

EcoSystem® H-Series LED Driver

EcoSystem® H-Series LED Drivers provide a high-performance solution for any space, in any application. They provide smooth, continuous dimming down to 1% of output current, and fade smoothly between 0% and 1% when turned on and off.

Features

- Fades smoothly between 0% and 1% when turned on and off.
- Continuous, flicker-free dimming from 100% to 1%¹.
- Guaranteed dimming performance when used with Lutron® controls.
- Guaranteed compatibility with Energi Savr Node™ units with EcoSystem®, GRAFIK Eye® QS with EcoSystem®, PowPak® dimming module with EcoSystem®, and Quantum® systems, allowing for integration into a planned or existing EcoSystem® lighting control solution.
- Protected from miswires of input power to EcoSystem® control inputs up to 277 V_~.
- Rated lifetime of 50,000 hours at 75 °C (167 °F) calibration point (t_c).
- Type TL Rated.
- FCC Part 15 compliant for commercial applications at 120–277 V_~.
- 100% performance tested at factory.
- RoHS compliant.
- Non-volatile memory restores all settings after power failure.
- For more information please visit:
www.lutron.com/EcoSystemHseriesLED

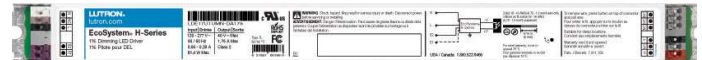
EcoSystem® Features

- Simpler to wire and more reliable than 0–10 V_~.
- Guarantees compatibility between Lutron® controls, drivers, and sensors.
- Accommodates zone changing without rewiring.
- Link to Lutron® Quantum® Total Light Management System to monitor lighting power consumption.



EcoSystem® H-Series LED Driver, case type K

3.00 in (76 mm) W x 1.00 in (25 mm) H x
4.90 in (124 mm) L



EcoSystem® H-Series LED Driver, case type M

1.18 in (30 mm) W x 1.00 in (25 mm) H x
14.13 in (359 mm) L

¹ Light output at 1% depends on the efficacy of the light engine used with the driver.

Job Name:	Model Numbers:
Job Number:	

Specifications

Regulatory Approvals and Compliance

- Lutron® Quality Systems registered to ISO 9001.2008
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Meets ANSI C62.41 category A surge protection standards up to and including 4 kV
- FCC Part 15 compliant for commercial applications at 120–277 V~
- Meets UL® 8750, “Light Emitting Diode (LED) Equipment For Use in Lighting Products”
- Type TL rated
- Class 2 output
- K-case type meets LED driver requirements for Energy Star version 1.2 in designated areas
- M-case type meets Power Factor and THD: requirements of DLC (version 9/27/13) above 50% of maximum rated output power
- Open-circuit protected output
- Short-circuit and overload-protected output
- Class 2 output designed to withstand hot swap
- Inrush current less than NEMA 410-2011 limit
- Dimming Method:
 - Constant-current reduction dimming provides video-friendly dimming
 - PWM dimming below 5% (240 Hz)

Environmental

- Sound rated: Class A inaudible in 24 dBA ambient
- Relative Humidity: maximum 90% non-condensing
- Minimum Operating Ambient Temperature: $t_a = 0\text{ }^{\circ}\text{C}$ (32 $^{\circ}\text{F}$)³
- Indoor use only
- Rated for dry and damp locations

Performance

- Fades smoothly between 0% and 1% when turning on and off.
- Dimming Range: 100% to 1%¹
- Operating Voltage: 120 V~ to 277 V~ at 50/60 Hz
- Lifetime: 50,000 hours when calibration point (t_c) at 75 $^{\circ}\text{C}$ (167 $^{\circ}\text{F}$)²
- For rated warranty, t_c not to exceed 75 $^{\circ}\text{C}$ (167 $^{\circ}\text{F}$) (maximum rated temperature)²
- Patented thermal fold back protection
- LED lighting turns on to any dimmed level without flashing to full brightness
- Non-volatile memory restores all driver settings after power failure
- Typical standby power consumption: 0.2 W at 120 V~ and 0.3 W at 277 V~

Driver Wiring and Mounting

- Driver is grounded by a mounting screw to the grounded fixture or by terminal connection
- Terminal blocks on the driver accept one solid wire per terminal from 18 to 16 AWG (0.75 to 1.5 mm²)
- Fixture must be grounded in accordance with local and national electrical codes
- Maximum driver-to-LED light engine wire length for:

Wire Gauge	Maximum Lead Length		
	200 mA to 700 mA	710 mA to 1.50 A	1.51 A to 2.10A
18 AWG (0.75 mm ²)	30 ft (9 m)	15 ft (4.5 m)	10 ft (3 m)
16 AWG (1.5 mm ²)	35 ft (10.5 m)	25 ft (7.5 m)	15 ft (4.5 m)
14 AWG (2.5 mm ²)*	50 ft (15 m)	40 ft (12 m)	25 ft (7.5 m)
12 AWG (4.0 mm ²)*	100 ft (30 m)	60 ft (18 m)	40 ft (12 m)

* To use wire gauges larger than the terminal blocks' rated gauge of 18 to 16 AWG (0.75 mm² to 1.5 mm²), refer to **Terminal Wiring Gauges** diagram. The 18 to 16 AWG (0.75 mm² to 1.5 mm²) wires connected to the driver should be less than 3 ft (0.9 m).

¹ Light output at 1% depends on the efficacy of the light engine used with the driver.

² To maintain warranty, installer is responsible for ensuring that the driver calibration point does not exceed 75 $^{\circ}\text{C}$ (167 $^{\circ}\text{F}$).

³ Where t_a is the temperature of the air directly surrounding the driver.

Job Name:	Model Numbers:
Job Number:	

How to Build a Model Number, M-Case Type: EcoSystem® H-Series (up to 75 W) LED Driver



EcoSystem® H-Series LED Driver, M-case type

LDE1 U1UMN- A

example: LDE13U1UMN-BA070
 0.70 A, 15 W to 28 W, 21.5–40 V_{min}** LED driver
 For further assistance selecting your model number, contact our LED Center of Excellence at LEDs@lutron.com

LED Load Output Range
Class 2 Constant Current
 B = 0.50 A to 1.25 A, 20–40 V_{min}*, 15 W to 35 W
 C = 0.88 A to 1.75 A, 20–40 V_{min}*, 25 W to 50 W
 D = 1.25 A to 2.10 A, 20–40 V_{min}*, 35 W to 75 W
 T = 0.40 A to 0.83 A, 30–50 V_{min}*, 15 W to 35 W
 U = 0.70 A to 1.33 A, 30–50 V_{min}*, 25 W to 50 W
 V = 1.00 A to 1.88 A, 30–50 V_{min}*, 40 W to 75 W


LED Load Power Range
 3 = Use when **LED Load Output Range** is “B” or “T”
 5 = Use when **LED Load Output Range** is “C” or “U”
 7 = Use when **LED Load Output Range** is “D” or “V”

Current Level (for Constant Current):
 040 = 0.40 A: . . . 210 = 2.10 A

Attention: Model numbers may appear similar to Lutron® Hi-lume® A-Series drivers, but EcoSystem® H-Series drivers are not a direct model-for-model replacement for Hi-lume® A-Series drivers. Please note the driver’s output rating and the load ratings to select the correct product for your fixture.

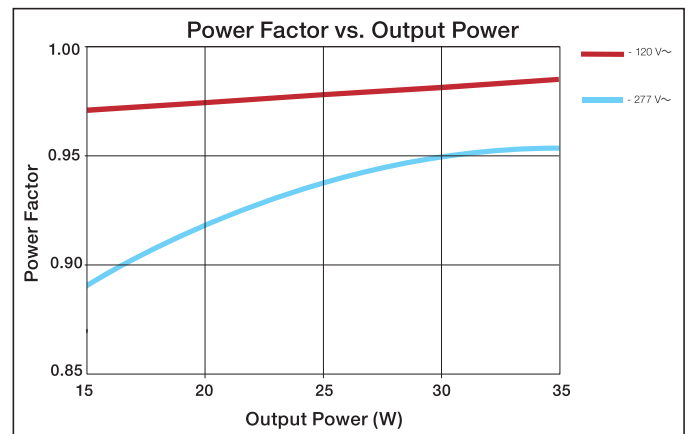
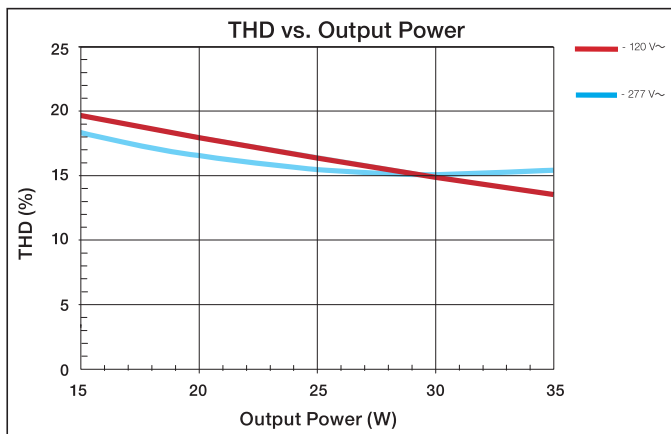
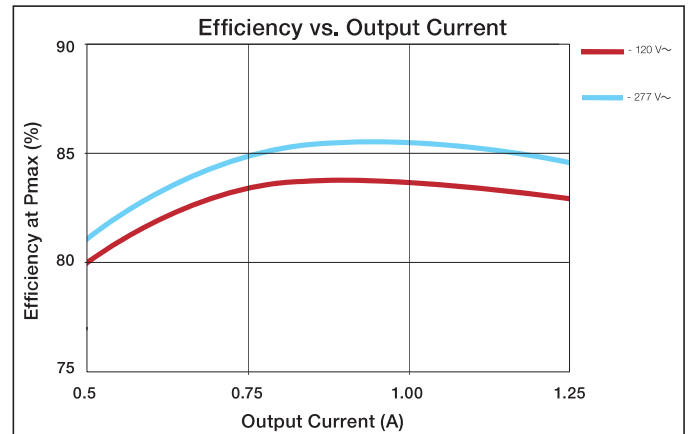
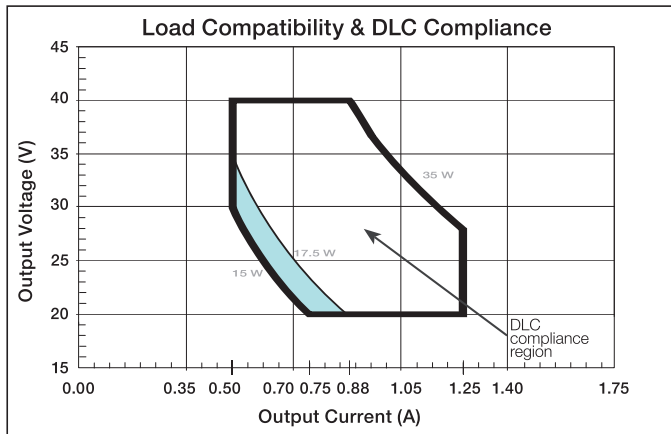
* Output voltage range changes with output current and according to power limits. Check driver specifications on following pages carefully to understand output voltage range of a particular SKU. Purchaser is responsible for electrical compatibility between LED driver and LED load.
 ** Minimum voltage of LDE13U1UMN-BA070 limited by 15 W minimum power.

M-Case Model Numbers - “B” Output Range

Driver Type	Output Voltage	Output Current	Output Power	Standards Recognition	Maximum Rated Temp. @ t_c for Warranty
Constant Current Driver (Class 2)	20–40 V $\overline{=}$	0.50–1.25 A	15–35 W	 Type TL 84 °/65 °C	75 °C

Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	0.15 A	$V_i = 277\text{ V}\sim$, $t_a = 25\text{ }^\circ\text{C}$, $I_o = 0.88\text{ A}$, $V_o = 40\text{ V}\overline{=}$, Maximum Light Output LDE13U1UMN-BA088
Power Factor	0.96	
THD	15%	
Driver Efficiency	85%	



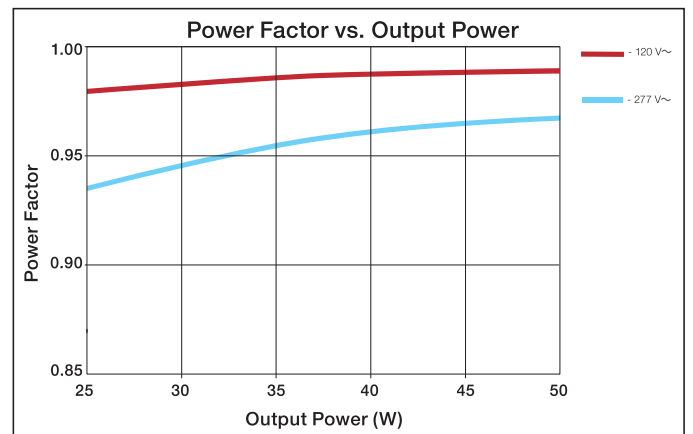
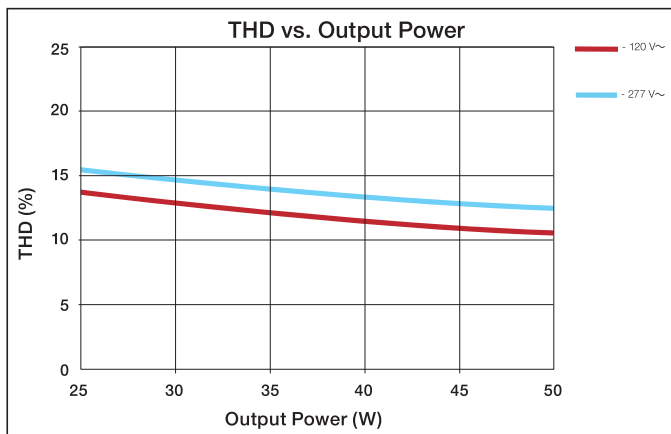
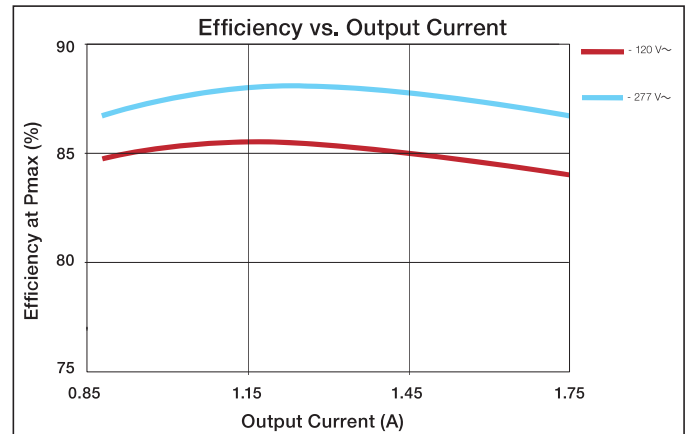
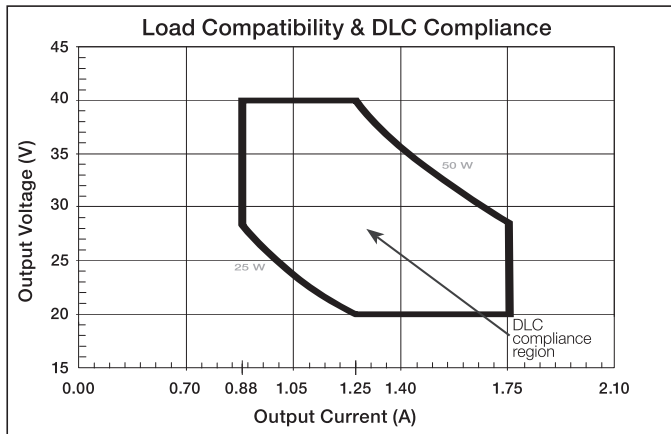
Job Name:	Model Numbers:
Job Number:	

M-Case Model Numbers - "C" Output Range

Driver Type	Output Voltage	Output Current	Output Power	Standards Recognition	Maximum Rated Temp. @ t_c for Warranty
Constant Current Driver (Class 2)	20–40 V $\overline{=}$	0.88–1.75 A	25–50 W	UL ® Type TL 80 °/76 °C	75 °C


Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	0.21 A	$V_i = 277\text{ V}\sim$, $t_a = 25\text{ }^\circ\text{C}$, $I_o = 1.25\text{ A}$, $V_o = 40\text{ V}\overline{=}$, Maximum Light Output LDE15U1UMN-CA125
Power Factor	0.97	
THD	13%	
Driver Efficiency	88%	



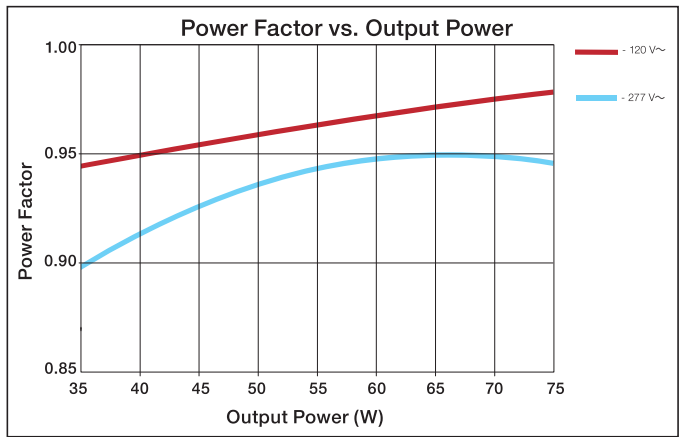
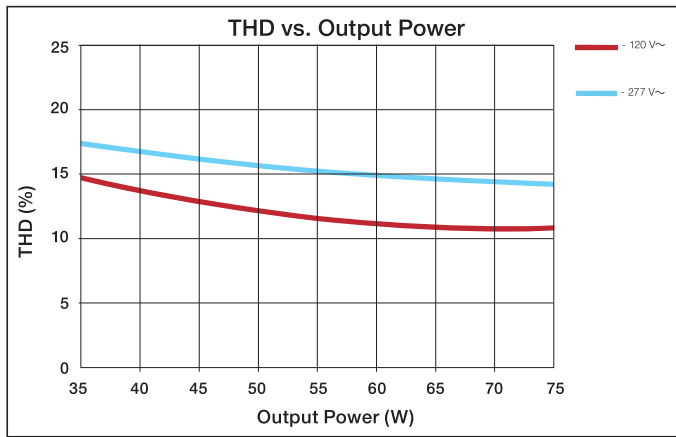
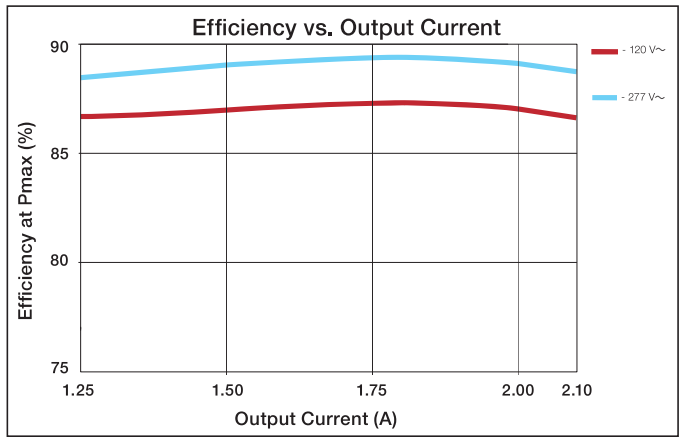
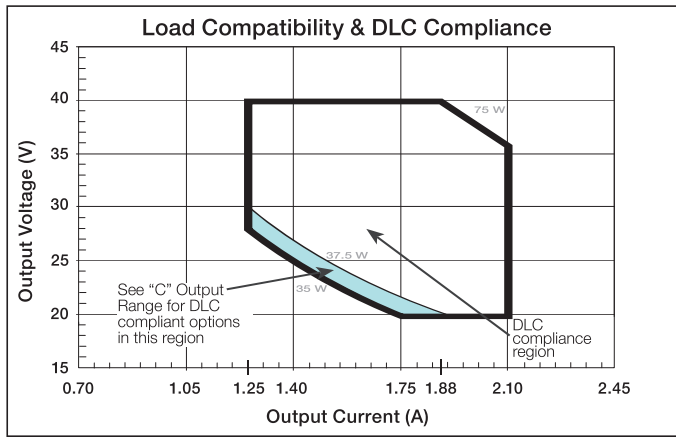
Job Name:	Model Numbers:
Job Number:	

M-Case Model Numbers - "D" Output Range

Driver Type	Output Voltage	Output Current	Output Power	Standards Recognition	Maximum Rated Temp. @ t_c for Warranty
Constant Current Driver (Class 2)	20–40 V \approx	1.25–2.10 A	35–75 W	 Type TL 82 °/82 °C	75 °C

Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	0.31 A	$V_i = 277\text{ V}\sim$ $t_a = 25\text{ }^\circ\text{C}$, $I_o = 1.88\text{ A}$, $V_o = 40\text{ V}\approx$, Maximum Light Output
Power Factor	0.95	
THD	13%	LDE17U1UMN-DA188
Driver Efficiency	89%	



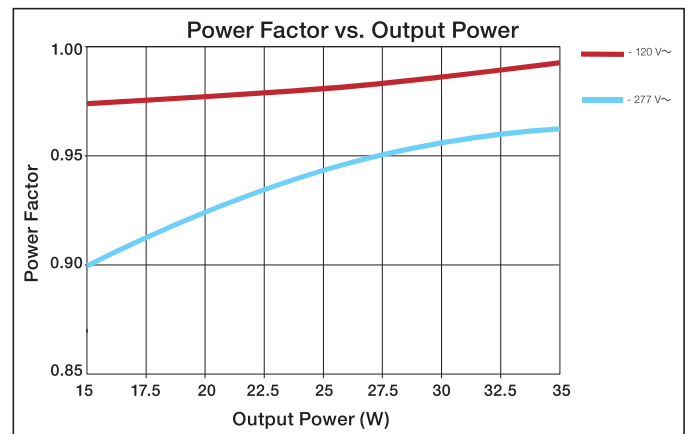
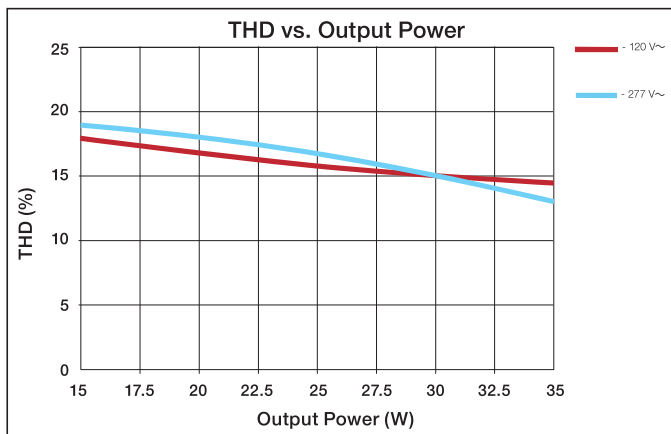
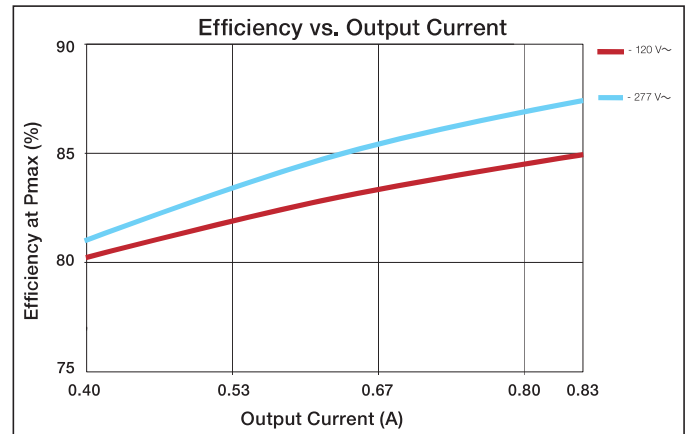
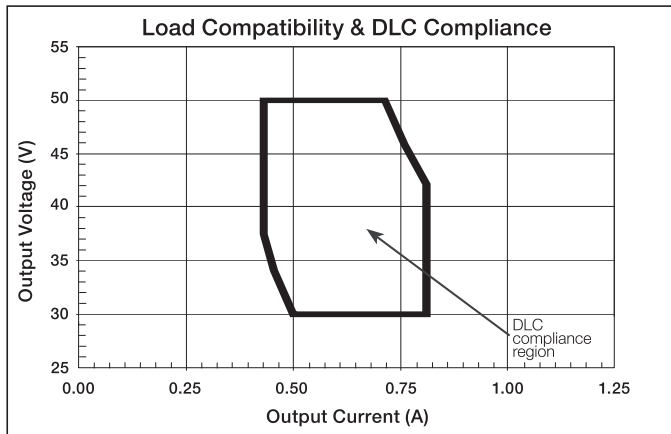
Job Name:	Model Numbers:
Job Number:	

M-Case Model Numbers - "T" Output Range

Driver Type	Output Voltage	Output Current	Output Power	Standards Recognition	Maximum Rated Temp. @ t_c for Warranty
Constant Current Driver (Class 2)	30—50 V \equiv	0.40—0.83 A	15—35 W	Type TL pending	75 °C

Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	0.15 A	$V_i = 277\text{ V}\sim$, $t_a = 25\text{ °C}$, $I_o = 0.70\text{ A}$, $V_o = 50\text{ V}\equiv$, Maximum Light Output LDE13U1UMN-TA070
Power Factor	0.97	
THD	15%	
Driver Efficiency	86%	



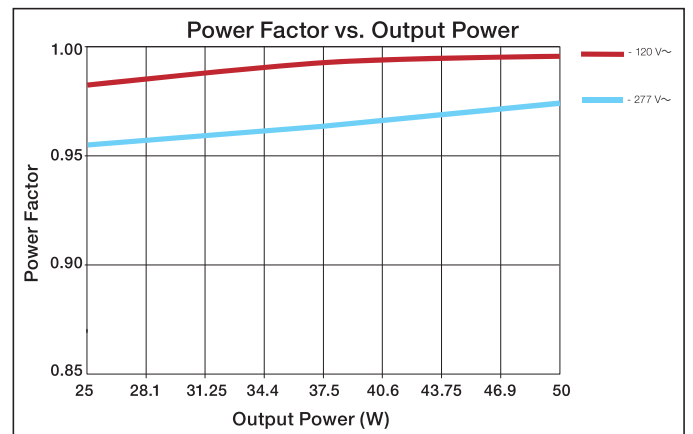
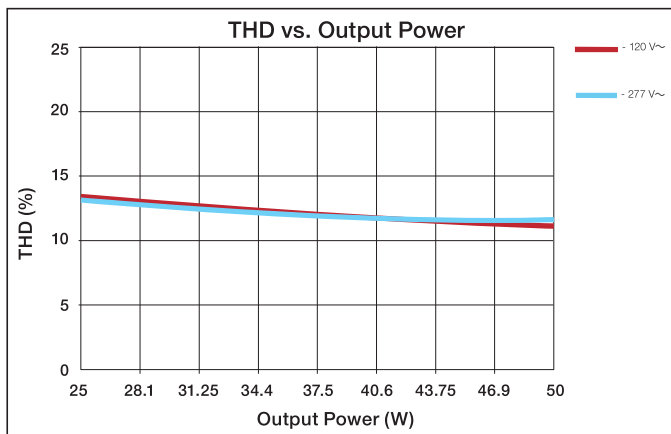
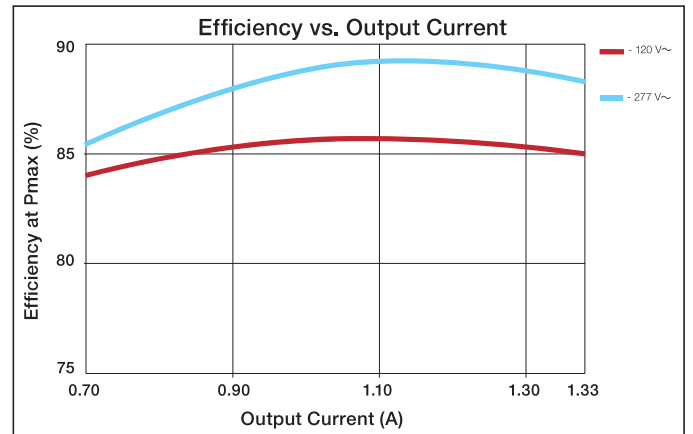
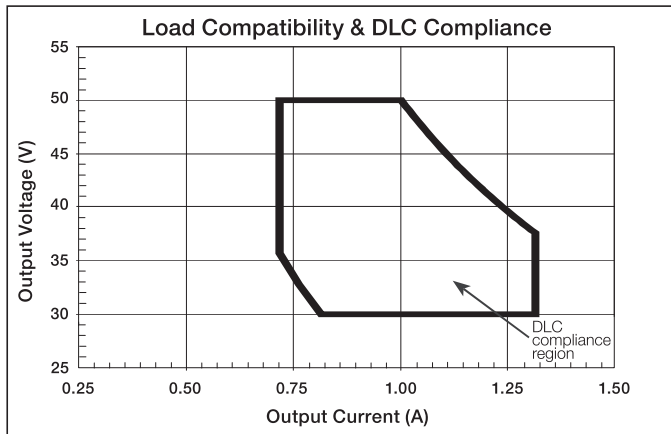
Job Name:	Model Numbers:
Job Number:	

M-Case Model Numbers - “U” Output Range

Driver Type	Output Voltage	Output Current	Output Power	Standards Recognition	Maximum Rated Temp. @ t_c for Warranty
Constant Current Driver (Class 2)	30—50 V $\overline{=}$	0.70—1.33 A	25—50 W	Type TL pending	75 °C

Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	0.21 A	$V_i = 277\text{ V}\sim$, $t_a = 25\text{ }^\circ\text{C}$, $I_o = 1.0\text{ A}$, $V_o = 50\text{ V}\overline{=}$, Maximum Light Output
Power Factor	0.97	
THD	11%	LDE15U1UMN-UA100
Driver Efficiency	86%	



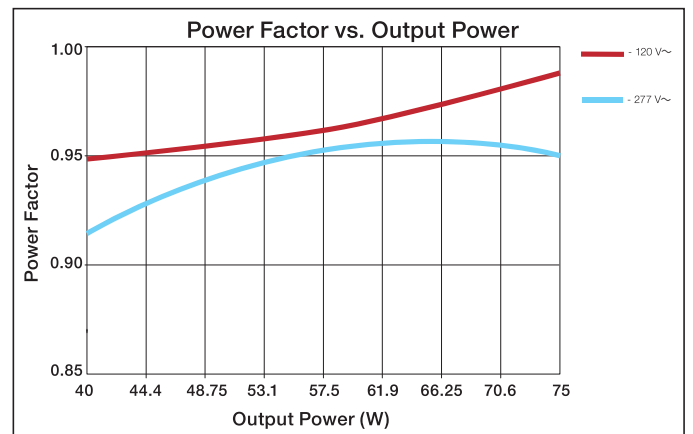
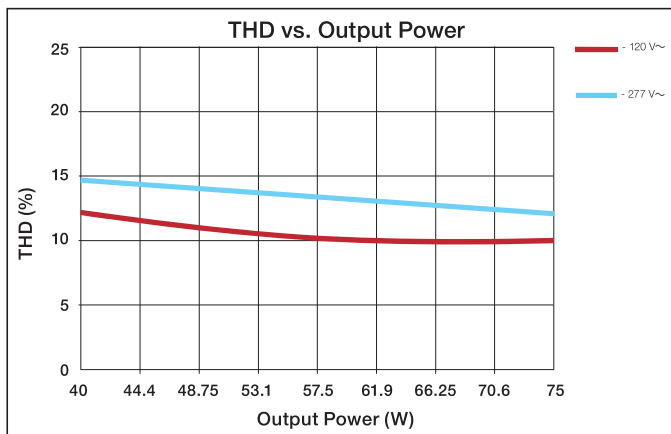
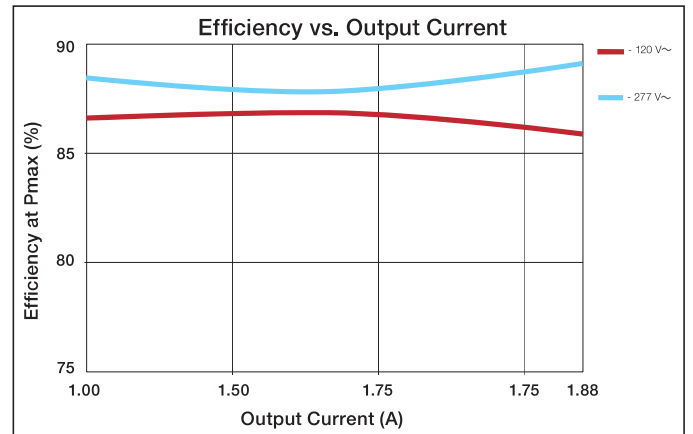
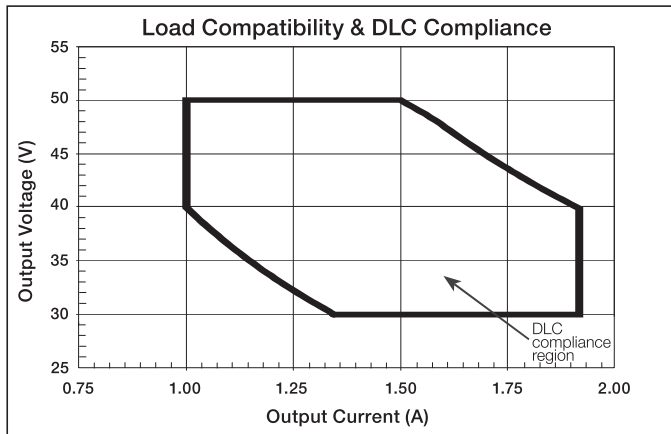
Job Name:	Model Numbers:
Job Number:	

M-Case Model Numbers - “V” Output Range

Driver Type	Output Voltage	Output Current	Output Power	Standards Recognition	Maximum Rated Temp. @ t_c for Warranty
Constant Current Driver (Class 2)	30—50 V \sim	1.00—1.88 A	40—75 W	Type TL pending	75 °C

Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	0.32 A	$V_i = 277\text{ V}\sim$, $t_a = 25\text{ }^\circ\text{C}$, $I_o = 1.5\text{ A}$, $V_o = 50\text{ V}\sim$, Maximum Light Output LDE17U1UMN-VA150
Power Factor	0.98	
THD	13%	
Driver Efficiency	88%	



Job Name:	Model Numbers:
Job Number:	