

**PHILIPS  
ADVANCE**

**LED Driver**

**Xitanium**

55W 0.1-1.8A 0-10V Dimming  
with SimpleSet  
XI055C180V054BSJ1



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



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



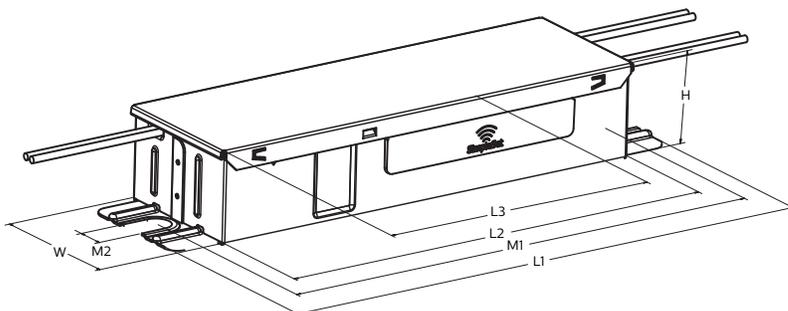
Philips Advance Xitanium outdoor LED drivers with SimpleSet technology are designed to give OEMs ultimate flexibility. With wide operating windows and simple programming, the drivers make it easy for luminaire manufacturers to design luminaires of different sizes and lumen levels for outdoor applications.

**Specifications**

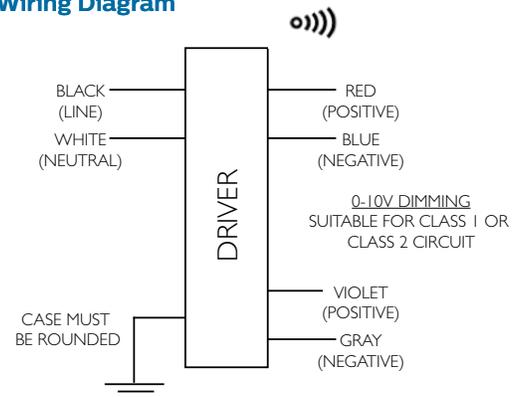
| Input Voltage (Vac) | Output Power (W) | Output Voltage (V) | Output Current (A) | Efficiency@ Max. Load and 75°C Case | Max. Case Temp. (°C) | Input Current (A) | Max. Input Power (W) | THD @ Max. Load (%) | Power Factor @ Max. Load | Surge Protection (Combi-Wave, KV) | Envir. Protection Rating  |
|---------------------|------------------|--------------------|--------------------|-------------------------------------|----------------------|-------------------|----------------------|---------------------|--------------------------|-----------------------------------|---------------------------|
| 120                 | 55               | 18-54              | 0.1 - 1.8          | 87.3                                | 90°C                 | 0.55              | 66                   | <10%                | >0.95                    | 6                                 | UL damp & dry and Type HL |
| 277                 |                  |                    |                    | 89.4                                |                      | 0.24              |                      |                     |                          |                                   |                           |

**Enclosure**

|                                  | In. (mm)     |
|----------------------------------|--------------|
| Case Length (L2)                 | 5.51 (140)   |
| Case Width (W)                   | 1.79 (45.5)  |
| Case Height (H)                  | 1.12 (28.5)  |
| Mounting Length (M1)             | 5.98 (152)   |
| Center of SimpleSet Antenna (L3) | 3.46 (87.8)  |
| Overall Length (L1)              | 6.61 (168mm) |



**Wiring Diagram**



| Dimming                           | Dimming Range (with specified dimmers) | Minimum Output Current (A) |
|-----------------------------------|--|----------------------------|
| 0-10V Analog Class 1 and 2 Wiring | 10% ~ 100%                             | 0.07                       |

# Xitanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

## Features

- 50,000+ hour lifetime<sup>1</sup>
- Programmable output current through SimpleSet
- Class 2 voltage-current window coverage
- 6kV combi-wave surge rating to comply with ANSI C82.77-5 CAT C low

## Benefits

- Enables long life luminaire designs
- Fast and simple way of programming
- Enables fixture designs with a wide variety of loads and adjustable current options
- No external surge protection required to pass C82.77-5 CAT C low

## Application

- Area
- Roadway
- Parking garages (interior and exterior)
- Floodlights
- Low-bay and mid-bay

## Electrical Specifications

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

## Product Data

| Order Information  |   |
|--|---|
| Full Product Code  | XI055C180V054BSJ1M (Mid-Pack, 12pcs/box)  |
| Line Frequency   | 50/60Hz   |
| Min. Mains Voltage Operational                             | 108 Vac   |
| Max. Mains Voltage Operational                             | 305 Vac   |
| Output Information   |   |
| Maximum Open Circuit Voltage                               | <60Vdc (UL Class 2 Output)  |
| Output Current Ripple (ripple = peak to average / average) | 15% max. @ max. Iout<br>(Low frequency ripple (≤120Hz) content <5%)   |
| Output Current Tolerance (in performance window)           | <5%   |
| Protections  | Short Circuit, Open Circuit Protection for LED + and LED – and Temperature Foldback                           |
| Features   |   |
| 0-10V Dimming  | 150µA (±3%) source current from driver. See dim curve for detail.   |
| AOC (Adjustable Output Current)                            | 0.1A-1.8A via SimpleSet (Factory Default at 1.05A)  |
| Additional SimpleSet Configurable Features                 | Adjustable Min Dim level,<br>Adjustable Lumen Output,<br>Adjustable Lumen Output Min,<br>OEM Write Protection |
| Environment & Approbation                                  |   |
| Operating Ambient Temp. Range                              | -40°C to +55°C  |
| Max. Case Temperature (Tcase)                              | 85°C for Life & 90°C for UL   |
| Agency Approbations  | UL 8750, CSA 250.13, UL Listed, ETL Class P   |
| Electromagnetic Compliance                                 | FCC Title 47 Part 15 Class A  |
| Audible Noise  | <24dB Class A   |
| Weight   | 0.795 Lbs / 0.361 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 MTTF modeling.

# Xitanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

## Electrical Specifications

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

## 0-10V Dimming Curve

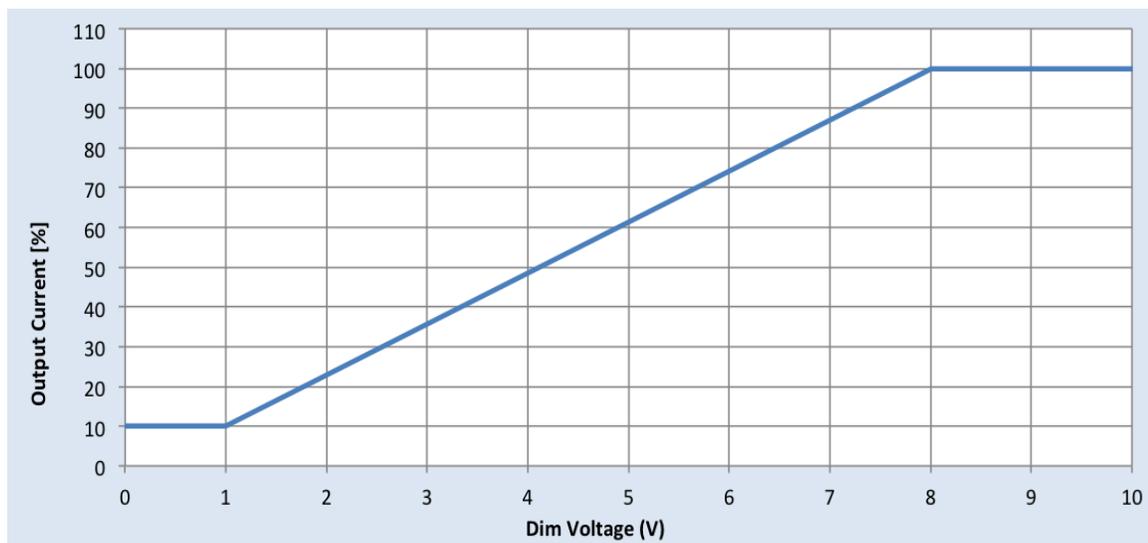
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum dim level: 10% of Iout setting as default

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   |

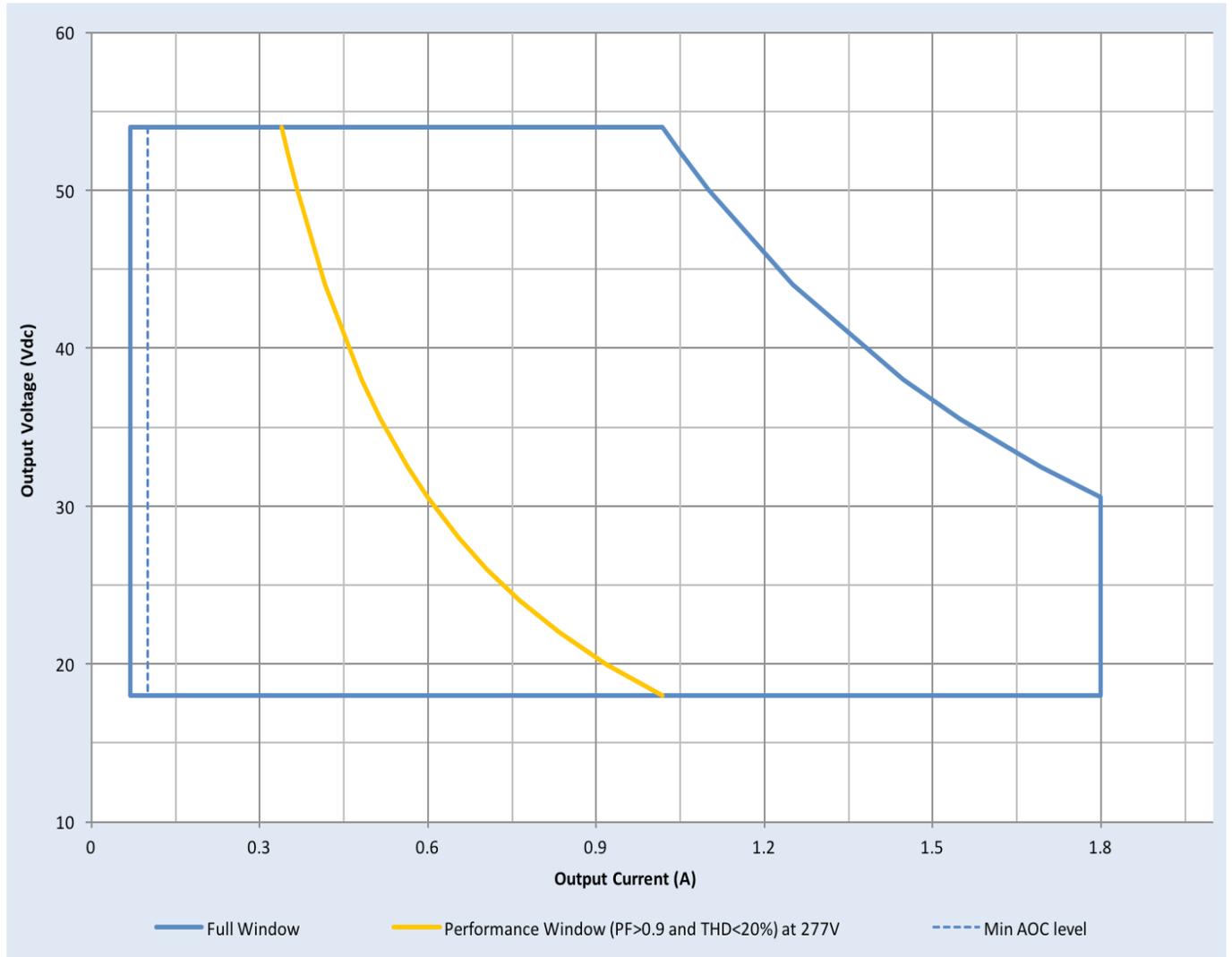


# Xtanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

## Electrical Specifications

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

## Driver Output Window



## Notes

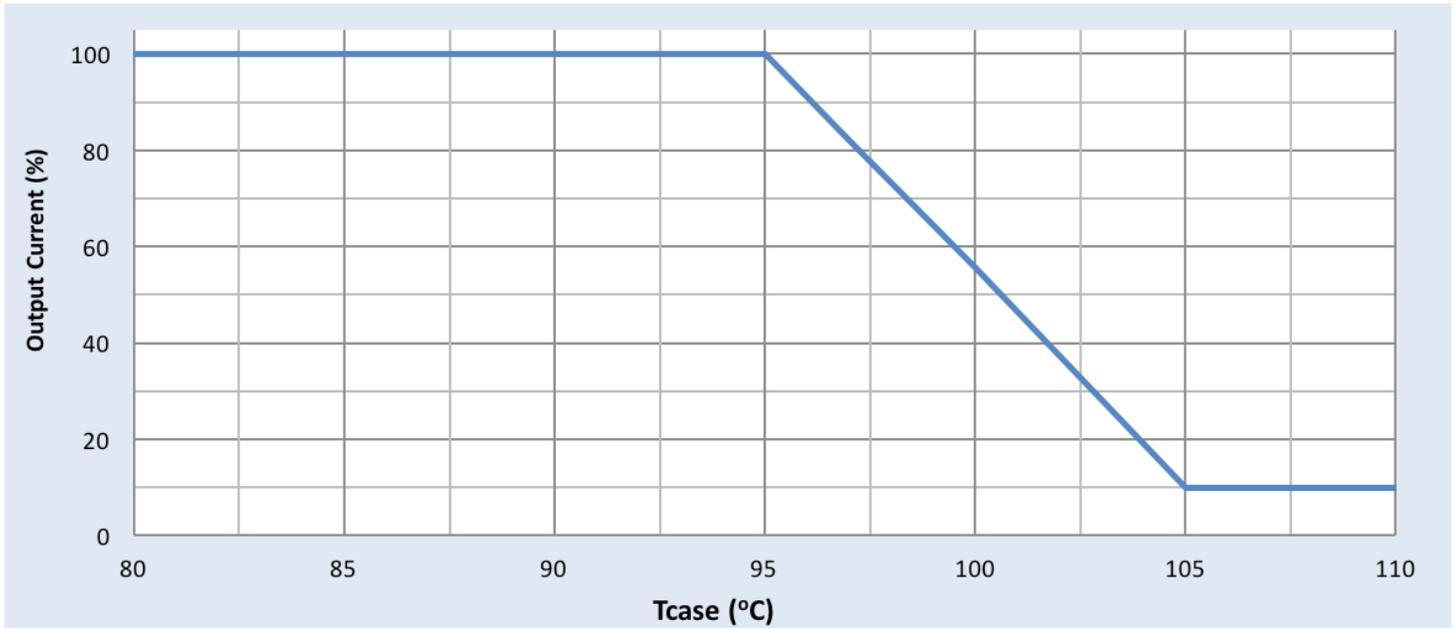
1. Factory default output current is 1.05A.
2. To get a 100% to 10% dimming range, the output current setting through AOC should be  $\geq 0.7A$ .

# Xitanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

## Electrical Specifications

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

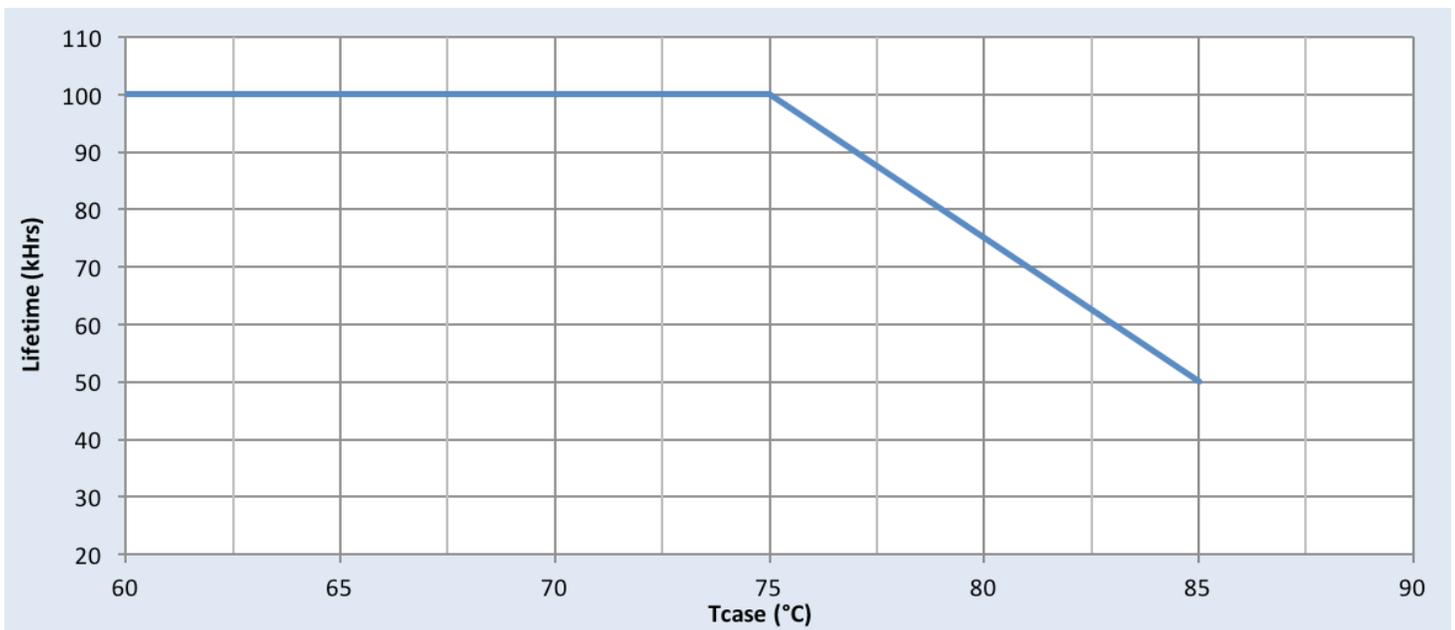
### Output Current Vs. Driver Case Temperature



#### Note

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

### Driver Lifetime vs. Driver Case Temperature

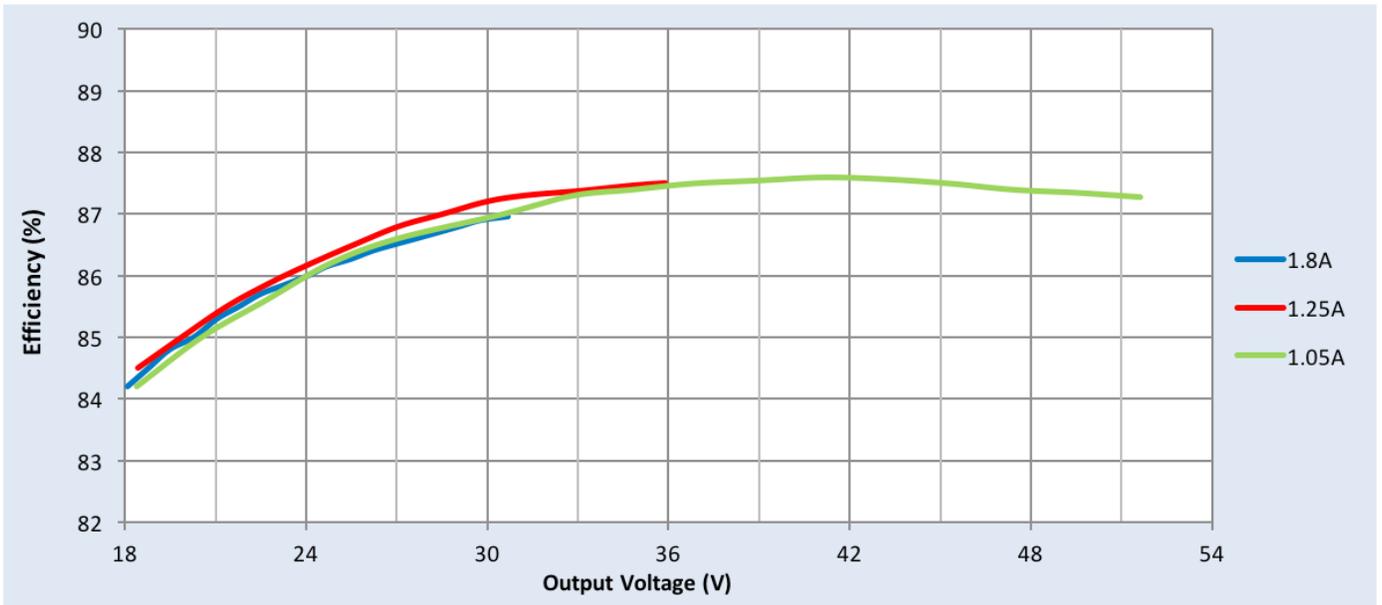


# Xitanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

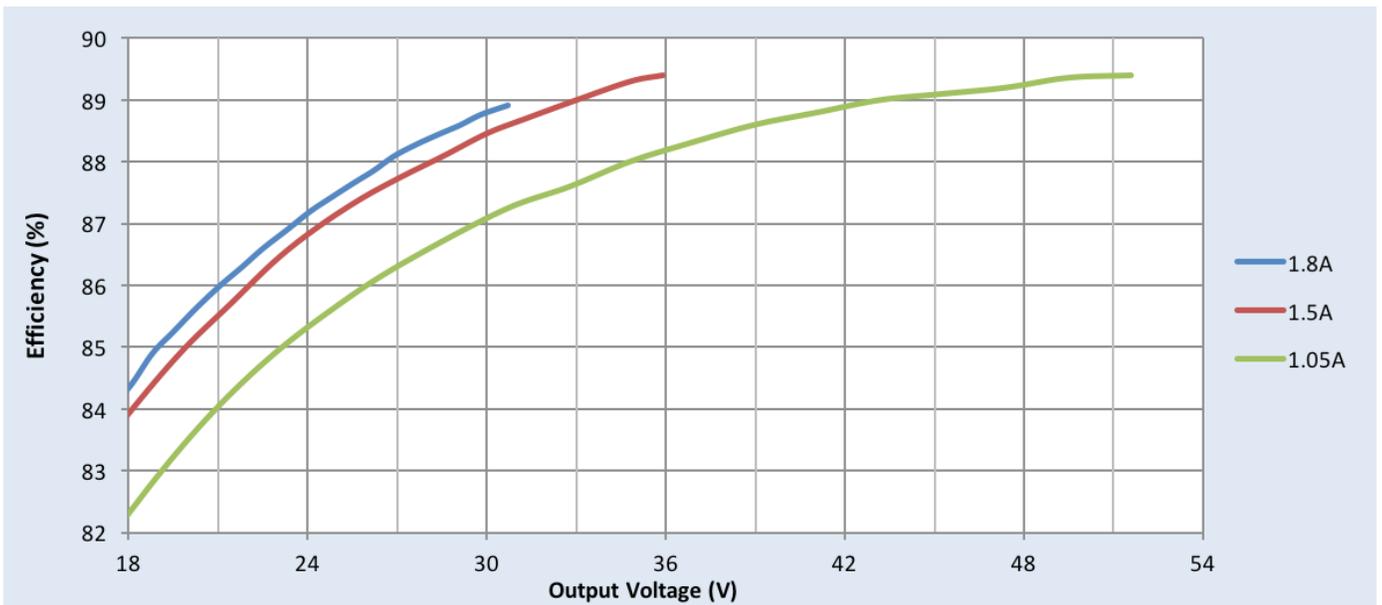
## Performance Characteristics

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

### Efficiency Vs. Output Voltage at 120Vac



### Efficiency Vs. Output Voltage at 277Vac

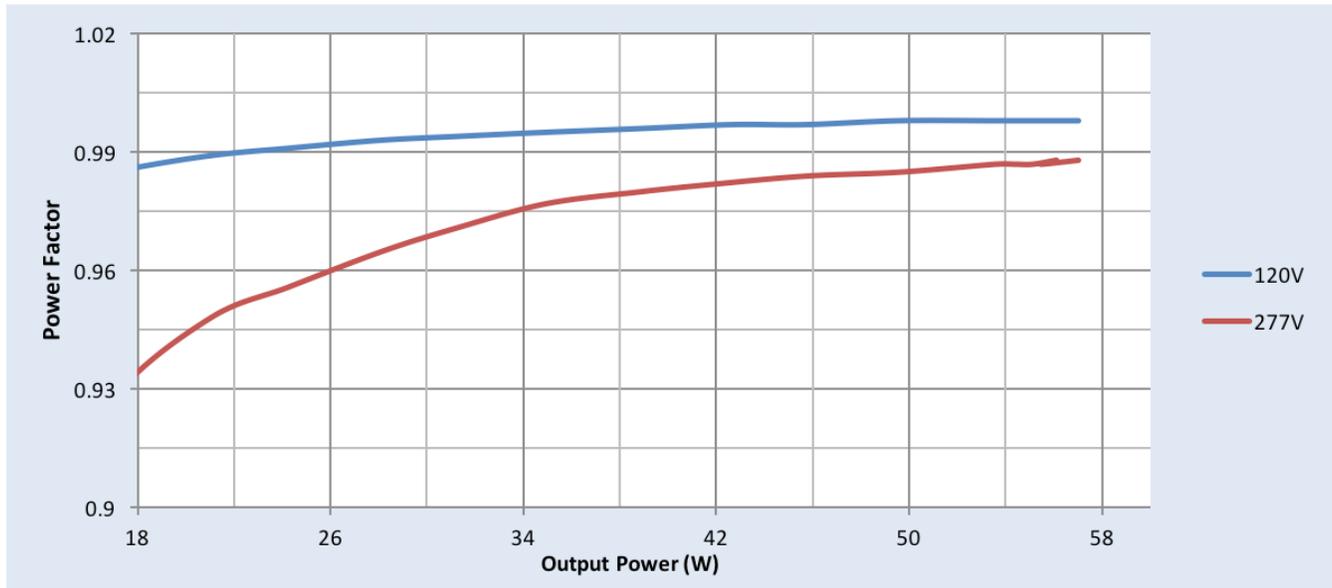


# Xitanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

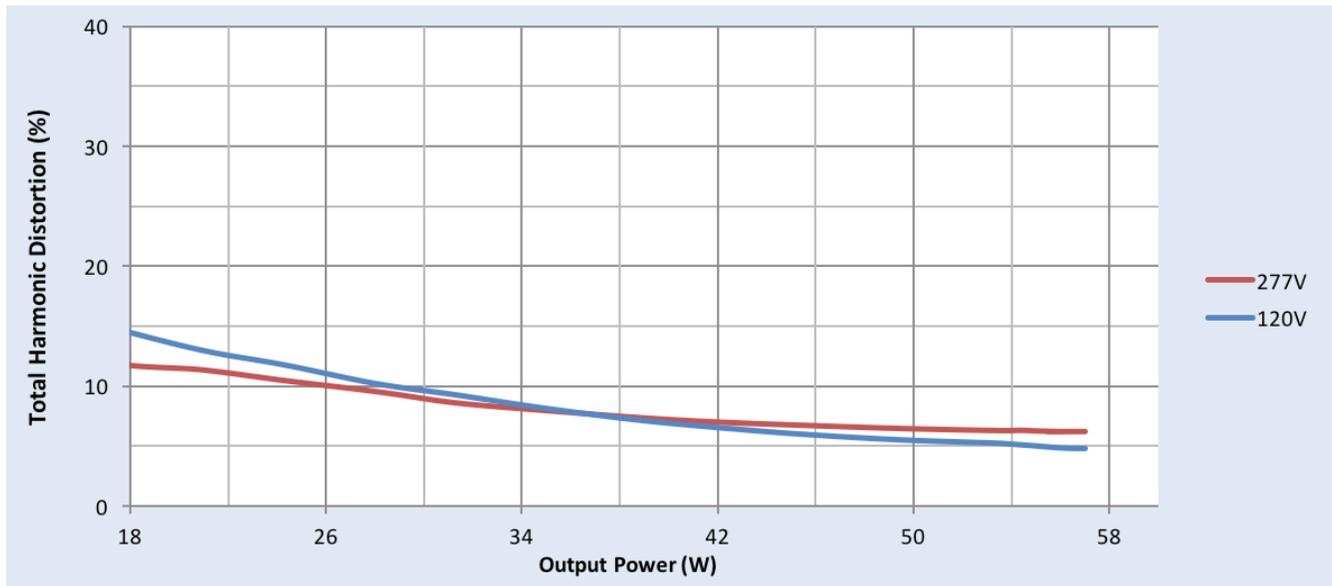
## Performance Characteristics

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

### Power Factor Vs. Output Power

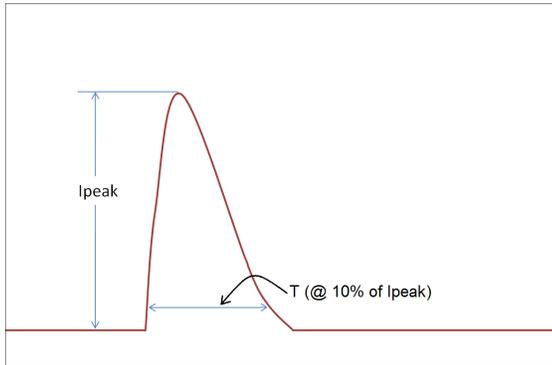


### Total Harmonic Distortion (THD) Vs. Output Power



# Xitanium 55W 0.1-1.8A 0-10V dimming with SimpleSet

## Inrush Current Info



| Vin      | Ipeak  | T (@ 10% of Ipeak) |
|----------|--------|--------------------|
| 120 Vrms | 23 A   | 166.5 μs           |
| 277 Vrms | 51.5 A | 158 μs             |

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) |
|------------------------------------|-------------------------|-------------------------------|
| 1.2/50μs Combination Wave (w/t 2Ω) | 6kV                     | 6kV                           |

## Isolation

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

U = Max. input voltage

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