000
170(-0,98)	0,712449	0,505312	0,353303	0,254548	0,192363	0,128566	0,015572	-0,001102	0,000036	0,000000	1,322-002	0.000+000
177(-1,00)	0,709923	0,502999	0,351617	0,253557	0,191559	0,129784	0,012578	-0,001220	0,000126	-0,000002	1,653-003	0.000+000
NUMBER SUM	11,328482	8,708611	6,640097	4,632335	3,474446	2,741020	1,661018	1,187237	0,981345	0,902824		

TOTAL NUMBER= 1,670860

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 8,661839

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 1,0262 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,913231	0,725849	0,575498	0,383496	0,285293	0,239666	0,187383	0,158523	0,119406	0,104730	3,879-003	1.360+001
10(0,98)	0,913228	0,725784	0,575226	0,383665	0,285566	0,239931	0,187855	0,157023	0,121350	0,106231	3,092-002	1.085+000
20(0,94)	0,912884	0,725238	0,574033	0,383967	0,286152	0,240568	0,188139	0,153239	0,126570	0,111109	6,108-002	2.150+000
30(0,87)	0,911092	0,723097	0,570838	0,383524	0,286128	0,241235	0,186226	0,149094	0,131995	0,119499	8,941-002	3.183+000
40(0,77)	0,905822	0,717273	0,563545	0,380600	0,283794	0,241034	0,181274	0,144882	0,134308	0,131146	1,142-001	4.198+000
50(0,64)	0,894263	0,704814	0,549152	0,372653	0,276534	0,236883	0,172538	0,138634	0,131307	0,141569	1,326-001	5.285+000
60(0,50)	0,873793	0,682970	0,524972	0,357301	0,261897	0,224481	0,158375	0,127074	0,120173	0,136824	1,048-001	5.128+000
65(0,42)	0,859878	0,668228	0,509064	0,346653	0,251737	0,214604	0,148899	0,118510	0,110479	0,123530	6,873-002	4.139+000
70(0,34)	0,843706	0,651220	0,491071	0,334381	0,240182	0,202709	0,138041	0,108178	0,098044	0,102542	6,543-002	5.651+000
75(0,26)	0,825669	0,632439	0,471666	0,321040	0,227926	0,189559	0,126310	0,096626	0,083663	0,076471	6,041-002	1.036+001
80(0,17)	0,806298	0,612524	0,451658	0,307312	0,215798	0,176081	0,114399	0,084686	0,068674	0,049834	5,510-002	4.433+001
85(0,09)	0,786176	0,592145	0,431835	0,293857	0,204604	0,163138	0,102993	0,073224	0,054516	0,027379	5,126-002	7.293+003
90(-0,00)	0,765854	0,571898	0,412823	0,281182	0,194947	0,151328	0,092573	0,062854	0,042215	0,012137	4,813-002	0.000+000
95(-0,09)	0,745788	0,552231	0,394998	0,269561	0,187086	0,140898	0,083308	0,053786	0,032091	0,004348	4,522-002	0.000+000
100(-0,17)	0,726322	0,533429	0,378499	0,259049	0,180907	0,131778	0,075090	0,045867	0,023867	0,001891	4,244-002	0.000+000
105(-0,26)	0,707695	0,515651	0,363301	0,249559	0,176019	0,123725	0,067666	0,038780	0,017061	0,001810	3,972-002	0.000+000
110(-0,34)	0,690075	0,498982	0,349317	0,240958	0,171948	0,116474	0,060794	0,032252	0,011354	0,001863	3,697-002	0.000+000
115(-0,42)	0,673593	0,483485	0,336481	0,233147	0,168321	0,109849	0,054329	0,026170	0,006728	0,001213	3,418-002	0.000+000
120(-0,50)	0,658354	0,469220	0,324781	0,226089	0,164954	0,103777	0,048230	0,020565	0,003319	0,000124	4,710-002	0.000+000
130(-0,64)	0,631896	0,444597	0,304904	0,214287	0,158964	0,093280	0,037167	0,011180	0,000131	-0,001207	5,196-002	0.000+000
140(-0,77)	0,610955	0,425275	0,289794	0,205617	0,154212	0,085135	0,027521	0,004760	-0,000179	-0,000784	4,140-002	0.000+000
150(-0,87)	0,595280	0,410940	0,279044	0,199739	0,150699	0,079885	0,019052	0,001430	-0,000143	-0,000190	3,098-002	0.000+000
160(-0,94)	0,584421	0,401075	0,271957	0,196030	0,148300	0,078007	0,011956	0,000302	-0,000218	-0,000012	2,064-002	0.000+000
170(-0,98)	0,578021	0,395283	0,267942	0,193968	0,146920	0,078441	0,007025	-0,000054	-0,000088	0,000001	1,032-002	0.000+000
177(-1,00)	0,576036	0,393489	0,266723	0,193343	0,146502	0,078924	0,005345	-0,000192	0,000021	-0,000003	1,290-003	0.000+000
NUMBER SUM	9,598430	7,206616	5,309916	3,637485	2,643867	2,011790	1,260846	0,900599	0,726938	0,646329		

TOTAL NUMBER= 1,288157

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 12,272749

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400,0 FT OR 1,3683 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,072	0,089	0,110	0,137	0,169	0,199	0,247	0,307	0,381	0,474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,798087	0,629317	0,490815	0,321272	0,239493	0,197339	0,155979	0,141341	0,112864	0,099427	3,272-003	1.616+001
10(0,98)	0,796989	0,628244	0,489613	0,320792	0,239116	0,196966	0,156540	0,139299	0,113833	0,100318	2,601-002	1.291+000
20(0,94)	0,793238	0,624561	0,485539	0,319078	0,237655	0,195444	0,156890	0,134051	0,115913	0,103071	5,091-002	2.579+000
30(0,87)	0,786124	0,617523	0,477900	0,315486	0,234389	0,192511	0,154576	0,127893	0,116309	0,107345	7,340-002	3.878+000
40(0,77)	0,774238	0,605644	0,465240	0,308689	0,228036	0,186094	0,148530	0,121100	0,112625	0,112261	9,171-002	5.267+000
50(0,64)	0,755755	0,586967	0,445613	0,296908	0,216762	0,180536	0,138252	0,111883	0,104073	0,113317	1,033-001	7.015+000
60(0,50)	0,729375	0,560125	0,417816	0,278950	0,199319	0,166848	0,122916	0,097871	0,089102	0,098700	7,885-002	7.647+000
65(0,42)	0,713323	0,543809	0,401219	0,267885	0,188667	0,157447	0,113388	0,088736	0,078571	0,082056	5,083-002	6.877+000
70(0,34)	0,695744	0,526040	0,383495	0,255963	0,177426	0,146891	0,103052	0,078539	0,066335	0,060170	4,784-002	1.123+001
75(0,26)	0,677103	0,507379	0,365369	0,243787	0,166322	0,135946	0,092514	0,067957	0,053389	0,036527	4,425-002	2.845+001
80(0,17)	0,657930	0,488442	0,347587	0,231979	0,156083	0,125435	0,082456	0,057825	0,041098	0,015824	4,098-002	2.364+002
85(0,09)	0,638729	0,469782	0,330754	0,221037	0,147292	0,115991	0,073416	0,048842	0,030665	0,001976	3,853-002	2.777+005
90(-0,00)	0,619915	0,451811	0,315220	0,211224	0,140262	0,107893	0,065628	0,041318	0,022626	-0,003722	3,642-002	0.000+000
95(-0,09)	0,601781	0,434759	0,301060	0,202549	0,134980	0,101049	0,058976	0,035107	0,016717	-0,003052	3,444-002	0.000+000
100(-0,17)	0,584506	0,418713	0,288144	0,194840	0,131126	0,095114	0,053118	0,029774	0,012198	0,000366	3,253-002	0.000+000
105(-0,26)	0,568200	0,403679	0,276263	0,187859	0,128204	0,089689	0,047681	0,024870	0,008378	0,003142	3,061-002	0.000+000
110(-0,34)	0,552945	0,389659	0,265254	0,181424	0,125734	0,084496	0,042428	0,020155	0,004993	0,003644	2,854-002	0.000+000
115(-0,42)	0,538823	0,376686	0,255060	0,175463	0,123412	0,079442	0,037304	0,015644	0,002203	0,002183	2,636-002	0.000+000
120(-0,50)	0,525915	0,364828	0,245726	0,170008	0,121158	0,074577	0,032388	0,011506	0,000301	0,000076	3,628-002	0.000+000
130(-0,64)	0,503969	0,344708	0,230011	0,160942	0,117192	0,065726	0,023558	0,005030	-0,000739	-0,002037	4,005-002	0.000+000
140(-0,77)	0,487149	0,329416	0,218473	0,154599	0,114411	0,058181	0,016189	0,001378	-0,000225	-0,001199	3,196-002	0.000+000
150(-0,87)	0,474913	0,318412	0,210612	0,150624	0,112655	0,052284	0,010114	0,000161	-0,000233	-0,000272	2,397-002	0.000+000
160(-0,94)	0,466580	0,310981	0,205593	0,148297	0,111585	0,048997	0,005533	0,000050	-0,000372	-0,000016	1,600-002	0.000+000
170(-0,98)	0,461700	0,306649	0,202794	0,147056	0,111026	0,048197	0,002805	-0,000228	-0,000119	0,000001	8,007-003	0.000+000
177(-1,00)	0,460188	0,305309	0,201949	0,146683	0,110868	0,048251	0,001986	-0,000477	-0,000063	0,000003	1,001-003	0.000+000
NUMBER SUM	7,888808	5,809487	4,168754	2,814081	1,999986	1,484146	0,953603	0,680516	0,537722	0,462834		

TOTAL NUMBER= 0,996074

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 16,361614

LOWER ENERGY CUTOFF 0,0422MEV

AT SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,500 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 1,7104 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0,872	0,689	0,110	0,137	0.169	0.199	0,247	0,307	0,381	0.474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,672744	0,526704	0,404508	0,261830	0,195398	0,159611	0,127613	0,120452	0,099782	0,088485	2,689-003	1.870+001
10(0,98)	0,670980	0,525047	0,402872	0,260999	0,194685	0,158968	0,128092	0,118262	0,100070	0,088812	2,133-002	1.499+000
20(0,94)	0,665243	0,519633	0,397536	0,258254	0,192220	0,156478	0,128150	0,112624	0,100128	0,089665	4,142-002	3.019+000
30(0,87)	0,655316	0,510183	0,388218	0,253265	0,187561	0,151890	0,125387	0,105896	0,097644	0,090556	5,896-002	4.624+000
40(0,77)	0,640500	0,495896	0,374092	0,245167	0,179899	0,145726	0,118990	0,098341	0,091044	0,090847	7,237-002	6.497+000
50(0,64)	0,619816	0,475645	0,353976	0,232775	0,167994	0,137317	0,108849	0,088524	0,080672	0,087446	7,986-002	9.230+000
60(0,50)	0.592739	0,448827	0,327365	0,215472	0,151152	0,124417	0,094548	0,074795	0,065799	0,070884	5,964-002	1.146+001
69(0,42)	0,577069	0,433283	0,312136	0,205337	0,141398	0,116136	0,085980	0,066335	0,056139	0,054934	3,812-002	1.159+001
70(0,34)	0,560393	0,416821	0,296317	0,194768	0,131479	0,107189	0,076934	0,057227	0,045351	0,035176	3,572-002	2.281+001
79(0,26)	0,543155	0,399972	0,280593	0,184335	0,122075	0,098301	0,068008	0,048149	0,034435	0,015198	3,310-002	7.982+001
80(0,17)	0,525825	0,383278	0,265612	0,174582	0,113795	0,090189	0,059825	0,039878	0,024689	-0,000493	3,090-002	1.278+003
89(0,09)	0,508821	0,367181	0,251832	0,165881	0,107047	0,083323	0,052813	0,032980	0,017128	-0,008615	2,921-002	1.066+007
90(-0,00)	0,492448	0,351957	0,239429	0,158345	0,101957	0,077781	0,047049	0,027575	0,011986	-0,008894	2,771-002	0.000+000
99(-0,09)	0,476890	0,337707	0,228306	0,151837	0,098360	0,073271	0,042261	0,023323	0,008669	-0,004168	2,630-002	0.000+000
100(-0,17)	0,462234	0,324411	0,218204	0,146075	0,095847	0,069311	0,038000	0,019655	0,006208	0,001317	2,495-002	0.000+000
109(-0,26)	0,448529	0,312015	0,208852	0,140778	0,093914	0,065457	0,033869	0,016104	0,003875	0,004279	2,352-002	0.000+000
110(-0,34)	0,435823	0,300501	0,200092	0,135779	0,092138	0,061481	0,029687	0,012510	0,001537	0,003818	2,188-002	0.000+000
119(-0,42)	0,424187	0,289915	0,191920	0,131066	0,090318	0,057400	0,025500	0,009007	-0,000451	0,001167	2,015-002	0.000+000
120(-0,50)	0,413698	0,280344	0,184452	0,126742	0,088495	0,053381	0,021476	0,005861	-0,001664	-0,001689	2,774-002	0.000+000
130(-0,64)	0,396333	0,264525	0,172179	0,119768	0,085504	0,046090	0,014482	0,001392	-0,001618	-0,003559	3,064-002	0.000+000
140(-0,77)	0,383559	0,253040	0,163704	0,115320	0,083932	0,039757	0,008989	-0,000506	-0,000661	-0,001742	2,451-002	0.000+000
150(-0,87)	0,374565	0,245097	0,158316	0,112889	0,083344	0,034305	0,004730	-0,000588	-0,000622	-0,000359	1,845-002	0.000+000
160(-0,94)	0,368523	0,239828	0,155032	0,111641	0,083172	0,030801	0,001891	-0,000329	-0,000613	-0,000020	1,235-002	0.000+000
170(-0,98)	0,364980	0,236757	0,153233	0,111010	0,083164	0,029634	0,000616	-0,000780	-0,000121	0,000002	6,189-003	0.000+000
177(-1,00)	0,363877	0,235803	0,152692	0,110819	0,083181	0,029540	0,000359	-0,001180	0,000157	-0,000003	7,745-004	0.000+000
NUMBER SUM	6,344888	4,597581	3,232070	2,156460	1,507092	1,098421	0,718992	0,512455	0,397218	0,331545		

TOTAL NUMBER= 0,768471

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 20,944438

LOWER ENERGY CUTOFF 0,0422MEV

LOWEST SINGLE SCATTERING ENERGY 0,1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.500 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.4208 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.072	0.089	0.110	0.137	0.169	0.199	0.247	0.307	0.381	0.474	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.195688	0.152839	0.116040	0.076359	0.058447	0.047950	0.039542	0.046347	0.034193	0.032338	7.949-004	3.063-001
10(0.98)	0.194529	0.151868	0.115455	0.076012	0.058211	0.047973	0.040867	0.043722	0.034522	0.031650	6.259-003	2.498+000
20(0.94)	0.191288	0.149169	0.113859	0.075196	0.057476	0.046848	0.042548	0.038088	0.035003	0.029417	1.191-002	5.359+000
30(0.87)	0.187155	0.145756	0.111840	0.074415	0.056427	0.043817	0.041352	0.033777	0.033252	0.026387	1.654-002	9.348+000
40(0.77)	0.182899	0.142157	0.109343	0.073413	0.054979	0.041342	0.038119	0.031179	0.028764	0.026373	2.006-002	1.680+001
50(0.64)	0.177858	0.137324	0.104577	0.070552	0.051394	0.039922	0.034257	0.028561	0.025303	0.032878	2.252-002	3.724+001
60(0.50)	0.170184	0.129035	0.094843	0.063548	0.042963	0.034830	0.028243	0.023472	0.021693	0.032844	1.704-002	1.002+002
65(0.42)	0.165002	0.123273	0.088017	0.058387	0.037125	0.030020	0.023856	0.019203	0.017405	0.022679	1.058-002	1.840+002
70(0.34)	0.159070	0.116723	0.080539	0.052682	0.031143	0.024436	0.018899	0.014027	0.011139	0.005778	9.222-003	8.745+002
75(0.26)	0.152709	0.109863	0.073222	0.047164	0.025938	0.019242	0.014171	0.008861	0.004277	-0.012384	8.024-003	1.434+004
80(0.17)	0.146293	0.103200	0.066822	0.042522	0.022208	0.015537	0.010562	0.004874	-0.001048	-0.024067	7.304-003	5.725+006
85(0.09)	0.140129	0.097088	0.061741	0.039119	0.020226	0.013850	0.008578	0.002819	-0.003297	-0.023989	6.887-003	8.378+014
90(-0.00)	0.134374	0.091622	0.057877	0.036835	0.019791	0.013887	0.008026	0.002536	-0.002623	-0.013162	6.649-003	0.000+000
95(-0.09)	0.129049	0.086666	0.054708	0.035146	0.020314	0.014679	0.008093	0.003013	-0.000807	0.001382	6.606-003	0.000+000
100(-0.17)	0.124115	0.082001	0.051579	0.033407	0.020967	0.015075	0.007800	0.003016	-0.000019	0.011117	6.659-003	0.000+000
105(-0.26)	0.119584	0.077508	0.048040	0.031168	0.020951	0.014297	0.006528	0.001835	-0.001545	0.011390	6.203-003	0.000+000
110(-0.34)	0.115570	0.073263	0.044048	0.028378	0.019829	0.012265	0.004294	-0.000382	-0.004200	0.003677	5.401-003	0.000+000
115(-0.42)	0.112276	0.069527	0.039958	0.025365	0.017730	0.009533	0.001618	-0.002888	-0.006977	-0.006497	4.789-003	0.000+000
120(-0.50)	0.109907	0.066618	0.036324	0.022637	0.015268	0.006906	-0.000853	-0.004894	-0.008276	-0.013720	6.475-003	0.000+000
130(-0.64)	0.108227	0.063988	0.032164	0.019601	0.011975	0.003843	-0.003849	-0.006179	-0.006135	-0.013237	7.191-003	0.000+000
140(-0.77)	0.109646	0.064925	0.032381	0.020096	0.012188	0.002489	-0.004922	-0.004822	-0.003470	-0.004947	6.053-003	0.000+000
150(-0.87)	0.111988	0.067154	0.034704	0.022341	0.014024	0.000401	-0.005475	-0.002728	-0.003138	-0.000797	4.855-003	0.000+000
160(-0.94)	0.113702	0.068918	0.036966	0.024460	0.015795	-0.000855	-0.005017	-0.002202	-0.002122	-0.000026	3.420-003	0.000+000
170(-0.98)	0.114494	0.069796	0.038352	0.025659	0.017001	0.000098	-0.003173	-0.004255	-0.000079	0.000003	1.768-003	0.000+000
177(-1.00)	0.114680	0.070019	0.038769	0.025986	0.017410	0.000934	-0.002085	-0.005687	0.000815	-0.000006	2.238-004	0.000+000
NUMBER SUM	1.780966	1.244074	0.829400	0.541908	0.358968	0.245265	0.169271	0.119225	0.085784	0.062909		

TOTAL NUMBER= 0.203430

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 52.862456

LOWER ENERGY CUTOFF 0.0422MEV

LOWEST SINGLE SCATTERING ENERGY 0.1691MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0095 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,069	0,087	0,111	0,141	0,179	0,215	0,274	0,348	0,444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,897580	0,694231	0,502135	0,402914	0,271140	0,294697	0,225063	0,024679	0,000026	0.002013	4,732-003	5.997-002
10(0,98)	0,899104	0,696485	0,506617	0,405252	0,274321	0,301564	0,234237	0,036523	0,000076	0.002062	3,808-002	4.758-001
20(0,94)	0,904776	0,704488	0,522041	0,413380	0,285421	0,322773	0,190736	0,065557	0,004752	0.002254	7,786-002	9.287+001
30(0,87)	0,916985	0,720574	0,551225	0,429367	0,306628	0,351715	0,174802	0,094485	0,024913	0.002990	1,218-001	1.340+000
40(0,77)	0,939495	0,748490	0,597871	0,456585	0,341149	0,378307	0,175764	0,117772	0,066042	0.009120	1,739-001	1.695+000
50(0,64)	0,975168	0,790786	0,662198	0,496826	0,391368	0,401056	0,194284	0,143557	0,121501	0.044731	2,416-001	1.981+000
60(0,50)	1,021736	0,843746	0,735092	0,545134	0,452767	0,425678	0,226760	0,179960	0,184624	0.156448	2,527-001	1.618+000
65(0,42)	1,046136	0,870283	0,768532	0,567729	0,482439	0,437470	0,244603	0,200589	0,217043	0.244407	1,998-001	1.085+000
70(0,34)	1,068821	0,893688	0,795571	0,585620	0,507097	0,445651	0,259843	0,219136	0,246014	0.337601	2,383-001	1.053+000
75(0,26)	1,087859	0,911534	0,813084	0,596014	0,523438	0,446928	0,269133	0,231554	0,265860	0.411347	2,889-001	9.749-001
80(0,17)	1,101719	0,921989	0,818899	0,596899	0,528951	0,438608	0,269692	0,234150	0,270579	0.439565	3,710-001	8.551-001
85(0,09)	1,109617	0,924287	0,812406	0,587676	0,522468	0,419655	0,260321	0,225076	0,256699	0.406917	5,815-001	7.103-001
90(-0,00)	1,111685	0,918944	0,794805	0,569445	0,504491	0,391238	0,242007	0,205308	0,225494	0.317900	1,252-001	0.000+000
95(-0,09)	1,108891	0,907629	0,768889	0,544812	0,477254	0,356533	0,217736	0,178493	0,182981	0.196638	1,115-001	0.000+000
100(-0,17)	1,102747	0,892717	0,738388	0,517242	0,444399	0,319844	0,191545	0,149634	0,137494	0.076563	9,643-002	0.000+000
105(-0,26)	1,094883	0,876681	0,707107	0,490193	0,410206	0,285415	0,167221	0,123267	0,096260	-0.014140	8,394-002	0.000+000
110(-0,34)	1,086665	0,861528	0,678145	0,466349	0,378532	0,256421	0,147244	0,102043	0,063007	-0.062908	7,482-002	0.000+000
115(-0,42)	1,078943	0,848465	0,653427	0,447182	0,351910	0,234531	0,132385	0,086322	0,037814	-0.075957	6,773-002	0.000+000
120(-0,50)	1,072014	0,837849	0,633645	0,432943	0,331193	0,220081	0,121994	0,074732	0,018806	-0.061555	9,275-002	0.000+000
130(-0,64)	1,059765	0,822428	0,607145	0,416114	0,304713	0,211518	0,108887	0,055780	-0,006549	-0.022632	1,032-001	0.000+000
140(-0,77)	1,047443	0,810533	0,591629	0,407269	0,290108	0,225297	0,097601	0,033586	-0,015346	-0.003907	8,329-002	0.000+000
150(-0,87)	1,034216	0,799241	0,580675	0,400224	0,280693	0,252142	0,082801	0,009143	-0,009857	-0.000239	6,279-002	0.000+000
160(-0,94)	1,021873	0,789019	0,571982	0,393785	0,273846	0,277046	0,063419	-0,007866	-0,001928	0.000007	4,191-002	0.000+000
170(-0,98)	1,013118	0,781804	0,566065	0,389254	0,269224	0,290083	0,044205	-0,012679	0,001183	-0.000001	2,102-002	0.000+000
177(-1,00)	1,010165	0,779371	0,564091	0,387766	0,267641	0,293089	0,036306	-0,012353	0,001464	-0.000001	2,639-003	0.000+000
NUMBER SUM	13,138038	10,552134	8,551989	6,154433	4,950009	4,214428	2,258899	1,575086	1,348605	1.311920		

TOTAL NUMBER= 4.178126

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 2.040153

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0,1584 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.869	0,087	0,111	0,141	0.179	0.215	0,274	0,348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,964104	0,752688	0,562586	0,421606	0,289828	0,286035	0,217518	0,067914	0,031425	0,028700	4,809-003	7.076-002
10(0,98)	0,966223	0,755125	0,566561	0,423823	0,292541	0,291004	0,210726	0,075532	0,032847	0,029504	3,866-002	5.620-001
20(0,94)	0,973347	0,763271	0,579718	0,431192	0,301705	0,306512	0,195788	0,094304	0,040151	0,032305	7,857-002	1.098+000
30(0,87)	0,986329	0,777984	0,602926	0,444511	0,318278	0,328392	0,185340	0,113512	0,059266	0,038035	1,215-001	1.585+000
40(0,77)	1,006367	0,800455	0,636929	0,464953	0,343386	0,349388	0,185523	0,129875	0,091857	0,050989	1,691-001	2.001+000
50(0,64)	1,033395	0,830371	0,679539	0,492029	0,376904	0,366105	0,196475	0,147823	0,131905	0,086250	2,252-001	2.327+000
60(0,50)	1,063777	0,863114	0,722568	0,520620	0,413981	0,379313	0,214494	0,170502	0,173173	0,166858	2,198-001	1.896+000
65(0,42)	1,077796	0,877510	0,739826	0,532139	0,430141	0,383370	0,223308	0,181888	0,192088	0,222364	1,656-001	1.280+000
70(0,34)	1,089352	0,888498	0,751479	0,539479	0,442010	0,383771	0,229532	0,190743	0,206942	0,275966	1,853-001	1.266+000
75(0,26)	1,097274	0,894651	0,755758	0,541054	0,447741	0,378747	0,231154	0,194600	0,214234	0,312175	2,039-001	1.223+000
80(0,17)	1,100751	0,895041	0,751640	0,535900	0,446144	0,367044	0,226685	0,191446	0,210865	0,316235	2,165-001	1.177+000
85(0,09)	1,099525	0,889492	0,739162	0,524012	0,436957	0,348505	0,215742	0,180583	0,194817	0,281297	1,947-001	1.314+000
90(-0,00)	1,093949	0,878664	0,719507	0,506450	0,420935	0,324319	0,199315	0,163097	0,168310	0,213058	1,060-001	0.000+000
95(-0,09)	1,084903	0,863911	0,694794	0,485147	0,399775	0,296804	0,179555	0,141621	0,135499	0,128494	9,539-002	0.000+000
100(-0,17)	1,073569	0,846965	0,667623	0,462460	0,375842	0,268817	0,159116	0,119434	0,101841	0,048833	8,420-002	0.000+000
105(-0,26)	1,061159	0,829541	0,640524	0,440627	0,351714	0,243015	0,140354	0,099332	0,071796	-0,009297	7,478-002	0.000+000
110(-0,34)	1,048665	0,812992	0,615488	0,421313	0,329607	0,221284	0,124717	0,082831	0,047923	-0,039568	6,750-002	0.000+000
115(-0,42)	1,036723	0,798126	0,593714	0,405383	0,310909	0,204527	0,112563	0,070010	0,028947	-0,045883	6,151-002	0.000+000
120(-0,50)	1,025597	0,785195	0,575601	0,392929	0,296017	0,192828	0,103386	0,059921	0,014869	-0,037803	8,442-002	0.000+000
130(-0,64)	1,005567	0,764279	0,549146	0,376333	0,275739	0,183116	0,090169	0,042827	-0,003451	-0,013704	9,371-002	0.000+000
140(-0,77)	0,987462	0,747492	0,531564	0,366029	0,263180	0,188773	0,078382	0,024745	-0,009492	-0,002354	7,525-002	0.000+000
150(-0,87)	0,971037	0,733168	0,518759	0,358122	0,254442	0,204531	0,064550	0,006919	-0,006034	-0,000147	5,655-002	0.000+000
160(-0,94)	0,957519	0,721643	0,509199	0,351742	0,248092	0,221027	0,048080	-0,004621	-0,001149	0,000004	3,769-002	0.000+000
170(-0,98)	0,948591	0,714088	0,503088	0,347548	0,243973	0,230845	0,032625	-0,007691	0,000718	-0,000001	1,887-002	0.000+000
177(-1,00)	0,945671	0,711623	0,501111	0,346197	0,242602	0,233461	0,026416	-0,007440	0,000879	-0,000002	2,362-003	0.000+000
NUMBER SUM	13,076925	10,307858	8,083744	5,713808	4,437628	3,656986	2,013627	1,402413	1,184798	1,134050		

TOTAL NUMBER= 2.675316

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.774000

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.3169 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	1.000710	0.782970	0.595172	0.425018	0.296099	0.273189	0.207610	0.097786	0.055435	0.049043	4.771-003	8.225-002
10(0.98)	1.002843	0.785165	0.598372	0.426907	0.298254	0.276629	0.203684	0.102234	0.057578	0.050300	3.828-002	6.536-001
20(0.94)	1.009686	0.792224	0.608611	0.432968	0.305318	0.287448	0.194812	0.113249	0.065870	0.054620	7.733-002	1.279+000
30(0.87)	1.021057	0.804001	0.625482	0.443139	0.317402	0.303141	0.188101	0.124854	0.082742	0.063080	1.179-001	1.850+000
40(0.77)	1.036458	0.820005	0.647866	0.457143	0.334267	0.318615	0.187249	0.135286	0.107577	0.079059	1.609-001	2.342+000
50(0.64)	1.054067	0.838236	0.672332	0.473166	0.354314	0.329650	0.192015	0.146370	0.134497	0.110714	2.067-001	2.733+000
60(0.50)	1.069793	0.853980	0.691994	0.486470	0.372978	0.334054	0.198977	0.158090	0.158241	0.169128	1.902-001	2.252+000
65(0.42)	1.075079	0.858708	0.697082	0.489797	0.379319	0.332684	0.201165	0.162536	0.167350	0.196200	1.374-001	1.545+000
70(0.34)	1.077592	0.860089	0.697452	0.489577	0.382114	0.327911	0.200972	0.164384	0.172039	0.221377	1.457-001	1.581+000
75(0.26)	1.076728	0.857420	0.692300	0.485074	0.380623	0.319009	0.197344	0.162312	0.170708	0.231925	1.486-001	1.644+000
80(0.17)	1.072192	0.850401	0.681375	0.476027	0.374457	0.305673	0.189683	0.155466	0.161931	0.220948	1.400-001	1.894+000
85(0.09)	1.064077	0.839237	0.665105	0.462784	0.363920	0.288274	0.178112	0.143874	0.145621	0.187065	1.093-001	4.542+000
90(-0.00)	1.052863	0.824634	0.644577	0.446300	0.349850	0.267913	0.163541	0.128596	0.123444	0.136103	8.963-002	0.000+000
95(-0.09)	1.039323	0.807671	0.621356	0.427959	0.333485	0.246721	0.147453	0.111453	0.098430	0.079389	8.155-002	0.000+000
100(-0.17)	1.024375	0.789578	0.597186	0.409287	0.316260	0.224963	0.131485	0.094454	0.073916	0.029288	7.327-002	0.000+000
105(-0.26)	1.008899	0.771504	0.573650	0.391647	0.299563	0.205728	0.116973	0.079166	0.052411	-0.005607	6.618-002	0.000+000
110(-0.34)	0.993607	0.754325	0.551955	0.375964	0.284485	0.189451	0.104656	0.066336	0.035007	-0.023019	6.034-002	0.000+000
115(-0.42)	0.978964	0.738557	0.532784	0.362706	0.271639	0.176554	0.094632	0.055886	0.021256	-0.026284	5.528-002	0.000+000
120(-0.50)	0.965200	0.724377	0.516343	0.351867	0.261179	0.166980	0.086521	0.047196	0.011347	-0.021428	7.603-002	0.000+000
130(-0.64)	0.940414	0.700376	0.490830	0.336088	0.245825	0.156726	0.073665	0.032168	-0.001209	-0.007722	8.421-002	0.000+000
140(-0.77)	0.918976	0.680905	0.472600	0.325331	0.235342	0.156746	0.062012	0.017728	-0.005453	-0.001464	6.739-002	0.000+000
150(-0.87)	0.900951	0.665092	0.459177	0.317281	0.227642	0.164436	0.049430	0.005077	-0.003422	-0.000098	5.052-002	0.000+000
160(-0.94)	0.887096	0.653129	0.449507	0.311278	0.222056	0.174429	0.039653	-0.002430	-0.000641	0.000002	3.364-002	0.000+000
170(-0.98)	0.878344	0.645624	0.443563	0.307525	0.218540	0.181399	0.033516	-0.004296	0.000398	-0.000001	1.682-002	0.000+000
177(-1.00)	0.875540	0.643226	0.441679	0.306335	0.217396	0.183521	0.031758	-0.004129	0.000489	-0.000002	2.104-003	0.000+000
NUMBER SUM	12.722570	9.854517	7.514346	5.225199	3.937615	3.151222	2.779479	1.238003	1.031982	0.971211		

TOTAL NUMBER= 2.234056

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5.137524

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.6337 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.995782	0.774789	0.594625	0.399668	0.282144	0.241112	0.184262	0.124453	0.082191	0.071631	4.440-003	1.051-001
10(0.98)	0.997014	0.775912	0.596127	0.400686	0.283229	0.242546	0.183312	0.125241	0.084476	0.073104	3.551-002	8.364-001
20(0.94)	1.000660	0.779233	0.600535	0.403721	0.286544	0.247053	0.180682	0.127179	0.091751	0.078056	7.095-002	1.644+000
30(0.87)	1.005655	0.783741	0.606425	0.407959	0.291424	0.253772	0.177492	0.129355	0.102894	0.087229	1.060-001	2.398+000
40(0.77)	1.010115	0.787574	0.611319	0.411912	0.296499	0.260255	0.174573	0.131473	0.115075	0.102090	1.397-001	3.070+000
50(0.64)	1.011165	0.787773	0.611536	0.413058	0.299355	0.262488	0.171353	0.132772	0.124533	0.122756	1.698-001	3.677+000
60(0.50)	1.005368	0.780708	0.602894	0.408098	0.296727	0.255593	0.165429	0.130762	0.127292	0.141690	1.433-001	3.199+000
65(0.42)	0.998977	0.773475	0.594226	0.402425	0.292536	0.249874	0.160448	0.127351	0.124696	0.144773	9.769-002	2.324+000
70(0.34)	0.990002	0.763528	0.582473	0.394422	0.286171	0.241623	0.153727	0.121816	0.118741	0.140073	9.650-002	2.645+000
75(0.26)	0.978480	0.750949	0.567819	0.384222	0.277904	0.229126	0.145238	0.114069	0.109287	0.126308	9.091-002	3.421+000
80(0.17)	0.964645	0.736053	0.550724	0.372200	0.268158	0.215908	0.135237	0.104382	0.096759	0.104381	8.073-002	6.775+000
85(0.09)	0.948908	0.719350	0.531871	0.358927	0.257564	0.201687	0.124230	0.093362	0.082156	0.077455	7.079-002	1.115+002
90(-0.00)	0.931798	0.701477	0.512069	0.345081	0.246894	0.187257	0.112868	0.081811	0.065619	0.050017	6.580-002	0.000+000
95(-0.09)	0.913891	0.683100	0.492136	0.331329	0.236698	0.173362	0.101785	0.070515	0.052066	0.026335	6.091-002	0.000+000
100(-0.17)	0.895737	0.664830	0.472791	0.318232	0.227403	0.160572	0.091473	0.060058	0.038859	0.009087	5.617-002	0.000+000
105(-0.26)	0.877811	0.647156	0.454579	0.306179	0.219183	0.149228	0.082193	0.050729	0.027678	-0.001183	5.185-002	0.000+000
110(-0.34)	0.860478	0.630421	0.437845	0.295372	0.212034	0.139448	0.073993	0.042546	0.018593	-0.005675	4.790-002	0.000+000
115(-0.42)	0.843995	0.614826	0.422750	0.285858	0.205849	0.131185	0.066762	0.035349	0.011465	-0.006396	4.419-002	0.000+000
120(-0.50)	0.828526	0.600461	0.409316	0.277577	0.200481	0.124315	0.060312	0.028928	0.006110	-0.005274	6.091-002	0.000+000
130(-0.64)	0.800965	0.575456	0.387094	0.264236	0.191639	0.114263	0.048966	0.017787	0.000019	-0.002211	6 730-002	0.000+000
140(-0.77)	0.778154	0.555233	0.370228	0.254387	0.184681	0.108793	0.038681	0.008767	-0.001469	-0.000575	5.367-002	0.000+000
150(-0.87)	0.760245	0.539584	0.357811	0.247290	0.179283	0.107728	0.028765	0.002580	-0.000898	-0.000086	4.016-002	0.000+000
160(-0.94)	0.747356	0.528415	0.349245	0.242463	0.175407	0.109878	0.019378	-0.000371	-0.000209	-0.000003	2.673-002	0.000+000
170(-0.98)	0.739583	0.521711	0.344207	0.239638	0.173068	0.112740	0.012024	-0.001046	0.000080	-0.000000	1.335-002	0.000+000
177(-1.00)	0.737148	0.519615	0.342646	0.238763	0.172332	0.113900	0.009331	-0.001034	0.000135	-0.000002	1.669-003	0.000+000
NUMBER SUM	11.470542	8.625352	6.303555	4.268046	3.075476	2.352586	1.384607	0.961567	0.782210	0.712347		

TOTAL NUMBER= 1.097010

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7.975267

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.9500 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.923912	0.711889	0.544405	0.352593	0.250243	0.206095	0.159102	0.125812	0.090324	0.078467	3,929-003	1.277*001
10(0.98)	0.923947	0.711858	0.544495	0.352812	0.250494	0.206415	0.159191	0.124983	0.092016	0.079685	3,134-002	1.018*000
20(0.94)	0.923719	0.711432	0.544336	0.353252	0.251155	0.207122	0.159674	0.122797	0.096844	0.083674	6,201-002	2.014*000
30(0.87)	0.922134	0.709555	0.542514	0.353026	0.251135	0.208518	0.160367	0.120269	0.102624	0.090647	9,104-002	2.970*000
40(0.77)	0.917301	0.704352	0.536701	0.350574	0.249306	0.208955	0.161900	0.117568	0.106438	0.100692	1,168-001	3.889*000
50(0.64)	0.906788	0.693344	0.524133	0.343784	0.243507	0.205761	0.161722	0.113220	0.105900	0.110867	1,364-001	4.835*000
60(0.50)	0.888447	0.674371	0.502797	0.330797	0.231946	0.196551	0.155450	0.104639	0.098513	0.110505	1,087-001	4.573*000
65(0.42)	0.876067	0.661677	0.488811	0.321839	0.223969	0.187447	0.145955	0.098122	0.091398	0.101903	7,160-002	3.605*000
70(0.34)	0.861691	0.647059	0.472987	0.311507	0.214889	0.177692	0.137343	0.090157	0.081958	0.086894	6,836-002	4.733*000
75(0.26)	0.845514	0.630884	0.455637	0.300215	0.205203	0.168855	0.129763	0.081121	0.070746	0.067142	6,304-002	8.071*000
80(0.17)	0.828244	0.613651	0.437982	0.288475	0.195510	0.159616	0.122507	0.071609	0.058740	0.045961	5,709-002	2.971*001
85(0.09)	0.810042	0.595672	0.420043	0.276802	0.186409	0.150625	0.115886	0.062269	0.047060	0.027134	5,281-002	3.156*003
90(-0.00)	0.791466	0.577042	0.402357	0.265621	0.178379	0.134374	0.110096	0.053607	0.036986	0.013386	4,952-002	0.000*000
95(-0.09)	0.772934	0.558961	0.385923	0.255202	0.171666	0.125124	0.104131	0.045864	0.027722	0.005407	4,642-002	0.000*000
100(-0.17)	0.754775	0.541718	0.370364	0.245665	0.166248	0.116916	0.099985	0.039017	0.020416	0.001981	4,347-002	0.000*000
105(-0.26)	0.737247	0.525699	0.355977	0.237008	0.161884	0.109644	0.096525	0.032890	0.014405	0.001019	4,062-002	0.000*000
110(-0.34)	0.720546	0.510619	0.342783	0.229167	0.158241	0.103147	0.093589	0.027298	0.009475	0.000745	3,778-002	0.000*000
115(-0.42)	0.704818	0.496552	0.330756	0.222074	0.155030	0.097293	0.091052	0.022136	0.005573	0.000313	3,494-002	0.000*000
120(-0.50)	0.690177	0.483553	0.319874	0.215682	0.152077	0.092000	0.088850	0.017394	0.002741	-0.000299	4,818-002	0.000*000
130(-0.64)	0.664474	0.462923	0.301468	0.204948	0.146772	0.082985	0.084365	0.009425	0.000068	-0.000949	5,321-002	0.000*000
140(-0.77)	0.643801	0.444894	0.287352	0.196904	0.142369	0.076099	0.080955	0.003950	-0.000251	-0.000544	4,240-002	0.000*000
150(-0.87)	0.628125	0.431631	0.277137	0.191321	0.138970	0.071734	0.078474	0.001124	-0.000182	-0.000122	3,173-002	0.000*000
160(-0.94)	0.617194	0.421926	0.270309	0.187747	0.136597	0.070230	0.077212	0.000156	-0.000152	-0.000007	2,113-002	0.000*000
170(-0.98)	0.611745	0.416596	0.266402	0.185748	0.135221	0.070672	0.076949	-0.000153	-0.000021	0.000001	1,056-002	0.000*000
177(-1.00)	0.608745	0.414684	0.265209	0.185141	0.134802	0.071115	0.076529	-0.000264	0.000059	-0.000001	1,320-003	0.000*000
NUMBER SUM	9,894262	7.261338	5.144163	3,410989	2,383184	1.766300	1,072812	0,743913	0,592154	0.522550		

TOTAL NUMBER= 1.324469

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 11,106052

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.17924EV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.2675 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.817877	0.624109	0.473347	0.299086	0.212770	0.172187	0.134478	0.115488	0.087875	0.076399	3,362-003	1.501+001
10(0.98)	0.816941	0.623305	0.472502	0.298742	0.212476	0.171922	0.134826	0.114018	0.088858	0.077207	2,674-002	1.199+000
20(0.94)	0.813679	0.619452	0.469439	0.297426	0.211308	0.170875	0.134765	0.110136	0.091317	0.079746	5,246-002	2.38/+000
30(0.87)	0.807315	0.613777	0.463109	0.294443	0.208616	0.168933	0.132415	0.105464	0.093058	0.083839	7,589-002	3.569+000
40(0.77)	0.796449	0.603171	0.451792	0.288551	0.203277	0.165857	0.127079	0.100302	0.091715	0.088941	9,526-002	4.79/+000
50(0.64)	0.779458	0.586464	0.433737	0.278274	0.193850	0.159899	0.118405	0.093207	0.086051	0.091630	1,080-001	6.265+000
60(0.50)	0.755315	0.562680	0.408320	0.262767	0.179538	0.149580	0.105734	0.082177	0.074718	0.082265	8,288-002	6.570+000
65(0.42)	0.740664	0.548274	0.393278	0.253283	0.170898	0.140771	0.097929	0.074920	0.066457	0.069970	5,355-002	5.707+000
70(0.34)	0.724609	0.532634	0.377239	0.243062	0.161802	0.131976	0.089468	0.066775	0.056740	0.053093	5,041-002	8.814+000
75(0.26)	0.707516	0.516168	0.360767	0.232574	0.152786	0.122781	0.080796	0.058247	0.046287	0.034229	4,648-002	2.024+001
80(0.17)	0.689813	0.499361	0.344434	0.222295	0.144587	0.113801	0.072418	0.049961	0.036152	0.017074	4,285-002	1.383+002
85(0.09)	0.671917	0.482661	0.328747	0.212617	0.137051	0.105529	0.064746	0.042452	0.027299	0.004892	4,018-002	9.105+004
90(-0.00)	0.654194	0.466421	0.314021	0.203779	0.131052	0.098224	0.057988	0.035996	0.020228	-0.000983	3,791-002	0.000+000
95(-0.09)	0.636921	0.450870	0.300413	0.195837	0.126434	0.091887	0.052110	0.030549	0.014857	-0.001623	3,581-002	0.000+000
100(-0.17)	0.620312	0.436129	0.287914	0.188713	0.123007	0.086532	0.046903	0.025839	0.010717	0.000331	3,379-002	0.000+000
105(-0.26)	0.604509	0.422247	0.276450	0.182260	0.120424	0.081304	0.042113	0.021558	0.007323	0.002238	3,178-002	0.000+000
110(-0.34)	0.589619	0.409251	0.265923	0.176344	0.118506	0.076600	0.037550	0.017510	0.004448	0.002683	2,965-002	0.000+000
115(-0.42)	0.575735	0.397171	0.256277	0.170892	0.116378	0.072118	0.033142	0.013671	0.002154	0.001723	2,742-002	0.000+000
120(-0.50)	0.562939	0.386054	0.247500	0.165896	0.114519	0.067855	0.028910	0.010139	0.000997	0.000244	3,776-002	0.000+000
130(-0.64)	0.540852	0.366905	0.232639	0.157432	0.111092	0.060117	0.021191	0.004531	-0.000372	-0.001324	4,169-002	0.000+000
140(-0.77)	0.523554	0.351985	0.221417	0.151221	0.108584	0.054513	0.014594	0.001339	-0.000131	-0.000790	3,325-002	0.000+000
150(-0.87)	0.510783	0.341046	0.213549	0.147123	0.106464	0.048542	0.009104	0.000267	-0.000173	-0.000173	2,492-002	0.000+000
160(-0.94)	0.502059	0.333616	0.208472	0.144654	0.105226	0.045589	0.005023	0.000106	-0.000236	-0.000009	1,662-002	0.000+000
170(-0.98)	0.496974	0.329298	0.205643	0.143329	0.104560	0.044602	0.002724	-0.000175	-0.000035	0.000001	8,318-003	0.000+000
177(-1.00)	0.495406	0.327969	0.204789	0.142932	0.104368	0.044621	0.002085	-0.000390	0.000092	-0.000000	1,040-003	0.000+000
NUMBER SUM	8.283568	5.958195	4.121064	2.687388	1.836698	1.331395	0.828256	0.573523	0.447735	0.383406		

TOTAL NUMBER= 1,037961

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 14,590184

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.5844 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.699332	0.529104	0.397698	0.247141	0.176094	0.141461	0.111756	0.100836	0.079939	0.069732	2.806-003	1.720-001
10(0.98)	0.697797	0.527689	0.396372	0.246482	0.175507	0.140924	0.112126	0.099130	0.080350	0.070129	2.227-002	1.377+000
20(0.94)	0.692735	0.523007	0.391895	0.244238	0.173457	0.138931	0.112033	0.094690	0.081050	0.071268	4.336-002	2.764+000
30(0.87)	0.683764	0.514648	0.383622	0.239959	0.169497	0.135425	0.109482	0.089240	0.080401	0.072789	6.194-002	4.199+000
40(0.77)	0.670059	0.501734	0.370420	0.232770	0.162861	0.130704	0.105873	0.083153	0.076032	0.074132	7.638-002	5.816+000
50(0.64)	0.650695	0.483274	0.351264	0.221695	0.152589	0.123849	0.099126	0.075216	0.068247	0.072631	8.468-002	8.044+000
60(0.50)	0.625346	0.458954	0.326232	0.206434	0.138399	0.113007	0.089966	0.063978	0.056265	0.060420	6.346-002	9.480+000
69(0.42)	0.610702	0.444943	0.312095	0.197594	0.130521	0.106054	0.085767	0.057049	0.048391	0.047968	4.058-002	9.154+000
70(0.34)	0.595104	0.430127	0.297460	0.188402	0.122151	0.098534	0.080194	0.049593	0.039571	0.032207	3.800-002	1.678+001
75(0.26)	0.578915	0.414931	0.282858	0.179296	0.114349	0.091990	0.075698	0.042129	0.030574	0.019914	3.514-002	5.206+001
80(0.17)	0.562522	0.399784	0.268785	0.170687	0.107477	0.086952	0.072738	0.039234	0.027393	0.008663	3.270-002	6.545+002
85(0.09)	0.546278	0.385047	0.255614	0.162868	0.101726	0.082778	0.070639	0.039338	0.029826	-0.004828	3.087-002	2.654+006
90(-0.00)	0.530464	0.370967	0.243532	0.155952	0.097267	0.079574	0.069483	0.040483	0.031127	-0.006112	2.926-002	0.000+000
95(-0.09)	0.515278	0.357664	0.232548	0.149875	0.094026	0.078184	0.070111	0.040703	0.031933	-0.005182	2.775-002	0.000+000
100(-0.17)	0.500844	0.345170	0.222545	0.144464	0.091746	0.077312	0.070226	0.041383	0.032582	0.000767	2.629-002	0.000+000
105(-0.26)	0.487245	0.333473	0.213572	0.139524	0.090062	0.076662	0.070544	0.041262	0.033536	0.003129	2.479-002	0.000+000
110(-0.34)	0.474551	0.322567	0.204911	0.134917	0.088629	0.076048	0.070904	0.041190	0.034648	0.003038	2.311-002	0.000+000
115(-0.42)	0.462829	0.312481	0.197121	0.130601	0.087234	0.075436	0.070298	0.040222	0.035105	0.001261	2.132-002	0.000+000
120(-0.50)	0.452146	0.303267	0.190028	0.126615	0.085833	0.074902	0.069614	0.038529	0.034841	-0.000785	2.935-002	0.000+000
130(-0.64)	0.434082	0.287672	0.178152	0.119938	0.083331	0.073598	0.068592	0.035580	0.033949	-0.002290	3.243-002	0.000+000
140(-0.77)	0.420381	0.275908	0.169500	0.115287	0.081667	0.072669	0.068532	-0.000151	-0.000400	-0.001137	2.591-002	0.000+000
150(-0.87)	0.410563	0.267559	0.163770	0.112471	0.080758	0.072729	0.069572	-0.000271	-0.000415	-0.000227	1.947-002	0.000+000
160(-0.94)	0.403992	0.262014	0.160266	0.110926	0.080317	0.072934	0.071990	-0.000119	-0.000370	-0.000012	1.301-002	0.000+000
170(-0.98)	0.400197	0.258825	0.158380	0.110145	0.080150	0.073195	0.073959	-0.000517	-0.000018	0.000002	6.522-003	0.000+000
177(-1.00)	0.399029	0.257845	0.157831	0.109913	0.080117	0.073238	0.074813	-0.000834	0.000169	0.000001	8.162-004	0.000+000
NUMBER SUM	6.788320	4.802579	3.259417	2.097513	1.410311	1.006146	0.737485	0.440790	0.338140	0.281591		

TOTAL NUMBER= 0.812204

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 18.433494

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.600 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.1687 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.069	0.087	0.111	0.141	0.179	0.215	0.274	0.348	0.444	0.565	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.222646	0.168946	0.125638	0.078495	0.057610	0.046367	0.037723	0.041199	0.031224	0.028914	9.086-004	2.720+001
10(0.98)	0.221766	0.168185	0.125250	0.078259	0.057366	0.046234	0.038803	0.039324	0.031224	0.028409	7.161-003	2.213+000
20(0.94)	0.219211	0.165970	0.124080	0.077628	0.056568	0.044935	0.040004	0.034988	0.031412	0.026719	1.367-002	4.702+000
30(0.87)	0.215587	0.162779	0.122080	0.076676	0.055195	0.042177	0.038640	0.031205	0.029871	0.024199	1.900-002	8.025+000
40(0.77)	0.211067	0.158595	0.118494	0.074876	0.052923	0.039860	0.035499	0.028600	0.026105	0.023339	2.290-002	1.380+001
50(0.64)	0.204954	0.152458	0.111822	0.070969	0.048502	0.037890	0.031602	0.026751	0.022357	0.020759	2.527-002	2.824+001
60(0.50)	0.196146	0.143123	0.101029	0.063774	0.040608	0.032915	0.025933	0.020732	0.018223	0.025510	1.883-002	6.687+001
65(0.42)	0.190628	0.137232	0.094360	0.059087	0.035745	0.028911	0.022164	0.017005	0.014204	0.017636	1.172-002	1.120+002
70(0.34)	0.184537	0.130817	0.087369	0.054141	0.030981	0.024496	0.018085	0.012746	0.009313	0.004926	1.038-002	4.708+002
75(0.26)	0.178125	0.124236	0.080594	0.049448	0.026913	0.020449	0.014255	0.008619	0.004213	-0.008661	9.194-003	6.205+003
80(0.17)	0.171667	0.117842	0.074005	0.045452	0.023953	0.017458	0.011254	0.005399	0.000967	-0.017496	8.460-003	1.555+006
85(0.09)	0.165392	0.111881	0.069350	0.042393	0.022232	0.015831	0.009398	0.003564	-0.001872	-0.017700	8.000-003	5.397+013
90(-0.00)	0.159441	0.106431	0.065082	0.040160	0.021616	0.015365	0.008553	0.002991	-0.001703	-0.009959	7.690-003	0.000+000
95(-0.09)	0.153872	0.101424	0.061410	0.038413	0.021748	0.015449	0.008187	0.003011	-0.000633	0.000645	7.529-003	0.000+000
100(-0.17)	0.148701	0.096733	0.057957	0.036718	0.022108	0.015352	0.007657	0.002800	-0.000150	0.007892	7.504-003	0.000+000
105(-0.26)	0.143963	0.092279	0.054442	0.034754	0.022147	0.014550	0.006531	0.001854	-0.001023	0.008336	7.042-003	0.000+000
110(-0.34)	0.139744	0.088100	0.050804	0.032444	0.021497	0.012941	0.004774	0.000211	-0.002903	0.002977	6.239-003	0.000+000
115(-0.42)	0.136176	0.084345	0.047207	0.029955	0.020141	0.010822	0.002686	-0.001676	-0.004735	-0.004225	5.587-003	0.000+000
120(-0.50)	0.133394	0.081219	0.043948	0.027598	0.018416	0.008692	0.000683	-0.003274	-0.005592	-0.009361	7.588-003	0.000+000
130(-0.64)	0.130430	0.077412	0.039525	0.024404	0.015673	0.005778	-0.002072	-0.004531	-0.004206	-0.009039	8.344-003	0.000+000
140(-0.77)	0.130410	0.076685	0.038436	0.023816	0.015186	0.004121	-0.003377	-0.005524	-0.002537	-0.005286	6.889-003	0.000+000
150(-0.87)	0.131846	0.077643	0.039690	0.024966	0.016125	0.002015	-0.004128	-0.001810	-0.002207	-0.000503	5.430-003	0.000+000
160(-0.94)	0.133355	0.078852	0.041658	0.026488	0.017349	0.000437	-0.003851	-0.001447	-0.001264	-0.000016	3.787-003	0.000+000
170(-0.98)	0.134298	0.079633	0.043134	0.027504	0.018288	0.000682	-0.002105	-0.002980	0.000151	0.000004	1.957-003	0.000+000
177(-1.00)	0.134580	0.079867	0.043620	0.027806	0.018617	0.001184	-0.001014	-0.003989	0.000699	0.000003	2.476-004	0.000+000
NUMBER SUM	2.091135	1.423854	0.919702	0.576222	0.368564	0.249433	0.166400	0.113946	0.081740	0.060236		

TOTAL NUMBER= 0.231312

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 45.886951

LOWER ENERGY CUTOFF 0.0425MEV

LOWEST SINGLE SCATTERING ENERGY 0.1792MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0086 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.067	0.112	0.145	0.187	0.228	0.297	0.367	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.865418	0.865862	0.466526	.371789	0.244145	0.255821	0.186633	0.013554	0.000637	0.001407	4.652-003	5.889-002
10(0.98)	0.867393	0.868411	0.467341	0.374166	0.247195	0.262056	0.177484	0.023586	-0.000161	0.001431	3.745-002	4.673-001
20(0.94)	0.874578	0.877575	0.481522	0.382411	0.257714	0.280726	0.157934	0.048857	0.002471	0.001951	7.666-002	9.133-001
30(0.87)	0.888926	0.894881	0.508141	0.398261	0.277342	0.304958	0.145399	0.075081	0.016928	0.002057	1.202-001	1.320+000
40(0.77)	0.913604	0.923600	0.551345	0.424027	0.308528	0.325844	0.147472	0.096493	0.049493	0.006527	1.720-001	1.674+000
50(0.64)	0.949956	0.965772	0.610777	0.460071	0.351986	0.342942	0.164029	0.119104	0.096049	0.033808	2.396-001	1.961+000
60(0.50)	0.994649	0.013657	0.677034	0.500762	0.402740	0.361146	0.191151	0.149441	0.149644	0.121983	2.504-001	1.603+000
65(0.42)	1.017528	0.047411	0.706797	0.518960	0.426495	0.369575	0.205447	0.166127	0.176047	0.192371	1.985-001	1.075+000
70(0.34)	1.038167	0.077776	0.730468	0.532812	0.445860	0.374988	0.217338	0.180826	0.200361	0.267481	2.369-001	1.043+000
75(0.26)	1.056646	0.103606	0.742509	0.540237	0.458442	0.374924	0.224267	0.190390	0.216297	0.327305	2.876-001	9.660-001
80(0.17)	1.068604	0.121905	0.750291	0.539818	0.462434	0.367441	0.224200	0.192043	0.219807	0.350535	3.703-001	8.479-001
85(0.09)	1.076479	0.083008	0.744486	0.531220	0.457044	0.351840	0.216525	0.184425	0.208265	0.324538	5.853-001	7.054-001
90(-0.00)	1.079412	0.079252	0.729162	0.515378	0.442593	0.329027	0.201458	0.168382	0.182755	0.252880	1.229-001	0.000+000
95(-0.09)	1.078181	0.069598	0.706625	0.494330	0.420642	0.301551	0.181885	0.146729	0.148049	0.153193	1.094-001	0.000+000
100(-0.17)	1.073985	0.056755	0.679919	0.470760	0.393823	0.271988	0.160675	0.123315	0.110755	0.058710	9.455-002	0.000+000
105(-0.26)	1.068151	0.042737	0.652416	0.447381	0.365361	0.244115	0.140741	0.101667	0.076044	-0.013695	8.224-002	0.000+000
110(-0.34)	1.061773	0.029248	0.626249	0.426376	0.338322	0.220193	0.124066	0.083919	0.048831	-0.051995	7.328-002	0.000+000
115(-0.42)	1.055690	0.017407	0.603881	0.409064	0.314897	0.201628	0.111372	0.070462	0.027617	-0.079881	6.630-002	0.000+000
120(-0.50)	1.050241	0.007479	0.585975	0.395838	0.296155	0.188860	0.102267	0.060311	0.011776	-0.099156	9.072-002	0.000+000
130(-0.64)	1.041014	0.993872	0.562709	0.379820	0.271023	0.179890	0.090708	0.043570	-0.007980	-0.017525	1.008-001	0.000+000
140(-0.77)	1.032382	0.984683	0.550414	0.372016	0.257654	0.190281	0.080956	0.024539	-0.012915	-0.002890	8.140-002	0.000+000
150(-0.87)	1.025245	0.978249	0.546419	0.366849	0.248948	0.213430	0.067762	.004754	-0.007150	-0.000162	6.155-002	0.000+000
160(-0.94)	1.019505	0.974941	0.545998	0.362578	0.243261	0.236650	0.049340	-0.007345	-0.000940	0.000010	4.118-002	0.000+000
170(-0.98)	1.015128	0.973961	0.545436	0.359561	0.239482	0.249940	0.030117	-0.009032	0.001003	-0.000305	2.068-002	0.000+000
177(-1.00)	1.012943	0.973757	0.545265	0.358564	0.238146	0.253416	0.022808	-0.007863	0.001040	-0.000314	2.595-003	0.000+000
NUMBER SUM	12.822458	10.102757	7.488894	5.628335	4.393841	3.585590	1.885614	1.285777	1.079437	1.034691		

TOTAL NUMBER= 4.198322

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 1.988517

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.187MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1390 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.505	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.933481	0.727521	0.516470	0.387275	0.258725	0.249151	0.183023	0.046937	0.022136	0.020216	4.740-003	6.819+002
10(0.98)	0.935725	0.728923	0.520065	0.389428	0.261274	0.253803	0.176794	0.053915	0.022978	0.020780	5.812-002	5.432+001
20(0.94)	0.944271	0.731413	0.532117	0.396613	0.269843	0.267915	0.163313	0.071511	0.027906	0.022760	7.757-002	1.062+000
30(0.87)	0.956939	0.746525	0.553784	0.409520	0.285226	0.286829	0.154327	0.090049	0.042406	0.026841	1.201-001	1.534+000
40(0.77)	0.977656	0.769236	0.586097	0.428884	0.308211	0.303807	0.155160	0.105732	0.069357	0.036333	1.680-001	1.939+000
50(0.64)	1.004856	0.798649	0.627038	0.453664	0.338165	0.316582	0.165454	0.122084	0.104479	0.063869	2.251-001	2.257+000
60(0.50)	1.034665	0.829073	0.668419	0.478820	0.370375	0.326487	0.181503	0.142051	0.141466	0.130399	2.216-001	1.839+000
65(0.42)	1.048300	0.843361	0.684991	0.488608	0.384168	0.329383	0.189167	0.151948	0.158392	0.177629	1.679-001	1.239+000
70(0.34)	1.059639	0.853634	0.696282	0.494620	0.394257	0.329306	0.194541	0.159635	0.171723	0.224215	1.893-001	1.221+000
75(0.26)	1.067709	0.859525	0.700772	0.495603	0.399214	0.324841	0.196005	0.163082	0.178529	0.255808	2.106-001	1.172+000
80(0.17)	1.071857	0.860293	0.697648	0.490832	0.398131	0.315002	0.194389	0.160653	0.176050	0.262386	2.283-001	1.110+000
85(0.09)	1.071884	0.855837	0.687001	0.480352	0.390784	0.299663	0.188407	0.151790	0.163123	0.234582	2.151-001	1.161+000
90(-0.00)	1.068086	0.846724	0.669877	0.465042	0.377695	0.279735	0.179858	0.137367	0.141028	0.177896	1.060-001	0.000+000
95(-0.09)	1.061185	0.834787	0.648081	0.446472	0.360096	0.257006	0.169456	0.119507	0.113345	0.106758	9.524-002	0.000+000
100(-0.17)	1.052151	0.819380	0.623643	0.426563	0.339791	0.233702	0.158332	0.100876	0.084765	0.039476	8.379-002	0.000+000
105(-0.26)	1.042014	0.804271	0.599397	0.407179	0.318851	0.211942	0.148419	0.083793	0.058977	-0.009517	7.422-002	0.000+000
110(-0.34)	1.031645	0.789374	0.576604	0.389768	0.299171	0.193298	0.140963	0.069579	0.037976	-0.034702	6.689-002	0.000+000
115(-0.42)	1.021652	0.776774	0.556699	0.375168	0.282067	0.178611	0.136360	0.058392	0.021874	-0.049467	6.090-002	0.000+000
120(-0.50)	1.012338	0.766517	0.540228	0.363598	0.268086	0.168084	0.133287	0.049514	0.009829	-0.032105	5.552-002	0.000+000
130(-0.64)	0.995810	0.746215	0.516644	0.348204	0.248616	0.154767	0.126750	0.034480	-0.004938	-0.011302	9.264-002	0.000+000
140(-0.77)	0.98128	0.732427	0.502271	0.339282	0.236794	0.163522	0.066602	0.018778	-0.008948	-0.001854	7.449-002	0.000+000
150(-0.87)	0.968269	0.721005	0.492042	0.333127	0.229038	0.177765	0.054268	0.003892	-0.004646	-0.000105	5.612-002	0.000+000
160(-0.94)	0.957492	0.712017	0.484521	0.328412	0.223609	0.193774	0.038689	-0.004694	-0.000292	0.000007	3.748-002	0.000+000
170(-0.98)	0.950283	0.706104	0.479257	0.325337	0.220114	0.203853	0.023356	-0.005831	0.000647	-0.000303	1.879-002	0.000+000
177(-1.00)	0.947905	0.704 64	0.477588	0.324344	0.218949	0.206670	0.01/047	-0.005026	0.000865	-0.000010	2.352-003	0.000+000
NUMBER SUM	12.813467	9.977874	7.529378	5.267072	3.986392	3.166572	1.704456	1.160574	0.962930	0.910382		

TOTAL NUMBER= 2.713444

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.546100

LOWER ENERGY CUTOFF 0.0427MEV

LOWEST SINGLE SCATTERING ENERGY 0.1672MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH, 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2780 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.974876	0.751600	0.548087	0.391152	0.264326	0.239449	0.177163	0.071591	0.039842	0.035206	4.730-003	7.844-002
10(0.98)	0.977002	0.753787	0.551065	0.392963	0.266344	0.242792	0.178143	0.076136	0.041525	0.036122	3.798-002	6.233-001
20(0.94)	0.983856	0.760858	0.560724	0.398806	0.272969	0.253045	0.184237	0.087602	0.047427	0.039290	7.686-002	1.220+000
30(0.87)	0.995326	0.772736	0.577024	0.408641	0.284328	0.267195	0.197829	0.099855	0.060984	0.045540	1.175-001	1.764+000
40(0.77)	1.010951	0.788954	0.599305	0.422127	0.300200	0.280218	0.157416	0.110545	0.082472	0.057650	1.612-001	2.231+000
50(0.64)	1.028938	0.807495	0.624511	0.437436	0.319050	0.288892	0.162497	0.121351	0.107695	0.083237	2.088-001	2.599+000
60(0.50)	1.045386	0.823812	0.645833	0.450162	0.336726	0.292241	0.169781	0.132780	0.131136	0.130920	1.946-001	2.132+000
65(0.42)	1.051306	0.829085	0.652099	0.453494	0.342956	0.291088	0.172343	0.137364	0.140190	0.159919	1.419-001	1.455+000
70(0.34)	1.054742	0.831301	0.655917	0.453642	0.346143	0.287164	0.172843	0.139737	0.145671	0.184960	1.522-001	1.475+000
75(0.26)	1.055151	0.829834	0.656522	0.449968	0.345635	0.279816	0.170354	0.138713	0.145847	0.197822	1.577-001	1.501+000
80(0.17)	1.052258	0.824407	0.651673	0.442236	0.341069	0.268723	0.164328	0.133495	0.139554	0.191569	1.517-001	1.641+000
85(0.09)	1.046122	0.815183	0.643741	0.430726	0.332629	0.254128	0.154832	0.124044	0.125982	0.164149	1.185-001	3.153+000
90(-0.00)	1.037133	0.802758	0.629684	0.416233	0.320918	0.236887	0.142599	0.111212	0.107094	0.120285	9.122-002	0.000+000
95(-0.09)	1.025943	0.788061	0.588891	0.399931	0.306883	0.218321	0.128872	0.096541	0.085526	0.070142	8.274-002	0.000+000
100(-0.17)	1.013341	0.772177	0.566945	0.383143	0.291694	0.199919	0.115057	0.081783	0.063687	0.029229	7.400-002	0.000+000
105(-0.26)	1.000110	0.756147	0.545552	0.367084	0.276567	0.183007	0.102348	0.068358	0.044317	-0.006214	6.657-002	0.000+000
110(-0.34)	0.986910	0.740807	0.525317	0.352656	0.262551	0.168509	0.091461	0.057001	0.028930	-0.021790	6.057-002	0.000+000
115(-0.42)	0.974203	0.726695	0.507606	0.340347	0.250331	0.156865	0.082560	0.047723	0.016925	-0.024429	5.542-002	0.000+000
120(-0.50)	0.962244	0.714043	0.492526	0.330254	0.240154	0.148126	0.075361	0.040023	0.007949	-0.019679	7.616-002	0.000+000
130(-0.64)	0.940808	0.692953	0.469687	0.315766	0.225235	0.138724	0.069171	0.026765	-0.002762	-0.006877	8.437-002	0.000+000
140(-0.77)	0.922438	0.676531	0.453995	0.306402	0.215311	0.139005	0.054068	0.014026	-0.005462	-0.001150	6.762-002	0.000+000
150(-0.87)	0.907028	0.663103	0.442596	0.299795	0.208339	0.146817	0.042774	0.003099	-0.002844	-0.000073	5.080-002	0.000+000
160(-0.94)	0.895110	0.653139	0.434287	0.295008	0.203394	0.157079	0.029775	-0.002782	-0.000355	0.000004	3.388-002	0.000+000
170(-0.98)	0.887513	0.646863	0.429077	0.292028	0.200287	0.164161	0.017765	-0.003530	0.000391	-0.000002	1.696-002	0.000+000
177(-1.00)	0.885065	0.644849	0.427403	0.291062	0.199274	0.166603	0.012965	-0.003014	0.000405	-0.000007	2.125-003	0.000+000
NUMBER SUM	12.557789	9.607617	7.083475	4.867880	3.585223	2.779994	1.529075	1.039780	0.852726	0.794476		

TOTAL NUMBER= 2.286040

(PHOTONS/SQ CM*SEC)

TOTAL NUMBER
BUILDUP= 4.719988

LOWER ENERGY CUTOFF 0.042/MEV

LOWEST SINGLE SCATTERING ENERGY 0.1672MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5561 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.985985	0.754001	0.557536	0.373184	0.255321	0.215157	0.161396	0.097324	0.061245	0.053429	4.482-003	9.810+002
10(0.98)	0.987251	0.755196	0.559141	0.374216	0.256390	0.216694	0.159937	0.098781	0.063395	0.054589	5.588-002	7.809+001
20(0.94)	0.991035	0.758772	0.563975	0.377314	0.259704	0.221552	0.156298	0.102406	0.069207	0.059517	7.184-002	1.535+000
30(0.87)	0.996362	0.763606	0.570877	0.381750	0.264752	0.228469	0.156637	0.106316	0.079694	0.069884	1.078-001	2.229+000
40(0.77)	1.001549	0.768633	0.577738	0.386225	0.270345	0.234781	0.160144	0.109769	0.092052	0.078192	1.431-001	2.846+000
50(0.64)	1.004030	0.770604	0.581116	0.388520	0.274449	0.236972	0.148240	0.112421	0.103048	0.086746	1.758-001	3.373+000
60(0.50)	1.000688	0.766403	0.576009	0.385660	0.274361	0.232261	0.144644	0.112559	0.108741	0.111382	1.909-001	2.885+000
65(0.42)	0.995957	0.761032	0.570622	0.381422	0.271651	0.228795	0.141234	0.110682	0.108231	0.123862	1.040-001	2.058+000
70(0.34)	0.988885	0.753192	0.561445	0.375053	0.267444	0.219184	0.136307	0.106961	0.104738	0.124155	1.040-001	2.271+000
75(0.26)	0.979465	0.742685	0.549349	0.366591	0.261283	0.209568	0.129730	0.101193	0.097956	0.116174	9.901-002	2.761+000
80(0.17)	0.967843	0.730325	0.534674	0.356290	0.253541	0.198288	0.121621	0.093475	0.088009	0.099634	8.781-002	4.712+000
85(0.09)	0.954336	0.715912	0.517998	0.344603	0.244774	0.185876	0.112345	0.084240	0.075623	0.078596	7.471-002	4.829+001
90(-0.00)	0.939389	0.700201	0.500053	0.332116	0.235523	0.172991	0.102452	0.074166	0.064936	0.061017	6.891-002	0.000+000
95(-0.09)	0.923516	0.683803	0.481645	0.319461	0.226317	0.160316	0.092548	0.064014	0.056521	0.047405	6.342-002	0.000+000
100(-0.17)	0.907232	0.667315	0.463536	0.307214	0.217572	0.148440	0.083162	0.054428	0.048828	0.039241	5.825-002	0.000+000
105(-0.26)	0.891005	0.651245	0.446331	0.295820	0.209258	0.137780	0.074641	0.045805	0.042152	0.032036	5.355-002	0.000+000
110(-0.34)	0.875209	0.635972	0.430487	0.285558	0.202436	0.128548	0.067120	0.038263	0.036206	0.027056	4.936-002	0.000+000
115(-0.42)	0.860118	0.621734	0.416234	0.276540	0.196139	0.120780	0.060548	0.031698	0.030809	0.023724	4.567-002	0.000+000
120(-0.50)	0.845909	0.608646	0.403636	0.268749	0.190649	0.114403	0.054759	0.025961	0.026852	0.020191	6.267-002	0.000+000
130(-0.64)	0.820492	0.585972	0.383032	0.256410	0.181648	0.105412	0.044706	0.015865	-0.000645	-0.002333	6.931-002	0.000+000
140(-0.77)	0.799515	0.567714	0.367532	0.247500	0.175040	0.101095	0.035525	0.007598	-0.001759	-0.000505	5.533-002	0.000+000
150(-0.87)	0.782537	0.553566	0.356046	0.241147	0.169887	0.101147	0.028400	0.001858	-0.000936	-0.000059	4.144-002	0.000+000
160(-0.94)	0.770343	0.543417	0.347999	0.236827	0.166162	0.104123	0.017423	-0.000750	-0.000140	-0.000000	2.760-002	0.000+000
170(-0.98)	0.762931	0.537291	0.343195	0.234296	0.163899	0.107383	0.010157	-0.001105	0.000118	-0.000001	1.380-002	0.000+000
177(-1.00)	0.760600	0.535369	0.341691	0.233502	0.163185	0.108633	0.007450	-0.000996	0.000144	-0.000003	1.725-003	0.000+000
NUMBER SUM	11.555283	8.593173	6.106296	4.078169	2.881950	2.150667	1.226749	0.832413	0.668230	0.603055		

TOTAL NUMBER= 1.770132

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7.106578

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.8341 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.933789	0.706684	0.523521	0.336429	0.231503	0.188058	0.142948	0.103475	0.070226	0.060821	4.058-003	1.174+001
10(0.98)	0.933993	0.706855	0.523914	0.336762	0.231843	0.188568	0.142607	0.103335	0.072078	0.061876	3.240-002	9.352+001
20(0.94)	0.934305	0.707072	0.524754	0.337564	0.232733	0.190120	0.141223	0.102855	0.076774	0.065366	6.429-002	1.844+000
30(0.87)	0.935639	0.708294	0.527716	0.339986	0.233486	0.192310	0.138540	0.102131	0.083189	0.071605	9.490-002	2.706+000
40(0.77)	0.940211	0.712742	0.537559	0.348619	0.242861	0.193769	0.134616	0.101106	0.088622	0.081028	1.228-001	3.511+000
50(0.64)	0.921776	0.694149	0.515252	0.331589	0.229087	0.191677	0.128963	0.098709	0.091055	0.091986	1.451-001	4.290+000
60(0.50)	0.906341	0.678510	0.495401	0.321181	0.220579	0.183256	0.120222	0.092843	0.087319	0.096342	1.176-001	3.917+000
65(0.42)	0.895695	0.667782	0.483646	0.313760	0.214429	0.176405	0.114312	0.088005	0.082401	0.091993	7.814-002	2.987+000
70(0.34)	0.883171	0.655241	0.470015	0.305020	0.207238	0.168055	0.107388	0.081837	0.075304	0.081983	7.519-002	3.705+000
75(0.26)	0.868981	0.641159	0.454904	0.295257	0.199352	0.158622	0.099658	0.074560	0.066350	0.067033	6.947-002	5.671+000
80(0.17)	0.853444	0.625917	0.438623	0.284865	0.191224	0.148622	0.091467	0.066595	0.056236	0.049394	6.222-002	1.656+001
85(0.09)	0.836945	0.609955	0.422321	0.274274	0.183356	0.138584	0.083219	0.058454	0.045869	0.032126	5.680-002	8.919+002
90(-0.00)	0.819691	0.593721	0.405923	0.263879	0.176109	0.128955	0.075276	0.050696	0.036083	0.017930	5.314-002	0.000+000
95(-0.09)	0.802674	0.577611	0.390068	0.253986	0.169806	0.120044	0.068086	0.043359	0.027423	0.008176	4.959-002	0.000+000
100(-0.17)	0.785634	0.561944	0.375072	0.244794	0.164491	0.112000	0.061149	0.036830	0.020086	0.002668	4.623-002	0.000+000
105(-0.26)	0.769052	0.546954	0.361153	0.236388	0.160048	0.104859	0.055048	0.030979	0.014027	0.000178	4.304-002	0.000+000
110(-0.34)	0.753146	0.532798	0.348343	0.228781	0.156268	0.098498	0.049494	0.025700	0.009135	-0.000712	3.996-002	0.000+000
115(-0.42)	0.738083	0.519575	0.336714	0.221944	0.152945	0.092887	0.044387	0.020895	0.005538	-0.000991	3.695-002	0.000+000
120(-0.50)	0.723984	0.507345	0.326225	0.215835	0.149932	0.087927	0.039644	0.016518	0.002603	-0.001082	5.099-002	0.000+000
130(-0.64)	0.699007	0.485583	0.308481	0.205652	0.144583	0.079766	0.031007	0.009106	-0.000062	-0.000900	5.635-002	0.000+000
140(-0.77)	0.678628	0.468455	0.294730	0.197992	0.140186	0.073869	0.025214	0.003852	-0.000436	-0.000396	4.492-002	0.000+000
150(-0.87)	0.662949	0.455784	0.284660	0.192564	0.136527	0.070550	0.021092	0.000996	-0.000254	-0.000079	3.362-002	0.000+000
160(-0.94)	0.651894	0.446864	0.277706	0.189058	0.134992	0.069816	0.019959	-0.000028	-0.000104	-0.000003	2.239-002	0.000+000
170(-0.98)	0.645326	0.441269	0.273570	0.187066	0.134298	0.070637	0.020680	-0.000267	0.000022	0.000000	1.119-002	0.000+000
177(-1.00)	0.643287	0.439596	0.272475	0.186456	0.134238	0.071170	0.021235	-0.000314	0.000074	-0.000000	1.399-003	0.000+000
NUMBER SUM	10.218453	7.424921	5.133508	3.553424	2.500947	1.670442	0.980609	0.664288	0.523149	0.460829		

TOTAL NUMBER= 1.412651

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 9.664007

LOWER ENERGY CUT OFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.187MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.1122 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.846697	0.634335	0.468524	0.292672	0.201998	0.161134	0.124002	0.099263	0.071526	0.061542	3.563-003	1.362-001
10(0.98)	0.846409	0.633702	0.468037	0.292490	0.201841	0.161049	0.124084	0.098352	0.072600	0.062342	2.837-002	1.086+000
20(0.94)	0.843507	0.631380	0.466099	0.291667	0.201135	0.160676	0.123519	0.095850	0.075284	0.064911	5.586-002	2.154+000
30(0.87)	0.838320	0.626507	0.461578	0.289477	0.199267	0.159927	0.121062	0.092698	0.078754	0.069241	8.131-002	3.196+000
40(0.77)	0.829009	0.617639	0.452653	0.284733	0.195191	0.158254	0.116318	0.089112	0.079780	0.075116	1.030-001	4.234+000
50(0.64)	0.813978	0.603163	0.437409	0.276081	0.187627	0.153700	0.108971	0.083913	0.076945	0.079928	1.181-001	5.382+000
60(0.50)	0.792218	0.582122	0.415027	0.262723	0.175870	0.144034	0.098343	0.075293	0.068754	0.075398	9.195-002	5.342+000
65(0.42)	0.778873	0.569264	0.401490	0.254432	0.168666	0.137191	0.091760	0.069409	0.062227	0.066594	5.978-002	4.412+000
70(0.34)	0.764131	0.555159	0.386662	0.245391	0.160978	0.129375	0.084550	0.062653	0.054230	0.058399	5.647-002	6.270+000
75(0.26)	0.748294	0.540166	0.371624	0.235964	0.153219	0.121054	0.077039	0.055481	0.045523	0.049655	5.190-002	1.240+001
80(0.17)	0.731719	0.524689	0.356278	0.226541	0.145424	0.112728	0.069615	0.048140	0.036338	0.040309	4.741-002	6.256+001
85(0.09)	0.714776	0.509125	0.341278	0.217468	0.138184	0.104828	0.062624	0.041324	0.028106	0.032251	4.419-002	1.685+004
90(-0.00)	0.697807	0.493811	0.326973	0.208990	0.133573	0.097624	0.056282	0.035241	0.021163	0.025053	4.157-002	0.000+000
95(-0.09)	0.681100	0.478998	0.313579	0.201225	0.129092	0.091209	0.050634	0.029948	0.015611	0.020394	3.914-002	0.000+000
100(-0.17)	0.664883	0.464849	0.301186	0.194177	0.125649	0.085518	0.045585	0.025314	0.011422	0.016524	3.684-002	0.000+000
105(-0.26)	0.649332	0.451459	0.289792	0.187782	0.122998	0.080412	0.040975	0.021140	0.007681	0.013396	3.458-002	0.000+000
110(-0.34)	0.634574	0.438883	0.279346	0.181953	0.120842	0.075743	0.036657	0.017268	0.004797	0.011690	3.225-002	0.000+000
115(-0.42)	0.620716	0.427159	0.269795	0.176625	0.118932	0.071413	0.032545	0.013646	0.002360	0.011148	2.985-002	0.000+000
120(-0.50)	0.607844	0.416327	0.261086	0.171768	0.117125	0.067382	0.028618	0.010317	0.001026	0.010224	4.114-002	0.000+000
130(-0.64)	0.585317	0.397481	0.246187	0.163490	0.113730	0.060201	0.021377	0.004917	-0.000132	-0.000839	4.544-002	0.000+000
140(-0.77)	0.567501	0.382525	0.234644	0.157232	0.110809	0.054716	0.015013	0.001667	-0.000107	-0.000515	3.623-002	0.000+000
150(-0.87)	0.553749	0.371565	0.226314	0.152921	0.108543	0.049706	0.009579	0.000408	-0.000132	-0.000110	2.713-002	0.000+000
160(-0.94)	0.544380	0.363704	0.220797	0.150223	0.106986	0.047272	0.005441	0.000114	-0.000143	-0.000006	1.808-002	0.000+000
170(-0.98)	0.538906	0.359237	0.217675	0.148752	0.106109	0.046742	0.003045	-0.000135	0.000004	0.000001	9.041-003	0.000+000
177(-1.00)	0.537214	0.357861	0.216728	0.148308	0.105848	0.046821	0.002363	-0.000293	0.000087	0.000001	1.130-003	0.000+000
NUMBER SUM	8.793268	6.267126	4.241244	2.722461	1.828683	1.301237	0.781395	0.528612	0.409181	0.351031		

TOTAL NUMBER= 1.134297

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 12.449391

LOWER ENERGY CUTOFF 0.042/MEV

LOWEST SINGLE SCATTERING ENERGY 0.187?MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.3902 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.743859	0.552450	0.406094	0.248551	0.171891	0.136006	0.105864	0.090151	0.067834	0.058376	3.059-003	1.544+001
10(0.98)	0.742573	0.551298	0.405072	0.248049	0.171438	0.135607	0.106078	0.088904	0.068442	0.058884	2.430-002	1.234+000
20(0.94)	0.738241	0.547396	0.401511	0.246260	0.169817	0.134182	0.105739	0.085504	0.069930	0.060439	4.751-002	2.463+000
30(0.87)	0.730299	0.540156	0.394596	0.242647	0.166560	0.131763	0.103272	0.081217	0.070687	0.062824	6.832-002	3.702+000
40(0.77)	0.717758	0.528562	0.382997	0.236314	0.160892	0.128341	0.098204	0.076380	0.068806	0.065591	8.502-002	5.025+000
50(0.64)	0.699637	0.511598	0.365505	0.226363	0.151958	0.122684	0.090419	0.069931	0.063343	0.066269	9.527-002	6.691+000
60(0.50)	0.675615	0.488996	0.342111	0.212548	0.139588	0.113092	0.079654	0.060478	0.053288	0.057696	7.216-002	7.311+000
65(0.42)	0.661641	0.475897	0.328747	0.204508	0.132524	0.106824	0.073283	0.054533	0.046877	0.047699	4.631-002	6.599+000
70(0.34)	0.646671	0.461973	0.314803	0.196085	0.125319	0.099958	0.066547	0.048050	0.039210	0.034453	4.339-002	1.086+001
75(0.26)	0.631023	0.447589	0.300747	0.187636	0.118372	0.092936	0.059797	0.041442	0.031203	0.020146	5.997-002	2.797+001
80(0.17)	0.615040	0.433118	0.287022	0.179505	0.112053	0.086195	0.053397	0.035176	0.023667	0.007754	5.695-002	2.417+002
85(0.09)	0.599044	0.418890	0.273979	0.171953	0.106644	0.080058	0.047624	0.029620	0.017306	-0.000266	5.473-002	3.218+005
90(-0.00)	0.583311	0.405154	0.261836	0.165117	0.102307	0.074666	0.042587	0.024929	0.012427	-0.003161	5.287-002	0.000+000
95(-0.09)	0.568055	0.392061	0.250676	0.159003	0.099042	0.069979	0.038219	0.021015	0.008876	-0.002168	3.110-002	0.000+000
100(-0.17)	0.553428	0.379686	0.240469	0.153521	0.096690	0.065831	0.034334	0.017636	0.006225	0.000331	2.941-002	0.000+000
105(-0.26)	0.539540	0.368054	0.231122	0.148542	0.094977	0.062023	0.030724	0.014542	0.004069	0.002174	2.772-002	0.000+000
110(-0.34)	0.526474	0.357174	0.222536	0.143956	0.093604	0.058402	0.027248	0.011590	0.002245	0.002407	2.588-002	0.000+000
115(-0.42)	0.514303	0.347066	0.214644	0.139703	0.092352	0.054902	0.023857	0.008779	0.000816	0.001347	2.392-002	0.000+000
120(-0.50)	0.503093	0.337765	0.207423	0.135779	0.091119	0.051533	0.020578	0.006208	-0.000088	-0.000069	3.294-002	0.000+000
130(-0.64)	0.483754	0.321740	0.195070	0.129063	0.088772	0.045527	0.014577	0.002282	-0.000450	-0.001348	3.640-002	0.000+000
140(-0.77)	0.468632	0.309270	0.185673	0.124083	0.086876	0.039856	0.009492	0.000359	-0.000194	-0.000720	2.904-002	0.000+000
150(-0.87)	0.457517	0.300178	0.179124	0.120802	0.085547	0.035735	0.005405	-0.000000	-0.000241	-0.000144	2.177-002	0.000+000
160(-0.94)	0.449984	0.294059	0.174957	0.118856	0.084727	0.032190	0.002661	0.000023	-0.000213	-0.000007	1.453-002	0.000+000
170(-0.98)	0.445630	0.290537	0.172660	0.117839	0.084313	0.031025	0.001475	-0.000294	0.000019	0.000002	7.277-003	0.000+000
177(-1.00)	0.444294	0.289458	0.171981	0.117536	0.084201	0.030868	0.001267	-0.000528	0.000134	0.000002	9.103-004	0.000+000
NUMBER SUM	7.418686	5.203355	3.461395	2.190828	1.448446	1.015668	0.620956	0.419571	0.319744	0.267445		

TOTAL NUMBER= 0.910765

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 15.468287

LOWER ENERGY CUTOFF 0.042/MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.700 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.7804 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.087	0.112	0.145	0.187	0.228	0.297	0.387	0.503	0.655	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.285953	0.211087	0.153907	0.092086	0.065104	0.051495	0.041449	0.041800	0.033084	0.029350	1.169-003	2.375+001
10(0.98)	0.284993	0.210244	0.155285	0.091761	0.064749	0.051178	0.042171	0.040419	0.032896	0.029002	9.223-003	1.921+000
20(0.94)	0.282014	0.207615	0.151303	0.090726	0.063575	0.049615	0.042747	0.036915	0.032548	0.027785	1.764-002	4.015+000
30(0.87)	0.277221	0.203323	0.147813	0.088863	0.061482	0.046831	0.041116	0.033262	0.030699	0.025756	2.455-002	6.619+000
40(0.77)	0.270487	0.197118	0.142091	0.085672	0.058130	0.044183	0.037785	0.030142	0.027111	0.024293	2.938-002	1.066+001
50(0.64)	0.261316	0.188557	0.133042	0.080382	0.052787	0.041346	0.033439	0.026551	0.022744	0.024935	3.185-002	1.944+001
60(0.50)	0.249510	0.176616	0.120403	0.072670	0.045056	0.036156	0.027565	0.021128	0.017643	0.021686	2.333-002	3.812+001
65(0.42)	0.242351	0.169811	0.113202	0.068050	0.040724	0.032575	0.024008	0.017592	0.014020	0.019003	1.460-002	5.582+001
70(0.34)	0.234962	0.162671	0.105899	0.063424	0.036594	0.028794	0.020312	0.013757	0.009654	0.009077	1.321-002	1.927+002
75(0.26)	0.227363	0.155484	0.098899	0.059081	0.033052	0.025322	0.016859	0.010126	0.005214	-0.005286	1.195-002	1.800+003
80(0.17)	0.219780	0.148513	0.092522	0.055311	0.030346	0.022584	0.014026	0.007202	0.001680	-0.012142	1.113-002	2.184+005
85(0.09)	0.212400	0.141942	0.086931	0.052253	0.028554	0.020763	0.012010	0.005285	-0.000249	-0.012775	1.054-002	8.266+011
90(-0.00)	0.205349	0.135841	0.082101	0.049846	0.027599	0.019732	0.010726	0.004296	-0.000626	-0.007628	1.009-002	0.000+000
95(-0.09)	0.198696	0.130181	0.077858	0.047869	0.027276	0.019123	0.009841	0.003804	-0.000236	-0.000214	9.742-003	0.000+000
100(-0.17)	0.192474	0.124889	0.073958	0.046040	0.027264	0.018485	0.008944	0.003274	-0.000063	0.005104	9.538-003	0.000+000
105(-0.26)	0.186719	0.119908	0.070197	0.044132	0.027192	0.017475	0.007742	0.002353	-0.000653	0.005817	8.990-003	0.000+000
110(-0.34)	0.181488	0.115247	0.066482	0.042057	0.026768	0.015989	0.006173	0.001018	-0.001843	0.002464	8.142-003	0.000+000
115(-0.42)	0.176868	0.110985	0.062853	0.039881	0.025911	0.014170	0.004389	-0.000478	-0.002995	-0.002316	7.368-003	0.000+000
120(-0.50)	0.172946	0.107243	0.059473	0.037774	0.024770	0.012299	0.002635	-0.001792	-0.003539	-0.005838	1.007-002	0.000+000
130(-0.64)	0.167407	0.101731	0.054206	0.034494	0.022720	0.009310	-0.000085	-0.003036	-0.002720	-0.005851	1.103-002	0.000+000
140(-0.77)	0.164732	0.098919	0.051656	0.033036	0.021985	0.007174	-0.001712	-0.002421	-0.001734	-0.002126	5.928-003	0.000+000
150(-0.87)	0.164007	0.098046	0.051399	0.033074	0.022315	0.006805	-0.002706	-0.001158	-0.001448	-0.000320	6.879-003	0.000+000
160(-0.94)	0.164151	0.098066	0.052183	0.033738	0.023032	0.006853	-0.003672	-0.000904	-0.000708	-0.000011	4.711-003	0.000+000
170(-0.98)	0.164438	0.098264	0.052971	0.034313	0.023661	0.006425	-0.001297	-0.001931	0.000202	0.000004	2.409-003	0.000+000
177(-1.00)	0.164550	0.098350	0.053253	0.034503	0.023890	0.006594	-0.000400	-0.002578	0.000519	0.000006	3.038-004	0.000+000
NUMBER SUM	2.675295	1.749943	1.142567	0.698774	0.441436	0.296514	0.190821	0.128142	0.091950	0.068929		

TOTAL NUMBER= 0.296749

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 34.366840

LOWER ENERGY CUTOFF 0.0427MEV

LOWEST SINGLE SCATTERING ENERGY 0.1872MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0,0083 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG / ENG	0.065	0,085	0.112	0.147	0.194	0.240	0,318	0.423	0,561	0.745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,845099	0.546117	0.438516	0.351358	0,224909	0.227904	0,158644	0,007092	0.000240	0.001132	4,585-003	5.804-002
10(0,98)	0,847557	0.549179	0.442212	0.353758	0,227869	0.233650	0,150930	0.015633	-0.000074	0.001159	3,691-002	4.607-001
20(0,94)	0,856126	0.559613	0.454947	0.362061	0,237917	0.250388	0,134643	0.037738	0,001402	0.001270	7,564-002	9.011-001
30(0,87)	0,872541	0.578941	0.478966	0.377691	0,256318	0.271057	0,124739	0.061636	0.012120	0.001654	1,188-001	1.305+000
40(0,77)	0,898888	0.708986	0.517004	0,402064	0,284548	0.287824	0,127545	0,081550	0.038588	0.005069	1,704-001	1.658+000
50(0,64)	0,935444	0.749415	0.568873	0,434425	0,322622	0.300896	0,142485	0.101807	0.078537	0.026734	2,376-001	1.944+000
60(0,50)	0,978324	0.794863	0.626924	0,469213	0,365345	0.314617	0,165525	0,127725	0.124985	0.098489	2,489-001	1.590+000
65(0,42)	0.999590	0.816158	0.653263	0,484087	0.384813	0.320748	0,177264	0,141594	0.147934	0.156468	1,969-001	1.067+000
70(0,34)	1.019015	0.834307	0.674414	0,494956	0,400435	0.324319	0,186753	0.153584	0.167705	0.218743	2,350-001	1.035+000
75(0,26)	1.035384	0.847812	0.688044	0,500231	0,410409	0.323422	0,192014	0,161172	0.180679	0.268644	2,855-001	9.590-001
80(0,17)	1.047800	0.855643	0.692631	0,498886	0.413424	0.316595	0,191516	0,162177	0.183214	0.288259	3,681-001	8.427-001
85(0,09)	1.055846	0.857463	0.687818	0,490753	0,408863	0.303350	0,184698	0.155606	0.173315	0.266878	5,829-001	7.026-001
90(-0,00)	1.059651	0.853714	0.674562	0,476633	0,396932	0.284409	0,172249	0,142160	0.151935	0.207416	1,207-001	0.000+000
95(-0,09)	1.059841	0.845521	0.654955	0,458169	0,378741	0.261578	0,155977	0.124101	0,122941	0.126334	1,073-001	0.000+000
100(-0,17)	1.057369	0.834445	0.631773	0,437504	0,356253	0.237295	0,138290	0.104502	0,091652	0.046478	9,259-002	0.000+000
105(-0,26)	1.053303	0.822153	0.607886	0,416822	0,331974	0.214027	0,121499	0.086198	0,062776	-0.013048	8,051-002	0.000+000
110(-0,34)	1.048602	0.810104	0.585705	0,397941	0,308402	0.193741	0,107227	0.070953	0,038965	-0.044027	7,173-002	0.000+000
115(-0,42)	1.043966	0.799314	0.566610	0,382036	0.287450	0.177636	0,096137	0.059155	0.020681	-0.049783	6,486-002	0.000+000
120(-0,50)	1.039774	0.790296	0.551843	0,369578	0,270119	0.166185	0,088028	0.050071	0,007153	-0.040349	8,869-002	0.000+000
130(-0,64)	1.032865	0.777476	0.532963	0,354067	0,246266	0.157098	0,077545	0.034961	-0.008592	-0.013984	9,838-002	0.000+000
140(-0,77)	1.026838	0.769307	0.522303	0,346833	0,232939	0.165016	0,068851	0.018297	-0.011004	-0.002206	7,949-002	0.000+000
150(-0,87)	1.020631	0.763102	0.515575	0,342980	0,225273	0.185256	0,056863	0.001982	-0.005523	-0.000115	6,017-002	0.000+000
160(-0,94)	1.014601	0.757951	0.510189	0,340186	0,220514	0.206997	0,039406	-0.006683	-0.000385	0.000006	4,036-002	0.000+000
170(-0,98)	1.010099	0.754337	0.506354	0,338277	0,217120	0.220359	0,020630	-0.006448	0.000833	-0.000001	2,030-002	0.000+000
177(-1,00)	1.008535	0.753108	0.505029	0,337644	0,216035	0.223990	0,012600	-0.004849	0.000749	-0.000006	2,549-003	0.000+000
NUMBER SUM	12,646646	9.922353	7.368408	5,255998	3,982489	3,128282	1,617496	1,081446	0,889366	0,843381		

TOTAL NUMBER= 4.159467

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 1.970113

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1391 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.065	0.065	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.920738	0.703320	0.489439	0.365060	0.287270	0.221623	0.157167	0.036242	0.018205	0.016462	4.680-003	6.756-002
10(0.98)	0.923167	0.706054	0.492646	0.367132	0.289650	0.225874	0.151801	0.042297	0.018791	0.016924	5.764-002	5.365-001
20(0.94)	0.931232	0.715055	0.503330	0.374033	0.297570	0.238444	0.140299	0.057930	0.022380	0.018540	7.665-002	1.050+000
30(0.87)	0.945465	0.730736	0.522361	0.386248	0.311545	0.254539	0.132907	0.074956	0.033630	0.021834	1.187-001	1.517+000
40(0.77)	0.966265	0.753322	0.550407	0.403976	0.331936	0.268102	0.134088	0.089479	0.055809	0.029412	1.663-001	1.919+000
50(0.64)	0.992481	0.781239	0.585733	0.425648	0.357667	0.277584	0.143177	0.103994	0.085954	0.051524	2.229-001	2.235+000
60(0.50)	1.020178	0.809566	0.621993	0.446460	0.384322	0.284371	0.156576	0.120909	0.117919	0.103793	2.194-001	1.821+000
65(0.42)	1.032592	0.821408	0.636086	0.454065	0.395402	0.285962	0.162707	0.129047	0.132258	0.144733	1.662-001	1.227+000
70(0.34)	1.042853	0.830228	0.646044	0.458286	0.353320	0.285085	0.166802	0.135206	0.143315	0.183394	1.874-001	1.210+000
75(0.26)	1.050198	0.835114	0.650076	0.458187	0.357027	0.280661	0.167606	0.137768	0.148745	0.210642	2.085-001	1.161+000
80(0.17)	1.054131	0.835529	0.647403	0.455268	0.355870	0.271965	0.164250	0.135467	0.146412	0.215524	2.261-001	1.099+000
85(0.09)	1.054523	0.831442	0.638077	0.443631	0.349694	0.258939	0.156560	0.127903	0.135443	0.192623	2.128-001	1.150+000
90(-0.00)	1.051628	0.823549	0.625024	0.430017	0.338867	0.242303	0.145196	0.115806	0.116950	0.149658	1.039-001	0.000+000
95(-0.09)	1.046032	0.812191	0.608881	0.413669	0.324275	0.223432	0.131511	0.100878	0.093858	0.086714	9.325-002	0.000+000
100(-0.17)	1.038525	0.799165	0.592667	0.396186	0.307259	0.204040	0.117179	0.085247	0.069850	0.031129	8.197-002	0.000+000
105(-0.26)	1.029946	0.785492	0.576387	0.379012	0.289420	0.185775	0.103735	0.070781	0.048073	-0.009065	7.258-002	0.000+000
110(-0.34)	1.021036	0.772215	0.561671	0.363379	0.272394	0.169902	0.092205	0.058579	0.030175	-0.029377	6.541-002	0.000+000
115(-0.42)	1.012342	0.760057	0.548557	0.350043	0.257067	0.157146	0.082962	0.048817	0.016407	-0.032789	5.953-002	0.000+000
120(-0.50)	1.004178	0.749384	0.537440	0.339241	0.244295	0.147751	0.075809	0.040960	0.006229	-0.026331	5.462-002	0.000+000
130(-0.64)	0.989736	0.732496	0.490333	0.324744	0.225985	0.138767	0.065496	0.027609	-0.005431	-0.009010	9.044-002	0.000+000
140(-0.77)	0.977361	0.720127	0.477552	0.316615	0.214793	0.141920	0.056493	0.014021	-0.007226	-0.001415	7.276-002	0.000+000
150(-0.87)	0.966588	0.710595	0.468468	0.311607	0.207699	0.154426	0.045384	0.001831	-0.003453	-0.000075	5.498-002	0.000+000
160(-0.94)	0.957792	0.703538	0.461634	0.308104	0.202927	0.169255	0.030895	-0.004305	-0.000237	0.000004	3.671-002	0.000+000
170(-0.98)	0.951925	0.698661	0.457160	0.305883	0.199923	0.179169	0.016279	-0.004153	0.000256	-0.000000	1.842-002	0.000+000
177(-1.00)	0.949985	0.697138	0.455684	0.305167	0.198929	0.182078	0.010195	-0.003076	0.000478	-0.000004	2.310-003	0.000+000
NUMBER SUM	12.671168	9.745751	7.058144	4.909776	3.607112	2.765554	1.461313	0.975412	0.792961	0.741932		

TOTAL NUMBER= 2.675520

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.497970

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.193?MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2782 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.966258	0.735154	0.519096	0.367517	0.241322	0.212590	0.153183	0.057897	0.032638	0.028675	4.673-003	7.752-002
10(0.98)	0.968359	0.737376	0.521675	0.369185	0.243135	0.215611	0.149614	0.061942	0.033778	0.029422	3.752-002	6.160-001
20(0.94)	0.975082	0.744471	0.530008	0.374551	0.249041	0.224668	0.141761	0.072341	0.038512	0.031999	7.592-002	1.206+000
30(0.87)	0.986151	0.756103	0.543978	0.383458	0.259030	0.236646	0.136202	0.083718	0.049349	0.037063	1.162-001	1.743+000
40(0.77)	1.000849	0.771452	0.562917	0.395303	0.272698	0.246971	0.139905	0.093583	0.067233	0.046830	1.595-001	2.205+000
50(0.64)	1.017209	0.788272	0.584224	0.408112	0.288440	0.253098	0.140185	0.103072	0.088699	0.067526	2.063-001	2.569+000
60(0.50)	1.031581	0.802296	0.602230	0.417911	0.302595	0.254492	0.145981	0.112615	0.109097	0.086523	1.922-001	2.107+000
65(0.42)	1.036541	0.806503	0.607489	0.419986	0.307344	0.252798	0.147830	0.116283	0.116732	0.130468	1.402-001	1.438+000
70(0.34)	1.039251	0.807934	0.608906	0.419281	0.309576	0.248841	0.147904	0.118035	0.121216	0.151291	1.502-001	1.457+000
75(0.26)	1.039297	0.806116	0.605777	0.415337	0.308788	0.242138	0.145496	0.116936	0.121180	0.162128	1.556-001	1.483+000
80(0.17)	1.036486	0.800873	0.597857	0.408024	0.304787	0.232477	0.140211	0.112680	0.115587	0.157134	1.495-001	1.620+000
85(0.09)	1.030892	0.792377	0.585459	0.397608	0.297713	0.220076	0.132132	0.104367	0.104330	0.134538	1.164-001	3.104+000
90(-0.00)	1.022846	0.781140	0.569435	0.384748	0.288011	0.205605	0.121855	0.093599	0.088342	0.098261	8.922-002	0.000+000
95(-0.09)	1.012884	0.767936	0.551036	0.370389	0.276367	0.190085	0.110358	0.081309	0.070367	0.056805	8.087-002	0.000+000
100(-0.17)	1.001652	0.753660	0.531684	0.355594	0.263647	0.174664	0.098749	0.068899	0.052238	0.019792	7.227-002	0.000+000
105(-0.26)	0.989802	0.739189	0.512716	0.341349	0.250788	0.160380	0.087979	0.057516	0.036084	-0.005929	6.500-002	0.000+000
110(-0.34)	0.977901	0.725243	0.495179	0.328413	0.238640	0.147980	0.078639	0.047777	0.022678	-0.018440	5.915-002	0.000+000
115(-0.42)	0.966367	0.712319	0.479706	0.317234	0.227817	0.137853	0.070899	0.039722	0.012709	-0.020277	5.411-002	0.000+000
120(-0.50)	0.955459	0.700671	0.466519	0.307954	0.218604	0.130089	0.064581	0.032979	0.005214	-0.016126	7.435-002	0.000+000
130(-0.64)	0.935899	0.681274	0.446363	0.294532	0.204785	0.121330	0.054655	0.021375	-0.003188	-0.005480	8.233-002	0.000+000
140(-0.77)	0.919309	0.666275	0.432238	0.286070	0.195566	0.120998	0.049726	0.010481	-0.004475	-0.000879	6.601-002	0.000+000
150(-0.87)	0.905601	0.654693	0.421859	0.280471	0.189244	0.127631	0.049632	0.001607	-0.002108	-0.000053	4.965-002	0.000+000
160(-0.94)	0.895107	0.646191	0.414296	0.276634	0.184870	0.136992	0.053762	-0.002584	-0.000142	0.000002	3.315-002	0.000+000
170(-0.98)	0.888448	0.640919	0.409561	0.274301	0.182164	0.143980	0.056606	-0.002511	0.000524	-0.000000	1.661-002	0.000+000
177(-1.00)	0.886304	0.639240	0.408039	0.273562	0.181288	0.146706	0.058110	-0.001834	0.000292	-0.000003	2.080-003	0.000+000
NUMBER SUM	12.433246	9.392133	6.656214	4.528886	3.238505	2.428690	1.310113	0.873191	0.701691	0.647354		

TOTAL NUMBER= 2.248851

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 4.645845

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200,0 FT OR 0,5565 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0,065	0,085	0,112	0,147	0,194	0 240	0,318	0.423	0,561	0.745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,978423	0.735980	0.526110	0,348095	0,231152	0.190187	0,140424	0,080818	0,050394	0.043519	4,420-003	9.687+002
10(0,98)	0,979470	0.737032	0.527589	0,348959	0,232025	0.191547	0,138983	0,082247	0,051864	0.044463	3,538-002	7.704+001
20(0,94)	0,982540	0.740125	0.531219	0,351515	0,234715	0.195711	0,135419	0,085827	0,055628	0.047655	7,083-002	1.512+000
30(0,87)	0,986668	0.744290	0.536602	0,355036	0,238710	0.201465	0,131859	0,089652	0,059682	0.051636	1,062-001	2.196+000
40(0,77)	0,990244	0.747883	0.541737	0,358273	0,242979	0.206285	0,129341	0,092847	0,063135	0.054987	1,409-001	2.804+000
50(0,64)	0,990959	0.748487	0.543737	0,359247	0,245756	0.207213	0,127305	0,095066	0,065474	0.056780	1,730-001	3.321+000
60(0,50)	0,986192	0.743296	0.539041	0,355513	0,244807	0.202159	0,123764	0,094944	0,066148	0.057179	1,983-001	2.835+000
65(0,42)	0,981058	0.737784	0.533193	0,351220	0,242319	0.197061	0,120639	0,093208	0,065078	0.056188	1,021-001	2.024+000
70(0,34)	0,973886	0.730125	0.524742	0,345145	0,238340	0.190240	0,116271	0,089933	0,062683	0.054119	1,020-001	2 231+000
75(0,26)	0,964683	0.720354	0.513745	0,337350	0,232955	0.181837	0,110573	0,084974	0,059039	0.050916	9,705-002	2.709+000
80(0,17)	0,953594	0.708672	0.500498	0,328064	0,226408	0.172140	0,103653	0,078426	0,054396	0.046924	8,584-002	4.616+000
85(0,09)	0,940895	0.695434	0.485511	0,317663	0,219081	0.161576	0,095806	0,070650	0,049252	0.042448	7,281-002	4.727+001
90(-0,00)	0,926961	0.681100	0.469440	0,306629	0,211598	0.150660	0,087469	0,062189	0,043585	0.037485	6,710-002	0.000+000
95(-0,09)	0,912223	0.666185	0.452994	0,295464	0,203753	0.139924	0,079119	0,053652	0,037492	0.031988	6,183-002	0.000+000
100(-0,17)	0,897115	0.651190	0.436838	0,284639	0,196447	0,129828	0,071172	0,045560	0,029059	0.024740	5,667-002	0.000+000
105(-0,26)	0,882038	0.636549	0.421509	0,274521	0,189678	0.120705	0,063910	0 038239	0,021131	-0.001991	5,210-002	0.000+000
110(-0,34)	0,867322	0.622598	0.407375	0,265353	0,183553	0,112734	0,057449	0,031793	0,012914	-0.009965	4,803-002	0.000+000
115(-0,42)	0,853219	0.609559	0.394622	0,257246	0,178103	0.105958	0,051759	0,026154	0,007367	-0.016391	4,426-002	0.000+000
120(-0,50)	0,839902	0.597554	0.383290	0,250206	0,173303	0.100336	0,046718	0,021166	0,003337	-0.022058	6,099-002	0.000+000
130(-0,64)	0,816022	0.576769	0.364568	0,239031	0,165597	0.092267	0,037919	0,012578	-0.000889	-0.031866	6,748-002	0.000+000
140(-0,77)	0,796112	0.560130	0.350275	0,231021	0,159283	0.088211	0,029851	0,005668	-0.001495	-0.040594	5,590-002	0.000+000
150(-0,87)	0,780356	0.547361	0.339582	0,225411	0,154625	0.088005	0,021797	0,001103	-0.000694	-0.048045	4,040-002	0.000+000
160(-0,94)	0,768922	0.538293	0.332059	0,221667	0,151503	0 090521	0,013861	-0.000741	-0.000059	-0.000001	2,692-002	0.000+000
170(-0,98)	0,761976	0.532862	0.327559	0,219493	0,149297	0.093443	0,007454	-0.000796	0.000104	0.000000	1,546-002	0.000+000
177(-1,00)	0,759792	0.531166	0.326153	0,218820	0,148666	0.094590	0,005075	-0.000599	0.000113	-0.001001	1,683-003	0.000+000
NUMBER SUM	11,434941	8.386901	5.749011	3,779348	2.594253	1.879061	1,049546	0,697915	0,549076	0.492821		

TOTAL NUMBER= 1,733616

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 6,967670

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.8347 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.923017	0.685946	0.491581	0.311439	0.207948	0.165478	0.124449	0.086707	0.057758	0.049536	3.988-003	1.154+001
10(0.98)	0.922984	0.685959	0.491774	0.311646	0.208153	0.165882	0.125980	0.086737	0.059026	0.050392	3.183-002	9.195+001
20(0.94)	0.922550	0.685681	0.492043	0.312045	0.208632	0.167114	0.122348	0.086645	0.062929	0.053227	6.314-002	1.812+000
30(0.87)	0.920726	0.684125	0.491274	0.311848	0.208795	0.168798	0.119542	0.086239	0.068411	0.058299	9.313-002	2.657+000
40(0.77)	0.915925	0.679698	0.487616	0.309818	0.207588	0.169652	0.118687	0.085373	0.073352	0.065982	1.204-001	3.445+000
50(0.64)	0.906297	0.670498	0.478765	0.304420	0.203610	0.167236	0.118374	0.083184	0.075349	0.074997	1.421-001	4.205+000
60(0.50)	0.890325	0.655008	0.462846	0.294387	0.195737	0.159396	0.102513	0.077992	0.072156	0.078700	1.149-001	3.834+000
65(0.42)	0.879778	0.644758	0.452089	0.287536	0.190315	0.153311	0.097347	0.073810	0.067985	0.075184	7.630-002	2.921+000
70(0.34)	0.867617	0.632981	0.439689	0.279625	0.184111	0.146034	0.091384	0.068545	0.062015	0.066978	7.331-002	3.617+000
75(0.26)	0.854038	0.619921	0.426000	0.270907	0.177415	0.137914	0.084799	0.062390	0.054530	0.054669	6.760-002	5.531+000
80(0.17)	0.839318	0.605906	0.411478	0.261709	0.170588	0.129366	0.077867	0.055690	0.046111	0.040135	6.040-002	1.613+001
85(0.09)	0.823783	0.591308	0.396614	0.252375	0.164008	0.120807	0.070904	0.048856	0.037495	0.025934	5.506-002	8.704+002
90(-0.00)	0.807779	0.576498	0.381873	0.243221	0.157998	0.112588	0.064193	0.042260	0.029362	0.014317	5.149-002	0.000+000
95(-0.09)	0.791638	0.561813	0.367632	0.234498	0.152759	0.104951	0.057928	0.036152	0.022162	0.006406	4.804-002	0.000+000
100(-0.17)	0.775655	0.547526	0.354159	0.226366	0.148334	0.098021	0.052190	0.030628	0.016067	0.002008	4.478-002	0.000+000
105(-0.26)	0.760080	0.533845	0.341610	0.218907	0.144624	0.091818	0.046969	0.025662	0.011057	0.000070	4.169-002	0.000+000
110(-0.34)	0.745111	0.520913	0.330050	0.212138	0.141454	0.086298	0.042198	0.021173	0.007051	-0.000597	3.872-002	0.000+000
115(-0.42)	0.730902	0.508824	0.319487	0.206041	0.138653	0.081393	0.037796	0.017089	0.003992	-0.000805	3.582-002	0.000+000
120(-0.50)	0.717571	0.497636	0.309900	0.200583	0.136094	0.077042	0.033693	0.013374	0.001837	-0.000882	4.944-002	0.000+000
130(-0.64)	0.693866	0.478096	0.293537	0.191459	0.131490	0.069835	0.026182	0.007138	-0.000164	-0.000739	5.467-002	0.000+000
140(-0.77)	0.674426	0.462403	0.280725	0.184558	0.127538	0.064550	0.019362	0.002843	-0.000377	-0.000320	4.360-002	0.000+000
150(-0.87)	0.659405	0.450493	0.271199	0.179665	0.124363	0.061393	0.013138	0.000643	-0.000207	-0.000061	3.264-002	0.000+000
160(-0.94)	0.648781	0.442193	0.264663	0.176476	0.122087	0.060497	0.007864	-0.000070	-0.000075	-0.000002	2.174-002	0.000+000
170(-0.98)	0.642462	0.437307	0.260855	0.174680	0.120744	0.061058	0.004296	-0.000222	0.000032	0.000000	1.087-002	0.000+000
177(-1.00)	0.640497	0.435796	0.259683	0.174133	0.120332	0.061483	0.003123	-0.000256	0.000073	0.000000	1.358-003	0.000+000
NUMBER SUM	10.085380	7.224495	4.830809	3.095490	2.064941	1.458727	0.837565	0.556036	0.429255	0.375198		

TOTAL NUMBER= 1.376954

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 9.429812

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400,0 FT OR 1,1130 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.065	0,085	0,112	0,147	0,194	0,240	0,318	0,423	0,561	0,745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,831981	0,611503	0,437647	0,268915	0,180118	0,141112	0,107715	0,083508	0,058612	0,050116	3,485-003	1,333+001
10(0,98)	0,831118	0,610767	0,437080	0,268667	0,179892	0,140986	0,107650	0,082834	0,059499	0,050766	2,775-002	1,063+000
20(0,94)	0,828083	0,608139	0,434947	0,267639	0,178999	0,140531	0,106801	0,080882	0,062028	0,052854	5,460-002	2,108+000
30(0,87)	0,822113	0,602849	0,430327	0,265173	0,176929	0,139721	0,104240	0,078244	0,064855	0,056375	7,942-002	3,124+000
40(0,77)	0,811998	0,593664	0,421729	0,260277	0,172836	0,138046	0,099713	0,075097	0,065933	0,061179	1,005-001	4,135+000
50(0,64)	0,796507	0,579327	0,407578	0,251919	0,165770	0,133779	0,093004	0,070512	0,063608	0,065196	1,150-001	5,249+000
60(0,50)	0,775009	0,559256	0,387163	0,239621	0,155354	0,125163	0,083635	0,063042	0,056642	0,061616	8,938-002	5,201+000
65(0,42)	0,762129	0,547251	0,374890	0,232181	0,149150	0,119215	0,077959	0,058020	0,051140	0,054422	5,802-002	4,290+000
70(0,34)	0,748062	0,534221	0,361654	0,224167	0,142622	0,112499	0,071812	0,052305	0,044454	0,043569	5,470-002	6,088+000
75(0,26)	0,733073	0,520475	0,347887	0,215877	0,136098	0,105396	0,065458	0,046210	0,037051	0,030584	5,017-002	1,206+001
80(0,17)	0,717467	0,506353	0,334044	0,207624	0,129920	0,098304	0,059198	0,040127	0,029606	0,017933	4,574-002	6,064+001
85(0,09)	0,701556	0,492183	0,320531	0,199682	0,124389	0,091557	0,053301	0,034416	0,022791	0,008039	4,260-002	1,640+004
90(-0,00)	0,685630	0,478249	0,307654	0,192244	0,119721	0,085370	0,047931	0,029304	0,017039	0,002212	4,007-002	0,000+000
95(-0,09)	0,669941	0,464764	0,295591	0,185407	0,115997	0,079819	0,043123	0,024836	0,012440	0,000160	3,773-002	0,000+000
100(-0,17)	0,654690	0,451873	0,284406	0,179180	0,113144	0,074863	0,038806	0,020913	0,008822	0,000392	3,552-002	0,000+000
105(-0,26)	0,640037	0,439666	0,274081	0,173517	0,110966	0,070398	0,034853	0,017379	0,005938	0,001181	3,336-002	0,000+000
110(-0,34)	0,626105	0,428197	0,264563	0,168352	0,109216	0,066312	0,031148	0,014108	0,003634	0,001433	3,112-002	0,000+000
115(-0,42)	0,612993	0,417502	0,255802	0,163630	0,107678	0,062526	0,027618	0,011057	0,001886	0,000962	2,881-002	0,000+000
120(-0,50)	0,600782	0,407616	0,247772	0,159320	0,106221	0,059000	0,024238	0,008262	0,000720	0,000171	3,973-002	0,000+000
130(-0,64)	0,579309	0,390390	0,233928	0,151930	0,103418	0,052698	0,017964	0,003775	-0,000123	-0,000707	4,390-002	0,000+000
140(-0,77)	0,562005	0,376678	0,223109	0,146255	0,100900	0,047377	0,012410	0,001181	-0,000106	-0,000418	3,500-002	0,000+000
150(-0,87)	0,548898	0,366428	0,215218	0,142279	0,098878	0,043234	0,007698	0,000272	-0,000134	-0,000085	2,621-002	0,000+000
160(-0,94)	0,539800	0,359402	0,209941	0,139754	0,097465	0,040819	0,004225	0,000076	-0,000113	-0,000004	1,747-002	0,000+000
170(-0,98)	0,534465	0,355318	0,206934	0,138377	0,096664	0,040125	0,002362	-0,000152	0,000025	0,000001	8,735-003	0,000+000
177(-1,00)	0,532818	0,354064	0,206020	0,137964	0,096426	0,040120	0,001881	-0,000298	0,000092	0,000001	1,092-003	0,000+000
NUMBER SUM	8,646362	6,074695	3,984231	2,503221	1,636040	1,135166	0,666192	0,441730	0,335272	0,285686		

TOTAL NUMBER= 1,100136

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 12,090029

LOWER ENERGY CUTOFF 0,0428MEV

LOWEST SINGLE SCATTERING ENERGY 0,1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,800 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500,0 FT OR 1,3912 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,665	0,085	0,112	0,147	0,194	0,240	0,318	0,423	0,561	0,745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,726034	0,528742	0,377404	0,226766	0,152242	0,118546	0,091630	0,075953	0,055615	0,047532	2,977-003	1.505+001
10(0,98)	0,724664	0,527564	0,376394	0,226255	0,151776	0,118149	0,091720	0,074961	0,056118	0,047945	2,366-002	1.202+000
20(0,94)	0,720085	0,523597	0,372921	0,224439	0,150146	0,116792	0,091162	0,072160	0,057412	0,049208	4,622-002	2.399+000
30(0,87)	0,711818	0,516334	0,366331	0,220835	0,146972	0,114594	0,088689	0,068474	0,058229	0,051148	6,641-002	3.603+000
40(0,77)	0,699060	0,504935	0,355552	0,214717	0,141643	0,111540	0,085973	0,064237	0,056850	0,053419	8,254-002	4.885+000
50(0,64)	0,681117	0,488670	0,339601	0,205444	0,133570	0,106514	0,076981	0,058621	0,052496	0,054058	9,233-002	6.495+000
60(0,50)	0,657938	0,467534	0,318455	0,193000	0,122805	0,098153	0,067591	0,050500	0,044020	0,047160	6,974-002	7.080+000
65(0,42)	0,644660	0,455473	0,306400	0,185897	0,116795	0,092776	0,062138	0,045456	0,038686	0,038975	4,468-002	6.382+000
70(0,34)	0,630542	0,442748	0,293827	0,178524	0,110733	0,086932	0,056428	0,039997	0,032001	0,028066	4,178-002	1.049+001
75(0,26)	0,615858	0,429670	0,281157	0,171169	0,104933	0,080977	0,050740	0,034464	0,025371	0,016253	3,841-002	2.698+001
80(0,17)	0,600896	0,416548	0,268794	0,164102	0,099675	0,075251	0,045356	0,029228	0,019151	0,006033	3,544-002	2.332+002
85(0,09)	0,585931	0,403654	0,257051	0,157527	0,095180	0,070005	0,040488	0,024580	0,013903	-0,000526	3,332-002	3.122+005
90(-0,00)	0,571199	0,391196	0,246119	0,151550	0,091573	0,065350	0,036215	0,020638	0,009874	-0,002801	3,153-002	0.000+000
95(-0,09)	0,556888	0,379308	0,236056	0,146178	0,088861	0,061262	0,032485	0,017333	0,006947	-0,001848	2,984-002	0.000+000
100(-0,17)	0,543139	0,368058	0,226818	0,141345	0,086926	0,057619	0,029154	0,014475	0,004783	0,000314	2,822-002	0.000+000
105(-0,26)	0,530055	0,357476	0,218313	0,136950	0,085547	0,054270	0,026060	0,011866	0,003061	0,001870	2,662-002	0.000+000
110(-0,34)	0,517719	0,347577	0,210448	0,132904	0,084478	0,051096	0,023086	0,009389	0,001842	0,002038	2,486-002	0.000+000
115(-0,42)	0,506198	0,338376	0,203170	0,129153	0,083523	0,048038	0,020185	0,007039	0,000960	0,001118	2,299-002	0.000+000
120(-0,50)	0,495552	0,329901	0,196471	0,125683	0,082580	0,045098	0,017373	0,004897	-0,000107	-0,000084	3,166-002	0.000+000
130(-0,64)	0,477075	0,315253	0,184943	0,119682	0,080713	0,039662	0,012183	0,001664	-0,000354	-0,001130	3,500-002	0.000+000
140(-0,77)	0,462486	0,303789	0,176103	0,115116	0,079095	0,034816	0,007752	0,000176	-0,000189	-0,000584	2,792-002	0.000+000
150(-0,87)	0,451673	0,295399	0,169859	0,112014	0,077894	0,030614	0,004227	-0,000016	-0,000232	-0,000111	2,093-002	0.000+000
160(-0,94)	0,444312	0,289761	0,165826	0,110135	0,077129	0,027685	0,001977	0,000012	-0,000163	-0,000005	1,396-002	0.000+000
170(-0,98)	0,440054	0,286531	0,163588	0,109149	0,076738	0,026430	0,001166	-0,000290	0,000045	0,000001	6,990-003	0.000+000
177(-1,00)	0,438748	0,285545	0,162917	0,108860	0,076630	0,026211	0,001095	-0,000498	0,000136	0,000001	8,744-004	0.000+000
NUMBER SUM	7,263298	5,022495	3,243497	2,006638	1,291939	0,884803	0,528370	0,350015	0,261627	0,217571		

TOTAL NUMBER= 0,878888

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 14,949409

LOWER ENERGY CUTOFF 0,0428MEV

LOWEST SINGLE SCATTERING ENERGY 0,1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.800 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.7824 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.065	0.085	0.112	0.147	0.194	0.240	0.318	0.423	0.561	0.745	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.270018	0.196281	0.140810	0.082350	0.056652	0.044122	0.035217	0.034803	0.027116	0.023883	1.117-003	2.272+001
10(0.98)	0.269265	0.195619	0.140274	0.082112	0.056344	0.043811	0.035847	0.033753	0.026902	0.023600	8.813-003	1.840+000
20(0.94)	0.266867	0.193499	0.138533	0.081287	0.055313	0.042389	0.036338	0.030941	0.026390	0.022606	1.686-002	3.845+000
30(0.87)	0.262824	0.189866	0.135425	0.079634	0.053423	0.040033	0.034909	0.027844	0.025169	0.020935	2.344-002	6.338+000
40(0.77)	0.256851	0.184341	0.130333	0.076654	0.050324	0.037897	0.032012	0.025197	0.022407	0.019715	2.803-002	1.020+001
50(0.64)	0.248472	0.176345	0.122325	0.071753	0.045467	0.035497	0.028214	0.022164	0.018765	0.020331	3.030-002	1.856+001
60(0.50)	0.237458	0.165672	0.111065	0.064794	0.038762	0.031030	0.023137	0.017517	0.014359	0.017866	2.211-002	3.627+001
65(0.42)	0.231101	0.159548	0.104590	0.060826	0.035133	0.028017	0.020126	0.014506	0.011526	0.012395	1.379-002	5.296+001
70(0.34)	0.224365	0.153159	0.097992	0.056852	0.031737	0.024879	0.017039	0.011298	0.007720	0.004147	1.242-002	1.822+002
75(0.26)	0.217439	0.146741	0.091655	0.053149	0.028863	0.022017	0.014180	0.008285	0.004091	-0.004521	1.121-002	1.701+003
80(0.17)	0.210509	0.140508	0.085886	0.049939	0.026682	0.019748	0.011836	0.005871	0.001218	-0.010259	1.044-002	2.072+005
85(0.09)	0.203732	0.134606	0.080839	0.047313	0.025234	0.018198	0.010149	0.004284	-0.000351	-0.010743	9.896-003	7.935+011
90(-0.00)	0.197220	0.129093	0.076486	0.045219	0.024458	0.017266	0.009046	0.003450	-0.000662	-0.006343	9.469-003	0.000+000
95(-0.09)	0.191042	0.123954	0.072648	0.043479	0.024206	0.016665	0.008267	0.003026	-0.000542	-0.000048	9.137-003	0.000+000
100(-0.17)	0.185238	0.119138	0.069087	0.041872	0.024239	0.016054	0.007492	0.002584	-0.000179	0.004432	8.970-003	0.000+000
105(-0.26)	0.179850	0.114602	0.065802	0.040214	0.024263	0.015164	0.006487	0.001836	-0.000615	0.004981	8.460-003	0.000+000
110(-0.34)	0.174930	0.110351	0.062111	0.038422	0.024026	0.013903	0.005190	0.000748	-0.001521	0.002095	7.649-003	0.000+000
115(-0.42)	0.170548	0.106442	0.058671	0.036531	0.023428	0.012364	0.003706	-0.000488	-0.002411	-0.001962	6.911-003	0.000+000
120(-0.50)	0.166780	0.102971	0.055445	0.034662	0.022558	0.010761	0.002222	-0.001597	-0.002841	-0.004906	9.440-003	0.000+000
130(-0.64)	0.161277	0.097696	0.050398	0.031573	0.020821	0.008120	-0.000169	-0.002665	-0.002268	-0.004824	1.030-002	0.000+000
140(-0.77)	0.158392	0.094605	0.047843	0.029919	0.019993	0.006205	-0.001667	-0.002081	-0.001357	-0.001701	8.285-003	0.000+000
150(-0.87)	0.157444	0.093787	0.047342	0.029603	0.020068	0.004072	-0.002573	-0.000954	-0.001229	-0.000242	6.353-003	0.000+000
160(-0.94)	0.157496	0.093760	0.047824	0.029993	0.020569	0.002173	-0.002481	-0.000768	-0.000493	-0.000007	4.341-003	0.000+000
170(-0.98)	0.157797	0.093996	0.048411	0.030448	0.021066	0.001592	-0.001103	-0.001604	0.000242	0.000002	2.220-003	0.000+000
177(-1.00)	0.157927	0.094103	0.048634	0.030613	0.021253	0.001673	-0.000215	-0.002099	0.000454	0.000003	2.802-004	0.000+000
NUMBER SUM	2.559223	1.702282	1.056236	0.629412	0.388171	0.255715	0.160594	0.105964	0.074721	0.055968		

TOTAL NUMBER= 0.28022R

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 32.536450

LOWER ENERGY CUTOFF 0.0428MEV

LOWEST SINGLE SCATTERING ENERGY 0.1937MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0079 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.833456	0.633998	0.424726	0.337942	0.210363	0.207299	0.137325	0.002931	0.000289	0.000892	4.526-003	5.727+002
10(0.98)	0.836295	0.637423	0.428393	0.340340	0.213248	0.212671	0.130827	0.010259	-0.000056	0.000919	3.644-002	4.546+001
20(0.94)	0.845948	0.648912	0.440733	0.348617	0.222895	0.227898	0.117233	0.029742	0.000718	0.001011	7.475-002	8.901+001
30(0.87)	0.863676	0.669548	0.463095	0.363913	0.240172	0.245825	0.109396	0.051687	0.008855	0.001302	1.175-001	1.291+000
40(0.77)	0.890786	0.700354	0.496917	0.386920	0.266015	0.259484	0.112705	0.070420	0.030836	0.003998	1.688-001	1.642+000
50(0.64)	0.926744	0.740079	0.541000	0.416170	0.299696	0.269682	0.126337	0.088926	0.065726	0.021690	2.357-001	1.928+000
60(0.50)	0.967509	0.783118	0.588458	0.446253	0.336305	0.280389	0.146282	0.111597	0.106788	0.081614	2.470-001	1.577+000
65(0.42)	0.987427	0.802876	0.609541	0.458627	0.352619	0.285046	0.156114	0.123441	0.126781	0.130570	1.955-001	1.058+000
70(0.34)	1.005599	0.819596	0.626371	0.467312	0.365548	0.287491	0.163858	0.133521	0.143724	0.183466	2.334-001	1.026+000
75(0.26)	1.021048	0.832061	0.637317	0.471051	0.373705	0.286167	0.167937	0.139747	0.154612	0.226080	2.837-001	9.516+001
80(0.17)	1.033069	0.839463	0.641329	0.469075	0.376084	0.279915	0.167165	0.140351	0.156502	0.243015	3.665-001	8.371+001
85(0.09)	1.041343	0.841567	0.638186	0.461309	0.372194	0.268363	0.161146	0.134559	0.147839	0.225003	5.829-001	6.992+001
90(-0.00)	1.045980	0.838767	0.628581	0.448456	0.362140	0.252112	0.150473	0.122980	0.129473	0.174483	1.185-001	0.000+000
95(-0.09)	1.047476	0.832706	0.613998	0.431881	0.346718	0.232616	0.136613	0.107493	0.104625	0.105570	1.052-001	0.000+000
100(-0.17)	1.046595	0.822583	0.596412	0.413349	0.327427	0.211839	0.121510	0.090633	0.077711	0.037861	9.073-002	0.000+000
105(-0.26)	1.044191	0.811897	0.577895	0.394678	0.306267	0.191787	0.107044	0.074757	0.052681	-0.012316	7.884-002	0.000+000
110(-0.34)	1.041069	0.801199	0.560236	0.377411	0.285328	0.174094	0.094573	0.061362	0.031853	-0.038056	7.023-002	0.000+000
115(-0.42)	1.037840	0.791411	0.544690	0.362606	0.266303	0.159801	0.084706	0.050818	0.015790	-0.042374	6.348-002	0.000+000
120(-0.50)	1.034875	0.783051	0.531879	0.350758	0.250191	0.149377	0.077348	0.042557	0.004032	-0.033973	8.673-002	0.000+000
130(-0.64)	1.030098	0.770886	0.514283	0.335573	0.227314	0.140338	0.067684	0.028699	-0.008758	-0.011493	9.603-002	0.000+000
140(-0.77)	1.026226	0.763198	0.504255	0.328579	0.214262	0.146447	0.059753	0.013854	-0.009494	-0.001748	7.758-002	0.000+000
150(-0.87)	1.022346	0.757696	0.497842	0.325528	0.206920	0.164411	0.048696	0.000184	-0.004052	-0.000084	5.877-002	0.000+000
160(-0.94)	1.018488	0.753333	0.493112	0.323812	0.202413	0.184919	0.032131	-0.006012	-0.000063	0.000003	3.948-002	0.000+000
170(-0.98)	1.015529	0.750305	0.489935	0.322691	0.199633	0.198294	0.014000	-0.004579	0.000691	-0.000000	1.989-002	0.000+000
177(-1.00)	1.014479	0.749274	0.488866	0.322306	0.198704	0.202123	0.006192	-0.002777	0.000547	-0.000000	2.498-003	0.000+000
NUMBER SUM	12.543902	9.791939	6.989660	4.987963	3.666280	2.793964	1.417052	0.931434	0.751322	0.705201		

TOTAL NUMBER= 4.146582

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 1.941483

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1321 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.912141	0.692246	0.471564	0.349639	0.220476	0.201669	0.137552	0.027650	0.014641	0.013145	4.623-003	6.624+002
10(0.98)	0.914711	0.695144	0.474616	0.351644	0.222752	0.205681	0.132847	0.033034	0.015036	0.013518	3.719-002	5.263+001
20(0.94)	0.923153	0.704609	0.484635	0.358333	0.230249	0.217239	0.122839	0.047264	0.017662	0.014813	7.579-002	1.030+000
30(0.87)	0.937751	0.720817	0.501986	0.370054	0.243266	0.231362	0.116642	0.063293	0.026602	0.017442	1.175-001	1.490+000
40(0.77)	0.958518	0.743577	0.526725	0.386618	0.261886	0.242519	0.118149	0.077148	0.045412	0.023533	1.649-001	1.886+000
50(0.64)	0.983973	0.770898	0.556784	0.406146	0.284802	0.249816	0.126529	0.090555	0.072160	0.041788	2.215-001	2.198+000
60(0.50)	1.010304	0.797903	0.586276	0.424116	0.307906	0.254802	0.138303	0.105607	0.100938	0.087880	2.187-001	1.790+000
65(0.42)	1.022037	0.809048	0.597937	0.430365	0.317330	0.255752	0.143522	0.112711	0.113734	0.121499	1.661-001	1.206+000
70(0.34)	1.031810	0.817356	0.605874	0.433531	0.323996	0.254594	0.146898	0.118024	0.123499	0.155237	1.877-001	1.187+000
75(0.26)	1.038999	0.822076	0.609085	0.432867	0.327084	0.250433	0.147412	0.120180	0.128254	0.179380	2.099-001	1.137+000
80(0.17)	1.043210	0.822782	0.607028	0.427997	0.326089	0.242676	0.144378	0.118129	0.126236	0.184252	2.294-001	1.071+000
85(0.09)	1.044345	0.819471	0.599760	0.419042	0.320872	0.231282	0.137682	0.111552	0.116754	0.164958	2.200-001	1.097+000
90(-0.00)	1.042615	0.812577	0.587963	0.406644	0.311684	0.216846	0.127880	0.101075	0.100768	0.124620	1.026-001	0.000+000
95(-0.09)	1.038495	0.802898	0.572830	0.391867	0.299174	0.200493	0.116087	0.088130	0.080756	0.073762	9.201-002	0.000+000
100(-0.17)	1.032630	0.791446	0.555844	0.376003	0.284382	0.183630	0.103682	0.074509	0.059848	0.025806	8.072-002	0.000+000
105(-0.26)	1.025715	0.779271	0.538502	0.360331	0.268613	0.167630	0.091942	0.061802	0.040725	-0.008721	7.138-002	0.000+000
110(-0.34)	1.018384	0.767289	0.522063	0.345907	0.253191	0.153571	0.081751	0.050967	0.024904	-0.025934	6.428-002	0.000+000
115(-0.42)	1.011124	0.756170	0.507390	0.333432	0.239174	0.142105	0.073467	0.042195	0.012715	-0.028515	5.847-002	0.000+000
120(-0.50)	1.004245	0.746290	0.494899	0.323214	0.227175	0.133493	0.066977	0.035061	0.003814	-0.022658	8.011-002	0.000+000
130(-0.64)	0.992069	0.730502	0.476297	0.309212	0.209550	0.124822	0.057568	0.022904	-0.005746	-0.007573	8.866-002	0.000+000
140(-0.77)	0.981815	0.719018	0.464046	0.301564	0.198678	0.127123	0.049414	0.010794	-0.006366	-0.001147	7.136-002	0.000+000
150(-0.87)	0.973097	0.710376	0.455474	0.297352	0.191958	0.138421	0.039205	0.000484	-0.002683	-0.000056	5.387-002	0.000+000
160(-0.94)	0.966063	0.703917	0.449280	0.294744	0.187607	0.152574	0.025518	-0.003982	-0.000033	0.000002	3.609-002	0.000+000
170(-0.98)	0.961389	0.699776	0.445356	0.293151	0.184948	0.162494	0.011463	-0.003010	0.000454	-0.000000	1.813-002	0.000+000
177(-1.00)	0.959845	0.698427	0.444082	0.292633	0.184080	0.165512	0.005569	-0.001783	0.000358	-0.000000	2.274-003	0.000+000
NUMBER SUM	12.611527	9.649852	6.737742	4.668701	3.332403	2.486580	1.286074	0.843983	0.673379	0.624324		

TOTAL NUMBER= 2.668611

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.389040

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2642 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.960752	0.725750	0.499219	0.351361	0.223553	0.193697	0.135306	0.046473	0.026365	0.023061	4.624-005	7.563+002
10(0.98)	0.962853	0.728016	0.501590	0.352937	0.225260	0.196579	0.132015	0.050238	0.027238	0.023668	3.713-002	6.010+001
20(0.94)	0.969546	0.735225	0.509180	0.358021	0.230783	0.205014	0.124822	0.060108	0.030951	0.025756	7.519-002	1.176+000
30(0.87)	0.980462	0.746944	0.521681	0.366417	0.240028	0.215677	0.119856	0.071185	0.039872	0.029858	1.152-001	1.701+000
40(0.77)	0.994767	0.762201	0.538235	0.377368	0.252513	0.224271	0.119787	0.080806	0.055399	0.037833	1.583-001	2.152+000
50(0.64)	1.010477	0.778661	0.556351	0.388847	0.266652	0.228870	0.123833	0.089746	0.075023	0.055174	2.056-001	2.505+000
60(0.50)	1.024207	0.792258	0.571191	0.397214	0.279142	0.229390	0.129094	0.098500	0.093710	0.089024	1.925-001	2.051+000
65(0.42)	1.029027	0.796398	0.575382	0.398758	0.283294	0.227627	0.130739	0.101856	0.100822	0.110366	1.408-001	1.398+000
70(0.34)	1.031832	0.797977	0.576392	0.397788	0.285264	0.223939	0.130807	0.103507	0.105084	0.129365	1.516-001	1.411+000
75(0.26)	1.032277	0.796599	0.573700	0.393933	0.284653	0.217909	0.128706	0.102644	0.105311	0.139848	1.580-001	1.426+000
80(0.17)	1.030207	0.792122	0.567133	0.387101	0.281306	0.209353	0.124113	0.098743	0.100617	0.136419	1.531-001	1.530+000
85(0.09)	1.025683	0.784702	0.556930	0.377532	0.275322	0.198445	0.117105	0.091802	0.090912	0.117269	1.194-001	2.712+000
90(-0.00)	1.018979	0.774783	0.543732	0.365795	0.267024	0.185741	0.108182	0.082415	0.077170	0.085730	8.863-002	0.000+000
95(-0.09)	1.010541	0.763027	0.528480	0.352698	0.256932	0.172090	0.098163	0.071642	0.061237	0.049343	8.020-002	0.000+000
100(-0.17)	1.000909	0.750213	0.512260	0.339153	0.245729	0.158459	0.087983	0.060690	0.045234	0.016750	7.150-002	0.000+000
105(-0.26)	0.990640	0.737108	0.496113	0.326022	0.234197	0.145738	0.078457	0.050568	0.030876	-0.005854	6.420-002	0.000+000
110(-0.34)	0.980228	0.724365	0.480890	0.313989	0.223094	0.134588	0.070114	0.041837	0.019080	-0.016717	5.836-002	0.000+000
115(-0.42)	0.970060	0.712456	0.467154	0.303486	0.213008	0.125376	0.063136	0.034565	0.010009	-0.018114	5.336-002	0.000+000
120(-0.50)	0.960391	0.701648	0.455168	0.294688	0.204269	0.118222	0.057404	0.028449	0.003416	-0.014257	7.328-002	0.000+000
130(-0.64)	0.943008	0.683565	0.436299	0.281900	0.190930	0.109947	0.048399	0.017934	-0.003543	-0.004732	8.109-002	0.000+000
140(-0.77)	0.928343	0.669637	0.422817	0.274024	0.182030	0.109411	0.040329	0.008215	-0.004045	-0.000730	6.586-002	0.000+000
150(-0.87)	0.916342	0.658994	0.412998	0.269143	0.176066	0.115567	0.031065	0.000634	-0.001682	-0.000040	4.897-002	0.000+000
160(-0.94)	0.907221	0.651236	0.405988	0.266012	0.172049	0.124644	0.019896	-0.002478	-0.000019	0.000001	3.274-002	0.000+000
170(-0.98)	0.901449	0.646432	0.401678	0.264154	0.169611	0.131646	0.009818	-0.001869	0.000283	0.000000	1.641-002	0.000+000
177(-1.00)	0.899592	0.644899	0.400306	0.263565	0.168829	0.133927	0.004882	-0.001084	0.000225	-0.000000	2.057-003	0.000+000
NUMBER SUM	12.422922	9.336696	6.394948	4.318837	3.003932	2.198641	1.158685	0.759304	0.599203	0.548426		

TOTAL NUMBER= 2.247287

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4.457631

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5285 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.978853	0.730835	0.506812	0.333079	0.214113	0.174039	0.125768	0.067475	0.041265	0.035490	4.396-003	9.366+002
10(0.98)	0.979816	0.731852	0.507915	0.333868	0.214916	0.175177	0.124238	0.069033	0.042474	0.036274	3.519-002	7.448+001
20(0.94)	0.982634	0.734840	0.511201	0.336202	0.217385	0.179199	0.120531	0.072987	0.046643	0.038929	7.050-002	1.461+000
30(0.87)	0.986396	0.738870	0.515766	0.339398	0.221358	0.184740	0.116976	0.077254	0.054034	0.043926	1.059-001	2.121+000
40(0.77)	0.989617	0.742390	0.520026	0.342273	0.225001	0.188892	0.114655	0.080756	0.063689	0.052372	1.408-001	2.702+000
50(0.64)	0.990224	0.743174	0.521537	0.343013	0.227659	0.189313	0.112965	0.083204	0.072894	0.065265	1.735-001	3.190+000
60(0.50)	0.985903	0.738682	0.517335	0.339458	0.227102	0.184467	0.110076	0.083560	0.078189	0.081488	1.497-001	2.707+000
65(0.42)	0.981287	0.733788	0.512274	0.335497	0.225090	0.179842	0.107468	0.082277	0.078263	0.087137	1.035-001	1.920+000
70(0.34)	0.974854	0.726944	0.505005	0.329933	0.221793	0.173757	0.103775	0.079633	0.076078	0.088647	1.039-001	2.094+000
75(0.26)	0.966602	0.718170	0.495556	0.322816	0.217272	0.166257	0.098904	0.075479	0.071408	0.084161	9.926-002	2.488+000
80(0.17)	0.956650	0.707634	0.484142	0.314336	0.211723	0.157627	0.092928	0.069868	0.064339	0.073072	8.778-002	4.018+000
85(0.09)	0.945227	0.695636	0.471153	0.304815	0.205445	0.148195	0.086088	0.063091	0.055360	0.056677	7.334-002	3.454+001
90(-0.00)	0.932650	0.682580	0.457104	0.294666	0.198773	0.138397	0.078751	0.055618	0.045297	0.037865	6.724-002	0.000+000
95(-0.09)	0.919290	0.668920	0.442571	0.284340	0.192022	0.128696	0.071333	0.047993	0.035118	0.020144	6.182-002	0.000+000
100(-0.17)	0.905530	0.655111	0.428115	0.274264	0.185445	0.119508	0.064212	0.040700	0.025694	0.006565	5.652-002	0.000+000
105(-0.26)	0.891729	0.641556	0.414209	0.264786	0.179229	0.111146	0.057659	0.034062	0.017568	-0.002182	5.187-002	0.000+000
110(-0.34)	0.878196	0.628578	0.401207	0.256150	0.173498	0.103798	0.051801	0.028203	0.011009	-0.005881	4.777-002	0.000+000
115(-0.42)	0.865171	0.616403	0.389319	0.248484	0.168320	0.097527	0.046633	0.023079	0.006005	-0.006199	4.399-002	0.000+000
120(-0.50)	0.852830	0.605164	0.378633	0.241816	0.163712	0.092313	0.042057	0.018556	0.002426	-0.004842	6.062-002	0.000+000
130(-0.64)	0.830615	0.585670	0.360767	0.231262	0.156079	0.084851	0.034090	0.010801	-0.001153	-0.001714	6.707-002	0.000+000
140(-0.77)	0.812037	0.570063	0.347023	0.223793	0.150213	0.081 86	0.026765	0.004610	-0.001450	-0.000337	5.361-002	0.000+000
150(-0.87)	0.797306	0.558088	0.336737	0.218662	0.145796	0.081201	0.019354	0.000631	-0.000597	-0.000035	4.021-002	0.000+000
160(-0.94)	0.786595	0.549573	0.329517	0.215297	0.142675	0.083823	0.011926	-0.000804	-0.000024	-0.000001	2.681-002	0.000+000
170(-0.98)	0.780079	0.544464	0.325211	0.213360	0.140800	0.086788	0.005854	-0.000646	0.000102	0.000000	1.341-002	0.000+000
177(-1.00)	0.778027	0.542866	0.323867	0.212762	0.140212	0.087945	0.003586	-0.000392	0.000097	-0.000000	1.678-003	0.000+000
NUMBER SUM	11.519979	8.410043	5.590954	3.630175	2.427357	1.723099	0.937558	0.613095	0.474181	0.423174		

TOTA NUMBER= 1.740355

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 6.595624

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.7927 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.929007	0.685343	0.475990	0.299191	0.193370	0.152328	0.112652	0.074135	0.047987	0.040961	3.990-003	1.108+001
10(0.98)	0.928913	0.685334	0.476093	0.299367	0.193550	0.152762	0.112002	0.074426	0.049085	0.041695	3.186-002	8.818+001
20(0.94)	0.928323	0.685000	0.476124	0.299681	0.193977	0.154087	0.110024	0.074996	0.052554	0.044133	6.326-002	1.737+000
30(0.87)	0.926329	0.683421	0.475136	0.299398	0.194132	0.155858	0.107092	0.075283	0.057685	0.048529	9.347-002	2.541+000
40(0.77)	0.921520	0.679153	0.471581	0.297397	0.193097	0.156717	0.103462	0.074990	0.062708	0.055298	1.211-001	3.282+000
50(0.64)	0.912282	0.670517	0.463578	0.292336	0.189682	0.154428	0.098746	0.073435	0.065313	0.063626	1.436-001	3.981+000
60(0.50)	0.897330	0.656202	0.449598	0.283130	0.182960	0.147250	0.091947	0.069248	0.063317	0.068151	1.169-001	3.585+000
69(0.42)	0.887554	0.646787	0.440222	0.276892	0.178337	0.141763	0.087505	0.065766	0.060025	0.066024	7.788-002	2.699+000
70(0.34)	0.876322	0.635983	0.429402	0.269696	0.173039	0.135230	0.082369	0.061317	0.055114	0.059816	7.506-002	3.276+000
79(0.26)	0.863795	0.623993	0.417395	0.261754	0.167298	0.127939	0.076670	0.056046	0.048798	0.049813	6.925-002	4.818+000
80(0.17)	0.850204	0.611095	0.404543	0.253335	0.161407	0.120233	0.070622	0.050225	0.041542	0.037452	6.152-002	1.290+001
85(0.09)	0.835826	0.597608	0.391233	0.244737	0.155678	0.112462	0.064482	0.044199	0.033963	0.024884	5.563-002	5.433+002
90(-0.00)	0.820962	0.583864	0.377850	0.236238	0.150380	0.104932	0.058494	0.038295	0.026667	0.014160	5.194-002	0.000+000
95(-0.09)	0.805908	0.570168	0.364734	0.228072	0.145689	0.097870	0.052840	0.032755	0.020095	0.006484	4.836-002	0.000+000
100(-0.17)	0.790938	0.556784	0.352153	0.220406	0.141651	0.091411	0.047617	0.027699	0.014470	0.001941	4.499-002	0.000+000
105(-0.26)	0.776287	0.543919	0.340291	0.213337	0.138201	0.085601	0.042844	0.023139	0.009837	-0.000213	4.182-002	0.000+000
110(-0.34)	0.762150	0.531722	0.329259	0.206905	0.135208	0.080427	0.038482	0.019026	0.006161	-0.000973	3.882-002	0.000+000
115(-0.42)	0.748683	0.520298	0.319111	0.201111	0.132541	0.075843	0.034467	0.015301	0.003390	-0.001116	3.590-002	0.000+000
120(-0.50)	0.736004	0.509711	0.309859	0.195932	0.130098	0.071797	0.030736	0.011928	0.001468	-0.001045	4.955-002	0.000+000
130(-0.64)	0.713347	0.491187	0.293998	0.187298	0.125700	0.065163	0.023903	0.006286	-0.000275	-0.000683	5.483-002	0.000+000
140(-0.77)	0.694637	0.476265	0.281500	0.180771	0.121911	0.060387	0.017650	0.002412	-0.000412	-0.000262	4.374-002	0.000+000
150(-0.87)	0.680078	0.464895	0.272135	0.176119	0.118848	0.057625	0.011882	0.000451	-0.000201	-0.000046	3.276-002	0.000+000
160(-0.94)	0.669717	0.456941	0.265662	0.173070	0.116638	0.056944	0.006955	-0.000142	-0.000050	-0.000001	2.182-002	0.000+000
170(-0.98)	0.663527	0.452248	0.261871	0.171351	0.115328	0.057561	0.003609	-0.000213	0.000040	0.000000	1.091-002	0.000+000
177(-1.00)	0.661598	0.450795	0.260701	0.170829	0.114925	0.057987	0.002509	-0.000213	0.000069	0.000000	1.364-003	0.000+000
NUMBER SUM	10.248747	7.311367	4.752541	2.998458	1.950101	1.353874	0.755849	0.493581	0.374943	0.326537		

TOTAL NUMBER= 1.390327

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 8.827488

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.0570 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.842890	0.615050	0.426736	0.259802	0.168469	0.130804	0.098401	0.072766	0.049422	0.042020	3,513-003	1.270+001
10(0.98)	0.842018	0.614322	0.426153	0.259560	0.168254	0.130726	0.098165	0.072369	0.050235	0.042600	2,798-002	1.013+000
20(0.94)	0.838974	0.611729	0.424018	0.258558	0.167422	0.130462	0.096997	0.071099	0.052642	0.044478	5,513-002	2.005+000
30(0.87)	0.833054	0.606557	0.419562	0.256174	0.165530	0.129982	0.094342	0.069175	0.055599	0.047691	8,034-002	2.963+000
40(0.77)	0.823192	0.597697	0.411555	0.251523	0.161843	0.128670	0.090080	0.066683	0.057262	0.052193	1,019-001	3.900+000
50(0.64)	0.808345	0.584077	0.398746	0.243730	0.155575	0.124850	0.084024	0.062881	0.055911	0.056357	1,172-001	4.903+000
60(0.50)	0.788018	0.565246	0.380591	0.232420	0.146460	0.117022	0.075751	0.056535	0.050316	0.054372	9,155-002	4.764+000
65(0.42)	0.775914	0.554048	0.369718	0.225614	0.141062	0.111634	0.070779	0.052222	0.045696	0.048739	5,958-002	3.859+000
70(0.34)	0.762719	0.541910	0.357957	0.218285	0.135583	0.105553	0.065399	0.047281	0.039998	0.039809	5,622-002	5.313+000
75(0.26)	0.748658	0.529197	0.345633	0.210683	0.129693	0.099102	0.059818	0.041965	0.033605	0.028773	5,145-002	9.937+000
80(0.17)	0.733993	0.515902	0.333098	0.203073	0.124274	0.092618	0.054283	0.036602	0.027080	0.017697	4,665-002	4.480+001
85(0.09)	0.718990	0.502615	0.320681	0.195691	0.119582	0.086389	0.049012	0.031498	0.020995	0.008705	4,330-002	8.770+003
90(-0.00)	0.703919	0.489490	0.308655	0.188714	0.115209	0.080611	0.044153	0.026859	0.015750	0.003057	4,066-002	0.000+000
95(-0.09)	0.688998	0.476731	0.297208	0.182244	0.111836	0.075572	0.039755	0.022752	0.011475	0.000678	3,823-002	0.000+000
100(-0.17)	0.674435	0.464489	0.286449	0.176312	0.109217	0.070663	0.035777	0.019120	0.008078	0.000421	3,593-002	0.000+000
105(-0.26)	0.660380	0.452862	0.276418	0.170898	0.107197	0.066416	0.032133	0.015850	0.005387	0.000858	3,371-002	0.000+000
110(-0.34)	0.646967	0.441915	0.267119	0.165960	0.105569	0.062549	0.028730	0.012843	0.003276	0.001021	3,144-002	0.000+000
115(-0.42)	0.634294	0.431695	0.258541	0.161455	0.104146	0.058992	0.025502	0.010056	0.001708	0.000672	2,911-002	0.000+000
120(-0.50)	0.622447	0.422234	0.250675	0.157350	0.102803	0.055706	0.022417	0.007513	0.000672	0.000081	4,016-002	0.000+000
130(-0.64)	0.601477	0.405702	0.237081	0.150306	0.100197	0.049883	0.016666	0.003434	-0.000099	-0.000570	4,441-002	0.000+000
140(-0.77)	0.584408	0.392467	0.226352	0.144832	0.097782	0.045009	0.011513	0.001071	-0.000117	-0.000326	3,542-002	0.000+000
150(-0.87)	0.571343	0.382507	0.218401	0.140905	0.095776	0.041235	0.007103	0.000233	-0.000126	-0.000064	2,652-002	0.000+000
160(-0.94)	0.562194	0.375646	0.213000	0.138364	0.094338	0.039025	0.003853	0.000044	-0.000082	-0.000002	1,766-002	0.000+000
170(-0.98)	0.556799	0.371650	0.209888	0.136962	0.093507	0.038376	0.002125	-0.000147	0.000034	0.000000	8,832-003	0.000+000
177(-1.00)	0.555129	0.370422	0.208936	0.136544	0.093257	0.038165	0.001684	-0.000263	0.000085	0.000000	1,104-003	0.000+000
NUMBER SUM	8.865528	6.206333	3.963497	2.446810	1.559991	1.065733	0.607433	0.396311	0.296233	0.251994		

TOTAL NUMBER= 1,118068

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 11,210422

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.3212 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.741018	0.535735	0.371040	0.220558	0.143383	0.110732	0.084425	0.067266	0.047596	0.040410	3.026-003	1.426+001
10(0.98)	0.739669	0.534584	0.370055	0.220075	0.142947	0.110382	0.084381	0.066525	0.048098	0.040803	2.405-002	1.139+000
20(0.94)	0.735165	0.530706	0.366699	0.218342	0.141432	0.109240	0.083586	0.064338	0.049476	0.042028	4.706-002	2.267+000
30(0.87)	0.727061	0.523622	0.360426	0.214890	0.138507	0.107456	0.081088	0.061296	0.050687	0.043968	6.776-002	3.391+000
40(0.77)	0.714643	0.512576	0.350361	0.209077	0.133639	0.104901	0.076655	0.057683	0.050104	0.046363	8.448-002	4.563+000
50(0.64)	0.697347	0.496978	0.335762	0.200389	0.126364	0.100419	0.070270	0.052830	0.046586	0.047546	9.485-002	5.984+000
60(0.50)	0.675203	0.476913	0.316680	0.188870	0.116803	0.092815	0.061850	0.045751	0.039565	0.042315	7.193-002	6.349+000
68(0.42)	0.662571	0.465520	0.305832	0.182328	0.111501	0.087919	0.057001	0.041332	0.034691	0.035525	4.613-002	5.583+000
70(0.34)	0.649150	0.453515	0.294471	0.175538	0.106157	0.082588	0.051933	0.036532	0.029130	0.026228	4.311-002	8.821+000
75(0.26)	0.635178	0.441166	0.282921	0.168743	0.101030	0.077126	0.046872	0.031636	0.023309	0.015937	3.951-002	2.118+001
80(0.17)	0.620908	0.428745	0.271501	0.162173	0.096354	0.071826	0.042049	0.026958	0.017780	0.006802	3.632-002	1.598+002
85(0.09)	0.606582	0.416495	0.260474	0.156005	0.092322	0.066907	0.037638	0.022748	0.013027	0.000674	3.405-002	1.430+005
90(-0.00)	0.592418	0.404607	0.250024	0.150343	0.089052	0.062480	0.033717	0.019122	0.009289	-0.001793	3.218-002	0.000+000
95(-0.09)	0.578594	0.393216	0.240245	0.145208	0.086569	0.058545	0.030257	0.016041	0.006510	-0.001385	3.043-002	0.000+000
100(-0.17)	0.565251	0.382402	0.231155	0.140561	0.084786	0.055023	0.027153	0.013367	0.004445	0.000233	2.876-002	0.000+000
105(-0.26)	0.552501	0.372207	0.222729	0.136331	0.083525	0.051799	0.024281	0.010941	0.002839	0.001501	2.712-002	0.000+000
110(-0.34)	0.540429	0.362656	0.214924	0.132447	0.082571	0.048776	0.021541	0.008662	0.001564	0.001692	2.533-002	0.000+000
115(-0.42)	0.529108	0.353768	0.207714	0.128857	0.081745	0.045897	0.018883	0.006518	0.000620	0.000987	2.344-002	0.000+000
120(-0.50)	0.518597	0.345567	0.201089	0.125542	0.080936	0.043149	0.016308	0.004567	0.000041	0.000024	3.230-002	0.000+000
130(-0.64)	0.500197	0.331325	0.189653	0.119769	0.079283	0.038087	0.011510	0.001611	-0.000225	-0.000856	3.572-002	0.000+000
140(-0.77)	0.485467	0.320073	0.180729	0.115266	0.077734	0.033578	0.007345	0.000234	-0.000150	-0.000449	2.849-002	0.000+000
150(-0.87)	0.474393	0.311756	0.174255	0.112080	0.076489	0.029662	0.004008	0.000027	-0.000191	-0.000083	2.134-002	0.000+000
160(-0.94)	0.466766	0.306130	0.169961	0.110073	0.075643	0.026887	0.001890	0.000022	-0.000116	-0.000003	1.423-002	0.000+000
170(-0.98)	0.462324	0.302901	0.167532	0.109000	0.075185	0.025643	0.001143	-0.000240	0.000052	0.000001	7.119-003	0.000+000
177(-1.00)	0.460958	0.301916	0.166796	0.108685	0.075053	0.025407	0.001084	-0.000410	0.000119	0.000000	8.904-004	0.000+000
NUMBER SUM	7.516343	5.180609	3.261719	1.979866	1.244034	0.839956	0.486824	0.317446	0.233857	0.194499		

TOTAL NUMBER= 0.899606

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 13.746633

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.900 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.6425 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.062	0.083	0.111	0.149	0.199	0.250	0.337	0.456	0.617	0.835	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.292002	0.209972	0.146683	0.083847	0.055677	0.043076	0.033985	0.032387	0.025041	0.021765	1.197-003	2.116*001
10(0.98)	0.291195	0.209267	0.146050	0.083582	0.055342	0.042717	0.034441	0.031568	0.024816	0.021549	9.447-003	1.711*000
20(0.94)	0.288580	0.206966	0.143988	0.082622	0.054229	0.041291	0.034681	0.029223	0.024287	0.020782	1.808-002	3.554*000
30(0.87)	0.284075	0.202932	0.140345	0.080683	0.052209	0.039098	0.033255	0.026384	0.023224	0.019435	2.514-002	5.784*000
40(0.77)	0.277394	0.196800	0.134676	0.077360	0.048984	0.037073	0.030476	0.023768	0.020842	0.018282	3.000-002	9.094*000
50(0.64)	0.268221	0.188186	0.126447	0.072294	0.044217	0.034653	0.026786	0.020761	0.017404	0.018432	3.225-002	1.589*001
60(0.50)	0.256562	0.177154	0.115684	0.065568	0.038065	0.030444	0.021995	0.016358	0.013102	0.015693	2.339-002	2.901*001
65(0.42)	0.249978	0.170981	0.109678	0.061863	0.034855	0.027730	0.019248	0.013609	0.010302	0.010934	1.459-002	4.024*001
70(0.34)	0.243068	0.164605	0.103569	0.058199	0.031885	0.024941	0.016475	0.010734	0.007118	0.003951	1.320-002	1.286*002
75(0.26)	0.235997	0.158227	0.097618	0.054792	0.029367	0.022385	0.013912	0.008052	0.003977	-0.003334	1.195-002	1.056*003
80(0.17)	0.228923	0.152022	0.092038	0.051808	0.027419	0.020301	0.011775	0.005876	0.001477	-0.008200	1.117-002	9.904*004
85(0.09)	0.221985	0.146112	0.086952	0.049313	0.026069	0.018780	0.010165	0.004380	0.000037	-0.008753	1.059-002	1.705*011
90(-0.00)	0.215284	0.140554	0.082371	0.047266	0.025278	0.017743	0.009026	0.003502	-0.000379	-0.005280	1.012-002	0.000*000
95(-0.09)	0.208892	0.135347	0.078211	0.045532	0.024944	0.016983	0.008164	0.002981	-0.000245	-0.000194	9.726-003	0.000*000
100(-0.17)	0.202857	0.130461	0.074347	0.043942	0.024899	0.016243	0.007341	0.002487	-0.000164	0.003490	9.501-003	0.000*000
105(-0.26)	0.197222	0.125867	0.070670	0.042350	0.024915	0.015318	0.006374	0.001790	-0.000488	0.004034	8.970-003	0.000*000
110(-0.34)	0.192035	0.121567	0.067133	0.040681	0.024781	0.014124	0.005201	0.000847	-0.001146	0.001801	8.157-003	0.000*000
115(-0.42)	0.187352	0.117599	0.063766	0.038943	0.024388	0.012719	0.003887	-0.000209	-0.001794	-0.001402	7.388-003	0.000*000
120(-0.50)	0.183231	0.114030	0.060657	0.037216	0.023771	0.011253	0.002561	-0.001165	-0.002117	-0.003747	1.011-002	0.000*000
130(-0.64)	0.176834	0.108361	0.055644	0.034216	0.022419	0.008724	0.000322	-0.002130	-0.001759	-0.003722	1.103-002	0.000*000
140(-0.77)	0.172875	0.104829	0.052627	0.032309	0.021628	0.006783	-0.001191	-0.001665	-0.001283	-0.001299	8.809-003	0.000*000
150(-0.87)	0.170887	0.103120	0.051360	0.031530	0.021524	0.004675	-0.002118	-0.000744	-0.000965	-0.000181	6.694-003	0.000*000
160(-0.94)	0.170137	0.102555	0.051118	0.031489	0.021815	0.002715	-0.002080	-0.000606	-0.000320	-0.000063	4.539-003	0.000*000
170(-0.98)	0.169961	0.102483	0.051226	0.031698	0.022156	0.001898	-0.000879	-0.001219	0.000231	0.000001	2.310-003	0.000*000
177(-1.00)	0.169948	0.102501	0.051296	0.031799	0.022291	0.001846	-0.000103	-0.001564	0.000378	0.000000	2.910-004	0.000*000
NUMBER SUM	2.782404	1.844542	1.119693	0.650955	0.392733	0.256324	0.156100	0.101658	0.070866	0.053474		

TOTAL NUMBER= 0.298652

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 28.933396

LOWER ENERGY CUTOFF 0.0430MEV

LOWEST SINGLE SCATTERING ENERGY 0.1990MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0075 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.832999	0.634615	0.423054	0.329163	0.199121	0.190873	0.120581	0.000261	0.000303	0.000920	4.480-003	5.667-002
10(0.98)	0.836116	0.638249	0.426857	0.331566	0.201900	0.195945	0.115124	0.006587	-0.000037	0.000701	3.608-002	4.499-001
20(0.94)	0.846511	0.650308	0.439464	0.339814	0.211161	0.209933	0.103798	0.023865	0.000299	0.000821	7.405-002	8.814-001
30(0.87)	0.864963	0.671514	0.461678	0.354730	0.227400	0.225658	0.097619	0.044122	0.006600	0.001053	1.166-001	1.280+000
40(0.77)	0.892097	0.702276	0.494112	0.376393	0.251100	0.236881	0.101249	0.061872	0.025149	0.003217	1.676-001	1.630+000
50(0.64)	0.926788	0.740721	0.534847	0.402896	0.281160	0.244778	0.113733	0.079001	0.056053	0.018023	2.342-001	1.914+000
60(0.50)	0.965049	0.781223	0.577229	0.429122	0.312914	0.252982	0.131147	0.099101	0.092876	0.069114	2.455-001	1.566+000
65(0.42)	0.983533	0.799525	0.595625	0.439529	0.326795	0.256407	0.139461	0.109345	0.110601	0.111192	1.942-001	1.050+000
70(0.34)	1.000398	0.814932	0.610099	0.446529	0.337690	0.257904	0.145840	0.117924	0.125407	0.156900	2.320-001	1.019+000
75(0.26)	1.014859	0.826438	0.619346	0.449106	0.344507	0.256206	0.149008	0.123088	0.134742	0.193927	2.823-001	9.452-001
80(0.17)	1.026363	0.833399	0.622558	0.446666	0.346452	0.250389	0.148038	0.123381	0.136175	0.208773	3.652-001	8.321-001
85(0.09)	1.034664	0.835652	0.619606	0.439196	0.343105	0.240176	0.142652	0.118194	0.128469	0.193264	5.832-001	6.962-001
90(-0.00)	1.039852	0.833547	0.611088	0.427316	0.334501	0.226060	0.133363	0.108065	0.112394	0.149555	1.167-001	0.000+000
95(-0.09)	1.042322	0.827883	0.598234	0.412185	0.321210	0.209218	0.121381	0.094575	0.090691	0.089998	1.035-001	0.000+000
100(-0.17)	1.042680	0.819757	0.582670	0.395293	0.304383	0.191244	0.108295	0.079850	0.067107	0.031605	8.908-002	0.000+000
105(-0.26)	1.041618	0.810357	0.566116	0.378181	0.285647	0.173781	0.095657	0.065874	0.045028	-0.011515	7.733-002	0.000+000
110(-0.34)	1.039798	0.800771	0.550097	0.362186	0.266783	0.158195	0.084614	0.053932	0.026519	-0.033401	6.885-002	0.000+000
115(-0.42)	1.037749	0.791834	0.535726	0.348258	0.249318	0.145393	0.075724	0.044377	0.012209	-0.036724	6.219-002	0.000+000
120(-0.50)	1.035818	0.784056	0.523621	0.336898	0.234230	0.135828	0.068969	0.036765	0.001851	-0.029155	8.490-002	0.000+000
130(-0.64)	1.032815	0.772501	0.506450	0.321912	0.212215	0.126902	0.059939	0.023899	-0.004682	-0.009664	9.386-002	0.000+000
140(-0.77)	1.030661	0.765231	0.496475	0.314944	0.199351	0.131604	0.052574	0.010532	-0.008276	-0.001434	7.575-002	0.000+000
150(-0.87)	1.028622	0.760318	0.490420	0.312384	0.192178	0.147687	0.042259	-0.001026	-0.003136	-0.000057	5.742-002	0.000+000
160(-0.94)	1.026517	0.756651	0.486346	0.311473	0.187947	0.167094	0.026533	-0.005391	0.000128	0.000013	3.860-002	0.000+000
170(-0.98)	1.024821	0.754176	0.483782	0.310982	0.185452	0.180405	0.009166	-0.003208	0.000577	-0.000044	1.947-002	0.000+000
177(-1.00)	1.024207	0.753339	0.482944	0.310799	0.184666	0.184370	0.001673	-0.001335	0.000404	0.000187	2.446-003	0.000+000
NUMBER SUM	12.533008	9.780259	6.860422	4.789861	3.413603	2.525370	1.260050	0.815663	0.646978	0.601527		

TOTAL NUMBER= 4.139351

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 1.915036

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1251 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.912547	0.693046	0.466465	0.339057	0.207268	0.185649	0.121986	0.021382	0.011981	0.010799	4.574-003	6.509+002
10(0.98)	0.915202	0.696017	0.469537	0.341015	0.209443	0.189472	0.117877	0.026186	0.012252	0.010961	3.681-002	5.172-001
20(0.94)	0.923837	0.705663	0.479524	0.347539	0.216583	0.200202	0.109188	0.039181	0.014203	0.012050	7.506-002	1.013+000
30(0.87)	0.938488	0.721981	0.496485	0.358817	0.228781	0.212723	0.103996	0.054322	0.021432	0.014179	1.166-001	1.466+000
40(0.77)	0.958838	0.744476	0.520047	0.374326	0.245908	0.221955	0.105744	0.067633	0.037634	0.019173	1.638-001	1.856+000
50(0.64)	0.983195	0.770895	0.547849	0.392009	0.266536	0.227491	0.113513	0.080183	0.061086	0.034565	2.205-001	2.163+000
60(0.50)	1.007961	0.796484	0.574334	0.407669	0.286853	0.230976	0.123957	0.093760	0.087979	0.074508	2.183-001	1.762+000
65(0.42)	1.018959	0.806936	0.584565	0.412854	0.295011	0.231376	0.128443	0.100041	0.099601	0.104042	1.661-001	1.186+000
70(0.34)	1.028192	0.814728	0.591384	0.415208	0.300742	0.229961	0.131250	0.104680	0.108400	0.133971	1.883-001	1.167+000
75(0.26)	1.035153	0.819229	0.593979	0.414118	0.303394	0.225985	0.131538	0.106510	0.112663	0.155707	2.115-001	1.115+000
80(0.17)	1.039526	0.820096	0.591929	0.409294	0.302559	0.218966	0.128759	0.104648	0.110901	0.160536	2.331-001	1.046+000
85(0.09)	1.041237	0.817343	0.585309	0.400866	0.298103	0.208878	0.122841	0.098837	0.102556	0.143953	2.281-001	1.050+000
90(-0.00)	1.040458	0.811352	0.574706	0.389398	0.290187	0.196209	0.114262	0.089622	0.088477	0.108671	1.016-001	0.000+000
95(-0.09)	1.037574	0.802807	0.561123	0.375804	0.279288	0.181886	0.103952	0.078224	0.070804	0.064033	9.095-002	0.000+000
100(-0.17)	1.033112	0.792578	0.545807	0.361194	0.266218	0.167073	0.093062	0.066176	0.052247	0.021932	7.962-002	0.000+000
105(-0.26)	1.027646	0.781576	0.530032	0.346678	0.252058	0.152919	0.082669	0.054848	0.035165	-0.008314	7.029-002	0.000+000
110(-0.34)	1.021712	0.770617	0.514897	0.333191	0.237965	0.140348	0.073541	0.045087	0.020948	-0.023244	6.325-002	0.000+000
115(-0.42)	1.015742	0.760319	0.501193	0.321381	0.224922	0.129949	0.066022	0.037090	0.009988	-0.025244	5.748-002	0.000+000
120(-0.50)	1.010029	0.751064	0.489346	0.311575	0.213553	0.121992	0.060058	0.030518	0.002085	-0.019872	7.871-002	0.000+000
130(-0.64)	0.999898	0.736109	0.471374	0.297909	0.196481	0.113611	0.051346	0.019289	-0.005871	-0.006517	8.702-002	0.000+000
140(-0.77)	0.991511	0.725256	0.459489	0.290506	0.185815	0.115254	0.043841	0.008358	-0.005667	-0.000956	7.002-002	0.000+000
150(-0.87)	0.984571	0.717260	0.451430	0.286824	0.179319	0.125571	0.034345	-0.000454	-0.002120	-0.000046	5.289-002	0.000+000
160(-0.94)	0.979092	0.711415	0.445864	0.284906	0.175251	0.139153	0.021360	-0.003660	0.000093	0.000013	3.546-002	0.000+000
170(-0.98)	0.975482	0.707712	0.442455	0.283827	0.172841	0.149070	0.007879	-0.002151	0.000388	-0.000029	1.784-002	0.000+000
177(-1.00)	0.974292	0.706511	0.441366	0.283473	0.172083	0.152176	0.002208	-0.000856	0.000270	0.000107	2.238-003	0.000+000
NUMBER SUM	12.636423	9.669853	6.627081	4.492824	3.114061	2.261491	1.148653	0.742445	0.582926	0.535931		

TOTAL NUMBER= 2.666555

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.286520

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2503 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.962668	0.727577	0.492357	0.340103	0.209473	0.178442	0.121025	0.037838	0.021675	0.018930	4.581-003	7.388+002
10(0.98)	0.964744	0.729836	0.494687	0.341610	0.211094	0.181218	0.118013	0.041336	0.022356	0.019356	3.679-002	5.870+001
20(0.94)	0.971326	0.737008	0.502096	0.346479	0.216323	0.189149	0.111460	0.050687	0.025514	0.021102	7.455-002	1.149+000
30(0.87)	0.981959	0.748602	0.514142	0.354459	0.224976	0.198728	0.107032	0.061469	0.032770	0.024471	1.144-001	1.662+000
40(0.77)	0.995720	0.763554	0.529810	0.364651	0.236521	0.205907	0.107163	0.070906	0.046436	0.031116	1.575-001	2.102+000
50(0.64)	1.010653	0.779499	0.546593	0.375020	0.249407	0.209261	0.111019	0.079439	0.064443	0.045919	2.052-001	2.446+000
60(0.50)	1.023664	0.792568	0.560007	0.382236	0.260631	0.209047	0.115843	0.087571	0.081990	0.079871	1.930-001	2.000+000
65(0.42)	1.028311	0.796580	0.563682	0.383366	0.264346	0.207209	0.117321	0.090673	0.088714	0.095203	1.417-001	1.361+000
70(0.34)	1.031166	0.798214	0.564455	0.382194	0.266143	0.203719	0.117378	0.092236	0.092830	0.112770	1.533-001	1.369+000
75(0.26)	1.031943	0.797129	0.561892	0.378412	0.265700	0.198218	0.115515	0.091549	0.093275	0.122964	1.607-001	1.375+000
80(0.17)	1.030513	0.793210	0.555857	0.371950	0.262885	0.190547	0.111464	0.088153	0.089276	0.120720	1.573-001	1.450+000
85(0.09)	1.026929	0.786596	0.546566	0.363028	0.257740	0.180846	0.105295	0.082044	0.080756	0.104188	1.232-001	2.383+000
90(-0.00)	1.021416	0.777675	0.534567	0.352143	0.250558	0.169579	0.097436	0.073737	0.068567	0.076262	8.822-002	0.000+000
95(-0.09)	1.014342	0.767025	0.520669	0.340002	0.241672	0.157456	0.088581	0.064151	0.054335	0.043759	7.968-002	0.000+000
100(-0.17)	1.006161	0.755327	0.505805	0.327405	0.231645	0.145295	0.079529	0.054343	0.039945	0.014540	7.084-002	0.000+000
105(-0.26)	0.997343	0.743264	0.490889	0.315120	0.221142	0.133863	0.070990	0.045210	0.026951	-0.005724	6.348-002	0.000+000
110(-0.34)	0.988319	0.731433	0.476687	0.303769	0.210847	0.123747	0.063439	0.037268	0.016230	-0.015377	5.764-002	0.000+000
115(-0.42)	0.979440	0.720282	0.463734	0.293770	0.201332	0.115295	0.057064	0.030602	0.008000	-0.016464	5.267-002	0.000+000
120(-0.50)	0.970949	0.710086	0.452314	0.285317	0.192956	0.108646	0.051793	0.024967	0.002098	-0.012844	7.229-002	0.000+000
130(-0.64)	0.955641	0.692909	0.434144	0.272934	0.179959	0.100780	0.043501	0.015287	-0.003761	-0.004187	7.994-002	0.000+000
140(-0.77)	0.942793	0.679677	0.421167	0.265411	0.171255	0.100100	0.036097	0.006489	-0.003693	-0.000617	6.415-002	0.000+000
150(-0.87)	0.932393	0.669644	0.411887	0.261032	0.165521	0.105897	0.027489	-0.000068	-0.001364	-0.000039	4.832-002	0.000+000
160(-0.94)	0.924570	0.662384	0.405417	0.258456	0.161758	0.114773	0.016897	-0.002353	0.000061	0.000012	3.233-002	0.000+000
170(-0.98)	0.919649	0.657903	0.401510	0.256995	0.159520	0.121822	0.006643	-0.001370	0.000249	-0.000017	1.622-002	0.000+000
177(-1.00)	0.918069	0.656475	0.400277	0.256532	0.158818	0.124161	0.002463	-0.000525	0.000176	0.000051	2.033-003	0.000+000
NUMBER SUM	12.491382	9.393398	6.309335	4.168547	2.818763	2.012396	1.039846	0.671243	0.521949	0.473968		

TOTAL NUMBER= 2.249912

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 4.280312

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.5005 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	1.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.984965	0.736067	0.500075	0.322775	0.200604	0.160904	0.114021	0.057073	0.034577	0.029445	4.374-003	9.065-002
10(0.98)	0.985847	0.737034	0.501114	0.323505	0.201343	0.162232	0.112444	0.058710	0.035586	0.030106	6.503-002	7.206-001
20(0.94)	0.988422	0.739878	0.504199	0.325669	0.203692	0.166153	0.108680	0.062928	0.038929	0.032366	7.025-002	1.413+000
30(0.87)	0.991846	0.743724	0.508460	0.328623	0.207156	0.171140	0.105187	0.067553	0.042456	0.036593	1.056-001	2.049+000
40(0.77)	0.994765	0.747123	0.512413	0.331229	0.210912	0.174708	0.103057	0.071334	0.045408	0.043869	1.408-001	2.606+000
50(0.64)	0.995320	0.748008	0.513820	0.331800	0.213558	0.174693	0.101679	0.073990	0.063404	0.055531	1.745-001	3.068+000
60(0.50)	0.991477	0.744044	0.510001	0.328400	0.213390	0.170010	0.099331	0.074738	0.069092	0.070455	1.514-001	2.586+000
65(0.42)	0.987372	0.739625	0.505391	0.324700	0.211784	0.165767	0.097139	0.073813	0.069621	0.076475	1.052-001	1.826+000
70(0.34)	0.981652	0.733404	0.498760	0.319533	0.209044	0.160246	0.093981	0.071666	0.068088	0.078941	1.061-001	1.971+000
75(0.26)	0.974310	0.725390	0.490121	0.312933	0.205218	0.153519	0.089762	0.068141	0.064257	0.075997	1.019-001	2.292+000
80(0.17)	0.965438	0.715723	0.479649	0.305063	0.200462	0.145765	0.084531	0.063264	0.058171	0.066860	9.020-002	3.515+000
85(0.09)	0.955229	0.704662	0.467678	0.296200	0.195012	0.137268	0.078484	0.057270	0.050232	0.052450	7.415-002	2.533+001
90(-0.00)	0.943950	0.692563	0.454658	0.286712	0.189135	0.128400	0.071937	0.050571	0.041173	0.035335	6.752-002	0.000+000
95(-0.09)	0.931919	0.679833	0.441101	0.277007	0.183083	0.119566	0.065257	0.043660	0.031084	0.018847	6.194-002	0.000+000
100(-0.17)	0.919472	0.666889	0.427519	0.267479	0.177070	0.111140	0.058791	0.036991	0.023192	0.005823	5.646-002	0.000+000
105(-0.26)	0.906929	0.654111	0.414360	0.258463	0.171270	0.103419	0.052798	0.030883	0.015670	-0.002331	5.171-002	0.000+000
110(-0.34)	0.894575	0.641610	0.401970	0.250202	0.165822	0.096590	0.047413	0.025472	0.009590	-0.005850	4.757-002	0.000+000
115(-0.42)	0.882637	0.630215	0.390573	0.242837	0.160825	0.090736	0.042652	0.020739	0.004977	-0.006085	4.378-002	0.000+000
120(-0.50)	0.871287	0.619469	0.380280	0.236414	0.156330	0.085858	0.038438	0.016567	0.001728	-0.004703	4.031-002	0.000+000
130(-0.64)	0.850786	0.600754	0.363009	0.226258	0.148840	0.078894	0.031121	0.009440	-0.001353	-0.001618	5.672-002	0.000+000
140(-0.77)	0.833600	0.585717	0.349726	0.219148	0.143119	0.075568	0.024382	0.003794	-0.001416	-0.000286	5.336-002	0.000+000
150(-0.87)	0.819962	0.574143	0.339823	0.214362	0.138863	0.075817	0.017472	0.000267	-0.000520	-0.000037	4.004-002	0.000+000
160(-0.94)	0.810040	0.565882	0.332902	0.211297	0.135892	0.078600	0.010425	-0.000844	0.000009	0.000008	2.671-002	0.000+000
170(-0.98)	0.803999	0.560903	0.328786	0.209559	0.134120	0.081664	0.004588	-0.000513	0.000098	-0.000005	1.337-002	0.000+000
177(-1.00)	0.802097	0.559342	0.327503	0.209023	0.133566	0.082855	0.002394	-0.000214	0.000094	-0.000005	1.673-003	0.000+000
NUMBER SUM	11.676561	8.536739	5.559275	3.530099	2.298104	1.596476	0.849693	0.547470	0.417229	0.370688		

TOTAL NUMBER= 1.750539

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 6.247528

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.7508 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.939925	0.694457	0.471805	0.291249	0.181930	0.141596	0.103246	0.064176	0.040550	0.034439	3.997-003	1.064-001
10(0.98)	0.939789	0.694415	0.471874	0.291399	0.182105	0.142063	0.102450	0.064674	0.041509	0.035100	3.192-002	8.467-001
20(0.94)	0.939075	0.694001	0.471810	0.291645	0.182523	0.143483	0.100200	0.065786	0.044016	0.037236	6.344-002	1.666+000
30(0.87)	0.936975	0.692366	0.470748	0.291305	0.182726	0.145320	0.097188	0.066666	0.049427	0.041090	9.392-002	2.432+000
40(0.77)	0.932250	0.688205	0.467298	0.289353	0.181908	0.146148	0.093773	0.066871	0.054490	0.047161	1.221-001	3.132+000
50(0.64)	0.923503	0.680019	0.459798	0.284583	0.179028	0.143936	0.089573	0.065845	0.057610	0.054921	1.454-001	3.777+000
60(0.50)	0.909634	0.666636	0.446892	0.276035	0.173293	0.137298	0.083656	0.062472	0.056624	0.060094	1.192-001	3.361+000
65(0.42)	0.900640	0.657871	0.438265	0.270270	0.169326	0.132306	0.079801	0.059552	0.054047	0.059073	7.973-002	2.502+000
70(0.34)	0.890333	0.647815	0.428300	0.263620	0.164757	0.126390	0.075330	0.055755	0.049978	0.054451	7.714-002	2.978+000
75(0.26)	0.878844	0.636636	0.417203	0.256260	0.159777	0.119790	0.070336	0.051184	0.044576	0.046278	7.126-002	4.215+000
80(0.17)	0.866365	0.624574	0.405261	0.248421	0.154631	0.112787	0.064989	0.046058	0.038216	0.035629	6.295-002	1.037+001
85(0.09)	0.853133	0.611906	0.392809	0.240363	0.149576	0.105678	0.059502	0.040667	0.031426	0.024319	5.636-002	3.401+002
90(-0.00)	0.839408	0.598930	0.380191	0.232337	0.144842	0.098730	0.054088	0.035305	0.024754	0.014238	5.254-002	0.000+000
95(-0.09)	0.825453	0.585932	0.367725	0.224566	0.140579	0.092159	0.048918	0.030206	0.018640	0.006662	4.881-002	0.000+000
100(-0.17)	0.811518	0.573163	0.355676	0.217219	0.136836	0.086102	0.044101	0.025509	0.013344	0.001922	4.528-002	0.000+000
105(-0.26)	0.797825	0.560831	0.344243	0.210409	0.133571	0.080625	0.039677	0.021255	0.008967	-0.000459	4.203-002	0.000+000
110(-0.34)	0.784562	0.549093	0.333557	0.204193	0.130689	0.075739	0.035631	0.017423	0.005510	-0.001312	3.897-002	0.000+000
115(-0.42)	0.771883	0.538062	0.323691	0.198587	0.128091	0.071417	0.031915	0.013965	0.002933	-0.001401	3.603-002	0.000+000
120(-0.50)	0.759908	0.527811	0.314676	0.193581	0.125701	0.067620	0.028470	0.010847	0.001169	-0.001207	4.973-002	0.000+000
130(-0.64)	0.738412	0.509803	0.299185	0.185256	0.121396	0.061458	0.022169	0.005647	-0.000384	-0.000660	5.504-002	0.000+000
140(-0.77)	0.720554	0.495204	0.286940	0.178974	0.117701	0.057123	0.016366	0.002079	-0.000448	-0.000211	4.394-002	0.000+000
150(-0.87)	0.706576	0.484000	0.277722	0.174488	0.114709	0.054740	0.010948	0.000291	-0.000194	-0.000044	3.292-002	0.000+000
160(-0.94)	0.696575	0.476094	0.271318	0.171538	0.112550	0.054308	0.006262	-0.000203	-0.000030	0.000005	2.193-002	0.000+000
170(-0.98)	0.690576	0.471396	0.267552	0.169876	0.111265	0.055032	0.003044	-0.000196	0.000044	0.000001	1.097-002	0.000+000
177(-1.00)	0.688703	0.469936	0.266387	0.169372	0.110865	0.055481	0.001978	-0.000163	0.000063	-0.000022	1.371-003	0.000+000
NUMBER SUM	10.479715	7.492875	4.768529	2.941269	1.863847	1.269036	0.691939	0.445324	0.333959	0.289914		

TOTAL NUMBER= 1.406930

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 8.270101

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.0010 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.858415	0.627644	0.425803	0.254503	0.159591	0.122399	0.091056	0.064183	0.042370	0.035819	3.546-003	1.212-001
10(0.98)	0.857540	0.626908	0.425217	0.254263	0.159316	0.122367	0.090670	0.064017	0.043120	0.036371	2.825-002	9.662-001
20(0.94)	0.854504	0.624307	0.423084	0.253274	0.158548	0.122280	0.089220	0.063331	0.045410	0.038084	5.573-002	1.909+000
30(0.87)	0.848696	0.619192	0.418710	0.250954	0.156842	0.122076	0.086483	0.062032	0.048439	0.041038	8.139-002	2.814+000
40(0.77)	0.839181	0.611065	0.411005	0.246510	0.153545	0.121039	0.082452	0.060101	0.050559	0.043508	1.036-001	3.685+000
50(0.64)	0.825080	0.597497	0.398895	0.239174	0.147994	0.117564	0.076951	0.056942	0.050023	0.043569	1.197-001	4.590+000
60(0.50)	0.805999	0.579622	0.381916	0.228631	0.139958	0.110385	0.069586	0.051508	0.045569	0.038855	9.407-002	4.377+000
65(0.42)	0.794604	0.569035	0.371778	0.222305	0.135214	0.105465	0.065187	0.047764	0.041661	0.035475	6.140-002	3.483+000
70(0.34)	0.782384	0.557564	0.360799	0.215486	0.130214	0.099915	0.060424	0.043447	0.036745	0.037081	5.803-002	4.656+000
75(0.26)	0.769260	0.545434	0.349250	0.208389	0.125145	0.094011	0.055464	0.038753	0.031138	0.027594	5.302-002	8.249+000
80(0.17)	0.755545	0.532906	0.337434	0.201243	0.120367	0.088039	0.050505	0.033960	0.025317	0.017756	4.777-002	3.324+001
85(0.09)	0.741473	0.520235	0.325640	0.194257	0.115942	0.082249	0.045733	0.029333	0.019782	0.009448	4.415-002	4.705+003
90(-0.00)	0.727278	0.507656	0.314120	0.187597	0.112200	0.076822	0.041280	0.025064	0.014908	0.003888	4.137-002	0.000+000
95(-0.09)	0.713172	0.495363	0.303064	0.181368	0.109102	0.071853	0.037204	0.021233	0.010655	0.001175	3.883-002	0.000+000
100(-0.17)	0.699340	0.483514	0.292595	0.175619	0.106660	0.067356	0.033491	0.017817	0.007598	0.000463	3.644-002	0.000+000
105(-0.26)	0.685940	0.472222	0.282782	0.170352	0.104749	0.063293	0.030083	0.014740	0.005022	0.000580	3.413-002	0.000+000
110(-0.34)	0.673100	0.461552	0.273652	0.165542	0.103194	0.059605	0.026910	0.011924	0.003029	0.000659	3.182-002	0.000+000
115(-0.42)	0.660925	0.451563	0.265210	0.161159	0.101832	0.056234	0.023913	0.009331	0.001572	0.000409	2.947-002	0.000+000
120(-0.50)	0.649500	0.442292	0.257457	0.157173	0.100549	0.053144	0.021055	0.006973	0.000620	-0.000021	4.066-002	0.000+000
130(-0.64)	0.629161	0.426016	0.244019	0.150336	0.098049	0.047720	0.015713	0.003193	-0.000193	-0.000483	4.500-002	0.000+000
140(-0.77)	0.612457	0.412871	0.233322	0.144981	0.095693	0.043235	0.010876	0.000990	-0.000134	-0.000254	3.590-002	0.000+000
150(-0.87)	0.599550	0.402870	0.225306	0.141069	0.093691	0.039806	0.006692	0.000190	-0.000119	-0.000056	2.688-002	0.000+000
160(-0.94)	0.590437	0.395905	0.219797	0.138486	0.092230	0.037822	0.003586	0.000018	-0.000060	0.000002	1.790-002	0.000+000
170(-0.98)	0.585029	0.391813	0.216593	0.137048	0.091372	0.037256	0.001920	-0.000141	0.000038	0.000003	8.950-003	0.000+000
177(-1.00)	0.583350	0.390551	0.215609	0.136617	0.091107	0.037258	0.001490	-0.000227	0.000076	-0.000023	1.119-003	0.000+000
NUMBER SUM	9.149798	6.423713	4.015513	2.422737	1.505733	1.010215	0.561811	0.361360	0.266928	0.226759		

TOTAL NUMBER= 1.139163

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 10.404845

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.2513 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.059	0.080	0.110	0.149	0.204	0.258	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.760453	0.551044	0.373200	0.217658	0.136760	0.104395	0.078835	0.060310	0.041406	0.034927	3.080-003	1.353-001
10(0.98)	0.759126	0.549898	0.372224	0.217191	0.136356	0.104090	0.078662	0.059783	0.041903	0.035329	2.449-002	1.080+000
20(0.94)	0.754709	0.546046	0.368910	0.215508	0.134949	0.103143	0.077639	0.058128	0.043338	0.036520	4.799-002	2.146+000
30(0.87)	0.746808	0.539045	0.362762	0.212163	0.132253	0.101712	0.075100	0.055653	0.044848	0.038445	6.926-002	3.197+000
40(0.77)	0.734807	0.528227	0.353014	0.206592	0.127805	0.099558	0.070899	0.052570	0.044908	0.040948	8.665-002	4.272+000
50(0.64)	0.718254	0.513106	0.339055	0.198362	0.121219	0.095515	0.065019	0.048343	0.042259	0.042567	9.775-002	5.530+000
60(0.50)	0.697228	0.493820	0.320980	0.187543	0.112650	0.088539	0.057398	0.042111	0.036277	0.038684	7.446-002	5.714+000
65(0.42)	0.685272	0.482907	0.310729	0.181413	0.107916	0.084043	0.053041	0.038197	0.032009	0.033015	4.783-002	4.906+000
70(0.34)	0.672574	0.471408	0.299980	0.175043	0.103139	0.079138	0.048489	0.033925	0.027093	0.024998	4.469-002	7.454+000
75(0.26)	0.659338	0.459561	0.289009	0.168645	0.098539	0.074088	0.043929	0.029535	0.021894	0.015901	4.084-002	1.671+001
80(0.17)	0.645787	0.447607	0.278093	0.162418	0.094319	0.069145	0.039551	0.025297	0.016886	0.007602	3.737-002	1.099+002
85(0.09)	0.632134	0.435766	0.267468	0.156523	0.090650	0.064504	0.035504	0.021430	0.012497	0.001779	3.492-002	6.574+004
90(-0.00)	0.618578	0.424220	0.257311	0.151060	0.087647	0.060273	0.031860	0.018046	0.008953	-0.000886	3.295-002	0.000+000
95(-0.09)	0.605289	0.413103	0.247727	0.146063	0.085343	0.056474	0.028611	0.015134	0.006275	-0.000963	3.112-002	0.000+000
100(-0.17)	0.592406	0.402506	0.238761	0.141515	0.083676	0.053056	0.025682	0.012591	0.004259	0.000180	2.938-002	0.000+000
105(-0.26)	0.580042	0.392481	0.230412	0.137365	0.082498	0.049935	0.022977	0.010295	0.002715	0.001195	2.769-002	0.000+000
110(-0.34)	0.568289	0.383065	0.222662	0.133559	0.081620	0.047033	0.020412	0.008158	0.001526	0.001596	2.587-002	0.000+000
115(-0.42)	0.557220	0.374281	0.215491	0.130051	0.080875	0.044297	0.017938	0.006161	0.000668	0.000860	2.396-002	0.000+000
120(-0.50)	0.546898	0.366152	0.208893	0.126818	0.080151	0.041708	0.015543	0.004350	0.000143	0.000082	5.303-002	0.000+000
130(-0.64)	0.528692	0.351952	0.197441	0.121169	0.078637	0.036961	0.011052	0.001595	-0.000142	-0.000665	3.653-002	0.000+000
140(-0.77)	0.513938	0.340598	0.188581	0.116682	0.077134	0.032744	0.007093	0.000286	-0.000124	-0.000547	2.913-002	0.000+000
150(-0.87)	0.502699	0.332082	0.181679	0.113401	0.075852	0.029089	0.003889	0.000051	-0.000141	-0.000069	2.181-002	0.000+000
160(-0.94)	0.494870	0.326243	0.177149	0.111257	0.074939	0.026477	0.001848	0.000020	-0.000085	0.000000	1.454-002	0.000+000
170(-0.98)	0.490272	0.322657	0.174551	0.110086	0.074422	0.025276	0.001115	-0.000004	0.000053	0.000003	7.272-003	0.000+000
177(-1.00)	0.488853	0.321819	0.173758	0.109742	0.074265	0.025038	0.001049	-0.000342	0.000104	-0.000021	9.093-004	0.000+000
NUMBER SUM	7.832388	5.416380	3.337745	1.979515	1.212894	0.804972	0.454984	0.292582	0.213200	0.177385		

TOTAL NUMBER= 0.923521

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 12.656744

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.5026 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.059	0.080	0.110	0.149	0.204	0.278	0.355	0.488	0.672	0.923	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.317879	0.228317	0.155880	0.086640	0.055418	0.042434	0.033284	0.030680	0.023487	0.020144	1.286-003	1.976-001
10(0.98)	0.316975	0.227517	0.155150	0.086348	0.055041	0.042040	0.033590	0.030022	0.023275	0.020017	1.015-002	1.595+000
20(0.94)	0.314038	0.224897	0.152764	0.085216	0.053871	0.040624	0.033607	0.028017	0.022778	0.019437	1.944-002	3.295+000
30(0.87)	0.308978	0.220317	0.148578	0.082985	0.051745	0.038569	0.032167	0.025980	0.021851	0.018658	2.704-002	5.294+000
40(0.77)	0.301569	0.213485	0.142251	0.079364	0.048452	0.036615	0.029462	0.022740	0.019759	0.017328	3.225-002	8.145+000
50(0.64)	0.291658	0.204198	0.133499	0.074170	0.043806	0.034192	0.025847	0.019781	0.016300	0.016993	3.453-002	1.369+001
60(0.50)	0.279422	0.192706	0.122572	0.067611	0.038113	0.030221	0.021277	0.015571	0.013284	0.016205	2.492-002	2.336+001
65(0.42)	0.272631	0.186397	0.116618	0.064088	0.035221	0.027752	0.019731	0.013025	0.009641	0.009959	1.554-002	3.078+001
70(0.34)	0.265557	0.179927	0.110604	0.060631	0.032561	0.025236	0.018190	0.010401	0.006776	0.003904	1.411-002	9.129+001
75(0.26)	0.258344	0.173467	0.104741	0.057413	0.030293	0.022915	0.013842	0.007963	0.003977	-0.002362	1.279-002	6.585+002
80(0.17)	0.251129	0.167166	0.099201	0.054563	0.028575	0.020966	0.011849	0.005959	0.001734	-0.006588	1.199-002	4.750+004
85(0.09)	0.244035	0.161133	0.094084	0.052133	0.027219	0.019460	0.010289	0.004521	0.000573	-0.007212	1.157-002	3.678+010
90(-0.00)	0.237156	0.155424	0.089406	0.050089	0.026410	0.018340	0.009115	0.003603	-0.000130	-0.004465	1.085-002	0.000+000
95(-0.09)	0.230563	0.150049	0.085121	0.048328	0.026013	0.017452	0.008184	0.003001	-0.000141	-0.000323	1.040-002	0.000+000
100(-0.17)	0.224307	0.144995	0.081134	0.046720	0.025905	0.016607	0.007315	0.002459	-0.000130	0.002744	1.011-002	0.000+000
105(-0.26)	0.218433	0.140244	0.077378	0.045145	0.025709	0.015645	0.006364	0.001789	-0.000590	0.003293	9.558-003	0.000+000
110(-0.34)	0.212984	0.135802	0.073800	0.043537	0.025345	0.014495	0.005274	0.000947	-0.000963	0.001578	8.757-003	0.000+000
115(-0.42)	0.208008	0.131693	0.070415	0.041890	0.024803	0.013186	0.004079	0.000024	-0.001339	-0.000967	7.952-003	0.000+000
120(-0.50)	0.203549	0.127955	0.067277	0.040252	0.024183	0.011825	0.002869	-0.000816	-0.001585	-0.002865	1.088-002	0.000+000
130(-0.64)	0.196317	0.121622	0.062043	0.037314	0.022463	0.009388	0.000748	-0.001497	-0.001574	-0.002911	1.188-002	0.000+000
140(-0.77)	0.191353	0.117638	0.058520	0.035221	0.021343	0.007408	-0.000778	-0.001541	-0.001061	-0.001005	9.443-003	0.000+000
150(-0.87)	0.188350	0.115213	0.056592	0.034070	0.020765	0.005298	-0.001727	-0.000596	-0.000765	-0.000144	7.128-003	0.000+000
160(-0.94)	0.186766	0.114042	0.055754	0.033548	0.020516	0.003286	-0.001745	-0.000491	-0.000208	-0.000000	4.802-003	0.000+000
170(-0.98)	0.186060	0.113585	0.055475	0.033615	0.020624	0.002282	-0.000723	-0.000936	0.000210	0.000004	2.431-003	0.000+000
177(-1.00)	0.185878	0.113487	0.055420	0.033646	0.020710	0.002124	-0.000061	-0.001171	0.000508	-0.000025	3.058-004	0.000+000
NUMBER SUM	3.053689	2.030569	1.205586	0.683423	0.402887	0.259362	0.155985	0.099098	0.068594	0.052131		

TOTAL NUMBER= 0.319871

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 25.806809

LOWER ENERGY CUTOFF 0.0432MEV

LOWEST SINGLE SCATTERING ENERGY 0.2035MF

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0052 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.413036	0.308342	0.175784	0.152933	0.117033	0.048670	-0.003291	-0.000961	0.000209	0.000180	4.302-003	5.429+002
10(0.98)	0.416164	0.309865	0.177339	0.154832	0.116438	0.048555	0.000290	-0.001193	0.000174	0.000186	3.462-002	4.308+001
20(0.94)	0.425901	0.314655	0.182456	0.161261	0.113483	0.048479	0.010314	-0.000498	-0.000003	0.000204	7.098-002	8.429+001
30(0.87)	0.441088	0.322421	0.191051	0.173272	0.108338	0.049715	0.022522	0.004461	0.000182	0.000254	1.116-001	1.221+000
40(0.77)	0.459838	0.332569	0.202326	0.191504	0.104405	0.053674	0.033257	0.015228	0.003638	0.000823	1.599-001	1.550+000
50(0.64)	0.479145	0.343343	0.214472	0.212048	0.104108	0.060101	0.042237	0.029191	0.015036	0.005502	2.224-001	1.812+000
60(0.50)	0.495135	0.351647	0.224943	0.225950	0.106167	0.066944	0.050380	0.042382	0.034611	0.023640	2.327-001	1.477+000
65(0.42)	0.500640	0.353759	0.228651	0.228006	0.107008	0.069601	0.053771	0.047692	0.045021	0.039453	1.843-001	9.911+001
70(0.34)	0.503936	0.354014	0.230875	0.226463	0.107108	0.071238	0.056173	0.051569	0.053672	0.057151	2.208-001	9.638+001
75(0.26)	0.504762	0.352187	0.231336	0.221676	0.106103	0.071542	0.057151	0.053503	0.058930	0.071871	2.705-001	8.977+001
80(0.17)	0.503022	0.348214	0.229875	0.214281	0.103780	0.070338	0.056402	0.053067	0.059627	0.078086	3.543-001	7.967+001
85(0.09)	0.498799	0.342203	0.226487	0.205025	0.100108	0.067628	0.053863	0.050114	0.055390	0.072317	5.808-001	6.756+001
90(-0.00)	0.492352	0.334421	0.221340	0.194677	0.095242	0.063605	0.049742	0.044903	0.046801	0.055301	1.024-001	0.000+000
95(-0.09)	0.484088	0.325264	0.214741	0.184016	0.089487	0.058628	0.044480	0.038076	0.035293	0.032054	8.984-002	0.000+000
100(-0.17)	0.474519	0.315220	0.207085	0.173843	0.083241	0.053148	0.038646	0.030471	0.022784	0.009559	7.625-002	0.000+000
105(-0.26)	0.464202	0.304812	0.198800	0.164960	0.076920	0.047626	0.032797	0.022880	0.011185	-0.006505	6.558-002	0.000+000
110(-0.34)	0.453682	0.294547	0.190291	0.158074	0.070887	0.042447	0.027346	0.015867	0.001964	-0.013996	5.837-002	0.000+000
115(-0.42)	0.443446	0.284864	0.181918	0.153637	0.065411	0.037865	0.022490	0.009723	-0.004104	-0.014336	5.251-002	0.000+000
120(-0.50)	0.433879	0.276095	0.173977	0.151666	0.060650	0.033976	0.018202	0.004568	-0.006981	-0.010803	7.121-002	0.000+000
130(-0.64)	0.417721	0.261999	0.160213	0.152705	0.053446	0.027944	0.010546	-0.002372	-0.005863	-0.003173	7.752-002	0.000+000
140(-0.77)	0.406060	0.252535	0.149852	0.153991	0.049363	0.022584	0.003311	-0.004182	-0.001980	-0.000385	6.172-002	0.000+000
150(-0.87)	0.398474	0.246824	0.142677	0.151083	0.049155	0.019271	-0.001991	-0.002158	-0.000039	-0.000011	4.641-002	0.000+000
160(-0.94)	0.394008	0.243738	0.137992	0.145917	0.054046	0.004829	-0.002981	0.000157	0.000159	0.000001	3.112-002	0.000+000
170(-0.98)	0.391737	0.242335	0.135263	0.141975	0.061948	-0.005720	-0.000748	0.000901	0.000031	-0.000000	1.573-002	0.000+000
177(-1.00)	0.391091	0.241975	0.134405	0.140708	0.065726	-0.010004	0.000607	0.000894	-0.000004	0.000000	1.977-003	0.000+000
NUMBER SUM	5.776890	3.913648	2.464438	2.296907	1.078194	0.609924	0.393708	0.286469	0.234564	0.215654		

TOTAL NUMBER= 4.074764

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 1.738724

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.0874 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.425858	0.305686	0.173530	0.148002	0.111042	0.053086	0.005420	0.003259	0.003105	0.002769	4.300-003	5.892+002
10(0.98)	0.428211	0.306779	0.174729	0.149493	0.110729	0.052700	0.004367	0.003304	0.003176	0.002849	3.463-002	4.683+001
20(0.94)	0.435478	0.310186	0.178646	0.154503	0.108739	0.051916	0.016529	0.004539	0.003396	0.003124	7.074-002	9.168+001
30(0.87)	0.446617	0.315601	0.185147	0.163764	0.104807	0.052130	0.026323	0.009368	0.004264	0.003679	1.101-001	1.326+000
40(0.77)	0.459966	0.322435	0.193521	0.177722	0.101287	0.054564	0.034799	0.018631	0.008062	0.005042	1.553-001	1.676+000
50(0.64)	0.473016	0.329213	0.202280	0.193365	0.100035	0.058898	0.041692	0.029963	0.018069	0.010089	2.106-001	1.949+000
60(0.50)	0.482672	0.333499	0.209412	0.203678	0.100175	0.063359	0.047585	0.040097	0.033766	0.025501	2.118-001	1.585+000
65(0.42)	0.485274	0.333866	0.211679	0.206893	0.099982	0.064887	0.049835	0.043912	0.041660	0.037933	1.632-001	1.066+000
70(0.34)	0.485994	0.332692	0.212738	0.208177	0.099160	0.065551	0.051206	0.046448	0.047869	0.051223	1.884-001	1.045+000
75(0.26)	0.484661	0.329831	0.212393	0.208793	0.097452	0.065123	0.051378	0.047332	0.051167	0.061561	2.176-001	9.919+001
80(0.17)	0.481240	0.325266	0.210543	0.206253	0.094716	0.063488	0.050147	0.046273	0.050737	0.064840	2.527-001	9.121+001
85(0.09)	0.475836	0.319115	0.207205	0.204173	0.090953	0.060672	0.047497	0.043211	0.046405	0.058708	2.827-001	8.442+001
90(-0.00)	0.468692	0.311615	0.202529	0.199202	0.086303	0.056851	0.043624	0.038403	0.038743	0.044108	9.190-002	0.000+000
95(-0.09)	0.460163	0.303104	0.196765	0.192994	0.081022	0.052322	0.038896	0.032388	0.028958	0.025166	8.114-002	0.000+000
100(-0.17)	0.450677	0.293979	0.190233	0.186218	0.075426	0.047446	0.033766	0.025840	0.018594	0.007319	6.976-002	0.000+000
105(-0.26)	0.440695	0.284662	0.183263	0.179530	0.069842	0.042582	0.028670	0.019385	0.009145	-0.005184	6.078-002	0.000+000
110(-0.34)	0.430658	0.275555	0.176171	0.173506	0.064548	0.038026	0.023922	0.013462	0.001727	-0.010888	5.450-002	0.000+000
115(-0.42)	0.420956	0.266997	0.169228	0.167747	0.059747	0.033964	0.019668	0.008300	-0.003104	-0.011052	4.929-002	0.000+000
120(-0.50)	0.411898	0.259245	0.162655	0.162519	0.055550	0.030461	0.015880	0.003995	-0.005375	-0.008276	6.708-002	0.000+000
130(-0.64)	0.396476	0.246672	0.151224	0.153157	0.049065	0.024829	0.009121	-0.001730	-0.004502	-0.002410	7.328-002	0.000+000
140(-0.77)	0.385066	0.237993	0.142508	0.139487	0.045086	0.019715	0.002928	-0.003212	-0.001507	-0.000292	5.840-002	0.000+000
150(-0.87)	0.377340	0.232495	0.136353	0.137766	0.044131	0.013147	-0.001453	-0.001648	-0.000028	-0.000008	4.390-002	0.000+000
160(-0.94)	0.372556	0.229308	0.132251	0.134133	0.047144	0.004381	-0.002277	0.000126	0.000120	0.000000	2.940-002	0.000+000
170(-0.98)	0.370001	0.227730	0.129831	0.131220	0.052642	-0.004133	-0.000552	0.000684	0.000023	-0.000000	1.483-002	0.000+000
177(-1.00)	0.369252	0.227296	0.129066	0.130263	0.055340	-0.007531	0.000493	0.000676	-0.000003	0.000000	1.862-003	0.000+000
NUMBER SUM	5.573346	3.700982	2.304308	2.089190	1.000032	0.569094	0.367160	0.266269	0.217069	0.198825		

TOTAL NUMBER= 2.611811

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 2.684870

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.1748 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.431554	0.299657	0.169489	0.142105	0.104868	0.056161	0.012843	0.007030	0.005699	0.005077	4.274-003	6.392-002
10(0.98)	0.433214	0.300372	0.170370	0.143234	0.104767	0.055571	0.012509	0.007287	0.005855	0.005216	3.436-002	5.078-001
20(0.94)	0.438279	0.302564	0.173226	0.146991	0.103538	0.054240	0.021678	0.008897	0.006389	0.005694	6.983-002	9.932-001
30(0.87)	0.445832	0.305931	0.177886	0.153850	0.100596	0.053607	0.029297	0.013474	0.007768	0.006640	1.077-001	1.434+000
40(0.77)	0.454441	0.309906	0.183731	0.164099	0.097428	0.054720	0.035743	0.021289	0.011713	0.008583	1.496-001	1.809+000
50(0.64)	0.462054	0.313279	0.189570	0.175492	0.095399	0.057230	0.040764	0.030232	0.020331	0.013743	1.981-001	2.100+000
60(0.50)	0.466274	0.314194	0.193857	0.182695	0.093969	0.059633	0.044677	0.037667	0.032546	0.026553	1.918-001	1.709+000
69(0.42)	0.466414	0.313123	0.194915	0.183193	0.092933	0.060200	0.045943	0.040188	0.038250	0.035992	1.439-001	1.156+000
70(0.34)	0.464971	0.310794	0.195010	0.181352	0.091373	0.060047	0.046439	0.041582	0.042372	0.045482	1.602-001	1.148+000
75(0.26)	0.461850	0.307126	0.194017	0.177362	0.089116	0.059018	0.045944	0.041592	0.044035	0.052137	1.751-001	1.119+000
80(0.17)	0.457064	0.302140	0.191880	0.171620	0.086082	0.057046	0.044332	0.040042	0.042713	0.053049	1.830-001	1.095+000
85(0.09)	0.450736	0.295957	0.188636	0.164627	0.082294	0.054177	0.041627	0.036941	0.038391	0.046789	1.562-001	1.271+000
90(-0.00)	0.443088	0.288788	0.184414	0.156919	0.077881	0.050567	0.038008	0.032534	0.031615	0.034423	8.206-002	0.000+000
95(-0.09)	0.434428	0.280915	0.179418	0.149041	0.073051	0.046457	0.033776	0.027268	0.023387	0.019272	7.296-002	0.000+000
100(-0.17)	0.425111	0.272658	0.173894	0.141537	0.068051	0.042130	0.029287	0.021676	0.014922	0.005440	6.354-002	0.000+000
105(-0.26)	0.415509	0.264349	0.168096	0.134938	0.063130	0.037859	0.024869	0.016238	0.007354	-0.004027	5.605-002	0.000+000
110(-0.34)	0.405976	0.256296	0.162258	0.129705	0.058495	0.033862	0.020755	0.011287	0.001501	-0.008234	5.060-002	0.000+000
115(-0.42)	0.396818	0.248760	0.156578	0.126141	0.054290	0.030269	0.017047	0.006998	-0.002256	-0.008271	4.598-002	0.000+000
120(-0.50)	0.388275	0.241928	0.151214	0.124292	0.050591	0.027119	0.013720	0.003449	-0.004018	-0.006152	6.278-002	0.000+000
130(-0.64)	0.373628	0.230740	0.141853	0.124410	0.044747	0.021880	0.007798	-0.001203	-0.003357	-0.001780	6.881-002	0.000+000
140(-0.77)	0.362553	0.222799	0.134616	0.125703	0.040879	0.017044	0.002553	-0.002397	-0.001115	-0.000217	5.488-002	0.000+000
150(-0.87)	0.354805	0.217538	0.129395	0.124925	0.039316	0.011189	-0.001012	-0.001223	-0.000021	-0.000007	4.124-002	0.000+000
160(-0.94)	0.349824	0.214308	0.125845	0.122571	0.040766	0.008916	-0.001689	0.000096	0.000088	0.000000	2.759-002	0.000+000
170(-0.98)	0.347072	0.212607	0.123723	0.120538	0.044247	-0.002827	-0.000398	0.000504	0.000018	-0.000000	1.390-002	0.000+000
177(-1.00)	0.346249	0.212117	0.123050	0.119849	0.046035	-0.005463	0.000384	0.000496	-0.000001	0.000000	1.743-003	0.000+000
NUMBER SUM	5.333581	3.477342	2.142464	1.891195	0.922813	0.528334	0.340737	0.246299	0.199888	0.182355		

TOTAL NUMBER= 2.216039

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.289776

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.3497 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1 794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.424798	0.280731	0.157928	0.129116	0.093174	0.058521	0.023126	0.012685	0.009616	0.008532	4.110-003	7.323-002
10(0.98)	0.425407	0.280886	0.158330	0.129697	0.093304	0.057716	0.024572	0.013175	0.009873	0.008742	3.296-002	5.817-001
20(0.94)	0.427146	0.281293	0.159596	0.131585	0.092993	0.055758	0.028399	0.015094	0.010771	0.009459	6.640-002	1.138+000
30(0.87)	0.429343	0.281681	0.161534	0.134920	0.091343	0.054005	0.032668	0.018954	0.012676	0.010839	1.008-001	1.642+000
40(0.77)	0.430971	0.281572	0.163696	0.139785	0.088685	0.053222	0.035995	0.024312	0.016455	0.013339	1.365-001	2.074+000
50(0.64)	0.430718	0.280181	0.165349	0.145021	0.085673	0.053078	0.038158	0.029529	0.022607	0.018150	1.736-001	2.415+000
60(0.50)	0.427251	0.276519	0.165654	0.147730	0.082211	0.052540	0.039143	0.032934	0.029484	0.026605	1.575-001	1.992+000
65(0.42)	0.423987	0.273565	0.165062	0.147225	0.080104	0.051765	0.039003	0.033589	0.031938	0.031565	1.129-001	1.371+000
70(0.34)	0.419614	0.269786	0.163881	0.145276	0.077631	0.050503	0.038286	0.033385	0.033176	0.035613	1.182-001	1.412+000
75(0.26)	0.414141	0.265189	0.162079	0.141969	0.074741	0.048693	0.036906	0.032228	0.032634	0.037215	1.185-001	1.488+000
80(0.17)	0.407640	0.259839	0.159662	0.137534	0.071433	0.046335	0.034844	0.030096	0.030238	0.035140	1.081-001	1.767+000
85(0.09)	0.400248	0.253859	0.156686	0.132292	0.067759	0.043493	0.032167	0.027081	0.026167	0.029162	8.046-002	4.869+000
90(-0.00)	0.392154	0.247401	0.153246	0.126603	0.063822	0.040287	0.029021	0.023395	0.020892	0.020386	6.589-002	0.000+000
95(-0.09)	0.383583	0.240668	0.149473	0.120832	0.059758	0.036872	0.025604	0.019341	0.015089	0.010891	5.937-002	0.000+000
100(-0.17)	0.374781	0.233864	0.145510	0.115341	0.055714	0.033416	0.022126	0.015241	0.009494	0.002862	5.287-002	0.000+000
105(-0.26)	0.365988	0.227186	0.141497	0.110466	0.051826	0.030068	0.018765	0.011365	0.004695	-0.002519	4.760-002	0.000+000
110(-0.34)	0.357426	0.220813	0.137551	0.106497	0.048201	0.026936	0.015639	0.007899	0.001119	-0.004473	4.346-002	0.000+000
115(-0.42)	0.349281	0.214886	0.133769	0.103633	0.044904	0.024076	0.012793	0.004939	-0.001117	-0.004393	3.980-002	0.000+000
120(-0.50)	0.341696	0.209509	0.130218	0.101933	0.041961	0.021493	0.010210	0.002533	-0.002133	-0.003228	3.462-002	0.000+000
130(-0.64)	0.328550	0.200508	0.123987	0.101390	0.037099	0.016959	0.005655	-0.000512	-0.001784	-0.000940	6.017-002	0.000+000
140(-0.77)	0.318290	0.193799	0.119030	0.102449	0.033461	0.013693	0.001902	-0.001276	-0.000590	-0.000125	4.805-002	0.000+000
150(-0.87)	0.310784	0.189028	0.115301	0.102824	0.031129	0.011844	-0.000431	-0.000647	-0.000017	-0.000006	3.609-002	0.000+000
160(-0.94)	0.305724	0.185855	0.112667	0.102196	0.030477	0.011049	-0.000888	0.000048	0.000045	0.000000	2.412-002	0.000+000
170(-0.98)	0.302818	0.184055	0.111057	0.101401	0.031204	-0.001105	-0.000211	0.000261	0.000012	0.000000	1.211-002	0.000+000
177(-1.00)	0.301930	0.183511	0.110542	0.101099	0.031741	-0.002642	0.000198	0.000259	0.000002	0.000000	1.517-003	0.000+000
NUMBER SUM	4.813909	3.046670	1.845363	1.555445	0.785135	0.454580	0.293103	0.210632	0.169496	0.153384		

TOTAL NUMBER= 1.755596

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4.399626

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.5245 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.402157	0.256503	0.143758	0.115545	0.082390	0.057433	0.028863	0.016312	0.012165	0.010753	3.851-003	8.173+002
10(0.98)	0.402059	0.256298	0.143841	0.115759	0.082588	0.056575	0.029649	0.016868	0.012458	0.010988	3.081-002	6.495+001
20(0.94)	0.401585	0.255566	0.144057	0.116418	0.082674	0.054403	0.031616	0.018724	0.013475	0.011784	6.163-002	1.272+000
30(0.87)	0.400275	0.254090	0.144234	0.117491	0.081704	0.052073	0.033570	0.021749	0.015465	0.013277	9.233-002	1.841+000
40(0.77)	0.397437	0.251499	0.144064	0.118954	0.079383	0.050137	0.034750	0.025171	0.018721	0.015805	1.224-001	2.338+000
50(0.64)	0.392308	0.247326	0.143146	0.120312	0.075923	0.048336	0.034973	0.027759	0.022835	0.019843	1.506-001	2.751+000
60(0.50)	0.384276	0.241151	0.141106	0.120213	0.071467	0.046011	0.034066	0.028511	0.026047	0.024954	1.297-001	2.326+000
69(0.42)	0.379082	0.237249	0.139593	0.119123	0.068858	0.044459	0.033071	0.028008	0.026539	0.026953	8.951-002	1.644+000
70(0.34)	0.373124	0.232821	0.137746	0.117195	0.065994	0.042588	0.031656	0.026866	0.025955	0.027644	8.950-002	1.783+000
75(0.26)	0.366467	0.227921	0.135584	0.114452	0.062894	0.040396	0.029817	0.025091	0.024207	0.026368	8.468-002	2.090+000
80(0.17)	0.359214	0.222634	0.133147	0.111016	0.059600	0.037917	0.027591	0.022743	0.021380	0.022882	7.325-002	3.277+000
85(0.09)	0.351496	0.217065	0.130492	0.107082	0.056175	0.035217	0.025060	0.019947	0.017732	0.017585	5.895-002	2.652+001
90(-0.00)	0.343471	0.211340	0.127691	0.102881	0.052699	0.032385	0.022339	0.016880	0.013649	0.011465	5.337-002	0.000+000
95(-0.09)	0.335304	0.205589	0.124823	0.098651	0.049258	0.029519	0.019553	0.013740	0.009572	0.005736	4.867-002	0.000+000
100(-0.17)	0.327163	0.199939	0.121963	0.094624	0.045935	0.026709	0.016817	0.010709	0.005903	0.001378	4.416-002	0.000+000
105(-0.26)	0.319201	0.194505	0.119178	0.091008	0.042795	0.024027	0.014217	0.007928	0.002938	-0.001198	4.038-002	0.000+000
110(-0.34)	0.311555	0.189379	0.116519	0.087979	0.039883	0.021515	0.011802	0.005490	0.000821	-0.002172	3.718-002	0.000+000
115(-0.42)	0.304332	0.184631	0.114016	0.085664	0.037221	0.019190	0.009587	0.003444	-0.000455	-0.002086	3.424-002	0.000+000
120(-0.50)	0.297614	0.180301	0.111689	0.084121	0.034806	0.017037	0.007562	0.001819	-0.001022	-0.001532	4.716-002	0.000+000
130(-0.64)	0.285886	0.172939	0.107587	0.083144	0.030652	0.013110	0.004049	-0.000148	-0.000873	-0.000485	5.214-002	0.000+000
140(-0.77)	0.276541	0.167214	0.104228	0.083867	0.027254	0.009401	0.001375	-0.000627	-0.000302	-0.000084	4.168-002	0.000+000
150(-0.87)	0.269514	0.162929	0.101595	0.084747	0.024573	0.005712	-0.000125	-0.000324	-0.000023	-0.000007	3.129-002	0.000+000
160(-0.94)	0.264650	0.159936	0.099669	0.085068	0.022780	0.002291	-0.000433	0.000011	0.000022	0.000000	2.089-002	0.000+000
170(-0.98)	0.261799	0.158165	0.098471	0.085009	0.021949	-0.000190	-0.000133	0.000124	0.000011	0.000000	1.047-002	0.000+000
177(-1.00)	0.260919	0.157617	0.098086	0.084945	0.021769	-0.001037	0.000050	0.000132	0.000005	-0.000000	1.310-003	0.000+000
NUMBER SUM	4.279562	2.647555	1.583036	1.285041	0.667332	0.390321	0.251751	0.180011	0.143720	0.129009		

TOTAL NUMBER= 1.450173

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5.449261

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.6993 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.370813	0.230208	0.128675	0.102219	0.072538	0.054293	0.031468	0.018398	0.013673	0.012046	3.541-003	8.952-002
10(0.98)	0.370261	0.229784	0.128551	0.102195	0.072718	0.053473	0.031792	0.018925	0.013959	0.012277	2.828-002	7.119-001
20(0.94)	0.368377	0.228366	0.128101	0.102070	0.072909	0.051323	0.032480	0.020526	0.014944	0.013049	5.620-002	1.397+000
30(0.87)	0.364879	0.225798	0.127185	0.101745	0.072261	0.048763	0.032870	0.022729	0.016766	0.014460	8.325-002	2.032+000
40(0.77)	0.359342	0.221813	0.125608	0.101141	0.070178	0.046187	0.032614	0.024661	0.019353	0.016721	1.084-001	2.601+000
50(0.64)	0.351308	0.216175	0.123203	0.100154	0.066609	0.043423	0.031564	0.025431	0.021840	0.019838	1.297-001	3.110+000
60(0.50)	0.340909	0.208827	0.119897	0.098384	0.061812	0.040098	0.029496	0.024495	0.022596	0.022457	1.069-001	2.721+000
65(0.42)	0.334768	0.204569	0.117933	0.096989	0.059055	0.038143	0.028017	0.023314	0.021860	0.022561	7.168-002	1.992+000
70(0.34)	0.328112	0.199992	0.115805	0.095158	0.056121	0.035992	0.026245	0.021672	0.020293	0.021287	6.927-002	2.300+000
75(0.26)	0.321032	0.195169	0.113560	0.092881	0.053066	0.033674	0.024219	0.019628	0.017974	0.018517	6.339-002	3.074+000
80(0.17)	0.313641	0.190188	0.111249	0.090210	0.049952	0.031236	0.022004	0.017283	0.015098	0.014558	5.452-002	6.675+000
85(0.09)	0.306061	0.185140	0.108928	0.087252	0.046842	0.028740	0.019682	0.014771	0.011937	0.010092	4.717-002	1.577+002
90(-0.00)	0.298417	0.180119	0.106647	0.084147	0.043798	0.026250	0.017337	0.012229	0.008796	0.005921	4.358-002	0.000+000
95(-0.09)	0.290833	0.175211	0.104450	0.081046	0.040872	0.023823	0.015046	0.009782	0.005944	0.002669	4.017-002	0.000+000
100(-0.17)	0.283420	0.170490	0.102372	0.078088	0.038104	0.021502	0.012862	0.007522	0.003577	0.000580	3.700-002	0.000+000
105(-0.26)	0.276277	0.166016	0.100433	0.075396	0.035518	0.019310	0.010817	0.005511	0.001793	-0.000471	3.422-002	0.000+000
110(-0.34)	0.269481	0.161832	0.098643	0.073070	0.033122	0.017254	0.008921	0.003784	0.000593	-0.000810	3.170-002	0.000+000
115(-0.42)	0.263094	0.157963	0.096999	0.071188	0.030912	0.015326	0.007173	0.002365	-0.000097	-0.000777	2.931-002	0.000+000
120(-0.50)	0.257160	0.154419	0.095489	0.069803	0.028877	0.013507	0.005572	0.001269	-0.000400	-0.000609	4.048-002	0.000+000
130(-0.64)	0.246748	0.148292	0.092825	0.068559	0.025253	0.010107	0.002852	0.000016	-0.000379	-0.000267	4.487-002	0.000+000
140(-0.77)	0.238338	0.143665	0.090579	0.068933	0.022104	0.006915	0.000954	-0.000276	-0.000162	-0.000074	3.589-002	0.000+000
150(-0.87)	0.231968	0.139544	0.088745	0.069938	0.019342	0.003988	0.000014	-0.000158	-0.000033	-0.000010	2.693-002	0.000+000
160(-0.94)	0.227389	0.136792	0.087362	0.070719	0.017019	0.001649	-0.000195	-0.000017	0.000010	-0.000000	1.797-002	0.000+000
170(-0.98)	0.224710	0.135124	0.086490	0.071063	0.015389	0.000232	-0.000119	0.000054	0.000012	-0.000000	8.995-003	0.000+000
177(-1.00)	0.223878	0.134601	0.086209	0.071137	0.014830	-0.000191	-0.000069	0.000074	0.000009	-0.000000	1.125-003	0.000+000
NUMBER SUM	3.761395	2.286045	1.353594	1.065813	0.566721	0.334544	0.215938	0.153744	0.121856	0.108506		

TOTAL NUMBER= 1.214617

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 6.481816

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 0.8742 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.335588	0.203922	0.113758	0.089637	0.063615	0.050053	0.031966	0.019335	0.014399	0.012651	3.211-003	9.669+002
10(0.98)	0.334762	0.203375	0.113508	0.089465	0.063738	0.049311	0.031977	0.019784	0.014654	0.012860	2.560-002	7.695+001
20(0.94)	0.332042	0.201584	0.112657	0.088867	0.063888	0.047307	0.031813	0.021053	0.015518	0.013547	5.059-002	1.514+000
30(0.87)	0.327282	0.198446	0.111102	0.087725	0.063365	0.044733	0.031184	0.022519	0.017044	0.014767	7.419-002	2.215+000
40(0.77)	0.320265	0.193788	0.108743	0.085938	0.061466	0.041863	0.030006	0.023331	0.018947	0.016619	9.511-002	2.866+000
50(0.64)	0.310897	0.187537	0.105564	0.083616	0.057994	0.038609	0.028165	0.022879	0.020177	0.018832	1.111-001	3.495+000
60(0.50)	0.299344	0.179856	0.101680	0.080926	0.053246	0.034808	0.025438	0.020924	0.019342	0.019661	8.832-002	3.188+000
69(0.42)	0.292891	0.175604	0.099559	0.079407	0.050550	0.032696	0.023723	0.019385	0.017910	0.018609	5.788-002	2.432+000
70(0.34)	0.286100	0.171171	0.097385	0.077715	0.047732	0.030472	0.021813	0.017522	0.015860	0.016272	5.461-002	3.024+000
75(0.26)	0.279073	0.166639	0.095215	0.075822	0.044866	0.028183	0.019769	0.015425	0.013358	0.012855	4.916-002	4.684+000
80(0.17)	0.271920	0.162087	0.093105	0.073738	0.042018	0.025879	0.017665	0.013209	0.010642	0.008948	4.283-002	1.435+001
85(0.09)	0.264749	0.157594	0.091104	0.071510	0.039247	0.023616	0.015575	0.010998	0.007970	0.005315	3.854-002	9.578+002
90(-0.00)	0.257660	0.153227	0.089246	0.069216	0.036598	0.021435	0.013562	0.008899	0.005568	0.002568	3.582-002	0.000+000
95(-0.09)	0.250743	0.149040	0.087553	0.066941	0.034102	0.019367	0.011664	0.006983	0.003587	0.000926	3.333-002	0.000+000
100(-0.17)	0.244073	0.145075	0.086030	0.064767	0.031771	0.017424	0.009899	0.005284	0.002090	0.000202	3.108-002	0.000+000
105(-0.26)	0.237708	0.141356	0.084674	0.062757	0.029604	0.015602	0.008266	0.003815	0.001059	-0.000001	2.898-002	0.000+000
110(-0.34)	0.231694	0.137895	0.083471	0.060963	0.027592	0.013888	0.006754	0.002581	0.000421	-0.000039	2.697-002	0.000+000
115(-0.42)	0.226060	0.134694	0.082398	0.059427	0.025718	0.012265	0.005357	0.001590	0.000076	-0.000088	2.500-002	0.000+000
120(-0.50)	0.220829	0.131747	0.081431	0.058194	0.023964	0.010712	0.004078	0.000849	-0.000081	-0.000159	3.459-002	0.000+000
130(-0.64)	0.211619	0.126572	0.079728	0.056802	0.020756	0.007768	0.001962	0.000063	-0.000142	-0.000192	3.841-002	0.000+000
140(-0.77)	0.204114	0.122303	0.078250	0.056858	0.017860	0.005039	0.000622	-0.000107	-0.000110	-0.000081	3.072-002	0.000+000
150(-0.87)	0.198317	0.118911	0.076995	0.057785	0.015180	0.002713	0.000054	-0.000087	-0.000045	-0.000012	2.305-002	0.000+000
160(-0.94)	0.194208	0.116422	0.076023	0.058730	0.012699	0.001117	-0.000089	-0.000040	0.000005	-0.000000	1.537-002	0.000+000
170(-0.98)	0.191759	0.114893	0.075405	0.059265	0.010734	0.000365	-0.000140	0.000025	0.000015	0.000000	7.691-003	0.000+000
177(-1.00)	0.190997	0.114409	0.075206	0.059409	0.010004	0.000196	-0.000165	0.000056	0.000012	-0.000000	9.617-004	0.000+000
NUMBER SUM	3.277372	1.964070	1.154422	0.886946	0.480930	0.286286	0.184989	0.131228	0.103311	0.091263		

TOTAL NUMBER= 1.023047

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7.513418

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 2.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 1.7483 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.106	0.147	0.203	0.253	0.350	0.486	0.673	0.933	1.294	1.794	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.177093	0.101078	0.056063	0.043313	0.031711	0.027912	0.022440	0.015527	0.012132	0.010590	1.752-003	1.265+001
10(0.98)	0.176162	0.100546	0.055733	0.043021	0.031568	0.027558	0.022039	0.015588	0.012143	0.010625	1.387-002	1.013+000
20(0.94)	0.173193	0.098849	0.054649	0.042092	0.031285	0.026500	0.020798	0.015636	0.012185	0.010710	2.679-002	2.033+000
30(0.87)	0.168294	0.096027	0.052799	0.040481	0.030835	0.024830	0.019008	0.015214	0.012251	0.010778	3.776-002	3.094+000
40(0.77)	0.161614	0.092107	0.050257	0.038012	0.029668	0.022547	0.016970	0.013930	0.012051	0.010787	4.563-002	4.304+000
50(0.64)	0.153469	0.087264	0.047238	0.034871	0.027465	0.019742	0.014629	0.011858	0.010859	0.010527	4.914-002	6.024+000
60(0.50)	0.144370	0.081887	0.044069	0.031898	0.024473	0.016608	0.011860	0.009231	0.008204	0.008710	3.524-002	7.307+000
65(0.42)	0.139661	0.079159	0.042549	0.030723	0.022840	0.015008	0.010378	0.007773	0.006465	0.006669	2.187-002	7.270+000
70(0.34)	0.134955	0.076489	0.041140	0.029781	0.021206	0.013449	0.008913	0.006294	0.004658	0.003978	1.980-002	1.412+001
75(0.26)	0.130326	0.073930	0.039887	0.029033	0.019630	0.011976	0.007533	0.004887	0.002977	0.001185	1.774-002	4.951+001
80(0.17)	0.125837	0.071519	0.038823	0.028426	0.018154	0.010626	0.006293	0.003647	0.001598	-0.000953	1.633-002	8.400+002
85(0.09)	0.121532	0.069278	0.037964	0.027913	0.016800	0.009418	0.005222	0.002636	0.000631	-0.001873	1.545-002	8.715+006
90(-0.00)	0.117440	0.067211	0.037304	0.027465	0.015567	0.008348	0.004319	0.001866	0.000091	-0.001547	1.469-002	0.000+000
95(-0.09)	0.113573	0.065307	0.036821	0.027060	0.014438	0.007393	0.003554	0.001295	-0.000105	-0.000509	1.396-002	0.000+000
100(-0.17)	0.109930	0.063548	0.036482	0.026670	0.013383	0.006521	0.002885	0.000858	-0.000093	0.000485	1.335-002	0.000+000
105(-0.26)	0.106505	0.061908	0.036251	0.026262	0.012371	0.005698	0.002271	0.000502	-0.000011	0.000902	1.270-002	0.000+000
110(-0.34)	0.103287	0.060360	0.036095	0.025790	0.011378	0.004898	0.001687	0.000204	0.000043	0.000680	1.186-002	0.000+000
115(-0.42)	0.100269	0.058884	0.035985	0.025219	0.010387	0.004108	0.001133	-0.000027	0.000025	0.000128	1.091-002	0.000+000
120(-0.50)	0.097449	0.057467	0.035899	0.024547	0.009397	0.003328	0.000630	-0.000171	-0.000063	-0.000367	1.506-002	0.000+000
130(-0.64)	0.092410	0.054809	0.035735	0.023139	0.007461	0.001840	-0.000081	-0.000229	-0.000288	-0.000549	1.670-002	0.000+000
140(-0.77)	0.088228	0.052455	0.035545	0.022308	0.005691	0.000576	-0.000275	-0.000211	-0.000303	-0.000202	1.330-002	0.000+000
150(-0.87)	0.084967	0.050520	0.035359	0.022376	0.004116	-0.000247	-0.000188	-0.000225	-0.000114	-0.000027	9.946-003	0.000+000
160(-0.94)	0.082657	0.049085	0.035231	0.022853	0.002555	-0.000467	-0.000227	-0.000116	0.000020	-0.000000	6.621-003	0.000+000
170(-0.98)	0.081287	0.048197	0.035178	0.023215	0.001068	-0.000261	-0.000423	0.000089	0.000034	0.000000	3.310-003	0.000+000
177(-1.00)	0.080862	0.047913	0.035168	0.023325	0.000439	-0.000117	-0.000521	0.000181	0.000024	-0.000000	4.140-004	0.000+000
NUMBER SUM	1.532469	0.882590	0.509799	0.365042	0.210106	0.129069	0.084053	0.058948	0.045171	0.038456		

TOTAL NUMBER= 0.444197

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 12.782947

LOWER ENERGY CUTOFF 0.0446MEV

LOWEST SINGLE SCATTERING ENERGY 0.2266MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0042 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.453437	0.296567	0.155777	0.122017	0.093149	0.027511	-0.004108	-0.000451	0.000095	0.000081	4.210-003	5.308+002
10(0.98)	0.455156	0.297658	0.156716	0.123194	0.091348	0.028878	-0.002093	-0.000697	0.000082	0.000083	3.386-002	4.208+001
20(0.94)	0.460403	0.300915	0.159746	0.127313	0.086181	0.031957	0.004220	-0.000770	-0.000011	0.000091	6.916-002	8.203+001
30(0.87)	0.468258	0.305579	0.164667	0.135234	0.079993	0.035040	0.013189	0.001497	-0.000033	0.000113	1.081-001	1.182+000
40(0.77)	0.477321	0.310676	0.170818	0.146972	0.075589	0.038319	0.021888	0.008006	0.001519	0.000386	1.541-001	1.492+000
50(0.64)	0.485672	0.315048	0.177024	0.158914	0.073922	0.042134	0.028650	0.017620	0.007794	0.002832	2.134-001	1.735+000
60(0.50)	0.491122	0.317240	0.181893	0.164925	0.073740	0.045635	0.033597	0.026773	0.019712	0.012824	2.230-001	1.413+000
65(0.42)	0.492126	0.316993	0.183376	0.164517	0.073557	0.046801	0.035345	0.030175	0.026291	0.021774	1.770-001	9.494+001
70(0.34)	0.491731	0.315591	0.183992	0.161915	0.072991	0.047337	0.036418	0.032434	0.031798	0.031943	2.128-001	9.258+001
75(0.26)	0.489834	0.312903	0.183603	0.157524	0.071869	0.047117	0.036640	0.033354	0.035129	0.040517	2.620-001	8.662+001
80(0.17)	0.486415	0.308881	0.182134	0.151840	0.070096	0.046080	0.035893	0.032808	0.035540	0.044223	3.462-001	7.740+001
85(0.09)	0.481546	0.303579	0.179593	0.145352	0.067662	0.044248	0.034166	0.030795	0.032838	0.040960	5.768-001	6.630-001
90(-0.00)	0.475383	0.297154	0.176074	0.138500	0.064635	0.041726	0.031574	0.027484	0.027426	0.031128	9.380-002	0.000+000
95(-0.09)	0.468152	0.289851	0.171740	0.131695	0.061151	0.038684	0.028334	0.023204	0.020213	0.017691	8.080-002	0.000+000
100(-0.17)	0.460133	0.281970	0.166783	0.125344	0.057384	0.035335	0.024719	0.018378	0.012403	0.004780	6.778-002	0.000+000
105(-0.26)	0.451632	0.273824	0.161402	0.119863	0.053521	0.031899	0.020998	0.013422	0.005226	-0.004285	5.797-002	0.000+000
110(-0.34)	0.442957	0.265701	0.155776	0.115648	0.049730	0.028566	0.017371	0.008688	-0.000538	-0.008323	5.147-002	0.000+000
115(-0.42)	0.434394	0.257834	0.150074	0.112983	0.046146	0.025474	0.013939	0.004453	-0.003766	-0.008262	4.629-002	0.000+000
120(-0.50)	0.426188	0.250383	0.144447	0.111929	0.042863	0.022688	0.010703	0.000948	-0.005077	-0.006074	6.263-002	0.000+000
130(-0.64)	0.411563	0.237040	0.133984	0.113319	0.037384	0.017882	0.004650	-0.003114	-0.003519	-0.001690	6.766-002	0.000+000
140(-0.77)	0.399966	0.225881	0.125274	0.115084	0.033514	0.013115	-0.000464	-0.003076	-0.000939	-0.000190	5.340-002	0.000+000
150(-0.87)	0.391534	0.216920	0.118650	0.113559	0.031749	0.006914	-0.002957	-0.001018	0.000057	-0.000005	3.984-002	0.000+000
160(-0.94)	0.385963	0.210331	0.113986	0.109735	0.032959	-0.000730	-0.002015	0.000378	0.000085	0.000000	2.658-002	0.000+000
170(-0.98)	0.382837	0.206322	0.111135	0.106476	0.036393	-0.007354	0.000425	0.000562	0.000013	0.000000	1.343-002	0.000+000
177(-1.00)	0.381895	0.205066	0.110220	0.105370	0.038226	-0.009791	0.001532	0.000464	-0.000001	0.000000	1.690-003	0.000+000
NUMBER SUM	5.725108	3.534557	2.018157	1.689880	0.750649	0.403592	0.247601	0.170870	0.133167	0.119657		

TOTAL NUMBER= 4.017434

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 1.639886

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.0703 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.450252	0.289716	0.150604	0.117052	0.088038	0.031217	0.000649	0.001557	0.001446	0.001258	4.143-003	5.580-002
10(0.98)	0.451513	0.290456	0.151335	0.117999	0.086634	0.032132	0.002425	0.001459	0.001480	0.001294	3.335-002	4.432-001
20(0.94)	0.455324	0.292633	0.153691	0.121300	0.082496	0.034142	0.007884	0.001737	0.001564	0.001420	6.805-002	8.660+001
30(0.87)	0.460909	0.295653	0.157496	0.127633	0.077295	0.036116	0.015450	0.004105	0.001875	0.001672	1.058-001	1.248+000
40(0.77)	0.467085	0.298739	0.162192	0.137026	0.073220	0.038317	0.022619	0.009929	0.003675	0.002316	1.491-001	1.573+000
50(0.64)	0.472256	0.300965	0.166806	0.146585	0.071106	0.040968	0.028028	0.018047	0.009383	0.004969	2.025-001	1.825+000
60(0.50)	0.474655	0.301155	0.170207	0.151262	0.070034	0.043288	0.031769	0.025432	0.019381	0.013765	2.053-001	1.485+000
65(0.42)	0.474319	0.300073	0.171095	0.150744	0.069389	0.043931	0.032971	0.028030	0.024661	0.021156	1.593-001	9.995-001
70(0.34)	0.472772	0.298007	0.171260	0.148361	0.068420	0.044034	0.033576	0.029616	0.028899	0.029256	1.858-001	9.810+001
75(0.26)	0.469947	0.294863	0.170998	0.144434	0.066997	0.043499	0.033447	0.030042	0.031222	0.035746	2.180-001	9.306+001
80(0.17)	0.465848	0.290619	0.169054	0.139378	0.065050	0.042285	0.032500	0.029227	0.031069	0.038041	2.606-001	8.528+001
85(0.09)	0.460553	0.285334	0.166643	0.133611	0.062578	0.040421	0.030742	0.027193	0.028344	0.034595	3.148-001	7.729-001
90(-0.00)	0.454208	0.279153	0.163447	0.127519	0.059646	0.038000	0.028279	0.024102	0.023438	0.025916	8.449-002	0.000+000
95(-0.09)	0.447017	0.272289	0.159603	0.121462	0.056369	0.035168	0.025299	0.020242	0.017140	0.014535	7.381-002	0.000+000
100(-0.17)	0.439223	0.264995	0.155274	0.115797	0.052892	0.032103	0.022031	0.015971	0.010461	0.003831	6.259-002	0.000+000
105(-0.26)	0.431088	0.257534	0.150621	0.110083	0.049369	0.028986	0.018693	0.011640	0.004410	-0.003570	5.412-002	0.000+000
110(-0.34)	0.422873	0.250142	0.145794	0.107057	0.045936	0.025970	0.015452	0.007540	-0.000229	-0.006804	4.834-002	0.000+000
115(-0.42)	0.414819	0.243009	0.140925	0.104568	0.042700	0.023163	0.012386	0.003900	-0.003059	-0.006704	4.365-002	0.000+000
120(-0.50)	0.407131	0.236265	0.136136	0.103477	0.039734	0.020614	0.009500	0.000914	-0.004126	-0.004904	5.925-002	0.000+000
130(-0.64)	0.393446	0.224194	0.127238	0.104445	0.034742	0.016144	0.004151	-0.002510	-0.002842	-0.001355	6.428-002	0.000+000
140(-0.77)	0.382547	0.214100	0.119801	0.106091	0.031095	0.011712	-0.000266	-0.002488	-0.000752	-0.000152	5.084-002	0.000+000
150(-0.87)	0.374544	0.206006	0.114100	0.105220	0.029150	0.006180	-0.002379	-0.000815	0.000046	-0.000004	3.798-002	0.000+000
160(-0.94)	0.369194	0.200063	0.110053	0.102395	0.029596	-0.000353	-0.001620	0.000307	0.000068	0.000000	2.534-002	0.000+000
170(-0.98)	0.366158	0.196446	0.107567	0.099873	0.031919	-0.005860	0.000358	0.000450	0.000010	0.000000	1.278-002	0.000+000
177(-1.00)	0.365237	0.195311	0.106769	0.099001	0.033227	-0.007860	0.001251	0.000370	-0.000001	0.000000	1.607-003	0.000+000
NUMBER SUM	5.510813	3.352178	1.898788	1.562666	0.704133	0.380278	0.233254	0.160662	0.124906	0.112045		

TOTAL NUMBER= 2.560267

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 2.385130

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.1407 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.443533	0.281171	0.144759	0.111713	0.082890	0.034167	0.004897	0.003413	0.002697	0.002345	4.080-003	5.896+002
10(0.98)	0.444380	0.281600	0.145403	0.112451	0.081829	0.034692	0.006439	0.003439	0.002770	0.002410	3.280-002	4.682+001
20(0.94)	0.446902	0.282624	0.147052	0.115014	0.078592	0.035777	0.011079	0.003998	0.003003	0.002634	6.667-002	9.144+001
30(0.87)	0.450454	0.284394	0.149655	0.118921	0.074274	0.036782	0.017333	0.006398	0.003586	0.003078	1.029-001	1.317+000
40(0.77)	0.454055	0.285716	0.151249	0.121210	0.070516	0.038023	0.023092	0.011537	0.005552	0.004017	1.434-001	1.658+000
50(0.64)	0.456411	0.286065	0.151648	0.121625	0.068042	0.039628	0.027262	0.018259	0.010673	0.006780	1.912-001	1.922+000
60(0.50)	0.456137	0.284531	0.150557	0.120799	0.066223	0.040896	0.029911	0.024033	0.018888	0.014403	1.880-001	1.565+000
65(0.42)	0.454640	0.282741	0.149228	0.119487	0.065188	0.041077	0.030626	0.025910	0.022991	0.020363	1.428-001	1.058+000
70(0.34)	0.452107	0.280124	0.147207	0.117513	0.063885	0.040801	0.030817	0.026898	0.026099	0.026602	1.615-001	1.048+000
75(0.26)	0.448501	0.276619	0.144421	0.114825	0.062217	0.039997	0.030384	0.026897	0.027539	0.031255	1.808-001	1.013+000
80(0.17)	0.443847	0.272224	0.141232	0.111362	0.060139	0.038641	0.029274	0.025860	0.026914	0.032345	1.970-001	9.664+001
85(0.09)	0.438226	0.267003	0.137359	0.107276	0.057658	0.036763	0.027505	0.023830	0.024208	0.028807	1.827-001	1.006+000
90(-0.00)	0.431774	0.261088	0.132974	0.102702	0.054832	0.034448	0.025175	0.020959	0.019791	0.021222	7.640-002	0.000+000
95(-0.09)	0.424674	0.254661	0.128191	0.097753	0.051759	0.031819	0.022445	0.017498	0.014344	0.011720	6.714-002	0.000+000
100(-0.17)	0.417134	0.247936	0.123144	0.092537	0.048558	0.029023	0.019502	0.013746	0.008700	0.002999	5.756-002	0.000+000
105(-0.26)	0.409379	0.241125	0.117963	0.087161	0.045353	0.026204	0.016525	0.009992	0.003670	-0.002920	5.030-002	0.000+000
110(-0.34)	0.401624	0.234422	0.112868	0.081710	0.042251	0.023483	0.013642	0.006475	-0.000137	-0.005449	4.519-002	0.000+000
115(-0.42)	0.394071	0.227978	0.107962	0.076396	0.039336	0.020943	0.010920	0.003383	-0.002432	-0.005324	4.097-002	0.000+000
120(-0.50)	0.386888	0.221896	0.103340	0.071283	0.036661	0.018616	0.008361	0.000868	-0.003284	-0.003873	5.578-002	0.000+000
130(-0.64)	0.374116	0.211015	0.094275	0.061870	0.032116	0.014474	0.005671	-0.001978	-0.002246	-0.001064	6.075-002	0.000+000
140(-0.77)	0.363898	0.201918	0.086008	0.053372	0.028680	0.010373	-0.000103	-0.001970	-0.000590	-0.000120	4.815-002	0.000+000
150(-0.87)	0.356327	0.194634	0.079160	0.046043	0.026591	0.007473	-0.001872	-0.000639	0.000036	-0.000003	3.601-002	0.000+000
160(-0.94)	0.351207	0.189292	0.073689	0.040388	0.025385	-0.000048	-0.001275	0.000243	0.000053	0.000000	2.402-002	0.000+000
170(-0.98)	0.348271	0.186042	0.070547	0.037219	0.024748	-0.004553	0.000292	0.000352	0.000008	0.000000	1.210-002	0.000+000
177(-1.00)	0.347376	0.185121	0.069658	0.036357	0.024600	-0.006163	0.000997	0.000289	-0.000000	0.000000	1.520-003	0.000+000
NUMBER SUM	5.275294	3.164063	1.778545	1.438839	0.657682	0.356823	0.218852	0.150459	0.116681	0.104477		

TOTAL NUMBER= 2.169771

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 2.834007

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.2814 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.805	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.422447	0.261414	0.132469	0.101079	0.073428	0.037619	0.011288	0.006366	0.004692	0.004075	3.899-003	6.487-002
10(0.98)	0.422661	0.261380	0.132725	0.101492	0.073862	0.037588	0.012419	0.006556	0.004819	0.004179	3.128-002	5.152-001
20(0.94)	0.423211	0.261190	0.133540	0.102916	0.075948	0.037351	0.015674	0.007456	0.005250	0.004536	6.316-002	1.006+000
30(0.87)	0.423671	0.260620	0.134808	0.105635	0.079973	0.036944	0.019789	0.009749	0.006174	0.005226	9.629-002	1.450+000
40(0.77)	0.423389	0.259351	0.136223	0.109704	0.084767	0.036740	0.023291	0.013660	0.008242	0.006513	1.315-001	1.827+000
50(0.64)	0.421556	0.256979	0.137294	0.113625	0.089856	0.036752	0.025502	0.018104	0.012264	0.009246	1.697-001	2.123+000
60(0.50)	0.417378	0.253100	0.137496	0.115447	0.092029	0.036431	0.026458	0.021350	0.017595	0.014818	1.580-001	1.743+000
65(0.42)	0.414225	0.250240	0.137121	0.114706	0.091472	0.035927	0.026436	0.022125	0.019874	0.018503	1.153-001	1.191+000
70(0.34)	0.410316	0.246904	0.136365	0.112887	0.089728	0.035103	0.026016	0.022222	0.021271	0.021889	1.236-001	1.210+000
75(0.26)	0.405562	0.242976	0.135188	0.110430	0.087358	0.033925	0.025152	0.021606	0.021422	0.023816	1.277-001	1.232+000
80(0.17)	0.400312	0.238485	0.133598	0.106653	0.083548	0.032592	0.023833	0.020283	0.020164	0.023224	1.210-001	1.335+000
85(0.09)	0.394351	0.233497	0.131587	0.102703	0.079117	0.030539	0.022094	0.018321	0.017588	0.019732	8.829-002	2.441+000
90(-0.00)	0.387897	0.228119	0.129237	0.098526	0.074514	0.028431	0.020016	0.015852	0.014021	0.015980	6.276-002	0.000+000
95(-0.09)	0.381093	0.222486	0.126617	0.094158	0.069808	0.026155	0.017715	0.013063	0.009957	0.007443	5.579-002	0.000+000
100(-0.17)	0.374095	0.216745	0.123813	0.090428	0.066076	0.023808	0.015315	0.010162	0.005955	0.001777	4.881-002	0.000+000
105(-0.26)	0.367063	0.211036	0.120911	0.086956	0.062397	0.021480	0.012929	0.007340	0.002517	-0.001902	4.345-002	0.000+000
110(-0.34)	0.360149	0.205483	0.117982	0.084146	0.059814	0.019244	0.010637	0.004756	-0.000007	-0.003392	3.943-002	0.000+000
115(-0.42)	0.353488	0.200180	0.115087	0.082153	0.058436	0.017142	0.008478	0.002530	-0.001488	-0.003254	3.599-002	0.000+000
120(-0.50)	0.347193	0.195191	0.112276	0.080139	0.057227	0.015188	0.006461	0.000759	-0.002021	-0.002343	4.926-002	0.000+000
130(-0.64)	0.336017	0.186271	0.107080	0.076434	0.054599	0.011619	0.002852	-0.001188	-0.001564	-0.000643	5.400-002	0.000+000
140(-0.77)	0.327007	0.178814	0.102680	0.073225	0.052320	0.008112	0.000107	-0.001201	-0.000556	-0.000076	4.296-002	0.000+000
150(-0.87)	0.320222	0.172961	0.099211	0.070611	0.050265	0.004261	-0.001121	-0.000384	0.000019	-0.000003	3.217-002	0.000+000
160(-0.94)	0.315548	0.168511	0.096681	0.068913	0.048946	0.000337	-0.000771	0.000144	0.000032	0.000000	2.147-002	0.000+000
170(-0.98)	0.312824	0.165862	0.095106	0.068020	0.048334	-0.002634	0.000179	0.000209	0.000006	0.000000	1.079-002	0.000+000
177(-1.00)	0.311986	0.165063	0.094598	0.067877	0.048159	-0.003653	0.000601	0.000173	0.000001	0.000000	1.353-003	0.000+000
NUMBER SUM	4.794698	2.808203	1.557947	1.222592	0.873460	0.313838	0.192531	0.131928	0.101825	0.090835		

TOTAL NUMBER= 1.727851

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.601853

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.4221 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.394717	0.239708	0.119966	0.090780	0.064981	0.038660	0.015453	0.008468	0.006124	0.005311	3.670-003	7.029+002
10(0.98)	0.394499	0.239575	0.120023	0.090965	0.064723	0.038296	0.016244	0.008741	0.006277	0.005435	2.939-002	5.584+001
20(0.94)	0.393709	0.238974	0.120196	0.091598	0.063660	0.037260	0.018409	0.009770	0.006805	0.005856	5.899-002	1.092+000
30(0.87)	0.392090	0.236536	0.120415	0.092816	0.061605	0.035971	0.020912	0.011613	0.007870	0.006658	8.898-002	1.577+000
40(0.77)	0.389234	0.233430	0.120494	0.094679	0.058857	0.034816	0.022762	0.014679	0.009837	0.008061	1.194-001	1.994+000
50(0.64)	0.384697	0.229383	0.120157	0.096530	0.055782	0.033754	0.023568	0.017407	0.012877	0.010546	1.497-001	2.332+000
60(0.50)	0.378089	0.223968	0.119137	0.096877	0.052429	0.032380	0.023347	0.018857	0.016063	0.014434	1.330-001	1.944+000
65(0.42)	0.373953	0.220685	0.118306	0.096067	0.050600	0.031438	0.022833	0.018881	0.017069	0.016474	9.377-002	1.352+000
70(0.34)	0.369271	0.217006	0.117241	0.094536	0.048644	0.030278	0.022023	0.018395	0.017521	0.017901	9.613-002	1.419+000
75(0.26)	0.364083	0.212949	0.115935	0.092349	0.046553	0.028891	0.020906	0.017406	0.016660	0.018059	9.341-002	1.552+000
80(0.17)	0.358449	0.208555	0.114398	0.089642	0.044337	0.027290	0.019495	0.015952	0.015073	0.016496	8.171-002	2.027+000
85(0.09)	0.352453	0.203891	0.112652	0.086579	0.042022	0.025508	0.017833	0.014111	0.012706	0.013249	6.049-002	8.403+000
90(-0.00)	0.346198	0.199041	0.110739	0.083339	0.039646	0.023597	0.015987	0.011995	0.009836	0.008935	5.187-002	0.000+000
95(-0.09)	0.339793	0.194104	0.108700	0.080096	0.037257	0.021616	0.014036	0.009742	0.006818	0.004537	4.662-002	0.000+000
100(-0.17)	0.333357	0.189179	0.106615	0.076916	0.034976	0.019626	0.012063	0.007491	0.004009	0.000993	4.153-002	0.000+000
105(-0.26)	0.327003	0.184457	0.104511	0.073863	0.032837	0.017680	0.010134	0.005367	0.001701	-0.001176	3.754-002	0.000+000
110(-0.34)	0.320835	0.179712	0.102436	0.071974	0.030887	0.015816	0.008296	0.003471	0.000068	-0.001995	3.435-002	0.000+000
115(-0.42)	0.314943	0.175302	0.100421	0.070262	0.029177	0.014055	0.006573	0.001877	-0.000858	-0.001877	3.153-002	0.000+000
120(-0.50)	0.309402	0.171161	0.098468	0.069186	0.027617	0.012397	0.004974	0.000640	-0.001150	-0.001343	4.332-002	0.000+000
130(-0.64)	0.299574	0.163761	0.094938	0.068772	0.025329	0.009309	0.002193	-0.000673	-0.000791	-0.000380	4.774-002	0.000+000
140(-0.77)	0.291597	0.157576	0.091906	0.069650	0.023542	0.006814	0.000208	-0.000700	-0.000212	-0.000052	3.808-002	0.000+000
150(-0.87)	0.285513	0.152653	0.089446	0.070399	0.022243	0.005280	-0.000635	-0.000226	0.000005	-0.000003	2.855-002	0.000+000
160(-0.94)	0.281261	0.149066	0.087651	0.070478	0.021600	0.004507	-0.000450	0.000076	0.000018	0.000000	1.906-002	0.000+000
170(-0.98)	0.278752	0.146884	0.086510	0.070225	0.021255	-0.001405	0.000085	0.000119	0.000005	0.000000	9.559-003	0.000+000
177(-1.00)	0.277976	0.146197	0.086141	0.070095	0.021547	-0.002025	0.000319	0.000103	0.000002	-0.000000	1.198-003	0.000+000
NUMBER SUM	4.318863	2.481586	1.362327	1.041299	0.499706	0.275685	0.169235	0.115645	0.088859	0.078967		

TOTAL NUMBER= 1.439578

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 4.306148

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.5628 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.363529	0.217462	0.107750	0.061040	0.037448	0.038080	0.017952	0.009885	0.007102	0.006153	3.414-003	7.528-002
10(0.98)	0.363027	0.216947	0.107673	0.061068	0.037372	0.037534	0.018470	0.010186	0.007263	0.006283	2.730-002	5.982-001
20(0.94)	0.361364	0.215295	0.107417	0.061166	0.036836	0.036056	0.019790	0.011209	0.007818	0.006722	5.450-002	1.171+000
30(0.87)	0.358409	0.212534	0.106943	0.061381	0.035403	0.034258	0.021095	0.012931	0.008891	0.007540	8.143-002	1.697+000
40(0.77)	0.353942	0.208676	0.106152	0.061770	0.033036	0.032510	0.021755	0.014926	0.010638	0.008908	1.076-001	2.159+000
50(0.64)	0.347759	0.203690	0.104922	0.062094	0.030978	0.030759	0.021574	0.016377	0.012830	0.011034	1.315-001	2.550+000
60(0.50)	0.339772	0.197544	0.103164	0.061588	0.028426	0.028723	0.020561	0.016575	0.014443	0.013566	1.121-001	2.171+000
65(0.42)	0.335128	0.194044	0.102079	0.060752	0.027520	0.027520	0.019734	0.016104	0.014580	0.014437	7.679-002	1.544+000
70(0.34)	0.330095	0.190278	0.100864	0.059455	0.026479	0.026176	0.018691	0.015257	0.014093	0.014556	7.589-002	1.691+000
75(0.26)	0.324727	0.186284	0.099532	0.057715	0.025390	0.024696	0.017445	0.014065	0.012954	0.013618	7.059-002	2.020+000
80(0.17)	0.319090	0.182113	0.098069	0.055606	0.024251	0.023100	0.016021	0.012585	0.011240	0.011560	5.974-002	3.332+000
85(0.09)	0.313264	0.177816	0.096590	0.053236	0.023089	0.021419	0.014465	0.010893	0.009120	0.008661	4.771-002	3.330+001
90(-0.00)	0.307333	0.173471	0.095032	0.050727	0.021937	0.019692	0.012829	0.009085	0.006822	0.005468	4.312-002	0.000+000
95(-0.09)	0.301387	0.169145	0.093457	0.048209	0.020826	0.017959	0.011169	0.007259	0.004592	0.002602	3.916-002	0.000+000
100(-0.17)	0.295511	0.164903	0.091899	0.045800	0.019786	0.016256	0.009533	0.005507	0.002644	0.000511	3.545-002	0.000+000
105(-0.26)	0.289786	0.160800	0.090383	0.043614	0.018843	0.014610	0.007960	0.003905	0.001129	-0.000663	3.243-002	0.000+000
110(-0.34)	0.284283	0.156880	0.088930	0.041749	0.018011	0.013037	0.006474	0.002514	0.000108	-0.001064	2.989-002	0.000+000
115(-0.42)	0.279061	0.153174	0.087550	0.040284	0.017299	0.011544	0.005089	0.001378	-0.000447	-0.000985	2.754-002	0.000+000
120(-0.50)	0.274166	0.149700	0.086248	0.039271	0.016704	0.010124	0.003814	0.000523	-0.000635	-0.000710	3.797-002	0.000+000
130(-0.64)	0.265489	0.143489	0.083883	0.038585	0.015829	0.007444	0.001666	-0.000348	-0.000431	-0.000226	4.201-002	0.000+000
140(-0.77)	0.258404	0.138309	0.081847	0.038170	0.015292	0.004886	0.000238	-0.000384	-0.000129	-0.000042	3.358-002	0.000+000
150(-0.87)	0.252946	0.134181	0.080169	0.037953	0.015042	0.002490	-0.000331	-0.000134	-0.000007	-0.000004	2.520-002	0.000+000
160(-0.94)	0.249089	0.131187	0.078894	0.037879	0.014933	0.000541	-0.000256	0.000028	0.000010	-0.000000	1.682-002	0.000+000
170(-0.98)	0.246794	0.129368	0.078085	0.037850	0.014885	-0.000650	0.000008	0.000065	0.000006	0.000000	8.431-003	0.000+000
177(-1.00)	0.246080	0.128795	0.077823	0.037836	0.014865	-0.001007	0.000121	0.000063	0.000003	-0.000000	1.055-003	0.000+000
NUMBER SUM	3.862340	2.185114	1.189447	0.689054	0.435201	0.241903	0.148643	0.101343	0.077548	0.068648		

TOTAL NUMBER= 1.221237

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4.972908

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 0.7035 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.097	0.142	0.207	0.767	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.331122	0.195432	0.096143	0.071990	0.050739	0.036458	0.019223	0.010757	0.007719	0.006682	3.146-003	7.988-002
10(0.98)	0.330445	0.195017	0.095980	0.071915	0.050761	0.035828	0.019527	0.011051	0.007875	0.006809	2.512-002	6.352-001
20(0.94)	0.328247	0.193065	0.095450	0.071662	0.050537	0.034148	0.020202	0.011987	0.008409	0.007233	4.992-002	1.246+000
30(0.87)	0.324492	0.189676	0.094538	0.071229	0.050519	0.032097	0.020634	0.013366	0.009408	0.008007	7.393-002	1.813+000
40(0.77)	0.319093	0.185531	0.093279	0.070668	0.049472	0.030014	0.020455	0.014650	0.010877	0.009247	9.629-002	2.322+000
50(0.64)	0.312026	0.180113	0.091450	0.069996	0.048543	0.027853	0.019601	0.015163	0.012355	0.010970	1.151-001	2.778+000
60(0.50)	0.303394	0.173717	0.089289	0.069043	0.047005	0.025437	0.018078	0.014512	0.012833	0.012435	9.469-002	2.430+000
65(0.42)	0.298570	0.170201	0.088068	0.068112	0.046087	0.024098	0.017066	0.013732	0.012398	0.012494	6.327-002	1.775+000
70(0.34)	0.293473	0.166517	0.086829	0.067007	0.045109	0.022674	0.015903	0.012679	0.011458	0.011772	6.073-002	2.042+000
75(0.26)	0.288163	0.162707	0.085536	0.065618	0.043099	0.021179	0.014611	0.011401	0.010071	0.010201	5.490-002	2.705+000
80(0.17)	0.282707	0.158823	0.084230	0.063975	0.041086	0.019637	0.013227	0.009959	0.008360	0.007959	4.626-002	5.800+000
85(0.09)	0.277178	0.154917	0.082932	0.062143	0.039098	0.018074	0.011792	0.008430	0.006497	0.005446	3.928-002	1.377+002
90(-0.00)	0.271646	0.151044	0.081664	0.060206	0.037159	0.016519	0.010346	0.006889	0.004665	0.003125	3.605-002	0.000+000
95(-0.09)	0.266183	0.147254	0.080443	0.058254	0.035292	0.014997	0.008926	0.005405	0.003027	0.001546	3.306-002	0.000+000
100(-0.17)	0.260850	0.143586	0.079286	0.056373	0.033513	0.013527	0.007561	0.004036	0.001699	0.000232	3.034-002	0.000+000
105(-0.26)	0.255706	0.140074	0.078203	0.054639	0.031831	0.012119	0.006267	0.002825	0.000745	-0.000304	2.803-002	0.000+000
110(-0.34)	0.250796	0.136738	0.077200	0.053119	0.030250	0.010778	0.005054	0.001805	0.000126	-0.000459	2.597-002	0.000+000
115(-0.42)	0.246159	0.133593	0.076276	0.051869	0.028769	0.009499	0.003932	0.000998	-0.000188	-0.000426	2.402-002	0.000+000
120(-0.50)	0.241824	0.130648	0.075425	0.050932	0.027379	0.008272	0.002910	0.000413	-0.000294	-0.000330	3.319-002	0.000+000
130(-0.64)	0.234138	0.125381	0.073905	0.050076	0.026830	0.005940	0.001246	-0.000153	-0.000216	-0.000145	3.684-002	0.000+000
140(-0.77)	0.227830	0.120979	0.072587	0.050402	0.026510	0.003755	0.000226	-0.000195	-0.000087	-0.000040	2.949-002	0.000+000
150(-0.87)	0.222932	0.117492	0.071470	0.051278	0.026345	0.001855	-0.000152	-0.000086	-0.000017	-0.000005	2.214-002	0.000+000
160(-0.94)	0.219441	0.114965	0.070600	0.052029	0.026367	0.000494	-0.000147	-0.000004	0.000006	-0.000000	1.478-002	0.000+000
170(-0.98)	0.217351	0.113430	0.070042	0.052409	0.026843	-0.000218	-0.000056	0.000034	0.000007	0.000000	7.404-003	0.000+000
177(-1.00)	0.216699	0.112947	0.069861	0.052503	0.026287	-0.000405	-0.000019	0.000045	0.000005	-0.000000	9.262-004	0.000+000
NUMBER SUM	3.434109	1.918412	1.037216	0.760781	0.378850	0.212052	0.130465	0.088783	0.067676	0.059677		

TOTAL NUMBER= 1.044903

(PHOTONS/SQ CM*SEC)

TOTAL NUMBER
BUILDUP= 5.620387

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 3.000 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 1.4070 MFP IN AIR
AIR DENSITY 0.101293 GM/CUBIC CM

ANG /	ENG 0.097	0.142	0.207	0.267	0.392	0.574	0.840	1.231	1.803	2.642	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.188821	0.107256	0.051341	0.038084	0.026961	0.023758	0.016597	0.010364	0.007640	0.006615	1.923-003	9.870+002
10(0.98)	0.188051	0.106678	0.051094	0.037883	0.027015	0.023251	0.016433	0.010471	0.007696	0.006670	1.526-002	7.880+001
20(0.94)	0.185609	0.104871	0.050300	0.037227	0.027078	0.021901	0.015798	0.010736	0.007876	0.006839	2.971-002	1.568+000
30(0.87)	0.181633	0.101999	0.048995	0.036071	0.026783	0.020170	0.014628	0.010839	0.008172	0.007095	4.241-002	2.343+000
40(0.77)	0.176288	0.098240	0.047271	0.034392	0.025740	0.018190	0.013100	0.010330	0.008399	0.007407	5.217-002	3.151+000
50(0.64)	0.169842	0.093805	0.045294	0.032482	0.023893	0.015979	0.011353	0.009057	0.007997	0.007566	5.731-002	4.132+000
60(0.50)	0.162659	0.088954	0.043242	0.030872	0.021500	0.013626	0.009388	0.007234	0.006452	0.006687	4.175-002	4.374+000
65(0.42)	0.158922	0.086471	0.042233	0.030256	0.020210	0.012445	0.008348	0.006212	0.005299	0.005491	2.594-002	3.845+000
70(0.34)	0.155160	0.084004	0.041393	0.029734	0.018911	0.011290	0.007309	0.005171	0.004057	0.003819	2.327-002	6.118+000
75(0.26)	0.151422	0.081594	0.040567	0.029260	0.017639	0.010183	0.006306	0.004160	0.002807	0.001975	2.041-002	1.524+001
80(0.17)	0.147750	0.079273	0.039835	0.028795	0.016419	0.009141	0.005370	0.003229	0.001738	0.000401	1.816-002	1.308+002
85(0.09)	0.144183	0.077063	0.039325	0.028317	0.015267	0.008175	0.004521	0.002417	0.000920	-0.000522	1.690-002	1.898+005
90(-0.00)	0.140746	0.074978	0.038878	0.027823	0.014188	0.007286	0.003764	0.001743	0.000385	-0.000695	1.599-002	0.000+000
95(-0.09)	0.137459	0.073017	0.038544	0.027318	0.013190	0.006469	0.003094	0.001206	0.000110	-0.000345	1.516-002	0.000+000
100(-0.17)	0.134335	0.071175	0.038311	0.026809	0.012274	0.005712	0.002496	0.000789	0.000029	0.000133	1.440-002	0.000+000
105(-0.26)	0.131379	0.069441	0.038163	0.026295	0.011438	0.005006	0.001957	0.000475	0.000054	0.000414	1.372-002	0.000+000
110(-0.34)	0.128593	0.067805	0.038085	0.025775	0.010679	0.004321	0.001466	0.000251	0.000101	0.000394	1.290-002	0.000+000
115(-0.42)	0.125977	0.066259	0.038063	0.025235	0.009947	0.003663	0.001024	0.000109	0.000113	0.000179	1.196-002	0.000+000
120(-0.50)	0.123532	0.064799	0.038080	0.024689	0.009235	0.003023	0.000644	0.000034	0.000070	-0.000054	1.650-002	0.000+000
130(-0.64)	0.119157	0.062151	0.038165	0.023712	0.007956	0.001807	0.000135	-0.000013	-0.000087	-0.000200	1.837-002	0.000+000
140(-0.77)	0.115491	0.059920	0.038233	0.023268	0.006765	0.000776	-0.000028	-0.000071	-0.000130	-0.000081	1.473-002	0.000+000
150(-0.87)	0.112575	0.058150	0.038248	0.023528	0.006431	0.000117	-0.000053	-0.000121	-0.000049	-0.000011	1.186-002	0.000+000
160(-0.94)	0.110455	0.056864	0.038239	0.024111	0.006951	-0.000104	-0.000146	-0.000066	0.000009	-0.000000	7.388-003	0.000+000
170(-0.98)	0.109167	0.056087	0.038234	0.024560	0.007751	-0.000075	-0.000271	0.000038	0.000014	0.000000	3.701-003	0.000+000
177(-1.00)	0.108763	0.055841	0.038235	0.024704	0.008271	-0.000041	-0.000318	0.000080	0.000011	-0.000000	4.631-004	0.000+000
NUMBER SUM	1.809267	0.979822	0.517189	0.357772	0.188571	0.108552	0.067364	0.045630	0.034248	0.029640		

TOTAL NUMBER= 0.501553

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 8.737754

LOWER ENERGY CUTOFF 0.0454MEV

LOWEST SINGLE SCATTERING ENERGY 0.2355MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,662 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ,CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3,0 FT OR 0,0092 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0,067	0,086	0,111	0,143	0,184	0,223	0,288	0,372	0,481	0,621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,889798	0,686187	0,478380	0,384934	0,253291	0,268922	0,199623	0,017234	0,000131	0,001672	4,681-003	5.931+002
10(0,98)	0,891741	0,688594	0,482277	0,387268	0,256381	0,275361	0,189887	0,027891	-0,000006	0,001707	3,768-002	4.706+001
20(0,94)	0,898124	0,697122	0,495937	0,395416	0,267080	0,294876	0,168972	0,054464	0,003276	0,001857	7,710-002	9.193+001
30(0,87)	0,911418	0,714025	0,522484	0,411276	0,287281	0,320669	0,155282	0,081622	0,019595	0,002451	1,207-001	1.328+000
40(0,77)	0,934886	0,742518	0,566033	0,437500	0,319580	0,343476	0,156985	0,103658	0,054995	0,007478	1,727-001	1.682+000
50(0,64)	0,970466	0,784097	0,627199	0,474889	0,365351	0,362463	0,174205	0,127319	0,104534	0,037494	2,403-001	1.969+000
60(0,50)	1,015252	0,834283	0,696816	0,518187	0,419700	0,382809	0,203109	0,159672	0,161327	0,133415	2,515-001	1.609+000
65(0,42)	1,038293	0,858850	0,728583	0,537880	0,445432	0,392349	0,218602	0,177666	0,190162	0,209604	1,989-001	1.079+000
70(0,34)	1,059612	0,880263	0,754124	0,553107	0,466549	0,398669	0,231606	0,193635	0,215666	0,290697	2,372-001	1.047+000
75(0,26)	1,077578	0,896460	0,770611	0,561546	0,480353	0,399035	0,239313	0,204135	0,232943	0,355132	2,878-001	9.699+001
80(0,17)	1,090928	0,905936	0,776186	0,561575	0,484830	0,391260	0,239444	0,206081	0,236878	0,380009	3,700-001	8.512+001
85(0,09)	1,099029	0,908101	0,770409	0,552774	0,479048	0,374539	0,231062	0,197975	0,224548	0,351787	5,819-001	7.079+001
90(-0,00)	1,102001	0,903442	0,754419	0,536132	0,463403	0,349865	0,215039	0,180689	0,197101	0,274345	1,237-001	0.000+000
95(-0,09)	1,100647	0,893406	0,730715	0,513874	0,439678	0,319859	0,193896	0,157318	0,159741	0,168821	1,101-001	0.000+000
100(-0,17)	1,096222	0,880038	0,702626	0,488950	0,410840	0,288068	0,171022	0,132093	0,119667	0,064519	9,521-002	0.000+000
105(-0,26)	1,090101	0,865487	0,673609	0,464319	0,380461	0,258016	0,149619	0,108875	0,083153	-0,013921	8,284-002	0.000+000
110(-0,34)	1,083469	0,851549	0,646594	0,442336	0,351870	0,232400	0,131838	0,089968	0,053516	-0,055643	7,383-002	0.000+000
115(-0,42)	1,077110	0,839372	0,623530	0,424376	0,327374	0,212717	0,118418	0,075754	0,030978	-0,064532	6,681-002	0.000+000
120(-0,50)	1,071360	0,829391	0,605245	0,410792	0,307907	0,199374	0,108894	0,065121	0,014081	-0,053223	9,145-002	0.000+000
130(-0,64)	1,061311	0,815082	0,581708	0,394515	0,282411	0,190512	0,096806	0,047638	-0,007531	-0,019178	1,017-001	0.000+000
140(-0,77)	1,051451	0,804799	0,569033	0,386473	0,268382	0,202020	0,086542	0,027534	-0,013730	-0,003214	8,208-002	0.000+000
150(-0,87)	1,040852	0,795603	0,560265	0,380894	0,259742	0,226405	0,072799	0,006175	-0,008030	-0,000186	6,199-002	0.000+000
160(-0,94)	1,030780	0,787378	0,552937	0,376057	0,253670	0,250193	0,054023	-0,007555	-0,001248	0,000010	4,145-002	0.000+000
170(-0,98)	1,023504	0,781537	0,547698	0,372643	0,249600	0,263395	0,034749	-0,010244	0,001066	-0,000003	2,080-002	0.000+000
177(-1,00)	1,021024	0,779556	0,545906	0,371512	0,248204	0,266643	0,026683	-0,009334	0,001176	-0,000009	2,610-003	0.000+000
NUMBER SUM	15,087841	11,431827	8,141470	5,837634	4,581671	3,795319	2,010852	1,382439	1,169359	1,126567		

TOTAL NUMBER= 4.161496

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 2.019891

LOWER ENERGY CUTOFF 0,0426MEV

LOWEST SINGLE SCATTERING ENERGY 0,1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1525 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.959943	0.744144	0.536236	0.402059	0.269722	0.261204	0.194480	0.055265	0.026181	0.023845	4.767-003	6.972+002
10(0.98)	0.962101	0.746601	0.539782	0.404206	0.272298	0.265891	0.188162	0.062346	0.027249	0.024510	3.833-002	5.538+001
20(0.94)	0.969352	0.754826	0.551675	0.411369	0.280969	0.280271	0.174403	0.080051	0.033032	0.026835	7.794-002	1.082+000
30(0.87)	0.982493	0.769634	0.573096	0.424256	0.296554	0.299949	0.165047	0.098506	0.049039	0.031597	1.204-001	1.563+000
40(0.77)	1.002481	0.791958	0.605210	0.443674	0.319907	0.318094	0.165596	0.114162	0.077625	0.042410	1.681-001	1.975+000
50(0.64)	1.028472	0.821028	0.646224	0.468709	0.350508	0.331996	0.175843	0.130763	0.113915	0.072450	2.244-001	2.298+000
60(0.50)	1.057921	0.852046	0.688014	0.494342	0.383600	0.342659	0.192096	0.151193	0.151660	0.142693	2.196-001	1.872+000
65(0.42)	1.071191	0.865441	0.704800	0.504358	0.397780	0.345718	0.199875	0.161303	0.168858	0.191712	1.658-001	1.263+000
70(0.34)	1.082147	0.875572	0.716185	0.510488	0.408084	0.345579	0.205270	0.169091	0.182306	0.239478	1.859-001	1.248+000
75(0.26)	1.089789	0.881215	0.720555	0.511399	0.412985	0.340752	0.206567	0.172425	0.188938	0.272197	2.052-001	1.203+000
80(0.17)	1.093441	0.881601	0.717031	0.506312	0.411516	0.330203	0.202525	0.169592	0.185884	0.276594	2.193-001	1.152+000
85(0.09)	1.092895	0.876615	0.705704	0.495267	0.403467	0.313818	0.192846	0.160014	0.171924	0.246380	1.997-001	1.259+000
90(-0.00)	1.088456	0.866853	0.687678	0.479201	0.389446	0.292598	0.178391	0.144642	0.148477	0.186480	1.053-001	0.000+000
95(-0.09)	1.080870	0.853501	0.664876	0.459787	0.370827	0.268484	0.160996	0.125736	0.119565	0.111963	9.469-002	0.000+000
100(-0.17)	1.071141	0.838076	0.639650	0.439063	0.349569	0.243870	0.142929	0.106116	0.089386	0.041756	8.347-002	0.000+000
105(-0.26)	1.060315	0.822096	0.614367	0.418978	0.327864	0.221009	0.126225	0.088214	0.062499	+0.009315	7.407-002	0.000+000
110(-0.34)	1.049278	0.806796	0.590923	0.401035	0.307669	0.201545	0.112169	0.073383	0.040680	+0.035643	6.682-002	0.000+000
115(-0.42)	1.038624	0.792961	0.570556	0.386063	0.290290	0.186317	0.101132	0.061746	0.023967	+0.040778	6.087-002	0.000+000
120(-0.50)	1.028644	0.780895	0.553759	0.374234	0.276210	0.175483	0.092733	0.052521	0.011405	+0.033299	8.351-002	0.000+000
130(-0.64)	1.010709	0.761564	0.529850	0.358438	0.256725	0.166008	0.080643	0.036878	-0.004316	+0.011836	9.266-002	0.000+000
140(-0.77)	0.994688	0.746541	0.514580	0.349045	0.244772	0.170689	0.069937	0.020518	-0.008652	+0.001974	7.446-002	0.000+000
150(-0.87)	0.980262	0.734092	0.503484	0.342353	0.236732	0.185212	0.057138	0.004842	-0.005003	+0.000116	5.603-002	0.000+000
160(-0.94)	0.968363	0.724185	0.494956	0.337163	0.231010	0.201077	0.041370	-0.004588	-0.000754	0.000006	3.739-002	0.000+000
170(-0.98)	0.960456	0.717693	0.489554	0.333771	0.227315	0.210918	0.026140	-0.006331	0.000659	+0.000002	1.873-002	0.000+000
177(-1.00)	0.957854	0.715571	0.487506	0.332674	0.226084	0.213635	0.019928	-0.005715	0.000719	+0.000007	2.347-003	0.000+000
NUMBER SUM	13.060749	10.212061	7.757068	5.431304	4.120090	3.312973	1.800086	1.235773	1.032089	0.979055		

TOTAL NUMBER= 2.673485

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.686920

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.3050 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.999624	0.774595	0.568481	0.405209	0.275206	0.249831	0.186853	0.082179	0.046425	0.040981	4.740-003	8.075-002
10(0.98)	1.001703	0.776749	0.571407	0.407007	0.277220	0.253098	0.186071	0.086511	0.048166	0.042034	3.804-002	6.417*001
20(0.94)	1.008373	0.783681	0.580866	0.412786	0.283813	0.263223	0.174449	0.097364	0.055056	0.045663	7.687-002	1.256*000
30(0.87)	1.019438	0.795232	0.596732	0.422451	0.295067	0.277496	0.160111	0.108904	0.069607	0.052781	1.174-001	1.816*000
40(0.77)	1.034338	0.810832	0.618254	0.435593	0.310685	0.291002	0.167429	0.119088	0.091693	0.066311	1.604-001	2.299*000
50(0.64)	1.051212	0.828396	0.642333	0.450330	0.329055	0.300114	0.171981	0.129516	0.116759	0.093654	2.065-001	2.681*000
60(0.50)	1.066155	0.843361	0.662178	0.462216	0.345938	0.303312	0.178472	0.140356	0.139350	0.142024	1.907-001	2.205*000
65(0.42)	1.071194	0.847828	0.667583	0.465020	0.351625	0.301785	0.180521	0.144480	0.147730	0.170300	1.382-001	1.510*000
70(0.34)	1.073680	0.849167	0.668466	0.464569	0.354185	0.297300	0.180423	0.146273	0.152371	0.193761	1.469-001	1.541*000
75(0.26)	1.073090	0.846769	0.664080	0.460235	0.352918	0.289233	0.177263	0.144568	0.151570	0.204405	1.505-001	1.591*000
80(0.17)	1.069174	0.840386	0.654212	0.451810	0.347560	0.277319	0.170520	0.138608	0.144036	0.195757	1.426-001	1.803*000
85(0.09)	1.062013	0.830213	0.639280	0.439612	0.338544	0.261869	0.160304	0.128414	0.129658	0.166296	1.111-001	4.029*000
90(-0.00)	1.052023	0.816877	0.620294	0.424480	0.325953	0.243812	0.147401	0.114903	0.109928	0.121107	8.944-002	0.000*000
95(-0.09)	1.039373	0.801336	0.598692	0.407628	0.311411	0.224534	0.133095	0.099663	0.087518	0.070410	8.129-002	0.000*000
100(-0.17)	1.026361	0.784686	0.576091	0.390404	0.295929	0.205567	0.118816	0.084462	0.065442	0.025483	7.292-002	0.000*000
105(-0.26)	1.012271	0.767969	0.554003	0.374021	0.280718	0.188245	0.105751	0.070701	0.045994	-0.005775	6.577-002	0.000*000
110(-0.34)	0.998250	0.752003	0.533601	0.359357	0.266780	0.173467	0.094584	0.059078	0.030221	-0.021235	5.994-002	0.000*000
115(-0.42)	0.984747	0.737300	0.515612	0.346864	0.254730	0.161634	0.085441	0.049562	0.018057	-0.023920	5.489-002	0.000*000
120(-0.50)	0.972317	0.724072	0.500285	0.336599	0.244744	0.152751	0.078024	0.041633	0.008915	-0.019331	7.546-002	0.000*000
130(-0.64)	0.949045	0.701821	0.476882	0.321701	0.230080	0.143059	0.066304	0.027944	-0.002190	-0.006828	8.359-002	0.000*000
140(-0.77)	0.929257	0.684056	0.460459	0.311823	0.220153	0.142927	0.055700	0.014880	-0.005090	-0.001169	6.694-002	0.000*000
150(-0.87)	0.912668	0.669837	0.448296	0.304724	0.213022	0.150182	0.044068	0.003683	-0.002902	-0.000079	5.024-002	0.000*000
160(-0.94)	0.899901	0.659144	0.439370	0.299563	0.207910	0.159888	0.031032	-0.002536	-0.000431	0.000003	3.348-002	0.000*000
170(-0.98)	0.891869	0.652438	0.433779	0.296357	0.204698	0.166821	0.019235	-0.003625	-0.000375	-0.000002	1.675-002	0.000*000
177(-1.00)	0.889210	0.650293	0.431986	0.295339	0.203653	0.168965	0.014569	-0.003245	-0.000412	-0.000005	2.096-003	0.000*000
NUMBER SUM	12.747263	9.790887	7.232715	4.981109	3.668835	2.872043	1.597969	1.095591	0.903445	0.843258		

TOTAL NUMBER= 2.236735

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4.981280

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.6101 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.999884	0.768287	0.571546	0.381862	0.262625	0.221436	0.167484	0.107678	0.069743	0.060558	4.433-003	1.025-001
10(0.98)	1.001033	0.769373	0.573014	0.382821	0.263619	0.222826	0.166346	0.108712	0.071719	0.061823	3.547-002	8.155+001
20(0.94)	1.004419	0.772572	0.577375	0.385662	0.266665	0.227167	0.163349	0.111259	0.078135	0.066087	7.089-002	1.602+000
30(0.87)	1.009000	0.776883	0.583367	0.389590	0.271156	0.233497	0.159982	0.114016	0.088309	0.074016	1.060-001	2.334+000
40(0.77)	1.012984	0.780518	0.588723	0.393194	0.275847	0.239343	0.157175	0.116491	0.099905	0.086981	1.400-001	2.989+000
50(0.64)	1.013711	0.781219	0.589907	0.394153	0.278564	0.241067	0.154355	0.118093	0.109386	0.105517	1.707-001	3.562+000
60(0.50)	1.008080	0.774187	0.582792	0.389513	0.276494	0.235465	0.149296	0.116759	0.112940	0.123677	1.447-001	3.080+000
65(0.42)	1.002051	0.767519	0.575096	0.384292	0.272899	0.229356	0.145009	0.113972	0.111152	0.127623	9.890-002	2.225+000
70(0.34)	0.993659	0.758459	0.564442	0.376955	0.267449	0.221034	0.139182	0.109295	0.106326	0.124821	9.800-002	2.507+000
75(0.26)	0.982919	0.746773	0.550989	0.367610	0.260258	0.210732	0.131763	0.102620	0.098298	0.113822	9.254-002	3.179+000
80(0.17)	0.970037	0.733034	0.535153	0.356575	0.251729	0.198880	0.122948	0.094152	0.087356	0.099107	8.204-002	6.008+000
85(0.09)	0.955366	0.717591	0.517564	0.344348	0.242397	0.186081	0.113163	0.084397	0.074376	0.071292	7.127-002	8.560+001
90(-0.00)	0.939372	0.701012	0.498976	0.331524	0.232861	0.173018	0.102970	0.074056	0.060545	0.046402	6.612-002	0.000+000
95(-0.09)	0.922571	0.683903	0.480172	0.318719	0.223650	0.160351	0.092946	0.063846	0.047092	0.024487	6.112-002	0.000+000
100(-0.17)	0.905468	0.666834	0.461855	0.306449	0.215132	0.148608	0.083551	0.054322	0.034945	0.008274	5.626-002	0.000+000
105(-0.26)	0.888503	0.650272	0.444581	0.295099	0.207492	0.138128	0.075056	0.045789	0.024674	-0.001479	5.188-002	0.000+000
110(-0.34)	0.872045	0.634558	0.428714	0.284887	0.200769	0.129053	0.067534	0.038296	0.016338	-0.005732	4.790-002	0.000+000
115(-0.42)	0.856337	0.619901	0.414431	0.275882	0.194906	0.121372	0.060906	0.031717	0.009850	-0.006335	4.416-002	0.000+000
120(-0.50)	0.841553	0.606403	0.401758	0.268048	0.189800	0.114989	0.055005	0.025863	0.005031	-0.005143	6.089-002	0.000+000
130(-0.64)	0.815124	0.582943	0.380866	0.255471	0.181393	0.105702	0.044643	0.015730	-0.000317	-0.002063	6.731-002	0.000+000
140(-0.77)	0.793166	0.564019	0.364984	0.246257	0.174805	0.100748	0.035207	0.007548	-0.001471	-0.000502	5.370-002	0.000+000
150(-0.87)	0.775863	0.549396	0.353181	0.239660	0.169707	0.099952	0.028013	0.002036	-0.000820	-0.000069	4.020-002	0.000+000
160(-0.94)	0.763368	0.538961	0.344941	0.235198	0.166047	0.102165	0.023212	-0.000517	-0.000155	-0.000001	2.676-002	0.000+000
170(-0.98)	0.756813	0.532691	0.340044	0.232692	0.163833	0.104992	0.020266	-0.000965	0.000092	-0.000000	1.337-002	0.000+000
177(-1.00)	0.753443	0.530730	0.338516	0.231786	0.163116	0.106128	0.019715	-0.000887	0.000129	-0.000002	1.672-003	0.000+000
NUMBER SUM	11.574658	8.627700	6.131815	4.096643	2.887581	2.168444	1.254747	0.858464	0.691657	0.629566		

TOTAL NUMBER= 1.706321

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7.650477

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0,662 MEV
AND SOURCE STRENGTH 1,00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300,0 FT OR 0,9151 MFP IN AIR
AIR DENSITY 0,001293 GM/CUBIC CM

ANG /	ENG 0.067	0,086	0.111	0.143	0.184	0.223	0,288	0,372	0,481	0,621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1,00)	0,932337	0,708545	0,527271	0,338235	0,233870	0,190308	0,145732	0,110882	0,077690	0,067119	3,945-003	1.238*001
10(0,98)	0,932340	0,708334	0,527463	0,338448	0,234096	0,190649	0,145628	0,110361	0,079230	0,068199	3,147-002	9.865*001
20(0,94)	0,932009	0,707965	0,527659	0,338862	0,234604	0,191644	0,144717	0,108915	0,083743	0,071743	6,232-002	1.949*000
30(0,87)	0,930271	0,706184	0,526490	0,338610	0,234671	0,192993	0,142222	0,107126	0,089467	0,077983	9,163-002	2.869*000
40(0,77)	0,925341	0,701200	0,521704	0,336241	0,233008	0,193579	0,137961	0,105072	0,093744	0,087122	1,178-001	3.745*000
50(0,64)	0,914996	0,690747	0,510533	0,329865	0,227813	0,190680	0,131452	0,101507	0,094159	0,096853	1,380-001	4.628*000
60(0,50)	0,897353	0,672932	0,490948	0,317860	0,217578	0,181372	0,121439	0,094183	0,088342	0,098021	1,104-001	4.326*000
65(0,42)	0,885564	0,661084	0,477968	0,309635	0,210549	0,174043	0,114820	0,088546	0,082333	0,091336	7,287-002	3.374*000
70(0,34)	0,871924	0,647468	0,463212	0,300160	0,202552	0,165247	0,107213	0,081611	0,074202	0,078899	6,968-002	4.349*000
75(0,26)	0,856689	0,632408	0,447149	0,289799	0,194002	0,155466	0,098901	0,073684	0,064396	0,061977	6,423-002	7.170*000
80(0,17)	0,840214	0,616330	0,430343	0,278966	0,185404	0,145275	0,090291	0,065262	0,053745	0,043354	5,793-002	2.458*001
85(0,09)	0,822937	0,599699	0,413370	0,268136	0,177269	0,135232	0,081817	0,056901	0,043229	0,026353	5,339-002	2.124*003
90(-0,00)	0,805183	0,582960	0,396743	0,257683	0,170014	0,125773	0,073831	0,049052	0,033655	0,013510	5,003-002	0.000*000
95(-0,09)	0,787425	0,566483	0,380855	0,247871	0,163873	0,117152	0,066525	0,041959	0,025445	0,005659	4,682-002	0.000*000
100(-0,17)	0,769950	0,550567	0,365961	0,238835	0,158850	0,109445	0,059930	0,035642	0,018630	0,001953	4,380-002	0.000*000
105(-0,26)	0,753022	0,535393	0,352185	0,230605	0,154760	0,102595	0,053957	0,029984	0,013036	0,000681	4,089-002	0.000*000
110(-0,34)	0,736834	0,521091	0,339561	0,223146	0,151330	0,096486	0,048481	0,024839	0,008494	0,000285	3,802-002	0.000*000
115(-0,42)	0,721544	0,507739	0,328070	0,216406	0,148313	0,091010	0,043392	0,020110	0,004944	-0,000060	3,516-002	0.000*000
120(-0,50)	0,707265	0,495394	0,317672	0,210342	0,145547	0,086088	0,038620	0,015778	0,002395	-0,000479	4,851-002	0.000*000
130(-0,64)	0,680207	0,473867	0,300014	0,200149	0,140565	0,077768	0,029898	0,008497	0,000001	-0,000852	5,359-002	0.000*000
140(-0,77)	0,661652	0,456653	0,286337	0,192455	0,136341	0,071469	0,022100	0,003505	-0,000286	-0,000452	4,272-002	0.000*000
150(-0,87)	0,646046	0,443655	0,276334	0,187057	0,133058	0,067513	0,015115	0,000945	-0,000191	-0,000097	3,197-002	0.000*000
160(-0,94)	0,635148	0,434622	0,269585	0,183575	0,130730	0,064176	0,009268	0,000079	-0,000123	-0,000005	2,129-002	0.000*000
170(-0,98)	0,628693	0,429306	0,265697	0,181625	0,129373	0,062616	0,005321	-0,000185	0,000003	0,000001	1,064-002	0.000*000
177(-1,00)	0,626694	0,427660	0,264506	0,181032	0,128958	0,062038	0,004020	-0,000275	0,000069	-0,000000	1,330-003	0.000*000
NUMBER SUM	0,060530	7,317682	5,054524	3,299184	2,255853	1,645147	0,981155	0,670161	0,528907	0,464122		

TOTAL NUMBER= 1,338448

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 10,558543

LOWEST ENERGY CUTOFF 0,0426MEV

LOWEST SINGLE SCATTERING ENERGY 0,1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 1.2202 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.767	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.829769	0.623443	0.462258	0.288355	0.199903	0.159989	0.124036	0.103284	0.076611	0.066123	3.396-003	1.446+001
10(0.98)	0.828857	0.622611	0.461560	0.288047	0.199631	0.159768	0.124251	0.102093	0.077566	0.066871	2.702-002	1.154+000
20(0.94)	0.825662	0.619873	0.458993	0.286832	0.198555	0.158917	0.123935	0.098884	0.080079	0.069241	5.306-002	2.296+000
30(0.87)	0.819399	0.614031	0.453481	0.284015	0.196070	0.157373	0.121525	0.094921	0.082266	0.073116	7.688-002	3.423+000
40(0.77)	0.808728	0.603919	0.443268	0.278440	0.191155	0.154813	0.116488	0.090485	0.081848	0.078101	9.671-002	4.578+000
50(0.64)	0.792169	0.588016	0.426528	0.268799	0.182561	0.149498	0.106538	0.084316	0.077426	0.081282	1.099-001	5.926+000
60(0.50)	0.768861	0.565503	0.402609	0.254401	0.169680	0.139220	0.097098	0.074617	0.067720	0.074089	8.464-002	6.104+000
65(0.42)	0.754795	0.551962	0.388384	0.245639	0.161956	0.132135	0.090097	0.068208	0.060500	0.063718	5.474-002	5.217+000
70(0.34)	0.739404	0.537252	0.373186	0.236210	0.153837	0.124154	0.082517	0.060993	0.051916	0.049128	5.154-002	7.848+000
75(0.26)	0.723011	0.521766	0.357539	0.226514	0.145776	0.115781	0.074733	0.053406	0.042611	0.032515	4.744-002	1.721+001
80(0.17)	0.706009	0.505929	0.341971	0.216967	0.137832	0.107546	0.067170	0.045979	0.033494	0.017114	4.361-002	1.072+002
85(0.09)	0.688755	0.490143	0.326940	0.207913	0.131592	0.099877	0.060184	0.039176	0.025418	0.005864	4.081-002	5.375+004
90(-0.00)	0.671595	0.474733	0.312767	0.199574	0.126107	0.093013	0.053964	0.033254	0.018862	0.000081	3.846-002	0.000+000
95(-0.09)	0.654800	0.459924	0.299621	0.192022	0.121837	0.086988	0.048504	0.028201	0.013807	-0.001025	3.632-002	0.000+000
100(-0.17)	0.638581	0.445846	0.287535	0.185213	0.118641	0.081673	0.043648	0.023814	0.009895	0.000332	3.425-002	0.000+000
105(-0.26)	0.623090	0.432567	0.276455	0.179037	0.116231	0.076874	0.039191	0.019841	0.006726	0.001851	3.220-002	0.000+000
110(-0.34)	0.608444	0.420120	0.266297	0.173385	0.114277	0.072422	0.034971	0.016112	0.004098	0.002242	3.005-002	0.000+000
115(-0.42)	0.594746	0.408538	0.256990	0.168188	0.112523	0.068220	0.030911	0.012592	0.002036	0.001472	2.780-002	0.000+000
120(-0.50)	0.582060	0.397861	0.248499	0.163426	0.110841	0.064248	0.027014	0.009357	0.000646	0.000250	3.830-002	0.000+000
130(-0.64)	0.560018	0.379382	0.233989	0.155302	0.107681	0.057061	0.019857	0.004200	-0.000259	-0.001069	4.229-002	0.000+000
140(-0.77)	0.542573	0.364665	0.222866	0.149219	0.105057	0.050929	0.013668	0.001262	-0.000110	-0.000639	3.372-002	0.000+000
150(-0.87)	0.529582	0.354150	0.214977	0.145102	0.103107	0.046116	0.008493	0.000276	-0.000156	-0.000136	2.527-002	0.000+000
160(-0.94)	0.52067	0.346853	0.209840	0.142572	0.101815	0.043327	0.004678	0.000108	-0.000145	-0.000007	1.685-002	0.000+000
170(-0.98)	0.515475	0.342616	0.206962	0.141208	0.101109	0.042544	0.002588	-0.000166	-0.000006	0.000001	8.429-003	0.000+000
177(-1.00)	0.513874	0.341512	0.206092	0.140800	0.100913	0.042543	0.002029	-0.000360	0.000097	0.000001	1.054-003	0.000+000
NUMBER SUM	8.489658	6.051345	4.088512	2.620218	1.753193	1.252403	0.764508	0.521439	0.403995	0.344409		

TOTAL NUMBER= 1.054763

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 13.764188

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.5252 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.067	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.713736	0.531613	0.391763	0.239654	0.166453	0.132327	0.103788	0.091286	0.070636	0.061066	2.854-003	1.649-001
10(0.98)	0.712265	0.530300	0.390591	0.239053	0.165911	0.131838	0.104074	0.089847	0.071083	0.061471	2.266-002	1.319+000
20(0.94)	0.707383	0.525920	0.386589	0.236971	0.164017	0.130066	0.103847	0.085970	0.072021	0.062660	4.416-002	2.643+000
30(0.87)	0.698659	0.518000	0.379056	0.232932	0.160342	0.127030	0.101350	0.081143	0.071804	0.064339	6.319-002	4.002+000
40(0.77)	0.685260	0.505652	0.366777	0.226108	0.154171	0.122926	0.096086	0.075733	0.068690	0.065018	7.809-002	5.505+000
50(0.64)	0.666344	0.487971	0.348625	0.215649	0.144691	0.116763	0.087999	0.068661	0.062085	0.065293	8.678-002	7.519+000
60(0.50)	0.641714	0.464782	0.324676	0.201377	0.131775	0.106879	0.076883	0.058594	0.051481	0.055061	6.515-002	8.647+000
65(0.42)	0.627519	0.451473	0.311125	0.193161	0.124484	0.100547	0.070348	0.052383	0.044449	0.044230	4.167-002	8.172+000
70(0.34)	0.612421	0.437418	0.297090	0.184628	0.117127	0.093693	0.063491	0.045699	0.036549	0.030336	3.900-002	1.449+001
75(0.26)	0.596738	0.422996	0.283066	0.176161	0.110128	0.086787	0.056695	0.038989	0.028451	0.015791	3.600-002	4.244+001
80(0.17)	0.580816	0.408591	0.269506	0.168114	0.103863	0.080279	0.050348	0.032748	0.021020	0.003754	3.343-002	4.760+002
85(0.09)	0.564979	0.394526	0.256754	0.160745	0.098604	0.074483	0.044728	0.027349	0.014955	-0.003320	3.153-002	1.375+006
90(-0.00)	0.549489	0.381034	0.244999	0.154163	0.094477	0.069502	0.039918	0.022909	0.010534	-0.004928	2.986-002	0.000+000
95(-0.09)	0.534544	0.368245	0.234275	0.148333	0.091443	0.065238	0.035799	0.019278	0.007451	-0.002712	2.831-002	0.000+000
100(-0.17)	0.520280	0.356198	0.224507	0.143122	0.089301	0.061464	0.032136	0.016153	0.005204	0.000582	2.681-002	0.000+000
105(-0.26)	0.506793	0.344905	0.215566	0.138372	0.087745	0.057943	0.028691	0.013247	0.003305	0.002654	2.529-002	0.000+000
110(-0.34)	0.494153	0.334364	0.207338	0.133962	0.086466	0.054512	0.025320	0.010422	0.001618	0.002673	2.359-002	0.000+000
115(-0.42)	0.482434	0.324598	0.199756	0.129842	0.085255	0.051126	0.021996	0.007708	0.000270	0.001230	2.177-002	0.000+000
120(-0.50)	0.471700	0.315647	0.192821	0.126029	0.084041	0.047828	0.018779	0.005237	-0.000556	-0.000491	2.998-002	0.000+000
130(-0.64)	0.453369	0.300473	0.181045	0.119551	0.081749	0.041735	0.012962	0.001579	-0.000706	-0.001823	3.314-002	0.000+000
140(-0.77)	0.439260	0.288692	0.172296	0.114870	0.080140	0.036336	0.008155	-0.000039	-0.000312	-0.000912	2.645-002	0.000+000
150(-0.87)	0.429083	0.280420	0.166396	0.111899	0.079124	0.031662	0.004380	-0.000166	-0.000341	-0.000179	1.986-002	0.000+000
160(-0.94)	0.422176	0.274758	0.162750	0.110202	0.078574	0.028485	0.001951	-0.000058	-0.000283	-0.000009	1.327-002	0.000+000
170(-0.98)	0.418224	0.271558	0.160783	0.109337	0.078336	0.027222	0.001039	-0.000427	0.000015	0.000002	6.648-003	0.000+000
177(-1.00)	0.417012	0.270581	0.160194	0.109083	0.078280	0.027035	0.000939	-0.000706	0.000160	0.000002	8.318-004	0.000+000
NUMBER SUM	7.013304	4.916541	3.264037	2.061785	1.357640	0.955540	0.593889	0.404526	0.308243	0.255637		

TOTAL NUMBER= 0.830295

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 17.270333

LOWER ENERGY CUTOFF 0.0426MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 0.662 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 3.0504 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.067	0.086	0.111	0.143	0.184	0.223	0.288	0.372	0.481	0.621	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.236984	0.177066	0.129994	0.079196	0.056659	0.045079	0.036403	0.030473	0.029778	0.026853	9.645-004	2.565+001
10(0.98)	0.236217	0.176400	0.129594	0.078992	0.056494	0.044883	0.037342	0.036925	0.029670	0.026432	7.605-003	2.084+000
20(0.94)	0.233920	0.174394	0.128366	0.078373	0.055957	0.043543	0.038312	0.033182	0.029369	0.024999	1.453-002	4.407+000
30(0.87)	0.230429	0.171278	0.126227	0.077250	0.054013	0.040949	0.036930	0.029672	0.027953	0.022775	2.020-002	7.445+000
40(0.77)	0.225685	0.166628	0.122363	0.075066	0.051458	0.038734	0.033895	0.027092	0.024573	0.021721	2.428-002	1.253+001
50(0.64)	0.219016	0.160170	0.115257	0.070791	0.046831	0.034606	0.030056	0.024208	0.020649	0.024038	2.660-002	2.473+001
60(0.50)	0.209657	0.150458	0.104129	0.063654	0.039348	0.031807	0.024626	0.019335	0.016630	0.022378	1.967-002	5.515+001
69(0.42)	0.203965	0.144541	0.097463	0.059226	0.034958	0.028189	0.021159	0.015886	0.013191	0.015477	1.225-002	8.872+001
70(0.34)	0.197775	0.138202	0.090593	0.054645	0.030736	0.024286	0.017482	0.012047	0.008753	0.004534	1.091-002	3.502+002
75(0.26)	0.191011	0.131750	0.083995	0.050331	0.027156	0.020726	0.014051	0.008372	0.004112	-0.007120	9.727-003	4.157+003
80(0.17)	0.184807	0.125481	0.078043	0.046641	0.024523	0.018042	0.011327	0.005487	0.000466	-0.014733	8.992-003	8.354+005
85(0.09)	0.178463	0.119599	0.072929	0.043743	0.022927	0.016463	0.009554	0.003765	-0.001523	-0.015024	8.506-003	1.477+013
90(-0.00)	0.172409	0.114173	0.068614	0.041558	0.022259	0.015823	0.008619	0.003101	-0.001334	-0.008557	8.165-003	0.000+000
95(-0.09)	0.166713	0.109160	0.064866	0.039807	0.022249	0.015645	0.008101	0.002957	-0.000549	0.000394	7.955-003	0.000+000
100(-0.17)	0.161406	0.104467	0.061392	0.038141	0.022493	0.015359	0.007488	0.002669	-0.000185	0.006577	7.892-003	0.000+000
105(-0.26)	0.156535	0.100030	0.057946	0.036294	0.022543	0.014543	0.006427	0.001815	-0.000884	0.007060	7.421-003	0.000+000
110(-0.34)	0.152167	0.095872	0.054441	0.034180	0.022069	0.013093	0.004867	0.000402	-0.002384	0.002650	6.621-003	0.000+000
115(-0.42)	0.148410	0.092104	0.050965	0.031912	0.021014	0.011220	0.003028	-0.001226	-0.003844	-0.003340	5.945-003	0.000+000
120(-0.50)	0.145372	0.088887	0.047739	0.029725	0.019610	0.009305	0.001232	-0.002639	-0.004525	-0.007626	5.088-003	0.000+000
130(-0.64)	0.141681	0.084596	0.043038	0.026520	0.017193	0.006491	-0.001384	-0.003839	-0.003442	-0.007381	8.856-003	0.000+000
140(-0.77)	0.140826	0.083155	0.041444	0.025494	0.016502	0.004751	-0.002761	-0.002980	-0.002157	-0.002647	7.245-003	0.000+000
150(-0.87)	0.141635	0.083528	0.042279	0.026099	0.017082	0.002653	-0.003570	-0.001461	-0.001825	-0.000394	5.660-003	0.000+000
160(-0.94)	0.142851	0.084447	0.043939	0.027240	0.018041	0.000959	-0.003353	-0.001169	-0.000939	-0.000013	3.925-003	0.000+000
170(-0.98)	0.143734	0.085155	0.045243	0.028098	0.018831	0.000903	-0.001696	-0.002453	0.000211	0.000004	2.023-003	0.000+000
177(-1.00)	0.144020	0.085386	0.045682	0.028372	0.019114	0.001256	-0.000645	-0.003270	0.000624	0.000005	2.560-004	0.000+000
NUMBER SUM	2.250695	1.517674	0.962970	0.589528	0.370033	0.248340	0.162407	0.109754	0.078497	0.057879		

TOTAL NUMBER= 0.244277

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 39.927514

LOWER ENERGY CUTOFF 0.042MEV

LOWEST SINGLE SCATTERING ENERGY 0.1844MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0070 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.816661	0.633777	0.419772	0.316315	0.184903	0.170011	0.099079	-0.002315	0.000314	0.000533	4.421-003	5.590+002
10(0.98)	0.820130	0.637659	0.423636	0.318735	0.187575	0.174638	0.095093	0.002681	0.000004	0.000549	3.562-002	4.439+001
20(0.94)	0.831419	0.650296	0.436234	0.326863	0.196207	0.186913	0.086899	0.016949	-0.000063	0.000604	7.314-002	8.701+001
30(0.87)	0.850619	0.671770	0.457709	0.340982	0.210859	0.199703	0.082914	0.034808	0.004158	0.000766	1.152-001	1.264+000
40(0.77)	0.877453	0.701624	0.487643	0.360461	0.231477	0.207770	0.086867	0.051183	0.018529	0.002368	1.659-001	1.611+000
50(0.64)	0.910124	0.737327	0.523317	0.383009	0.256584	0.212769	0.097788	0.066520	0.044227	0.013720	2.317-001	1.892+000
60(0.50)	0.944779	0.773483	0.558562	0.404025	0.282058	0.217872	0.112045	0.083323	0.075574	0.054021	2.429-001	1.548+000
65(0.42)	0.961205	0.789419	0.573284	0.411861	0.292909	0.219809	0.118547	0.091537	0.090450	0.087697	1.922-001	1.038+000
70(0.34)	0.976117	0.802665	0.584545	0.416702	0.301318	0.220204	0.123340	0.098229	0.102625	0.124524	2.297-001	1.008+000
75(0.26)	0.988947	0.812466	0.591436	0.417819	0.306538	0.218122	0.125490	0.102073	0.110081	0.154516	2.798-001	9.352+001
80(0.17)	0.999304	0.818363	0.593428	0.414817	0.308017	0.212902	0.124352	0.101996	0.110992	0.166694	3.629-001	8.246+001
85(0.09)	1.007030	0.820271	0.590489	0.407744	0.305416	0.204362	0.119765	0.097580	0.104492	0.154546	5.826-001	6.918+001
90(-0.00)	1.012210	0.818497	0.583105	0.397113	0.298656	0.192873	0.112145	0.089269	0.091249	0.119121	1.137-001	0.000+000
95(-0.09)	1.015145	0.813683	0.572206	0.383833	0.288029	0.179294	0.102405	0.078279	0.073431	0.071045	1.006-001	0.000+000
100(-0.17)	1.016293	0.806702	0.559010	0.369056	0.274292	0.164780	0.091738	0.066233	0.053979	0.024049	8.640-002	0.000+000
105(-0.26)	1.016183	0.798510	0.544817	0.353986	0.258639	0.150542	0.081321	0.054659	0.035599	-0.010350	7.489-002	0.000+000
110(-0.34)	1.015335	0.790003	0.530815	0.339693	0.242472	0.137621	0.072055	0.044575	0.020046	-0.027454	6.664-002	0.000+000
115(-0.42)	1.014187	0.781907	0.517924	0.326976	0.227084	0.126754	0.064417	0.036297	0.008003	-0.029646	6.017-002	0.000+000
120(-0.50)	1.013056	0.774710	0.506723	0.316311	0.213402	0.118361	0.058457	0.029525	-0.000542	-0.023249	8.200-002	0.000+000
130(-0.64)	1.011457	0.763778	0.490069	0.301564	0.192642	0.109728	0.050256	0.017958	-0.008287	-0.007481	9.040-002	0.000+000
140(-0.77)	1.010780	0.757035	0.480011	0.294365	0.180008	0.112652	0.043558	0.006556	-0.006679	-0.001051	7.280-002	0.000+000
150(-0.87)	1.010487	0.753007	0.474194	0.292076	0.172899	0.126176	0.034152	-0.002273	-0.002083	-0.000042	5.519-002	0.000+000
160(-0.94)	1.010169	0.750476	0.470751	0.292001	0.168889	0.143920	0.019648	-0.004464	0.000294	0.000002	3.712-002	0.000+000
170(-0.98)	1.009827	0.748958	0.468817	0.292329	0.166697	0.157007	0.003611	-0.001607	0.000431	-0.000000	1.875-002	0.000+000
177(-1.00)	1.009686	0.748468	0.468217	0.292442	0.166018	0.161139	-0.003295	0.000234	0.000252	-0.000000	2.356-003	0.000+000
NUMBER SUM	12.260772	9.669164	6.630365	4.498951	3.083817	2.181216	1.063644	0.670683	0.518896	0.475475		

TOTAL NUMBER= 4.121371

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP=

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1172 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.895417	0.690076	0.457501	0.323298	0.190455	0.165075	0.101872	0.014549	0.009050	0.007966	4.505-003	6.359+002
10(0.98)	0.898172	0.693112	0.460516	0.325207	0.192508	0.168601	0.098688	0.018506	0.009201	0.008193	3.626-002	5.055+001
20(0.94)	0.906993	0.702843	0.470199	0.331475	0.199087	0.178121	0.091989	0.029633	0.010439	0.008980	7.401-002	9.901+001
30(0.87)	0.921547	0.718906	0.486230	0.341973	0.210030	0.188417	0.088233	0.043342	0.015650	0.010573	1.151-001	1.434+000
40(0.77)	0.941064	0.740349	0.507679	0.355775	0.224934	0.195094	0.090255	0.055804	0.028515	0.014317	1.619-001	1.816+000
50(0.64)	0.963608	0.764656	0.531859	0.370706	0.242278	0.198359	0.097132	0.067162	0.048899	0.026265	2.184-001	2.117+000
60(0.50)	0.985886	0.787400	0.553768	0.383083	0.258765	0.199907	0.105806	0.078705	0.071751	0.058555	2.170-001	1.723+000
69(0.42)	0.995660	0.796461	0.561844	0.386793	0.265230	0.199598	0.109356	0.083847	0.081773	0.082575	1.655-001	1.160+000
70(0.34)	1.003875	0.803103	0.566949	0.388035	0.269723	0.197854	0.111449	0.087542	0.089257	0.107417	1.883-001	1.140+000
79(0.26)	1.010158	0.806846	0.568509	0.386363	0.271794	0.194115	0.111458	0.088890	0.092825	0.125738	2.126-001	1.088+000
80(0.17)	1.014287	0.807446	0.566252	0.381590	0.271154	0.188028	0.108993	0.087223	0.091334	0.130226	2.367-001	1.015+000
89(0.09)	1.016223	0.804944	0.560277	0.373853	0.267674	0.179582	0.104028	0.082367	0.084396	0.117015	2.374-001	9.978+001
90(-0.00)	1.016105	0.799661	0.551052	0.363614	0.261396	0.169145	0.096943	0.074759	0.072722	0.088224	9.960-002	0.000+000
99(-0.09)	1.014233	0.792155	0.539349	0.351599	0.252579	0.157401	0.088452	0.065356	0.058035	0.051573	8.893-002	0.000+000
100(-0.17)	1.011011	0.783133	0.526123	0.338687	0.241764	0.145215	0.079438	0.055354	0.042514	0.017022	7.760-002	0.000+000
109(-0.26)	1.006888	0.773343	0.512362	0.325763	0.229756	0.133457	0.070739	0.045838	0.028100	-0.007627	6.836-002	0.000+000
110(-0.34)	1.002295	0.763475	0.498950	0.313599	0.217488	0.122852	0.062976	0.037499	0.016011	-0.019562	6.143-002	0.000+000
119(-0.42)	0.997595	0.754079	0.486560	0.302756	0.205822	0.113896	0.056458	0.030529	0.006702	-0.020880	5.580-002	0.000+000
120(-0.50)	0.993058	0.745527	0.475609	0.293560	0.195378	0.106854	0.051189	0.024697	0.000131	-0.016242	7.629-002	0.000+000
130(-0.64)	0.985048	0.731565	0.458507	0.280344	0.179160	0.098932	0.043371	0.014688	-0.005783	-0.005169	8.421-002	0.000+000
140(-0.77)	0.978669	0.721569	0.447037	0.273083	0.168743	0.099662	0.036644	0.005357	-0.004680	-0.000723	6.767-002	0.000+000
150(-0.87)	0.973718	0.714576	0.439533	0.269859	0.162429	0.108510	0.028045	-0.001455	-0.001440	-0.000030	5.114-002	0.000+000
160(-0.94)	0.970028	0.709788	0.434680	0.268719	0.158631	0.121114	0.016092	-0.003114	0.000208	0.000001	3.431-002	0.000+000
170(-0.98)	0.967681	0.706903	0.431866	0.268329	0.156504	0.130908	0.003625	-0.001096	0.000297	-0.000000	1.728-002	0.000+000
177(-1.00)	0.966919	0.705989	0.430990	0.268220	0.155846	0.134119	-0.001615	0.000200	0.000173	-0.000000	2.168-003	0.000+000
NUMBER SUM	12.395141	9.579431	6.411630	4.225827	2.823364	1.966523	0.974289	0.613394	0.470236	0.426654		

TOTAL NUMBER= 2.650618

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.154530

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2344 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.945570	0.723736	0.479788	0.322845	0.191292	0.158570	0.102430	0.028027	0.016431	0.014182	4.511-003	7.162+002
10(0.98)	0.947594	0.725951	0.481998	0.324271	0.192795	0.161163	0.099931	0.031055	0.016906	0.014560	3.625-002	5.691+001
20(0.94)	0.953951	0.732920	0.488966	0.328835	0.197559	0.168294	0.094509	0.039420	0.019010	0.015862	7.351-002	1.114+000
30(0.87)	0.964043	0.743997	0.500075	0.336128	0.205280	0.176276	0.090950	0.049518	0.024654	0.018424	1.129-001	1.611+000
40(0.77)	0.976809	0.757949	0.514089	0.345070	0.215337	0.181500	0.091335	0.058547	0.035807	0.023487	1.558-001	2.037+000
50(0.64)	0.990338	0.772412	0.528496	0.353682	0.226266	0.183187	0.094834	0.066415	0.051422	0.035165	2.037-001	2.369+000
60(0.50)	1.001921	0.783878	0.539368	0.359108	0.235520	0.181949	0.098950	0.073524	0.067118	0.059791	1.927-001	1.935+000
65(0.42)	1.006054	0.787261	0.542051	0.359581	0.238530	0.179962	0.100142	0.076165	0.073189	0.076180	1.421-001	1.314+000
70(0.34)	1.008655	0.788513	0.542229	0.358061	0.239988	0.176676	0.100120	0.077481	0.076948	0.091442	1.545-001	1.318+000
75(0.26)	1.009506	0.787573	0.539592	0.354319	0.239670	0.171813	0.098498	0.076907	0.077528	0.100746	1.633-001	1.314+000
80(0.17)	1.008524	0.783761	0.534062	0.348321	0.237483	0.165250	0.095080	0.074084	0.074314	0.099648	1.616-001	1.360+000
85(0.09)	1.005755	0.777807	0.525826	0.340260	0.233447	0.157095	0.089934	0.069014	0.067264	0.086391	1.276-001	2.059+000
90(-0.00)	1.001381	0.769833	0.515323	0.330541	0.227680	0.147694	0.083395	0.062110	0.057084	0.063283	8.695-002	0.000+000
95(-0.09)	0.995689	0.760318	0.503183	0.319736	0.220408	0.137584	0.076009	0.054103	0.045108	0.036079	7.831-002	0.000+000
100(-0.17)	0.989035	0.749825	0.490142	0.308493	0.212000	0.127592	0.068404	0.045843	0.032899	0.011549	6.938-002	0.000+000
105(-0.26)	0.981795	0.738932	0.476931	0.297443	0.202958	0.117714	0.061150	0.038062	0.021781	-0.005390	6.260-002	0.000+000
110(-0.34)	0.974325	0.728156	0.464187	0.287118	0.193855	0.109031	0.054648	0.031202	0.012556	-0.013322	5.621-002	0.000+000
115(-0.42)	0.966923	0.717906	0.452385	0.277894	0.185216	0.101650	0.049080	0.025363	0.005501	-0.014029	5.131-002	0.000+000
120(-0.50)	0.959814	0.708460	0.441816	0.269977	0.177422	0.095725	0.044420	0.020375	0.000556	-0.010818	7.037-002	0.000+000
130(-0.64)	0.947009	0.692453	0.424701	0.258172	0.164995	0.088433	0.037039	0.011808	-0.003852	-0.003418	7.775-002	0.000+000
140(-0.77)	0.936409	0.680218	0.412423	0.251025	0.156538	0.087464	0.030455	0.004288	-0.003136	-0.000485	6.235-002	0.000+000
150(-0.87)	0.928040	0.671175	0.403846	0.247185	0.151038	0.092577	0.022693	-0.000846	-0.000953	-0.000022	4.700-002	0.000+000
160(-0.94)	0.921897	0.664832	0.398078	0.245290	0.147547	0.100977	0.012961	-0.002071	0.000137	0.000001	3.147-002	0.000+000
170(-0.98)	0.918100	0.661011	0.394692	0.244384	0.145555	0.107983	0.003471	-0.000716	0.000197	-0.000000	1.581-002	0.000+000
177(-1.00)	0.916892	0.659808	0.393639	0.244115	0.144940	0.110385	-0.000401	0.000151	0.000117	-0.000000	1.981-003	0.000+000
NUMBER SUM	12.292018	9.332886	6.117660	3.930098	2.566228	1.762104	0.886598	0.557440	0.423415	0.380196		

TOTAL NUMBER= 2.239179

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 4.057691

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.4689 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.970071	0.733244	0.485315	0.305660	0.182452	0.143192	0.098426	0.044591	0.026430	0.022476	4.322-003	8.676+002
10(0.98)	0.970810	0.734098	0.486223	0.306311	0.183131	0.144475	0.096899	0.046212	0.027196	0.022991	3.462-002	6.897-001
20(0.94)	0.972950	0.736588	0.488890	0.308226	0.185204	0.148130	0.093293	0.050491	0.029944	0.024743	6.947-002	1.351+000
30(0.87)	0.975734	0.739893	0.492492	0.310773	0.188262	0.152444	0.090034	0.055324	0.033255	0.028065	1.047-001	1.958+000
40(0.77)	0.977979	0.742681	0.495666	0.312860	0.191555	0.155063	0.088167	0.059289	0.043023	0.033811	1.400-001	2.485+000
50(0.64)	0.978117	0.743115	0.496452	0.312996	0.193906	0.154548	0.087096	0.062031	0.051373	0.043498	1.741-001	2.917+000
60(0.50)	0.974483	0.739174	0.492611	0.309588	0.193921	0.149757	0.085270	0.063028	0.057172	0.056527	1.524-001	2.446+000
65(0.42)	0.970827	0.735038	0.488355	0.306147	0.192687	0.145951	0.083509	0.062421	0.058091	0.062395	1.065-001	1.715+000
70(0.34)	0.965821	0.729310	0.482568	0.301441	0.190541	0.141131	0.080936	0.060781	0.057212	0.065540	1.081-001	1.831+000
75(0.26)	0.959456	0.721996	0.474659	0.295498	0.187518	0.135547	0.077464	0.057964	0.054314	0.064153	1.045-001	2.080+000
80(0.17)	0.951815	0.713211	0.465367	0.288447	0.183735	0.128726	0.073123	0.053974	0.049407	0.057278	9.264-002	3.009+000
85(0.09)	0.943041	0.703169	0.454757	0.280515	0.179358	0.121484	0.068063	0.048990	0.042808	0.049475	7.455-002	1.772+001
90(-0.00)	0.933350	0.692167	0.443191	0.272005	0.174562	0.113905	0.062534	0.043344	0.035123	0.040876	6.713-002	0.000+000
95(-0.09)	0.922999	0.680554	0.431087	0.263257	0.169514	0.106310	0.056838	0.037445	0.027124	0.031458	6.140-002	0.000+000
100(-0.17)	0.912260	0.668689	0.418870	0.254612	0.164360	0.099007	0.051268	0.031689	0.019550	0.023893	5.575-002	0.000+000
105(-0.26)	0.901402	0.656911	0.406931	0.246367	0.159242	0.092250	0.046053	0.026363	0.012949	-0.002594	5.091-002	0.000+000
110(-0.34)	0.890668	0.645508	0.395584	0.238751	0.154297	0.086216	0.041329	0.021611	0.007610	-0.005507	4.677-002	0.000+000
115(-0.42)	0.880262	0.634703	0.385052	0.231910	0.149648	0.080994	0.037127	0.017437	0.003597	-0.005639	4.302-002	0.000+000
120(-0.50)	0.870343	0.624645	0.375465	0.225909	0.145385	0.076609	0.033399	0.013757	0.000840	-0.004299	3.923-002	0.000+000
130(-0.64)	0.852393	0.607065	0.359264	0.216398	0.138172	0.070312	0.026929	0.007507	-0.001549	-0.001410	6.552-002	0.000+000
140(-0.77)	0.837356	0.592941	0.346792	0.209815	0.132659	0.067339	0.020955	0.002662	-0.001292	-0.000240	5.242-002	0.000+000
150(-0.87)	0.825461	0.582117	0.337559	0.205530	0.128621	0.067732	0.014739	-0.000174	-0.000594	-0.000019	3.937-002	0.000+000
160(-0.94)	0.816839	0.574433	0.331164	0.202917	0.125853	0.070577	0.008285	-0.000822	0.000045	-0.000008	2.628-002	0.000+000
170(-0.98)	0.811604	0.569821	0.327385	0.201498	0.124232	0.073695	0.002886	-0.000296	0.000045	0.000000	1.316-002	0.000+000
177(-1.00)	0.809957	0.568378	0.326211	0.201071	0.123731	0.074909	0.000850	0.000038	0.000063	-0.000000	1.647-003	0.000+000
NUMBER SUM	11.571884	8.544052	5.425707	3.350310	2.111145	1.416563	0.732200	0.459491	0.343154	0.301887		

TOTAL NUMBER= 1.748468

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5.820468

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.7033 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.929139	0.694524	0.458635	0.276449	0.165759	0.126499	0.090437	0.051627	0.031656	0.026715	3.972-003	1.008+001
10(0.98)	0.928894	0.694395	0.458618	0.276554	0.165899	0.126986	0.089508	0.052313	0.032437	0.027228	3.173-002	8.021+001
20(0.94)	0.927895	0.693719	0.458309	0.276675	0.166238	0.128427	0.087032	0.053941	0.034999	0.028947	6.314-002	1.576+000
30(0.87)	0.925477	0.691770	0.456956	0.276196	0.166395	0.130161	0.084009	0.055420	0.039197	0.032093	9.366-002	2.296+000
40(0.77)	0.920654	0.687436	0.455387	0.274211	0.165702	0.130748	0.080885	0.056123	0.043994	0.037104	1.222-001	2.946+000
50(0.64)	0.912327	0.679471	0.446260	0.269709	0.163337	0.128486	0.077296	0.055614	0.047443	0.043859	1.463-001	3.530+000
60(0.50)	0.899674	0.666923	0.434508	0.261946	0.158682	0.122463	0.072397	0.053096	0.047459	0.049235	1.209-001	3.102+000
65(0.42)	0.891624	0.658828	0.426780	0.256788	0.155477	0.118089	0.069226	0.050806	0.045670	0.049255	8.131-002	2.281+000
70(0.34)	0.882475	0.649591	0.417901	0.250865	0.151788	0.112968	0.065543	0.047773	0.042576	0.046344	7.903-002	2.656+000
75(0.26)	0.872329	0.639348	0.408025	0.244314	0.147760	0.107280	0.061405	0.044060	0.038280	0.040518	7.314-002	3.602+000
80(0.17)	0.861538	0.628292	0.397577	0.237317	0.143577	0.101241	0.056934	0.039827	0.033063	0.031846	6.416-002	8.039+000
85(0.09)	0.849690	0.616655	0.386220	0.230084	0.139434	0.095079	0.052291	0.035296	0.027346	0.022332	5.660-002	1.982+002
90(-0.00)	0.837594	0.604689	0.374837	0.222826	0.135502	0.089007	0.047650	0.030710	0.021593	0.013419	5.260-002	0.000+000
95(-0.09)	0.825271	0.592645	0.363501	0.215739	0.131894	0.083206	0.043161	0.026280	0.016215	0.006584	4.872-002	0.000+000
100(-0.17)	0.812927	0.580753	0.352452	0.208985	0.128644	0.077808	0.038932	0.022147	0.011493	0.001754	4.505-002	0.000+000
105(-0.26)	0.800760	0.569209	0.341882	0.202679	0.125726	0.072890	0.035019	0.018378	0.007574	-0.000684	4.172-002	0.000+000
110(-0.34)	0.788937	0.558172	0.331934	0.196895	0.123078	0.068481	0.031427	0.014978	0.004496	-0.001574	3.864-002	0.000+000
115(-0.42)	0.777600	0.547756	0.322696	0.191665	0.120639	0.064575	0.028130	0.011919	0.002238	-0.001611	3.571-002	0.000+000
120(-0.50)	0.76686	0.538044	0.314220	0.186992	0.118365	0.061150	0.025078	0.009175	0.000731	-0.001302	4.929-002	0.000+000
130(-0.64)	0.747513	0.520909	0.299596	0.179246	0.114245	0.055636	0.019501	0.004630	-0.000511	-0.000593	5.457-002	0.000+000
140(-0.77)	0.731355	0.506947	0.287994	0.173436	0.110710	0.051845	0.014328	0.001553	-0.000458	-0.000173	4.359-002	0.000+000
150(-0.87)	0.71865	0.496167	0.279231	0.169303	0.107864	0.049880	0.009436	0.000071	-0.000167	-0.000025	3.268-002	0.000+000
160(-0.94)	0.70952	0.488521	0.273119	0.166591	0.105810	0.049696	0.005154	-0.000252	-0.000007	-0.000000	2.178-002	0.000+000
170(-0.98)	0.704028	0.483958	0.269512	0.165070	0.104589	0.050507	0.002187	-0.000145	0.000045	0.000000	1.089-002	0.000+000
177(-1.00)	0.702309	0.482535	0.268395	0.164611	0.104213	0.050966	0.001200	-0.000075	0.000053	-0.000000	1.362-003	0.000+000
NUMBER SUM	10.466537	7.562844	4.692402	2.814626	1.728921	1.140293	0.602768	0.377859	0.277948	0.239705		

TOTAL NUMBER= 1.412811

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7.597287

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.9378 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.852655	0.631161	0.415825	0.242751	0.146907	0.109951	0.080719	0.052819	0.033624	0.028221	3.550-003	1.139+001
10(0.98)	0.851745	0.630375	0.415202	0.242499	0.145814	0.109967	0.080153	0.052908	0.034262	0.028661	2.830-002	9.075+001
20(0.94)	0.849634	0.627649	0.412992	0.241492	0.145099	0.110040	0.078378	0.052885	0.036290	0.030105	5.588-002	1.790+000
30(0.87)	0.84286	0.622445	0.408611	0.239222	0.143560	0.110056	0.075570	0.052307	0.039171	0.032639	8.182-002	2.629+000
40(0.77)	0.833715	0.613949	0.401188	0.235018	0.140682	0.109213	0.071850	0.051005	0.041596	0.036373	1.046-001	3.424+000
50(0.64)	0.820565	0.601448	0.389914	0.228272	0.135962	0.106070	0.067051	0.048562	0.041870	0.040443	1.215-001	4.222+000
60(0.50)	0.803175	0.584703	0.374498	0.218778	0.129283	0.099702	0.060815	0.044199	0.038720	0.040900	9.618-002	3.943+000
65(0.42)	0.79299	0.574877	0.365386	0.213132	0.125368	0.095403	0.057130	0.041162	0.035672	0.037921	6.300-002	3.077+000
70(0.34)	0.781951	0.564261	0.355540	0.207056	0.121249	0.090577	0.053143	0.037625	0.031731	0.032580	5.967-002	3.979+000
75(0.26)	0.770218	0.553043	0.345170	0.200720	0.117098	0.085442	0.048975	0.033745	0.027143	0.024888	5.440-002	6.628+000
80(0.17)	0.75796	0.541435	0.334513	0.194307	0.113103	0.080221	0.044773	0.029729	0.022279	0.016767	4.857-002	2.348+001
85(0.09)	0.74537	0.529653	0.323802	0.187988	0.109440	0.075114	0.040679	0.025786	0.017544	0.009569	4.457-002	2.299+003
90(-0.00)	0.732642	0.517901	0.313251	0.181906	0.106247	0.070270	0.036804	0.022082	0.013268	0.004416	4.168-002	0.000+000
95(-0.09)	0.719954	0.506359	0.303032	0.176163	0.103595	0.065782	0.033209	0.018700	0.009633	0.001561	3.900-002	0.000+000
100(-0.17)	0.70747	0.495174	0.293273	0.170819	0.101467	0.061683	0.029901	0.015652	0.006672	0.000480	3.652-002	0.000+000
105(-0.26)	0.695335	0.484458	0.284058	0.165896	0.099767	0.057963	0.026853	0.012897	0.004334	0.000287	3.414-002	0.000+000
110(-0.34)	0.683661	0.474294	0.275438	0.161391	0.098358	0.054589	0.024018	0.010387	0.002556	0.000262	3.179-002	0.000+000
115(-0.42)	0.672554	0.464745	0.267438	0.157286	0.097109	0.051522	0.021349	0.008091	0.001287	0.000102	2.944-002	0.000+000
120(-0.50)	0.662093	0.455847	0.260069	0.153563	0.095927	0.048729	0.018813	0.006019	0.000476	-0.000150	4.067-002	0.000+000
130(-0.64)	0.643361	0.441138	0.247239	0.147195	0.093604	0.043878	0.014059	0.002716	-0.000132	-0.000586	4.505-002	0.000+000
140(-0.77)	0.627841	0.427323	0.236950	0.142188	0.091374	0.039926	0.009705	0.000800	-0.000152	-0.000192	3.596-002	0.000+000
150(-0.87)	0.615735	0.417456	0.229146	0.138469	0.089444	0.036943	0.005899	0.000107	-0.000108	-0.000034	2.693-002	0.000+000
160(-0.94)	0.607107	0.410500	0.223716	0.135955	0.088008	0.035229	0.003061	-0.000039	-0.000036	-0.000001	1.794-002	0.000+000
170(-0.98)	0.601954	0.406376	0.220528	0.134531	0.087149	0.034743	0.001532	-0.000127	0.000039	0.000000	8.969-003	0.000+000
177(-1.00)	0.600348	0.405096	0.219544	0.134103	0.086885	0.034747	0.001134	-0.000178	0.000064	-0.000000	1.121-003	0.000+000
NUMBER SUM	9.214095	6.542769	3.987792	2.339881	1.411910	0.918797	0.494850	0.310063	0.225002	0.190340		

TOTAL NUMBER= 1.151233

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUI DUP= 9.443524

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.1722 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.759937	0.557865	0.366813	0.208945	0.125987	0.094404	0.070630	0.050605	0.033399	0.027948	3.110-003	1.262-001
10(0.98)	0.758625	0.556699	0.365838	0.208487	0.125605	0.094153	0.070283	0.050339	0.033855	0.028284	2.474-002	1.007+000
20(0.94)	0.754290	0.552812	0.362550	0.206849	0.124307	0.093421	0.068951	0.049345	0.035236	0.029354	4.855-002	1.996+000
30(0.87)	0.746652	0.545854	0.356550	0.203649	0.121876	0.092363	0.066359	0.047580	0.036926	0.031132	7.026-002	2.960+000
40(0.77)	0.735268	0.535303	0.347249	0.198429	0.117953	0.090627	0.062470	0.045140	0.037599	0.033529	8.825-002	3.924+000
50(0.64)	0.719868	0.520836	0.334248	0.190878	0.112277	0.087095	0.057269	0.041670	0.035931	0.035448	1.001-001	5.007+000
60(0.50)	0.700614	0.502665	0.317728	0.181114	0.105031	0.080954	0.050705	0.036512	0.031244	0.033050	7.669-002	5.024+000
65(0.42)	0.689752	0.492451	0.308432	0.175620	0.101061	0.077018	0.046994	0.033261	0.027765	0.028755	4.936-002	4.199+000
70(0.34)	0.678249	0.481709	0.298691	0.169913	0.097063	0.072726	0.043125	0.029699	0.023705	0.022401	4.611-002	6.105+000
75(0.26)	0.666273	0.470635	0.288725	0.164162	0.093203	0.068289	0.039237	0.026011	0.019358	0.014946	4.195-002	1.264+001
80(0.17)	0.654002	0.459432	0.278753	0.158529	0.089643	0.063908	0.035473	0.022407	0.015100	0.007902	3.810-002	7.105+001
85(0.09)	0.641615	0.448289	0.268970	0.153148	0.086524	0.059743	0.031949	0.019065	0.011285	0.002696	3.544-002	2.693+004
90(-0.00)	0.629275	0.437367	0.259530	0.148108	0.083948	0.055892	0.028730	0.016084	0.008129	0.000008	3.334-002	0.000+000
95(-0.09)	0.617134	0.426794	0.250539	0.143452	0.081957	0.052387	0.025820	0.013475	0.005669	-0.000496	3.146-002	0.000+000
100(-0.17)	0.605317	0.416663	0.242058	0.139183	0.080507	0.049210	0.023179	0.011178	0.003804	0.000150	2.967-002	0.000+000
105(-0.26)	0.593931	0.407037	0.234112	0.135275	0.079483	0.046311	0.020738	0.009109	0.002399	0.000858	2.793-002	0.000+000
110(-0.34)	0.583062	0.397959	0.226705	0.131691	0.078730	0.043633	0.018437	0.007201	0.001354	0.001024	2.610-002	0.000+000
115(-0.42)	0.572782	0.389458	0.219833	0.128398	0.078102	0.041133	0.016229	0.005437	0.000628	0.000651	2.419-002	0.000+000
120(-0.50)	0.563151	0.381558	0.213493	0.125372	0.077496	0.038787	0.014097	0.003849	0.000191	0.000085	3.336-002	0.000+000
130(-0.64)	0.546026	0.367648	0.202425	0.120084	0.076184	0.034520	0.010072	0.001437	-0.000080	-0.000473	3.692-002	0.000+000
140(-0.77)	0.531971	0.356363	0.193543	0.115819	0.074792	0.030748	0.006466	0.000284	-0.000109	-0.000252	2.946-002	0.000+000
150(-0.87)	0.521113	0.347743	0.186840	0.112593	0.073531	0.027475	0.003524	0.000049	-0.000132	-0.000045	2.206-002	0.000+000
160(-0.94)	0.513451	0.341725	0.182217	0.110392	0.072584	0.025091	0.001652	0.000000	-0.000053	-0.000001	1.469-002	0.000+000
170(-0.98)	0.508907	0.338188	0.179525	0.109150	0.072022	0.023940	0.000977	-0.000173	0.000051	0.000000	7.347-003	0.000+000
177(-1.00)	0.507497	0.337095	0.178698	0.108780	0.071851	0.023692	0.000912	-0.000272	0.000084	-0.000000	9.186-004	0.000+000
NUMBER SUM	7.956484	5.569239	3.347018	1.930562	1.148554	0.740819	0.405281	0.253932	0.182033	0.151156		

TOTA NUMBER= 0.940050

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUI DUP= 11.366836

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.170 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.3445 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.056	0.078	0.108	0.151	0.210	0.271	0.383	0.540	0.761	1.074	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.336219	0.244101	0.161438	0.087047	0.053202	0.040076	0.031407	0.027480	0.020608	0.017438	1.373-003	1.801+001
10(0.98)	0.335222	0.243189	0.160628	0.086681	0.052825	0.039659	0.031525	0.027011	0.020435	0.017441	1.084-002	1.451+000
20(0.94)	0.331990	0.240215	0.157977	0.085379	0.051592	0.038307	0.031268	0.025442	0.020029	0.016970	2.078-002	2.974+000
30(0.87)	0.326473	0.235087	0.153376	0.082921	0.049448	0.036489	0.029826	0.023135	0.019329	0.016234	2.893-002	4.719+000
40(0.77)	0.318558	0.227635	0.146629	0.079152	0.046248	0.034731	0.027270	0.020672	0.017678	0.015417	3.449-002	7.083+000
50(0.64)	0.308268	0.217862	0.137712	0.074061	0.041966	0.032459	0.023866	0.017832	0.014807	0.014898	3.680-002	1.141+001
60(0.50)	0.295930	0.206178	0.127063	0.067957	0.037000	0.028924	0.019704	0.014024	0.010913	0.012213	2.641-002	1.804+001
65(0.42)	0.289199	0.199882	0.121389	0.064765	0.034551	0.026799	0.017453	0.011797	0.008581	0.008649	1.645-002	2.241+001
70(0.34)	0.282239	0.193469	0.115696	0.061654	0.032313	0.024647	0.015233	0.009537	0.006104	0.003715	1.495-002	6.096+001
75(0.26)	0.275169	0.187077	0.110140	0.058753	0.030393	0.022638	0.013179	0.007444	0.003747	-0.001351	1.356-002	3.787+002
80(0.17)	0.268103	0.180830	0.104849	0.056152	0.028847	0.020895	0.011402	0.005697	0.001842	-0.004828	1.272-002	2.027+004
85(0.09)	0.261140	0.174814	0.099900	0.053886	0.027689	0.019464	0.009952	0.004388	0.000622	-0.005502	1.207-002	6.360+009
90(-0.00)	0.254362	0.169083	0.095313	0.051933	0.026917	0.018512	0.008801	0.003483	0.000072	-0.003528	1.150-002	0.000+000
95(-0.09)	0.247832	0.163656	0.091064	0.050222	0.026499	0.017941	0.007850	0.002842	-0.000059	-0.000499	1.099-002	0.000+000
100(-0.17)	0.241600	0.158532	0.087103	0.048660	0.026362	0.017625	0.006975	0.002284	-0.000102	0.001990	1.065-002	0.000+000
105(-0.26)	0.235706	0.153705	0.083378	0.047162	0.026377	0.017457	0.006074	0.001671	-0.000271	0.002502	1.008-002	0.000+000
110(-0.34)	0.230187	0.149175	0.079855	0.045671	0.026403	0.017380	0.005096	0.000959	-0.000573	0.001295	9.259-003	0.000+000
115(-0.42)	0.225081	0.144956	0.076532	0.044169	0.026333	0.017201	0.004053	0.000202	-0.000872	-0.000570	8.427-003	0.000+000
120(-0.50)	0.220421	0.141079	0.073437	0.042679	0.026138	0.016982	0.002996	-0.000488	-0.001040	-0.001981	1.158-002	0.000+000
130(-0.64)	0.212550	0.134485	0.068106	0.039924	0.025527	0.016721	0.001075	-0.001236	-0.000979	-0.002064	1.267-002	0.000+000
140(-0.77)	0.206674	0.129588	0.064149	0.037745	0.024993	0.016783	-0.000397	-0.000992	-0.000825	-0.000714	1.003-002	0.000+000
150(-0.87)	0.202655	0.126328	0.061576	0.036268	0.024746	0.016736	-0.001325	-0.000456	-0.000556	-0.000095	7.524-003	0.000+000
160(-0.94)	0.200175	0.124402	0.060117	0.035445	0.024739	0.016717	-0.001394	-0.000389	-0.000102	-0.000001	5.034-003	0.000+000
170(-0.98)	0.198868	0.123437	0.059417	0.035117	0.024819	0.016527	-0.001593	-0.000648	0.000179	0.000001	2.535-003	0.000+000
177(-1.00)	0.198490	0.123166	0.059226	0.035052	0.024858	0.016248	-0.001677	-0.000767	0.000230	-0.000001	3.183-004	0.000+000
NUMBER SUM	5.262632	2.197900	1.272953	0.701207	0.402595	0.252955	0.145366	0.091313	0.062528	0.047874		

TOTA NUMBER= 0.339956

(PHOTONS/SQ CM-SEC)

TOTA NUMBER
BUI DUP= 22.244257

LOWER ENERGY CUTOFF 0.0435MEV

LOWEST SINGLE SCATTERING ENERGY 0.2097MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1,330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 3.0 FT OR 0.0066 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.805991	0.647624	0.428439	0.312044	0.175397	0.155776	0.084273	-0.003553	0.000292	0.000413	4.386-003	5.542+002
10(0.98)	0.809525	0.651640	0.432166	0.314339	0.177924	0.160058	0.081376	0.000516	0.000020	0.000426	3.533-002	4.401+001
20(0.94)	0.820845	0.664539	0.444182	0.321923	0.185957	0.171027	0.075479	0.012624	-0.000229	0.000468	7.255-002	8.628+001
30(0.87)	0.839584	0.685924	0.464204	0.334802	0.199238	0.181678	0.073033	0.028679	0.002771	0.000591	1.144-001	1.254+000
40(0.77)	0.864926	0.714743	0.491224	0.352135	0.217382	0.187541	0.077117	0.044006	0.014418	0.001844	1.646-001	1.598+000
50(0.64)	0.894806	0.748106	0.522219	0.371568	0.238790	0.190553	0.086842	0.058075	0.036534	0.011044	2.298-001	1.875+000
60(0.50)	0.925720	0.780915	0.551636	0.388856	0.259851	0.193574	0.098885	0.072582	0.064036	0.044364	2.407-001	1.533+000
65(0.42)	0.940212	0.795114	0.563532	0.394919	0.268649	0.194544	0.104170	0.079399	0.076947	0.072467	1.905-001	1.028+000
70(0.34)	0.953355	0.806811	0.572394	0.398296	0.275419	0.194247	0.107924	0.084810	0.087333	0.103348	2.278-001	9.980+001
75(0.26)	0.964725	0.815416	0.577567	0.398435	0.279622	0.191957	0.109429	0.087771	0.093526	0.128605	2.778-001	9.267+001
80(0.17)	0.974034	0.820586	0.578698	0.395063	0.280846	0.187175	0.108211	0.087459	0.094095	0.138939	3.610-001	8.182+001
85(0.09)	0.981179	0.822283	0.575804	0.388254	0.278789	0.179768	0.104175	0.083576	0.088415	0.128636	5.824-001	6.880+001
90(-0.00)	0.986228	0.820776	0.569285	0.378447	0.273297	0.170027	0.097669	0.076498	0.077086	0.099063	1.111-001	0.000+000
95(-0.09)	0.989411	0.816603	0.559865	0.366390	0.264484	0.158606	0.089419	0.067199	0.061893	0.058698	9.821-002	0.000+000
100(-0.17)	0.991074	0.810484	0.548482	0.353018	0.252853	0.146392	0.080368	0.056971	0.045242	0.019330	8.416-002	0.000+000
105(-0.26)	0.991623	0.803216	0.536145	0.339318	0.239316	0.134323	0.071451	0.047040	0.029389	-0.009333	7.285-002	0.000+000
110(-0.34)	0.991465	0.795558	0.523796	0.326178	0.225034	0.123226	0.063405	0.038237	0.015872	-0.023391	6.484-002	0.000+000
115(-0.42)	0.990959	0.788149	0.512197	0.314294	0.211145	0.113717	0.056646	0.030849	0.005403	-0.024943	5.850-002	0.000+000
120(-0.50)	0.990380	0.781446	0.501871	0.304113	0.198524	0.106180	0.051258	0.024668	-0.001895	-0.019382	7.963-002	0.000+000
130(-0.64)	0.989630	0.771035	0.485907	0.289488	0.178781	0.097857	0.043643	0.014021	-0.007828	-0.006107	8.748-002	0.000+000
140(-0.77)	0.989662	0.764572	0.475814	0.281887	0.166323	0.099591	0.037360	0.004027	-0.005589	-0.000828	7.032-002	0.000+000
150(-0.87)	0.990147	0.760943	0.469937	0.279253	0.159172	0.111231	0.028565	-0.002915	-0.001456	-0.000030	5.323-002	0.000+000
160(-0.94)	0.990653	0.758960	0.466622	0.279080	0.155203	0.127624	0.015043	-0.003756	0.000358	0.000001	3.582-002	0.000+000
170(-0.98)	0.990964	0.757928	0.464879	0.279457	0.153141	0.140421	0.000222	-0.000635	0.000339	0.000000	1.809-002	0.000+000
177(-1.00)	0.991056	0.757619	0.464359	0.279604	0.152529	0.144632	-0.006115	0.001102	0.000169	0.000000	2.276-003	0.000+000
NUMBER SUM	11.999796	9.756697	6.555288	4.325281	2.849029	1.942957	0.929439	0.572940	0.434255	0.393321		

TOTAL NUMBER= 4.113992

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER BUILDUP= 1.848961

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 50.0 FT OR 0.1098 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.881114	0.701675	0.460585	0.316440	0.178885	0.150976	0.087834	0.010312	0.007139	0.006216	4.454-003	6.241+002
10(0.98)	0.883826	0.704742	0.463436	0.318209	0.180818	0.154279	0.085374	0.013652	0.007228	0.006394	3.586-002	4.961+001
20(0.94)	0.892416	0.714477	0.472512	0.323958	0.186922	0.162891	0.080214	0.023382	0.008052	0.007009	7.323-002	9.719+001
30(0.87)	0.906312	0.730245	0.487268	0.333426	0.196850	0.171562	0.077527	0.035985	0.012005	0.008252	1.139-001	1.408+000
40(0.77)	0.924495	0.750774	0.506473	0.345616	0.210035	0.176442	0.079716	0.047819	0.022650	0.011205	1.605-001	1.783+000
50(0.64)	0.944998	0.773416	0.527382	0.358406	0.224970	0.178160	0.085930	0.058362	0.040481	0.020952	2.168-001	2.078+000
60(0.50)	0.964903	0.794046	0.545556	0.368442	0.238789	0.178428	0.093377	0.068498	0.060925	0.047920	2.161-001	1.691+000
65(0.42)	0.973593	0.802108	0.551965	0.371133	0.244119	0.177670	0.096302	0.072853	0.069846	0.068589	1.652-001	1.138+000
70(0.34)	0.980933	0.807941	0.555781	0.371615	0.247808	0.175740	0.097933	0.075904	0.076434	0.089993	1.885-001	1.117+000
75(0.26)	0.986643	0.811165	0.556588	0.369547	0.249531	0.172195	0.097777	0.076926	0.079531	0.105981	2.140-001	1.064+000
80(0.17)	0.990560	0.811599	0.554208	0.364802	0.249069	0.166760	0.095541	0.075395	0.078223	0.110190	2.406-001	9.880+001
85(0.09)	0.992659	0.809296	0.548744	0.357514	0.246287	0.159429	0.091224	0.071189	0.072233	0.099188	2.473-001	9.546+001
90(-0.00)	0.993054	0.804537	0.540577	0.348077	0.241144	0.150488	0.085139	0.064674	0.062184	0.074727	9.797-002	0.000+000
95(-0.09)	0.991975	0.797792	0.530318	0.337097	0.233758	0.140469	0.077865	0.056627	0.049516	0.043445	8.729-002	0.000+000
100(-0.17)	0.989734	0.789658	0.518716	0.325300	0.224488	0.130048	0.070111	0.048020	0.036054	0.013949	7.595-002	0.000+000
105(-0.26)	0.986684	0.780771	0.506558	0.313428	0.213961	0.119916	0.062562	0.039744	0.023456	-0.007016	6.676-002	0.000+000
110(-0.34)	0.983169	0.771729	0.494560	0.302139	0.202964	0.110664	0.055737	0.032384	0.012822	-0.017040	5.997-002	0.000+000
115(-0.42)	0.979492	0.763029	0.483297	0.291933	0.192279	0.102720	0.049918	0.026122	0.004642	-0.017971	5.442-002	0.000+000
120(-0.50)	0.975890	0.755027	0.473158	0.283126	0.182512	0.096338	0.045140	0.020797	-0.001023	-0.013857	7.433-002	0.000+000
130(-0.64)	0.969485	0.741816	0.456895	0.270116	0.166937	0.088786	0.037937	0.011625	-0.005608	-0.004321	8.184-002	0.000+000
140(-0.77)	0.964477	0.732374	0.445717	0.262718	0.156663	0.088898	0.031711	0.003417	-0.004002	-0.000584	6.568-002	0.000+000
150(-0.87)	0.960775	0.725967	0.438436	0.259387	0.150392	0.096666	0.023711	-0.002009	-0.001028	-0.000022	4.960-002	0.000+000
160(-0.94)	0.958174	0.721793	0.433866	0.258282	0.146696	0.108502	0.012542	-0.002683	0.000257	0.000001	3.329-002	0.000+000
170(-0.98)	0.956593	0.719389	0.431301	0.257991	0.144710	0.118165	0.000945	-0.000434	0.000239	0.000000	1.677-002	0.000+000
177(-1.00)	0.956091	0.718645	0.430517	0.257926	0.144116	0.121441	-0.003903	0.000812	0.000119	0.000000	2.107-003	0.000+000
NUMBER SUM	12.160007	9.482486	6.346765	4.069078	2.617780	1.762468	0.855259	0.526379	0.395693	0.355301		

TOTAL NUMBER= 2.642957

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.040080

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 100.0 FT OR 0.2196 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.929576	0.734462	0.479183	0.314550	0.178611	0.144924	0.089344	0.021639	0.013016	0.011148	4.458-003	6.972+002
10(0.98)	0.931503	0.736648	0.481227	0.315840	0.180020	0.147389	0.087283	0.024300	0.013367	0.011446	3.582-002	5.540+001
20(0.94)	0.937516	0.743474	0.487631	0.319943	0.184432	0.153933	0.082806	0.031879	0.014937	0.012477	7.269-002	1.084+000
30(0.87)	0.946936	0.754174	0.497692	0.326423	0.191451	0.160749	0.079948	0.041425	0.019399	0.014506	1.118-001	1.568+000
40(0.77)	0.958659	0.767392	0.510085	0.334220	0.200414	0.164587	0.080534	0.050172	0.028837	0.018553	1.545-001	1.981+000
50(0.64)	0.970891	0.780782	0.522396	0.341476	0.209951	0.165141	0.083790	0.057611	0.042776	0.028195	2.027-001	2.303+000
60(0.50)	0.981287	0.791117	0.531187	0.345625	0.217866	0.163246	0.087434	0.064026	0.057197	0.049316	1.928-001	1.879+000
69(0.42)	0.985035	0.794065	0.533093	0.345641	0.220420	0.161185	0.088445	0.066350	0.062818	0.063726	1.427-001	1.274+000
70(0.34)	0.987478	0.795062	0.532819	0.343874	0.221681	0.158064	0.088384	0.067494	0.066338	0.077410	1.560-001	1.274+000
79(0.26)	0.988454	0.793896	0.530138	0.340147	0.221487	0.153656	0.086938	0.066995	0.067008	0.086085	1.661-001	1.262+000
80(0.17)	0.987897	0.790512	0.525007	0.334445	0.219765	0.147858	0.083957	0.064560	0.064322	0.085724	1.664-001	1.286+000
89(0.09)	0.985849	0.785030	0.517588	0.326938	0.216502	0.140753	0.079502	0.060196	0.058261	0.074634	1.330-001	1.809+000
90(-0.00)	0.982453	0.777730	0.508238	0.317973	0.211736	0.132613	0.073851	0.054246	0.049437	0.054739	8.601-002	0.000+000
99(-0.09)	0.977933	0.769022	0.497464	0.308032	0.205583	0.123864	0.067452	0.047316	0.038985	0.031085	7.727-002	0.000+000
100(-0.17)	0.972572	0.759390	0.485854	0.297663	0.198290	0.115006	0.060824	0.040113	0.028248	0.009680	6.822-002	0.000+000
109(-0.26)	0.966671	0.749339	0.474008	0.287410	0.190253	0.106528	0.054444	0.033258	0.018396	-0.005082	6.081-002	0.000+000
110(-0.34)	0.960521	0.739329	0.462457	0.277740	0.181971	0.098835	0.048662	0.027138	0.010179	-0.011920	5.507-002	0.000+000
119(-0.42)	0.954376	0.729739	0.451622	0.268998	0.173938	0.092203	0.043652	0.021862	0.003913	-0.012411	5.023-002	0.000+000
120(-0.50)	0.948436	0.720841	0.441784	0.261397	0.166548	0.086790	0.039414	0.017307	-0.000393	-0.009491	6.882-002	0.000+000
130(-0.64)	0.937692	0.705671	0.425560	0.249850	0.154497	0.079912	0.032651	0.009483	-0.003855	-0.002938	7.591-002	0.000+000
140(-0.77)	0.928847	0.694107	0.413758	0.242741	0.146153	0.078743	0.026606	0.002842	-0.002752	-0.000402	6.084-002	0.000+000
150(-0.87)	0.921977	0.685705	0.405557	0.238946	0.140739	0.083363	0.019407	-0.001306	-0.000699	-0.000017	4.585-002	0.000+000
160(-0.94)	0.917039	0.679954	0.400138	0.237158	0.137377	0.091421	0.010293	-0.001838	0.000174	0.000001	3.071-002	0.000+000
170(-0.98)	0.914040	0.676563	0.397011	0.236367	0.135519	0.098414	0.001407	-0.000287	0.000163	0.000000	1.544-002	0.000+000
177(-1.00)	0.913094	0.675508	0.396046	0.236144	0.134958	0.100872	-0.002206	0.000567	0.000083	0.000000	1.937-003	0.000+000
NUMBER SUM	12.097086	9.459450	6.069928	3.793693	2.389106	1.589317	0.782138	0.480715	0.358385	0.318870		

TOTAL NUMBER= 2.236027

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 3.864920

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 200.0 FT OR 0.4391 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.955208	0.745030	0.481934	0.297083	0.169712	0.131045	0.087419	0.036150	0.021213	0.017924	4.282-003	8.342*002
10(0.98)	0.955852	0.745816	0.482717	0.297630	0.170345	0.132312	0.085982	0.037725	0.021820	0.018343	3.430-002	6.630*001
20(0.94)	0.957705	0.748096	0.485000	0.299240	0.172267	0.135800	0.082600	0.041982	0.024035	0.019767	6.890-002	1.298*000
30(0.87)	0.960095	0.751081	0.488019	0.301346	0.175081	0.139626	0.079596	0.046947	0.028493	0.022479	1.040-001	1.879*000
40(0.77)	0.961988	0.753516	0.490528	0.302958	0.178108	0.141556	0.077974	0.051086	0.035404	0.027223	1.394-001	2.381*000
50(0.64)	0.962046	0.753711	0.490795	0.302743	0.180322	0.140360	0.077168	0.053939	0.043295	0.035408	1.743-001	2.788*000
60(0.50)	0.958888	0.749845	0.486912	0.299309	0.180536	0.135864	0.075746	0.055136	0.049207	0.047334	1.539-001	2.327*000
65(0.42)	0.955755	0.745924	0.482918	0.296031	0.179593	0.132372	0.074296	0.054755	0.050415	0.053103	1.081-001	1.622*000
70(0.34)	0.951484	0.740544	0.477414	0.291620	0.177885	0.128044	0.072132	0.053463	0.049998	0.056710	1.105-001	1.715*000
75(0.26)	0.946070	0.733711	0.470408	0.286096	0.175444	0.122912	0.069174	0.051130	0.047741	0.056384	1.076-001	1.909*000
80(0.17)	0.939572	0.725521	0.462016	0.279566	0.172357	0.117070	0.065439	0.047745	0.043635	0.051044	9.572-002	2.619*000
85(0.09)	0.932109	0.716162	0.452451	0.272222	0.168741	0.110685	0.061046	0.043448	0.037938	0.040990	7.548-002	1.275*001
90(-0.00)	0.923851	0.705893	0.442011	0.264326	0.164711	0.103987	0.056205	0.038518	0.031176	0.028053	6.704-002	0.000*000
95(-0.09)	0.915007	0.695020	0.431043	0.256174	0.160367	0.097240	0.051174	0.033310	0.024037	0.014975	6.113-002	0.000*000
100(-0.17)	0.905800	0.683868	0.419907	0.248071	0.155809	0.090708	0.046210	0.028173	0.017202	0.004331	5.529-002	0.000*000
105(-0.26)	0.896454	0.672748	0.408941	0.240290	0.151152	0.084615	0.041524	0.023376	0.011199	-0.002428	5.035-002	0.000*000
110(-0.34)	0.887180	0.661932	0.398431	0.233048	0.146533	0.079127	0.037246	0.019064	0.006331	-0.005304	4.618-002	0.000*000
115(-0.42)	0.878155	0.651638	0.388590	0.226494	0.142093	0.074339	0.033422	0.015258	0.002697	-0.005474	4.244-002	0.000*000
120(-0.50)	0.869526	0.642023	0.379560	0.220708	0.137952	0.070291	0.030020	0.011898	0.000251	-0.004059	5.841-002	0.000*000
130(-0.64)	0.853866	0.625169	0.364155	0.211478	0.130847	0.064443	0.024117	0.006213	-0.001679	-0.001290	6.458-002	0.000*000
140(-0.77)	0.840737	0.611637	0.352222	0.205081	0.125403	0.061714	0.018656	0.001898	-0.001211	-0.000206	5.167-002	0.000*000
150(-0.87)	0.830374	0.601319	0.343395	0.200945	0.121460	0.062241	0.012898	-0.000465	-0.000311	-0.000015	3.882-002	0.000*000
160(-0.94)	0.822887	0.594041	0.337307	0.198457	0.118802	0.065196	0.006827	-0.000791	0.000067	0.000000	2.593-002	0.000*000
170(-0.98)	0.818355	0.589697	0.333722	0.197128	0.117273	0.068423	0.001709	-0.000134	0.000076	0.000000	1.300-002	0.000*000
177(-1.00)	0.816932	0.588342	0.332610	0.196731	0.116806	0.069684	-0.000224	0.000221	0.000049	-0.000000	1.627-003	0.000*000
NUMBER SUM	11.474883	8.724102	5.419933	3.255849	1.982857	1.293435	0.652494	0.400254	0.293893	0.256816		

TOTAL NUMBER= 1.752899

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 5.454811

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 300.0 FT OR 0.6587 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.918764	0.709013	0.455908	0.269378	0.154492	0.116217	0.081481	0.042981	0.025779	0.021615	3.957-003	9.604+002
10(0.98)	0.918483	0.708824	0.455822	0.269421	0.154624	0.116737	0.080485	0.043779	0.026420	0.022045	3.162-002	7.638+001
20(0.94)	0.917391	0.707992	0.455325	0.269382	0.154951	0.118232	0.077904	0.045751	0.028596	0.023489	6.299-002	1.499+000
30(0.87)	0.914957	0.705873	0.453763	0.268733	0.155141	0.119904	0.074929	0.047680	0.032325	0.026147	9.364-002	2.180+000
40(0.77)	0.910377	0.701480	0.450139	0.266672	0.154626	0.120300	0.072066	0.048791	0.036893	0.030447	1.226-001	2.789+000
50(0.64)	0.902785	0.693731	0.443335	0.262324	0.152715	0.117993	0.068960	0.048690	0.040580	0.036496	1.477-001	3.324+000
60(0.50)	0.891519	0.681788	0.432481	0.255066	0.148895	0.112405	0.064814	0.046795	0.041345	0.042011	1.231-001	2.888+000
65(0.42)	0.884431	0.674150	0.425438	0.250299	0.146251	0.108462	0.062131	0.044952	0.040126	0.042754	8.323-002	2.101+000
70(0.34)	0.876411	0.665456	0.417379	0.244841	0.143196	0.103888	0.058996	0.042450	0.037719	0.041039	8.135-002	2.399+000
75(0.26)	0.867539	0.655819	0.408427	0.238801	0.139848	0.098827	0.055447	0.039330	0.034189	0.036506	7.553-002	3.131+000
80(0.17)	0.857935	0.645404	0.398760	0.232329	0.136351	0.093447	0.051572	0.035708	0.029753	0.029536	6.589-002	6.384+000
85(0.09)	0.847749	0.634411	0.388594	0.225602	0.132859	0.087932	0.047502	0.031764	0.024759	0.021235	5.715-002	1.199+002
90(-0.00)	0.837154	0.623066	0.378165	0.218807	0.129501	0.082460	0.043384	0.027706	0.019617	0.013065	5.294-002	0.000+000
95(-0.09)	0.826331	0.611597	0.367708	0.212123	0.126356	0.077189	0.039355	0.023726	0.014717	0.006316	4.888-002	0.000+000
100(-0.17)	0.815459	0.600219	0.357439	0.205705	0.123449	0.072244	0.035521	0.019971	0.010354	0.001677	4.503-002	0.000+000
105(-0.26)	0.804708	0.589126	0.347543	0.199672	0.120757	0.067708	0.031949	0.016520	0.006708	-0.000861	4.161-002	0.000+000
110(-0.34)	0.794228	0.578477	0.338161	0.194107	0.118243	0.063621	0.028659	0.013399	0.003850	-0.001801	3.849-002	0.000+000
115(-0.42)	0.784149	0.568394	0.329396	0.189056	0.115874	0.059993	0.025637	0.010595	0.001775	-0.001800	3.555-002	0.000+000
120(-0.50)	0.774576	0.558966	0.321309	0.184534	0.113635	0.056813	0.022845	0.008088	0.000418	-0.001404	4.905-002	0.000+000
130(-0.64)	0.757267	0.542289	0.307275	0.177034	0.109547	0.051731	0.017749	0.003959	-0.000622	-0.000566	5.432-002	0.000+000
140(-0.77)	0.742762	0.528669	0.296080	0.171410	0.106057	0.048525	0.013000	0.001191	-0.000472	-0.000144	4.341-002	0.000+000
150(-0.87)	0.73132	0.518139	0.287590	0.167401	0.103273	0.046704	0.008451	-0.000091	-0.000146	-0.000019	3.256-002	0.000+000
160(-0.94)	0.723077	0.510660	0.281647	0.164758	0.101279	0.046778	0.004406	-0.000286	0.000010	-0.000000	2.171-002	0.000+000
170(-0.98)	0.718106	0.506192	0.278130	0.163270	0.100099	0.047729	0.001561	-0.000094	0.000043	0.000000	1.086-002	0.000+000
177(-1.00)	0.716550	0.504798	0.277038	0.162821	0.099736	0.048225	0.000604	0.000005	0.000044	-0.000000	1.359-003	0.000+000
NUMBER SUM	10.467960	7.790441	4.727246	2.758035	1.639318	1.053565	0.542745	0.332570	0.240895	0.206833		

TOTAL NUMBER= 1.424529

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 7.030377

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 400.0 FT OR 0.8783 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG / ENG	0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.848057	0.648542	0.415177	0.237781	0.136764	0.101575	0.073624	0.044904	0.027775	0.023169	3.562-003	1.077+001
10(0.98)	0.847156	0.647720	0.414532	0.237501	0.136586	0.101643	0.072932	0.045171	0.028332	0.023551	2.841-002	8.576+001
20(0.94)	0.844138	0.644908	0.412279	0.236441	0.135942	0.101874	0.070933	0.045629	0.030142	0.024810	5.618-002	1.689+000
30(0.87)	0.838645	0.639648	0.407934	0.234167	0.134584	0.102067	0.068095	0.045609	0.032894	0.027046	8.246-002	2.474+000
40(0.77)	0.830134	0.631259	0.400786	0.230096	0.132048	0.101548	0.064630	0.044806	0.035501	0.030415	1.058-001	3.206+000
50(0.64)	0.818142	0.619151	0.390210	0.223716	0.128047	0.098418	0.060369	0.042901	0.036363	0.034333	1.237-001	3.918+000
60(0.50)	0.802524	0.603145	0.376010	0.214887	0.122379	0.092603	0.054957	0.039312	0.034176	0.035602	9.874-002	3.593+000
65(0.42)	0.793443	0.593801	0.367678	0.209669	0.119166	0.088729	0.051776	0.036772	0.031748	0.033608	6.496-002	2.756+000
70(0.34)	0.783628	0.583715	0.358688	0.204056	0.115577	0.084496	0.048329	0.033784	0.028495	0.029372	6.172-002	3.459+000
75(0.26)	0.773200	0.573046	0.349206	0.198188	0.112052	0.079782	0.044705	0.030467	0.024613	0.023277	5.622-002	5.442+000
80(0.17)	0.762305	0.561976	0.339423	0.192216	0.108642	0.075070	0.041018	0.026985	0.020401	0.016348	4.976-002	1.707+001
85(0.09)	0.751098	0.550696	0.329534	0.186289	0.105495	0.070425	0.037384	0.023510	0.016203	0.009892	4.526-002	1.179+003
90(-0.00)	0.739739	0.539394	0.319720	0.180535	0.102726	0.065979	0.033899	0.020186	0.012319	0.004956	4.224-002	0.000+000
95(-0.09)	0.728382	0.528237	0.310139	0.175055	0.100393	0.061818	0.030627	0.017103	0.008941	0.001928	3.941-002	0.000+000
100(-0.17)	0.717172	0.517372	0.300917	0.169916	0.098482	0.057989	0.027588	0.014293	0.006147	0.000514	3.679-002	0.000+000
105(-0.26)	0.706237	0.506916	0.292147	0.165153	0.096917	0.054498	0.024776	0.011742	0.003934	0.000056	3.432-002	0.000+000
110(-0.34)	0.695687	0.496961	0.283891	0.160780	0.095585	0.051330	0.022159	0.009421	0.002265	-0.000058	3.192-002	0.000+000
115(-0.42)	0.685616	0.487576	0.276192	0.156791	0.094379	0.048459	0.019703	0.007312	0.001093	-0.000152	2.957-002	0.000+000
120(-0.50)	0.676104	0.478811	0.269071	0.153174	0.093224	0.045860	0.017375	0.005418	0.000358	-0.000272	4.086-002	0.000+000
130(-0.64)	0.658994	0.463276	0.256612	0.146994	0.090944	0.041393	0.013011	0.002414	-0.000179	-0.000337	4.529-002	0.000+000
140(-0.77)	0.644729	0.450536	0.246546	0.142119	0.088752	0.037824	0.008980	0.000669	-0.000173	-0.000151	3.617-002	0.000+000
150(-0.87)	0.633529	0.440664	0.238844	0.138456	0.086849	0.035202	0.005416	0.000035	-0.000099	-0.000026	2.710-002	0.000+000
160(-0.94)	0.625500	0.433661	0.233436	0.135937	0.085422	0.033754	0.002722	-0.000076	-0.000020	-0.000000	1.806-002	0.000+000
170(-0.98)	0.620680	0.429487	0.230239	0.134491	0.084561	0.033391	0.001233	-0.000110	0.000038	-0.000000	9.030-003	0.000+000
177(-1.00)	0.619175	0.428188	0.229248	0.134053	0.084295	0.033420	0.000834	-0.000132	0.000054	-0.000000	1.129-003	0.000+000
NUMBER SUM	9.300119	6.804568	4.059373	2.314095	1.351220	0.858739	0.450309	0.275810	0.197359	0.166582		

TOTAL NUMBER= 1.168685

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 8.645252

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 500.0 FT OR 1.0978 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.761177	0.577665	0.368583	0.206061	0.118798	0.067800	0.065141	0.043817	0.028000	0.023281	3.148-003	1.186+001
10(0.98)	0.759918	0.576476	0.367612	0.205595	0.118443	0.067602	0.064658	0.043741	0.028424	0.023586	2.505-002	9.453+001
20(0.94)	0.755783	0.572538	0.364363	0.203962	0.117254	0.067063	0.063082	0.043246	0.029752	0.024570	4.924-002	1.870+000
30(0.87)	0.748583	0.565573	0.358517	0.200840	0.115063	0.066297	0.060442	0.042036	0.031537	0.026237	7.146-002	2.763+000
40(0.77)	0.738005	0.555163	0.349617	0.195833	0.111582	0.064850	0.056788	0.040096	0.032625	0.028560	9.014-002	3.637+000
50(0.64)	0.723894	0.541084	0.337399	0.188698	0.106618	0.061657	0.052092	0.037185	0.031677	0.030682	1.028-001	4.583+000
60(0.50)	0.706439	0.523570	0.322085	0.179581	0.100349	0.058077	0.046289	0.032798	0.029944	0.029331	7.936-002	4.481+000
69(0.42)	0.696640	0.513759	0.313510	0.174473	0.096929	0.055514	0.043032	0.030017	0.025029	0.026009	5.123-002	3.655+000
70(0.34)	0.686278	0.503440	0.304525	0.169164	0.093482	0.053630	0.039635	0.026950	0.021569	0.020824	4.790-002	5.100+000
75(0.26)	0.675490	0.492783	0.295308	0.163794	0.090144	0.051600	0.036206	0.023747	0.017808	0.014516	4.342-002	9.819+000
80(0.17)	0.664425	0.481966	0.286038	0.158501	0.087051	0.050593	0.032858	0.020578	0.014059	0.008332	3.912-002	4.753+001
85(0.09)	0.653226	0.471159	0.276880	0.153402	0.084324	0.049745	0.029687	0.017591	0.010624	0.003524	3.622-002	1.172+004
90(-0.00)	0.642040	0.460513	0.267971	0.148582	0.082057	0.053146	0.026752	0.014879	0.007707	0.000766	3.400-002	0.000+000
95(-0.09)	0.630997	0.450152	0.259415	0.144089	0.080290	0.049838	0.024069	0.012468	0.005375	-0.000099	3.200-002	0.000+000
100(-0.17)	0.620210	0.440175	0.251280	0.139938	0.078993	0.046819	0.021614	0.010325	0.003582	0.000144	3.012-002	0.000+000
105(-0.26)	0.609779	0.430652	0.243607	0.136122	0.078070	0.044061	0.019343	0.008393	0.002237	0.000603	2.832-002	0.000+000
110(-0.34)	0.599787	0.421637	0.236416	0.132618	0.077587	0.041524	0.017208	0.006624	0.001260	0.000733	2.646-002	0.000+000
115(-0.42)	0.590306	0.413167	0.229717	0.129401	0.076815	0.039174	0.015170	0.005003	0.000598	0.000476	2.453-002	0.000+000
120(-0.50)	0.581387	0.405271	0.223516	0.126450	0.076258	0.036986	0.013207	0.003551	0.000205	0.000059	3.385-002	0.000+000
130(-0.64)	0.565442	0.391297	0.212629	0.121295	0.075030	0.033042	0.009487	0.001353	-0.000059	-0.000361	3.750-002	0.000+000
140(-0.77)	0.552239	0.379859	0.203801	0.117098	0.073683	0.029592	0.006116	0.000285	-0.000103	-0.000192	2.994-002	0.000+000
150(-0.87)	0.541941	0.371028	0.197046	0.113855	0.072424	0.026624	0.003335	0.000037	-0.000112	-0.000033	2.242-002	0.000+000
160(-0.94)	0.534606	0.364794	0.192319	0.111585	0.071450	0.024458	0.001545	-0.000022	-0.000035	-0.000001	1.493-002	0.000+000
170(-0.98)	0.530226	0.361098	0.189537	0.110274	0.070856	0.023391	0.000865	-0.000153	0.000047	0.000000	7.467-003	0.000+000
177(-1.00)	0.528862	0.359951	0.188678	0.109877	0.070672	0.023153	0.000779	-0.000224	0.000070	-0.000000	9.336-004	0.000+000
NUMBER SUM	8.108095	5.850048	3.437721	1.928045	1.111179	0.700259	0.372788	0.228341	0.161611	0.134175		

TOTAL NUMBER= 0.961596

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 10.310246

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

ENERGY AND ANGULAR DISTRIBUTION OF GAMMA RAY
NUMBER DUE TO SCATTERING IN AIR ABOVE A
PLANE ISOTROPIC SOURCE OF ENERGY 1.330 MEV
AND SOURCE STRENGTH 1.00 PHOTONS/SQ.CM-SEC
(PHOTONS/SQ-CM-SEC-MEV-STER)
ALTITUDE 1000.0 FT OR 2.1957 MFP IN AIR
AIR DENSITY 0.001293 GM/CUBIC CM

ANG /	ENG 0.052	0.074	0.106	0.151	0.214	0.282	0.406	0.585	0.843	1.214	INCREMENTAL NUMBER	NUMBER BUILDUP
2(1.00)	0.355454	0.266310	0.169983	0.089593	0.052199	0.038879	0.030495	0.025477	0.018653	0.015621	1.465-003	1.657*001
10(0.98)	0.354389	0.265280	0.169107	0.089171	0.051809	0.038452	0.030474	0.025116	0.018525	0.015569	1.158-002	1.332*000
20(0.94)	0.350956	0.261943	0.166256	0.087724	0.050559	0.037162	0.029999	0.023817	0.018227	0.015347	2.222-002	2.715*000
30(0.87)	0.345175	0.256274	0.161375	0.085105	0.048431	0.035520	0.028518	0.021738	0.017709	0.014860	3.099-002	4.256*000
40(0.77)	0.337035	0.248219	0.154387	0.081232	0.045548	0.033898	0.026038	0.019369	0.016367	0.014249	3.699-002	6.256*000
50(0.64)	0.326681	0.237923	0.145422	0.076188	0.041574	0.031746	0.022768	0.016633	0.013789	0.013659	3.943-002	9.697*000
60(0.50)	0.314510	0.225882	0.134996	0.070340	0.036927	0.028511	0.018872	0.013107	0.010137	0.011072	2.821-002	1.431*001
65(0.42)	0.307939	0.219464	0.129510	0.067329	0.034771	0.026604	0.016808	0.011096	0.007996	0.007942	1.755-002	1.682*001
70(0.34)	0.301174	0.212946	0.124018	0.064402	0.032803	0.024671	0.014786	0.009075	0.005774	0.003717	1.597-002	4.212*001
75(0.26)	0.294316	0.206448	0.118643	0.061657	0.031100	0.022841	0.012908	0.007202	0.003695	-0.000597	1.447-002	2.274*002
80(0.17)	0.287459	0.200076	0.113488	0.059165	0.029702	0.021207	0.011256	0.005613	0.001982	-0.003608	1.356-002	9.174*003
85(0.09)	0.280690	0.193910	0.108615	0.056955	0.028627	0.019806	0.009867	0.004378	0.000837	-0.004344	1.287-002	1.230*009
90(-0.00)	0.274080	0.188001	0.104051	0.055011	0.027881	0.018618	0.008722	0.003473	0.000246	-0.002906	1.226-002	0.000*000
95(-0.09)	0.267688	0.182377	0.099785	0.053284	0.027456	0.017580	0.007750	0.002798	0.000028	-0.000466	1.169-002	0.000*000
100(-0.17)	0.261561	0.177045	0.095789	0.051706	0.027305	0.016605	0.006862	0.002220	-0.000059	0.001468	1.129-002	0.000*000
105(-0.26)	0.255737	0.172007	0.092029	0.050212	0.027333	0.015617	0.005980	0.001633	-0.000186	0.001967	1.070-002	0.000*000
110(-0.34)	0.250250	0.167267	0.088481	0.048753	0.027420	0.014569	0.005061	0.000995	-0.000381	0.001110	9.875-003	0.000*000
115(-0.42)	0.245132	0.162835	0.085139	0.047308	0.027466	0.013460	0.004104	0.000341	-0.000575	-0.000298	9.005-003	0.000*000
120(-0.50)	0.240410	0.158732	0.082017	0.045886	0.027422	0.012324	0.003139	-0.000250	-0.000694	-0.001497	1.240-002	0.000*000
130(-0.64)	0.232246	0.151619	0.076538	0.043213	0.027114	0.010176	0.001344	-0.000907	-0.000716	-0.001527	1.361-002	0.000*000
140(-0.77)	0.225873	0.146062	0.072253	0.040965	0.026746	0.008260	-0.000091	-0.000750	-0.000656	-0.000532	1.077-002	0.000*000
150(-0.87)	0.221242	0.142095	0.069222	0.039282	0.026513	0.006948	-0.001007	-0.000366	-0.000422	-0.000071	8.052-003	0.000*000
160(-0.94)	0.218182	0.139538	0.067311	0.038203	0.026435	0.006233	-0.001124	-0.000327	-0.000001	0.000050	5.367-003	0.000*000
170(-0.98)	0.216466	0.138141	0.066295	0.037668	0.026434	0.002924	-0.000504	-0.000479	0.000151	0.000000	2.693-003	0.000*000
177(-1.00)	0.215953	0.137728	0.066001	0.037529	0.026440	0.002565	-0.000103	-0.000536	0.000180	-0.000000	3.377-004	0.000*000
NUMBER SUM	3.504556	2.433189	1.376930	0.736619	0.410547	0.252861	0.141382	0.086915	0.059051	0.045591		

TOTAL NUMBER= 0.363365

(PHOTONS/SQ CM-SEC)

TOTAL NUMBER
BUILDUP= 19.467398

LOWER ENERGY CUTOFF 0.0437MEV

LOWEST SINGLE SCATTERING ENERGY 0.2143MEV

APPENDIX C: UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	7,824-002	7,824-003	2,987-007
10,000	0,190	7,935-002	7,935-003	2,412-006
20,000	0,375	8,309-002	8,309-003	4,974-006
30,000	0,548	9,001-002	9,001-003	7,877-006
40,000	0,705	1,015-001	1,015-002	1,142-005
50,000	0,840	1,204-001	1,204-002	1,614-005
60,000	0,712	1,536-001	1,536-002	1,746-005
65,000	0,497	1,805-001	1,805-002	1,432-005
70,000	0,515	2,208-001	2,208-002	1,816-005
75,000	0,530	2,870-001	2,870-002	2,426-005
80,000	0,540	4,135-001	4,135-002	3,564-005
85,000	0,546	7,439-001	7,439-002	6,485-005
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 2.78683-004 (MR/HR)

TOTAL NUMBER FLUX 1.7345+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMRER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	5,914-002	5,914-003	2,257-007
10,000	0,190	5,973-002	5,973-003	1,815-006
20,000	0,375	6,170-002	6,170-003	3,693-006
30,000	0,548	6,517-002	6,517-003	5,703-006
40,000	0,705	7,044-002	7,044-003	7,925-006
50,000	0,840	7,793-002	7,793-003	1,045-005
60,000	0,712	8,778-002	8,778-003	9,978-006
65,000	0,497	9,313-002	9,313-003	7,386-006
70,000	0,515	9,748-002	9,748-003	8,016-006
75,000	0,530	9,739-002	9,739-003	8,232-006
80,000	0,540	8,260-002	8,260-003	7,118-006
85,000	0,546	3,005-002	3,005-003	2,620-006
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 7.27680-005 (MR/HR)

TOTAL NUMBER FLUX 4.5594-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.390-002	4.390-003	1.676-007
10.000	0.190	4.416-002	4.416-003	1.342-006
20.000	0.375	4.495-002	4.495-003	2.691-006
30.000	0.548	4.622-002	4.622-003	4.045-006
40.000	0.705	4.777-002	4.777-003	5.374-006
50.000	0.840	4.905-002	4.905-003	6.577-006
60.000	0.712	4.841-002	4.841-003	5.503-006
65.000	0.497	4.606-002	4.606-003	3.653-006
70.000	0.515	4.084-002	4.084-003	3.358-006
75.000	0.530	3.085-002	3.085-003	2.608-006
80.000	0.540	1.489-002	1.489-003	1.283-006
85.000	0.546	9.889-004	9.889-005	8.621-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.66876-005(MR/HR)

TOTAL NUMBER FLUX 2.2987-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.420-002	2.420-003	9.238-008
10.000	0.190	2.413-002	2.413-003	7.334-007
20.000	0.375	2.386-002	2.386-003	1.429-006
30.000	0.548	2.325-002	2.325-003	2.035-006
40.000	0.705	2.197-002	2.197-003	2.471-006
50.000	0.840	1.944-002	1.944-003	2.606-006
60.000	0.712	1.472-002	1.472-003	1.674-006
65.000	0.497	1.127-002	1.127-003	8.935-007
70.000	0.515	7.169-003	7.169-004	5.895-007
75.000	0.530	3.095-003	3.095-004	2.616-007
80.000	0.540	4.836-004	4.836-005	4.168-008
85.000	0.546	1.071-006	1.071-007	9.338-011
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.28263-005(MR/HR)

TOTAL NUMBER FLUX 8.0365-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.334-002	1.334-003	5.092-008
10.000	0.190	1.319-002	1.319-003	4.008-007
20.000	0.375	1.267-002	1.267-003	7.583-007
30.000	0.548	1.169-002	1.169-003	1.023-006
40.000	0.705	1.010-002	1.010-003	1.136-006
50.000	0.840	7.700-003	7.700-004	1.032-006
60.000	0.712	4.479-003	4.479-004	5.091-007
65.000	0.497	2.756-003	2.756-004	2.186-007
70.000	0.515	1.258-003	1.258-004	1.035-007
75.000	0.530	3.105-004	3.105-005	2.625-008
80.000	0.540	1.571-005	1.571-006	1.354-009
85.000	0.546	1.160-009	1.160-010	1.011-013
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 5.26110-006(MR/HR)

TOTAL NUMBER FLUX 3.2964-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.353-003	7.353-004	2.807-008
10.000	0.190	7.206-003	7.206-004	2.190-007
20.000	0.375	6.725-003	6.725-004	4.026-007
30.000	0.548	5.882-003	5.882-004	5.148-007
40.000	0.705	4.645-003	4.645-004	5.226-007
50.000	0.840	3.051-003	3.051-004	4.091-007
60.000	0.712	1.362-003	1.362-004	1.549-007
65.000	0.497	6.741-004	6.741-005	5.346-008
70.000	0.515	2.209-004	2.209-005	1.816-008
75.000	0.530	3.116-005	3.116-006	2.634-009
80.000	0.540	5.103-007	5.103-008	4.398-011
85.000	0.546	1.257-012	1.257-013	1.095-016
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.32525-006(MR/HR)

TOTAL NUMBER FLUX 1.4569=002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM*SEC-STER
ENERGY FLUX UNITS MEV /SQ CM*SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.053-003	4.053-004	1.547-008
10.000	0.190	3.938-003	3.938-004	1.197-007
20.000	0.375	3.570-003	3.570-004	2.137-007
30.000	0.548	2.959-003	2.959-004	2.589-007
40.000	0.705	2.136-003	2.136-004	2.403-007
50.000	0.840	1.209-003	1.209-004	1.621-007
60.000	0.712	4.144-004	4.144-005	4.710-008
65.000	0.497	1.649-004	1.649-005	1.308-008
70.000	0.515	3.877-005	3.877-006	3.188-009
75.000	0.530	3.126-006	3.126-007	2.643-010
80.000	0.540	1.658-008	1.658-009	1.429-012
85.000	0.546	1.361-015	1.361-016	1.187-019
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.07383-006(MR/HR)

TOTAL NUMBER FLUX 6.7282-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.100 MEV
ABSORPTION COEFFICIENT 0.0001952(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.062-004	2.062-005	7.871-010
10.000	0.190	1.919-004	1.919-005	5.833-009
20.000	0.375	1.505-004	1.505-005	9.008-009
30.000	0.548	9.528-005	9.528-006	8.338-009
40.000	0.705	4.393-005	4.393-006	4.942-009
50.000	0.840	1.180-005	1.180-006	1.583-009
60.000	0.712	1.079-006	1.079-007	1.226-010
65.000	0.497	1.444-007	1.444-008	1.145-011
70.000	0.515	6.461-009	6.461-010	5.313-013
75.000	0.530	3.179-011	3.179-012	2.687-015
80.000	0.540	5.996-016	5.996-017	5.167-020
85.000	0.546	2.029-030	2.029-031	1.769-034
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.06255-008(MR/HR)

TOTAL NUMBER FLUX 1.9189+004

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.200 MEV
ABSORPTION COEFFICIENT 0.0001590(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.850-002	1.570+002	6.962-007
10.000	0.190	7.962-002	1.592+002	5.622-006
20.000	0.375	8.338-002	1.668+002	1.160-005
30.000	0.548	9.036-002	1.807+002	1.837-005
40.000	0.705	1.019-001	2.039+002	2.664-005
50.000	0.840	1.210-001	2.421+002	3.770-005
60.000	0.712	1.546-001	3.092-002	4.083-005
65.000	0.497	1.819-001	3.639-002	3.352-005
70.000	0.515	2.230-001	4.460+002	4.260-005
75.000	0.530	2.907-001	5.813+002	5.708-005
80.000	0.540	4.215-001	8.429+002	8.439-005
85.000	0.546	7.727-001	1.545+001	1.565-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.8057-004 (MR/HR)

TOTAL NUMBER FLUX 1.8354+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0,200 MEV
ABSORPTION COEFFICIENT 0,0001590(/CM)
ALTITUDE 50,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	6,249-002	1,250+002	5,542-007
10,000	0,190	6,318-002	1,264+002	4,461+006
20,000	0,375	6,543-002	1,309+002	9,100-006
30,000	0,548	6,946-002	1,389-002	1,412+005
40,000	0,705	7,571-002	1,514-002	1,979-005
50,000	0,840	8,491-002	1,698+002	2,645+005
60,000	0,712	9,802-002	1,960+002	2,589+005
65,000	0,497	1,061-001	2,122+002	1,955+005
70,000	0,515	1,145-001	2,291-002	2,188+005
75,000	0,530	1,205-001	2,411+002	2,367+005
80,000	0,540	1,135-001	2,270+002	2,272-005
85,000	0,546	5,659+002	1,132-002	1,146+005
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 1.98033-004(MR/HR)

TOTAL NUMBER FLUX 5.3421-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0,200 MEV
ABSORPTION COEFFICIENT 0,0001590(/CM)
ALTITUDE 100,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	4,903-002	9,806-003	4,348-007
10,000	0,190	4,939-002	9,879-003	3,488-006
20,000	0,375	5,056-002	1,011-002	7,031-006
30,000	0,548	5,250-002	1,050-002	1,067-005
40,000	0,705	5,517-002	1,103-002	1,442-005
50,000	0,840	5,824-002	1,165-002	1,814-005
60,000	0,712	6,036-002	1,207-002	1,594-005
65,000	0,497	5,980-002	1,196-002	1,102-005
70,000	0,515	5,639-002	1,128-002	1,077-005
75,000	0,530	4,725-002	9,450-003	9,279-006
80,000	0,540	2,810-002	5,621-003	5,627-006
85,000	0,546	3,507-003	7,015-004	7,104-007
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 1,07540-004(MR/HR)

TOTAL NUMBER FLUX 2,9002-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.200 MEV
ABSORPTION COEFFICIENT 0.0001590(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.018-002	6.036-003	2.677-007
10.000	0.190	3.019-002	6.038-003	2.132-006
20.000	0.375	3.018-002	6.036-003	4.197-006
30.000	0.548	3.000-002	5.999-003	6.099-006
40.000	0.705	2.930-002	5.860-003	7.659-006
50.000	0.840	2.740-002	5.479-003	8.534-006
60.000	0.712	2.289-002	4.579-003	6.047-006
65.000	0.497	1.899-002	3.798-003	3.499-006
70.000	0.515	1.367-002	2.733-003	2.611-006
75.000	0.530	7.261-003	1.452-003	1.426-006
80.000	0.540	1.723-003	3.447-004	3.451-007
85.000	0.546	1.347-005	2.695-006	2.729-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.28186-005(MR/HR)

TOTAL NUMBER FLUX 1.1548-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0,200 MEV
ABSORPTION COEFFICIENT 0,0001590(/CM)
ALTITUDE 300,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	1,858-002	3,716-003	1,648-007
10,000	0,190	1,846-002	3,691-003	1,303-006
20,000	0,375	1,802-002	3,603-003	2,506-006
30,000	0,548	1,714-002	3,428-003	3,485-006
40,000	0,705	1,556-002	3,112-003	4,068-006
50,000	0,840	1,289-002	2,577-003	4,014-006
60,000	0,712	8,683-003	1,737-003	2,293-006
65,000	0,497	6,031-003	1,206-003	1,111-006
70,000	0,515	3,312-003	6,625-004	6,328-007
75,000	0,530	1,116-003	2,231-004	2,191-007
80,000	0,540	1,057-004	2,114-005	2,116-008
85,000	0,546	5,175-008	1,035-008	1,048-011
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 1,98178-005(MR/HR)

TOTAL NUMBER FLUX 5,3446-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.200 MEV
ABSORPTION COEFFICIENT 0.0001590(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.144-002	2.287-003	1.014-007
10.000	0.190	1.128-002	2.256-003	7.965-007
20.000	0.375	1.076-002	2.151-003	1.496-006
30.000	0.548	9.792-003	1.958-003	1.991-006
40.000	0.705	8.265-003	1.653-003	2.160-006
50.000	0.840	6.062-003	1.212-003	1.888-006
60.000	0.712	3.293-003	6.586-004	8.698-007
65.000	0.497	1.915-003	3.831-004	3.529-007
70.000	0.515	8.028-004	1.606-004	1.534-007
75.000	0.530	1.715-004	3.429-005	3.367-008
80.000	0.540	6.481-006	1.296-006	1.298-009
85.000	0.546	1.988-010	3.976-011	4.027-014
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 9.84450-006(MR/HR)

TOTAL NUMBER FLUX 2.6549+002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0,200 MEV
ABSORPTION COEFFICIENT 0,0001590(/CM)
ALTITUDE 500,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	7,040-003	1,408-003	6,243-008
10,000	0,190	6,896-003	1,379-003	4,869-007
20,000	0,375	6,421-003	1,284-003	8,930-007
30,000	0,548	5,595-003	1,119-003	1,138-006
40,000	0,705	4,390-003	8,779-004	1,147-006
50,000	0,840	2,852-003	5,704-004	8,883-007
60,000	0,712	1,249-003	2,498-004	3,299-007
65,000	0,497	6,083-004	1,217-004	1,121-007
70,000	0,515	1,946-004	3,891-005	3,717-008
75,000	0,530	2,635-005	5,270-006	5,174-009
80,000	0,540	3,974-007	7,949-008	7,958-011
85,000	0,546	7,637-013	1,527-013	1,547-016
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 5,09992-006(MR/HR)

TOTAL NUMBER FLUX 1,3754-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0,200 MEV
ABSORPTION COEFFICIENT 0,0001590(/CM)
ALTITUDE 1000,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMRER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	6,222-004	1,244-004	5,518-009
10,000	0,190	5,884-004	1,177-004	4,155-008
20,000	0,375	4,869-004	9,738-005	6,771-008
30,000	0,548	3,407-004	6,813-005	6,926-008
40,000	0,705	1,855-004	3,710-005	4,848-008
50,000	0,840	6,569-005	1,314-005	2,046-008
60,000	0,712	9,802-006	1,960-006	2,589-009
65,000	0,497	1,965-006	3,930-007	3,621-010
70,000	0,515	1,627-007	3,254-008	3,108-011
75,000	0,530	2,258-009	4,516-010	4,434-013
80,000	0,540	3,447-013	6,894-014	6,901-017
85,000	0,546	6,388-025	1,278-025	1,294-028
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 2,55970-007(MR/HR)

TOTAL NUMBER FLUX 6,9032-004

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.866-002	2.360-002	1.121-006
10.000	0.190	7.978-002	2.393-002	9.052-006
20.000	0.375	8.356-002	2.507-002	1.867-005
30.000	0.548	9.057-002	2.717-002	2.959-005
40.000	0.705	1.022-001	3.066-002	4.292-005
50.000	0.840	1.214-001	3.642-002	6.077-005
60.000	0.712	1.552-001	4.656-002	6.587-005
65.000	0.497	1.828-001	5.484-002	5.412-005
70.000	0.515	2.243-001	6.729-002	6.886-005
75.000	0.530	2.929-001	8.788-002	9.243-005
80.000	0.540	4.264-001	1.279-001	1.372-004
85.000	0.546	7.908-001	2.372-001	2.573-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.13712-003(MR/HR)

TOTAL NUMBER FLUX 1.9086+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.463-002	1.939-002	9.209-007
10.000	0.190	6.536-002	1.961-002	7.416-006
20.000	0.375	6.781-002	2.034-002	1.515-005
30.000	0.548	7.220-002	2.166-002	2.359-005
40.000	0.705	7.909-002	2.373-002	3.322-005
50.000	0.840	8.945-002	2.684-002	4.477-005
60.000	0.712	1.048-001	3.144-002	4.448-005
65.000	0.497	1.149-001	3.446-002	3.401-005
70.000	0.515	1.263-001	3.790-002	3.878-005
75.000	0.530	1.372-001	4.115-002	4.329-005
80.000	0.540	1.376-001	4.129-002	4.428-005
85.000	0.546	8.311-002	2.493-002	2.705-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.53650-004(MR/HR)

TOTAL NUMBER FLUX 5.9358-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.243-002	1.573-002	7.471-007
10.000	0.190	5.287-002	1.586-002	5.998-006
20.000	0.375	5.429-002	1.629-002	1.213-005
30.000	0.548	5.672-002	1.702-002	1.853-005
40.000	0.705	6.021-002	1.806-002	2.529-005
50.000	0.840	6.463-002	1.939-002	3.235-005
60.000	0.712	6.902-002	2.071-002	2.929-005
65.000	0.497	7.007-002	2.102-002	2.075-005
70.000	0.515	6.859-002	2.058-002	2.106-005
75.000	0.530	6.121-002	1.836-002	1.931-005
80.000	0.540	4.133-002	1.240-002	1.330-005
85.000	0.546	7.565-003	2.270-003	2.462-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.01213-004(MR/HR)

TOTAL NUMBER FLUX 3.3772-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.451-002	1.035-002	4.918-007
10.000	0.190	3.459-002	1.038-002	3.925-006
20.000	0.375	3.481-002	1.044-002	7.778-006
30.000	0.548	3.502-002	1.050-002	1.144-005
40.000	0.705	3.490-002	1.047-002	1.466-005
50.000	0.840	3.375-002	1.012-002	1.689-005
60.000	0.712	2.993-002	8.979-003	1.270-005
65.000	0.497	2.608-002	7.823-003	7.720-006
70.000	0.515	2.022-002	6.066-003	6.208-006
75.000	0.530	1.218-002	3.655-003	3.845-006
80.000	0.540	3.728-003	1.118-003	1.199-006
85.000	0.546	6.268-005	1.880-005	2.040-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.68755-005(MR/HR)

TOTAL NUMBER FLUX 1.4581-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.272-002	6.816-003	3.237-007
10.000	0.190	2.263-002	6.790-003	2.568-006
20.000	0.375	2.231-002	6.694-003	4.986-006
30.000	0.548	2.162-002	6.485-003	7.061-006
40.000	0.705	2.023-002	6.069-003	8.496-006
50.000	0.840	1.762-002	5.285-003	8.818-006
60.000	0.712	1.298-002	3.894-003	5.508-006
65.000	0.497	9.704-003	2.911-003	2.873-006
70.000	0.515	5.961-003	1.788-003	1.830-006
75.000	0.530	2.426-003	7.277-004	7.654-007
80.000	0.540	3.363-004	1.009-004	1.082-007
85.000	0.546	5.193-007	1.558-007	1.690-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.33387-005(MR/HR)

TOTAL NUMBER FLUX 7.2740-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.496-002	4.487-003	2.131-007
10.000	0.190	1.481-002	4.443-003	1.680-006
20.000	0.375	1.431-002	4.292-003	3.197-006
30.000	0.548	1.334-002	4.003-003	4.359-006
40.000	0.705	1.173-002	3.518-003	4.925-006
50.000	0.840	9.198-003	2.759-003	4.604-006
60.000	0.712	5.628-003	1.688-003	2.389-006
65.000	0.497	3.611-003	1.083-003	1.069-006
70.000	0.515	1.757-003	5.272-004	5.395-007
75.000	0.530	4.829-004	1.449-004	1.524-007
80.000	0.540	3.033-005	9.099-006	9.757-009
85.000	0.546	4.303-009	1.291-009	1.400-012
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.31371-005(MR/HR)

TOTAL NUMBER FLUX 3.8834-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	9.844-003	2.953-003	1.403-007
10.000	0.190	9.689-003	2.907-003	1.099-006
20.000	0.375	9.171-003	2.751-003	2.049-006
30.000	0.548	8.237-003	2.471-003	2.691-006
40.000	0.705	6.797-003	2.039-003	2.855-006
50.000	0.840	4.802-003	1.441-003	2.404-006
60.000	0.712	2.441-003	7.322-004	1.036-006
65.000	0.497	1.344-003	4.031-004	3.979-007
70.000	0.515	5.181-004	1.554-004	1.590-007
75.000	0.530	9.612-005	2.884-005	3.033-008
80.000	0.540	2.736-006	8.207-007	8.801-010
85.000	0.546	3.565-011	1.070-011	1.160-014
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.28621-005(MR/HR)

TOTAL NUMBER FLUX 2.1588-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.300 MEV
ABSORPTION COEFFICIENT 0.0001371(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.217-003	3.650-004	1.734-008
10.000	0.190	1.162-003	3.486-004	1.318-007
20.000	0.375	9.933-004	2.980-004	2.220-007
30.000	0.548	7.384-004	2.215-004	2.412-007
40.000	0.705	4.448-004	1.334-004	1.868-007
50.000	0.840	1.863-004	5.588-005	9.323-008
60.000	0.712	3.743-005	1.123-005	1.588-008
65.000	0.497	9.590-006	2.877-006	2.839-009
70.000	0.515	1.154-006	3.461-007	3.541-010
75.000	0.530	3.005-008	9.015-009	9.483-012
80.000	0.540	1.633-011	4.899-012	5.253-015
85.000	0.546	1.392-021	4.177-022	4.531-025
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 9.11445-007(MR/HR)

TOTAL NUMBER FLUX 1.5298+003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.876-002	3.150-002	1.535-006
10.000	0.190	7.989-002	3.195-002	1.240-005
20.000	0.375	8.368-002	3.347-002	2.557-005
30.000	0.548	9.070-002	3.628-002	4.052-005
40.000	0.705	1.024-001	4.095-002	5.879-005
50.000	0.840	1.216-001	4.866-002	8.327-005
60.000	0.712	1.556-001	6.224-002	9.031-005
65.000	0.497	1.833-001	7.334-002	7.424-005
70.000	0.515	2.251-001	9.005-002	9.451-005
75.000	0.530	2.944-001	1.177-001	1.270-004
80.000	0.540	4.295-001	1.718-001	1.890-004
85.000	0.546	8.023-001	3.209-001	3.571-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.59575-003(MR/HR)

TOTAL NUMBER FLUX 1.9585+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.600-002	2.640-002	1.286-006
10.000	0.190	6.678-002	2.671-002	1.036-005
20.000	0.375	6.935-002	2.774-002	2.119-005
30.000	0.548	7.398-002	2.959-002	3.305-005
40.000	0.705	8.130-002	3.252-002	4.669-005
50.000	0.840	9.244-002	3.697-002	6.327-005
60.000	0.712	1.093-001	4.373-002	6.345-005
65.000	0.497	1.207-001	4.830-002	4.889-005
70.000	0.515	1.344-001	5.375-002	5.641-005
75.000	0.530	1.488-001	5.953-002	6.423-005
80.000	0.540	1.554-001	6.216-002	6.837-005
85.000	0.546	1.059-001	4.235-002	4.712-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 5.19231-004(MR/HR)

TOTAL NUMBER FLUX 6.3725-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.469-002	2.188-002	1.066-006
10.000	0.190	5.518-002	2.207-002	8.562-006
20.000	0.375	5.678-002	2.271-002	1.735-005
30.000	0.548	5.955-002	2.382-002	2.661-005
40.000	0.705	6.362-002	2.545-002	3.654-005
50.000	0.840	6.902-002	2.761-002	4.724-005
60.000	0.712	7.509-002	3.004-002	4.358-005
65.000	0.497	7.743-002	3.097-002	3.135-005
70.000	0.515	7.760-002	3.104-002	3.258-005
75.000	0.530	7.204-002	2.882-002	3.109-005
80.000	0.540	5.270-002	2.108-002	2.319-005
85.000	0.546	1.227-002	4.910-003	5.463-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.04619-004(MR/HR)

TOTAL NUMBER FLUX 3.7386-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.756-002	1.502-002	7.319-007
10.000	0.190	3.769-002	1.507-002	5.847-006
20.000	0.375	3.808-002	1.523-002	1.164-005
30.000	0.548	3.860-002	1.544-002	1.724-005
40.000	0.705	3.897-002	1.559-002	2.238-005
50.000	0.840	3.848-002	1.539-002	2.634-005
60.000	0.712	3.543-002	1.417-002	2.056-005
65.000	0.497	3.184-002	1.274-002	1.289-005
70.000	0.515	2.588-002	1.035-002	1.086-005
75.000	0.530	1.688-002	6.752-003	7.284-006
80.000	0.540	6.060-003	2.424-003	2.666-006
85.000	0.546	1.650-004	6.601-005	7.345-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.38520-004(MR/HR)

TOTAL NUMBER FLUX 1.7001-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.579-002	1.031-002	5.025-007
10.000	0.190	2.574-002	1.029-002	3.993-006
20.000	0.375	2.553-002	1.021-002	7.802-006
30.000	0.548	2.502-002	1.001-002	1.118-005
40.000	0.705	2.386-002	9.546-003	1.371-005
50.000	0.840	2.145-002	8.581-003	1.468-005
60.000	0.712	1.672-002	6.687-003	9.702-006
65.000	0.497	1.309-002	5.237-003	5.301-006
70.000	0.515	8.630-003	3.452-003	3.623-006
75.000	0.530	3.955-003	1.582-003	1.707-006
80.000	0.540	6.969-004	2.788-004	3.066-007
85.000	0.546	2.219-006	8.874-007	9.874-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 7.25055-005(MR/HR)

TOTAL NUMBER FLUX 8.8986-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.771-002	7.083-003	3.451-007
10.000	0.190	1.758-002	7.031-003	2.727-006
20.000	0.375	1.712-002	6.848-003	5.232-006
30.000	0.548	1.621-002	6.486-003	7.244-006
40.000	0.705	1.462-002	5.847-003	8.395-006
50.000	0.840	1.196-002	4.784-003	8.186-006
60.000	0.712	7.888-003	3.155-003	4.578-006
65.000	0.497	5.383-003	2.153-003	2.180-006
70.000	0.515	2.878-003	1.151-003	1.208-006
75.000	0.530	9.267-004	3.707-004	3.999-007
80.000	0.540	8.014-005	3.206-005	3.526-008
85.000	0.546	2.983-008	1.193-008	1.327-011
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.05295-005(MR/HR)

TOTAL NUMBER FLUX 4.9742-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.216-002	4.863-003	2.369-007
10.000	0.190	1.200-002	4.801-003	1.862-006
20.000	0.375	1.148-002	4.592-003	3.508-006
30.000	0.548	1.051-002	4.203-003	4.695-006
40.000	0.705	8.952-003	3.581-003	5.141-006
50.000	0.840	6.667-003	2.667-003	4.564-006
60.000	0.712	3.722-003	1.489-003	2.160-006
65.000	0.497	2.214-003	8.854-004	8.963-007
70.000	0.515	9.599-004	3.840-004	4.030-007
75.000	0.530	2.171-004	8.686-005	9.371-008
80.000	0.540	9.216-006	3.687-006	4.055-009
85.000	0.546	4.010-010	1.604-010	1.785-013
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.35644-005(MR/HR)

TOTAL NUMBER FLUX 2.8920-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.400 MEV
ABSORPTION COEFFICIENT 0.0001232(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.856-003	7.424-004	3.617-008
10.000	0.190	1.783-003	7.132-004	2.767-007
20.000	0.375	1.556-003	6.224-004	4.755-007
30.000	0.548	1.202-003	4.807-004	5.369-007
40.000	0.705	7.714-004	3.086-004	4.431-007
50.000	0.840	3.591-004	1.436-004	2.458-007
60.000	0.712	8.702-005	3.481-005	5.050-008
65.000	0.497	2.602-005	1.041-005	1.054-008
70.000	0.515	3.960-006	1.584-006	1.663-009
75.000	0.530	1.534-007	6.134-008	6.618-011
80.000	0.540	1.853-010	7.414-011	8.155-014
85.000	0.546	1.761-019	7.043-020	7.837-023
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.07689-006(MR/HR)

TOTAL NUMBER FLUX 2.5490-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.00011221 /CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGT

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTA DOSE RATE
2,500	0,024	7,884-002	3.942-002	1,926-006
10,000	0,190	7,997-002	3.998-002	1,556-005
20,000	0,375	8,376-002	4.188-002	3,209-005
30,000	0,548	9,081-002	4.540-002	5,086-005
40,000	0,705	1,025-001	5,125-002	7,380-005
50,000	0,840	1,218-001	6.092-002	1,046-004
60,000	0,712	1,559-001	7.796-002	1,134-004
65,000	0,497	1,838-001	9.189-002	9,329-005
70,000	0,515	2,258-001	1.129-001	1,188-004
75,000	0,530	2,955-001	1.478-001	1,599-004
80,000	0,540	4,320-001	2.160-001	2,383-004
85,000	0,546	8,116-001	4.058-001	4,529-004
90,000	0,548	0,000+000	0.000+000	0,000+000
95,000	0,546	0,000+000	0.000+000	0,000+000
100,000	0,540	0,000+000	0.000+000	0,000+000
105,000	0,530	0,000+000	0.000+000	0,000+000
110,000	0,515	0,000+000	0.000+000	0,000+000
115,000	0,497	0,000+000	0.000+000	0,000+000
120,000	0,712	0,000+000	0.000+000	0,000+000
130,000	0,840	0,000+000	0.000+000	0,000+000
140,000	0,705	0,000+000	0.000+000	0,000+000
150,000	0,548	0,000+000	0.000+000	0,000+000
160,000	0,375	0,000+000	0.000+000	0,000+000
170,000	0,190	0,000+000	0.000+000	0,000+000
177,500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 2.04606-003 (MR/HR)

TOTAL NUMBER FLUX 2.0043+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.712-002	3.356-002	1.640-006
10.000	0.190	6.792-002	3.396-002	1.321-005
20.000	0.375	7.059-002	3.530-002	2.705-005
30.000	0.548	7.542-002	3.771-002	4.224-005
40.000	0.705	8.309-002	4.155-002	5.983-005
50.000	0.840	9.488-002	4.744-002	8.142-005
60.000	0.712	1.130-001	5.652-002	8.225-005
65.000	0.497	1.256-001	6.281-002	6.377-005
70.000	0.515	1.411-001	7.055-002	7.427-005
75.000	0.530	1.588-001	7.939-002	8.590-005
80.000	0.540	1.711-001	8.557-002	9.440-005
85.000	0.546	1.283-001	6.415-002	7.159-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.90961-004 (MR/HR)

TOTAL NUMBER FLUX 6.7642-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.656-002	2.828-002	1.382-006
10.000	0.190	5.709-002	2.855-002	1.111-005
20.000	0.375	5.884-002	2.942-002	2.255-005
30.000	0.548	6.190-002	3.095-002	3.467-005
40.000	0.705	6.647-002	3.323-002	4.786-005
50.000	0.840	7.271-002	3.636-002	6.240-005
60.000	0.712	8.030-002	4.015-002	5.842-005
65.000	0.497	8.381-002	4.191-002	4.255-005
70.000	0.515	8.558-002	4.279-002	4.504-005
75.000	0.530	8.200-002	4.100-002	4.436-005
80.000	0.540	6.391-002	3.196-002	3.525-005
85.000	0.546	1.803-002	9.014-003	1.006-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.15644+004(MR/HR)

TOTAL NUMBER FLUX 4.0690+001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.016-002	2.008-002	9.812-007
10.000	0.190	4.034-002	2.017-002	7.847-006
20.000	0.375	4.089-002	2.044-002	1.567-005
30.000	0.548	4.170-002	2.085-002	2.336-005
40.000	0.705	4.253-002	2.126-002	3.062-005
50.000	0.840	4.271-002	2.135-002	3.665-005
60.000	0.712	4.051-002	2.026-002	2.948-005
65.000	0.497	3.731-002	1.865-002	1.894-005
70.000	0.515	3.148-002	1.574-002	1.657-005
75.000	0.530	2.187-002	1.093-002	1.183-005
80.000	0.540	8.914-003	4.457-003	4.917-006
85.000	0.546	3.559-004	1.780-004	1.986-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.97046-004(MR/HR)

TOTAL NUMBER FLUX 1.9290-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.852-002	1.426-002	6.967-007
10.000	0.190	2.850-002	1.425-002	5.544-006
20.000	0.375	2.841-002	1.421-002	1.089-005
30.000	0.548	2.809-002	1.405-002	1.574-005
40.000	0.705	2.721-002	1.361-002	1.959-005
50.000	0.840	2.508-002	1.254-002	2.152-005
60.000	0.712	2.044-002	1.022-002	1.487-005
65.000	0.497	1.661-002	8.303-003	8.429-006
70.000	0.515	1.158-002	5.789-003	6.094-006
75.000	0.530	5.832-003	2.916-003	3.155-006
80.000	0.540	1.243-003	6.216-004	6.857-007
85.000	0.546	7.028-006	3.514-006	3.921-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.07217-004(MR/HR)

TOTAL NUMBER FLUX 1.0496-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.025-002	1.012-002	4.947-007
10.000	0.190	2.014-002	1.007-002	3.917-006
20.000	0.375	1.974-002	9.872-003	7.564-006
30.000	0.548	1.893-002	9.463-003	1.060-005
40.000	0.705	1.741-002	8.705-003	1.254-005
50.000	0.840	1.473-002	7.366-003	1.264-005
60.000	0.712	1.031-002	5.156-003	7.503-006
65.000	0.497	7.391-003	3.696-003	3.752-006
70.000	0.515	4.259-003	2.129-003	2.241-006
75.000	0.530	1.555-003	7.776-004	8.414-007
80.000	0.540	1.734-004	8.669-005	9.563-008
85.000	0.546	1.388-007	6.938-008	7.742-011
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.21876-005(MR/HR)

TOTAL NUMBER FLUX 6.0879-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.438-002	7.189-003	3.513-007
10.000	0.190	1.423-002	7.114-003	2.768-006
20.000	0.375	1.372-002	6.859-003	5.256-006
30.000	0.548	1.275-002	6.375-003	7.142-006
40.000	0.705	1.114-002	5.570-003	8.021-006
50.000	0.840	8.652-003	4.326-003	7.424-006
60.000	0.712	5.202-003	2.601-003	3.785-006
65.000	0.497	3.290-003	1.645-003	1.670-006
70.000	0.515	1.566-003	7.832-004	8.244-007
75.000	0.530	4.148-004	2.074-004	2.244-007
80.000	0.540	2.418-005	1.209-005	1.334-008
85.000	0.546	2.740-009	1.370-009	1.529-012
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.74798-005(MR/HR)

TOTAL NUMBER FLUX 3.6691-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.500 MEV
ABSORPTION COEFFICIENT 0.0001122(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.595-003	1.298-003	6.340-008
10.000	0.190	2.506-003	1.253-003	4.874-007
20.000	0.375	2.222-003	1.111-003	8.515-007
30.000	0.548	1.769-003	8.847-004	9.910-007
40.000	0.705	1.195-003	5.973-004	8.601-007
50.000	0.840	6.047-004	3.023-004	5.189-007
60.000	0.712	1.701-004	8.503-005	1.237-007
65.000	0.497	5.749-005	2.874-005	2.918-008
70.000	0.515	1.055-005	5.273-006	5.550-009
75.000	0.530	5.595-007	2.797-007	3.027-010
80.000	0.540	1.276-009	6.379-010	7.037-013
85.000	0.546	8.220-018	4.110-018	4.587-021
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.93104-006(MR/HR)

TOTAL NUMBER FLUX 3.8483-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 3,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.890-002	4.734-002	2.306-006
10.000	0.190	8.003-002	4.802-002	1.863-005
20.000	0.375	8.383-002	5.030-002	3.843-005
30.000	0.548	9.089-002	5.453-002	6.091-005
40.000	0.705	1.026-001	6.156-002	8.839-005
50.000	0.840	1.220-001	7.319-002	1.252-004
60.000	0.712	1.562-001	9.369-002	1.359-004
65.000	0.497	1.841-001	1.105-001	1.118-004
70.000	0.515	2.263-001	1.358-001	1.425-004
75.000	0.530	2.964-001	1.778-001	1.918-004
80.000	0.540	4.339-001	2.603-001	2.863-004
85.000	0.546	8.187-001	4.912-001	5.466-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.49871-003(MR/HR)

TOTAL NUMBER FLUX 2.04444+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.797-002	4.078-002	1.987-006
10.000	0.190	6.880-002	4.128-002	1.601-005
20.000	0.375	7.155-002	4.293-002	3.280-005
30.000	0.548	7.653-002	4.592-002	5.128-005
40.000	0.705	8.447-002	5.068-002	7.277-005
50.000	0.840	9.676-002	5.805-002	9.934-005
60.000	0.712	1.159-001	6.956-002	1.009-004
65.000	0.497	1.294-001	7.766-002	7.861-005
70.000	0.515	1.464-001	8.784-002	9.220-005
75.000	0.530	1.667-001	1.000-001	1.079-004
80.000	0.540	1.840-001	1.104-001	1.214-004
85.000	0.546	1.483-001	8.895-002	9.898-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.66383-004(MR/HR)

TOTAL NUMBER FLUX 7.0888-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.800-002	3.480-002	1.696-006
10.000	0.190	5.857-002	3.514-002	1.363-005
20.000	0.375	6.044-002	3.627-002	2.771-005
30.000	0.548	6.373-002	3.824-002	4.271-005
40.000	0.705	6.869-002	4.121-002	5.918-005
50.000	0.840	7.562-002	4.537-002	7.764-005
60.000	0.712	8.445-002	5.067-002	7.352-005
65.000	0.497	8.896-002	5.338-002	5.403-005
70.000	0.515	9.213-002	5.528-002	5.801-005
75.000	0.530	9.038-002	5.423-002	5.851-005
80.000	0.540	7.390-002	4.434-002	4.877-005
85.000	0.546	2.407-002	1.444-002	1.607-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 5.31475-004(MR/HR)

TOTAL NUMBER FLUX 4.3485-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.224-002	2.534-002	1.235-006
10.000	0.190	4.246-002	2.548-002	9.882-006
20.000	0.375	4.314-002	2.589-002	1.978-005
30.000	0.548	4.420-002	2.652-002	2.962-005
40.000	0.705	4.542-002	2.725-002	3.913-005
50.000	0.840	4.619-002	2.771-002	4.742-005
60.000	0.712	4.481-002	2.689-002	3.901-005
65.000	0.497	4.203-002	2.522-002	2.553-005
70.000	0.515	3.648-002	2.189-002	2.297-005
75.000	0.530	2.657-002	1.594-002	1.720-005
80.000	0.540	1.192-002	7.150-003	7.864-006
85.000	0.546	6.347-004	3.808-004	4.237-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.60065-004(MR/HR)

TOTAL NUMBER FLUX 2.1278-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.076-002	1.846-002	8.991-007
10.000	0.190	3.078-002	1.847-002	7.163-006
20.000	0.375	3.079-002	1.848-002	1.412-005
30.000	0.548	3.066-002	1.839-002	2.055-005
40.000	0.705	3.003-002	1.802-002	2.587-005
50.000	0.840	2.821-002	1.693-002	2.897-005
60.000	0.712	2.378-002	1.427-002	2.070-005
65.000	0.497	1.986-002	1.192-002	1.206-005
70.000	0.515	1.444-002	8.666-003	9.095-006
75.000	0.530	7.811-003	4.686-003	5.056-006
80.000	0.540	1.922-003	1.153-003	1.268-006
85.000	0.546	1.674-005	1.004-005	1.117-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.45755-004(MR/HR)

TOTAL NUMBER FLUX 1.1926-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.240-002	1.344-002	6.547-007
10.000	0.190	2.231-002	1.339-002	5.192-006
20.000	0.375	2.198-002	1.319-002	1.008-005
30.000	0.548	2.126-002	1.276-002	1.425-005
40.000	0.705	1.986-002	1.192-002	1.711-005
50.000	0.840	1.723-002	1.034-002	1.769-005
60.000	0.712	1.262-002	7.569-003	1.098-005
65.000	0.497	9.383-003	5.630-003	5.699-006
70.000	0.515	5.719-003	3.431-003	3.601-006
75.000	0.530	2.296-003	1.378-003	1.486-006
80.000	0.540	3.098-004	1.859-004	2.045-007
85.000	0.546	4.412-007	2.647-007	2.946-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.69486-005(MR/HR)

TOTAL NUMBER FLUX 7.1141-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.631-002	9.786-003	4.768-007
10.000	0.190	1.617-002	9.703-003	3.764-006
20.000	0.375	1.569-002	9.413-003	7.192-006
30.000	0.548	1.475-002	8.849-003	9.883-006
40.000	0.705	1.313-002	7.879-003	1.131-005
50.000	0.840	1.053-002	6.316-003	1.081-005
60.000	0.712	6.694-003	4.016-003	5.827-006
65.000	0.497	4.433-003	2.660-003	2.693-006
70.000	0.515	2.264-003	1.359-003	1.426-006
75.000	0.530	6.750-004	4.050-004	4.369-007
80.000	0.540	4.996-005	2.998-005	3.297-008
85.000	0.546	1.163-008	6.980-009	7.767-012
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 5.38517-005(MR/HR)

TOTAL NUMBER FLUX 4.4061-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.600 MEV
ABSORPTION COEFFICIENT 0.0001040(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.340-003	2.004-003	9.763-008
10.000	0.190	3.236-003	1.942-003	7.532-007
20.000	0.375	2.906-003	1.744-003	1.332-006
30.000	0.548	2.367-003	1.420-003	1.586-006
40.000	0.705	1.660-003	9.960-004	1.430-006
50.000	0.840	8.950-004	5.370-004	9.189-007
60.000	0.712	2.815-004	1.689-004	2.451-007
65.000	0.497	1.044-004	6.262-005	6.339-008
70.000	0.515	2.204-005	1.322-005	1.388-008
75.000	0.530	1.482-006	8.890-007	9.591-010
80.000	0.540	5.447-009	3.268-009	3.595-012
85.000	0.546	1.482-016	8.894-017	9.896-020
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.44176-006(MR/HR)

TOTAL NUMBER FLUX 5.2706-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 3,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	7,899-002	5.529-002	2,663-006
10,000	0,190	8.012-002	5,609-002	2,151-005
20,000	0,375	8,394-002	5.876-002	4,438-005
30,000	0,548	9,101-002	6.371-002	7,035-005
40,000	0,705	1,028-001	7.193-002	1,021-004
50,000	0,840	1,222-001	8.554-002	1,447-004
60,000	0,712	1,565-001	1.096-001	1,572-004
65,000	0,497	1.846-001	1.292-001	1,293-004
70,000	0,515	2.271-001	1.589-001	1,649-004
75,000	0,530	2.977-001	2.084-001	2,223-004
80,000	0,540	4.368-001	3.057-001	3,325-004
85,000	0,546	8,297-001	5.808-001	6,389-004
90,000	0,548	0,000+000	0.000+000	0,000+000
95,000	0,546	0,000+000	0.000+000	0,000+000
100,000	0,540	0,000+000	0.000+000	0,000+000
105,000	0,530	0,000+000	0.000+000	0,000+000
110,000	0,515	0,000+000	0.000+000	0,000+000
115,000	0,497	0,000+000	0.000+000	0,000+000
120,000	0,712	0,000+000	0.000+000	0,000+000
130,000	0,840	0.000+000	0.000+000	0,000+000
140,000	0,705	0.000+000	0.000+000	0,000+000
150,000	0,548	0,000+000	0.000+000	0,000+000
160,000	0,375	0.000+000	0.000+000	0,000+000
170,000	0,190	0,000+000	0.000+000	0,000+000
177,500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 2.97645-003 (MR/HR)

TOTAL NUMBER FLUX 2.1113+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.931-002	4.851-002	2.337-006
10.000	0.190	7.017-002	4.912-002	1.884-005
20.000	0.375	7.304-002	5.113-002	3.862-005
30.000	0.548	7.826-002	5.478-002	6.050-005
40.000	0.705	8.664-002	6.065-002	8.610-005
50.000	0.840	9.972-002	6.981-002	1.181-004
60.000	0.712	1.205-001	8.437-002	1.210-004
65.000	0.497	1.355-001	9.486-002	9.494-005
70.000	0.515	1.550-001	1.085-001	1.126-004
75.000	0.530	1.797-001	1.258-001	1.342-004
80.000	0.540	2.058-001	1.441-001	1.567-004
85.000	0.546	1.852-001	1.297-001	1.427-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.07875-003 (MR/HR)

TOTAL NUMBER FLUX 7.6519-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 100,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	6,030-002	4.221-002	2,033-006
10,000	0,190	6,093-002	4.265-002	1,636-005
20,000	0,375	6,299-002	4.410-002	3,331-005
30,000	0,548	6,665-002	4.666-002	5,152-005
40,000	0,705	7,226-002	5.058-002	7,181-005
50,000	0,840	8,033-002	5.623-002	9,513-005
60,000	0,712	9,127-002	6.389-002	9,165-005
65,000	0,497	9,753-002	6.827-002	6,832-005
70,000	0,515	1,032-001	7.224-002	7,496-005
75,000	0,530	1,050-001	7.351-002	7,841-005
80,000	0,540	9,241-002	6.469-002	7,035-005
85,000	0,546	3,759-002	2.631-002	2,894-005
90,000	0,548	0,000+000	0.000+000	0,000+000
95,000	0,546	0,000+000	0.000+000	0,000+000
100,000	0,540	0,000+000	0.000+000	0,000+000
105,000	0,530	0,000+000	0.000+000	0,000+000
110,000	0,515	0,000+000	0.000+000	0,000+000
115,000	0,497	0,000+000	0.000+000	0,000+000
120,000	0,712	0,000+000	0.000+000	0,000+000
130,000	0,840	0,000+000	0.000+000	0,000+000
140,000	0,705	0,000+000	0.000+000	0,000+000
150,000	0,548	0,000+000	0.000+000	0,000+000
160,000	0,375	0,000+000	0.000+000	0,000+000
170,000	0,190	0,000+000	0.000+000	0,000+000
177,500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 6.82811-004(MR/HR)

TOTAL NUMBER FLUX 4,8433-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 200,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.565-002	3.196-002	1.539-006
10.000	0.190	4.594-002	3.216-002	1.233-005
20.000	0.375	4.686-002	3.280-002	2.478-005
30.000	0.548	4.835-002	3.384-002	3.737-005
40.000	0.705	5.027-002	3.519-002	4.995-005
50.000	0.840	5.212-002	3.648-002	6.173-005
60.000	0.712	5.234-002	3.664-002	5.256-005
65.000	0.497	5.051-002	3.536-002	3.539-005
70.000	0.515	4.578-002	3.204-002	3.325-005
75.000	0.530	3.587-002	2.511-002	2.678-005
80.000	0.540	1.864-002	1.305-002	1.419-005
85.000	0.546	1.547-003	1.083-003	1.191-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.51059-004(MR/HR)

TOTAL NUMBER FLUX 2.4901-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.456-002	2.419-002	1.165-006
10.000	0.190	3.464-002	2.425-002	9.300-006
20.000	0.375	3.486-002	2.440-002	1.843-005
30.000	0.548	3.507-002	2.455-002	2.711-005
40.000	0.705	3.497-002	2.448-002	3.475-005
50.000	0.840	3.382-002	2.367-002	4.005-005
60.000	0.712	3.001-002	2.101-002	3.014-005
65.000	0.497	2.616-002	1.831-002	1.833-005
70.000	0.515	2.030-002	1.421-002	1.475-005
75.000	0.530	1.225-002	8.575-003	9.147-006
80.000	0.540	3.758-003	2.631-003	2.861-006
85.000	0.546	6.369-005	4.458-005	4.905-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.06080-004(MR/HR)

TOTAL NUMBER FLUX 1.4618-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.617-002	1.832-002	8.823-007
10.000	0.190	2.612-002	1.828-002	7.012-006
20.000	0.375	2.593-002	1.815-002	1.371-005
30.000	0.548	2.544-002	1.781-002	1.967-005
40.000	0.705	2.432-002	1.703-002	2.417-005
50.000	0.840	2.194-002	1.536-002	2.599-005
60.000	0.712	1.721-002	1.205-002	1.728-005
65.000	0.497	1.355-002	9.485-003	9.493-006
70.000	0.515	9.006-003	6.304-003	6.542-006
75.000	0.530	4.184-003	2.929-003	3.124-006
80.000	0.540	7.579-004	5.305-004	5.769-007
85.000	0.546	2.622-006	1.835-006	2.019-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.28451-004(MR/HR)

TOTAL NUMBER FLUX 9.1113-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.981-002	1.387-002	6.679-007
10.000	0.190	1.970-002	1.379-002	5.287-006
20.000	0.375	1.929-002	1.350-002	1.020-005
30.000	0.548	1.845-002	1.292-002	1.427-005
40.000	0.705	1.692-002	1.184-002	1.681-005
50.000	0.840	1.424-002	9.966-003	1.686-005
60.000	0.712	9.870-003	6.909-003	9.911-006
65.000	0.497	7.018-003	4.913-003	4.917-006
70.000	0.515	3.995-003	2.796-003	2.902-006
75.000	0.530	1.429-003	1.000-003	1.067-006
80.000	0.540	1.528-004	1.070-004	1.163-007
85.000	0.546	1.079-007	7.555-008	8.311-011
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.30083-005(MR/HR)

TOTAL NUMBER FLUX 5.8879-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.700 MEV
ABSORPTION COEFFICIENT 0.0000912(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.926-003	3.449-003	1.661-007
10.000	0.190	4.801-003	3.360-003	1.289-006
20.000	0.375	4.393-003	3.075-003	2.323-006
30.000	0.548	3.706-003	2.594-003	2.865-006
40.000	0.705	2.756-003	1.929-003	2.739-006
50.000	0.840	1.637-003	1.146-003	1.939-006
60.000	0.712	6.120-004	4.284-004	6.146-007
65.000	0.497	2.616-004	1.831-004	1.833-007
70.000	0.515	6.858-005	4.800-005	4.981-008
75.000	0.530	6.642-006	4.649-006	4.959-009
80.000	0.540	5.097-008	3.568-008	3.880-011
85.000	0.546	1.276-014	8.930-015	9.824-018
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.21733-005(MR/HR)

TOTAL NUMBER FLUX 8.6348-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.899-002	6.319-002	3.009-006
10.000	0.190	8.012-002	6.410-002	2.430-005
20.000	0.375	8.394-002	6.715-002	5.014-005
30.000	0.548	9.101-002	7 281-002	7.948-005
40.000	0.705	1.028-001	8.220-002	1.154-004
50.000	0.840	1.222-001	9.776-002	1.635-004
60.000	0.712	1.565-001	1.252-001	1.776-004
65.000	0.497	1.846-001	1.477-001	1.461-004
70.000	0.515	2.271-001	1.816-001	1.863-004
75.000	0.530	2.977-001	2.382-001	2.511-004
80.000	0.540	4.368-001	3.494-001	3.757-004
85.000	0.546	8.297-001	6.637-001	7.218-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.36293-003(MR/HR)

TOTAL NUMBER FLUX 2.1113+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 50,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	6,930-002	5.544-002	2,640-006
10,000	0,190	7,016-002	5.613-002	2,128-005
20,000	0,375	7,303-002	5.842-002	4,363-005
30,000	0,548	7,825-002	6.260-002	6,834-005
40,000	0,705	8,663-002	6.930-002	9,726-005
50,000	0,840	9,971-002	7.977-002	1,334-004
60,000	0,712	1,205-001	9.640-002	1,367-004
65,000	0,497	1,355-001	1.084-001	1,072-004
70,000	0,515	1,549-001	1.239-001	1,271-004
75,000	0,530	1,796-001	1.437-001	1,515-004
80,000	0,540	2,057-001	1.645-001	1,769-004
85,000	0,546	1,850-001	1.480-001	1,610-004
90,000	0,548	0,000+000	0.000+000	0,000+000
95,000	0,546	0,000+000	0.000+000	0,000+000
100,000	0,540	0,000+000	0.000+000	0,000+000
105,000	0,530	0,000+000	0.000+000	0,000+000
110,000	0,515	0,000+000	0.000+000	0,000+000
115,000	0,497	0,000+000	0.000+000	0,000+000
120,000	0,712	0,000+000	0.000+000	0,000+000
130,000	0,840	0,000+000	0.000+000	0,000+000
140,000	0,705	0,000+000	0.000+000	0,000+000
150,000	0,548	0,000+000	0.000+000	0,000+000
160,000	0,375	0,000+000	0.000+000	0,000+000
170,000	0,190	0,000+000	0.000+000	0,000+000
177,500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 1.21829-003(MR/HR)

TOTAL NUMBER FLUX 7.6488-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0,800 MEV
ABSORPTION COEFFICIENT 0,0000913(/CM)
ALTITUDE 100,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2,500	0,024	6,029-002	4,823-002	2,297-006
10,000	0,190	6,092-002	4,873-002	1,848-005
20,000	0,375	6,298-002	5,038-002	3,763-005
30,000	0,548	6,664-002	5,331-002	5,820-005
40,000	0,705	7,224-002	5,779-002	8,111-005
50,000	0,840	8,030-002	6,424-002	1,074-004
60,000	0,712	9,123-002	7,299-002	1,035-004
65,000	0,497	9,748-002	7,798-002	7,716-005
70,000	0,515	1,031-001	8,251-002	8,465-005
75,000	0,530	1,049-001	8,395-002	8,852-005
80,000	0,540	9,231-002	7,385-002	7,939-005
85,000	0,546	3,750-002	3,000-002	3,263-005
90,000	0,548	0,000+000	0,000+000	0,000+000
95,000	0,546	0,000+000	0,000+000	0,000+000
100,000	0,540	0,000+000	0,000+000	0,000+000
105,000	0,530	0,000+000	0,000+000	0,000+000
110,000	0,515	0,000+000	0,000+000	0,000+000
115,000	0,497	0,000+000	0,000+000	0,000+000
120,000	0,712	0,000+000	0,000+000	0,000+000
130,000	0,840	0,000+000	0,000+000	0,000+000
140,000	0,705	0,000+000	0,000+000	0,000+000
150,000	0,548	0,000+000	0,000+000	0,000+000
160,000	0,375	0,000+000	0,000+000	0,000+000
170,000	0,190	0,000+000	0,000+000	0,000+000
177,500	0,024	0,000+000	0,000+000	0,000+000

TOTAL DOSE RATE 7,71005-004(MR/HR)

TOTAL NUMBER FLUX 4,8406-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 200,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0,024	4,563-002	3.651-002	1,738-006
10.000	0,190	4,592-002	3.674-002	1,393-005
20.000	0,375	4,684-002	3.747-002	2,798-005
30.000	0,548	4,833-002	3.866-002	4,221-005
40.000	0,705	5,024-002	4.019-002	5,641-005
50.000	0,840	5,209-002	4.167-002	6,970-005
60.000	0,712	5.230-002	4.184-002	5,933-005
65,000	0,497	5,046-002	4.037-002	3,994-005
70.000	0,515	4.572-002	3.658-002	3,752-005
75.000	0,530	3,581-002	2.865-002	3,021-005
80,000	0,540	1,859-002	1.487-002	1,599-005
85.000	0,546	1,540-003	1.232-003	1,340-006
90.000	0,548	0,000+000	0.000+000	0,000+000
95,000	0,546	0,000+000	0.000+000	0,000+000
100,000	0,540	0,000+000	0.000+000	0,000+000
105,000	0,530	0,000+000	0.000+000	0,000+000
110.000	0,515	0,000+000	0.000+000	0,000+000
115,000	0,497	0,000+000	0.000+000	0,000+000
120.000	0,712	0,000+000	0.000+000	0,000+000
130.000	0,840	0,000+000	0.000+000	0,000+000
140.000	0,705	0,000+000	0.000+000	0,000+000
150.000	0,548	0,000+000	0.000+000	0,000+000
160.000	0,375	0,000+000	0.000+000	0,000+000
170.000	0,190	0,000+000	0.000+000	0,000+000
177.500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 3.96302-004(MR/HR)

TOTAL NUMBER FLUX 2,4881-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 300,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.454-002	2.763-002	1.316-006
10.000	0.190	3.462-002	2.770-002	1.050-005
20.000	0.375	3.484-002	2.787-002	2.081-005
30.000	0.548	3.505-002	2.804-002	3.061-005
40.000	0.705	3.494-002	2.795-002	3.923-005
50.000	0.840	3.379-002	2.703-002	4.521-005
60.000	0.712	2.998-002	2.398-002	3.401-005
65.000	0.497	2.613-002	2.090-002	2.068-005
70.000	0.515	2.027-002	1.621-002	1.663-005
75.000	0.530	1.222-002	9.778-003	1.031-005
80.000	0.540	3.745-003	2.996-003	3.221-006
85.000	0.546	6.326-005	5.061-005	5.504-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.32583-004(MR/HR)

TOTAL NUMBER FLUX 1.4602+001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.615-002	2.092-002	9.960-007
10.000	0.190	2.610-002	2.088-002	7.916-006
20.000	0.375	2.591-002	2.073-002	1.548-005
30.000	0.548	2.542-002	2.033-002	2.220-005
40.000	0.705	2.430-002	1.944-002	2.728-005
50.000	0.840	2.192-002	1.753-002	2.932-005
60.000	0.712	1.718-002	1.375-002	1.950-005
65.000	0.497	1.352-002	1.082-002	1.071-005
70.000	0.515	8.985-003	7.188-003	7.374-006
75.000	0.530	4.171-003	3.337-003	3.519-006
80.000	0.540	7.544-004	6.035-004	6.489-007
85.000	0.546	2.598-006	2.078-006	2.260-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.44937-004(MR/HR)

TOTAL NUMBER FLUX 9.0995-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0,024	1,979-002	1.583-002	7,539-007
10.000	0,190	1,968-002	1.574-002	5,968-006
20.000	0,375	1,927-002	1.541-002	1,151-005
30.000	0,548	1,843-002	1.475-002	1,610-005
40.000	0,705	1,690-002	1.352-002	1,897-005
50.000	0,840	1,422-002	1.137-002	1,902-005
60.000	0,712	9.850-003	7.880-003	1,118-005
65.000	0,497	7,002-003	5.601-003	5,542-006
70.000	0,515	3,983-003	3.186-003	3,269-006
75.000	0,530	1,424-003	1.139-003	1,201-006
80.000	0,540	1,520-004	1.216-004	1,307-007
85.000	0,546	1,067-007	8.537-008	9,284-011
90.000	0,548	0,000+000	0.000+000	0,000+000
95.000	0,546	0,000+000	0.000+000	0,000+000
100.000	0,540	0,000+000	0.000+000	0,000+000
105.000	0,530	0,000+000	0.000+000	0,000+000
110.000	0,515	0,000+000	0.000+000	0,000+000
115.000	0,497	0,000+000	0.000+000	0,000+000
120.000	0,712	0,000+000	0.000+000	0,000+000
130.000	0,840	0,000+000	0.000+000	0,000+000
140.000	0,705	0,000+000	0.000+000	0,000+000
150.000	0,548	0,000+000	0.000+000	0,000+000
160.000	0,375	0,000+000	0.000+000	0,000+000
170.000	0,190	0,000+000	0.000+000	0,000+000
177.500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 9.36421-005(MR/HR)

TOTAL NUMBER FLUX 5,8791-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.800 MEV
ABSORPTION COEFFICIENT 0.0000913(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0,024	4,917-003	3.933-003	1,873-007
10.000	0,190	4.791-003	3.833-003	1,453-006
20.000	0,375	4.384-003	3.507-003	2,619-006
30.000	0,548	3.698-003	2.958-003	3,229-006
40.000	0,705	2,749-003	2.199-003	3,086-006
50.000	0,840	1,632-003	1.306-003	2,184-006
60.000	0,712	6.096-004	4.877-004	6,916-007
65.000	0,497	2,604-004	2.083-004	2,061-007
70.000	0,515	6,818-005	5.455-005	5,596-008
75.000	0,530	6,591-006	5.273-006	5,560-009
80.000	0,540	5,039-008	4.031-008	4,334-011
85.000	0,546	1,247-014	9.977-015	1,085-017
90.000	0,548	0,000+000	0.000+000	0,000+000
95.000	0,546	0,000+000	0.000+000	0,000+000
100.000	0,540	0,000+000	0.000+000	0,000+000
105.000	0,530	0,000+000	0.000+000	0,000+000
110.000	0,515	0,000+000	0.000+000	0,000+000
115.000	0,497	0,000+000	0.000+000	0,000+000
120.000	0,712	0,000+000	0.000+000	0,000+000
130.000	0,840	0,000+000	0.000+000	0,000+000
140.000	0,705	0,000+000	0.000+000	0,000+000
150.000	0,548	0,000+000	0.000+000	0,000+000
160.000	0,375	0,000+000	0.000+000	0,000+000
170.000	0,190	0,000+000	0.000+000	0,000+000
177.500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 1.37184-005(MR/HR)

TOTAL NUMBER FLUX 8,6128-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.902-002	7.112-002	3.329-006
10.000	0.190	8.016-002	7.214-002	2.688-005
20.000	0.375	8.397-002	7.558-002	5.547-005
30.000	0.548	9.105-002	8.195-002	8.793-005
40.000	0.705	1.028-001	9.253-002	1.276-004
50.000	0.840	1.223-001	1.101-001	1.809-004
60.000	0.712	1.567-001	1.410-001	1.965-004
65.000	0.497	1.848-001	1.663-001	1.617-004
70.000	0.515	2.273-001	2.046-001	2.063-004
75.000	0.530	2.982-001	2.684-001	2.782-004
80.000	0.540	4.378-001	3.940-001	4.164-004
85.000	0.546	8.337-001	7.503-001	8.020-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.76173-003(MR/HR)

TOTAL NUMBER FLUX 2.1358-000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.979-002	6.281-002	2.940-006
10.000	0.190	7.066-002	6.359-002	2.370-005
20.000	0.375	7.358-002	6.622-002	4.861-005
30.000	0.548	7.889-002	7.100-002	7.618-005
40.000	0.705	8.742-002	7.868-002	1.085-004
50.000	0.840	1.008-001	9.072-002	1.491-004
60.000	0.712	1.222-001	1.100-001	1.533-004
65.000	0.497	1.377-001	1.240-001	1.206-004
70.000	0.515	1.581-001	1.423-001	1.435-004
75.000	0.530	1.845-001	1.661-001	1.721-004
80.000	0.540	2.141-001	1.927-001	2.037-004
85.000	0.546	2.005-001	1.805-001	1.929-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.38689-003(MR/HR)

TOTAL NUMBER FLUX 7.8742-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.114-002	5.503-002	2.576-006
10.000	0.190	6.179-002	5.561-002	2.072-005
20.000	0.375	6.393-002	5.753-002	4.223-005
30.000	0.548	6.772-002	6.095-002	6.540-005
40.000	0.705	7.357-002	6.622-002	9.134-005
50.000	0.840	8.207-002	7.386-002	1.214-004
60.000	0.712	9.382-002	8.444-002	1.177-004
65.000	0.497	1.008-001	9.068-002	8.819-005
70.000	0.515	1.074-001	9.670-002	9.751-005
75.000	0.530	1.108-001	9.969-002	1.033-004
80.000	0.540	1.001-001	9.005-002	9.516-005
85.000	0.546	4.403-002	3.963-002	4.236-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.87948-004(MR/HR)

TOTAL NUMBER FLUX 5.0414-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.693-002	4.224-002	1.977-006
10.000	0.190	4.725-002	4.252-002	1.585-005
20.000	0.375	4.826-002	4.343-002	3.188-005
30.000	0.548	4.991-002	4.492-002	4.820-005
40.000	0.705	5.211-002	4.690-002	6.470-005
50.000	0.840	5.441-002	4.897-002	8.050-005
60.000	0.712	5.531-002	4.978-002	6.938-005
65.000	0.497	5.392-002	4.853-002	4.719-005
70.000	0.515	4.962-002	4.466-002	4.503-005
75.000	0.530	3.990-002	3.591-002	3.722-005
80.000	0.540	2.184-002	1.966-002	2.078-005
85.000	0.546	2.123-003	1.911-003	2.043-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.64746-004(MR/HR)

TOTAL NUMBER FLUX 2.6387-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.602-002	3.242-002	1.518-006
10.000	0.190	3.613-002	3.252-002	1.212-005
20.000	0.375	3.643-002	3.278-002	2.406-005
30.000	0.548	3.679-002	3.311-002	3.553-005
40.000	0.705	3.691-002	3.322-002	4.582-005
50.000	0.840	3.607-002	3.246-002	5.336-005
60.000	0.712	3.260-002	2.934-002	4.090-005
65.000	0.497	2.885-002	2.597-002	2.525-005
70.000	0.515	2.291-002	2.062-002	2.080-005
75.000	0.530	1.437-002	1.294-002	1.341-005
80.000	0.540	4.769-003	4.292-003	4.536-006
85.000	0.546	1.024-004	9.215-005	9.850-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.77404-004(MR/HR)

TOTAL NUMBER FLUX 1.5750-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.765-002	2.489-002	1.165-006
10.000	0.190	2.763-002	2.486-002	9.266-006
20.000	0.375	2.750-002	2.475-002	1.817-005
30.000	0.548	2.711-002	2.440-002	2.619-005
40.000	0.705	2.614-002	2.353-002	3.245-005
50.000	0.840	2.391-002	2.152-002	3.538-005
60.000	0.712	1.922-002	1.730-002	2.411-005
65.000	0.497	1.544-002	1.390-002	1.351-005
70.000	0.515	1.058-002	9.524-003	9.603-006
75.000	0.530	5.178-003	4.660-003	4.830-006
80.000	0.540	1.041-003	9.371-004	9.903-007
85.000	0.546	4.937-006	4.444-006	4.750-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.75663-004(MR/HR)

TOTAL NUMBER FLUX 9.9735-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.122-002	1.910-002	8.941-007
10.000	0.190	2.112-002	1.901-002	7.085-006
20.000	0.375	2.076-002	1.868-002	1.371-005
30.000	0.548	1.998-002	1.799-002	1.930-005
40.000	0.705	1.851-002	1.666-002	2.298-005
50.000	0.840	1.585-002	1.427-002	2.345-005
60.000	0.712	1.133-002	1.020-002	1.421-005
65.000	0.497	8.262-003	7.436-003	7.231-006
70.000	0.515	4.887-003	4.398-003	4.435-006
75.000	0.530	1.865-003	1.679-003	1.740-006
80.000	0.540	2.273-004	2.046-004	2.162-007
85.000	0.546	2.381-007	2.143-007	2.291-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.15263-004(MR/HR)

TOTAL NUMBER FLUX 6.5442-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.900 MEV
ABSORPTION COEFFICIENT 0.0000867(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.656-003	5.090-003	2.382-007
10.000	0.190	5.522-003	4.970-003	1.852-006
20.000	0.375	5.088-003	4.579-003	3.361-006
30.000	0.548	4.346-003	3.912-003	4.197-006
40.000	0.705	3.299-003	2.969-003	4.096-006
50.000	0.840	2.029-003	1.826-003	3.003-006
60.000	0.712	8.065-004	7.258-004	1.012-006
65.000	0.497	3.625-004	3.263-004	3.173-007
70.000	0.515	1.026-004	9.238-005	9.315-008
75.000	0.530	1.132-005	1.019-005	1.056-008
80.000	0.540	1.128-007	1.015-007	1.073-010
85.000	0.546	6.209-014	5.588-014	5.974-017
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.81802-005(MR/HR)

TOTAL NUMBER FLUX 1.0322-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.906-002	7.906-002	3.636-006
10.000	0.190	8.019-002	8.019-002	2.937-005
20.000	0.375	8.401-002	8.401-002	6.059-005
30.000	0.548	9.109-002	9.109-002	9.605-005
40.000	0.705	1.029-001	1.029-001	1.394-004
50.000	0.840	1.224-001	1.224-001	1.977-004
60.000	0.712	1.568-001	1.568-001	2.147-004
65.000	0.497	1.850-001	1.850-001	1.768-004
70.000	0.515	2.276-001	2.276-001	2.255-004
75.000	0.530	2.987-001	2.987-001	3.042-004
80.000	0.540	4.389-001	4.389-001	4.557-004
85.000	0.546	8.377-001	8.377-001	8.799-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.15500-003 (MR/HR)

TOTAL NUMBER FLUX 2.1615+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.028-002	7.028-002	3.232-006
10.000	0.190	7.116-002	7.116-002	2.606-005
20.000	0.375	7.413-002	7.413-002	5.346-005
30.000	0.548	7.953-002	7.953-002	8.385-005
40.000	0.705	8.823-002	8.823-002	1.196-004
50.000	0.840	1.019-001	1.019-001	1.646-004
60.000	0.712	1.239-001	1.239-001	1.697-004
65.000	0.497	1.400-001	1.400-001	1.338-004
70.000	0.515	1.614-001	1.614-001	1.599-004
75.000	0.530	1.896-001	1.896-001	1.931-004
80.000	0.540	2.229-001	2.229-001	2.315-004
85.000	0.546	2.173-001	2.173-001	2.282-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.56024-003(MR/HR)

TOTAL NUMBER FLUX 8.1136-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.200-002	6.200-002	2.852-006
10.000	0.190	6.267-002	6.267-002	2.295-005
20.000	0.375	6.488-002	6.488-002	4.680-005
30.000	0.548	6.883-002	6.883-002	7.257-005
40.000	0.705	7.493-002	7.493-002	1.016-004
50.000	0.840	8.388-002	8.388-002	1.355-004
60.000	0.712	9.648-002	9.648-002	1.322-004
65.000	0.497	1.042-001	1.042-001	9.953-005
70.000	0.515	1.119-001	1.119-001	1.109-004
75.000	0.530	1.169-001	1.169-001	1.191-004
80.000	0.540	1.084-001	1.084-001	1.126-004
85.000	0.546	5.170-002	5.170-002	5.430-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.01081-003(MR/HR)

TOTAL NUMBER FLUX 5.2564-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.826-002	4.826-002	2.220-006
10.000	0.190	4.861-002	4.861-002	1.780-005
20.000	0.375	4.971-002	4.971-002	3.586-005
30.000	0.548	5.155-002	5.155-002	5.436-005
40.000	0.705	5.405-002	5.405-002	7.326-005
50.000	0.840	5.683-002	5.683-002	9.180-005
60.000	0.712	5.849-002	5.849-002	8.011-005
65.000	0.497	5.761-002	5.761-002	5.505-005
70.000	0.515	5.385-002	5.385-002	5.336-005
75.000	0.530	4.446-002	4.446-002	4.528-005
80.000	0.540	2.566-002	2.566-002	2.665-005
85.000	0.546	2.927-003	2.927-003	3.075-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 5.38819-004(MR/HR)

TOTAL NUMBER FLUX 2.8020-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.757-002	3.757-002	1.728-006
10.000	0.190	3.770-002	3.770-002	1.381-005
20.000	0.375	3.809-002	3.809-002	2.747-005
30.000	0.548	3.862-002	3.862-002	4.072-005
40.000	0.705	3.898-002	3.898-002	5.284-005
50.000	0.840	3.850-002	3.850-002	6.220-005
60.000	0.712	3.546-002	3.546-002	4.857-005
65.000	0.497	3.187-002	3.187-002	3.045-005
70.000	0.515	2.591-002	2.591-002	2.567-005
75.000	0.530	1.690-002	1.690-002	1.722-005
80.000	0.540	6.073-003	6.073-003	6.306-006
85.000	0.546	1.657-004	1.657-004	1.741-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.27145-004(MR/HR)

TOTAL NUMBER FLUX 1.7012-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0,024	2,924-002	2.924-002	1,345-006
10.000	0,190	2,924-002	2.924-002	1,071-005
20.000	0,375	2,918-002	2.918-002	2,105-005
30.000	0,548	2,892-002	2.892-002	3,050-005
40.000	0,705	2,812-002	2.812-002	3,812-005
50.000	0,840	2,608-002	2.608-002	4,214-005
60.000	0,712	2,149-002	2.149-002	2,944-005
65.000	0,497	1,763-002	1.763-002	1,684-005
70.000	0,515	1.246-002	1.246-002	1,235-005
75.000	0,530	6.428-003	6.428-003	6,547-006
80.000	0,540	1,437-003	1.437-003	1,492-006
85.000	0,546	9,383-006	9.383-006	9,856-009
90.000	0,548	0,000+000	0,000+000	0,000+000
95.000	0,546	0,000+000	0.000+000	0,000+000
100.000	0,540	0,000+000	0.000+000	0,000+000
105.000	0,530	0,000+000	0.000+000	0,000+000
110.000	0,515	0,000+000	0.000+000	0,000+000
115.000	0,497	0,000+000	0.000+000	0,000+000
120.000	0,712	0,000+000	0.000+000	0,000+000
130.000	0,840	0,000+000	0.000+000	0,000+000
140.000	0,705	0,000+000	0.000+000	0,000+000
150.000	0,548	0.000+000	0.000+000	0,000+000
160.000	0,375	0.000+000	0.000+000	0,000+000
170.000	0,190	0.000+000	0.000+000	0,000+000
177.500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 2.10538-004(MR/HR)

TOTAL NUMBER FLUX 1,0948+001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.276-002	2.276-002	1.047-006
10.000	0.190	2.268-002	2.268-002	8.305-006
20.000	0.375	2.236-002	2.236-002	1.613-005
30.000	0.548	2.167-002	2.167-002	2.284-005
40.000	0.705	2.028-002	2.028-002	2.749-005
50.000	0.840	1.767-002	1.767-002	2.855-005
60.000	0.712	1.303-002	1.303-002	1.785-005
65.000	0.497	9.749-003	9.749-003	9.317-006
70.000	0.515	5.996-003	5.996-003	5.941-006
75.000	0.530	2.444-003	2.444-003	2.489-006
80.000	0.540	3.401-004	3.401-004	3.532-007
85.000	0.546	5.313-007	5.313-007	5.581-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.40315-004(MR/HR)

TOTAL NUMBER FLUX 7.2967-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.000 MEV
ABSORPTION COEFFICIENT 0.0000821(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.506-003	6.506-003	2.992-007
10.000	0.190	6.365-003	6.365-003	2.331-006
20.000	0.375	5.905-003	5.905-003	4.259-006
30.000	0.548	5.108-003	5.108-003	5.386-006
40.000	0.705	3.960-003	3.960-003	5.368-006
50.000	0.840	2.523-003	2.523-003	4.075-006
60.000	0.712	1.067-003	1.067-003	1.461-006
65.000	0.497	5.048-004	5.048-004	4.824-007
70.000	0.515	1.545-004	1.545-004	1.531-007
75.000	0.530	1.943-005	1.943-005	1.979-008
80.000	0.540	2.524-007	2.524-007	2.621-010
85.000	0.546	3.091-013	3.091-013	3.247-016
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.38352-005(MR/HR)

TOTAL NUMBER FLUX 1.2395-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.924-002	1.585-001	6.201-006
10.000	0.190	8.038-002	1.608-001	5.008-005
20.000	0.375	8.421-002	1.684-001	1.033-004
30.000	0.548	9.133-002	1.827-001	1.639-004
40.000	0.705	1.032-001	2.063-001	2.380-004
50.000	0.840	1.228-001	2.456-001	3.375-004
60.000	0.712	1.575-001	3.150-001	3.671-004
65.000	0.497	1.860-001	3.719-001	3.024-004
70.000	0.515	2.291-001	4.583-001	3.863-004
75.000	0.530	3.013-001	6.026-001	5.221-004
80.000	0.540	4.446-001	8.893-001	7.856-004
85.000	0.546	8.597-001	1.719+000	1.537-003
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 7.66790-003(MR/HR)

TOTAL NUMBER FLUX 2.3435+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.298-002	1.460+001	5.711-006
10.000	0.190	7.394-002	1.479+001	4.607-005
20.000	0.375	7.716-002	1.543+001	9.469-005
30.000	0.548	8.307-002	1.661+001	1.490-004
40.000	0.705	9.268-002	1.854+001	2.138-004
50.000	0.840	1.081-001	2.161+001	2.970-004
60.000	0.712	1.336-001	2.673+001	3.114-004
65.000	0.497	1.531-001	3.062+001	2.490-004
70.000	0.515	1.802-001	3.604+001	3.038-004
75.000	0.530	2.193-001	4.387+001	3.801-004
80.000	0.540	2.770-001	5.540+001	4.894-004
85.000	0.546	3.349-001	6.698+001	5.985-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.18294-003(MR/HR)

TOTAL NUMBER FLUX 9.7278-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.687-002	1.337-001	5.233-006
10.000	0.190	6.766-002	1.353-001	4.216-005
20.000	0.375	7.031-002	1.406-001	8.628-005
30.000	0.548	7.509-002	1.502-001	1.347-004
40.000	0.705	8.268-002	1.654-001	1.907-004
50.000	0.840	9.432-002	1.886-001	2.593-004
60.000	0.712	1.122-001	2.244-001	2.615-004
65.000	0.497	1.245-001	2.490-001	2.024-004
70.000	0.515	1.396-001	2.791-001	2.353-004
75.000	0.530	1.565-001	3.129-001	2.712-004
80.000	0.540	1.674-001	3.349-001	2.958-004
85.000	0.546	1.228-001	2.457-001	2.195-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.20406+003(MR/HR)

TOTAL NUMBER FLUX 6.7361+001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0,024	5,613-002	1.123-001	4,393-006
10.000	0,190	5,666-002	1.133-001	3,530-005
20.000	0,375	5,837-002	1.167-001	7,163-005
30.000	0,548	6,136-002	1,227-001	1,101-004
40.000	0,705	6,581-002	1.316-001	1,518-004
50.000	0,840	7,186-002	1.437-001	1,975-004
60.000	0,712	7,909-002	1.582-001	1,843-004
65.000	0,497	8,232-002	1.646-001	1,339-004
70.000	0,515	8,370-002	1.674-001	1,411-004
75.000	0,530	7,963-002	1.593-001	1,380-004
80.000	0,540	6,118-002	1.224-001	1,081-004
85.000	0,546	1,653-002	3.305-002	2,953-005
90.000	0,548	0,000+000	0.000+000	0,000+000
95.000	0,546	0,000+000	0.000+000	0,000+000
100.000	0,540	0,000+000	0.000+000	0,000+000
105.000	0,530	0,000+000	0.000+000	0,000+000
110.000	0,515	0,000+000	0.000+000	0,000+000
115.000	0,497	0,000+000	0.000+000	0,000+000
120.000	0,712	0,000+000	0.000+000	0,000+000
130.000	0,840	0.000+000	0.000+000	0,000+000
140.000	0,705	0,000+000	0.000+000	0,000+000
150.000	0,548	0,000+000	0.000+000	0,000+000
160.000	0,375	0,000+000	0.000+000	0,000+000
170.000	0,190	0,000+000	0.000+000	0,000+000
177.500	0,024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 1.30564-003(MR/HR)

TOTAL NUMBER FLUX 3,9903-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.712-002	9.424-002	3.687-006
10.000	0.190	4.744-002	9.488-002	2.956-005
20.000	0.375	4.846-002	9.692-002	5.947-005
30.000	0.548	5.015-002	1.003-001	8.997-005
40.000	0.705	5.238-002	1.048-001	1.208-004
50.000	0.840	5.475-002	1.095-001	1.505-004
60.000	0.712	5.575-002	1.115-001	1.299-004
65.000	0.497	5.443-002	1.089-001	8.851-005
70.000	0.515	5.020-002	1.004-001	8.464-005
75.000	0.530	4.052-002	8.105-002	7.022-005
80.000	0.540	2.235-002	4.471-002	3.950-005
85.000	0.546	2.223-003	4.446-003	3.973-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.70754-004(MR/HR)

TOTAL NUMBER FLUX 2.6612-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.956-002	7.911-002	3.095-006
10.000	0.190	3.972-002	7.945-002	2.475-005
20.000	0.375	4.023-002	8.047-002	4.938-005
30.000	0.548	4.098-002	8.196-002	7.352-005
40.000	0.705	4.169-002	8.339-002	9.616-005
50.000	0.840	4.171-002	8.342-002	1.146-004
60.000	0.712	3.930-002	7.860-002	9.159-005
65.000	0.497	3.599-002	7.198-002	5.852-005
70.000	0.515	3.011-002	6.022-002	5.077-005
75.000	0.530	2.062-002	4.125-002	3.574-005
80.000	0.540	8.168-003	1.634-002	1.443-005
85.000	0.546	2.991-004	5.982-004	5.345-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.13135+004(MR/HR)

TOTAL NUMBER FLUX 1.8739-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.320-002	6.641-002	2.599-006
10.000	0.190	3.326-002	6.652-002	2.072-005
20.000	0.375	3.340-002	6.681-002	4.099-005
30.000	0.548	3.349-002	6.698-002	6.008-005
40.000	0.705	3.319-002	6.637-002	7.654-005
50.000	0.840	3.178-002	6.355-002	8.734-005
60.000	0.712	2.770-002	5.541-002	6.457-005
65.000	0.497	2.380-002	4.760-002	3.870-005
70.000	0.515	1.806-002	3.612-002	3.045-005
75.000	0.530	1.049-002	2.099-002	1.819-005
80.000	0.540	2.984-003	5.969-003	5.273-006
85.000	0.546	4.024-005	8.047-005	7.191-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.45524+004(MR/HR)

TOTAL NUMBER FLUX 1.3616-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 2.000 MEV
ABSORPTION COEFFICIENT 0.0000574(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.384-002	2.768-002	1.083-006
10.000	0.190	1.369-002	2.738-002	8.531-006
20.000	0.375	1.318-002	2.635-002	1.617-005
30.000	0.548	1.220-002	2.441-002	2.190-005
40.000	0.705	1.060-002	2.120-002	2.445-005
50.000	0.840	8.156-003	1.631-002	2.242-005
60.000	0.712	4.822-003	9.645-003	1.124-005
65.000	0.497	3.008-003	6.015-003	4.890-006
70.000	0.515	1.402-003	2.804-003	2.364-006
75.000	0.530	3.582-004	7.165-004	6.208-007
80.000	0.540	1.944-005	3.887-005	3.434-008
85.000	0.546	1.773-009	3.546-009	3.169-012
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.13699+004(MR/HR)

TOTAL NUMBER FLUX 3.4749-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.932-002	2.380-001	8.269-006
10.000	0.190	8.046-002	2.414-001	6.679-005
20.000	0.375	8.431-002	2.529-001	1.378-004
30.000	0.548	9.144-002	2.743-001	2.186-004
40.000	0.705	1.033-001	3.099-001	3.174-004
50.000	0.840	1.230-001	3.690-001	4.504-004
60.000	0.712	1.578-001	4.735-001	4.900-004
65.000	0.497	1.864-001	5.593-001	4.038-004
70.000	0.515	2.298-001	6.894-001	5.162-004
75.000	0.530	3.025-001	9.075-001	6.983-004
80.000	0.540	4.473-001	1.342+000	1.053-003
85.000	0.546	8.699-001	2.610+000	2.071-003
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.06784-002 (MR/HR)

TOTAL NUMBER FLUX 2.4498+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.424-002	2.227-001	7.740-006
10.000	0.190	7.523-002	2.257-001	6.245-005
20.000	0.375	7.858-002	2.357-001	1.285-004
30.000	0.548	8.472-002	2.542-001	2.025-004
40.000	0.705	9.477-002	2.843-001	2.912-004
50.000	0.840	1.110-001	3.329-001	4.063-004
60.000	0.712	1.383-001	4.148-001	4.293-004
65.000	0.497	1.594-001	4.783-001	3.453-004
70.000	0.515	1.894-001	5.682-001	4.254-004
75.000	0.530	2.343-001	7.029-001	5.409-004
80.000	0.540	3.056-001	9.169-001	7.194-004
85.000	0.546	4.073-001	1.222+000	9.699-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.67886-003(MR/HR)

TOTAL NUMBER FLUX 1.0734+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 100,000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6,919-002	2.076-001	7,213-006
10.000	0.190	7,005-002	2.101-001	5,814-005
20.000	0.375	7,291-002	2.187-001	1,192-004
30.000	0.548	7,811-002	2.343-001	1,867-004
40.000	0.705	8,645-002	2.594-001	2,656-004
50.000	0.840	9,946-002	2.984-001	3,642-004
60.000	0.712	1,201-001	3.604-001	3,729-004
65.000	0.497	1,350-001	4.049-001	2,924-004
70.000	0.515	1,542-001	4.626-001	3,463-004
75.000	0.530	1,785-001	5.356-001	4,122-004
80.000	0.540	2,038-001	6.115-001	4,797-004
85.000	0.546	1,817-001	5.452-001	4,327-004
90.000	0.548	0,000+000	0.000+000	0,000+000
95.000	0.546	0,000+000	0.000+000	0,000+000
100.000	0.540	0,000+000	0.000+000	0,000+000
105.000	0.530	0,000+000	0.000+000	0,000+000
110.000	0.515	0,000+000	0.000+000	0,000+000
115.000	0.497	0,000+000	0.000+000	0,000+000
120.000	0.712	0,000+000	0.000+000	0,000+000
130.000	0.840	0,000+000	0.000+000	0,000+000
140.000	0.705	0,000+000	0.000+000	0,000+000
150.000	0.548	0,000+000	0.000+000	0,000+000
160.000	0.375	0,000+000	0.000+000	0,000+000
170.000	0.190	0,000+000	0.000+000	0,000+000
177.500	0.024	0,000+000	0.000+000	0,000+000

TOTAL DOSE RATE 3.33734-003(MR/HR)

TOTAL NUMBER FLUX 7,6562-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.010-002	1.803-001	6.266-006
10.000	0.190	5.072-002	1.822-001	5.040-005
20.000	1.375	5.277-002	1.883-001	1.026-004
30.000	0.548	5.640-002	1.992-001	1.587-004
40.000	0.705	7.195-002	2.158-001	2.211-004
50.000	0.840	7.991-002	2.397-001	2.926-004
60.000	0.712	9.066-002	2.720-001	2.815-004
65.000	0.497	9.676-002	2.903-001	2.096-004
70.000	0.515	1.022-001	3.066-001	2.295-004
75.000	0.530	1.037-001	3.110-001	2.393-004
80.000	0.540	9.065-002	2.719-001	2.134-004
85.000	0.546	3.617-002	1.085-001	8.612-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.09106-003(MR/HR)

TOTAL NUMBER FLUX 4.7971-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.221-002	1.566-001	5.443-006
10.000	0.190	5.264-002	1.579-001	4.369-005
20.000	0.375	5.404-002	1.621-001	8.835-005
30.000	0.548	5.644-002	1.693-001	1.349-004
40.000	0.705	5.987-002	1.796-001	1.840-004
50.000	0.840	6.420-002	1.926-001	2.351-004
60.000	0.712	6.842-002	2.053-001	2.124-004
65.000	0.497	6.936-002	2.081-001	1.502-004
70.000	0.515	6.773-002	2.032-001	1.521-004
75.000	0.530	6.019-002	1.806-001	1.390-004
80.000	0.540	4.032-002	1.209-001	9.490-005
85.000	0.546	7.199-003	2.160-002	1.714-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.45725-003(MR/HR)

TOTAL NUMBER FLUX 3.3431-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.535-002	1.360-001	4.728-006
10.000	0.190	4.563-002	1.369-001	3.788-005
20.000	0.375	4.653-002	1.396-001	7.607-005
30.000	0.543	4.798-002	1.439-001	1.147-004
40.000	0.705	4.983-002	1.495-001	1.531-004
50.000	0.840	5.158-002	1.547-001	1.889-004
60.000	0.712	5.164-002	1.549-001	1.603-004
65.000	0.497	4.972-002	1.492-001	1.077-004
70.000	0.515	4.489-002	1.347-001	1.008-004
75.000	0.530	3.495-002	1.049-001	8.069-005
80.000	0.540	1.793-002	5.379-002	4.221-005
85.000	0.546	1.433-003	4.298-003	3.411-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.07047-003(MR/HR)

TOTAL NUMBER FLUX 2.4558-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.939-002	1.182-001	4.107-006
10.000	0.190	3.956-002	1.187-001	3.283-005
20.000	0.375	4.006-002	1.202-001	6.549-005
30.000	0.548	4.078-002	1.223-001	9.748-005
40.000	0.705	4.147-002	1.244-001	1.274-004
50.000	0.840	4.144-002	1.243-001	1.517-004
60.000	0.712	3.898-002	1.169-001	1.210-004
65.000	0.497	3.564-002	1.069-001	7.720-005
70.000	0.515	2.975-002	8.925-002	6.681-005
75.000	0.530	2.029-002	6.088-002	4.685-005
80.000	0.540	7.975-003	2.392-002	1.877-005
85.000	0.546	2.852-004	8.555-004	6.790-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.10395-004(MR/HR)

TOTAL NUMBER FLUX 1.8591-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 3.000 MEV
ABSORPTION COEFFICIENT 0.0000462(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.948-002	5.844-002	2.031-006
10.000	0.190	1.936-002	5.809-002	1.607-005
20.000	0.375	1.895-002	5.684-002	3.096-005
30.000	0.548	1.810-002	5.430-002	4.326-005
40.000	0.705	1.655-002	4.966-002	5.086-005
50.000	0.840	1.387-002	4.161-002	5.080-005
60.000	0.712	9.544-003	2.863-002	2.963-005
65.000	0.497	6.745-003	2.024-002	1.461-005
70.000	0.515	3.804-003	1.141-002	8.543-006
75.000	0.530	1.339-003	4.018-003	3.092-006
80.000	0.540	1.388-004	4.163-004	3.267-007
85.000	0.546	8.906-008	2.672-007	2.120-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.50210-004(MR/HR)

TOTAL NUMBER FLUX 5.7401-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.893-002	5.225-002	2.528-006
10.000	0.190	8.006-002	5.300-002	2.041-005
20.000	0.375	8.386-002	5.552-002	4.212-005
30.000	0.548	9.092-002	6.019-002	6.676-005
40.000	0.705	1.026-001	6.795-002	9.689-005
50.000	0.840	1.221-001	8.080-002	1.373-004
60.000	0.712	1.563-001	1.034-001	1.490-004
65.000	0.497	1.843-001	1.220-001	1.226-004
70.000	0.515	2.265-001	1.500-001	1.563-004
75.000	0.530	2.968-001	1.965-001	2.105-004
80.000	0.540	4.347-001	2.878-001	3.143-004
85.000	0.546	8.220-001	5.442-001	6.013-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.75874-003 (MR/HR)

TOTAL NUMBER FLUX 2.0603+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.838-002	4.526-002	2.190-006
10.000	0.190	6.921-002	4.582-002	1.765-005
20.000	0.375	7.200-002	4.766-002	3.616-005
30.000	0.548	7.705-002	5.101-002	5.657-005
40.000	0.705	8.513-002	5.635-002	8.035-005
50.000	0.840	9.765-002	6.464-002	1.098-004
60.000	0.712	1.173-001	7.766-002	1.119-004
65.000	0.497	1.313-001	8.689-002	8.734-005
70.000	0.515	1.490-001	9.861-002	1.028-004
75.000	0.530	1.706-001	1.129-001	1.210-004
80.000	0.540	1.904-001	1.260-001	1.377-004
85.000	0.546	1.587-001	1.050-001	1.161-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 9.70973-004 (MR/HR)

TOTAL NUMBER FLUX 7.2513-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.869-002	3.886-002	1.880-006
10.000	0.190	5.928-002	3.924-002	1.512-005
20.000	0.375	6.121-002	4.052-002	3.074-005
30.000	0.548	6.461-002	4.277-002	4.744-005
40.000	0.705	6.976-002	4.618-002	6.584-005
50.000	0.840	7.702-002	5.099-002	8.664-005
60.000	0.712	8.647-002	5.724-002	8.247-005
65.000	0.497	9.149-002	6.057-002	6.088-005
70.000	0.515	9.537-002	6.313-002	6.580-005
75.000	0.530	9.461-002	6.263-002	6.710-005
80.000	0.540	7.911-002	5.237-002	5.720-005
85.000	0.546	2.757-002	1.825-002	2.017-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.01273-004(MR/HR)

TOTAL NUMBER FLUX 4.4903-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.325-002	2.863-002	1.385-006
10.000	0.190	4.349-002	2.879-002	1.109-005
20.000	0.375	4.424-002	2.929-002	2.222-005
30.000	0.545	4.543-002	3.007-002	3.335-005
40.000	0.705	4.664-002	3.101-002	4.422-005
50.000	0.840	4.792-002	3.172-002	5.391-005
60.000	0.712	4.698-002	3.110-002	4.481-005
65.000	0.497	4.445-002	2.943-002	2.956-005
70.000	0.515	3.909-002	2.588-002	2.697-005
75.000	0.530	2.911-002	1.927-002	2.065-005
80.000	0.540	1.365-002	9.040-003	9.873-006
85.000	0.546	8.326-004	5.512-004	6.090-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.545	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.98655-004(MR/HR)

TOTAL NUMBER FLUX 2.2303-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.187-002	2.110-002	1.021-006
10.000	0.190	3.191-002	2.112-002	8.136-006
20.000	0.375	3.198-002	2.117-002	1.606-005
30.000	0.548	3.194-002	2.114-002	2.345-005
40.000	0.705	3.146-002	2.082-002	2.969-005
50.000	0.840	2.981-002	1.974-002	3.354-005
60.000	0.712	2.552-002	1.690-002	2.434-005
65.000	0.497	2.160-002	1.430-002	1.437-005
70.000	0.515	1.602-002	1.061-002	1.105-005
75.000	0.530	8.958-003	5.930-003	6.353-006
80.000	0.540	2.357-003	1.560-003	1.704-006
85.000	0.546	2.514-005	1.664-005	1.839-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.69744-004(MR/HR)

TOTAL NUMBER FLUX 1.2676-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.348-002	1.555-002	7.521-007
10.000	0.190	2.341-002	1.550-002	5.969-006
20.000	0.375	2.311-002	1.530-002	1.161-005
30.000	0.548	2.246-002	1.487-002	1.649-005
40.000	0.705	2.112-002	1.398-002	1.994-005
50.000	0.840	1.855-002	1.228-002	2.087-005
60.000	0.712	1.387-002	9.180-003	1.323-005
65.000	0.497	1.049-002	6.947-003	6.983-006
70.000	0.515	6.567-003	4.347-003	4.531-006
75.000	0.530	2.756-003	1.825-003	1.955-006
80.000	0.540	4.069-004	2.693-004	2.942-007
85.000	0.546	7.593-007	5.026-007	5.553-010
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.02613-004(MR/HR)

TOTAL NUMBER FLUX 7.6631-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	1.731-002	1.146-002	5.542-007
10.000	0.190	1.717-002	1.137-002	4.379-006
20.000	0.375	1.671-002	1.106-002	8.391-006
30.000	0.548	1.579-002	1.045-002	1.159-005
40.000	0.705	1.419-002	9.391-003	1.339-005
50.000	0.840	1.154-002	7.640-003	1.298-005
60.000	0.712	7.534-003	4.988-003	7.186-006
65.000	0.497	5.099-003	3.376-003	3.393-006
70.000	0.515	2.692-003	1.782-003	1.857-006
75.000	0.530	8.482-004	5.615-004	6.015-007
80.000	0.540	7.023-005	4.649-005	5.078-008
85.000	0.546	2.293-008	1.518-008	1.677-011
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.43769-005(MR/HR)

TOTAL NUMBER FLUX 4.8076-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 0.662 MEV
ABSORPTION COEFFICIENT 0.0001001(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.760-003	2.489-003	1.204-007
10.000	0.190	3.649-003	2.416-003	9.305-007
20.000	0.375	3.296-003	2.182-003	1.655-006
30.000	0.548	2.713-003	1.796-003	1.992-006
40.000	0.705	1.937-003	1.282-003	1.828-006
50.000	0.840	1.076-003	7.122-004	1.210-006
60.000	0.712	3.567-004	2.361-004	3.402-007
65.000	0.497	1.381-004	9.141-005	9.188-008
70.000	0.515	3.114-005	2.061-005	2.148-008
75.000	0.530	2.340-006	1.549-006	1.659-009
80.000	0.540	1.076-008	7.126-009	7.783-012
85.000	0.546	5.758-016	3.812-016	4.211-019
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 8.19234-006(MR/HR)

TOTAL NUMBER FLUX 6.1180-003

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.909-002	9.254-002	4.140-006
10.000	0.190	8.023-002	9.387-002	3.343-005
20.000	0.375	8.405-002	9.834-002	6.899-005
30.000	0.548	9.114-002	1.066-001	1.094-004
40.000	0.705	1.029-001	1.204-001	1.588-004
50.000	0.840	1.225-001	1.433-001	2.251-004
60.000	0.712	1.569-001	1.836-001	2.446-004
65.000	0.497	1.852-001	2.167-001	2.014-004
70.000	0.515	2.279-001	2.667-001	2.570-004
75.000	0.530	2.992-001	3.501-001	3.468-004
80.000	0.540	4.401-001	5.149-001	5.200-004
85.000	0.546	8.423-001	9.854-001	1.007-003
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.80503-003 (MR/HR)

TOTAL NUMBER FLUX 2.1958+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.083-002	8.288-002	3.707-006
10.000	0.190	7.174-002	8.393-002	2.989-005
20.000	0.375	7.475-002	8.746-002	6.135-005
30.000	0.548	8.026-002	9.390-002	9.629-005
40.000	0.705	8.914-002	1.043-001	1.375-004
50.000	0.840	1.032-001	1.207-001	1.896-004
60.000	0.712	1.259-001	1.473-001	1.962-004
65.000	0.497	1.427-001	1.669-001	1.552-004
70.000	0.515	1.652-001	1.932-001	1.862-004
75.000	0.530	1.955-001	2.287-001	2.265-004
80.000	0.540	2.333-001	2.730-001	2.757-004
85.000	0.546	2.379-001	2.783-001	2.845-004
90.000	0.548	0.000+000	0.000+000	0.000 000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.83869-003(MR/HR)

TOTAL NUMBER FLUX 8.4026-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.299-002	7.370-002	3.297-006
10.000	0.190	6.369-002	7.451-002	2.654-005
20.000	0.375	6.599-002	7.720-002	5.416-005
30.000	0.548	7.010-002	8.201-002	8.410-005
40.000	0.705	7.649-002	8.950-002	1.180-004
50.000	0.840	8.596-002	1.006-001	1.580-004
60.000	0.712	9.958-002	1.165-001	1.552-004
65.000	0.497	1.081-001	1.265-001	1.176-004
70.000	0.515	1.172-001	1.372-001	1.322-004
75.000	0.530	1.243-001	1.454-001	1.440-004
80.000	0.540	1.188-001	1.390-001	1.404-004
85.000	0.546	6.198-002	7.252-002	7.408-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.20756-003(MR/HR)

TOTAL NUMBER FLUX 5.5184-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.982-002	5.829-002	2.607-006
10.000	0.190	5.019-002	5.873-002	2.092-005
20.000	0.375	5.142-002	6.016-002	4.220-005
30.000	0.548	5.347-002	6.256-002	6.416-005
40.000	0.705	5.633-002	6.590-002	8.688-005
50.000	0.840	5.969-002	6.984-002	1.097-004
60.000	0.712	6.231-002	7.290-002	9.712-005
65.000	0.497	6.209-002	7.264-002	6.751-005
70.000	0.515	5.907-002	6.911-002	6.660-005
75.000	0.530	5.023-002	5.877-002	5.822-005
80.000	0.540	3.079-002	3.603-002	3.638-005
85.000	0.546	4.207-003	4.923-003	5.029-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 6.57350-004(MR/HR)

TOTAL NUMBER FLUX 3.0040-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.940-002	4.609-002	2.062-006
10.000	0.190	3.956-002	4.629-002	1.649-005
20.000	0.375	4.006-002	4.687-002	3.288-005
30.000	0.548	4.079-002	4.772-002	4.894-005
40.000	0.705	4.148-002	4.853-002	6.398-005
50.000	0.840	4.145-002	4.850-002	7.619-005
60.000	0.712	3.899-002	4.561-002	6.077-005
65.000	0.497	3.565-002	4.171-002	3.877-005
70.000	0.515	2.976-002	3.482-002	3.355-005
75.000	0.530	2.030-002	2.376-002	2.353-005
80.000	0.540	7.981-003	9.338-003	9.431-006
85.000	0.546	2.856-004	3.342-004	3.414-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.06933-004(MR/HR)

TOTAL NUMBER FLUX 1.8596-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.116-002	3.645-002	1.631-006
10.000	0.190	3.118-002	3.648-002	1.299-005
20.000	0.375	3.122-002	3.652-002	2.562-005
30.000	0.548	3.112-002	3.641-002	3.733-005
40.000	0.705	3.054-002	3.573-002	4.711-005
50.000	0.840	2.878-002	3.367-002	5.291-005
60.000	0.712	2.439-002	2.854-002	3.802-005
65.000	0.497	2.047-002	2.395-002	2.226-005
70.000	0.515	1.500-002	1.754-002	1.691-005
75.000	0.530	8.207-003	9.603-003	9.512-006
80.000	0.540	2.069-003	2.421-003	2.445-006
85.000	0.546	1.939-005	2.268-005	2.317-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.66763-004(MR/HR)

TOTAL NUMBER FLUX 1.2191-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.464-002	2.883-002	1.290-006
10.000	0.190	2.457-002	2.875-002	1.024-005
20.000	0.375	2.432-002	2.846-002	1.996-005
30.000	0.548	2.374-002	2.777-002	2.848-005
40.000	0.705	2.249-002	2.631-002	3.469-005
50.000	0.840	1.999-002	2.338-002	3.674-005
60.000	0.712	1.526-002	1.786-002	2.379-005
65.000	0.497	1.176-002	1.375-002	1.278-005
70.000	0.515	7.555-003	8.840-003	8.518-006
75.000	0.530	3.317-003	3.881-003	3.845-006
80.000	0.540	5.363-004	6.274-004	6.336-007
85.000	0.546	1.316-006	1.540-006	1.573-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.80971-004(MR/HR)

TOTAL NUMBER FLUX 8.2701-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.170 MEV
ABSORPTION COEFFICIENT 0.0000769(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.622-003	8.917-003	3.989-007
10.000	0.190	7.474-003	8.744-003	3.114-006
20.000	0.375	6.987-003	8.174-003	5.734-006
30.000	0.548	6.131-003	7.174-003	7.357-006
40.000	0.705	4.868-003	5.696-003	7.509-006
50.000	0.840	3.226-003	3.775-003	5.931-006
60.000	0.712	1.464-003	1.713-003	2.281-006
65.000	0.497	7.339-004	8.586-004	7.980-007
70.000	0.515	2.453-004	2.870-004	2.766-007
75.000	0.530	3.580-005	4.188-005	4.149-008
80.000	0.540	6.275-007	7.342-007	7.415-010
85.000	0.546	1.897-012	2.220-012	2.268-015
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.34428-005(MR/HR)

TOTAL NUMBER FLUX 1.5283-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 3.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.913-002	1.052-001	4.583-006
10.000	0.190	8.027-002	1.068-001	3.701-005
20.000	0.375	8.409-002	1.118-001	7.638-005
30.000	0.548	9.119-002	1.213-001	1.211-004
40.000	0.705	1.030-001	1.370-001	1.758-004
50.000	0.840	1.225-001	1.630-001	2.493-004
60.000	0.712	1.571-001	2.089-001	2.709-004
65.000	0.497	1.854-001	2.466-001	2.231-004
70.000	0.515	2.282-001	3.035-001	2.848-004
75.000	0.530	2.997-001	3.987-001	3.844-004
80.000	0.540	4.412-001	5.868-001	5.769-004
85.000	0.546	8.466-001	1.126+000	1.120-003
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 5.38789-003(MR/HR)

TOTAL NUMBER FLUX 2.2250+000

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 50.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	7.136-002	9.491-002	4.133-006
10.000	0.190	7.228-002	9.613-002	3.333-005
20.000	0.375	7.535-002	1.002-001	6.843-005
30.000	0.548	8.095-002	1.077-001	1.075-004
40.000	0.705	9.001-002	1.197-001	1.536-004
50.000	0.840	1.044-001	1.388-001	2.123-004
60.000	0.712	1.278-001	1.699-001	2.204-004
65.000	0.497	1.452-001	1.931-001	1.748-004
70.000	0.515	1.688-001	2.245-001	2.106-004
75.000	0.530	2.012-001	2.676-001	2.580-004
80.000	0.540	2.435-001	3.239-001	3.184-004
85.000	0.546	2.591-001	3.446-001	3.427-004
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.10520-003(MR/HR)

TOTAL NUMBER FLUX 8.6937-001;

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 100.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	6.394-002	8.504-002	3.703-006
10.000	0.190	6.466-002	8.599-002	2.981-005
20.000	0.375	6.704-002	8.916-002	6.089-005
30.000	0.548	7.131-002	9.484-002	9.468-005
40.000	0.705	7.799-002	1.037-001	1.331-004
50.000	0.840	8.798-002	1.170-001	1.790-004
60.000	0.712	1.026-001	1.364-001	1.769-004
65.000	0.497	1.120-001	1.490-001	1.348-004
70.000	0.515	1.224-001	1.628-001	1.528-004
75.000	0.530	1.316-001	1.751-001	1.688-004
80.000	0.540	1.294-001	1.721-001	1.692-004
85.000	0.546	7.352-002	9.778-002	9.724-005
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 1.40096-003(MR/HR)

TOTAL NUMBER FLUX 5.7854-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 200.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	5.132-002	6.826-002	2.972-006
10.000	0.190	5.173-002	6.881-002	2.386-005
20.000	0.375	5.307-002	7.058-002	4.820-005
30.000	0.548	5.534-002	7.360-002	7.348-005
40.000	0.705	5.856-002	7.788-002	9.995-005
50.000	0.840	6.252-002	8.315-002	1.272-004
60.000	0.712	6.613-002	8.795-002	1.141-004
65.000	0.497	6.662-002	8.860-002	8.016-005
70.000	0.515	6.444-002	8.570-002	8.040-005
75.000	0.530	5.636-002	7.495-002	7.228-005
80.000	0.540	3.655-002	4.861-002	4.779-005
85.000	0.546	5.920-003	7.873-003	7.830-006
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 7.78157-004(MR/HR)

TOTAL NUMBER FLUX 3.2135-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 300.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM*SEC*STER
ENERGY FLUX UNITS MEV /SQ CM*SEC*STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	4.120-002	5.479-002	2.386-006
10.000	0.190	4.140-002	5.506-002	1.909-005
20.000	0.375	4.201-002	5.588-002	3.816-005
30.000	0.548	4.295-002	5.712-002	5.702-005
40.000	0.705	4.396-002	5.847-002	7.504-005
50.000	0.840	4.443-002	5.909-002	9.038-005
60.000	0.712	4.263-002	5.669-002	7.352-005
65.000	0.497	3.962-002	5.270-002	4.768-005
70.000	0.515	3.391-002	4.510-002	4.231-005
75.000	0.530	2.413-002	3.209-002	3.094-005
80.000	0.540	1.032-002	1.373-002	1.350-005
85.000	0.546	4.767-004	6.340-004	6.305-007
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.90662-004(MR/HR)

TOTAL NUMBER FLUX 2.0262-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 400.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	3.307-002	4.398-002	1.915-006
10.000	0.190	3.312-002	4.405-002	1.527-005
20.000	0.375	3.326-002	4.423-002	3.021-005
30.000	0.548	3.333-002	4.433-002	4.425-005
40.000	0.705	3.301-002	4.390-002	5.634-005
50.000	0.840	3.157-002	4.199-002	6.423-005
60.000	0.712	2.748-002	3.654-002	4.739-005
65.000	0.497	2.357-002	3.134-002	2.836-005
70.000	0.515	1.785-002	2.373-002	2.227-005
75.000	0.530	1.033-002	1.374-002	1.325-005
80.000	0.540	2.915-003	3.876-003	3.811-006
85.000	0.546	3.838-005	5.105-005	5.077-008
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 3.27348-004(MR/HR)

TOTAL NUMBER FLUX 1.3518-001

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 500.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	2.654-002	3.530-002	1.537-006
10.000	0.190	2.650-002	3.525-002	1.222-005
20.000	0.375	2.633-002	3.502-002	2.391-005
30.000	0.548	2.587-002	3.440-002	3.434-005
40.000	0.705	2.478-002	3.296-002	4.230-005
50.000	0.840	2.244-002	2.984-002	4.564-005
60.000	0.712	1.771-002	2.356-002	3.055-005
65.000	0.497	1.402-002	1.864-002	1.687-005
70.000	0.515	9.391-003	1.249-002	1.172-005
75.000	0.530	4.422-003	5.882-003	5.672-006
80.000	0.540	8.231-004	1.095-003	1.076-006
85.000	0.546	3.091-006	4.111-006	4.088-009
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 2.25847+004(MR/HR)

TOTAL NUMBER FLUX 9.3266-002

UNCOLLIDED FLUX CALCULATION SUMMARY

SOURCE ENERGY 1.330 MEV
ABSORPTION COEFFICIENT 0.0000720(/CM)
ALTITUDE 1000.000 FT

NUMBER FLUX UNITS PHOTONS/SQ CM-SEC-STER
ENERGY FLUX UNITS MEV /SQ CM-SEC-STER
DOSE RATE UNITS MR/HR
CALCULATION NORMALIZED TO UNIT SOURCE STRENGTH

ANGLE	INCREMENTAL SOLID ANGLE	NUMBER FLUX	ENERGY FLUX	INCREMENTAL DOSE RATE
2.500	0.024	8.846-003	1.176-002	5.123-007
10.000	0.190	8.693-003	1.156-002	4.009-006
20.000	0.375	8.185-003	1.089-002	7.434-006
30.000	0.548	7.281-003	9.684-003	9.667-006
40.000	0.705	5.912-003	7.863-003	1.009-005
50.000	0.840	4.067-003	5.409-003	8.273-006
60.000	0.712	1.971-003	2.621-003	3.400-006
65.000	0.497	1.044-003	1.388-003	1.256-006
70.000	0.515	3.791-004	5.042-004	4.729-007
75.000	0.530	6.361-005	8.460-005	8.158-008
80.000	0.540	1.478-006	1.966-006	1.933-009
85.000	0.546	1.046-011	1.391-011	1.384-014
90.000	0.548	0.000+000	0.000+000	0.000+000
95.000	0.546	0.000+000	0.000+000	0.000+000
100.000	0.540	0.000+000	0.000+000	0.000+000
105.000	0.530	0.000+000	0.000+000	0.000+000
110.000	0.515	0.000+000	0.000+000	0.000+000
115.000	0.497	0.000+000	0.000+000	0.000+000
120.000	0.712	0.000+000	0.000+000	0.000+000
130.000	0.840	0.000+000	0.000+000	0.000+000
140.000	0.705	0.000+000	0.000+000	0.000+000
150.000	0.548	0.000+000	0.000+000	0.000+000
160.000	0.375	0.000+000	0.000+000	0.000+000
170.000	0.190	0.000+000	0.000+000	0.000+000
177.500	0.024	0.000+000	0.000+000	0.000+000

TOTAL DOSE RATE 4.51986-005(MR/HR)

TOTAL NUMBER FLUX 1.8665-002

CIVIL EFFECTS TEST OPERATIONS REPORT SERIES (CEX)

Through its Division of Biology and Medicine and Civil Effects Test Operations the Atomic Energy Commission conducts technical tests exercises surveys and research directed primarily toward practical applications of nuclear effects information and toward encouraging better technical professional and public understanding and utilization of the facts useful in the design of countermeasures against weapons effects These studies do not require nuclear detonations A partial list of reports on completed studies follows These reports are available from the National Technical Information Service U S Department of Commerce Springfield Va 22151

CEX 58 1 Experimental Evaluation of the Radiation Protection Afforded by Residential Structures Against Distributed Sources 1959

CEX 58 7 AEC Group Shelter AEC Facilities Division 1960

CEX 58 8 Comparative Nuclear Effects of Biomedical Interest 1961

CEX 58 9 A Model Designed to Predict the Motion of Objects Translated by Classical Blast Waves 1961

CEX 59 1 An Experimental Evaluation of the Radiation Protection Afforded by a Large Modern Concrete Office Building, 1960

CEX 59 7B (Pt I) Experimental Radiation Measurements in Conventional Structures Part I Radiation Measurements in Two Two-Story and Three One-Story Typical Residential Structures Before and After Modification 1966

CEX 59 7B (Pt II) Experimental Radiation Measurements in Conventional Structures Part II Comparison of Measurements in Above Ground and Below Ground Structures from Simulated and Actual Fallout Radiation 1964

CEX 59 7B (Pt III) Experimental Radiation Measurements in Conventional Structures Part III The Attenuation of Air Scattered Radiation in a Basement 1965

CEX 59 13 Experimental Evaluation of the Radiation Protection Afforded by Typical Oak Ridge Homes Against Distributed Sources 1960

CEX 59 14 Determinations of Aerodynamic Drag Parameters of Small Irregular Objects by Means of Drop Tests 1961

CEX 60 1 Evaluation of the Fallout Protection Afforded by Brookhaven National Laboratory Medical Research Center 1961

CEX 60 3 Extended and Point Source Radiometric Program 1962

CEX 60 5 Experimental Evaluation of the Fallout Radiation Protection Afforded by a Southwestern Residence 1962

CEX 60 6 Experimental Evaluation of the Radiation Protection Provided by an Earth Covered Shelter 1962

CEX 61 1 (Prelim) Gamma Radiation at the Air–Ground Interface 1963

CEX 61 4 Experimental Evaluation of the Fallout Radiation Protection Provided by Selected Structures in the Los Angeles Area 1963

CEX 62 01 Technical Concept—Operation BREN 1962

CEX 62 2 Nuclear Bomb Effects Computer (Including Slide Rule Design and Curve Fits for Weapons Effects) 1963

CEX 62 11 Distribution of Weapons Radiation in Japanese Residential Structures 1965

CEX 62 12 Energy and Angular Distribution of Neutrons and Gamma Rays—Operation BREN 1967

CEX 62 13 Post Pulse Gamma Radiation Spectrum—Operation BREN 1966

CEX 62 14 An Experimental Investigation of the Spatial Distribution of Dose in an Air Over-Ground Geometry 1964

CEX 62 50 Neutron Field and Induced Activity Measurements—Operation BREN 1965

CEX 62 80b Small Boy Project 62 80b Aeroradioactivity Survey 1967

CEX 62 80c Sedan Project 62 80c Aeroradioactivity Survey 1967

CEX 62 81 (Final) Ground Roughness Effects on the Energy and Angular Distribution of Gamma Radiation from Fallout 1964

CEX 63 3 Barrier Attenuation of Air Scattered Gamma Radiation 1965

CEX 63 7 A Comparative Analysis of Some of the Immediate Environmental Effects at Hiroshima and Nagasaki 1964

CEX 63 10 Design of a Shielded Source for the Irradiation of Natural Animal Populations 1966

CEX 64 3 Ichiban The Dosimetry Program for Nuclear Bomb Survivors of Hiroshima and Nagasaki—A Status Report as of April 1 1964 1964

CEX 64 7 Neutron and Gamma Ray Leakage from the Ichiban Critical Assembly 1966

CEX 65 01 Feasibility Study Intense 14 Mev Neutron Source for Operation HENRE 1966

CEX 65 02 Technical Concept—Operation HENRE 1965

CEX 65 03 Operations Plan—Operation HENRE 1965

CEX 65 04 Radiation Output Description from the T(d n)^{4}He Reaction in a Large Target (1000 cm^2)—Operation HENRE 1971

CEX 65 05 Radiation Safety Practices—Operation HENRE 1971

CEX 65 4 Biological Tolerance to Air Blast and Related Biomedical Criteria 1965

CEX 65 11 Energy and Angular Distribution of Neutrons and Gamma Rays—Operation BREN 1969

CEX 65 13 Distribution of Radiation from a 14-Mev Neutron Source in and near Structures 1969

CEX 65 60 Neutron Spectrometry—Operation HENRE (Program 6), 1969

CEX 65 92 Differential Measurements of Fast Neutron Air–Ground Interface Effects Project 9 2—Operation HENRE 1971

CEX 68 3 Nuclear Weapons Effects Tests of Blast Type Shelters A Documentary Compendium of Test Reports 1969

CEX 68 4 Radiosensitivity of Certain Perennial Shrub Species Based on a Study of the Nuclear Excavation Experiment Palanquin with Other Observations of Effects on the Vegetation 1969

CEX 69 5 Experimental Evaluation of the Fallout Radiation Protection Provided by Structures in the Control Point Area of the Nevada Test Site 1970

CEX 71 1 The Nature of the Problems Involved in Estimating the Immediate Casualties from Nuclear Explosions (Progress Report) 1971