eldoLED

Technical Specifications
OPTOTRONIC® OTi 50W 347V Programmable Linear LED Driver

General Information

Item Number	*2743YU (79670), *2743YX (79676) & *27440A (79678)
Type	Constant Current, Class2
Output Power	50W (Max.)
Programming Tool	*274A17 (51645) & *2747CR/*2743V1 (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

Find (NAED) as cross reference for new item number i.e. *12345

Environmental Specifications

Ambient Operating Temperature	-30°C to 50°C
Case Temperature (Tc)	75°C (50kHrs)[1] 90°C (20kHrs)
Max. Storage Temp.	70°C
Max. Relative Humidity (%)	85% non-condensing
Transient Protection	NEMA SSL 1 - 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 - Warranty applicable only at 75°C

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Electrical Specifications

Input

Input Voltage (VAC)	347V (+/- 10%)
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)
Input Current (A)	0.20
THD @ Full load	<10%
Power Factor @ Full load	>0.9
Efficiency @ Full load	≥88%
Inrush Current (Apk, T@10% of Apk)	6.25, 25.8µs

Output

Output Current (mA)	400-1400mA (1mA step)
Output Voltage (VDC)	10-55VDC
Output Ripple Current	<20% @ 1400mA
Max. Output Power (W)	50W
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°C

Dimming

Dimming Control	0 – 10V (Isolated)
Dimming Range	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	1.5W

CAUTION: Two power supplies if dimming is connected to non-class 2 circuits.

2 - The output is in PWM mode under 350mA. The lowest output current is 4mA for 1% dimmable driver models.

Auxiliary Output (Model: *2743YU (79670) only)

Output Voltage (VDC)	12/20/24V[3] (configurable)
Output Current (mA)	40
Voltage Regulation	±10%

3 - Default Vaux is 12V

LED thermal protection (NTC)

NTC Value Active Range	≤25kΩ
Temperature Derating Start	User defined

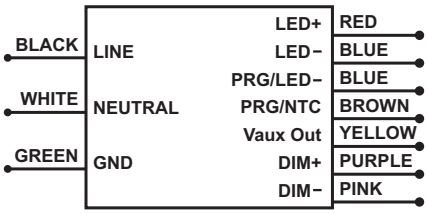
External NTC cannot leave the fixture.
The PRG/ NTC control circuit terminals or lead wires are not isolated.
The external NTC needs to be isolated or separated by live parts.

Ordering Guide

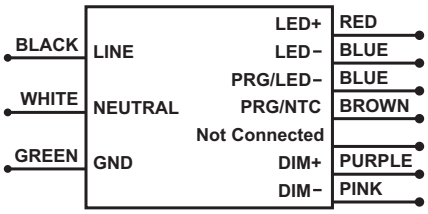
Item Number	Ordering Description
*2743YU	OTi 50/347/1A4 DIM-1 L AUX
*2743YX	OTI 50W 347V 1A4 1DIM DIM-1 J10
*27440A	OTI 50W 347V 1A4 1DIM J10

Wiring Diagram

Wiring diagram for AUX output models



Wiring diagram for non-AUX output models



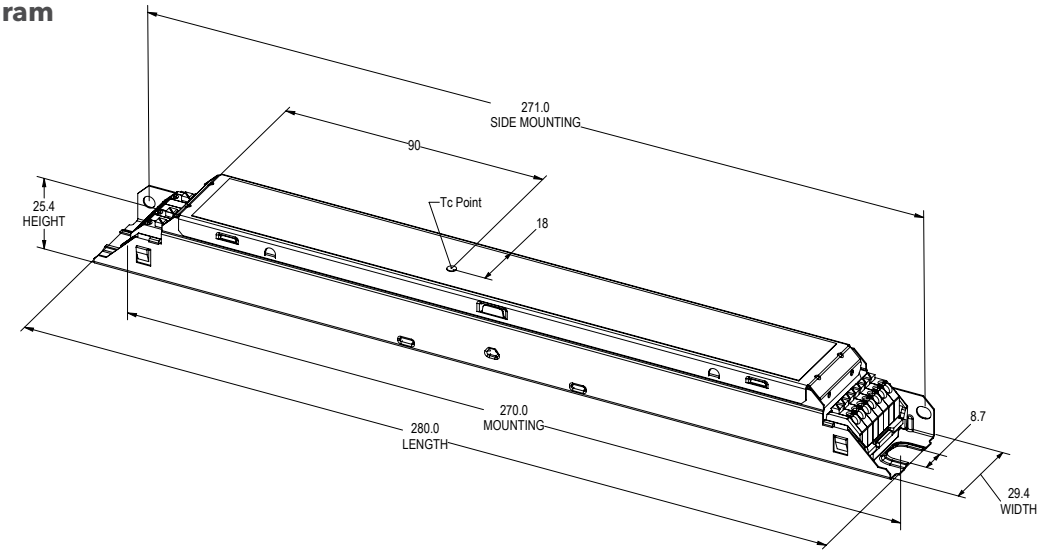
Note: The Vaux Out (YELLOW) and LED- (BLUE) will provide the DC Auxiliary output. Yellow is "+ve" polarity and blue is "-ve" polarity.

Note: 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 disabled for out-of-the-box products. If these features are required, they must be enabled in the programming software.

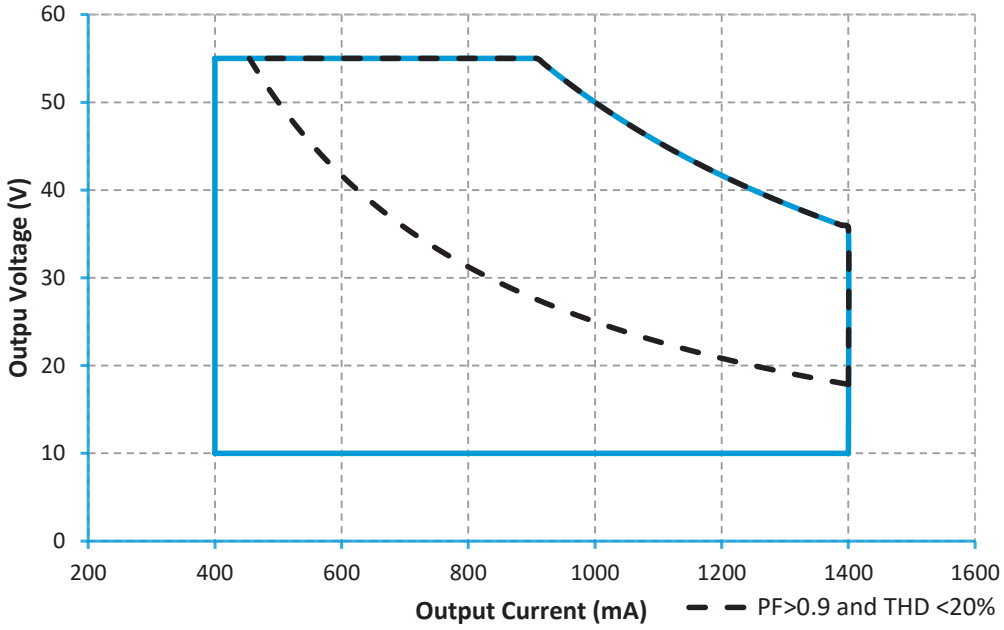
Mechanical Diagram



Mechanical Specification

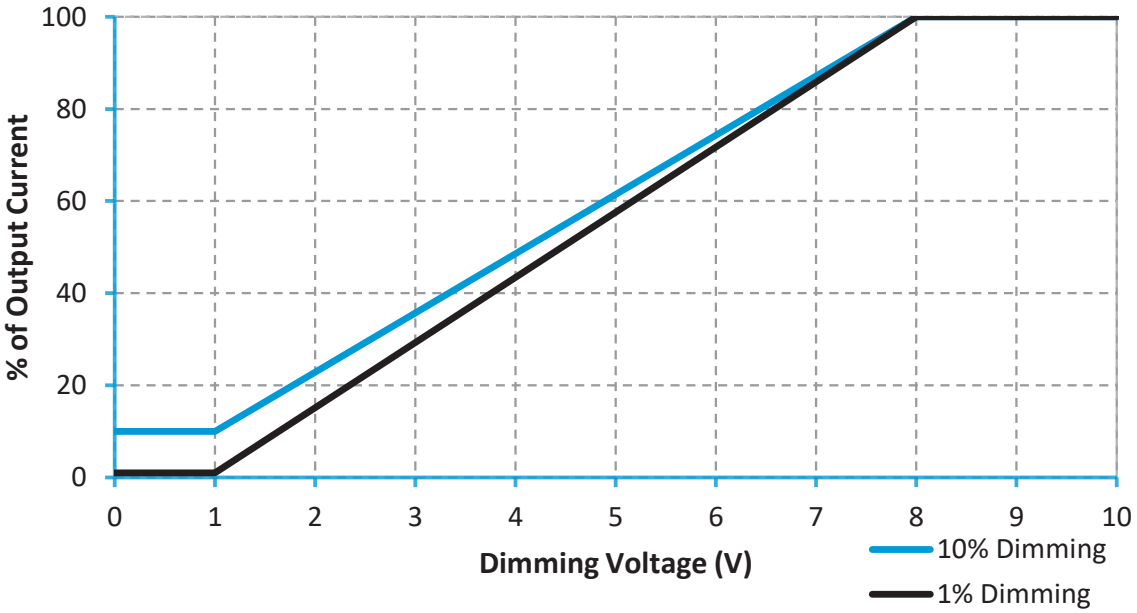
Length	11.02" (280mm)
Width	1.15" (29.4mm)
Height	1.0" (25.4mm)
Mounting Length	10.63" (270mm)

Operating Range

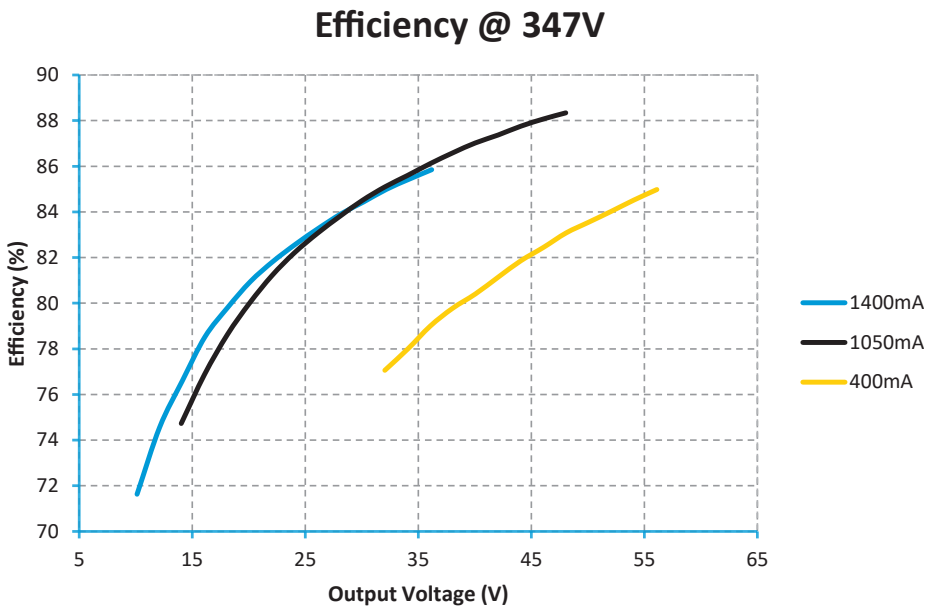


Note: Meeting DLC requirements requires minimum 50% loading.

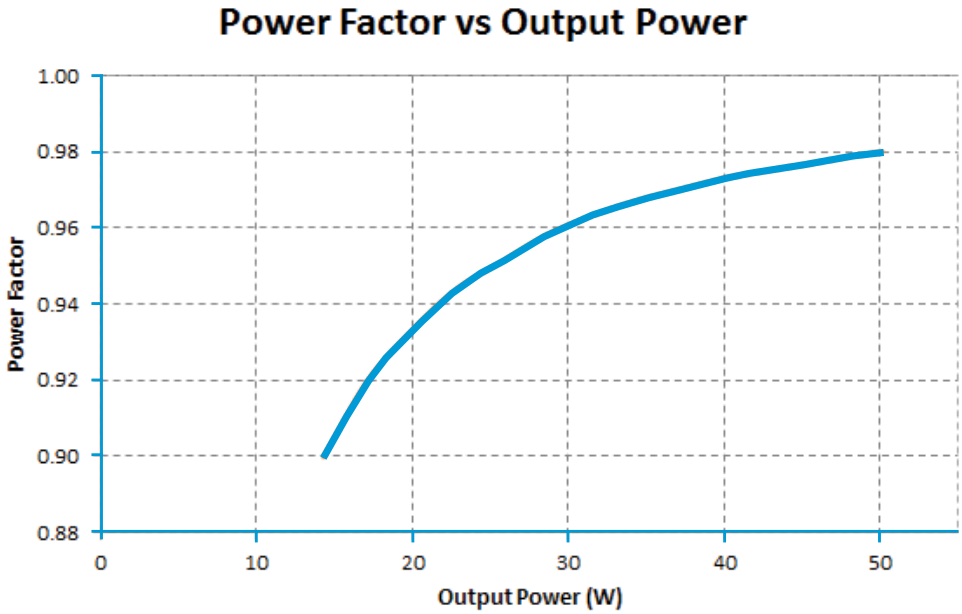
Dimming Curve



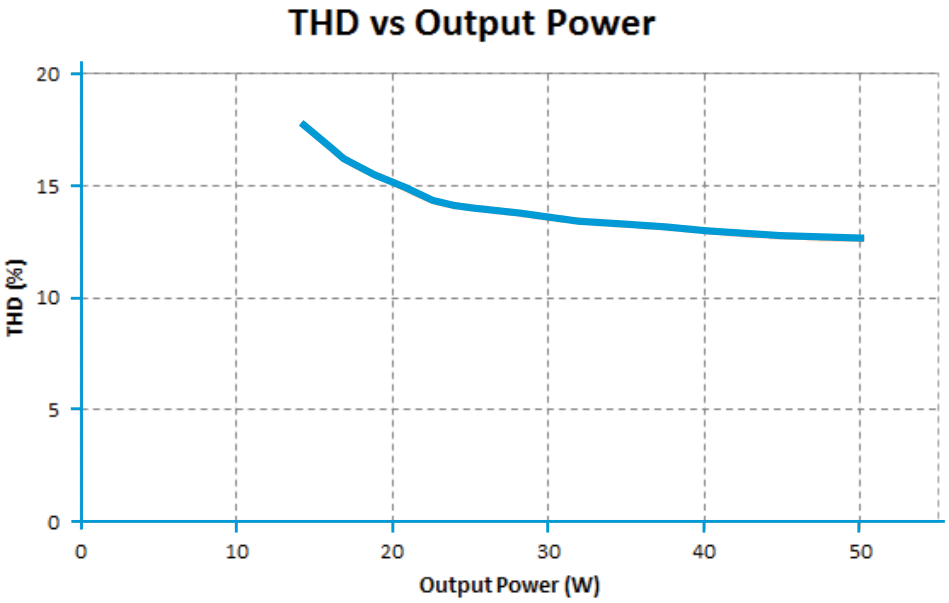
Efficiency vs. Output Voltage



Power Factor vs Load

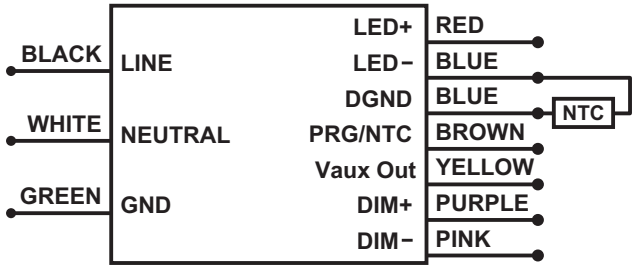


THD vs Load



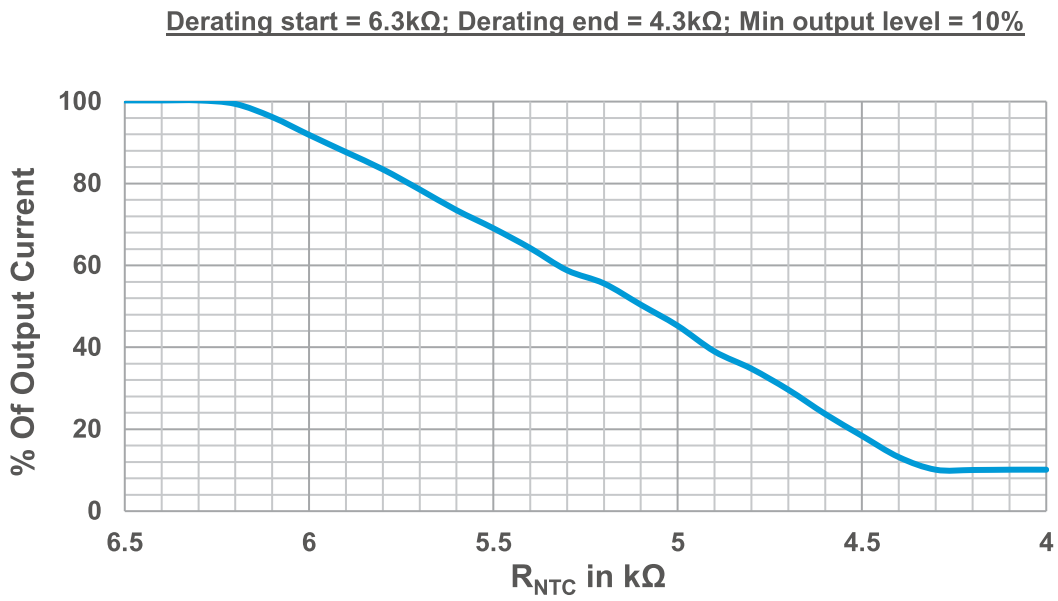
LED Thermal Protection (NTC) Characteristic

The LED thermal protection feature of the OTi 50W 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: Graphs for reference. The derating limits can be programmed using the OT Programmer



To learn more about this feature, please refer to the Technical Guide for LED Thermal Protection (ECS304).

Constant Lumen Maintenance

The Constant Lumen Maintenance feature of the OTi 50W 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: Step-by-step instructions are outlined in the OT Programmer User Manual embedded in the software.

Dimmer/Sensor Compatibility

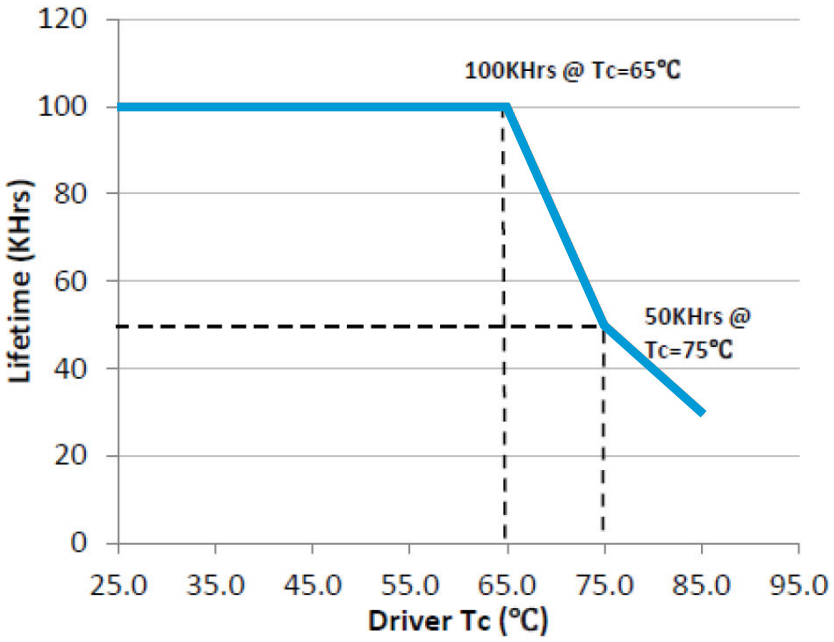
Manufacturer	Part Number
Digital Lumens, Inc.	45678
Encelium LMS	EN-ILCM-1R10V-GB2-BK EN-ILCM-1R10V-GB2-BK/DR EN-ALC-1R10V-GB2-BK EN-ALC-1R10V-GB2-BK-DR
Leviton	IP710-DLX
Lutron	DVTV-XX
Wattstopper	ADF-120277
Synergy Lighting Controls	ISD BC
Wattstopper	FD-301
Wattstopper	FSP-202
Enlighted Inc.	SU-3E-00 (Enlighted Compact Sensor)
Magnum Energy Solutions	Mx-OPUS-ML10V
Magnum Energy Solutions	Mx-USR-L1

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

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.

Lifetime Curve



Warranty

eldoLED OPTOTRONIC® Products are covered by a 5-year limited warranty.
Complete warranty terms can be found at: www.eldoled.com/legal/terms-and-conditions

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