

**PHILIPS  
ADVANCE**

**LED Driver**

**CertaDrive**

45W 0.96A 46V 0-10V  
(5% dim) 120-277V  
CI045C096V046CNN1



**Class P**  
**LED class 2 output**  
**For Dry and Damp Location**

**Intertek**  
**Class P**  
Conforms to UL STD 8750  
Certified to CAN/CSA STD  
C22.2 No. 250.13

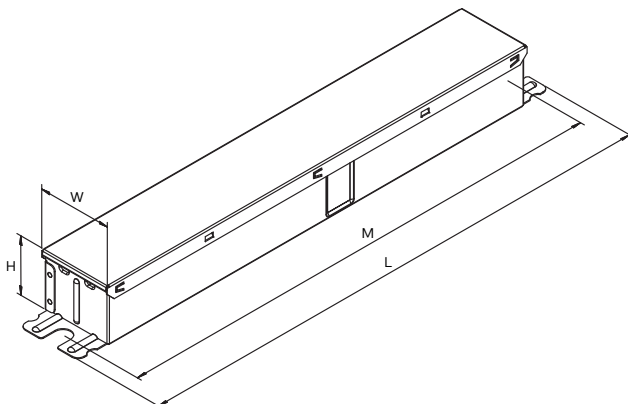
Philips Advance CertaDrive indoor LED drivers are designed to meet basic lighting needs. These dimmable drivers are offered with specific voltage-current settings and are, thus, optimized with specifications that are appropriately suited for the application, making LED conversion even more affordable.

## Specifications

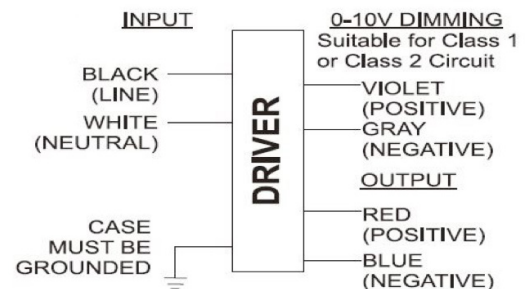
Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max Load and 70°C Case	Max Case Temp. (°C)	Input Current (A)	Max. Input Power (W)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protection (Ring Wave, KV)	Envir. Protection Rating
120	45	30-46	0.96	88	80°C	0.43	51	<10%	>0.9	2.5	UL damp & dry
277				90		0.19		<15%			

## Enclosure

	In. (mm)
Case Length	8.34 (212)
Case Width	1.32 (33.5)
Case Height	1.06 (27)
Mounting Length	8.89 (226)
Overall Length	9.45 (240)



## Wiring Diagram



Input and output use lead- wires.

Lead-wires are 18AWG 105C/600V solid copper.

Driver case must be grounded.

Dimming	Dimming Range	Minimum Output Current (A)
0-10V Analog Class 1 and 2 Wiring	5% ~ 100%	0.048

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## Features

- 50,000+ hour lifetime<sup>1</sup>
- Excellent thermal performance
- High power factor & low THD<sup>2</sup>

## Benefits

- Enables long life luminaire designs
- Allows operability in indoor (low-bay) ambient conditions
- Suitable for commercial indoor applications

## Application

- Indoor linear troffers, pendants
- Office areas
- Retail centers
- Educational facilities

## Electrical Specifications

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

## Product Data

Order Information	
Full Product Code	CI045C096V046CNN1M (Mid-Pack, 30pcs/Box) 12NC:929000764513
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108 Vac
Max. Mains Voltage Operational	305 Vac
Output Information	
Maximum Open Circuit Voltage	60Vdc, Class 2 output
Output Current Ripple (ripple = peak to average / average)	30% max @ max Iout
Output Current Tolerance (at maximum output current)	<8% <sup>2</sup>
Protections	Short Circuit, Open Circuit Protection for LED + and LED –
Features	
0-10V Dimming	See dim curve for detail.
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +50°C
Max Case Temperature (Tcase) <sup>3</sup>	80°C, Tcase Life: 65°C
Agency Approbations	UL 8750, UL 1310, CSA 250.13, Class P (UL, CSA, ETL)
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	0.59Lbs / 0.27kgs

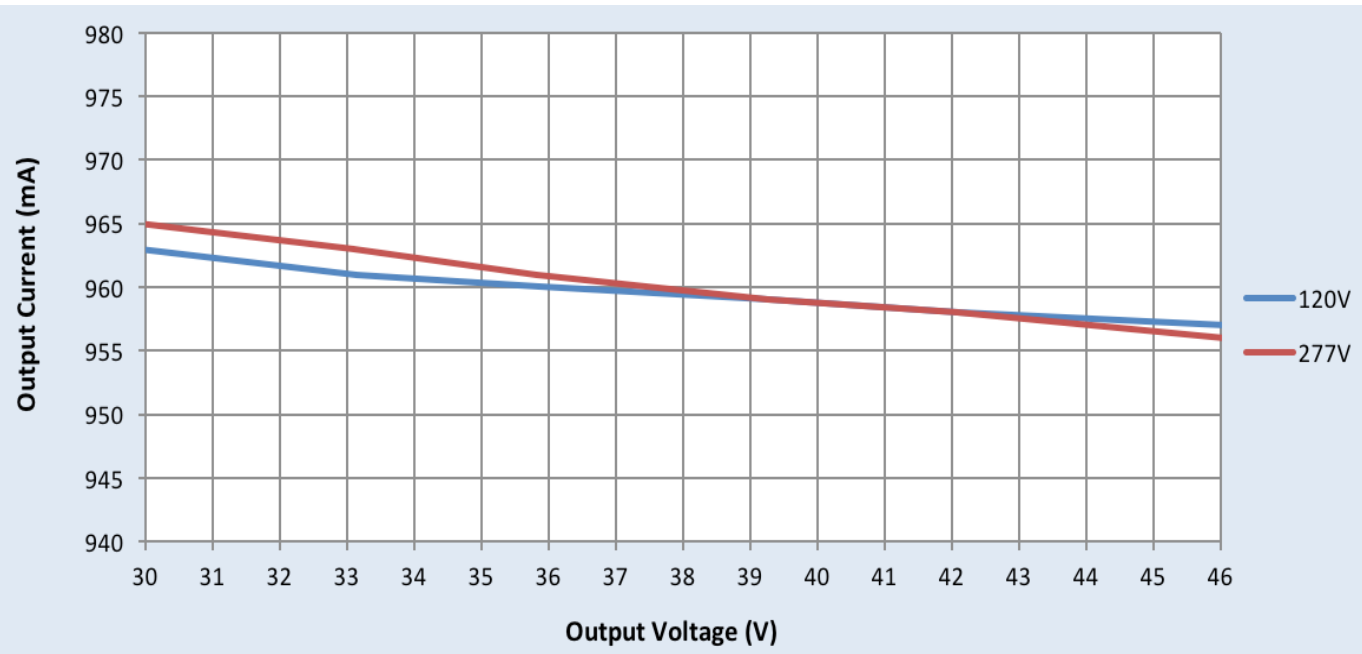
1. Philips Advance CertaDrive LED drivers are manufactured to engineering standards correlating to a designed and average life expectancy of 35,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.
2. Note: power factor (PF) and total harmonic distortion (THD) may deviate under adverse mains voltage conditions outside nominal operation. Output current (I<sub>out</sub>) variation includes effects of line and load regulation, temperature variation and component tolerances.
3. For T<sub>c</sub> point location, please refer to the Philips Advance CertaDrive design-in guide.

# CertaDrive 45W 0.96A 46V 0-10V (5% dim) 120-277V

## Electrical Specifications

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### I<sub>out</sub> vs. V<sub>out</sub>



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### 0-10V Dimming Curve

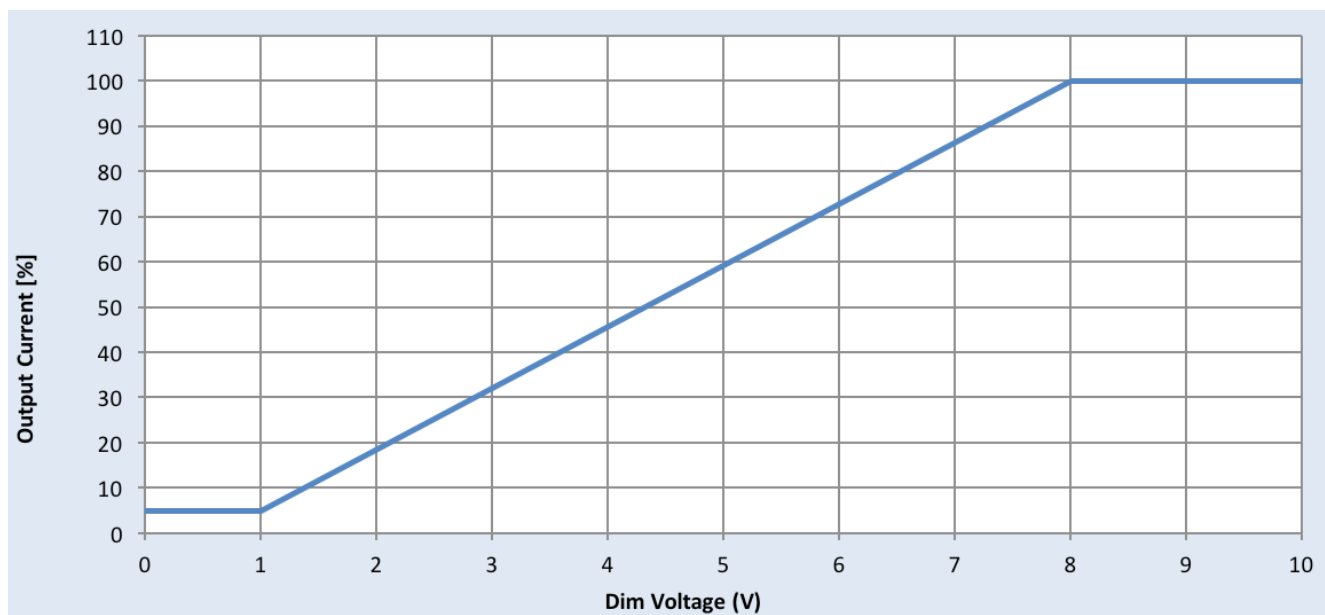
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum dim level: 5% of Iout

Maximum output voltage on the dimming wires: 12V

### 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 this driver
Leviton	IllumaTech IP7 series
Philips	Sunrise - SR1200ZTUNV

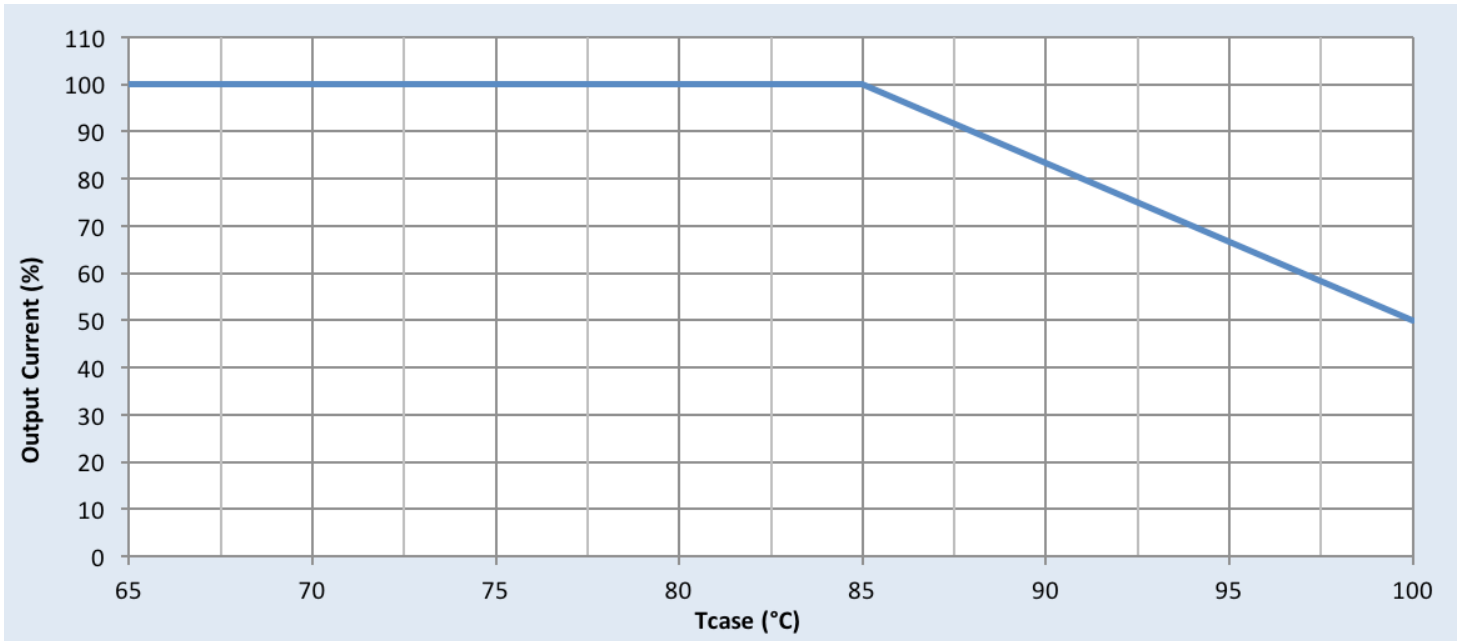


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## Electrical Specifications

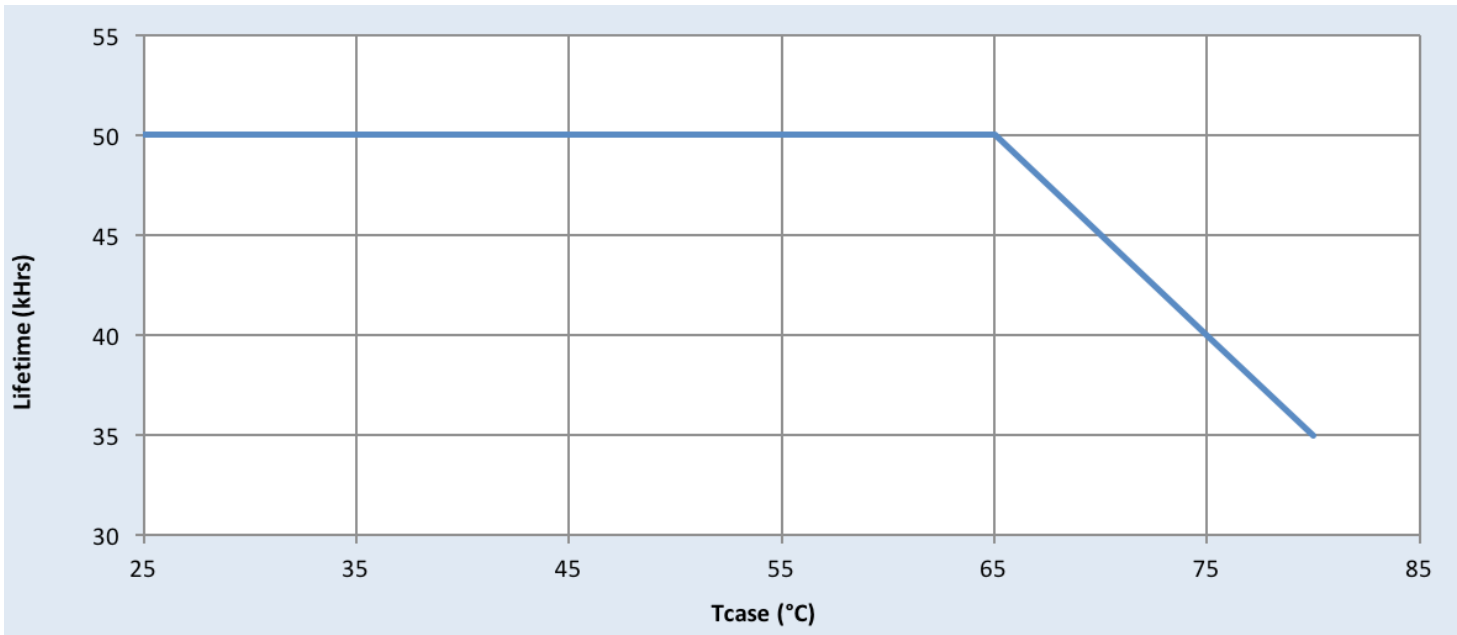
All the specifications are typical and at 25°C Tcase unless specified otherwise.

### Output Current Vs. Driver Case Temperature



Note: There is  $\pm 5^{\circ}\text{C}$  tolerance on the driver case temperature.

### Driver Lifetime Vs. Driver Case Temperature

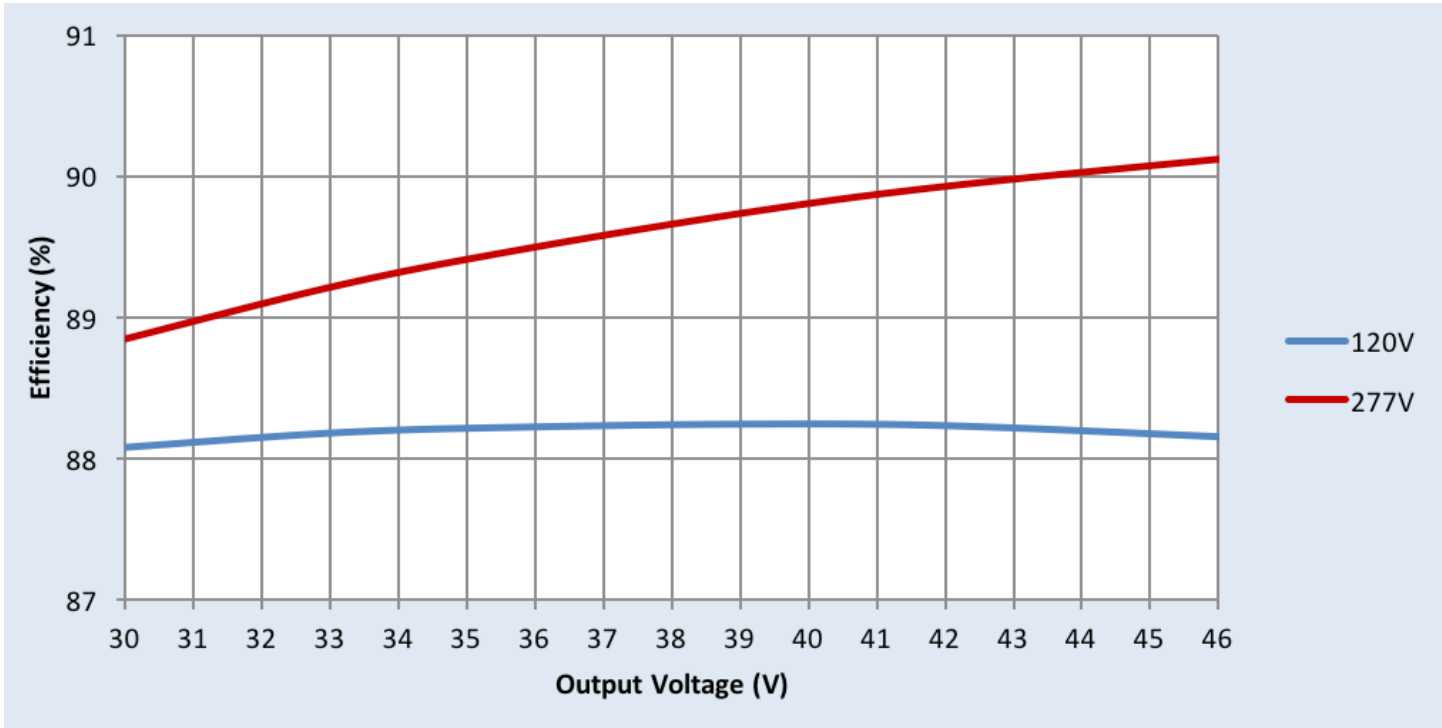


# CertaDrive 45W 0.96A 46V 0-10V (5% dim) 120-277V

## Performance Characteristics

Based on measurements on a typical sample at 70°C case. The accuracy of the measurements is within the tolerance of the measurement instruments.

### Efficiency Vs. Output Voltage

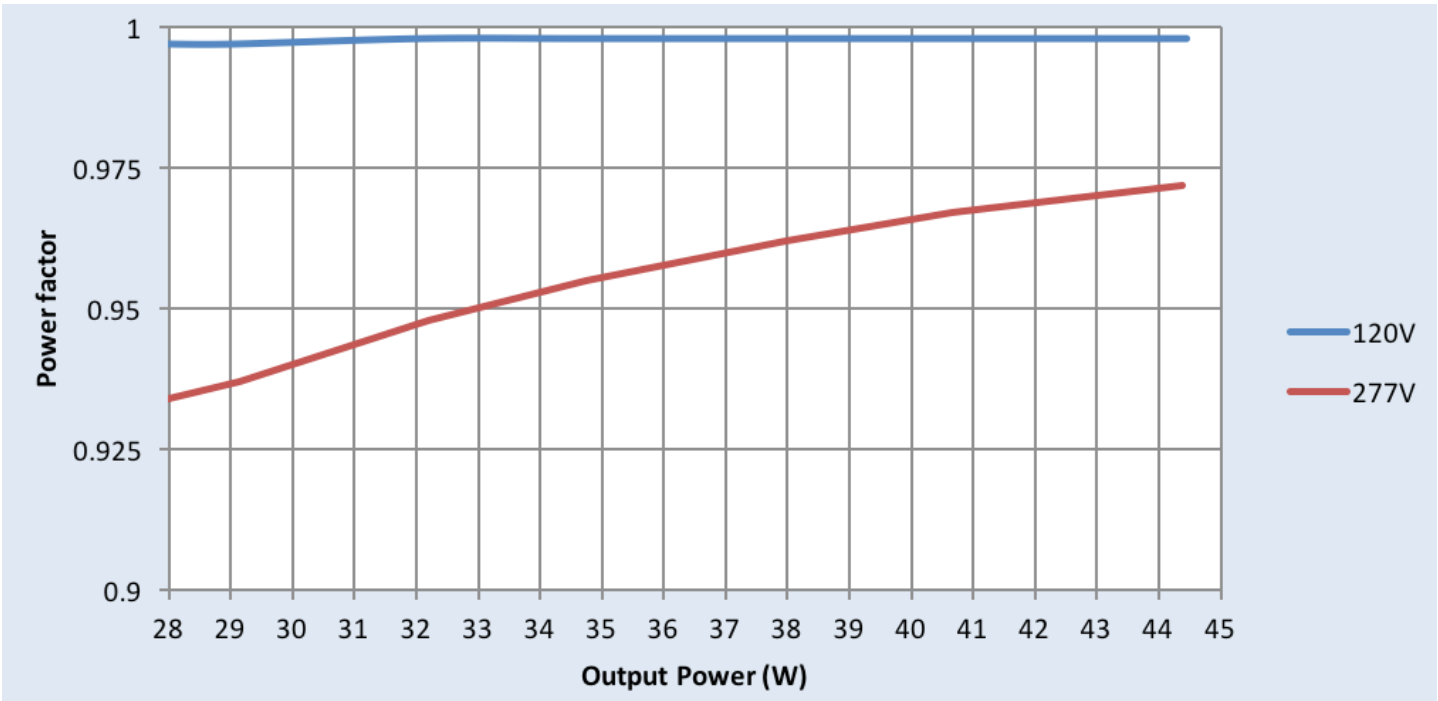


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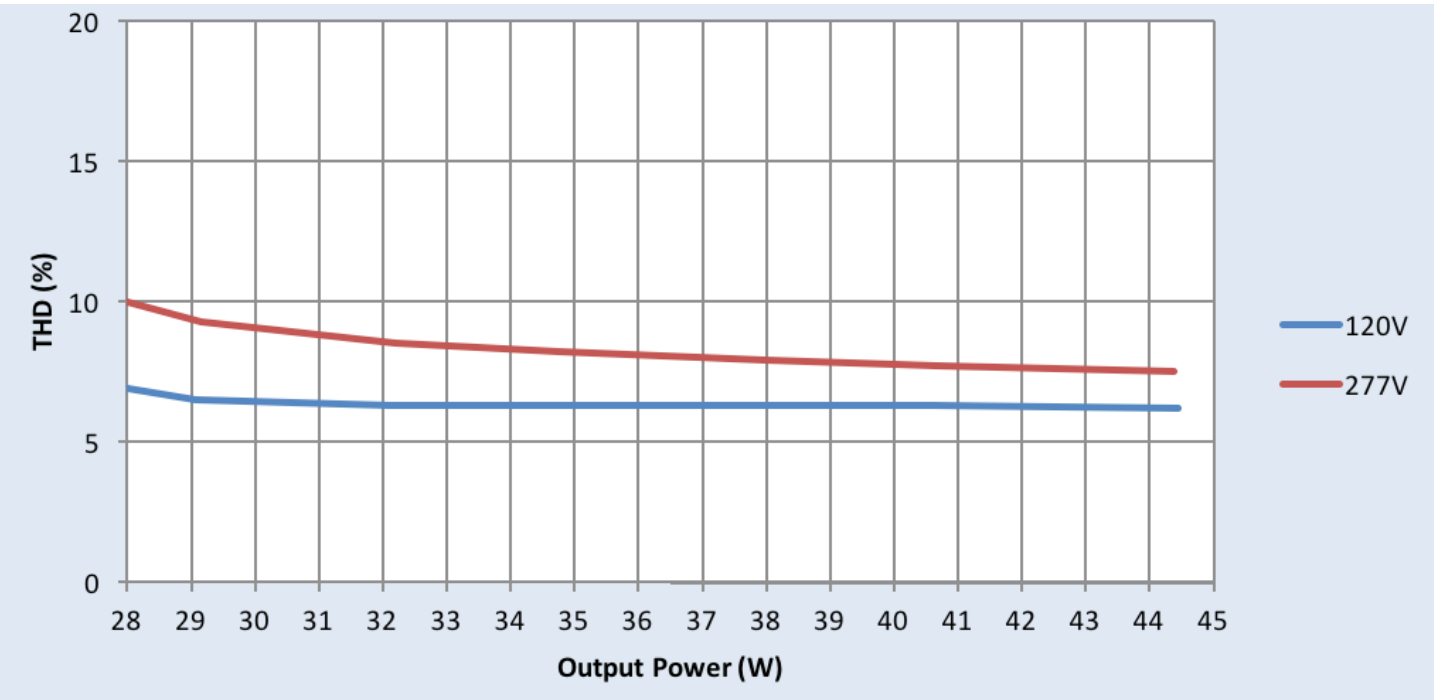
## Performance Characteristics

Based on measurements on a typical sample at 70°C case. The accuracy of the measurements is within the tolerance of the measurement instruments.

### Power Factor Vs. Output Power

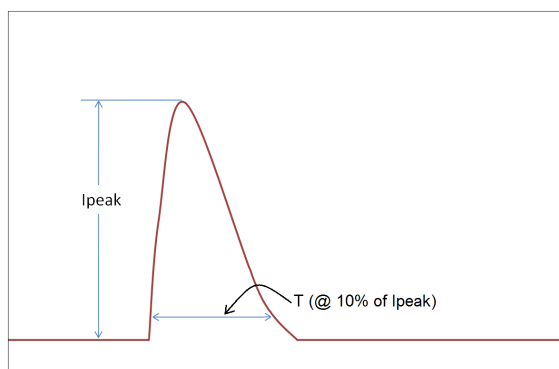


### Total Harmonic Distortion (THD) Vs. Output Power



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## Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	8A	6 $\mu$ S
277 Vrms	21A	8 $\mu$ S

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

## Lightning Surge Info

ANSI Surge Type	Differential Mode (L-N)	Common Mode (L-G, N-G, L&N-G)
100 kHz Ring Wave (w/t 30 $\Omega$ )	2.5kV	2.5kV

## Isolation

Isolation	Input	Output	0-10V	Enclosure
Input	NA	2xU+1kV	2.5kV	2xU+1kV
Output	2xU+1kV	NA	2.5kV	2xU+1kV
0-10V	2.5kV	2.5kV	NA	2xU+1kV
Enclosure	2xU+1kV	2xU+1kV	2xU+1kV	NA

U = Max working voltage

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