Appendix E

Lighting Resources

Contents:

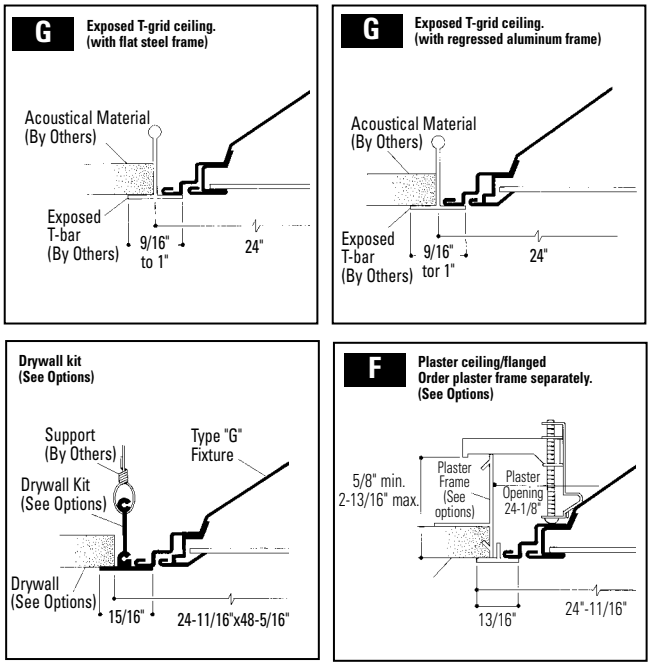
XP/XA 2' x 4' Lens Recessed Fluorescent **XP/XA432**

Static, Flat Steel or Regressed Aluminum Lens Frame, 4 Lamp, T8

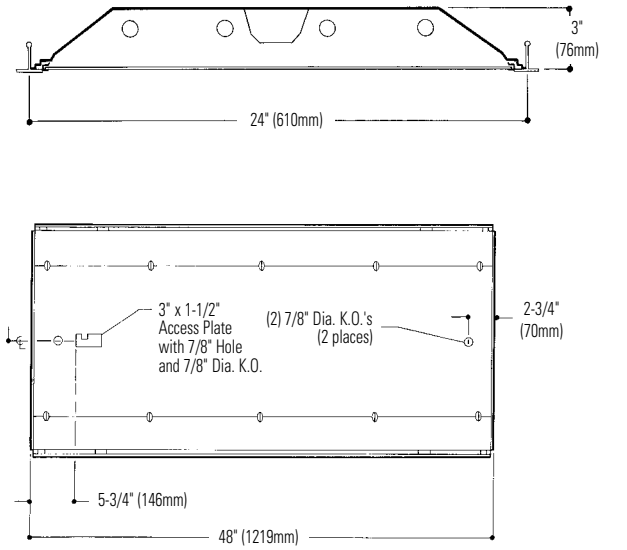
Features

- Efficiency 83.0%.
- Shallow 3" deep housing.
- Ribbed housing for strength and stability.
- Ends of housing formed inward for safe handling.
- Built-in earthquake clips.
- Hemmed-over side rails for safe handling.
- Ends have screw dimples for installation to T-bar (no fixture or ceiling distortion).
- Flat steel or regressed aluminum lens frame with mitered corners.
- Edges of steel door frame hemmed-over for safe handling.
- No light leak.
- Internal "T" hinges – easy installation and maintenance.
- Rooster head spring latches.
- Meets code 30 requirements in New England.

Mounting Methods



Dimensions



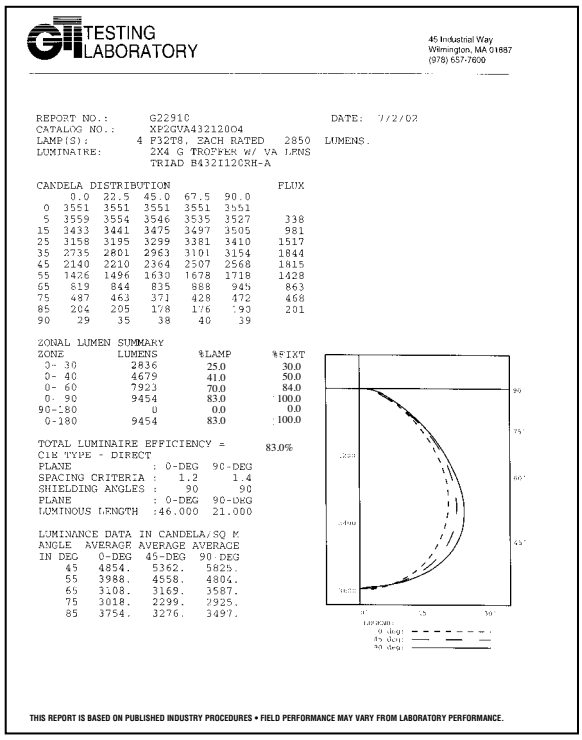
Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Volts/Ballast:	

Lightolier a Genlyte Thomas Company www.lightolier.com
Technical Information: (978) 657-7600 • Fax (978) 658-0595
631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

LIGHTOLIER®

Photometry

Model No. XP2GVA43212004



TESTING LABORATORY

45 Industrial Way
Wilmington, MA 01887
(978) 657-7600

REPORT NO.: G22910 DATE: 7/2/02
CATALOG NO.: XP2GVA43212004
LAMP(S): 4 F32T8, EACH RATED 2850 LUMENS.
LUMINAIRE: 2X4 6 TROFFER W/ VA LENS
TRIAD B432I120SH-A

CANDELA DISTRIBUTION FLUX

	0.0	22.5	45.0	67.5	90.0	
0	3561	3561	3561	3561	3561	
5	3559	3554	3546	3535	3527	338
15	3433	3441	3475	3497	3505	981
25	3158	3195	3299	3381	3410	1517
35	2735	2801	2963	3101	3154	1844
45	2140	2210	2364	2507	2568	1815
55	1426	1496	1630	1678	1718	1428
65	819	844	835	888	945	863
75	487	463	371	428	472	468
85	204	205	178	176	190	201
90	29	35	38	40	39	

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	2836	25.0	30.0
0- 40	4679	41.0	50.0
0- 60	7923	70.0	84.0
0- 90	9454	83.0	100.0
90-180	0	0.0	0.0
0-180	9454	83.0	100.0

TOTAL LUMINAIRE EFFICIENCY = 83.0%
CIE TYPE - DIRECT

PLANE	: 0-DEG	90-DEG
SPACING CRITERIA	: 1.2	1.4
SHIELDING ANGLES	: 90	90
PLANE	: 0-DEG	90-DEG
LUMINOUS LENGTH	:46.000	21.000

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90 DEG
45	4854.	5362.	5825.
55	3988.	4558.	4804.
65	3108.	3169.	3587.
75	3018.	2299.	2925.
85	3754.	3276.	3497.

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES • FIELD PERFORMANCE MAY VARY FROM LABORATORY PERFORMANCE.

LER = FL - 74.3 IW - 112 BF - 0.88
Comparative yearly lighting energy cost per 1000 lumens = $3.23

coefficients of utilization — zonal cavity method (effective floor cavity reflectance 0.20)

	RF	20			20			20		
	RC	80			50			30		
	RW	70	50	30	50	30	10	50	30	10
room cavity ratio	1	91	87	84	82	79	77	78	76	74
	2	83	76	71	72	68	64	69	66	63
	3	76	68	61	64	59	55	62	57	54
	4	70	60	53	57	51	47	55	50	46
	5	64	54	47	51	45	41	50	45	40
	6	60	49	42	47	41	36	45	40	36
	7	55	44	37	42	36	32	41	36	32
	8	52	41	34	39	33	29	38	32	28
	9	48	37	31	36	30	26	35	30	26
	10	45	34	28	33	27	23	32	27	23

visual comfort probability (rated lumens per lamp 2850.)

room size		luminaries lengthwise	ceiling height				luminaries crosswise	ceiling height			
W	L		8.5	10.0	13.0	16.0		8.5	10.0	13.0	16.0
20	20		54	59	67	76		53	57	63	72
20	30		46	51	57	64		47	50	54	61
20	40		41	45	51	57		43	46	49	53
20	60		37	41	45	51		39	42	45	49
30	20		56	60	65	73		55	59	63	71
30	30		47	51	55	62		48	51	54	59
30	40		42	45	49	54		43	46	49	52
30	60		37	41	43	48		39	42	44	47
30	80		35	38	40	44		37	40	41	44
40	20		58	62	67	72		57	61	65	71
40	30		49	53	56	61		49	53	55	59
40	40		43	46	50	53		45	47	49	52
40	60		38	41	43	47		40	43	44	47
40	80		35	38	39	43		38	40	41	44
40	100		34	36	37	40		37	39	39	42
60	30		50	54	57	62		50	54	56	60
60	40		44	48	50	54		45	48	50	53
60	60		39	42	43	47		41	43	44	47
60	80		35	38	39	43		38	40	41	44
60	100		34	36	37	40		36	38	39	41
100	40		47	50	53	57		48	51	52	55
100	60		42	44	46	49		43	45	46	49
100	80		38	40	41	44		40	42	43	45
100	100		36	37	38	41		38	40	40	41

Ordering Information

Explanation of Catalog Number. Example: XP2GVA232120SOGLR

[ ]	2	[ ]	VA	4	32	[ ]	[ ]	[ ]
XP = Recessed Fluorescent with Flat Steel Lens Frame **XA** = Recessed Fluorescent with Regressed Aluminum Lens Frame	**Fixture Width**	**Ceiling Type:** **G** = Grid (lay-in) T-bar **F** = Flanged (overlap) Z spline and plaster frame	**Lens Shielding Type:** **VA** = Virgin Acrylic (standard) see options and consult factory	**Lamp Quantity:** (By others) **4** = 4-Lamp	**Lamp Fixture Length:** **32**=T8, 4' Length	**Voltage:** 120 or 277	**Ballast:**	**Options:** Add appropriate suffix to catalog no, ie: (GLR)

Ballast:	<20THD	<10THD
2-2 Lamp Elec. (T8)	**SO***	**HI***
1-4 Lamp Elec. (T8)	**O4***	**H4***
LOL Dimming (T8)	**PS**	

*Instant Start Standard
Other dimming options. Consult factory.

Options/Accessories

Special Lens: Substitute VI for **.125"** nominal pattern. For other lenses, consult factory.

Access Plates: Top wiring access plate is shipped with fixture as standard. When access plates are required in advance for wiring convenience, specify separately. Order Catalog number: **ACPX CSP**.

Electrical Wiring Options: Consult factory.

Fusing: Internal fast-blow fusing. Suffix: **GLR**.
Internal slow-blow fusing. Suffix: **GMF**.

Radio Interference Filter: 120 or 277 volt, 50 or 60 Hz. One per fixture: Suffix: **R**. One per ballast: Suffix: **B**.

Drywall Kit: Order Catalog Number: **FK92x4** (Request Folio OA30-10).

Specifications

Performance: In an installation of 4 lamps 32 W luminaires in a room cavity of 1, with reflectance of 80% ceiling, 50% walls, 20% floor, the C.U. shall not be less than .87. To control veiling reflections, luminaire output in the 30°-90° zone shall be not less than 70%.

Materials: Chassis parts are die-formed code gauge cold rolled steel.

Housing is embossed for added strength and rigidity with all edges turned over for safe handling. **Lens frames**—(**XP**) flat full-size steel frame, (**XA**) regressed full-size aluminum frame.

Finish: Chassis exterior—white baked polyester enamel. **Cavity**—white baked polyester enamel minimum 86% reflectance. Phosphate undercoating.

Specifications (continued)

Lens: Extruded virgin acrylic 3/16" square based female cones, running 45° to the panel edge. .095" nominal thickness (similar to pattern 12).

Electrical: Thermally protected class "P" ballast C.B.M. approved, non PCB. If K.O. is within 3" of ballast, use wire suitable for at least 90°.

Labels: I.B.E.W./UL and ULc Listed.

Job Information **Type:**

Lightolier a Genlyte Thomas Company www.lightolier.com
Technical Information: (978) 657-7600 • Fax (978) 658-0595
631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

LIGHTOLIER®

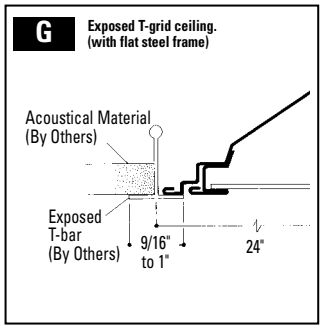
XP/XA 2' x 4' Lens Recessed Fluorescent **XP/XA332**

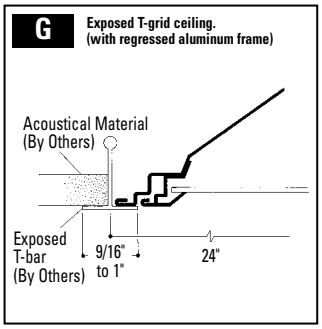
Static, Flat Steel or Regressed Aluminum Lens Frame, 3 Lamp, T8

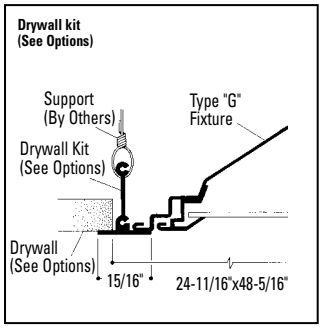
Features

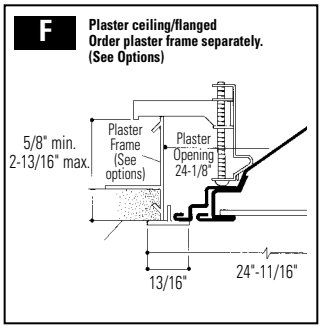
- Efficiency 85.0%.
- Shallow 3" deep housing.
- Ribbed housing for strength and stability.
- Ends of housing formed inward for safe handling.
- Built-in earthquake clips.
- Hemmed-over side rails for safe handling.
- Ends have screw dimples for installation to T-bar (no fixture or ceiling distortion).
- Flat steel or regressed aluminum lens frame with mitered corners.
- Edges of steel door frame hemmed-over for safe handling.
- No light leak.
- Internal "T" hinges – easy installation and maintenance.
- Rooster head spring latches.
- Meets code 30 requirements in New England.

Mounting Methods

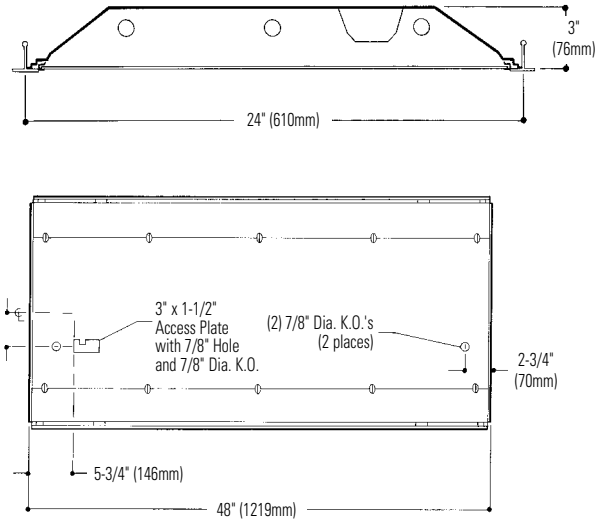








Dimensions



Job Information	**Type:**
Job Name:	
Cat. No.:	
Lamp(s):	
Volts/Ballast:	

Lightolier a Genlyte Thomas Company www.lightolier.com
Technical Information: (978) 657-7600 • Fax (978) 658-0595
631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

LIGHTOLIER®

Photometry

Model No. XP2GVA33212003

GTL TESTING LABORATORY
45 Industrial Way
Wilmington, MA 01887
(978) 657-7600

REPORT NO.: G22921 DATE: 7/2/02
CATALOG NO.: XP2GVA33212003
LAMP(S): 3 F32T8, EACH RATED 2850 LUMENS.
LUMINAIRE: 2X4 G TROFFER W/ VA LENS
ADVANCE REL-3P32-SC

CANDELA DISTRIBUTION FLUX

	0.0	22.5	45.0	67.5	90.0	
0	2708	2708	2708	2708	2708	
5	2709	2703	2703	2691	2694	257
15	2618	2623	2645	2666	2677	748
25	2402	2438	2518	2588	2616	1160
35	2078	2135	2269	2384	2429	1412
45	1630	1689	1818	1931	1985	1394
55	1093	1153	1263	1334	1339	1101
65	634	646	643	684	741	668
75	377	361	291	329	362	363
85	145	151	133	140	149	150
90	25	24	23	26	26	

ZONAL LUMEN SUMMARY

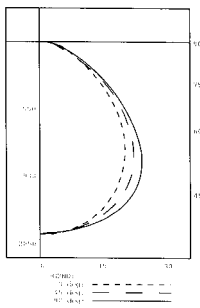
ZONE	LUMENS	%LAMP	%FIXT
0- 30	2165	25.0	30.0
0- 40	3577	42.0	49.0
0- 60	6072	71.0	84.0
0- 90	7253	85.0	100.0
90-180	0	0.0	0.0
0-180	7253	85.0	100.0

TOTAL LUMINAIRE EFFICIENCY = 85.0%
CIE TYPE = DIRECT

PLANE	: 0-DEG	90-DEG
SPACING CRITERIA	: 1.2	1.4
SHIELDING ANGLES	: 90	90
PLANE	: 0-DEG	90-DEG
LUMINOUS LENGTH	:46.000	21.000

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	3697.	4124.	4503.
55	3057.	3532.	3744.
65	2406.	2440.	2812.
75	2336.	1803.	2243.
85	2669.	2448.	2742.



THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES • FIELD PERFORMANCE MAY VARY FROM LABORATORY PERFORMANCE.

LER = FL - 75.2 IW - 85 BF - 0.88
Comparative yearly lighting energy cost per 1000 lumens = $3.19

coefficients of utilization — zonal cavity method (effective floor cavity reflectance 0.20)

RF	20			20			20		
RC	80			50			30		
RW	70	50	30	50	30	10	50	30	10
room cavity ratio 1	93	89	85	83	81	78	80	78	76
2	85	78	73	74	69	66	71	67	64
3	78	69	63	65	60	56	63	59	55
4	71	62	54	58	53	48	56	51	47
5	66	55	48	53	46	42	51	46	41
6	61	50	43	48	41	37	46	41	36
7	56	45	38	43	37	33	42	37	32
8	53	41	34	40	34	29	39	33	29
9	49	38	31	37	31	26	35	30	26
10	46	35	28	34	28	24	33	28	24

visual comfort probability (rated lumens per lamp 2850.)

room size		luminaries lengthwise				luminaries crosswise			
		ceiling height				ceiling height			
W	L	8.5	10.0	13.0	16.0	8.5	10.0	13.0	16.0
20	20	60	65	73	81	59	63	69	78
20	30	52	57	63	71	53	56	60	67
20	40	48	52	58	63	50	52	56	60
20	60	44	48	52	58	46	49	52	56
30	20	62	66	72	79	61	65	69	76
30	30	53	58	62	68	54	57	60	65
30	40	48	52	56	61	50	53	55	58
30	60	44	47	50	55	46	49	50	54
30	80	42	45	46	51	44	46	48	51
40	20	64	68	72	78	63	66	70	76
40	30	55	59	63	67	56	59	61	65
40	40	49	53	56	60	51	54	56	58
40	60	45	48	50	54	46	49	51	53
40	80	42	45	46	50	44	46	48	50
40	100	41	43	44	47	43	45	46	48
60	30	56	60	64	68	57	60	62	66
60	40	50	54	57	60	52	55	56	59
60	60	45	48	50	54	47	50	51	54
60	80	42	45	46	49	44	46	47	50
60	100	41	43	43	46	43	44	45	48
100	40	54	57	59	63	54	57	59	62
100	60	48	51	52	56	49	52	53	56
100	80	45	47	47	51	46	48	49	52
100	100	43	44	44	47	44	46	46	48

Ordering Information

Explanation of Catalog Number. Example: XP2GVA33212003GLR

[ ]	2	[ ]	VA	3	32	[ ]	[ ]	[ ]
XP = Recessed Fluorescent with Flat Steel Lens Frame **XA** = Recessed Fluorescent with Regressed Aluminum Lens Frame	**Fixture Width**	**Ceiling Type:** **G** = Grid (lay-in) T-bar **F** = Flanged (overlap) Z spline and plaster frame	**Lens Shielding Type:** **VA** = Virgin Acrylic (standard) see options and consult factory	**Lamp Quantity:** (By others) **3** = 3-Lamp	**Lamp Fixture Length:** **32**=T8, 4' Length	**Voltage:** 120 or 277	**Ballast:**	**Options:** Add appropriate suffix to catalog no, ie: (GLR)

Ballast:	<20THD	<10THD
1 & 2 Lamp Elec. (T8)	**SO***	**HI***
1-3 Lamp Elec. (T8)	**O3***	**H3***
LOL Dimming (T8)	**PS**	

*Instant Start Standard
Other dimming options. Consult factory.

Options/Accessories

Special Lens: Substitute VI for **.125"** nominal pattern. For other lenses, consult factory.

Access Plates: Top wiring access plate is shipped with fixture as standard. When access plates are required in advance for wiring convenience, specify separately. Order Catalog number: **ACPX CSP**.

Electrical Wiring Options: Consult factory.

Fusing: Internal fast-blow fusing. Suffix: **GLR**.
Internal slow-blow fusing. Suffix: **GMF**.

Radio Interference Filter: 120 or 277 volt, 50 or 60 Hz. One per fixture: Suffix: **R**. One per ballast: Suffix: **B**.

Drywall Kit: Order Catalog Number: **FK92x4** (Request Folio OA30-10).

Specifications

Performance: In an installation of 3 lamps 32 W luminaires in a room cavity of 1, with reflectance of 80% ceiling, 50% walls, 20% floor, the C.U. shall not be less than .89. To control veiling reflections, luminaire output in the 30°-90° zone shall be not less than 70%.

Materials: Chassis parts are die-formed code gauge cold rolled steel.

Housing is embossed for added strength and rigidity with all edges turned over for safe handling. **Lens frames**—(**XP**) flat full-size steel frame, (**XA**) regressed full-size aluminum frame.

Finish: Chassis exterior—white baked polyester enamel. **Cavity**—white baked polyester enamel minimum 86% reflectance. Phosphate undercoating.

Specifications (continued)

Lens: Extruded virgin acrylic 3/16" square based female cones, running 45° to the panel edge. .095" nominal thickness (similar to pattern 12).

Electrical: Thermally protected class "P" ballast C.B.M. approved, non PCB. If K.O. is within 3" of ballast, use wire suitable for at least 90°.

Labels: I.B.E.W./UL and ULc Listed.

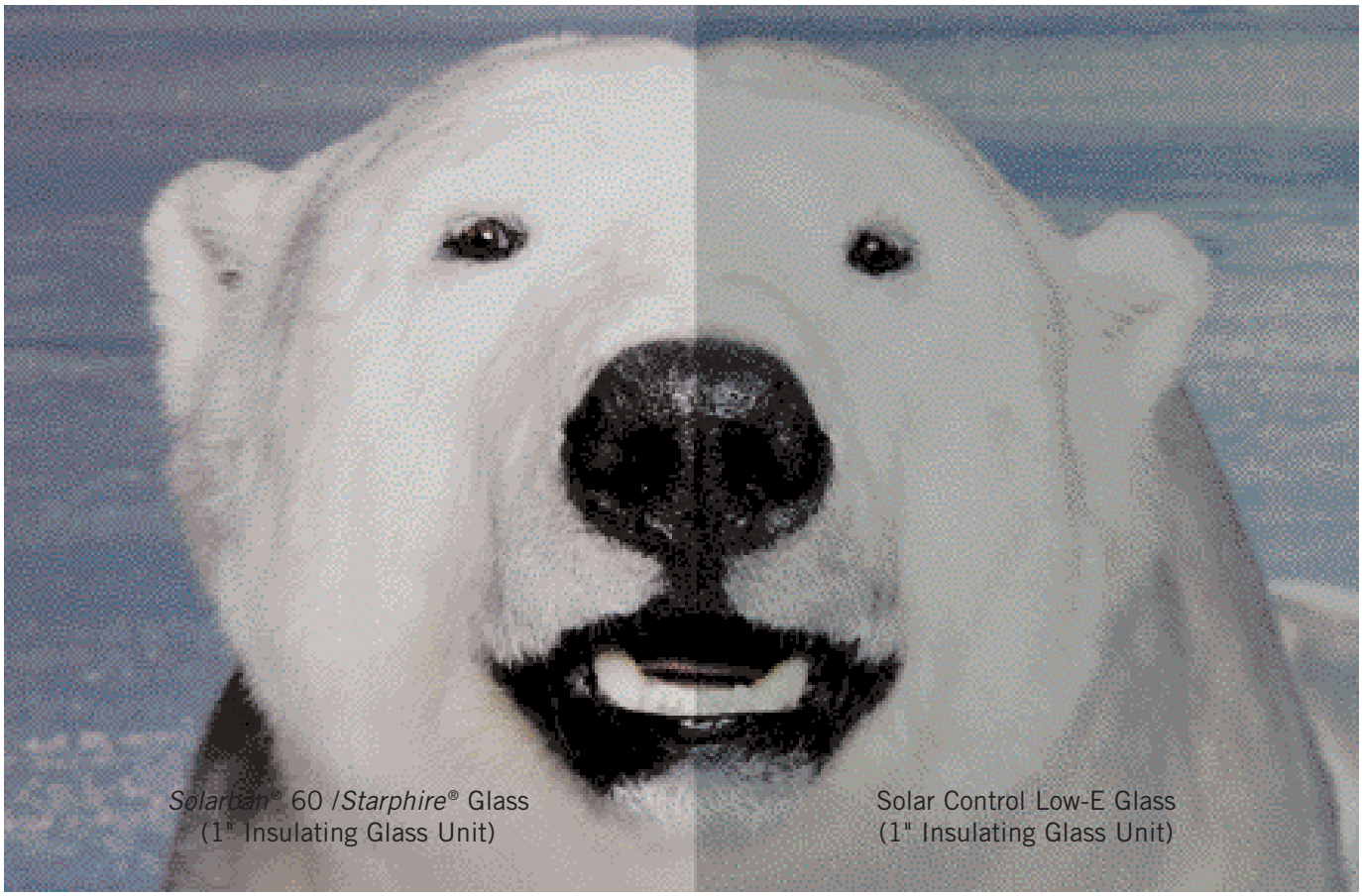
Job Information **Type:**

Lightolier a Genlyte Thomas Company www.lightolier.com
Technical Information: (978) 657-7600 • Fax (978) 658-0595
631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

LIGHTOLIER®

Solarban® 60 Coating on *Starphire*® Ultra-Clear Glass

PPG IdeaScapes™
Glass • Coatings • Paint



True Color Clarity and Solar Control in One Brilliant, Affordable Package

What happens when you combine two of the most popular architectural glass products? The answer is ***Solarban*** 60 ***Starphire***, a new standard product from PPG that offers the unequalled transparency of ***Starphire*** glass together with the proven solar control of the ***Solarban*** 60 Solar Control Low-E coating in one competitively priced package.

Superior Energy Performance

Solarban 60 ***Starphire*** glass allows ultra-clear glass to be used for vision glass, skylights, atriums, storefronts and entryways *without sacrificing energy performance*. This new product, used in an insulating glass unit, provides high visible light transmittance (73%) while offering superior solar control (0.41 SHGC).

Clearer than Clear

Used in a one-inch insulating glass unit with a ***Starphire*** glass inboard lite as well, ***Solarban*** 60 ***Starphire*** glass is visibly clearer and has a higher light transmittance than a conventional clear/clear Low-E coated insulating unit. ***Solarban*** 60 ***Starphire*** glass can also be used in laminated glass applications and is ideal for safety, security and noise-reducing glazings. The unique clarity of ***Solarban*** 60 ***Starphire*** glass, when laminated with multiple layers of ***Starphire Ultra-Clear*** glass, can dramatically reduce the greenish visual effect common with laminated clear glass.

SOLARBAN® 60
SOLAR CONTROL LOW-E GLASS

Starphire®
Ultra-Clear Glass
By PPG

Solarban® 60 *Starphire*® Ultra-Clear Glass

Competitive Pricing

Thanks to recent manufacturing advances, ***Solarban*** 60 ***Starphire*** is affordable, too. PPG manufacturing cost advances have moved ***Starphire*** out of its niche as a premium-priced specialty product and made it price-competitive with other frequently specified architectural glasses. With its energy-saving characteristics and competitive pricing, ***Solarban*** 60 ***Starphire*** glass has become an affordable and practical choice for virtually any standard architectural glass application, from street-level storefronts to soaring office building facades.

Fabrication and Availability

Solarban 60 ***Starphire*** glass can be laminated, tempered or heat strengthened and is readily available as a standard product. Like other high-performance PPG architectural glasses, ***Solarban*** 60 ***Starphire*** is available through 28 locations of the PPG Certified Fabricator Network. PPG Certified Fabricators can meet tight construction deadlines and can accelerate the delivery of replacement glass during and after construction.

Additional Resources

Solarban 60 ***Starphire*** glass is just one of the *EcoLogical Building Solutions* from PPG. For more information, or to obtain samples of ***Solarban*** 60 ***Starphire*** glass, call 1-888-PPG-IDEA, or visit www.ppgglazing.com.

PPG *IdeaScapes*.™ Integrated products, people and services to inspire your design and color vision.

Solarban® 60 *Starphire*® Glass Performance Comparison with *Solarban*® 60 on Clear Glass

Insulating Vision Unit Performance Comparisons 1-inch (25mm) units with 1/2-inch (13mm) airspace and two 1/4-inch (6mm) lites; as shown below													
Glass Type	Transmittance			Reflectance		U-Value (Imperial)		K-Value (Metric)		Shading Coeffi-cient	Solar Heat Gain Coeffi-cient	Light to Solar Gain (LSG)
	Ultra-violet %	Visible %	Total Solar Energy %	Visible Light %	Total Solar Energy %	Winter Night-time	Summer Day-time	Winter Night-time	Summer Day-time			
***SOLARBAN*® 60 Solar Control Low-E Coating**												
SOLARBAN 60 (2) *STARPHIRE/STARPHIRE*	18	73	38	12	40	0.29	0.28	1.64	1.57	0.47	0.41	1.78
SOLARBAN 60 (2) Clear/Clear	19	70	33	11	30	0.29	0.28	1.65	1.55	0.44	0.38	1.84

Performance data simulated using LBL Window 5.2. For detailed information on the methodologies used to calculate the aesthetic and performance values in this table, please visit www.ppgglazing.com or request our Architectural Glass Catalog.

Solarban® 60 *Starphire*® Laminated Glass Performance

***SOLARBAN*® 60 (2) *STARPHIRE*® + interlayer + *STARPHIRE*® – thicknesses as shown below**													
Configuration		Transmittance			Reflectance		U-Value (Imperial)		K-Value (Metric)		Shading Coeffi-cient	Solar Heat Gain Coeffi-cient	Light to Solar Gain (LSG)
Inches	mm	Ultra-violet %	Visible %	Total Solar Energy %	Visible Light %	Total Solar Energy %	Winter Night-time	Summer Day-time	Winter Night-time	Summer Day-time			
0.030 Lamination between 2-lites													
***SOLARBAN*® 60 (2) *STARPHIRE*®**													
1/8	3	0	76	39	9	42	1.00	0.90	5.67	5.12	0.51	0.44	1.72
0.060 Lamination between 2-lites													
***SOLARBAN*® 60 (2) *STARPHIRE*®**													
1/8	3	0	76	39	9	42	0.98	0.89	5.55	5.03	0.51	0.44	1.72
***SOLARBAN*® 60 (2) *STARPHIRE*®**													
1/4	6	0	76	38	9	41	0.95	0.86	5.41	4.90	0.51	0.44	1.72
0.090 Lamination between 2-lites													
***SOLARBAN*® 60 (2) *STARPHIRE*®**													
1/4	6	0	76	38	9	41	0.93	0.85	5.30	4.81	0.51	0.44	1.72

Performance data simulated using LBL Optics 5 and Window 5.2. For detailed information on the methodologies used to calculate the aesthetic and performance values in this table, please visit www.ppgglazing.com or request our Architectural Glass Catalog.

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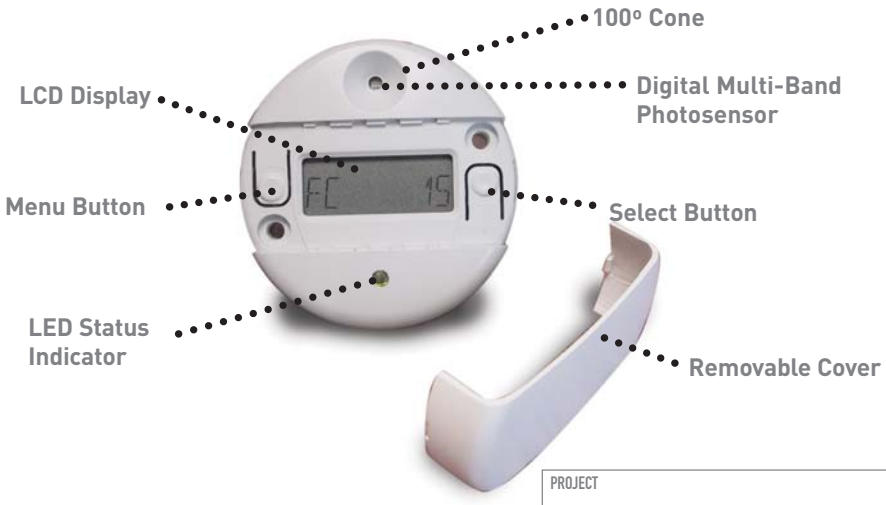
LightSaver® LS-101 Daylighting Controller



PROJECT

LOCATION/TYPE

Product Overview

Description

The LS-101 Daylighting Controller is a single zone, ON/OFF device which can be installed in an open or closed loop application to turns lights off automatically when sufficient natural daylight is present. It consists of an advanced digital multi-band photosensor that measures light similar to the way the human eye perceives it, an on-board microcontroller, and an LCD display. This photosensor is positioned behind a 100Þ cone that cuts off unwanted light, preventing false triggering.

Operation

The LS-101 is a self-contained 24 VDC device with an extended range of 1-1400 fc that only requires a low voltage power pack to operate. By adjusting the setpoints, it will turn lighting systems off when the ambient light levels exceed the OFF setpoint, and will turn lighting systems back on when natural light levels have fallen far enough to warrant it. Because of its factory presets, many set-up applications require little or no adjustment of the settings. The LS-101 is expandable with a low voltage wall switch to enable manual override or with a occupancy sensor to enable its 'Hold On While Occupied' feature.

On, Off & Deadband Settings

The LS-101 features adjustable settings for ON setpoint, OFF setpoint and time delay, should adjustment be required. Adjusting the ON setpoint will automatically calculate your OFF setpoint to a predetermined deadband setting. The deadband can be adjusted to a value of 25%, 50%, 75% or 100% above the ON setpoint. When the sensed light level drops below the ON setpoint for 20 seconds, the output signal will switch on. And when the sensed light level exceeds the OFF setpoint for the length of the time delay, the output signal will switch OFF. The time delay can be adjusted to 3, 10, 20 or 30 minutes.

Applications

The LS-101 Daylighting Controller can be used to control any type of lighting: incandescent, fluorescent, compact fluorescent (CFL) and HID . The sensors work in peripheral offices, skylit areas, cafeterias, warehouses and any other indoor areas with natural light access.

Features

- Easy-to-read LCD Display prompts installer through set-up and accurately reflects the current control mode and light level.
- Four user-adjustable parameters: ON Setpoint, OFF Setpoint, OFF Setpoint Time Delay, and 'Hold On While Occupied' Mode (if wired with an occupancy sensor)
- Test Mode overrides the programmed Time Delay to allow installer to check if settings are correct.
- Control load status verification allows testing and confirmation that the wiring is correct by pressing the select button
- Manual Override for one hour (if wired with a low voltage, push-button wall switch)
- Meets Section 119's requirement for daylighting in California's Title 24 Lighting Code.
- LED status indicator identifies if the LS-101 is in Override or Test Mode, or if the device has switched the lights on or off.
- Two mounting options for either top-lit or side-lit applications
- Low voltage leads are color coded to match wire colors on the power pack.
- Shape and design developed to prevent mis-alignments.
- Can be programmed in most daylight conditions

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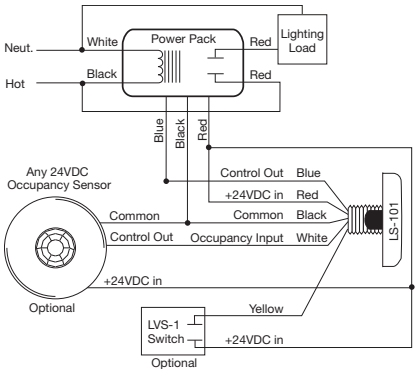
Specifications

- Digital Multi-Band Photosensor Range: 1-1400 foot candles
- ON Setpoint Range: 1-850 foot candles
- Status Indicator: Multi-function green LED
- Power Requirements: 12/24 VDC; 7 mA typical
- Output Signal: 24VDC; maximum 120 mA
- Location: Suitable for dry interior locations
- Environment: 32 to 120ºF, less than 90% rh
- Dimensions: 2.4" diameter x 0.7" deep (61mm x 17mm)
- Five-year warranty
- UL listed

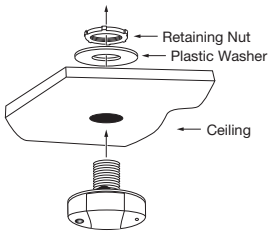
Wiring & Installation Location

Wiring Diagram

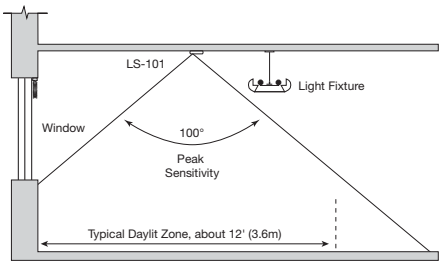


For other wiring diagrams, please visit the CAD Resource Center at www.wattstopper.com

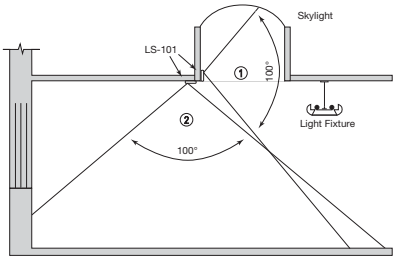
Mounting Installation



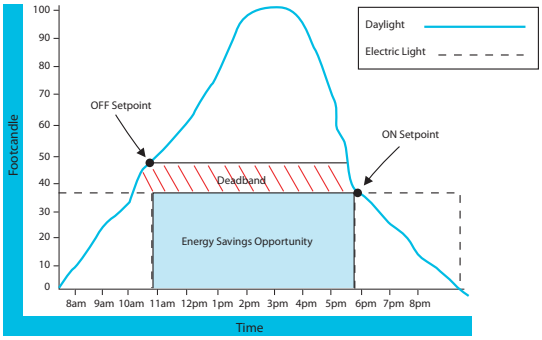
Side Lighting Application



Top Lighting Application



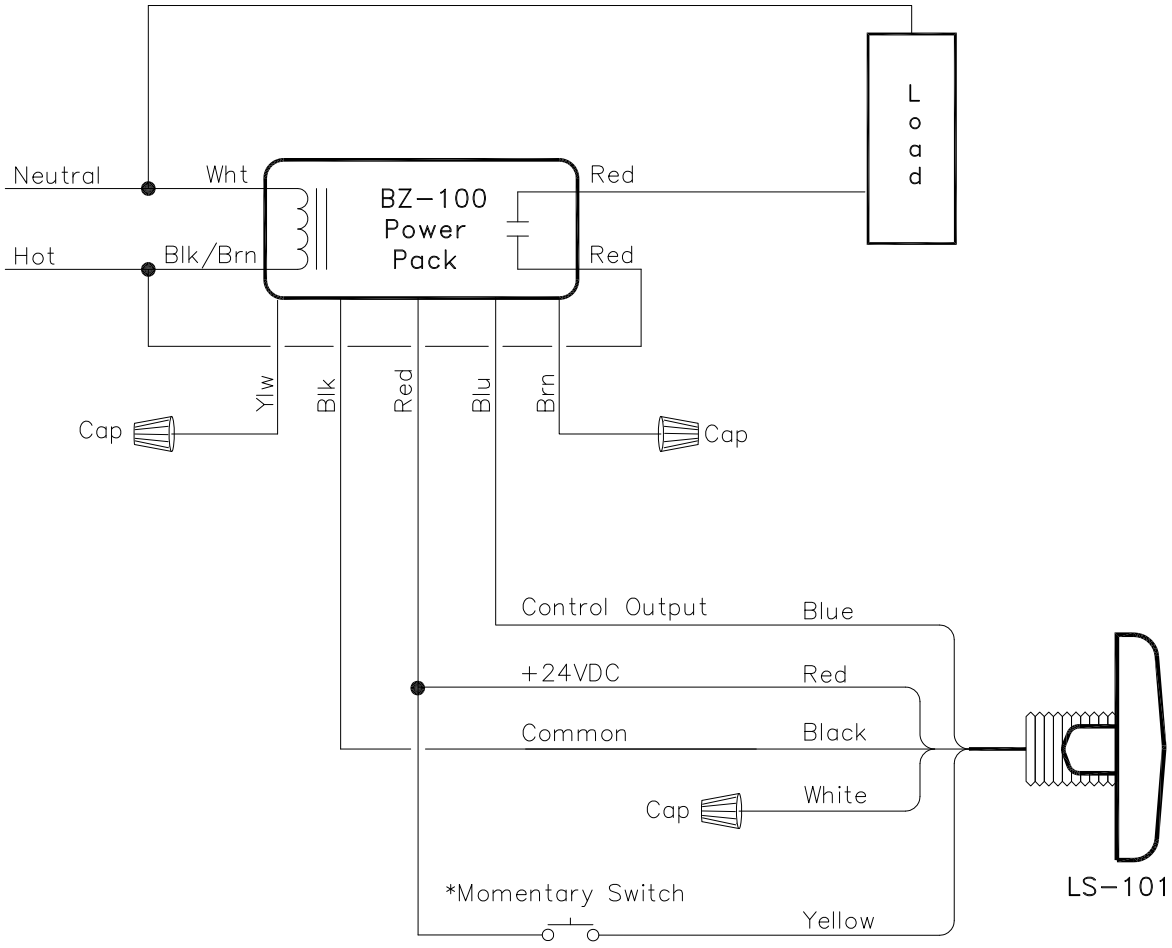
Deadband Level Chart



If the LS-101's photosensor lighting level drops below the ON setpoint, the lights will remain on. If the sensor's lighting level rises above the OFF setpoint, the LS-101 will automatically turn the lights off. If the sensor's lighting level remains in the predetermined deadband range (25%, 50%, 75% or 100%) the lighting will be passive until the sensor's level reaches the high or low setpoints.

Ordering Information

Catalog No.	Voltage	Current	Photosensor Range	Deadband Adjustment Range
☐ LS-101	12-24 VDC	7 mA Typical	1-1400 foot candles	25%, 50%, 75% & 100% above the ON setpoint



Note
See the product data sheet to determine the maximum number of Sensors per power pack.

Operation:
* Switch lets you turn Load Off for 1 Hour

LS–101 turns power pack ON/OFF based on light level. The momentary switch will override the LS–101 ON/OFF.

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Title: Typical LS–101 Wiring Diagram With one hour timed off override			
Scale: None	Drawing#: 58–004	Date: 12/10/07	Rev.: 1