



Electrical Specifications

Input

Input Voltage (VAC)	120V-277V (+/- 10%)	
Frequency Range (Hz)	50 – 60 Hz (+/- 10%)	
	120V	277V
Input Current (A)	0.83	0.36
THD @ Full load	<10%	<20%
Power Factor @ Full load	>0.9	>0.9
Efficiency @ Full load	≥90%	≥91%
Inrush Current (A _{pk} , T@10% of A _{pk})	37.4A, 150μs	84.7A, 160μs

Output

Output Current (mA)	700-2300mA (1mA step)
Output Voltage (VDC)	10-55VDC
Output Ripple Current	<5% @ 2300mA
Max. Output Power (W)	85W
LED Power-Up Time	<1sec
Load Regulation	<3%
Line Regulation	<3%
Over Voltage Protection	Yes, non-latching
Over Load Protection	Yes, non-latching
Output Short-Circuit Protection	Yes, non-latching
Over Temperature Protection	Foldback to 50% at 105°C

General Information

Item Number	*2743W5 (57420), *2743W6 (57421), *274A1R (57424) and *274A1S (57425)
Type	Constant Current, Class2
Output Power	85W (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	-40°C to 55°C
Case Temperature (T _c)	85°C (50kHrs) ¹ 90°C max. (30kHrs)
Max. Storage Temp.	70°C
Max. Relative Humidity (%)	85% non-condensing
Transient Protection	NEMA SSL 1-2010 (2.5kV) ANSI C82.77-5-2015(6kV) ²
EFT	IEC61000-4-4, Level 3
UL Rating	Dry & Damp
UL File number	E333135
EMI Compliance	FCC Part 15 Class A
Sound Rating	Class A

1 - Warranty applicable only at 85°C

2 - 6kV transient protection for high-bay (HB) models

Architectural Dimming Features*

Synchronized On/Off & Dimming	Included
True 1% Dimming	Included
DIM to OFF	Included
Dimming Interface Protection	Included

*A complete description of OPTOTRONIC Driver Architectural Dimming Features can be found on page 8.

Dimming

Dimming Control	0 – 10V (Isolated)
Dimming Range	10-100%, 1-100%
Dimming Type	Current Reduction
Dimming Input Isolation	2.5kV
Source/Sink Current	0.2mA max
Dim-to-Off Threshold	0.8V
Stand-by Power	2.9W(120V); 2.5W(277V)
Dimming Interface Protection ³	Yes, 120-277Vac

3 - Driver will foldback to 30% of programming output level if AC line voltage is connected across DIM+/- terminals.

CAUTION: More than one power supply present.

Compliant with ANSI C137.1

Auxiliary Output (For AUX models only)

Output Voltage (VDC)	12/20/24V ⁴ (configurable)
Output Current (mA)	40
Voltage Regulation	±10%

4 - 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.

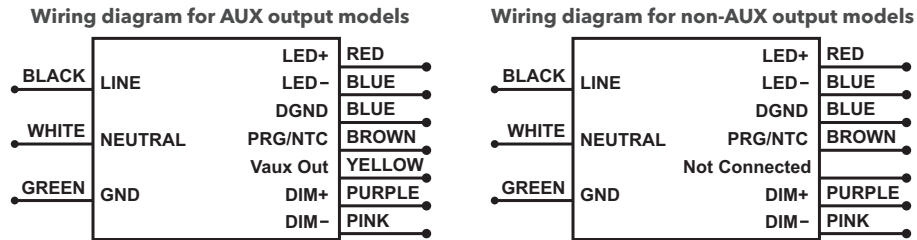
NTC must be connected if LED Thermal Protection feature is used.



Ordering Guide

Item Number	Original Item Number	Ordering Description
*2743W5	57420	OTi 85/120-277/2A3 DIM-1 L
*2743W6	57421	OTi 85/120-277/2A3 DIM-1 L AUX
*274A1R	57424	OTi 85/120-277/2A3 DIM-1 L HB
*274A1S	57425	OTi 85/120-277/2A3 DIM-1 L HB AUX

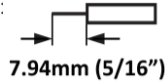
Wiring Diagram



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

Note: Maximum suggested remote mounting distance is 16 feet.

Note: Use solid copper wire only: 16-20 AWG. Strip all wires as such:

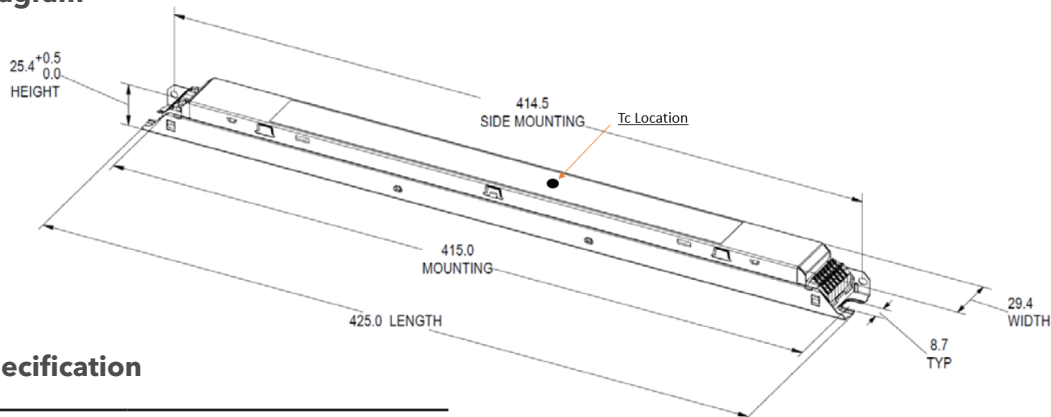


Note: For wiring the output ports for the LED load, Vaux and DIM wire, 16 to 22 AWG is acceptable for use. For more detailed information and requirements, consult the light engine information and or information pertaining to the light engine connectors

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.
- If LED Thermal Protection feature is used, a NTC thermistor must be connected to the driver.

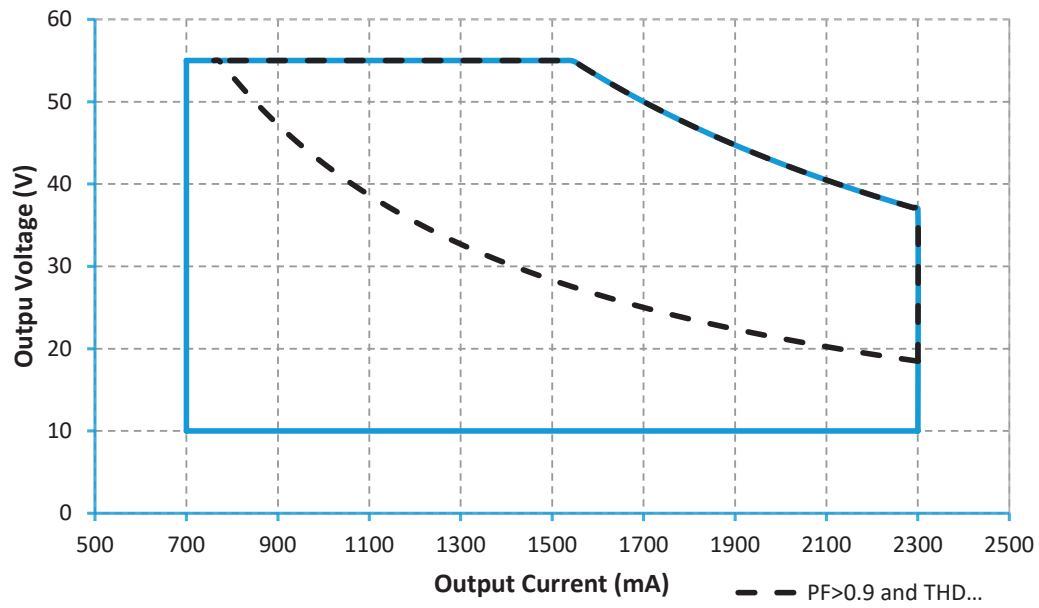
Mechanical Diagram



Mechanical Specification

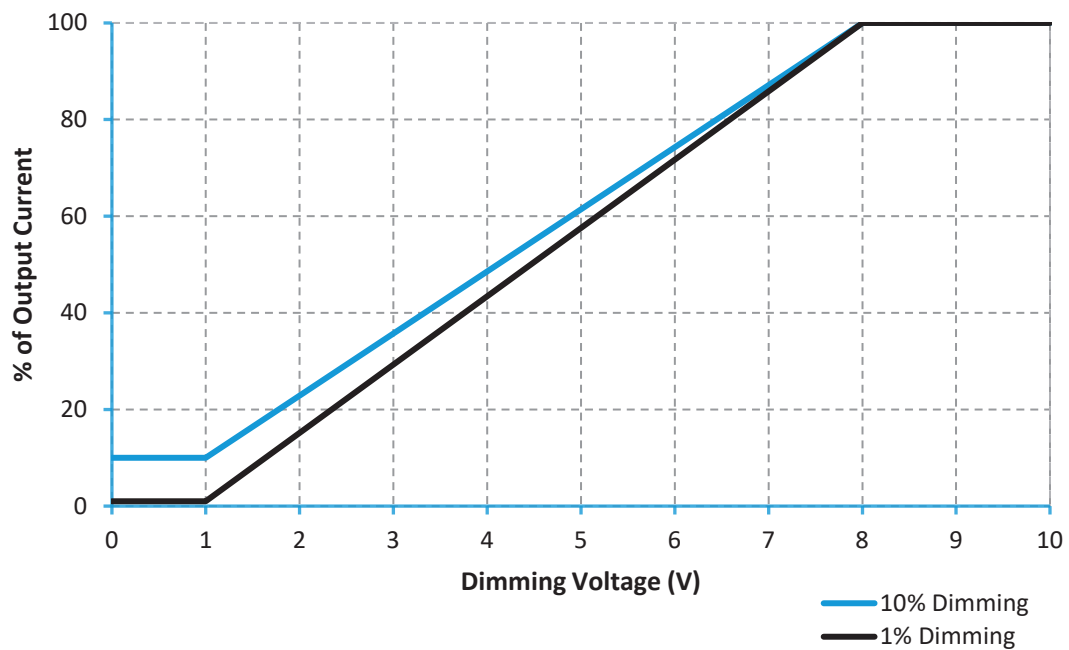
Length	16.73" (425mm)
Width	1.15" (29.4mm)
Height	1.0" (25.4mm)
Mounting Length	16.34" (415mm)

Operating Range



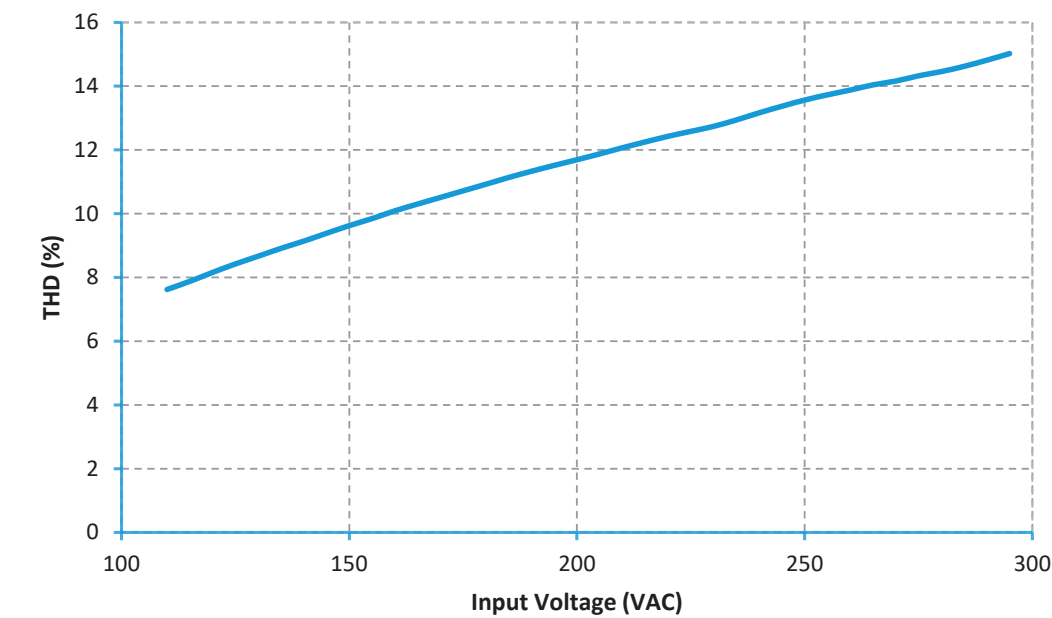
Note: Meeting DLC requirements requires minimum 50% loading.

Dimming Curve

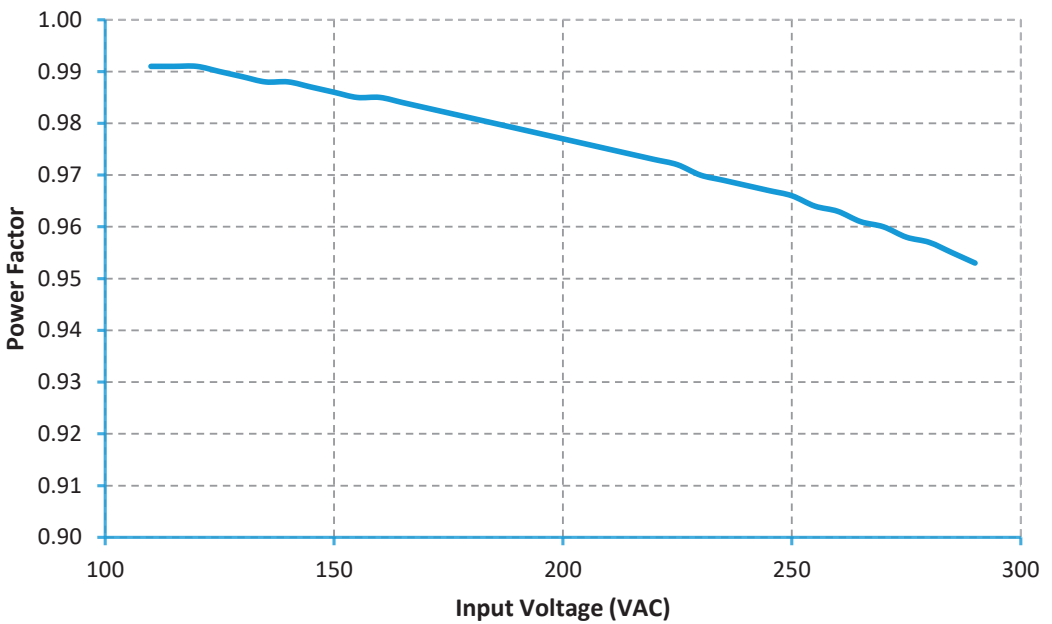


Note: Compliant with ANSI C137.1

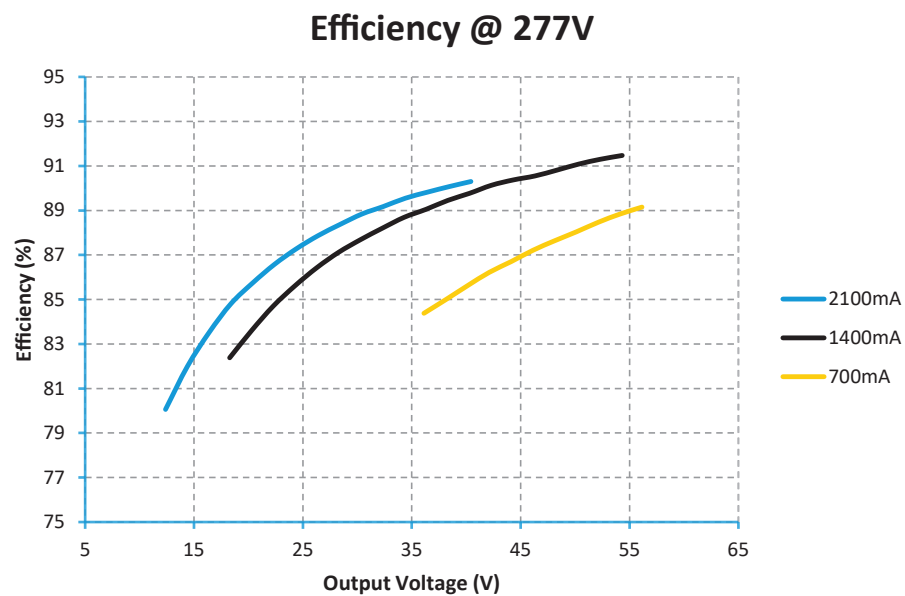
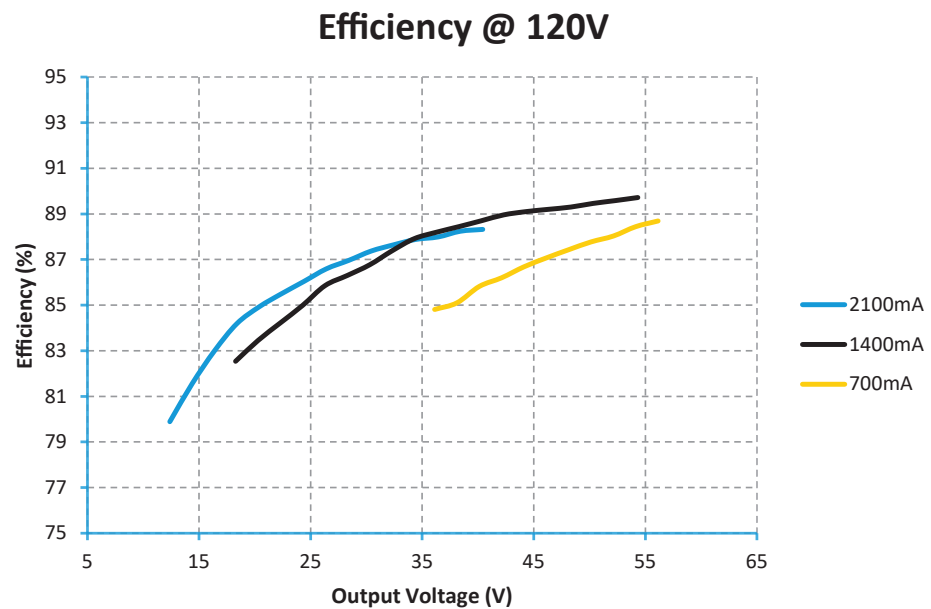
THD vs. Input Voltage (Full Load)



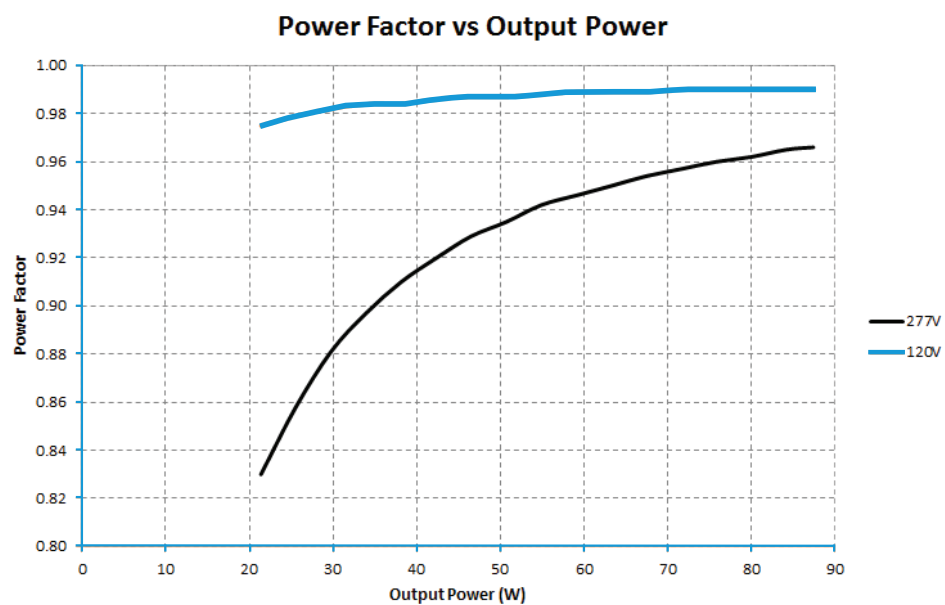
Power Factor vs. Input Voltage (Full Load)



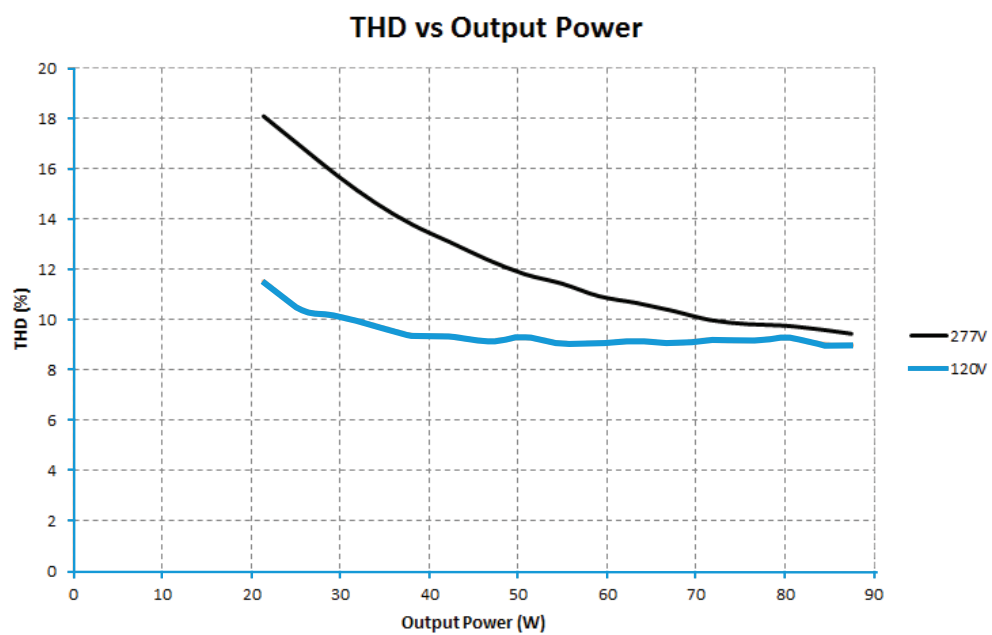
Efficiency vs. Output Voltage



Power Factor vs Load

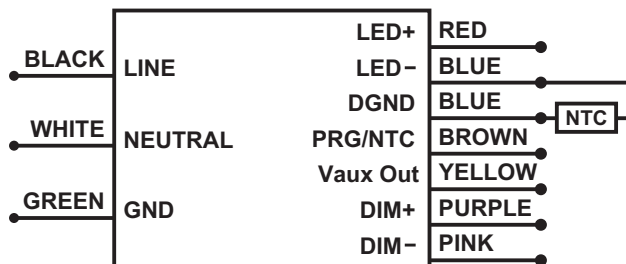


THD vs Load



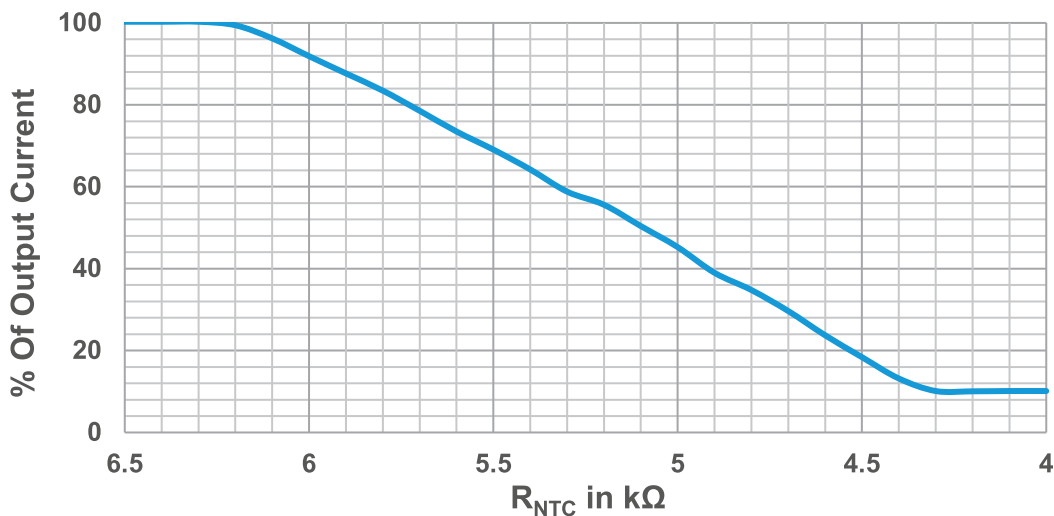
LED Thermal Protection (NTC) Characteristic

The LED thermal protection feature of the OTi 85W 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 (15k Ω @ 25°C)**. Murata part number for reference only - **NCP03XH223J05RL (22k Ω @ 25°C)**.

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



To learn more about this feature, please refer to the technical application guide for [LED Thermal Protection](#) (ECS304).

Architectural Dimming Features

Synchronize ON/OFF Timing and Dimming Controls

This feature meets efficacy requirements and ensures consistent dimming levels across multiple luminaires and individual luminaires that require multiple drivers.

True 1% Dimming

Architectural LED drivers support 1% dimming across the entire driver programmable output current range for True 1% dimming. For example, if a driver is programmed to 300mA, then at 1% dimming, output current would be 3mA.

DIM-to-OFF

DIM-to-OFF enables luminaires to smoothly transition from DIM-to-OFF and save energy without needing additional control equipment to turn off the fixture. Select architectural-grade LED drivers offer DIM-to-OFF and have a programmable AUX power output option to power and extend DIM-to-OFF capability to fixture-integrated sensors and controls.

Dimming Interface Protection

The dimming circuit in an OPTOTRONIC linear driver have protection against AC line voltage (120-277Vac) in the event that the driver is mis-wiring during field installation. When a mis-wired driver is powered up, the driver will provide a visual signal that indicates a potential wiring error.

Constant Lumen Maintenance

The Constant Lumen Maintenance feature of the OTi 85W 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: A detailed step-by-step instructions are outlined in the Help section of the OT Programmer software

End-of-Life Indicator

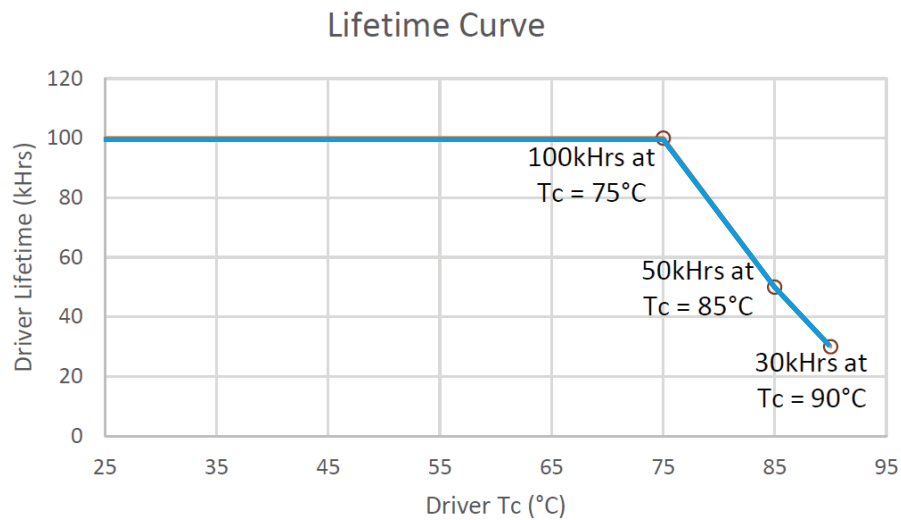
The End-of-Life indicator helps the end user to receive a signal from the fixture indicating that it has reached its programmed life-time. After the LED driver reaches the programmed life-time, whenever it is turned ON, it stays at "Dim" level (10%) for 10 minutes and reaches its appropriate level.

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)

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.

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

eldoLED

One Lithonia Way
Conyers, GA 30012
United States

+1 877 353 6533

nasupport@eldoLED.com
www.eldoLED.com

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Specifications subject to change without notice. Actual performance may differ as a result of end-user environment and application.