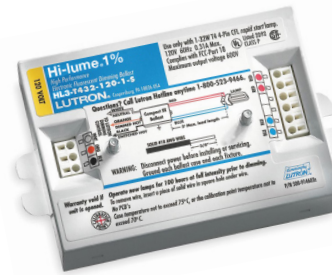


## Hi-lume® Overview

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 and T5-HO linear 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 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 (76 mm) W x 1.00 in (25 mm) H  
x 4.90 in (124 mm) L



### Hi-lume®, case type C

1.18 in (30 mm) W x 1.00 in (25 mm) H  
x 18.00 in (457 mm) L

Job Name:

Model Numbers:

Job Number:

## Specifications

### Regulatory Approvals

- 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 9001.2008

### Environment

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

### Ballast Wiring & Mounting

- Ballast is grounded by a mounting screw to the fixture
- Power and lamp wiring terminals accept: only one 18 AWG (0.75 mm<sup>2</sup>) solid wire per terminal

### Lamp Seasoning

Refer to the lamp manufacturer's recommendations for lamp seasoning requirements prior to dimming.

### Warranty



- 5-year limited warranty with Lutron® field service commissioning (3-year standard warranty) from date of purchase. For additional Warranty information, please visit:  
[www.lutron.com/TechnicalDocumentLibrary/Ballast%20and%20Driver%20Warranty.pdf](http://www.lutron.com/TechnicalDocumentLibrary/Ballast%20and%20Driver%20Warranty.pdf)

### Performance

- Dimming Range: 100% to 1% measured relative light output (RLO).
- Lamp Starting: programmed rapid start
- Operating Voltage: 120/277 V~ at 60 Hz
- Lamp Current Crest Factor: ≤ 1.7
- Lamp Flicker: none visible
- Light Output Variation: constant ±2% light output for line voltage variations of ±10%
- Lamp Life: average lamp life meets or exceeds rating of lamp manufacturer
- Ballast Factor: ≥ 0.95 for T4 lamps, equal to 1.0 for T5-HO lamps
- Power Factor: ≥ 0.95
- Total Harmonic Distortion (THD): less than 10%
- Maximum Inrush Current: 7 A per ballast at 120 V~, 3 A per ballast at 277 V~
- Sound Rating: Inaudible in a 27 dB ambient
- Maximum Ballast Case Temperature: 167 °F (75 °C)

Job Name:	Model Numbers:
Job Number:	

## Hi-lume® Ballast Models

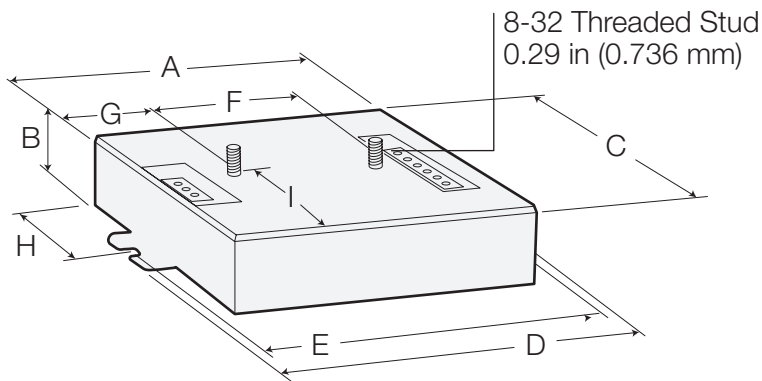
Lamp Type				120 VOLTS		277 VOLTS	
	Lamp Watts (length)	Lamps per ballast	Case Type	Ballast Current (A)	Hi-lume® Model Number	Ballast Current (A)	Hi-lume® Model Number
<b>T4 Triple-tube 4-pin</b>  1/2 in (12.7 mm) diameter	26 W	1	A	0.30	HL3-T426-120-1-S <sup>1</sup>	0.11	HL3-T426-277-1-S <sup>1</sup>
	32 W	1	A	0.35	HL3-T432-120-1-S <sup>1</sup>	0.13	HL3-T432-277-1-S <sup>1</sup>
<b>T5-HO Linear High Output</b>  5/8 in (15.875 mm) diameter	24 W [21.5 in (546 mm)]	1 2	C C	0.31 0.62	FDB-T524-120-1 FDB-T524-120-2	0.15 0.24	FDB-T524-277-1 FDB-T524-277-2
	39 W [33.4 in (848 mm)]	1 2	C C	0.41 0.76	FDB-T539-120-1 FDB-T539-120-2	0.19 0.32	FDB-T539-277-1 FDB-T539-277-2
	54 W [45.2 in (1148 mm)]	1 2	C C	0.58 1.1	FDB-T554-120-1 FDB-T554-120-2	0.25 0.45	FDB-T554-277-1 FDB-T554-277-2

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

Job Name:	Model Numbers:
Job Number:	

Case Dimensions

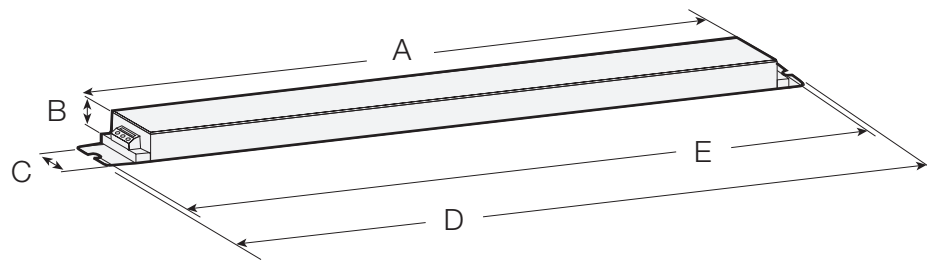
A<sup>1</sup>



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)

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

C

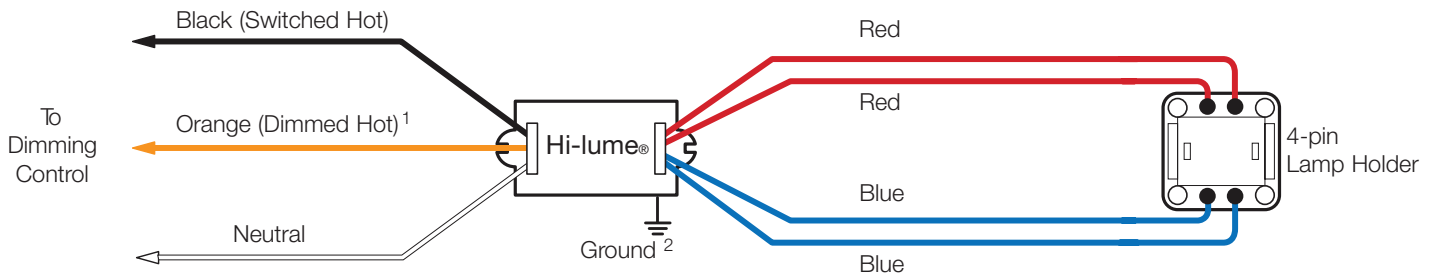


A	16.12 in (409 mm)
B	1.00 in (25 mm)
C	1.18 in (30 mm)
D	18.00 in (457 mm)
E	17.70 in (450 mm)
	(mounting centers)

Job Name:	Model Numbers:
Job Number:	

# Wiring Diagram

## 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.

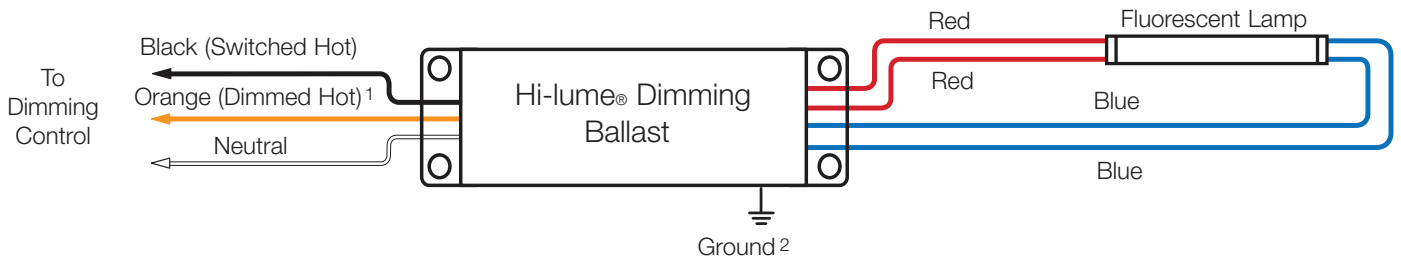
<sup>2</sup> Ballast and lighting fixture must be grounded.

**Note:** For T4 compact lamps, maximum lamp-to-ballast wire length is 3 ft (0.91 m).

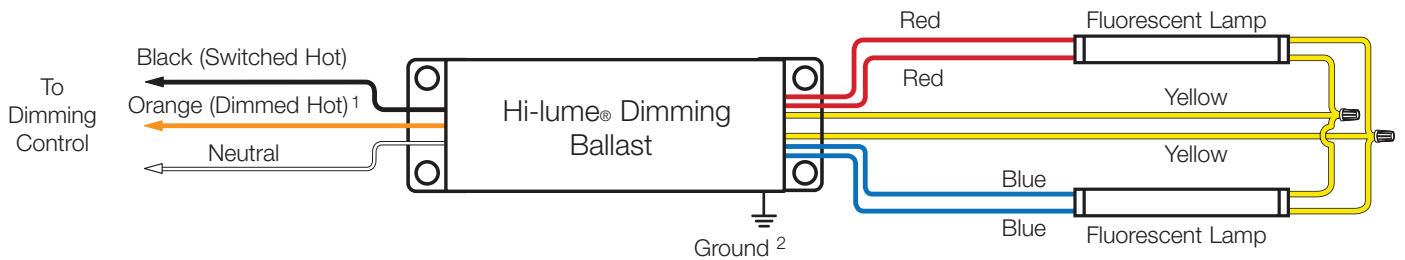
Job Name:	Model Numbers:
Job Number:	

# Wiring Diagrams

## One T5-HO Lamp



## Two T5-HO 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.

**Note:** For T5-HO lamps, maximum lamp-to-ballast wire length is 7 ft (2.1 m).

Job Name:	Model Numbers:
Job Number:	

## ATTENTION ELECTRICIANS AND CONTRACTORS

### Ballast/Socket Leads

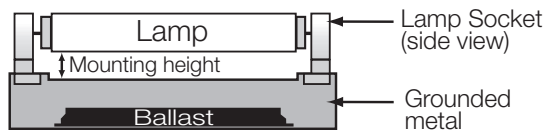
Lead lengths from ballast to socket must not exceed 7 ft (2 m) for T5-HO lamps, and 3 ft (1 m) for T4 compact lamps.

### 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

Many fluorescent lamp sockets are available with mounting slots to vary the height of the lamp away from the grounded metal surface. Having a fluorescent lamp too close to the grounded metal 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. Please note that all of the lamp heights are measured between the grounded metal surface and the glass wall of the



**IMPORTANT:** Lamps must never touch ground plane and should be placed without obstruction. lamp.

### Mounting for T4 Lamps

Do not allow lamp glass to come in direct contact with any grounded metal surface.

### Mounting for T5HO Lamps

Mount lamps 1/16 to 3/8 in (1.6 to 9.5 mm) away from the grounded metal surface.

### Ballast Operating Temperature

Ballast case temperature must not exceed 167 °F (75 °C) at any point on ballast.

### Cold Air Flow

Ensure that no cold air (from HVAC system, etc) is blowing across the lamps. Cooling the lamp will cause performance issues as noted in NEMA LSD-34.

### Number of Ballasts Per Control

To calculate the maximum number of ballasts allowed per control, divide control's current capacity by individual ballast current. Certain controls allow a specific maximum number of ballasts.

### Wiring and Grounding

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

## ATTENTION FACILITIES MANAGERS

### PERFORMANCE

#### Lamp Seasoning

Some fluorescent lamp manufacturers recommend that new fluorescent lamps be operated at full output ("seasoned") before they can be dimmed, to render lamp impurities inert, ensuring proper dimming performance and average rated lamp life. Please contact your lamp manufacturer for seasoning requirements.

### 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.

Job Name:	Model Numbers:
Job Number:	