

# PHILIPS ADVANCE

## LED Driver

### Xitanium

76W 120-277V 1.80A 0-10V  
XI076C180V042CNS1



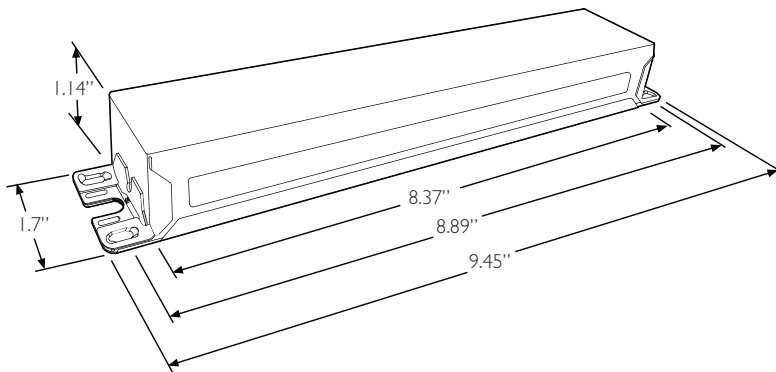
Long-lasting and low maintenance, LED-based light sources are an excellent solution for all lighting applications. For optimal performance, these solutions require reliable drivers matching the long lifetime of the LEDs. The Philips Advance Xitanium LED Outdoor Driver portfolio offers a range of products specially designed to operate LED solutions in outdoor applications. These drivers are designed for hard-wired integration into outdoor luminaires for the most rugged applications. They operate to specification under wide temperature and electrical ranges to ensure reliability.

#### Specifications

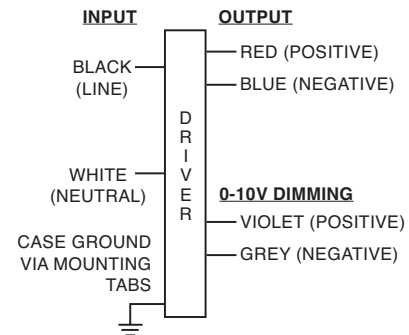
Input Voltage (Vrms)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max Load and 70°C Case	Max. Case Temp. (°C)	Input Current (Arms)	Max. Input Power (W)	Inrush Current (A <sub>pk</sub> /10%- $\mu$ s)	THD @ Max. Load	Power Factor @ Max. Load	Surge Protection Common/Diff (KV)	Weight (Lbs/kgs)	Envir. Protection Rating
120	76	27 - 42	1.80	87	90°C	0.75	88	37/313	<15%	>0.90	4/4	1.48/0.67	UL Dry & Damp
277				0.33		83/299		<15%					

#### Enclosure

	In. (mm)
Case Length	8.37 (212.6)
Case Width	1.70 (43.2)
Case Height	1.14 (29.0)
Mounting Length	8.89 (225.8)
Overall Length	9.45 (240.0)



#### Wiring Diagram



Input and output use lead-wires.

Lead-wires are 18AWG solid copper.

105°C/600V per UL1316 and 90°C/1000V per UL1452.

Lead Length outside enclosure:

280 mm (+50.8mm/-25.4mm) on all wires.

#### UL Conditions of Acceptability:

Please contact your Philips representative for a copy of the latest UL Conditions of Acceptability (COA).

Dimming	Dimming Range	Minimum Output Current (A)	Other Comments
0-10V Analog Class 2 Wiring	15% ~ 100%	0.270	NA

# Xitanium 76W 120-277V 1.80A 0-10V Dimming

## Electrical Specifications

All the specifications are typical and at 25°C Tcase unless specified otherwise.

### Features

- UL Class 2 output, high drive current (1.5A)
- 50,000+ hour lifetime<sup>1</sup>
- Increased thermal capability (90°C Tcase max)<sup>2</sup>

### Benefits

- Tailored specifically for various COB arrays
- Enables long life luminaire designs
- Allows luminaire designs for higher ambient temperatures

### Application

- Pathways
- Parking garages
- City street lighting
- Roadway

## Product Data

Order Information	
Order Code	XI076C180V042CNS1
Full Product Code	XI076C180V042CNS1M (Mid-Pack 20pcs/Box)
Full Product Name	XITANIUM 76W 1.80A 0-10V INT-S
Line Voltage	120-277Vac_rms
Line Current	0.75A @ 120V, 0.33A @ 277V
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108V [min]
Max. Mains Voltage Operational	305V [max]
THD (total)	Refer to graph
Power Factor (PF)	Refer to graph
Inrush Current	Per NEMA 410
Lightning Surge Protection	Refer to table
Output Information	
Output Voltage Range	27V to 42Vdc
Maximum Open Circuit Voltage	46Vdc
Output Current (ripple = peak to average / average)	15% max @ max Iout and max Vout (1.5A/42V) Low frequency ( $\leq 120$ Hz) content $< 5\%$ Low frequency ( $\leq 120$ Hz) content $< 5\%$
Protections	Short Circuit and Open Circuit Protection for LED + and LED -
Ambient Temp Range	-40°C to +55°C
Max Case Temperature (Tcase)	90°C
Features	
Interfaces	0-10V dimming
0-10V Dimming Specifications	See dim curve for detail.
Environment & Approbation	
Environmental Protection Rating	UL damp and dry
Agency Approbations	UL8750, UL1310, UL935, CSA-C22.2 No. 250.13-12, CSA C22.2 No. 223
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Isolation	Refer to table
Audible Noise	$< 24$ dB Class A

Footnotes on last page.

# Xitanium 76W 120-277V 1.80A 0-10V Dimming

## Electrical Specifications

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### 0-10V Dimming Curve:

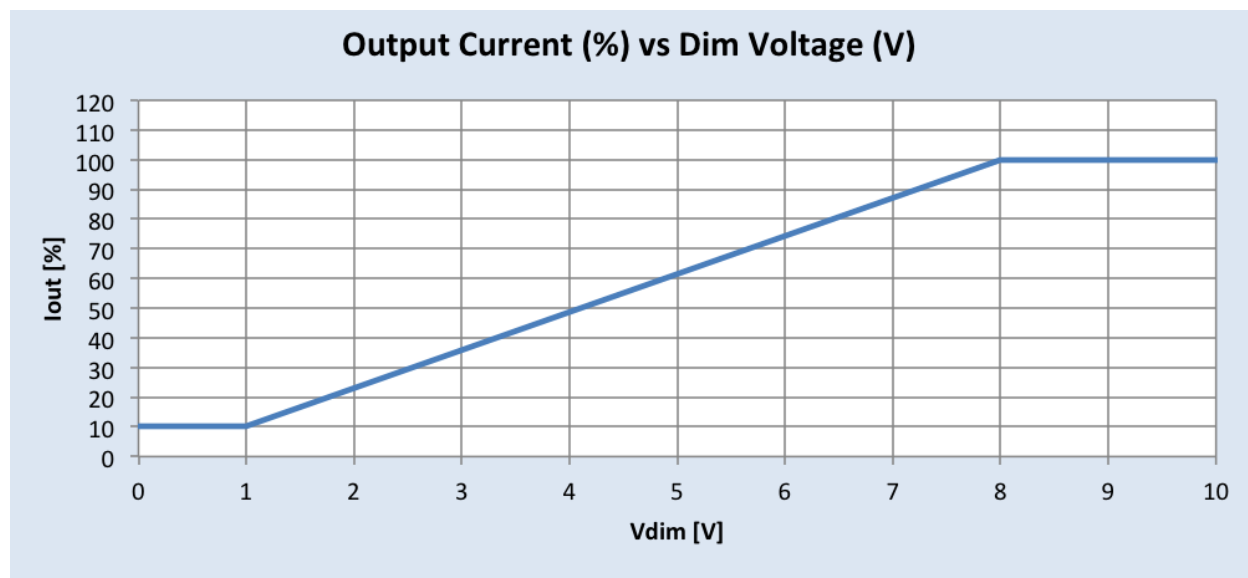
LED Current Tolerance at 1800mA  $\leq \pm 5\%$  and  $\leq \pm 10\%$  at any dim level (sample to sample)

Minimum Dim Level: 15% of Iout (270mA nominal)

Maximum output voltage on the dimming wires: 13V

### Approved Dimmer List

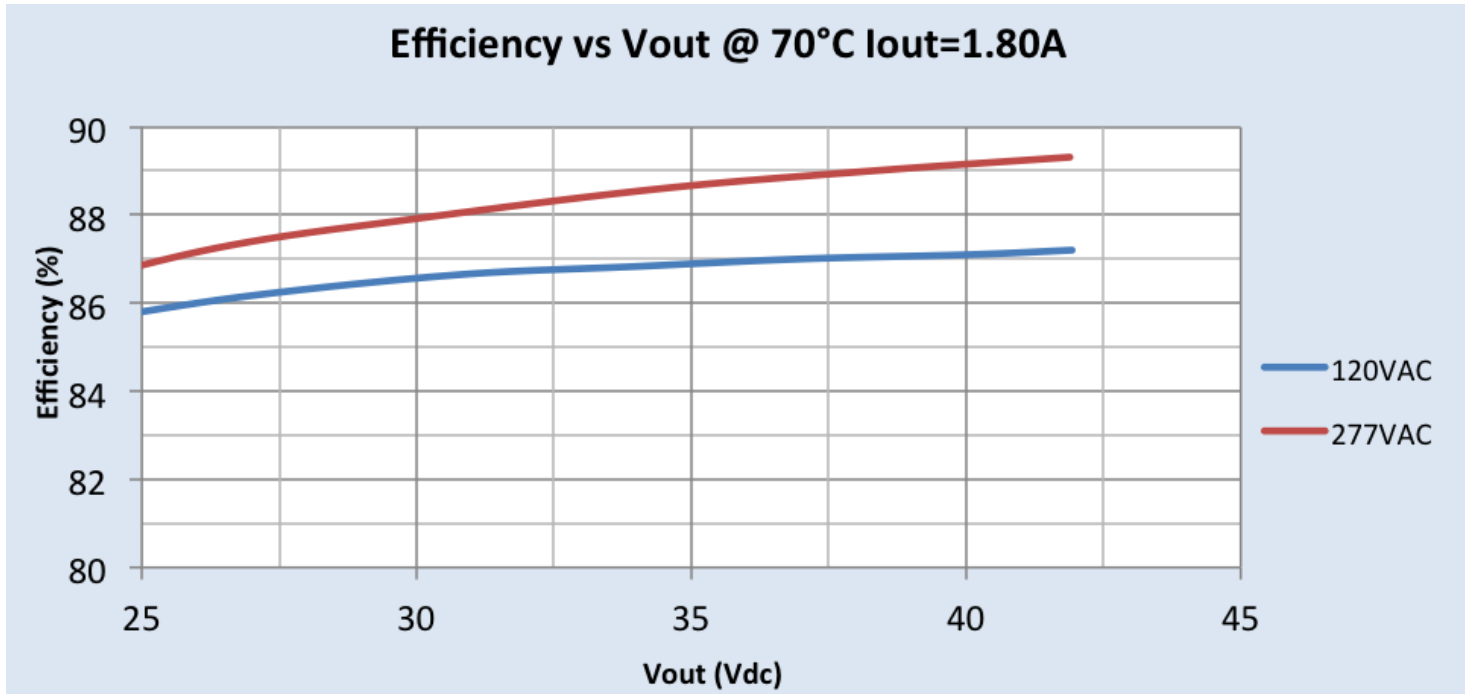
Manufacturer	Manufacturer Part Number
Lutron	Visit <a href="http://www.lutron.com/advance">www.lutron.com/advance</a> for a list of dimmers (Mark VII) that will work with sthis driver
Leviton	IllumaTech IP7 series
Philips	Sunrise - SR1200ZTUNV



# Xitanium 76W 120-277V 1.80A 0-10V Dimming

## Performance Characteristics

Based on measurements on a typical sample. The accuracy of the measurements is within the tolerance of the measurement instruments. The graphs are meant to be a guideline and not a specification.

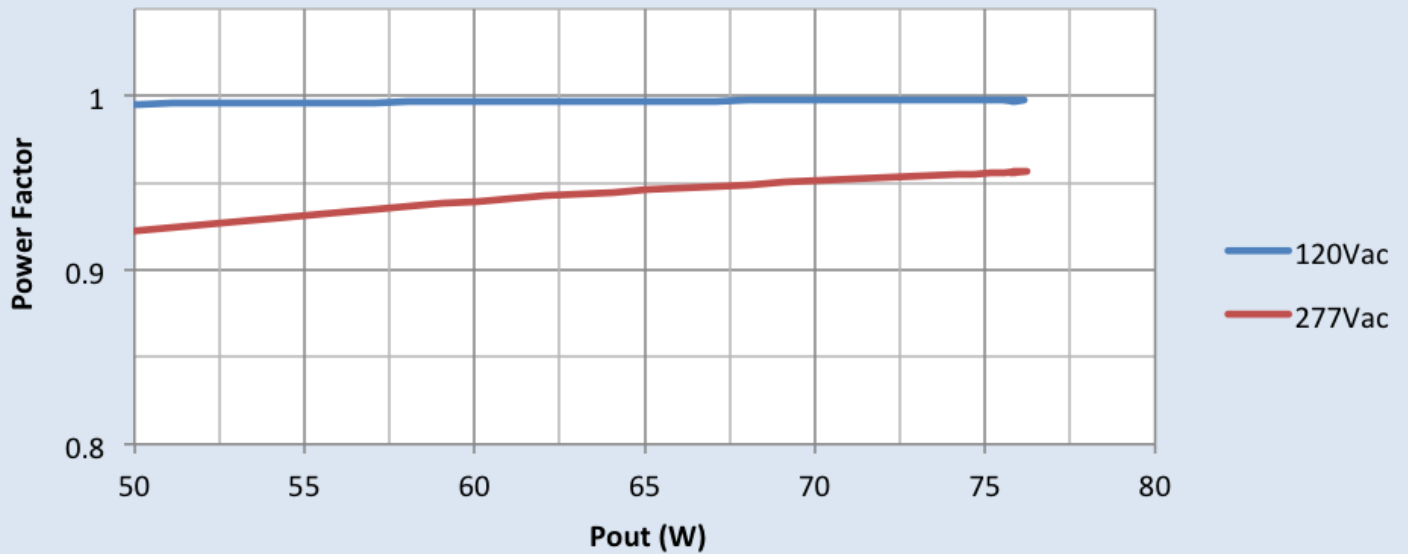


# Xitanium 76W 120-277V 1.80A 0-10V Dimming

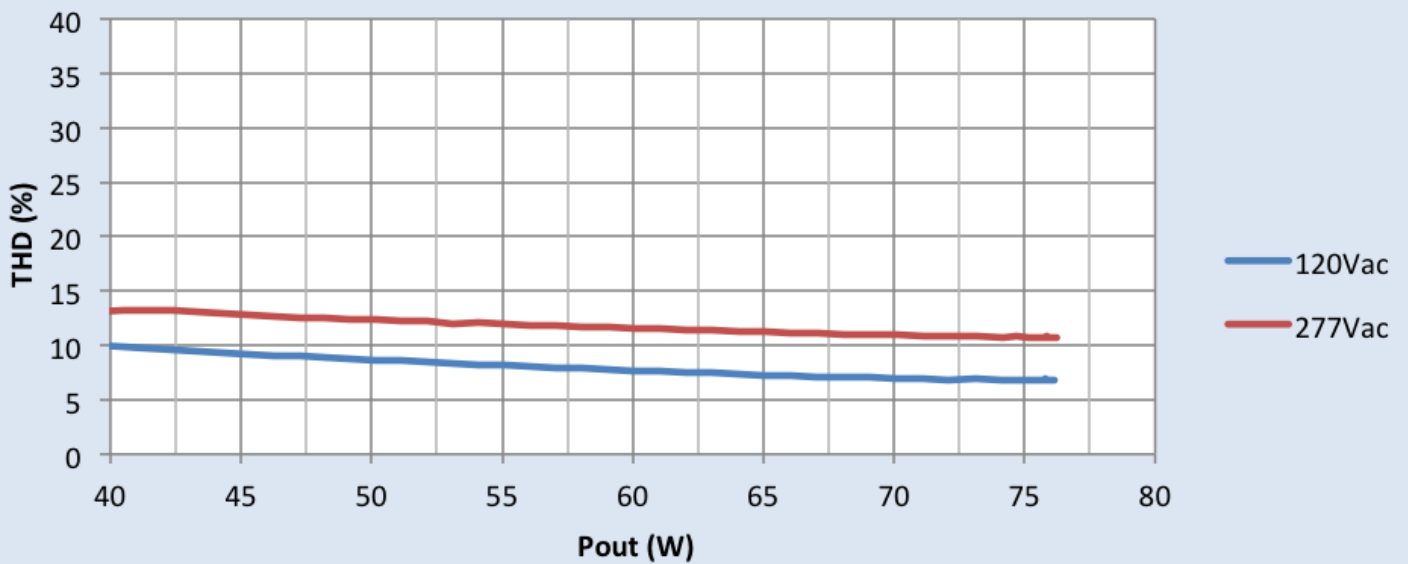
## Performance Characteristics

Based on measurements on a typical sample. The accuracy of the measurements is within the tolerance of the measurement instruments. The graphs are meant to be a guideline and not a specification.

### Power Factor vs. Output Power @Tc=70°C



### THD vs. Output Power @Tc=70°C

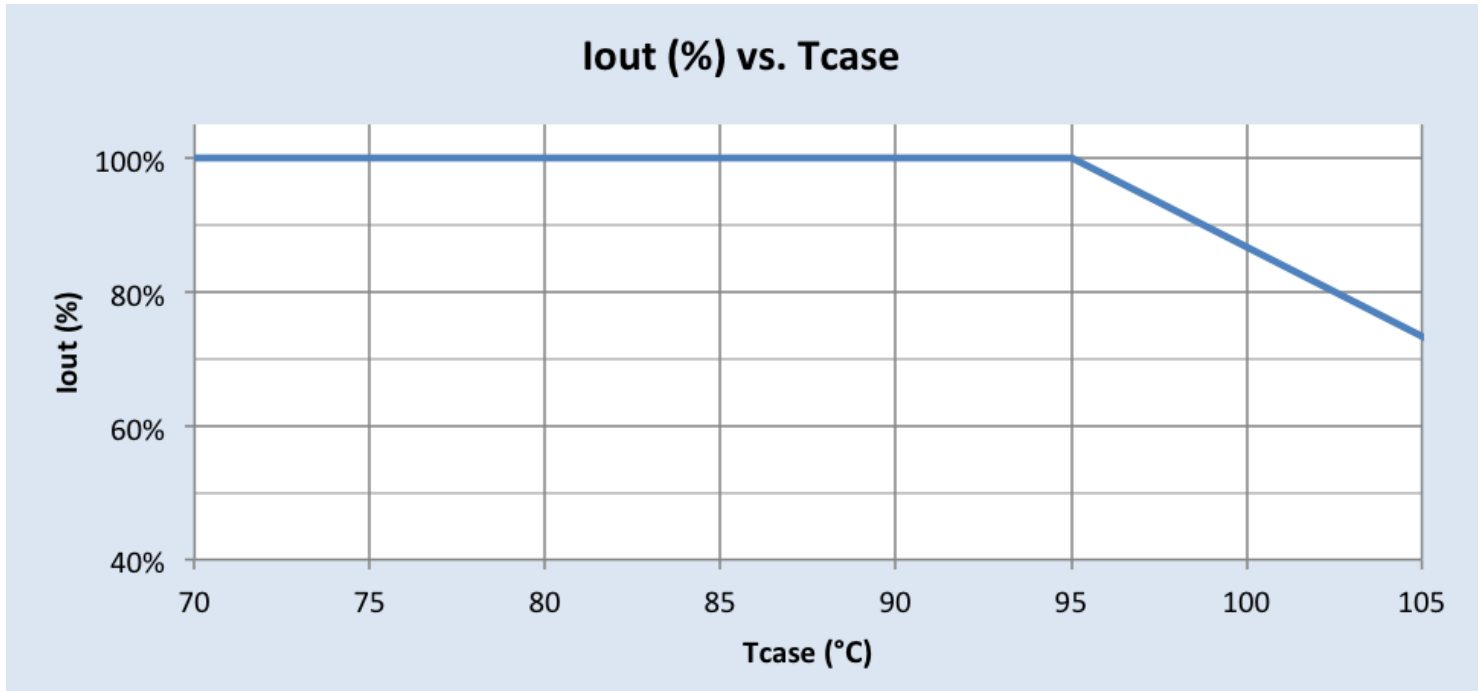


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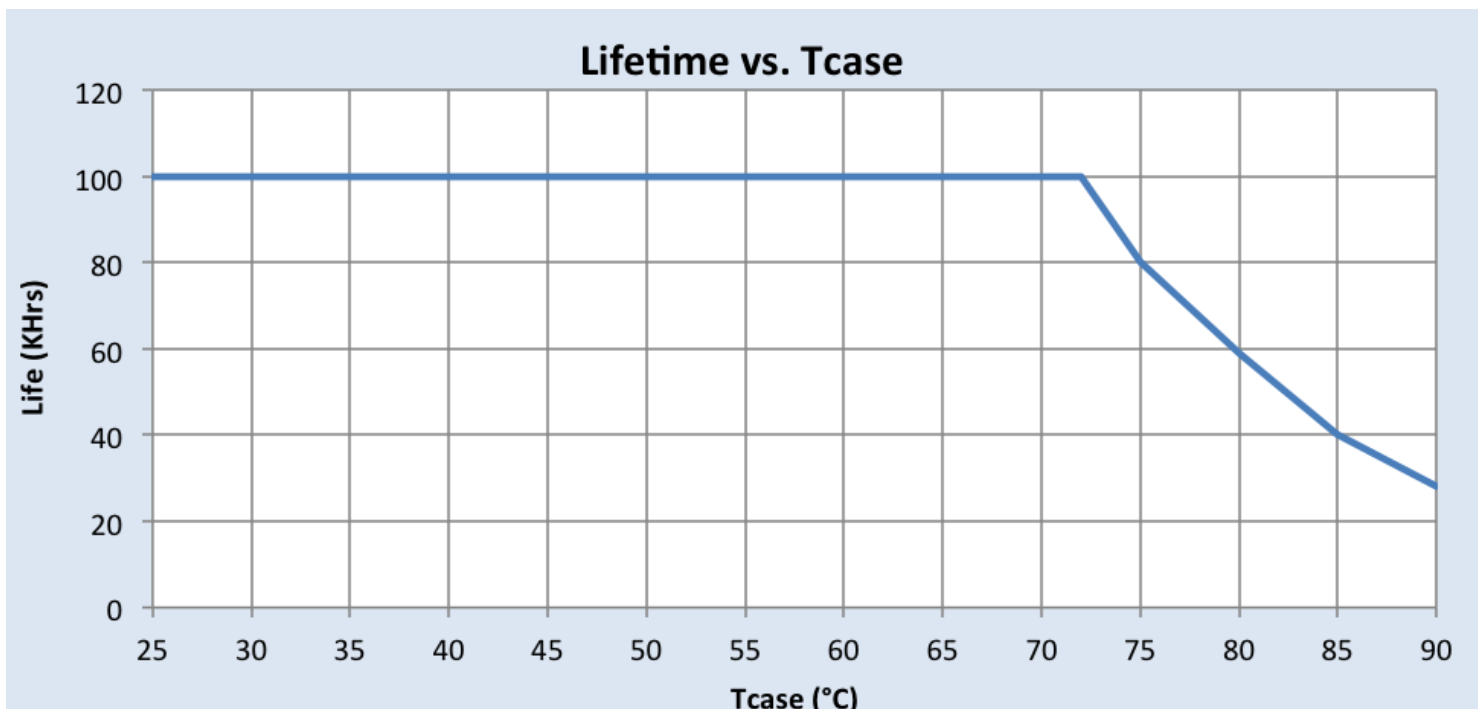
## Electrical Specifications

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### Output Current vs. Driver Case Temperature:

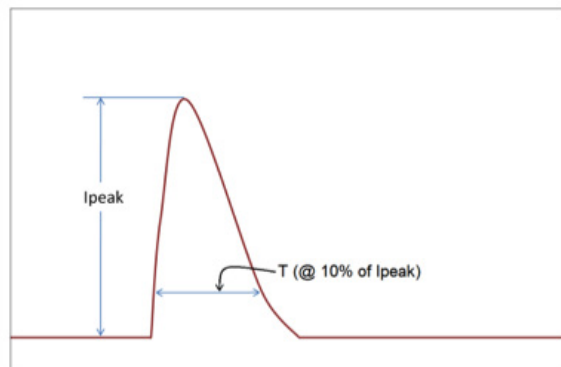


### Driver Lifetime vs. Driver Case Temperature:



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## Inrush Current Info:



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	37A	313 $\mu$ S
277 Vrms	83A	299 $\mu$ S

Inrush current is measured at peak of the corresponding line voltage, source impedance per NEMA 410.

## Lighting Surge Info:

ANSI Surge Type	Differential Mode (L-N)	Common Mode (L-G, N-G, L&N-G)
1.2/50 $\mu$ s - 8/20 $\mu$ s Combination Wave (w/t 2 $\Omega$ )	4kV	4kV

## Isolation:

Isolation	Input	Output	0-10V (Class 2)	Enclosure
Input	NA	2xU+1kV	2.5KVac	2xU+1kV
Output	2xU+1KV	NA	NA	500V
0-10V (Class 2)	2.5KVac	NA	NA	500V
Enclosure	2xU+1KV	500V	500V	NA

### Footnotes:

- Philips Advance Xitanium LED Drivers are designed and manufactured to engineering standards correlating to an average life expectancy of 50,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.
- Based upon these drivers having a 90°C max case temperature, while the standard is 80°C for outdoor drivers.



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