eldoLED

Technical Specifications
OPTOTRONIC® OTi100W G2 800C Programmable LED Driver

General Information

Item Number	*276YY9 OTi 100W/UNV/800C/G2/2DIM/P6/J20
Type	Constant Current
Output Power	100W (Max.)
Programming Tool	*274A17
Software	Download
Programmable Features	Output Current Dimming Level Configurable thermal protection AstroDIM Constant lumen output End-of-life indicator

Environmental Specifications

Ambient Operating Temperature	-40ºC to 55ºC
Case Temperature (Tc)	84ºC (50k hrs)[1] 90°C (max)
Max. Storage Temp.	70ºC
Max. Relative Humidity (%)	95% non-condensing
Transient Protection	ANSI C82.77-5 Cat.C, Low 6.0kV
IP Rating	IP66
UL Rating	Dry & Damp, Type HL
UL File number	E333135
EMI Compliance	FCC Part 15 Class A
Sound Rating	Class A

[1]5-year warranty applicable at 85ºC

Electrical Specifications

Input

Input Voltage (VAC)	120-277V (+/- 10%)	
Frequency Range (Hz)	50–60 Hz (+/- 5%)	
	120V	**277V**
Input Current (A)	0.95	0.40
THD @ Full load	<10%	<10%
Power Factor @ Full load	>0.95	>0.95
Efficiency @ Full load	≥90%	≥92%
Inrush Current (Apk)[1]	59A@ 147µs	131A@ 155µs

Output

Output Current (mA)	350 - 800 mA (1mA step) (Default: 530 mA)
Output Voltage (VDC)	50-185 VDC
Output Ripple Current	< 20% @ 800mA
Max. Output Power (W)	100W
LED Power-Up Time	<1sec
Load Regulation	<3%
Line Regulation	<3%
Over Voltage Protection	Yes
Over Load Protection	Power fold back @102W
Output Short-Circuit Protection	Yes, non-latching
Over Temperature Protection	Yes, Foldback at 100°C, Auto Recovery

[1] Complies to NEMA 410 inrush current requirements

Dimming

Dimming Control	0 – 10V (Isolated) AstroDIM
Dimming Range	10-100% (50 mA min)
Dimming Type	Analog
Source/Sink Current	0.4mA max

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

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.

c UL us LISTED Class P

CSA C US

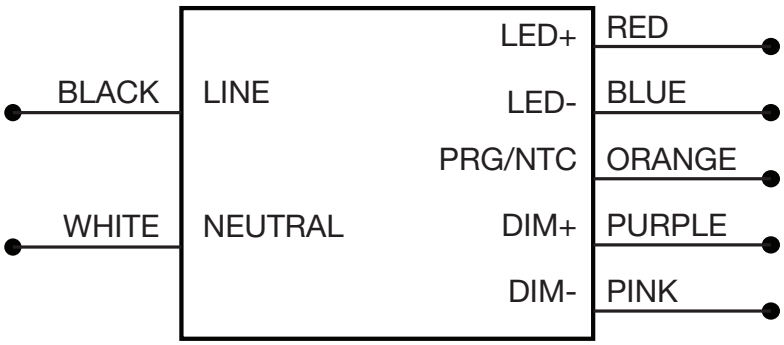
RoHS compliant

IP 66 RATED

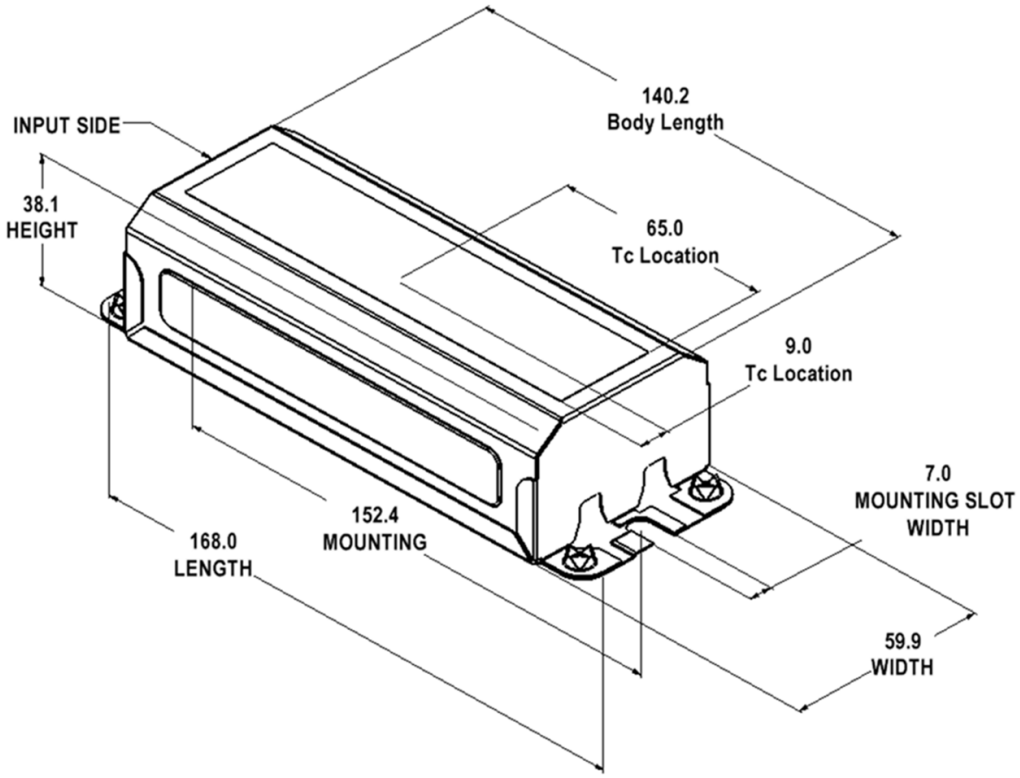
AstroDIM

0-10V

Wiring Diagram



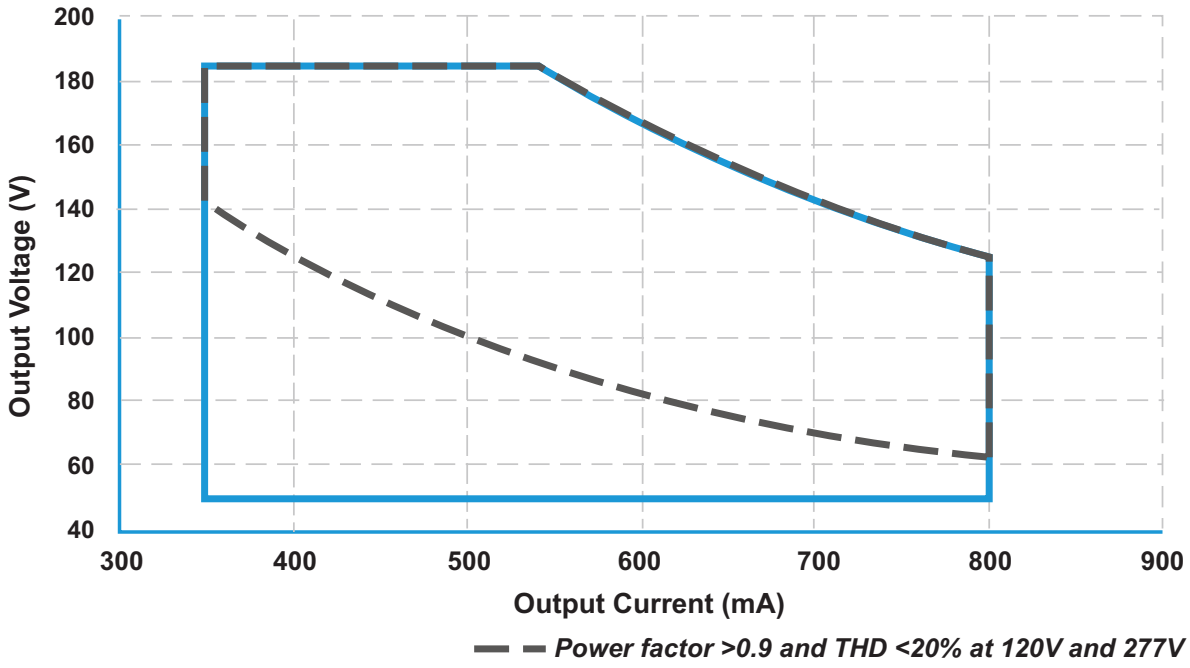
Mechanical Diagram



Mechanical Specifications

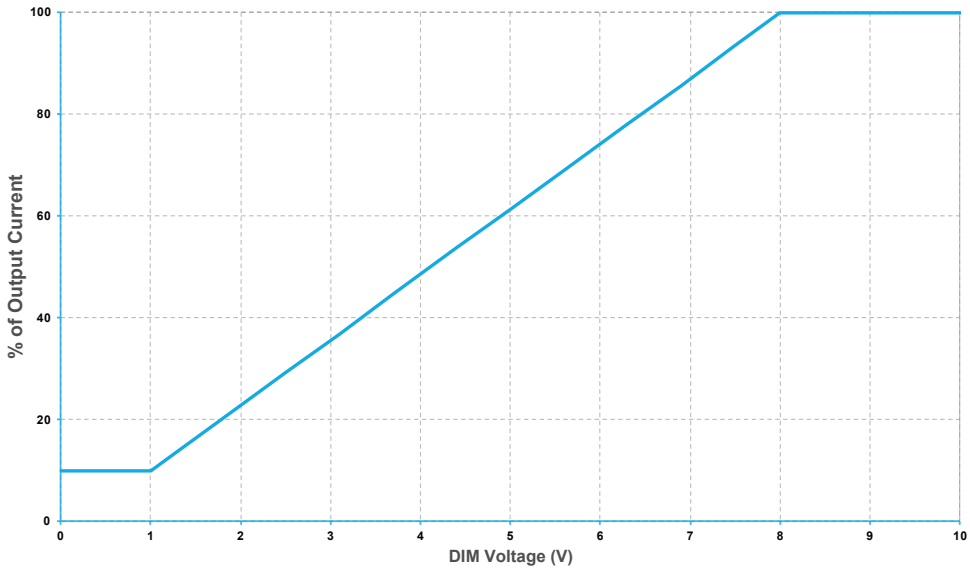
Length	6.61" (168mm)
Width	2.36" (59.9mm)
Height	1.2" (38.1mm)
Body Length	5.52" (140.2mm)
Mounting Length	5.98" (152mm)
Mounting Slot Width	0.28" (7.0mm)

Operating Range



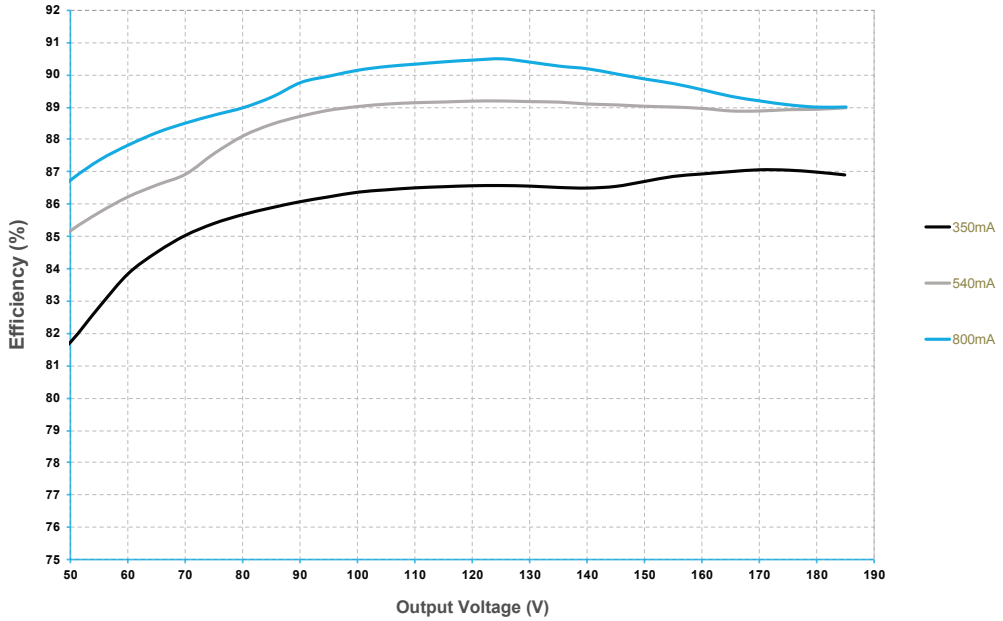
Dimming Curve

0-10V Dimming

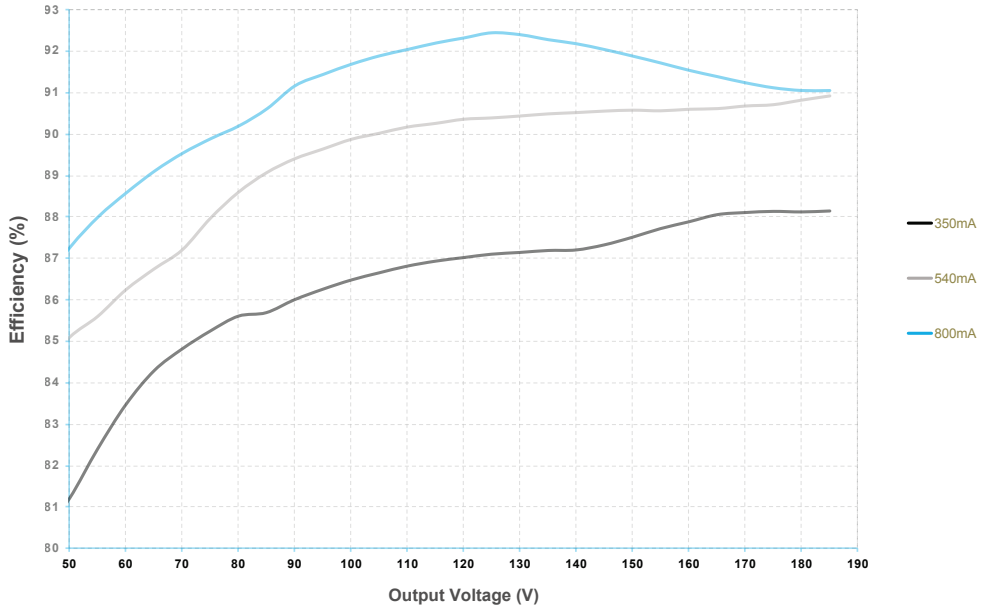


Efficiency vs. Output Voltage

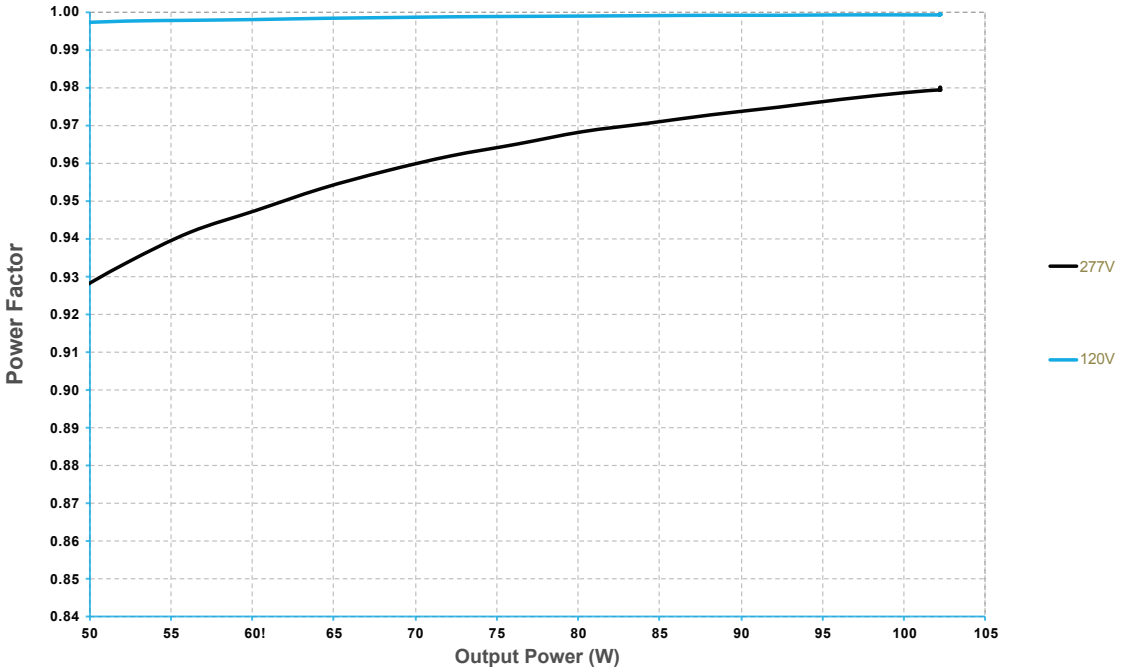
Efficiency @ 120V



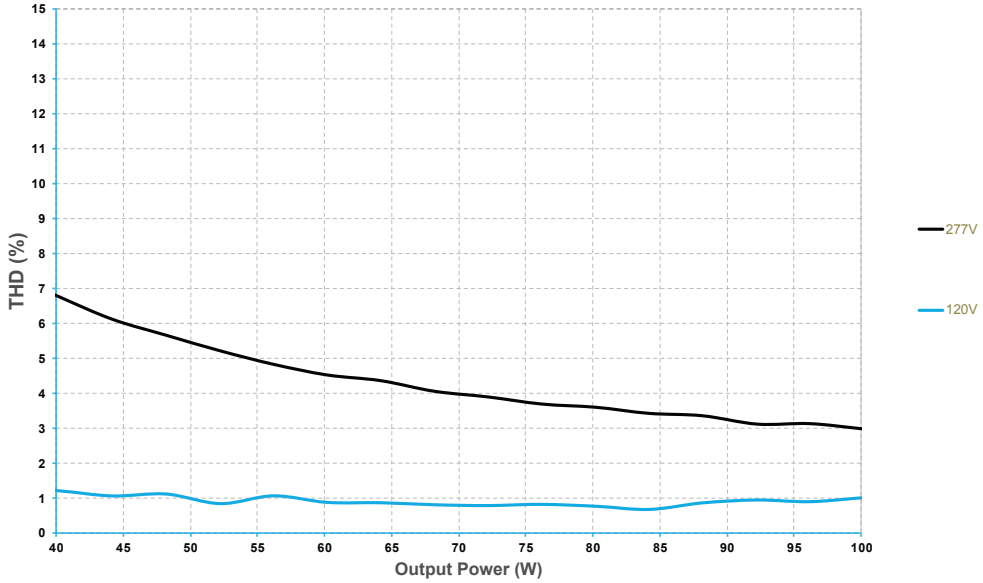
Efficiency @ 277V



Power Factor vs. Output Power

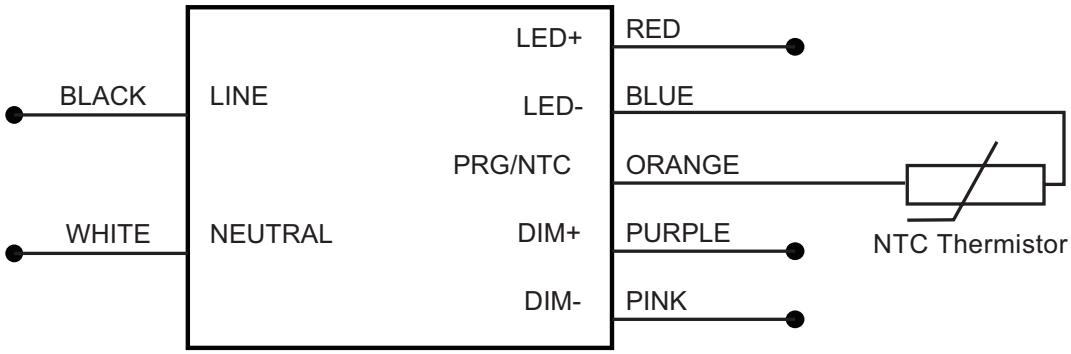


THD vs. Output Power



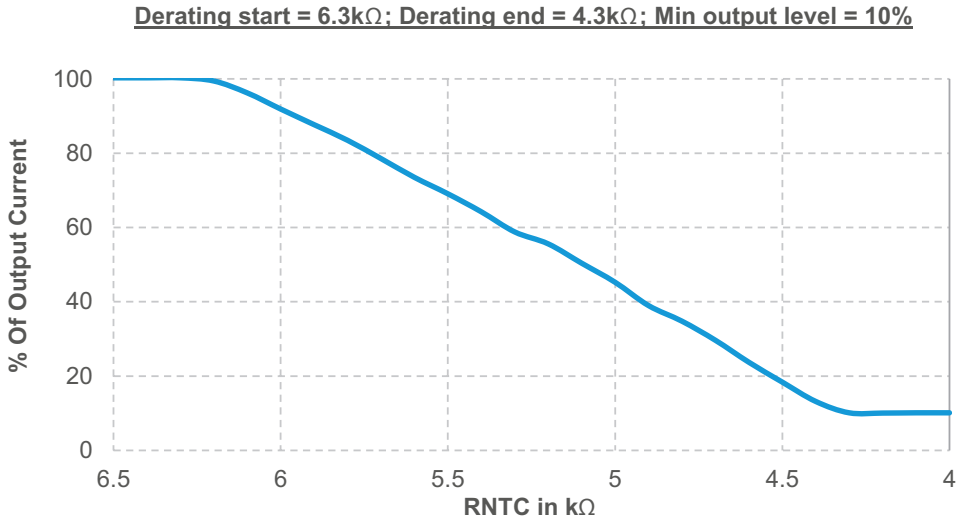
LED Thermal Protection (NTC) Characteristic

The LED thermal protection feature of the OTi100W 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.

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



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

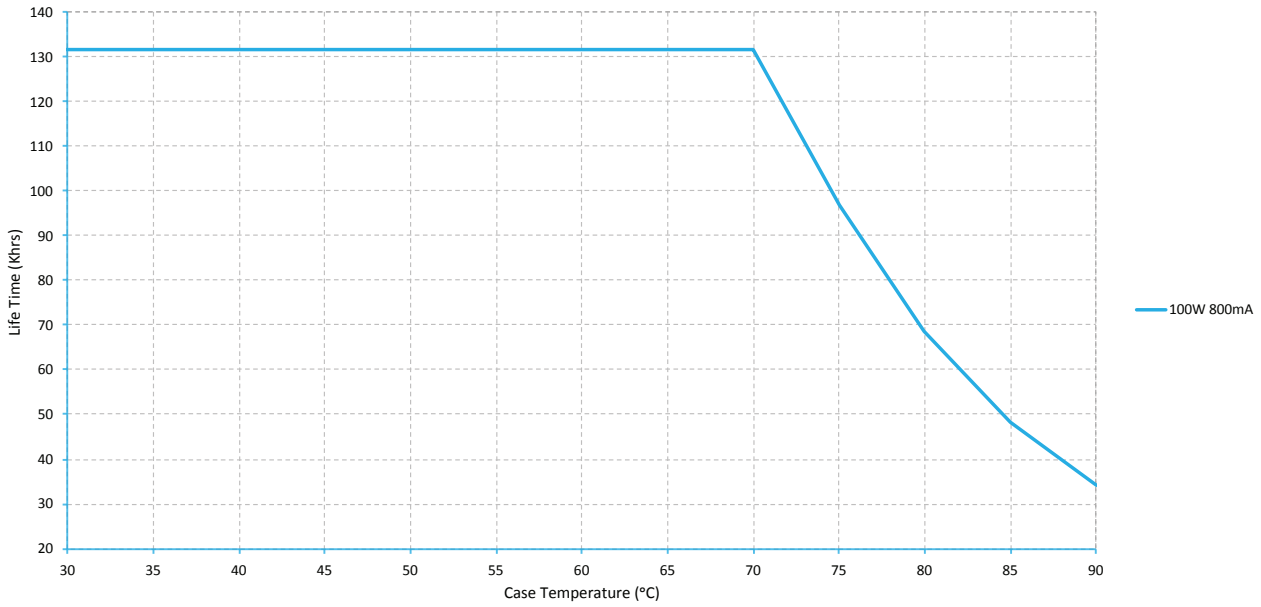
AstroDIM is an autonomous five level (1 Power ON and 4 Dimming levels) dimming protocol. It provides multi-stage night-time power reduction based on an internal timer; there is no need for an external control infrastructure. The ECG is automatically aligned to the on and off times for the street lighting 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).

Constant Lumen Maintenance

The Constant Lumen Maintenance feature of the OTi100W 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: Step-by-step instructions are outlined in the OT Programmer User Manual embedded in the software download.

Lifetime vs Case Temperature



Warranty

OPTOTRONIC® by eldoLED 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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