

Light is OSRAM

OPTOTRONIC® LED Power Supply

OTi95W/UNV/2750C/2DIM+/P6/AUX



General Information

Item Number	57509, 57510
Type	Constant Current, Class2
Output Power	95W (Max.)
Programming Tool	51645
Software	Software
Programmable Features	Output Current Soft start, Dim-to-Off Dimming Level LED thermal protection Constant lumen output End-of-life indicator Vaux (12/20/24V)

Environmental Specifications

Ambient Operating Temperature	-40°C to 60°C
Case Temperature (Tc)	85°C (max)*
Max. Storage Temp.	70°C
Max. Relative Humidity (%)	95% non-condensing
Transient Protection	ANSI C82.77-5-2015 6.0kV, 4kV EFT
IP Rating	IP66
UL Rating	UL Class P, Dry & Damp Type HL
UL File number	E320395
EMI Compliance	FCC Part 15 Class A
Sound Rating	Class A

*5 year warranty applicable at 85°C



Electrical Specifications

Input

Input Voltage (VAC)	120V-277V (+/- 10%)
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)
	120V 277V
Input Current (A)	0.92 0.40
THD @ Full load	<20% <20%
Power Factor @ Full load	>0.9 >0.9
Efficiency @ Full load	≥89% ≥90%
Inrush Current (A _{pk})	60 @ 131μs 100 @ 138μs

Output

Output Current (mA)	700 - 2750 mA (Default: 2700 mA)
Output Voltage (VDC)	15-54VDC
Output Ripple Current	< 25%
Max. Output Power (W)	95W
LED Power-Up Time	< 1sec
Load Regulation	< 5%
Line Regulation	< 5%
Over Voltage Protection	Yes, non-latching
Over Load Protection	Power fold back @ 97W
Output Short-Circuit	Yes, non-latching
Over Temperature Protection	Foldback to 60% at 100°C, Auto Recovery

Dimming

Dimming Control	0 – 10V (Isolated)** AstroDIM
Dimming Range	1-100%
Dimming Type	Analog
Source/Sink Current	0.17mA
Dim-to-Off OFF/ON Threshold	0.91V/1.01V
Dim-to-Off Standby Power	< 1W

**Class 2 or non-class 2 wiring allowed

CAUTION: More than one power supply present

Auxiliary Output (For AUX models only)

Output Voltage (Vdc)	12/20/24V (configurable)
Output Power (W)	1W Max
Voltage Regulation	+/- 10%

LED thermal protection (NTC)

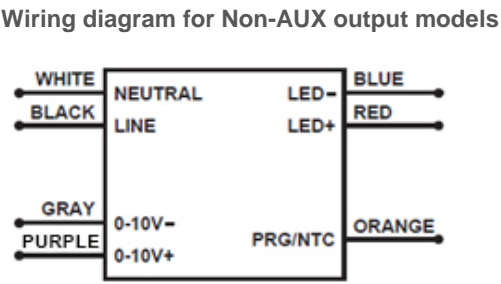
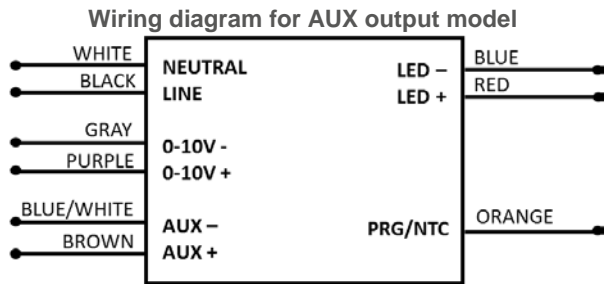
NTC value active range	≤ 25kΩ
Output level minimum	User defined

External NTC cannot leave the fixture

The PRG/ NTC control circuit terminals or lead wires are not isolated

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Wiring Diagram



Note 1: Maximum suggested remote mounting distance is 16 feet.
Note: The Dimming input is isolated and will allow Class 2 or non-Class 2 wiring across Purple and Gray wires

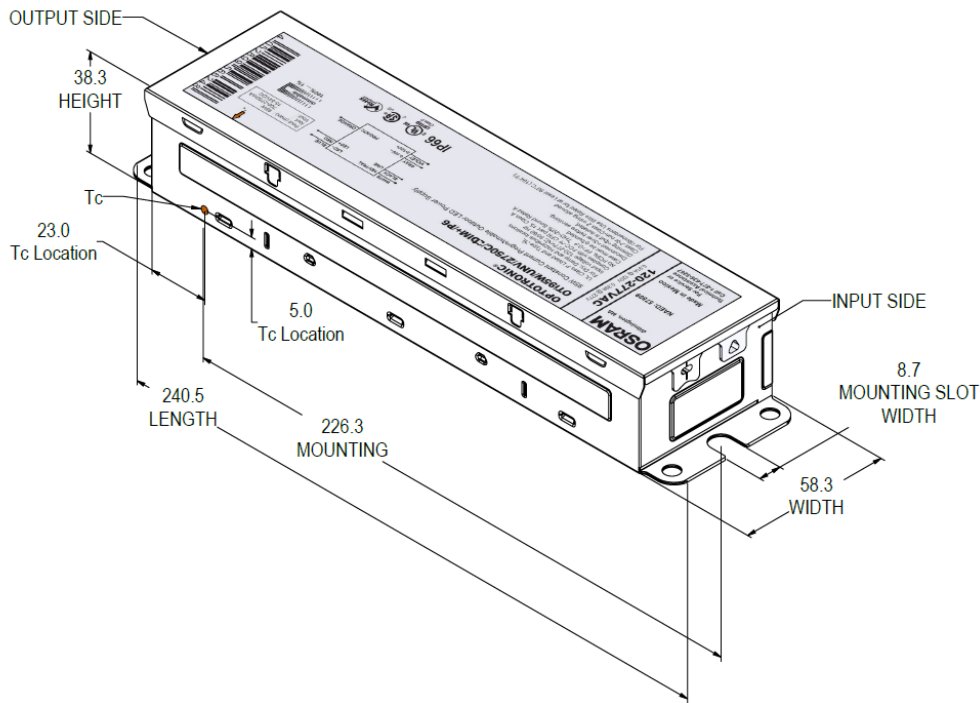
Ordering Guide

NAED	Ordering Description
57509	OTi95W/UNV/2750C/2DIM+/P6
57510	OTi95W/UNV/2750C/2DIM+/P6/AUX

Key Application Notes

- Dim-to-off and Soft start are programmable (enable/disable) features. The default mode for both features is disabled for out-of-the-box products. If these features are required, they must be enabled in the programming software.

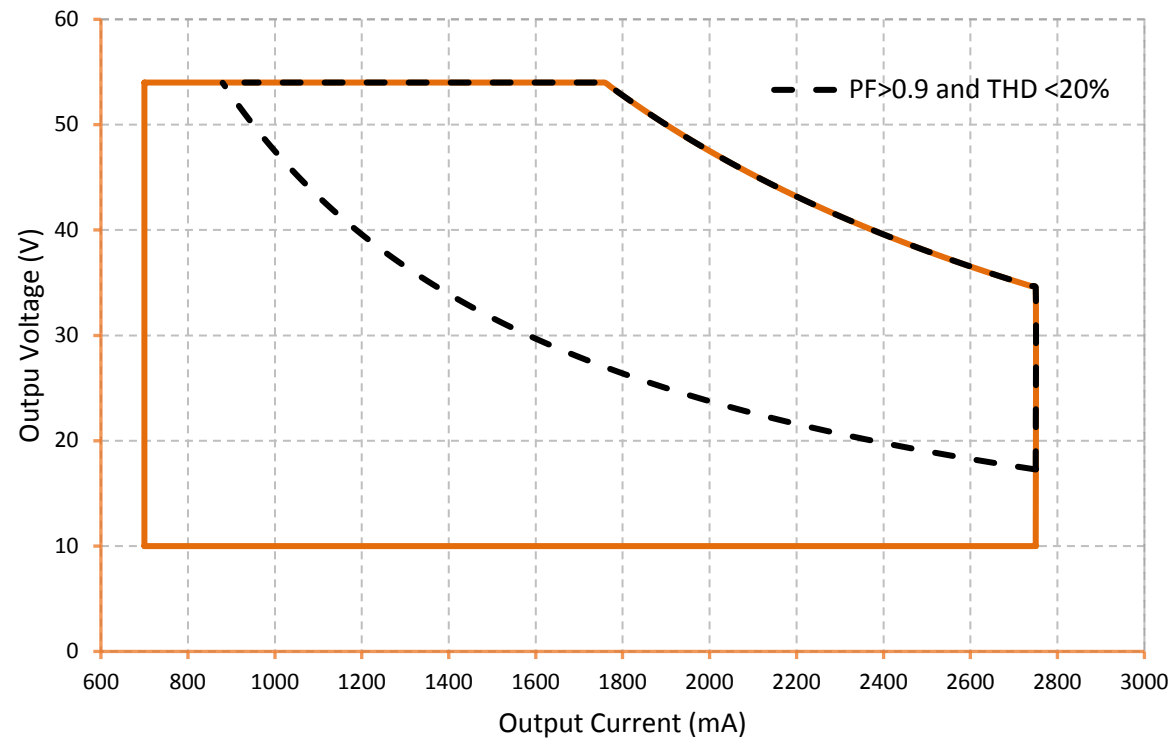
Mechanical Diagram



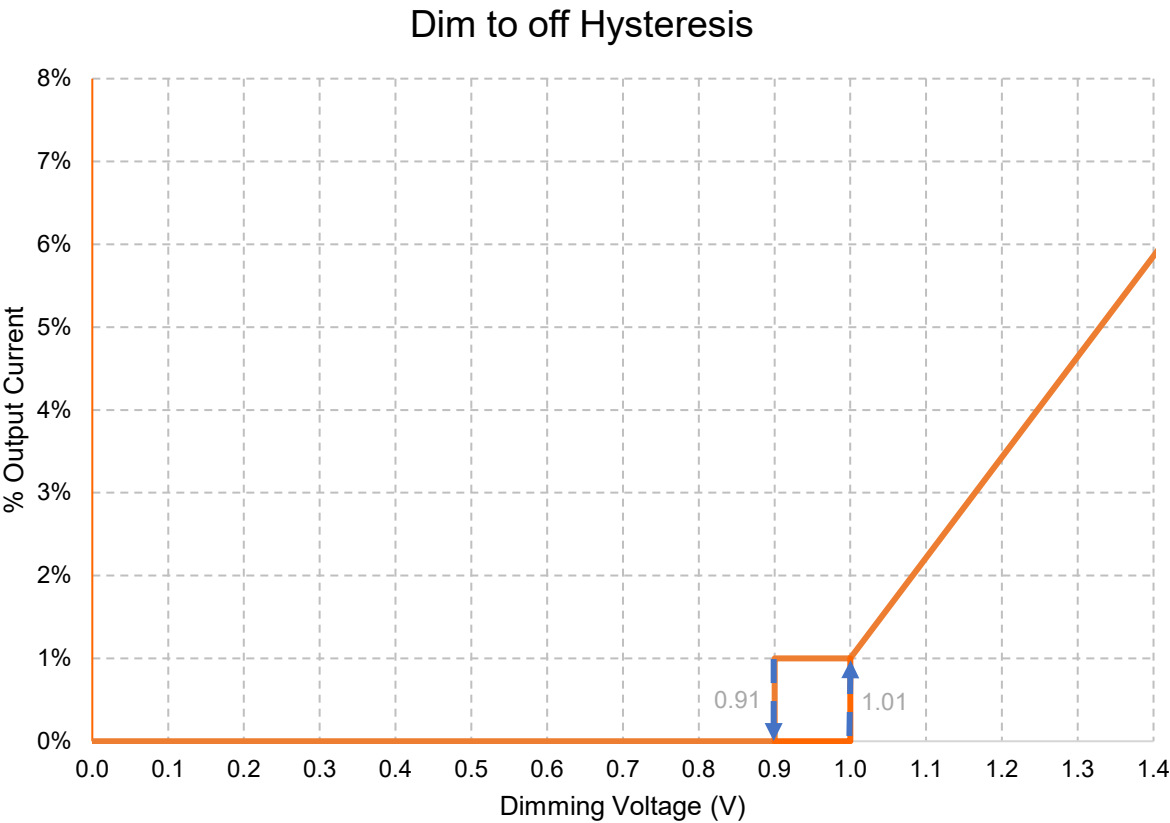
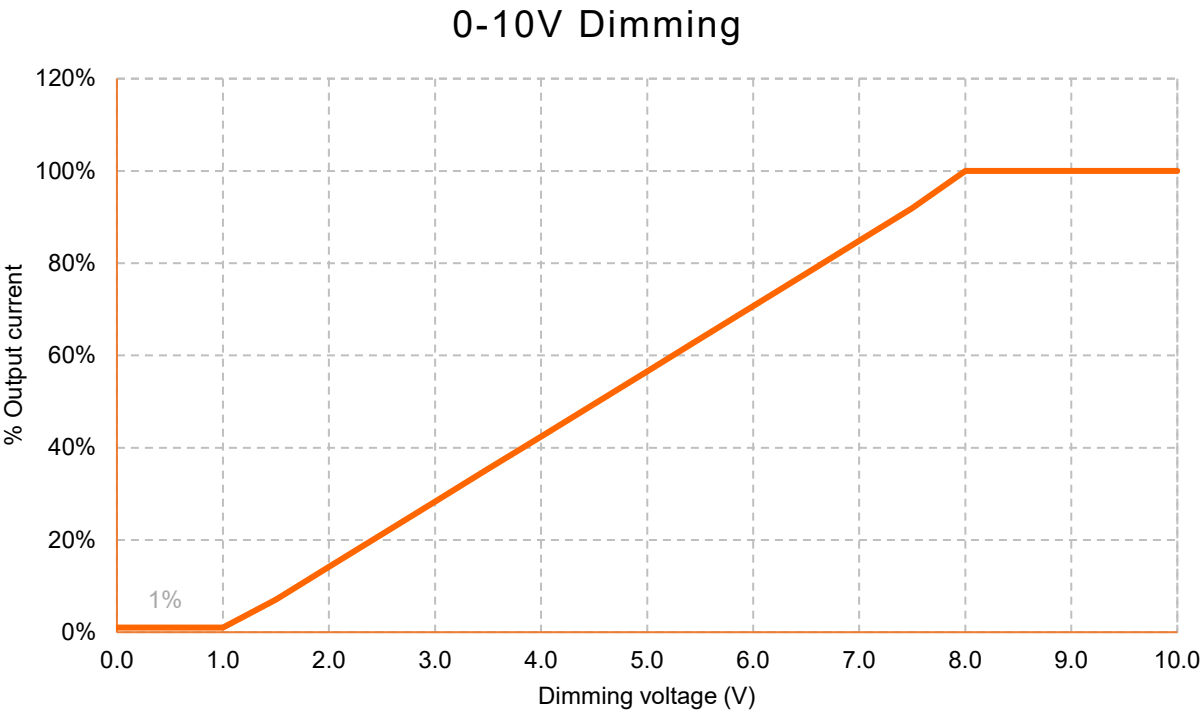
Mechanical Specifications

Length	9.46" (240.5mm)
Width	2.29" (58.3mm)
Height	1.5" (38.3mm)
Mounting Length	8.9" (226.3mm)
Mounting slot Width	0.34" (8.7mm)

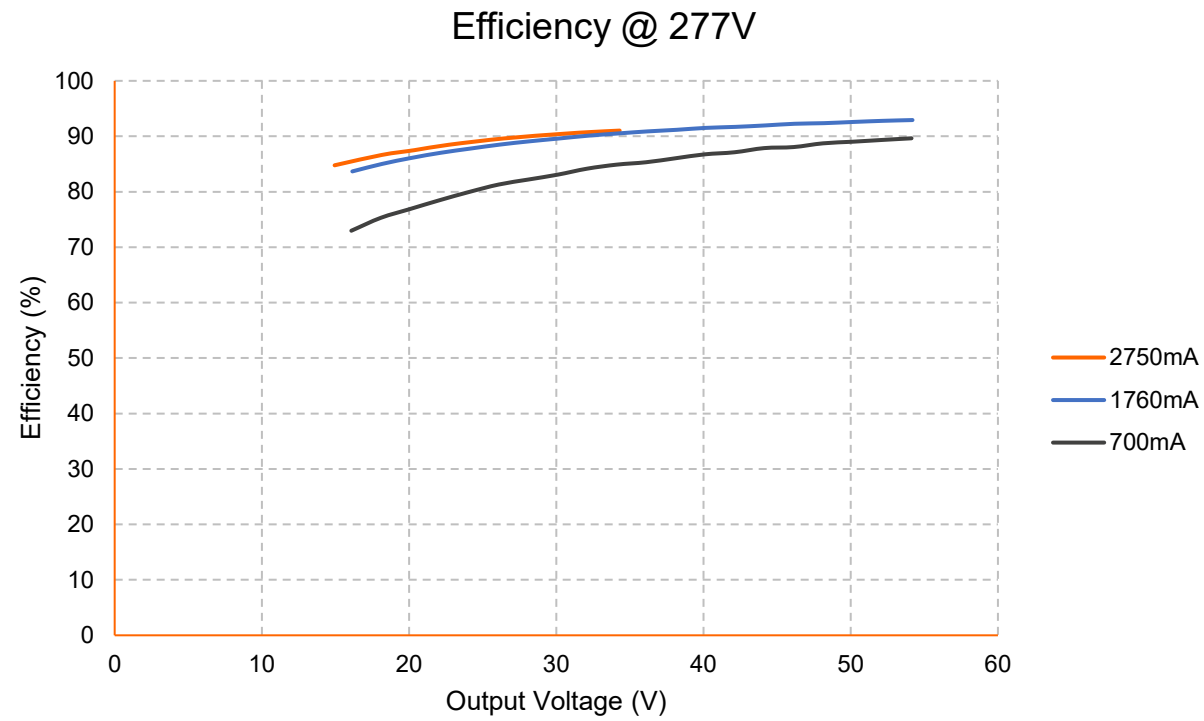
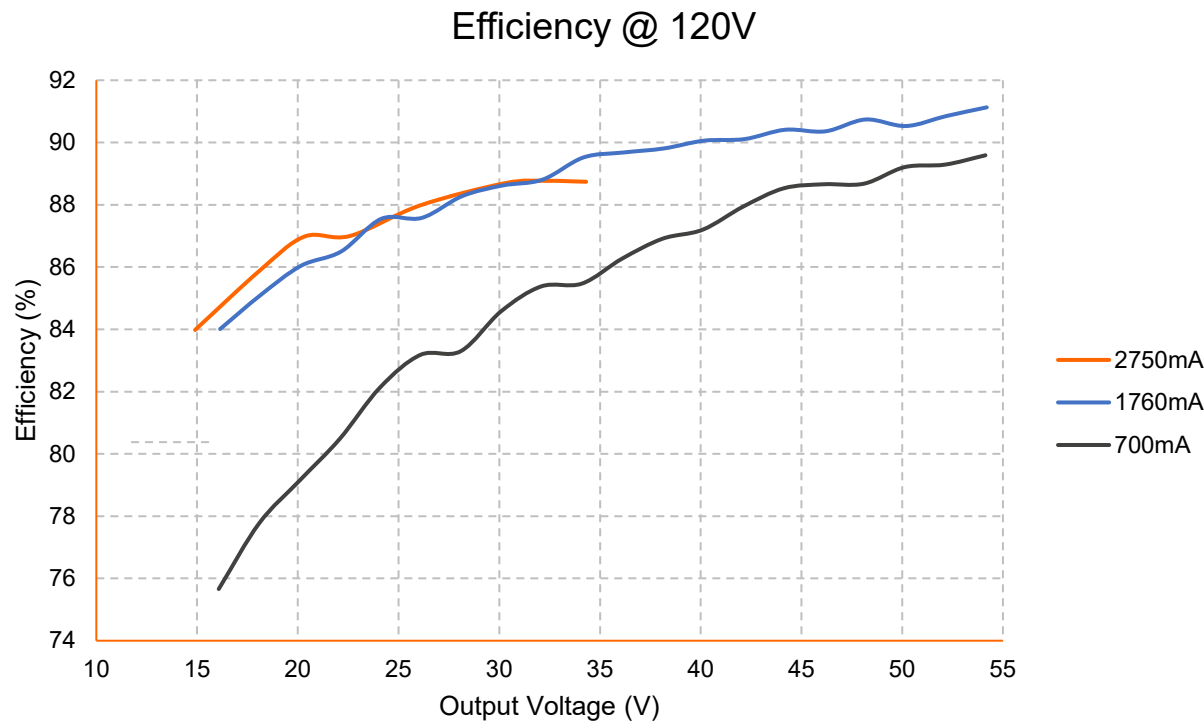
Operating Curve



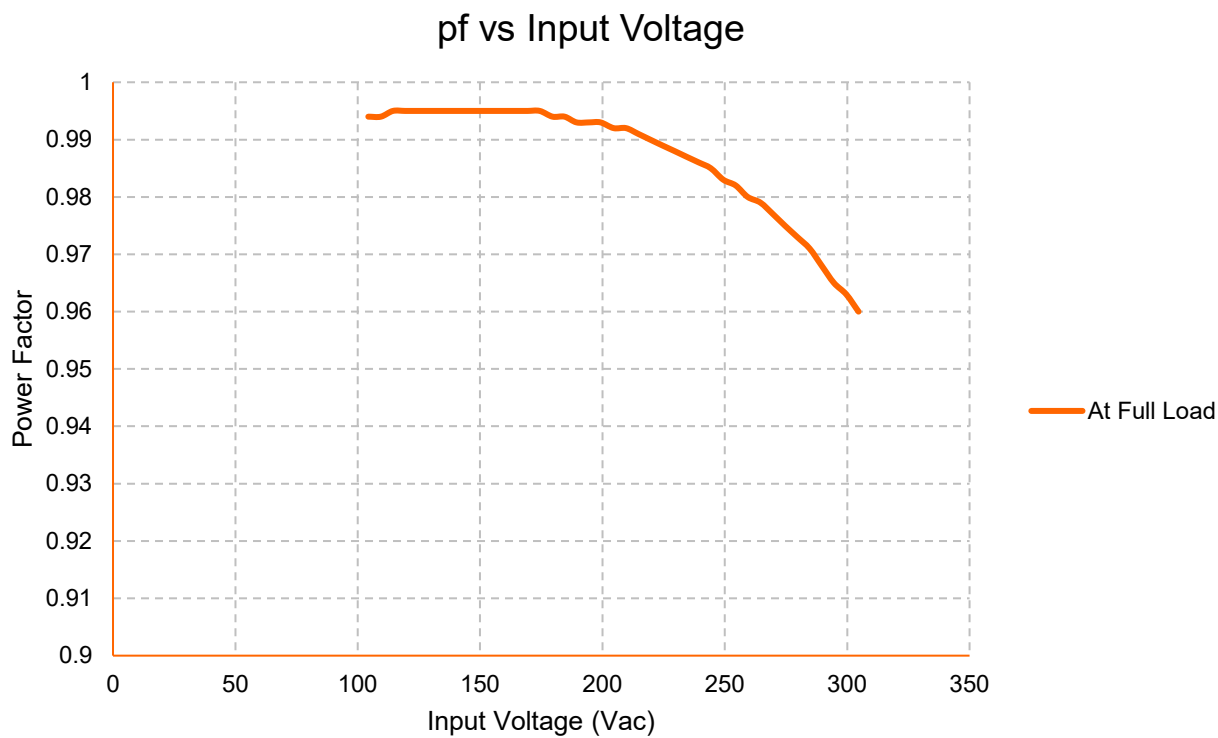
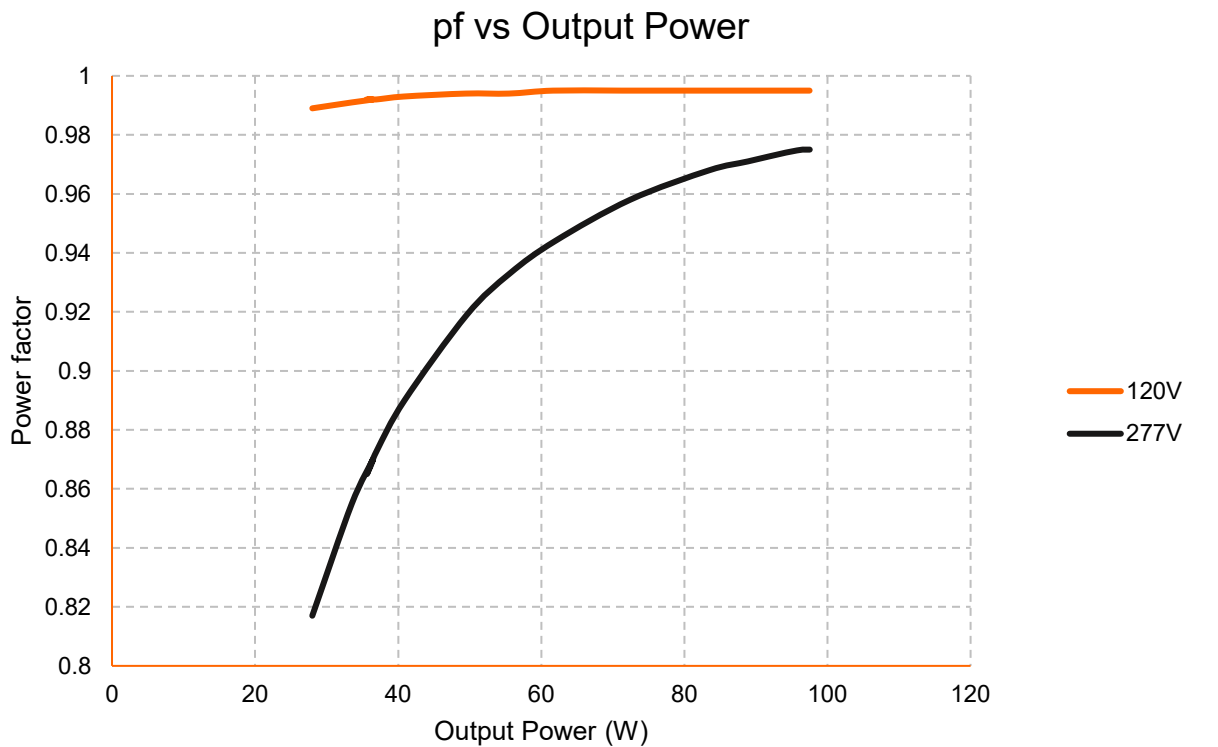
Dimming Curve



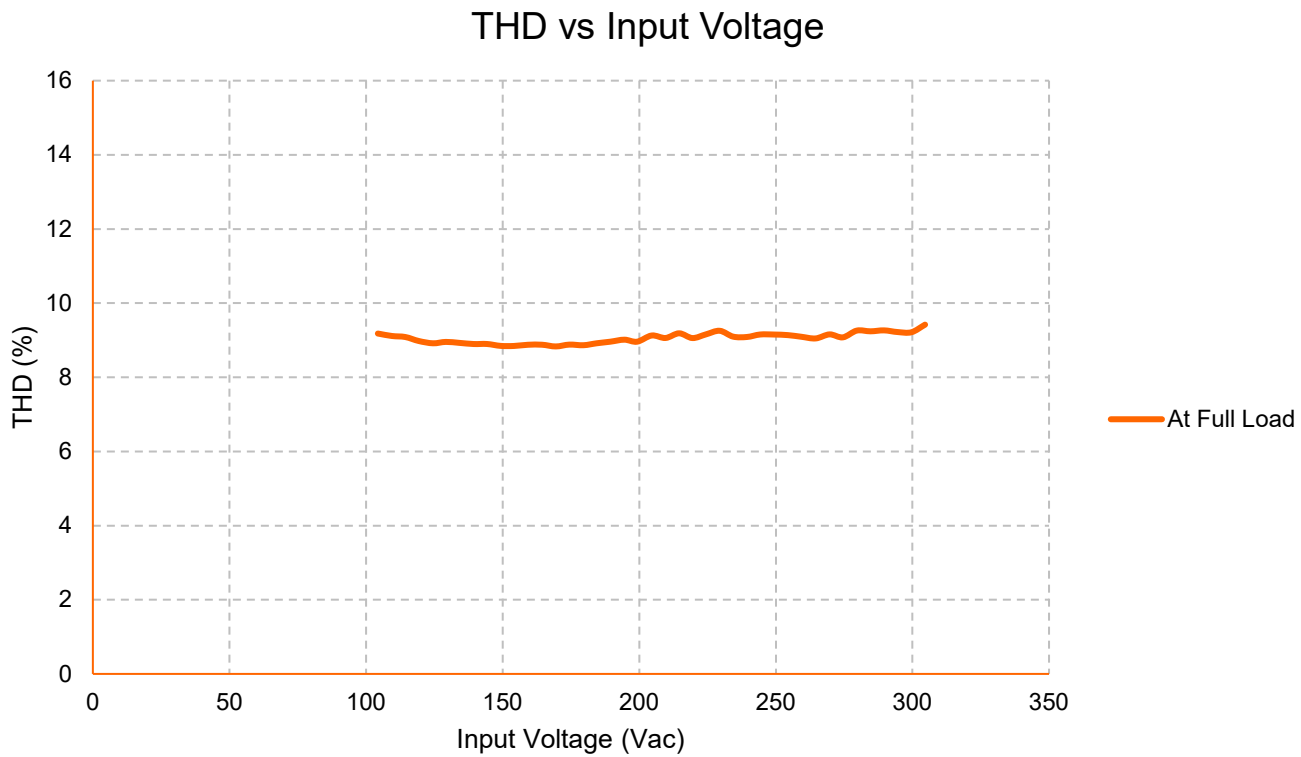
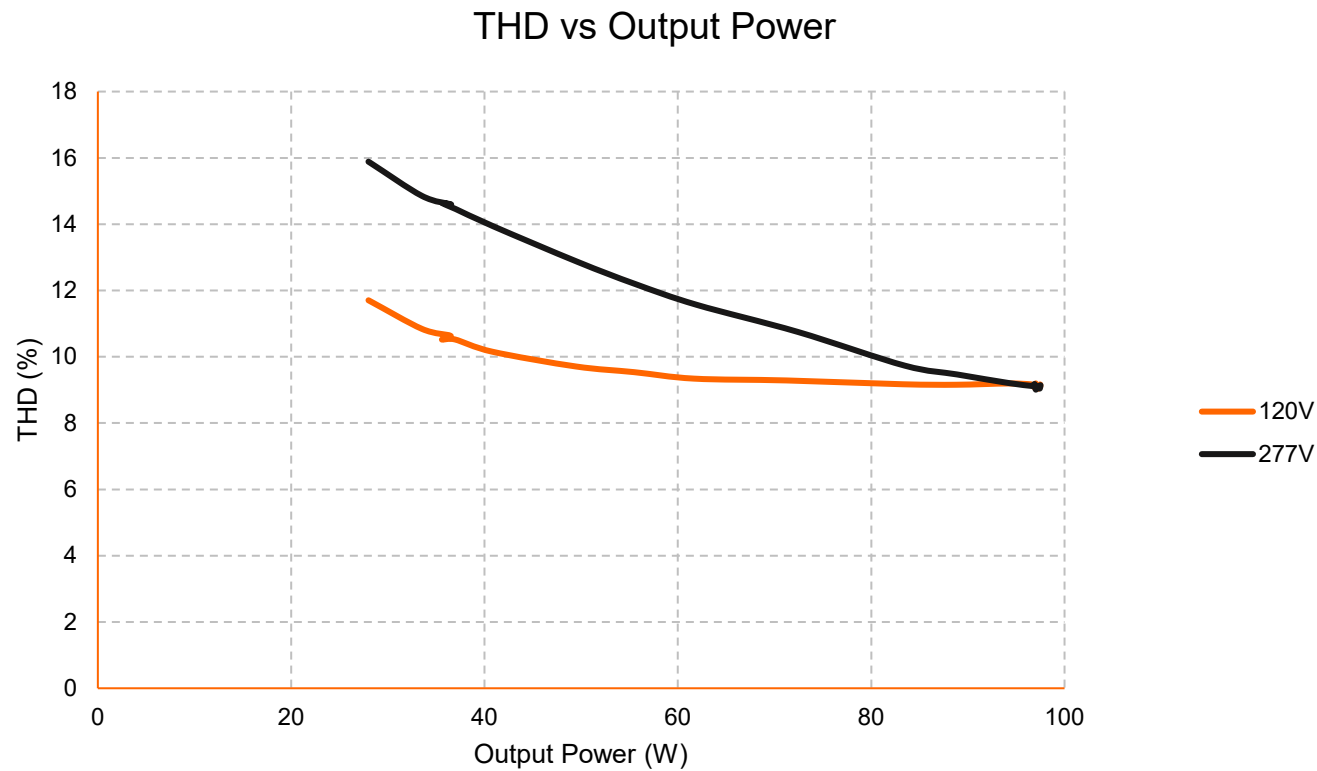
Efficiency vs. Output Voltage



Power Factor Performance

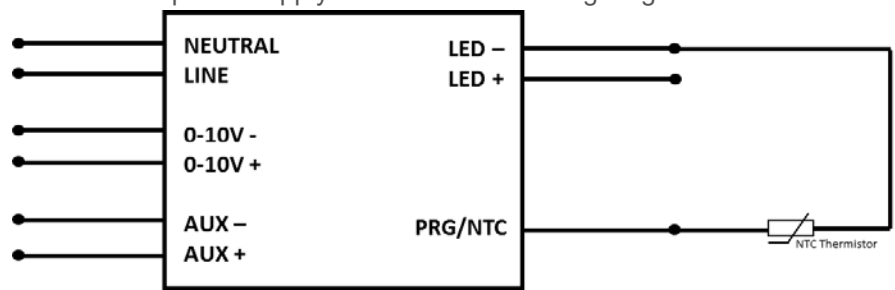


THD Performance



LED Thermal Protection (NTC) Characteristic

The LED thermal protection feature of the OTi95W helps reduce the temperature of the LED module by reducing the output current in case of abnormal temperature conditions. To use this feature a third party NTC thermistor should be connected to the LED power supply as shown in the wiring diagram below.



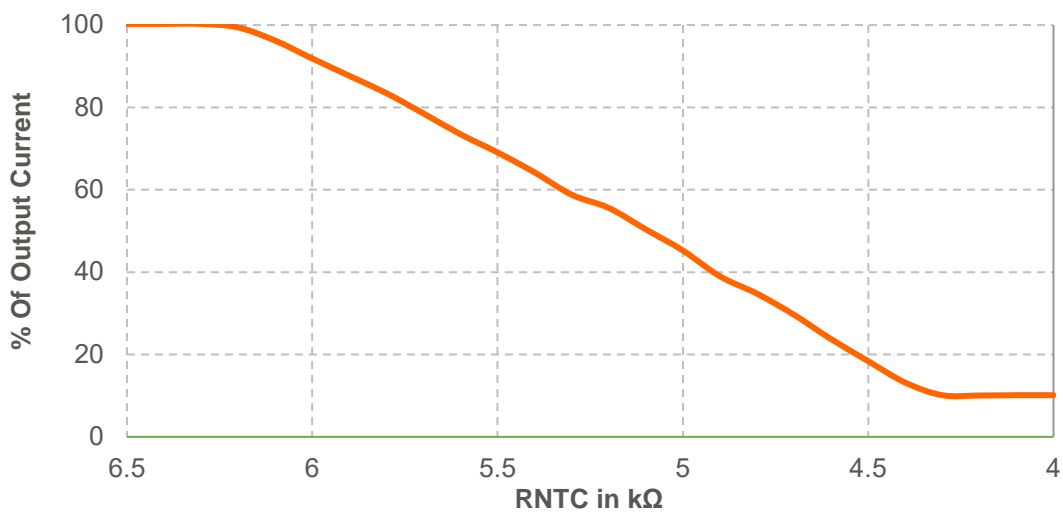
In the end application, care must be taken to place the NTC thermistor close to the hottest spot on the LED module. If LED thermal protection is not required the NTC port on the LED power supply connector can be left open.

Vishay, EPCOS, Murata, Panasonic are some of the manufacturers of NTC thermistor. EPCOS part number for reference only **B57164K153J (15kΩ @ 25°C)**. Murata part number for reference only - **NCP03XH223J05RL (22kΩ @ 25°C)**

For detailed information on LED Thermal Protection, please refer to Technical Application guide (ECS 304)

Note 2: Graphs for reference. The de-rating limits can be programmed using the OT Programmer

Derating start = 6.3kΩ; Derating end = 4.3kΩ; Min output level = 10%



End of Life Indicator

The End-of-Life indicator feature helps the end user to receive a signal from the fixture indicating that it has reached its programmed life-time. After the LED driver reaches the programmed life-time, whenever it is turned ON, it stays at 'Dim' level (10%) for 10 minutes and reaches its appropriate level.

AstroDIM

AstroDIM is an autonomous five level (1 Power ON & 4 Dimming levels) dimming protocol. It provides multi-stage night-time power reduction based on an internal timer; there is no need for an external control infrastructure. The ECG is automatically aligned to the on and off times for the street lighting and provide a defined output for the particular period of time. Compared with conventional systems there are significant cost savings. AstroDIM is designed for dimming without any external control wiring. Therefore, AstroDIM helps to save energy, extend the life of the driver and the LED module and reduce light pollution, even if only a power line is available. In AstroDIM operation, the driver executes a preset dimming profile, which can be reconfigured via the OT Programming Tool. The autonomous dimming is regulated by an integrated timer (no real-time clock), which adjusts the dimming profile according to the previous night (operation from switch-on to switch-off).

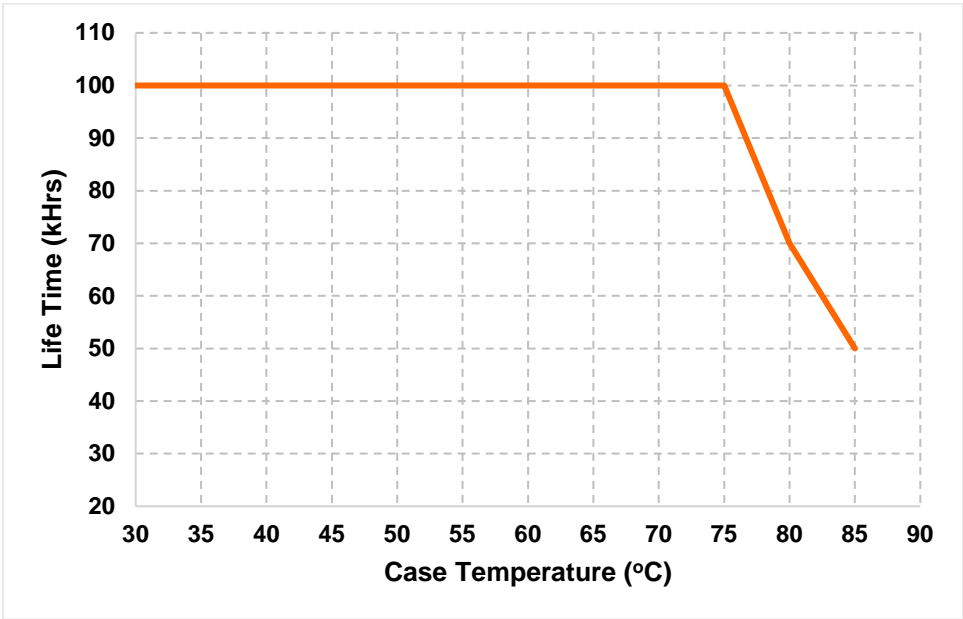
For detailed information on AstroDIM please refer to *Technical Application guide 2DIM feature* (LED 408)

Constant Lumen Maintenance

The Constant Lumen Maintenance feature of the OT100W helps to maintain the required lumen output of the fixture at a constant level throughout its lifetime. In general LED’s lumen output will depreciate over time and in order to maintain sufficient light level towards the end of lifetime, the LED’s are driven at high current initially and will result in more energy consumption. The constant lumen maintenance will give the flexibility to drive the LEDs at optimal driving current throughout its lifetime. This helps in energy savings, constant light output and enhanced reliability of the system.

Note 4: A detailed step-by-step instructions are outlined in the [‘OT Programmer User Manual V2.1](#)

Lifetime vs TCase



Inrush Characteristics

Vin (V)	Ipeak (A)	T(@ 10% of Ipeak)
120	60.0	131 μs
277	100.0	138 μs

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Complies with NEMA 410 inrush current requirements

Dimmer Compatibility

Manufacturer	Part Number
Encelium EMS	EN-LCM-1R10V-GB2-BK EN-LCM-1R10V-GB2-BK/DR EN-ALC-1R10V-GB2-BK EN-ALC-1R10V-GB2-BK-DR
Leviton	IP710-DLZ
Lutron	DVTV-XX
Wattstopper	ADF-120277
Synergy Lighting Controls	ISD BC

Note 5: The absence of a dimmer from this chart does not necessarily imply incompatibility. Please reference the dimmer manufacturer's instructions for installation.

Warranty

OPTOTRONIC® products are covered by our LED Module, OPTOTRONIC Power Supply or Control Warranty. For additional details, refer to the latest version of the warranty (LED089) available at www.osram.us/optotronic

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