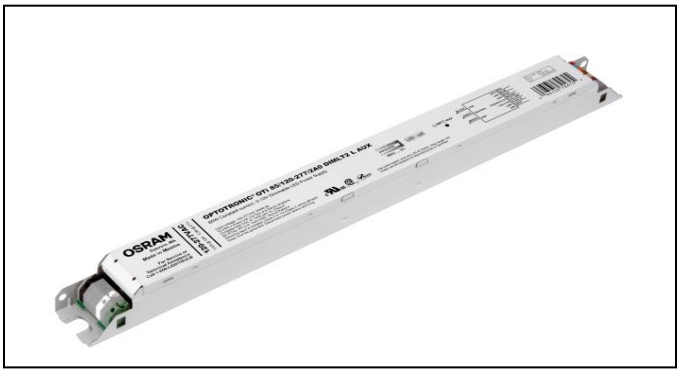
www.osram-americas.com/OPTOTRONIC

OPTOTRONIC® LED Power Supply
OTi 85/120-277/2A6 DIMLT2 L- Technical Specifications



ELECTRICAL SPECIFICATIONS		
Input		
Input Voltage (VAC)	120V-277V (+/- 10%)	
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)	
	120V	**277V**
Input Current (A)	0.85	0.37
THD @ Full load	< 20%	< 20%
Power Factor @ Full load	>0.9	>0.9
Efficiency @ Full load	≥ 85%	≥85%
Inrush Current (A_{pk})	30	68
Output		
Output Current (mA)	2.00–2.60A (1mA step)	
Output Voltage (VDC)	20-55VDC	
Output Ripple Current	<25% of DC value	
Max. Output power (W)	85W Max (Regulated)	
LED Power-up time	< 1 sec	
Load Regulation	<5%	
Line Regulation	<5%	
Over voltage protection	Yes, non- latching	
Over load protection	Yes, current fold back @87W	
Output short-circuit protection	Yes, latching	
LEDSet2 (LT2)		
LEDSet2	Available	
LED thermal protection (NTC)		
NTC value active range	≤ 25kΩ	
Output level minimum	User defined	

GENERAL INFORMATION	
Item Number	79471
Type	Constant Current, Class2, Class TL
Output Power	85W (Max.)
Programming tool	51645, 51647 & 51648
Software	Download
Programmable features	Output current Dimming level LED thermal protection Constant Lumen output End of life indicator

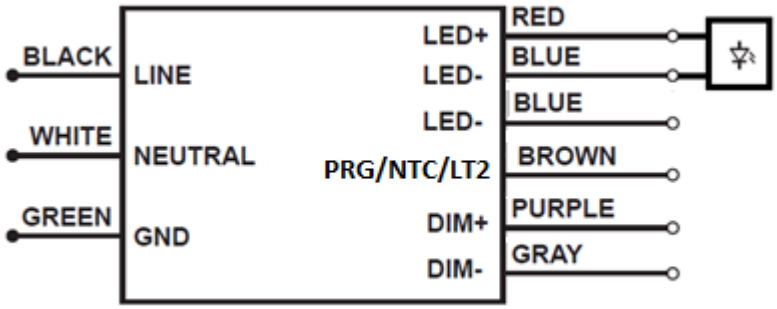
ELECTRICAL SPECIFICATIONS	
Dimming	
Dimming Control	0 – 10V (Isolated)
Dimming Range	10-100%
Dimming Type	Analog
Dimming Input Isolation	2.5KV
Source/Sink Current	<0.8mA

ENVIRONMENTAL SPECIFICATIONS	
Ambient Operating Temperature	-40 ºC to 40 ºC
Case Temperature (Tc)	80ºC* 90°C (max)
Max. Storage Temp.	70ºC
Max. Relative Humidity (%)	85% non condensing
Transient Protection	NEMA SSL1 - 2010 Non-Roadway 2.5KV
UL Environmental Rating	Dry & Damp, RoHS
UL File number	E320395 // Class TL
EMI Compliance	FCC Part 15 Class A
Sound Rating	Class A

- Warranty applicable only at 80ºC

OSRAM

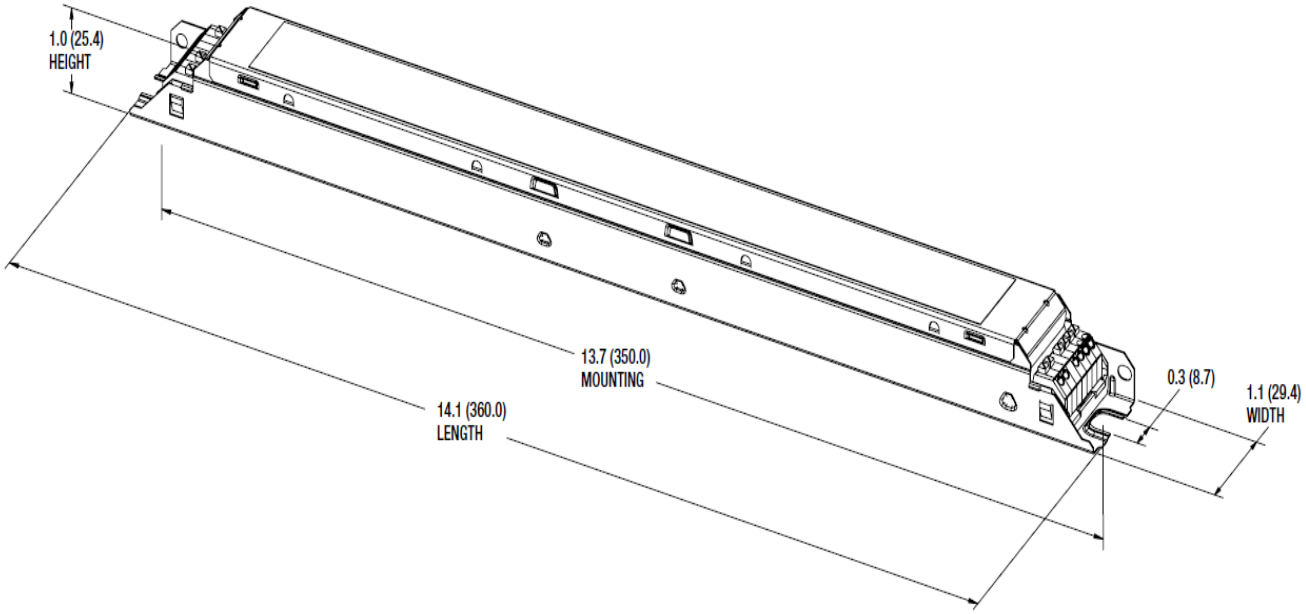
WIRING DIAGRAM



Note 1: Default current programmed on the Driver is 2.6A.

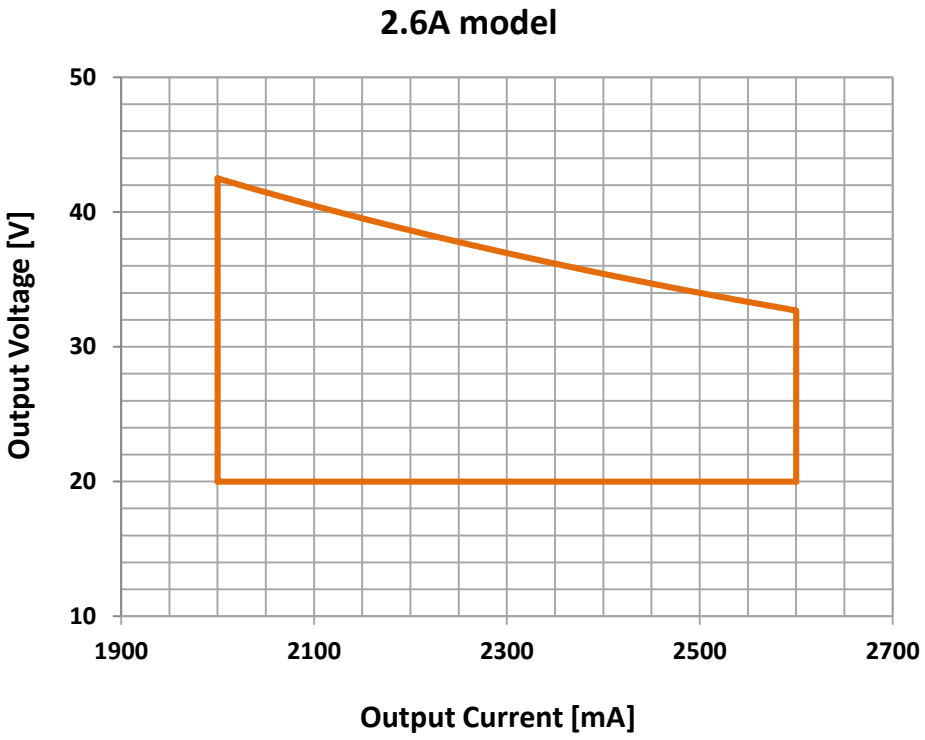
Note 2: Maximum suggested remote mounting distance is 16 feet. For additional information on further distances and EMI compliance reference OPTOTRONIC Technical Guide LED258

MECHANICAL DIAGRAM

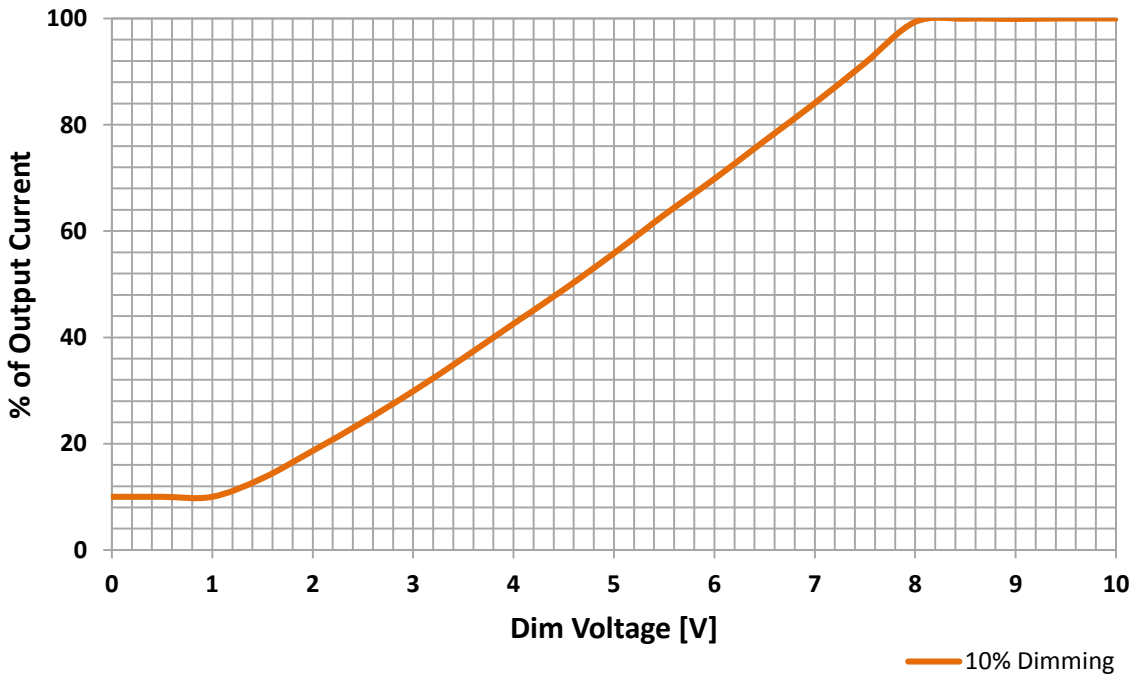


MECHANICAL SPECIFICATIONS	
Length	14.2" (360mm)
Width	1.2" (30mm)
Height	1.0" (25.4mm)
Mounting Distance	13.77" (350mm)

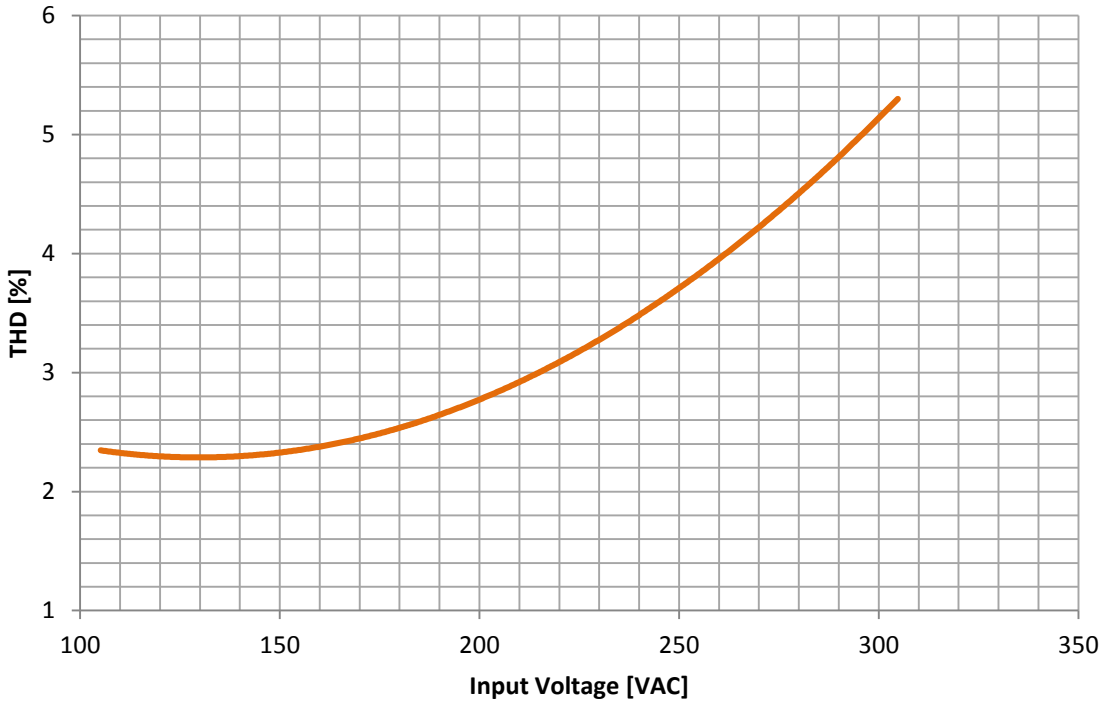
OPERATING RANGE



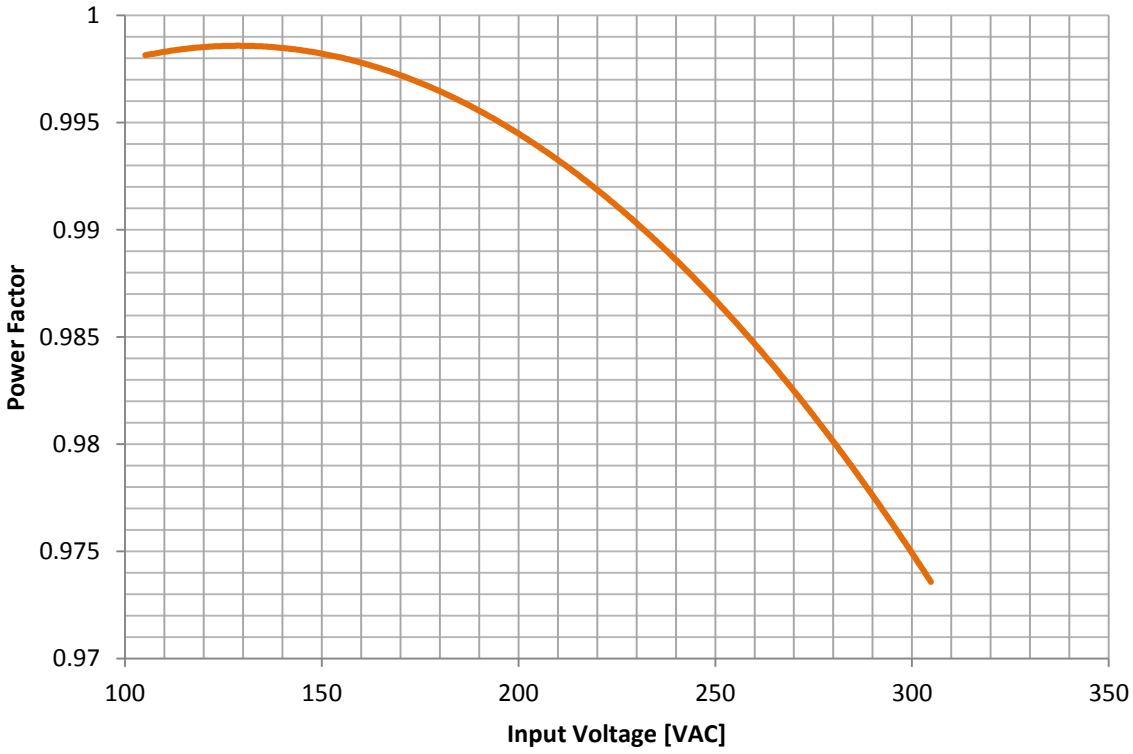
DIMMING RANGE



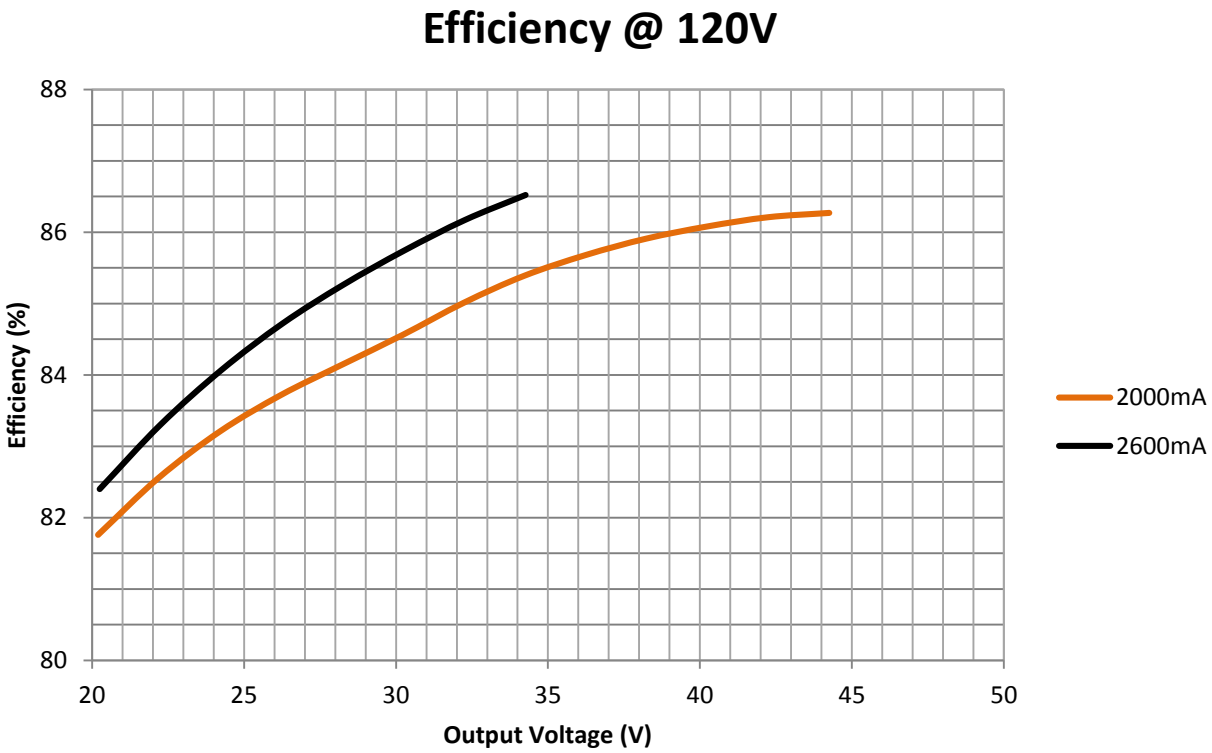
THD VS INPUT VOLTAGE (FULL LOAD)

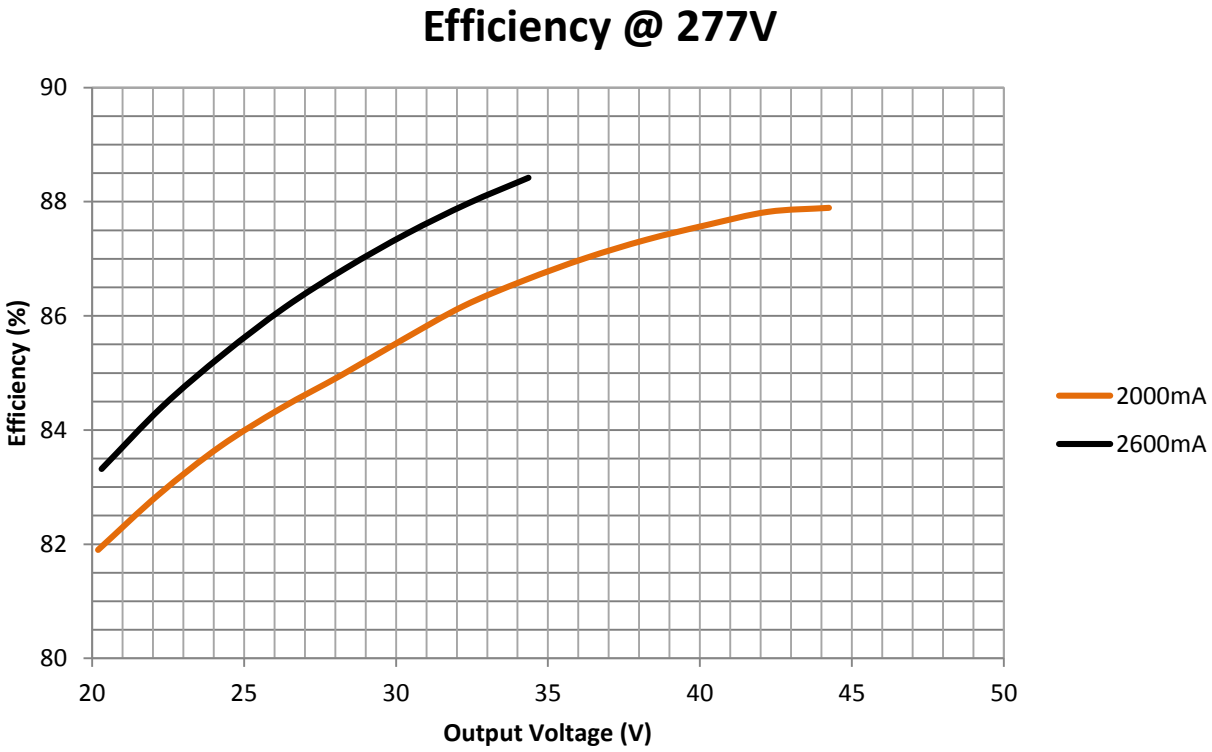


POWER FACTOR VS INPUT VOLTAGE (FULL LOAD)

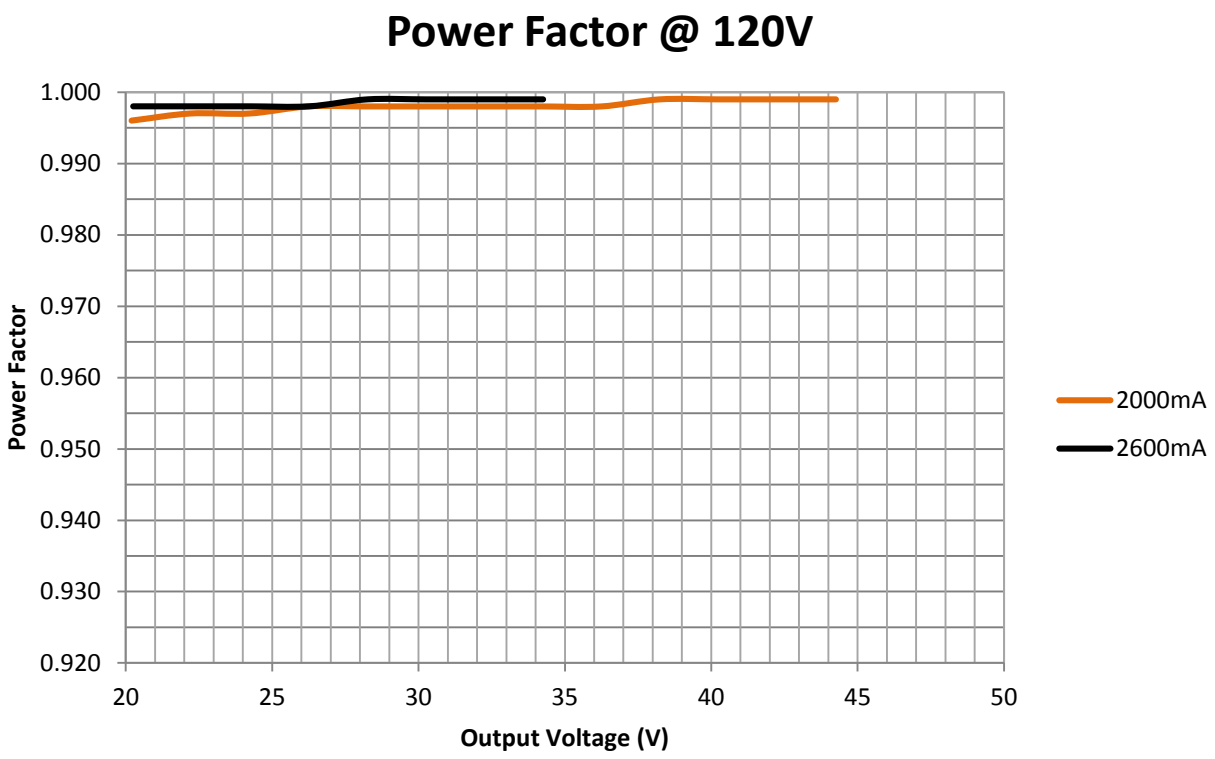


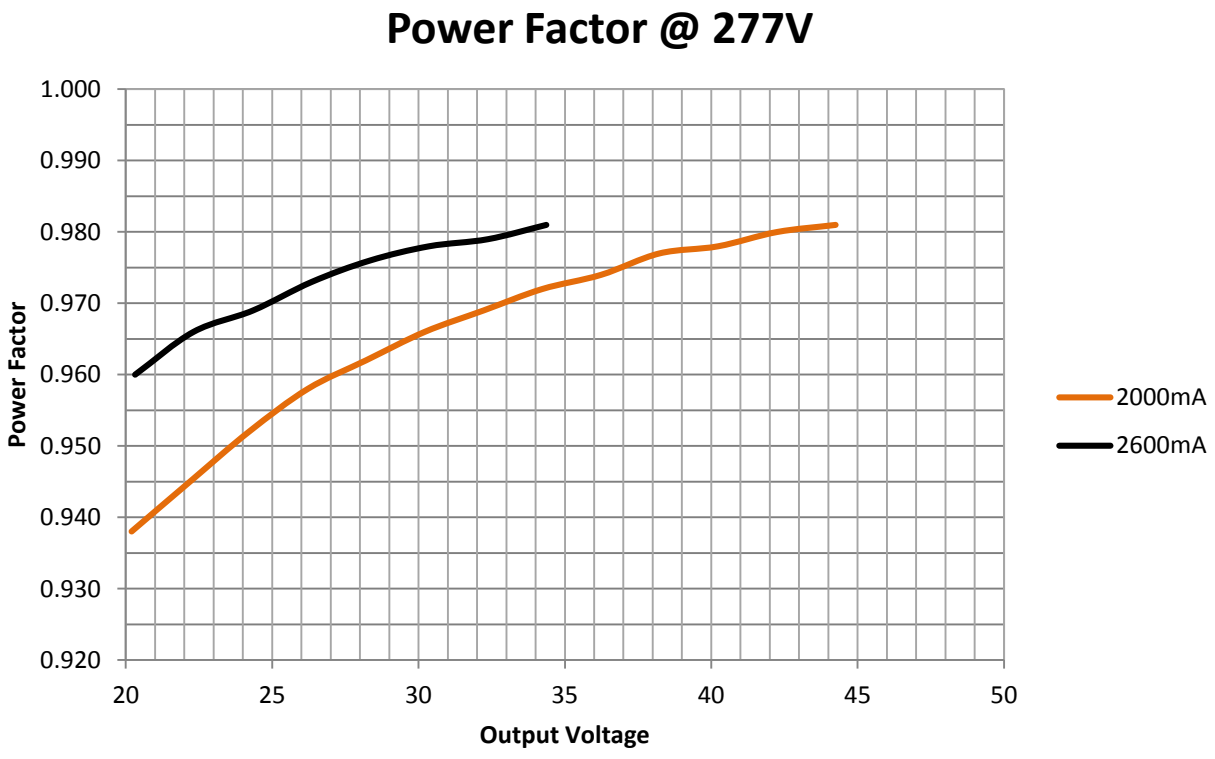
EFFICIENCY VS OUTPUT VOLTAGE



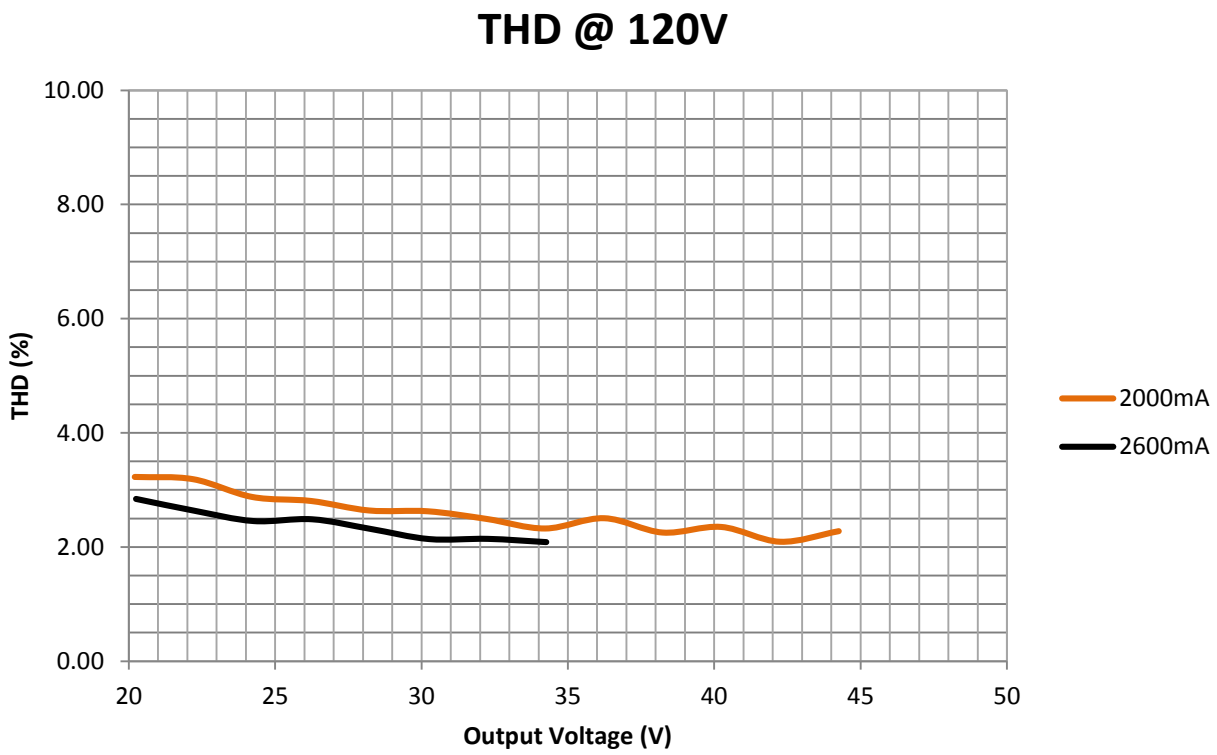


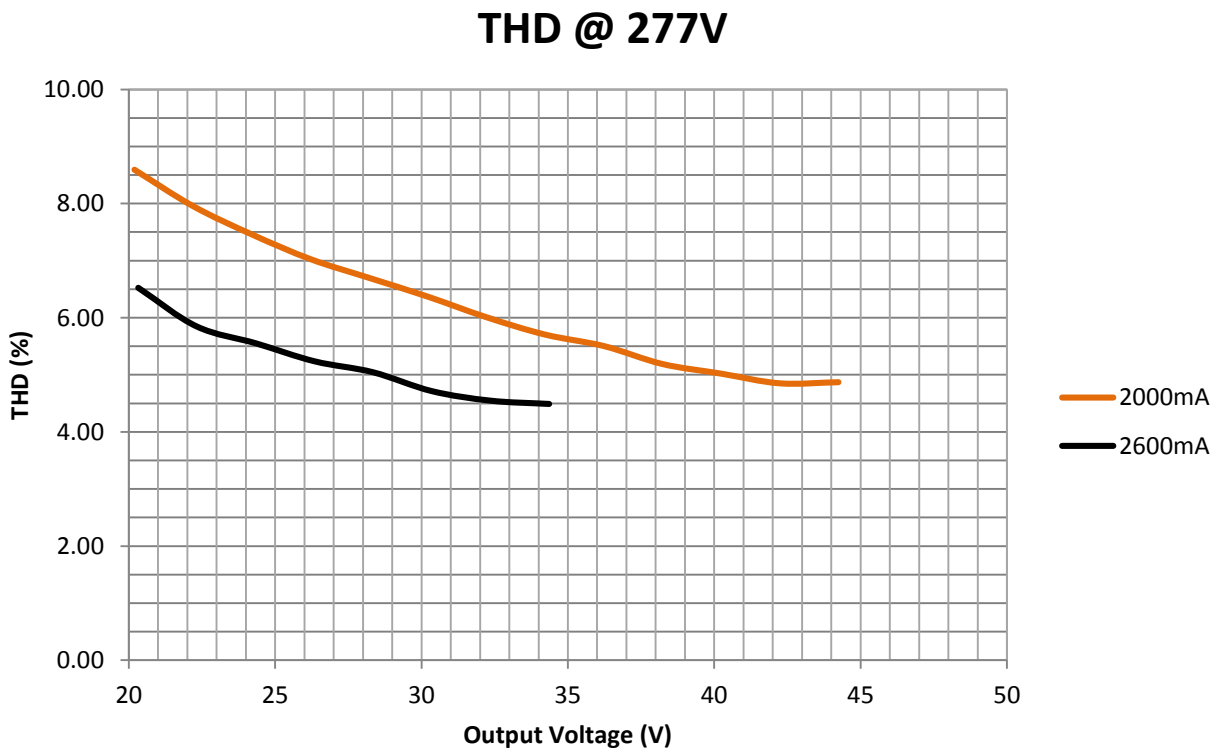
POWER FACTOR VS OUTPUT VOLTAGE





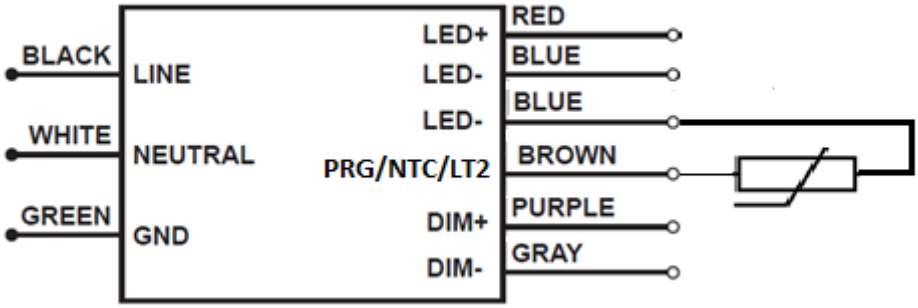
THD VS OUTPUT VOLTAGE





LED THERMAL PROTECTION (NTC) CHARACTERISTIC

The LED thermal protection feature of the OTi85W 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.

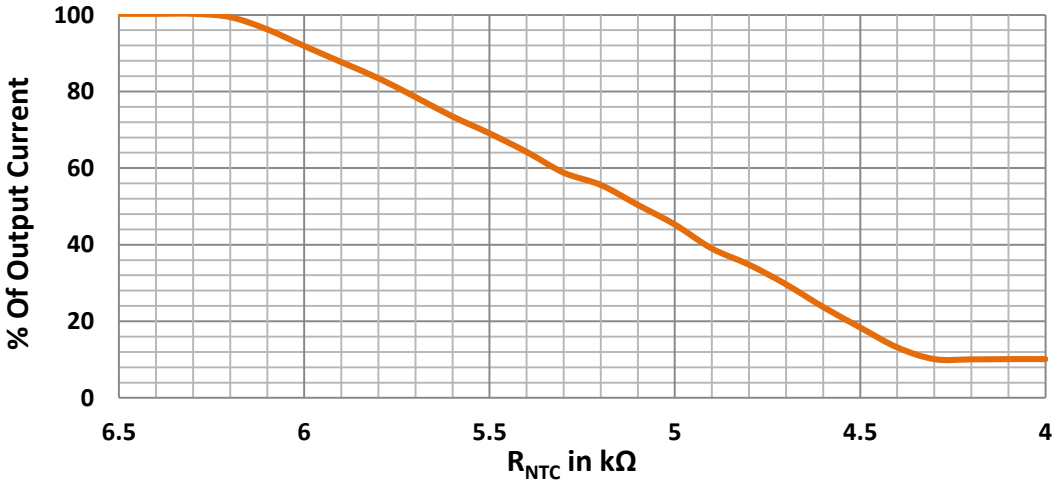


In the end application, care must be taken to place the NTC thermistor close to the hottest spot on the LED module. If LED thermal protection is not required the NTC port on the LED power supply connector can be left open.

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)**

Note 4: Graphs for reference. The derating limits can be programmed using the OT Linear Handheld Programmer

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



CONSTANT LUMEN MAINTENANCE

The Constant Lumen Maintenance feature of the OTi85W 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 5: A detailed step-by-step instructions are outlined in the 'OT Programmer User Manual'

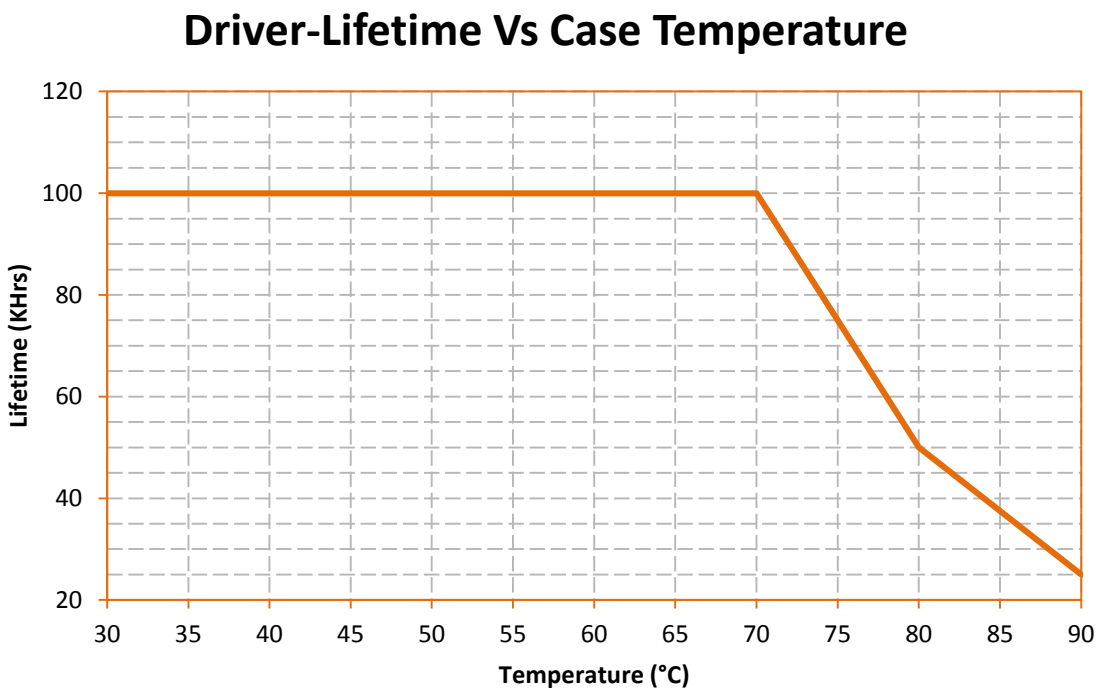
END OF LIFE INDICATOR

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 reach the programmed life-time, whenever it is turned ON, it stays at 'Dim' level (10%) for 10 minutes and reaches its appropriate level.

INRUSH CHARACTERISTICS

Vin (V)	Ipeak (A)	T (@ 50% of Ipeak)
120	30	50uS
277	68	30uS

LIFE TIME VS CASE TEMPERATURE



DIMMER COMPATIBILITY

Manufacturer	Part no
Encelium EMS	EN-LCM-1R10V-GB2-BK EN-LCM-1R10V-GB2-BK/DR EN-ALC-1R10V-GB2-BK EN-ALC-1R10V-GB2-BK-DR
OSRAM	45561 - LC-SL3W-TVWBX/UNV
Leviton	IP710-DLX
Lutron	DVTV-XX
Wattstopper	ADF-120277
Synergy lighting Controls	ISD BC

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

UL CONDITIONS OF ACCEPTABILITY (E320395)

- The LED driver was evaluated using an electronic LED load resulting in an output rated current and rated power as indicated in the electrical ratings.
- The unit employs a Class B isolation transformer (L300) on the main PWB. The need to repeat the temperature test shall be determined in end-use product. TC point case temperatures in the end-use shall not exceed 90°C.
- The unit was tested on a 20A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
- The PWB spacing's for use in damp locations have been evaluated to CSA 250.13/UL 8750, the unit is partially potted on the top of the PCB and fully potted on the bottom of the PCB. Areas that are potted meet spacing requirements are out of Table 5/7.4 parts potted or subsequently coated. Other areas meet applicable requirements in table 5/7.4.
- The leakage current test was conducted between the ground terminal, exposed conductive surface and the grounded pole of the supply circuit.
- The products are intended for use in Dry and Damp locations. The use in other environmental locations shall be considered in the end product.
- Leads to be determined in the end product.
- These test conditions are for TL rating: This model was tested in a 40°C ambient. For Tref. values see Table Below. Determination to repeat the temperature test shall be made in end-use product. During the normal temperature test of the end product, the temperature at any point on the case is to be monitored and shall not exceed 90°C. When provided the tc in a circle can be a considered a reference hot spot on the case:

Product	Tref Max	Tref – measured @ 40C
OTi 85/120-277/2A6 DIMLT2 L	90°C	87°C

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 (LED395) available at www.osram-americas.com/optotronic.