

## Hi-lume Overview

Hi-lume architectural electronic dimming ballasts are designed to meet the most demanding lighting requirements. By providing industry-leading performance with true full-range 100% to 1% fluorescent dimming, Hi-lume ballasts enable you to provide the ideal visual environment for any application.

### Features

- Continuous, flicker-free dimming from 100% to 1%
- Standard 3-wire line-voltage phase-control technology for consistent fixture-to-fixture dimming performance
- Models available for T4 triple-tube compact, T5-HO linear, and T8 lamps
- Programmed rapid start design preheats lamp cathodes before applying full arc voltage
- Lamps turn on to any dimmed level without flashing to full brightness
- Low harmonic distortion throughout the entire dimming range maintains power quality
- Frequency of operation ensures that ballast does not interfere with infrared devices operating between 38 and 42 kHz
- Inrush current limiting circuitry eliminates circuit breaker tripping, switch arcing, and relay failure
- End-of-lamp-life protection circuitry (for T4 and T5-HO models) ensures safe operation throughout entire lamp life cycle
- For linear lamps, ballasts maintain consistent light output for different lamp lengths, ensuring fixture uniformity
- Ultra-quiet operation
- Protected from miswires of any input power to control lead, or from lamp leads to each other and/or ground
- 100% performance tested at factory
- 5-year limited warranty with Lutron field service commissioning (3-year standard warranty) from date of purchase



### Hi-lume, case type A

3.00 in. w (76 mm) x 1.00 in. h (25 mm) x 4.90 in. l (124 mm)



### Hi-lume, case type C

1.18 in. w (30 mm) x 1.00 in. h (25 mm) x 18.00 in. l (457 mm)



### Hi-lume, case type F

2.38 in. w (60 mm) x 1.50 in. h (38 mm) x 9.50 in. l (241 mm)

Job Name:

Model Numbers:

Job Number:

## Specifications

### Performance

- Dimming Range: Hi-lume 100% to 1% measured relative light output (RLO).
- Lamp Starting: programmed rapid start
- Relative Humidity: maximum 90% noncondensing
- Operating Voltage: 120 V or 277 V at 60 Hz
- Lamp Current Crest Factor: less than 1.7
- Lamp Flicker: none visible
- Light Output Variation: constant  $\pm 2\%$  light output for line voltage variations of  $\pm 10\%$
- Lamp Life: average lamp life meets or exceeds rating of lamp manufacturer
- Ballast Factor: greater than .85 for T8 lamps, greater than .95 for T4 lamps, equal to 1.0 for T5-HO lamps
- Power Factor: greater than .95
- Total Harmonic Distortion (THD): less than 10%
- Maximum Inrush Current: 7 amps per ballast at 120 V, 3 amps per ballast at 277 V
- Sound Rating: Inaudible in a 27 dB ambient
- Maximum Ballast Case Temperature: 75 °C (167 °F)

### Environment

- Minimum lamp starting temperature: 50°F (10 °C)
- Relative humidity: less than 90% non-condensing
- Sound Rating: inaudible in a 27 dB ambient
- Maximum ballast case temperature: 75 °C (167 °F)

### Standards

- UL Listed (evaluated to the requirements of UL935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)
- Class P thermally protected
- Meets ANSI C82.11 High Frequency Ballast Standard
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions
- T4 and T5-HO ballasts are MIL Std. 461E compliant (meets the requirements of CE101, RE101 and RE102)
- Meets ANSI C62.41 Category A surge protection standards up to and including 6 kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001.2000

### Ballast Wiring & Mounting




- Ballast is grounded by a mounting screw to the fixture
- Power and lamp wiring terminals accept: only one #18 AWG solid wire per terminal

### Lamp Seasoning

Refer to your lamp company for lamp seasoning requirements prior to dimming.

Job Name:	Model Numbers:
Job Number:	

### Hi-lume Ballast Models

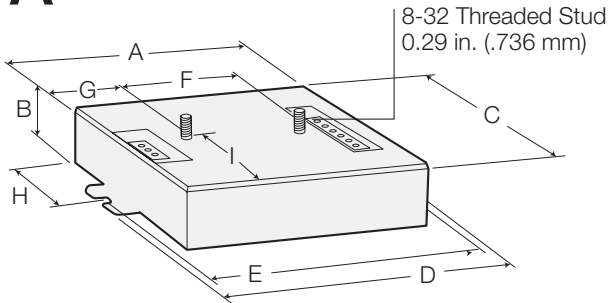
Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts (length)	Lamps per ballast	Case Type	Ballast Current (amps)	Hi-lume Model Number <sup>1</sup>	Ballast Current (amps)	Hi-lume Model Number <sup>1</sup>
<b>T4 triple-tube 4-pin</b>  1/2 in. diameter	26 W	1	A	.26	HL3-T426-120-1-S	.12	HL3-T426-277-1-S
	32 W	1	A	.31	HL3-T432-120-1-S	.13	HL3-T432-277-1-S
<b>T5-HO linear high output</b>  5/8 in. diameter	24 W (21.5 in.)	1	C	.26	FDB-T524-120-1	.13	FDB-T524-277-1
		2	C	.45	FDB-T524-120-2	.20	FDB-T524-277-2
	39 W (33.4 in.)	1	C	.38	FDB-T539-120-1	.17	FDB-T539-277-1
		2	C	.76	FDB-T539-120-2	.31	FDB-T539-277-2
	54 W (45.3 in.)	1	C	.58	FDB-T554-120-1	.25	FDB-T554-277-1
		2	C	1.1	FDB-T554-120-2	.45	FDB-T554-277-2
<b>T8 linear and U-Bent</b>  1 in. diameter	17 W (24 in.)	1	F	.19	FDB-2427-120-1	.08	FDB-2427-277-1
		2	F	.31	FDB-2427-120-2	.15	FDB-2427-277-2
		3	F	.43	FDB-2427-120-3	.20	FDB-2427-277-3
	25 W (36 in.)	1	F	.24	FDB-3627-120-1	.12	FDB-3627-277-1
		2	F	.43	FDB-3627-120-2	.19	FDB-3627-277-2
		3	F	.62	FDB-3627-120-3	.28	FDB-3627-277-3
	32 W (48 in.)	1	F	.30	FDB-4827-120-1	.14	FDB-4827-277-1
		2	F	.57	FDB-4827-120-2	.25	FDB-4827-277-2
		3	F	.82	FDB-4827-120-3	.35	FDB-4827-277-3
	40 W (60 in.)	1	F	.36	FDB-6027-120-1	.16	FDB-6027-277-1
		2	F	.64	FDB-6027-120-2	.30	FDB-6027-277-2

<sup>1</sup> Mounting studs standard for T4 ballasts. Delete suffix -S in the model number if mounting studs not needed.

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

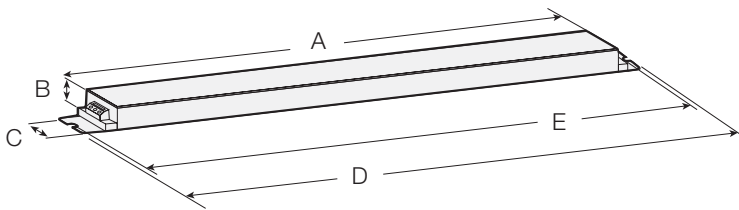
Case Dimensions

**A<sup>1</sup>**



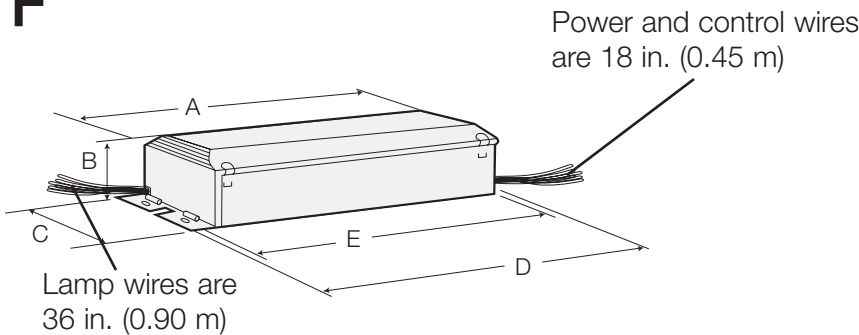
- A 4.20 in. (107 mm)
- B 1.00 in. (25 mm)
- C 3.00 in. (76 mm)
- D 4.90 in. (124 mm)
- E 4.60 in. (117 mm)  
(mounting centers)
- F 2.00 in. (51 mm)
- G 1.08 in. (27 mm)
- H 1.60 in. (41 mm)
- I 1.39 in. (35 mm)

**C**



- A 16.12 in. (409 mm)
- B 1.00 in. (25 mm)
- C 1.18 in. (30 mm)
- D 18.00 in. (457 mm)
- E 17.70 in. (450 mm)  
(mounting centers)

**F**



- A 8.30 in. (211 mm)
- B 1.50 in. (38 mm)
- C 2.38 in. (60 mm)
- D 9.50 in. (241 mm)
- E 8.91 in. (226 mm)  
(slot mounting centers)

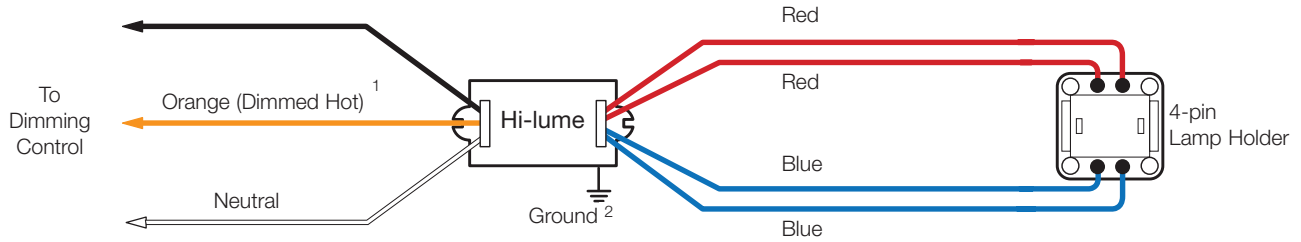
If using four hole mount,  
mounting centers are 9.21 in.  
(234 mm) x 1.70 in. (43 mm).

<sup>1</sup> Mounting studs standard. When ordering, delete suffix -S in the ballast model number if mounting studs not needed.

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

## Wiring Diagrams

### One compact fluorescent lamp



<sup>1</sup> Dimming control wire colors may not match ballast wire colors (e.g. control “dimmed hot” may be yellow and ballast “dimmed hot” may be orange). Wire colors shown are for Lutron controls and ballasts only.

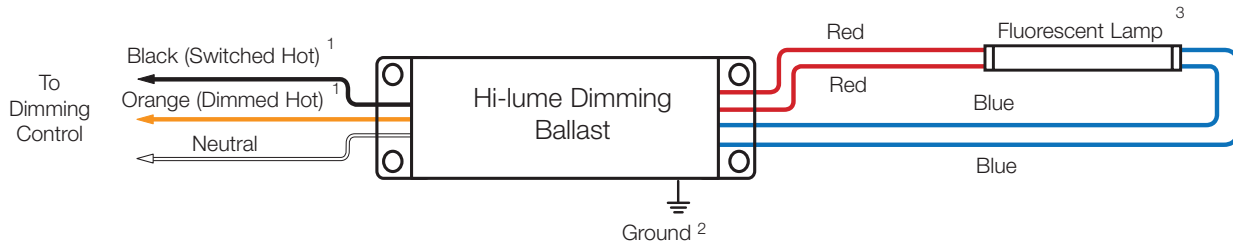
<sup>2</sup> Ballast and lighting fixture must be grounded.

Note: For T4 compact lamps, maximum lamp-to-ballast wire length is 3 feet (1 m).

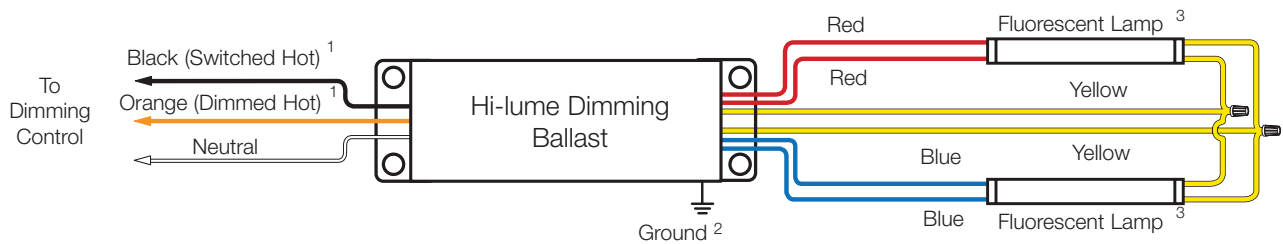
<p><b>Job Name:</b></p>	<p><b>Model Numbers:</b></p>
<p><b>Job Number:</b></p>	

## Hi-lume Wiring Diagrams

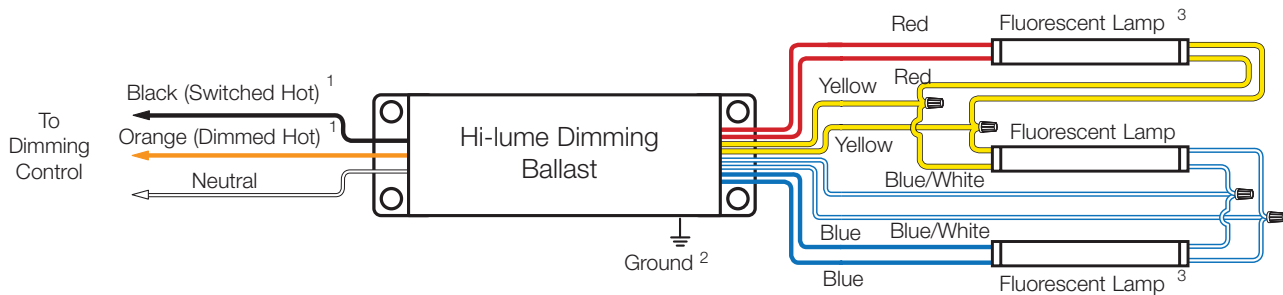
### One T5-HO or T8 lamp



### Two T-5-HO or T8 lamps



### Three T8 lamps



<sup>1</sup> Dimming control wire colors do not necessarily match ballast wire colors (e.g. control 'dimmed hot' may be yellow, and ballast 'dimmed hot' may be orange. Wire colors shown are for Lutron ballasts and controls only.

<sup>2</sup> Ballast and lighting fixture must be grounded.

<sup>3</sup> Includes 31 W T8 U-bent lamps

Note: For T5-HO and T8 lamps, maximum lamp-to-ballast wire length is 7 feet (2 m).

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



**ATTENTION  
ELECTRICIANS  
AND CONTRACTORS**



**ATTENTION  
FACILITIES MANAGERS**

**Ballast/Socket Leads**

Lead lengths from ballast to socket must not exceed 7 ft. (2 m) for T5-HO and T8 linear lamps, and 3 ft. (1 m) for T4 compact lamps.

**Lamp Sockets**

Lamp sockets as per IEC 60400 are required to ensure positive lamp-pin to socket contact. T5 linear lamps require rotary locking sockets.

**Lamp Mounting for T8**

Many fluorescent lamp sockets are available with mounting slots to vary the height of the lamp away from the grounded metal surface. Use these slots to get the lamp glass to be 1/2 in. ± 1/4 in. away from the grounded metal surface.

Having a fluorescent lamp too close to the grounded metal will make the minimum intensity too low and will reduce lamp life. Having a fluorescent lamp too far away from the grounded metal will make the lamp flicker or not turn on at all.

**Lamp Mounting for T5 and T5-HO**

Keep lamps 3/8 in. ± 1/8 in. away from the grounded metal surface. Having a T5-HO lamp too close to the grounded metal may cause a visible difference in brightness along the length of the lamp.

**Ballast Operating Temperature**

Ballast case temperature must not exceed 75 °C at any point on ballast.

**Wiring and Grounding**

Ballast and lighting fixture must be effectively grounded. Ballasts must be installed per national and local electrical codes.

**PERFORMANCE**

**Lamp Seasoning**

Consult lamp manufacturer’s recommendations on lamp seasoning prior to dimming.

**SERVICE**

**Replacement Parts**

Use replacement parts with exact Lutron model numbers. Consult Lutron if you have any questions.

**Further Information**

For further information, please visit us at [www.lutron.com/ballasts](http://www.lutron.com/ballasts) or contact our 24-hour Technical Support Center at 1-800-523-9466.

Available at [www.GoodMart.com](http://www.GoodMart.com)

877-402-6100  
Lighting, Electrical, Tools, DataCom,  
HVAC, Safety, Test & Measurement

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