

**PHILIPS  
ADVANCE**

**LED Driver**

**Xitanium**

9W 120V 0.22A LE+TE  
XR009C022V042RNO2



The Philips Advance Xitanium range of phase-cut dimming LED drivers are perfectly suited for downlight fittings in residential and commercial applications. These models are compatible with a variety of incandescent and electronic low voltage dimmers to deliver reliably smooth dimming performance. The drivers are offered in a compact form factor suitable for use in elegantly unobtrusive fixture designs that are specifically rated to meet EMI emissions per FCC 47CFR Part 18 Class B consumer limits.

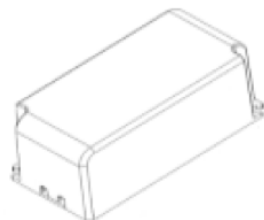
Rated for long life with efficient performance, these drivers are excellent design choices for LED downlight fixtures offering the benefits of long-lasting energy savings with low maintenance costs.

**Specifications**

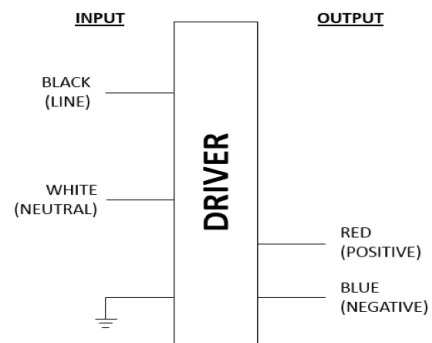
Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max Load and 70°C Case	Max Case Temp. (°C)	Input Current (A)	Max. Input Power (W)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protection (Ring Wave, KV)	Envir. Protection Rating
120	9	21-42	0.22	82%	85°C	0.09	12.1	<20%	>0.9	2.5	UL damp & dry

**Enclosure**

	In. (mm)
Case Length	2.78 (70.5)
Case Width	1.36 (34.5)
Case Height	1.08 (27.5)
Mounting Length	2.54 (64.5)
Overall Length	2.78 (70.5)



**Wiring Diagram**



Input and output use lead- wires.

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

Output lead-wires are 22AWG 105C/600V multi-stranded wires.

Input lead length outside enclosure: 130mm (±10mm).

Output lead length outside enclosure:100mm (±10mm).

All wires have tinned ends.

Driver case must be grounded.

Dimming	Dimming Range (with specified dimmers)	Minimum Output Current (A)
LE and TE dimming	3% ~ 100% of the setting current	4.4mA

# Xitanium 9W 120V 0.22A LE+TE

## Features

- Compatible with both leading edge (incandescent) & trailing edge (electronic low voltage) phase-cut dimmers.
- 50,000+ hour lifetime<sup>1</sup>

## Benefits

- Enables long life luminaire designs
- Allows luminaire designs for ambient environments
- Compact fit for elegant fixture designs

## Application

- Indoor downlight applications
- Residential
- Commercial

## Electrical Specifications

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

## Product Data

Order Information	
Full Product Code	XR009C022V042RNO2M (Mid-pack – 48pcs/box)
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108 Vac
Max. Mains Voltage Operational	132 Vac
Output Information	
Maximum Open Circuit Voltage	60Vdc
Output Current Ripple (ripple = peak to average / average)	<=30% @full load
Protections	Short Circuit, Open Circuit Protection for LED + and LED –
Output Voltage (V out)	21V - 42V
Output Current (I out)	220mA [ I out variation: (+/-) 8%, see note below ]
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +50°C
Max Case Temperature (Tcase)	85°C
Environmental Protection Rating	UL dry and damp
Agency Approbations	UL8750, UL1310, CSA 250.13
Electromagnetic Compliance	FCC Title 47 Part 15 Class B
Audible Noise	<24dB Class A
Weight	.22Lbs/ .10kgs

Note:

Power Factor (PF) and Total Harmonic Distortion (THD) may deviate under adverse mains voltage conditions outside nominal operation.

Output Current (I out) variation includes effects of line & load regulation, temperature variation and component tolerances.

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.

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## Electrical Specifications

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## Dimmer Compatibility List

Leading edge dimmers

Manufacturer	Manufacturer Part Number	Additional Considerations
Lutron	SLV-600X	Dimmers can be loaded up to 80% of their max power rating. The minimum number of drivers per dimmer is 1.
	S2-LX	
	GL-600H	
	NFTU-5A	
	DVLV-600P	
Leviton	6602-X	
	6681-X	
	6683-X	
	6684-X	
	700-X	
	705-X	
	6633	
	6674	
IPIQ6-1LZ		
Cooper	9530XXX	
Lightolier	MP600X	
Philips	SR150LED120	

Trailing edge dimmers

Manufacturer	Manufacturer Part Number	Additional Considerations
Lutron	NTELV-600-XX	Dimmers can be loaded up to 80% of their max power rating. The minimum number of drivers per dimmer is 1.
	SELV-303P	
	MAELV-600-XX	
	DVELV-300P-XX	
	SELV-300P-XX	
Leviton	IPE04-1LZ	
	VZE06-1LX	
	6615-POT	
Philips	SR400RPC120	

Note:

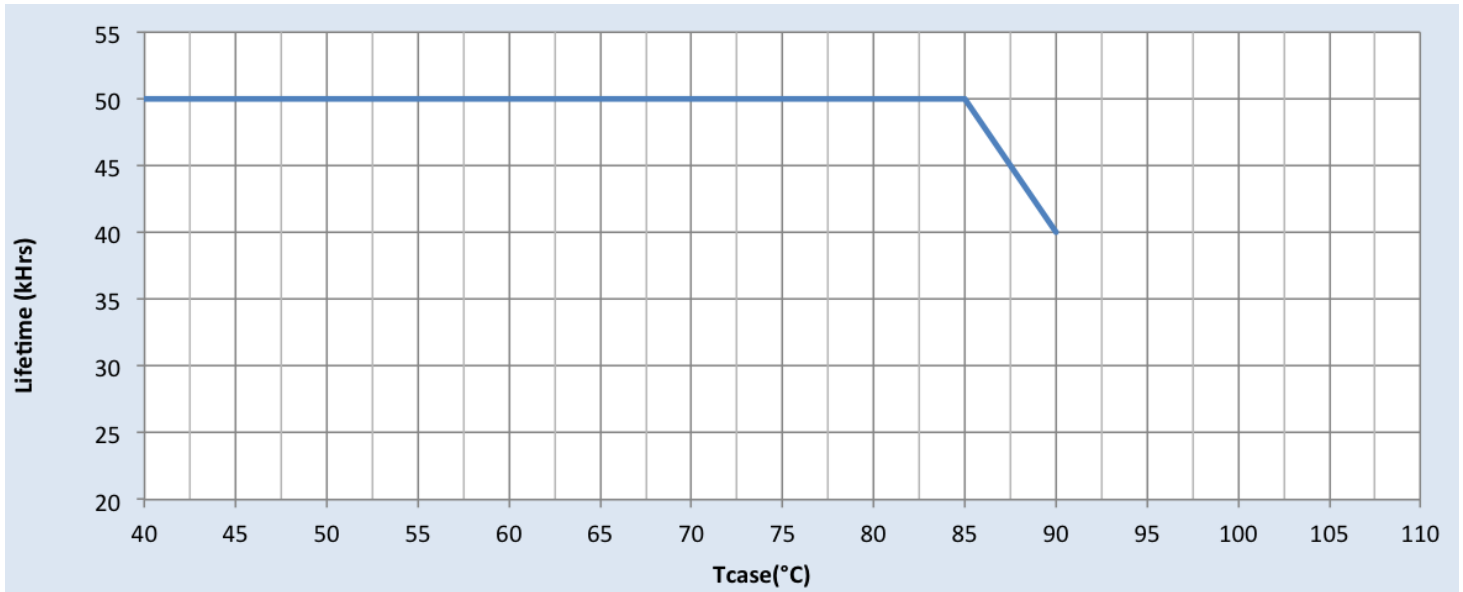
1. Minimum Dimming level: Up to 3% @ conduction angle of 30 degrees (performance dependant on dimmer model).

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## Electrical Specifications

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## Driver Lifetime Vs. Driver Case Temperature

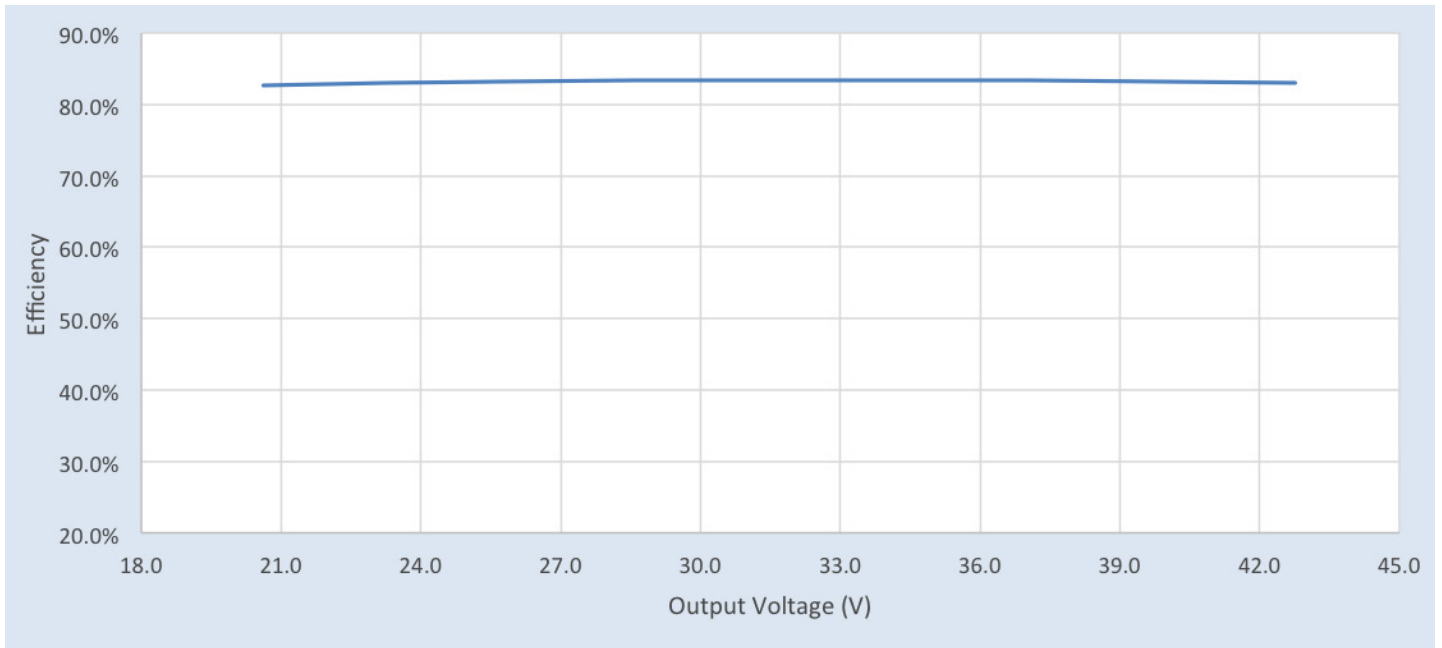


# Xitanium 9W 120V 0.22A LE+TE

## 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 Max Current



Note:

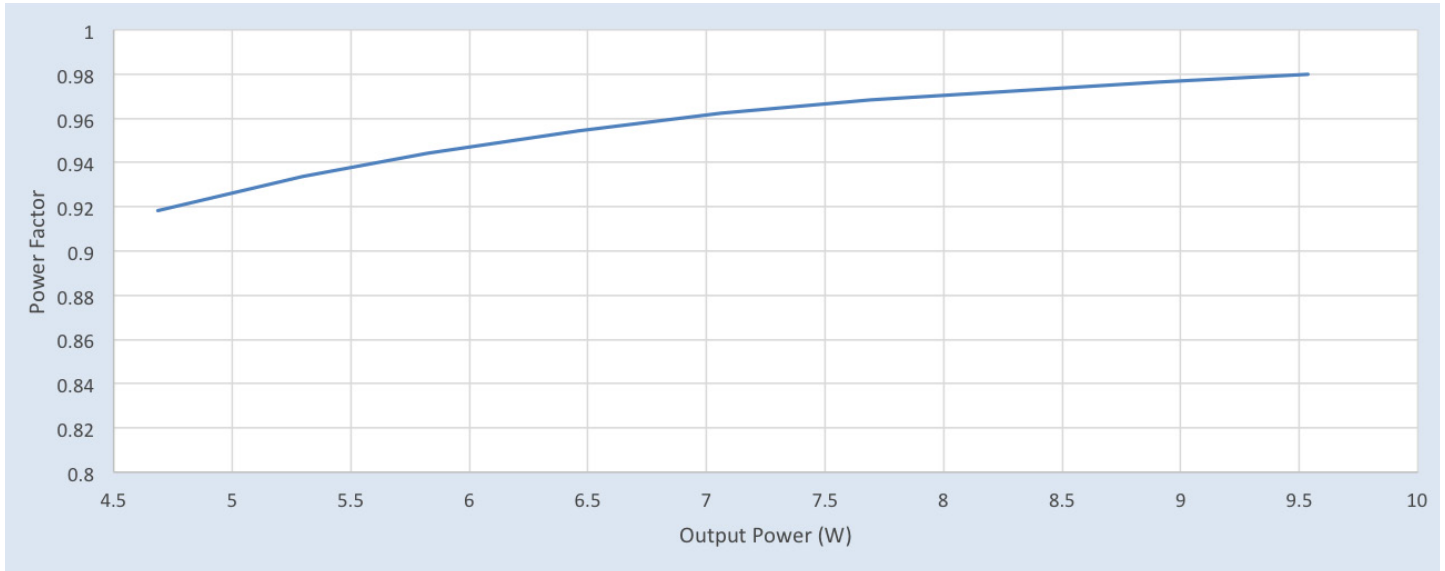
Typical rated efficiency of 82% at 120V.

# Xitanium 9W 120V 0.22A LE+TE

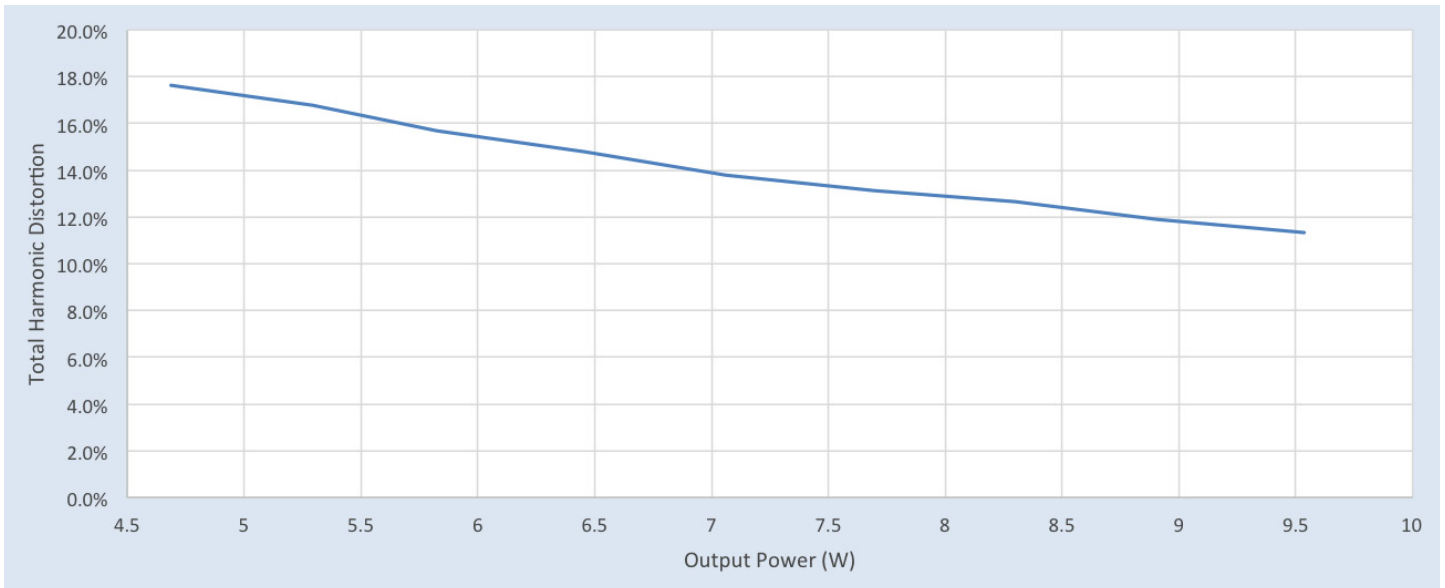
## Performance Characteristics

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### Power Factor Vs. Output Power



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



Note:

PF and THD are specified at maximum load without the dimmer connected.

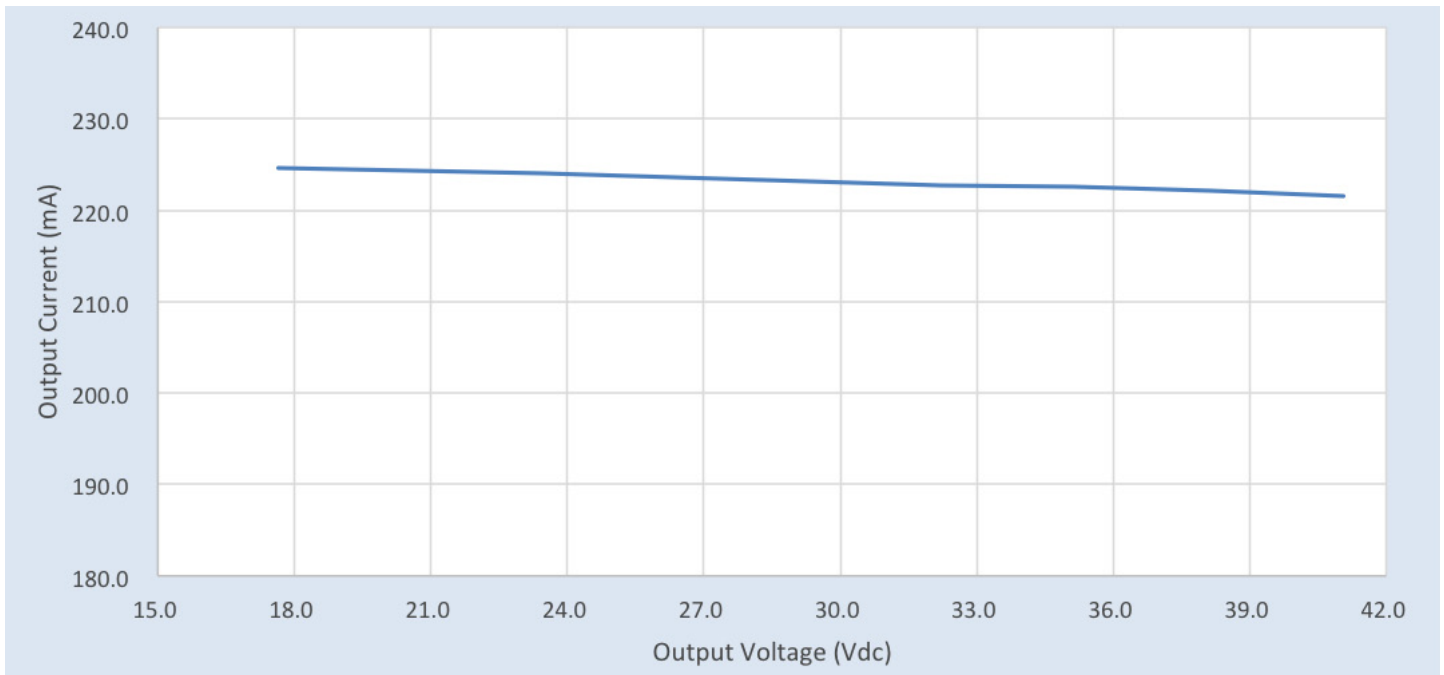
# Xitanium 9W 120V 0.22A LE+TE

## Performance Characteristics

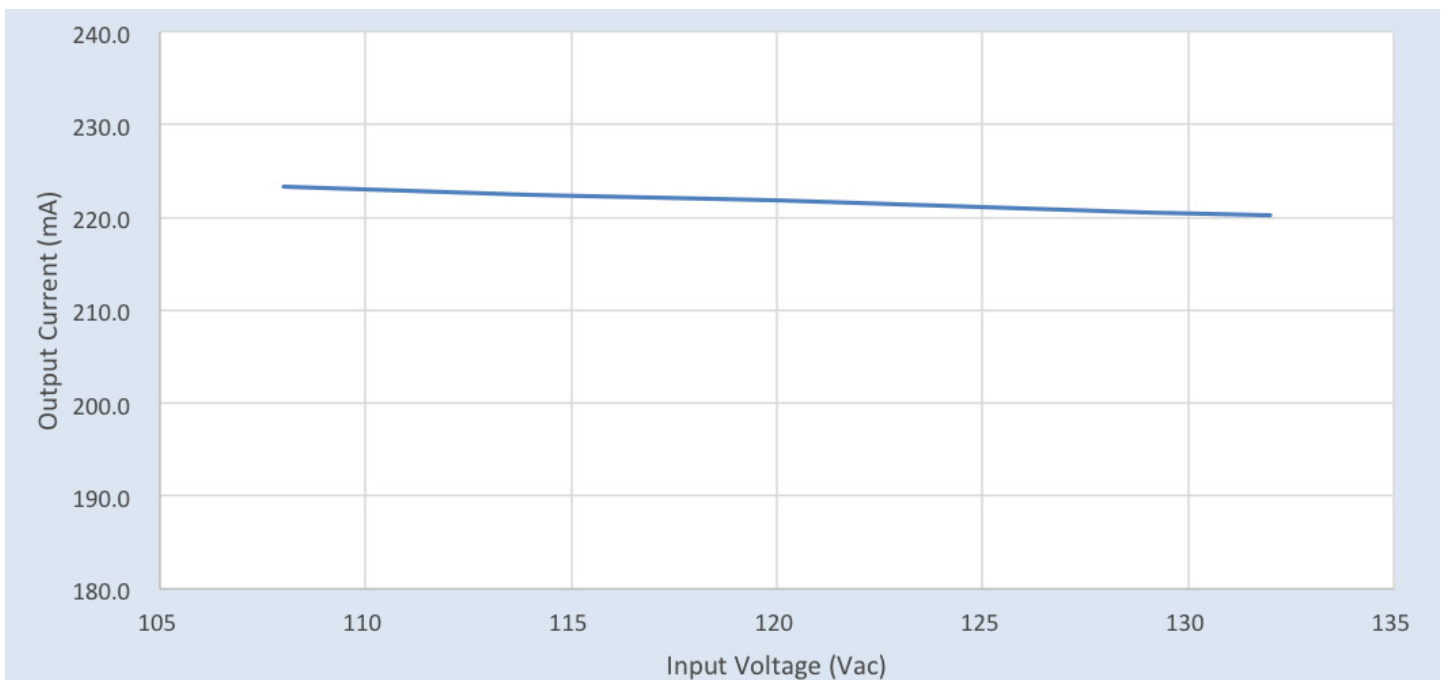
Based on measurements on a typical sample. The accuracy of the measurements is within the tolerance of the measurement instruments. The graphs are meant to be a guideline and not a specification.

Output Current (I out) variation includes effects of line & load regulation, temperature variation and component tolerances.

## Output Current Vs. Output Voltage



## Output Current Vs. Input Voltage

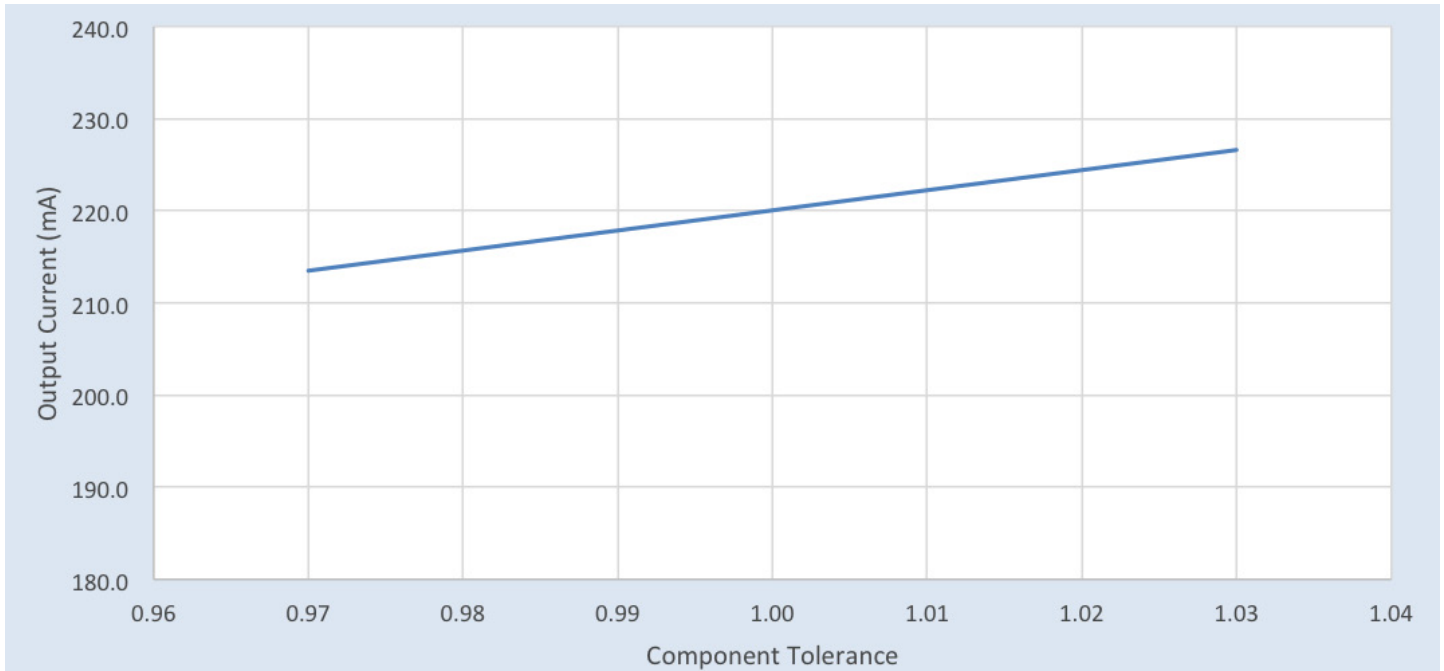


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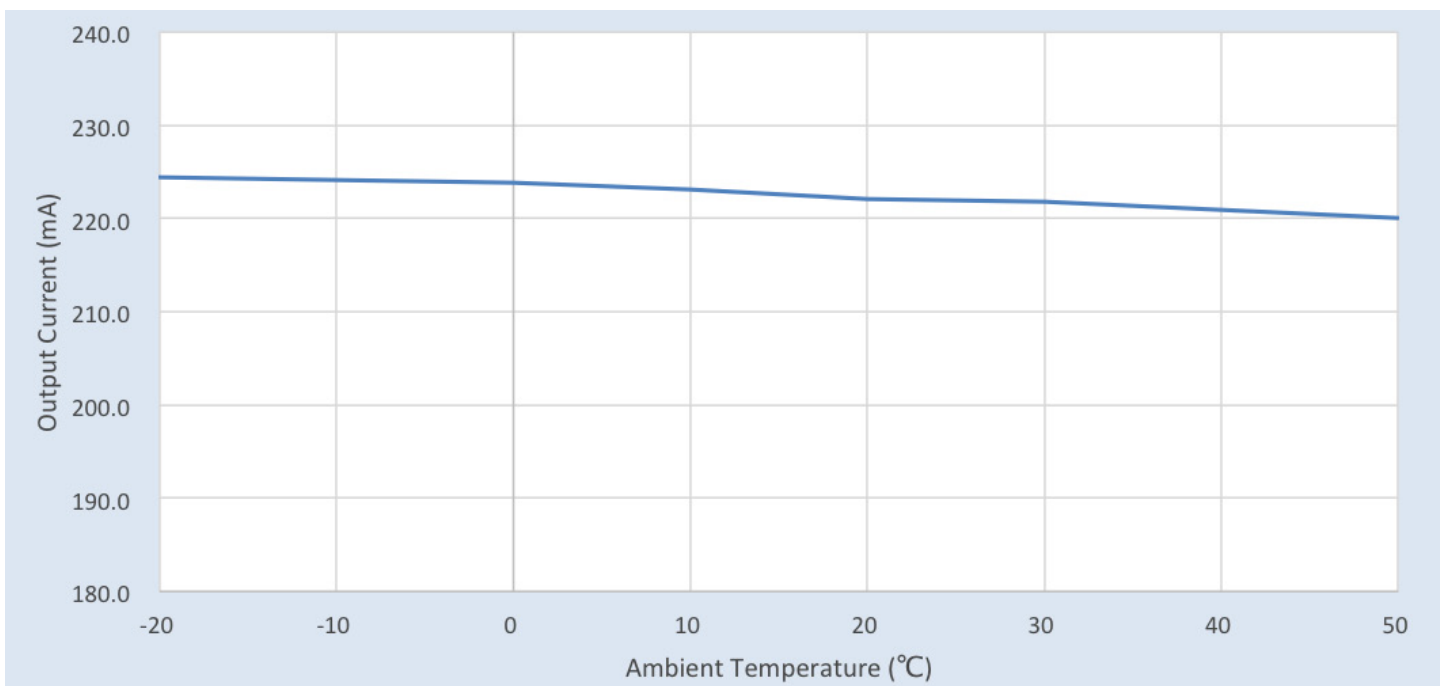
## Performance Characteristics

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### Output Current Vs. Component Tolerance



### Output Current Vs. Ambient Temperature



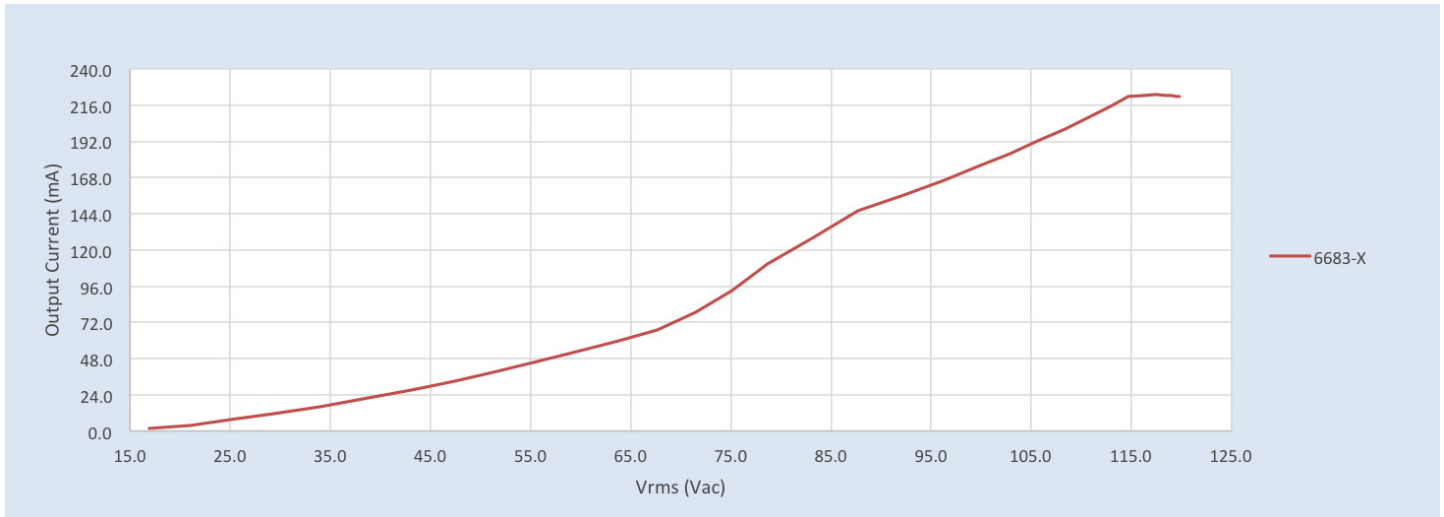


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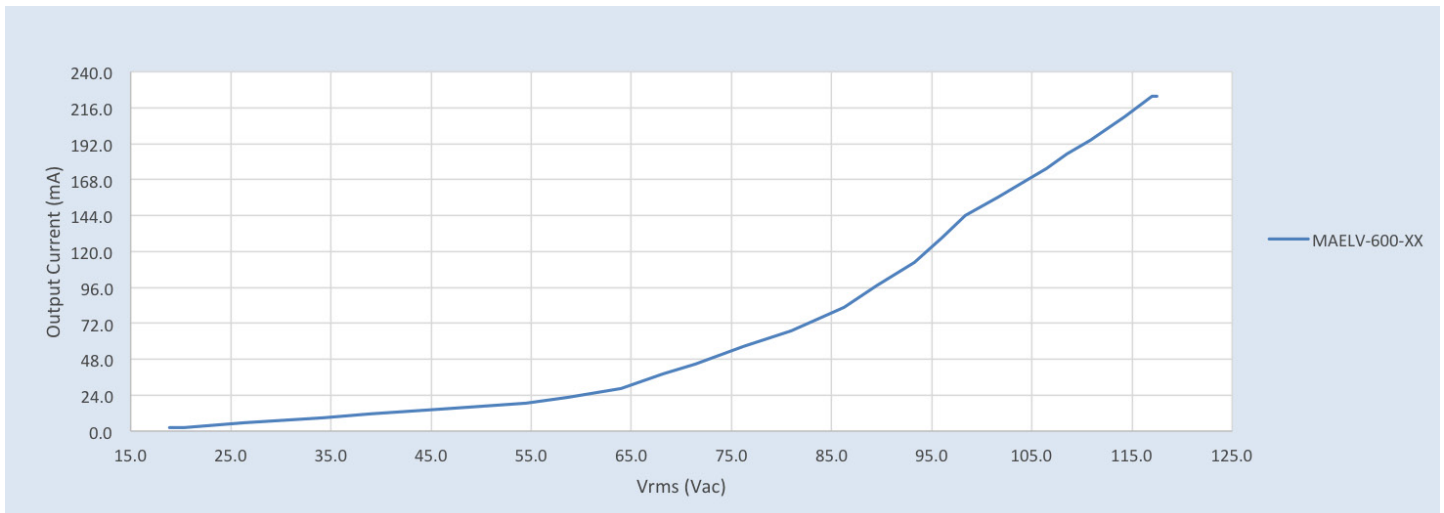
## Performance Characteristics

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.

### Output Current Vs. Vrms, LE Dimmer

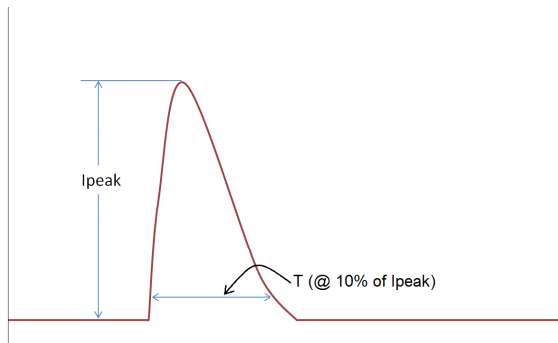


### Output Current Vs. Vrms, TE Dimmer



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## Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	5.1A	3.2μS

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)
100kHz Ring Wave (w/t 3Ω)	2.5kV

## Isolation

Isolation	Input	Output	Enclosure
Input	NA	2xU+1kV	2xU+1kV
Output	2xU+1kV	NA	500V
Enclosure	2xU+1kV	500V	NA

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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