ArcMED

Fail-Safe

FCZ2 Sealed Cruze ST 2x4

ArcMED

2x4 Sealed Center Basket
Sterile Environments / Behavioral Health
Curved or Square Lens
3,000 to 17,000 lumens

Typical Applications

Medical • Cleanroom • Behavior Health • Education • Laboratory • Pharmacy •
Fitness Center • R&D Center

Interactive Menu

Product Certification

RoHS COMPLIANT · NSF · NSF SPLASH ZONE · IP65 · ISO3 CLASS 1 · USP 797 800 · BSL 1-4 · wet location

Product Features

ISO SYSTEMS CERTIFIED · IK10

WaveLinx LITE · WaveLinx PRO · VividTune color tuning solutions

LINEAR DISCONNECT Designed to provide safe and convenient means of disconnecting power · BioUp Melanopic Lighting · IALD LIRC · BAA COMPLIANT OPTIONS BUY AMERICAN ACT AVAILABLE

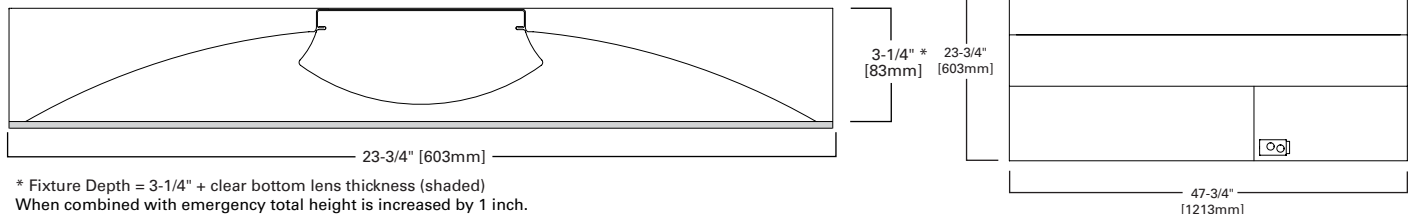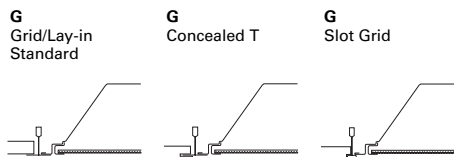## Top Product Features

- Sealed center basket luminaire for use in high abuse, medical, wet location, and sterile applications
- BioUp melanopic lighting options enable circadian design for patient or staff care
- VividTune tunable white (3000K-5000K and 2700K-6500K) available in 80CRI or 90CRI
- Wet location standard, IP65 standard for dust and water ingress protection
- NSF listed for use in food services/food preparation environments
- Clear polycarbonate bottom lens for use in **behavioral health applications;** IK10 impact rated with polycarbonate lens
- ISO3-9 certified
- Options to meet Buy American and other domestic preference requirements

Dimensional and Mounting Details (standard curved lens shown)

23-3/4" [603mm]

3-1/4" * [83mm]   23-3/4" [603mm]

47-3/4" [1213mm]

* Fixture Depth = 3-1/4" + clear bottom lens thickness (shaded)
When combined with emergency total height is increased by 1 inch.

Ceiling Compatibility

G Grid/Lay-in Standard

G Concealed T

G Slot Grid

Ceiling Type	Trim Type
Exposed Grid	Standard
Concealed T	Standard
Slot Grid	Standard
Flange	*

*See Drywall Frame Kit Accessory in Ordering Information Section

Optional Square Lens

SQR - Square Lens

Order Information
SAMPLE ORDER NUMBER: **24FCZ2-40HE-UNV-L840-CP125-CD1**

Domestic Preferences (1)	Series	Lumen Level / Efficacy Option			Shielding	Voltage (6)
[Blank]=Standard **BAA**=Buy American Act **TAA**=Trade Agreements Act	**24FCZ2**=24 inch width, 4 ft. length	**Standard [Blank]** **30**=3000 Lumens **35**=3500 Lumens **40**=4000 Lumens **45**=4500 Lumens **50**=5000 Lumens **60**=6000 Lumens (2) **65**=6500 Lumens (2), (3)	**High Efficacy [HE]** **30HE**=3000 Lumens **35HE**=3500 Lumens **40HE**=4000 Lumens **45HE**=4500 Lumens **50HE**=5000 Lumens **60HE**=6000 Lumens (5) **65HE**=6500 Lumens (3), (5) **70HE**=7000 Lumens (4), (5) **75HE**=7500 Lumens (2), (3)	**Very High Efficacy [VHE]** **30VHE**=3000 Lumens (2) **35VHE**=3500 Lumens (2) **40VHE**=4000 Lumens (2) **45VHE**=4500 Lumens (2) **50VHE**=5000 Lumens (2) **55VHE**=5500 Lumens (2) **60VHE**=6000 Lumens (2) **65VHE**=6500 Lumens (2), (3) **70VHE**=7000 Lumens (2), (3) **75VHE**=7500 Lumens (2), (3) **80VHE**=8000 Lumens (2), (3) **85VHE**=8500 Lumens (2), (3) **90VHE**=9000 Lumens (2), (3) **95VHE**=9500 Lumens (2), (3) **100VHE**=10000 Lumens (2), (3), (4) **110VHE**=11000 Lumens (2), (3), (4) **120VHE**=12000 Lumens (2), (3), (4) **130VHE**=13000 Lumens (2), (3), (4) **150VHE**=15000 Lumens (2), (3), (4) **170VHE**=17000 Lumens (2), (3), (4)	**[Blank]**=Ribbed Frosted Acrylic Curved Lens (standard) **S**=Smooth Frosted Acrylic Curved Lens **RDP**=Smooth Curved Lens with Round Pattern Insert **HRP**=Curved Lens High-Efficiency Round Perf Inlay **SQR**=Square Lens	**UNV**=Universal Voltage 120-277 **347V**=347 Volt (7)
Notes (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.		**Notes** (2) VividTune white tuning and BioUP static and dynamic options are not available with these lumen/efficacy selections. (3) Available with CD or HCD drivers only. (4) Requires 2 CD-1 drivers above 100VHE. (5) W2D Dali dimming BioUP not available with these options.				**Notes** (6) Products also available in non-US voltages and frequencies for international markets. (7) 347 versions 6000 lumens and below are available with emergency options, 347 versions with emergency 5LTHD, step-dim or sensors are not available.

CRI/CCT	Flex	Bottom Lens
L830=80CRI, 3000K **L835**=80CRI, 3500K **L840**=80CRI, 4000K **L850**=80CRI, 5000K **L865**=80CRI, 6500K **L930**=90CRI, 3000K **L935**=90CRI, 3500K **L940**=90CRI, 4000K **L950**=90CRI, 5000K **L965**=90CRI, 6500K **L83050**=80CRI 3000K-5000K White Tuning (8) **L93050**=90CRI 3000K-5000K White Tuning (8) **L82765**=80CRI 2700K-6500K White Tuning (8) **L92765**=90CRI 2700K-6500K White Tuning (8) **B35**=BioUp Static 3500K (9) **B40**=BioUp Static 4000K (9) **B50**=BioUp Static 5000K (9) **B2750**=BioUp Tunable 2700K-5000K (10)	**[Blank]**=No Flex **A3/8-4/18GDIM**=3/8" Flex with 0-10V Dimming Leads **A3/8-2/18G**=3/8" Flex with line and common **A3/8-5/18GDIM**=Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	**CA08**=0.080" Clear Acrylic **CA125**=0.125" Clear Acrylic **CP125**=Clear Polycarbonate 0.125" **CP187**=Clear Polycarbonate 0.187" **CP250**=Clear Polycarbonate 0.250"
Notes (8) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 cct, 1 intensity. Not compatible with other control or sensor options. (9) BioUp Static to be used with HCD driver. (10) BioUp Tunable provides correlated color temperatures (CCT) between 2700K (warm) to 5000K (cool). Must be used with W2A (for two channel 0-10V Control) or W2D (for 2 channel Dali Control) driver. See BioUp page for more information.	**Flexible Metal Conduit Options** Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. A3/8-4/18GDIM series notes: Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556. NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).	

Driver Type	Number of Drivers	Options
CD=0-10V Driver (10%-100% Dimming) **HCD**=0-10V Driver (1%-100% Dimming) **5LTD**=DALI Driver (5%-100% Dimming) **5LTHD**=DALI Driver (1%-100% Dimming) **SD**=Step Dimming Driver (50% or 100% Dimming) **LH**=Lutron HiLume 1% EcoSystems (LDE1) (F) **W2A**=White Tuning, 2 ch, Analog 0-10V Intensity and CCT Control (11) **W2D**=White Tuning, 2 ch, DALI Type 8 (1%-100% Dimming) (12)	**1**=1 Driver **2**=2 Drivers (13)	**[Blank]**=No Element Fuse **GL**=Single Element Fuse **GM**=Double Element Fuse **AMW**=Anti-microbial, Powder Coat, Matte White Paint **HS**=High Security (14)
Notes (11) W2A used with two (2) 10V dimming control channels - CCT and intensity. (12) W2D for use with BioUP options only. White tuning CCT between 2700K and 5000K. Must be used with DALI controls; one address to control two channels - intensity and CCT. May not be used with sensing systems. For Emergency options ONLY EL10WSD can be used. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com	**Notes** (13) See lumen limitation notes for applications requiring 2 drivers or use online configurator. When combined with emergency total height is increased by 1 inch.	**Notes** (14) For use in behavioral areas. Robust steel housing, clear polycarbonate lens, and tamper resistant hardware provide a ligature resistant luminaire. Ceiling cut-out 25.87" x 49.87".

Order Information
CONTINUED

Options Emergency	Integrated Control	Accessories (order separately) [21]
[Blank]=No Emergency Pack **EL7W**=7-watt, 120V-277V emergency battery pack installed [15] **EL14W**=14-watt 120V-277V emergency battery pack installed [15] **GTR2**=Generator Transfer Relay [16] **ETRD**=Emergency Transfer Relay with dimming control [16]	**[Blank]**=No Sensor **WLN**=WaveLinx LITE Wireless Control Node, without sensor [19], [B] **WPN**=WaveLinx PRO Wireless Control Node, without sensor [18], [A] **LWTPD1**=Enlighted Wireless Tile-mount Sensor	**[Blank]**=No Accessory **FCZ2-EQCLIP-U-PK**=Pack of four Fail-Safe Cruze grid security clips [20] **DFCL-2448W-U**=2' x 4' gasketed drywall framing kit. ships with gasket to be applied in field. Cutout Dimensions 24.25" x 48.25" [22] **DFVR/FCZ-2448W-U**=2' x 4' secured tamper resistant drywall kit. Cutout dimensions 24.25" x 48.25" [22]
Notes (15) With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (16) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. 347 not available. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories.	**Notes** (18) WPN node to be used with CD, HCD or W2A driver. (19) WLN node to be used with CD or HCD driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinx PRO system pages for additional details and compatibility. (B) Consult WaveLinx LITE system pages for additional details and compatibility.	**Notes** (20) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (21) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. (22) For Anti-microbial matte white finish, replace W with AMW. ex. DFCL-2448AMW-U.

Product Specifications

Construction
- Formed steel housing with integral Grid-lock feature and optional grid security clips

Integrated Controls
- Standard with 0-10V dimming. Optionally available with Lutron and Dali
- Integrated WaveLinx options provide wireless individual fixture control and enable code compliance, increased energy savings, grouping of fixtures, and connection to WaveLinx control systems

LED and Light Engine
- Available in 3000, 3500, 4000, 5000K and 6500K fixed color temperatures
- Drivers available in 120-277V and 347V
- TM21 life at 60,000 hours up to L85 and L70 exceeds 132,000 hours
- Tunable white options available with CoopervLighting Solutions' VividTune
- BioUP melanopic lighting options available in static or tunable white

Emergency Battery Options
- Optional 120-277V emergency battery available in 7W or 14W
- 90-minute backup period for code compliance
- Test switch with laser pointer and testing from floor feature for ease of use
- Generator transfer options available

Finish
- High Gloss white finish standard

Shielding
- Standard ribbed frosted acrylic curved diffuser
- Optional clear curved diffuser with perf or decorative pattern inserts
- Optional smooth acrylic frosted curved lens (S)
- Optional metal perforated acrylic curved lens (RDP)
- Optional High-Efficiency Curved Round Perf Inlay (HRP)
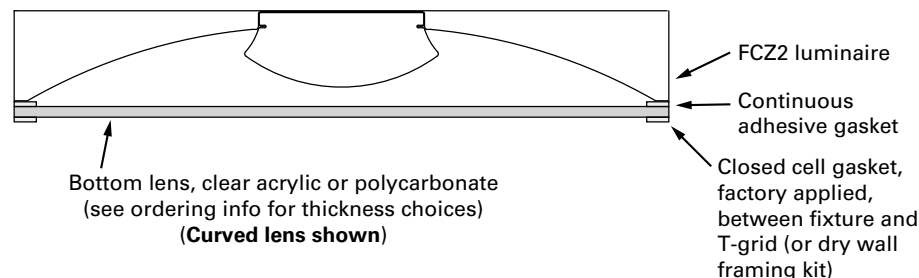- Optional square frosted acrylic lens (SQR)

Compliance
- Tested for ISO 5 compliance. IS03 and ISO4 environments typically employ uni-directional vertical air-flow and a ventilated raised floor to remove airborne particles. Not uncommon for the entire ceiling to be either HEPA or ULPA filters. Filtered air is continually directed downward, passing through the ventilated raised floor, and recirculated – to remove more of the airborne particles than are created. Often, laminar-flow surface mount luminaires are used to illuminate the space. With proper air flow and air exchanges, proper installation, this non-shedding luminaire is acceptable for use in ISO3-9 environments.
- IC rated, cULus Wet Location
- RoHS compliant
- IP65
- IK10 - Polycarbonate Lens
- NSF rated; Splash, Non-Food Zone - Typical rating for lighting equipment not subjected to direct food contact. (e.g. ceiling mount luminaires) Examples of equipment subjected to direct food contact would be cutting boards, work-tables, mixers, can-openers, other)

Warranty
- Five year limited warranty standard

Cross Section

FCZ2 luminaire

Continuous adhesive gasket

Closed cell gasket, factory applied, between fixture and T-grid (or dry wall framing kit)

Bottom lens, clear acrylic or polycarbonate (see ordering info for thickness choices) (**Curved lens shown**)

Energy and Performance Data

Shielding

Lumen Adjustment Factors			
S	RDP	HRP	SQR
1.05	0.67	0.85	0.96

Lumen Calculator

CCT Multiplier	80 CRI	90 CRI	BioUp Static
3000K	0.994	0.830	-
3500K	1.00	0.845	0.912
4000K	1.00	0.854	0.899
5000K	1.065	0.852	0.879
6500K	1.065	0.852	-

Lumen Maintenance

Version	TM-21 Lumen Maintenance (60,000 hours) [1]	Theoretical L70 (Hours) [2]
Standard	> 87%	> 162,000
High Efficiency	> 94%	> 290,000
Very High Efficiency	> 94%	> 290,000

Notes: (1) Supported by IES TM-21 standards. (2) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Load Data (Stock Product)

THD	6%
Power Factor	0.99
Weight (lbs.)	16
Low Temp. Start	-20ºC

Shipping Data

Catalog No.	Wt.	Pallet 49"L x 52"W x 46"H
2' x 4'	20.4 lbs.	28

ArcMED

Energy and Performance Data Catalog Number

Standard Efficacy Versions – Single Row of LEDs

Catalog Number	Watts	CA08	LPW	CA125	LPW	CP125	LPW	CP187	LPW	CP250	LPW
24FCZ2-30-XXXX-UNV-35-CD1	24.2	2930	121	2920	120.6	2863	118.3	2742	113.3	2719	112.4
24FCZ2-35-XXXX-UNV-35-CD1	30.1	3516	117	3504	116.4	3435	114.1	3290	109.3	3263	108.4
24FCZ2-40-XXXX-UNV-35-CD1	36.2	4056	112	4041	111.6	3963	109.5	3795	104.8	3764	104.0
24FCZ2-45-XXXX-UNV-35-CD1	42.9	4463	104	4447	104	4361	102	4176	97	4142	97
24FCZ2-50-XXXX-UNV-35-CD1	48.6	4847	100	4830	99	4736	97	4535	93	4498	93
24FCZ2-55-XXXX-UNV-35-CD1	50.5	5385	107	5365	106	5261	104	5039	100	4997	99
24FCZ2-60-XXXX-UNV-35-CD1	55.6	5840	105	5819	105	5706	103	5464	98	5420	97
24FCZ2-65-XXXX-UNV-35-CD1	62.8	6352	101	6329	101	6206	99	5944	95	5895	94

High Efficacy Versions – Two Rows of LEDs

Catalog Number	Watts	CA08	LPW	CA125	LPW	CP125	LPW	CP187	LPW	CP250	LPW
24FCZ2-30HE-XXXX-UNV-35-CD1	22.4	2913	130	2902	130	2846	127	2725	122	2703	121
24FCZ2-35HE-XXXX-UNV-35-CD1	26.9	3463	129	3450	128	3383	126	3240	120	3214	119
24FCZ2-40HE-XXXX-UNV-35-CD1	30.6	3894	127	3880	127	3805	124	3644	119	3614	118
24FCZ2-45HE-XXXX-UNV-35-CD1	35.3	4428	125	4412	125	4326	123	4143	117	4110	116
24FCZ2-50HE-XXXX-UNV-35-CD1	38.6	4853	126	4836	125	4741	123	4541	118	4504	117
24FCZ2-55HE-XXXX-UNV-35-CD1	43.5	5378	124	5359	123	5254	121	5032	116	4991	115
24FCZ2-60HE-XXXX-UNV-35-CD1	44.1	5809	132	5789	131	5676	129	5436	123	5392	122
24FCZ2-65HE-XXXX-UNV-35-CD1	48.9	6369	130	6347	130	6223	127	5960	122	5911	121
24FCZ2-70HE-XXXX-UNV-35-CD1	51.0	6783	133	6758	133	6627	130	6347	124	6295	123
24FCZ2-75HE-XXXX-UNV-35-CD1	55.4	7318	132	7292	132	7150	129	6848	124	6792	123

Very High Efficacy Versions – Three Rows of LEDs

Catalog Number	Watts	CA08	LPW	CA125	LPW	CP125	LPW	CP187	LPW	CP250	LPW
24FCZ2-30VHE-XXXX-UNV-35-CD1	20.4	2910	143	2900	142	2843	139	2843	139	2701	132
24FCZ2-35VHE-XXXX-UNV-35-CD1	22.8	3408	150	3396	149	3330	146	3330	146	3163	139
24FCZ2-40VHE-XXXX-UNV-35-CD1	26.2	3906	149	3893	149	3817	146	3817	146	3625	138
24FCZ2-45VHE-XXXX-UNV-35-CD1	29.6	4406	149	4390	148	4305	145	4305	145	4089	138
24FCZ2-50VHE-XXXX-UNV-35-CD1	32.7	4894	150	4877	149	4782	146	4782	146	4542	139
24FCZ2-55VHE-XXXX-UNV-35-CD1	36.1	5383	149	5364	149	5260	146	5260	146	4996	138
24FCZ2-60VHE-XXXX-UNV-35-CD1	38.7	5852	151	5831	151	5718	148	5718	148	5431	140
24FCZ2-65VHE-XXXX-UNV-35-CD1	42.2	6345	150	6322	150	6199	147	6199	147	5888	140
24FCZ2-70VHE-XXXX-UNV-35-CD1	45.7	6822	149	6798	149	6666	146	6666	146	6332	139
24FCZ2-75VHE-XXXX-UNV-35-CD1	49.9	7405	148	7379	148	7235	145	7235	145	6872	138
24FCZ2-80VHE-XXXX-UNV-35-CD1	53.8	7855	146	7827	146	7675	143	7675	143	7290	136
24FCZ2-85VHE-XXXX-UNV-35-CD1	57.9	8312	144	8282	143	8121	140	8121	140	7714	133
24FCZ2-90VHE-XXXX-UNV-35-CD1	61.8	8749	142	8718	141	8549	138	8549	138	8120	131
24FCZ2-95VHE-XXXX-UNV-35-CD1	65.6	9202	140	9169	140	8990	137	8990	137	8540	130
24FCZ2-100VHE-XXXX-UNV-35-CD1	69.6	9849	142	9814	141	9623	138	9623	138	9141	131
24FCZ2-110VHE-XXXX-UNV-35-CD1	77.4	10726	139	10688	138	10480	135	10480	135	9954	127
24FCZ2-120VHE-XXXX-UNV-35-CD1	83.6	11802	141	11759	141	11531	138	11531	138	10953	131
24FCZ2-130VHE-XXXX-UNV-35-CD1	90.7	12826	141	12780	141	12532	138	12532	138	11903	131
24FCZ2-150VHE-XXXX-UNV-35-CD1	104.2	14503	139	14451	139	14170	136	14170	136	13460	129
24FCZ2-170VHE-XXXX-UNV-35-CD1	123.4	16450	133	16392	133	16073	130	16073	130	15267	124

COOPER Lighting Solutions

Control Solutions

- WaveLinx LITE wireless
- WaveLinx PRO wireless
- WaveLinx CAT wired
- WaveLinx Wired

WaveLinx Digital Lighting Control Solutions

The FCZ with Wavelinx Pro Node offers no-hassle lighting control with multiple luminaire level control solutions.
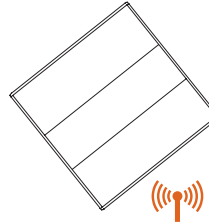
WaveLinx PRO Node is a wireless lighting control solution, for connected spaces, that can be used to significantly reduce a building's energy consumption. From a single floor to an entire campus, WaveLinx PRO connects more than lighting assets; it shares aggregated data with the WaveLinx CORE platform and other building systems, so building owners can improve operations, spaces environment, and tenants' experience. WaveLinx PRO offers a rich portfolio of wireless devices, Wavelinx Pro node-enabled luminaires, and an intuitive WaveLinx mobile app for complex environments.

Wavelinx Lite Node is a cost effective, wireless digital lighting control solution, with out-of-the-box functionality, that saves energy and meets code. Customize installations for complex environments.

With Integrated WaveLinx Node

Sealed luminaires do not work well with PIR sensors. The WaveLinx sensor node (WPN, WLN) are "hidden" controls enabling wireless wavelinx control without the issues associated with PIR sensing.

Allows to:
- Connect sealed fixtures without a standard sensor option such as products for clinical space.
- Keeps luminaire aesthetics

Integrated Controls Options

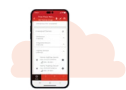| Option	Out of the Box Functionality	Luminaire Level Lighting Control (LLLC)	Automatic Dimming Photocell	Occupancy Sensing	CCT Control
WLN		X			
WPN		X			X

Note: WaveLinx utilizes scenes to allow users to change an area's fixtures Correlated Color Temperature (CCT) and intensity using commissioned manual wireless wallstation scene control. To enable CCT adjustments through WaveLinx, include WPN device in addition to VividTune or BioUp technologies for integrated fixture control.

Systems comparison chart

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.
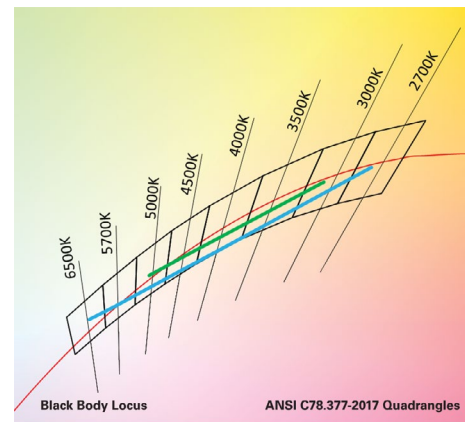
	Luminaire with standalone sensor	Standalone Spaces WaveLinx LITE	Standalone Spaces WaveLinx CAT	Networked Spaces WaveLinx PRO	Enterprise WaveLinx CORE
Occupancy	Yes	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes	Yes
Wallstations	–	Yes	Yes	Yes	Yes
Gateways	–	–	–	1 WAC	300 WACs
Devices (MAX)	–	40 per Area (1120 per space)	40 per Area	200 per WAC2	32,500 per CORE Enterprise
Software	–	WaveLinx LITE Mobile App	WaveLinx CAT Mobile App	WaveLinx Mobile App	CORE
Areas	–	28 per Space	Unlimited	50 per WAC2	up to 3,000
Zones	–	16 per Area	16 per Area	16 per Area	up to 9,000
Scheduling	–	–	–	Local	Global
VividTune™	–	–	–	Yes	Yes
Plug-Load Control	–	Yes	Yes	Yes	Yes
Low-Voltage Power	–	–	Yes	Yes	Yes
Integration	–	–	–	–	BACnet, API
Dashboards	–	–	–	–	Energy, Occupancy
Configuration	–	Installer	Installer	Technician	Technician / IT

ArcMED

VividTune™
color tuning solutions

24 FCZ LED with VividTune Tunable White

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.
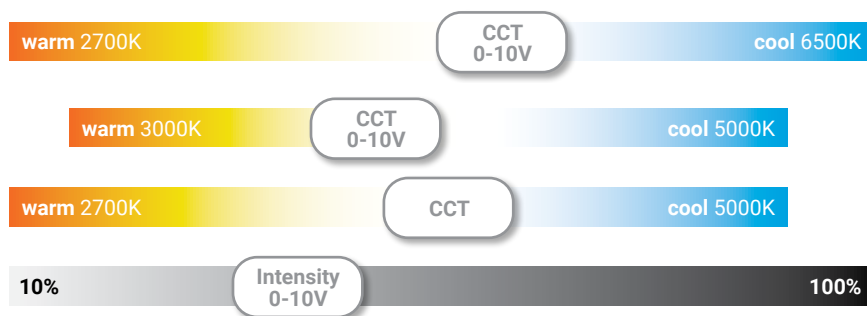

Black Body Locus · ANSI C78.377-2017 Quadrangles

— 3000K - 5000K
— 2700K - 6500K

Energy and Performance Data

Tunable White - Lumen Adjustment Factors

CCT	VividTune 3000K-5000K		VividTune 2700K-6500K		BioUp Tunable White 2700K-5000K	
	80 CRI	90 CRI	80 CRI	90 CRI	CRI	Lumen Adjustment
2700K	-	-	0.903	0.771	95	0.938
3000K	0.929	0.765	0.928	0.801	94	0.929
3500K	0.983	0.836	0.961	0.842	90	0.912
4000K	1.033	0.903	0.981	0.868	87	0.899
4500K	1.042	0.918	0.999	0.891	85	0.890
5000K	1.042	0.918	1.013	0.909	84	0.879
6500K	-	-	1.028	0.933	-	-

2' x 4' FCZ LED - Example of Approximate Lumen Calculation

CCT Setting	Standard Catalog # 24FCZ2-40HE-UNV-L835-CD1-U	VividTune 80 CRI Catalog # 24FCZ2-40HE-UNV-L83050-W2A1-U	VividTune 90 CRI Catalog # 24FCZ2-40HE-UNV-L93050-W2A1-U	BioUp Tunable White 24FCZ2-40HE-UNV-B2750-W2A1-U
2700K	-	3638	3106	3779
3000K	-	3641	2998	3743
3500K	4029	3853	3275	3674
4000K	-	4046	3537	3622
4500K	-	4084	3599	3586
5000K	-	4084	3599	3541
6500K	-	4142	3579	-

Controlling VividTune and BioUp Tunable White

From wall dimmers to wireless controls, tunable white luminaires are compatible with industry standard 0-10V and DALI controls. One channel to control intensity (brightness) and a second channel to adjust CCT.

warm 2700K — CCT 0-10V — cool 6500K

warm 3000K — CCT 0-10V — cool 5000K

warm 2700K — CCT — cool 5000K

10% — Intensity 0-10V — 100%

COOPER Lighting Solutions

ArcMED

Proven Research. Industry Recognized.

BioUp
Melanopic Lighting
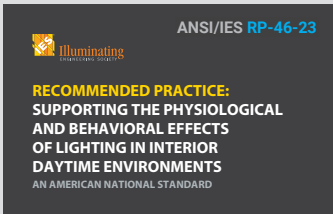
See better

Feel better

Function better
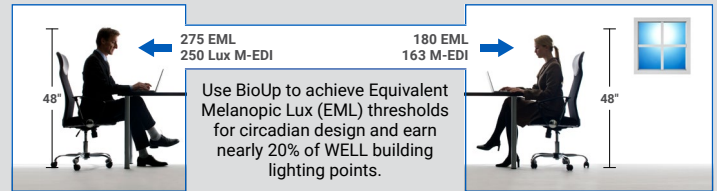
See BioUp brochure for more details

ANSI/IES RP-46-23 / TM18 published March 2024 based on over 40 years of research.
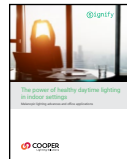
"...circadian clock synchronization is paramount to the body's efficient and appropriate functioning." – TM18

INTERNATIONAL WELL BUILDING INSTITUTE™

BioUp solutions maximize WELL points for Circadian Lighting Design (L03):

275 EML
250 Lux M-EDI

180 EML
163 M-EDI

48"

48"

Use BioUp to achieve Equivalent Melanopic Lux (EML) thresholds for circadian design and earn nearly 20% of WELL building lighting points.
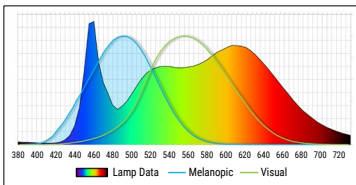

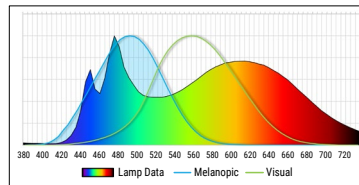**MDER, M-EDI** and **EML** are key metrics used to quantify non-visual performance of indoor lighting systems.

See BioUp white paper for more details

MDER - Melanopic Daylight Efficacy Ratio (MDER) measures the amount of light stimulating to the melanopsin receptors.

Standard 4000K LED
MDER = .62

BioUp 4000K LED
MDER = .82

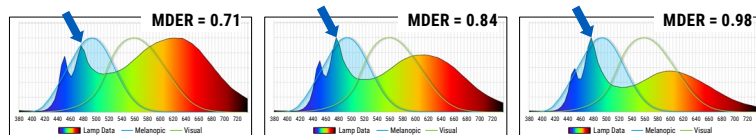## 30% boost Biological impact
compared to traditional LED sources

CCT	LED MDER ~83 CRI	BioUp Static		BioUp Dynamic	
		MDER	CRI	MDER	CRI
2700K	0.44	–	–	0.43	95
3000K	0.49	–	–	0.54	94
3500K	0.56	0.71	90	0.71	90
4000K	0.64	0.84	87	0.82	87
5000K	0.77	0.98	84	0.98	84

BioUp enhances the LED spectrum with cyan light at 475nm increasing the biological impact of the light to enhance our circadian rhythm which regulates our sleep/wake cycle, daytime engagement, and mood – *all without distorting visual color impression.*

Static (non-tunable)
Static BioUp is used when simple Melanopic Lighting is desired at all times.

Arrow in graph shows BioUp spectrum boost is at 475nm where non-visual biological response is enhanced.

Dynamic - (Tunable)
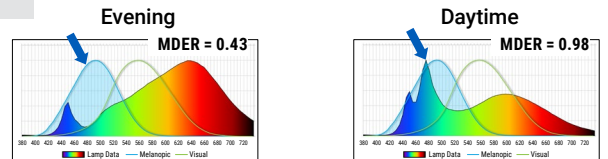Dynamic BioUp is used when Melanopic Lighting is desired to adjust during the day.

MDER = 0.71

MDER = 0.84

MDER = 0.98

3500K or **4000K** or **5000K**

Cyan light component always present

Dimming Control
0%   Intensity   100%

❯ no CCT control needed

Evening
MDER = 0.43

Daytime
MDER = 0.98

Warmer CCT **Without** Cyan content

Cooler Light **With** Cyan content

2700K – 5000K

CCT Control
warm 2700K   CCT   cool 5000K

Dimming Control
0%   Intensity   100%

❯ Control with Wavelinx, 2ch 0-10V, or DALI