

# PHILIPS ADVANCE

## LED Driver

### Xitanium

40W 0.1-1.1A 54V Step  
Dimming INT with SimpleSet  
XIO40C110V054SST1



Class P  
LED class 2 output  
For Dry and Damp Location

Intertek  
Class P  
Conforms to UL STD 8750

Philips Advance Xitanium linear LED drivers with SimpleSet technology are designed to give OEMs ultimate flexibility. With wide operating windows, slim profile and simple programming, the drivers enable luminaire manufacturers to design luminaires of different sizes and lumen levels for office and retail applications.

### Specifications

Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ 35.7V 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	40	22.5 - 54	0.1 -1.1	85	Life-75°C UL-85°C	0.4	49	<10%	>0.95	2.5	UL damp & dry
277				86		0.17		<15%			

### Enclosure

	In. (mm)
Case Length	14.17 (360)
Case Width	1.18 (30)
Case Height	1.00 (25.4)
Mounting Length	13.78 (350)

### Wiring Diagram



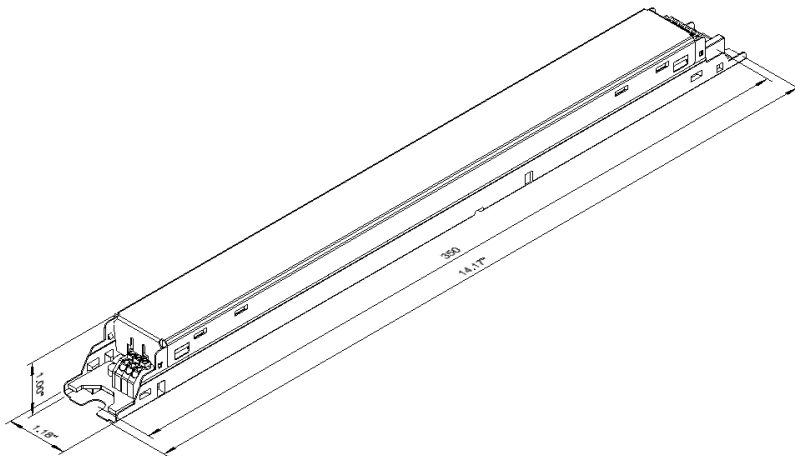
### Warning

Install in accordance with national and local electrical codes.  
Use 18AWG solid copper wire.  
Rated  $\geq 300V/90^{\circ}C$ .  
Strip wire 3/8".

### Grounding

Driver case must be grounded.

Dimming	Dimming Range (with specified dimmers)	Minimum Output Current (A)	Other Comments
Step Dimming	10-70% 100%	0.025	



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## Features

- 50,000+ hour lifetime<sup>1</sup>
- SimpleSet programmable
- Large operating window
- Step minimum dim level

## Benefits

- Slim profile housing enables easy design-in with excellent thermal performance
- Enables simple, fast, flexible application-specific configurations
- Enables fixture designs with comprehensive application coverage for various loads and lumen levels

## Application

- Indoor linear applications such as troffers and pendants
- Office
- Education
- Healthcare
- Retail

## Electrical Specifications

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

## Product Data

Order Information	
Full Product Code	XI040C110V054SST1M (Mid-Pack, 18pcs/Box), 12NC: 929000788913
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)	15% max. @ max. Iout 4% max. @ visible for stroboscopic frequency range 60Hz-3KHz
Output Current Tolerance (in the performance window)	<5%
Protections	Short Circuit, Open Circuit Protection for LED + and LED – and Temperature Foldback
Features	
Step Dimming	Step dimming (tri-level or bi-level, refer to step dimming table)
AOC (adjustable output current)	100mA to 1100mA via external resistor or SimpleSet programming (default set to 1100mA, refer to graph)
Additional SimpleSet Configurable Features	Adjustable minimum dimming level, Dimming mode selection (bi-level or tri-level), Adjustable output level, Adjustable output min., OEM write protection
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +50°C
Max. Case Temperature (Tcase)	85°C
Agency Approbations	UL8750, UL1310, CSA-C22.2 No. 250.13-14, CSA Class P, UL Class P, ETL Class P
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	0.75Lbs / 0.34 kgs

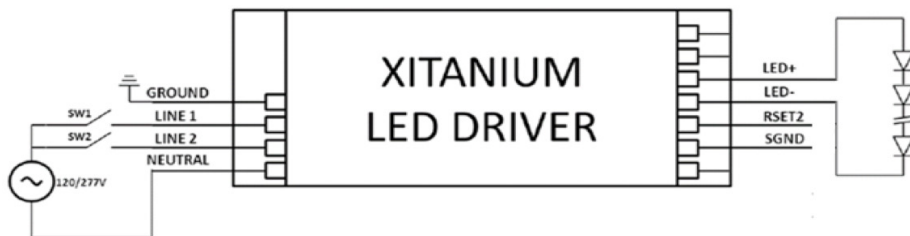
1. Philips Advance Xitanium LED drivers are manufactured to engineering standards correlating to a designed and average life expectancy of 50,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.

# 40W 0.1-1.1A 54V step dimming INT with SimpleSet

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## Step Dimming



		Output Current			
		Bi_level		Tri_level (Default)	
SW1	SW2	Config Range	Default	Config Range	Default
Close	Open	10%-70%	40%	10%-70%	30%
Open	Close	10%-70%	40%	10%-70%	70%
Close	Close	100%	100%	100%	100%
Open	Open	0%	0%	0%	0%

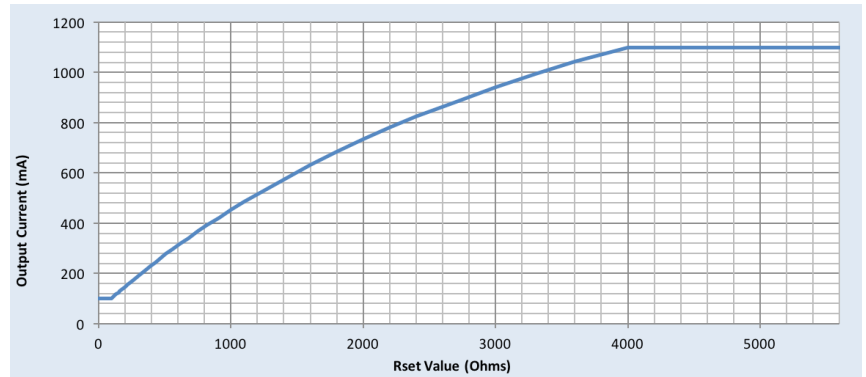
# 40W 0.1-1.1A 54V step dimming INT with SimpleSet

## Electrical Specifications

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

Rset (Ohms)	Current (mA)	Rset (Ohms)	Current (mA)
0	100	2000	733
100	100	2200	780
110	105	2400	823
120	111	2700	883
130	116	3000	941
150	125	3300	993
160	130	3600	1042
180	138	4000	1100
200	146	4700	1100
220	155	5600	1100
240	166	>100,000	1100
270	176		
300	190		
330	204		
360	215		
390	228		
430	245		
470	261		
510	277		
560	297		
620	318		
680	340		
750	368		
820	392		
910	422		
1000	452		
1100	485		
1200	515		
1300	545		
1500	602		
1600	632		
1800	684		



### Notes

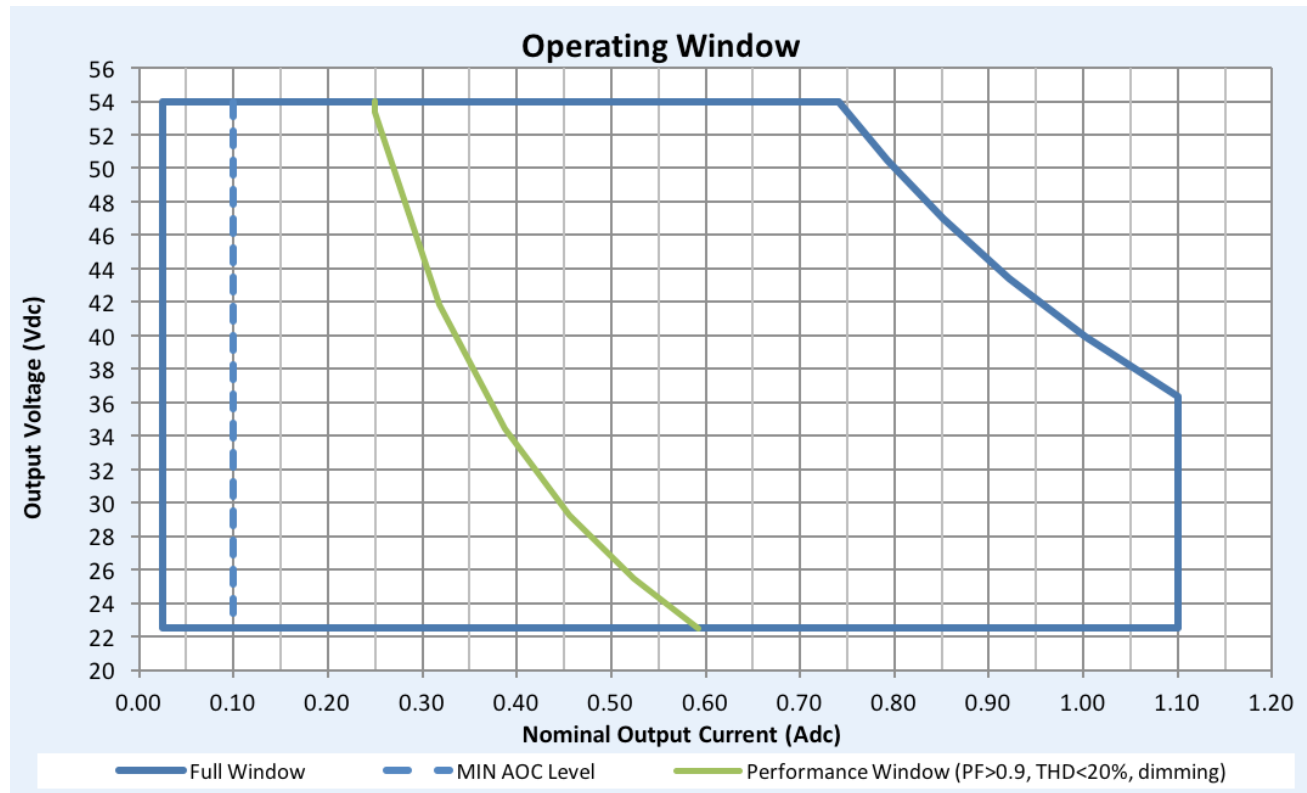
1. Current is set via a resistor between Rset2 and SGND leads.
2. Any through-hole or SMD resistor with >0.25W and >20V can be used as Rset.
3. Driver will default to 1100mA when Rset is left open.

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## Driver Output Window



## Notes

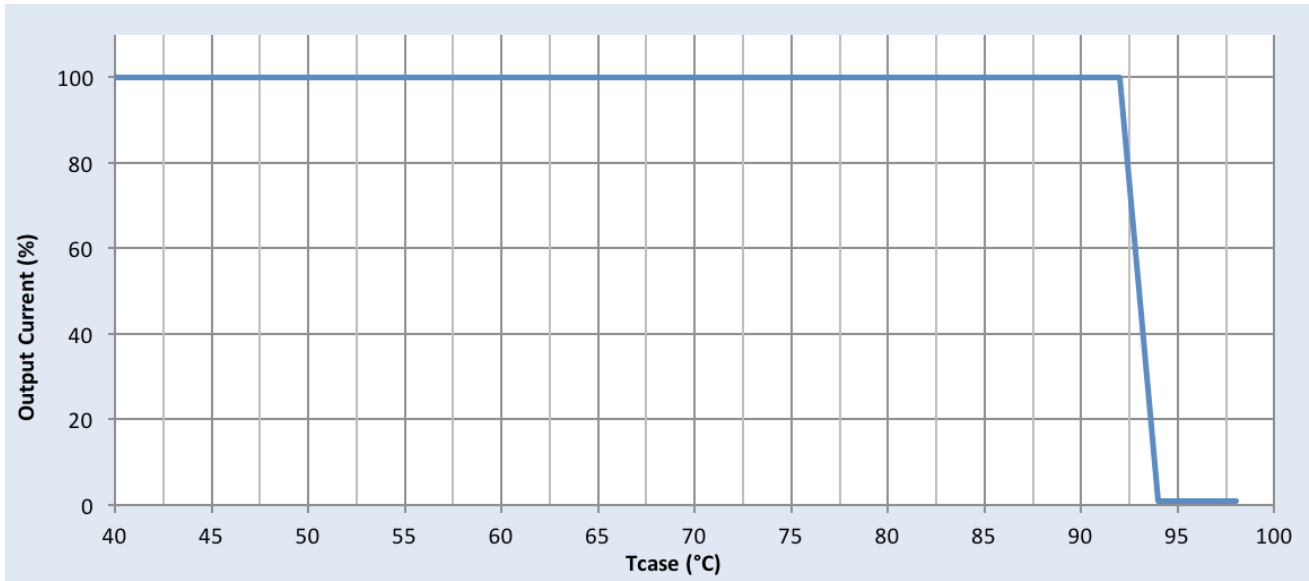
1. Factory default output current is 1.1A.
2. For dimming to a minimum level of 1% the output current setting through AOC should be  $\geq 0.25A$ .

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## Electrical Specifications

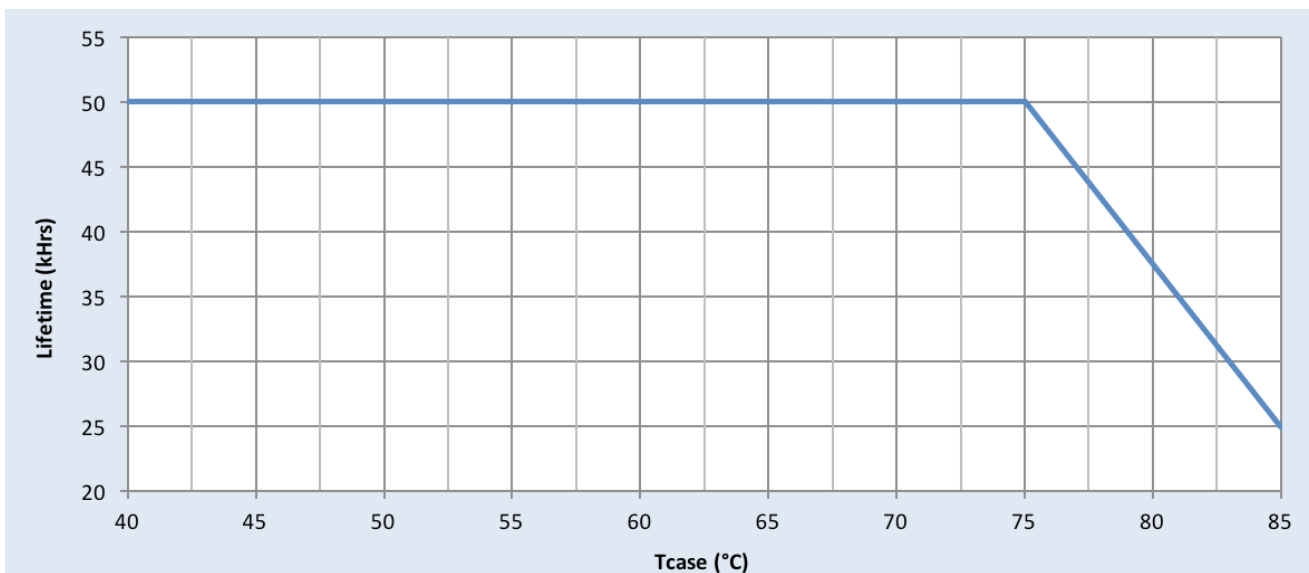
All the specifications are typical and at 25°C Tcase unless specified otherwise.

## 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

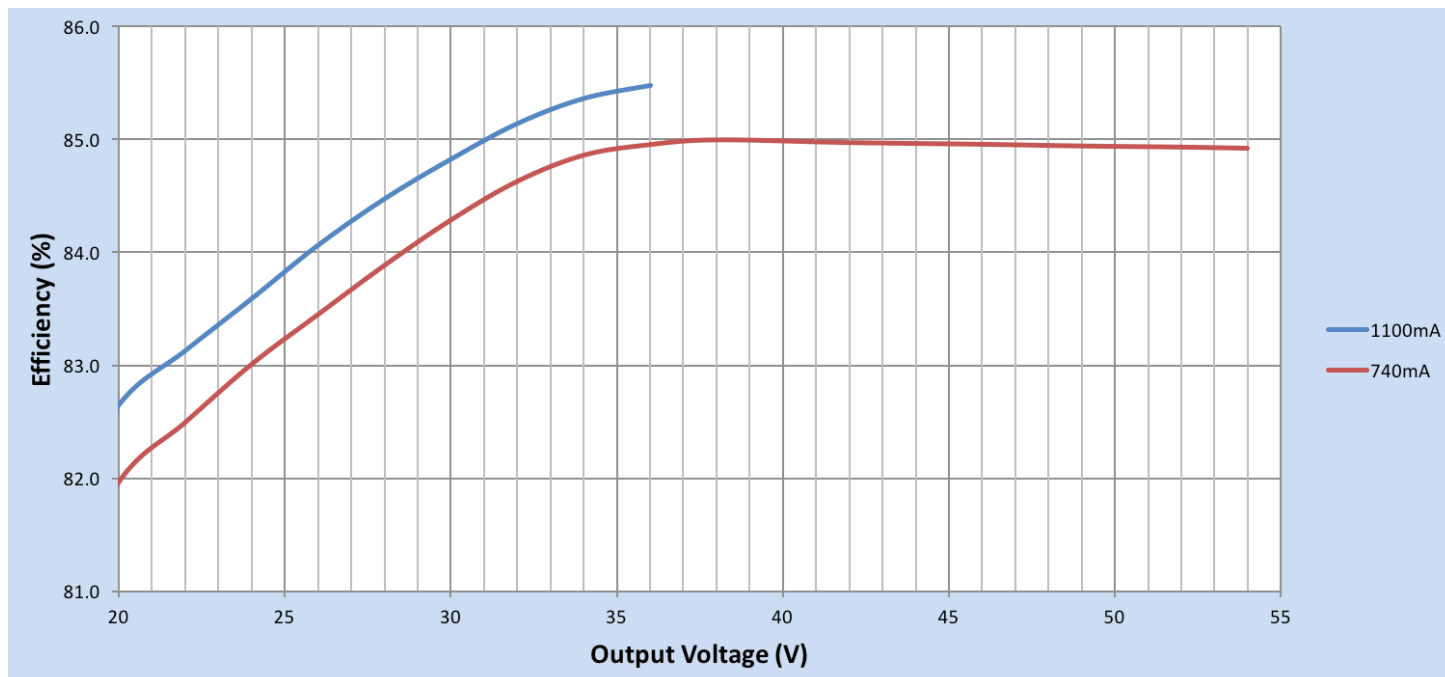


# 40W 0.1-1.1A 54V step dimming INT with SimpleSet

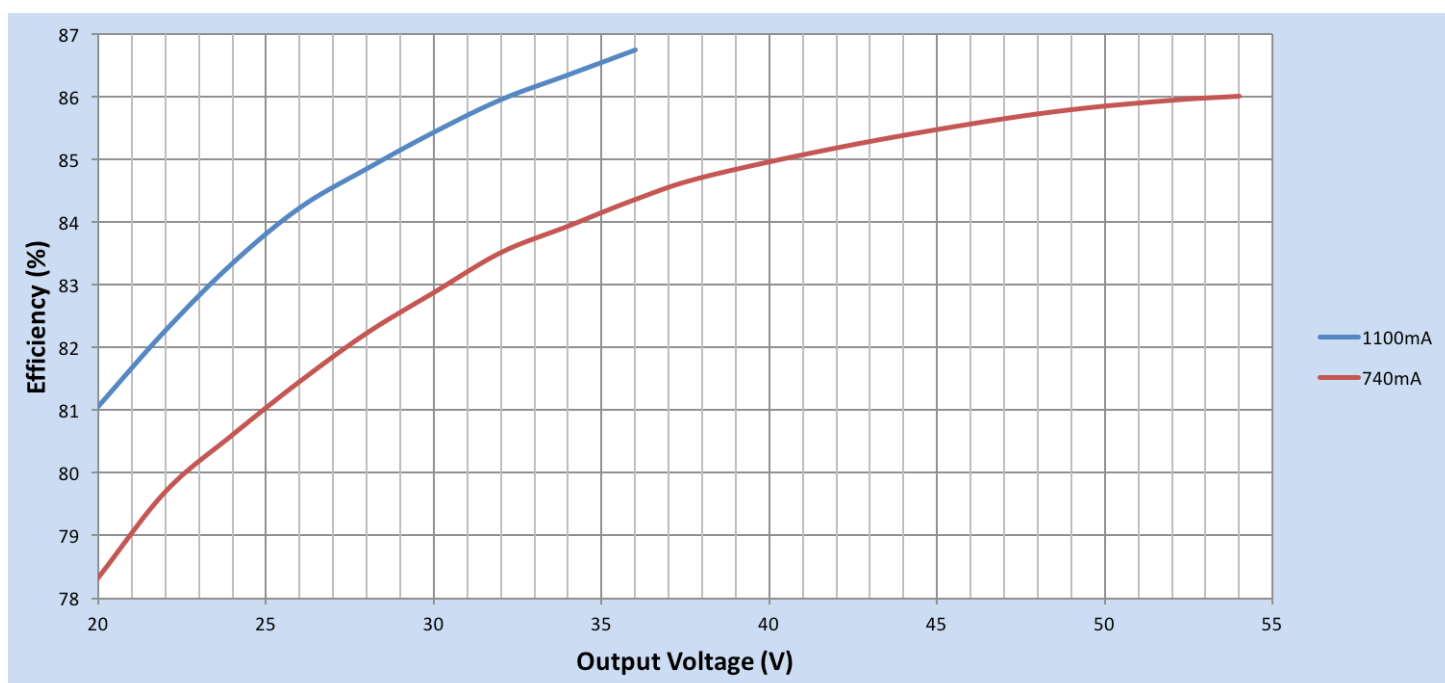
## Performance Characteristics

Based on measurements on a typical sample at 75°C T case. The accuracy of the measurements is within the tolerance of the measurement instruments.

### Efficiency Vs. Output Power at 120Vac



### Efficiency Vs. Output Voltage at 277Vac

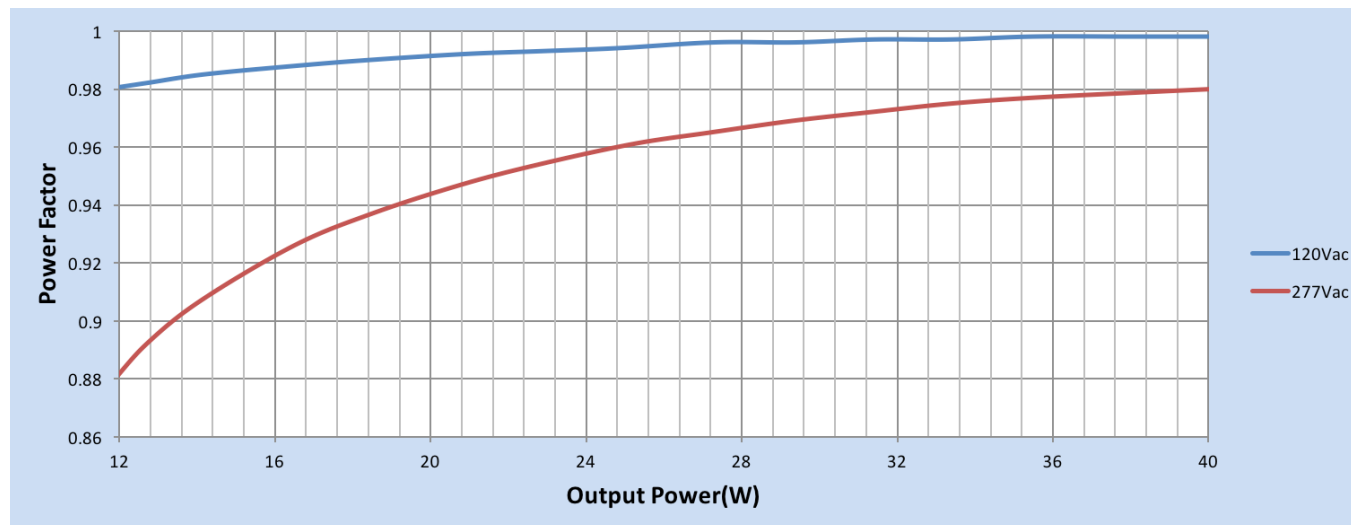


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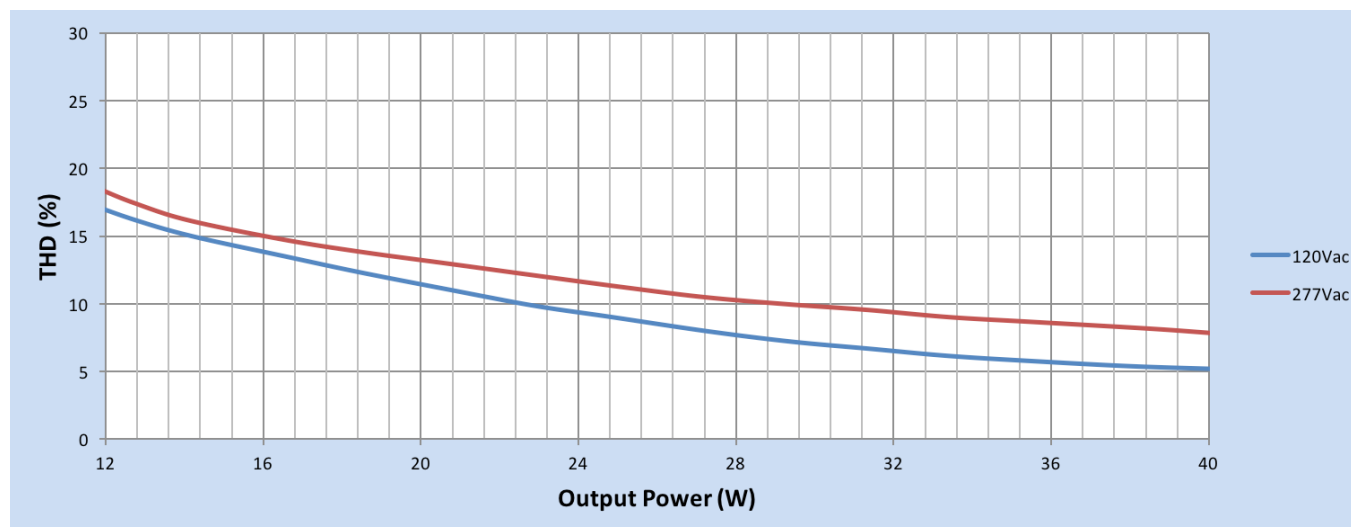
## Performance Characteristics

Based on measurements on a typical sample at 75°C T case. The accuracy of the measurements is within the tolerance of the measurement instruments.

### Power Factor Vs. Output Power



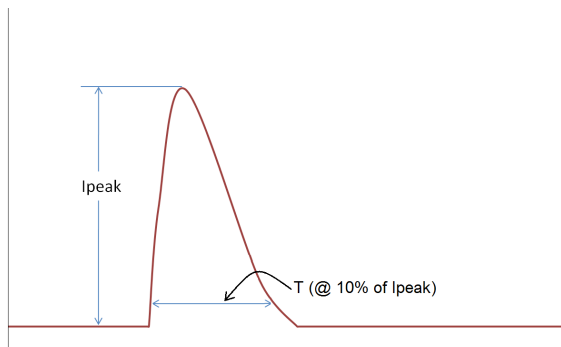
### Total Harmonic Distortion (THD) Vs. Output Power





# 40W 0.1-1.1A 54V step dimming INT with SimpleSet

## Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	8.2A	300µS
277 Vrms	20A	290µS

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)
100kHz Ring Wave (w/t 30Ω)	2.5KV	2.5KV

## Isolation

Isolation	Input	Output	0-10V	Enclosure
Input	-	2xU+1kV	2.5kV	2xU+1kV
Output	2xU+1kV	-	2.5kV	500V
Enclosure	2xU+1kV	500V	500V	-

U = Max. input voltage

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