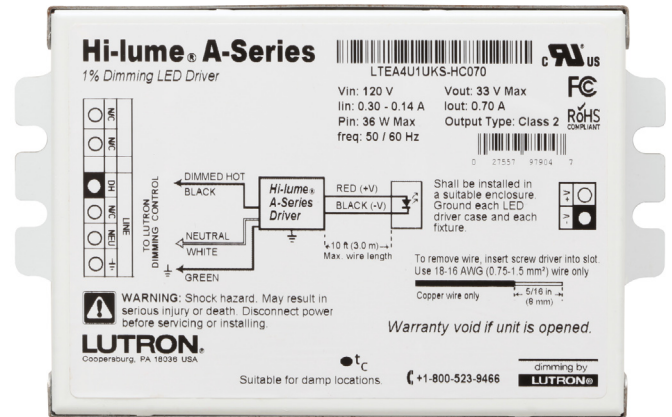


## Hi-lume® A-Series Driver Overview Forward Phase Control

Hi-lume® A-Series Driver is a high-performance LED driver that provides smooth, continuous 1% dimming for virtually any LED fixture, whether it requires constant current or constant voltage. It is the most versatile LED driver offered today due to its compatibility with a wide variety of LED arrays, multiple form factors, and numerous control options.

### Features

- Continuous, flicker-free dimming from 100% to 1%.
- Guaranteed compatibility with selected Nova T★®, Maestro Wireless®, Radio RA®2, HomeWorks® QS, Grafik Eye® QS, Grafik System™, Quantum® and Stanza® dimmers. Please see chart at the end of this document or contact Lutron for details regarding compatible controls.
- 100% performance tested at factory.
- 100% burned in at factory.
- A rated lifetime of 50,000 hours @  $t_c = 149^\circ\text{F}$  ( $65^\circ\text{C}$ ).
- UL recognized for United States and Canada.
- FCC Part 15 compliant for commercial and residential applications at 120 V~.
- Pulse width modulation (PWM) or constant current reduction (CCR) dimming methods available. See Application Note #360 for details.
- For more information please go to: [www.lutron.com/HilumeLED](http://www.lutron.com/HilumeLED)



### Hi-lume® A-Series, case type K

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



### Hi-lume® A-Series, case type M

1.18 in (30 mm) W x 1.00 in (25 mm) H x 14.25 in  
(362 mm) L

Job Name:	Model Numbers:
Job Number:	

## Specifications

### Performance

- Dimming Range: 100% to 1%
- Operating Voltage: 120 V $\sim$  at 50/60 Hz (Forward Phase Control)
- A rated lifetime of 50,000 hours @  $t_c = 149^\circ\text{F}$  ( $65^\circ\text{C}$ ). Contact Lutron for derating information.
- Patented thermal foldback protection
- LEDs turn on to any dimmed level without going to full brightness.
- Nonvolatile memory restores all driver settings after power failure.
- Power Factor:  $>0.90$  at 40 W
- Total Harmonic Distortion (THD):  $<20\%$  at 40 W
- Inrush Current:  $<2\text{ A}$
- Inrush Current Limiting Circuitry: eliminates circuit breaker tripping, switch arcing and relay failure.
- Open circuit protected
- Short circuit protected
- Turn-on time:  $\leq 1$  second
- PWM Dimming Frequency: 550 Hz

### Environmental

- Sound Rating: Class A.
- Relative Humidity: Maximum 90% non-condensing.
- Minimum operating ambient temperature ( $t_a$ ) =  $32^\circ\text{F}$  ( $0^\circ\text{C}$ ).

### Standards

- Meets ANSI C62.41 category A surge protection standards up to and including 4 kV.
- FCC Part 15 compliant for commercial and residential applications.
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20.
- Lutron® Quality Systems registered to ISO 9001.2008.
- UL 8750 recognized.
- Class 2 output available.
- Models available to meet LED Driver requirements for Energy Star 1.1.

### Driver Wiring & Mounting

- Driver is grounded by a mounting screw to the grounded fixture (or by terminal connection on the K case).
- Terminal blocks on the driver accept one solid wire per terminal from 18 to 16 AWG ( $0.75$  to  $1.5\text{ mm}^2$ ).
- Fixture must be grounded in accordance with local and national electrical codes.
- Maximum driver-to-LED light engine wire length is 10 ft (3.0 m).

<b>Job Name:</b>  <b>Job Number:</b>	<b>Model Numbers:</b>
--------------------------------------------	-----------------------

## How to Build a Model Number: Hi-lume® A-Series

LTEA4U1U -

**Case Size:**  
K = Compact  
M = Stick

**Case Style:**  
S = Studded  
(K case only)  
N = Non-Studded

**example: LTEA4U1UKS-HC070**  
For further assistance selecting your model number, contact our LED Center of Excellence at 1-877-346-5338 or LEDSD@lutron.com

**Current Level (for Constant Current):**  
020 = 0.20 A; 021 = 0.21 A . . . 210 = 2.10 A  
**Voltage Level (for Constant Voltage):**  
100 = 10.0 V; 105 = 10.5 V . . . 600 = 60.0 V


**Driver Output:**  
C = Constant current driver with pulse width modulation (PWM) dimming  
A = Constant current driver with constant current reduction (CCR) dimming  
V = Constant voltage driver with pulse width modulation (PWM) dimming

**LED Load Output Range (see the following pages for more detail):**

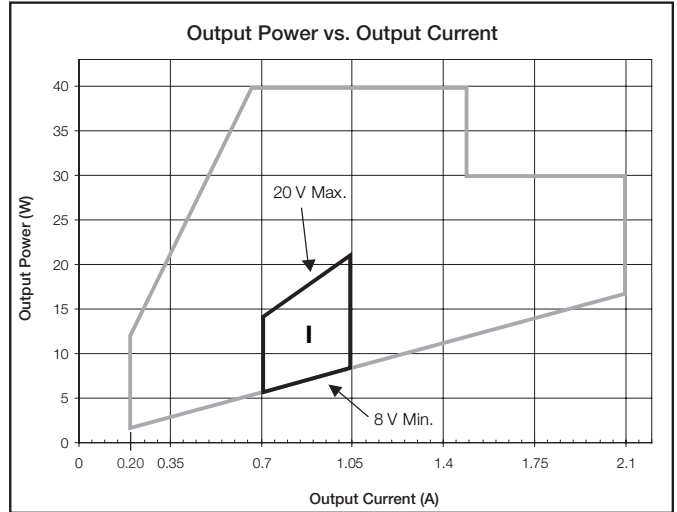
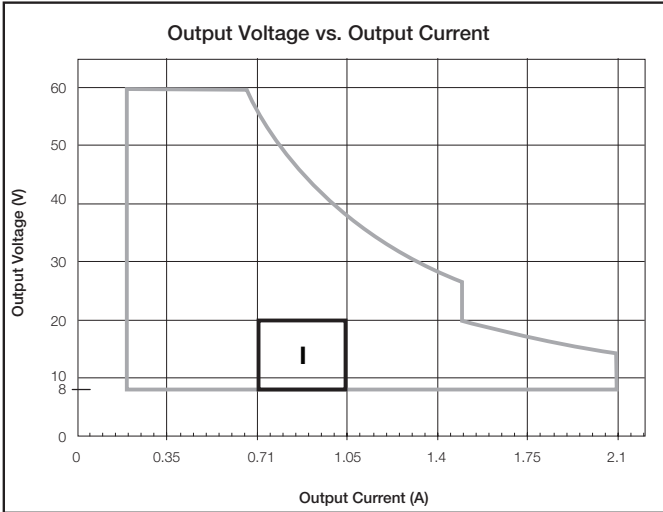
<u>Class 2 Constant Voltage</u>	<u>Class 2 Constant Current</u>	<u>Isolated Non-Class 2 Constant Current</u>
A = 10.0 V–12.0 V	E = 0.20 A–0.50 A 30 V–54 V	Y = 0.20 A–0.50 A 30 V–60 V
B = 12.5 V–20.0 V	F = 0.51 A–1.00 A 30 V–54 V	Z = 0.51 A–1.00 A 30 V–60 V
C = 20.5 V–24.0 V	G = 0.20 A–0.70 A 8 V–20 V	
D = 24.5 V–38.0 V	H = 0.20 A–0.70 A 15 V–38 V	
	I = 0.71 A–1.05 A 8 V–20 V	
<u>Isolated Non-Class 2 Constant Voltage</u>	J = 0.71 A–1.05 A 15 V–38 V	
X = 38.5 V–60.0 V	K = 1.06 A–1.50 A 8 V–20 V	
	L = 1.06 A–1.50 A 15 V–38 V	
	M = 1.51 A–2.10 A 8 V – 20 V	

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

### “I” Output Range, Current Driver Models

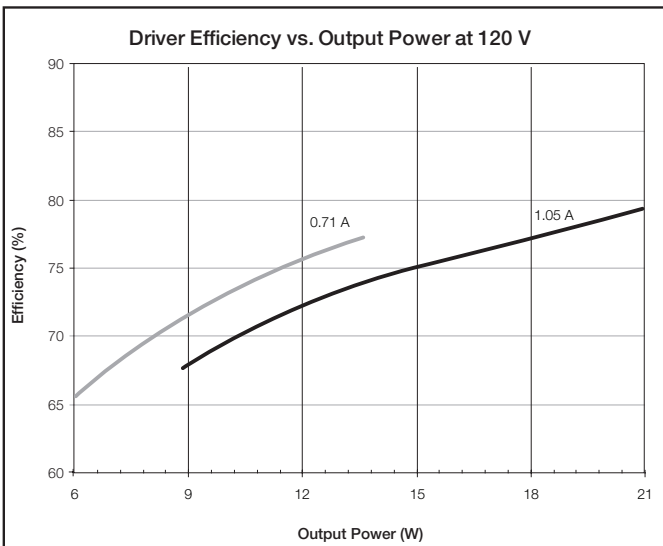
Driver Type	Output Dimming Method	Output Voltage	Output Current	Output Power	Standards Recognition
Constant Current Driver (Class 2)	Pulse Width Modulation (PWM) OR Constant Current Reduction (CCR)	8 – 20 V	0.71 – 1.05 A	6 – 21 W	

#### Current Driver Operation Range:



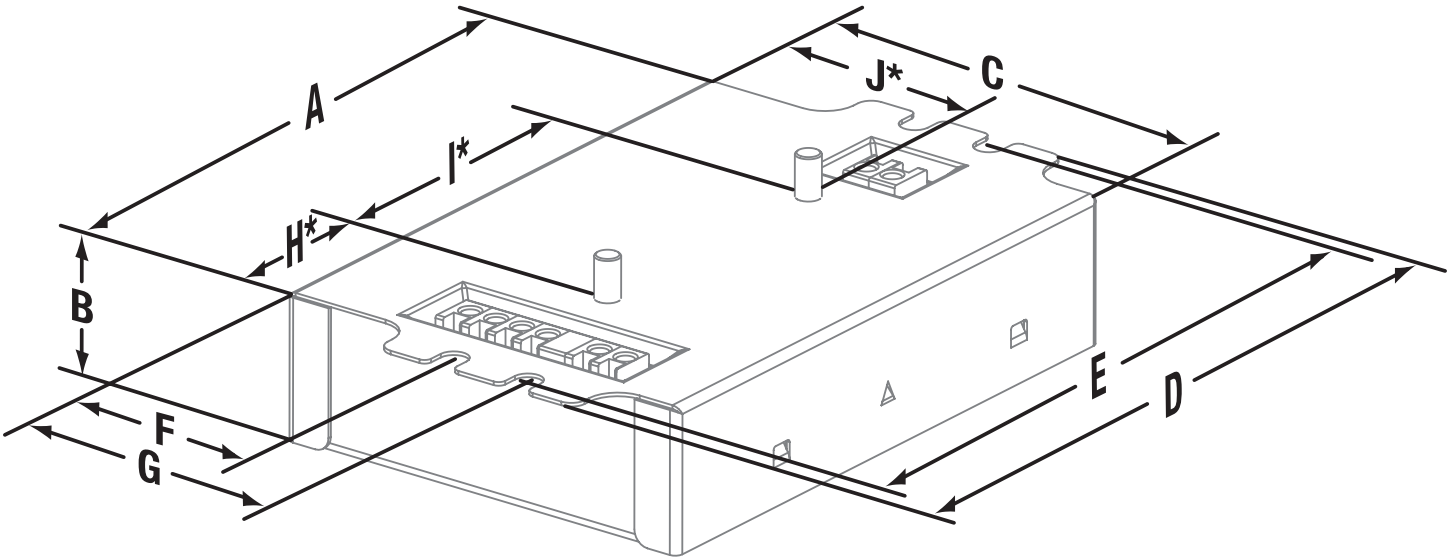
#### Typical Performance Specifications:

Parameter	Value	Test Conditions
Input Current	220 mA	$t_a = 25^\circ C$ , 1.05 A, 21 W load, Max. Light Output, K enclosure 120 V without a dimmer
Power Factor	0.99	
THD	11%	
Driver Efficiency	79%	

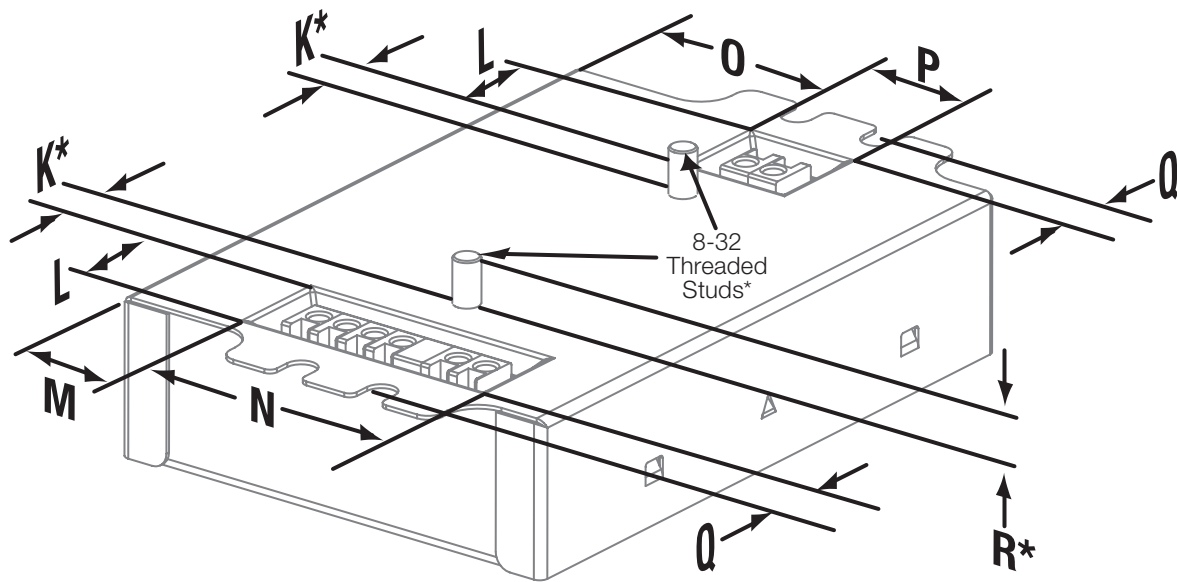


Job Name:	Model Numbers:
Job Number:	

**K Case: Case Dimensions**



**K Case: Connector Location Dimensions**

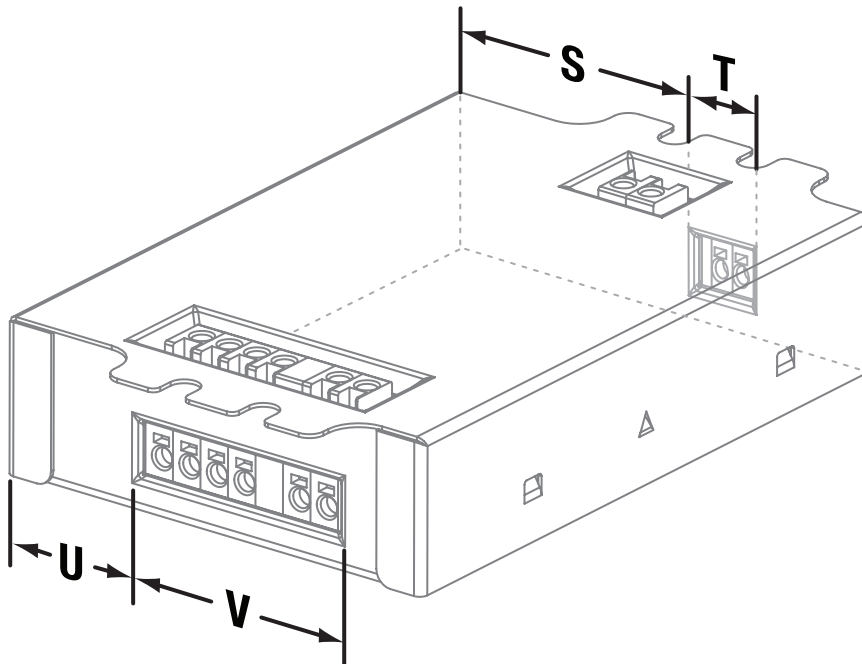


A	4.20 in (107 mm)	F	1.42 in (36 mm)	L	0.65 in (16.5 mm)	R*	0.29 in (7 mm)
B	1.00 in (25 mm)	G	1.99 in (51 mm)	M	0.75 in (19 mm)		
C	3.00 in (76 mm)	H*	1.11 in (28 mm)	N	1.73 in (44 mm)		
D	4.90 in (124 mm)	I*	2.00 in (51 mm)	O	1.33 in (34 mm)		
E	4.60 in (117 mm) (mounting center)	J*	1.60 in (41 mm)	P	0.74 in (19 mm)		
		K*	0.33 in (8.3 mm)	Q	0.32 in (8 mm)		

\* Applies to studded K case only.

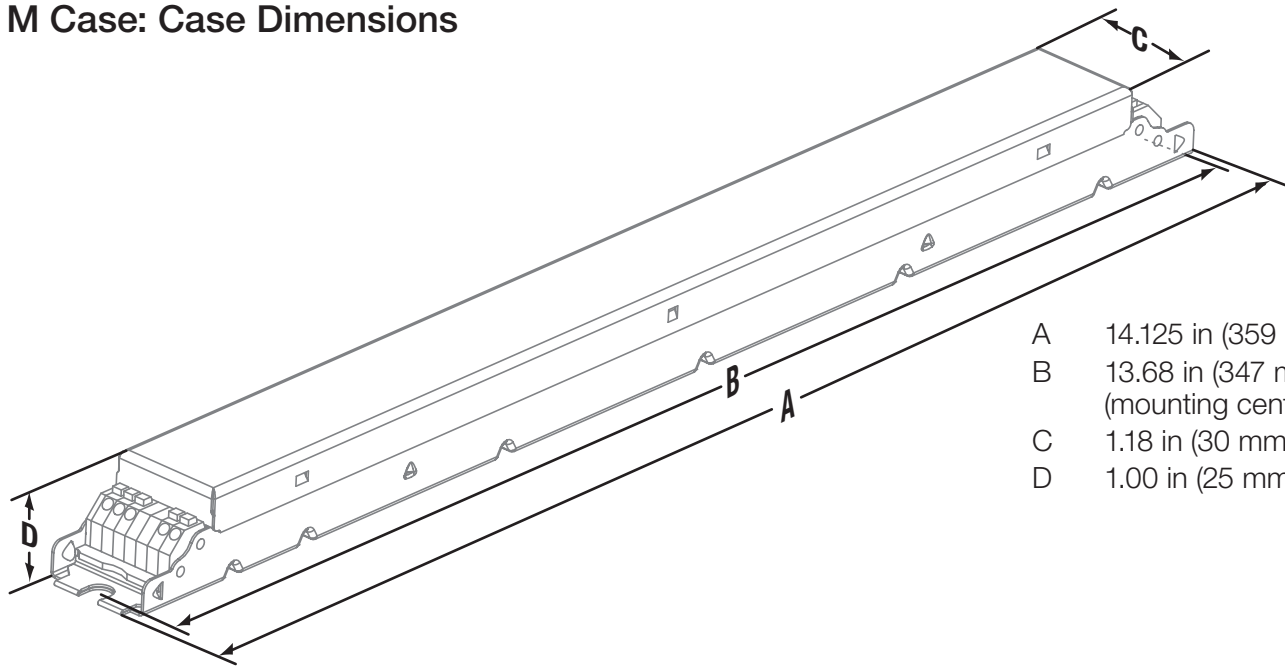
Job Name:	Model Numbers:
Job Number:	

### K Case: Side Entry Connector Location Dimensions (Non-Studded)



- S 1.38 in (35 mm)
- T 0.64 in (16 mm)
- U 0.88 in (22 mm)
- V 1.53 in (39 mm)

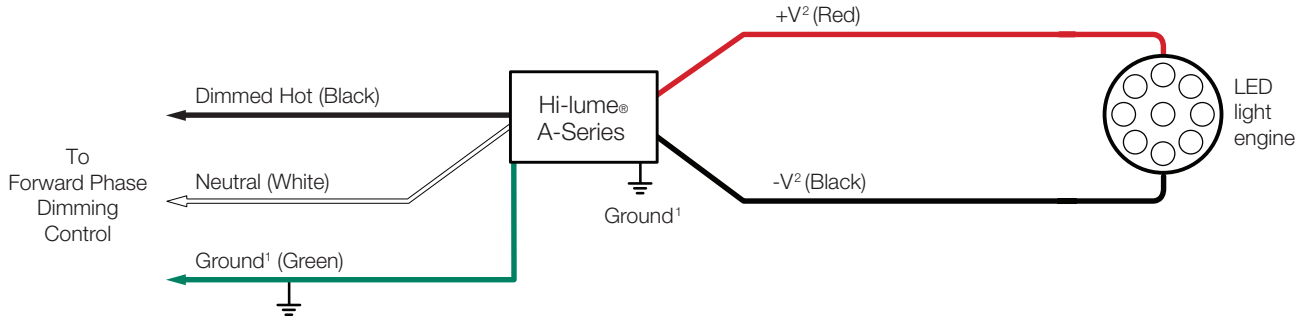
### M Case: Case Dimensions



- A 14.125 in (359 mm)
- B 13.68 in (347 mm)  
(mounting center)
- C 1.18 in (30 mm)
- D 1.00 in (25 mm)

Job Name:	Model Numbers:
Job Number:	

### Wiring Diagram for Forward Phase Control



**Note:** Colors shown correspond to terminal blocks on driver.

- <sup>1</sup> Ground wire connection available on K case models only. Fixture and driver case must be grounded in accordance with local and national electrical codes.
- <sup>2</sup> Maximum driver-to-LED light engine wire length is 10 ft (3.0 m).

Job Name:	Model Numbers:
Job Number:	

## Compatible Controls

- Guaranteed performance specifications with the controls listed in the chart below.
- For assistance selecting controls, contact our LED Center of Excellence at 1-877-346-5338 or LEDS@lutron.com

Product	Part Number	Fixtures per Control (120 V only)	Measured Light Output Range
Nova T <sup>5</sup> ®	NTLV-600-CPN0199	1 – 8	100% – 1%
Maestro Wireless®	MRF2-6ND-120	1 – 8	100% – 1%
RadioRA® 2 1000 W	RRD-10ND	1 – 13	100% – 1%
RadioRA® 2 Adaptive dimmer*	RRD-6NA	1 – 8	100% – 1%
RadioRA® 600 W	RA-6ND	1 – 8	100% – 1%
RadioRA® 1000 W	RA-10ND	1 – 13	100% – 1%
HomeWorks® QS 600 W	HQRD-6ND	1 – 8	100% – 1%
HomeWorks® QS 1000 W	HQRD-10ND	1 – 13	100% – 1%
HomeWorks® QS Adaptive dimmer*	HQRD-6NA	1 – 8	100% – 1%
HomeWorks® QS WPM	HQRJ-WPM-6D-120	1 – 10 (per output)	100% – 1%
HomeWorks® 600 W dimmer	HRD-6ND	1 – 8	100% – 1%
HomeWorks® 1000 W dimmer	HWD-10ND, HRD-10ND	1 – 13	100% – 1%
HomeWorks® WPM	HWI-WPM-6D-120	1 – 10 (per output)	100% – 1%
GRAFIK Eye® QS	QSGR-, QSGRJ-	1 – 10 (per output)	100% – 1%
GRAFIK Eye® 3000	GRX-3100, GRX-3500	1 – 10 (per output)	100% – 1%
RPM-4U Module (LCP, HomeWorks®, GRAFIK Systems™, Quantum®)	HW-RPM-4U-120, LP-RPM-4U-120	1 – 10 (per output)	100% – 1%
RPM-4A Module* (LCP, HomeWorks®, GRAFIK Systems™, Quantum®)	HW-RPM-4A-120, LP-RPM-4A-120	1 – 13 (per output)	100% – 1%
GP Panels	Various	1 – 26	100% – 1%
Stanza®	SZ-6ND	1 – 8	100% – 1%

**NOTE:** Contact Lutron Technical Support for derating rules when using wallbox controls on the Hi-lume® A-Series LED Driver in multi-gang applications.

For the list of compatible controls, visit [lutron.com/HiLumeLED](http://lutron.com/HiLumeLED) and select “Forward Phase Control Report Card.”

\* Phase adaptive dimmers must be configured to forward-phase mode.

### LUTRON® SPECIFICATION SUBMITTAL

Page

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	



**ELECTRICIANS AND CONTRACTORS**

**Driver Leads**

Maximum driver-to-LED light engine wire length is 10 ft (3.0 m).

**Wiring and Grounding**

Driver and lighting fixture must be grounded. Drivers must be installed per national and local electrical codes.

**LED Load Replacement**

For Class 2 rated drivers, the LED load can be changed while the driver is installed and powered.

**Maximum Driver Operating Temperature**

Driver case temperature (t<sub>c</sub>) must not exceed UL conditions of acceptability in end product.

For 50,000 hour lifetime, driver case temperature (t<sub>c</sub>) must not exceed 149 °F (65 °C).

**FACILITIES MANAGERS**

**SERVICE**

**Warranty**

For warranty information, please visit <http://www.lutron.com/TechnicalDocumentLibrary/Ballast%20and%20Driver%20Warranty.pdf>

**Replacement Parts**

When ordering Lutron® replacement parts please provide the full model number. Consult Lutron if you have any questions.

**Further Information**

For further information, please visit us at [www.lutron.com/hilumeLED](http://www.lutron.com/hilumeLED) or contact our LED Control Center of Excellence at 1.877.346.5338 or [LEDs@lutron.com](mailto:LEDs@lutron.com)

<p>Job Name:</p>  <p>Job Number:</p>	<p>Model Numbers:</p>
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