



# Appendix

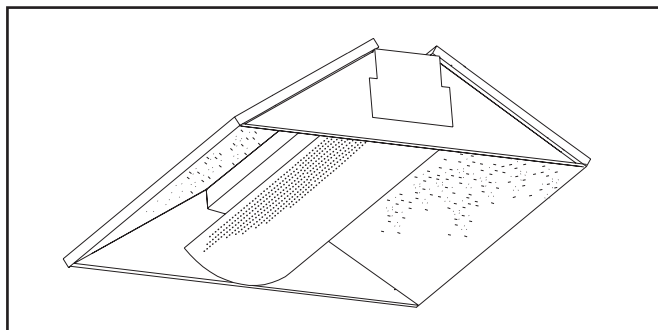
## Fixture Cutsheets



### Lighting Fixture Schedule

Type	Description	Manufacturer/Catalog No.	Lamps	CCT	Voltage	Notes
A	2' X 2' DIRECT/INDIRECT RECESSED, MICRO-PERFORATED MESH DIFFUSER, CENTER BASKET, WHITE FINISH, GRID CEILING	DAYBRITE #2TOCG240-PMW-277-1/2-EB	(2) 40WTT5	3500K	277	
B1	4" OPEN DOWNLIGHT, VERTICAL LAMP, ALUMINUM REFLECTOR AND SELF-FLANGED TRIM	GOTHAM #AFV-13DTT-6AR-277	(1) CFL13Q	3500K	277	
B2	4" OPEN DOWNLIGHT, VERTICAL LAMP, ALUMINUM REFLECTOR AND SELF-FLANGED TRIM	GOTHAM #AFV-18TRT-6AR-277	(1) CFL18TRT	3500K	277	
B3	6" OPEN DOWNLIGHT, HORIZONTAL LAMP, ALUMINUM REFLECTOR AND SELF-FLANGED TRIM	GOTHAM #AF-1/26TRT-6AR-277	(1) CFL26TRT	3500K	277	
B4	6" OPEN DOWNLIGHT, HORIZONTAL LAMP, ALUMINUM REFLECTOR AND SELF-FLANGED TRIM	GOTHAM #AF-1/42TRT-6AR-277	(1) CFL42TRT	3500K	277	1
C1	2' RECESSED LINEAR WALLWASH, 2" APERTURE, BLACK METAL DIFFUSER	PEERLESS #LWAR9-G-1-24T5HO-HOL-U2-277	(1) F24T5HO	3500K	277	
C2	4' RECESSED LINEAR WALLWASH, 2" APERTURE, BLACK METAL DIFFUSER	PEERLESS #LWAR9-G-1-28T5-HOL-U4-277	(1) F28T5	3500K	277	
D1	ADJUSTABLE TABLE LAMP, SILVER FINISH, BLUE GLASS REFLECTOR	BERENICE - MEDA & RIZZATTO 1985	(1) 35W GY6.35	3000K	12	
D2	4" RECESSED ADJUSTABLE SPOT, BLACK POWDER-COAT FINISH, WHITE TRIM	ERCO #88111.000	(1) 50W GY6.35	3000K	12	
D3	ADJUSTABLE WALLWASH SPOT, TRACK/CEILING MOUNTED, WHITE FINISH, INTEGRATED ELECTRONIC TRANSFORMER	ERCO #72103.000	(1) 75W GY6.35	3000K	12	2
F1	6" COLOR CHANGING LED COVE STRIP, COLOR ADJUSTING CAPABILITIES, VENTED PLASTIC HOUSING	COLOR KINETICS i-COLOR COVE NXT 6"	INCLUDED	1000-10000K	120	3,5
F2	6" COLOR CHANGING LED COVE STRIP, COLOR ADJUSTING CAPABILITIES, VENTED PLASTIC HOUSING	COLOR KINETICS i-COLOR COVE NXT 6"	INCLUDED	1000-10000K	120	3,4
F3	6" COLOR CHANGING LED COVE STRIP, COLOR ADJUSTING CAPABILITIES, VENTED PLASTIC HOUSING	COLOR KINETICS i-COLOR COVE NXT 6"	INCLUDED	1000-10000K	120	3,4

- NOTES:
1. PROVIDE DIMMING BALLAST AS SPEC'D WITH FIXTURE IN APPENDIX A
  2. FIXTURE COMES WITH 75W OPTION EVEN THOUGH SPEC SHEET DOES NOT REFLECT THAT
  3. INTEGRAL STEP-DOWN TRANSFORMER INCLUDED WITH FIXTURES
  4. SEE INCLUDED DETAIL OF FIXTURE FOR MOUNTING SPECIFICS
  5. PROVIDE NUMBER OF FIXTURES NEEDED FOR LENGTH SHOWN ON DRAWING



**2' x 2'**  
**1 or 2 Lamp**  
**Center Basket**  
**Recessed Direct/Indirect**

**APPLICATION**

- Recessed direct/indirect luminaire for glare-free illumination.
- Fits standard 2' x 2' inverted T-grid (NEMA "G") opening.
- Fully recessed mounting, suitable for row mounting.
- Uses standard 2' x 2' ceiling tile (by others) cut in half as top cover/reflector.
- Ceiling tiles identical to surrounding ceiling can be used to provide a very integrated appearance.
- Different materials, patterns, or colors can be used to create accents or architectural features.
- Economical alternative to traditional recessed direct/indirect luminaires.

**CONSTRUCTION/FINISH**

- Delivered assembled with ballast channel, end panels, and one-piece perforated lamp cover. Ceiling tile to be supplied by others and installed on site.
- Ballast channel made of code gauge die formed steel.
- Multi-stage phosphate treated for maximum corrosion resistance and finish coat is baked white enamel.
- Micro-perforated, center mounted lamp cover provides soft awareness to light source.

- Soft white overlay on inside of lamp cover conceals lamp image and balances between direct and reflected light.
- Easy ballast access through lamp compartment.
- Swing down lamp cover for easy relamping.

**ELECTRICAL**

- UL listed for damp locations.
- Class P, HPF ballasts comply with ©Federal Ballast Law (public law 100-357, 1988).
- Self contained emergency power pack can be incorporated. UL listed for dry locations.
- Power-Connect modular wiring option available for continuous row applications (see sheet 1604-OA).
- Electronic ballast standard for maximum efficiency.

**CATALOG NUMBER**

<b>2</b>	<b>TO</b>	<b>C</b>	<b>G</b>			-	<b>PMW</b>	-		-		-	
<b>WIDTH</b> 2'	<b>FIXTURE FAMILY</b> TO- Tenuto	<b>BASKET LOCATION</b> C - Center	<b>CEILING TYPE</b> G - Grid	<b>LAMP TYPE/WATTAGE</b> 14 - 14wT5 (22") 17 - 17wT8 (24") 24HO - 24wT5HO (22") <b>CF40 - 40wTT5 (22-1/2")</b> CF50 - 50wTT5 (22-1/2") CF55 - 55wTT5 (22-1/2")	<b>NO. OF LAMPS</b> (not included) <b>1</b> <b>2</b>	<b>SHIELDING</b> PMW - Perforated Metal with White Overlay	<b>VOLTAGE</b> <b>120</b> <b>277</b> 347 (consult factory for availability) UNV - Universal voltage, 120-277 volt (T8 and 40wTT5 only)	<b>BALLAST</b> Generic Electronic Ballasts (Brand selected by Day-Brite) Suffix Catalog # with - <b>Ballast Quantity</b> - / - <b>EB</b> Lamps Per Ballast.	<b>OPTIONS</b> CM - Canadian Market				

**Example: -1/1-EB** = One 1 Lamp Electronic Ballast.  
**Example: -1/2-EB** = One 2 Lamp Electronic Ballast.

## Fixture A Lamp

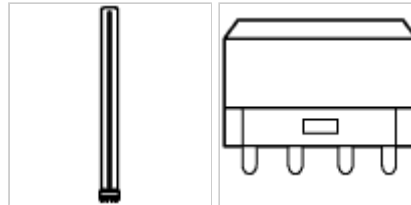


GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

### Plug-in 4-Pin High Lumen Biax®

**Product Code:** 16648  
**Description:** F40/30BX/SPX35



**Specification:**

**Firm Name :**

**Job Name :**

#### General

Product Code	16648
Description	F40/30BX/SPX35
Subcategory	Plug-in 4-Pin High Lumen Biax®

#### Physical

Bulb Type	BiaxL (T5)
Base Type	2G11
Nominal Length (In.)	22.50
Nominal Length (mm)	572

#### Photometric

Average Rated Life	20000
Lumens (Initial)	3150
Lumens (Mean)	2840
Color Temperature (K)	3500
Color Rendering Index (Ra) CRI	82

#### Electrical

Watts	40
Minimum Starting Temp (deg F)	50

#### Miscellaneous

Additional Information	NEMA Generic Designation: FT40W/2G11/RS/835
Footnotes	Fluorescent lamp lumens decline during life. Based on 60Hz reference circuit. 4-Pin lamp minimum starting temperature is 50°F.



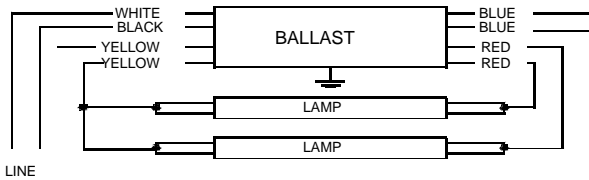
# Fixture A Ballast

<b>VOP-4P32-SC</b>	
Brand Name	OPTANIUM
Ballast Type	Electronic
Starting Method	Instant Start
Lamp Connection	Parallel
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

## Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* F40T8	2	40	32/00	0.30	81	1.03	10	0.98	1.7	1.27
F40T8	3	40	32/00	0.38	108	0.93	10	0.98	1.7	0.86

### Wiring Diagram



Diag. 71A

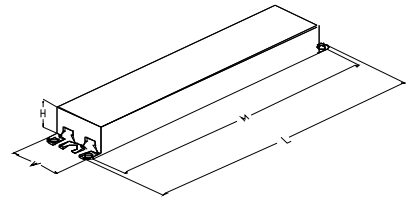
Insulate unused lead for 1000V

The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	25L	63.5	Yellow/Blue		0
White	25L	63.5	Blue/White		0
Blue	31R	78.7	Brown		0
Red	31R	78.7	Orange		0
Yellow	39L	99.1	Orange/Black		0
Gray		0	Black/White		0
Violet		0	Red/White		0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
9.50 "	1.7 "	1.18 "	8.90 "
24.1 cm	4.3 cm	3 cm	22.6 cm

Revised 04/28/2005



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

## ADVANCE TRANSFORMER CO.

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Corporate Offices: Phone: 800-322-2086

# FEATURES

## Fixture B1

Type

Catalog number

### OPTICAL

- Reflector – Self-flanged, specular clear or semi-diffuse reflector. Bounding Ray Optical Principle design provides lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional. (Vertisys optical system patented – US Patent #5,800,050)
- Baffle– Specular clear upper reflector. Microgroove baffle with white painted flange.

### MECHANICAL

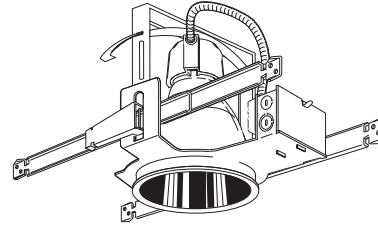
- 16-gauge galvanized steel mounting/plaster frame with friction support springs to retain optical system. Accommodates up to 7/8" thick ceiling standard. See Accessories for increased ceiling thickness capability.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 1/2"-3/4" and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors rated for 90°C.

### ELECTRICAL SYSTEM

- Rugged aluminum lampholder housing designed for positive lamp positioning.
- Vertically mounted, positive-latch thermoplastic socket.
- Class P, thermally-protected, high power factor ballast mounted to the junction box.

### LISTING

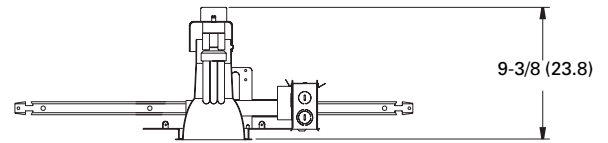
- Fixtures are UL Listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).



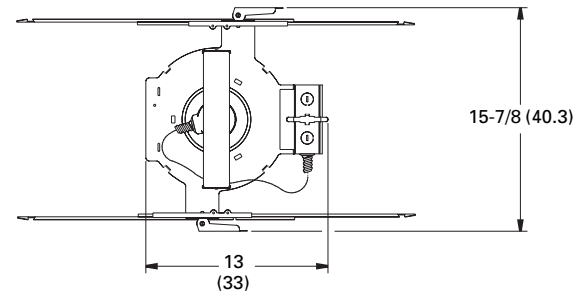
### Compact Fluorescent Lighting

# 4" AFV

OPEN REFLECTOR  
Vertical Lamp



Aperture: 4-5/16 (11)  
Ceiling Opening: 5-1/8 (13)  
Overlap Trim: 5-7/16 (13.8)



All dimensions are inches (centimeters).

## ORDERING INFORMATION

Example: AFV 26TRT 4AR 120 GEB10 WLP

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line.

### AFV

Series	Wattage/Lamp	Reflector/Color	Finish	Voltage	Ballast <sup>6</sup>	Options
AFV	<b>13DTT<sup>1</sup></b> One 13W double twin-tube 18TRT <sup>2</sup> One 18W triple-tube 26TRT <sup>2</sup> One 26W triple-tube	4AR Clear 4PR Pewter 4UBR Umber 4WTR Wheat 4CR <sup>3</sup> Champagne Gold 4GR <sup>3</sup> Gold 4MB <sup>4</sup> Black Baffle <b>4WB<sup>4</sup> White Baffle</b> 4BC <sup>4</sup> Black Cone	(blank) Specular low iridescent LD Semi-diffuse low iridescent	MVOLT <sup>5</sup> 120 <b>277</b> 347	GEB10 Electronic ballast. EMB Electromagnetic ballast. ADEZ Advance Mark X electronic dimming ballast. 120V or 277V, 26W only. Minimum dimming level 5%.	WLP With 35°K lamp (shipped separately). TRW White painted flange. ELR Emergency battery pack. Access above ceiling required. Remote test switch provided (consult factory for dimensional changes). GMF Single, slow-blow fuse (not available with MVOLT). RIF Radio Interference Filter. LRC <sup>7</sup> Provides compatibility with Lithonia Reloc System. QDS <sup>8</sup> Quick Disconnect for easy ballast replacement. CSA Listed and labeled to comply with Canadian Standards.

### NOTES:

- 1 Available with electromagnetic or electronic ballast.
- 2 Available with electronic ballast only.
- 3 Not recommended for use with compact fluorescent lamp; consult factory.
- 4 Not available with finishes.
- 5 Multi-volt electronic ballast capable of operating on any line voltage between 120- and 277-volt.
- 6 Refer to Options and Accessories tab for additional ballast types.
- 7 Refer to Options and Accessories tab for compatible Reloc systems.
- 8 Not available with ELR option.

## Fixture B1 Lamp



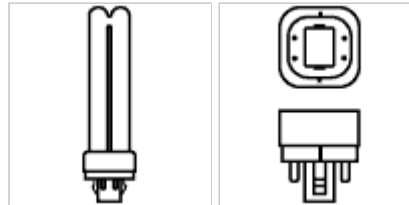
GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

### Plug-in 4-Pin Double Biax®

**Product Code:** 30037

**Description:** F13DBX/SPX35/835/4P



#### Specification:

**Firm Name :**

**Job Name :**

#### General

Product Code	30037
Description	F13DBX/SPX35/4P
Subcategory	Plug-in 4-Pin Double Biax®

#### Physical

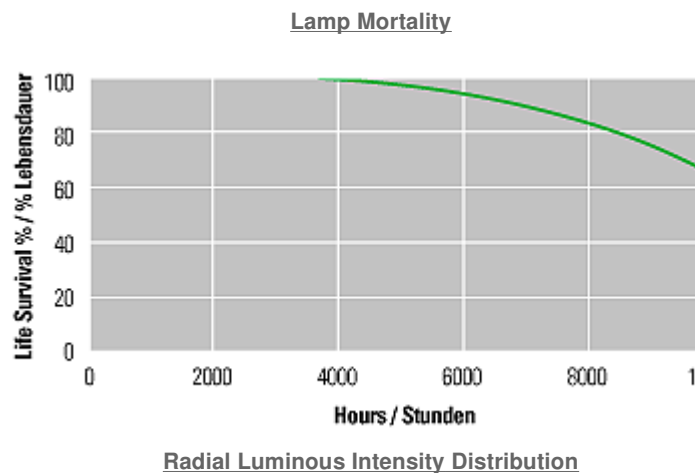
Bulb Type	BiaxD (T4)
Base Type	G24q-1
Max Overall Length (In.)	4.9
Max Overall Length (mm)	125
Nominal Length (In.)	5.00
Nominal Length (mm)	127
Width of Lamp in inches	1.1
Depth of Lamp in inches	1.1
Base Face to Top of Lamp (In.)	4.4

#### Photometric

Average Rated Life	12000
Lumens (Initial)	900
Lumens (Mean)	755
Color Temperature (K)	3500
Color Rendering Index (Ra) CRI	82
Nominal Efficacy (Lumens/Watt)	69

#### Electrical

Watts	13
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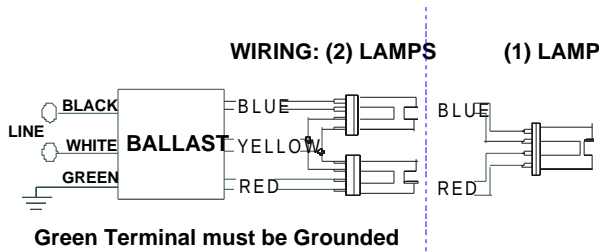
## Fixture B1 Ballast

<b>ICF-2S13-H1-LD@120</b>	
Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	120-277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* CFQ13W/G24Q	1	13	0/-18	0.13	16	1.00	10	0.96	1.5	6.25
CFQ13W/G24q	2	13	0/-18	0.25	29	1.00	10	0.99	1.5	3.45
CFS10W/GR10q	1	10	0/-18	0.11	13	1.05	14	0.96	1.5	8.08
CFS10W/GR10q	2	10	0/-18	0.19	23	0.95	11	0.97	1.5	4.13
CFS16W/GR10q	1	16	0/-18	0.14	17	1.00	12	0.96	1.5	5.88
CFTR13W/GX24Q	1	13	0/-18	0.13	16	1.00	10	0.96	1.5	6.25
CFTR13W/GX24Q	2	13	0/-18	0.25	29	1.00	10	0.99	1.5	3.45

### Wiring Diagram

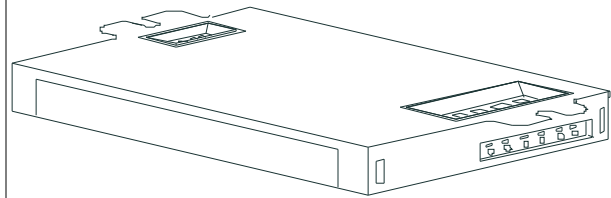


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0.0		Yellow/Blue		
White	0.0		Blue/White		
Blue	0.0		Brown		
Red	0.0		Orange		
Yellow	0		Orange/Black		
Gray			Black/White		
Violet			Red/White		

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/02/2004



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 Corporate Offices: Phone: 800-322-2086



# FEATURES

## Fixture B2

### OPTICAL

- Reflector – Self-flanged, specular clear or semi-diffuse reflector. Bounding Ray Optical Principle design provides lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional. (Vertisys optical system patented – US Patent #5,800,050)
- Baffle– Specular clear upper reflector. Microgroove baffle with white painted flange.

### MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame with friction support springs to retain optical system. Accommodates up to 7/8" thick ceiling standard. See Accessories for increased ceiling thickness capability.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 1/2"-3/4" and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors rated for 90°C.

### ELECTRICAL SYSTEM

- Rugged aluminum lampholder housing designed for positive lamp positioning.
- Vertically mounted, positive-latch thermoplastic socket.
- Class P, thermally-protected, high power factor ballast mounted to the junction box.

### LISTING

- Fixtures are UL Listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).

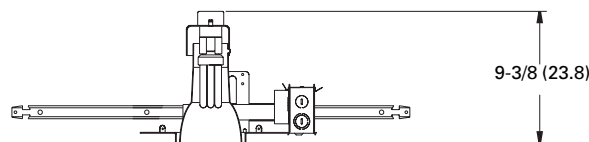
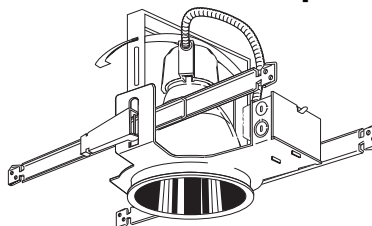
Type

Catalog number

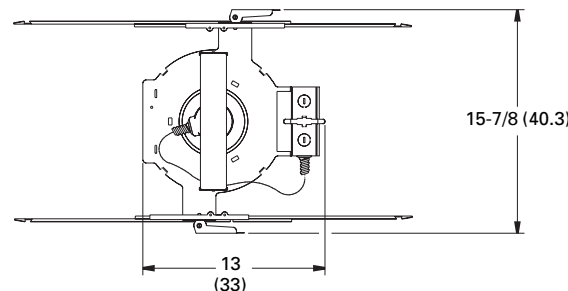
## Compact Fluorescent Lighting

# 4" AFV

OPEN REFLECTOR  
Vertical Lamp



Aperture: 4-5/16 (11)  
Ceiling Opening: 5-1/8 (13)  
Overlap Trim: 5-7/16 (13.8)



All dimensions are inches (centimeters).

# ORDERING INFORMATION

Example: AFV 26TRT 4AR 120 GEB10 WLP

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line.

## AFV

Series	Wattage/Lamp	Reflector/Color	Finish	Voltage	Ballast <sup>6</sup>	Options
AFV	13DTT <sup>1</sup> One 13W double twin-tube <b>18TRT<sup>2</sup> One 18W triple-tube</b> 26TRT <sup>2</sup> One 26W triple-tube	4AR Clear 4PR Pewter 4UBR Umber 4WTR Wheat 4CR <sup>7</sup> Champagne Gold 4GR <sup>8</sup> Gold 4MB <sup>4</sup> Black Baffle <b>4WB<sup>4</sup> White Baffle</b> 4BC <sup>4</sup> Black Cone	(blank) Specular low iridescent LD Semi-diffuse low iridescent	MVOLT <sup>5</sup> 120 <b>277</b> 347	GEB10 Electronic ballast. EMB Electromagnetic ballast. ADEZ Advance Mark X electronic dimming ballast. 120V or 277V, 26W only. Minimum dimming level 5%.	WLP With 35°K lamp (shipped separately). TRW White painted flange. ELR Emergency battery pack. Access above ceiling required. Remote test switch provided (consult factory for dimensional changes). GMF Single, slow-blow fuse (not available with MVOLT). RIF Radio Interference Filter. LRC <sup>7</sup> Provides compatibility with Lithonia Reloc System. QDS <sup>8</sup> Quick Disconnect for easy ballast replacement. CSA Listed and labeled to comply with Canadian Standards.

### NOTES:

- 1 Available with electromagnetic or electronic ballast.
- 2 Available with electronic ballast only.
- 3 Not recommended for use with compact fluorescent lamp; consult factory.
- 4 Not available with finishes.
- 5 Multi-volt electronic ballast capable of operating on any line voltage between 120- and 277-volt.
- 6 Refer to Options and Accessories tab for additional ballast types.
- 7 Refer to Options and Accessories tab for compatible Reloc systems.
- 8 Not available with ELR option.

**Fixture B2 Lamp**

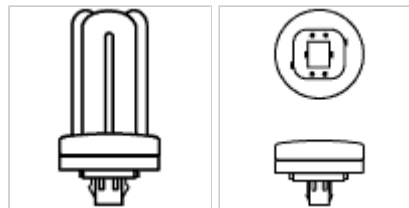
GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

## Plug-in 4-Pin Triple Biax®

**Product Code:** 34405

**Description:** F18TBX/SPX35/835/A/4P



### Specification:

**Firm Name :**

**Job Name :**

### General

Product Code	34405
Description	F18TBX/SPX35/A/4
Subcategory	Plug-in 4-Pin Triple Biax®

### Physical

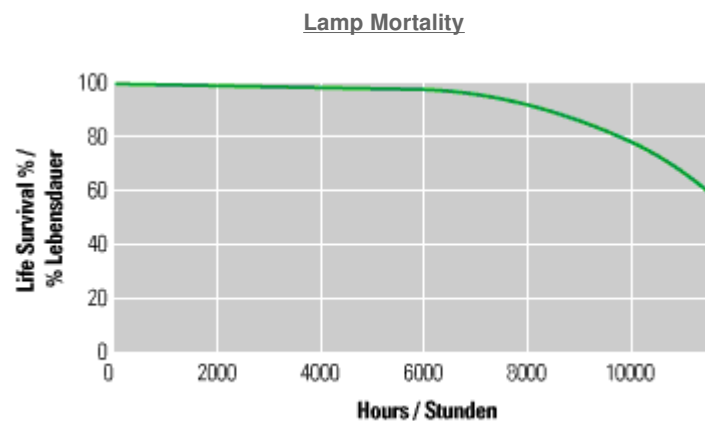
Bulb Type	BiaxT (T4)
Base Type	GX24q-2
Max Overall Length (In.)	4.8
Max Overall Length (mm)	122
Nominal Length (In.)	4.80
Nominal Length (mm)	122
Width of Lamp in inches	1.7
Depth of Lamp in inches	1.7
Base Face to Top of Lamp (In.)	4.25

### Photometric

Average Rated Life	12000
Lumens (Initial)	1200
Lumens (Mean)	1010
Color Temperature (K)	3500
Color Rendering Index (Ra) CRI	82
Nominal Efficacy (Lumens/Watt)	67

### Electrical

Watts	18
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**Radial Luminous Intensity Distribution**

# Fixture B2 Ballast

## C218UNVxxx

### APPLICATION and PERFORMANCE SPECIFICATION

**Description:** Electronic compact fluorescent ballast(s) for (2/1) CFQ18W/G24q or (2/1) CFM18W/GX24q or (2/1) CFS21W/GR10q (2D) 4 pin lamps

- Line Voltage: 120vac or 277vac, ±10%, 50-60Hz
- High Power Factor
- Programmed Rapid Start
- Series Lamp Connection

Model	Line Volts	Lamp		Input Watts	Nominal Line Amps	Ballast Factor	Power Factor	THD	Crest Factor
		Type	#						
<b>C218UNV</b>	120	CFQ18W	2	35	0.30	.95	> .98	< 10%	<1.5
	277	CFQ18W	2	35	0.13	.95	> .98	< 10%	<1.5
<b>C218UNV</b>	120	CFQ18W	1	19	0.16	1.00	> .98	< 10%	<1.5
	277	CFQ18W	1	19	0.07	1.00	> .95	< 15%	<1.5
<b>C218UNV</b>	120	CFM18W	2	38	0.32	1.05	> .95	< 15%	<1.5
	277	CFM18W	2	38	0.14	1.05	> .95	< 15%	<1.5
<b>C218UNV</b>	120	CFM18W	1	20	0.17	1.05	> .95	< 15%	<1.5
	277	CFM18W	1	20	0.07	1.05	> .95	< 15%	<1.5
<b>C218UNV</b>	120	CFS21W	2/1	43/24	.37/.18	.95/.98	> .98	< 10%	<1.7
	277	CFS21W	2/1	43/24	.16/.08	.95/.98	> .95	< 15%	<1.7

Application and Performance Specification Information Subject to Change without Notification

**Performance:**

- Meets ANSI Standard C82.11
- Meets FCC Part 18 (Non-Consumer), Limits for EMI/RFI
- Operating Frequency Range: 50-60 kHz
- **Auto-Reset Shutdown Circuit** per NEMA Recommendations
  - Both lamps should be replaced at end of life
  - Lamp relights upon insertion in socket
- Suitable for use in air handling spaces when NEC wiring guidelines are followed
- ME version: Input Terminals L N G intended for one supply connection only

**Safety:**

- No PCB's
- UL listed (Class P)
  - Type 1 Outdoor, Type CC, Type HL
- CSA Certified

**Application:**

- Minimum Starting Temperature: 0° F, -18° C
- Maximum Case Temperature (@ t<sub>c</sub>): 167° F, 75° C
- Sound Rated: A
- Lead configuration:
  - xxx =** SE - Side Exit
  - or BE - Bottom Exit
  - or BES - Bottom Exit with Studs (2" on center)
  - or ME - Multi-Exit Replacement Kit for Distribution
- Remote Mounting 20 feet
- 18W applications also operate on 125VDC input (+)L (-)N

**Physical Parameters**

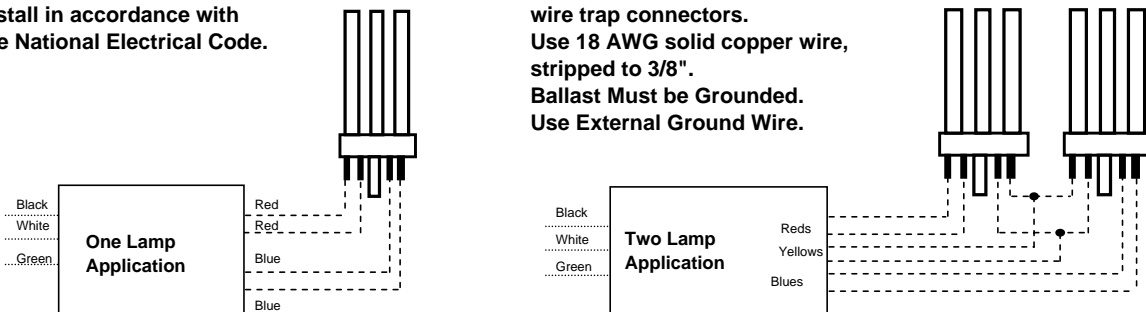
- Overall Length: 4.94"
- Width: 2.31"
- Mounting: 4.61"
- Height: 1.00"
- Weight: 0.57 lbs
- Qty/Carton: 20
- Color: SE-White  
BE/BES-Black  
ME-White
- Can Material: Metal

**Warranty:**

Universal Lighting Technologies warrants to the purchaser that each electronic ballast will be free from defects in material or workmanship for a period of 3 years from date of manufacture when properly installed and under normal conditions of use. Call **1-800-BALLASTx800** for technical assistance.

**Manufactured in North America**

Install in accordance with the National Electrical Code.



# FEATURES

## Fixture B3

Catalog number

### OPTICAL SYSTEM

- Reflector - Self-flanged, specular clear or semi-diffuse reflector. Fluted vertical upper section works in conjunction with Bounding Ray Optical Principle to provide lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional.
- Baffle/cone - Specular clear upper reflector. Microgroove baffle with white painted flange or specular black cone with flange that matches cone finish.
- Hinged lampdoor seals upper trim for optimal fixture efficiency and the reduction of stray light in the plenum.

### MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame with integral yoke to retain optical system. Maximum 1-1/2" ceiling thickness.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, integral cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 1/2"-3/4" and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors, rated for 90°C.

### ELECTRICAL SYSTEM

- Horizontally-mounted, four-pin, positive-latch, thermoplastic socket.
- Class P, thermally-protected high power factor electronic ballast mounted to the junction box (CP and EL ballast mounted on ballast tray).

### LISTING

- Fixtures are UL listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).

## ENERGY

LER.DOL	Annual Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
41	\$5.83	1/26TRT	1800	0.98	27

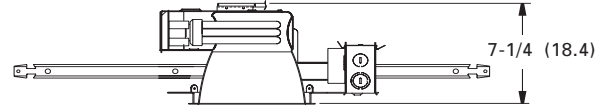
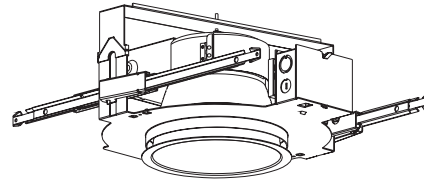
Calculated in accordance with NEMA standard LE-5.

## Compact Fluorescent Downlights

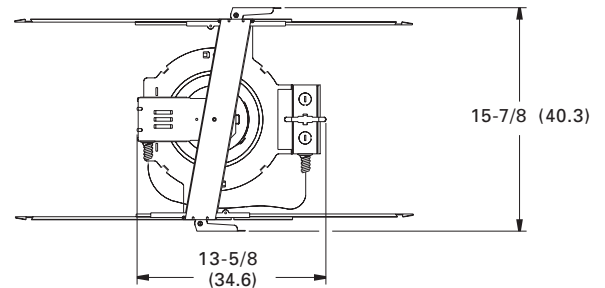
# 6" AF

## Open Reflector

Horizontal Lamp  
Triple-Tube



Aperture: 6-1/4 (15.9)  
Ceiling Opening: 7-1/8 (18.1)  
Overlap Trim: 7-1/2 (19.1)



All dimensions are inches (centimeters).

## ORDERING INFORMATION

Example: AF 1/26TRT 6AR MVOLT

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number (shipped separately).

### AF

Series	Wattage/Lamp	Reflector/Color	Finish	Voltage	Ballast	Options
AF	1/18TRT <b>1/26TRT</b> 1/32TRT 1/42TRT	<b>6AR Clear</b> 6PR Pewter 6UBR Umber 6WTR Wheat 6CR Champagne Gold <sup>1</sup> 6GR Gold <sup>1</sup> 6MB Black Baffle <sup>2,3</sup> 6BC Black Cone <sup>2</sup>	(blank) Specular low iridescent LD Semi-diffuse low iridescent	MVOLT <sup>4</sup> 120 <b>277</b> 347	(blank) GEB10 standard. Electronic ballast. DMHL <sup>5</sup> Lutron Hi-Lume electronic dimming ballast ADEZ <sup>5</sup> Advance Mark X electronic dimming ballast.	WLP With 35°K lamp (shipped separately). TRW White flange. EL <sup>6</sup> Emergency battery pack. Integral test switch provided. ELR Emergency battery pack. Remote test switch provided. GMF Single, slow-blow fuse (not available with MVOLT). RIF Radio Interference Filter. LRC Provides compatibility with Lithonia Reloc System. Reloc System can be installed less this option with connectors provided by others. Access above ceiling required. For compatible Reloc Systems, see options and accessories tab. QDS Quick Disconnect for easy ballast replacement. Not available with EL or ELR option. CP Chicago Plenum (consult factory). CSA CSA Certified.

### NOTES:

- 1 Not recommended for use with compact fluorescent lamp. Consult factory.
- 2 Not available with finishes.
- 3 White flange standard.
- 4 Multi-volt electronic ballast capable of operating on any line voltage between 120-277 volt.
- 5 Consult factory for specific availability.
- 6 Not available with black cone.

### Accessories

Order as separate catalog number.

SC6FL Sloped ceiling adaptor. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SC6FL 10D



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P 800 315 4982 F 770 860 3129  
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AF 6 TRT OPEN

DCF-110

**Fixture B3 Lamp**

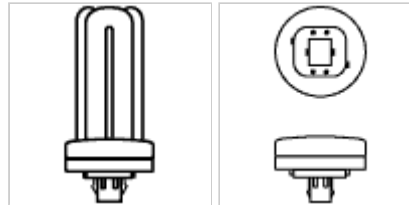
GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

## Plug-in 4-Pin Triple Biax®

**Product Code:** 34406

**Description:** F26TBX/SPX35/835/A/4P



### Specification:

**Firm Name :**

**Job Name :**

### General

Product Code	34406
Description	F26TBX/SPX35/A/4
Subcategory	Plug-in 4-Pin Triple Biax®

### Physical

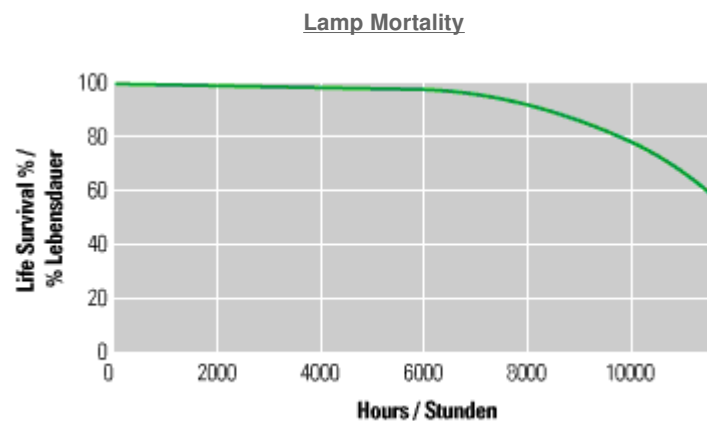
Bulb Type	BiaxT (T4)
Base Type	GX24q-3
Max Overall Length (In.)	5.2
Max Overall Length (mm)	132
Nominal Length (In.)	5.20
Nominal Length (mm)	133
Width of Lamp in inches	1.7
Depth of Lamp in inches	1.7
Base Face to Top of Lamp (In.)	4.6

### Photometric

Average Rated Life	12000
Lumens (Initial)	1710
Lumens (Mean)	1440
Color Temperature (K)	3500
Color Rendering Index (Ra) CRI	82
Nominal Efficacy (Lumens/Watt)	69

### Electrical

Watts	26
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**Radial Luminous Intensity Distribution**



## Fixture B3 Ballast

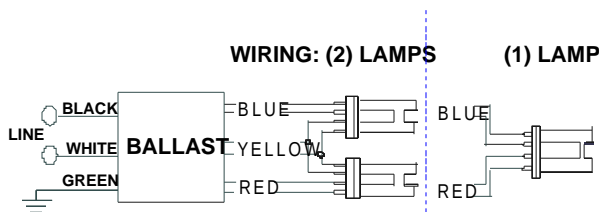
## RCF-2S26-H1-LD-QS

Brand Name	SMARTMATE
Ballast Type	Electronic
Starting Method	Rapid Start
Lamp Connection	Series
Input Voltage	120
Input Frequency	60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
CFQ26W/G24Q	1	26	0/-18	0.23	27	1.00	10	0.98	1.5	3.70
CFQ26W/G24Q	2	26	0/-18	0.43	51	1.00	10	0.99	1.5	1.96
* CFTR26W/GX24Q	1	26	0/-18	0.24	29	1.10	10	0.98	1.5	3.79
CFTR26W/GX24Q	2	26	0/-18	0.45	54	1.00	10	0.98	1.5	1.85
CFTR32W/GX24Q	1	32	0/-18	0.31	36	0.98	10	0.98	1.5	2.72
CFTR42W/GX24Q	1	42	0/-18	0.38	46	0.98	10	0.98	1.5	2.13
FC12T5	1	40	0/-18	0.32	38	0.95	10	0.98	1.5	2.50
FC9T5	1	22	0/-18	0.21	25	1.00	10	0.98	1.5	4.00

### Wiring Diagram

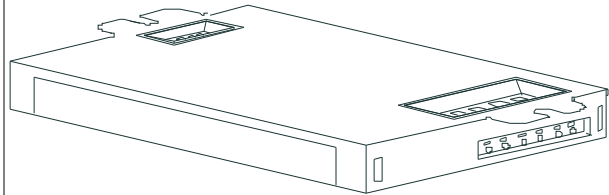


**Green Terminal must be Grounded**

The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
4.98 "	2.4 "	1.0 "	4.6 "
4 49/50	2 2/5	1	4 3/5
12.6 cm	6.1 cm	2.5 cm	11.7 cm

Revised 09/02/2004



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE TRANSFORMER CO.

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018

Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071

Corporate Offices: Phone: 800-322-2086

# FEATURES

## Fixture B4

Catalog number

### OPTICAL SYSTEM

- Reflector - Self-flanged, specular clear or semi-diffuse reflector. Fluted vertical upper section works in conjunction with Bounding Ray Optical Principle to provide lamp before lamp image and smooth transition from top of reflector to bottom. Minimum flange matches reflector finish. White painted flange optional.
- Baffle/cone - Specular clear upper reflector. Microgroove baffle with white painted flange or specular black cone with flange that matches cone finish.
- Hinged lampdoor seals upper trim for optimal fixture efficiency and the reduction of stray light in the plenum.

### MECHANICAL

- 16-gauge galvanized steel mounting/plaster frame with integral yoke to retain optical system. Maximum 1-1/2" ceiling thickness.
- Mounting bars are 16-gauge galvanized steel with continuous 4" vertical adjustment, held in place with tool-less, integral cam-action locking system. Post installation adjustment possible without the use of tools from above or below the ceiling. Shipped pre-installed.
- Galvanized steel junction box with bottom-hinged access covers and spring latches. Two combination 1/2"-3/4" and three 1/2" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out) No. 12 AWG conductors, rated for 90°C.

### ELECTRICAL SYSTEM

- Horizontally-mounted, four-pin, positive-latch, thermoplastic socket.
- Class P, thermally-protected high power factor electronic ballast mounted to the junction box (CP and EL ballast mounted on ballast tray).

### LISTING

- Fixtures are UL listed for thru-branch wiring, recessed mounting and damp locations. Listed and labeled to comply with Canadian Standards (see Options).

## ENERGY

LER.DOL	Annual Energy Cost	Lamps	Lamp Lumens	Ballast Factor	Input Watts
41	\$5.83	1/26TRT	1800	0.98	27

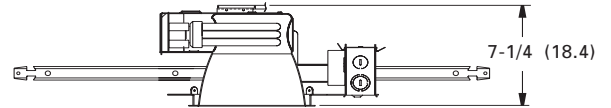
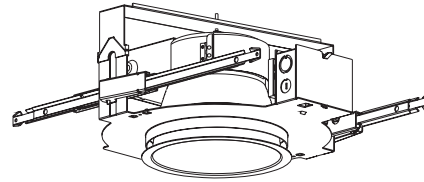
Calculated in accordance with NEMA standard LE-5.

## Compact Fluorescent Downlights

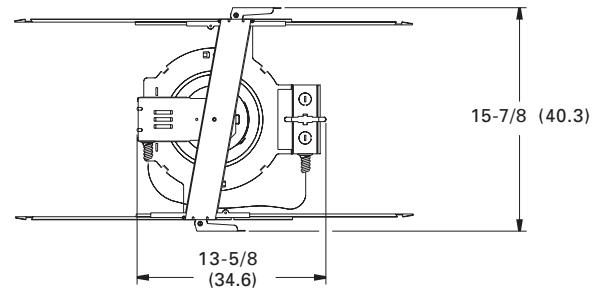
# 6" AF

## Open Reflector

Horizontal Lamp  
Triple-Tube



Aperture: 6-1/4 (15.9)  
Ceiling Opening: 7-1/8 (18.1)  
Overlap Trim: 7-1/2 (19.1)



All dimensions are inches (centimeters).

## ORDERING INFORMATION

Example: AF 1/26TRT 6AR MVOLT

Choose the boldface catalog nomenclature that best suits your needs and write it on the appropriate line. Order accessories as separate catalog number (shipped separately).

### AF

Series	Wattage/Lamp	Reflector/Color	Finish	Voltage	Ballast	Options
AF	1/18TRT 1/26TRT 1/32TRT <b>1/42TRT</b>	<b>6AR Clear</b> 6PR Pewter 6UBR Umber 6WTR Wheat 6CR Champagne Gold <sup>1</sup> 6GR Gold <sup>1</sup> 6MB Black Baffle <sup>2,3</sup> 6BC Black Cone <sup>2</sup>	(blank) Specular low iridescent LD Semi-diffuse low iridescent	<b>MVOLT<sup>4</sup></b> 120 <b>277</b> 347	(blank) GEB10 standard. Electronic ballast. <b>DMHL<sup>5</sup></b> Lutron Hi-Lume electronic dimming ballast <b>ADEZ<sup>5</sup></b> Advance Mark X electronic dimming ballast.	<b>WLP</b> With 35°K lamp (shipped separately). <b>TRW</b> White flange. <b>EL<sup>6</sup></b> Emergency battery pack. Integral test switch provided. <b>ELR</b> Emergency battery pack. Remote test switch provided. <b>GMF</b> Single, slow-blow fuse (not available with MVOLT). <b>RIF</b> Radio Interference Filter. <b>LRC</b> Provides compatibility with Lithonia Reloc System. Reloc System can be installed less this option with connectors provided by others. Access above ceiling required. For compatible Reloc Systems, see options and accessories tab. <b>QDS</b> Quick Disconnect for easy ballast replacement. Not available with EL or ELR option. <b>CP</b> Chicago Plenum (consult factory). <b>CSA</b> CSA Certified.

### NOTES:

- 1 Not recommended for use with compact fluorescent lamp. Consult factory.
- 2 Not available with finishes.
- 3 White flange standard.
- 4 Multi-volt electronic ballast capable of operating on any line voltage between 120-277 volt.
- 5 Consult factory for specific availability.
- 6 Not available with black cone.

### Accessories

Order as separate catalog number.

**SC6FL** Sloped ceiling adaptor. Degree of slope must be specified (10D, 15D, 20D, 25D, 30D). Ex: SC6FL 10D



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AF 6 TRT OPEN

DCF-110

**Fixture B4 Lamp**

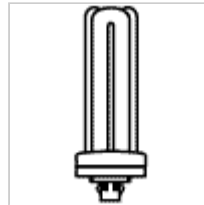
GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

## Plug-in 4-Pin Triple Biax®

Product Code: 46314

Description: F42TBX835A4P/EOL





### Specification:

Firm Name :

Job Name :

### General

Product Code	46314  
Description	F42TBX835A4P/EOL
Subcategory	Plug-in 4-Pin Triple Biax®

### Physical

Bulb Type	BiaxT (T4)
Base Type	GX24-q4
Max Overall Length (In.)	6.4
Max Overall Length (mm)	163
Nominal Length (In.)	6.40
Nominal Length (mm)	163
Width of Lamp in inches	1.7
Depth of Lamp in inches	1.5
Base Face to Top of Lamp (In.)	5.77

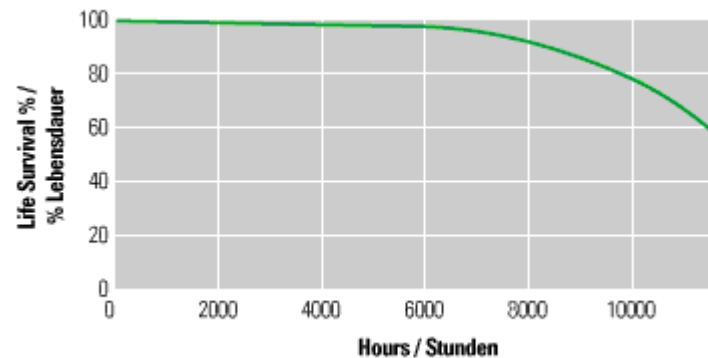
### Photometric

Average Rated Life	12000
Lumens (Initial)	3200
Lumens (Mean)	2690
Color Temperature (K)	3500
Color Rendering Index (Ra) CRI	82
Nominal Efficacy (Lumens/Watt)	76

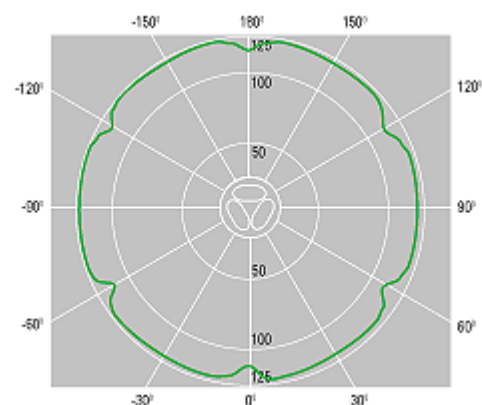
### Electrical

Watts	42
Minimum Starting Temp (deg F)	-.4
Nominal Lamp Operating Frequency (Hz)	20000
Cold Cathode Resistance (Rc)	2.7

### Lamp Mortality



### Radial Luminous Intensity Distribution



### Spectral Power Distribution Graphs



## Compact SE Overview

### Fixture B4 Ballast

For designs requiring the energy savings and aesthetic appeal of dimmed T4 compact fluorescent or T5 twin-tube lamps, Compact SE dimming ballasts are your solution. The Compact SE product family includes ballasts for nearly every type of dimmable compact fluorescent lamp.

#### Features

- Continuous, flicker-free dimming from 100% to 5%
- Standard 3-wire line-voltage phase-control technology for consistent fixture-to-fixture dimming performance
- Models for 4-pin T4 compact lamps and T5 twin-tube lamps
- Programmed rapid start design will preheat 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 eliminate circuit breaker tripping, switch arcing, and relay failure
- End-of-lamp-life protection circuitry ensures safe operation throughout entire lamp life cycle
- Ultra quiet operation
- Protected from miswires of any input power to control lead, or lamp leads to each other or ground
- 100% compatible with all Lutron 3-wire fluorescent controls
- 100% performance tested at factory
- Designed and assembled in the USA
- 5-year limited warranty with Lutron field service commissioning (3-year standard warranty) from date of purchase
- Ballasts that dim T4 compact fluorescent lamps are intended for factory installation by OEM fixture manufacturer.



#### Compact SE, case type A

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



#### Compact SE, case type B

3.00" w (76mm) x 1.00" h (25mm) x 6.75" l (171mm)



#### Compact SE, case type F

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

Job Name:

Model Numbers:

Job Number:

## Specifications

### Fixture B4 Ballast

#### Performance

- Dimming Range: 100% to 5% measured relative light output (RLO)
- Lamp Starting: programmed rapid start
- Minimum Lamp Starting Temperature: 10°C (50°F)
- Ambient Temperature Operating Range: 10°C (50°F) to 60°C (140°F)
- Relative Humidity: maximum 90% non-condensing
- Operating Voltage: 120V or 277V at 60Hz
- Lamp Current Crest Factor: less than 1.7
- Lamp Flicker: none visible
- Light Output: 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 .95 for T4 quad or triple tube lamps, and greater than .85 for T5 twin-tube lamps
- Power Factor: greater than .95
- Total Harmonic Distortion (THD): less than 10%
- Maximum Inrush Current: 7 amps per ballast at 120V, 3 amps per ballast at 277V
- Sound Rating: Inaudible in a 27dBa ambient
- Maximum Ballast Case Temperature: 75°C (167°F)

#### Standards

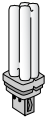

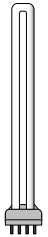
- UL Listed (evaluated to the requirements of UL935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)
- Class P thermally protected
- Meets ANSI C82.11 High Frequency Ballast Standard
- Meets FCC Part 18 Non-Consumer for EMI/RFI emissions requirements
- T4 compact fluorescent ballasts are MIL Std. 461E compliant (meets the requirements of CE101, RE101 and RE102)
- Meets ANSI C62.41 Category A surge protection standards to 6kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001

**Job Name:**

**Model Numbers:**

**Job Number:**

**Compact SE Ballast Models** **Fixture B4 Ballast**

Lamp Type				120 VOLTS		277 VOLTS		
	Lamp Watts	Lamps per ballast	Case Type	Ballast Current (amps)	Compact SE Model Number <sup>1</sup>	Ballast Current (amps)	Compact SE Model Number <sup>1</sup>	
<b>T4 4-Pin Quad-Tube</b>  1/2" diameter	18W	1	A	.20	FDB-T418-120-1-S	.08	FDB-T418-277-1-S	
		2	B	.42	FDB-T418-120-2-S	.17	FDB-T418-277-2-S	
	26W	1	A	.26	FDB-T426-120-1-S	.12	FDB-T426-277-1-S	
		2	B	.50	FDB-T426-120-2-S	.21	FDB-T426-277-2-S	
	<b>T4 4-Pin Triple-Tube</b>  1/2" diameter	18W	1	A	.20	FDB-T418-120-1-S	.08	FDB-T418-277-1-S
			2	B	.42	FDB-T418-120-2-S	.17	FDB-T418-277-2-S
26W		1	A	.26	FDB-T426-120-1-S	.12	FDB-T426-277-1-S	
		2	B	.50	FDB-T426-120-2-S	.21	FDB-T426-277-2-S	
32W		1	A	.31	FDB-T432-120-1-S	.13	FDB-T432-277-1-S	
		2	B	.59	FDB-T432-120-2-S	.24	FDB-T432-277-2-S	
42W	1	B	.36	FDB-T442-120-1-S	.16	FDB-T442-277-1-S		
	2	B	.67	FDB-T442-120-2-S	.29	FDB-T442-277-2-S		
<b>T5 Twin-Tube</b>  5/8" diameter	36/39W (16")	1	F	.33	FDB-1643-120-1	.14	FDB-1643-277-1	
		2	F	.58	FDB-1643-120-2	.25	FDB-1643-277-2	
		3	F	.85	FDB-1643-120-3	.35	FDB-1643-277-3	
	40W (22")	1	F	.33	FDB-2227-120-1	.14	FDB-2227-277-1	
		2	F	.61	FDB-2227-120-2	.25	FDB-2227-277-2	
		3	F	.88	FDB-2227-120-3	.38	FDB-2227-277-3	
	50W (22")	1	F	.38	FDB-2243-120-1	.17	FDB-2243-277-1	
		2	F	.69	FDB-2243-120-2	.32	FDB-2243-277-2	



<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>	

# LIGHTLINE™ WALL WASH

**Fixture C1**

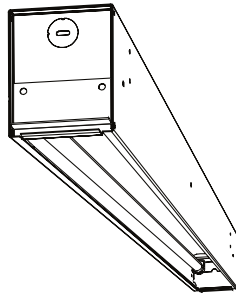
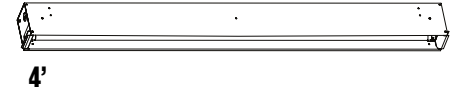
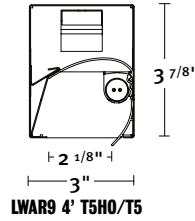
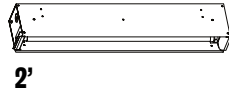
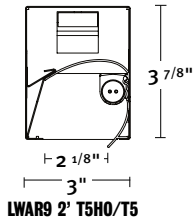
PEERLESS®

**2" Aperture**

## Recessed Mount Wall Wash

# SPECIFICATIONS

### AVAILABLE FIXTURE



### CONSTRUCTION

Housing is formed from painted cold-rolled steel. Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss baked enamel.

### REFLECTORS

Extruded aluminum, two component, specular asymmetric vacuum metalized reflector system. Black metal diffuser with round holes. Lower extruded aluminum reflector.

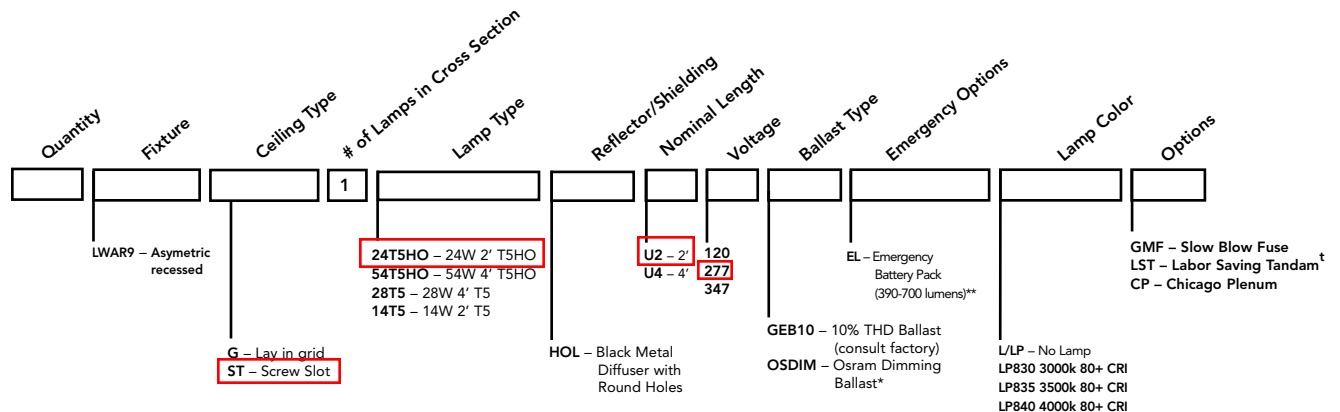
### ELECTRICAL

Specify 120 volt, 277 volt, or 347 volt. Non EL versions damp location labeled. UL and C-UL listed and labeled. For special circuiting, consult factory.

### FIXTURE SIZE

Nominal 2" aperture. 2' and 4' lengths available.

### ORDERING LOGIC



Accessories (order separately)  
DHSG2\*\*\* - Drywall housing 2'  
DHSG4\*\*\* - Drywall housing 4'

\* Only available with 54T5HO  
\*\* Only available with 28T5 & 54T5HO  
\*\*\* Use with "G" trim type

t Option available on select models. Order fixtures in pairs. Factory will supply correct number of Master and Satellite units. 9' cable standard.

### EXAMPLE:

Qty Fixture section  
4 LWAR9 ST 1 54T5HO HOL U4 120 GEB10 L/LP  
1 LWAR9 G 1 14T5 HOL U2 277 GEB10 LP835

Peerless Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

PEERLESS LIGHTING Box 2556, Berkeley, CA 94702-0556 510.845-2760 Fax 510.845-2776 www.peerless-lighting.com

**LLWW-1**

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ITEM #:

**Fixture C1 Lamp**

GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

## T5 Starcoat High Output

**Product Code:** 46700

**Description:** F24W/T5/835/ECO

**Specification:**

**Firm Name :**

**Job Name :**

<b>General</b>	
Product Code	46700
Description	F24W/T5/835/ECO
Subcategory	T5 Starcoat High Output
<b>Physical</b>	
Bulb Type	T5
Base Type	Miniature BiPin (G5)
Bulb Material	Soft Glass
Nominal Length (In.)	21.60
Nominal Length (mm)	550
Max Overall Length (In.)	22.173
Bulb Nominal Diameter in inches	.625
Max bulb diameter	.67
Max Face to End of Opposing Pin (B)	21.89
Min Face to End of Opposing Pin (B)	21.8
<b>Photometric</b>	
Lumens (Initial)	2000
Lumens (Mean)	1880
Color Temperature (K)	3500
Nominal Efficacy (Lumens/Watt)	83
<b>Electrical</b>	
Average Rated Life	20000
Watts	24
Nominal Lamp Volts	75
Nominal Lamp Operating Frequency (Hz)	20000
Minimum Starting Temp (deg F)	5
Min. Terminal to Terminal Starting Lamp Voltage (Vrms)- Instant Start at 15°C	350
Min. Terminal to Terminal	280



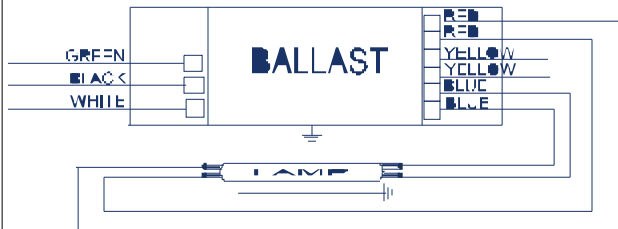
## Fixture C1 Ballast

<b>ICN-2S24@277V</b>	
Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
* F24T5/HO	1	0	0/-18	0.10	27	1.02	10	0.98	1.7	3.78
F24T5/HO	2	0	0/-18	0.19	52	1.00	10	0.98	1.7	1.92
F39T5/HO	1	39	0/-18	0.15	40	0.90	10	0.98	1.7	2.25
FC12T5	1	40	0/-18	0.15	40	0.84	10	0.98	1.7	2.10
FC9T5	1	22	0/-18	0.10	27	1.02	10	0.98	1.7	3.78
FC9T5	2	22	0/-18	0.19	52	1.00	10	0.98	1.7	1.92
FT24W/2G11	1	24	0/-18	0.10	27	1.02	10	0.98	1.7	3.78
FT24W/2G11	2	24	0/-18	0.19	52	1.00	10	0.98	1.7	1.92
FT36W/2G11	1	36	0/-18	0.13	34	0.90	10	0.98	1.7	2.65
FT40W/2G11/RS	1	40	0/-18	0.17	47	1.00	10	0.98	1.7	2.13

### Wiring Diagram



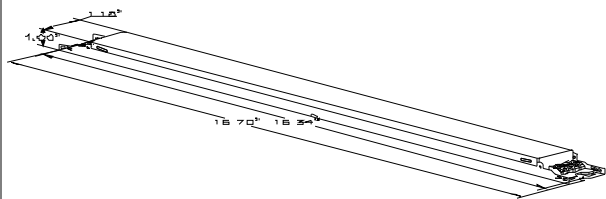
For 1 lamp operation, do not use yellow leads

The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70 "	1.18 "	1.00 "	16.34 "
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 09/01/2004



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE TRANSFORMER CO.

O'HARE INTERNATIONAL CENTER · 10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018

Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071

Corporate Offices: Phone: 800-322-2086

# LIGHTLINE™ WALL WASH

**Fixture C2**

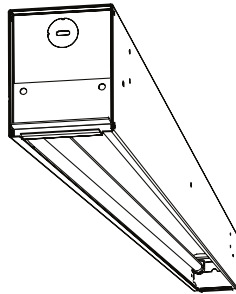
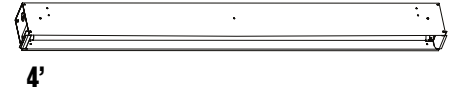
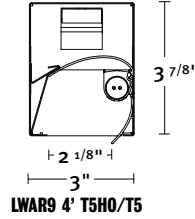
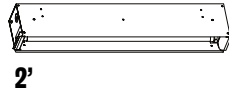
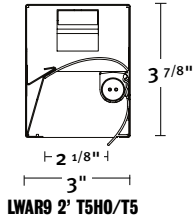
PEERLESS®

**2" Aperture**

## Recessed Mount Wall Wash

# SPECIFICATIONS

### AVAILABLE FIXTURE



### CONSTRUCTION

Housing is formed from painted cold-rolled steel. Five-stage iron-phosphate pretreatment ensures superior paint adhesion and rust resistance. Painted parts finished with high-gloss baked enamel.

### REFLECTORS

Extruded aluminum, two component, specular asymmetric vacuum metalized reflector system. Black metal diffuser with round holes. Lower extruded aluminum reflector.

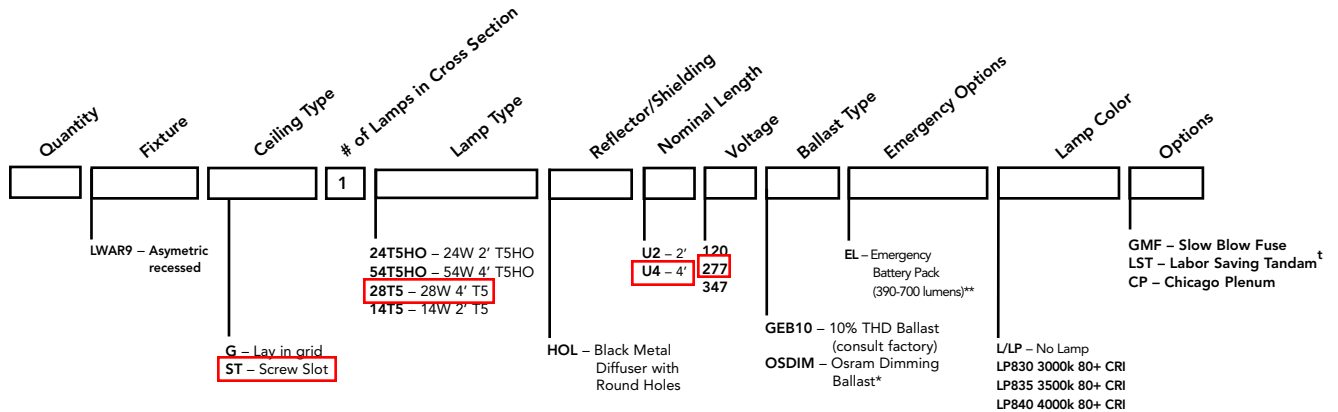
### ELECTRICAL

Specify 120 volt, 277 volt, or 347 volt. Non EL versions damp location labeled. UL and C-UL listed and labeled. For special circuiting, consult factory.

### FIXTURE SIZE

Nominal 2" aperture. 2' and 4' lengths available.

### ORDERING LOGIC



Accessories (order separately)  
DHSG2\*\*\* - Drywall housing 2'  
DHSG4\*\*\* - Drywall housing 4'

\* Only available with 54T5HO  
\*\* Only available with 28T5 & 54T5HO  
\*\*\* Use with "G" trim type

t Option available on select models. Order fixtures in pairs. Factory will supply correct number of Master and Satellite units. 9' cable standard.

### EXAMPLE:

Qty Fixture section

4 LWAR9 ST 1 54T5HO HOL U4 120 GEB10 L/LP  
1 LWAR9 G 1 14T5 HOL U2 277 GEB10 LP835

Peerless Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

PEERLESS LIGHTING Box 2556, Berkeley, CA 94702-0556 510.845-2760 Fax 510.845-2776 www.peerless-lighting.com

LLWW-1

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ITEM #:

**Fixture C2 Lamp**

GE Consumer & Industrial  
Lighting

# Lighting Specification Bulletin

<b>T5 Starcoat High Efficiency</b>	
<b>Product Code:</b> 46705 <b>Description:</b> F28W/T5/835/ECO	
<b>Specification:</b> <b>Firm Name :</b> <b>Job Name :</b>	
<b>General</b>	
Product Code	46705
Description	F28W/T5/835/ECO
Subcategory	T5 Starcoat High Efficiency
<b>Physical</b>	
Bulb Type	T5
Base Type	Miniature BiPin (G5)
Bulb Material	Soft Glass
Nominal Length (In.)	45.20
Nominal Length (mm)	1150
Max Overall Length (In.)	45.795
Bulb Nominal Diameter in inches	.625
Max bulb diameter	.67
Max Face to End of Opposing Pin (B)	45.42
Min Face to End of Opposing Pin (B)	45.42
<b>Photometric</b>	
Lumens (Initial)	2900
Lumens (Mean)	2726
Color Temperature (K)	3500
Nominal Efficacy (Lumens/Watt)	104
<b>Electrical</b>	
Average Rated Life	20000
Watts	28
Nominal Lamp Volts	167
Nominal Lamp Operating Frequency (Hz)	20000
Minimum Starting Temp (deg F)	5
Min. Terminal to Terminal Starting Lamp Voltage (Vrms)- Instant Start at 15°C	530
Min. Terminal to Terminal	425





## Fixture C2 Ballast

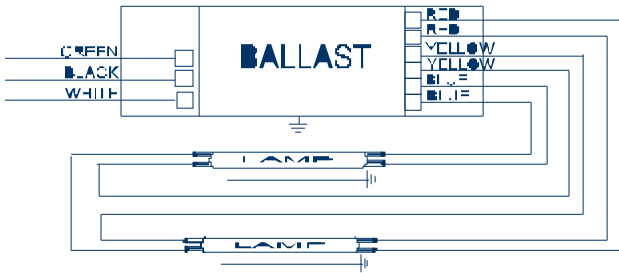
## ICN-2S28@277

Brand Name	CENTIUM T5
Ballast Type	Electronic
Starting Method	Programmed Start
Lamp Connection	Series
Input Voltage	277
Input Frequency	50/60 HZ
Status	Active

### Electrical Specifications

Lamp Type	Num. of Lamps	Rated Lamp Watts	Min. Start Temp (°F/C)	Input Current (Amps)	Input Power (ANSI Watts)	Ballast Factor	MAX THD %	Power Factor	MAX Lamp Current Crest Factor	B.E.F.
F14T5	1	14	0/-18	0.07	19	1.07	20	0.90	1.7	5.63
F14T5	2	14	0/-18	0.13	34	1.06	10	0.98	1.7	3.12
F21T5	1	21	0/-18	0.10	26	1.03	15	0.95	1.7	3.96
F21T5	2	21	0/-18	0.17	48	1.02	10	0.98	1.7	2.13
F28T5	1	28	0/-18	0.12	33	1.04	10	0.98	1.7	3.15
* F28T5	2	28	0/-18	0.23	63	1.03	10	0.99	1.7	1.63
F35T5	1	35	0/-18	0.15	41	1.01	10	0.98	1.7	2.46
F35T5	2	35	0/-18	0.28	77	1.00	10	0.99	1.7	1.30

### Wiring Diagram

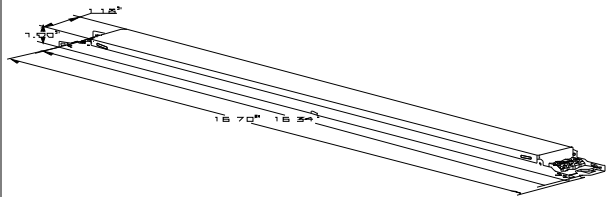


The wiring diagram that appears above is for the lamp type denoted by the asterisk (\*)

### Standard Lead Length (inches)

	in.	cm.		in.	cm.
Black	0	0	Yellow/Blue	0	0
White	0	0	Blue/White	0	0
Blue	0	0	Brown	0	0
Red	0	0	Orange	0	0
Yellow	0	0	Orange/Black	0	0
Gray	0	0	Black/White	0	0
Violet	0	0	Red/White	0	0

### Enclosure



### Enclosure Dimensions

OverAll (L)	Width (W)	Height (H)	Mounting (M)
16.70 "	1.18 "	1.00 "	16.34 "
16 7/10	1 9/50	1	16 17/50
42.4 cm	3 cm	2.5 cm	41.5 cm

Revised 09/01/2004



Data is based upon tests performed by Advance Transformer in a controlled environment and representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

### ADVANCE TRANSFORMER CO.

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 Customer Support/Technical Service: Phone: 800-372-3331 · Fax: 630-307-3071  
 Corporate Offices: Phone: 800-322-2086

# BERENICE

Alberto Meda, Paolo Rizzatto 1985

XIV Compasso d'Oro, ADI/Milano:  
Selection 1987

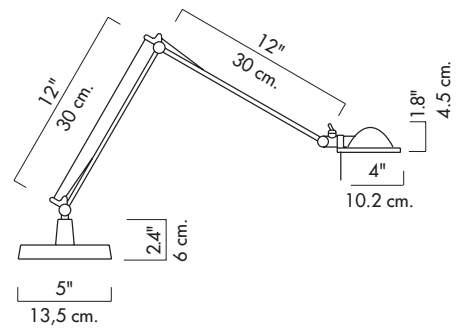
**Fixture D1**

TABLE

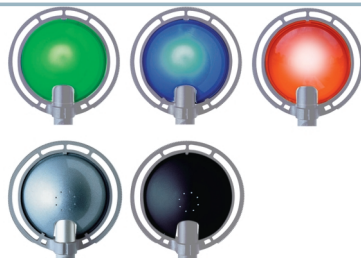
Metal parts in die-cast aluminum.  
Friction joints in stiffened nylon.  
Rynite head.  
Aluminum body finishes: silver or black.  
Reflector in green or blue pressed glass  
with enamelled white interior, or in black  
or silver metal.  
Anti-UV protection glass.




D12 pi.



D12/4  
D12/5



 35W/12V  
Halogen-frosted  
Bi-Pin T3 GY6.35

# SYLVANIA BI-PIN

Low Voltage Halogen Lamps

## Fixture D1 Lamp



The SYLVANIA family of BI-PIN lamps represents an outstanding collection of compact, low voltage halogen light sources ideal for a wide range of applications.

Top of the line BI-PIN IR lamps have an infrared reflective coating on the outside of the capsule to conserve heat energy and create a more efficient source. With an axial filament for easy focusing and a 4000 hour life these lamps are suitable for either saving energy or increasing light output from existing fixtures without increasing energy costs.

High performance axial filament STARLITE lamps enable the design of efficient reflector systems that are easy to focus, resulting in better quality light on the target. These long life efficient lamps meet the needs of all residential, commercial and industrial bi-pin applications.

All SYLVANIA BI-PIN lamps utilize advanced UV-stop quartz that reduces UV-B and UV-C radiation by 90% compared to regular quartz. In addition, the IR coating on BI-PIB IR lamps further reduces this spectrum, effectively eliminating all UV-B and UV-C radiation from those capsules.

All 6V and 12V SYLVANIA BI-PIN lamps are low-pressure, low-voltage capsules. Because of this, these lamps are suitable for use without shielding.\* The 24V SYLVANIA BI-PIN lamps are high-pressure capsules, and a suitable protective shield is required with these lamp types.

A complete family of BI-PIN halogen lamps to meet the various needs of designers and end users:

### IR

- Axial filament
- 4000-hour average rated lamp life
- UV stop quartz capsule
- Low pressure
- Energy saving IR technology
- No UV-B or UV-C Light output
- Suitable for use without shielding\*

### STARLITE

- Axial filament
- 4000-hour average rated lamp life
- UV-control quartz capsule
- Low pressure
- Suitable for use without shielding\*

### STANDARD

- Clear and frosted
- 2000-hour average rated lamp life
- UV-control quartz capsule
- Low pressure
- 6V and 12V suitable for use without shielding\*

### Product Availability

Watts	STARLITE	STANDARD	IR
5	T3	T3, T3/F	
10	T3, T3 (6V)	T3, T3/F	
20	T3, T4	T3, T3/F, T3 (24V)	
35	T4		
37			BT4
50	T4	T4, T4/F, T4 (24V)	BT4
75	T4	T4	
90	T4		

\*SYLVANIA does not require lamp containment shielding. Consult most recent UL standards for luminaire requirements.

### Application Information

Applications	Application Notes	Fixtures
Small aperture down lighting Residential, commercial and industrial applications Accent strip lighting Task lighting Display lighting	<ul style="list-style-type: none"> <li>• Axial filament orientation means light is smoothly distributed by reflector</li> <li>• Do not touch lamp with bare hands</li> <li>• Overall UV-emissions are reduced 95% for extra fade protection on light sensitive materials</li> </ul>	Ardee/USA Belfer BK Lighting CSL Lucifer Roberts Tivoli



# Fixture D1 Lamp

## Lamp Comparison

### Sample Specification

#### STANDARD

Lamp(s) shall be (a) 12V or 24V BI-PIN halogen lamp(s) with a UV-control quartz capsule and a 2000-hour average rated life. Lamp(s) shall be frosted or clear with an axial or transverse filament.

#### STARLITE

Lamp(s) shall be (a) 12V STARLITE halogen lamp(s) with a UV-control quartz capsule and a 4000-hour average rated life. Lamp(s) shall be clear with an axial filament and gold plated pins.

#### IR

Lamp(s) shall be (a) 12V BI-PIN halogen lamp(s) with a UV-control quartz capsule and a 4000-hour average rated life. Lamp(s) shall be clear with an axial filament, a constant and an infrared reflective coating on the lamp capsule.

24V BI-PIN Lamps must be operated in enclosed fixtures.

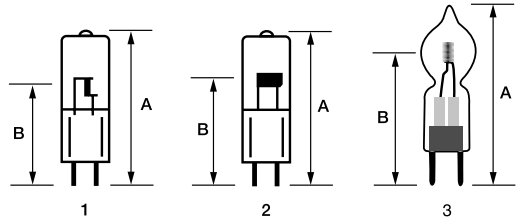
OSRAM SYLVANIA  
National Customer  
Support Center  
18725 N. Union Street  
Westfield, IN 46074  
**Industrial & Commercial**  
Phone: 1-800-255-5042  
Fax: 1-800-255-5043  
**National Accounts**  
Phone: 1-800-562-4671  
Fax: 1-800-562-4674  
**Special Markets**  
Phone: 1-800-762-7191  
Fax: 1-800-762-7192

In Canada  
OSRAM SYLVANIA LTD.  
Headquarters  
2001 Drew Road  
Mississauga, ON L5S 1S4  
**Industrial & Commercial**  
Phone: 1-800-263-2852  
Fax: 1-800-667-6772  
**Special Markets**  
Phone: 1-800-265-2852  
Fax: 1-800-667-6772

Item No.	Lamp Type	Watts	Lumens	Av. Rated life
58676	50T4Q/CL/AX	50	930	4000
	Brand X Q50T4/CL/CD	50	950	2000
	Brand Y 50W/12V/Capsule	50	950	2000
	Incandescent 60A19/CL	50	890	1000

### Dimensions

	(A) MOL	(B) LCL
Standard (2) 5W-20W	31mm	22mm
Standard (2) 50W-75W	44mm	30mm
Standard (1) 50W/100W (24V)	44mm	30mm
Starlite (2) 5W	31mm	22mm
Starlite (1) 10W-20W	31mm	22mm
Starlite (1) 35W-90W	44mm	30mm
IR (3) 37W & 50W	44mm	30mm



### Ordering and Specification Information

#### BI-PIN IR

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58683	37BT4Q/IR	37	12	GY6.35	4000	900	3
58687	50BT4Q/IR	50	12	GY6.35	4000	1320	3

#### STARLITE

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58690	5T3Q/CL	5	12	G4	4000	60	2
58691	10T3Q/CL/AX	10	12	G4	4000	130	1
58692	10T3Q/CL/AX/6V	10	6	G4	4000	130	1
58694	20T3Q/CL/AX <sup>1</sup>	20	12	G4	4000	320	1
58663	20T4Q/CL/AX	20	12	GY6.35	4000	320	1
58672	35T4Q/CL/AX	35	12	GY6.35	4000	600	1
58676	50T4Q/CL/AX <sup>1</sup>	50	12	GY6.35	4000	930	1
58680	75T4Q/CL/AX <sup>1</sup>	75	12	GY6.35	4000	1450	1
58684	90T4Q/CL/AX	90	12	GY6.35	4000	1800	1

#### STANDARD

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58652	5T3Q/CL <sup>1</sup>	5	12	G4	2000	60	2
58658	10T3Q/CL <sup>1</sup>	10	12	G4	2000	140	2
58661	20T3Q/CL <sup>1</sup>	20	12	G4	2000	320	2
58675	50T4Q/CL <sup>1</sup>	50	12	GY6.35	2000	930	2
58662	20T3Q/CL/24V	20	24	G4	1000	350	2
58678	50T4Q/CL/AX/24V	50	24	GY6.35	2000	850	1

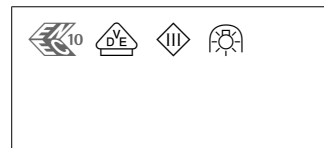
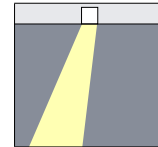
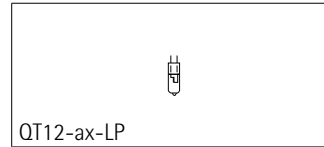
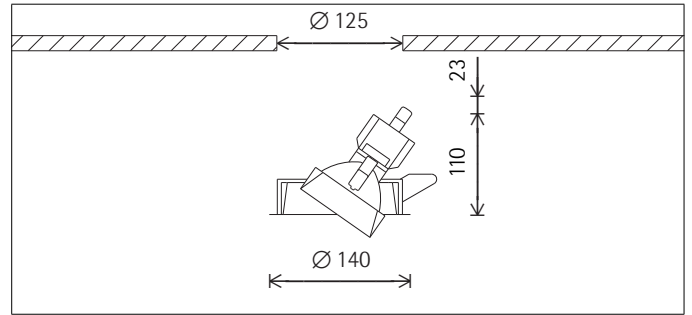
#### FROSTED

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58651	5T3Q/F	5	12	G4	2000	55	2
58656	10T3Q/F	10	12	G4	2000	130	2
58695	20T3Q/F	20	12	G4	2000	300	2
58698	50T4Q/F	50	12	GY6.35	2000	830	2

<sup>1</sup> Also available in bulk pack

### Ordering Guide

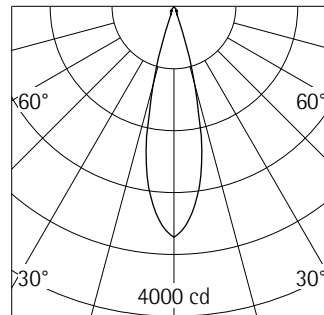
50	T4	Q	/	CL	/	AX	/	24V
Wattage	Tubular Lamp	Quartz Glass		Finish		AX= Axial Filament		Voltage
	T3= Diameter (3/8")			CL = Clear		__ = Transverse		__ = 12V
	T4= Diameter (4/8")			F = Frosted				24V
	BT4=Bulbous tube (4/8")			IR = IR Conserving				6V



**88111.000** Reflector silver  
 QT12-ax-LP 50W 12V GY6.35  
 950lm

**Product description**

Size 4  
 Luminaire: cast aluminium, black powder-coated. Heat sink: black.  
 Mounting ring: plastic, white (RAL9002), with multigroove baffle, cast aluminium, black powder-coated. Fixing springs for ceiling thickness max. 25mm. Cardanic suspension of the luminaire in the mounting ring. 0°-40° tilt. Pivots are to be locked.  
 Cable, L 500mm.  
 Anti-dazzle ring: plastic, black.  
 Flood reflector: aluminium, anodised, mirror-finish.  
 Transformer according to EN 61558 or EN 61347 to be ordered separately.  
 Weight 0.45kg



QT12-ax-LP 50W 12V GY6.35  
 950lm

h(m)	E(lx)	D(m)
		25°
1	2978	0.44
2	745	0.89
3	331	1.33
4	186	1.77
5	119	2.22



The SYLVANIA family of BI-PIN lamps represents an outstanding collection of compact, low voltage halogen light sources ideal for a wide range of applications.

Top of the line BI-PIN IR lamps have an infrared reflective coating on the outside of the capsule to conserve heat energy and create a more efficient source. With an axial filament for easy focusing and a 4000 hour life these lamps are suitable for either saving energy or increasing light output from existing fixtures without increasing energy costs.

High performance axial filament STARLITE lamps enable the design of efficient reflector systems that are easy to focus, resulting in better quality light on the target. These long life efficient lamps meet the needs of all residential, commercial and industrial bi-pin applications.

All SYLVANIA BI-PIN lamps utilize advanced UV-stop quartz that reduces UV-B and UV-C radiation by 90% compared to regular quartz. In addition, the IR coating on BI-PIB IR lamps further reduces this spectrum, effectively eliminating all UV-B and UV-C radiation from those capsules.

All 6V and 12V SYLVANIA BI-PIN lamps are low-pressure, low-voltage capsules. Because of this, these lamps are suitable for use without shielding.\* The 24V SYLVANIA BI-PIN lamps are high-pressure capsules, and a suitable protective shield is required with these lamp types.

A complete family of BI-PIN halogen lamps to meet the various needs of designers and end users:

**IR**

- Axial filament
- 4000-hour average rated lamp life
- UV stop quartz capsule
- Low pressure
- Energy saving IR technology
- No UV-B or UV-C Light output
- Suitable for use without shielding\*

**STARLITE**

- Axial filament
- 4000-hour average rated lamp life
- UV-control quartz capsule
- Low pressure
- Suitable for use without shielding\*

**STANDARD**

- Clear and frosted
- 2000-hour average rated lamp life
- UV-control quartz capsule
- Low pressure
- 6V and 12V suitable for use without shielding\*

**Product Availability**

Watts	STARLITE	STANDARD	IR
5	T3	T3, T3/F	
10	T3, T3 (6V)	T3, T3/F	
20	T3, T4	T3, T3/F, T3 (24V)	
35	T4		
37			BT4
50	T4	T4, T4/F, T4 (24V)	BT4
75	T4	T4	
90	T4		

\*SYLVANIA does not require lamp containment shielding. Consult most recent UL standards for luminaire requirements.

**Application Information**

Applications	Application Notes	Fixtures
Small aperture down lighting Residential, commercial and industrial applications Accent strip lighting Task lighting Display lighting	<ul style="list-style-type: none"> <li>• Axial filament orientation means light is smoothly distributed by reflector</li> <li>• Do not touch lamp with bare hands</li> <li>• Overall UV-emissions are reduced 95% for extra fade protection on light sensitive materials</li> </ul>	Ardee/USA Belfer BK Lighting CSL Lucifer Roberts Tivoli



# Fixture D2 Lamp

## Lamp Comparison

### Sample Specification

#### STANDARD

Lamp(s) shall be (a) 12V or 24V BI-PIN halogen lamp(s) with a UV-control quartz capsule and a 2000-hour average rated life. Lamp(s) shall be frosted or clear with an axial or transverse filament.

#### STARLITE

Lamp(s) shall be (a) 12V STARLITE halogen lamp(s) with a UV-control quartz capsule and a 4000-hour average rated life. Lamp(s) shall be clear with an axial filament and gold plated pins.

#### IR

Lamp(s) shall be (a) 12V BI-PIN halogen lamp(s) with a UV-control quartz capsule and a 4000-hour average rated life. Lamp(s) shall be clear with an axial filament, a constant and an infrared reflective coating on the lamp capsule.

24V BI-PIN Lamps must be operated in enclosed fixtures.

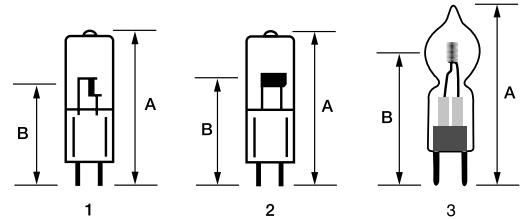
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**Special Markets**  
Phone: 1-800-265-2852  
Fax: 1-800-667-6772

Item No.	Lamp Type	Watts	Lumens	Av. Rated life
58676	50T4Q/CL/AX	50	930	4000
	Brand X Q50T4/CL/CD	50	950	2000
	Brand Y 50W/12V/Capsule	50	950	2000
	Incandescent 60A19/CL	50	890	1000

## Dimensions

	(A) MOL	(B) LCL
Standard (2) 5W-20W	31mm	22mm
Standard (2) 50W-75W	44mm	30mm
Standard (1) 50W/100W (24V)	44mm	30mm
Starlite (2) 5W	31mm	22mm
Starlite (1) 10W-20W	31mm	22mm
Starlite (1) 35W-90W	44mm	30mm
IR (3) 37W & 50W	44mm	30mm



## Ordering and Specification Information

#### BI-PIN IR

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58683	37BT4Q/IR	37	12	GY6.35	4000	900	3
58687	50BT4Q/IR	50	12	GY6.35	4000	1320	3

#### STARLITE

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58690	5T3Q/CL	5	12	G4	4000	60	2
58691	10T3Q/CL/AX	10	12	G4	4000	130	1
58692	10T3Q/CL/AX/6V	10	6	G4	4000	130	1
58694	20T3Q/CL/AX <sup>1</sup>	20	12	G4	4000	320	1
58663	20T4Q/CL/AX	20	12	GY6.35	4000	320	1
58672	35T4Q/CL/AX	35	12	GY6.35	4000	600	1
58676	50T4Q/CL/AX <sup>1</sup>	50	12	GY6.35	4000	930	1
58680	75T4Q/CL/AX <sup>1</sup>	75	12	GY6.35	4000	1450	1
58684	90T4Q/CL/AX	90	12	GY6.35	4000	1800	1

#### STANDARD

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58652	5T3Q/CL <sup>1</sup>	5	12	G4	2000	60	2
58658	10T3Q/CL <sup>1</sup>	10	12	G4	2000	140	2
58661	20T3Q/CL <sup>1</sup>	20	12	G4	2000	320	2
58675	50T4Q/CL <sup>1</sup>	50	12	GY6.35	2000	930	2
58662	20T3Q/CL/24V	20	24	G4	1000	350	2
58678	50T4Q/CL/AX/24V	50	24	GY6.35	2000	850	1

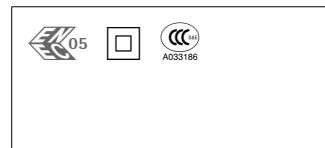
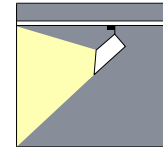
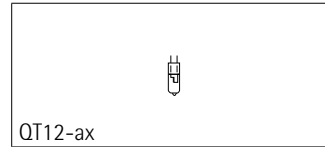
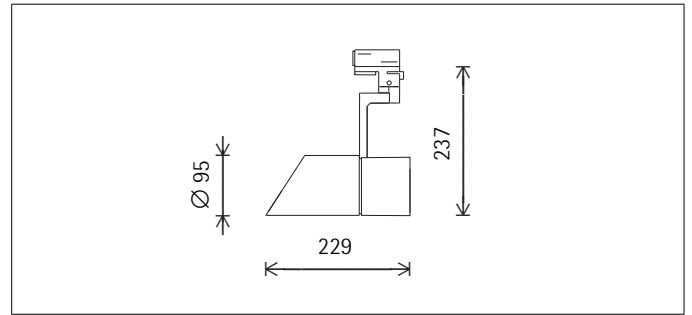
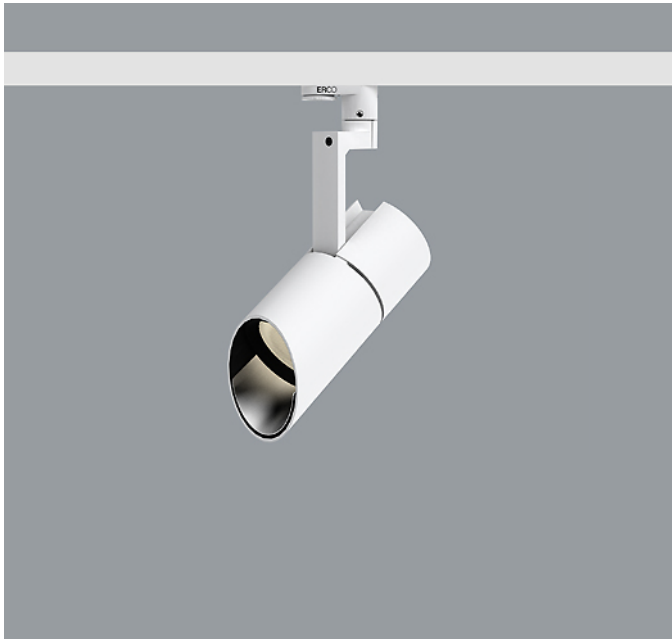
#### FROSTED

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58651	5T3Q/F	5	12	G4	2000	55	2
58656	10T3Q/F	10	12	G4	2000	130	2
58695	20T3Q/F	20	12	G4	2000	300	2
58698	50T4Q/F	50	12	GY6.35	2000	830	2

<sup>1</sup> Also available in bulk pack

## Ordering Guide

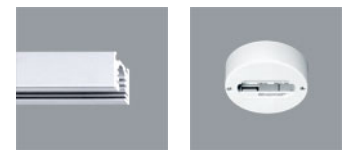
50	T4	Q	/	CL	/	AX	/	24V
Wattage	Tubular Lamp	Quartz Glass		Finish		AX= Axial Filament		Voltage
	T3= Diameter (3/8")			CL = Clear		__ = Transverse		__ = 12V
	T4= Diameter (4/8")			F = Frosted				24V
	BT4=Bulbous tube (4/8")			IR = IR Conserving				6V



72103.000 White (RAL9002)  
 QT12-ax 50W 12V GY6.35 950lm

**Product description**

Housing: two-piece cylinder, aluminium, powder-coated, removable for lamp replacement. 0°-90° tilt. Scale for identifying the lamp power used. Safety cord.  
 Bracket integrated in the cylinder: cast aluminium, powder-coated, rotatable on the 3-circuit adapter through 360°. Screw to set the angle of rotation and of tilt. Internal wiring.  
 Electronic transformer 230/12V, 20-50W.  
 ERCO 3-circuit adapter: plastic.  
 Spread lens with reflector: aluminium, silver anodised.  
 Use dimmers for electronic transformers (trailing edge).  
 Weight 1.50kg



**Mounting**  
 ERCO 3-circuit track  
 Hi-trac track  
 Monopoll track  
 1-circuit singlet





The SYLVANIA family of BI-PIN lamps represents an outstanding collection of compact, low voltage halogen light sources ideal for a wide range of applications.

Top of the line BI-PIN IR lamps have an infrared reflective coating on the outside of the capsule to conserve heat energy and create a more efficient source. With an axial filament for easy focusing and a 4000 hour life these lamps are suitable for either saving energy or increasing light output from existing fixtures without increasing energy costs.

High performance axial filament STARLITE lamps enable the design of efficient reflector systems that are easy to focus, resulting in better quality light on the target. These long life efficient lamps meet the needs of all residential, commercial and industrial bi-pin applications.

All SYLVANIA BI-PIN lamps utilize advanced UV-stop quartz that reduces UV-B and UV-C radiation by 90% compared to regular quartz. In addition, the IR coating on BI-PIN IR lamps further reduces this spectrum, effectively eliminating all UV-B and UV-C radiation from those capsules.

All 6V and 12V SYLVANIA BI-PIN lamps are low-pressure, low-voltage capsules. Because of this, these lamps are suitable for use without shielding.\* The 24V SYLVANIA BI-PIN lamps are high-pressure capsules, and a suitable protective shield is required with these lamp types.

A complete family of BI-PIN halogen lamps to meet the various needs of designers and end users:

**IR**

- Axial filament
- 4000-hour average rated lamp life
- UV stop quartz capsule
- Low pressure
- Energy saving IR technology
- No UV-B or UV-C Light output
- Suitable for use without shielding\*

**STARLITE**

- Axial filament
- 4000-hour average rated lamp life
- UV-control quartz capsule
- Low pressure
- Suitable for use without shielding\*

**STANDARD**

- Clear and frosted
- 2000-hour average rated lamp life
- UV-control quartz capsule
- Low pressure
- 6V and 12V suitable for use without shielding\*

**Product Availability**

Watts	STARLITE	STANDARD	IR
5	T3	T3, T3/F	
10	T3, T3 (6V)	T3, T3/F	
20	T3, T4	T3, T3/F, T3 (24V)	
35	T4		
37			BT4
50	T4	T4, T4/F, T4 (24V)	BT4
75	T4	T4	
90	T4		

\*SYLVANIA does not require lamp containment shielding. Consult most recent UL standards for luminaire requirements.

**Application Information**

Applications	Application Notes	Fixtures
Small aperture down lighting Residential, commercial and industrial applications Accent strip lighting Task lighting Display lighting	<ul style="list-style-type: none"> <li>• Axial filament orientation means light is smoothly distributed by reflector</li> <li>• Do not touch lamp with bare hands</li> <li>• Overall UV-emissions are reduced 95% for extra fade protection on light sensitive materials</li> </ul>	Ardee/USA Belfer BK Lighting CSL Lucifer Roberts Tivoli



**Sample Specification**

**STANDARD**

Lamp(s) shall be (a) 12V or 24V BI-PIN halogen lamp(s) with a UV-control quartz capsule and a 2000-hour average rated life. Lamp(s) shall be frosted or clear with an axial or transverse filament.

**STARLITE**

Lamp(s) shall be (a) 12V STARLITE halogen lamp(s) with a UV-control quartz capsule and a 4000-hour average rated life. Lamp(s) shall be clear with an axial filament and gold plated pins.

**IR**

Lamp(s) shall be (a) 12V BI-PIN halogen lamp(s) with a UV-control quartz capsule and a 4000-hour average rated life. Lamp(s) shall be clear with an axial filament, a constant and an infrared reflective coating on the lamp capsule.

24V BI-PIN Lamps must be operated in enclosed fixtures.

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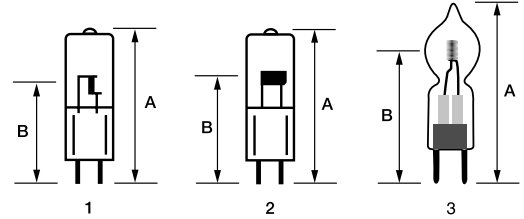
Visit our website: www.sylvania.com

**Lamp Comparison Fixture D3 Lamp**

Item No.	Lamp Type	Watts	Lumens	Av. Rated life
58676	50T4Q/CL/AX	50	930	4000
	Brand X Q50T4/CL/CD	50	950	2000
	Brand Y 50W/12V/Capsule	50	950	2000
	Incandescent 60A19/CL	50	890	1000

**Dimensions**

	(A) MOL	(B) LCL
Standard (2) 5W-20W	31mm	22mm
Standard (2) 50W-75W	44mm	30mm
Standard (1) 50W/100W (24V)	44mm	30mm
Starlite (2) 5W	31mm	22mm
Starlite (1) 10W-20W	31mm	22mm
Starlite (1) 35W-90W	44mm	30mm
IR (3) 37W & 50W	44mm	30mm



**Ordering and Specification Information**

**BI-PIN IR**

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58683	37BT4Q/IR	37	12	GY6.35	4000	900	3
58687	50BT4Q/IR	50	12	GY6.35	4000	1320	3

**STARLITE**

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58690	5T3Q/CL	5	12	G4	4000	60	2
58691	10T3Q/CL/AX	10	12	G4	4000	130	1
58692	10T3Q/CL/AX/6V	10	6	G4	4000	130	1
58694	20T3Q/CL/AX <sup>1</sup>	20	12	G4	4000	320	1
58663	20T4Q/CL/AX	20	12	GY6.35	4000	320	1
58672	35T4Q/CL/AX	35	12	GY6.35	4000	600	1
58676	50T4Q/CL/AX <sup>1</sup>	50	12	GY6.35	4000	930	1
58680	75T4Q/CL/AX <sup>1</sup>	75	12	GY6.35	4000	1450	1
58684	90T4Q/CL/AX	90	12	GY6.35	4000	1800	1

**STANDARD**

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58652	5T3Q/CL <sup>1</sup>	5	12	G4	2000	60	2
58658	10T3Q/CL <sup>1</sup>	10	12	G4	2000	140	2
58661	20T3Q/CL <sup>1</sup>	20	12	G4	2000	320	2
58675	50T4Q/CL <sup>1</sup>	50	12	GY6.35	2000	930	2
58662	20T3Q/CL/24V	20	24	G4	1000	350	2
58678	50T4Q/CL/AX/24V	50	24	GY6.35	2000	850	1

**FROSTED**

Item Number	Ordering Abbreviation	Watts	Volts	Base	Avg. Rated Life	Lumens (lm)	Figure
58651	5T3Q/F	5	12	G4	2000	55	2
58656	10T3Q/F	10	12	G4	2000	130	2
58695	20T3Q/F	20	12	G4	2000	300	2
58698	50T4Q/F	50	12	GY6.35	2000	830	2

<sup>1</sup> Also available in bulk pack

**Ordering Guide**

50	T4	Q	/	CL	/	AX	/	24V
Wattage	Tubular Lamp	Quartz Glass		Finish		AX= Axial Filament		Voltage
	T3= Diameter (3/8")			CL = Clear		__ = Transverse		__ = 12V
	T4= Diameter (4/8")			F = Frosted				24V
	BT4=Bulbous tube (4/8")			IR = IR Conserving				6V

# Fixture F1,F2,F3



## iCOLOR COVE NXT



Color Kinetics® iColor® Cove NXT brings digital color changing light and lighting effects to alcoves, task areas, accent areas, and other tight spaces without the drawbacks, expense, or constraints of conventional colored lighting methods. Providing a wide, symmetrical beam angle, iColor Cove NXT is ideal for backlighting applications.

iColor Cove NXT is modular in design, and projects a soft-edge strip of light at a 120° by 120° beam angle. Each length of iColor Cove NXT can be controlled by a Color Kinetics controller or a third-party DMX512 controller. Each fixture comes pre-addressed to light number one. With a Color Kinetics controller, simple effects such as fixed color and color wash require no additional addressing. For other effects across multiple lights, including Chasing Rainbow or Color Sweep, fixtures may be addressed using Serialized Addressing Software (SAS) or Zapi 1.5.

iColor Cove NXT is available in fixed lengths of six (6) and twelve (12) inches. Each fixture is cased in a low-profile, vented, molded plastic housing that snaps directly into a one-piece mounting bracket. The fixed position mounting brackets are indexed to lock iColor Cove NXT into place, allowing for the uniform alignment of multiple fixtures. Optional adjustable position brackets allow for easy rotation of fixtures.

To connect power and data, each fixture is equipped with a three-pin header that attaches to a master cable, making installations with curves or complicated geometries easy to install. Each master cable is designed to be hardwired to a PDS-150e or PDS-60 24V, which supplies power and data to all connected lights.

### iCOLOR COVE SPECIFICATIONS

<b>COLOR RANGE</b>	16.7 million (24-bit) additive RGB colors; continuously variable intensity output range
<b>SOURCE</b>	High brightness surface mount colored LEDs
<b>BEAM ANGLE</b>	120° x 120°
<b>HOUSING</b>	Two-piece vented plastic
<b>MOUNTING BRACKET</b>	One-piece fixed position provided One-piece adjustable position, optional (Item# 101-000007-00)
<b>CONNECTORS</b>	3-pin power and data connector for use with master cable (sold separately); master cable unterminated for use with PDS-150e or PDS-60 24V
<b>LISTINGS</b>	UL/cUL, CE

### COMMUNICATION SPECIFICATIONS

<b>DATA INTERFACE</b>	Color Kinetics data interface system
<b>CONTROL</b>	Color Kinetics full line of controllers and DMX512 when using Color Kinetics power/data supply

### ELECTRICAL SPECIFICATIONS

<b>VOLTAGE REQUIREMENT</b>	24VDC
<b>POWER CONSUMPTION</b>	Maximum: 4 Watts (6-inch) Maximum: 6.2 Watts (12-inch)
<b>POWER SUPPLY</b>	PDS-150e (ITEM# 109-000008-01) or PDS-60 24V (ITEM# 109-000017-00/01/02)
<b>MASTER CABLE</b>	Wire Harness for iColor Cove (ITEM# 108-000013-00)

### ENVIRONMENTAL SPECIFICATIONS

<b>TEMPERATURE RANGE</b>	-4°F to 122°F (-20°C to 50°C)
--------------------------	-------------------------------

### SOURCE LIFE

Color Kinetics illumination products utilize high brightness LEDs as the illumination source. LED manufacturers predict LED life of up to 100,000 hours MTBF (mean time between failure), the standard used by conventional lamp manufacturers to measure source life. However, like all basic light sources, LEDs also experience lumen depreciation over time. So while LEDs can emit light for an extremely long period of time, MTBF is not the only consideration in determining useful life. LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations.

Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions [ambient temperature: -4° F to 104° F (-20° C to 40° C), humidity: 0-95% non-condensing humidity, adequate ventilation and air volume] and when operated using typical color-changing effects. Long-term operation outside of these ranges or conditions, or at the upper limits of these ranges or conditions, may subject the product to further degradation of the LED source life, or in extreme cases, failure of internal components. Source life information is based on LED manufacturers' data, as well as other third party testing.

### U.S. AND FOREIGN PATENTS AND PATENTS PENDING

CHROMACORE®  
BY COLOR KINETICS

OPTIBIN®  
BY COLOR KINETICS



ITEM# 101-000015-00 (12-inch)  
101-000015-01 (6-inch)

This product is protected by one or more of the following patents: U.S. Patent Nos. 6,016,038, 6,150,774 and other patents listed at <http://colorkinetics.com/patents/>. Other patents pending.

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BRO114 Rev 05

Specifications subject to change without notice.



**Photosensor**

# LS-301 Dimming Photosensor

Automatic dimming based on ambient light levels

Controls standard 0-10 VDC electronic dimming ballasts

All setup performed remotely with handheld

Optional occupant adjustment via handheld remote

Single zone control

Closed loop daylighting control



PROJECT

LOCATION/TYPE

## Product Overview

### Description

The LightSaver LS-301 is a ceiling mount, low voltage indoor photosensor that works with standard, 0-10 VDC electronic dimming ballasts to dim lighting as daylight increases.

### Operation

The LS-301 mounts on a ceiling and utilizes a spectral filtering system to measure daylight and electric light levels. A closed loop daylighting system, the LS-301 measures the total light level from daylight and electric light in the controlled area to adjust electric lighting levels. As the daylight contribution increases, the lights dim down. The photosensor utilizes sliding setpoint control, which responds to the different spatial distribution qualities of electric light and daylight. The LS-301 calculates the required light level for current daylight contribution based on two setpoints. One represents the target level when no daylight is present (night setpoint) and the other when significant daylight is present (day setpoint).

### Adjustment via Handheld Remote Control

All LS-301 adjustments are made with one of two handheld remotes. The LSR-301-S provides five buttons for initial set-up, which is easily completed by first raising or lowering electric light levels to desired levels, then programming this target level into the photosensor. The LSR-301-P provides three buttons for occupants to adjust light levels. With this optional tool, users can increase target light levels by up to 25% or reduce them to the lamp/ballast minimum level. Pressing the "Auto" button returns the control to programmed levels.

### Applications

The LS-301 is designed to blend into its surroundings when installed in any environment. It provides one zone of daylighting control in a private office or classroom. In these applications, the LS-301 can be combined with an occupancy sensor. Often, it is possible for the LS-301 to share a single power pack with occupancy sensor(s).

## Features

- Provides precise control of lighting to maintain desired light level
- Extremely linear photocell response with greater than 1% accuracy
- Designed to measure light as the human eye perceives it, eliminating "overreporting" illumination levels provided by daylight
- Separate handheld remote controls for setup and occupant adjustment to prevent tampering
- Boosts energy savings by reducing maximum lamp output, often resulting in a 20% reduction or more compared with lights at full output
- Achieves lumen maintenance by holding target light level as lamp output decreases over time



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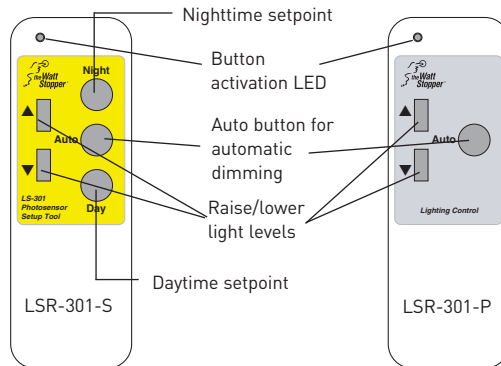
# LS-301 Technical Information

## Specifications

- Full range dimming: .2 VDC (minimum) to 10 VDC (100% lighting) output voltage
- Current consumption: 30 mA @ 24 VDC
- In typical applications, setpoints are adjustable from 20-60 footcandles (210-640 lux)
- Controls up to 50 standard dimming ballasts in one zone
- Sensor leads: gray and violet to ballast, red and black to 24 VDC
- Dimensions: 2.35" diam. x 0.875" depth (60mm x 22mm), threaded piece extends 1.25" (31.8mm) from back, fits .5" knockout
- 5 year warranty

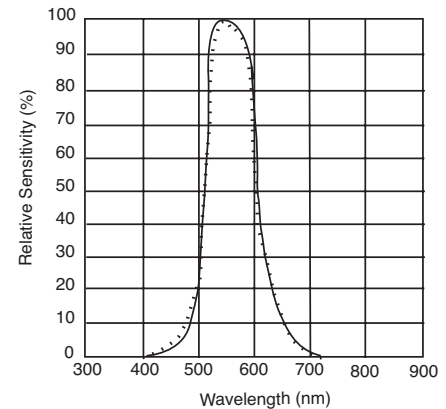
## Product Controls

### Remote Controls



Remote handheld (above left) enables easy set-up while optional occupant remote provides adjustability for individual lighting preferences.

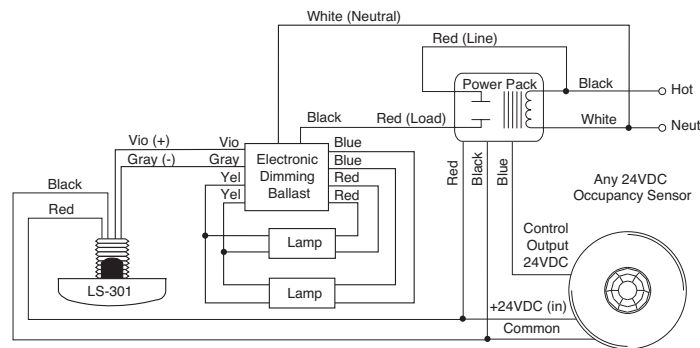
### Spectral Response Curve



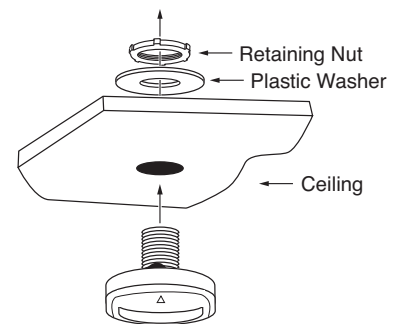
The spectral response of the LS-301 photocell closely matches the sensitivity of the human eye.

## Wiring & Installation

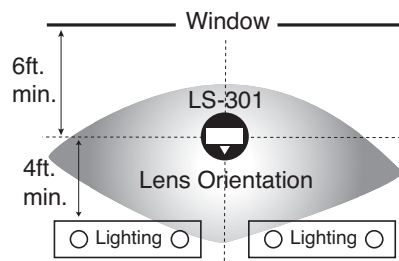
### Wiring



### Mounting and Installation



## Coverage



### Placement Guidelines

- Mount photocell between 6 and 12 feet (1.8m - 3.7m) from window.
- Do not mount directly above direct/indirect pendant fixtures. Mount at least 4 feet (1.2m) from pendant fixtures.

## Ordering Information

Catalog No.	Description	Input Voltage
<input type="checkbox"/> LS-301	Dimming Photosensor	24 VDC
<input type="checkbox"/> LSR-301-S	Setup Remote Control (2 AAA batteries included)	
<input type="checkbox"/> LSR-301-P	Occupant Remote Control (2 AAA batteries included)	

LS-301 works with Watt Stopper power packs