

# PHILIPS ADVANCE

## LED Driver

### Xitanium

36W 0.1-1.0A 48V 0-10V INT  
XI036C100V048DNMX



Conforms to  
UL STD 991  
for SREC

**UL** US  
Safety Related  
Electronic Circuit E321253

**RoHS**  
COMPLIANT



**UL** US  
UL Class 2  
For Dry and  
Damp Location

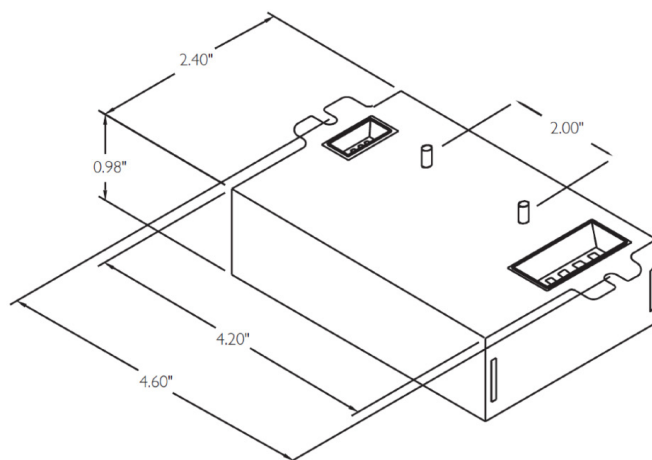
Philips Advance Xitanium Downlight LED Drivers are designed to give OEMs ultimate flexibility. With wide operating windows, compact size and simple current adjustability, luminaire manufacturers can easily design luminaires with lumen levels appropriate for office and retail applications.

## Specifications

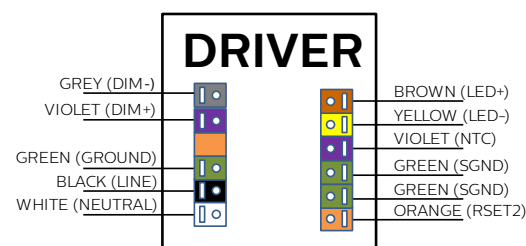
Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max Load and 70°C Case	Max. Case Temp. (°C)	Input Current (A)	Max. Input Power (W)	THD @ Max. Load	Power Factor @ Max. Load	Surge Protection (Ring Wave, KV)	Envir. Protection Rating
120	36	20 - 48	0.1 - 1.0	86	80°C Life 90°C UL	0.36	42	<10%	>0.95	>2.5	UL Dry & Damp
277				88		0.16		<15%			

## Enclosure

	In. (mm)
Case Length	4.2 (106.7)
Case Width	2.36 (60)
Case Height	0.95 (24)
Mounting Length	4.6 (116.8)
Overall Length	4.96 (126)



## Wiring Diagram



Install in accordance with National and Local Electrical Codes.

Use 18AWG solid copper wire, rated  $\geq 300V/90C$ .

Strip wire to 3/8".

For Fortimo systems connect pink wire to violet (NTC).

Dimming	Dimming Range	Minimum Output Current (A)
0-10V Analog Class 2 Wiring	5% ~ 100% (for output current range 0.6-1.0A)	0.03

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## Features

- UL Class 2 output with Adjustable Output Current
- SmartMate style housing with 90°C Tcase max
- Compatibility with Philips Fortimo Downlight Modules

## Benefits

- Flexibility and ease of design via adjustable drive current and low voltage output
- Simple and economical integration into existing style fixtures
- System solution that optimizes performance and eases design-in

## Application

- Indoor downlight applications
- Office
- Retail

## Electrical Specifications

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

## Product Data

Order Information	
Full Product Code	XI036C100V048DNMXM (Mid-Pack, 16pcs/Box)
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108V
Max. Mains Voltage Operational	305V
Output Information	
Maximum Open Circuit Voltage	<53Vdc
Output Current Ripple (ripple = peak to average / average)	15% max @ max lout Low frequency (≤120 Hz) content <5%
Output Current Tolerance (In the performance window)	<5%
Protections	Short Circuit, Open Circuit Protection for LED + and LED – and Temperature Foldback
Features	
0-10V Dimming	150µA source current from driver. See dim curve for detail.
AOC (Adjustable Output Current)	100mA to 1000mA via external resistor or SimpleSet programming. Refer to graph and notes below.
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +55°C
Max Case Temperature (Tcase)	80°C for Life & 90°C for UL Safety
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
Audible Noise	<24dB Class A
Weight	0.41 Lbs / 0.19 kgs

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## Electrical Specifications

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## 0-10V Dimming Curve

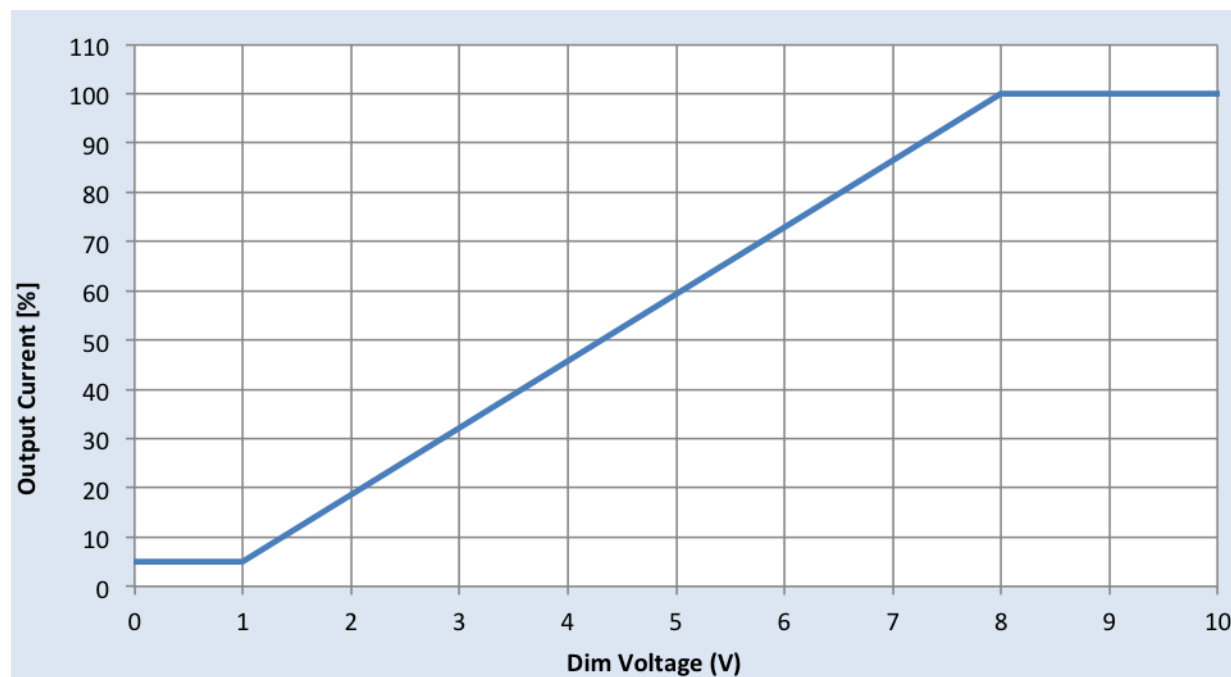
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum Dim Level: 5% of Iout (minimum 30mA)

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



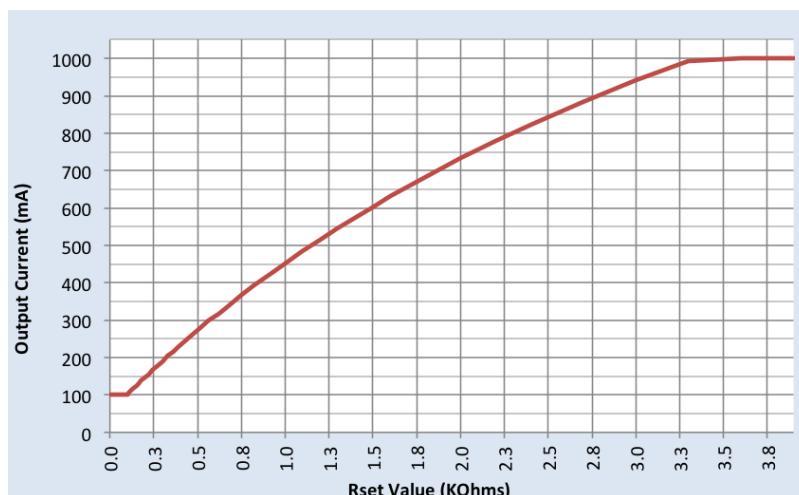
# Xitanium 36W 0.1-1.0A 48V 0-10V INT

## Electrical Specifications

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### AOC (Adjustable Output Current) Settings (Rset)

Rset (Ohms)	Current (mA)	Rset (Ohms)	Current (mA)
1	100	1800	684
100	100	2000	733
110	106	2200	780
120	111	2400	823
130	116	2700	883
150	125	3000	941
160	130	3300	993
180	138	3600	1000
200	146	3900	1000
220	155	>100,000	1000
240	166		
270	176		
300	190		
330	204		
360	215		
390	228		
430	245		
470	261		
510	277		
560	300		
620	318		
680	340		
750	368		
820	392		
910	422		
1000	452		
1100	485		
1200	515		
1300	545		
1500	602		
1600	632		



### Notes

Current is set via a resistor between Rset2 and SGND leads.

Any through-hole or SMD resistor with >0.25W and >20V can be used as Rset.

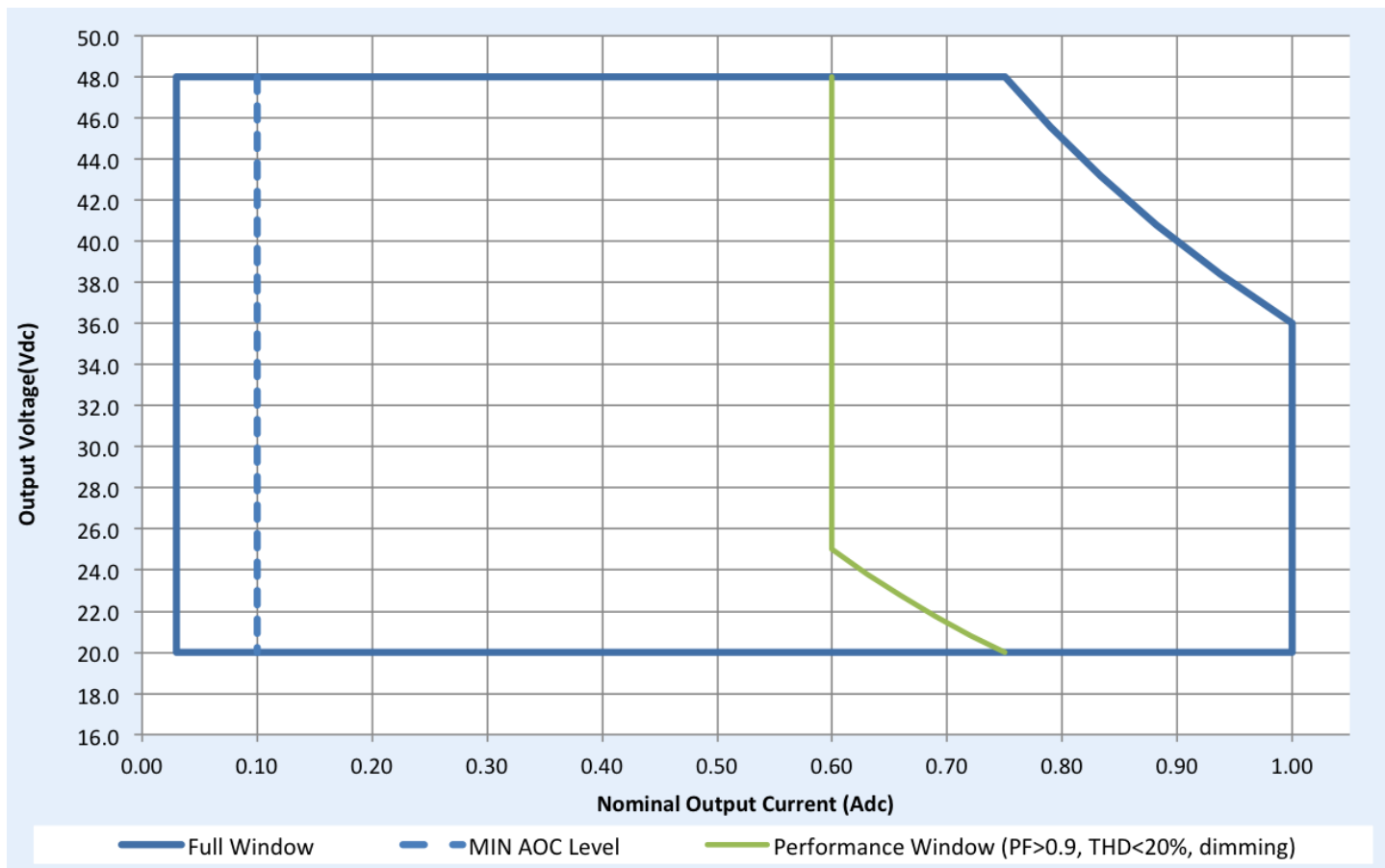
Driver will default to 1000mA when Rset is left open.

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## Operating Window



## Notes

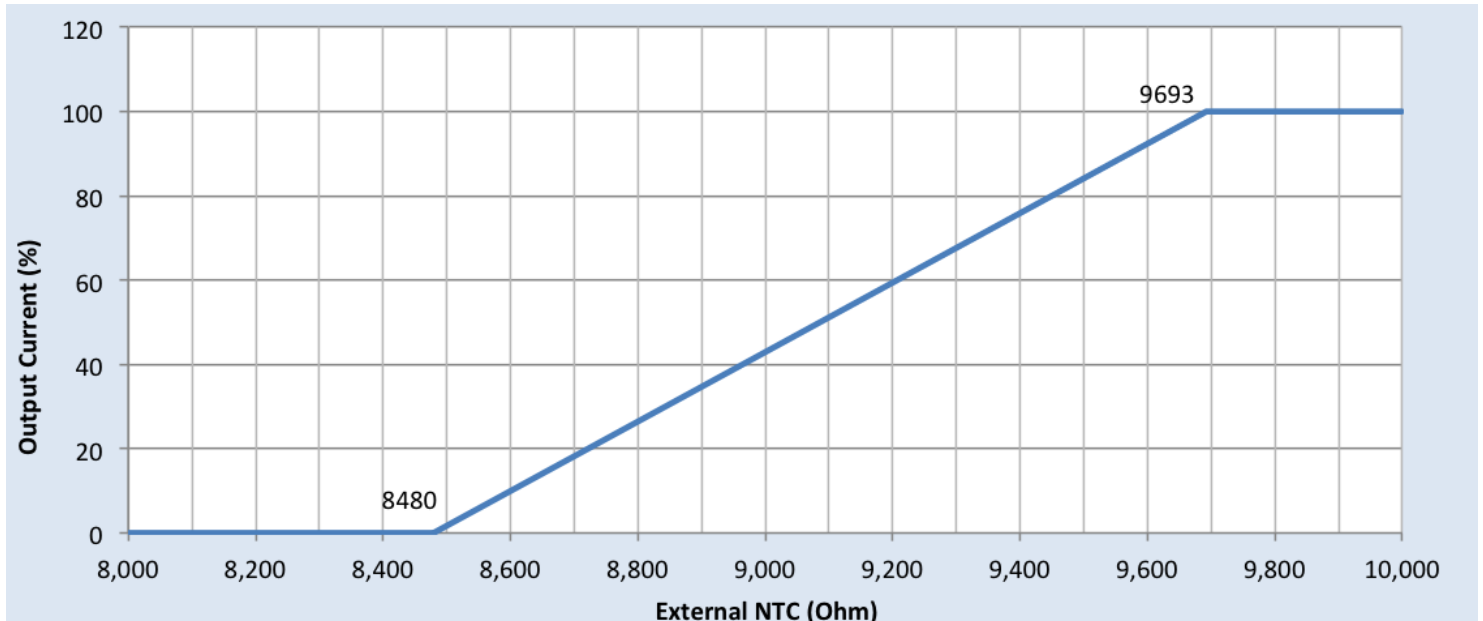
For 5% dimming output current setting through AOC should be >0.6A.

# Xitanium 36W 0.1-1.0A 48V 0-10V INT

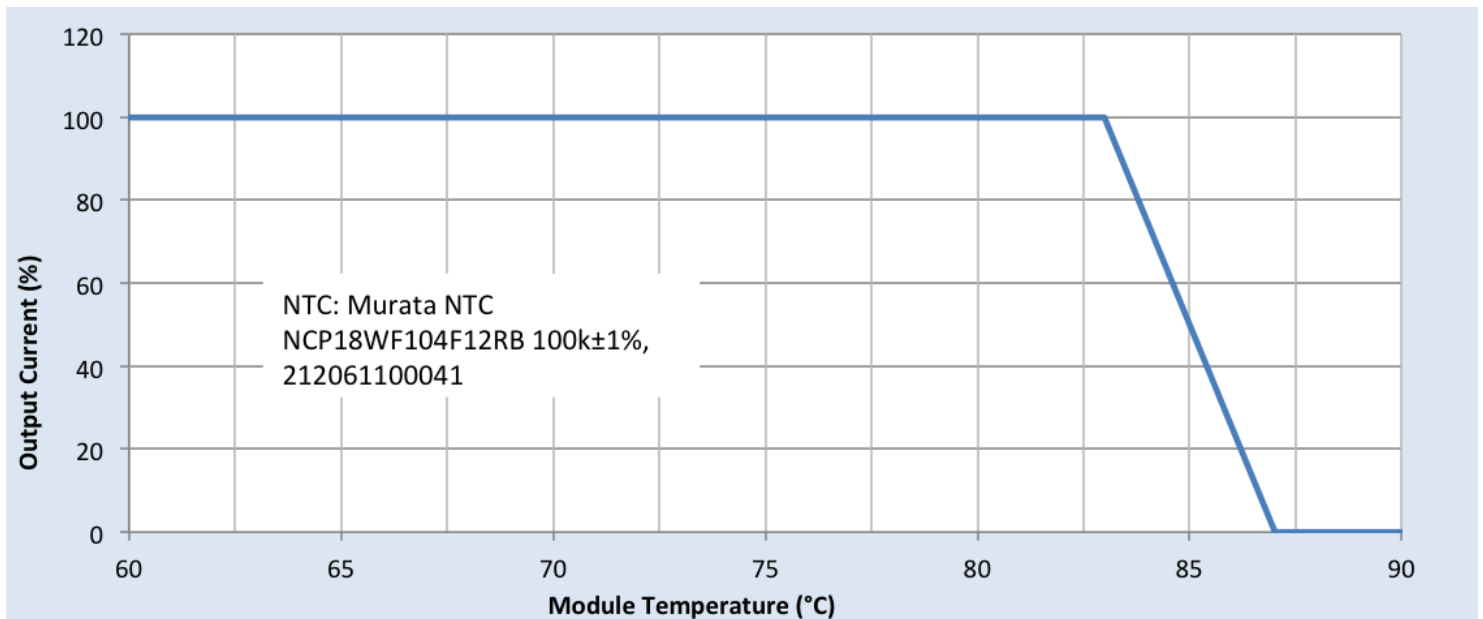
## Electrical Specifications

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### Output Current Vs. External NTC Resistance



### Output Current Vs. LED Module Temperature using 100kohm NTC

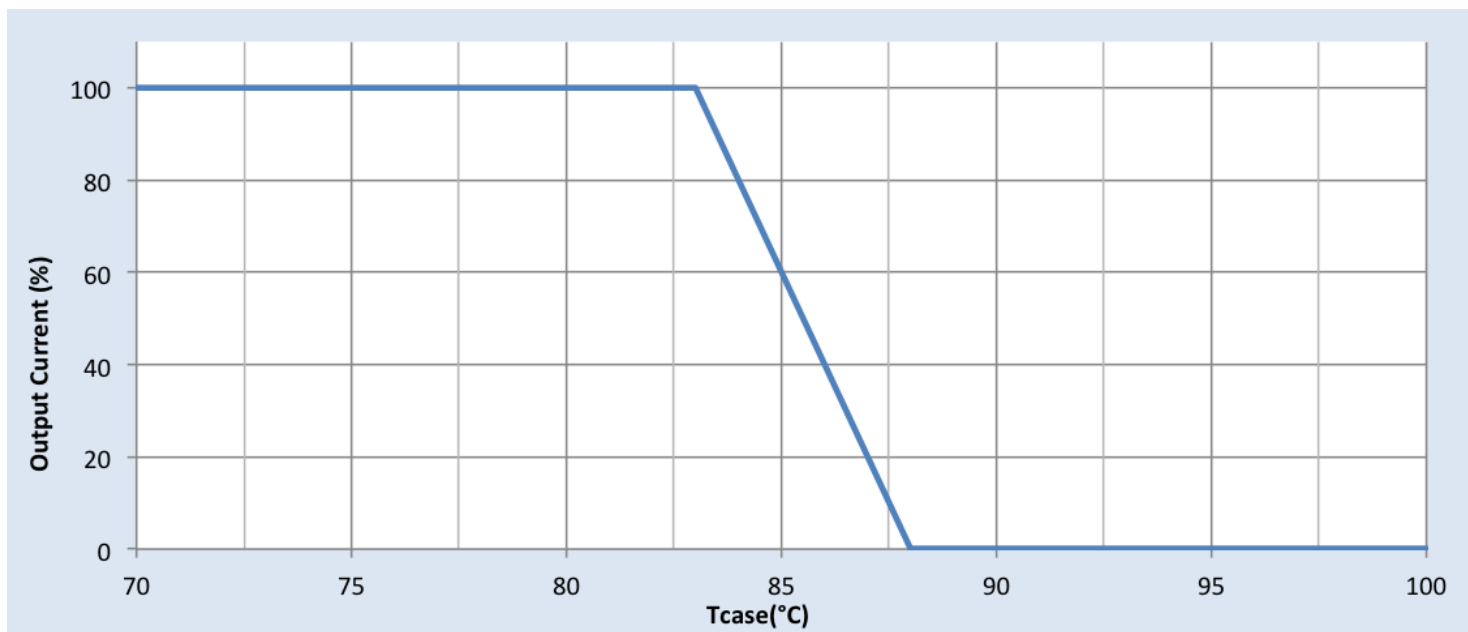


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## Electrical Specifications

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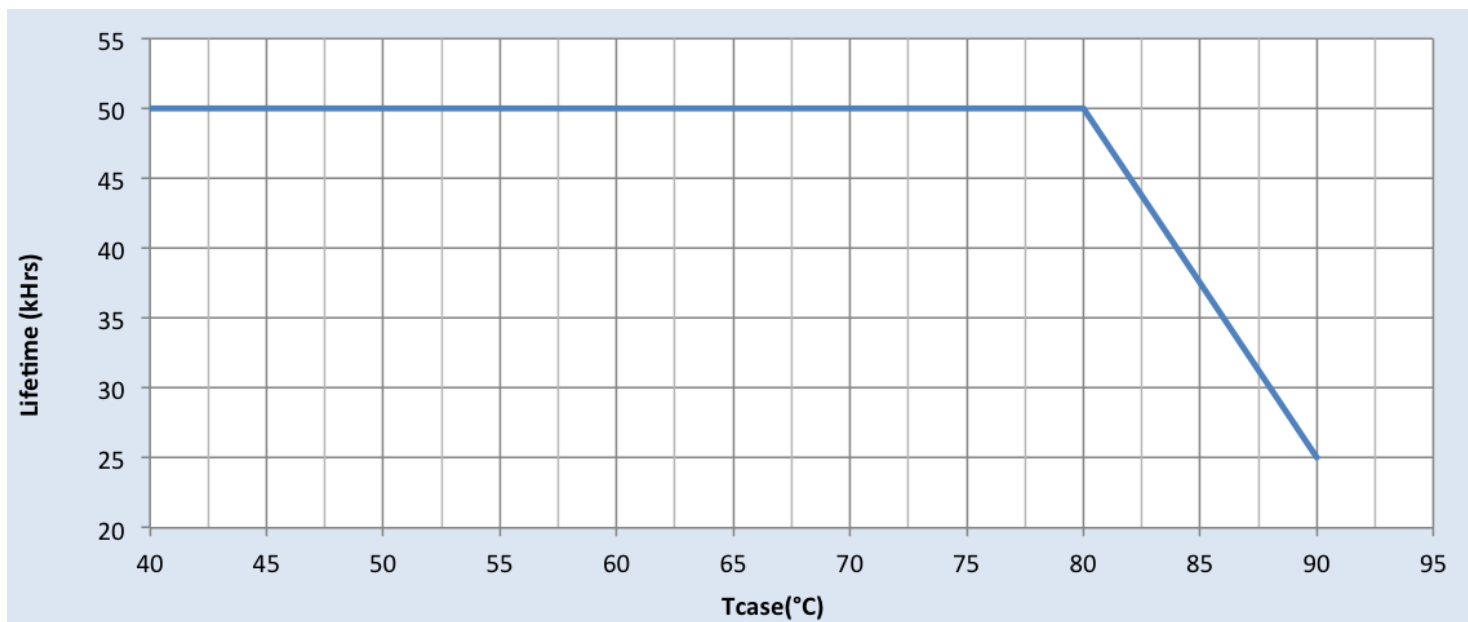
### Output Current Vs. Driver Case Temperature



#### Note

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

### Driver Lifetime Vs. Driver Case Temperature

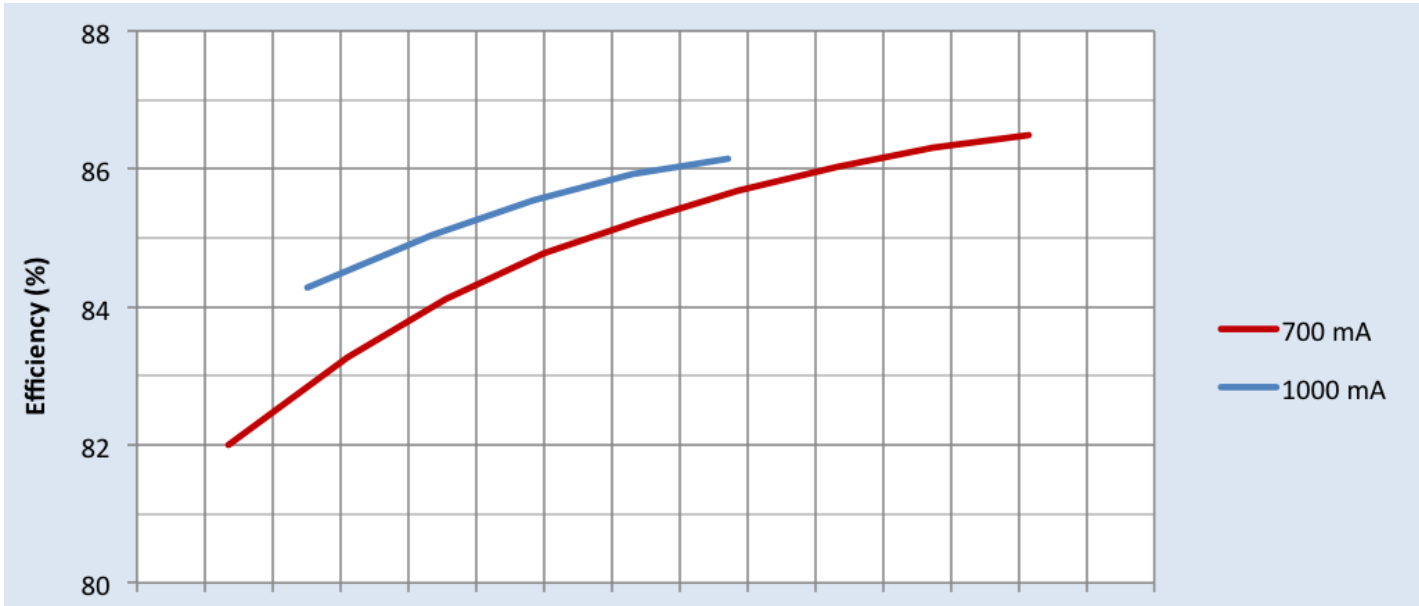


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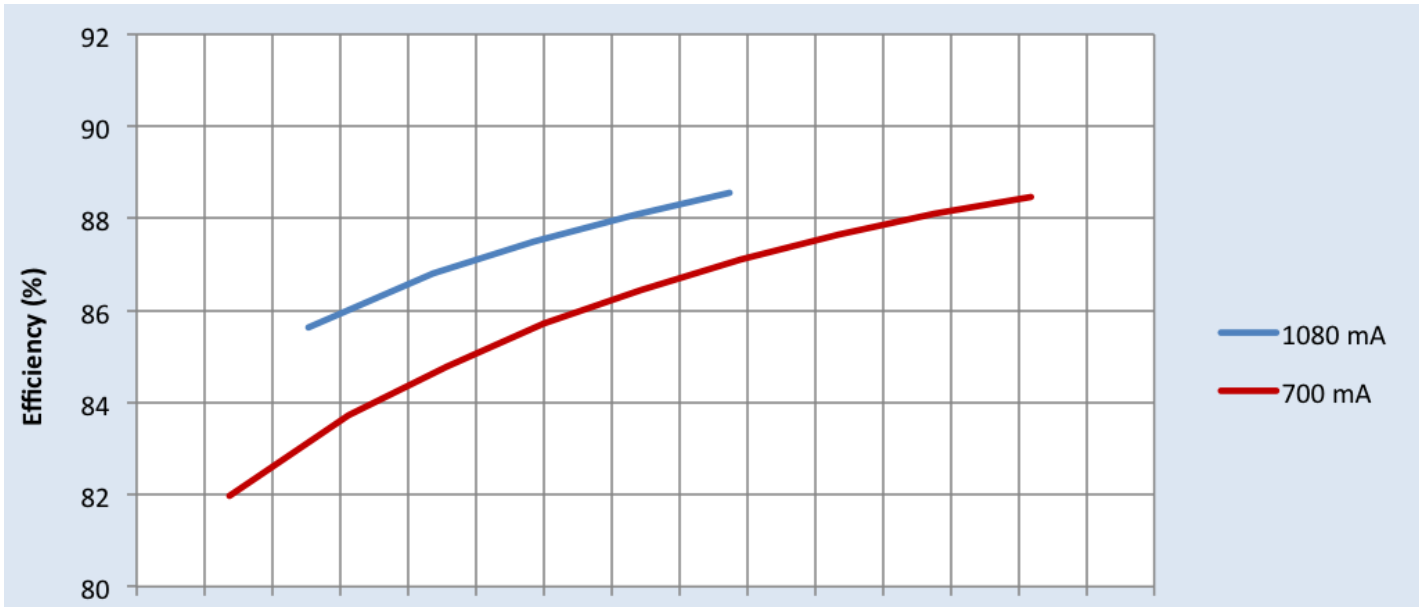
## Performance Characteristics

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.

### Efficiency Vs. Output Voltage at 120Vac



### Efficiency Vs. Output Voltage at 277Vac



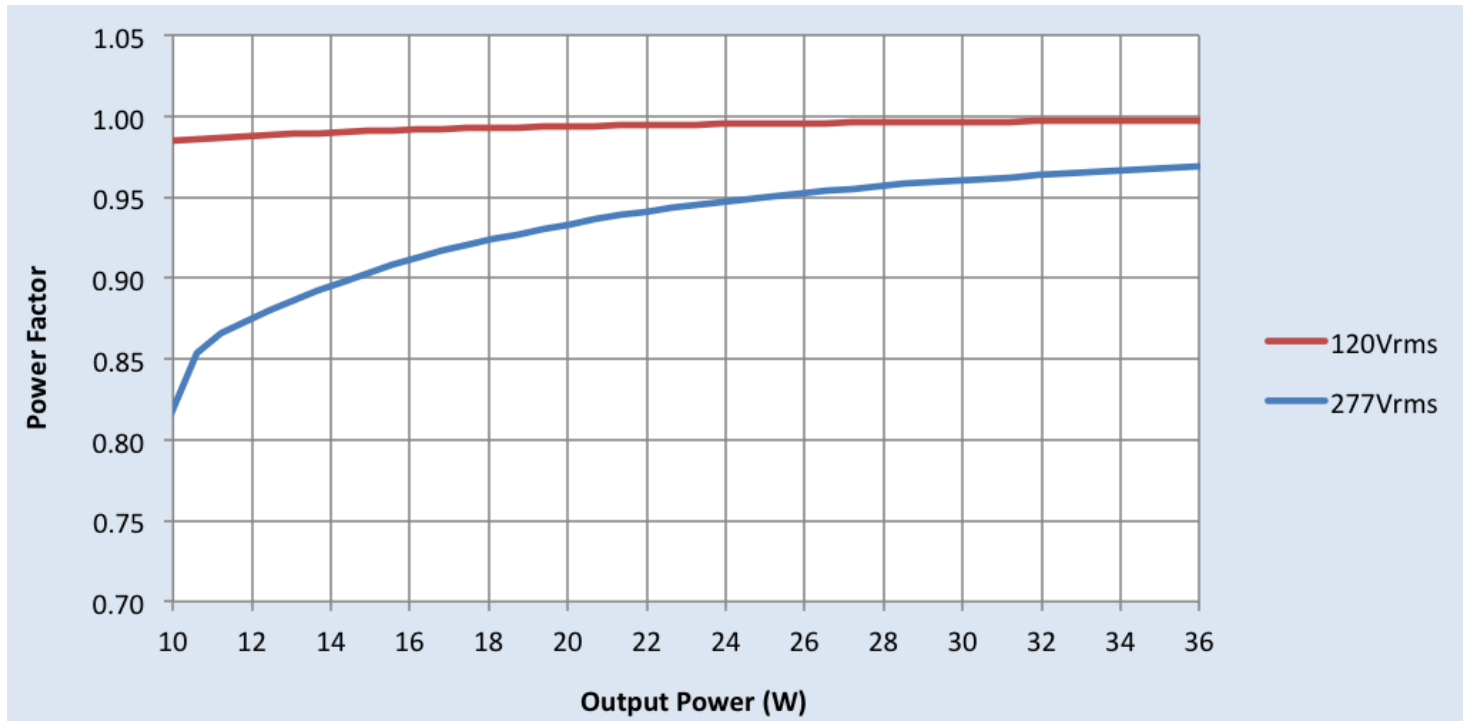


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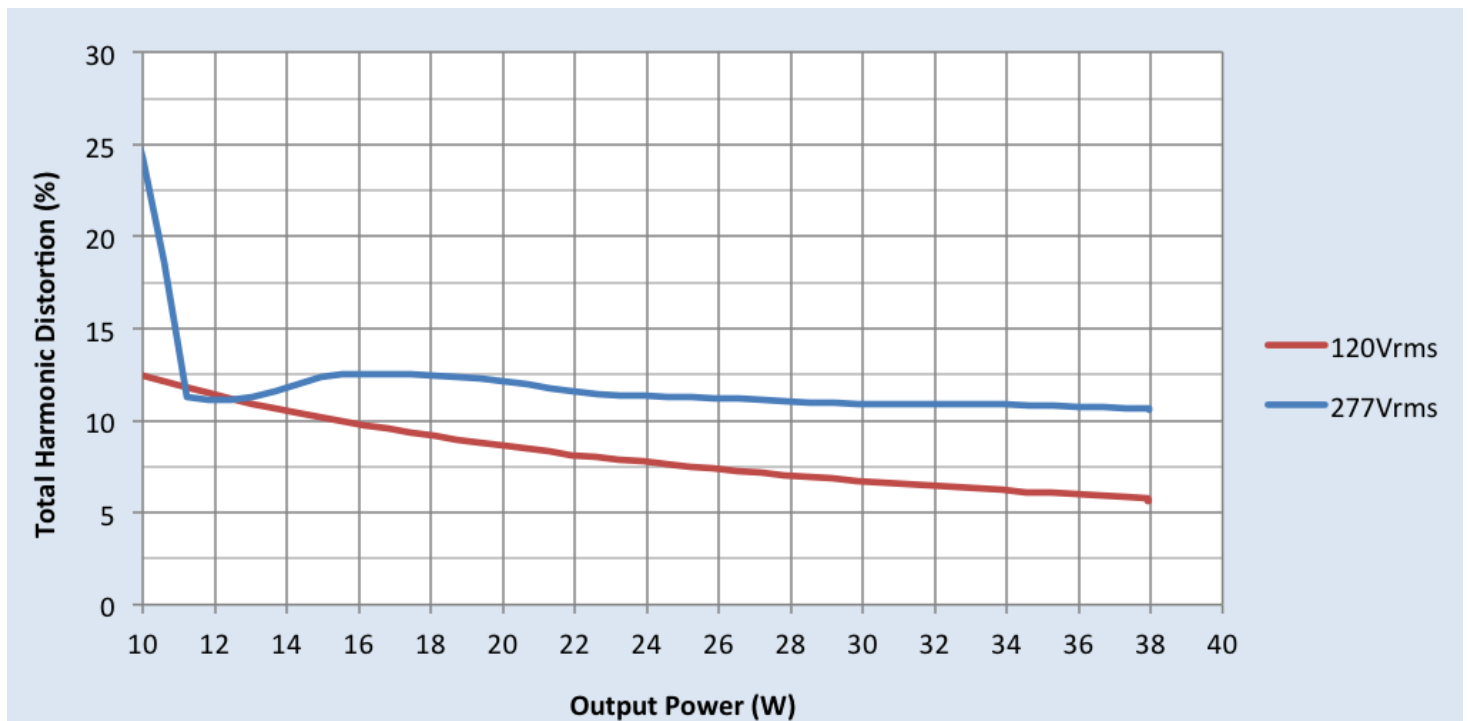
## Performance Characteristics

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### Power Factor Vs. Output Power

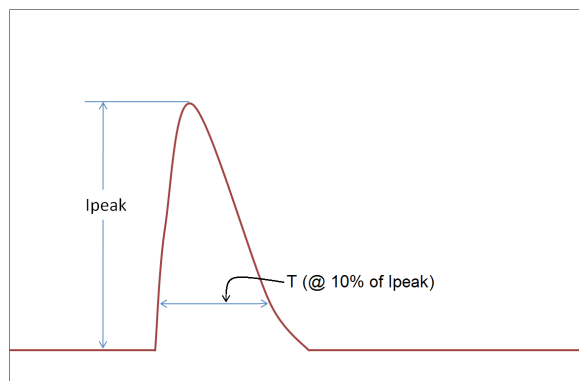


### Total Harmonic Distortion (THD) Vs. Output Power



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## Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	21A	78 $\mu$ S
277 Vrms	50A	83 $\mu$ 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 (Class 2)	Enclosure
Input	–	2xU+1kV	2xU+1kV	2xU+1kV
Output	2xU+1kV	–	Non-Isolated	500V
0-10V (Class 2)	2xU+1kV	Non-Isolated	–	500V
Enclosure	2xU+1kV	500V	500V	–

U = Max input voltage

## UL Conditions of Acceptability

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

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