OPTOTRONIC® LED Power Supply
OTi 20W Programmable - Technical Specifications

UNV

ELECTRICAL SPECIFICATIONS

Input

Input Voltage (VAC)	120V-277V (+/- 10%)	
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)	
	120V	**277V**
Input Current (A)	0.21	0.10
THD @ Full Load	<10%	<20%
Power Factor @ Full Load	>0.9	>0.9
Efficiency @ Full Load (%)	>85%	>85%
Inrush Current (A_{pk})	0.86	1.35

Output

Output Current (mA)	150-700mA
Output Voltage (VDC)	10-55VDC
Output Ripple Current	<20% @ 700mA
Max. Output Power (W)	20W
LED Power Up Time	<1sec
Load Regulation	<5%
Line Regulation	<5%
Over Voltage Protection	Yes, non-latching
Over Load Protection	Yes, non-latching
Output Short-Circuit Protection	Yes, non-latching
Over Temperature Protection	Foldback at 110^0C

Auxiliary Output (Models: 79532 & 79533 only)

Output Voltage (VDC)	12/20/24V[1] (configurable)
Output Current (mA)	40
Voltage Regulation	±10%

LED thermal protection (NTC)

NTC Value Active Range	≤25kΩ
Output Level Minimum	User defined

GENERAL INFORMATION

Item Number	79532, 79533, 79534, 79535
Type	Constant Current, Class 2
Output Power	20W (Max.)
Programming Tool	51645 & 51647/51648
Software	[Download]
Programmable Features	Output current Dimming level Dim-to-off, Soft Start LED thermal protection Auxiliary output voltage Constant lumen output End-of-life indicator

DIMMING SPECIFICATIONS

Dimming Control	0 – 10V (Isolated)
Dimming Range[2]	10-100%, 1-100%
Dimming Type	Analog , PWM[2] (≥1kHz)
Dimming Input Isolation	2.5kV
Source/Sink Current	0.2mA max
Dim-to-Off Threshold	0.8V
Stand-by Power (max)	1.4W(120V); 1.7W(277V)

ENVIRONMENTAL SPECIFICATIONS

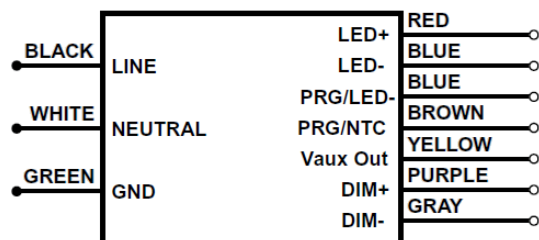|	
Ambient Operating Temperature	-30ºC to 50ºC
Case Temperature (Tc)	75ºC (50kHrs)[3] 90°C (20kHrs)
Max. Storage Temp.	70ºC
Max. Relative Humidity (%)	85% non-condensing
Transient Protection	NEMA SSL1 - 2010 Non-Roadway 2.5KV
UL Rating	Dry & Damp
UL File Number	E320395
EMI Compliance	FCC Part 15 Class A
Sound Rating	Class A

1- Default Vaux is 12V
2- The output is in PWM mode under 350mA. The lowest output current is 2mA for 1% dimmable driver models.
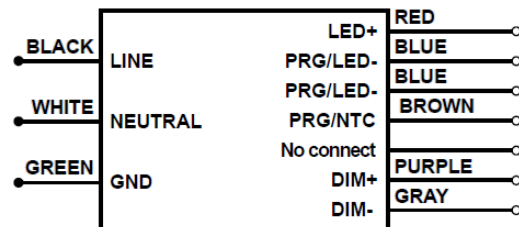*3- Warranty applicable only at 75ºC*

c(UL)us LISTED CLASS P   CSA®   RoHS Compliant

WIRING DIAGRAM

Wiring diagram for AUX output models

BLACK	LINE		LED+	RED
			LED-	BLUE
				BLUE
			PRG/LED-	BROWN
WHITE	NEUTRAL		PRG/NTC	YELLOW
			Vaux Out	PURPLE
GREEN	GND		DIM+	GRAY
			DIM-	

Wiring diagram for non-AUX output models

BLACK	LINE		LED+	RED
				BLUE
			PRG/LED-	BLUE
			PRG/LED-	BROWN
WHITE	NEUTRAL		PRG/NTC	
			No connect	PURPLE
GREEN	GND		DIM+	GRAY
			DIM-	

Note 1: The **Vaux Out (YELLOW)** and **LED- (BLUE)** will provide the DC Auxiliary output. Yellow is "+ve" polarity and blue is "-ve" polarity.

Note 2: Maximum suggested remote mounting distance is 16 feet.

KEY APPLICATION NOTES

- Dim-to-off and Soft-start are programmable (enable/disable) features. The default mode for both features is <u>disabled</u> for out-of-the-box products. If these features are required, they must be checked ON in the programming software.
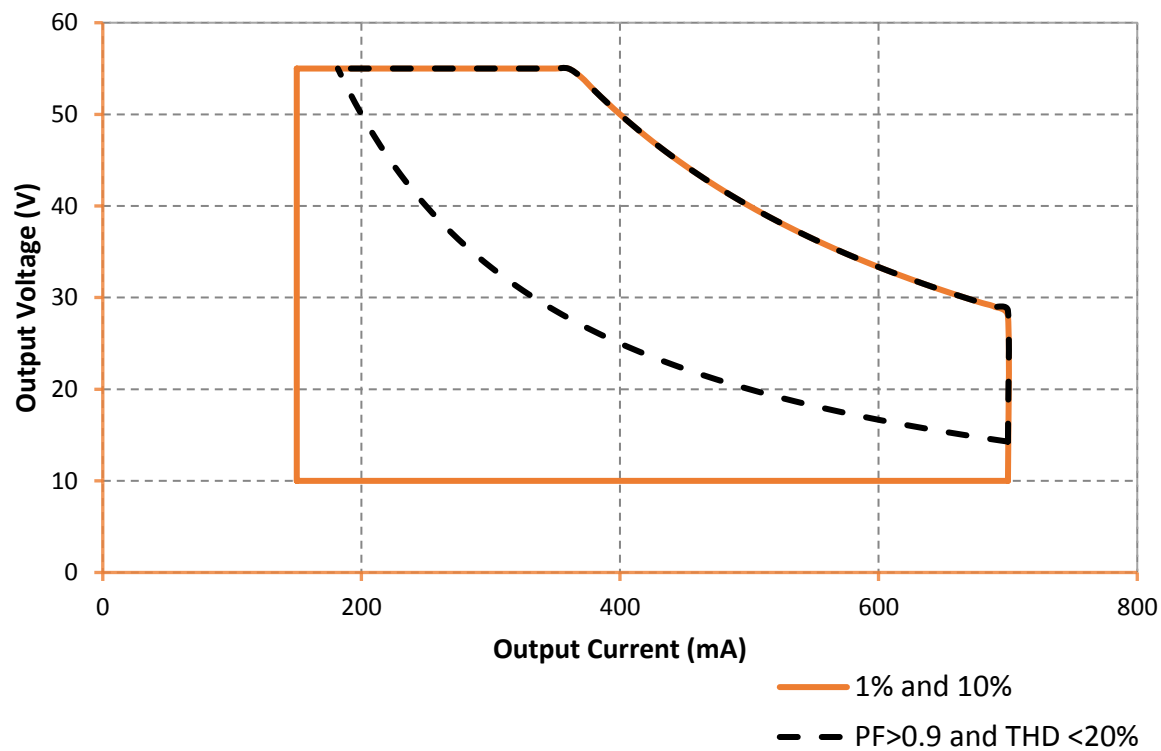
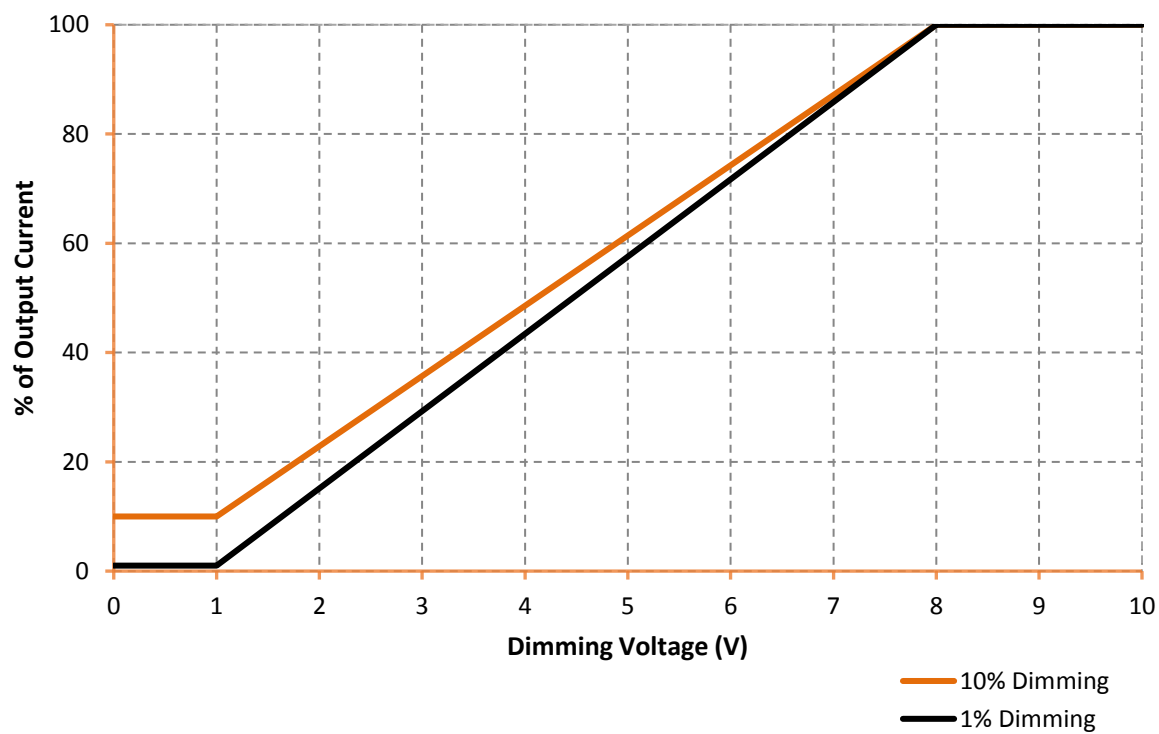## MECHANICAL DIAGRAM
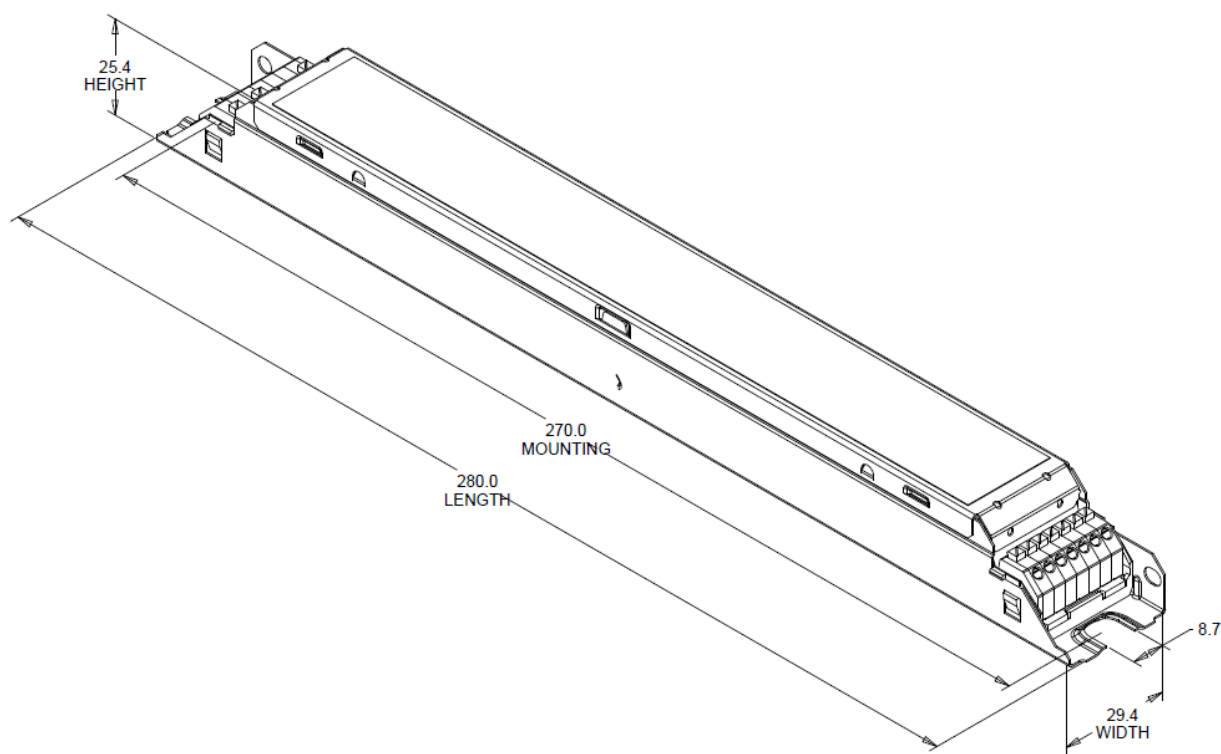
MECHANICAL SPECIFICATIONS

Length	11.02" (280mm)
Width	1.15" (29.4mm)
Height	1.0" (25.4mm)
Mounting Length	10.63" (270mm)

OPERATING RANGE

Output Voltage (V) vs **Output Current (mA)**

Legend:
— 1% and 10%
- - PF>0.9 and THD <20%

Note: Meeting DLC requirements requires minimum 50% loading

DIMMING CURVE

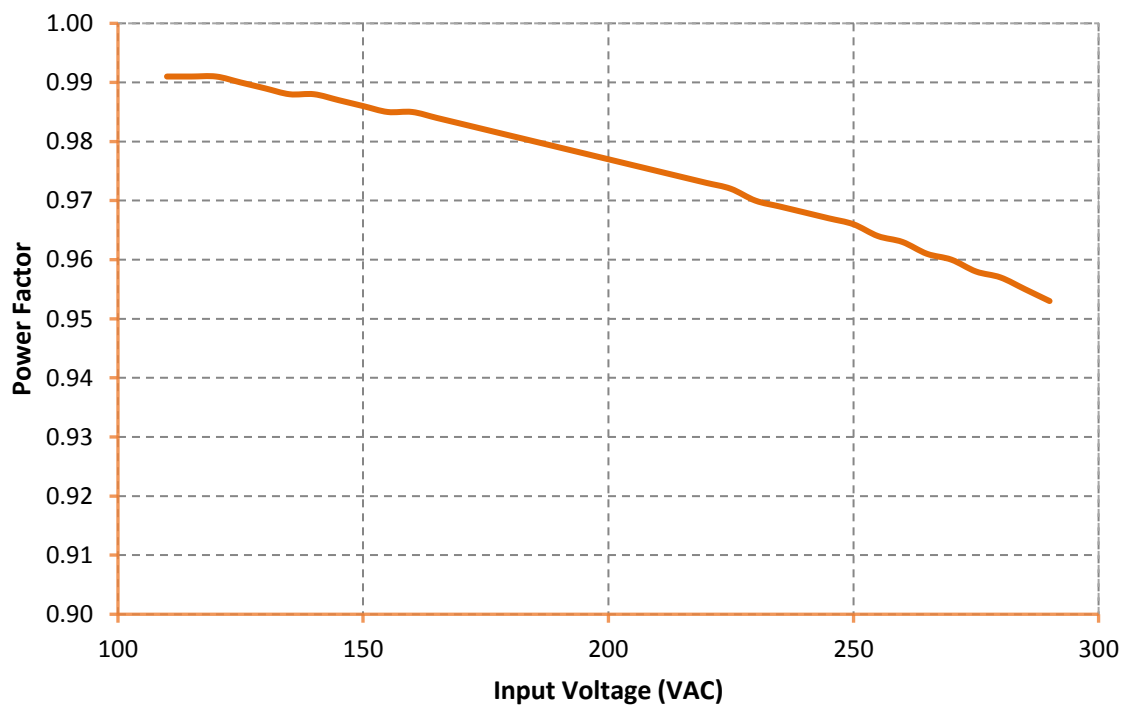**% of Output Current** vs **Dimming Voltage (V)**
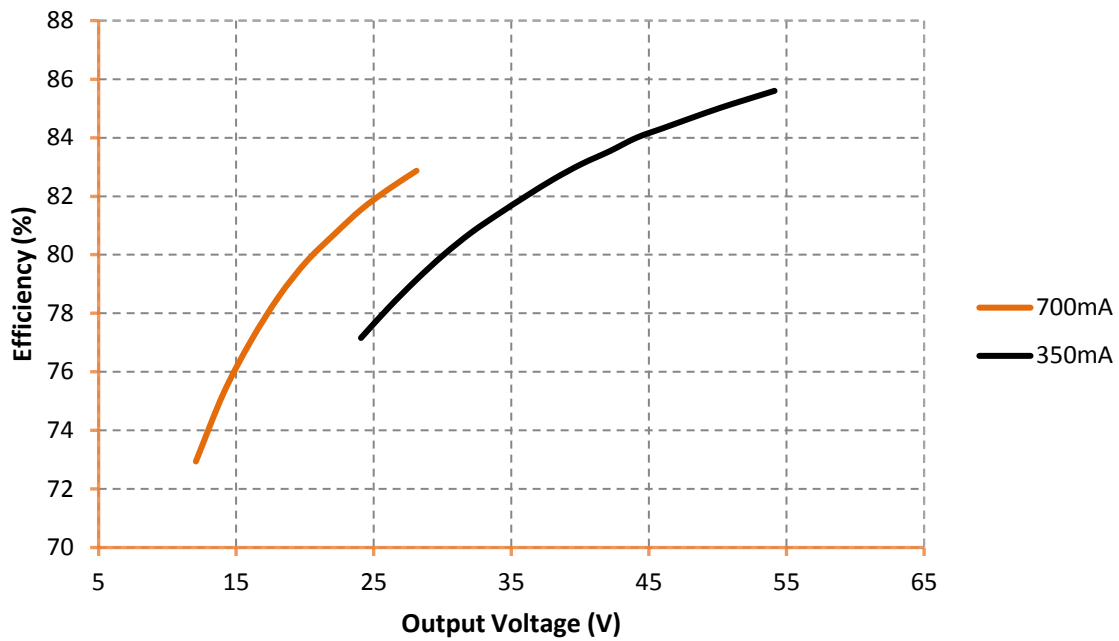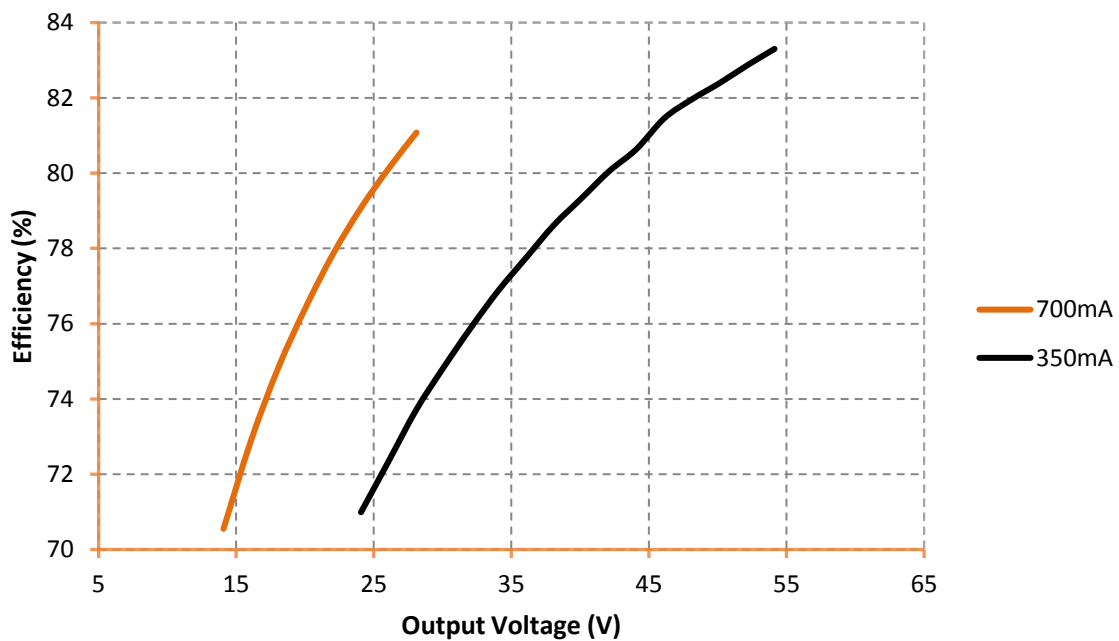
Legend:
— 10% Dimming
— 1% Dimming

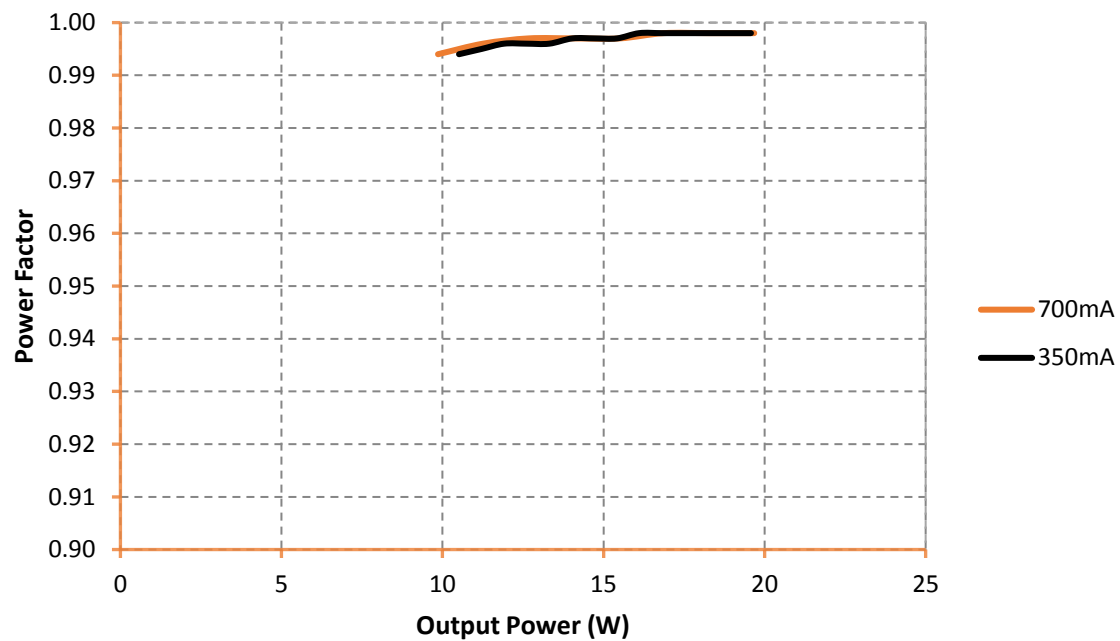## THD VS INPUT VOLTAGE (FULL LOAD)
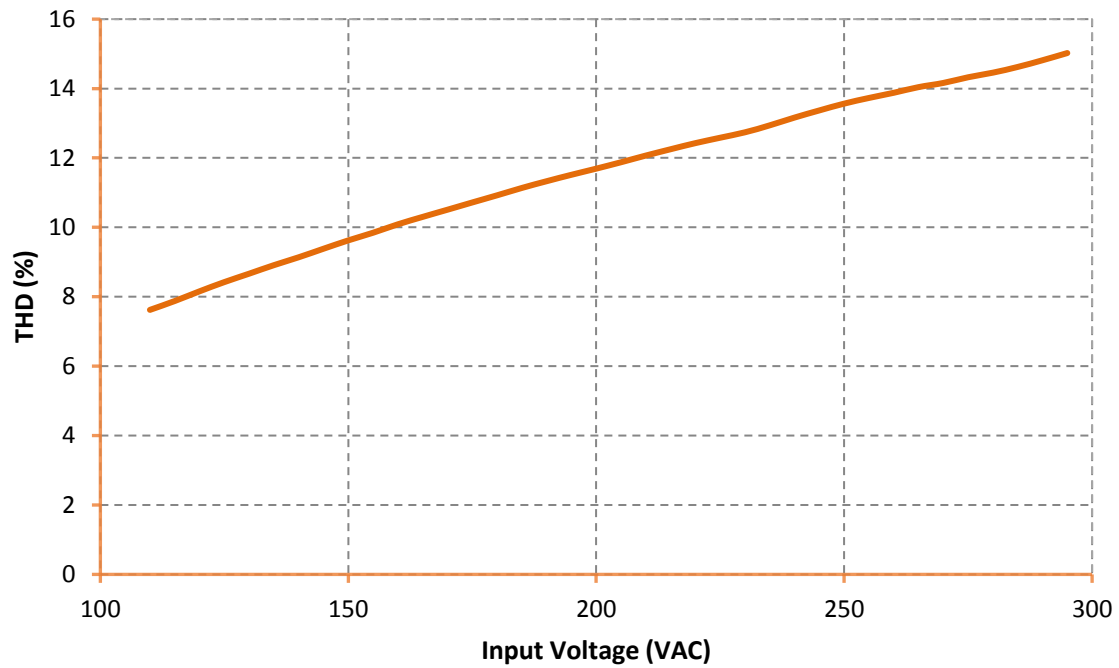
POWER FACTOR VS INPUT VOLTAGE (FULL LOAD)

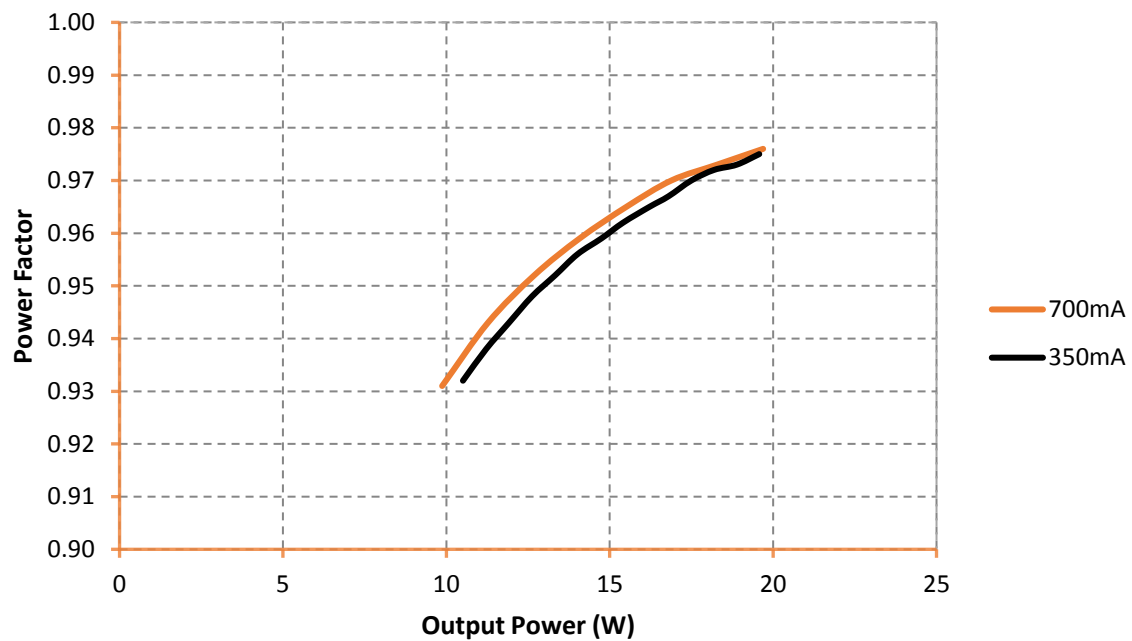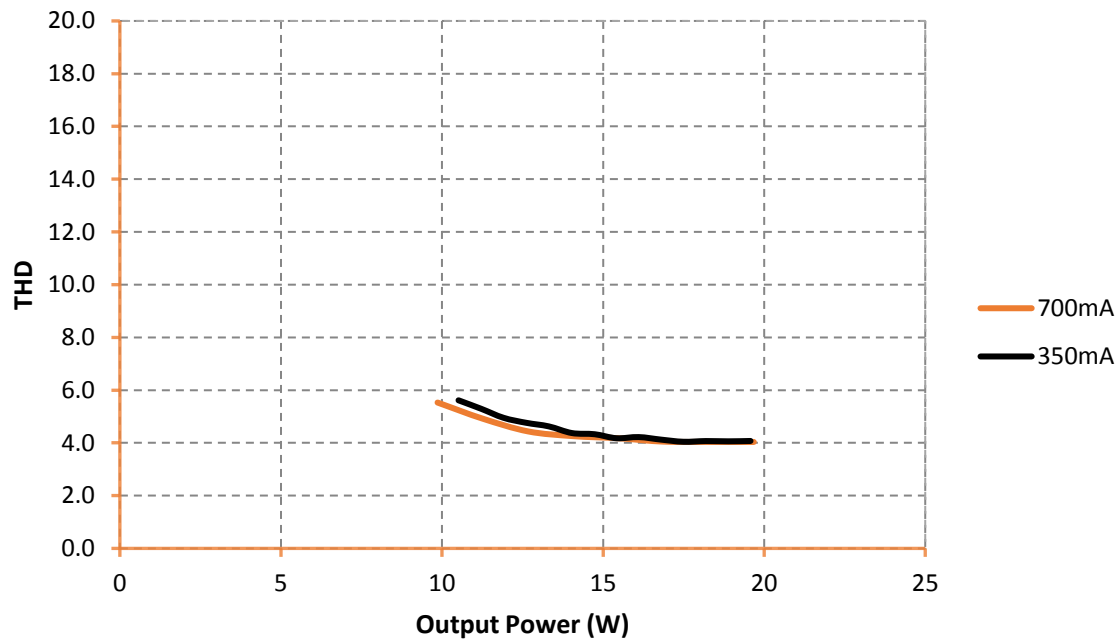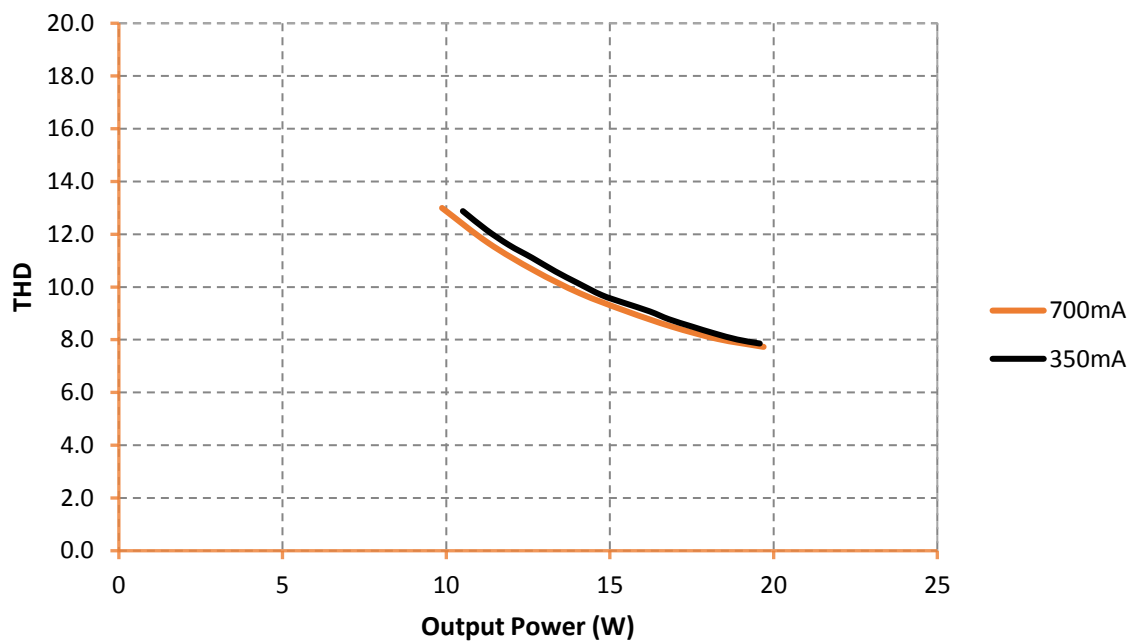## Efficiency @ 120V

Efficiency @ 277V

Power Factor vs Output Power (120V)

Power Factor vs Output Power (277V)

THD vs Output Power (120V)

THD vs Output Power (277V)

LED THERMAL PROTECTION (NTC) CHARACTERISTIC

The LED thermal protection feature of the OTi 20W 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.
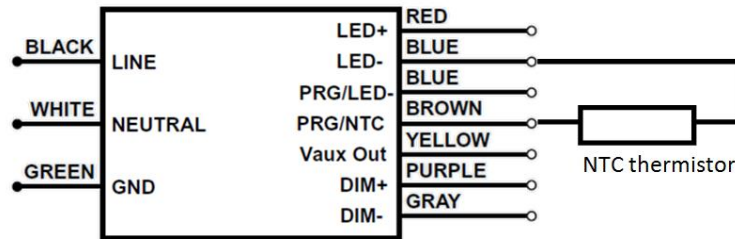

In the end application, care must be taken to place the NTC thermistor close to the hottest spot on the LED module. If LED thermal protection is not required the NTC port on the LED power supply connector can be left open.

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 3: Graphs for reference. The derating limits can be programmed using the OT Programmer

Derating start = 6.3kΩ; Derating end = 4.3kΩ; Min output level = 10%
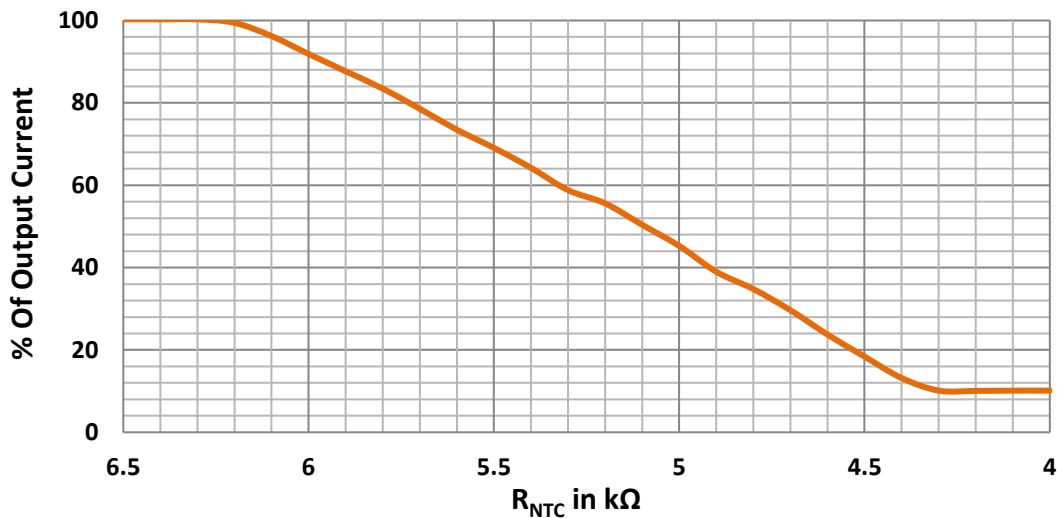
To learn more about this feature, please refer to the technical application guide for LED Thermal Protection (ECS304).

CONSTANT LUMEN MAINTENANCE

The Constant Lumen Maintenance feature of the OTi 20W 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 LEDs 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 Help section of the OT Programmer software.

END-OF-LIFE INDICATOR

The End-of-Life indicator 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.

INRUSH CHARACTERISTICS

Vin (V)	Ipeak (A)	T (@ 50% of Ipeak)
120	0.86	50µs
277	1.35	60µs

Complies to NEMA 410 inrush current requirements

DIMMER/SENSOR COMPATIBILITY

Manufacturer	Part no
OSRAM	ZBHA-CLM DIM (NAED: 45678)
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-DLX
Lutron	DVTV-XX
Wattstopper	ADF-120277
Synergy lighting Controls	ISD BC
Wattstopper	FD-301
Wattstopper	FSP-202
Enlighted Inc.	SU-3E-00 (Enlighted Compact Sensor)

Note 5: Please reference the dimmer manufacturer's instructions for installation. The absence of a dimmer from this chart does not necessarily imply incompatibility. However, please contact your OSRAM Digital Lighting Systems representative for compatibility queries.

WARRANTY

OPTOTRONIC® products are covered by our LED Module, OPTOTRONIC Power Supply or Control Warranty. For additional warranty information or to download the warranty registration form visit www.osram.us/warranty.

OSRAM