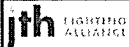


Submitted by JTH Lighting Alliance



Job Name:
 Lake Crystal City Hall & Library - Addition and
 Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS
 MANKATO (Mankato)

SHALLOW PLENUM TROFFER

CATALOG #

PROJECT:

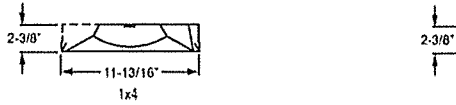
NOTES:

EXAMPLE

PT - 2 4 - L78/835 - RA - OPT

SERIES NOM. NOM. LED CRI & SHIELDING OPT
 W. L. PACKAGE CCT
 W. L. PACKAGE CCT

CROSS SECTIONS



ORDERING INFORMATION

SERIES

PT Shallow Plenum LED Troffer

OPTIC

For
EM

NOMINAL WIDTH

1 1" (4" length only)
2 2"

EM

EQ
OC

NOMINAL LENGTH

2 2' (2' width only)
4 4'

(L

LED PACKAGE

EXAMPLE: L78/835			
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	WATTAGE
L27	3,200		33
L32	3,200		33
L43	4,300		39
L29	2,900	830 = 82 CRI, 3000K	31
L38	3,800	835 = 82 CRI, 3500K	37
L33	3,300	840 = 82 CRI, 4000K	34
L58	5,800		54
L78	7,800		74

CCT

ACCE

See
DF
DF
DF

DRIVE

Add
DR

DIM

VOLT

120
277
UN
347

SHIELDING

RA Diffuse ribbed acrylic



H.E. Williams, Inc. ■ Carthage, Missouri ■ www.hewilliams.com

PT

LED

SHALLOW PLENUM TROFFER

SPECIFICATIONS

Housing/Reflector - Precision die-formed 22-gauge C.R.S.

Shielding - Diffuse ribbed acrylic.

Finish - Highly reflective non-glare matte white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.

Electrical - High quality mid-power LED boards. L70 >50,000 hours.

Mounting - NEMA Type "G" (1" nominal width grid system only). Drywall kit accessories available, ordered separately.

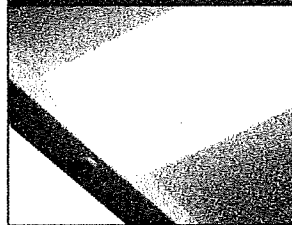
Labels - cCSAs certified as luminaire suitable for dry or damp locations. Type IC - Rated for direct contact with insulation.

Warranty - 5-year limited warranty, see hew.com/warranty.

IMPORTANT:

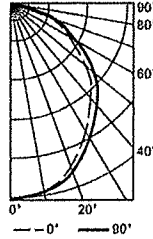
Electrostatic sensitive unit. Observe precautions when handling.

OCCUPANCY SENSOR DETAIL



PHOTOMETRY

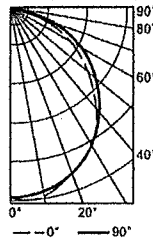
PT-24-L78/835-RA-DIM-UNV Report #: 19235; 02/17/16 | Total Luminaire Output: 7750 lumens; 70.5 Watts
Efficacy: 109.8 lm/W | 82.7 CRI; 3484K CCT | IES Spacing Crit.: End: 1.1, Across: 1.2, Diag.: 1.2



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	2947	2947	2947	
5	2902	2698	2883	276.2
15	2817	2626	2838	801.4
25	2482	2515	2546	1163.6
35	2096	2070	2123	1298.5
45	1631	1721	1809	1331.6
55	1186	1288	1402	1163.6
65	768	910	1034	900.7
75	364	559	692	570.5
85	74	247	283	237.9
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	2241	28.9
	0 - 40	3540	45.7
	0 - 60	6035	77.9
	0 - 90	7750	100.0
	0 - 180	7750	100.0

PT-14-L43/835-RA-DIM-UNV Report #: 19232; 04/28/16 | Total Luminaire Output: 4347 lumens; 38.4 Watts
Efficacy: 113.4 lm/W | 84.9 CRI; 3544K CCT | IES Spacing Crit.: End: 1.2, Across: 1.23, Diag.: 1.3



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1594	1594	1594	
5	1630	1612	1588	153.6
15	1558	1554	1535	438.4
25	1425	1432	1415	658.3
35	1240	1256	1257	783.1
45	989	1033	1048	790.9
55	768	778	811	694.0
65	454	530	552	515.6
75	202	283	295	285.5
85	31	51	60	57.7
90	0	0	0	

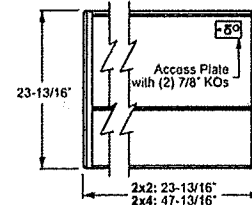
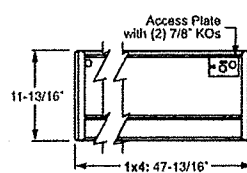
LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	1250	28.6
	0 - 40	2033	46.5
	0 - 60	3518	80.4
	0 - 90	4377	100.0
	0 - 180	4377	100.0

FIXTURE PERFORMANCE DATA

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
1x4			
L32/830	3094	33	95.6
L32/835	3189	33	98.5
L32/840	3298	33	101.9
L43/830	4200	38	111.1
L43/835	4347	38	113.4
L43/840	4417	38	116.9
2x2			
L29/830	2811	31	92.5
L29/835	2897	31	95.4
L29/840	2996	31	98.6
L38/830	3678	37	101.5
L38/835	3792	37	104.7
L38/840	3921	37	108.3
2x4			
L33/830	3191	34	95.4
L33/835	3290	34	98.4
L33/840	3402	34	101.7
L58/830	5625	54	105.6
L58/835	5799	54	108.8
L58/840	5997	54	112.6
L78/830	7539	74	104.4
L78/835	7750	74	109.8
L78/840	8030	74	109.2

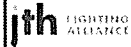
- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is average for 120V through 277V input.
- Results scaled based on relative CC1 output.

FIXTURE DETAILS



DLG qualified products listed at www.designlights.org
The U.S. Department of Energy's Lighting Facts Program has verified product performance based on industry standard testing. For details, see H.E. Williams PT series at www.lightingfacts.com.





Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
PT-24-L78/835-RA-QS-DIM-BD-UNV

Type:
A3

Notes:

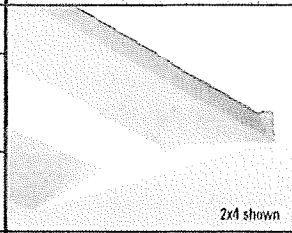
JTH17-28653

SHALLOW PLENUM TROFFER

PT

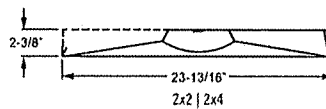
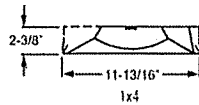
CATALOG # _____ TYPE: _____
PROJECT: _____ NOTES: _____

EXAMPLE → **PT - 2 4 - L78/835 - RA - OPTIONS - DIM - UNV**
 SERIES NOM. NOM. LUMEN PACKAGE CCT & CCT SHIELDING OPTIONS DRIVER VOLTAGE



2x4 shown

CROSS SECTIONS



ORDERING INFORMATION

SERIES
PT Shallow Plenum LED Troffer

NOMINAL WIDTH
1 1" (4" length only)
2 2"

NOMINAL LENGTH
2 2" (2" width only)
4 4"

LED PACKAGE

EXAMPLE: L78/835			
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	WATTAGE
L32	3,200	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	33
L43	4,300		38
L29	2,900		31
L38	3,800		37
L33	3,300		34
L58	5,800		54
L78	7,800		74

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%. See fixture performance data. Additional LED lumen packages available, see options.

SHIELDING

RA Diffuse ribbed acrylic

OPTIONS

- For flexible whip options, see Technical Info.
- EM/10W** 10-watt emergency driver (120-277V only; 2x2 & 2x4 only)
- EM/10WLP** Low-profile 10-watt emergency driver (120-277V only; 1x4 only)
- EQCLIPS** Earthquake clips (4 per fixture)
- OCC...** Integral occupancy and daylight sensor (see back for details):
OCCPH LRI1655 120/277
- (L...)** Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
Example: 6,000 nominal lumens = PT-24-L78/840-(L60).
- CCEA** Chicago plenum
- AMW** Anti-microbial white finish

ACCESSORIES (Shipped Separately)

- See Technical Info for Drywall Kit details.
- DFK-1248W** Drywall kit, 12" x 48", white
- DFK-2424W** Drywall kit, 24" x 24", white
- DFK-2448W** Drywall kit, 24" x 48", white

DRIVER

- Additional dimming drivers available, see Technical Info.
- DRV** Driver prewired for non-dimming applications
- DIM** 10% dimming driver prewired for 0-10V low voltage applications

VOLTAGE

- 120 120V
- 277 277V
- UNV** 120-277V
- 347 347V

FEATURES

- Shallow housing depth for limited plenum applications
- Access to the electrical from room-side of fixture.
- Diffuse ribbed acrylic combined with highly-reflective matte white paint produce high optical efficiencies while providing visual comfort.
- Integral occupancy and daylight sensor available
- Companion surface and retrofit kit also available, see hev.com
- Average efficacy >100 lm/W
- Rated >50,000 hours at 70% lumen maintenance (L70).
- Rated for direct contact with insulation.
- Heavy duty C.R.S. construction
- Paint-after-fabrication provides easy-to-handle finished edges that resist corrosion and improve appearance.
- Minimum 82 CRI; 3000K, 3500K, or 4000K CCT
- This fixture is proudly made in the USA





Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Catalog Number:
PT-24-L78/835-RA-QS-DIM-BD-UNV

Notes:

Type:

A3

JTH17-28653

PT

LED

SHALLOW PLENUM TROFFER

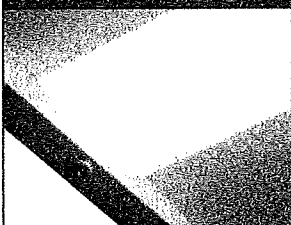
SPECIFICATIONS

Housing/Reflector - Precision die-formed 22-gauge C.R.S.
Shielding - Diffuse ribbed acrylic.
Finish - Highly reflective non-glare matte white polyester powder coat bonded to phospho-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
Electrical - High quality mid-power LED boards. 170 >50,000 hours.
Mounting - NEMA Type "G" (1" nominal width grid system only). Drywall kit accessories available, ordered separately.
Labels - cCSA's certified as luminaire suitable for dry or damp locations. Type IC - Rated for direct contact with insulation.
Warranty - 5-year limited warranty, see how.com/warranty.

IMPORTANT:

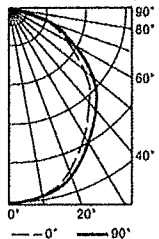
Electrostatic sensitive unit. Observe precautions when handling.

OCCUPANCY SENSOR DETAIL



PHOTOMETRY

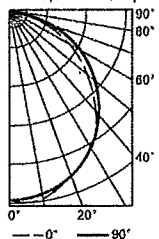
PT-24-L78/835-RA-DIM-UNV Report #: 19235; 02/17/16 | Total Luminaire Output: 7750 lumens; 70.5 Watts
Efficacy: 109.8 lm/W | 82.7 CRI; 3494K CCT | IES Spacing Crit.: End: 1.1, Across: 1.2, Diag.: 1.2



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	2947	2947	2947	
5	2502	2898	2883	276.2
15	2017	2820	2838	601.4
25	2482	2515	2546	1163.0
35	2006	2070	2123	1298.5
45	1631	1721	1809	1331.6
55	1188	1298	1402	1163.6
65	768	910	1034	900.7
75	384	559	692	576.5
85	74	247	283	237.9
90	0	0	0	

ZONE	LUMENS	% FIXTURE
0 - 30	2241	28.9
0 - 40	3540	45.7
0 - 60	6035	77.9
0 - 90	7750	100.0
0 - 120	7750	100.0

PT-14-L43/835-RA-DIM-UNV Report #: 19235; 04/28/16 | Total Luminaire Output: 4347 lumens; 38.4 Watts
Efficacy: 113.4 lm/W | 84.9 CRI; 3544K CCT | IES Spacing Crit.: End: 1.2, Across: 1.2, Diag.: 1.3



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1594	1594	1594	
5	1630	1612	1588	153.6
15	1558	1554	1535	438.4
25	1425	1432	1415	658.3
35	1240	1256	1257	783.1
45	989	1033	1048	790.9
55	708	778	811	694.0
65	454	538	552	515.6
75	202	283	295	285.5
85	31	51	60	57.7
90	0	0	0	

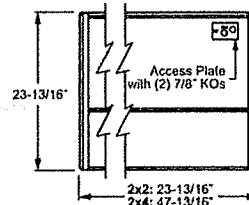
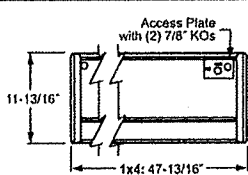
ZONE	LUMENS	% FIXTURE
0 - 30	1250	28.6
0 - 40	2033	46.5
0 - 60	3518	80.4
0 - 90	4377	100.0
0 - 180	4377	100.0

FIXTURE PERFORMANCE DATA

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
1x4			
L32/830	3094	33	95.6
L32/835	3189	33	98.5
L32/840	3298	33	101.9
L43/830	4200	38	111.1
L43/835	4347	38	113.4
L43/840	4417	38	116.9
2x4			
L29/830	2811	31	92.5
L29/835	2897	31	95.4
L29/840	2996	31	98.6
L38/830	3678	37	101.5
L38/835	3792	37	104.7
L38/840	3921	37	108.3
2x4			
L33/830	3191	34	95.4
L33/835	3290	34	98.4
L33/840	3402	34	101.7
L58/830	5625	54	105.6
L58/835	5789	54	108.8
L58/840	5997	54	112.6
L78/830	7539	74	102.4
L78/835	7750	74	109.8
L78/840	8038	74	109.2

- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is average for 120V through 277V input.
- Results scaled based on relative CCT output.

FIXTURE DETAILS



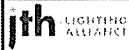
DLC qualified products listed at www.designlights.org
The U.S. Department of Energy's Lighting Facts Program has verified product performance based on industry standardized testing. For details, see www.lightingfacts.com



H.E. WILLIAMS, INC.

H.E. Williams, Inc. ■ Carthage, Missouri ■ www.hew.com

417-358-4065
REV70539J REV12/27/16



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

LT-24-L43/835-AF-DRV-BD-UNV

Type:

A5

Notes:

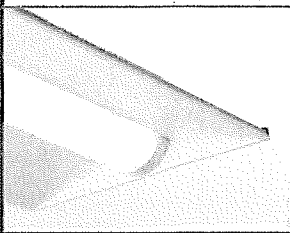
JTH17-28653

LED TROFFER

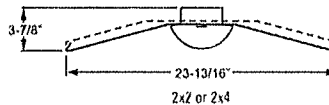
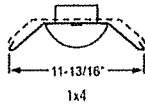
LT

CATALOG: _____ TYPE: _____
 PROJECT: _____ NOTES: _____

EXAMPLE → **LT - 2 4 - L43/830 - AF - OPTIONS - DIM - UNV**
 SERIES NOM. NOM. W. L. LUMEN PACKAGE CU & CCT SHIELDING OPTIONS DRIVER VOLTAGE



CROSS SECTIONS



FEATURES

- ▶ Average efficacy of 100+ lm/W
- ▶ Matte white paint and frosted lens provide pleasing architectural aesthetics with non-glare reflective surfaces
- ▶ Shallow housing depth
- ▶ Integral occupancy and daylight sensor available
- ▶ Rated >50,000 hours at 70% lumen maintenance (L70)
- ▶ Minimum 82 CRI, 3000K, 3500K, or 4000K CCT
- ▶ This fixture is proudly made in the USA

ORDERING INFORMATION

SERIES

LT	LED Troffer
----	-------------

NOMINAL WIDTH

1	1" (4" length only)
2	2"

NOMINAL LENGTH

2	2' (2" width only)
4	4'

LED PACKAGE

EXAMPLE: L43/830			AVERAGE SYSTEM WATTAGE
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	
1x4			
L30	3,000	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	29
L47	4,700		39
2x2			
L22	2,200	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	21
L34	3,400		36
2x4			
L30	3,000	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	29
L43	4,300		40
L73	7,300		71

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/- 5%. See specific photometric tests. Additional LED lumen packages available, see options

SHIELDING

AF	Frosted acrylic
----	-----------------

OPTIONS

- EM/10W** 10-watt emergency driver (120-277V only)
- EQCLIPS** Earthquake clips (4 per fixture)
- OCC_** Integral occupancy and daylight sensor: **OCCPH LRI1655 120/277**
- (L_)** Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package. **Example:** 5,000 nominal lumens = LT-24-L73/840-(L50)

ACCESSORIES

- LT-14-SMK-W** Surface mount kit for LT, 1"x4", white
- LT-22-SMK-W** Surface mount kit for LT, 2"x2", white
- LT-24-SMK-W** Surface mount kit for LT, 2"x4", white
- DFK-1248W** Drywall kit, 12" x 48", white
- DFK-2424W** Drywall kit, 24" x 24", white
- DFK-2448W** Drywall kit, 24" x 48", white

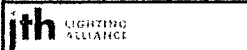
DRIVER

- Additional dimming drivers available, see technical info.
- DRV** Driver prewired for non-dimming applications
- DIM** Driver prewired for 0-10V low voltage dimming applications

VOLTAGE

120	120V
277	277V
UNV	120-277V
347	347V (not available with EM drivers)





Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Notes:

JTH17-28653

LT

LED

LED TROFFER

SPECIFICATIONS

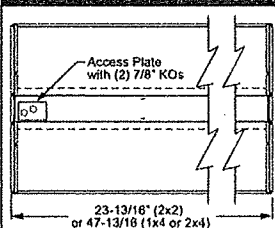
Housing/Reflector - Precision die-formed 22-gauge C.R.S.
Shielding - Frosted acrylic.
Finish - Highly reflective non-glare matte white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
Electrical - High quality mid-power LED boards. 170>50,000 hours.
Mounting - NEMA Type "G". Surface mount and drywall kit accessories available, ordered separately.
Labels - eCSAus certified as luminaire suitable for dry or damp locations. DLC qualified products listed at www.designlights.org.
Warranty - 5-year limited warranty, see hew.com/warranty.

IMPORTANT:

Electrostatic sensitive unit. Observe precautions when handling.

FIXTURE DETAILS

BACK VIEW



SIDE VIEW



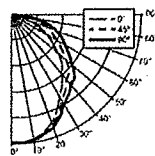
DLC qualified products listed at www.designlights.org.
The U.S. Department of Energy's Lighting Facts Program has verified product performance based on industry standardized testing. For details, see H.E. Williams Lighting at www.lightingfacts.com

PHOTOMETRY

Catalog #: LT-24-L43/830-AF-DIM-UNV

TEST REPORT INFORMATION

- ▶ Test Report #: 10667.0
- ▶ Date: 02/04/15
- ▶ Lamp Type: LED
- ▶ Rated Lumens: 4205
- ▶ Watts: 40
- ▶ Lumens Per Watt: 106
- ▶ CRI: 82
- ▶ CCT: 3043K



CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle 0°	Horizontal Angle 45°	Horizontal Angle 90°	Zonal Lumens
0°	1510	1510	1510	
5°	1514	1514	1516	144.5
15°	1426	1443	1457	408.1
25°	1258	1301	1336	601.2
35°	1078	1162	1162	690.6
45°	838	954	1044	733.6
55°	565	723	827	842.7
65°	377	535	644	519.1
75°	191	347	425	247.0
85°	54	128	113	117.0
90°	0	0	0	

LUMEN SUMMARY

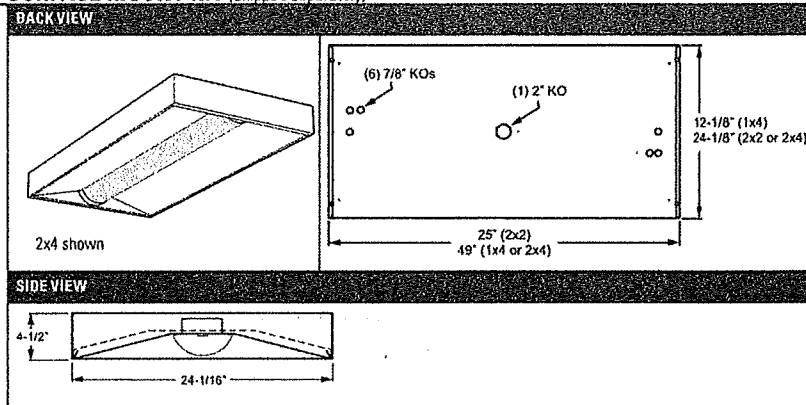
Zone	Lumens	% Fixture
0° - 30°	1165	27.5
0° - 40°	1845	43.9
0° - 60°	3222	76.6
0° - 90°	4205	100.0
Total Luminaire:		
0° - 180°	4205	100.0
IES Spacing Criteria: End = 1 Across = 1.2 Diagonal = 1.2		

FIXTURE PERFORMANCE DATA

Catalog Number	Nominal Lumen Output ¹	Total Power (W) ²	Luminaire Efficacy (lm/W)	CCT (K)	MINIMUM CRI
1x4 UNIT					
LT-14-L30/830	2798	29	96.5	3000	82
LT-14-L30/835	2910*	29	100.3	3500	82
LT-14-L30/840	3026*	29	104.3	4000	82
LT-14-L47/830	4851	49	99.0	3000	82
LT-14-L47/835	4746	49	96.9	3500	82
LT-14-L47/840	5136	49	104.8	4000	82
2x2 UNIT					
LT-22-L22/830	1955	21	93.1	3000	82
LT-22-L22/835	2033*	21	96.8	3500	82
LT-22-L22/840	2115*	21	100.7	4000	82
LT-22-L34/830	3252	36	90.3	3000	82
LT-22-L34/835	3424	36	95.1	3500	82
LT-22-L34/840	3559	36	98.9	4000	82
2x4 UNIT					
LT-24-L30/830	2835	29	97.8	3000	82
LT-24-L30/835	2948*	29	101.7	3500	82
LT-24-L30/840	3068*	29	105.7	4000	82
LT-24-L43/830	4205	40	106.0	3000	82
LT-24-L43/835	4378*	40	109.5	3500	82
LT-24-L43/840	4548*	40	114.0	4000	82
LT-24-L73/830	6929	71	97.6	3000	82
LT-24-L73/835	7258	71	102.2	3500	82
LT-24-L73/840	7462	71	105.1	4000	82

Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
¹ Nominal lumen output based on 3500 CCT. Actual lumens may vary +/- 4% according to color temperature. See specific photometric test(s).
² Wattage shown is average for 120V through 277V input.
³ Results stated based on relative CCT output.

SURFACE MOUNT KIT (Shipped Separately)



Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

PTS-24-L58/835-RA-DIM-BD-UNV

Notes:

Type:

B2

JTH17-28653

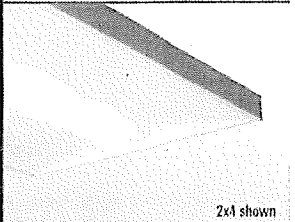
SHALLOW SURFACE MOUNT

PTS

CATALOG # _____ TYPE: _____
 PROJECT: _____ NOTES: _____

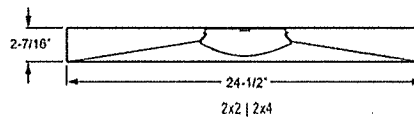
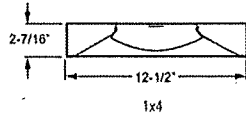
EXAMPLE **PTS - 24 - L78/835 - RA - OPTIONS - DIM - UNV**

SERIES NOM. NOM. LUMEN CRI & SHIELDING OPTIONS DRIVER VOLTAGE
 W. L. PACKAGE CCT



2x4 shown

CROSS SECTIONS



ORDERING INFORMATION

SERIES
PTS Shallow Surface Mount

NOMINAL WIDTH
 1 1' (4' length only)
 2 2'

NOMINAL LENGTH
 2 2' (2" width only)
 4 4'

LED PACKAGE

EXAMPLE: L78/835			
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	WATTAGE
1x4			
L32	3,200	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	33
L43	4,300		38
2x4			
L29	2,900	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	31
L38	3,800		37
2x4			
L33	3,300	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	34
L58	5,800		54
L78	7,800		74

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%. See specific fixture performance data. Additional LED lumen packages available, see options

SHIELDING

RA Diffuse ribbed acrylic

OPTIONS

- EM/10W** 10-watt emergency battery (120-277V only; 2x2 & 2x4 only)
- EM/10WLP** Low-profile 10-watt emergency battery (120-277V only; 1x4 only)
- OCC** Integral occupancy and daylight sensor (see back for details).
OCCPH LR11655 120/277
- (L...)** Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
Example: 6,000 nominal lumens = PTS-24-L78/840-(L60).
- AMW** Anti-microbial white finish

DRIVER

- Additional dimming drivers available, see technical info.
- DRV** Driver prewired for non-dimming applications
- DIM** 10% dimming driver prewired for 0-10V low voltage applications

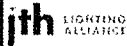
VOLTAGE

120	120V
277	277V
UNV	120-277V
347	347V

FEATURES

- ▶ Shallow fixture depth for low ceiling applications
- ▶ Diffuse ribbed acrylic combined with highly-reflective matte white paint produce high optical efficiencies while providing visual comfort.
- ▶ Integral occupancy and daylight sensor available
- ▶ Average efficacy >100 lm/W
- ▶ Rated >50,000 hours at 70% lumen maintenance (L70).
- ▶ Heavy duty C.R.S. construction
- ▶ Paint-aitor-fabrication provides easy-to-handle finished edges that resist corrosion and improve appearance
- ▶ Minimum 82 CRI; 3000K, 3500K, or 4000K CCT
- ▶ This fixture is proudly made in the USA





Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Notes:

JTH17-28653

PTS

SHALLOW SURFACE MOUNT

LED

SPECIFICATIONS

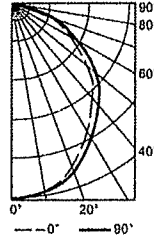
Housing - Precision die-formed 20-gauge C.R.S.
Reflector - Precision die-formed 22-gauge C.R.S. Highly reflective non-glare matte white polyester powder coat.
Shielding - Diffuse ribbed acrylic.
Finish - Textured matte white polyester TGIC powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
Electrical - High quality mid-power LED boards. L70 >50,000 hours.
Mounting - Surface mount
Labels - cCSAus certified as luminaire suitable for dry or damp locations.
Warranty - 5-year limited warranty, see hew.com/warranty.

IMPORTANT:

Electrostatic sensitive unit. Observe precautions when handling.

PHOTOMETRY

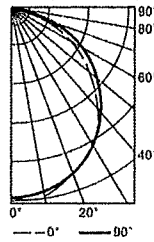
PTS-24-L78/835-RA-DIM-UNV Report #: 19235; 02/17/16 | Total Luminaire Output: 7750 lumens; 70.5 Watts
 Efficacy: 109.8 lm/W | 82.7 CRI; 3494K CCT | IES Spacing Crit.: End: 1.1, Across: 1.2, Diag.: 1.2



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	2947	2947	2947	
5	2902	2898	2883	278.2
15	2817	2826	2838	801.4
25	2482	2515	2546	1163.6
35	2005	2070	2123	1298.5
45	1631	1721	1809	1331.6
55	1186	1298	1402	1163.6
65	768	910	1034	900.7
75	364	559	692	576.5
85	74	247	283	237.9
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	2241	28.9
	0 - 40	3540	45.7
	0 - 60	6035	77.9
	0 - 90	7750	100.0
	0 - 180	7750	100.0

PTS-14-L43/835-RA-DIM-UNV Report #: 19323; 04/28/16 | Total Luminaire Output: 4347 lumens; 38.4 Watts
 Efficacy: 113.4 lm/W | 84.9 CRI; 3544K CCT | IES Spacing Crit.: End: 1.2, Across: 1.2, Diag.: 1.3



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1594	1594	1594	
5	1630	1612	1588	153.6
15	1558	1554	1535	438.4
25	1425	1432	1415	658.3
35	1240	1256	1257	783.1
45	989	1033	1048	790.9
55	708	778	811	634.0
65	454	530	552	515.6
75	202	283	295	285.5
85	31	51	60	57.7
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	1250	28.6
	0 - 40	2033	46.5
	0 - 60	3518	80.4
	0 - 90	4377	100.0
	0 - 180	4377	100.0

FIXTURE PERFORMANCE DATA

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (LM/W)
1x UNIT			
L32/830	3094	33	95.6
L32/835	3109	33	98.5
L32/840	3298	33	101.9
L43/830	4200	38	111.1
L43/835	4347	38	113.4
L43/840	4417	38	116.9
2x UNIT			
L29/830	2811	31	92.5
L29/835	2897	31	95.4
L29/840	2996	31	98.6
L38/830	3078	37	101.5
L38/835	3792	37	104.7
L38/840	3921	37	108.3
3x UNIT			
L33/830	3191	34	95.4
L33/835	3290	34	98.4
L33/840	3402	34	101.7
L58/830	5825	54	105.6
L58/835	5799	54	108.8
L58/840	5997	54	112.6
L78/830	7539	74	102.4
L78/835	7750	74	109.8
L78/840	8038	74	109.2

- Photometrics tested in accordance with IESNA LM-79. Results shown are based on 25°C ambient temperature.
- Wattage shown is average for 120V through 277V input
- Results scaled based on relative CCT output



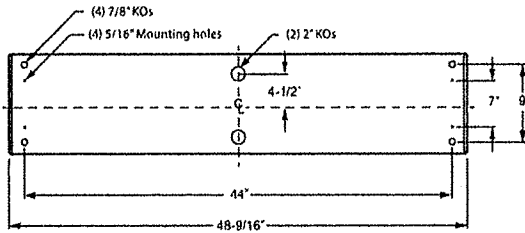
SHALLOW SURFACE MOUNT

PTS

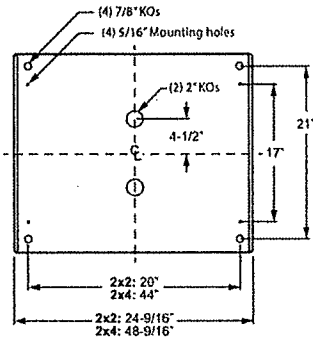
FIXTURE DETAILS

LED

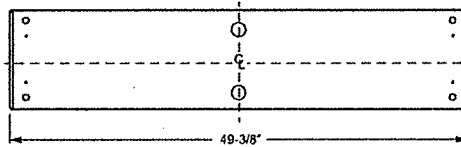
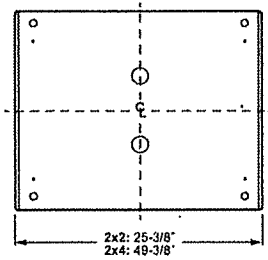
1x4



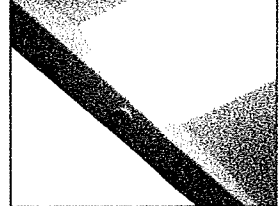
2x2 | 2x4



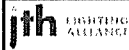
OCCUPANCY SENSOR



OCCUPANCY SENSOR DETAIL



Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

PTS-24-L78/835-RA-DIM-BD-UNV

Notes:

Type:

B3

JTH17-28653

SHALLOW SURFACE MOUNT

PTS

CATALOG #

TYPE:

LED

PROJECT:

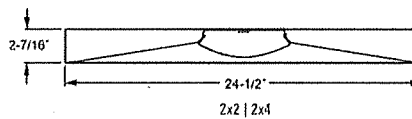
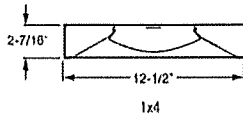
NOTES:



PTS - 2 4 - L78/835 - RA - OPTIONS - DIM - UNV

SERIES NOM. NOM. W. L. LUMEN PACKAGE CRI & CCT SHIELDING OPTIONS DIMMER VOLTAGE

CROSS SECTIONS



2x4 shown

ORDERING INFORMATION

SERIES

PTS Shallow Surface Mount

NOMINAL WIDTH

1 1' (4" length only)
 2 2'

NOMINAL LENGTH

2 2' (2" width only)
 4 4'

LED PACKAGE

EXAMPLE: L78/835			
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	WATTAGE
L32	3,200	830 = 82 CRI, 3000K 835 = 82 CRI, 3500K 840 = 82 CRI, 4000K	33
L40	4,300		39
L29	2,900		31
L38	3,800		37
L33	3,300		34
L58	5,800		54
L78	7,800		74

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%. See specific fixture performance data. Additional LED lumen packages available, see options.

OPTIONS

EM/10W 10-watt emergency battery (120-277V only, 2x2 & 2x4 only)

EM/10WLP Low-profile 10-watt emergency battery (120-277V only; 1x4 only)

OCC Integral occupancy and daylight sensor (see back for details)

OCCPH LRI1655 120/277

(L...) Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.

Example: 6,000 nominal lumens = PTS-24-L78/840-(L60)

AMW Anti-microbial white finish

DRIVER

Additional dimming drivers available, see technical info.

DRV Driver provided for non-dimming applications

DIM 10% dimming driver provided for 0-10V low voltage applications

VOLTAGE

120 120V
 277 277V
 UNV 120-277V
 347 347V

FEATURES

- ▶ Shallow fixture depth for low ceiling applications
- ▶ Diffuse ribbed acrylic combined with highly-reflective matte white paint produce high optical efficiencies while providing visual comfort.
- ▶ Integral occupancy and daylight sensor available
- ▶ Average efficacy >100 lm/W
- ▶ Rated >50,000 hours at 70% lumen maintenance (L70).
- ▶ Heavy duty C.R.S. construction
- ▶ Paint-after-fabrication provides easy-to-handle finished edges that resist corrosion and improve appearance.
- ▶ Minimum 82 CRI; 3000K, 3500K, or 4000K CCT
- ▶ This fixture is proudly made in the USA

SHIELDING

RA Diffuse ribbed acrylic





Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
PTS-24-L78/835-RA-DIM-BD-UNV

Type:

B3

Notes:

JTH17-28853

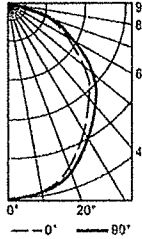
PTS

SHALLOW SURFACE MOUNT

LED

PHOTOMETRY

PTS-24-L78/835-RA-DIM-UNV Report #: 19235; 02/17/16 | Total Luminaires Output: 7750 lumens; 70.5 Watts
Efficacy: 109.8 lm/W | 82.7 CRI; 3494K CCT |IES Spacing Crit.: End: 1.1, Across: 1.2, Diag.: 1.2



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	2947	2947	2947	276.2
5	2802	2698	2803	276.2
15	2817	2626	2838	801.4
25	2482	2515	2546	1163.6
35	2006	2070	2123	1298.5
45	1631	1721	1809	1331.6
55	1185	1298	1402	1163.6
65	768	910	1034	990.7
75	364	559	692	576.5
85	74	247	283	237.9
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	2211	28.9
	0 - 40	3540	45.7
	0 - 60	6035	77.9
	0 - 90	7750	100.0
	0 - 180	7750	100.0

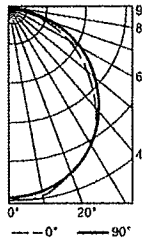
SPECIFICATIONS

Housing - Precision die-formed 20-gauge C.R.S.
Reflector - Precision die-formed 22-gauge C.R.S. Highly reflective non-glare matte white polyester powder coat.
Shielding - Diffuse ribbed acrylic.
Finish - Textured matte white polyester TGIC powder coat bonded to phosphate-iron, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
Electrical - High quality mid-power LED boards. L70 >50,000 hours.
Mounting - Surface mount
Labels - cSAs certified as luminaire suitable for dry or damp locations.
Warranty - 5-year limited warranty, see how.com/warranty.

IMPORTANT:

Electrostatic sensitive unit. Observe precautions when handling.

PTS-14-L43/835-RA-DIM-UNV Report #: 19233; 04/28/16 | Total Luminaires Output: 4347 lumens; 38.4 Watts
Efficacy: 113.4 lm/W | 82.9 CRI; 3544K CCT |IES Spacing Crit.: End: 1.2, Across: 1.2, Diag.: 1.3



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	1594	1594	1594	
5	1630	1612	1589	153.6
15	1658	1554	1535	438.4
25	1425	1432	1415	658.3
35	1240	1256	1257	783.1
45	989	1033	1048	790.9
55	708	770	811	694.0
65	454	530	552	515.6
75	202	283	295	285.5
85	31	51	60	57.7
90	0	0	0	

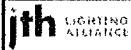
LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	1250	28.6
	0 - 40	2033	46.5
	0 - 60	3518	80.4
	0 - 90	4377	100.0
	0 - 180	4377	100.0

FIXTURE PERFORMANCE DATA

LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (LM/W)
1x1 UNIT			
L32/830	3094	33	95.6
L32/835	3189	33	98.5
L32/840	3298	33	101.9
L43/830	4200	38	111.1
L43/835	4347	38	113.4
L43/840	4417	38	116.9
2x2 UNIT			
L29/830	2811	31	92.5
L29/835	2897	31	95.4
L29/840	2996	31	98.6
L38/830	3678	37	101.5
L38/835	3792	37	104.7
L38/840	3921	37	108.3
2x4 UNIT			
L33/830	3191	34	95.4
L33/835	3290	34	98.4
L33/840	3402	34	101.7
L58/830	5625	54	105.6
L58/835	5799	54	108.8
L58/840	5997	54	112.6
L78/830	7539	74	102.4
L78/835	7750	74	109.8
L78/840	8038	74	109.2

- Photometrics tested in accordance with IESNA 11A-79. Results shown are based on 25°C ambient temperature
- Wattage shown is average for 120V through 277V input.
- Results scaled based on relative CCT output.





Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Notes:

B3

JTH17-28653

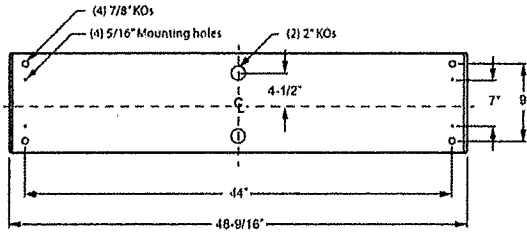
SHALLOW SURFACE MOUNT

PTS

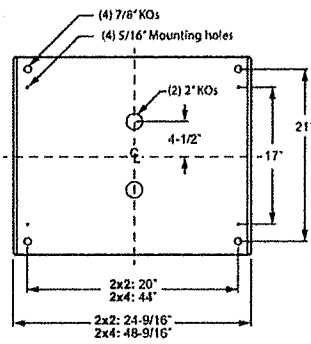
FIXTURE DETAILS

LED

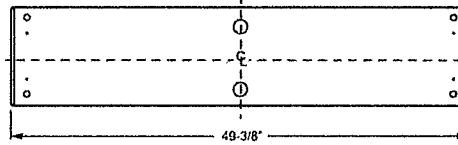
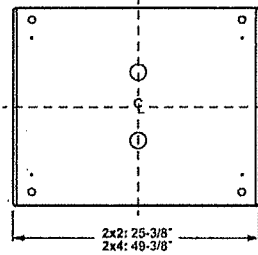
1x4



2x2 | 2x4



OCCUPANCY SENSOR



OCCUPANCY SENSOR DETAIL



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

75L-4-L38/835-A12125-315-DRV-BD-UNV
 Notes:

Type:**C1**

JTH17-28653

LENSED LED STRIP**75L**

CATALOG #

TYPE

LED

PROJECT

NOTES

EXAMPLE

75L - 4 - L65/835 - A12125 - OPTIONS - DIM - UNV

SERIES

NOMINAL LENGTH

LUMEN PACKAGE

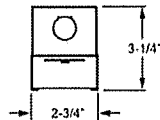
CRI & CCT

SHIELDING

OPTIONS

DRIVER

VOLTAGE

CROSS SECTION**ORDERING INFORMATION****SERIES**

75L Lensed Strip

NOMINAL LENGTH

2 2" (Actual length 22-1/2")
 4 4" (Actual length 44-5/8")
 8 8" (Actual length 89-1/4")

LED PACKAGE

Example: L65/835

LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	AVERAGE SYSTEM WATTAGE
2			
L10	1,000	830 = 80CRI, 3000K	11
L15	1,500	835 = 80CRI, 3500K	17
L20	2,000	840 = 80CRI, 4000K	24
L32	3,200	850 = 80CRI, 5000K	33
4			
L20	2,000	830 = 80CRI, 3000K	23
L38	3,800	835 = 80CRI, 3500K	41
L50	5,000	840 = 80CRI, 4000K	56
L65	6,500	850 = 80CRI, 5000K	67
8			
L40	4,000	830 = 80CRI, 3000K	42
L76	7,600	835 = 80CRI, 3500K	78
L100	10,000	840 = 80CRI, 4000K	111
L130	13,000	850 = 80CRI, 5000K	135

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%. See specific photometric tests. Additional LED lumen packages available, see options.

SHIELDING

A12125 Acrylic, pattern #12, 125" thick
 DMA Diffused matte acrylic, 080" thick

OPTIONS

EM/10WLP Low-profile 10-watt emergency driver (Must specify 120V or 277V; not available with L32, L65, and L130 lumen packages)
 (L_) Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
 Example: 5,500 nominal lumens = 75L-4-L65/835-(L55).

ACCESSORIES

WG-7511-LED 11-gauge white powder coat wireguard
 WG-7514-LED 14-gauge white powder coat wireguard
 315 1-1/2" coiling spacer
 VBY (2) Y-hangers
 VBY-2 (2) Y-hangers and (2) 2' chains

DRIVER

Additional dimming drivers available, see Technical Info.

DRV Driver preferred for non-dimming applications
 DIM Driver preferred for 0-10V low voltage dimming applications

VOLTAGE

120 120V
 277 277V
 UNV 120-277V
 347 347V (not available with EM drivers)

FEATURES

- ▶ Small fixture profile allows inconspicuous placement in coves or confined spaces.
- ▶ Frosted or prismatic lens protects LEDs and improves appearance.
- ▶ Row applications produce continuous light with minimal interruption between fixtures.
- ▶ LED technology provides high efficacy and energy efficiency.
- ▶ Power and light levels can be custom set to meet energy and design needs in applications ranging from coves to high-ceiling common areas.
- ▶ Multiple dimming protocols available.
- ▶ Minimum 80 CRI; 3000K, 3500K, 4000K, or 5000K CCT.
- ▶ This fixture is proudly made in the USA.



75L

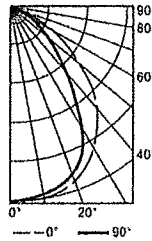
LENSED LED STRIP

LED

PHOTOMETRY

SPECIFICATIONS

Housing - 22-gauge die-formed C.R.S.
Finish - 92% minimum average reflective white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
Shielding - Acrylic, pattern #12, .125" thick.
Electrical - High quality mid-power LED board. Rated for 50,000 hours at 70% lumen maintenance (L70). 25°C maximum ambient operating temperature.
Mounting - Surface or suspended.
Labels - cETLus conforms to UL STD 1598 Certified to CAN/CSA STD C22.2 No. 250.0 Suitable for damp locations.
Warranty - 5-year limited warranty, see hew.com/warranty.



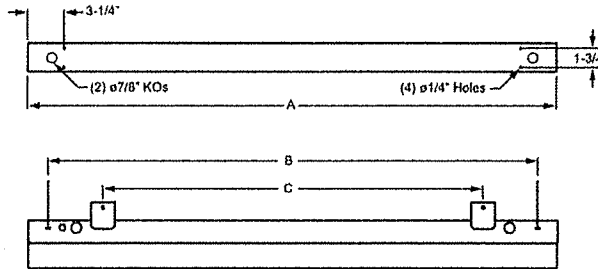
VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	3129	3129	3129	
5	3183	3121	3087	297.8
15	3082	3030	3003	858.8
25	2852	2801	2706	1288.3
35	2450	2232	1655	1376.6
45	1873	1396	1083	1122.7
55	1210	815	662	776.9
65	621	394	406	450.5
75	312	203	251	256.8
85	92	69	82	92.3
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	2447	37.5
	0 - 40	3823	58.6
	0 - 60	5723	87.7
	0 - 90	6523	100.0
	0 - 180	6523	100.0

IMPORTANT:

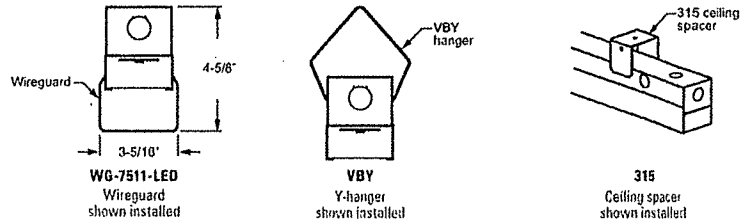
Electrostatic sensitive unit. Observe precautions when handling.

FIXTURE DETAILS



ACTUAL LENGTH (A)	NOMINAL FIXTURE LENGTH		
	22-1/2"	44-5/8"	89-1/4"
VBY HANGER (B)	19"	41"	85"
315 SPACER (C)	10"	32"	77"

ACCESSORIES DETAILS



Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

75L-4-L38/835-A12125-(2)VBY-2/PWU-DRV-BD-UNV

Notes:

Type:

C2

JTH17-28653

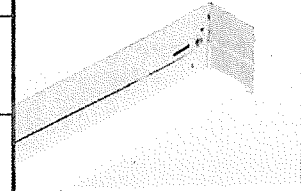
LENSED LED STRIP

75L

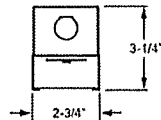
CATALOG #	TYPE
PROJECT	NOTES

EXAMPLE 75L - 4 - L65/835 - A12125 - OPTIONS - DIM - UNV

SERIES NOMINAL LENGTH LUMEN PACKAGE CRI & CCT SHIELDING OPTIONS DRIVER VOLTAGE



CROSS SECTION



FEATURES

- ▶ Small fixture profile allows inconspicuous placement in coves or confined spaces
- ▶ Frosted or prismatic lens protects LEDs and improves appearance.
- ▶ Row applications produce continuous light with minimal interruption between fixtures.
- ▶ LED technology provides high efficacy and energy efficiency.
- ▶ Power and light levels can be custom set to meet energy and design needs in applications ranging from coves to high-ceiling common areas.
- ▶ Multiple dimming protocols available.
- ▶ Minimum 80 CRI, 3000K, 3500K, 4000K, or 5000K CCT.
- ▶ This fixture is proudly made in the USA.

ORDERING INFORMATION

SERIES

75L	Lensed Strip
-----	--------------

NOMINAL LENGTH

2	2' (Actual length 22-1/2")
4	4' (Actual length 44-5/8")
8	8' (Actual length 89-1/4")

LED PACKAGE

Example: L65/835			AVERAGE SYSTEM WATTAGE
LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM CRI & CCT	
2			
L10	1,000	830 = 80CRI, 3000K	11
L15	1,500	835 = 80CRI, 3500K	17
L20	2,000	840 = 80CRI, 4000K	24
L32	3,200	850 = 80CRI, 5000K	33
4			
L20	2,000	830 = 80CRI, 3000K	23
L38	3,800	835 = 80CRI, 3500K	41
L50	5,000	840 = 80CRI, 4000K	55
L65	6,500	850 = 80CRI, 5000K	67
8			
L40	4,000	830 = 80CRI, 3000K	42
L76	7,600	835 = 80CRI, 3500K	78
L100	10,000	840 = 80CRI, 4000K	111
L130	13,000	850 = 80CRI, 5000K	135

Nominal lumen output based on 3500 CCT. Actual lumens may vary +/-5%. See specific photometric tests. Additional LED lumen packages available, see options.

SHIELDING

A12125	Acrylic, pattern #12, .125" thick
DMA	Diffused matte acrylic, .080" thick

OPTIONS

EM/10WLP Low-profile 10-watt emergency driver (Must specify 120V or 277V; not available with L32, L65, and L130 lumen packages)

(L...) Additional lower lumen packages available. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.

Example: 5,500 nominal lumens = 75L-4-L65/835-(L55).

ACCESSORIES

WG-7511-LED	11-gauge white powder coat wireguard
WG-7514-LED	14-gauge white powder coat wireguard
315	1-1/2" ceiling spacer
VBY	(2) Y-hangers
VBY-2	(2) Y-hangers and (2) 2" chains

DRIVER

Additional dimming drivers available, see technical info.

DRV	Driver prewired for non-dimming applications
DIM	Driver prewired for 0-10V low voltage dimming applications

VOLTAGE

120	120V
277	277V
UNV	120-277V
347	347V (not available with EM drivers)



75L

LENSED LED STRIP

LED

SPECIFICATIONS

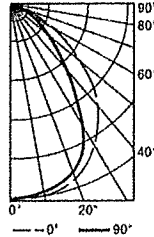
Housing -- 22-gauge die-formed C.R.S.
Finish -- 92% minimum average reflective white polyester powder coat bonded to phosphato-iron, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
Shielding -- Acrylic, pattern #12, .125" thick.
Electrical -- High quality mid-power LED board. Rated for 50,000 hours at 70% lumen maintenance (L70), 25°C maximum ambient operating temperature.
Mounting -- Surface or suspended.
Labels -- cETLus conforms to UL STD 1598. Certified to CAN/CSA STD C22.2 No. 250.0. Suitable for damp locations.
Warranty -- 5-year limited warranty, see hew.com/warranty.

IMPORTANT:

Electrostatic sensitive unit. Observe precautions when handling.

PHOTOMETRY

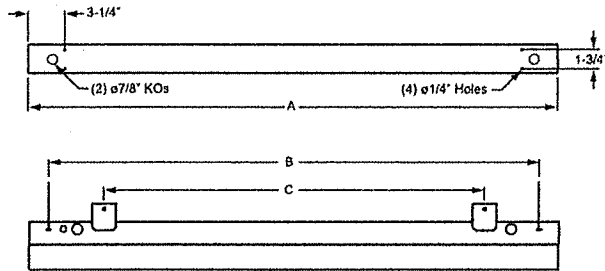
75-4-L65/840-A12125 Report #: 17759.0: 12/11/13 | Total Luminaire Output: 6523 lumens; 71.1 Watts
 Efficacy: 91.7 lm/W | 82.3 CRI: 35378K CCT | IES Spacing Criteria: End: 1.3, Across: 1.1



VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0°	45°	90°	
0	3129	3129	3129	
5	3183	3121	3087	297.8
15	3062	3030	3003	858.8
25	2852	2801	2706	1290.3
35	2450	2232	1855	1376.6
45	1873	1386	1083	1122.7
55	1218	815	662	776.9
65	621	394	406	450.5
75	312	203	254	258.8
85	92	69	82	92.3
90	0	0	0	

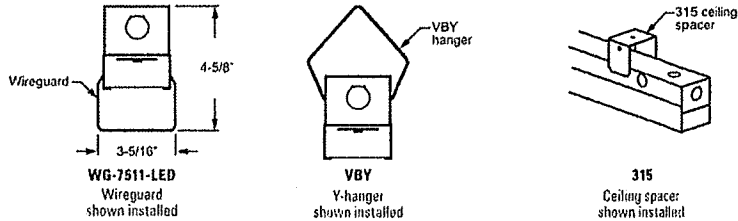
LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	2447	37.5
	0 - 40	3823	58.6
	0 - 60	5723	87.7
	0 - 90	6523	100.0
	0 - 180	6523	100.0

FIXTURE DETAILS

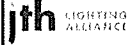


ACTUAL LENGTH (A)	NOMINAL FIXTURE LENGTH		
	22-1/2"	44-5/8"	89-1/4"
VBY HANGER (B)	19"	41"	85"
315 SPACER (C)	10"	32"	77"

ACCESSORIES DETAILS



Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
LS4-25L-40K-10V/S-WRAC-OC-1

Notes:

Type:

C3

JTH17-28653

LS Series

LS4™ LED Surface Ambient Luminaire – 4'

Product Description

The LS4™ surface ambient luminaire delivers up to 109 lumens per watt of Cree TrueWhite® Technology 90+ CRI illumination. The 4' (1219mm) luminaire is available with up to 5000 lumens in 3500K, 4000K and 5000K color temperatures. The LS Series features sleek and compact architectural design with flexible lumen packages, color temperatures and standard 0-10V dimming. Flexible mounting of the LS Series allows for individual mount or continuous row applications for surface mount, suspended mount, pendant mount and cove installations.

Applications: Surface ambient applications for new construction and upgrade.

Performance Summary

Utilizes Cree TrueWhite® Technology

Initial Delivered Lumens: 2,500-5,000 lumens

Input Power: 23-50 watts

Efficacy: Up to 109 LPW

CRI: 90+ CRI

CCT: 3500K, 4000K, 5000K

Input Voltage: 120-277, 347 VAC

L₇₀ Lifetime: > 100,000 hours at 35°C

Limited Warranty*: 10 years on luminaire

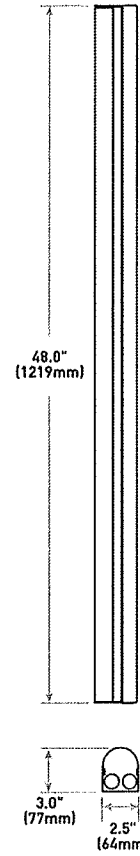
Limited Warranty Emergency Back Up (EB) Battery: 1 Year on Battery Back Up. Test regularly in accordance with local codes

Dimensions: L 48.0" (1219mm) x W 2.5" (64mm) x H 3.0" (77mm)

Weight: 5 lbs. (2.3kg)

Dimming: 0-10V dimming to 5%

*See <http://lighting.cree.com/warranty> for warranty terms



Reflectors & Accessories

Field-Installed		
Reflectors - Refer to reflector spec sheet Solid LS4-SR - Pair of reflectors Apertured LS4-AR - Pair of reflectors Joint Aligner LS4-RJ - Top housing aligner for continuous rows LS-RFLJ - Reflector aligner for continuous row	Adjustable Cable Support Kits for T-Bar Applications AC5-48-014B-JB - Includes 5.0" (127mm) Canopy, 48.0" (1219mm) Adjustable Cable, Q14B Gripper and T-Bar Clip Continuous Row Through Wiring Kit LS4TWK - Includes 13) #12AWG 54.0" (1372mm) Wires for Line (black), Neutral (white), Ground (green), 12) #18AWG 54.0" (1372mm) Wires for 0-10V dimming - Optional accessory for use when luminaire is not ordered with factory installed TW option - Not for use with 347V or EB14 option	Adjustable Cable Support Kits w/ Power Feeds AC5-12/3-48-014B-JB - Non-dimming applications - Includes 5.0" (127mm) Cable Canopy, 48.0" (1219mm) #12/3 SJT Cord, Q14B Gripper and J-Box Strap AC5-18/5-48-014B-JB - Dimming applications - Includes 5.0" (127mm) Cable Canopy, 48.0" (1219mm) #18/5 SJT Cord, Q14B Gripper and J-Box Strap AC5-18/2-48-014B-JB - For use with AC5-12/3-48-014B-JB for selective luminaire dimming control in row mounted luminaires - Includes 5.0" (127mm) Cable Canopy, 48.0" (1219mm) #18/2 SVT Cord, Q14B Gripper and J-Box Strap Dimming Occupancy Sensor w/Photocell S-WRAC-OC-1 - Enables daylight harvesting - Not for use with 347V or EB14 option - Not for continuous row applications - Refer to installation instructions for details

Ordering Information

Example: LS4-40L-35K-10V

LS4	Product	Initial Delivered Lumens	CCT	Control	Voltage	Options
LS4	25L 23W, 2,500 lumens 40L 44W, 4,000 lumens 50L 50W, 5,000 lumens	35K 3500K 40K 4000K 50K 5000K	10V 0-10V dimming to 5%	Blank 120-277 Volt 34 347 Volt - Available with 40L only	EB14 Emergency Backup - Minimum 90 minutes - 1,400 lumens - Available in US only - Minimum operating temperature: 0°C (32°F) TW Through Wire Option - Factory installed - Includes quick connects for use in continuous row applications - Not for use with 347V or EB14 option	



Rev. Date: V6 01/20/2017

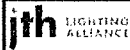


US: lighting.cree.com

T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada

T (800) 473-1234 F (800) 890-7507



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

LS4-25L-40K-10V/S-WRAC-OC-1

Type:

C3

Notes:

JTH17-28653

LS Series Surface Ambient Luminaire – 4'

Product Specifications

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution.

CONSTRUCTION & MATERIALS

- Constructed of durable 22 gauge steel
- Acrylic lens delivers a low-glare, diffused light distribution
- Prepainted white for enhanced smooth finish

OPTICAL SYSTEM

- Unique combination of reflective and refractive optical components achieves a uniform, comfortable appearance while eliminating pixelation and color fringing
- Components work together to optimize distribution, balancing the delivery of high illuminance levels on horizontal surfaces with an ideal amount of light on walls and vertical-surfaces. This increases the perception of spaciousness

ELECTRICAL SYSTEM

- Power Factor: > 0.9
- Input Power: Stays constant over life
- Input Voltage: 120-277 or 347 VAC, 60Hz
- Operating Temperature Range: -28°C - +35°C (-18.4°F - +95°F); minimum operating temperature with EB14 option is 0°C (32°F)
- Total Harmonic Distortion: < 20% for 120-277V

CONTROLS

- Continuous dimming to 5% with 0-10V DC control protocol
- 10V Source Current: 0.25mA
- For use with Class 1 or Class 2 dimming systems. Use only lighting controls with relay or FET-based outputs, or lighting controls with neutral connection. Reference www.creeinc.com/extlink.asp?70982140Z58R34126620963 for recommended dimming controls and wiring diagrams

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for damp locations
- Suitable for continuous row mounting
- Designed for indoor use
- Not intended for use in environments containing airborne corrosive agents such as chemical solvents, cleaners, or cutting fluids
- Ingress Protection: IP20
- UL924 (EB option). Maximum mounting height: 10.0' [3.0m]
- RoHS compliant. Consult factory for additional details
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- DLC qualified. Please refer to <http://www.designlights.org/QPL> for most current information

Electrical Data*						
Initial Delivered Lumens	System Watts 120-347V	Total Current (A)				
		120V	208V	240V	277V	347V
25L	23	0.20	0.12	0.11	0.09	N/A
25L w/EB14	27	0.23	0.14	0.13	0.11	N/A
40L	44	0.37	0.24	0.20	0.17	0.13
40L w/EB14	44	0.37	0.24	0.20	0.17	N/A
50L	50	0.44	0.27	0.23	0.19	N/A
50L w/EB14	55	0.47	0.29	0.25	0.21	N/A

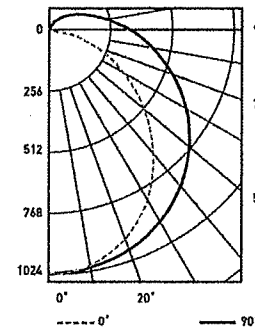
* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-347V +/- 10%

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Photometry

LS4-40L-40K BASED ON CESTL REPORT TEST #: PL03353-001

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



Average Luminance Table (cd/m²)			
Vertical Angle	Horizontal Angle		
	0°	45°	90°
45°	3,009	3,545	4,045
55°	2,588	3,434	4,129
65°	2,113	3,403	4,322
75°	1,552	3,562	4,787
85°	754	4,367	6,196

Coefficients Of Utilization – Zonal Cavity Method				
RC %:	80			
RW %:	70	50	30	10
RCR: 0	116	116	116	116
1	104	98	93	88
2	93	84	76	70
3	85	73	64	57
4	77	64	55	48
5	71	57	48	41
6	65	51	42	35
7	60	46	37	31
8	56	42	34	28
9	52	39	30	25
10	49	36	28	22

Effective Floor Cavity Reflectance: 20%

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	796	N/A	20.4%
0-40	1,309	N/A	33.6%
0-60	2,375	N/A	60.9%
0-90	3,447	N/A	88.4%
0-180	3,898	N/A	100%

Reference <http://lighting.cree.com/products/indoor/surface-ambient/ls-series> for detailed photometric data

Recommended LS Series Lumen Maintenance Factors (LMF) ¹					
Ambient	Initial LMF	25K hr Projected ¹ LMF	50K hr Projected ¹ LMF	75K hr Projected ² LMF	100K hr Calculated ³ LMF
0°C (32°F)	1.05	0.99	0.96	0.92	0.88
5°C (41°F)	1.04	0.99	0.95	0.91	0.87
10°C (50°F)	1.03	0.98	0.94	0.90	0.86
15°C (59°F)	1.02	0.97	0.93	0.89	0.86
20°C (68°F)	1.01	0.96	0.92	0.88	0.85
25°C (77°F)	1.00	0.95	0.91	0.87	0.84
30°C (86°F)	0.99	0.94	0.90	0.86	0.83
35°C (95°F)	0.98	0.93	0.89	0.84	0.82

¹ Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing in accordance with IESNA TM-21-11. Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip.
² In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip



Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
ICL60-L15C/835-CS/W-HB-DIM-120

Type:

D1

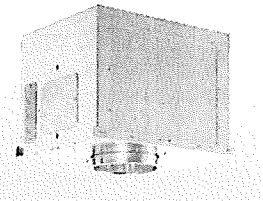
Notes:

JTH17-28653

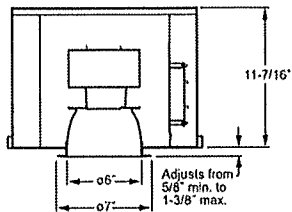
IC-RATED 6" ROUND LED DOWNLIGHT

ICL60

EXAMPLE	ICL60	-	L11C/835	-	CS/M	-	OPTIONS	-	NB	-	DIM	-	120
	↓		↓		↓		↓		↓		↓		↓
	SERIES		LUMEN PACKAGE		CRI & CCT		REFLECTOR DIST. FINISH		OPTIONS		MOUNTING		DRIVER
													VOLTAGE



CROSS SECTION



Pan Size: 15-11/16" x 12-1/4"
Ceiling Cutout: Ø6-1/2"

ORDERING INFORMATION

SERIES

ICL60 IC-Rated 6" Round LED Downlight

LED PACKAGE

See page 3 for delivered lumens and fixture performance data.

LUMEN PACKAGE	SOURCE LUMENS	MINIMUM		AVERAGE SYSTEM WATTAGE
		CRI	CCT	
L11C	1100	8 - 80	27-2700K	15
		9 - 90	30-3000K	
L15C	1500	8 - 80	35-3500K	19
		9 - 90	40-4000K	

REFLECTOR FINISH (Must specify)

CS	Clear semi-specular (standard)
CG	Champagne gold
GD	Gold
PW	Pewter
SG	Satin-glow
SPC	Clear specular
STR	Straw
WH	Painted white reflector, textured (cannot be used with ___/CAL or ___/CGS)
WT	Wheat

DISTRIBUTION (Must specify)

W	Wide
M	Medium

OPTIONS

MWT	Matte white trim
AC/CAL	Accent cone with clear acrylic lens (wide distribution only)
MB/CAL	Micro-baffle with clear acrylic lens (wide distribution only)
AC/CGS	Accent cone with clear glass lens (wide distribution only)
MB/CGS	Micro-baffle with clear glass lens (wide distribution only)
LAD	Acrylic luminous disk (CS reflector only)
LADD	Acrylic luminous disk open (CS reflector only)
LAR	Acrylic luminous ring (CS reflector only)
ATH	Airtight housing
WET/CC	Wet location, covered ceiling listed (when specified with ___/CAL or ___/CGS options)
WW	Wall wash (wide distribution only, not available with trim or lens options)

MOUNTING (Must specify)

HB	(2) Hanger brackets with (2) bar hangers (rigid bar mounting)
NB	(2) Nailers bars (wood joist mounting)
TB	(2) T-bar hangers (grid ceiling mounting)

DRIVER

Additional dimming drivers available, see Technical Info

DRV	Driver prewired for non-dimming applications
DIM	Driver prewired for 0-10V low voltage dimming applications

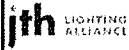
VOLTAGE (Must specify)

120	120V
277	277V

FEATURES

- ▶ Rated for >55,000 hours at 70% lumen maintenance (L70)
- ▶ 1100- or 1500-lumen module.
- ▶ 2700K, 3000K, 3500K, or 4000K color temperatures, minimum 80 or 90 CRI
- ▶ LED module and driver accessible from below ceiling plane for ease of maintenance.
- ▶ Optional wet location under covered ceiling available when specified with ___/CAL or ___/CGS option.
- ▶ Finned, extruded aluminum, passive heat sink dissipates heat for superior thermal management.
- ▶ Integral pan throat field-adjusts to accommodate ceilings up to 1-3/8" thick.
- ▶ Self-flanged aluminum reflector offers maximum optical performance and provides crisp, clean installation without unsightly light leaks.
- ▶ Sturdy one-piece pan construction.
- ▶ For use in direct contact with insulation.
- ▶ Airtight option (ATH) complies with ASTM-E283 standards
- ▶ This fixture is proudly made in the USA.





Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
ICL60-L15C/835-CS/W-HB-DIM-120

Type:
D1

Notes:

JTH17-28653

ICL60

IC-RATED 6" ROUND LED DOWNLIGHT

LED

SPECIFICATIONS

Housing - 22-gauge galvanized steel housing with 20-gauge pan and adjustable throat (5/8" to 1-3/8"). Extruded aluminum heat sink.
Inner Housing Finish - Black TGIC polyester powder coat bonded to phosphate-free, multi-stage pretreated metal.
Reflector - Low-iridescent aluminum Clear semi-specular (CS) finish standard.
Electrical - Prewired at factory for easy field installation. High quality class 2 C.O.B LED array. Reported L70 >55,000 hours.
Mounting - Recessed.
Labels - cETLus conforms to UL STD 1598; Certified to CAN/CSA STD C22.2 No. 250.0. Suitable for damp locations. Suitable for wet location under covered ceiling when specified with AC/CAL or MB/CAL option. Suitable for direct insulation contact.
Qualifications - RoHS compliant.
Warranty - 5-year limited warranty, see hew.com/warranty.

CANDLEPOWER MULTIPLIER

Catalog Number	Reflector Finish	Conversion Factor
SPC	Specular	1.00
CG	Champagne Gold	.86
GD	Gold	.83
PW	Pewter	.88
STR	Strew	.97
WT	White	.88

COLOR TEMPERATURE MULTIPLIERS

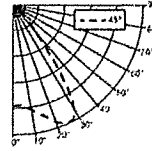
CCT/CRI	Conversion Factor
2700K/80CRI	0.85
3000K/80CRI	0.96
3500K/80CRI	1.00
4000K/80CRI	1.01
2700K/90CRI	0.74
3000K/90CRI	0.85
3500K/90CRI	0.90
4000K/90CRI	0.91

PHOTOMETRY - WIDE

Catalog #: ICL60-L11C/835-CS/W-DIM-120

INFORMATION

- Lamp Type: LED
- Rated Lumens: 1043
- Watts: 15.2
- Lumens Per Watt: 68.7



CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle 45°	Zonal Lumens
0°	637	15
5°	840	15
15°	722	33
25°	816	169
35°	466	191
45°	101	55
55°	13	11
65°	5	2.4
75°	2	1.4
85°	1	0.8
90°	1	0.8

LUMEN SUMMARY

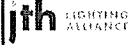
Zone	Lumens	% Fixture
0°-40°	932	69.7
0°-60°	1030	99.2
0°-90°	1039	100.0
Total Luminaire:		
0-180°	1039	100.0

FIXTURE PERFORMANCE DATA

Lumen Package	Distribution	Average System Wattage	Delivered Lumens	Efficacy (lm/W)
L11C	W	15	1043	68.7
	M		986	64.9
L15C	W	19	1347	71.1
	M		1273	67.2



Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

ICL60-L15C/835-CS/W-HB-DRV-120

Notes:

Type:

D2

JTH17-28653

IC-RATED 6" ROUND LED DOWNLIGHT

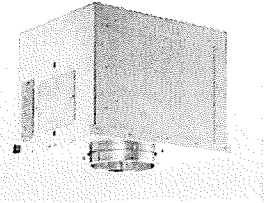
ICL60

CATALOG #	TYPE
PROJECT	NOTES

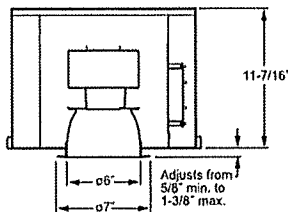
EXAMPLE

ICL60 - L11C/835 - CS/M - OPTIONS - NB - DIM - 120

✓ SERIES	✓ LUMEN PACKAGE	✓ CRI & CCT	✓ REFLECTOR FINISH	✓ REFLECTOR DIST.	✓ OPTIONS	✓ MOUNTING	✓ DRIVER	✓ VOLTAGE
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CROSS SECTION



Pan Size: 15-11/16" x 12-1/4"
 Ceiling Cutout: ø6-1/2"

FEATURES

- ▶ Rated for >55,000 hours at 70% lumen maintenance (L70)
- ▶ 1100- or 1500-lumen module
- ▶ 2700K, 3000K, 3500K, or 4000K color temperatures, minimum 80 or 90 CRI
- ▶ LED module and driver accessible from below ceiling plane for ease of maintenance
- ▶ Optional wet location under covered ceiling available when specified with ___/CAL or ___/CGS option.
- ▶ Finned, extruded aluminum, passive heat sink dissipates heat for superior thermal management.
- ▶ Integral pan throat field-adjusts to accommodate ceilings up to 1-3/8" thick.
- ▶ Self-flanged aluminum reflector offers maximum optical performance and provides crisp, clean installation without unsightly light leaks.
- ▶ Sturdy one-piece pan construction.
- ▶ For use in direct contact with insulation.
- ▶ Airtight option (ATH) complies with ASTM-E203 standards.
- ▶ This fixture is proudly made in the USA.

ORDERING INFORMATION

SERIES

ICL60 IC-Rated 6" Round LED Downlight

LED PACKAGE

See page 3 for delivered lumens and fixture performance data.

LUMEN PACKAGE	SOURCE LUMENS	EXAMPLE: L11C/835		AVERAGE SYSTEM WATTAGE
		MINIMUM		
		CRI	CCT	
L11C	1100	8 = 80	27-2700K 30-3000K	15
		9 = 90	35-3500K 40-4000K	
L15C	1500			19

REFLECTOR FINISH (Must specify)

CS	Clear semi-specular (standard)
CG	Champagne gold
GD	Gold
PW	Pewter
SG	Satin-glow
SPC	Clear specular
STR	Straw
WH	Painted white reflector, textured (cannot be used with ___/CAL or ___/CGS)
WT	Wheat

DISTRIBUTION (Must specify)

W	Wide
M	Medium

OPTIONS

MWT	Matte white trim
AC/CAL	Accent cone with clear acrylic lens (wide distribution only)
MB/CAL	Micro-baffle with clear acrylic lens (wide distribution only)
AC/CGS	Accent cone with clear glass lens (wide distribution only)
MB/CGS	Micro-baffle with clear glass lens (wide distribution only)
LAD	Acrylic luminous disk (CS reflector only)
LADO	Acrylic luminous disk open (CS reflector only)
LAR	Acrylic luminous ring (CS reflector only)
ATH	Airtight housing
WET/CC	Wet location, covered ceiling listed (when specified with ___/CAL or ___/CGS options).
WW	Wall wash (wide distribution only, not available with trim or lens options)

MOUNTING (Must specify)

HB	(2) Hanger brackets with (2) bar hangers (rod bar mounting)
NB	(2) Nailers bars (wood joist mounting)
TB	(2) T-bar hangers (grid ceiling mounting)

DRIVER

Additional dimming drivers available, see Technical Info	
DRV	Driver provided for non-dimming applications
DIM	Driver provided for 0-10V low voltage dimming applications

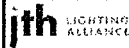
VOLTAGE (Must specify)

120	120V
277	277V



H.E. Williams, Inc. ■ Carthage, Missouri ■ www.hew.com ■ 417-358-4065





Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Notes:

JTH17-28653

ICL60

IC-RATED 6" ROUND LED DOWNLIGHT

LED

PHOTOMETRY - WIDE

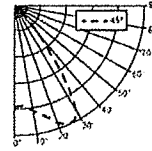
Catalog #: ICL60-L11C/835-CS/W-DIM-120

SPECIFICATIONS

Housing - 22-gauge galvanized steel housing with 20-gauge pan and adjustable throat (5/8" to 1-3/8"). Extruded aluminum heat sink.
Inner Housing Finish - Black TGIC polyester powder coat bonded to phosphate-free, multi-stage pretreated metal.
Reflector - Low-iridescent aluminum. Clear semi-specular (CS) finish standard.
Electrocoat - Pre-wired at factory for easy field installation. High quality class 2 C.O.B LED array. Reported L70 >55,000 hours.
Mounting - Recessed.
Labels - cETLus conforms to UL STD 1599, Certified to CAN/CSA STD C27.2
No. 250.0. Suitable for damp locations. Suitable for wet location under covered ceiling when specified with AC/CAL or MB/CAL option. Suitable for direct insulation contact.
Qualifications - RoHS compliant.
Warranty - 5-year limited warranty, see hew.com/warranty.

INFORMATION

- Lamp Type: LED
- Rated Lumens: 1043
- Watts: 15.2
- Lumens Per Watt: 68.7



CANDLEPOWER DISTRIBUTION

Vertical Angle	Horizontal Angle 45°	Zonal Lumens
0°	637	
5°	649	15
15°	722	83
25°	816	169
35°	866	181
45°	101	56
55°	13	11
65°	5	2.9
75°	2	1.4
85°	1	0.8
90°	1	

LUMEN SUMMARY

Zone	Lumens	% Fixture
0° - 40°	932	89.7
0° - 60°	1030	99.2
0° - 90°	1043	100.0
Total Luminaire		
0 - 180°	1030	100.0

CANDLEPOWER MULTIPLIER

Catalog Number	Reflector Finish	Conversion Factor
SPC	Specular	1.02
CG	Champagne Gold	.96
GD	Gold	.93
PW	Pewter	.86
STR	Straw	.97
WT	Wheat	.88

COLOR TEMPERATURE MULTIPLIERS

CCT/CRI	Conversion Factor
2700K/80CRI	0.95
3000K/80CRI	0.96
3500K/80CRI	1.00
4000K/80CRI	1.01
2700K/90CRI	0.74
3000K/90CRI	0.85
3500K/90CRI	0.90
4000K/90CRI	0.91

FIXTURE PERFORMANCE DATA

Lumen Package	Distribution	Average System Voltage	Delivered Lumens	Efficacy (lm/W)
L11C	W	15	1043	68.7
	M		988	64.9
L15C	W	19	1347	71.1
	M		1273	67.2



2" REMODEL DOWNLIGHT

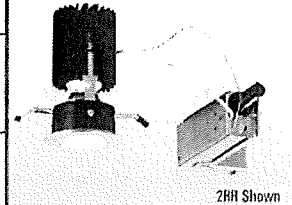
2R

LED

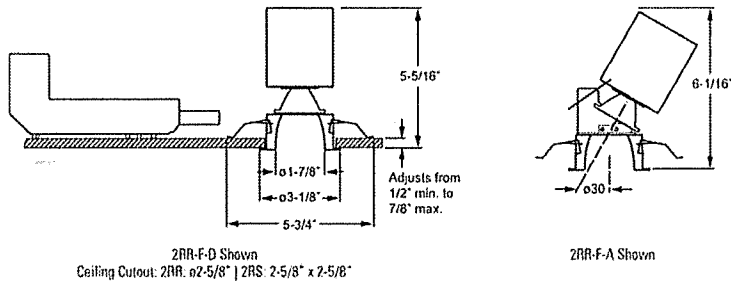
DATE:	TYPE:
PROJECT:	NOTES:

EXAMPLE **2RR - F - D - L12C/835 - M - CS - OPTIONS - DIM - 120**

2RR	F	D	L12C/835	M	CS	OPTIONS	DIM	120	
SERIES	TRIM TYPE	ADJUSTMENT	LUMEN PACKAGE	CEILING CCT	DISTR.	REFLECTOR FINISH	OPTIONS	DRIVER	VOLTAGE



CROSS SECTION



2RR-F-D Shown
Ceiling Cutout: 2RR, 2-5/8" | 2RS: 2-5/8" x 2-5/8"

2RR-F-A Shown

FEATURES

- ▶ Remodel construction allows for room-side installation
- ▶ 30°, 35° & 40° beam angles for tailored performance
- ▶ Quality illumination in a small 2" aperture
- ▶ Fixed or adjustable aim with 0° - 30° tilt
- ▶ Reflector with integral flange minimizes light leaks
- ▶ Five reflector finishes in round and square
- ▶ Optional 90 CRI for color-sensitive applications
- ▶ Anodized aluminum heat sink for reliable thermal management
- ▶ 2-wire line voltage dimming standard
- ▶ Driver and LEDs accessible from below the ceiling for ease of maintenance
- ▶ Rated for >55,000 hours at 70% lumen maintenance (L70)
- ▶ 2700K, 3000K, 3500K, or 4000K color temperatures, minimum 80 or 90 CRI
- ▶ This fixture is proudly made in the USA

ORDERING INFORMATION

SERIES

2RR	2" Remodel Round LED Downlight
2RS	2" Remodel Square LED Downlight

TRIM TYPE

F	Flanged reflector
---	-------------------

ADJUSTMENT

D	Fixed downlight
A	Adjustable

LED PACKAGE
Nominal lumens based on downlight with CS reflector color and W distribution. See page 3 for fixture performance data.

LUMEN PACKAGE	NOMINAL LUMENS	MINIMUM		WATTAGE
		CRI	CCT	
L8C	800	8 - 80	27-2700K	14
			30-3000K	
			35-3500K	
L12C	1200	9 - 90	35-3500K	21
			40-4000K	
			40-4000K	

DISTRIBUTION

N	30° Narrow
M	35° Medium
W	40° Wide

REFLECTOR FINISH

CS	Clear semi-specular (standard)
SG	Satin-glow
SPC	Clear specular
WH	Matte white
BL	Black

OPTIONS

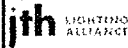
DL	Diffuse polycarbonate regressed lens
F	Fuse
SFA	Square flush flange adapter for mud-in applications, shipped separately, see page 4 for details
RFA	Round flush flange adapter for mud-in applications, shipped separately, see page 4 for details

DRIVER

DL2	2-wire line voltage dimming driver
DIM	10% dimming driver prewired for 0-10V low voltage applications

VOLTAGE

120	120V
277	277V



Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Notes:

JTH17-28653

2R

LED

2" REMODEL DOWNLIGHT

SPECIFICATIONS

Housing - 20-gauge galvanized remodel driver enclosure. LED assembly accepts coiling thicknesses from 1/2" to 7/8" thick. Extruded aluminum heat sink.

Reflector - Injection molded vacuum metallized upper optic and ceiling trim. Clear semi-specular (CS) trim standard.

Electrical - High quality C.O.B. LED array. Reported L70 > 55,000 hours.

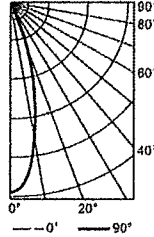
Mounting - Recessed. Line voltage supply via flexible conduit, accessible through ceiling aperture, required prior to installation.

Labels - eCSAus conforms to UL STD 1598; Certified to CAN/CSA STD C22.2 No. 250.0. Suitable for damp locations. Suitable for wet location under covered coiling when specified with DL option. RoHS compliant.

Warranty - 5-year limited warranty, see hew.com/warranty.

PHOTOMETRY

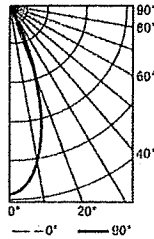
2RR-F-D-L12C/827-N-CS Report #: 11394407.07; 10/17/16
Total Luminaire Output: 1271 lumens; 21 Watts | Efficacy: 63.3 lm/W | 82 CRI; 2809K CCT



Vertical Angle	Horizontal Angle	Zonal Lumens
0	5234	
5	4864	121.0
15	2342	351.8
25	250	126.9
35	42	16.0
45	21	8.7
55	8	4.3
65	5	2.7
75	3	1.6
85	1	0.6
90	3	

LUMEN SUMMARY	Zone	Lumens	% Fixture
	0 - 40	1239	97.5
	0 - 60	1262	99.3
	0 - 90	1271	100.0

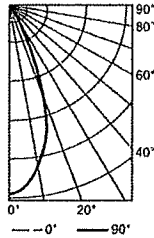
2RR-F-D-L12C/827-M-CS Report #: 11394407.05; 10/17/16
Total Luminaire Output: 1343 lumens; 20 Watts | Efficacy: 67.2 lm/W | 83 CRI; 2776K CCT



Vertical Angle	Horizontal Angle	Zonal Lumens
0	3860	
5	3687	90.2
15	2412	331.8
25	488	183.3
35	77	31.7
45	28	13.5
55	16	7.8
65	10	5.4
75	5	3.3
85	1	1.2
90	3	

LUMEN SUMMARY	Zone	Lumens	% Fixture
	0 - 40	1283	95.9
	0 - 60	1321	98.7
	0 - 90	1338	100.0

2RR-F-D-L12C/827-W-CS Report #: 11394407.01; 10/05/16
Total Luminaire Output: 1361 lumens; 21 Watts | Efficacy: 67.4 lm/W | 82 CRI; 2418K CCT



Vertical Angle	Horizontal Angle	Zonal Lumens
0	3000	
5	2882	70.3
15	2168	280.2
25	722	223.2
35	161	67.9
45	32	17.1
55	17	8.3
65	10	5.7
75	6	3.5
85	2	1.4
90	2	

LUMEN SUMMARY	Zone	Lumens	% Fixture
	0 - 40	1300	95.5
	0 - 60	1343	98.6
	0 - 90	1361	100.0



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

2RR-F-D-L12C/835-W-CS-DIM-120

Type:

D3

Notes:

JTH17-28653

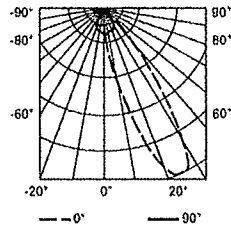
2" REMODEL DOWNLIGHT

2R

PHOTOMETRY

LED

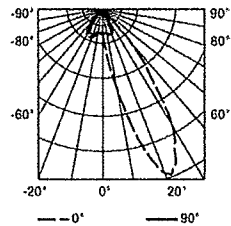
2RR-F-A-L12C/827-N-CS Report #: 11394407.22; 10/11/16
 Total Luminaire Output: 593.4 lumens; 20 Watts | Efficacy: 29.7 lm/W | 82 CRI; 2832K CCT



Vertical Angle	Horizontal Angle					Zonal Lumens
	0°	45°	90°	135°	180°	
0	287	287	287	287	287	
5	528	446	273	199	179	7.2
15	1407	776	255	216	180	54.6
25	1996	697	224	226	189	177.1
35	902	128	102	130	117	83.4
45	66	10	23	41	45	20.2
55	4	5	11	16	16	5.4
65	3	4	6	9	9	3.5
75	2	2	3	5	4	2.1
85	1	1	1	1	1	0.8
90	0	0	0	0	0	0

Zone	Lumens	% Fixture
0 - 40	543	91.5
0 - 60	581	97.9
0 - 90	593	100.0

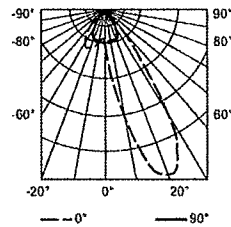
2RR-F-A-L12C/827-M-CS Report #: 11394407.21; 10/06/16
 Total Luminaire Output: 703 lumens; 21 Watts | Efficacy: 34.9 lm/W | 83 CRI; 2786K CCT



Vertical Angle	Horizontal Angle					Zonal Lumens
	0°	45°	90°	135°	180°	
0	263	263	263	263	263	
5	425	359	264	262	262	6.9
15	1434	743	278	307	311	57.3
25	1892	643	284	325	329	133.0
35	960	58	140	224	232	105.2
45	185	10	28	74	83	33.2
55	5	6	13	24	26	7.7
65	4	4	8	13	14	4.7
75	2	3	4	6	7	2.8
85	1	1	1	2	1	1.0
90	1	3	0	0	0	0

Zone	Lumens	% Fixture
0 - 40	632	89.4
0 - 60	692	97.9
0 - 90	707	100.0

2RR-F-A-L12C/827-W-CS Report #: 11394407.19; 10/06/16
 Total Luminaire Output: 663.1 lumens; 21 Watts | Efficacy: 33.1 lm/W | 82 CRI; 2845K CCT



Vertical Angle	Horizontal Angle					Zonal Lumens
	0°	45°	90°	135°	180°	
0	311	311	311	311	311	
5	570	475	301	272	271	8.2
15	1472	855	289	334	349	64.8
25	1543	605	265	363	387	126.2
35	574	103	105	248	290	89.5
45	78	10	23	65	86	29.1
55	5	6	11	19	21	6.4
65	4	4	6	10	11	3.9
75	2	2	3	5	5	2.2
85	1	1	1	1	1	0.8
90	1	23	0	1	0	0

Zone	Lumens	% Fixture
0 - 40	600	90.5
0 - 60	651	98.2
0 - 90	663	100.0

FIXTURE PERFORMANCE DATA

LED PACKAGE	DISTRIBUTION	ROUND			SQUARE		
		DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
DOWNLIGHT							
L8C	W	888	14	72	937	14	68
L8C	M	971	14	71	927	14	68
L8C	N	922	14	67	841	14	61
L12C	W	1361	21	68	1291	20	65
L12C	M	1338	20	67	1277	20	64
L12C	N	1271	21	63	1159	20	58
FLUSH MOUNT							
L8C	W	481	14	35	660	14	48
L8C	M	513	14	37	551	14	40
L8C	N	430	14	31	398	14	29
L12C	W	653	20	33	910	20	46
L12C	M	707	21	35	760	21	38
L12C	N	593	20	29	548	21	27

- Photometrics tested in accordance with IESNA 1A1-79. Results shown are based on 25°C ambient temperature
- Wattage shown is based on 120V input
- Results based on 2700K, 80 CRI

COLOR TEMPERATURE MULTIPLIER	
CCT (K)	CONVERSION FACTOR
2700K/80CRI	1.00
3000K/80CRI	1.05
3500K/80CRI	1.07
4000K/80CRI	1.08
2700K/90CRI	0.83
3000K/90CRI	0.86
3500K/90CRI	0.90
4000K/90CRI	0.93

REFLECTOR FINISH MULTIPLIER		
CATALOG NUMBER	REFLECTOR FINISH	CONVERSION FACTOR
CS	Clear semi-specular	1.00
SG	Satin-glow	0.97
SPC	Specular	1.07
WH	Matte white	1.00
BL	Black	0.80

Submitted by JTH Lighting Alliance

Catalog Number:
2RR-F-D-L12C/835-W-CS-DIM-120

Type:



Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Notes:

D3

JTH17-28653

2R

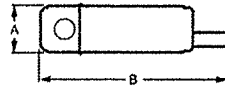
2" REMODEL DOWNLIGHT

LED

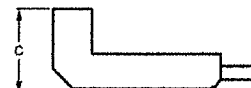
FIXTURE DETAILS

DRIVER BOX

Top View



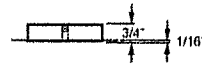
Side View



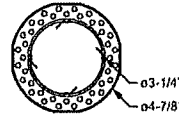
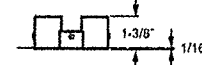
	DL2 (2-Line)	DL1 (0-10V)
A	2-3/16"	2-1/4"
B	8-1/16"	9-5/16"
C	3-1/4"	3-1/4"

FLUSH FLANGE ADAPTER

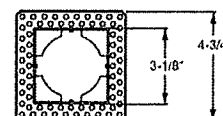
Round



Square



Ceiling cutout: o3-5/16"



Ceiling cutout: 3-1/4" x 3-1/4"



Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
UQLXN500R-2LED

Notes:

Type:

E1

JTH17-28653



CLUSTER™ LED UQLXN500-2LED COMBO & ELF652D SERIES

Thermoplastic LED Combination Unit

FEATURES

Housing

- Frame, faceplate, backplate and canopy are made of thermoplastic
- 6 Inch EXIT lettering legend, available in Red or Green
- Lamp heads are fully adjustable with no tools required

Mounting

- Surface Mount
- Model includes (2) faceplate, (1) backplate and (1) canopy
- Canopy included for ceiling mount applications
- Backplate features universal knockouts for a standard 4 inch junction box, used in wall mount applications

Finishes

- Available in Mist-White and Black

Chevrons

- Faceplate includes two field-selectable, snap-in/out chevron indicators

Exit Legend LEDs

- Red or Green Long-Life Light Emitting Diodes (LED) illumination

Combination units

- 3.6V Nickel-Cadmium battery

Lamp Head Source

- White LED 3.6V-4W, with life expectancy 50,000+ hours

Self-Diagnostics

- Available

Special Wording Panels

- Not Available

Approvals

- Listed to UL 924 Standards
- UL listed for Damp location (68°F to 86°F, 20°C to 30°C)
- Meets NFPA101 (Life Safety Code), NFPA 70 NEC and OSHA illumination standards

Warranty

- Three-year full warranty (subject to proper installation and maintenance)
- 3.6V Nickel-Cadmium battery, three-year full, three-year pro-rata warranty

POWER CONSUMPTION CHART

SERIES	CURRENT (A) / POWER (W)	
	120VAC, 60Hz	277VAC, 60Hz
UQLXN500R-2LEDR	0.044/3.56	0.037/4.06
UQLXN500G-2LEDR	0.042/3.2	0.036/3.8

SPECIFICATIONS

Supply and Install Lightalarms® Cluster™ UQLXN500-2LED Series.

The combination model specified includes (2) faceplate, (1) backplate and (1) canopy. The frame, faceplate, backplate and canopy shall be constructed of inject-molded thermoplastic. Frame, backplate and canopy shall be mist-white. Faceplate shall be mist-white with a (R) red or (G) green legend. Push-to-snap design, allows for no screws being necessary to hold the faceplate(s) or backplate together. The faceplate shall come standard with two field-selectable, removable snap-in/out chevron indicators. The combination model shall be suitable for surface mount, wall or ceiling installations.

The EXIT illumination source shall be Light Emitting Diodes (LED) in (R) red or (G) green color. The LEDs shall provide illumination in normal and emergency operation mode. The LEDs shall be mounted inside the Exit Sign housing. A color matching LED sensitive legend diffuser of (R) red or (G) green, shall be mounted in front of the LEDs to provide the 6" high by 3/4" stroke EXIT letters with even illumination and no visible LEDs or hot spots.

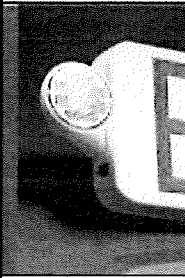
Combination model shall be equipped with two white Cluster™ LED glare-free heads with tool-less, adjustable abilities. Combination models shall be 120/277VAC, 60Hz, with a 3.6V power consumption of .17/0.5A and supplied with a sealed maintenance-free Nickel-Cadmium battery, providing at least 90 minutes illumination upon AC failure.

The Combination unit shall be tested by the Underwriting Laboratories and listed to UL 924 standards. As well as Evaluated to UL 924 standard (68°F to 86°F, 20°C to 30°C) and meets NFPA101 (Life Safety Code), NFPA 70-NEC and OSHA illumination standards. Includes a Three-year full warranty.

The equipment shall be Lightalarms® Model: _____

Submitted by JTH Light

jth LIGHTING
ASSISTANCE



FEATURES

Housing

- Frame, faceplate, back
- 6 inch EXIT lettering le
- Lamp heads are fully a

Mounting

- Surface Mount
- Model includes (2) face
- Canopy included for ce
- Backplate features uni
- in wall mount applicati

Finishes

- Available in Mist-White

Chevrons

- Faceplate includes two

Exit Legend LEDES

- Red or Green Long-Life

Combination units

- 3.6V Nickel-Cadmium

Lamp Head Source

White LED 3.6V-4W, w

Self-Diagnostics

- Available

Special Wording Panel

- Not Available

Approvals

- Listed to UL 924 Stand
- UL listed for Damp loca
- Meets NFPA101 (Life standards

Warranty


- Three-year full warrant
- 3.6V Nickel-Cadmium

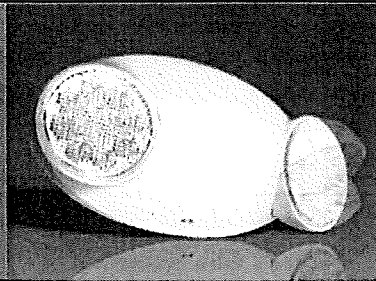
POWER CONSUMPTION

SERIES

UQLXN500R-2LEDR

UQLXN500G-2LEDR

Submitted by JTH Lighting Alliance		Catalog Number: LCA-2LED	Type: F1
	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653



CLUSTER™ LED LCA-2LEDR UNIT & ELF652D REMOTE HEAD SERIES

FEATURES

Housing

- Injection-molded, UV stabilized thermoplastic body, snap together design
- Fully adjustable Cluster™ LED glare-free heads glare-free heads
- Corrosion and scratch-resistant of Mist-White white or Black color

Mounting

- Ceiling or Wall Mount
- Keyhole slots and universal knock-outs to mount to any standard 4" junction box

Finishes

- Available in Mist-White and Black

Lamp Type

- White LED 3.6V-3.6W, with life expectancy 50,000+ hours

Electronics

- Automatic, solid-state
- Low voltage disconnect prevents over discharge of battery
- Automatic brownout protection is provided.
- Battery lock-out prevents battery discharge during installation

Improved Diagnostics option

- Monitors battery/charger failure, battery disconnect and lamp failure

Controls

- Red charger monitor LED indicates charging of the battery
- Momentary test switch allows for quick operational check of entire system

Sealed Maintenance-Free Battery

- 3.6V Nickel-Cadmium battery

Approvals

- Listed to UL 924 Standards
- UL 94, 5VA flame rated
- UL listed for Damp location (68°F to 86°F, 20°C to 30°C)

Warranty (subject to proper installation and maintenance)

- Three-year full warranty (excluding lamps and fuses)¹
- 3.6V Nickel-Cadmium battery, three-year full, five-year pro-rata warranty

¹ For LED lamps warranty, refer to Lightalarms® Umited Warranty paragraph 3.2

SPECIFICATIONS

Supply and Install Lightalarms® Cluster™ LED LCA-2LEDR Series emergency light unit.

The emergency lighting battery unit shall be a self-contained fixture including a 3.6V sealed maintenance-free Nickel-Cadmium battery. The unit shall supply the rated wattage load for a minimum of 90 minutes to 87-1/2% of rated battery voltage. The unit shall be rated 120/277VAC, 60Hz, UL924 and Damp location listed standard (68°F to 86°F, 20°C to 30°C).

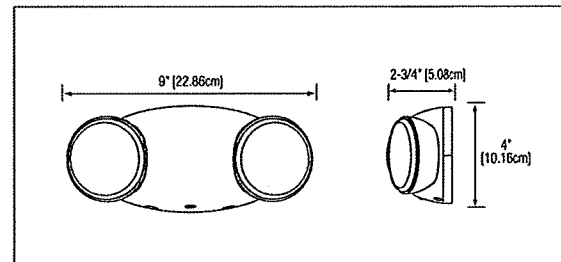
The unit charger shall utilize an integrated circuit which samples the battery in relation to temperature, state of charge and input voltage fluctuations. The charger shall be current limited, temperature compensated, short-circuit protected and reverse polarity protected. The unit shall be furnished with an electronic lockout circuit which will connect the battery when the AC circuit is activated, and an electronic brownout circuit which will activate the unit when utility power dips below 80-85% of nominal voltage. A low voltage battery protection circuit shall be provided and will disconnect the load and circuitry from the battery when it reaches 87-1/2% of its nominal voltage. The unit shall be capable of full recharge in compliance with UL924 specifications. The unit shall be furnished with sealed dust-tight relay, red charger monitor LED indicating charging of the battery and push test switch allows for quick operational check of entire system. The cabinet shall be injection-molded, UV stabilized thermoplastic body, snap together design with two fully adjustable white Cluster™ LED glare-free lighting heads being corrosion and scratch-resistant in a Mist-White or Black color.

Every LCA-2LEDR Series unit shall be fully warranted for Three-years, subject to proper installation and maintenance.

The equipment shall be Lightalarms® Model: _____.

DIMENSIONS

Dimensions are approximate and subject to change.



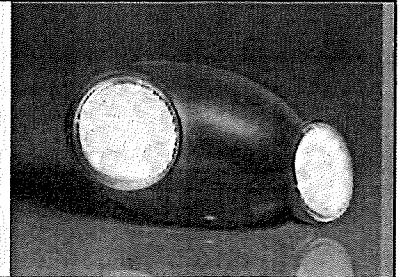
Submitted by JTH Lighting Alliance		Catalog Number: LCA-2LED	Type: F1
	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653

TYPE _____
 CATALOG # _____

 NOTES _____



The Cluster™ LED Family features an emergency battery unit which includes extra battery capacity to power the Cluster™ LED ELF652D remote head or allow for extended run time.



POWER CONSUMPTION CHART

SERIES	CURRENT (A) / POWER (W)	
	120VAC, 60Hz	277VAC, 60Hz
LCA-2LEDR	0.191/0.92	0.129/1.62

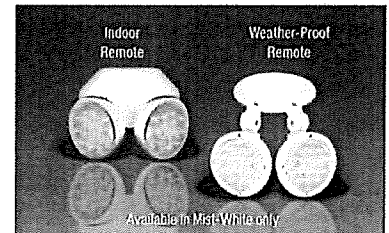
ORDERING FORMAT

SERIES	LAMP	CAPACITY	COLOR
LCA	-2LED= Cluster™ LED head style	Blank= No Remote R= Remote capacity RID= Remote capacity with Improved Diagnostics <small>Note: Remote Capacity can ONLY be used to power the Cluster™ LED ELF652D Remote Head or the extend the battery units emergency run time beyond the standard 90 minutes.</small>	Blank= Mist-White B= Black

Example: LCA-2LEDR

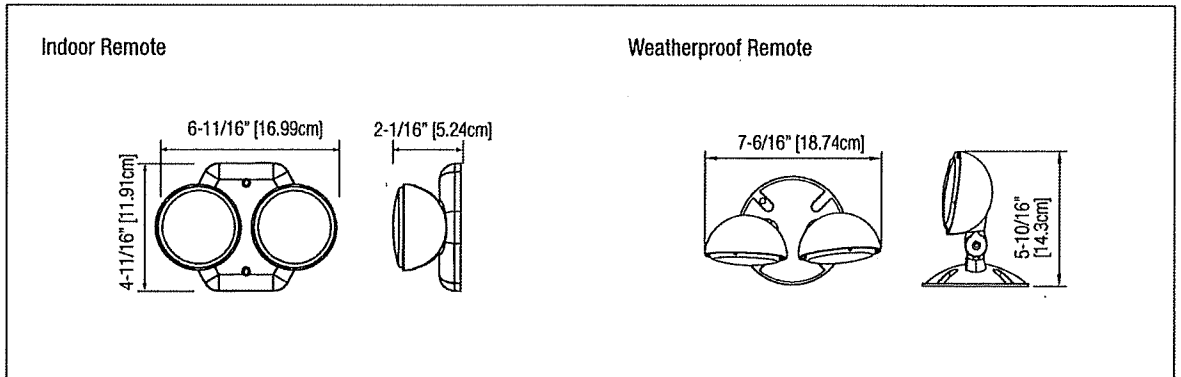
CLUSTER™ LED ELF652D REMOTE HEAD

The Cluster™ LED ELF652D/LED Remote head can ONLY be powered from the UQLXN-2LED combo or LCA 2LED battery units of the same family. Used for internal or external applications, the Indoor remote head draws 3.6V-3.6W and Weather-Proof head draws 3.6V-3.8W.



DIMENSIONS


Dimensions are approximate and subject to change.

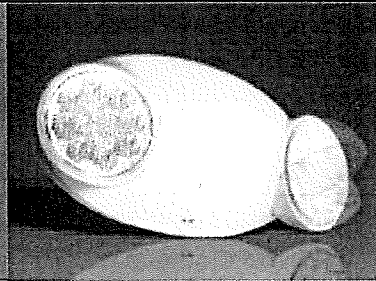


ORDERING FORMAT

SERIES	# OF HEADS	LAMP	OPTION
ELF652	D= Double Head	/LED= Cluster™ LED head style	Blank= Indoor Use Only -WP= Weather-Proof

Example: ELF652D/LED

Submitted by JTH Lighting Alliance		Catalog Number: ELF652D/LED-WP	Type: F2
	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653



CLUSTER™ LED LCA-2LEDR UNIT & ELF652D REMOTE HEAD SERIES

FEATURES

Housing

- Injection-molded, UV stabilized thermoplastic body, snap together design
- Fully adjustable Cluster™ LED glare-free heads glare-free heads
- Corrosion and scratch-resistant of mist white color

Mounting

- Ceiling or Wall Mount
- Keyhole slots and universal knock-outs to mount to any standard 4" junction box

Lamp Type

- White LED 3.6V-3.6W, with life expectancy 50,000+ hours

Electronics

- Automatic, solid-state
- Low voltage disconnect prevents over discharge of battery
- Automatic brownout protection is provided.
- Battery lock-out prevents battery discharge during installation

Improved Diagnostics option

- Monitors battery/charger failure, battery disconnect and lamp failure

Controls

- Red charger monitor LED indicates charging of the battery
- Momentary test switch allows for quick operational check of entire system

Sealed Maintenance-Free Battery

- 3.6V Nickel-Cadmium battery

Approvals

- Listed to UL 924 Standards
- UL 94, 5VA flame rated
- UL listed for Damp location (68°F to 86°F, 20°C to 30°C)

Warranty (subject to proper installation and maintenance)

- Three-year full warranty (excluding lamps and fuses)¹
- 3.6V Nickel-Cadmium battery, three-year full, five-year pro-rata warranty

¹ For LED lamps warranty, refer to page 168 paragraph 3.2

SPECIFICATIONS

Supply and Install Lightalarms® Cluster™ LED LCA-2LEDR Series emergency light unit.

The emergency lighting battery unit shall be a self-contained fixture including a 3.6V sealed maintenance-free Nickel-Cadmium battery. The unit shall supply the rated wattage load for a minimum of 90 minutes to 87-1/2% of rated battery voltage. The unit shall be rated 120/277VAC, 60Hz, UL924 and Damp location listed standard (68°F to 86°F, 20°C to 30°C).

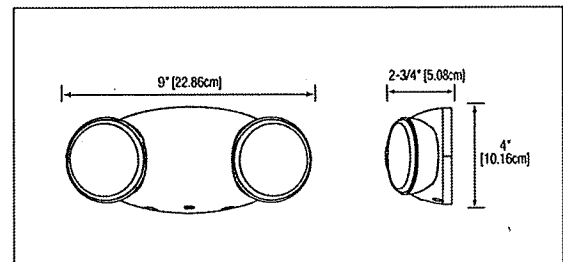
The unit charger shall utilize an integrated circuit which samples the battery in relation to temperature, state of charge and input voltage fluctuations. The charger shall be current limited, temperature compensated, short-circuit protected and reverse polarity protected. The unit shall be furnished with an electronic lockout circuit which will connect the battery when the AC circuit is activated, and an electronic brownout circuit which will activate the unit when utility power dips below 80-85% of nominal voltage. A low voltage battery protection circuit shall be provided and will disconnect the load and circuitry from the battery when it reaches 87-1/2% of its nominal voltage. The unit shall be capable of full recharge in compliance with UL924 specifications. The unit shall be furnished with sealed dust-tight relay, red charger monitor LED indicating charging of the battery and push test switch allows for quick operational check of entire system. The cabinet shall be injection-molded, UV stabilized thermoplastic body, snap together design with two fully adjustable white Cluster™ LED glare-free lighting heads being corrosion and scratch-resistant in a mist white color.


Every LCA-2LEDR Series unit shall be fully warranted for Three-years, subject to proper installation and maintenance.

The equipment shall be Lightalarms® Model: _____.

DIMENSIONS

Dimensions are approximate and subject to change.



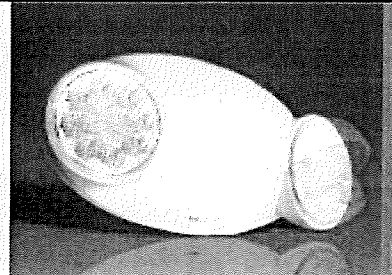
Submitted by JTH Lighting Alliance		Catalog Number: ELF652D/LED-WP	Type: F2
	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: J & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653

TYPE _____
 CATALOG # _____

 NOTES _____



The Cluster™ LED Family features an emergency battery unit which includes extra battery capacity to power the Cluster™ LED ELF652D remote head or allow for extended run time.



POWER CONSUMPTION CHART

SERIES	CURRENT (A) / POWER (W)	
	LCA-2LEDR	120VAC, 60Hz 0.191/0.92

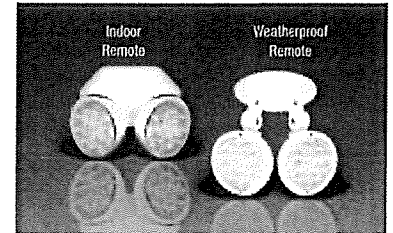
ORDERING FORMAT

SERIES	LAMP	CAPACITY
LCA	-2LED= Cluster™ LED head style	Blank= No Remote R= Remote capacity RID= Remote capacity with Improved Diagnostics <small>Note: Remote Capacity can ONLY be used to power the Cluster™ LED ELF652D Remote Head or to extend the battery units emergency run time beyond the standard 90 minutes.</small>

Example: LCA-2LEDR

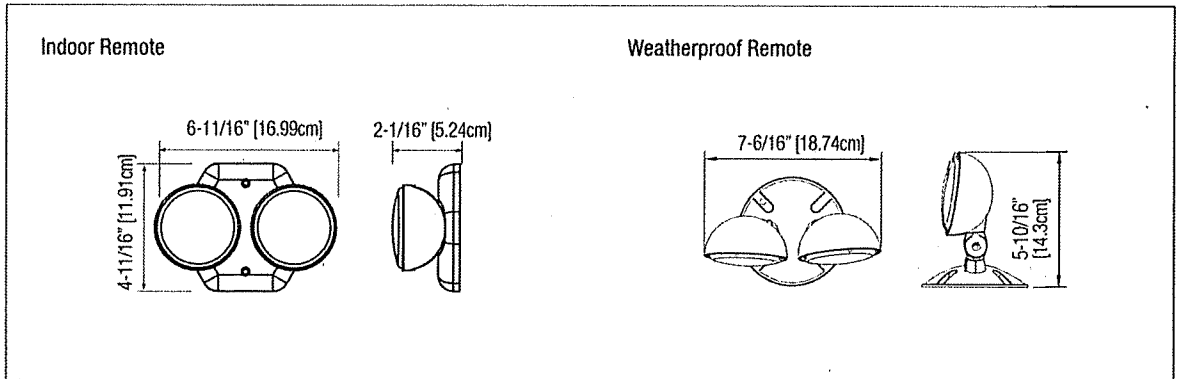
CLUSTER™ LED ELF652D REMOTE HEAD

The Cluster™ LED ELF652D/LED Remote head can ONLY be powered from the UQLXN-2LED combo or LCA 2LED battery units of the same family. Used for internal or external applications, the indoor remote head draws 3.6V-3.6W and Weather-Proof head draws 3.6V-3.8W.



DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

SERIES	# OF HEADS	LAMP	OPTION
ELF652	D= Double Head	/LED= Cluster™ LED head style	Blank= Indoor Use Only -WP= Weather-Proof

Example: ELF652D/LED

Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
700WSVOTSKW-LED830

Notes:

Type:

G1

JTH17-28653

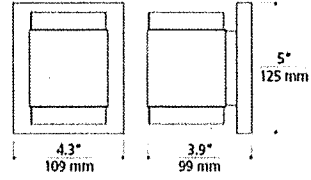
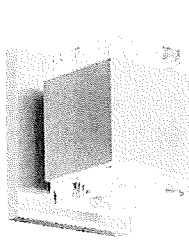
W A L L C O L L E C T I O N

Voto Wall Square



DESCRIPTION

Simple elegance defined. A handsome die-cast metal body is echoed by symmetrical reveals cut from a solid piece of optically pure crystal. Beautiful LED light pours from the top and bottom of the thick-cut crystal to provide a surplus of illumination. May be mounted horizontally or vertically. Includes 9 watt, 560 net lumen, 3000K LED module. Dimmable with low-voltage electronic dimmer. May be mounted horizontally or vertically, ADA compliant.



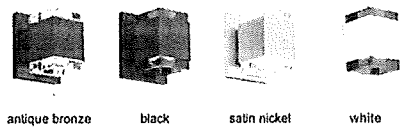
INSTALLATION

This product can mount to either a 4" square electrical box with round plaster ring or an octagonal electrical box (not included).

WEIGHT

2.61lb / 1.27kg ±

smoke



ORDERING INFORMATION

700WSVOTS COLOR	FINISH	LAMP
C CLEAR	Z ANTIQUE BRONZE	LED830 LED 80 CRI 3000K 120V
K SMOKE	B BLACK	LED830-277 LED 80 CRI 3000K 277V
	S SATIN NICKEL	
	W WHITE	



TECH LIGHTING
7400 Under Avenue Skokie, Illinois 60077 T 847.410.4400 F 847.410.4500
Tech Lighting, L.L.C.

700WSVOTS _____

FIXTURE TYPE: _____

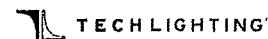
JOB NAME: _____

NOTES: _____

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Submitted by JTH Lighting Alliance		Catalog Number: 700FMEXO18**BW-LED935	Type: H1
jth LIGHTING ALLIANCE	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653

EXO FAMILY



Purpose built for applications where surface-mounted downlights are preferred, the Exo family of fixtures offers a variety of solutions with a perfect balance of function and fashion. With several size & shape options ranging from a simple cube to elongated rectangular shades, the Exo family yields the ultimate in minimalist form while secretly concealing a specification-grade, multifunction downlight within. Each LED module's high-performance output is harnessed by your choice of four field changeable optics ranging from a precise 20° beam perfect for task-oriented applications to a wide 60° beam ideal for general illumination-minded applications. Additional precision control is offered by way of integrated 0°-30° tool-free beam aiming. Finally, a truly customized look can be achieved throughout the entire Exo family by selecting one its three decorative recessed trim color options.

Each LED module produces 1047 delivered lumens while consuming 14 watts of power, and is offered in standard CCT's of 2700K, 3000K and 3500K. Light output is harnessed by your choice of 20°, 30°, 40° or 60° field changeable optics, and each fixture includes a 120-277 universal voltage driver which is also universally dimmable (low-voltage electronic, Triac and 0-10v dimming) for maximum jobsite flexibility.

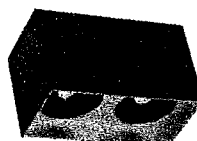
Product features

- Four shade sizes for maximum design and performance flexibility
- Complementary pendant and flushmount versions available
- Specification grade beam spread options for spot to general illumination applications
- Unique tool-free aiming for incredible versatility
- Universally dimmable LED lamping options to create the desired ambiance
- Sleek rectangular shades for a truly minimalist look
- Matte Black and Matte White finish options
- Three decorative trim options for a custom look
- 5-year warranty

SPECIFICATIONS

SHADE HEIGHT	6.1", 18", 36" options
SHADE WIDTH	5.2"
SHADE LENGTH	5.2" single / 10.4" dual
DELIVERED LUMENS	1047 single / 1635 dual
WATTS	14 single / 28 dual
VOLTAGE	Universal 120-277v
DIMMING	Universal 0-10v, ELV, Triac
LIGHT DISTRIBUTION	20°, 30°, 40°, 60° field changeable optics
MOUNTING OPTIONS	Ceiling (flush, 12", 24", 36", 48" stem)
CCT	2700K, 3000K, 3500K
CRI	90+
COLOR BINNING	3-Step
GENERAL LISTING	ETL, Title 24
FIELD SERVICEABLE LED	Yes
CONSTRUCTION	Steel
FINISH	Matte Black, Matte White
TRIM	Black, White, Gold Haze
LED LIFETIME	50,000 to L70
WARRANTY*	5 years

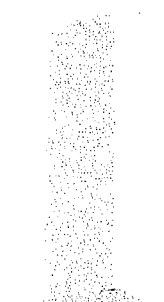
* Visit techlighting.com for specific warranty limitations and details.



EXO DUAL
shown in black/gold haze



EXO PENDANT
shown in white/black 36"



EXO CEILING
shown in white/white 18"

Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: J & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Catalog Number:
700FMEXO18**BW-LED935

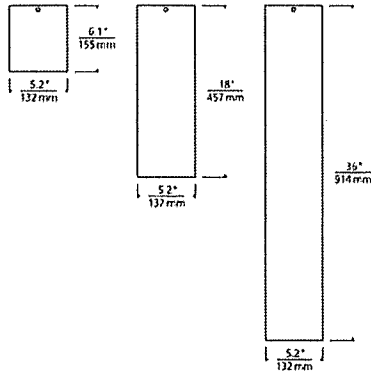
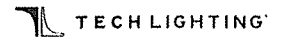
Notes:

Type:

H1

JTH17-28653

EXO FAMILY - CEILING



Black/Black
6"



Black/Black
18"



Black/Black
36"



White/Black
6"



White/Black
18"



White/Black
36"



Black/Gold Haze
6"



Black/Gold Haze
18"



Black/Gold Haze
36"



White/Gold Haze
6"



White/Gold Haze
18"



White/Gold Haze
36"



Black/White
6"



Black/White
18"



Black/White
36"



White/White
6"

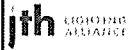


White/White
18"



White/White
36"

Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Catalog Number:
700FMEXO18**BW-LED935

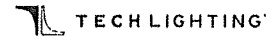
Notes:

Type:

H1

JTH17-28653

EXO FAMILY



ORDERING INFORMATION

EXO PENDANTS

700TDEXOP	SHADE HEIGHT	STEM LENGTH (A)	BEAM SPREAD	SHADE COLOR/ HARDWARE FINISH	TRIM FINISH	LAMP
	6 6.1"	12 12"	20 20°	B MATT BLACK	B BLACK	-LED927 LED 90 CRI 2700K 120V 277 UNV
	18 18"	24 24"	30 30°	W MATT WHITE	G GOLD HAZE	-LED930 LED 90 CRI 3000K 120V 277 UNV
	36 36"	36 36"	40 40°		W WHITE	-LED935 LED 90 CRI 3500K 120V 277 UNV
		48 48"	60 60°			

EXO CEILING

700FMEXO	SHADE HEIGHT	BEAM SPREAD	SHADE COLOR	TRIM FINISH	LAMP
	6 6.1"	20 20°	B MATT BLACK	B BLACK	-LED927 LED 90 CRI 2700K 120V 277 UNV
	18 18"	30 30°	W MATT WHITE	G GOLD HAZE	-LED930 LED 90 CRI 3000K 120V 277 UNV
	36 36"	40 40°		W WHITE	-LED935 LED 90 CRI 3500K 120V 277 UNV
		60 60°			

EXO DUAL

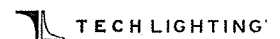
700FMEXOD	SHADE HEIGHT	BEAM SPREAD	SHADE COLOR	TRIM FINISH	LAMP
	6 6.1"	20 20°	B MATT BLACK	B BLACK	-LED927 LED 90 CRI 2700K 120V 277 UNV
		30 30°	W MATT WHITE	G GOLD HAZE	-LED930 LED 90 CRI 3000K 120V 277 UNV
		40 40°		W WHITE	-LED935 LED 90 CRI 3500K 120V 277 UNV
		60 60°			

PROJECT INFO

PROJECT: PROJECT NAME

PROJECT ADDRESS

PHONE



GENERATION BRANDS

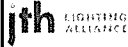
2500 Linden Avenue, St. Louis, Missouri 63017
T 847.410.1460 F 847.410.1560



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techlighting.com

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

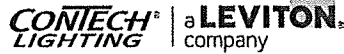
Catalog Number:
 TLT24V235K12R

Notes:

Type:

J1

JTH17-28653



TLT Tapelight Series
 24VDC Damp Location High Output Flexible Tapelight

Catalog No. _____

Type _____

Project _____

Specifications/Features

Tape Light

Flexible, low voltage linear LED accent lighting system provides high quality illumination for many indoor applications including: Display Lighting, Under Cabinet, Cove and Soffit, Accent and Edge Lighting.
 High output LEDs provide excellent luminous intensities at low drive currents, resulting in low power consumption and consistent, stable performance, delivering 480 lumens (Delivered lumens based on 1ft. of 3000K tape), 3.8W/ft.

Modular "plug and play" system features a wide range of power supplies, controllers and connectors. System is easy to install with no need for field soldering.

The TLT High Output tapelight series is available in four color temperatures including 2700K, 3000K, 3500K, and 4000K.

TLT Series tapelight is dimmable using any of the TL series dimming controls. Available in 20' reels consisting of connected, individual 12" or 4" segments. Can also be purchased in individual segments.

Each segment includes male and female connector ends for continuous linear installations. Each 12" segment can also be cut (on the cut lines) in 4" increments to provide optimal fit and flexibility for any installation.

High Output Tapelight is also available in 30' continuous reels (without mid-connectors) and includes one female and one male end connector per reel. Continuous Reel may be cut in 2' increments to provide optimal fit and flexibility for any installation. Use with output connector or female-to-female connector to power cut segment of tape.

Mounting

The TLT tapelight is easy to install using the 3M double sided adhesive on each segment; tape can be directly mounted to most surfaces. For additional thermal heatsinking, protection of the LEDs and an overall cleaner aesthetic, using the aluminum mounting channel is recommended.

The aluminum mounting channel is easily installed utilizing the appropriate set of mounting clips.

For added protection of the LEDs, as well as subtle diffusion and glare control, a clear or frosted lens may be used. The lens must be used with the aluminum channel and is easily installed by simply pressing the lens into the channel.

Warranty

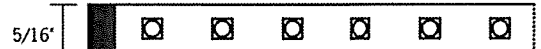
This product is covered by ConTech's full replacement guarantee after date of purchase: Five (5) year replacement guarantee when tape light is installed using the aluminum mounting channel; Three (3) year replacement guarantee when installed without the aluminum mounting channel.

System designed and rated for 50,000 hours at 70% lumen maintenance when mounted in ConTech channel.

Listing

cCSAus Certified to UL standards.

Suitable for dry or damp locations. Not suitable for wet locations.



4" or 12" Individual Segments or 30' Continuous Reel

ConTech POWER SUPPLY INPUT VOLTAGE: 24V DC	24V HIGH OUTPUT 3.8W/FT	
WATTAGE	MAX RUN	MAX SPLIT
20W	5FT	5FT
36W	9FT	9FT
60W	18FT	18FT
90W	24FT	28FT
96W	25FT	30FT

*Max split can be split more than once, without exceeding the max single run in each leg.

• Max Run refers to the total single run of tapelight that can go on a power supply. Max Split refers to the total amount of tapelight that can go on a driver if it were separated into two runs.

• Max Run lengths are calculated with 12V DC at the start of the tape run. Voltage drop may occur if not using proper wire gauge. Please refer to the Power Supply Wiring Chart on page one of these instructions.

• Max Run lengths above are calculated with no more than 30% light loss from the start of the tape run to the end of the tape run for optimal light consistency. If run lengths are extended beyond the recommended lengths noted above, there will be inconsistent light output and voltage drop.

Ordering Information

Example Order:

Tapelight Series	Input Voltage	Output	Color Temperature	Length / Quantity
TLT	24V - 24V DC	2 - High Output	27K - 2700K 3K - 3000K 35K - 3500K 4K - 4000K	4 - 4" Individual Segment 4R - 20' Reel of 4" Segments (60 pieces total) 12 - 12" Individual Segment 12R - 20' Reel of 12" Segments (20 pieces total) 30CR - 30' Continuous Reel

1-847-559-5500

www.contechlighting.com

Please Recycle

All specifications subject to change without notice.

Job Name:

Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

Catalog Number:

TLT24V235K12R

Notes:

Type:**J1**

JTH17-28653

CONTECH
LIGHTING | a **LEVITON**
company

TLT Tapelight Series

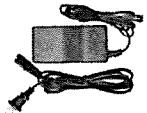
24VDC Tapelight Accessories

Catalog No. _____

Type _____

Project _____

Plug-In Power Supplies and Accessories

**24V Plug-and-Play Power Supply**

120VAC/24VDC. Includes AC wall plug and female power output plug for easy installation. Plug-in unit measures 3-1/4" L x 1-3/4" W x 1-1/4" D; system length: 6'. For use with 24V LED Tapelight only.

TLP24VP36 - 36W

TLP24VP60 - 60W

TLP24VP90 - 90W

**Input Power Connector**

Includes (1) male plug connector and (1) male flex tape connector. For use with 12V or 24V LED Tapelight.

TLCIP12 - 12'

TLCIP19 - 19'

**Plug-and-Play Power Supply Extension**

Includes male and female plug connectors. For use with 12V or 24V LED Tapelight.

TLCEXT48 - 48'

TLCEXT96 - 96'

**Plug-and-Play 2-Way Splitter**

Includes (1) male and (2) female connectors. Approximately 2' long. For use with 12V or 24V LED Tapelight.

TLC2

**Plug-and-Play 3-Way Splitter**

Includes (1) male plug connector and (3) female plug connectors. Approximately 2' long. For use with 12V or 24V LED Tapelight.

TLC3

**Output Power Connector**

12" Connector includes (1) male plug connector and (1) female flex tape connector. For use with 12V or 24V LED Tapelight.

TLCOP12

Hardwire Power Supplies and Accessories

**24V Hardwire Power Supply**

120VAC/24VDC. Includes stripped and tinned wire pig-tails on the input and output sides. Must be maintained within an enclosure that meets local building codes and NEC (supplied by others). 1" Wire leads. Class II. For use with 24V LED Tapelight only.

TLP24VHW20 - 120V/20W;
5-3/4" L x 1-1/2" W x 1-1/4" D

TLP24VHW60 - 120V/60W;
6-1/3" L x 1-3/4" W x 1-1/4" D

TLP24VHW96 - 120V/96W;
8-3/4" L x 2-2/3" W x 1-1/2" D

**24V Hardwire Class II Enclosed Driver**

120VAC/24VDC. Dimmable Class 2 driver. Compact self-enclosed driver with two (2) knockouts. Auto Reset and short circuit protection. 120V Dimming only, not compatible with low voltage. For use with 24V LED Tapelight only.

TLP24VHW60-ENC - 120V/60W;
6-3/4" L x 2-2/3" W x 1-1/4" D

TLP24VHW96-ENC - 120V/96W;
8-3/4" L x 2-2/3" W x 1-1/4" D

**Input Power Connector**

Includes wire pigtail end and (1) male flex tape connector. For use with 12V or 24V LED Tapelight.

TLCIP12HW - 12'

TLCIP19HW - 19'

**Female Connector**

6" Connector includes a wire pigtail end and a female plug connector on the other end. Used to add plug and play female connector to hardwire power supplies. For use with 12V or 24V LED Tapelight.

TLCCF

**Output Power Connector**

12" Connector includes wire pigtail end and (1) female flex tape connector. For use with 12V or 24V LED Tapelight.

TLCOP12HW

**Male Connector**

6" Connector includes a wire pigtail end and a male plug connector on the other end. Used for easy plug in connection to plug and play power supply and wire end can be connected to RGB controller at the screw terminals. For use with 12V or 24V LED Tapelight.

TLCCM

Continued on Page 2

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

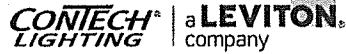
Catalog Number:
TLT24V235K12R

Notes:

Type:

J1

JTH17-28653



TLT Tapelight Series

24VDC Tapelight Accessories

Catalog No. _____

Type _____

Project _____

Linear Connectors



Bridge Connector

Blank section used to bridge gaps where LEDs are not necessary. Field cuttable every inch, only on 6' and 12' lengths. For use with 12V or 24V LED Tapelight.

- TLCM2 - 2'
- TLCM6 - 6'
- TLCM12 - 12'



Cross Connector

Used to connect up to four (4) TLT segments. May be cut to create 2-way "L" connection or 3-way "T" connection. For use with 12V or 24V LED Tapelight.

TLCX



Short Female-to-Female Connector

Used to connect male to female connectors. For use with 12V or 24V LED Tapelight.

TLCFF

Controllers



LED Power Repeater

Enables synchronized control of multiple runs from one controller. 4-3/4" L x 1-1/2" W x 1-1/2" D. For use with 12V or 24V LED Tapelight.

TLP RPT



0-10V Dimming Module

For use with standard 0-10V dimmers. Dimming down to 15%. For use with 12V or 24V LED Tapelight. 4-3/4" L x 1-1/2" W x 1-1/2" D.

TLP DIM10V



DMX 512 CV Decoder

Designed to convert universal DMX 512 signal to PWM signal when used with a DMX 512 console (by others). Can control white, single color or RGB LEDs. For use with 12V or 24V LED Tapelight. 6-3/16" L x 3-1/8" W x 1-5/8" D.

TLP INT



Wall Plate Dimmer

Allows adjustment of the brightness of the LEDs using the knob adjustment or the IR remote control. Dimming down to 1%. For use with 12V or 24V LED Tapelight. 3-7/16" square x 2-1/4" deep.

TLP DIMWP



Switch, LED Tapelight IR Cabinet

Allows on/off switching functionality for use with cabinet doors. For use with 12V or 24V LED Tapelight. 36W MAX. 1-1/2" L x 1-3/16" W x 5/16" H

TLP ICB



Dimmer, LED Tapelight Touch

Allows adjustment of the brightness of the LEDs by touching the controller housing. 36W Max. For use with 12V or 24V LED Tapelight; not compatible with RGB tapelight. 1-1/2" L x 1-3/16" W x 5/16" H

TLP IDM



Switch, LED Tapelight IR Wireless Waving

Allows wireless on/off switching functionality by waving an object within the IR field. For use with 12V or 24V LED Tapelight. 36W MAX. 1-1/2" L x 1-3/16" W x 5/16" H

TLP IWW



Job Name:

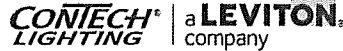
Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

TLP24VHW60

Notes:

J1

JTH17-28653



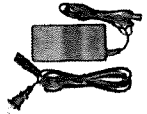
TLT Tapelight Series
 24VDC RGBW Tapelight Accessories

Catalog No. _____

Type _____

Project _____

Plug-In Power Supplies and Accessories



24V Plug-and-Play Power Supply
 120VAC/24VDC. Includes AC wall plug and female power output plug for easy installation. Plug-in unit measures 3-1/4" L x 1-3/4" W x 1-1/4" D; system length: 6". For use with 24V LED Tapelight only.
 TLP24VP36 - 36W
 TLP24VP60 - 60W
 TLP24VP60 - 96W

Hardwire Power Supplies and Accessories



24V Hardwire Power Supply
 120VAC/24VDC. Includes stripped and tinned wire pig-tails on the input and output sides. Must be maintained within an enclosure that meets local building codes and NEC (supplied by others). 1" Wire leads. Class II. For use with 24V LED Tapelight only.
 TLP24VHW20 - 120V/20W;
 5-3/4" L x 1-1/2" W x 1-1/4" D
TLP24VHW60 - 120V/60W;
6-1/3" L x 1-3/4" W x 1-1/4" D
 TLP24VHW96 - 120V/96W;
 8-3/4" L x 2-2/3" W x 1-1/2" D



24V Hardwire Class II Enclosed Driver
 120VAC/24VDC. Dimmable Class 2 driver. Compact self-enclosed driver with two (2) knockouts. Auto Reset and short circuit protection. 120V Dimming only, not compatible with low voltage. For use with 24V LED Tapelight only.
 TLP24VHW60-ENC - 120V/60W;
 6-3/4" L x 2-2/3" W x 1-1/4" D
 TLP24VHW96-ENC - 120V/60W;
 6-3/4" L x 2-2/3" W x 1-1/4" D



Input Power Connector
 Includes wire pigtail end and (1) male flex tape connector. Use with RGBW Controller, LED Power Repeater and 0-10V Dimming Module. For use with 24V LED Tapelight only.
 TLCIP12HWRGBW - 12"



Female Connector
 6" Connector includes a wire pigtail end and a female plug connector on the other end. Used to add plug and play female connector to hardwire power supplies. For use with 12V or 24V LED Tapelight.
 TLCCF



Output Power Connector
 Includes wire pigtail end and (1) female flex tape connector. Use with RGBW Controller, LED Power Repeater and 0-10V Dimming Module. For use with 24V LED Tapelight only.
 TLCOP12HWRGBW - 12"



Male Connector
 6" Connector includes a wire pigtail end and a male plug connector on the other end. Used for easy plug in connection to plug and play power supply and wire end can be connected to RGBW controller at the screw terminals. For use with 12V or 24V LED Tapelight.
 TLCCM

Linear Connectors



Bridge Connector
 Blank section used to bridge gaps where LEDs are not necessary. Field cuttable every inch, only on 6" and 12" lengths. For use with 24V LED Tapelight only.
 TLCM2RGBW - 2"
 TLCM6RGBW - 6"
 TLCM12RGBW - 12"



Cross Connector
 Can connect up to four (4) TLT RGBW segments. May be cut to create 2-way "L" connection or 3-way "T" connection. For use with 24V LED Tapelight only.
 TLCXRGBW

Continued on Page 2

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Job Name:

Leke Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

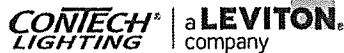
TLP24VHW20

Notes:

Type:

J1

JTH17-28653



TLT Tapelight Series

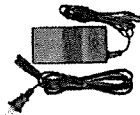
24VDC RGBW Tapelight Accessories

Catalog No. _____

Type _____

Project _____

Plug-In Power Supplies and Accessories



24V Plug-and-Play Power Supply

120VAC/24VDC. Includes AC wall plug and female power output plug for easy installation. Plug-in unit measures 3-1/4" L x 1-3/4" W x 1-1/4" D; system length: 6'. For use with 24V LED Tapelight only.

TLP24VP36 - 36W

TLP24VP60 - 60W

TLP24VP60 - 96W

Hardwire Power Supplies and Accessories



24V Hardwire Power Supply

120VAC/24VDC. Includes stripped and tinned wire pig-tails on the input and output sides. Must be maintained within an enclosure that meets local building codes and NEC (supplied by others). 1' Wire leads. Class II. For use with 24V LED Tapelight only.

TLP24VHW20 - 120V/20W;

5-3/4" L x 1-1/2" W x 1-1/4" D

TLP24VHW60 - 120V/60W;

6-1/3" L x 1-3/4" W x 1-1/4" D

TLP24VHW96 - 120V/96W;

8-3/4" L x 2-2/3" W x 1-1/2" D



24V Hardwire Class II Enclosed Driver

120VAC/24VDC. Dimmable Class 2 driver. Compact self-enclosed driver with two (2) knockouts. Auto Reset and short circuit protection. 120V Dimming only, not compatible with low voltage. For use with 24V LED Tapelight only.

TLP24VHW60-ENC - 120V/60W;

6-3/4" L x 2-2/3" W x 1-1/4" D

TLP24VHW96-ENC - 120V/60W;

6-3/4" L x 2-2/3" W x 1-1/4" D



Input Power Connector

Includes wire pigtail end and (1) male flex tape connector. Use with RGBW Controller, LED Power Repeater and 0-10V Dimming Module. For use with 24V LED Tapelight only.

TLCIP12HWRGBW - 12'



Female Connector

6" Connector includes a wire pigtail end and a female plug connector on the other end. Used to add plug and play female connector to hardwire power supplies. For use with 12V or 24V LED Tapelight.

TLCFF



Output Power Connector

Includes wire pigtail end and (1) female flex tape connector. Use with RGBW Controller, LED Power Repeater and 0-10V Dimming Module. For use with 24V LED Tapelight only.

TLCOP12HWRGBW- 12'



Male Connector

6" Connector includes a wire pigtail end and a male plug connector on the other end. Used for easy plug in connection to plug and play power supply and wire end can be connected to RGBW controller at the screw terminals. For use with 12V or 24V LED Tapelight.

TLCMM

Linear Connectors



Bridge Connector

Blank section used to bridge gaps where LEDs are not necessary. Field cuttable every inch, only on 6" and 12" lengths. For use with 24V LED Tapelight only.

TLCM2RGBW - 2'

TLCM6RGBW - 6'

TLCM12RGBW - 12'



Cross Connector

Can connect up to four (4) TLT RGBW segments. May be cut to create 2-way "L" connection or 3-way "T" connection. For use with 24V LED Tapelight only.

TLCXRGBW

Continued on Page 2



TLT Tapelight Series



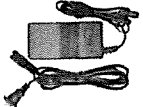




12VDC Damp Location Listed
Standard, High Output, and
Super High Output Accessories

Catalog No. _____



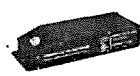



Type _____

Project _____

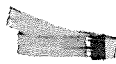


Plug-In Power Supplies and Accessories

- | | |
|---|---|
|  <p>24W Plug-and-Play Power Supply
120VAC/12VDC. Includes AC wall plug and female power output plug for easy installation. Plug-in unit measures 3-1/4" L x 1-3/4" W x 1-1/4" D; system length: 6".
TLP12VP24</p> |  <p>Plug-and-Play 2-Way Splitter
Includes (1) male and (2) female connectors. Approximately 2' long.
TLCS2</p> |
|  <p>Desktop Plug-and-Play Power Supply
120VAC/12VDC. Includes AC wall plug and female power output plug for easy installation. Desktop unit: 4" L x 2" W x 1-1/4" D
TLP12VP36 - 36W, System Length 10'
TLP12VP60 - 60W, System Length 12'</p> |  <p>Plug-and-Play 3-Way Splitter
Includes (1) male plug connector and (3) female plug connectors. Approximately 2' long.
TLCS3</p> |
|  <p>Plug-and-Play Power Supply Extension
Includes male and female plug connectors.
TLCEXT48 - 48'
TLCEXT96 - 96'</p> |  <p>Input Power Connector
Includes (1) male plug connector and (1) male flex tape connector.
TLCIP12 - 12'
TLCIP19 - 19'</p> |
| |  <p>Output Power Connector
12" Connector includes (1) male plug connector and (1) female flex tape connector.
TLCOP12</p> |

Hardwire Power Supplies and Accessories

- | | |
|--|--|
|  <p>Hardwire Power Supply
120VAC/12VDC. Includes stripped and tinned wire pig-tails on the input and outputsides. Must be maintained within an enclosure that meets local building codes and NEC (supplied by others). 2' Wire leads.
TLP12VHW20 - 120V/20W;
4-3/4" L x 1-3/16" W x 1" D
TLP12VHW60 - 120V/60W;
6-1/2" L x 1-3/4" W x 1-1/4" D
TLP12VHW60277 - 277V/60W;
6-1/2" L x 1-3/4" W x 1-1/4" D</p> |  <p>Input Power Connector
Includes wire pigtail end and (1) male flex tape onnector.
TLCIP12HW - 12'
TLCIP19HW - 19'</p> |
|  <p>Hardwire Class II Enclosed Driver
120VAC/12VDC. Dimmable Class 2 driver. Compact self-enclosed driver with two (2) knockouts. Auto Reset and short circuit protection. 120V Dimming only, no low voltage dimming.
TLP12VHW20-ENC - 120V/20W;
6-3/4" L x 2-5/8" W x 1-1/4" D
TLP12VHW60-ENC - 120V/60W;
6-3/4" L x 2-5/8" W x 1-1/4" D</p> |  <p>Output Power Connector
12" Connector includes wire pigtail end and (1) female flex tape connector.
TLCOP12HW</p> |
| |  <p>Female Connector
6" Connector includes a wire pigtail end and a female plug connector on the other end. Used to add plug and play female connector to hardwire power supplies.
TLCCF</p> |
| |  <p>Male Connector
6" Connector includes a wire pigtail end and a male plug connector on the other end. Used for easy plug in connection to plug and play power supply and wire end can be connected to RGB controller at the screw terminals.
TLCCM</p> |

Linear Connectors

- | | |
|---|--|
|  <p>Bridge Connector
Blank section used to bridge gaps where LEDs are not necessary. Field cuttable every inch, only on 6' and 12' lengths.
TLCM2 - 2'
TLCM6 - 6'
TLCM12 - 12'</p> |  <p>Cross Connector
Used to connect up to four (4) TLT segments. May be cut to create 2-way "L" connection or 3-way "T" connection.
TLCX</p> |
| |  <p>Short Female-to-Female Connector
Used to connect male to female connectors.
TLCFF</p> |

Continued on Page 2

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

TLCIP12HW

Notes:

Type:

J1

JTH17-28653



TLT Tapelight Series

12VDC Damp Location Listed
Standard, High Output, and
Super High Output Accessories

Catalog No. _____

Type _____

Project _____

Controllers



LED Power Repeater

Enables synchronized control of multiple runs from one controller. 4-3/4" L x 1-1/2" W x 1-1/2" D.

TLPRPT



0-10V Dimming Module

For use with standard 0-10V dimmers. Dimming down to 15%. 4-3/4" L x 1-1/2" W x 1-1/2" D.

TLPDIM10V



DMX 512 CV Decoder

Designed to convert universal DMX 512 signal to PWM signal when used with a DMX 512 console (by others). Can control white, single color or RGB LEDs. 6-3/16" L x 3-1/8" W x 1-5/8" D.

TLPINT



Wall Plate Dimmer

Allows adjustment of the brightness of the LEDs using the knob adjustment or the IR remote control. Dimming down to 1%. 3-7/16" square x 2-1/4" deep.

TLPDIMWP



Switch, LED Tapelight IR Cabinet

Allows on/off switching functionality for use with cabinet doors. 36W MAX. 1-1/2" L x 1-3/16" W x 5/16" H

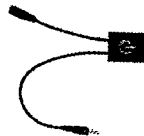
TLPICB



Dimmer, LED Tapelight Touch

Allows adjustment of the brightness of the LEDs by touching the controller housing. 36W Max. Not compatible with RGB tapelight. 1-1/2" L x 1-3/16" W x 5/16" H

TLPIDM



Switch, LED Tapelight IR Wireless Waving

Allows wireless on/off switching functionality by waving an object within the IR field. 36W MAX. 1-1/2" L x 1-3/16" W x 5/16" H

TLPiWV



Date: Jun 15, 2017

JTH Lighting Alliance
6885 146th St. West
Apple Valley MN 55124
Phone: (952) 223-6300
Fax: (952) 432-5752

Job Name
Lake Crystal City Hall & Library - Addition and Remodel
JTH17-28653
Lake Crystal MN

Bid Date
May 10, 2017

Submittal Date
Jun 5, 2017

Engineer:
I & S ENGINEERS & ARCHITECTS - MANKATO
115 E. HICKORY STREET #300
Mankato MN 56001

Date: Jun 15, 2017

Page 1/1



Transmittal

JTH Lighting Alliance
6885 146th St. West
Apple Valley MN 55124
Phone: (952) 223-6300
From: Tori Jezewski

Project Lake Crystal City Hall & Library - Addition and Remodel

Quote# JTH17-28653

Location Lake Crystal MN

To VIKING ELECTRIC SUPPLY
1440 INDUSTRIAL DR NW
ROCHESTER MN 55901
Contact: Heather Hughes

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- | | | |
|-----------------------------------|--|--------|
| <input type="checkbox"/> Drawings | <input type="checkbox"/> Specifications | Other: |
| <input type="checkbox"/> Prints | <input type="checkbox"/> Information | |
| <input type="checkbox"/> Plans | <input checked="" type="checkbox"/> Submittals | |

THESE ARE TRANSMITTED FOR:

- | | | |
|--|---|---------------------------------|
| <input type="checkbox"/> Prior Approval | <input type="checkbox"/> Resubmittal for Approval | <input type="checkbox"/> Record |
| <input checked="" type="checkbox"/> Approval | <input type="checkbox"/> Corrections | Bids due on: |
| <input type="checkbox"/> Approval as Submitted | <input type="checkbox"/> Your Use | Other: |
| <input type="checkbox"/> Approval as Noted | <input type="checkbox"/> Review and Comment | |

Qty	Type	MFG	Part
1	N1	PINNACLE ARCHITECTURAL LTG	EV3WG-CL830-4'-NF-OL1-1-O-W

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

EV3WG-CL830-4'-NF-OL1-1-O-W

Notes:

Type:

N1

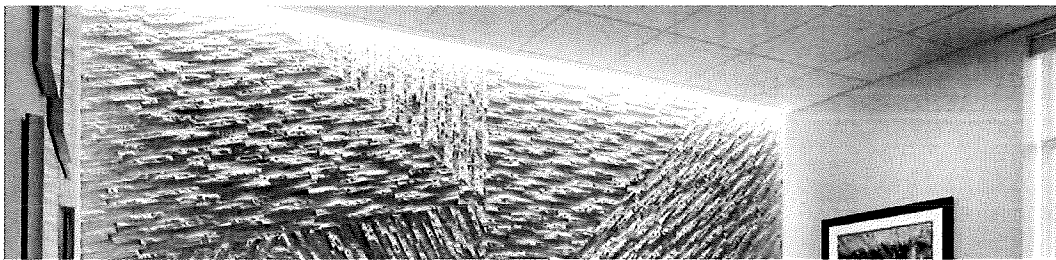
JTH17-28653

PINNACLE
ARCHITECTURAL LIGHTING®

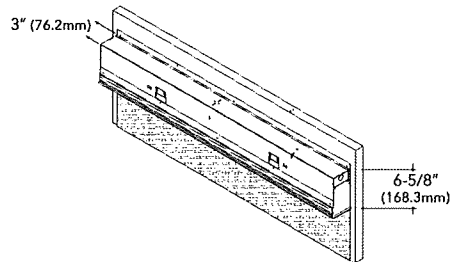
EDGE EV3WG

Project Name _____

Date _____ Type _____



**RECESSED LINEAR
WALL GRAZER
LUMINAIRE**



- Extruded aluminum trim with formed cold rolled 20 gauge steel back box housing
- Extruded aluminum module for perfect wall grazing illumination
- Edge Evolution Wall Grazer is designed to highlight textured wall surfaces
- Not recommended for smooth surfaces
- Offered with a 5-year limited warranty. Covers LED, driver and fixture
- UL and cUL listed. IC rated
- Approved for dry/damp location unless otherwise noted
- Room-Side Maintenance for LED system
- Buy American Act compliant



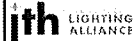
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EWG_LED_SPEC_MAR2017

A brand of **legrand**

Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
EV3WG-CL830-4'-NF-OL1-1-O-W

Notes:

Type:

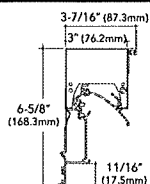
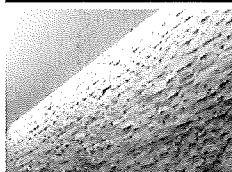
N1

JTH17-28653

PINNACLE
ARCHITECTURAL LIGHTING®

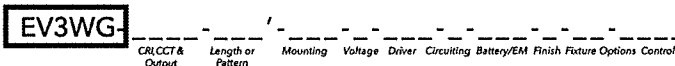
EDGE EV3WG

Linear Perimeter Slot Luminaire



Project Name _____

Date _____ Type _____



Example Part #: EV3WG-827-12-G9-U-OL1-1-0-W

HOUSING pg. 3	EV3WG	WG Wall Grazer							Details pg. 3	
CRI, CCT & OUTPUT pg. 4		27 2700K	30 3000K	35 3500K	40 4000K	CL Custom Lumens	CW Custom Watts	830	Lumen Outputs, 80 & 90 CRI pg. 4	
LENGTH OR PATTERN pg. 5-6		Individual Fixture - 2', 3', 4', 5', 6', 7', & 8'	Continuous Row to 1/8"						More Options on pg. 5-6	
MOUNTING pg. 7		G1 1" T-Bar	G9 9/16" T-Bar	G5 Slotted T-Bar	FL Flanged	SF Spackle Flange	NF Flangeless		Details on pg. 7	
VOLTAGE pg. 8		U Universal (120 thru 277V)	3 347V							Details on pg. 8
DRIVER pg. 8		OL1 Osram Dimming 0-10V, 10%	L Lutron Dimming	E e/dLED Dimming	P Philips Dimming					Details on pg. 8
CIRCUITING pg. 9		1 Single	M Multi	E Emergency entire fixture	N Night Light entire fixture					Details on pg. 9
BATTERY & EMERGENCY pg. 10		0 None	B # of Bodine 10W	I # of Iota 10W						More Options on pg. 10
FINISH pg. 11		W Matte White	S Metallic Silver	BL Textured Black	BR Bronze	GR Graphite	CC Custom Color		Details on pg. 11	
FIXTURE OPTIONS pg. 11		CP Chicago Plenum								More Options on pg. 11
CONTROLS pg. 12		Consult Factory								More Options on pg. 12

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EWG_LED_SPEC_MAR2017 2 of 13

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

EV3WG-CL830-4'-NF-OL1-1-O-W

Type:

N1

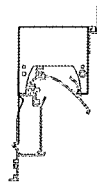
Notes:

JTH17-28653

PINNACLE
 ARCHITECTURAL LIGHTING®

EDGE Wall Grazer EV3WG-

Housing



- Extruded aluminum module for perfect wall grazing illumination
- Wiring access available on bottom of housing

Ordering Code

WG
 Wall Grazer

HOUSING

Photometrics

Wall Grazer

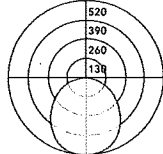
Test # IHL2935
 Catalog # EV3WG-840-4
 Lumens 1296 lm
 Watts 24.1 W
 Efficacy 54 LPW

Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	3320	3320	3320	3320	3320
5	2001	2489	3309	2795	2315
10	726	1339	3258	1496	686
15	233	617	3166	543	135
20	93	273	3012	164	28
25	51	134	2612	50	7
30	36	78	2582	17	2
35	27	53	2324	7	1
40	21	39	2046	4	0
45	16	31	1761	3	0
50	12	24	1465	3	0
55	7	19	1174	3	0
60	8	15	898	2	0
65	7	12	635	2	0
70	2	12	404	2	0
75	2	7	210	1	0
80	2	7	74	1	0
85	2	6	10	0	0
90	2	5	0	0	0

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	134	287	26856
55	60	190	21552
65	63	129	15227
75	19	85	7596
85	22	86	800



For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP accredited testing laboratory. Testing conducted at 25°C ambient conditions.

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Submitted by JTH Lighting Alliance jth LIGHTING ALLIANCE	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Catalog Number: EV3WG-CL830-4'-NF-OL1-1-O-W Notes:	Type: N1 JTH17-28653
--	---	---	--

PINNACLE ARCHITECTURAL LIGHTING[®] **EDGE** Wall Grazer EV3WG-



Color Temperature & Output

- 25° C test environment. Lumen output has a margin of +/- 5%
- All luminaire configurations tested in accordance with IES LM-79
- Diodes tested in accordance with IES LM-80
- Minimum lifetime greater than 60,000 hours
- Lifetime Projections; L70 = 122,900 hours and L90 = 36,600 hours
- Specify either 80 or 90 CRI
- LED binned within McAdams 3-Step Ellipse
- 80 CRI = R9≥19 and 90 CRI = R9≥61

Custom Output: Lumens OR Wattage

Ordering Code

CL _____ Specify CRI, CCT and desired lumens (i.e. CL835400) | Specify lumens between standard offering listed below. Lumens are specified per color temp
CW _____ Specify CRI, CCT and desired wattage (i.e. CW9407) | Specify watts between standard offering listed below

80 CRI

	Color	Output	Watts	Shielding WG	Wall Grazer Lumens	LPW
830	3000K	Standard	6.0	303	303	50.3
830HO	3000K	High	10.3	479	479	46.6
835	3500K	Standard	6.0	316	316	52.4
835HO	3500K	High	10.3	500	500	48.7
840	4000K	Standard	6.0	324	324	53.8
840HO	4000K	High	10.3	513	513	49.9

90 CRI


927	2700K	Standard	6.0	249	249	41.3
927HO	2700K	High	10.3	393	393	38.2
930	3000K	Standard	6.0	280	280	46.5
930HO	3000K	High	10.3	442	442	43.0
935	3500K	Standard	6.0	285	285	47.3
935HO	3500K	High	10.3	450	450	43.8
940	4000K	Standard	6.0	290	290	48.1
940HO	4000K	High	10.3	458	458	44.6

CRI, CCT & OUTPUT



See Lighting Facts Spec Sheet for tables
Not all products are Lighting Facts listed

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Submitted by JTH Lighting Alliance	Job Name:	Catalog Number:	Type:
	Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	EV3WG-CL830-4'-NF-OL1-1-O-W Notes:	N1 JTH17-28653

PINNACLE ARCHITECTURAL LIGHTING® **EDGE** Wall Grazer EV3WG-



Length

- All individual units cannot be joined, end trims are factory installed and cannot be removed
- Refer to Pattern section for specification and ordering options
- Continuous Rows are made up of even and odd length fixtures; designed to fall on-grid
- Choose fixture length for Individual or Continuous Row length; for patterns refer to Pattern section on page 6

Ordering Code							
2	3	4	5	6	7	8	
Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Individual Fixture	Continuous Run
23" (584.2mm)	35" (889mm)	47" (1193.8mm)	59" (1498.6mm)	71" (1803.4mm)	83" (2104.2mm)	95" (2413mm)	Specify nominal overall row length to the 1". (Example: 16' run is comprised of 96"+95" units.)
							Specify to the 1" >>>

LENGTH OR PATTERN

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Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

EV3WG-CL830-4'-NF-OL1-1-O-W

Notes:

Type:

N1

JTH17-28653

PINNACLE
ARCHITECTURAL LIGHTING®

EDGE Wall
Grazer EV3WG-

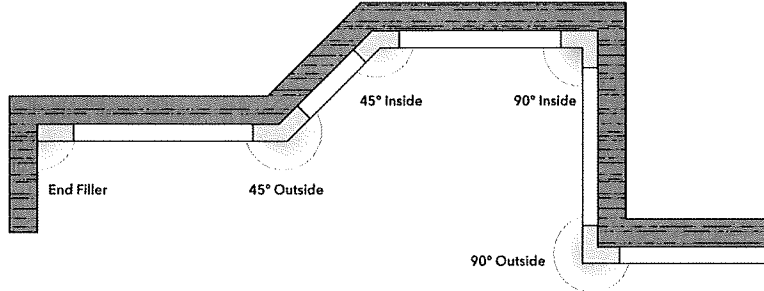


Pattern

- Outline is a complete perimeter lighting solution that includes inside corners, outside corners, and end fillers
- 45 degree and 90 degree corners allow for +/- 5 degrees of adjustability to accommodate wall imperfections
- Specify runs to the nearest foot. Non-illuminated corners are slid into place to finish the perimeter lighting
- Minimum distance for corners is 5-1/2" from the wall, with a max of 12" away from the wall
- End Fillers have a maximum recommended length of 6"
- See installation instructions for detailed information
- Inside and Outside corners are adjustable. Detailed length information will be on Factory Drawings

SI_	SO_	RI_x_	RO_x_	UI_x_x_	UO_x_x_	LI_x_	LO_x_	M
Square, inside (SI) or Outside (SO) Provide overall length dimension for each leg		Rectangle, Inside (RI) or Outside (RO) Provide overall length dimension for each leg		U-Shape, Inside (UI) or Outside (UO) Provide overall length dimension for each leg		L-Shape, Inside (LI) or Outside (LO) Provide overall length dimension for each leg		Mod Layout For patterns or lengths not shown or standard

LENGTH OR PATTERN



All fixture lengths within a pattern will be rounded to the nearest foot. End fillers and Corners (both field adjustable) will be used to complete the pattern. Factory Drawings will reflect all fixture, corner, and end filler locations and will need to be approved before an order is entered.

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EWG_LED_SPEC_MAR2017 5 of 13

Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

EV3WG-CL830-4'-NF-OL1-1-O-W

Notes:

Type:

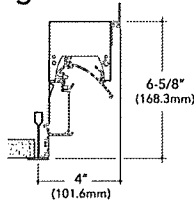
N1

JTH17-28653

PINNACLE
 ARCHITECTURAL LIGHTING®

EDGE Wall Grazer EV3WG-

Mounting



- Specify GXG, FLF, SFS, NFN for individual, unjoinable units (individual units will fall on-grid)
- Specify GX, FL, SF, NF for continuous runs (runs designed to fall on-grid)
- Wall Grazer must be installed prior to ceiling installation. Consult factory for detailed installation instructions
- All individual units cannot be joined, end trims are factory installed and cannot be removed
- Designed to install into acoustical grid and inaccessible ceilings
- Tie off fixture to structure with retention wires
- NF and NFN to be utilized for metal pan or millwork ceiling
- Approved for dry/damp location unless otherwise noted

Ordering Code

G1G Individual Unit	G9G	GBG	GSG	FLF	NFN	SFS
G1 Continuous Run or Pattern 1" (15/16") T-Bar	G9 9/16" T-Bar For tegular tile installations, fixture position will not be flush to the bottom of the tile	GB 9/16" T-Bar Rail has bevel edge details. For tegular tile installations, fixture position will be flush to the bottom of the tile	GS Bolt Slot & 9/16" T-Bar For 9/16" installations with tegular tile, fixture position will be flush to the bottom of the tile	FL Exposed Standard 1/2" Flange Detail	NF Metal Pan or Millwork	SF Drywall, Flangeless Detail

MOUNTING

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Submitted by JTH Lighting Alliance



Job Name:
Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:
EV3WG-CL830-4'-NF-OL1-1-O-W

Notes:

Type:
N1

JTH17-28653

PINNACLE ARCHITECTURAL LIGHTING® **EDGE** Wall Grazer EV3WG-

Voltage

- Some GRAZER configurations will not accommodate all voltage options; consult with factory

Ordering Code

U	Universal	120 to 277 volt
1	120 volt	
2	277 volt	
3	347 volt	Must specify OL3 under driver section of part number

Driver

- Standard Driver Option = OL1
- Electronic driver, power factor is >0.9 with a THD <20%
- Driver Lifetime: 50,000 hours at 25C ambient operating conditions
- Ambient operating range: -20F/-30C to 96F/35C
- For more Driver options, see Pinnacle Resource Guide
- Some GRAZER configurations will not accommodate all driver options; consult with factory

OL1	Osram 0-10v, 10%	Standard driver option
OL3	Osram 347 volt, 0-10v, 10%	Requires 347V option in the Voltage section of the part number
LH1	Lutron Hi-lume EcoSystem, 1% Soft on, Fade-to-Black	Lutron-LDE1
LH3	Lutron Hi-lume 1%, 3-wire	Lutron-L3DA3W
L51	Lutron 5-Series 5%, EcoSystem Digital	Lutron-LDES
EE1	eldoLED ECOdrive 1%, 0-10v	Logarithmic Dimming
ED1	eldoLED DUALdrive 0%, DALI	Logarithmic Dimming
ES1	eldoLED SOLOdrive 0-10v, 0%	Logarithmic Dimming
PS1	Philips Advance Xitanium Step Dimming	50%/100%
PM1	Philips Advance Mark 10 5%, Line	120v or 277v required


VOLTAGE

DRIVER

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EWG_LED_SPEC_MAR2017 8 of 13

Submitted by JTH Lighting Alliance	Job Name:	Catalog Number:	Type:
	Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	EV3WG-CL830-4'-NF-OL1-1-O-W Notes:	N1 JTH17-28653

PINNACLE ARCHITECTURAL LIGHTING® **EDGE** Wall Grazer EV3WG-



How to specify Circuiting, Battery and Emergency

		
Circuiting Choose from the circuiting options below.	Battery <i>If Required</i> Choose a battery from the options on the next page. Indicate quantity.	Emergency <i>If Required</i> Choose emergency from the options on the next page. Indicate quantity.

Circuiting



- Select fixture circuiting from options below
- Some Grazer configurations will not accommodate all circuiting options; consult with factory

Ordering Code

1	Single Circuit	
M	Multi Circuit	<i>For multiple circuiting and zone control, requires factory shop drawing</i>
E	Emergency Circuit only	<i>Entire fixture is on Emergency Circuit, includes dimming control</i>
N	Night Light Circuit only	<i>Entire fixture is on Night Light Circuit, includes dimming control</i>

CIRCUITING

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Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

EV3WG-CL830-4'-NF-OL1-1-O-W

Notes:

Type:

N1

JTH17-28653

P I N N A C L E
ARCHITECTURAL LIGHTING

EDGE Wall Grazer EV3WG-

Finish

- Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes
- Selecting a fixture finish other than white may impact lumen output. Consult factory for more information.

Ordering Code

W	White
S	Metallic Silver
BL	Textured Black
GR	Graphite
BR	Bronze
CC	Custom Color

Fixture Options

- Additional options to enhance the fixture and finish of the product


CP	Chicago Plenum	<i>All hole openings are covered on plenum side</i>
-----------	----------------	---



FINISH

**FIXTURE
OPTIONS**

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Submitted by JTH Lighting Alliance	Job Name:	Catalog Number:	Type:
	Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	EV3WG-CL830-4'-NF-OL1-1-O-W Notes:	N1 JTH17-28653

P I N N A C L E ARCHITECTURAL LIGHTING **EDGE** Wall Grazer EV3WG-




Fixture Options

- Some GRAZER configurations will not accommodate all control options, consult with factory

CONTROLS

Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.

Submitted by JTH Lighting Alliance		Catalog Number: EV3WG-CL830-4'-NF-OL1-1-O-W	Type: N1
	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653

PINNACLE
ARCHITECTURAL LIGHTING

EDGE EV3WG

Linear Perimeter Slot Luminaire



Approvals & Certifications

Construction Extruded aluminum trim with formed cold rolled 20 gauge steel back box housing.

Shielding Extruded aluminum module for perfect wall grazer illumination.

Mounting Evolution is designed to install into acoustical grid and inaccessible ceilings. Specify GXG, FLF, SFS, NFN for individual, unjoinable units (individual units will fall on-grid). Specify GX, FL, SF, NF for continuous runs (runs designed to fall on-grid). Grid retention brackets are integral to housing. Each housing contains 4 grid retention brackets. Consult factory for detailed installation instructions.

LED 25°C test environment. Lumen output/wattage has a margin of +/- 5%. All luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Minimum lifetime greater than 60,000 hours. Lifetime Projection L70 = 122,900 hours and L90 = 36,600 hours. MacAdam 3-Step Ellipses. Not all products are lighting facts listed. For all available IES files, please visit our website at pinnacle-ltg.com.

CRI, CCT & Lumen Output Two lumen packages available. Standard and High (HO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 80 CRI = R9≥19 and 90 CRI = R9≥61.

Voltage Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL3 in Driver section when 347 volt (3) is selected. Some Grazer configurations will not accommodate all voltage options; consult with factory.

Driver Standard Driver Option is Osram 0-10V, 10% = OL1. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating conditions. Ambient operating range: -20°F/-30°C to 96°F/35°C. For more driver options, see Pinnacle Resource Guide. Some Grazer configurations will not accommodate all driver options.

Circuiting Select from single circuit (1), Emergency circuit (E) or Night Light circuit (N). Some Grazer configurations will not accommodate all circuiting options; consult with factory.

Battery & Emergency Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button is remote to fixture. For more Battery options, see Pinnacle Resource Guide.

Finish Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes or

for additional custom color and finish options.

Labels UL and cUL Listed. Standard and HO lumen packages are IC Rated, approved for dry/damp location unless otherwise noted.

Buy American Act Compliant

Warranty Evolution LED offered with a 5-year limited warranty. Covers LED, driver and fixture.

Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.

Designed and Fabricated in Denver, CO • USA | pinnacle-ltg.com | O: 303-322-5570 F: 303-322-5568

EWG_LED_SPEC_MAR2017 13 of 13

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

BXSP-C-HT-2ME-E-40K-UL-BK

Notes:

Type:

L1

JTH17-28653

XSP Series

XSP1™ LED Street/Area Luminaire – Single Module – Version C

Product Description

Designed from the ground up as a totally optimized LED street and area lighting system, the XSP Series delivers incredible efficiency without sacrificing application performance. Beyond substantial energy savings and reduced maintenance, Cree achieves greater optical control with our NanoOptic® Precision Delivery Grid™ optic when compared to traditional cobra head luminaires. The XSP Series is the better alternative for traditional street and area lighting with quick payback and improved performance.

Applications: Roadway, parking lots, walkways and general area spaces

Performance Summary

NanoOptic® Precision Delivery Grid™ optic

Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

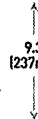
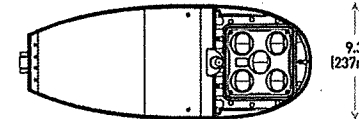
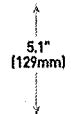
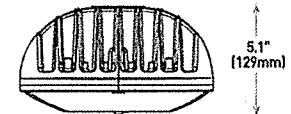
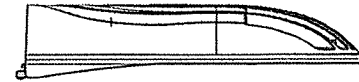
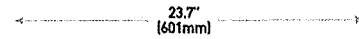
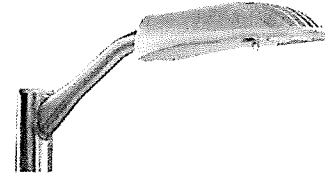
CCT: 3000K (+/- 300K); 4000K (+/- 300K); 5700K (+/- 500K)

Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

*See <http://lighting.cree.com/warranty> for warranty terms

Accessories

Field-Installed	
Backlight Control Shield XA-SP1BLS - Provides 1/2 mounting height cutoff	Bird Spikes XA-SP1BRD5PK



Weight
14.5 lbs. (6.6kg)

Ordering Information

Example: BXSP-C-HT-2ME-E-30K-UL-BZ

BXSP	C	HT	Optic	Input Power Designator	CCT	Voltage	Color Options	Options
BXSP	C	HT Horizontal Tenon	2ME* Type II Medium 2LG* Type II Long 3ME* Type III Medium 4ME* Type IV Medium	E 101W	30K 3000K 40K 4000K 57K 5700K	UL Universal 120-277V	BK Black BZ Bronze SV Silver	N-09 Utility Label and NEMA® Photocell Receptacle - External wallage label per ANSI C136.15 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others - includes 09 option - Refer to Field Adjustable Output spec sheet for details 09 Field Adjustable Output - Refer to Field Adjustable Output spec sheet for details R NEMA® Photocell Receptacle - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others

* Available with Backlight Shield when ordered with field-installed accessory (see table above)
 NOTE: Price adder may apply depending on configuration

Rev. Date: V6 08/23/2016



US: lighting.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

Submitted by JTH Lighting Alliance		Catalog Number: BXSP-C-HT-2ME-E-40K-UL-BK	Type: L1
jth LIGHTING ALLIANCE	Job Name: Lake Crystal City Hall & Library - Addition and Remodel Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)	Notes:	JTH17-28653

XSP1™ LED Street/Area Luminaire – Single Module – Version C

Product Specifications

CONSTRUCTION & MATERIALS

- Die cast aluminum housing
- Tool-less entry
- Mounts on 1.25" (32mm) IP, 1.66" (42mm) O.D. or 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Luminaire secures with two mounting bolts
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze and silver are available
- Weight: 14.5 lbs. (6.6kg)

ELECTRICAL SYSTEM

- Input Voltage: 120-277V, 50/60Hz
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load
- Class 1 driver
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Controls by others
- 10V Source Current: 0.15mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- Meets CALTrans 411 Vibration testing
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- DLC qualified. Exceptions apply when N-Q9 or Q9 (select adjustments) options are ordered. Please refer to www.designlights.org/OPL for most current information
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT. Please refer to <http://darksky.org/isa/isa-products/> for most current information

Electrical Data*					
Input Power Designator	System Watts 120-277V	Total Current (A)			
		120V	208V	240V	277V
E	101	0.89	0.50	0.44	0.39

*Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-277V +/- 10%

Recommended XSP Series Version C Lumen Maintenance Factors (LMF) ¹						
Ambient	Input Power Designator	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Calculated ³ LMF	100K hr Calculated ³ LMF
5°C (41°F)	E	1.04	0.97	0.91	0.85	0.80
10°C (50°F)	E	1.03	0.96	0.90	0.84	0.79
15°C (59°F)	E	1.02	0.95	0.89	0.83	0.78
20°C (68°F)	E	1.01	0.94	0.88	0.82	0.77
25°C (77°F)	E	1.00	0.93	0.87	0.81	0.76

¹Lumen maintenance values at 4000K and 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing

²In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

³In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

BXSP-C-HT-2ME-E-40K-UL-BK

Type:

L1

Notes:

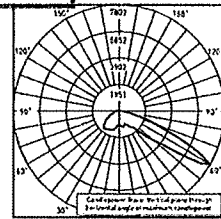
JTH17-28653

XSP1™ LED Street/Area Luminaire – Single Module – Version C

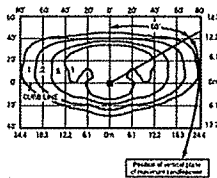
Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/xsp-series-1>

2ME



RESTL Test Report #: PL06675-001
 BXSP-C-**-2ME-E-40K-UL
 Initial Delivered Lumens: 8,850

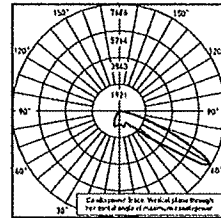


BXSP-C-**-2ME-E-30K-UL
 Mounting Height: 25' (7.6m) A.F.G.
 Initial Delivered Lumens: 6,891
 Initial FC at grade

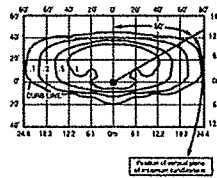
Type II Medium Distribution

Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
E	6,891	B2 U0 G1	6,407	B2 U0 G2	8,620	B2 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.ies.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt



RESTL Test Report #: PL06675-002
 BXSP-C-**-2ME-E-40K-UL w/XA-SP1BLS
 Initial Delivered Lumens: 7,076



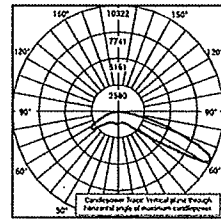
BXSP-C-**-2ME-E-30K-UL w/XA-SP1BLS
 Mounting Height: 25' (7.6m) A.F.G.
 Initial Delivered Lumens: 5,842
 Initial FC at grade

Type II Medium w/BLS Distribution

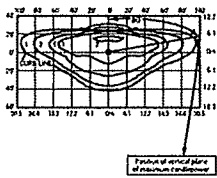
Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
E	5,842	B1 U0 G1	7,127	B1 U0 G1	7,478	B1 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.ies.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

2LG



CESTL Test Report #: PL04154-001
 BXSP-C-**-2LG-E-30K-UL
 Initial Delivered Lumens: 6,944

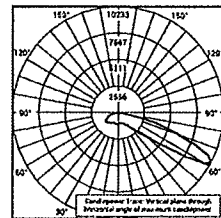


BXSP-C-**-2LG-E-30K-UL
 Mounting Height: 25' (7.6m) A.F.G.
 Initial Delivered Lumens: 6,816
 Initial FC at grade

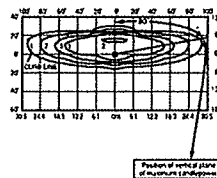
Type II Long Distribution

Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
E	6,816	B2 U0 G2	8,315	B2 U0 G2	8,724	B2 U0 G2

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.ies.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt



CESTL Test Report #: PL04155-001
 BXSP-C-**-2LG-E-30K-UL w/XA-SP1BLS
 Initial Delivered Lumens: 5,302



BXSP-C-**-2LG-E-30K-UL w/XA-SP1BLS
 Mounting Height: 25' (7.6m) A.F.G.
 Initial Delivered Lumens: 5,018
 Initial FC at grade

Type II Long w/BLS Distribution

Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
E	5,018	B1 U0 G1	6,122	B1 U0 G1	6,423	B1 U0 G1

* Initial delivered lumens at 25°C (77°F). Actual production yield may vary between -10 and +10% of initial delivered lumens
 ** For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: www.ies.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf. Valid with no tilt

Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

BXSP-C-HT-2ME-E-40K-UL-BK

Notes:

Type:

L1

JTH17-28653

XSP1™ LED Street/Area Luminaire – Single Module – Version C

Luminaire EPA

Horizontal Tenon Mount – Weight: 14.5 lbs. (6.6kg)				
Single	2 @ 90°	2 @ 180°	3 @ 90°	4 @ 90°
Tenon Configuration If used with Cree tenons, please add tenon EPA with luminaire EPA				
PD-1H4; PT-1H	PD-2H4(90); PT-2H(90)	PD-2H4(180); PT-2H(180)	PD-3H4(90); PT-3H(90)	PD-4H4(90); PT-4H(90)
0.71	1.02	1.43	1.74	2.04

Tenon EPA

Part Number	EPA
PD Series Tenons	0.09
PT Series Tenons	0.10
WM-ZL	0.13
XA-TMDA8	0.19

Tenons and Brackets ¹ (must specify color)	
Square Internal Mount Horizontal Tenons (Aluminum) - Mounts to 4" (102mm) square aluminum or steel poles PD-1H4 – Single PD-3H4(90) – 90° Triple PD-2H4(90) – 90° Twin PD-4H4(90) – 90° Quad PD-2H4(180) – 180° Twin	Round External Mount Horizontal Tenons (Aluminum) - Mounts to 2.375"-3" (60-76mm) O.D. round aluminum or steel poles or tenons - Mounts to 3" (76mm), 5" (127mm), or 6" (152mm) square pole with DB-1A Tenon PT-1H – Single PT-3H(90) – 90° Triple PT-2H(90) – 90° Twin PT-4H(90) – 90° Quad PT-2H(180) – 180° Twin
Wall Mount Brackets - Mounts to wall or roof WM-ZL – Extended Horizontal	Direct Arm Pole Adaptor Bracket - Mounts to 3-6" (76-152mm) round or square aluminum or steel poles XA-TMDA8

¹ Refer to the Bracket and Tenons spec sheet for more details

* Specify pole size: 3 (3"), 5 (5"), or 6 (6") for single, double or triple luminaire orientation or 5 (5") or 6 (6") for quad luminaire orientation

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T (800) 473-1234 F (800) 890-7507

Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

PT-1H

Notes:

Type:

L1

JTH17-28653

Brackets and Tenons

PT Series

Round External Mount Horizontal Tenons (for use with Adjustable Arm Mount and RUL Luminaires). Not for use with the Cree Edge™ High Output Area/Flood Luminaires

The round base of the PT Series aluminum brackets is designed to mount over a steel or aluminum 2-3/8" (60mm) to 3" (76mm) O.D. round pole or tenon. Tenon base secures to pole with eight stainless steel allen head screws. Luminaires mounted to these tenons can only be adjusted vertically. The PT Series brackets can be mounted on a square pole, but require the use of the Single Vertical Tenon PB-1A.

PT	Product	Mounting Configurations	Color Options						
PT		1 Single 2(90) 90° Twin 2(180) 180° Twin 3(90) 90° Triple 3(120) 120° Triple 4(90) 90° Quad	BK Black BZ Bronze SV Silver WH White	Single	90° Twin	180° Twin	90° Triple	120° Triple	90° Quad

Round External Mount Horizontal Tenons (for use with Horizontal Tenon Mount – LEDway® and XSP Luminaires). Not for use with the Cree Edge™ High Output Area/Flood Luminaires

The round base of the PT Series aluminum brackets is designed to mount over a steel or aluminum 2-3/8" (60mm) to 3" (76mm) O.D. round pole or tenon. Tenon base secures to pole with eight stainless steel allen head screws. The PT Series brackets can be mounted on a square pole, but require the use of the Single Vertical Tenon PB-1A.

PT	Product	Mounting Configurations	Color Options						
PT		1H Single 2H(90) 90° Twin 2H(180) 180° Twin 3H(90) 90° Triple 4H(90) 90° Quad	BK Black BZ Bronze SV Silver WH White	Single	90° Twin	180° Twin	90° Triple	90° Quad	

Pole sold separately

PD Series

Square Internal Mount Horizontal Tenons (for use with Adjustable Arm Mount and RUL Luminaires). Not for use with the Cree Edge™ High Output Area/Flood Luminaires

The square base of the PD Series cast aluminum brackets is designed to be inserted into square, non-tapered steel or aluminum 4" (102mm) poles with a maximum wall thickness of 0.188" (5mm). Square PD tenons are supplied with end caps to enclose the wiring chamber. Tenon base secures to pole with four 5/16" (8mm) hex head stainless steel black oxide bolts. Luminaires mounted to these tenons can only be adjusted vertically.

PD	Product	Mounting Configurations	Color Options				
PD		2A(90) 90° Twin 2A(180) 180° Twin 3A(90) 90° Triple 4A(90) 90° Quad	BK Black BZ Bronze SV Silver WH White	90° Twin	180° Twin	90° Triple	90° Quad

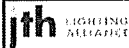
Square Internal Mount Horizontal Tenons (for use with Horizontal Tenon Mount – LEDway® and XSP Luminaires). Not for use with the Cree Edge™ High Output Area/Flood Luminaires

The square base of the PD Series cast aluminum brackets is designed to be inserted into square, non-tapered steel or aluminum 4" (102mm) poles with a maximum wall thickness of 0.188" (5mm). Square PD tenons are supplied with end caps to enclose the wiring chamber. Tenon base secures to pole with four 5/16" (8mm) hex head stainless steel black oxide bolts. Luminaires mounted to these tenons can only be adjusted vertically.

PD	Product	Mounting Configurations	Color Options					
PD		1H4 Single 2H4(90) 90° Twin 2H4(180) 180° Twin 3H4(90) 90° Triple 4H4(90) 90° Quad	BK Black BZ Bronze SV Silver WH White	Single	90° Twin	180° Twin	90° Triple	90° Quad

Pole sold separately





Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

PT-1H

Notes:

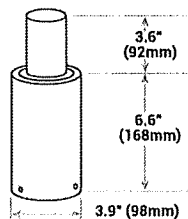
L1

JTH17-28853

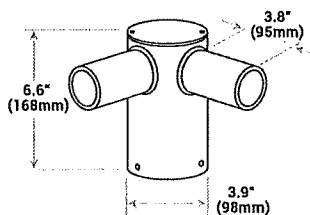
Brackets and Tenons

PT Series

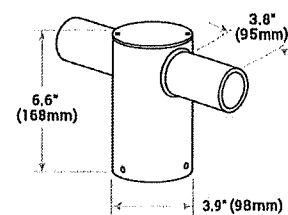
PT-1



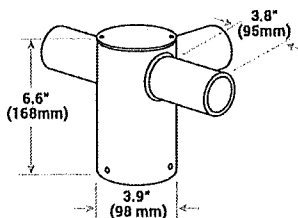
PT-2(90)



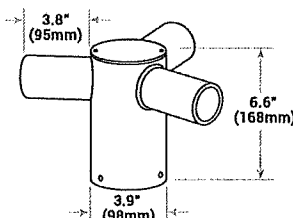
PT-2(180)



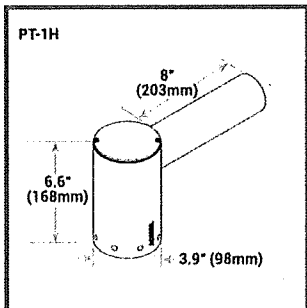
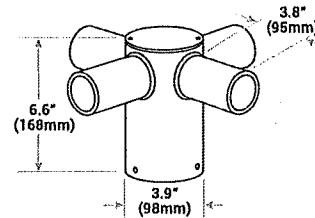
PT-3(90)



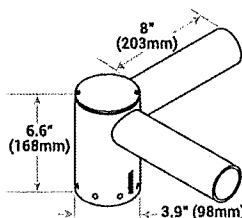
PT-3(120)



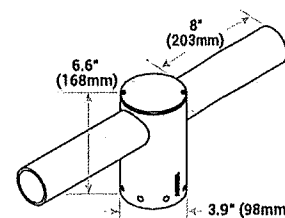
PT-4(90)



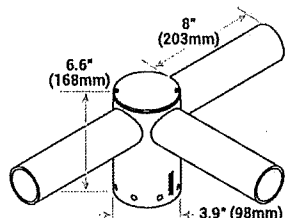
PT-2H(90)



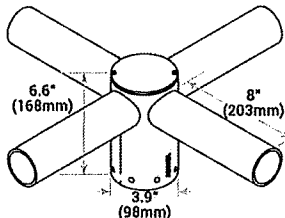
PT-2H(180)



PT-3H(90)



PT-4H(90)



Submitted by JTH Lighting Alliance



Job Name:

Lake Crystal City Hall & Library - Addition and Remodel
 Engineer: I & S ENGINEERS & ARCHITECTS - MANKATO (Mankato)

Catalog Number:

PT-1H

Notes:

Type:

L1

JTH17-28653

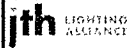
Brackets and Tenons

Tenon EPA

Part Number	EPA
PB-1A*	None
PB-2A*	0.82
PB-3A*	1.52
PB-4A*(180)	2.22
PB-4A*(90)	1.11
PB-2R2.375	0.92
PB-3R2.375	1.62
PB-4R2.375	2.32
PD Series Tenons	0.09
PT Series Tenons	0.10
PW-1A3**	0.47
PW-2A3**	0.94
RUL-ARM24	0.42
WM-2	0.08
WM-2L	0.13
WM-4	0.25
WM-4L	0.32
WM-DM	None
WM-PLT12	None
WM-PLT14	None
XA-TM0A8	0.19

* Specify pole size: 3 (3"), 4 (4"), 5 (5") or 6 (6") for single, double or triple luminaire orientation or 4 (4"), 5 (5") or 6 (6") for quad luminaire orientation
 ** These EPA values must be multiplied by the following ratio: Fixture Mounting Height/Total Pole Height. Specify pole size: 3 (3"), 4 (4"), 5 (5") or 6 (6")





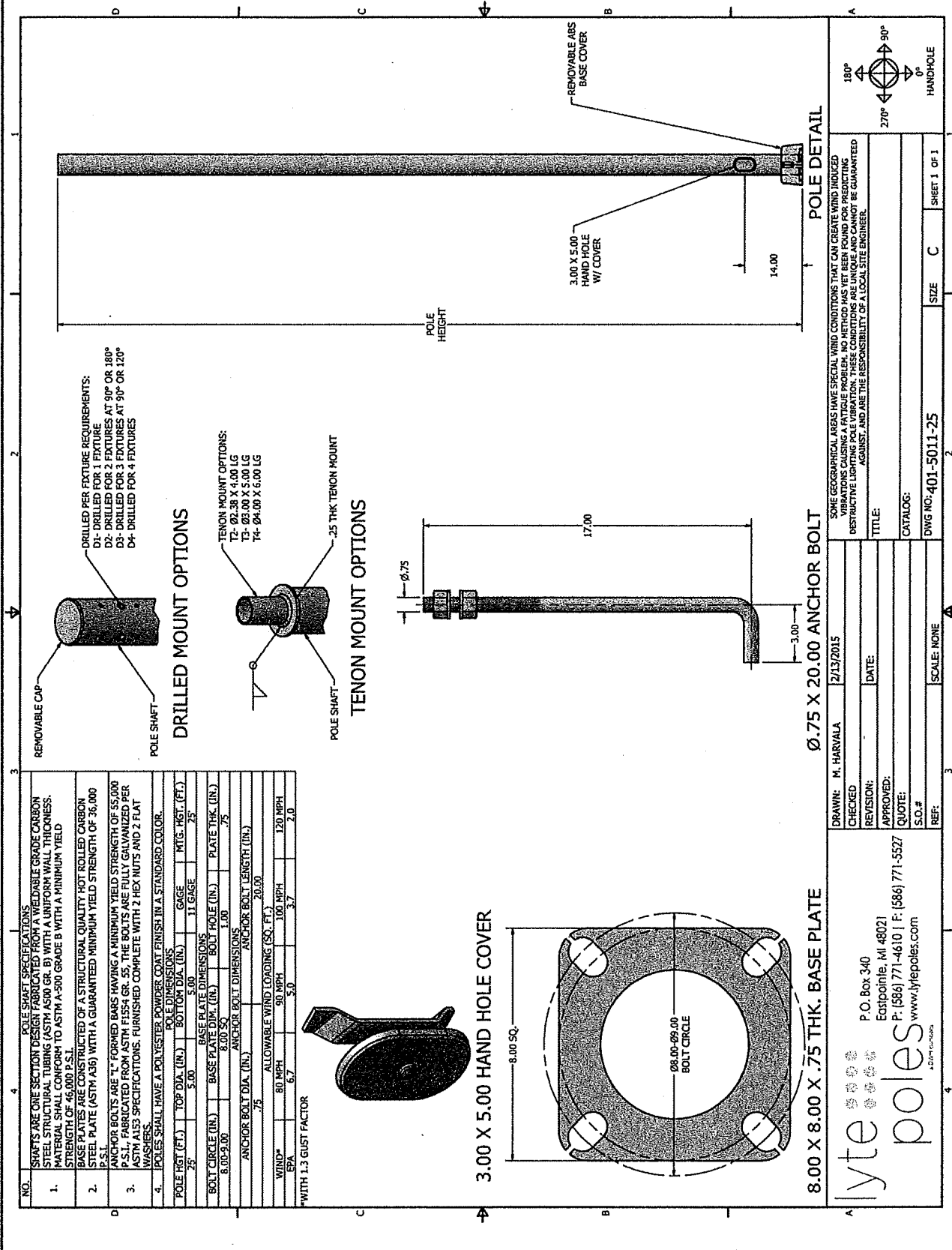
Job Name:
Lake Crystal City Hall & Library - Addition and
Remodel
Engineer: I & S ENGINEERS & ARCHITECTS -
MANKATO (Mankato)

401-5011-25

L1

Notes:

JTH17-28653



NO. 1. SHAFTS ARE ONE SECTION DESIGN FABRICATED FROM A WELDABLE GRADE CARBON STEEL STRUCTURAL TUBING (ASTM A500 GR. B) WITH A UNIFORM WALL THICKNESS. MATERIAL SHALL CONFORM TO ASTM A-500 GRADE B WITH A MINIMUM YIELD STRENGTH OF 46,000 P.S.I.

NO. 2. BASE PLATES ARE CONSTRUCTED OF A STRUCTURAL QUALITY HOT ROLLED CARBON STEEL PLATE (ASTM A36) WITH A GUARANTEED MINIMUM YIELD STRENGTH OF 36,000 P.S.I. FOR BOLTS ARE 1" FORMED BARS HAVING A MINIMUM YIELD STRENGTH OF 65,000 P.S.I. FABRICATED FROM ASTM A505 GR. 55. THE BOLTS ARE FULLY GALVANIZED PER ASTM A153 SPECIFICATIONS. FURNISHED COMPLETE WITH 2 HEX NUTS AND 2 FLAT WASHERS.

NO. 3. POLES SHALL HAVE A POLYESTER POWDER COAT FINISH IN A STANDARD COLOR.

NO. 4. POLES SHALL HAVE A POLYESTER POWDER COAT FINISH IN A STANDARD COLOR.

POLE DIMENSIONS			
POLE HGT. (FT.)	TOP DIA. (IN.)	BOTTOM DIA. (IN.)	GAGE
25	5.00	5.00	11 GAGE
BASE PLATE DIMENSIONS			
BOLT CIRCLE (IN.)	8.00-9.00	BOLT HOLE (IN.)	1.00
ANCHOR BOLT DIA. (IN.)	.75	ANCHOR BOLT LENGTH (IN.)	20.00
ALLOWABLE WIND LOADING (SQ. FT.)			
WIND*	80 MPH	90 MPH	100 MPH
EPA	5.0	5.0	3.7
*WITH 1.3 GUST FACTOR			

POLE DETAIL

3.00 X 5.00 HAND HOLE W/ COVER

14.00

POLE HEIGHT

REMOVABLE ABS BASE COVER

27°

180°

0°

HANDHOLE

SOME GEOMETRICAL AREAS HAVE SPECIAL WIND CONDITIONS THAT CAN CREATE UNDESIRABLE VIBRATIONS CAUSING A FATIGUE PROBLEM. NO METHOD HAS YET BEEN FOUND FOR PREVENTING DESTRUCTIVE LIGHTING POLE VIBRATION. THESE CONDITIONS ARE UNIQUE AND CANNOT BE GUARANTEED AGAINST, AND ARE THE RESPONSIBILITY OF A LOCAL SITE ENGINEER.

DATE: _____

REVISION: _____

APPROVED: _____

QUOTE: _____

S.O.# _____

REF: _____

SCALE: NONE

DATE: 2/13/2015

DRAWN: M. HARVALA

CHECKED: _____

TITLE: _____

CATALOG: _____

DWG NO: 401-5011-25

SIZE: C

SHEET 1 OF 1

8.00 X 8.00 X .75 THK. BASE PLATE

Ø.75 X 20.00 ANCHOR BOLT

3.00 X 5.00 HAND HOLE COVER

8.00 SQ.

Ø.60-Ø.69.00 BOLT CIRCLE

lyte poles

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Eastpointe, MI 48021
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www.lytepoles.com