bodine

AC/EM Driver

UltimateOne

BAC40EM6 / BAC40EM10

Project:

Location:

Cat.No:

Type:

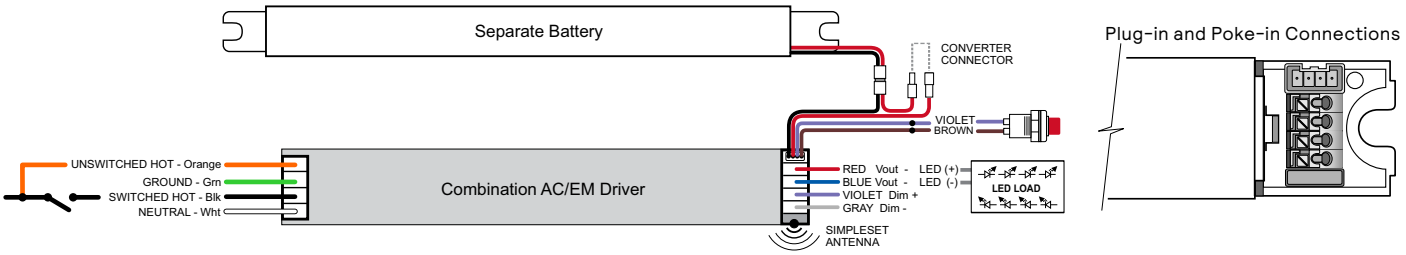
Lamps: Qty:

Notes:

The BAC40EM10 and BAC40EM6 are a combination 40W dimming LED driver with SimpleSet technology and a 10W or 6W emergency LED driver in one low-profile case. The combination drivers are supplied with a separate high-temperature nickel-cadmium battery with one simple connection point and can deliver up to 10W or 6W, depending on the model, to a Class 2 LED load for 90 minutes in emergency mode. They are suitable for indoor and damp locations, are universal input units and dim to 1%. The AC operation for the drivers must be programmed with SimpleSet technology

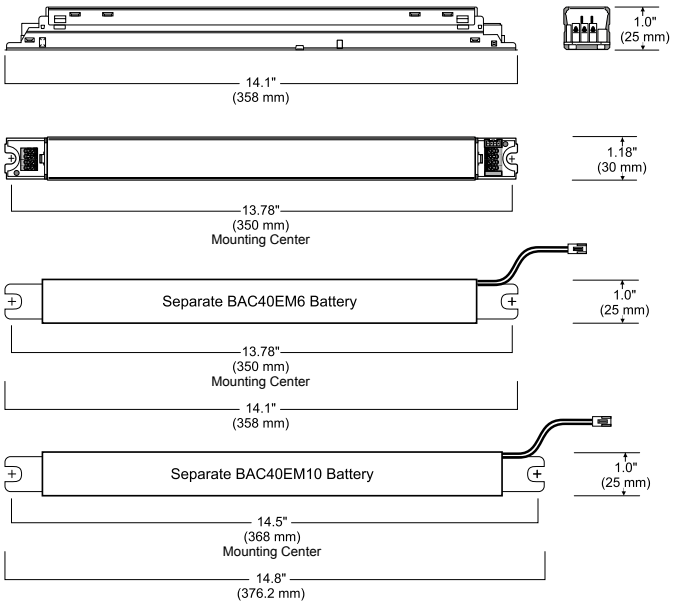
New and better solution

with fewer wires for simpler installation using poke-in connections



Dimensions

Case - 14.1" x 1.18" x 1.0" (mounting center -13.78")
Battery - BAC40EM10 1" Diameter x 14.8"L (mounting center - 14.5")
BAC40EM6 1" Diameter x 14.1"L (mounting center - 13.78")



Warning

Install in accordance with National and Local Electrical Codes.
Use 18 AWG Solid Copper Wire. Rated >=300V. Strip Wire 3/8".

Grounding

Driver case must be grounded.

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Specifications (Dimming operation)

Dimming	Dimming Range (with specified dimmers)	Minimum Output Current (A)	Other Comments
0-10V Analog Class 1 or Class 2 Wiring	1% ~ 100% (for output current range 0.25 - 1.1A)	0.0025	Dimming source current: 150 µA

Specifications (Normal AC operation with battery charging)

Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Typical Efficiency@ Max Load and 75°C Case	Max Case Temp. (°C)	Max Input Current (A)	Max Input Power (W)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protection (Combi-Wave, KV)	Envir. Protection tating
120	40	22.5 - 54	0.1 - 1.1	80%	Life-75°C UL-85°C	0.5	53	<10%	>0.90	2.5	UL damp & dry
277				82%		0.17		<15%			

Specifications (Battery charge mode and emergency mode)

Input (Charge Mode)			Emergency Mode			
Input Voltage (Vac)	Input Current (A)	Input Power (W)	Output Voltage (VDC)	Initial Output Power (W)	Emergency Illumination Time (min.)	Battery Charge Time (hours)
120	0.06 Max.	5.5 Max.	22.5 - 54	10WMax. (BAC40EM10) 6W Max. (BAC40EM6)	90	24
277						

BAC40EM6 / BAC40EM10 UltimateOne Driver Supplemental Datasheet

Features & Benefits

- Combined AC and Emergency LED driver in one compact, low-profile case
- AC/EM driver compatibility is confirmed
- Separate battery for mounting flexibility
- Fewer wires to simplify installation
- Class 2 output - UL 1310 Certified, CSA 22.2 No 223-M91 compliant
- Emergency mode lumen output of up to 1300 lumens (assuming LED efficacy 130 lumens/W)
- Compatible with a variety of LED strip manufacturers
- SimpleSet Programming for AC operation
- 0 - 10V dimming to 1%
- RoHS compliant

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	12NC:913702469001 (BAC40EM10), 12NC:913702468901 (BAC40EM6)
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108 Vac
Max. Mains Voltage Operational	305 Vac
Output Information	
Maximum Open Circuit Voltage	< 60Vdc
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	
0-10V Dimming	150µA source current from driver. See dim curve for detail.
AOC (Adjustable Output Current)	100mA to 1100mA via SimpleSet programming (refer to graph and notes below)
Additional SimpleSet Configurable Features	Adjustable minimum dimming level, Dimming curve selection (linear or logarithmic), Adjustable output level, Adjustable output min, OEM write protection
Environment & Approbation	
Operating Ambient Temp. Range	0°C to +50°C
Max Case Temperature (Tcase)	85°C
Agency Approbations	UL8750, UL1310, UL924
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	**2.1 lbs. / 0.95 kgs. Including battery (BAC40EM10)** **2.0 lbs. / 0.91 kgs. Including battery (BAC40EM6)**
Emergency Operation	
Illumination Time	**90 Minutes Emergency**
AC Input Current	**60 mA Maximum (Charging Only)**
AC Input Power Rating	**5.5 W Maximum (Charging Only)**
Output Power	**10.0 W Maximum Initial (BAC40EM10), 6.0 W Maximum Initial (BAC40EM6)**
Test Switch Charging Indicator Light	**Illuminated Test Switch**
Battery	**High-Temp, Maintenance-Free Nickel-Cadmium Battery** 7- to 10-Year Life Expectancy
Recharge Time	**24 Hours**
Weight	0.69 Lbs / 0.320 kgs including battery
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +50°C
Max Case Temperature (Tcase)	85°C
Agency Approbations	UL8750, UL1310, UL924
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	0.69 Lbs / 0.320 kgs including battery

Electrical Specifications (Normal AC Operation)

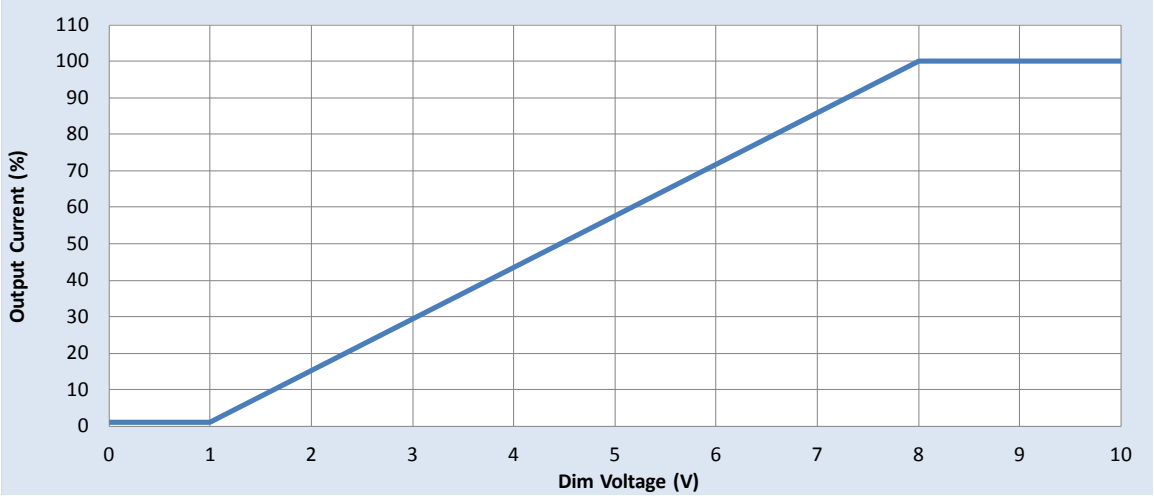
All the specifications are typical and at 25°C Tcase unless specified otherwise.

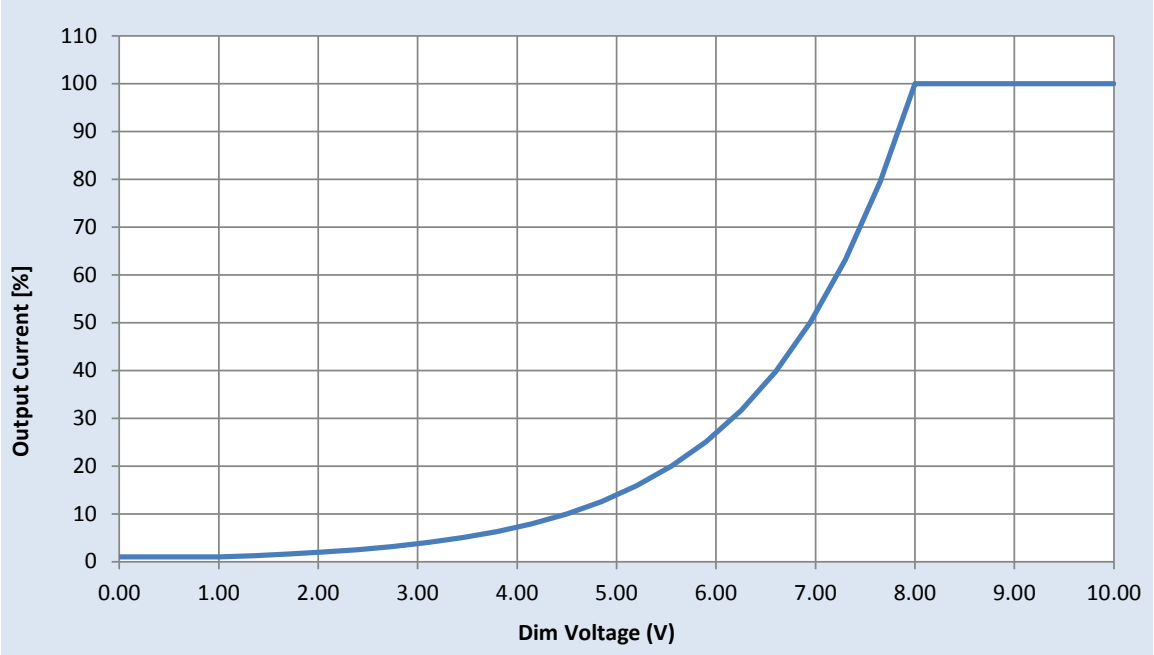
0-10V Dimming Curve

Dimming source current from the driver: 150µA (@ 0<Vdim<8V)
Minimum dim level: 1% of Iout (minimum 2.5mA)
Maximum output voltage on the dimming wires: 12V

Approved Dimmer List

Manufacturer	Manufacturer Part Number
Lutron	Diva DVSTV Nova NTSTV-DV Visit www.lutron.com/advance for a list of dimmers (mark VII) that will work with this driver
Leviton	IP710-LF

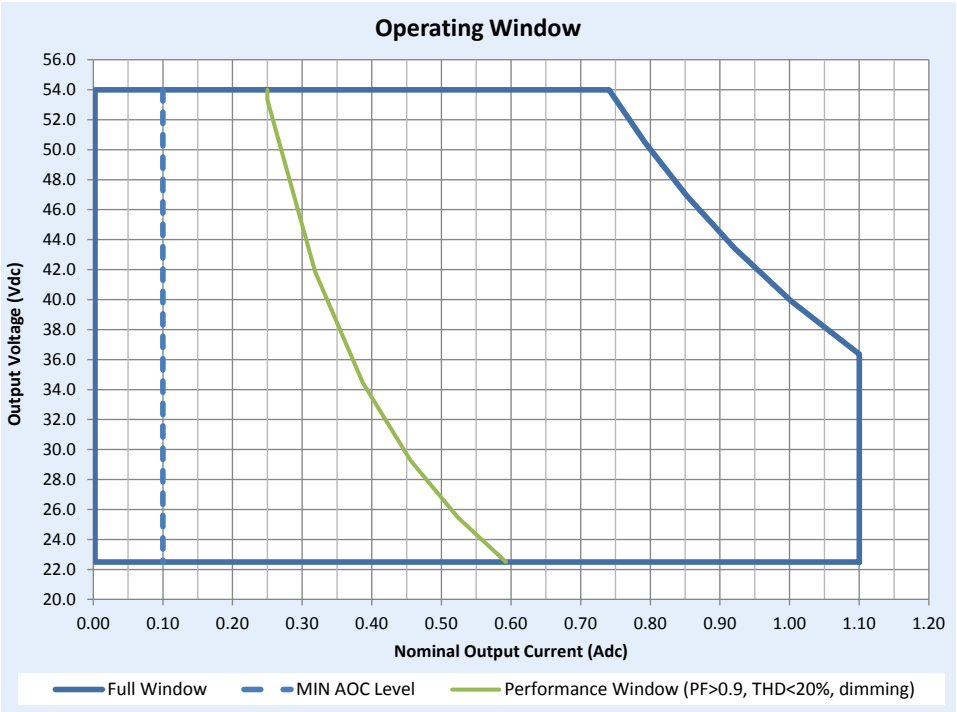




Electrical Specifications (Normal AC Operation)

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

Driver Output Window*



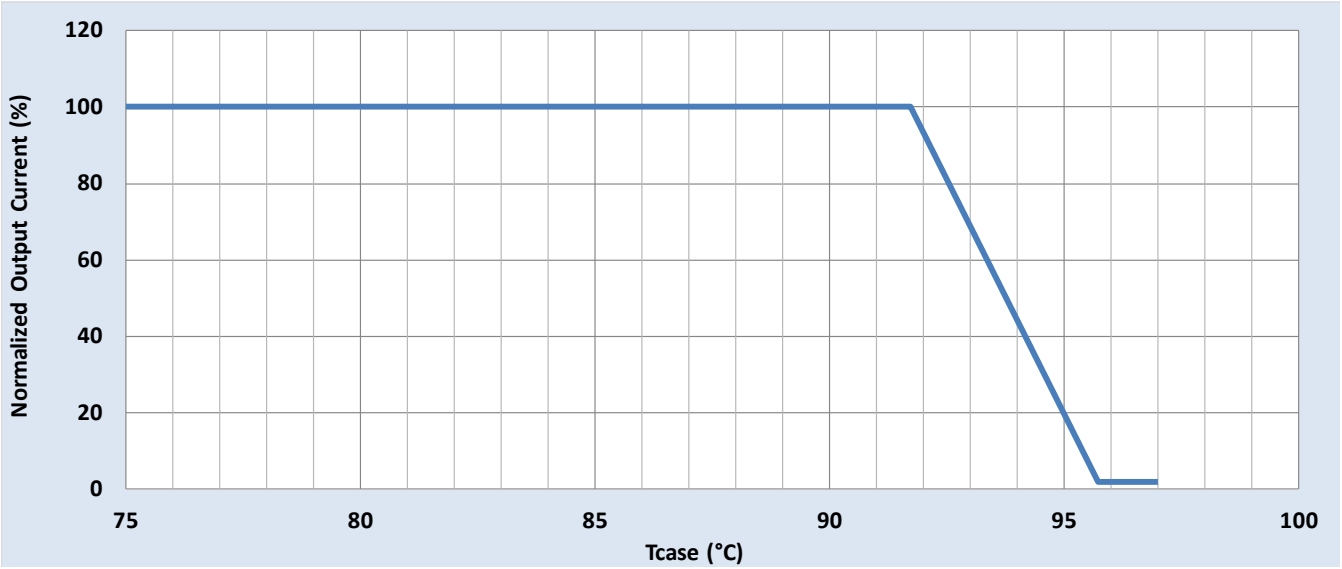
*Note: 1. Factory default output current is 1.1A.

2. For dimming to a minimum level of 1% the output current setting through AOC should be ≥ 0.25A.

Electrical Specifications (Normal AC Operation)

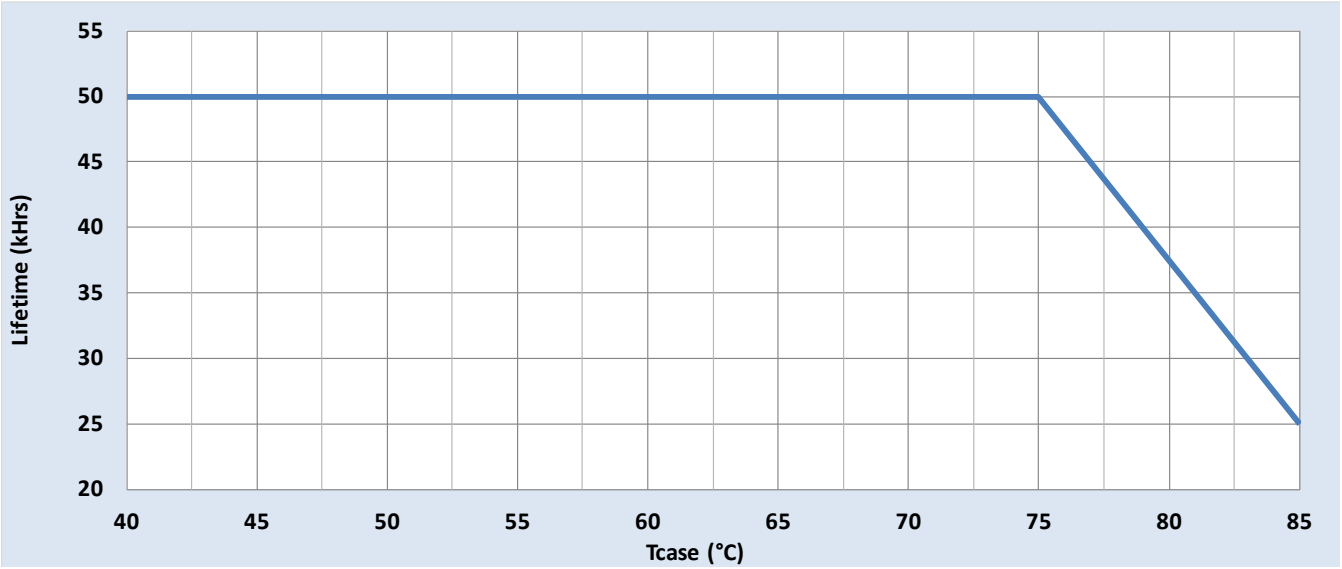
All the specifications are typical and at 25°C Tcase unless specified otherwise.

Output Current Vs. Driver Case Temperature*



*Note: 1. There is ±5°C tolerance on the driver case temperature.
2. Battery ambient temperature is 50°C max.

Driver Lifetime vs. Driver Case Temperature*

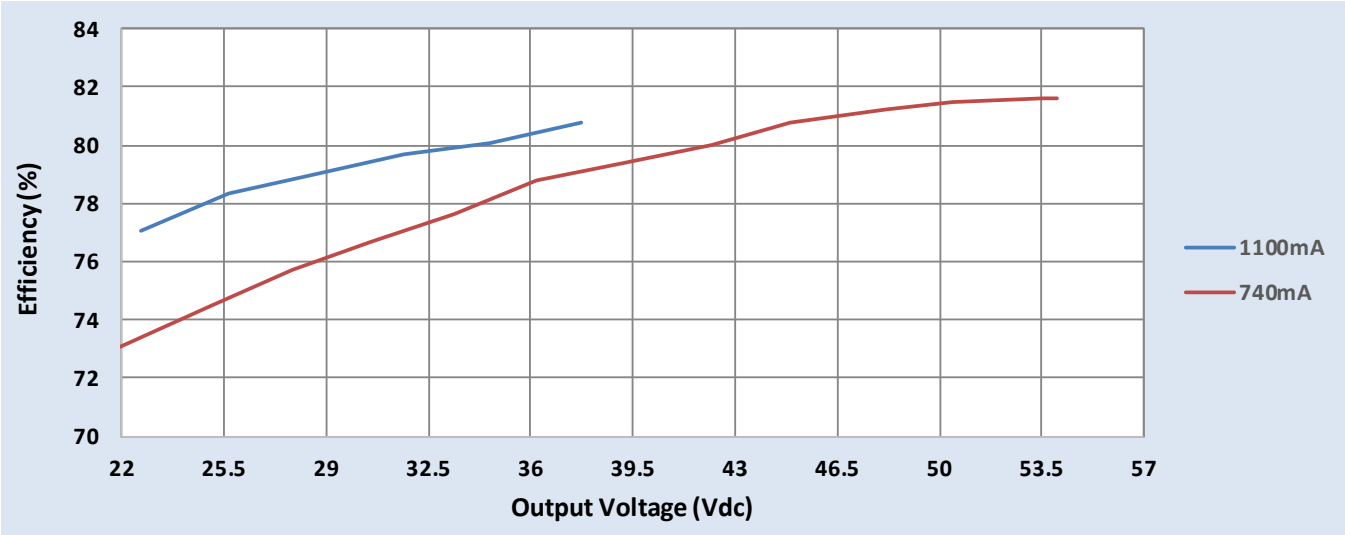


*Note: Battery ambient temperature is 50°C max.

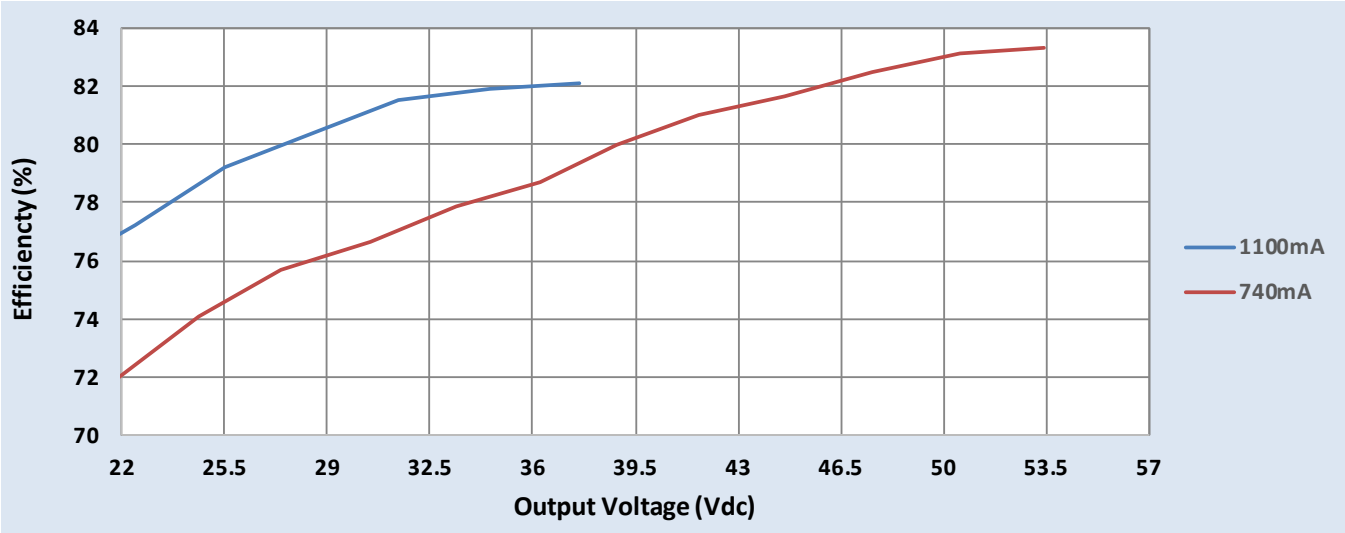
Performance Characteristics (Normal AC Operation)

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 at 120Vac (Typical)*



Efficiency Vs. Output Voltage at 277Vac (Typical)*

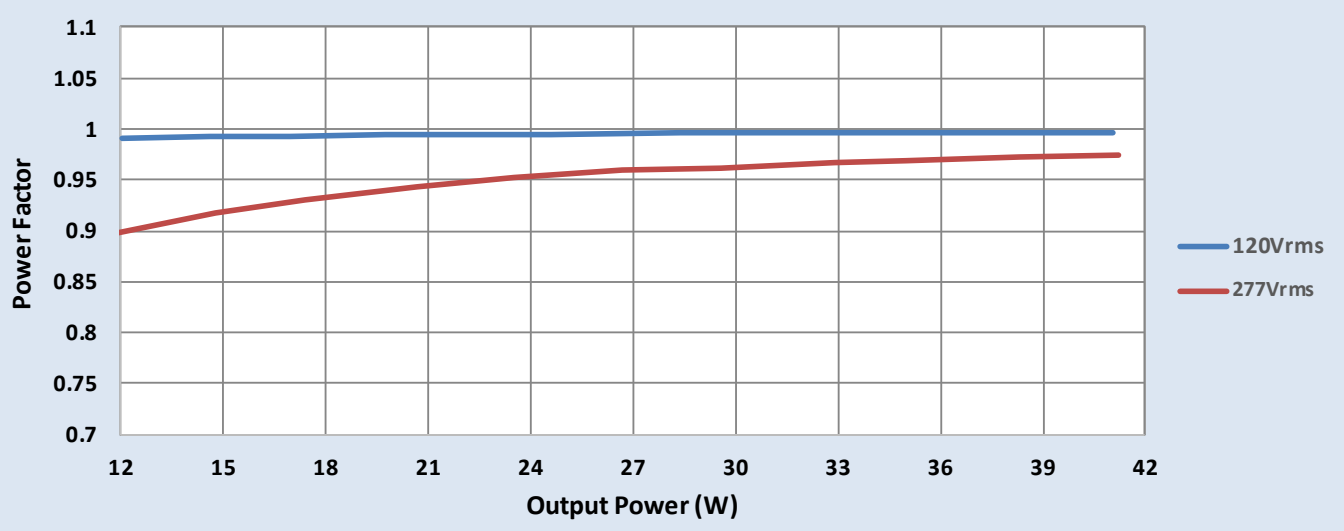


* Note: 1. Efficiency measurements are Output Lamp Power versus Input AC Power with battery backup in charge mode.
2. Efficiency of the UltimateOne LED Driver is less than that for a standard LED driver due to the charging current for the battery.

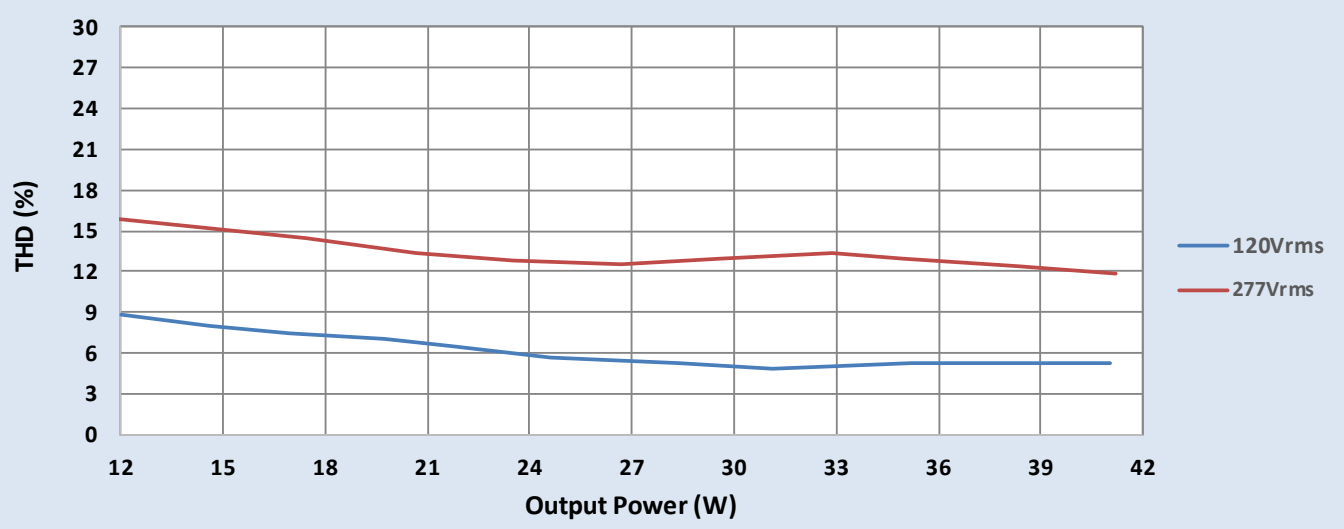
Performance Characteristics

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

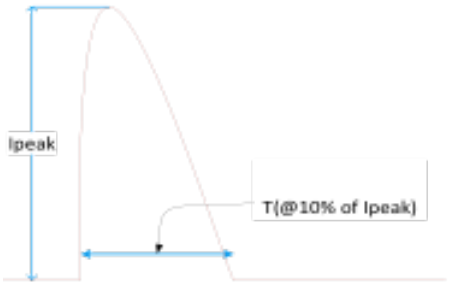
Power Factor Vs. Output Power (Typical)



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



Inrush Current Info



Inrush current vs. time

Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	16.8A	276µS
277 Vrms	39.6A	260µS

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	2xU+1kV	2xU+1kV
Output	2xU+1kV	–	500V	500V
0-10V	2xU+1kV	500V	–	500V
Enclosure	2xU+1kV	500V	500V	–

U = Max input voltage

Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008