

**Justin S. Greene**  
*Commissioner, District 1*

**Anna Hansen**  
*Commissioner, District 2*

**Camilla Bustamante**  
*Commissioner, District 3*



**Anna T. Hamilton**  
*Commissioner, District 4*

**Hank Hughes**  
*Commissioner, District 5*

**Gregory S. Shaffer**  
*County Manager*

April 16, 2024

**SANTA FE COUNTY**  
**IFB NO. 2024-0210-PW/APS**  
**DISTRICT ATTORNEY OFFICE COMPLEX RENOVATION**

**ADDENDUM NO. 3**

Dear Proponents,

This addendum is issued to reflect the following immediately. It shall be the responsibility of interested Bidders to adhere to any changes or revisions to the IFB as identified in this Addendum No. 3. This documentation shall become permanent and made part of the departmental files.

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***Attachment A: Lighting Substitution Information***

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Please add this Addendum No. 3 to the original proposal documents and refer to proposal documents, hereto as such. This and all subsequent addenda will become part of any resulting contract documents and have effects as if original issued. All other unaffected sections will have their original interpretation and remain in full force and effect. Responders are reminded that any questions or need for clarification must be addressed to Amanda Patterson-Sanchez, Procurement Planner Analyst at [apatterson-sanchez@santafecountynm.gov](mailto:apatterson-sanchez@santafecountynm.gov).

# Prior Approval Request

Project: NM FIRST JUDICIAL  
DISTRICT ATTORNEY  
To: GURUSHWAR MIRANDA  
LOYD & ASSOCIATES  
Re: LIGHTING & CONTROLS

Substitution Request Number: 24767  
From: SCHROEDER SALES, INC.  
Date: 4/3/24

Specification Title: LIGHTING & CONTROLS Description: VARIOUS - SEE ATTACHED  
Section: \_\_\_\_\_ Page: \_\_\_\_\_ Article/Paragraph: \_\_\_\_\_

Proposed Substitution: VARIOUS - SEE ATTACHED  
Manufacturer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
Trade Name: \_\_\_\_\_ Model No.: \_\_\_\_\_  
Installer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_

History:  New product  1-4 years old  5-10 years old  More than 10 years old

Differences between proposed substitution and specified product: NOT KNOWN

Reason for not providing specified item: COMPETITIVE BIDDING

Proposed substitution changes Contract Time:  No  Yes [Add] [Deduct] \_\_\_\_\_ days.

Supporting Data Attached:  Drawings  Product Data  Samples  Tests  Reports  \_\_\_\_\_



**Date: Apr 3, 2024**

Schroeder Sales, Inc  
215 Gold Ave. SW  
Albuquerque NM 87102  
Phone:  
Fax:

Job Name  
**DISTRICT ATTORNEY OFFICE COMPLEX RENOVATION**  
SANTA FE NM

Submittal Date  
Apr 3, 2024

*Architect:*  
LLOYD & ASSOCIATES  
321 W San Francisco St Suite A  
Santa Fe NM 87501

*Engineer:*  
AC ENGINEERING ENTERPRISES, LLC  
120 Aliso Drive SE  
Albuquerque NM 87108



# Transmittal

Schroeder Sales, Inc  
215 Gold Ave. SW  
Albuquerque NM 87102  
Phone:  
**From: Petra Zavakos**

**Project** PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767

**Quote#** SSI24-57406

**Location** SANTA FE NM  
Contact:

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 checked="" type="checkbox"/> Prior Approval | <input type="checkbox"/> Resubmittal for Approval | <input type="checkbox"/> Record |
| <input 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       |                                 |

<b>Type</b>	<b>MFG</b>	<b>Part</b>
		PRIOR SUBMITTAL - 04/03/2024
		SUBSTITUTION REQUEST FORM

## SPEC SECTION 16510 LIGHTING

### EQUIPMENT

A	METALUX	24CZ2-35-UNV-L82765-W2A-1-U
A1	METALUX	22CZ2-20-UNV-L82765-W2A-1-U
B	PMC LIGHTING	QS-ES44-D-S-40K-05S-4'-D-RALXXXX-UNV
C	HALO	PRS610D010 SM6128FS 64SWDH
D	US ARCHITECTURAL	LCNP1-PM-PA-V-32LED-175MA-40K-UNV-RALXXXX-WM-SM+L
D1	EVERGREEN LIGHTING	PYRED-12LED-MN-WF-41K-20"-DIM
F	METALUX	4NWS3C3-UNV
F1	HALO	HU30MSCTD48P
EXIT	SURELITES	APC7RSQ
EM	SURELITES	AP2SQLED30
CNTRLS	SSI CONTROLS	ETC CONTROLS PACKAGE



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

PRIOR SUBMITTAL - 04/03/2024

**Type:**

Notes:

SSI24-57406

DISTRICT ATTORNEY OFFICE COMPLEX RENOVATION  
24767

PRIOR SUBMITTAL  
04/03/2024



Date: Apr 3, 2024

Job Name: PRIOR SUBMITTAL / DISTRICT ATTORNEY OFFICE COMPLEX RENOVATION  
24767

## **SPEC SECTION 16510 LIGHTING EQUIPMENT**

Bid Date: Apr 11, 2024

Submittal Date: Apr 3, 2024



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

24CZ2-35-UNV-L82765-W2A-1-U

**Type:**

**A**

Notes:

SSI24-57406

Project		Catalog #		Type	
Prepared by		Notes		Date	



# Metalux

## Cruze ST 24CZ2

2' x 4' LED Specification Grade Troffer

**Typical Applications**

Office • Education • Healthcare • Hospitality • Retail

**Interactive Menu**

- Order Information page 2
- Photometric Data page 3
- Connected Systems page 5
- VividTune™ Color Tuning Solutions page 6
- Product Warranty

**Product Certification**



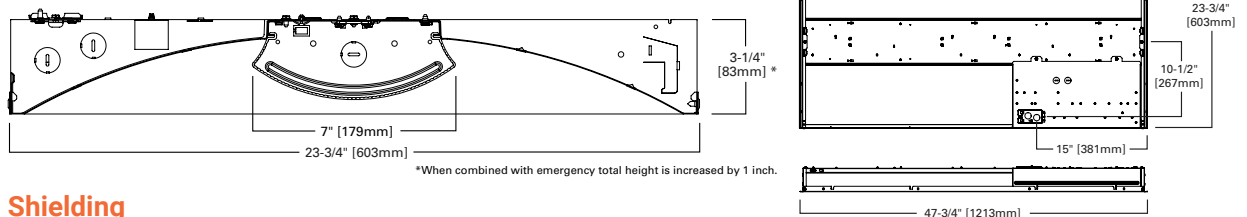
**Product Features**



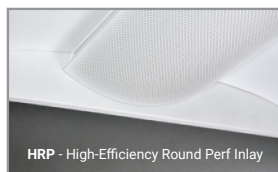
**Top Product Features**

- Latch-less design provides clean architectural look
- VividTune CCT tuning options from 3000K-5000K or 2700K-6500K
- Designers delight - ribbed, smooth and round perforated lens options
- High performance efficacy up to 167 lm/W
- Integrated sensor systems - occupancy, daylight and IoT connectivity
- Options to meet Buy American and other domestic preference requirements

**Dimensional and Mounting Details**



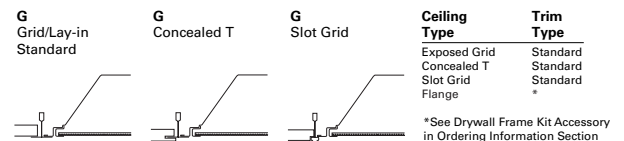
**Shielding**



See ordering information for more shielding options.



**Ceiling Compatibility**





**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 24CZ2-35-UNV-L82765-W2A-1-U

**Type:**

**A**

SSI24-57406

# Metalux

# 24CZ2 LED

## Order Information

SAMPLE ORDER NUMBER: 24CZ2-45HE-UNV-L835-CD1-U

Domestic Preferences		Rating	Series	Air	Lumen Output		Shielding	Voltage	
Domestic Preferences (1)		Rating	Series	Air	Lumen Level	Efficacy	Shielding	Voltage (9)	
BAA=Buy American Act TAA=Trade Agreements Act		ATW-SW4=Chicago Rated	24CZ2=2x4 Cruze-ST	A=Air (Vented) (2)	30=3000 Lumens 35=3500 Lumens 40=4000 Lumens 45=4500 Lumens 50=5000 Lumens 55=5500 Lumens (3) 60=6000 Lumens (3)(4) 65=6500 Lumens (3)(4) 70=7000 Lumens (4) 75=7500 Lumens (4)	80=8000 Lumens (4) 85=8500 Lumens (4) 90=9000 Lumens (4) 95=9500 Lumens (4) 100=10000 Lumens (4) 110=11000 Lumens (4) 120=12000 Lumens (4) 130=13000 Lumens (4) 150=15000 Lumens (4) 170=17000 Lumens (4)	[Blank]=Standard Efficacy (5) HE=High Efficacy (7) VHE=Very High Efficacy (4),(8)	[Blank]=Ribbed Frosted Acrylic Lens (standard) S=Smooth Frosted Acrylic Lens HRP=High-Efficiency Round Perf Inlay SOR=Square Ribbed Frosted Acrylic Lens	UNV=Universal Voltage 120-277V 347V=347 Volt (10) 48V=48 Volt Low-Voltage (Class 2) (C)
<b>Notes</b> (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to <a href="http://www.domesticpreferences.com">DOMESTIC PREFERENCES</a> website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.				<b>Notes</b> (2) Air version is intended for air return through plenum. See air return data table for air flow volumes. Air option not available with ATW-SW4. Air requires "PAF" option.		<b>Notes</b> (3) Not available with white tuning and Standard Efficacy. (4) Available with CD or HCD drivers only. (5) Available up to 6500 lumens. (7) Available up to 7500 lumens. (8) Requires 2 CD-1 drivers above 100VHE.			<b>Notes</b> (9) Products also available in non-US voltages and frequencies for international markets. (10) Some 347V versions require a transformer. Total wattage will increase by 2 watts if used. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.

Options		Emergency Options	CRI/CCT	Flex
Options	Emergency Options	CRI/CCT	Flex	
GL=Single Element Fuse GM=Double Element Fuse PAF=Painted After Fabrication	EL7W=7-watt 120V-277V emergency battery pack (11) EL10W=10-watt 120V-277V emergency battery pack (11) EL14W=14-watt 120V-277V emergency battery pack (11) EL10WSD=10W emergency battery pack with self-diagnostic installed (11),(12) EL14WSD=14W emergency battery pack with self-diagnostic installed (11),(12) ELV7W=Low-voltage system, 7-watt emergency battery pack (2) ELV14W=Low-voltage system, 14-watt emergency battery pack (2) ETRD=Emergency Transfer Relay with dimming control (12) RRU=LVS Controls Emergency Transfer Relay with dimming control (12) UEL7W=UL924 Listed luminaire, 7-watt, 120V-277V emergency battery pack (11) UEL14W=UL924 Listed luminaire, 14-watt 120V-277V emergency battery pack (11) UEL10WSD=Bodine 10W emergency battery pack with self diagnostic installed (11),(14) UETRD=UL924 Listed luminaire, Emergency Transfer Relay with dimming control (12) URRU=UL924 Listed luminaire, LVS Controls Emergency Transfer Relay with dimming control (12)	L830=80CRI, 3000K L835=80CRI, 3500K L840=80CRI, 4000K L850=80CRI, 5000K L930=90CRI, 3000K L935=90CRI, 3500K L940=90CRI, 4000K L950=90CRI, 5000K L83050=80CRI 3000K-5000K White Tuning (15) L93050=90CRI 3000K-5000K White Tuning (15) L82765=80CRI 2700K-6500K White Tuning (15) L92765=90CRI 2700K-6500K White Tuning (15)	A3/8-4/18GDIM=3/8" Flex with 0-10V Dimming Leads A3/8-2/18C=3/8" Flex with line and common A3/8-5/18GDIM=Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	
<b>Notes</b> (11) Factory installed with integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. Battery option increases total height by 1 inch. (12) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). Devices are universal voltage (UNV). 347 not available. (13) EL10WSD and EL14WSD not available with 347V. (14) UEL10WSD not available with 347V. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	<b>Notes</b> (15) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 6500K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. May be combined with WaveLinX sensor control systems only.	<b>Notes</b> (16) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. May be combined with WaveLinX sensor control systems only. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at <a href="http://www.lutron.com">www.lutron.com</a> .	<b>Flexible Metal Conduit Options</b> Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. See online configurator for all flex options. A3/8-4/18GDIM series notes: Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556. NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1, 2, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).	

W2A		1	U
Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging
CD=0-10V Driver (10%-100% Dimming) HCD=0-10V Driver (1%-100% Dimming) SLTD=DALI Driver (5%-100% Dimming) SLTHD=DALI Driver (1%-100% Dimming) LV=Low-voltage System Driver (0%-100% Dimming) (C) SD=Step Dimming Driver (50%-100% Dimming) LH=Lutron HiLume (LDE) series 1%-100% EcoSystem Driver with SoftLum Fade-to-Black Dimming (2) W2A=White Lumina 2-Ch Analog 0-10V Intensity and CCT Control (16) SR=Sensor-ready Driver (1%-100% Dimming)	2=2 Drivers (17)	[Blank]=No Sensor WAA=WaveLinX PRO Wireless Integrated Sensor (18),(4) WPN=WaveLinX PRO Wireless Node without Sensor (18),(4) WAB=WaveLinX LITE Wireless Integrated Sensor (20),(8) WLA=Low-voltage Integrated Sensor (21),(2)	HL=Job Pack, out of carton PALC=Job Pack, in carton
<b>Notes</b> (16) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. May be combined with WaveLinX sensor control systems only. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at <a href="http://www.lutron.com">www.lutron.com</a> .	<b>Notes</b> (17) See lumen limitation notes for applications requiring 2 drivers or use online configurator. When combined with emergency total height is increased by 1 inch.	<b>Notes</b> (18) Matching width lens band on other side of sensor band may be supplied for symmetrical appearance. Required for use with sensor and emergency combination. Add "D" to sensor ordering as shown: WAAD, WABD. (19) WAA sensor and WPN node to be used with CD, HCD or W2A driver. Consult factory for WPN with tunable white W2A driver. (20) WAB sensor to be used with CD or HCD driver. (21) WLA sensor to be used with LV driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX PRO system pages for additional details and compatibility. (B) WaveLinX LITE devices are not currently compatible with the WaveLinX Wireless Area Controller. Consult WaveLinX LITE system pages for additional details and compatibility. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

24CZ2-35-UNV-L82765-W2A-1-U

**Type:****A****Notes:**

SSI24-57406

**Metalux****24CZ2 LED****Accessories****Accessories (order separately) <sup>(24)</sup>**

**CZ2-EQCLIP-U-PK**=“CZ2” Earthquake Clip Kit (4 clips per bag kit) <sup>(23)</sup>  
**DF-24W-U-2**=2' x 4' Drywall Frame Kit  
**SK-24-WS-2**=2' x 4' Shallow Surface Mount Kit  
**SK-24-WT-2**=2' x 4' Tall Surface Mount Kit

**Notes**

(23) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture.  
(24) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories.

**Product Specifications****Construction**

- Die formed of code gauge prime cold rolled steel with full length die-formed stiffeners
- Unibody endplates attached with interlocking tabs and screws
- Hemmed side flanges
- Four auxiliary fixture end suspension points
- Integral Grid-lock feature for endplates for added safety
- Optional earthquake clips available

**Integrated Controls**

- Standard with 0-10V dimming driver (10% standard, 1% optional)
- WaveLinx wireless sensor compatible for standalone, controlled, connected, and IoT capability
- Low-voltage sensor and driver compatible for WaveLinx Low-Voltage and DLVP applications
- DALI 2.0, Lutron, and step-dimming available

**LED and Light Engine**

- LED's available in 3000K, 3500K, 4000K, or 5000K at 80 CRI minimum and 90 CRI minimum
- Color accuracy  $\leq 3$ -Step MacAdam ellipse (SDCM)
- TM21 life at 60,000 hours up to L90 and calculated L70 exceeds 203,000 hrs.
- Drivers available in 120-277V and 347V
- Tunable white options available with Cooper Lighting Solutions' VividTune

**Emergency Options**

- 120V-277V integral emergency battery pack comes in 7-watts, 10-watt, or 14-watts
- Self-diagnostic emergency battery available in 10 or watts (NFPA 101® Life Safety Code®)
- Constant power to the LED system for controlled, predictable discharge
- Integrated test switch/indicator light visible from floor
- Min. 90-minute backup period for code compliance
- Integral emergency transfer relay available for generator equipped power systems

**Shielding**

- Ribbed acrylic frosted lens standard
- Optional smooth acrylic frosted lens (S)
- Optional square ribbed frosted acrylic lens (SQR)
- Optional High-Efficiency Round Perf Inlay (HRP)
- Replacement lenses available, contact factory

**Compliance**

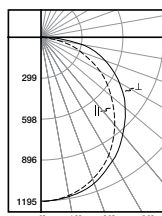
- IC rated for insulation contact
- cULus listed for damp locations
- UL924 luminaire listing available, see Emergency Options
- RoHS compliant
- Tested to IESNA LM-79 and LM-80
- Stated life tested to TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire

**Warranty**

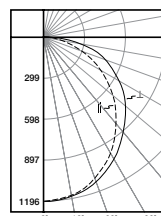
- Five-year warranty standard. Optional ten year warranty available.

**Finish**

- Multistage, iron phosphate pretreatment
- 90% reflective, matte white enamel finish
- Full fixture housing pre-painted matte white (choose PAF option for "Paint after Fabrication")

**Photometric Data**
[View IES files](#)
**24CZ2-35-UNV-L830-CD1-U**

Dimming Driver  
Linear LED 3000K  
Spacing criterion: (H) 1.22 x mounting height,  
(L) 1.28 x mounting height  
Lumens: 3618  
Input Watts: 30.1W  
Efficacy: 120.2 LPW  
Test Report: 24CZ2-35-UNV-L830-CD1-U.IES

**24CZ2-35HE-UNV-L830-CD1-U**

Dimming Driver  
Linear LED 3000K  
Spacing criterion: (H) 1.21 x mounting height,  
(L) 1.27 x mounting height  
Lumens: 3562  
Input Watts: 26.9W  
Efficacy: 132.4 LPW  
Test Report: 24CZ2-35HE-UNV-L830-CD1-U.IES

**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

24CZ2-35-UNV-L82765-W2A-1-U

**Type:****A**

Notes:

SSI24-57406

**Metalux****24CZ2 LED****Energy and Performance Data****Standard Efficacy Versions – Single Row of LEDs**  
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
24CZ2-30-UNV-L835-CD1-U	3028	22.4	135
24CZ2-35-UNV-L835-CD1-U	3633	27.3	133
24CZ2-40-UNV-L835-CD1-U	4178	30.4	137
24CZ2-45-UNV-L835-CD1-U	4602	35.0	132
24CZ2-50-UNV-L835-CD1-U	5049	39.6	128
24CZ2-55-UNV-L835-CD1-U	5571	41.1	135
24CZ2-60-UNV-L835-CD1-U	6056	46.3	131
24CZ2-65-UNV-L835-CD1-U	6601	50.1	132

**High Efficacy Versions – Two Rows of LEDs**  
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
24CZ2-30HE-UNV-L835-CD1-U	3100	22.3	139
24CZ2-35HE-UNV-L835-CD1-U	3685	27.0	137
24CZ2-40HE-UNV-L835-CD1-U	4144	30.7	135
24CZ2-45HE-UNV-L835-CD1-U	4712	35.3	134
24CZ2-50HE-UNV-L835-CD1-U	5164	38.6	134
24CZ2-55HE-UNV-L835-CD1-U	5722	43.5	132
24CZ2-60HE-UNV-L835-CD1-U	6182	44.1	140
24CZ2-65HE-UNV-L835-CD1-U	6777	48.9	139
24CZ2-70HE-UNV-L835-CD1-U	7218	49.3	146
24CZ2-75HE-UNV-L835-CD1-U	7787	55.4	141

**Very High Efficacy Versions – Three Rows of LEDs**  
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
24CZ2-30VHE-UNV-L835-CD1-U	3011	20.4	148
24CZ2-35VHE-UNV-L835-CD1-U	3526	22.8	155
24CZ2-40VHE-UNV-L835-CD1-U	4042	26.2	154
24CZ2-45VHE-UNV-L835-CD1-U	4559	29.6	154
24CZ2-50VHE-UNV-L835-CD1-U	5064	32.7	155
24CZ2-55VHE-UNV-L835-CD1-U	5570	36.1	154
24CZ2-60VHE-UNV-L835-CD1-U	6055	38.7	157
24CZ2-65VHE-UNV-L835-CD1-U	6565	42.2	156
24CZ2-70VHE-UNV-L835-CD1-U	7059	45.7	155
24CZ2-75VHE-UNV-L835-CD1-U	7662	49.9	154
24CZ2-80VHE-UNV-L835-CD1-U	8128	53.8	151
24CZ2-85VHE-UNV-L835-CD1-U	8600	57.9	149
24CZ2-90VHE-UNV-L835-CD1-U	9053	61.8	147
24CZ2-95VHE-UNV-L835-CD1-U	9521	65.6	145
24CZ2-100VHE-UNV-L835-CD1-U	10191	69.6	146
24CZ2-110VHE-UNV-L835-CD2-U	11098	77.4	143
24CZ2-120VHE-UNV-L835-CD2-U	12211	83.6	146
24CZ2-130VHE-UNV-L835-CD2-U	13271	90.7	146
24CZ2-150VHE-UNV-L835-CD2-U	15006	104.2	144
24CZ2-170VHE-UNV-L835-CD2-U	17021	123.4	138

**Shielding**

Lumen Adjustment Factors		
S	HRP	SQR
1.05	0.81	0.96

**Lumen Calculator**

CCT Multiplier	80 CRI	90 CRI <sup>(1)</sup>
3000K	0.965	0.827
3500K	1.000	0.847
4000K	1.019	0.856
5000K	1.019	0.909

Notes: (1) Input wattages for 90 CRI versions may vary. Refer to published IES-format photometry or LM-79 reports for more details.

**Example of Lumen Adjustment Calculation**

24CZ2-40-UNV-L835-CD1-U at 90CRI at 3500K

Lumen Adjustment Factor = 0.845

Total Light Output =

 $4,196 \text{ lm} \times 0.845 = 3,546 \text{ lm}$ Efficacy =  $\frac{3,546 \text{ lm}}{36.2 \text{ W}} = 98 \text{ lm/W}$ **Lumen Maintenance**

Version	TM-21 Lumen Maintenance (60,000 hours) <sup>(2)</sup>	Theoretical L70 (Hours) <sup>(3)</sup>
Standard	> 87%	> 151,000
High Efficiency	> 90%	> 203,000
Very High Efficiency	> 90%	> 203,000

Notes: (2) Supported by IES TM-21 standards. (3) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

**Load Data (Stock Product)**

Thd	6%
Power Factor	0.99
Weight (lbs.)	16
Low Temp. Start	-20°C

**Shipping Data**

Catalog No.	Wt.	Pallet 49"L x 52"W x 46"H
2' x 4'	20.4 lbs.	28

**Air Return Volume**

Negative Static Pressure (Inches H <sub>2</sub> O)	Return Air Volume (CFM)
0.05	75
0.1	103
0.2	153
0.25	177
0.3	191
0.45	234



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

24CZ2-35-UNV-L82765-W2A-1-U

**Type:**

**A**

Notes:

SSI24-57406

**Metalux**

**24CZ2 LED**

**Control Systems**

- WaveLinx PRO Wireless
- WaveLinx LITE Wireless
- WaveLinx Wired

The Cruze ST with WaveLinx offers no-hassle lighting control with multiple luminaire level control solutions.

**WaveLinx PRO** is used for applications where spaces need to be connected to a lighting or building management system and to help building owners improve their operations, building environment, and tenants' experience by leveraging the data generated by the sensors. The WaveLinx PRO devices communicate with each other via the WaveLinx Area Controller which coordinates the data traffic between the devices, lighting apps and CORE platform. The WaveLinx Area Controller also hosts the time clock required if spaces need to be turned on/off at a specific time.

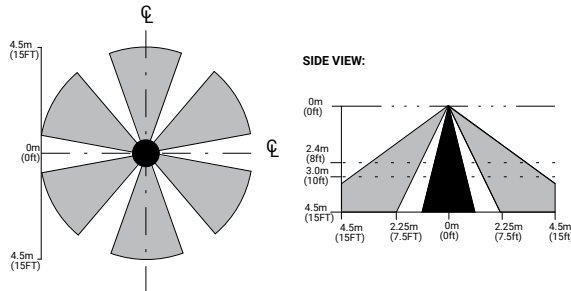
The WaveLinx PRO Sensor offers built-in occupancy and daylighting controls as well as luminaire level control including white tuning while the WaveLinx PRO Node offers luminaire level control and white tuning. If opting for the WaveLinx PRO Node option, a PRO Ceiling Sensor will most likely be needed within the space to control the lights based on occupancy and daylight levels.

**WaveLinx LITE** is used for single spaces where there is no need to manage the spaces remotely or exchange the sensor data with other sub-systems within the building or smart applications.

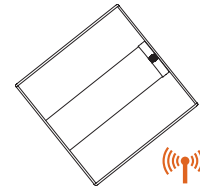
The WaveLinx LITE Sensor offers built-in occupancy and daylighting controls as well as luminaire level control.

TOP VIEW:

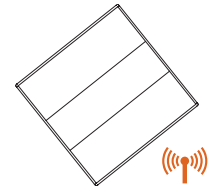
**Integrated Sensor Coverage Pattern**



**Note:** Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.



With Integrated WaveLinx Sensor



With Integrated WaveLinx Node

**Systems comparison chart**

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.



**Luminaire with standalone sensor**



**Standalone Spaces WaveLinx LITE**



**Networked Spaces WaveLinx PRO**



**Enterprise WaveLinx CORE**

<b>Occupancy</b>	Yes	Yes	Yes	Yes
<b>Daylighting</b>	Yes	Yes	Yes	Yes
<b>Wallstations</b>	-	Yes	Yes	Yes
<b>Gateways</b>	-	-	1 WAC	300 WACs
<b>Devices (MAX)</b>	-	50 per Area (1400 per site)	200 per WAC2	32,500 per CORE Enterprise
<b>Software</b>	-	WaveLinx LITE Mobile App	WaveLinx Mobile App	CORE
<b>Areas</b>	-	28 per Site	50 per WAC2	up to 3,000
<b>Zones</b>	-	16 per Area	16 per Area	up to 9,000
<b>Scheduling</b>	-	-	Local	Global
<b>VividTune™</b>	-	-	Yes	Yes
<b>Plug-Load Control</b>	-	-	Yes	Yes
<b>Low-Voltage Power</b>	-	-	Yes	Yes
<b>Integration</b>	-	-	-	BACnet, API
<b>Dashboards</b>	-	-	-	Energy, Occupancy
<b>Configuration</b>	-	Installer	Technician	Technician / IT

**SCALABILITY**





**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 24CZ2-35-UNV-L82765-W2A-1-U

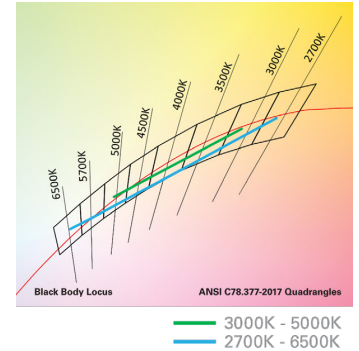
**Type:**  
**A**  
 SSI24-57406

**Metalux** **24CZ2 LED**



**24 Cruze ST LED with VividTune Tunable White**

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.



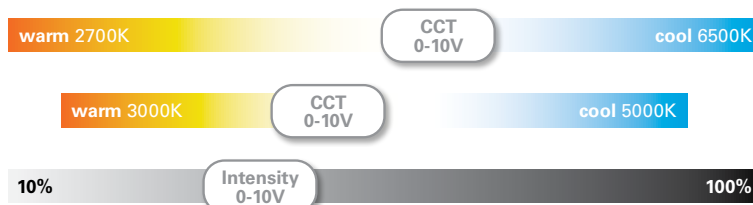
**Performance Data\***

CCT	Tunable White - Lumen Adjustment Factors			
	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.878	0.750
3000K	0.904	0.744	0.903	0.779
3500K	0.956	0.813	0.934	0.819
4000K	1.004	0.878	0.954	0.844
4500K	1.014	0.893	0.972	0.866
5000K	1.014	0.893	0.985	0.884
6500K	-	-	0.999	0.908

CCT Setting	2' x 4' Cruze ST LED - Example of Approximate Lumen Calculation		
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
	24CZ2-40HE-UNV-L835-CD1-U	24CZ2-40HE-UNV-L83050-W2A1-U	24CZ2-40HE-UNV-L93050-W2A1-U
3000K	-	3641	2998
3500K	4029	3853	3275
4000K	-	4046	3537
4500K	-	4084	3599
5000K	-	4084	3599

**Controlling VividTune Tunable White**

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, go to [www.cooperlighting.com](http://www.cooperlighting.com) for tunable white application guides.



**Example of Lumen Adjustment Calculation**

24CZ2-40HE-UNV-L83050-W2A1-U  
 at 80 CRI tuned to 3500K

Adjusted Lumen =  
 published lm x adjusted lm factor

Adjusted Lumen = 4029 x 0.956

Adjusted Lumen = 3853 lm

\* Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.



**Job Name:**

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Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

22CZ2-20-UNV-L82765-W2A-1-U

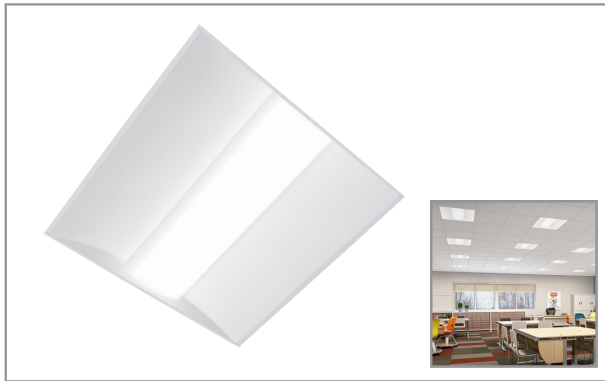
**Type:**

**A1**

Notes:

SSI24-57406

Project	Catalog #	Type
Prepared by	Notes	Date



# Metalux

## Cruze ST 22CZ2

2' x 2' LED Specification Grade Troffer

**Typical Applications**

Office • Education • Healthcare • Hospitality • Retail

**Interactive Menu**

- Order Information [page 2](#)
- Photometric Data [page 3](#)
- Connected Systems [page 5](#)
- VividTune™ Color Tuning Solutions [page 6](#)
- Product Warranty

**Product Certification**



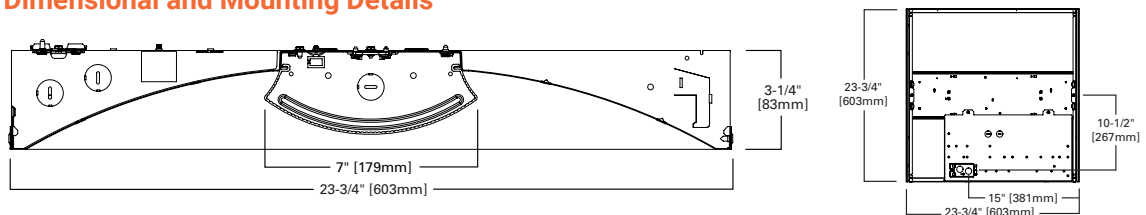
**Product Features**



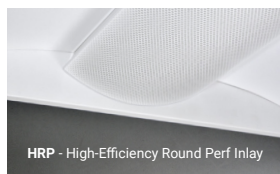
**Top Product Features**

- Latch-less design provides clean architectural look
- VividTune CCT tuning options from 3000K-5000K or 2700K-6500K
- Designers delight - ribbed, smooth and round perforated lens options
- High performance efficacy up to 151 lm/W
- Integrated sensor systems - occupancy, daylight and IoT connectivity
- Options to meet Buy American and other domestic preference requirements

**Dimensional and Mounting Details**



**Shielding**



See ordering information for more shielding options.

**Ceiling Compatibility**

G Grid/Lay-in Standard	G Concealed T	G Slot Grid	Ceiling Type	Trim Type
			Exposed Grid	Standard
			Concealed T	Standard
			Slot Grid	Standard
			Flange	Standard

\*See Drywall Frame Kit Accessory in Ordering Information Section



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 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 22CZ2-20-UNV-L82765-W2A-1-U

**Type:**  
**A1**

Notes:

SSI24-57406

# Metalux

# 22CZ2 LED

## Order Information

SAMPLE ORDER NUMBER: 22CZ2-34HE-UNV-L835-CD1-U

Domestic Preferences	Rating	Series	Air	Lumen Output	Efficacy	Shielding	Voltage	Options	
Domestic Preferences <sup>(1)</sup>	Rating	Series	Air	Lumen Level	Efficacy	Shielding	Voltage <sup>(9)</sup>	Options	
<b>BAA</b> =Buy American Act <b>TAA</b> =Trade Agreements Act	<b>ATW-SW4</b> = Chicago Rated	<b>22CZ2</b> =2X2 Drive ST	<b>A</b> =Air (Vented) <sup>(2)</sup>	<b>24</b> =2400 Lumens <sup>(6)</sup> <b>29</b> =2900 Lumens <sup>(6)</sup> <b>32</b> =3200 Lumens <sup>(7)</sup> <b>34</b> =3400 Lumens <sup>(6)</sup> <b>39</b> =3900 Lumens <sup>(6)</sup> <b>44</b> =4400 Lumens <sup>(6)</sup> <b>50</b> =5000 Lumens <sup>(6)</sup> <b>55</b> =5500 Lumens <sup>(6)</sup> <b>60</b> =6000 Lumens <sup>(6)</sup> <b>65</b> =6500 Lumens <sup>(6)</sup>	<b>70</b> =7000 Lumens <sup>(6)</sup> <b>75</b> =7500 Lumens <sup>(6)</sup> <b>80</b> =8000 Lumens <sup>(6)</sup> <b>85</b> =8500 Lumens <sup>(6)</sup> <b>90</b> =9000 Lumens <sup>(6)</sup> <b>95</b> =9500 Lumens <sup>(6)</sup> <b>100</b> =10000 Lumens <sup>(6)</sup> <b>110</b> =11000 Lumens <sup>(6)</sup>	<b>[Blank]</b> =Standard Efficacy <sup>(4,5)</sup> <b>HE</b> =High Efficacy <sup>(5)</sup> <b>VHE</b> =Very High Efficacy <sup>(5)</sup>	<b>[Blank]</b> =Ribbed Frosted Acrylic Lens (standard) <b>S</b> =Smooth Frosted Acrylic Lens <b>HRP</b> =High-Efficiency Round Perf Inlay <b>SQR</b> =Square Ribbed Frosted Acrylic Lens	<b>UNV</b> =Universal Voltage 347V-347V <b>347V</b> =347 Volt <b>48V</b> =48 Volt Low-voltage (Class 2) <sup>(8)</sup>	<b>GL</b> =Single Element Fuse <b>GM</b> =Double Element Fuse <b>PAF</b> =Painted After Fabrication
<b>Notes</b> (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.			<b>Notes</b> (2) Air version is intended for air return through plenum. See air return data table for air flow volumes. Air option not available with ATW-SW4. Air requires "PAF" option.	<b>Notes</b> (4) White tuning not available with this model. (5) Available up to 4400 lumens. (6) Available with CD and HCD drivers only. (7) Only available in Standard Efficacy. (8) Not available in Standard Efficacy.			<b>Notes</b> (9) Products also available in non-US voltages and frequencies for international markets. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.		

## L82765

### Emergency Options

### CRI/CCT

### Flex

Emergency Options	CRI/CCT	Flex
<b>EL7W</b> =7-watt 120V-277V emergency battery pack <sup>(10)</sup> <b>EL10W</b> =10-watt 120V-277V emergency battery pack <sup>(10)</sup> <b>EL14W</b> =14-watt 120V-277V emergency battery pack <sup>(10)</sup> <b>EL10WSD</b> =10W emergency battery pack with self-diagnostic installed <sup>(10),(12)</sup> <b>EL14WSD</b> =14W emergency battery pack with self-diagnostic installed <sup>(10),(12)</sup> <b>ELV7W</b> =Low-voltage system, 7-watt emergency battery pack <sup>(2)</sup> <b>ELV14W</b> =Low-voltage system, 14-watt emergency battery pack <sup>(2)</sup> <b>ETRD</b> =Emergency Transfer Relay with dimming control <sup>(11)</sup> <b>RRU</b> =LVS Controls Emergency Transfer Relay with dimming control <sup>(11)</sup> <b>UEL7W</b> =UL924 Listed luminaire, 7-watt, 120V-277V emergency battery pack <sup>(10)</sup> <b>UEL14W</b> =UL924 Listed luminaire, 14-watt 120V-277V emergency battery pack <sup>(10)</sup> <b>UEL10WSD</b> =Bodine 10W emergency battery pack with self diagnostic installed <sup>(10),(13)</sup> <b>UETRD</b> =UL924 Listed luminaire, Emergency Transfer Relay with dimming control <sup>(11)</sup> <b>URRU</b> =UL924 Listed luminaire, LVS Controls Emergency Transfer Relay with dimming control <sup>(11)</sup>	<b>L830</b> =80CRI, 3000K <b>L835</b> =80CRI, 3500K <b>L840</b> =80CRI, 4000K <b>L850</b> =80CRI, 5000K <b>L930</b> =90CRI, 3000K <b>L935</b> =90CRI, 3500K <b>L940</b> =90CRI, 4000K <b>L950</b> =90CRI, 5000K <b>L83050</b> =80CRI 3000K-5000K White Tuning <sup>(14)</sup> <b>L93050</b> =90CRI 3000K-5000K White Tuning <sup>(14)</sup> <b>L92765</b> =90CRI 2700K-6500K White Tuning <sup>(14)</sup>	<b>A3/8-4/18GDIM</b> =3/8" Flex with 0-10V Dimming Leads <b>A3/8-2/18G</b> =3/8" Flex with line and common <b>A3/8-5/18GDIM</b> =Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.
<b>Notes</b> (10) Factory installed with integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. Battery option increases total height by 1 inch. (11) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). Devices are universal voltage (UNV). 347 not available. (12) EL10WSD and EL14WSD not available with 347V. (13) UEL10WSD not available with 347V. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	<b>Notes</b> (14) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. May be combined with WaveLinX sensor control systems only.	<b>Flexible Metal Conduit Options</b> Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. See online configurator for all flex options. <b>A3/8-4/18GDIM series notes:</b> Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 147, 1569, 1581, 2556, NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).



**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 22CZ2-20-UNV-L82765-W2A-1-U

**Type:**  
**A1**

Notes:

SSI24-57406

**Metalux** **22CZ2 LED**

W2A	1	U	
Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging
CD=0-10V Driver (10%-100% Dimming) HCD=0-10V Driver (1%-100% Dimming) SLTD=DALI Driver (5%-100% Dimming) SLTHD=DALI Driver (1%-100% Dimming) LV=Low-voltage System Driver (0%-100% Dimming) <sup>(C)</sup> SD=Step Dimming Driver (50%-100% Dimming) LH=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming <sup>(F)</sup> W2A=White Tuning, 2 ch, Analog 0-10V Intensity and CCT Control <sup>(15)</sup> SR=Sensor-ready Driver (1%-100% Dimming)		WAA=WaveLinX PRO Wireless Integrated Sensor <sup>(17),(A)</sup> WPN=WaveLinX PRO Wireless Node without Sensor <sup>(17),(A)</sup> WAB=WaveLinX LITE Wireless Integrated Sensor <sup>(18),(B)</sup> WLA=Low-voltage Integrated Sensor <sup>(19),(C)</sup>	U=Unit Pack PAL=Job Pack, out of carton PALC=Job Pack, in carton
<b>Notes</b> (15) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. May be combined with WaveLinX sensor control systems only. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com.		<b>Notes</b> (16) Matching width lens band on other side of sensor band may be supplied for symmetrical appearance. Required for use with sensor and emergency combination. Add "T" to sensor ordering as shown - WAA.D, WAB.D, (17) WAA sensor and WPN node to be used with CD, HCD or W2A driver. Consult factory for WPN with tunable white W2A driver. (18) WAB sensor to be used with CD or HCD driver. (19) WLA sensor to be used with LV driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinX PRO system pages for additional details and compatibility. (B) WaveLinX LITE devices are not currently compatible with the WaveLinX Wireless Area Controller. Consult WaveLinX LITE system pages for additional details and compatibility. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	<b>Notes</b> (21) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (22) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories.

**Product Specifications**

**Construction**

- Die formed of code gauge prime cold rolled steel with full length die-formed stiffeners
- Unibody endplates attached with interlocking tabs and screws
- Hemmed side flanges
- Four auxiliary fixture end suspension points
- Integral Grid-lock feature for endplates for added safety
- Optional earthquake clips available

**Integrated Controls**

- Standard with 0-10V dimming driver (10% standard, 1% optional)
- WaveLinX wireless sensor compatible for standalone, controlled, connected, and IoT capability
- SVPD sensor compatible for standalone functionality
- Low-voltage sensor and driver compatible for WaveLinX Low-Voltage and DLVP applications
- DALI 2.0, Lutron, and step-dimming available

**LED and Light Engine**

- LED's available in 3000K, 3500K, 4000K, or 5000K at 80 CRI minimum and 90 CRI minimum
- Color accuracy  $\leq 3$ -Step MacAdam ellipse (SDCM)
- TM21 life at 60,000 hours up to L90 and calculated L70 exceeds 203,000 hrs.
- Drivers available in 120-277V and 347V
- Tunable white options available with Cooper Lighting Solutions' VividTune

**Emergency Battery Options**

- 120V-277V integral emergency battery pack comes in 7-watts, 10-watt, or 14-watts
- Self-diagnostic emergency battery available in 10 or 14-watts (NFPA 101® Life Safety Code®)
- Constant power to the LED system for controlled, predictable discharge
- Integrated test switch/indicator light visible from floor
- Min. 90-minute backup period for code compliance
- Integral emergency transfer relay available for generator equipped power systems

**Shielding**

- Ribbed acrylic frosted lens standard
- Optional smooth acrylic frosted lens (S)
- Optional square ribbed frosted acrylic lens (SQR)
- Optional High-Efficiency Round Perf Inlay (HRP)
- Replacement lenses available, contact factory

**Compliance**

- IC rated for insulation contact
- cULus listed for damp locations
- RoHS compliant
- Tested to IESNA LM-79 and LM-80
- Stated life tested to TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire

**Warranty**

- Five-year warranty standard. Optional ten year warranty available.

**Finish**

- Multistage, iron phosphate pretreatment
- 90% reflective, matte white enamel finish
- Full fixture housing pre-painted matte white (choose PAF option for "Paint after Fabrication")

**Photometric Data**

[View IES files](#)

	<p><b>22CZ2-24-UNV-L830-CD1-U</b>                      Dimming Driver                      Linear LED 3000K                      Spacing criterion: (II) 1.2 x mounting height, (L) 1.28 x mounting height                      Lumens: 2437                      Input Watts: 21.9W                      Efficacy: 111.3 LPW                      Test Report: 22CZ2-24-UNV-L830-CD1-U-IES</p>		<p><b>22CZ2-24HE-UNV-L830-CD1-U</b>                      Dimming Driver                      Linear LED 3000K                      Spacing criterion: (II) 1.19 x mounting height, (L) 1.27 x mounting height                      Lumens: 2402                      Input Watts: 19.2W                      Efficacy: 125.1 LPW                      Test Report: 14CZ2-29-UNV-L830-CD1-U-IES</p>
--	---	--	--

**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

22CZ2-20-UNV-L82765-W2A-1-U

**Type:****A1**

Notes:

SSI24-57406

**Metalux****22CZ2 LED****Energy and Performance Data**

**Standard Efficacy Versions – Single Row of LEDs**  
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
22CZ2-20-UNV-L835-CD1-U	2142	16.2	132
22CZ2-24-UNV-L835-CD1-U	2454	18.5	133
22CZ2-32-UNV-L835-CD1-U	3272	24.2	135
22CZ2-39-UNV-L835-CD1-U	3953	31	128
22CZ2-44-UNV-L835-CD1-U	4462	33	134

**High Efficacy Versions – Two Rows of LEDs**

Catalog Number	Lumens	Watts	lm/W
22CZ2-20HE-UNV-L835-CD1-U	2030	15.0	135
22CZ2-24HE-UNV-L835-CD1-U	2474	18.1	137
22CZ2-29HE-UNV-L835-CD1-U	2982	20.9	143
22CZ2-34HE-UNV-L835-CD1-U	3426	24.3	141
22CZ2-39HE-UNV-L835-CD1-U	3997	28.5	140
22CZ2-44HE-UNV-L835-CD1-U	4567	32.8	139

**Very High Efficacy Versions – Three Rows of LEDs**

Catalog Number	Lumens	Watts	lm/W
22CZ2-20VHE-UNV-L835-CD1-U	2008	14.2	141
22CZ2-24VHE-UNV-L835-CD1-U	2501	17.5	143
22CZ2-29VHE-UNV-L835-CD1-U	3114	21.7	144
22CZ2-34VHE-UNV-L835-CD1-U	3598	25.1	143
22CZ2-39VHE-UNV-L835-CD1-U	4078	28.6	143
22CZ2-44VHE-UNV-L835-CD1-U	4620	32.6	142
22CZ2-50VHE-UNV-L835-CD1-U	5095	36.2	141
22CZ2-55VHE-UNV-L835-CD1-U	5530	39.4	140
22CZ2-60VHE-UNV-L835-CD1-U	6110	44.1	139
22CZ2-65VHE-UNV-L835-CD1-U	6559	47.9	137
22CZ2-70VHE-UNV-L835-CD1-U	7017	50.3	140
22CZ2-75VHE-UNV-L835-CD1-U	7557	54.7	138
22CZ2-80VHE-UNV-L835-CD1-U	8092	59.1	137
22CZ2-85VHE-UNV-L835-CD1-U	8615	63.6	136
22CZ2-90VHE-UNV-L835-CD1-U	9125	68.2	134
22CZ2-95VHE-UNV-L835-CD1-U	9610	72.7	132
22CZ2-100VHE-UNV-L835-CD1-U	10108	77.7	130
22CZ2-110VHE-UNV-L835-CD1-U	11065	87.7	126

**Shielding**

Lumen Adjustment Factors		
S	HRP	SQR
1.05	0.80	0.96

**Lumen Calculator**

CCT Multiplier	80 CRI	90 CRI <sup>(1)</sup>
3000K	0.965	0.827
3500K	1.000	0.847
4000K	1.019	0.856
5000K	1.019	0.909

**Notes:** (1) Input wattages for 90 CRI versions may vary. Refer to published IES-format photometry or LM-79 reports for more details.

**Example of Lumen Adjustment Calculation**

22CZ2-32-UNV-L935-CD1-U at 90CRI at 3500K

Lumen Adjustment Factor = 0.845

Total Light Output =

 $3,280 \text{ lm} \times 0.845 = 2,772 \text{ lm}$ Efficacy =  $\frac{2,772 \text{ lm}}{26.7 \text{ W}} = 103.8 \text{ lm/W}$ **Lumen Maintenance**

Version	TM-21 Lumen Maintenance (60,000 hours) <sup>(2)</sup>	Theoretical L70 (Hours) <sup>(3)</sup>
Standard	> 85%	> 151,000
High Efficiency	> 90%	> 203,000
Very High Efficiency	> 90%	> 203,000

**Notes:** (2) Supported by IES TM-21 standards. (3) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

**Load Data (Stock Product)**

Thd	6%
Power Factor	0.99
Weight (lbs.)	10.6
Low Temp. Start	-20°C

**Shipping Data**

Catalog No.	Wt.	Pallet 49"L x 52"W x 55"H
2' x 2'	12.5 lbs.	48

**Air Return Volume**

Negative Static Pressure (Inches H <sub>2</sub> O)	Return Air Volume (CFM)
0.05	79
0.1	112
0.2	161
0.25	177
0.3	198
0.45	239





**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 22CZ2-20-UNV-L82765-W2A-1-U

**Type:**  
**A1**

Notes:

SSI24-57406

**Metalux** **22CZ2 LED**

- Control Systems**
- WaveLinX PRO Wireless
  - WaveLinX LITE Wireless
  - WaveLinX Wired

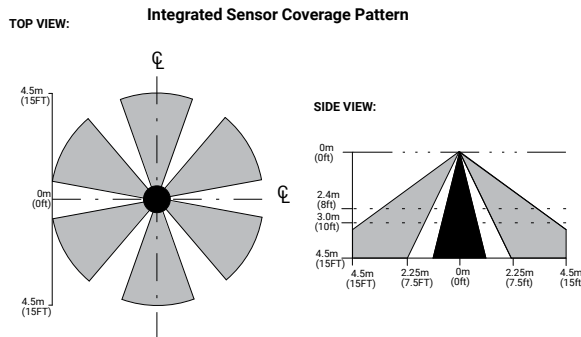
The Cruze ST with WaveLinX offers no-hassle lighting control with multiple luminaire level control solutions.

**WaveLinX PRO** is used for applications where spaces need to be connected to a lighting or building management system and to help building owners improve their operations, building environment, and tenants' experience by leveraging the data generated by the sensors. The WaveLinX PRO devices communicate with each other via the WaveLinX Area Controller which coordinates the data traffic between the devices, lighting apps and CORE platform. The WaveLinX Area Controller also hosts the time clock required if spaces need to be turned on/off at a specific time.

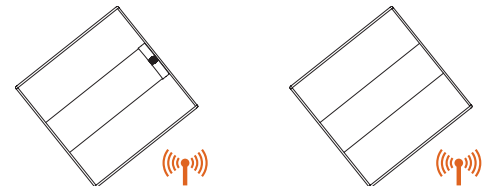
The WaveLinX PRO Sensor offers built-in occupancy and daylighting controls as well as luminaire level control including white tuning while the WaveLinX PRO Node offers luminaire level control and white tuning. If opting for the WaveLinX PRO Node option, a PRO Ceiling Sensor will most likely be needed within the space to control the lights based on occupancy and daylight levels.

**WaveLinX LITE** is used for single spaces where there is no need to manage the spaces remotely or exchange the sensor data with other sub-systems within the building or smart applications.

The WaveLinX LITE Sensor offers built-in occupancy and daylighting controls as well as luminaire level control.



*Note: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.*



With Integrated WaveLinX Sensor      With Integrated WaveLinX Node

**Systems comparison chart**

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.



**Luminaire with standalone sensor**



**Standalone Spaces WaveLinX LITE**



**Networked Spaces WaveLinX PRO**



**Enterprise WaveLinX CORE**

<b>Occupancy</b>	Yes	Yes	Yes	Yes
<b>Daylighting</b>	Yes	Yes	Yes	Yes
<b>Wallstations</b>	-	Yes	Yes	Yes
<b>Gateways</b>	-	-	1 WAC	300 WACs
<b>Devices (MAX)</b>	-	50 per Area (1400 per site)	200 per WAC2	32,500 per CORE Enterprise
<b>Software</b>	-	WaveLinX LITE Mobile App	WaveLinX Mobile App	CORE
<b>Areas</b>	-	28 per Site	50 per WAC2	up to 3,000
<b>Zones</b>	-	16 per Area	16 per Area	up to 9,000
<b>Scheduling</b>	-	-	Local	Global
<b>VividTune™</b>	-	-	Yes	Yes
<b>Plug-Load Control</b>	-	-	Yes	Yes
<b>Low-Voltage Power</b>	-	-	Yes	Yes
<b>Integration</b>	-	-	-	BACnet, API
<b>Dashboards</b>	-	-	-	Energy, Occupancy
<b>Configuration</b>	-	Installer	Technician	Technician / IT

**SCALABILITY**





**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

22CZ2-20-UNV-L82765-W2A-1-U

**Notes:**

**Type:**

**A1**

SSI24-57406

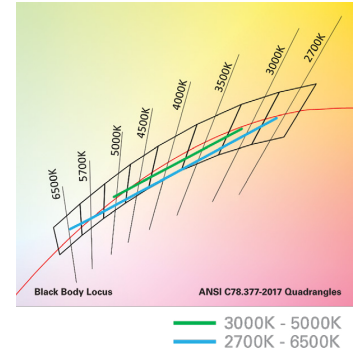
**Metalux**

**22CZ2 LED**



**22 Cruze ST LED with VividTune Tunable White**

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.



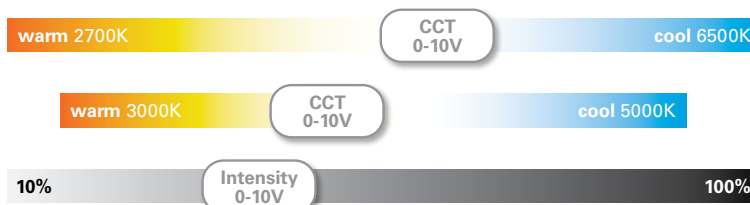
**Performance Data\***

CCT	Tunable White - Lumen Adjustment Factors			
	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.868	0.741
3000K	0.894	0.736	0.893	0.771
3500K	0.946	0.804	0.924	0.809
4000K	0.993	0.868	0.944	0.835
4500K	1.002	0.883	0.961	0.857
5000K	1.002	0.883	0.974	0.874
6500K	-	-	0.988	0.897

CCT Setting	2' x 2' Cruze ST LED - Example of Approximate Lumen Calculation		
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
22CZ2-34HE-UNV-L835-CD1-U	22CZ2-34HE-UNV-L83050-W2A1-U	22CZ2-34HE-UNV-L93050-W2A1-U	
3000K	-	3026	2491
3500K	3386	3202	2722
4000K	-	3362	2940
4500K	-	3394	2991
5000K	-	3394	2991

**Controlling VividTune Tunable White**

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, go to [www.cooperlighting.com](http://www.cooperlighting.com) for tunable white application guides.



**Example of Lumen Adjustment Calculation**

22CZ2-34HE-UNV-L83050-W2A1-U  
at 80 CRI tuned to 3500K

Adjusted Lumen = published lm x adjusted lm factor

Adjusted Lumen = 3386 x 0.946

Adjusted Lumen = 3202 lm

\* Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

QS-ES44-D-S-40K-05S-4'-D-  
RALXXXX-UNV

Notes:

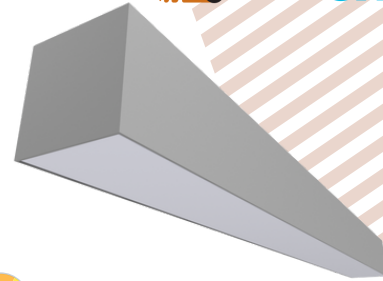
**Type:**

**B**

SSI24-57406



**QS-ES44**  
EXTRUDED ALUMINUM  
DIRECT QUICK SHIP LINEAR



**FEATURES**

- Direct distribution from a single row of high efficiency LED boards
- Polyester powder coat finish In choices of white, black, silver, or RAL colors
- Standard 0-10V, 1% dimming drivers
- L90 greater than 36,000 hours
- Construction: Welded extruded aluminum housing with internal components made from die formed cold rolled steel.
- cETLus Listed, Damp Location rated

**FINISH**



<b>FIXTURE TYPE:</b>		<b>PROJECT:</b>		
<b>SERIES:</b> QS-ES44	<b>DISTR:</b> D	<b>MOUNTING:</b>	<b>COLOR TEMP:</b>	<b>LUMEN:</b>
<b>LENGTH:</b>	<b>DIFFUSER:</b> D	<b>FINISH:</b>	<b>VOLTAGE:</b> UNV	<b>OPTIONS:</b>

1. SERIES	2. DISTRIBUTION	3. MOUNTING	4. COLOR TEMPERATURE	5. LUMEN OUTPUT
<b>QS-ES44</b>	<b>D - DIRECT</b>	<b>AC - ADJUSTABLE AIRCRAFT CABLE (48" STANDARD)</b> <b>S - SURFACE</b>	<b>35K - 3500K</b> <b>40K - 4000K</b>	<b>055 - 550LM/FT - 3.4W/FT</b> <b>110 - 1100LM/FT - 6.8W/FT</b>
6. LENGTH	7. DIFFUSER	8. FINISH	9. VOLTAGE	10. OPTIONS
<b>4' - AC &amp; S MOUNTING</b> <b>8' - AC &amp; S MOUNTING</b>  SEE PAGE 2 FOR ACTUAL LENGTHS	<b>D - DIFFUSE</b>	<b>WHT - WHITE POWDER COAT</b> <b>BLK - BLACK POWDER COAT</b> <b>SLV - SILVER POWDER COAT</b> <b>RAL - ANY RAL PAINT COLOR: 4-DIGIT RAL CODE MUST BE SPECIFIED</b>	<b>UNV - UNIVERSAL (120/277V)</b>	<b>NONE</b>
VISIT OUR WEBSITE TO VIEW OUR RAL COLOR CHART <a href="http://PMCLIGHTING.COM/FINISHES">PMCLIGHTING.COM/FINISHES</a>				



PMC Lighting | 100 Gilbane Street Warwick, RI 02886  
(P) 401-738-7266 | (F) 401-738-0618 | [www.PMCLighting.com](http://www.PMCLighting.com)

Specifications and Dimensions are subject to change without notice.



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

QS-ES44-D-S-40K-05S-4'-D-  
RALXXXX-UNV

Notes:

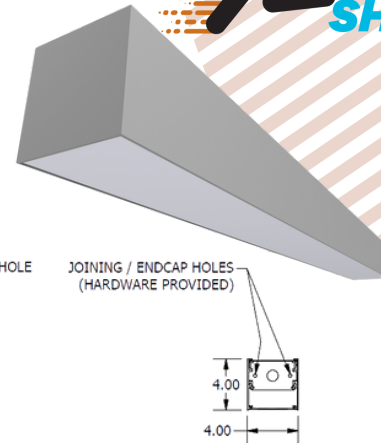
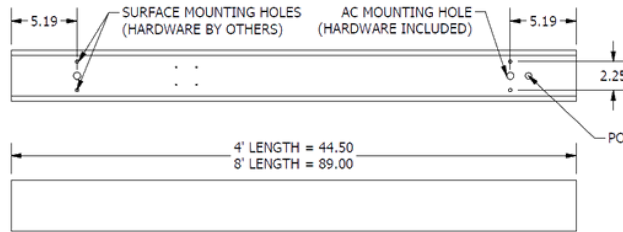
**Type:**

**B**

SSI24-57406

**NELIÖ**  
LED

**QS-ES44**  
EXTRUDED ALUMINUM  
DIRECT QUICK SHIP LINEAR



**PMC Lighting QUICK SHIP product configurations include:**

- (1) Fixture assembly per the ordering code designated.
- (1) Joining hardware kit for joining one fixture to another when combining fixtures into rows. (Not used when fixtures are individually mounted).
- (2) Endcap assemblies that allow each fixture to be configured as Individually mounted, or in a Beginning or End of row position when combining fixtures into rows. See page 3 for more information on Endcap use.
- (1) Fixture to fixture wiring quick connect male-female connections. (Note - At Power Feed locations, cut the connector off the internal fixture wire harness and splice in power feed wires.)

**When designated as Aircraft Cable Mounted:**

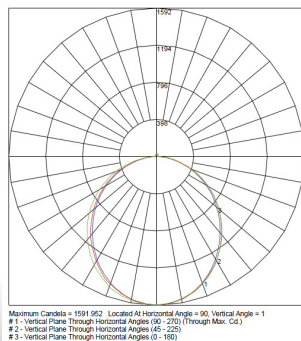
- (1) Power-Feed 48" Adjustable Length AC kit w/ 18awg 5 conductor cord for power and dimming control.
- (1) Non-Power Feed 48" Adjustable Length AC kit

(Notes - AC kits provided with white canopies and white power cords. Individual and Beginning of Row mounted fixtures use both AC kits. Intermediate and End of Row mounted fixtures use just the Non-Power Feed kit.)

**When designated as Surface Mounted:**

All hardware required for surface mounting fixtures is "by others" and must be selected based on the surface material the fixture is being mounted against. Hardware must support the entire fixture weight.

IES INDOOR REPORT  
PHOTOMETRIC FILENAME: ES44-D-1450LM\_FT.DIFFUSERSIES  
POLAR GRAPH



**CHARACTERISTICS**

Lumens Per Lamp	4452 (1 lamp)
Total Lamp Lumens	4452
Luminaire Lumens	4454
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	40.77
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Unknown
Luminous Length (0-180)	0.00 m
Luminous Width (90-270)	0.09 m
Luminous Height	0.00 m

**ZONAL LUMEN SUMMARY**

Zone	Lumens	% Lamp	%Fixt
0-20	575.63	12.90	12.90
0-30	1210.38	27.20	27.20
0-40	1960.1	44.00	44.00
0-60	3408.4	76.60	76.50
0-80	4235.64	95.10	95.10
0-90	4334.71	97.40	97.30
10-90	4184.81	94.00	94.00
20-40	1384.47	31.10	31.10
20-50	2148.84	48.30	48.20
40-70	1970.76	44.30	44.20
60-90	827.23	18.60	18.60
70-80	304.78	6.80	6.80
80-90	99.07	2.20	2.20
90-110	39.38	0.90	0.90
90-120	57.42	1.30	1.30
90-130	74.22	1.70	1.70
90-150	101.82	2.30	2.30
90-180	119.58	2.70	2.70
110-180	80.20	1.80	1.80
0-180	4454.29	100.10	100.00

Total Luminaire Efficiency = 100.10%



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(P) 401-738-7266 | (F) 401-738-0618 | www.PMCLighting.com

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PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

PRS610D010 SM6128FS 64SWDH

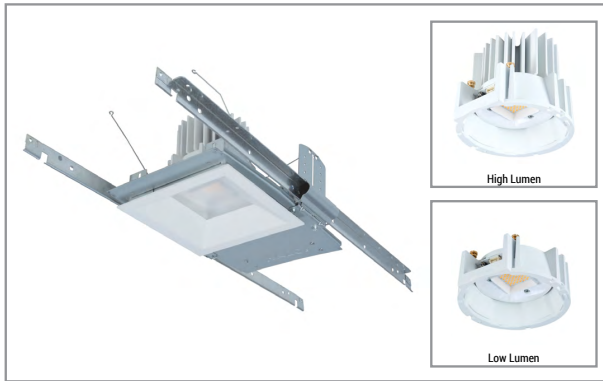
Notes:

**Type:**

**C**

SSI24-57406

Project	Catalog #	Type
Prepared by	Notes	Date



# HALO Commercial

PRS6 | SM6 | 61S/64S

6-inch LED square aperture  
new construction/remodel  
downlight and wall wash

**Typical Applications**

Office • Healthcare • Hospitality • Institutional • Mixed-Use/Retail

**Interactive Menu**

- Order Information page 2
- Product Specifications page 4
- Photometric Data page 5
- Energy & Performance Data page 10
- Connected Systems page 12
- Product Warranty

**Product Certification**



**Product Features**



**Control Compatibility**

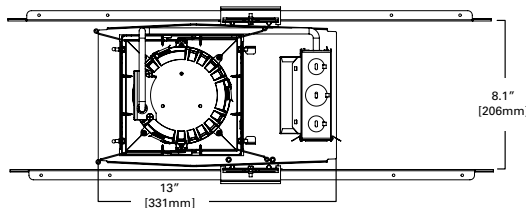


**Top Product Features**

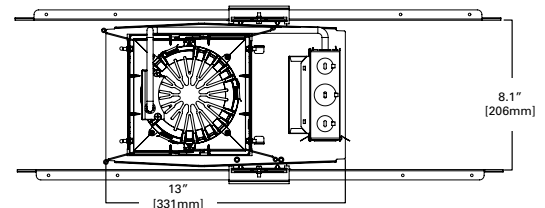
- New construction/remodel series; True square aperture design with refined corner detail
- Selectable lumens: 1,000/1,500/2,000 (low) or 3,000/4,000 (high)
- Narrow, Medium and Wide distributions; Wall wash with linear spread lens
- Selectable color temperatures: 3000K, 3500K and 4000K CCT; 80 CRI
- Universal voltage 120V-277V; Standard 0-10V driver dims to 1%

**Dimensional and Mounting Details**

6", LOW LUMEN MODULE (1000 - 2000 LUMEN)



6", HIGH LUMEN MODULE (2000 - 3000 - 4000 LUMEN)



[additional product diagrams](#)



**Job Name:**

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OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

PRS610D010 SM6128FS 64SWDH

Notes:

**Type:**

**C**

SSI24-57406

**HALO Commercial**

**PRS6 | SM6 | 61S/64S**

**Order Information**

**SAMPLE NUMBER: PRS6FS24D010REM7 - SM6248FS - 61SMDH**

A complete luminaire consists of a mounting frame, LED module, and reflector (ordered separately)

Ordering Information, 120-277VAC, 0-10V analog dimming

PRS6	10	D010	
Housing Frame	Lumens	Input / Control	Options
<p><b>PRS6</b> = 6" square new construction and remodeler housing</p>	<p><b>Field Selectable</b> FS12 = field selectable 1000, 1500 and 2000 lumens (nominal), use with SM6128FS LED module FS24 = field selectable 2000, 3000 and 4000 lumens (nominal), use with SM6248FS LED module</p> <p><b>Fixed, Factory Set</b> 10 = 1000 lumens (nominal), use with SM6128FS LED module (Type IC rated) 15 = 1500 lumens (nominal), use with SM6128FS LED module (Type IC rated) 30 = 3000 lumens (nominal), use with SM6248FS LED module</p>	<p><b>D010</b>=120-277VAC, 50/60Hz, 0-10V analog 1% dimming</p>	<p><b>REM7</b>=7 watt emergency module with remote test / indicator light, use with D010 only <b>REM14</b>=14 watt emergency module with remote test / indicator light, use with D010 only <b>BDD7ST</b> = 7.5 watt Bodine self-test diagnostic emergency module with remote test / indicator light, use with D010 only <b>WTA</b>=Factory installed WaveLinX sensor Kit<sup>(3)</sup> <b>WTK</b> = Factory installed WaveLinX Lite Sensor Kit<sup>(4)</sup> <b>WPN</b> = WaveLinX PRO Wireless Node without sensor<sup>(5)</sup></p>
<b>Notes</b>	<b>Notes</b>	<b>Notes</b>	<b>Notes</b>
			<p>(3) WTA = WaveLinX tilemount sensor kit for daylight dimming, PIR motion sensing, and optional RLJS - Real Time Location Services, use with D010 only (Refer to WaveLinX system specifications) (4) WTK = WaveLinX Lite tilemount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX Lite system specifications) (5) WPN = WaveLinX PRO wireless node provides luminaire-level control with scene and zone configuration without an integrated sensor; Connects wirelessly with daylight dimming sensor and PIR motion sensor if desired. Use with 0-10V driver only.</p>

Ordering Information, Distributed Low Voltage Power - for use with DLVP system only

Housing Frame	Lumens	Input / Control	Options
<p><b>PRS6</b> = 6" square new construction and remodeler housing</p>	<p><b>Fixed, Factory Set</b> 10 = 1000 lumens (nominal), use with SM6128FS LED module (Type IC rated) 15 = 1500 lumens (nominal), use with SM6128FS LED module (Type IC rated) 20 = 2000 lumens (nominal), use with SM6128FS LED module 30 = 3000 lumens (nominal), use with SM6248FS LED module 40 = 4000 lumens (nominal), use with SM6248FS LED module</p>	<p><b>DLV</b> = Distributed Low Voltage dimming driver 1%-100%, 1000-4000 lumens only. For use with DLVP system only, refer to DLVP specifications for details</p>	<p><b>REM7</b> = 7 watt emergency module with remote test / indicator light, use with DLV only <b>REM14</b> = 14 watt emergency module with remote test / indicator light, use with DLV only</p>
<b>Notes</b>	<b>Notes</b>	<b>Notes</b>	<b>Notes</b>

**Accessories**

Accessories
<p><b>HB128APK</b>=L channel hanger bar, 26", pair (replacement) <b>RMB22</b>=Adjustable wood joist mounting bars, pair, extend to 22" long <b>H347</b>=347 to 120V step down transformer, 75VA <b>H347Z00</b>=347 to 120V step down transformer, 200VA <b>WTA</b>=Field installed WaveLinX sensor Kit<sup>(3)</sup> <b>WTK</b> = Field installed WaveLinX Lite Sensor Kit<sup>(4)</sup></p>
<b>Notes</b>
<p>(3) WTA = WaveLinX tilemount sensor kit for daylight dimming, PIR motion sensing, and optional RLJS - Real Time Location Services, use with D010 only (Refer to WaveLinX system specifications) (4) WTK = WaveLinX Lite tilemount sensor kit for daylight dimming, PIR motion sensing, use with D010 only (Refer to WaveLinX Lite system specifications)</p>



**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 PRS610D010 SM6128FS 64SWDH

**Type:**

**C**

Notes:

SSI24-57406

# HALO Commercial

PRS6 | SM6 | 61S/64S

## Order Information

<b>SM6</b>	<b>12</b>	<b>8FS</b>
LED Module	Lumens	CRI/CCT
LED Module	Lumens	CRI/CCT
SM6 = 6" LED module	12=Field selectable 1000, 1500 and 2000 lumens (nominal), preset for 2000 lumens, use with PRS6ES12*, PRS610*, PRS615*, PRS620* housings 24=Field selectable 2000, 3000 and 4000 lumens (nominal), preset for 4000 lumens, use with PRS6FS24*, PRS620*, PRS630*, PRS640* housings	8FS =80 CRI (minimum), field selectable 3000, 3500 and 4000 CCT, preset for 3500K
Notes	Notes	Notes

<b>Reflector - Deep</b>	<b>Distribution<sup>2</sup></b>	<b>Finish</b>	<b>Flange</b>	<b>Accessories</b>
Reflector - Deep	Distribution <sup>2</sup>	Finish	Flange	Accessories
61S = 6" square reflector, non-conductive polymer, use with SM6 modules only	ND = narrow, TIR lens included (58° beam angle, 0.8 SC) MD = medium, TIR lens included (68° beam angle, 1.0 SC) WD = wide, TIR lens included (80° beam angle, 1.3 SC) WW = linear spread lens wall wash, insert included	Vacuum Metallized C = Specular clear H = Semi-specular clear (haze) Painted MB = Matte black MW = Matte white	Blank = Vacuum Metallized flange standard on C, H reflectors Blank = White flange on MW reflectors Blank = Black flange on MB reflectors WF = White flange option available with C, H, MB reflectors	TIR6SND = narrow distribution TIR lens for 6" reflectors <sup>(1)</sup> TIR6SMD = medium distribution TIR lens for 6" reflectors <sup>(1)</sup> TIR6SWD = wide distribution TIR lens for 6" reflectors <sup>(1)</sup> S6DWW = wall wash replacement insert for 6" wall wash reflector
Notes	Notes	Notes	Notes	Notes
	(2) Values are nominal for white reflectors, others may vary.			(1) TIR lenses for replacement - field interchangeable

<b>64S</b>	<b>WD</b>	<b>H</b>		
<b>Reflector - Shallow</b>	<b>Distribution<sup>2</sup></b>	<b>Finish</b>	<b>Flange</b>	<b>Accessories</b>
Reflector - Shallow	Distribution <sup>2</sup>	Finish	Flange	Accessories
64S = 6" square shallow reflector, non-conductive polymer, use with SM6 modules only	ND = narrow with TIR lens included (59° beam angle, 0.84 SC) MD = medium with TIR lens included (70° beam angle, 0.98 SC) WD = wide with TIR lens included (103° beam angle, 1.35 SC)	Vacuum Metallized C = Specular clear H = Semi-specular clear (haze) Painted MB = Matte black MW = Matte white	Blank = Vacuum Metallized flange standard on C, H reflectors Blank = White flange on MW reflectors Blank = Black flange on MB reflectors WF = White flange option available with C, H, MB reflectors	TIR6SND = narrow distribution TIR lens for 6" reflectors <sup>(1)</sup> TIR6SMD = medium distribution TIR lens for 6" reflectors <sup>(1)</sup> TIR6SWD = wide distribution TIR lens for 6" reflectors <sup>(1)</sup>
Notes	Notes	Notes	Notes	Notes
	(2) Values are nominal for white reflectors, others may vary.			(1) TIR lenses for replacement - field interchangeable

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**Catalog Number:**

PRS610D010 SM6128FS 64SWDH

**Type:****C**

Notes:

SSI24-57406

**HALO Commercial****PRS6 | SM6 | 61S/64S****Product Specifications****Housing Frame**

- Boat shaped galvanized steel plaster frame with adjustable plaster lip
- Accommodates 1/2" to 1-1/2" thick ceilings
- Installs in new construction or from below the finished ceiling (non-accessible) for remodeling
- Provided with four remodel clips to secure the frame when installing from below the ceiling

**Universal Mounting Bracket**

- Adjusts 2" vertically from above and below the ceiling
- Use with the included mounting bars or with 1/2" Electric Metallic Tube (EMT)
- Removable to facilitate remodeling installation from below the finished ceiling

**Mounting Bars**

- Captive pre-installed No Fuss™ mounting bars lock to T-grid with screwdriver or pliers
- Centering detents allow for consistent positioning of fixtures

**LED Module**

- Patented SeleCCTable™ technology allows the color temperature and lumen output to be selected in the field
- Selectable color temperatures in 3000K, 3500K and 4000K correlated color temperature (CCT)
- Selectable lumens: 1,000/1,500/2,000 (low lumens) or 3,000/4,000 (high lumens)
- Discrete (fixed) lumen output is also available to meet lighting power density code requirements
- Available in 80 color rendering index (CRI)
- Color accuracy within 3 SDCM provides color consistency and uniformity (refer to chromaticity information for details)
- Integral connector allows for quick connection to the housing flex
- Passive thermal management achieves 50,000 hours at 70% lumen maintenance (L70) in insulated ceilings (IC) and non-IC applications

**Primary Optic**

- Precision-molded square Total Internal Reflection (TIR) optics deliver highly efficient and uniform patterns
- Available in narrow, medium and wide distribution patterns and can be interchanged without tools

**Reflector**

- Self-flanged downlight reflectors are available in shallow and deep regression
- Reflectors are of non-conductive polymer construction and may be used to meet local code requirements for 'dead front'
- Wall wash reflector features a linear spread lens for alignment of vertical illumination
- Reflectors attach to LED module with three speed clamps
- Available in multiple painted or plated finishes

**Reflector/Module Retention**

- Reflector/module assembly is securely retained in the housing with two torsion springs

**Driver**

- Field-replaceable constant current driver provides low noise operation
- Universal 120-277VAC 50/60Hz input standard
- Continuous, 1% to 100% dimming with 0-10V analog control
- Optional low-voltage DC driver for use with Distributed Low Voltage Power (DLVP) system
- Distributed Low Voltage Power (DLVP) system combines power, lighting and controls with ease of installation (refer to DLVP Design Guide at [www.cooperlighting.com](http://www.cooperlighting.com) for details)

**Emergency Option**

- Provides 90 minutes of standby lighting, meeting most life safety codes for egress lighting
- Available with remote charge indicator and test switch
- Available Self-Test (self-diagnostic) with remote charge indicator and test switch

**Connected Lighting System Options**

Two WaveLinX connected systems to choose. Summary information provided below, refer to WaveLinX system specifications and application guides for details.

**WaveLinX Wireless System Tilemount Sensor Kit**

- WaveLinX Wireless WTA tilemount sensor kit offers daylight dimming, PIR motion sensing, scene and zone configuration, automatic commissioning; and optional RLTS - Real Time Location Services available.

**WaveLinX Lite System Tilemount Sensor Kit**

- WaveLinX Lite WTK tilemount sensor kit offers daylight dimming and PIR motion sensing, scene and grouping configuration.

**WaveLinX Tilemount Kits Application**

- The WTA and WTK tilemount kits include a control module mounted on the luminaire junction box via 1/2" knock-out, and a tilemount sensor on 54-inch whip; for ceiling installation by direct-mount spring clips or via mounting bracket in octagon ceiling boxes.
- The WTA and WTK tilemount kits may be ordered as factory installed on the luminaire, or ordered separately as a field installed accessory kit.

**Junction Box**

- Galvanized steel junction box
- 20 in³ internal volume excluding voltage barrier
- 25 in³ internal total volume
- Voltage barrier for 0-10V dimming wires (occupies one 1/2" pry-out space)
- Listed for eight #12 AWG (four in, four out) 90°C conductors and feed-thru branch wiring
- Three 1/2" and two 3/4" trade size pry-outs available
- Three 4-port push wire nuts for mains voltage with 1-port for fixture connection

**Compliance**

- cULus Certified to UL 1598 / C22.2 No. 250.0, suitable for damp locations and wet locations in covered ceilings only
  - IP20 - Above finished ceiling; IP64 - Below finished ceiling
  - Non-Insulated ceiling (Non-IC) rated for the field-selectable 1,000, 1,500, 2,000, 3,000 and 4,000 lumen models (insulation must be kept 3" from top and sides)
  - Fixed (non-selectable) factory set 1,000 and 1,500 lumen housing frames are insulated ceiling (IC) rated and suitable for direct contact with air permeable insulation\* (IC models are also suitable for Non-IC installations)
  - Airtight per ASTM-E283-04
  - Suitable for use in clothes closets when installed in accordance with the NEC 410.16 spacing requirements
  - EMI/RFI emissions FCC CFR Title 47 Part 15 Class A at 120/277V
  - Contains no mercury or lead and RoHS compliant
  - Photometric testing completed in accordance of IES LM-79-08
  - Lumen maintenance projection in accordance of IES LM-80-08 and TM-21-11
  - May be used to comply with State of California Title 24 non-residential code as a dimmable LED luminaire
  - ENERGY STAR® certified, reference certified light fixtures database
- \*Not for use in direct contact with spray foam insulation, consult NEMA LSD57-2013

**Warranty**

- Five year limited warranty, consult website for details. [www.cooperlighting.com/legal](http://www.cooperlighting.com/legal)





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**Catalog Number:**  
 PRS610D010 SM6128FS 64SWDH

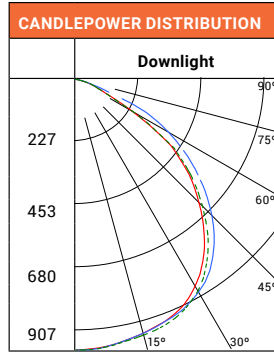
**Type:**  
**C**  
 SSI24-57406

**HALO Commercial** **PRS6 | SM6 | 61S/64S**

**SHALLOW REFLECTORS 64S SERIES**

**WIDE DISTRIBUTION - SPECULAR CLEAR FINISH, 2000 LUMEN MODEL, 80 CRI, 3500K**

WIDE (103° BEAM*)	
Test Number	P252995
Housing	PRS6FS12D010
Module	SM6128FS
Reflector	64SWDC
Lumens	2261 Lm
Efficacy	113.1 Lm/W
SC	1.3
UGR	21.9



CONE OF LIGHT			
MH	FC	L	W
5.5'	30	7	7.2
7'	18.5	9	9.2
8'	14.2	10.2	10.4
9'	11.2	11.6	11.8
10'	9.1	12.8	13.2
12'	6.3	15.4	15.8

CANDELA TABLE	
Degrees Vertical	Candela
0	907
5	902
15	879
25	841
35	741
45	581
55	390
65	109
75	30
85	2
90	0

ZONAL LUMEN SUMMARY		
Zone	Lumens	% Fixture
0-30	725	32.1
0-40	1202	53.2
0-60	2051	90.7
0-90	2261	100
90-180	0	0
0-180	2261	100

LUMINANCE	
Average Candela Degrees	Average 0° Luminance
45	35383
55	29238
65	11064
75	4957
85	1037

\*Values are nominal for specular clear reflectors, others may vary.  
 SC = Spacing Criteria  
 UGR = Unified Glare Rating

**Photometric Multipliers (Nominal lumen values)**

1000 Lumen	1500 Lumen	2000 Lumen	3000 Lumen	4000 Lumen
0.47	0.62	1.00	1.27	1.83

Multipliers for relative lumen values with other series models.

**CCT Multipliers - 80CRI**

3000K	3500K	4000K
0.90	1.00	0.95

Multipliers for relative lumen values with other series color temperatures.

**Color Finish Multipliers**

Finish code	C	H	MB	MW
Finish	Specular Clear	Semi-Specular	Matte Black	Matte White
Narrow Multiplier	1.00	1.00	0.90	1.04
Medium Multiplier	1.00	0.99	0.95	1.01
Wide Multiplier	1.00	0.99	0.93	1.02

Multipliers for relative lumen values with other cone color finishes.



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**Catalog Number:**

PRS610D010 SM6128FS 64SWDH

**Type:**

**C**

Notes:

SSI24-57406

# HALO Commercial

PRS6 | SM6 | 61S/64S

## Energy & Performance Data

### SM6128FS LED MODULE LOW LUMEN RANGE

Series	1000 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.089	0.043
Input Power (W)	10.5	11
In-rush (A)	8.9	22.2
In-rush Duration (ms)	0.145	0.118
THD (%)	<15.1	<16.7
PF	≥ 0.98	≥ 0.92
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	1500 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.112	0.052
Input Power (W)	13.4	13.8
In-rush (A)	9.9	24.8
In-rush Duration (ms)	0.198	0.107
THD (%)	<13.3	<15.5
PF	≥ 0.98	≥ 0.94
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	2000 lumen (Low Lumen)	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.178	0.079
Input Power (W)	21.3	21.4
In-rush (A)	8	19.1
In-rush Duration (ms)	0.185	0.133
THD (%)	<8.2	<10.6
PF	≥ 0.99	≥ 0.97
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

### SM6248FS LED MODULE HIGH LUMEN RANGE

Series	2000 lumen (High Lumen)	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.176	0.081
Input Power (W)	21	21.2
In-rush (A)	15.3	32.1
In-rush Duration (ms)	0.237	0.12
THD (%)	<11	<13.6
PF	≥ 0.99	≥ 0.94
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	3000 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.225	0.101
Input Power (W)	26.9	27
In-rush (A)	11.6	27.9
In-rush Duration (ms)	0.187	0.081
THD (%)	<9.05	<11.8
PF	≥ 0.99	≥ 0.96
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

Series	4000 lumen	
Input Voltage 120-277VAC	120V	277V
Input Current (A)	0.332	0.145
Input Power (W)	39.8	39.4
In-rush (A)	12.8	27.5
In-rush Duration (ms)	0.211	0.107
THD (%)	<5.9	<8.8
PF	≥ 0.99	≥ 0.98
Minimum starting temperature -40°C (-40°F)*		
Sound Rating: Class A standards		

**Notes:**

\* Emergency Battery packs are rated for a minimum starting temperature of 0°C.



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**Catalog Number:**

PRS610D010 SM6128FS 64SWDH

Notes:

**Type:**

**C**

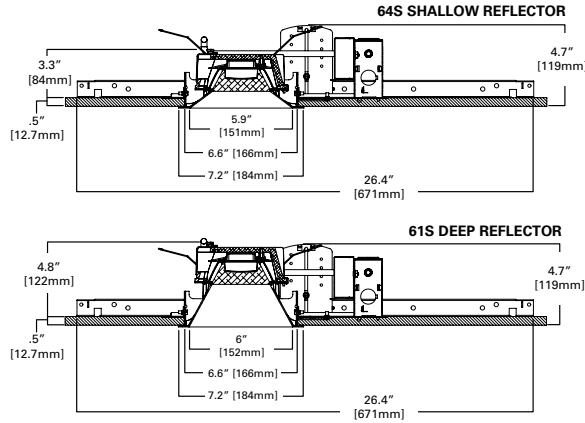
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**HALO Commercial**

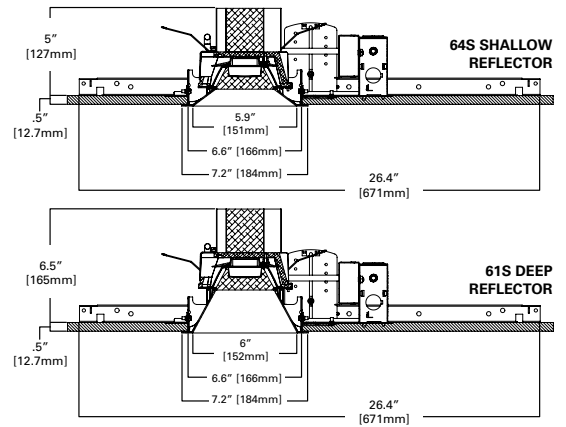
PRS6 | SM6 | 61S/64S

**Dimensional and Mounting Details**

**6", LOW LUMEN MODULE (1000 - 1500 - 2000 LUMEN)**



**6", HIGH LUMEN MODULE (2000 - 3000 - 4000 LUMEN)**



**MAX HEIGHT** (above finished ceiling)

LED MODULE	SM6128FS low lumen module	SM6248FS high lumen module
LUMEN RANGE	1000-1500-2000 Lumens	2000-3000-4000 Lumens
61S Deep Reflector	4.8"	6.5"
64S Shallow Reflector	4.2" (3.3" w/out bar bracket)	5.0"



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

LCNP1-PM-PA-V-32LED-175MA-40K-  
UNV-RALXXXX-WM-SM+L

Notes:

**Type:**

**D**

SSI24-57406



AREA & ROADWAY LIGHTING

**LCN SERIES - LED**

**Luminaire**

High impact clear patterned polycarbonate diffusing lenses provided with durable corrosion resistant cast aluminum housing. Hinged side door access with clasp. Luminaire base has 3" I.D. opening for tenon. All hardware is stainless steel.

**LED Power Array**

Array of individual LED Tubes fastened to retaining plates. Each LED Tube consists of circuit board populated with a multiple of LED's covered with a gasketed acrylic lens and mechanically fastened to an extruded aluminum heatsink. Tubes are sealed to a an IP65 Standard.

**Area and Roadway Distributions:** Acrylic Tube Lenses have individual molded-in refractive optics for each LED and provides concisely tailored beam patterns. LED Tubes are uniquely aimed horizontally and beam patterns combine to produce wide throw, highly efficient IES Distribution Types II, III, IV and V with minimal uplight. Used in conjunction with a clear patterned lenses only.

**General Diffused Lighting:** Acrylic Tube Lense provides diffusion of the raw LED distributions. Tubes are combined to produce uniform luminance of the outer globe. Used in conjunction with opal lenses only.

**Glass Refractor - GRV**

LED Tubes are aligned vertically and arranged radially to produce an even raw light distribution that simulates standard light sources. Array is secured within a 6" Prismatic Glass Refractor which provides the optical control. Used in conjunction with clear or clear patterned lenses only.

**LED Emitters**

High Power White LED's are driven between 350mA and 700mA for a maximum output of 2 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K) . All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L93 at 100,000 hours (TM-21 calculated at 6x Test Time).

**LED Driver**

Constant current electronic with a power factor of >0.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0-10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field installation.

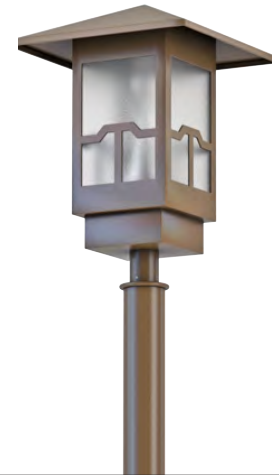
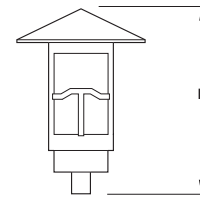
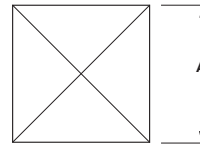
**True Amber LED's:** TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-595nm. True Amber has negligible blue light and is suitable for wildlife.

**Finish**

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.

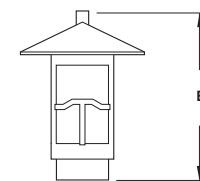
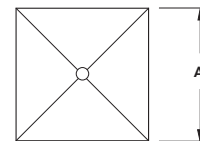
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PROJECT TYPE: \_\_\_\_\_



**LCN**

FIXTURE	A	B
<b>LCN1</b>	24" 610mm	35" 889mm
<b>LCN2</b>	20" 508mm	27" 686mm



**LCN-PM**

(Pendant Mount)

FIXTURE	A	B
<b>LCN1-PM</b>	24" 610mm	30" 889mm
<b>LCN2-PM</b>	20" 508mm	23" 584mm



2023161





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Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

LCNP1-PM-PA-V-32LED-175MA-40K-  
UNV-RALXXX-WM-SM+L

Notes:

**Type:**

**D**

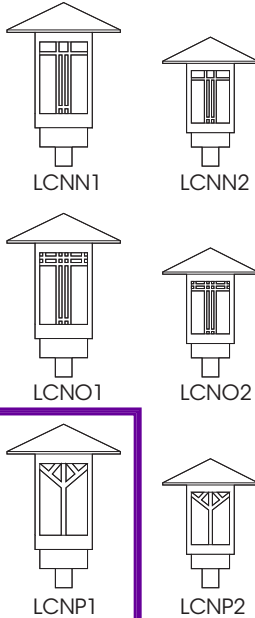
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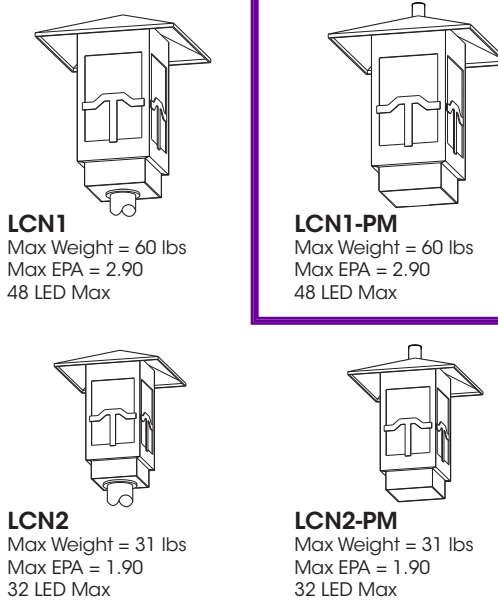
**LCN SERIES - LED**

**SPECIFICATIONS**

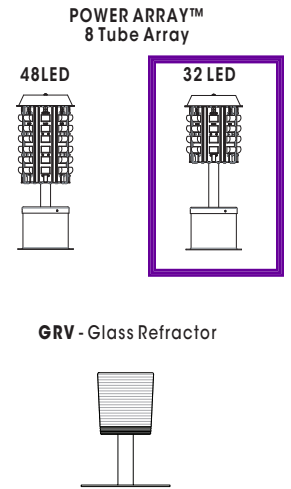
**OPTIONAL STYLES**



**EPA & WEIGHT**



**POWER ARRAY™ MODULES**



**ORDERING INFORMATION**

Spec/Order Example: LCNP2-PM/PA-II/32LED/350mA/27K/UNV/1/RAL-9005-T/WA/TPR7

Luminaire	Optics	# of LED's	Drive Current	CCT	Voltage	Mounting	Finish	Options
<b>Luminaire</b>	<b>Optics</b>	<b>LED</b>			<b>Voltage</b>	<b>Mounting</b>	<b>Finish</b>	<b>Options</b>
<input type="checkbox"/> LCN1 <input type="checkbox"/> LCN1-PM <input type="checkbox"/> LCNN1 <input type="checkbox"/> LCNN1-PM <input type="checkbox"/> LCNO1 <input type="checkbox"/> LCNO1-PM <input type="checkbox"/> LCNP1 <input checked="" type="checkbox"/> LCNP1-PM  <input type="checkbox"/> LCN2 <input type="checkbox"/> LCN2-PM <input type="checkbox"/> LCNN2 <input type="checkbox"/> LCNN2-PM <input type="checkbox"/> LCNO2 <input type="checkbox"/> LCNO2-PM <input type="checkbox"/> LCNP2 <input type="checkbox"/> LCNP2-PM	<b>Area &amp; Roadway</b> (Clear Patterned Lenses) <input type="checkbox"/> PA - II <input type="checkbox"/> PA - III <input type="checkbox"/> PA - IV <input checked="" type="checkbox"/> PA - V  <b>General Diffuse</b> (White-Opal Lenses) <input type="checkbox"/> PA - SYM  <b>GLASS REFRACTOR</b> (Clear Patterned/Clear Lenses) <input type="checkbox"/> GRV - III <input type="checkbox"/> GRV - V	<input checked="" type="checkbox"/> 48LED <input checked="" type="checkbox"/> 32LED  <input type="checkbox"/> 36LED <input type="checkbox"/> 175mA <input type="checkbox"/> 350mA <input type="checkbox"/> 525mA <input type="checkbox"/> 700mA <input type="checkbox"/> 175mA <input type="checkbox"/> 350mA	<input type="checkbox"/> 27K (2700K) <input type="checkbox"/> 30K (3000K) <input checked="" type="checkbox"/> 40K (4000K) <input type="checkbox"/> 50K (5000K) <input type="checkbox"/> TRA True Amber* *TRA Available only in 350mA and 525mA Drive Currents	<input type="checkbox"/> UNV (120-277) <input type="checkbox"/> 347 <input type="checkbox"/> 480	<input type="checkbox"/> 1 <input type="checkbox"/> 2-180 <input type="checkbox"/> 2-90 <input type="checkbox"/> 3-90 <input type="checkbox"/> 3-120 <input type="checkbox"/> 4-90 <input checked="" type="checkbox"/> Wall Mount <input type="checkbox"/> WM <input type="checkbox"/> PT Post Top	<input type="checkbox"/> Black <b>RAL-9003-T</b> <input type="checkbox"/> White <b>RAL-9003-T</b> <input type="checkbox"/> Grey <b>RAL-7004-T</b> <input type="checkbox"/> Dark Bronze <b>RAL-8019-T</b> <input type="checkbox"/> Green <b>RAL-6005-T</b>  <input type="checkbox"/> Rust <input type="checkbox"/> Patina Copper <b>PC</b>	<b>Standard Textured Finish</b> <input type="checkbox"/> Clear Patterned Acrylic <b>CPA</b> <input type="checkbox"/> Clear Smooth Acrylic <b>CA</b> <input type="checkbox"/> Opal Acrylic <b>WA</b> <input checked="" type="checkbox"/> Stem Mount + Length (in) (EX SM48) <b>SM+L</b> <input type="checkbox"/> Chain Mount + Length (in) (EX CM36) <b>CM+L</b> <input type="checkbox"/> House Side Shield <b>HS</b> <input type="checkbox"/> High-Low Dimming for Switch (BY OTHERS) Select 25/100 Or 50/100 (EX HLSW25) <b>HLSW**</b> <input type="checkbox"/> Pole Mounted Bluetooth Photo/Motion Sensor. (Factory 50/100 Motion Photo 75 fc) <b>MS-F311</b> <input type="checkbox"/> Mini-Button Photocell + Voltage <b>PC+V</b> <input type="checkbox"/> Std. Twist Lock Photocell Receptacle <b>TPR</b> <input type="checkbox"/> 7 Pin Twist Lock Photocell Receptacle <b>TPR7</b> <input type="checkbox"/> Single Fuse <b>SF</b> <input type="checkbox"/> Double Fuse <b>DF</b>	

**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

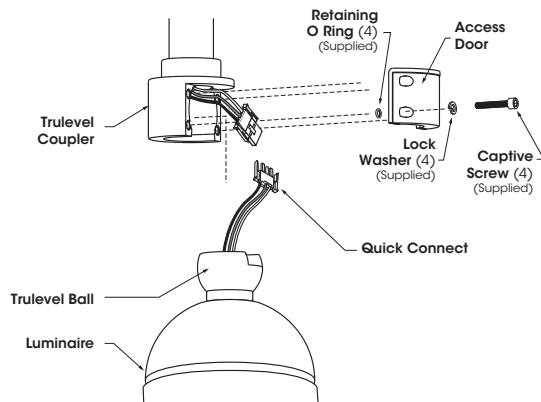
**Catalog Number:**

LCNP1-PM-PA-V-32LED-175MA-40K-  
UNV-RALXXXX-WM-SM+L

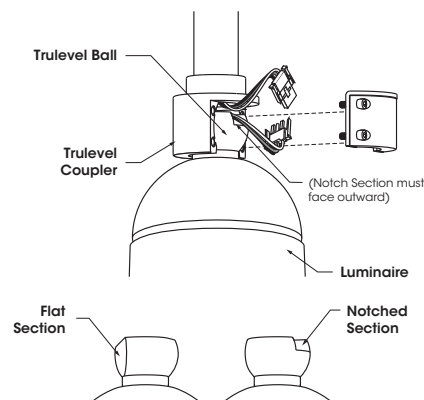
Notes:

**Type:****D**

SSI24-57406

**INSTALLATION DETAIL****Trulevel System® Assembly**

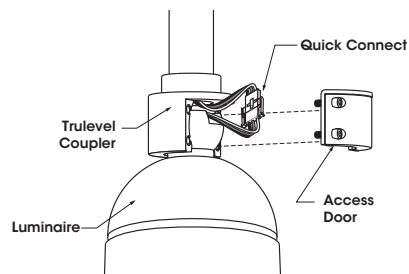
1. Loosen (4) Captive Screws and remove Access Door from Trulevel Coupler, pull out Quick Connect from Trulevel Coupler and Trulevel Ball.



2. Place Trulevel Ball inside of Trulevel Coupler as illustrated.

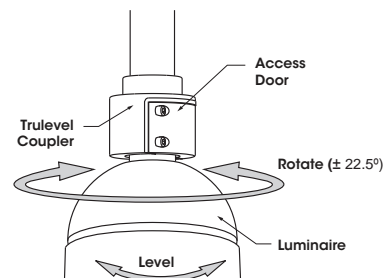
A - Notched Section of Trulevel Ball must face outward as illustrated.

B - Flat Section of Trulevel Ball must face inward.



3. Connect Quick Connect components, push components inside of Trulevel Coupler cavity, replace Access Door and loosely secure, do not tighten.

Fixture will suspend without Access Door during installation.



4. Rotate (left to right  $\pm 22.5^\circ$ ) and level Luminaire to desired position. Tighten Access Door.

(Tighten each bolt to recommended torque: **10 ft-lb, foot-pound**)

Trulevel Pendant Mount is intended to allow for fixture leveling, but is not intended to be "free-swinging" upon proper installation.



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**Catalog Number:**  
 LCNP1-PM-PA-V-32LED-175MA-40K-  
 UNV-RALXXXX-WM-SM+L  
 Notes:

**Type:**  
**D**  
 SSI24-57406



## LCN SERIES - LED

### ELECTRICAL DATA GUIDE - AMPERAGE CHART

# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
32	175	18.0	0.15	0.09	0.06	0.05	0.04
32	350	35.0	0.29	0.17	0.13	0.10	0.07
32	525	52.0	0.43	0.25	0.19	0.15	0.11
32	700	69.0	0.58	0.33	0.25	0.20	0.14
36	175	21.0	0.18	0.10	0.08	0.06	0.04
36	350	40.0	0.33	0.19	0.14	0.12	0.08
48	175	27.0	0.23	0.13	0.10	0.08	0.06
48	350	52.0	0.43	0.25	0.19	0.15	0.11
48	525	78.0	0.65	0.38	0.28	0.22	0.16
48	700	104.0	0.87	0.50	0.38	0.30	0.22

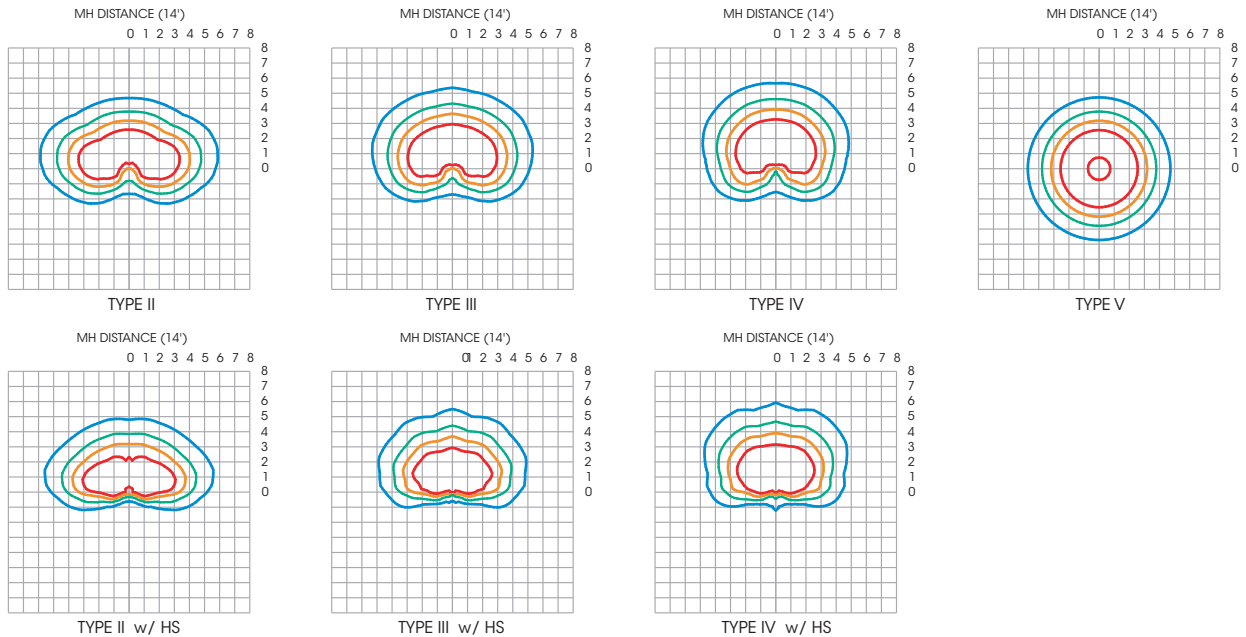
### PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dictates that L93 > 100,000 Hours.  
 Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

### PHOTOMETRIC DATA GUIDE - ISOFOOTCANDLE TEMPLATES

LAA1-PA2-CPA-48LED-700mA-4000K - 14' Mounting Height



IES File downloads for this product can be found at [www.usaligt.com/downloads/asr.html](http://www.usaligt.com/downloads/asr.html)



**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 LCNP1-PM-PA-V-32LED-175MA-40K-  
 UNV-RALXXXX-WM-SM+L

Notes:

**Type:**

**D**

SSI24-57406



**LCN SERIES - LED**

**PHOTOMETRIC DATA GUIDE - LUMEN TABLES**

PA-CPA (Area & Roadway)																			
LED Count	Drive Current (mA)	System Watts	Dist'n Type	27K (2700K - 70CRI)			30K (3000K - 70CRI)			40K (4000K - 70CRI)			50K (5000K - 70CRI)			System Watts	TRA (590nm)		
				Lumens	LPW	BUG Rating	Lumens	LPW	BUG Rating	Lumens	LPW	BUG Rating	Lumens	LPW	BUG Rating		Lumens	LPW	BUG Rating
32	175	18.0	II	2338	130	B1-U3-G2	2440	136	B1-U3-G2	2542	141	B1-U3-G2	2643	147	B1-U3-G2	27.0	847	60	B1-U3-G1
			III	2325	129	B1-U3-G2	2426	135	B1-U3-G2	2527	140	B1-U3-G2	2629	146	B1-U3-G2		842	60	B0-U3-G1
			IV	2321	129	B1-U3-G2	2422	135	B1-U3-G2	2523	140	B1-U3-G2	2624	146	B1-U3-G2		841	60	B0-U3-G1
			V	2372	132	B2-U3-G2	2475	137	B2-U3-G2	2578	143	B2-U3-G2	2682	149	B2-U3-G2		859	61	B1-U3-G1
			IHHS	1873	104	B0-U3-G2	1955	109	B0-U3-G2	2036	113	B0-U3-G2	2118	118	B0-U3-G2		678	48	B0-U2-G1
32	350	35.0	II	4251	121	B2-U3-G3	4436	127	B2-U3-G3	4621	132	B2-U3-G3	4806	137	B2-U3-G3	27.0	1386	51	B1-U3-G2
			III	4227	121	B1-U3-G3	4411	126	B1-U3-G3	4595	131	B1-U3-G3	4778	137	B1-U3-G3		1379	51	B1-U3-G2
			IV	4220	121	B1-U3-G3	4403	126	B1-U3-G3	4587	131	B1-U3-G3	4770	136	B1-U3-G3		1376	51	B1-U3-G2
			V	4312	123	B3-U3-G2	4500	129	B3-U3-G2	4688	134	B3-U3-G2	4875	139	B3-U3-G2		1407	52	B1-U3-G1
			IHHS	3405	97	B1-U3-G3	3553	102	B1-U3-G3	3701	106	B1-U3-G3	3849	110	B1-U3-G3		1111	41	B0-U3-G1
32	525	52.0	II	5865	113	B2-U3-G3	6120	118	B2-U3-G3	6375	123	B2-U3-G3	6630	127	B2-U3-G3	41.0	1785	47	B1-U3-G2
			III	5831	112	B2-U3-G3	6085	117	B2-U3-G3	6338	122	B2-U3-G3	6592	127	B2-U3-G3		1775	43	B1-U3-G2
			IV	5822	112	B1-U3-G3	6075	117	B1-U3-G3	6328	122	B2-U3-G3	6581	127	B2-U3-G3		1772	43	B1-U3-G2
			V	5951	114	B3-U3-G3	6210	119	B3-U3-G3	6468	124	B3-U3-G3	6727	129	B3-U3-G3		1811	44	B2-U3-G1
			IHHS	4697	90	B1-U3-G3	4901	94	B1-U3-G3	5105	98	B1-U3-G3	5310	102	B1-U3-G3		1429	35	B0-U3-G2
32	700	69.0	II	7368	107	B2-U4-G4	7688	111	B3-U4-G4	8008	116	B3-U4-G4	8329	121	B3-U4-G4	N/A	N/A	N/A	
			III	7326	106	B2-U4-G4	7644	111	B2-U4-G4	7963	115	B2-U4-G4	8281	120	B2-U4-G4				
			IV	7314	106	B2-U4-G4	7632	111	B2-U4-G4	7950	115	B2-U4-G4	8268	120	B2-U4-G4				
			V	7477	108	B3-U4-G3	7802	113	B3-U4-G3	8127	118	B3-U4-G3	8452	122	B3-U4-G3				
			IHHS	5901	86	B1-U3-G3	6158	89	B1-U3-G4	6414	93	B1-U3-G4	6670	97	B1-U3-G4				
48	175	27.0	II	3508	130	B1-U3-G3	3660	136	B1-U3-G3	3812	141	B1-U3-G3	3965	147	B2-U3-G3	21.0	1270	60	B1-U3-G1
			III	3488	129	B1-U3-G3	3639	135	B1-U3-G3	3791	140	B1-U3-G3	3942	146	B1-U3-G3		1263	60	B1-U3-G1
			IV	3482	129	B1-U3-G3	3633	135	B1-U3-G3	3785	140	B1-U3-G3	3936	146	B1-U3-G3		1260	60	B0-U3-G1
			V	3558	132	B3-U3-G2	3713	138	B3-U3-G2	3868	143	B3-U3-G2	4023	149	B3-U3-G2		1288	61	B1-U3-G1
			IHHS	2809	104	B1-U3-G3	2931	109	B1-U3-G3	3053	113	B1-U3-G3	3175	118	B1-U3-G3		1017	48	B0-U3-G1
48	350	52.0	II	6377	123	B2-U4-G3	6654	128	B2-U4-G3	6931	133	B2-U4-G4	7208	139	B2-U4-G4	40.0	2080	52	B1-U3-G2
			III	6340	122	B2-U4-G3	6616	127	B2-U4-G3	6892	133	B2-U4-G4	7167	138	B2-U4-G4		2068	52	B1-U3-G2
			IV	6330	122	B2-U4-G3	6605	127	B2-U4-G4	6881	132	B2-U4-G4	7156	138	B2-U4-G4		2065	52	B1-U3-G2
			V	6471	124	B3-U3-G3	6753	130	B3-U3-G3	7034	135	B3-U3-G3	7314	141	B3-U3-G3		2110	53	B2-U3-G1
			IHHS	5108	98	B1-U3-G3	5329	102	B1-U3-G3	5552	107	B1-U3-G3	5774	111	B1-U3-G3		1666	42	B0-U3-G2
48	525	78.0	II	8797	113	B3-U4-G4	9179	118	B3-U4-G4	9562	123	B3-U4-G4	9944	127	B3-U4-G4	61.0	2677	48	B1-U3-G2
			III	8747	112	B2-U4-G4	9127	117	B2-U4-G4	9508	122	B2-U4-G4	9888	127	B3-U4-G4		2662	44	B1-U3-G2
			IV	8733	112	B2-U4-G4	9112	117	B2-U4-G4	9492	122	B2-U4-G4	9872	127	B2-U4-G4		2658	44	B1-U3-G2
			V	8926	114	B4-U4-G3	9315	119	B4-U4-G3	9702	124	B4-U4-G3	10090	129	B4-U4-G3		2717	45	B2-U3-G2
			IHHS	7046	90	B1-U4-G4	7352	94	B1-U4-G4	7658	98	B1-U4-G4	7965	102	B1-U4-G4		2144	35	B1-U3-G2
48	700	104.0	II	11052	106	B3-U4-G5	11532	111	B3-U4-G5	12012	116	B3-U4-G5	12493	120	B3-U5-G5	N/A	N/A	N/A	
			III	10988	106	B3-U4-G5	11466	110	B3-U4-G5	11944	115	B3-U4-G5	12422	119	B3-U5-G5				
			IV	10970	105	B2-U4-G5	11447	110	B2-U4-G5	11924	115	B2-U4-G5	12401	119	B3-U4-G5				
			V	11213	108	B4-U4-G4	11700	112	B4-U4-G4	12188	117	B4-U4-G4	12676	122	B4-U4-G4				
			IHHS	8852	85	B1-U4-G4	9237	89	B1-U4-G5	9622	93	B1-U4-G5	10007	96	B2-U4-G5				

IES File downloads for this product can be found at [www.usaltg.com/downloads/asr.html](http://www.usaltg.com/downloads/asr.html)





**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

PYRED-12LED-MN-WF-41K-20"-DIM

**Type:**

**D1**

Notes:

SSI24-57406



**EXTERIOR WALL FIXTURE**

**PYRED-12LED-MN-WF-41K-20"-DIM**

<b>SPECIFICATION FEATURES</b>	Date 01-22-19
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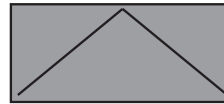
PROJECT: Publix

Dimensions	20 3/8" H x 7 1/4" W x 4" D
Lamps	12 watts of LED- 4100K
Material	Aluminum
Finish	Metallic Nickel
Lens	White Frosted Acrylic
Label	Wet Location
Voltage	120/277
Description	Exterior Wall Fixture

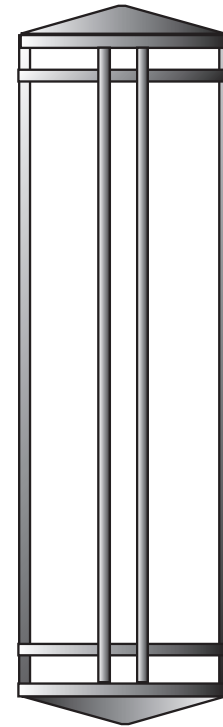
SPECIFIER:

1,440 delivered lumens  
with 0 to 10 volt dimming

End Cap View



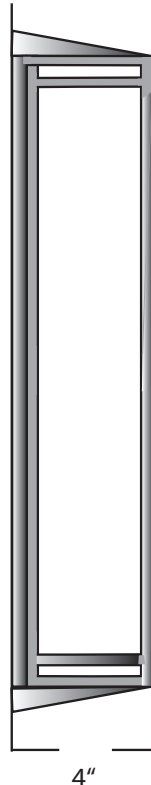
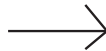
Solid Top



7 1/4"

Solid Bottom

Center location for J Box,  
wireway and lock up.



4"

EVERGREEN LIGHTING WWW.EVERGREENLIGHTING.COM  
1379 Ridgeway St. Pomona, CA 91768 PHONE: (909) 865-5599 FAX: (909) 865-5539



MADE IN USA • Information appearing hereon is proprietary and confidential and may not be used without the permission of Evergreen Lighting.

**MADE IN USA**



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

Notes:

SSI24-57406

<b>Project</b>		<b>Catalog #</b>		<b>Type</b>	
<b>Prepared by</b>		<b>Notes</b>		<b>Date</b>	



# Metalux

## NWS Selectable Wrap

LED Wraparound with Selectable Lumens and CCT

**Typical Applications**

- Offices • Education • Healthcare • Retail

**Interactive Menu**

- Order Information [page 2](#)
- Product Specifications [page 3](#)
- Product Warranty

**Product Certification**



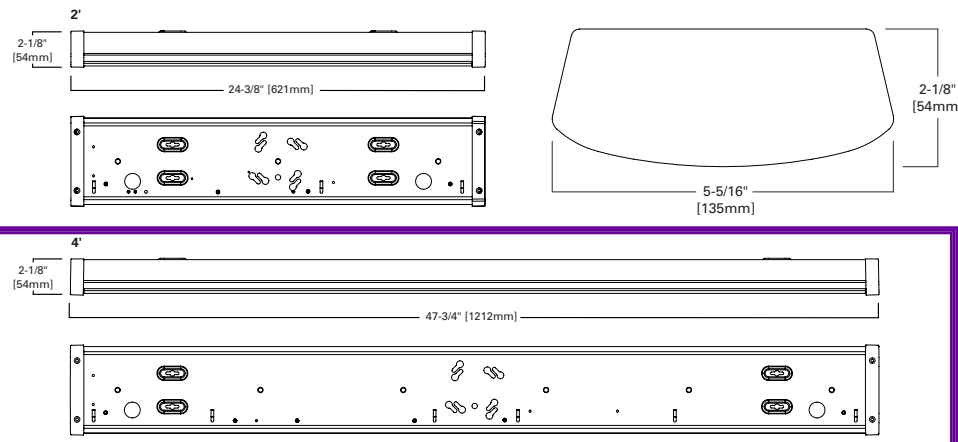
**Product Features**



**Top Product Features**

- Selectable CCT 3500K, 4000K, 5000K and selectable lumens up from 2,000-5,200 lumens
- Up to 143 lm/w efficiency, ideal for replacing two or three lamp fluorescent wraparounds (up to 96W equivalent)
- 0-10V dimming standard with 120-277V UNV
- Phase cut 120V triac dimming with "R" ordering option
- Suitable for ceiling, wall, or suspension mounting and row mounting
- DLC 5.1 Compliant
- Optional integrated microwave motion sensor (MS) available for 4' type

**Dimensional and Mounting Details**





**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 4NWS3C3-UNV

Notes:

**Type:**

**F**

SSI24-57406

**Metalux**

**NWS Wrap**

**Order Information and Performance Data**

Default CCT/Lumen Setting: 4000K / Med Power

Size	Catalog Number	UPC	Volt	Sensor	Lumen Setting	Nominal CCT	CRI	Delivered Nominal Lumens	Watts	Efficacy (lm/W)	Wt.	Units per Pallet
2 ft	2NWS3C3-UNV	080083257485	120-277V	NO	High	3500K	82	2,522	21.8	116	3.1 lbs.	224
						4000K	82	2,679	21.0	128		
						5000K	82	2,574	21.7	119		
					Medium	3500K	82	2,266	18.0	126		
						4000K	82	2,366	17.5	135		
						5000K	82	2,294	18.1	127		
					Low	3500K	82	2,009	15.8	127		
						4000K	82	2,087	15.3	136		
						5000K	82	2,032	15.8	128		
4ft	4NWS3C3-UNV	080083257522	120-277V	NO	High	3500K	82	4,937	40.6	122	4.6 lbs.	112
						4000K	82	5,272	38.9	136		
						5000K	82	5,010	40.7	123		
					Medium	3500K	82	4,324	33.1	130		
						4000K	82	4,498	31.8	141		
						5000K	82	4,357	33.2	131		
					Low	3500K	82	3,800	28.5	133		
						4000K	82	3,930	27.5	143		
						5000K	82	3,822	28.5	134		
4ft	4NWS3C3MS-UNV	080083257607	120-277V	YES	High	3500K	82	4,851	38.9	125	4.6 lbs.	112
						4000K	82	5,016	37.7	133		
						5000K	82	4,872	38.8	126		
					Medium	3500K	82	4,145	32.7	127		
						4000K	82	4,285	31.7	135		
						5000K	82	4,216	32.5	130		
					Low	3500K	82	3,675	28.7	128		
						4000K	82	3,766	27.8	135		
						5000K	82	3,729	28.5	131		
4ft	4NW35C3R	080083257447	120V	NO	3500L	3000K	82	3,830	35.8	107	4.6 lbs.	112
						3500K	82	4,124	34.0	121		
						4000K	82	3,954	35.5	111		

**Accessories**

Accessories (Order Separately)

EBPLED7W-User Installed, Remote Mount, 7 Watt LED Emergency Battery Pack  
 EBPLED14W-User Installed, Remote Mount, 14 Watt LED Emergency Battery Pack  
 Y-TOGGLE-10 2PK=(2) Y-Toggle Cable Kits at 10FT long

**Load Data**

	2'	4'
PF	>=0.98	>=0.98
THD%	<20%	<20%
Low Temp Start	-20	-20

**Shipping Data**

Catalog Base	Wt.	Units per Pallet
2NW	3.1 lbs.	224
4NW	4.6 lbs.	112



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
4NWS3C3-UNV

Notes:

**Type:**

**F**

SSI24-57406

**Metalux**

**NWS Wrap**

**Product Specifications**

**Construction**

- Cold rolled steel die form housing with finished ends
- Post painted with high gloss white powder coating
- High-impact plastic end caps

**Shielding**

- Smooth white lens provides glare-free performance
- Standard LED blended for wide area coverage
- Replaces 2 or 3-lamp fluorescents up to 96W

**Installation**

- Surface (wall or ceiling) mount via junction box or direct to surface
- Suspension mount capable using standard V-hook or Y-toggle mounting kits

**Electrical**

- Projected life of L70 at 50,000 hours
- Efficacy up to 143 lm/W
- Phase cut dimming down to 10% (120V)
- 0-10V dimming down to 10% for UNV skus (120-277V)
- User installed, remote mount, 7 & 14 Watt LED emergency battery pack options are available
- Default CCT/Lumen setting is 4000K and Med Power

**Compliance**

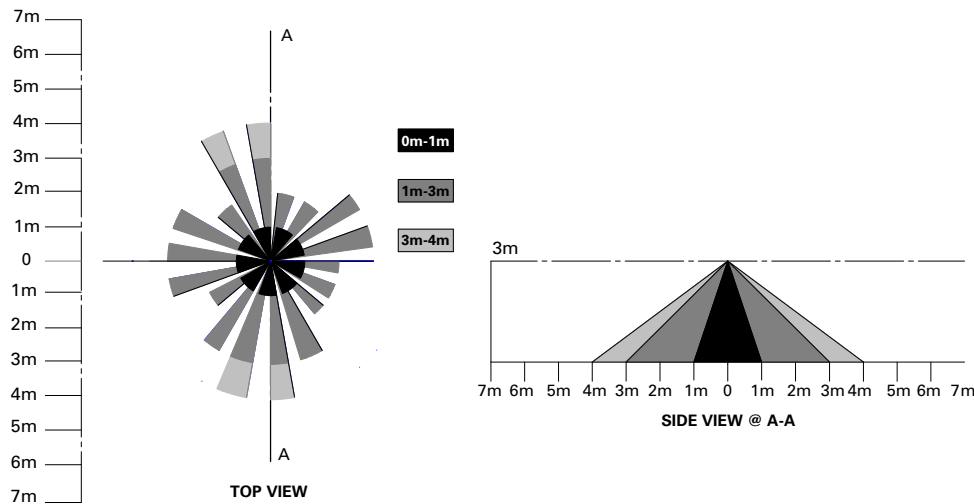
- UL/cUL listed for damp location
- Rated for -4F (-20C) to 104F (40C) ambient operating temperatures
- Meets FCC Part 15 Class B requirements
- RoHS compliant
- LED complies with IESNA LM-79 and LM-80
- ENERGY STAR® Certified luminaire (For 120V sku only) - consult ENERGY STAR® Certified Product List
- DLC 5.1 Standard Qualified

**Limited Warranty**

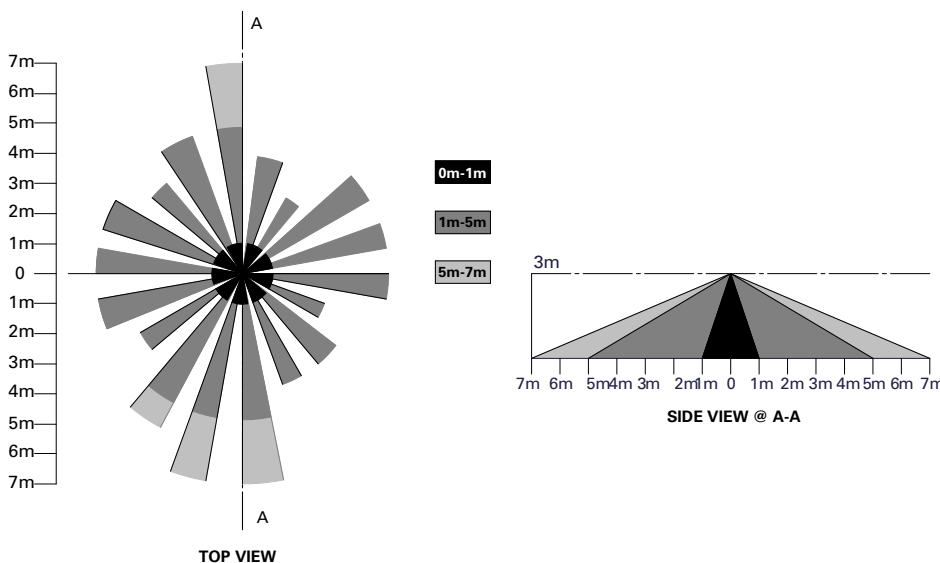
- Five year limited warranty

**Sensor Coverage ("MS" SKU Designation)**

**NWS SENSOR DETECTION 50% COVERAGE**



**NWS SENSOR DETECTION 100% COVERAGE**





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**Catalog Number:**

4NWS3C3-UNV

**Type:**

F

Notes:

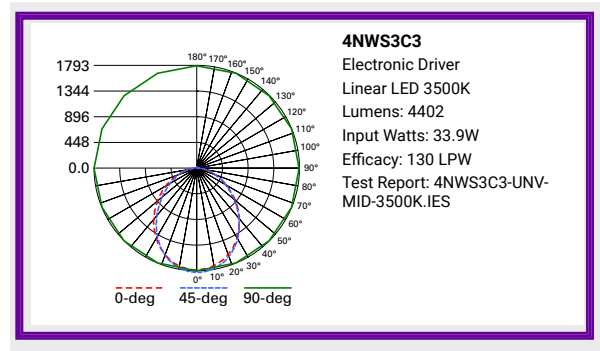
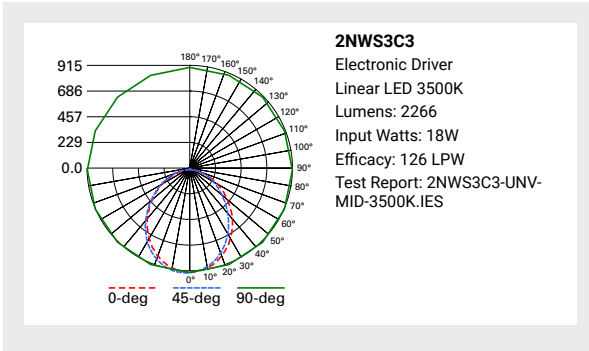
SSI24-57406

**Metalux**

**NWS Wrap**

**Photometric Data**

[View IES files](#)





**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
HU30MSCTD48P

Notes:

**Type:**

**F1**

SSI24-57406

Project		Catalog #		Type	
Prepared by		Notes		Date	



**HALO**

**HU30M**

Modular High Performance LED Under Cabinet

**Typical Applications**  
Residential • Commercial

**Interactive Menu**

- Order Information page 2
- Product Specifications page 4
- Product Warranty

**Product Features**



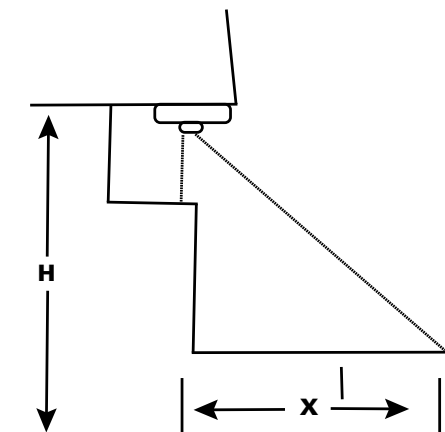
**Top Product Features**

- 5 selectable color temperatures: 2700K, 3000K, 3500K, 4000K and 5000K, 90 CRI
- Dim-To-Warm range: 2700K to 1800K (120V only)
- Field installable modular PIR Motion sensor accessory adds convenience and energy savings
- Field installable modular USB-A accessory port charges smart devices
- Universal voltage operates at 120V - 277V
- Smooth, continuous (ELV/TRIAC) dimming down to 5% at 120V with compatible dimmers
- 3/4" Sleek profile and even light distribution with low glare optics

**Dimensional and Mounting Details**

Mounting Height H (ft)	Maximum PIR Detection Distance <sup>4</sup> X (ft)
2	3.5
4	5.7
6	6.5

<sup>4</sup> Actual detection distance may vary based on multiple factors including but not limited to angle of moving object and reflectivity of surrounding surfaces. Table is provided for guidance purposes only.





**Job Name:**

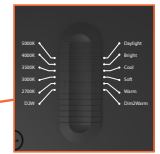
PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

Notes:

SSI24-57406

**HALO**

**HU30M**

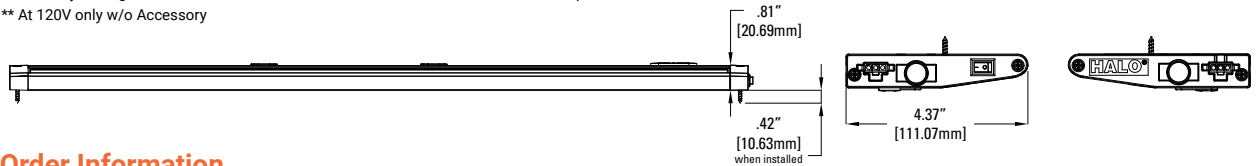


5 SeleCCTable CCT and Dim-To-Warm Switch

Size Description	9 in. Nominal	18 in. Nominal	24 in. Nominal	36 in. Nominal	48 in. Nominal	HU30M Series	
Length "L"	8.98"[228.1mm]	16.55"[420.4mm]	23.98"[609.1mm]	32.44"[824mm]	47.18"[1,198.4mm]	Power Factor**	>0.98
Wattage*	3.6	6.8	9.4	12.7	17.3	THD**	<20%
Lumens*	245	490	670	915	1275	Color Rendering Index (CRI)	>90
Efficacy - LPW*	68	72	71	72	74		
Nominal Lumens/ft	327	327	335	305	319		

\* At factory setting of 3000K for white fixtures, check Photometric data for individual specifications

\*\* At 120V only w/o Accessory



**Order Information**

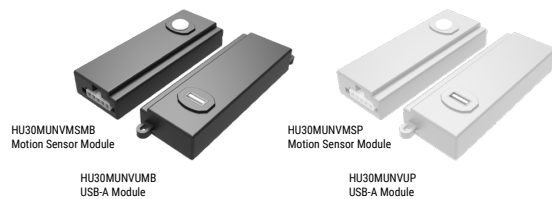
Sample number: HU30MSCTD24P: 24" White, Dimmable HU30M fixture, with 5 Selectable CCT and Dim-To-Warm

Family	Configuration <sup>1</sup> / Color Temp	Length	Finish
<b>HU30M</b>	<b>SCTD</b>	<b>48</b>	<b>P</b>
Family	Configuration <sup>1</sup> / Color Temp	Length	Finish
<b>HU30M = Halo Modular Premium Under Cabinet</b>	<b>SCTD= SeleCCTable CCT with Dim2Warm</b>	09= 9 inch <sup>1</sup> 18= 18 inch <sup>2</sup> 24= 24 inch 36= 36 inch 48= 48 inch	<b>P= White</b> MB= Matte Black
<b>Notes</b> Default factory setting= 3000K		<b>Notes</b> <sup>1</sup> Not field upgradable with PIR or USB. <sup>2</sup> Field upgradable with only one of the modular accessories (either PIR or USB, not both).	

	PIR Sensor	USB-A Module
9 Inch	No	No
18 Inch	PIR Sensor Or USB-A Module	
24 Inch	Yes	Yes
36 Inch	Yes	Yes
48 Inch	Yes	Yes

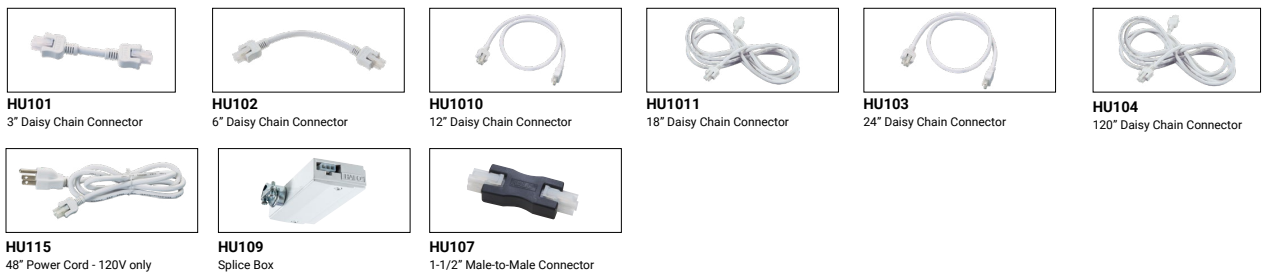
**Modular Accessories(ordered separately)\***  
**HU30MUNVUP**= USB-A Module, White  
**HU30MUNVMS**= Motion Sensor Module, White  
**HU30MUNVMB**= USB-A module, Matte Black  
**HU30MUNVMSMB**= Motion Sensor Module, Matte Black

\* Accessories are field-installable inside the fixture and will not change the overall fixture dimension. See installation instructions for details



24" Fixture with USB-A port and PIR module installed

**Connectors & Accessories**



Finish: P = White; MB = Matte Black

Example: HU101P = 3" Daisy Chain Connector, White



**Job Name:**  
 PRIOR SUBMITTAL / DISTRICT ATTORNEY  
 OFFICE COMPLEX RENOVATION 24767  
 Architect: LLOYD & ASSOCIATES (Santa Fe)  
 Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
 HU30MSCTD48P

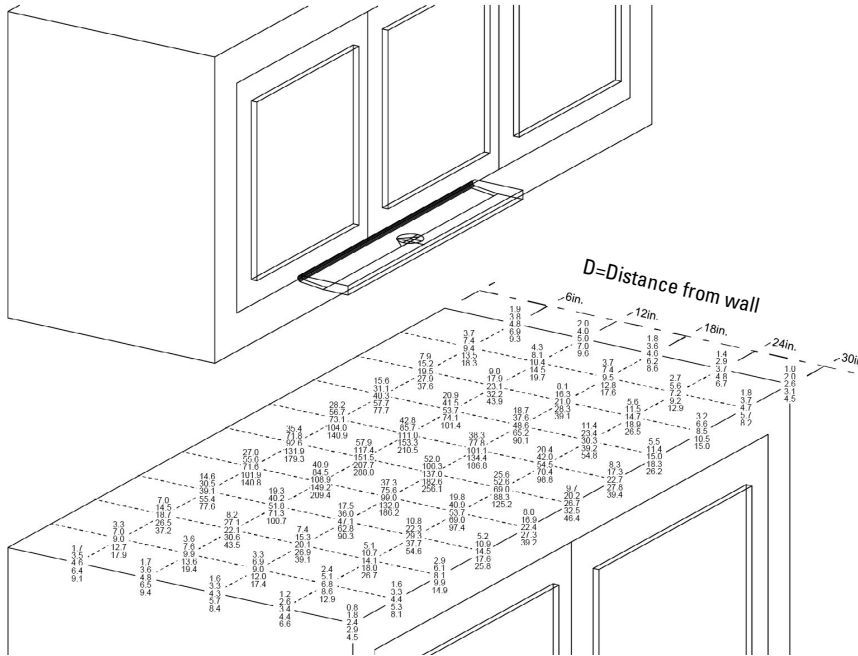
Notes:

**Type:**

**F1**

SSI24-57406

**HALO** **HU30M**



15" Mounting Height											
Top Number Report - HU30MSCTD09P											
Second Number Report - HU30MSCTD18P											
Third Number Report - HU30MSCTD24P											
Fourth Number Report - HU30MSCTD36P											
Bottom Number Report - HU30MSCTD48P											
Width											D
30in	24in	18in	12in	6in	0in	6in	12in	18in	24in	30in	
1.7	3.3	7.0	14.6	27.0	35.4	28.2	15.6	7.9	3.7	1.9	6in
3.5	7.0	14.5	30.5	55.6	71.8	56.7	31.1	15.2	7.4	3.8	
4.6	9.0	18.7	39.1	71.6	92.6	73.1	40.3	19.5	9.4	4.8	
6.4	12.7	26.5	55.4	101.9	131.9	104.0	57.7	27.9	13.5	6.9	
9.1	17.9	37.2	77.6	140.8	179.3	140.9	77.7	37.6	18.3	9.3	
1.7	3.6	8.2	19.3	40.9	57.9	42.8	20.9	9.0	4.3	2.0	
3.6	7.6	27.1	40.2	84.5	117.4	85.7	41.5	17.9	8.1	4.0	
4.8	9.9	22.1	51.8	108.9	151.5	111.0	53.7	23.1	10.4	5.0	
6.5	13.6	30.6	71.3	149.2	207.7	153.3	74.1	32.2	14.5	7.0	
9.4	19.4	43.5	100.7	209.4	288.0	210.5	101.4	43.9	19.7	9.6	
1.6	3.3	7.4	17.5	37.3	52.0	38.3	18.7	8.1	3.7	1.8	
3.3	6.9	15.3	36.0	75.6	106.3	77.8	37.6	16.3	7.4	3.6	
4.3	9.0	20.1	47.1	99.0	137.0	101.1	48.6	21.0	9.5	4.6	
5.7	12.0	26.9	62.8	132.0	182.6	134.4	65.2	28.3	12.8	6.2	
8.4	17.4	39.1	90.3	186.2	256.1	186.8	90.1	39.1	17.6	8.6	
1.2	2.4	5.1	10.8	19.8	25.6	20.4	11.4	5.6	2.7	1.4	
2.6	5.1	10.7	22.3	40.9	52.6	42.0	23.4	11.5	5.6	2.9	
3.4	6.8	14.1	29.3	53.7	69.0	54.5	30.3	14.7	7.2	3.7	
4.4	8.6	18.0	37.7	69.0	88.3	70.4	39.2	18.9	9.2	4.8	
6.6	12.9	26.7	54.6	97.4	125.2	98.8	54.8	26.5	12.9	6.7	
0.8	1.6	2.9	5.2	8.0	9.7	8.3	5.5	3.2	1.8	1.0	
1.8	3.3	6.1	10.9	16.9	20.2	17.3	11.4	6.6	3.7	2.0	
2.4	4.4	8.1	14.5	22.4	26.7	22.7	15.0	8.5	4.7	2.6	
2.9	5.3	9.9	17.6	27.3	32.5	27.8	18.3	10.5	5.7	3.1	
4.5	8.1	14.9	25.8	39.2	46.4	39.4	26.2	15.0	8.2	4.5	

18" Mounting Height											
Top Number Report - HU30MSCTD09P											
Second Number Report - HU30MSCTD18P											
Third Number Report - HU30MSCTD24P											
Fourth Number Report - HU30MSCTD36P											
Bottom Number Report - HU30MSCTD48P											
Width											D
30in	24in	18in	12in	6in	0in	6in	12in	18in	24in	30in	
2.1	4	7.7	14.4	23.7	29.2	24.6	15.3	8.4	4.4	2.4	6in
4.5	8.4	16	30	48.5	59.4	49.4	30.8	16.5	8.8	4.8	
5.8	10.7	20.6	38.4	62.6	76.7	63.9	39.6	21.4	11.3	6.1	
8.1	15.1	29	54.1	88.1	107.8	89.9	56.1	30.3	16	8.7	
11.5	21.3	40.8	75.8	122.2	147.2	122.5	76.2	41	21.7	11.7	
2.2	4.3	8.8	17.8	31.7	40.8	33.2	19.1	9.6	4.8	2.5	
4.7	9	18.3	37	65.9	83	66.6	37.7	19.1	9.5	5	
6.1	11.7	23.7	47	84.4	107.2	86	49.1	24.6	12.3	6.4	
8.3	16.1	32.5	65.2	115.2	146.1	117.8	67.6	34.1	17	8.9	
11.9	23	46.3	92.4	162	203	162.4	92.7	46.6	23.2	12.1	
2	4	8	16.3	29	36.9	29.6	17.2	8.7	4.4	2.3	
4.3	8.2	16.6	33.6	59.2	74.9	60.4	34.7	17.5	8.8	4.6	
5.6	10.8	21.7	43.7	76.9	96.9	78.2	44.8	22.6	11.3	5.9	
7.4	14.4	29.1	58.3	102.5	129.4	104.2	60.3	30.4	15.2	7.9	
10.8	20.9	41.9	83.2	144.2	181	144.6	83.4	42	21	10.9	
1.6	3.1	5.9	10.9	17.6	21.4	18.1	11.4	6.2	3.4	1.8	
3.4	6.4	12.1	22.5	36.5	44.4	37	23.4	12.9	6.9	3.8	
4.5	8.4	15.9	29.5	47.5	57.6	48.3	30.3	16.5	8.8	4.8	
5.8	10.8	20.6	38.4	61.8	74.4	62.8	39.5	21.5	11.5	6.3	
8.7	16	30.1	54.9	87.1	105.1	87.9	55.2	29.9	16	8.7	
1.2	2	3.6	5.9	8.4	10	8.8	6.2	3.8	2.3	1.3	
2.5	4.3	7.5	12.3	17.8	20.6	18.2	12.9	8	4.7	2.8	
3.3	5.7	9.9	16.3	23.5	27	23.7	16.7	10.3	6	3.5	
4.1	7.1	12.3	20.3	29.3	33.7	29.7	21	13	7.5	4.4	
6.2	10.7	18.2	29.3	41.7	48.1	41.9	29.8	18.4	10.7	6.2	



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
HU30MSCTD48P

Notes:

Type:

**F1**

SSI24-57406

**HALO****HU30M****Product Specifications****Even Light Distribution**

- Specialized optical system consisting of tightly clustered proximity phosphor LEDs, advanced optical chamber coatings and lens materials resulting in soft illumination with high efficiency.
- These fixtures are ideal for task lighting over glossy surfaces with no distracting shadow patterns.

**Color Temperature**

6 Position external selector which includes a 5 CCT SeleCCTable color temperature switch that allows users to choose between 2700K, 3000K, 3500K, 4000K and 5000K, and an additional Dim-To-Warm setting (D2W range- 2700K to 1800K at 120V), for the customer's lighting need.

**PIR Motion Sensor Module**

- Offered as a field installable modular accessory, the PIR technology based motion sensor allows for the fixture on/off to be managed based on movement detection. The HU30M PIR sensor works as an occupancy/vacancy sensor which activates the fixture when motion is detected and turns off the fixture when no motion is detected for 8 continuous minutes. See table on Page 1 for detection distances.

**USB-A Module**

- The USB-A port is offered as a field installable modular accessory. The USB output supplies 5V, 2A and is useful for charging many smart devices and accessories requiring a USB-A input.

**Wiring Flexibility**

User can power a fixture with multiple options: (See installation instructions for more details)

- Flexible conduit or romex can be used directly to either end of back of any size fixture to power the fixtures. Conduit connector and romex strain relief hardware are included with each fixture.
- Plug in cord (sold separately) can be utilized to link additional fixtures to the circuit. (120V only)

User can wire multiple fixtures with different options: (See installation instructions for more details)

- Wiring multiple fixtures can be done using flexible conduit or romex directly to either end of back of any size fixture. Conduit connector and romex strain relief hardware are included with each fixture.
- Plug in connectors (sold separately) can be utilized to link additional fixtures to the circuit.
- Link any combination of fixtures up to 440W total load using available wiring options.

**Durable Low Profile Housing**

Extruded aluminum housing and color matched end caps with a sleek over all height of 3/4".

**Mounting**

Each unit is secured directly to the mounting surface with just two fasteners keeping installation costs and efforts low. Can be mounted in horizontal and vertical orientations.

**Optional Accessories**

- PIR Motion sensor, USB-A port and optional splice box are accessories offered for the HU30M series. The optional splice box has a connection port on each side to allow for runs in either or both directions. Includes Romex/ 1/2" conduit connector.
- Various connector cable options and lengths provide flexibility of mounting location.

**Finish Options**

Fixtures and accessories are available in both White (P) and Matte Black (MB) finishes.

**Electronic Driver & Dimming**

- Universal Voltage (120-277V, 50/60Hz) Electronic driver provides flicker free light output and noise free operation.
- Universal Voltage electronic driver is controlled with an integral on/off switch.
- Designed for continuous dimming (ELV or TRIAC) down to 5% at 120V with compatible dimmers.

**Compliance & Certifications**

- UL Certified
- Can be used to meet IECC, ASHRAE commercial and residential standards
- FCC rated driver
- Can be used for State of California Title 24 high efficacy LED compliance under JA8
- Damp location listed
- Closet rated
- ENERGY STAR® certified

**Factory Defaults**

The fixtures will be set to the following default where applicable:

- CCT: 3000K

**Warranty**

Five-year limited warranty, consult website for details. [www.cooperlighting.com](http://www.cooperlighting.com)

\* See our website for dimming guidance information. [www.cooperlighting.com](http://www.cooperlighting.com)



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

Notes:

SSI24-57406

# Sure-Lites

**DESCRIPTION**

The LED APC series is UL924 code compliant solution for indoor exit and emergency requirements that will operate for a minimum of 90 minutes during a power outage. The LED emergency heads are adjustable and the nickel cadmium battery requires no maintenance. The exit features an LED source with red letters, is field configurable for single or double face and any chevron arrangement. The polycarbonate housing is universal mount ( ceiling, wall or end ) and features a white finish. The high powered remote capable versions (H series) provides 3 watts of remote capacity and is compatible with the SureLites SRP/SRM series. This combination can create up to 35 feet of total emergency egress coverage.

<b>Catalog #</b>		<b>Type</b>	
<b>Project</b>			
<b>Comments</b>		<b>Date</b>	
<b>Prepared by</b>			

**SPECIFICATION FEATURES**

**Electrical**

- Dual Voltage Input 120/277VAC, 60Hz
- Line-latching
- Solid-State Voltage Limited Charger
- Solid-State Switching
- Brownout Protection
- Low Voltage Disconnect
- Overload/Short Circuit Protection
- Test Switch / Power Indicator Light
- High Power Combo available capable of providing 3 watts of remote capacity at 9.6 volts
- 1 watt DC long Lasting LED Heads

- Snap-out or snap-in chevron directional indicators have full 3/4" stroke
- Universal exits can be field configured as single face or double face
- Snap-fit canopy with captive mounting screws included with all exits
- Exit can be ceiling or end mounted
- Universal J-box mounting pattern
- Operating temperature range 10 °C to 40 °C

- California Energy Code compliant

**Lamp Data**

- AC LED: Long life LED lamps provide uniform diffused illumination
- DC: LED DC lamps (Brighter in emergency mode)
- Long Life LED Heads Light Output Equivalent to 5.4W Incandescent

**Warranty**

- Five-year warranty
- Seven-year prorated battery warranty

**Housing Construction**

- All components are injection molded, color stable, high impact polycarbonate material
- Textured finish available in white
- Provide maximum strength
- All components including battery and electronics are located inside the exit housing

**Battery**

- Sealed nickel cadmium
- Maintenance free, long life
- Full recharge time: 24 hrs (max.)

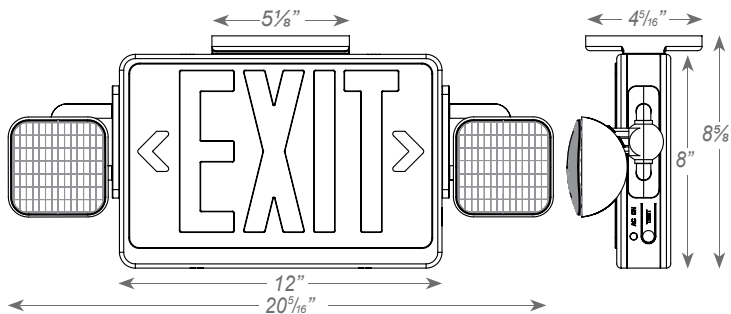
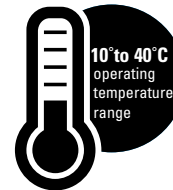
**Code Compliance**

- UL 924 Listed
- UL Damp Location Listed
- Life Safety NFPA 101
- NEC/OSHA
- Most State and Local Codes



## APC/APCH SERIES

- POLYCARBONATE EXIT
- SELF POWERED
- EMERGENCY
- LED LAMPS
- EXIT LIGHTING
- COMBO LIGHTING



**ORDERING INFORMATION**

SAMPLE NUMBER: APXH7R2

Series	Remote Capacity	Battery	Letter Colors	Head Shape	Catalog numbers
APC	_ = none	7 = nickel cadmium battery	R = Red	SQ = square	APC7RSQ
	H = 3 watts				APCH7RSQ

**ENERGY DATA**

Model APC7RSQ	Model APCH7RSQ
Input Power: 120V = 3.7W 277V = 3.8W	Input Power: 120V = 3.4W 277V = 3.6W
Input Amps: 120V = 0.04A 277V = 0.02A	Input Amps: 120V = 0.033A 277V = 0.015A



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

APC7RSQ

Notes:

**Type:****EXIT**

SSI24-57406

APC7RSQ/APCH7RSQ SERIES EXITS WITH REMOTE CAPACITY

**TECHNICAL DATA****Lamps**

The AP Series Exits with Heads use energy efficient, long life LED's to provide uniform diffuse illumination of the exit face. The low operating costs and zero maintenance requirement makes LED lamps the wisest choice for exit signs today.

**Housing Construction**

Rugged, durable, injection molded thermoplastic materials are used throughout the AP Series Exits with Heads. All structural components are designed with reinforcing ribs to add additional rigidity and to maximize structural integrity. These materials are impact and scratch resistant, and they have been UV stabilized to resist discoloration due to age and ultraviolet radiation. All components are designed to be of snap-fit construction - no mechanical fasteners - to facilitate installation in under 5-minutes. Any components required for installation (wirenuts, wire leads, universal metal J-box bracket, etc.) are all included with each exit. The universal design of the AP Series Exits with Heads enables universal exits to be configured as single face or double face in the field. The AP Series Exits with Heads can be wall, ceiling, or end mounted; a rugged, snapfit, low profile canopy with captive screws is included with every exit for ceiling and end mounting applications. Housing available in white.

**Lens**

Lenses for the AP Series Exits with Heads are made from durable impact resistant thermoplastic. All exit faces are designed with full 3/4" stroke snap-out or snap-in chevron directional indicators to insure maximum visibility and compliance with the latest codes.

**Line-Latched**

All Pro's line-latched electronic circuitry makes installation easy and economical. A labor efficient AC activated load switch prevents the lamps from turning on during installation to a non-energized AC circuit. Line-latching eliminates the need for a contractor's return to a job site to connect the batteries when the building's main power is turned on.

**Solid-State Charger**

Supplied with a 120/277 VAC, voltage regulated solid-state charger. Immediately upon restoration of AC current after a power failure, the charger provides a high charge rate. The charge circuit reacts to the condition of the battery and regulates the charging process in order to maintain peak battery capacity and maximize battery life. Solid-state construction recharges the battery following a power failure in accordance with UL 924.

**Brownout Circuit**

The brownout circuit on All Pro's exits monitors the flow of AC current to the exit and activates the emergency lighting system when a predetermined reduction of AC power occurs. This dip in voltage will cause most ballasted fixtures to extinguish causing loss of normal lighting even though a total power failure has not occurred.

**Solid-State Transfer**

The AP Series Exits with Heads incorporates solid-state switching which eliminates corroded and pitted contacts or mechanical failures associated with relays. The switching circuit is designed to detect a loss of AC voltage and automatically energizes the lamps using DC power. Upon restoration of AC power, the DC power will be disconnected and the charger will automatically recharge the battery.

**Low Voltage Disconnect**

When the battery's terminal voltage falls, the low voltage circuitry disconnects the lighting load. The disconnect remains in effect until normal utility power is restored, preventing deep battery discharge.

**Test Switch/Power Indicator Light**

A test switch located on the bottom of the exit permits the activation of the emergency circuit for a complete operational systems check. The Power Indicator Light provides visual assurance that the AC power is on.

**Overload and Short Circuit Protection**

The solid-state overload monitoring device in the DC circuit disconnects the lamp load from the battery should excessive wattage demands be made and automatically resets when the overload or short circuit is removed. This overload current protective feature eliminates the need for fuses or circuit breakers for the DC load.

**Sealed Nickel Cadmium Battery**

All Pro Emergency sealed nickel cadmium batteries are maintenance-free with a life expectancy of 10 years. The sealed rechargeable nickel cadmium battery offers high discharge rates and stable performance over a wide range of temperatures. The specially designed resealable vent automatically controls cell pressure, assuring safety and reliability. This battery is best suited for harsh ambient temperatures because the electrolyte is not active in the electrochemical process.

**Warranty**

All-Pro products are backed by a five-year warranty.



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
AP2SQLED30

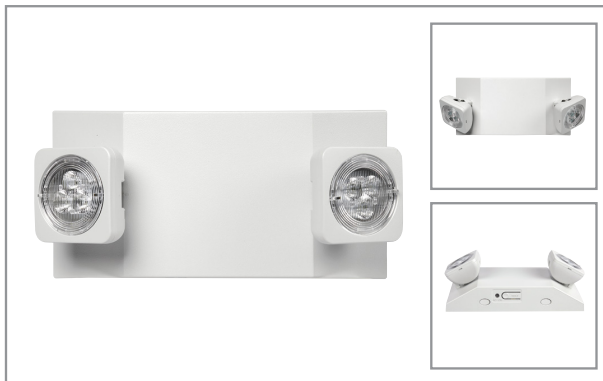
Notes:

**Type:**

**EM**

SSI24-57406

<b>Project</b>		<b>Catalog #</b>		<b>Type</b>	
<b>Prepared by</b>		<b>Notes</b>		<b>Date</b>	



## Sure-Lites

### All-Pro AP2SQLED30

LED Emergency Light  
30 Feet Egress Coverage  
Sealed Nickel Cadmium Battery

**Typical Applications**

Office • Education • Healthcare • Hospitality • Retail • Manufacturing

**Interactive Menu**

- Order Information page 2
- Photometric Data page 2
- Technical Data page 3
- Product Warranty

**Product Certification**



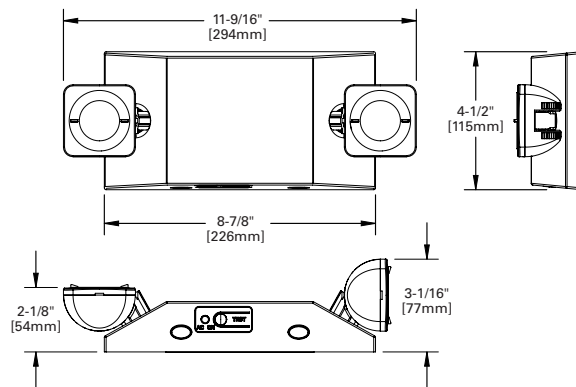
**Product Features**



**Top Product Features**

- Provides emergency lighting for a minimum of 90 minutes
- UL 924 damp location listed
- Adjustable heads provide up to 30 feet of emergency egress coverage
- Wall or ceiling mount
- 3.6V, 1.5W DC long lasting LED heads
- Dual voltage input 120/277 VAC, 60 Hz
- Universal J-box mounting pattern
- Operating temperature range of 0°C to 50°C

**Dimensional Details**





**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**  
AP2SQLED30

Notes:

**Type:**

**EM**

SSI24-57406

**Sure-Lites All-Pro AP2SQLED30**

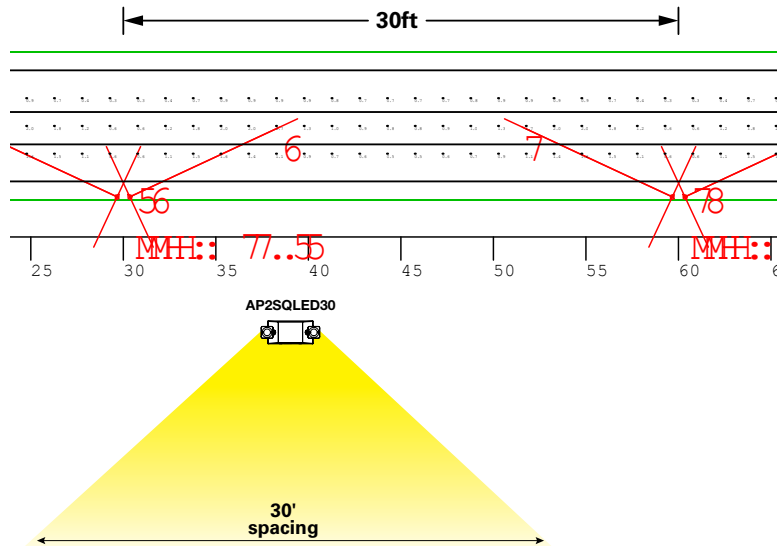
**Order Information**

SAMPLE ORDER NUMBER: **AP2SQLED30**

[View IES files](#)

<b>AP</b>	<b>2SQLED</b>		<b>30</b>	
Series	Heads	Battery	Coverage	Catalog Numbers
AP=All-Pro	2SQLED=Two Square LED Heads	[Blank]=Nickel Cadmium Battery	30=30 feet	AP2SQLED30

**AP2SQLED30 Photometry**



X	Y	Z	Orient	Tilt
-30.3	0.2	7.5	155	50
-129.7	0.2	7.5	25	50
-0.3	0.2	7.5	155	50
0.3	0.2	7.5	25	50
29.7	0.2	7.5	155	50
30.3	0.2	7.5	25	50
59.7	0.2	7.5	155	50
60.3	0.2	7.5	25	50
89.7	0.2	7.5	155	50
90.3	0.2	7.5	25	50
119.7	0.2	7.5	155	50
120.3	0.2	7.5	25	50

\*\*\*The "Rule of Thumb" spacing guidelines are designed to achieve 1 foot-candle average and 0.1 foot-candle minimum with a 40:1 maximum/minimum ratio. The corridor used is 100 feet long, 12 foot ceiling with an 8 foot wide walkway and 3 foot path of egress. The reflectances are 80% ceiling, 50% walls and 20% floors. The fixture mounting height is 7.5 feet. Cooper Lighting Solutions assumes no responsibility for local requirements or specific project variables. This is a guideline to be used as a design aid, not as guarantee of any code compliance.

**Product Specifications**

**Electrical**

- Dual Voltage Input 120/277VAC 60Hz
- Line-latching
- Brownout circuit
- Low Voltage Disconnect
- Overload/Short Circuit Protection
- Test Switch/Power connector facilitates installation
- 3.6V, 1.5W DC Long Lasting LED Heads

- Suitable for wall or ceiling mount applications
- Universal J-box mounting pattern
- Keyhole mounting slots
- Available in white

**Head/Lamp Data**

- Long Life LED Emergency Heads
- Two heads standard
- Fully adjustable
- High impact thermoplastic
- Matches housing finish

**Housing Construction**

- All components are injection molded, color stable, high impact thermoplastic material
- Designer textured finish standard
- Components are of snap-fit construction to facilitate under 5-minute installation
- Reinforcing ribs throughout to provide maximum strength

**Battery**

- Sealed nickel cadmium
- Maintenance-free, long-life
- Full recharge time: 24 hrs (max.)

**Warranty**

- Five-year limited product warranty
- Seven-year limited prorated battery warranty

**Code Compliance**

- UL 924 Damp Location Listed
- Life Safety NFPA 101
- NEC/OSHA
- Operating temperature range 0 °C to 50 °C
- California Energy Code compliant

**Energy Data**

Model	Input Power 120V	Input Power 277V	Input Current 120V (Max.)	Input Current 277V (Max.)
AP2SQLED30	0.33W	0.47W	.06A	.07A

**Electrical Ratings**

Model	DC Voltage	1.5 Hours
AP2SQLED30	3.6 Volts	1.5 Watts

Note: Each Long Life LED Emergency Head replaces a 10 Watt Incandescent lamp.



**Job Name:**

PRIOR SUBMITTAL / DISTRICT ATTORNEY  
OFFICE COMPLEX RENOVATION 24767  
Architect: LLOYD & ASSOCIATES (Santa Fe)  
Engineer: AC ENGINEERING ENTERPRISES, LLC

**Catalog Number:**

AP2SQLED30

Notes:

**Type:****EM**

SSI24-57406

**Sure-Lites****All-Pro AP2SQLED30****Technical Data****Description**

The AP2SQLED30 is an UL 924 listed emergency light with a minimum of 90 minutes of run time and 30 feet of emergency egress coverage. Key features include square LED heads, a no maintenance nickel cadmium battery and a five year fixture warranty. The square LED heads are fully adjustable to maximize design flexibility. The universal j-box mounting pattern and snap fit housing construction significantly reduce installation time.

**LED Heads**

- Horizontal and vertical rotatable, fully adjustable
- 3.6V, 1.5W DC LED heads

**Housing Construction**

- Rugged, durable, injection molded thermoplastic materials
- Structural components designed with reinforcing ribs for additional rigidity and structural integrity
- Impact and scratch resistant
- UV stabilized to resist discoloration due to age and ultraviolet radiation
- Snap-fit construction (no mechanical fasteners) to facilitate installation in under five minutes
- Mounting plate's keyhole mounting slots and universal mounting pattern provides quick, efficient installation
- Installation components included (wire nuts, wire leads, etc.)
- Wall or ceiling mounting
- Housing color available in white

**Line-Latched**

- Line-latched electronic circuitry for easy and economical installation
- Line-latching eliminates contractor's return to site to connect the batteries when the building's main power is turned on
- Labor efficient AC activated load switch prevents lamps from turning on during installation to a non-energized AC circuit

**Solid-State Charger**

- 120/277 VAC, voltage regulated solid-state charger
- High charge rate immediately following power restoration of AC current after a power failure
- Charge circuit reacts to the condition of the battery and regulates the charging process in order to maintain peak battery capacity and maximize battery life
- Solid-state construction recharges the battery following a power failure in accordance with UL 924

**Brownout Circuit**

- Monitors the flow of AC current
- Activates the emergency lighting system when a predetermined reduction/dip of AC power occurs (a dip in voltage will cause most ballasted products to extinguish, causing loss of normal lighting even though a total power failure has not occurred)

**Low Voltage Disconnect**

- Low-voltage circuitry disconnects the lighting load when battery's terminal voltage falls
- Disconnect remains in effect until normal utility power is restored, preventing deep battery discharge

**Test Switch/Power Indicator Light**

- Switch permits the activation of the emergency circuit for complete operational systems check
- Indicator light provides visual assurance that the AC power is on

**Sealed Nickel Cadmium Battery**

- Sealed, maintenance-free nickel cadmium battery with 10-year life expectancy
- Rechargeable battery offers high discharge rates and stable performance over a wide range of temperatures

**Limited Warranty**

- Five-year limited warranty against defects in material and workmanship
- Nickel cadmium battery has a seven-year prorated warranty

# LOAD CONTROLLER MODULE

FOR RECEPTACLES AND WALL BOXES

ERM-FL

## Overview

The Load Controller Module is a versatile control device that can be used in a large number of applications. As a lighting controller, it provides: ON/OFF lighting, timed switch lighting, daylight harvesting, photo inhibit, occupancy based or vacancy based lighting control.

The controller activates electrical loads with received input from a linked sensor or switch transmitting:

- ambient light levels monitored by a wireless photo sensor
- occupancy state monitored by a wireless occupancy sensor
- switch action from a wireless single or dual paddle wall switch
- switch action from a wireless key card switch
- switch action from a wireless door/window (reed) switch
- gateway control implementing schedules or other events

The controller can be used in distributed process applications to eliminate troublesome wiring runs using linked wireless electrical switches. A low voltage or line voltage event can be transmitted to the load controller triggering the 15 amp relay output connected to any electrical load.

The load controller fits equally as well into hospitality applications. Responding to linked key card switches that monitor suite occupancy, control can be added to lighting or other electrical circuits to disable the loads when the suite is vacant. The controller can also be used to enable and disable air-conditioning equipment based on the occupancy state and/or patio door position.

Other features include telegram repeating and BEMS system integration allowing the controller to be used both in distributed control applications or as a component of a centralized system.

The controller is Range Confirmation® compatible, working with all Echoflex sensors equipped with the Range Confirmation® feature to provide visual feedback of a linked sensors signal strength for optimal sensor placement.

Echoflex offers pre-linking and pre-commissioning on all products sold as a system through Echoflex. In addition to this service, Echoflex provides several methods of configuring and verifying controller operation once installed on-site:

1. Use the linked sensors and Simple Tap™ to make quick changes to individual controllers.
2. Use Smart Click® to access more configuration parameters using a linked switch.
3. To access the full menu of configuration parameters, Echoflex's Garibaldi software is a PC based tool that includes hands-free commissioning.



## Features

- Use for controlling lighting or HVAC circuits or any miscellaneous electrical load
- Occupancy based lighting controls with auto- ON/OFF or manual ON, auto-OFF using wireless occupancy sensors
- Daylight harvesting and photo-inhibit modes
- Monitors linked battery-free wall, key card and proximity (reed) switches, photo sensors and occupancy sensors
- Range Confirmation® allows optimal placement of linked sensors (Echoflex sensors with Range Confirmation® feature only)
- Central Command support for BEMS gateway control
- Supports commissioning via Smart Click®, Simple Tap™ or Garibaldi (remote management) software
- Assign up to 20 battery-free wireless wall switches or sensors to one controller
- Reliable radio reception range of 24 m (80 ft) - commercial office spaces (typical), up to 100m (330 ft) line of sight
- Low-cost alternative to running wires and conduit - ideal for retrofit projects
- Doubles as a telegram repeater
- Available in 868 and 902 MHz frequencies
- CEC - Title 24 Compliant

## Ordering Information

Description	902 MHz Model	902 MHz PN	868 MHz Model	868 MHz PN
Load Controller Module 120 VAC	ERM-FLU	8189A1117-X-1	ERM-FLY	8189A1315-X-1

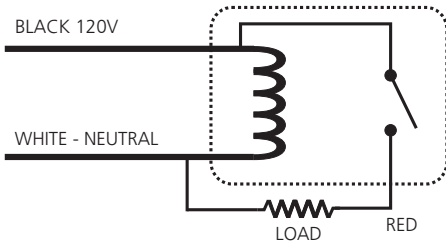


### Echoflex Solutions

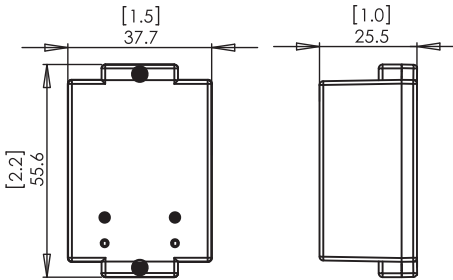
38924 Queens Way, Unit #1, Squamish, BC, V8B 0K8, Canada ■ +1 778-733-0111  
echoflexsolutions.com ■ Document Part# 8DC-0505 ■ Rev 2.0 ■ 11/19

# ERM-FL

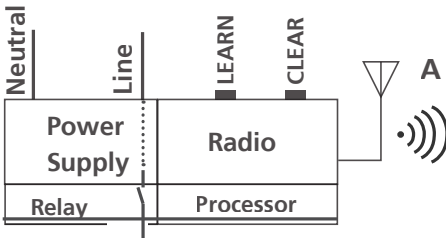
## Wiring Diagram



## Dimensional Diagram



## Block Diagram



## Equipment Profiles - Remote Devices Supported

EEP: F6-02-02	Light and Blinds Control
EEP: A5-06-02	Light Sensor [range 0 - 1024 lux]
EEP: A5-07-01	Occupancy Sensor
EEP: F6-04-01	Key Card Activated Switch
EEP: A5-30-02	Single Input Contact (doors and windows)
EEP: A5-38-08	Central Command, switching (0x01), set point (0x03)
EEP: A5-10-0A/0B	Room Operating Panel
EEP: D5-00-01	1BS Contact and Switches

## Hardware Specifications

Power Supply	120 VAC
Power Consumption	2.5 W max. full load
Outputs	N.O. Relay rating 15A@ 120 VAC 2 x LEDs, Learn (green) and Power(red)
Inputs	LEARN and CLEAR buttons for sensor assignment
Maximum Load Ratings	
Incandescent/Tungsten	1800W @ 120 VAC
General Purpose & Fluorescent Ballast	15A @ 120 VAC

## Communications

Radio Frequency	902 MHz and 868 MHz
Antenna	Whip
Transmission Range	24 m (80 ft) - commercial office spaces(typical), up to 100m (330 ft) line of sight

## Mechanical Specifications

Operating Temperature	-10 °C to 40 °C (14 °F to 104 °F) ambient
Relative Humidity	5% to 95% RH (non-condensing)
Weight	60 g (2.2 oz.)
Dimensions	56 x 38 x 26 mm (2.2 x 1.5 x 1.0")

## Agency Listing & Compliance

CEC Title 24 Compliant

### Safety

- ETL Listed Component
- Conforms to UL Standard 508
- Certified to CAN/CSA Std. C22.2 No.14

### Radio Frequency (902 MHz only)

- FCC Part 15.231 - Remote Control Transmitter
- IC RSS-210



Specifications are subject to change without notification | Range Confirmation is an Echoflex Solutions, Inc. patented technology | Simple Tap is a trademark of Echoflex Solutions, Inc.



### Echoflex Solutions

38924 Queens Way, Unit #1, Squamish, BC, V8B 0K8, Canada ■ +1 778-733-0111  
 echoflexsolutions.com ■ Document Part# 8DC-0505 ■ Rev 2.0 ■ 11/19



## Overview

The Emergency Bypass Load Controller is a UL 924 listed device that is powered from an emergency source and provides power to emergency lighting load(s). The controller ensures a “lights on state” during loss of normal power while tracking the state of normal lighting loads during normal operation. The EREB-A also assures a “lights on” override by utilizing a normally closed emergency contact closure which interfaces with fire alarms and emergency systems.

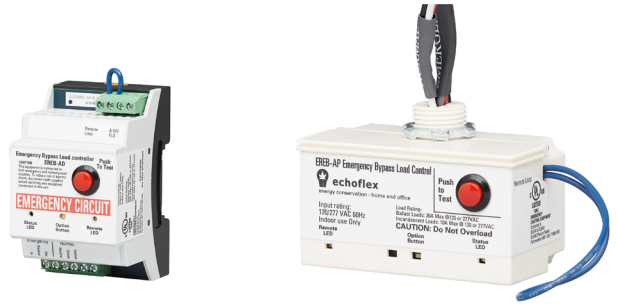
The EREB is available in two models for installation convenience including a “power pack” format (EREB-AP) and DIN-rail (EREB-AD).

As an integral component to the normal lighting system, the EREB monitors circuit power and control of the lights via other devices and operates the emergency lights in conjunction with normal lighting. In the event of a power loss, the emergency lights are immediately operated.

The EREB can also be wired as a shunt around circuit switching or dimming devices so lights operate in emergency conditions.

The EREB is ideally suited for retrofit or new construction applications where emergency circuits are lit 24 hours. Integrating these circuits with the lighting system saves energy while strictly adhering to NEC requirements.

The EREB is compatible with lighting control systems, schedulers, motion based lighting, and dimming systems.



## Features

- Automatic control of emergency power output to fixture or single zone emergency lighting upon loss of normal power
- 120V and 277V power systems
- Normally closed, 20A fully-rated relay
- Automatically activates lighting upon loss of normal power
- Provides remote activation by dry contact closure for connection to a fire alarm or building management system
- Remote activation switch can be located up to 1000 feet from the EREB-A controller
- Test button with LEDs for field testing and verification
- Option button for configurable “return to normal” delay of 0-15 minutes (for loads that require warm up time (ie. HID lamps)
- Remote and Power status LED’s
- Power Pack model is fitted with a 1/2” nipple for permanent installation directly to an electrical junction box or
- DIN-rail mounting model available for attachment to lighting control panels or electrical enclosures. Compatible with DIN 43880 and DIN EN 60715
- UL/cUL 924 Listed
- UL 2043 Plenum rated (EREB-AP model only)

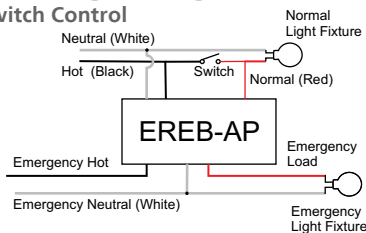
## Ordering Information

Description	Model #	Part #
Emergency Bypass Load Controller - Power Pack (1/2” nipple mount), 120/277VAC	EREB-AP	7180A1405
Emergency Bypass Load Controller - DIN-rail, 120/277VAC	EREB-AD	7180A1406

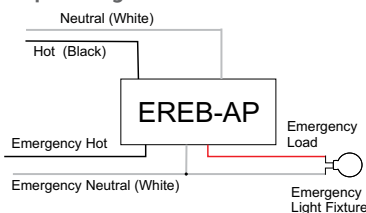
# EREB-A

## Wiring Diagram

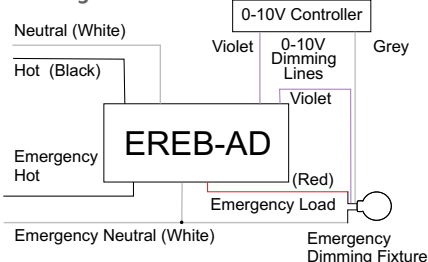
### Switch Control



### Backup Arrangement

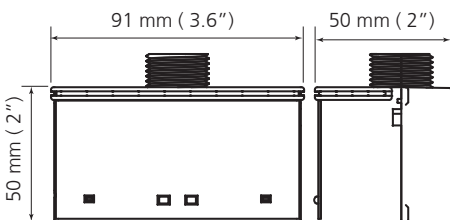


### Dimming Control

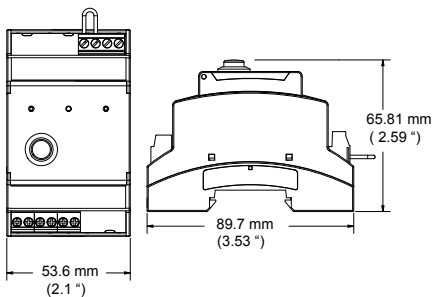


## Dimensional Diagram

### EREB-AP



### EREB-AD



## Functional Specifications

Automatic control of emergency power output to fixture or single zone emergency lighting upon loss of normal power

Supports fire alarm input activation of emergency power output

Configurable return to normal delay settings of instant, 10s, 30s, 10min, or 15min

For Indoor use only

## Hardware Specifications

<b>Power Supply</b>	120/277 VAC, 60 Hz
Power Consumption	5.0 W max. full load
Outputs	Ballast load rating: 20A @ 120 or 277 VAC, Incandescent loads: 10A max @ 120 or 277VAC EREB-AD model only: Auxiliary contact for low voltage 0-10V lines on dimming ballasts
Inputs	Option button, Test Button
Outputs	Power Status and Remote LEDs
<b>Emergency Load</b>	12 AWG Emergency in and out power wires 18 AWG Sense and switch wires remote activation switch can be located up to 1000 feet from EREB-A

## Mechanical Specifications

Operating Temperature	-10° C to 45° C (14° F to 113° F) ambient
Relative Humidity	5% to 95% RH (non-condensing)
Weight - EREB-AP	158 g ( 5.5 oz)
Weight - EREB-AD	136 g ( 4.8 oz)
Dimensions - EREB-AP	91 x 50 x 50 mm (3.6 x 2.0 x 2.0")
Dimensions - EREB-AD	89.7 x 53.6 x 65.8 mm (3.5 x 2.1 x 2.6 ")
Mounting - EREB-AP	½ " nipple
Mounting - EREB-AD	DIN 43880 and DIN EN 60715

## Agency Listing & Compliance

### Safety

Conforms to UL Standard 924

UL 2043 Plenum rated (EREB-AP model only)



Specifications are subject to change without notification.

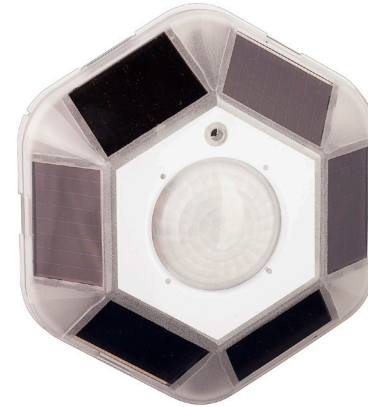
## Overview

The Dual Tech Ceiling Mount Sensor (MOS-DT) is a 360 degree ceiling sensor providing reliable battery-free occupancy detection that communicates wirelessly with Echoflex controllers. A combination of passive infrared (PIR) and audio sensing technologies ensures positive occupant detection.

The MOS-DT occupancy sensor is wireless and powered using solar energy harvesting from natural and artificial light sources. The advanced power management and efficient solar energy harvesting features make the optional battery redundant in normal workplace environments. Passive audio sensing technology provides coverage of audible human activity across much of the PIR detection range and innovative noise filtering is used to prevent false triggers that keep lights on in empty rooms. The MOS-DT fits well in energy code vacancy applications (manual-ON + automatic-OFF) while providing immediate response to new occupancy states making it an ideal solution for automatic-ON lighting applications.

The MOS-DT incorporates test features that provides installers the ability to ensure reliable communications, sufficient energy harvesting and occupant detection without extra tools or software. PIR and audio sensitivity adjustments can be made to eliminate false tripping insuring reproducible operation.

The MOS-DT is available in two models providing PIR ranges suitable for small or larger motion detection, optimized for ceiling heights of 8-9 feet.



## Features

- Solar powered, wireless , dual technology occupancy/vacancy sensor
- Passive audio detection > 18 feet of human activity keeps the lights on even in quiet spaces
- Ceiling mount with 360° of detection
- Part of a seamless energy control solution when used with Echoflex lighting controllers
- Immediate response to motion even in a dark room
- Integrated Range Confirmation® via tri-colored LED indication
- Integrated Solar Harvesting Light Level LED indication
- Sensitivity adjustment (high, medium or low) to avoid nuisance triggering
- Walk-Test feature allows installers to test operation and installation location during commissioning
- Transmits occupied and unoccupied states
- Operates in low light conditions, 50 lux (5 fc)
- Up to 7 days operation in complete darkness in battery free applications
- Reliable radio reception range of 24 m (80 ft) - commercial office spaces (typical), up to 100m (330 ft) line of sight
- Available in 902 MHz and 868MHz frequencies

## Ordering Information

Description	902 MHz Models	902 MHz PN	868 MHz Models	868 MHz PN
Dual Tech Ceiling Mount Sensor, 1000 ft. <sup>2</sup> coverage	MOS-DT-UA	8188A1182-X-1	MOS-DT-YA	8188A1428-X-1
Dual Tech Ceiling Mount Sensor, 1900 ft. <sup>2</sup> coverage	MOS-DT-UB	8188A1183-X-1	MOS-DT-YB	8188A1429-X-1

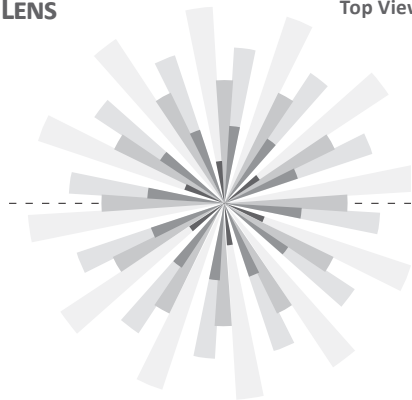


# MOS-DT

## Lens Ray Diagrams

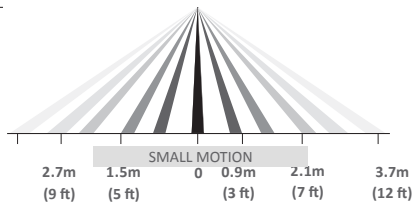
A LENS

Top View



Side View

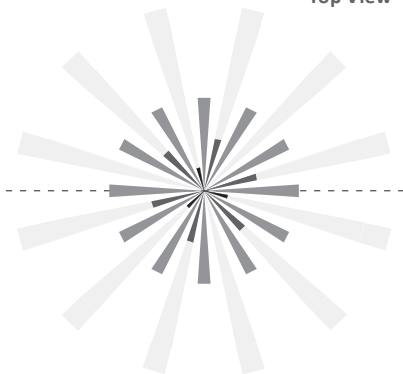
Typical ceiling height 8 ft (2.4 m)



Reliable audio detection > 18 ft provides overlapping coverage of monitored spaces

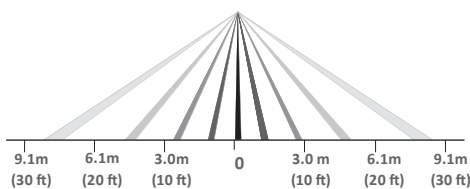
B LENS

Top View



Side View

Typical ceiling height 9 ft (2.7 m)



## Equipment Profile

<b>EEP A5-07-01:</b>	Occupancy Sensor - PIR ON, PIR OFF Supply Voltage 0...5.1V, linear n=0...255
----------------------	---

## Hardware Specifications

<b>Power Supply</b>	Integrated solar cell
<b>Operational Light Level</b>	20 lux (2fc) min., 50 lux (5fc) with audio enabled
<b>Minimum charge time to begin operation</b>	3 minutes @ 200 lux ( 20 fc)
<b>Maintain charge time</b>	2 hours per 24 hours @ 160 lux (16 fc)
<b>Maximum charge time</b>	6 hours @ 320 lux (32 fc)
<b>Operating life at full charge</b>	7 days in 0 lux
<b>Battery - start assist</b>	CR2032 coin cell optional - not included
<b>Input</b>	Teach button for assignment to receiver
<b>Output</b>	Test mode LEDs - red, green and amber

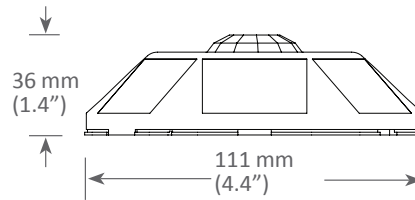
## Communications

<b>Radio Frequency</b>	902 MHz(U) or 868 MHz(Y)
<b>Antenna</b>	Integrated whip
<b>Transmission Range</b>	24 m (80 ft) - commercial office spaces (typical), up to 100m (330 ft) line of sight
<b>Telegram Transmission</b>	On motion or on heartbeat period
<b>Telegram Heartbeat Period</b>	Minimum 100 seconds

## Mechanical Specifications

<b>Operating Temperature</b>	-10°C to 45°C (14°F to 113°F)
<b>Storage Temperature</b>	-25°C to 65°C (-13°F to 149°F)
<b>Relative Humidity</b>	5% to 92% RH (non-condensing)
<b>Weight</b>	104 g (3.7 oz)
<b>Dimensions</b>	111 mm flat edges x 36 mm height (4.4" x 1.4")
<b>Mounting</b>	Screws or double sided tape (not supplied)

## Dimensioned Diagram



## Agency Listings and Compliance

CEC Title 24 Compliant

**902 MHz models**

FCC Part 15.231

Remote Control Transmitter

IC RSS-210

**868 MHz models**

CE Marking



Range Confirmation is an Echoflex Solutions Inc. Patented technology  
Specifications are subject to change without notification | Document 8DC-0810 | Revision 1.2



**Echoflex Solutions, Inc.**

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email: [info@echoflexsolutions.com](mailto:info@echoflexsolutions.com) | [www.echoflexsolutions.com](http://www.echoflexsolutions.com)



## Overview

Lighting Designers and Engineers specify LED luminaires to deliver savings and performance. Contractors are looking for quick, trouble-free installations. Everyone is looking for a cost effective solution that meets industry demands without complication or risk.

The ELED1 is a wireless power pack style lighting controller designed to operate with today's dimmable luminaires. Combining a 120-277VAC input, 0-10V dimming capability and a rugged load relay, the ELED1 is ideal for individual fixture or single zone lighting control. The controller provides fixture intensity and control based on occupancy state, manual switch action, ambient light levels and gateway commands.

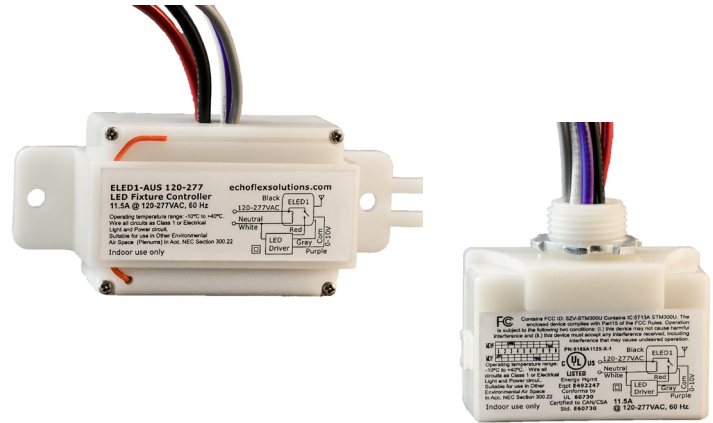
Intuitive application operation begins with automating lights on and off with occupancy when only sensors are linked. Auto-detection on the dimming interface adjusts controller operation between switching to dimming automatically. A photo-inhibit feature can temporarily disable automatic-ON lighting when natural light is above set point. Inherent versatility is demonstrated by delivering daylighting control sequences satisfying both open-ceiling atrium areas or traditional office spaces. Energy code support is defined within factory default settings insuring out-of-box, nation-wide compliance.

Echoflex ELED products now include preset functionality that allows spaces to be lit with *lighting scenes*. Presets can be activated from scene stations, wireless time clocks or gateways. A lockout feature allows time clocks to schedule a controller's response to specific sensor types or stations based on time-of-day.

The controller is Range Confirmation® compatible, working with all Echoflex sensors equipped with the Range Confirmation® feature to provide visual feedback of a linked sensor's signal strength for optimal sensor placement.

Echoflex offers pre-linking and pre-commissioning on all products sold as a system through Echoflex.

Simple Tap™ technology is included allowing installers and facility operators to manage configuration settings without any specialized tools.



## Features

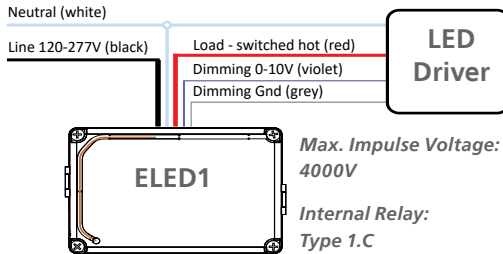
- Individual fixture or single zone control with 0-10V dimming
- Integrated daylight harvesting control with photo inhibit mode
- Occupancy control with auto- ON/OFF or vacancy control with manual-ON/auto-OFF
- Automatically detects dimming loads for easy adaption between switching and dimming functions
- Multiple embedded preset values allow lighting scene recall
- Lockout control allows scheduling of sensor inputs
- Used with battery-free wall switches, photo sensors and occupancy sensors
- Support for hospitality applications: key card switches, door and window magnet contact switches, room operating panels and IBS contacts
- Pre-linking and Pre-commissioning available when sold as a system through Echoflex
- Central Command support for BEMS gateway control
- Range Confirmation® allows optimal placement of linked sensors - (Echoflex sensors with range confirmation feature only)
- Easy installation on electrical junction boxes with 1/2" nipple mounting bracket
- Easy commissioning options include embedded Simple Tap™ technology plus Garibaldi, Echoflex's remote commissioning software
- Doubles as a telegram repeater
- Energy code compliant

## Ordering Information

Description	902 MHz Model	Part Number
LED Fixture Controller, 1/2" Nipple Mount, 120-277VAC	ELED1-BUN 120-277	8189A1125-X-1
LED Fixture Controller, Strap Mount, 120-277VAC	ELED1-BUS 120-277	8189A1128-X-1

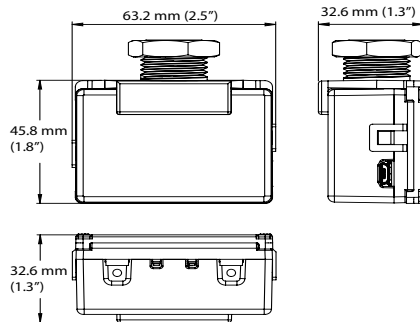
# ELED1

## Wiring Diagram

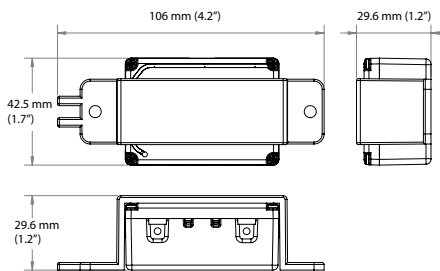


## Dimensional Diagrams

### Nipple mount model



### Strap mount model



## Equipment Profiles - Remote Devices Supported

EEP: F6-02-01/02	Light and Blinds Control - EU and US/Canada applications
EEP: A5-06-02/03	Light Sensor - ambient light level ranges with supply voltage
EEP: A5-06-01/05	Light Sensor - exterior light level ranges with supply voltage
EEP: A5-06-04	Light Sensor - Curtain Wall Brightness Sensor
EEP: A5-07-01/02	Occupancy Sensor - with supply voltage
EEP: A5-07-03	Occupancy Sensor - with supply voltage and 10-bit light level
EEP: A5-37-01	Energy Management - Demand Response
EEP: A5-38-08	Central Command - switching and dimming
EEP: D2-14-25	Light Sensor and CCT - light intensity

## Hardware Specifications

Power Supply	120-277VAC, 60 Hz
Power Consumption	1.0 W max. fully loaded
Inputs	LEARN and CLEAR buttons for sensor assignment
Outputs	LED indicators, Learn (green), Power (red)
Maximum Dimming Load	0-10V with 100 mA sinking current
Inrush Current Rating	500A/2ms @277VAC (I <sup>2</sup> t: 460 A <sup>2</sup> s @ 277VAC)
<b>Safety Standards Maximum Load: Type and Rating</b>	
Electronic Ballast	11.5A @ 120-277VAC
LED Driver	11.5A @ 120-277VAC

## Communications

Radio Frequency	902 MHz
Antenna	Integrated Whip
Transmission Range	24 m (80 ft) - commercial office spaces (typical), up to 100m (330 ft) line of sight

## Mechanical Specifications

Operating Temperature	-10°C to 60°C (14°F to 140°F) ambient
Relative Humidity	5% to 93% RH (non-condensing)
Weight	113g (4.0 oz)
Mounting	½" nipple mount model or strap mount model
Dimensions	Nipple- 45.8 x 63.2 x 32.6mm (1.8 x 2.5 x 1.3") Strap- 42.5 x 96.5 x 29.6 mm (1.7 x 3.8 x 1.2")

## Regulatory Agencies and Listings

### Energy Code Compliance

California Energy Commission Title 24 - CEC  
Washington State Energy Code - WSEC  
ANSI / ASHRAE / IES Standard 90.1  
International Energy Conservation Code - IECC  
New York City Energy Conservation Code - NYCECC

### Safety

Certified to UL Standard 924  
Certified to UL Standard 60730  
Certified to CAN/CSA Std. E60730  
UL 2043 Plenum rated

### Radio Frequency (902 MHz)

FCC Part 15.231 -Remote Control Transmitter  
IC RSS-210



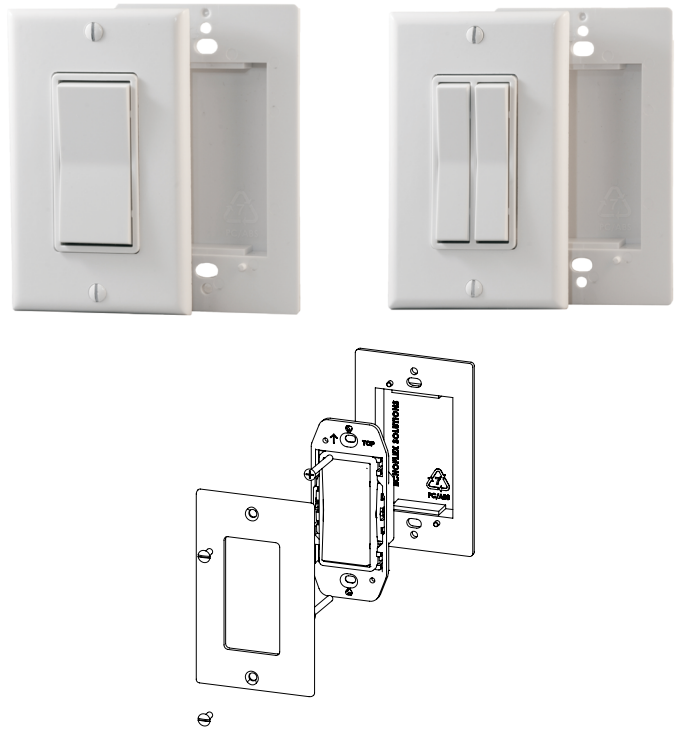
Specifications are subject to change without notification | Range Confirmation is an Echoflex Solutions, Inc. patented technology | Simple Tap is a trademark of Echoflex Solutions, Inc.

## Overview

Echoflex Solutions switches communicate wirelessly with Echoflex lighting controllers to control the internal relay and/or output dimming level. The energy of a finger press upon the ON or OFF side of the switch paddle generates sufficient energy to transmit the switch event. There is no battery to replace, so there is also no maintenance.

Dual paddle models operate identically to the single paddle switches. Each paddle can be linked to different controllers for multiple circuit control from one wall station. Create multi-input switching strategies for 3, 4 or up to 20 way switching with Echoflex wireless switches.

The PTM365 switches come with a UL/CSA certified barrier plate and matching face plates. Surface mount backplates can be ordered separately.



## Equipment Profiles

Single/Dual Rocker **EEP:F6-02-02** Light and Blinds Control

## Technical Specifications

Operating Mode On/Off, Dimming  
Power Generation Electrodynamic Energy Harvester

### Communications

Radio Frequency 902 MHz (U), 868 MHz (Y)  
Antenna Integrated whip  
Transmission Range 24m (80 ft) - commercial office space (typical), up to 100 m (330 ft) line of sight

## Mechanical Specifications

Operating Temperature -25°C to 65°C (-13°F to 145°F)  
Relative Humidity 5% to 92% RH (non-condensing)  
Weight 85 g (3 oz)  
Dimensions 115 x 71 x 20 mm (4.5 x 2.8 x 0.8")  
Life Cycle 50,000 actuations  
Mounting In standard electrical outlet boxes, isolation partition and screws provided

## Agency Listing & Compliance

902 MHz models  
FCC Part 15.231 Remote Control Transmitter  
IC RSS-210  
868 MHz models  
CE marking  
Barrier plate certification  
UL Standard 514D  
CSA C22.2 # 42-1-13



## Ordering Information

Description	902 MHz Models	902 MHz PN	868 MHz Models	868 MHz PN
Single Decorator Style Barrier Switch - White	PTM365UW	8188A1201-5-1	PTM365YW	8188A1303-5-1
Dual Decorator Style Barrier Switch - White	PTM365DUW	8188A1202-5-1	PTM365DYW	8188A1304-5-1
Single Decorator Style Barrier Switch - Gray	PTM365UG	8188A1201-3-1	PTM365YG	8188A1303-3-1
Dual Decorator Style Barrier Switch - Gray	PTM365DUG	8188A1202-3-1	PTM365DYG	8188A1304-3-1
Single Decorator Style Barrier Switch - Black	PTM365UB	8188A1201-4-1	PTM365YW	8188A1303-4-1

Accessories	Model	PN
Single Surface Mount Backplate Kit - White- *=W#=5; Gray- *=G#=3	PTM3651GF*	8188K2001-#

Specifications are subject to change without notification.

Foundry Mini Panels Series

Type(s)  
Project  
Date  
Notes



GENERAL INFORMATION

The Foundry Mini Panels offer up to eight zones of DMX controlled lighting with fully rated 20 A relays and optional 0–10 V control per zone. The Mini Panel features a Demand Response input for energy saving integration and a UL 924 emergency lighting control bypass with power loss sense. The Mini Panel is available in flush-mount or surface-mount options and can be located in an air plenum to be easily tucked out of sight.

APPLICATIONS

- Arena and stadium suites
- Office buildings
- Conference and meeting rooms
- Healthcare facilities
- Houses of worship
- Classrooms
- Hospitality and restaurants
- Retail

FEATURES

- Switched power control of four or eight circuits with 0–10 V dimming
- 120 or 277 VAC power input per zone
- 20 A fully rated relays for use with general purpose, tungsten, fluorescent, LED and plug loads
- 0–10 V dimming output per zone for direct connection to dimming ballasts and LED drivers
- Demand Response load shedding contact input
- Flush-mount and surface-mount options
- UL924 control bypass via
  - Contact closure input
  - Normal power loss sense feed terminals
- DMX controlled and RDM configurable

REGULATORY AND COMPLIANCE

- cULus and UL 924 LISTED
- Rated for plenum installation
- Suitable for plug load control

ORDERING INFORMATION

Foundry Mini Panel

MODEL	DESCRIPTION
UFMP4	4-zone DMX Mini Panel with four relays and four 0–10 V dimming outputs
UFMP8	8-zone DMX Mini Panel with eight relays and eight 0–10 V dimming outputs

Add (-F) to the end of any model number for the flush-mount version

Accessories

MODEL	DESCRIPTION
ERM VDK	Voltage divider kit for separating 120V, 277V, Emergency, and Plug loads

FOUNDRY FAMILY OF PRODUCTS

Foundry Distributed Product Series

MODEL	DESCRIPTION
UFR2	Dual Zone DMX Relay
UFR2-LV	Dual Zone DMX Relay with 0–10 V
UFD	600 W DMX Phase Adaptive Dimmer (120 V)
UFD-277	600 W DMX Phase Adaptive Dimmer (277 V)
UFD-MLV	600 W DMX Forward Phase Dimmer (120 V)
UFD-277-MLV	600 W DMX Forward Phase Dimmer (277 V)





## SPECIFICATIONS

### FUNCTIONAL

- Control for up to eight zones of switching for lighting and plug loads
- Control for up to eight zones of 0–10 V dimming for LED drivers and fluorescent ballasts
- UL 924 emergency-lighting control via contact closure and power loss sense feed terminal
- Demand Response input provided by a power company can enforce a maximum level per circuit while active
- Supports USITT DMX512-A (ANSI E1.11)
- Supports RDM (ANSI E1.20)

### MECHANICAL

- Constructed of 16-gauge cold-rolled steel, finished in fine-textured, black powder coat
- Wall-mount installation; rated for installation in plenum air space
- Class 1 voltage barrier prevents access to line-voltage wiring with front panel removed
- Available in flush-mount and surface-mount options
- Optional voltage divider allows for separation of normal and emergency circuits in a single controller where allowed by local codes

### ELECTRICAL

- 100–277 VAC, 50/60 Hz power input per circuit with support for pass thru to multiple circuits
- 100–277 VAC single phase sense feed input
- Supports 120 VAC and 277 VAC circuits within the same panel
- 20 A, fully-rated bi-state latching relay per output
- 0–10 VDC control rated for up to 100 mA sink per output
  - 0–10 V outputs are fully isolated from ground to 2500 V RMS
- Rising clamp screw terminal wiring connections for:
  - Line-voltage relay power input, output and pass-through with support for 2.5-10 mm<sup>2</sup> (14-8 AWG) wire
  - Controller power input and UL 924 Sense circuit with support for 0.5-4 mm<sup>2</sup> (20-12 AWG) wire
  - Low-voltage 0–10 V dimming output per zone with support for 0.5-1.5 mm<sup>2</sup> (22-16 AWG) wire
  - Separate normal power sense feed input for UL 924 emergency lighting bypass
  - UL 924 emergency lighting control contact closure input with support for 0.5-1.5 mm<sup>2</sup> (22-16 AWG) wire
  - Demand Response contact input with support for 0.5-1.5 mm<sup>2</sup> (22-16 AWG) wire
- Demand Response input supports Normally Open (NO) operation
- UL 924 contact closure input supports normally open (NO) or normally closed (NC) operation
- Onboard status indicators for controller power, DMX signal, Demand Response input, and UL 924 emergency lighting control
- Slide switch configuration for:
  - UL 924 operation (NO/NC)
  - UL 924 inclusion per circuit (on/off)

### RELAY RATINGS

- 20 A Magnetic Ballast (HID)
- 16 A Electronic Ballast
- 20 A Tungsten
- 20 A (120 A Locked-rotor) Motor @ 120 VAC
- 14 A (84 A Locked-rotor) Motor @ 277 VAC
- Relays are mechanically held
- Lifespan:
  - 100,000 cycles at full resistive load
  - 30,000 cycles motor, inductive or tungsten

### DMX INPUT PORT

- Optically-isolated input from the Mini Panel electronics
- Withstands fault voltages of up to 250VAC
- Integrated DMX/RDM termination

### CONFIGURATION

- Remote configuration available via RDM devices such as:
  - ETC control console with RDM functionality
  - ETC DMX/RDM gateway networked to a device running ETC Net3 Concert software
- Manual configuration of the starting DMX address, UL 924 bypass, and Demand Response on the controller

### THERMAL

- Ambient room temperature: 0°–50° C (32°–122° F)
- Ambient humidity: 5–95% (non-condensing)

PHYSICAL

Foundry Mini Panel Dimensions

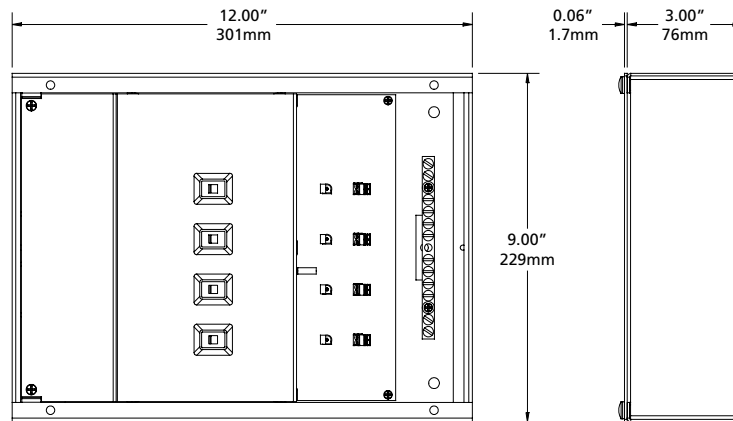
MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
UFMP4	9	229	12	301	3	76
UFMP8	14	356	12	301	3	76
UFMP4-F*	11	279	14	356	3	76
UFMP8-F*	16	406	14	356	3	76

Foundry Mini Panel Weights

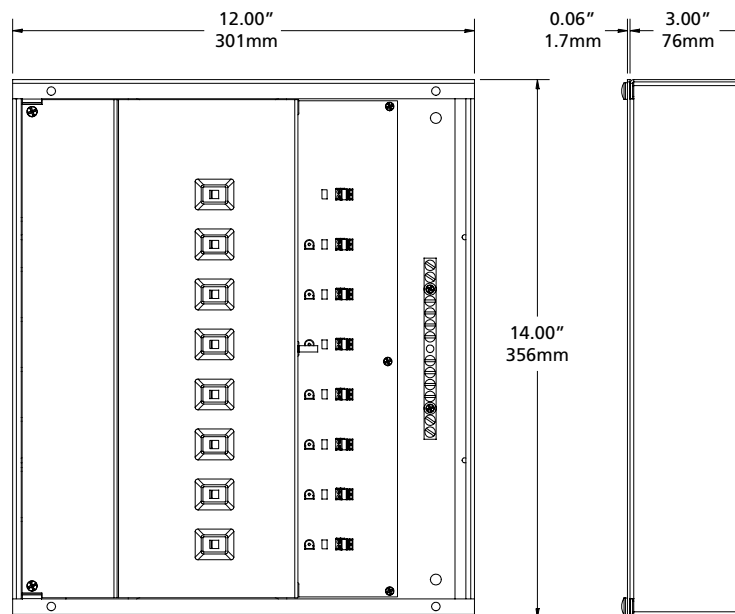
MODEL	WEIGHT	
	lb	kg
UFMP4	6	2.72
UFMP8	9	4.08
UFMP4-F	8	3.63
UFMP8-F	11.5	5.22

\*Dimensions of electronics housing on flush-mount mini panels are identical to dimensions of surface-mount mini panels

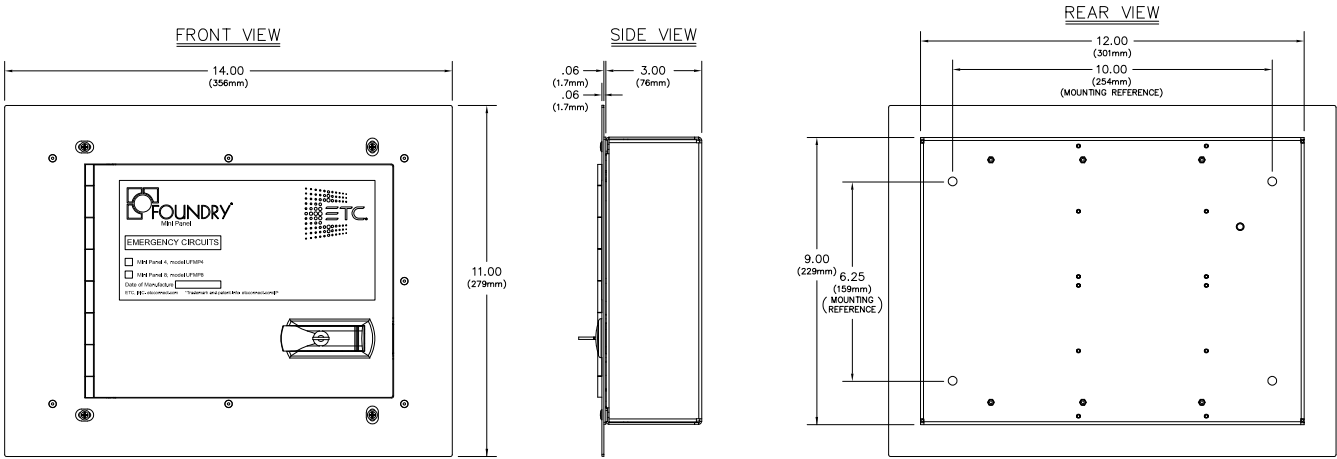
UFMP4



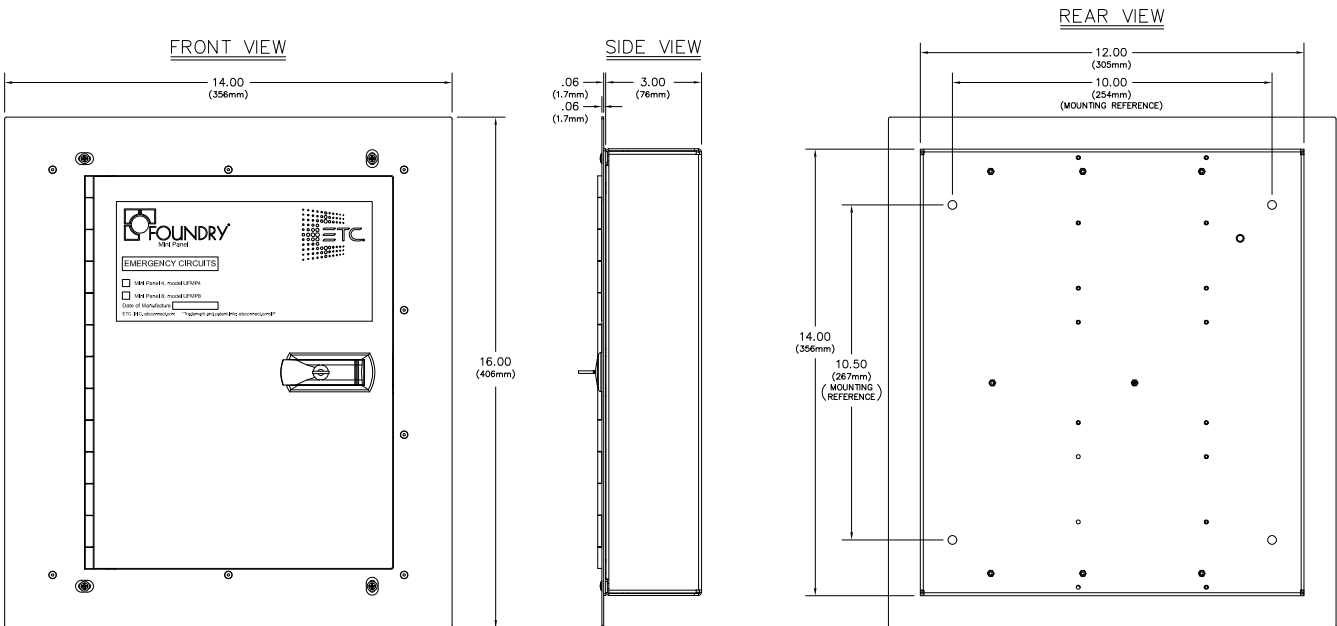
UFMP8



UFMP4-F



UFMP8-F



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 \*Trademark and patent info: [etconnect.com/ff](http://etconnect.com/ff)

Type(s)

Project

Date

Notes



**GENERAL INFORMATION**

The Paradigm Architectural Control Processor is designed for easy interaction and rapid response. The Paradigm ACP’s built-in memory and processing power works with vast amounts of lighting control data and is fast enough to process 1,024 simultaneous fades over any of its native protocols.

**APPLICATIONS**

- Houses of worship
- Schools
- Restaurants
- Hotels
- Museums
- Casinos
- Ballrooms

**FEATURES**

- Designed for use in Unison DRd and ERn enclosures
- Point of Control Interface: easy-to-read system display shows the user pertinent system information
- Supports Calculated Energy Reporting for configured loads when used in a Central Control Server System.
- LinkConnect: using Echelon® LonTalk® protocol with LinkPower, the two-wire topology-free system gives you the freedom to put stations where you need them
- NetConnect: Makes use of low-cost, easy-to-install Cat5/5e with PoE to connect touchscreen stations and other devices to a networked Paradigm System
- USBConnect: support for USB flashdrives for configuration upload and download
- QuickLoad: SD Media support for upload, and backup of configuration data
- LightDesigner Access: Web browser interface for easy modification, activation and monitoring of your system configuration and status
- LocalAccess: user control at the interface, including creation of timed events and editing of presets or sequences
- Secure-It Access Control: multiple levels of secure user access at the interface

**REGULATORY AND COMPLIANCE**

- cULus Listed
- CE Compliant

**ORDERING INFORMATION**

**Paradigm Architectural Control Processor**

MODEL	DESCRIPTION
P-ACP	Unison Paradigm Architectural Control Processor

**Compatible Power and Control Enclosures**

MODEL	DESCRIPTION
DRd	Unison Dimming Enclosure (12 and 24 circuits)
ERn	Unison External Control Enclosure

**Unison Paradigm System Accessories**

MODEL	DESCRIPTION
P-SPM-E	Unison Paradigm Station Power Module
P-NSPS-D	Unison Paradigm Network Station Power Supply



## SPECIFICATIONS

**MECHANICAL**

- Designed for use in the Unison DRd Rack Enclosure Series and Unison ERn Control Enclosure Series
- Microprocessor-based, solid-state technology to provide multi-scene lighting and building controls
- Fully-contained plug-in module with no discrete wire connections
- Tool-free installation
- Front-panel user interface with backlit LCD and alphanumeric button panel
- Support of RJ-45 Ethernet, Secure Digital (SD) and Universal Serial Bus (USB) media on the front panel

**ELECTRICAL**

- No discrete wiring connections required for use in a dimming or control enclosure
- Echelon® LinkPower® communications with remote devices, including button stations, button/fader stations, touchscreen stations, sensors, and third party LonMARK compliant products
- Hot swappable
- System configuration and programming information stored in flash memory
- Support of ESTA BSR E1.17 Advanced Control Networks (ACN) and ESTA BSR E1.31 (sACN) Protocols
- Supports EIA-RS232 serial protocol for bi-directional command and communication with third-party equipment
- Two discrete ESTA DMX512A ports, configurable as input or output ports\*
- Supports User Datagram Protocol (UDP) messaging input and output for control of Paradigm or external systems
- Four dry-contact closure inputs
- Four contact-closure outputs, rated 1 A at 30 VDC

\*When used in a Dimming Enclosure, the second DMX port is always an output

**THERMAL**

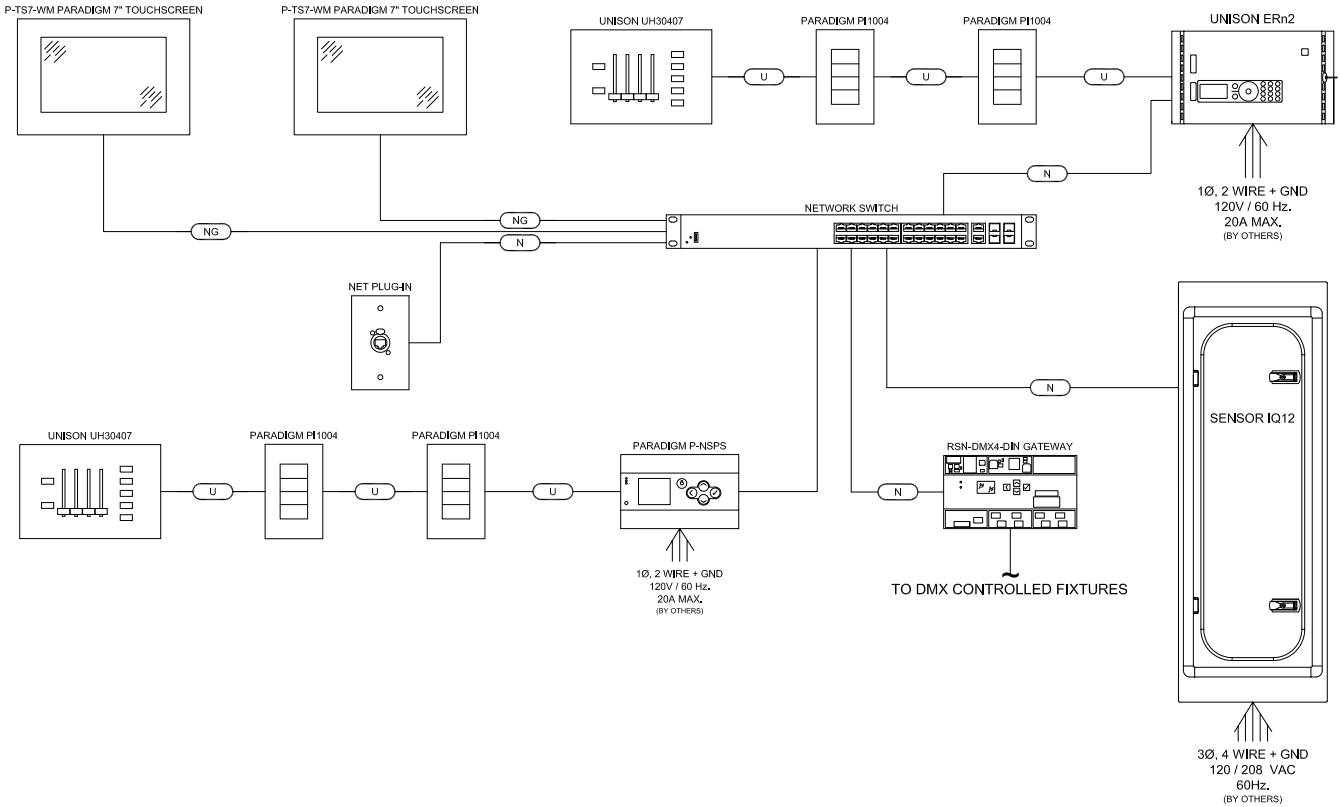
- Ambient room temperature: 0°C to 40°C (32°F to 104°F)
- Ambient humidity: 10–90% non-condensing

## SPECIFICATIONS

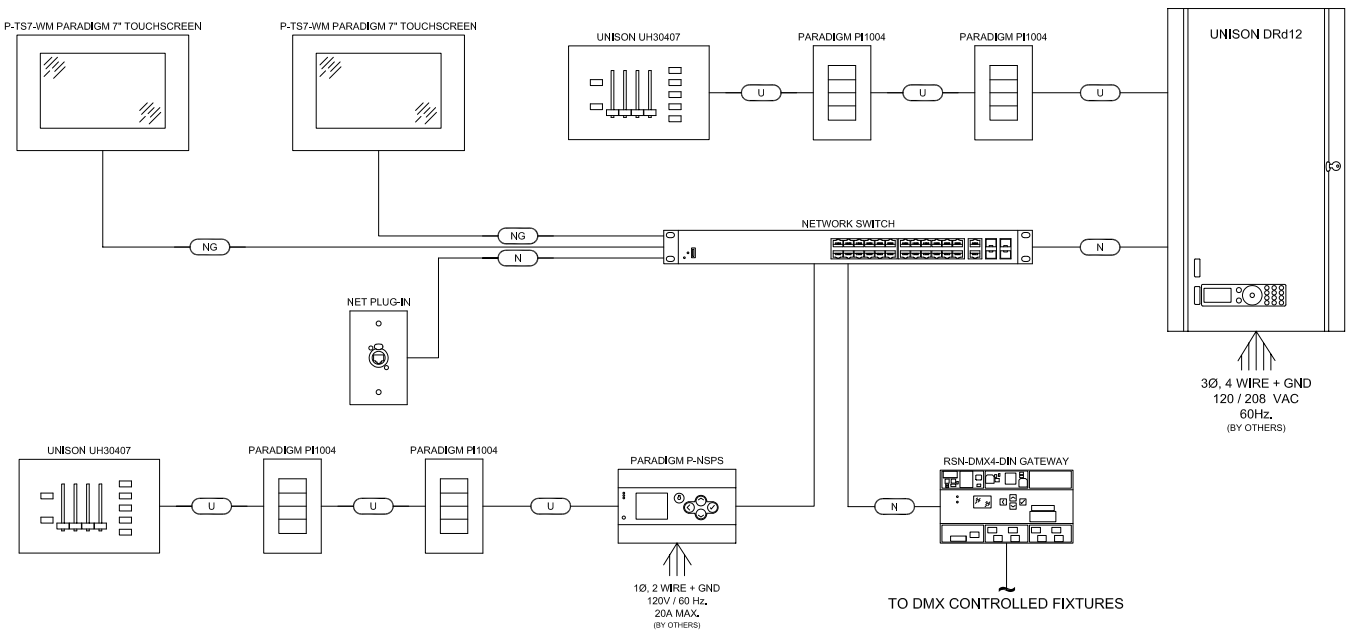
**FUNCTIONAL**

- Capacity
  - Supports 1,024 channels of control per control processor
  - Supports up to 128 stations per control processor
    - Each P-SPM-E can support 63 stations
    - Each P-NSPS-D can support 63 stations
    - Maximum (1) P-SPM-E and (5) P-NSPS-D per control processor for a total of 128 stations
- System
  - Net3 system interoperability including sACN
  - Network Time Protocol for real-time clock synchronization supporting real and astronomical events
  - Supports two physical DMX ports, each configurable as an input or output
  - Provides configuration of DRd dimming operations
  - Up to 12 control processors per system
  - Addition of processors to a system proportionately increases the overall capacities
- Serial Input/Output
  - Eight-bit word length, parity selection and one or two stop bits
  - Fully customizable input and output messages
  - Bi-directional
- Configuration Data
  - Remote upload from a connected PC running LightDesigner or another connected Paradigm ACP
  - Stored in removable solid-state memory for easy transfer to another Paradigm ACP
- Local User Interface
  - Control functionality for control channels, zones, fixtures, groups, presets, macros, walls and sequences
  - Ability to schedule timed events (add/edit/delete)
  - Transfer of configuration using removable media
  - Transfer of configuration to and from touchscreen stations using removable media
- User Access Controls
  - Two user accounts – Administrator and User, local to each processor
- Web User Interface
  - Internal web server accessible via Ethernet port
  - Activate and deactivate presets
  - Schedule timed events (add/edit/delete)
  - Displays status information and log files
  - Configuration of processor settings
  - Supports configurable user login security options
- Diagnostics
  - Standard and Critical Event logging
- Stations
  - Connected to a Paradigm processor via topology-free LinkConnect, or star-topology NetConnect
  - Discovery and binding accomplished from the local user interface or LightDesigner
- Operation
  - Configurable DMX output refresh rate
  - Support for 16-bit DMX attributes
  - User configurable arbitration for multiple internal and external source data

SAMPLE SYSTEM RISER - ERn WITH PARADIGM CONTROL



SAMPLE SYSTEM RISER - DRd WITH PARADIGM CONTROL



PHYSICAL

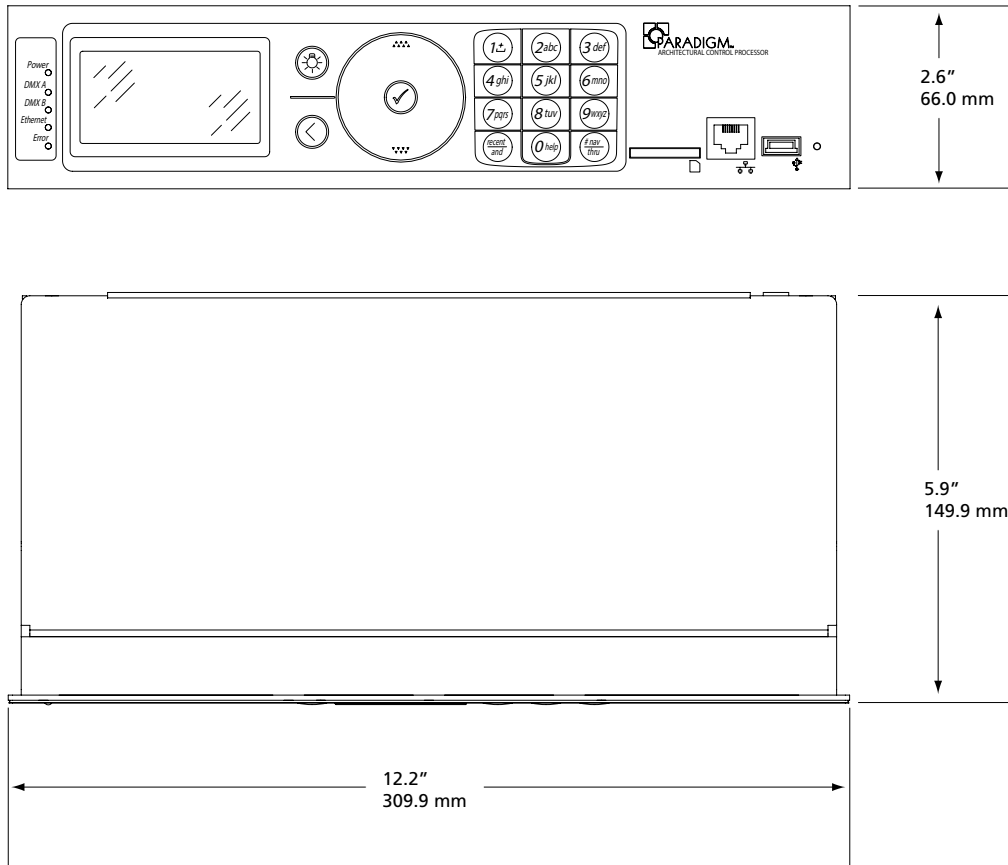
P-ACP Dimensions\*

MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
P-ACP	2.6	66	12.2	310	6.0	150

P-ACP Weights\*

MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
P-ACP	3.8	1.72	4.8	2.18

\*Weights and dimensions typical



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\*Trademark and patent info: [etconnect.com/ETC](http://etconnect.com/ETC)

[etconnect.com](http://etconnect.com)

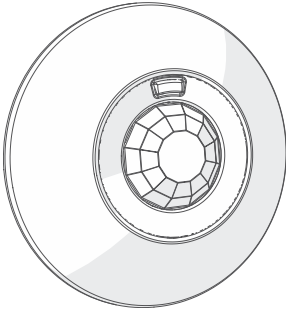
# ETC Installation Guide

## Paradigm Dual Tech Occupancy Sensor

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### Overview

The Dual Tech Ceiling-Mount Occupancy Sensor uses passive infrared (PIR) and acoustic detection to provide reliable occupancy and vacancy sensing for lighting control. The ceiling-mount sensor offers 360 degree coverage with optimized lens options to accommodate small spaces, large spaces, and spaces with high ceilings.



#### *Small Room Lens - coverage*

- 42 m<sup>2</sup> at 2.4 m (452 ft<sup>2</sup> at 8 ft)
- 74.3 m<sup>2</sup> at 3 m (804 ft<sup>2</sup> at 10 ft)

#### *Large Room Lens - coverage*

- 168 m<sup>2</sup> at 2.4 m (1,809 ft<sup>2</sup> at 8 ft)
- 280 m<sup>2</sup> at 3 m (3,019 ft<sup>2</sup> at 10 ft)

#### *High Ceiling Lens - coverage*

- 29 m<sup>2</sup> at 3 m (314 ft<sup>2</sup> at 10 ft)
- 730 m<sup>2</sup> at 12 m (7,854 ft<sup>2</sup> at 40 ft)

Field-installed lens masks are provided to allow customized occupancy detection fields for each sensor lens type.

### Configuration

The Paradigm Processor (P-ACP) to which this Ceiling-Mount Occupancy Sensor is connected must learn, or be told, the hardware address (also known as the neuron ID). You can manually enter this ID (as labeled on the device) into the configuration using LightDesigner software, or you can use the "Connect Device" menu on the connected P-ACP to identify the ID. See the *Paradigm Processor Configuration Manual*; specifically the section on Arch Setup Menu > Station Connections, or reference the LightDesigner online help system for related information to associate and connect the device to the Paradigm control system.

### Prepare for Installation

Ceiling-mount sensors are intended for installation to a finished ceiling surface, soft ceiling tile mounted, or attached to a round or octagonal fixture junction box.





# ETC Installation Guide

## Ceiling-Mount Occupancy Sensor

---

### Compliance

For use with ETC Paradigm Control Systems, powered by Paradigm station power supplies, modules, or repeaters.

### Environment

#### Ambient

For indoor, commercial controls use only. Operating temperature 0°C–40°C (32°F–104°F), humidity maximum 90% (non-condensing).

#### Location

ETC recommends paying special attention to the installation environment:

- When operating in PIR only modes, the sensor must have an unobstructed view of the room. Do not mount behind or near tall cabinets, shelves, hanging light fixtures, etc.
- Do not install the sensor within eight feet from an HVAC airflow duct/ vent.
- Install the sensor where it cannot easily sense movement in areas outside of the intended space, such as hallways, glass partitions, or adjacent rooms. If the installation location cannot avoid these conditions, portions of the lens can be masked to block the sensor view of these undesired areas. See [Lens Masking on page 6](#).



**Note:** *In areas of increased noise activity, enabling PIR only mode may allow for better occupancy and vacancy detection results. This setting is available using LightDesigner software.*

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# ETC Installation Guide

## Ceiling-Mount Occupancy Sensor

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### Wire Specification

The Dual Tech Occupancy Sensor connects to the LinkConnect communication bus. LinkConnect is a bi-directional protocol that uses one pair of wires (data+ and data-) for both data and power. ETC recommends using Belden 8471 Class 2 wire (or approved equal – see the ETC cable cross database [etcconnect.com/Support/Cable-Cross-Database](http://etcconnect.com/Support/Cable-Cross-Database) for equal alternatives). The total combined length of a LinkConnect wire run using Belden 8471 may not exceed 500 m (1,640 ft), with a maximum distance of 400 m (1,312 ft) between any two devices.



**Note:** *All control wiring should be installed and terminated by a qualified installer and should follow standard wiring installation practices. Leave approximately 25.4 cm (10 in) of wiring in the back box for connection and to allow slack for future service needs.*

---



**Note:** *ETC requires that all stations be grounded. Pull an additional 2.5 mm<sup>2</sup> (14 AWG) wire for grounding when control wires are not installed in grounded metal conduit.*

---

### Supplies

The following parts and supplies are included with the sensor:

- Soft ceiling tile adapters
- Mounting screws, 8-32x1 3/4 in
- Lens masks
- WAGO connectors, 3-position

### Installation

---



**Note:** *Installation must follow all national and local codes for electrical equipment.*

---

The sensor is provided with a mounting plate that can be mounted to a junction box, finished ceiling, or soft ceiling tile. Determine the installation method and follow the detailed instructions:

- [Junction Box or Surface Installation on the next page](#)
- [Soft Ceiling Tile Installation on the next page](#)

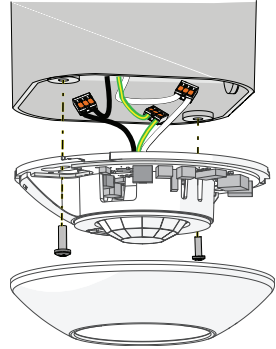
# ETC Installation Guide

## Ceiling-Mount Occupancy Sensor

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### Junction Box or Surface Installation

1. Pull the Belden 8471 (or equivalent) and one 2.5 mm<sup>2</sup> (14 AWG) ground wire to the mounting location (junction box or finished surface) and strip each wire 11 mm (0.4 in).
2. Temporarily remove the sensor cover to gain access to the configuration switches and mounting access holes. Hold the sensor in one hand while gently twisting the cover clockwise.
3. Connect the LinkConnect wires from the sensor to the installed wires.
  - a. Connect the data- (typically black) LinkConnect wire from sensor to the incoming LinkConnect (typically black) wire using a WAGO wire termination connector.
  - b. Repeat the above step for the data+ (typically white) LinkConnect wire and for the ESD ground wire, using a new WAGO connector for each termination type.
4. Orient the flat side of the sensor to the junction box or surface and secure it in place using the screws provided (both short and long screws are provided for installation convenience).
5. Replace the sensor cover.



### Soft Ceiling Tile Installation

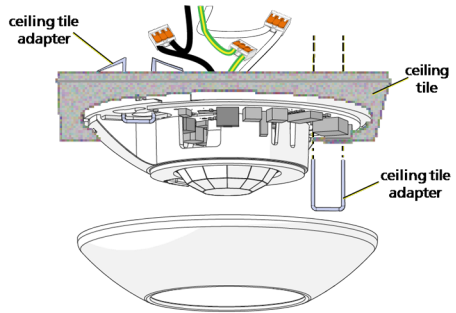
1. Pull the Belden 8471 (or equivalent) and one 2.5 mm<sup>2</sup> (14 AWG) ground wire to the mounting location and strip each wire 11 mm (0.4 in).
2. Temporarily remove the sensor cover to gain access to the configuration switches and mounting access holes. Hold the sensor in one hand while gently twisting the cover clockwise.
3. Prepare the ceiling tile.
  - a. Align the flat side of the sensor to the finished side of the ceiling tile and mark the access hole, and then remove the excess material for wire pass-through.
  - b. Pull the sensor wires through the access hole.

# ETC Installation Guide

## Ceiling-Mount Occupancy Sensor

---

4. Insert the soft ceiling tile adapters through the provided pinholes in the sensor mounting plate, one set located on each side of the sensor near the mounting keyholes. Push the adapters through the ceiling tiles, then bend each tine over in opposite directions for a secure fit on the unfinished side of the ceiling tile.



5. Connect the LinkConnect wires from the sensor to the installed wires.
- Connect the data- (typically black) LinkConnect wire from sensor to the incoming LinkConnect (typically black) wire using a WAGO wire termination connector.
  - Repeat the above step for the data+ (typically white) LinkConnect wire and for the ESD ground wire, using a new WAGO connector for each termination type.
6. Replace the sensor cover.

## Power Up and Test

### Power Up

All LinkConnect terminations in the system must be made before applying power to the system. When the sensor is powered up, the PIR and acoustic detection LEDs illuminate for one minute for calibration and warm-up.

### Binding the Sensor

After the sensor powers up, it will bind to the Paradigm Processor (P-ACP) if the system was pre-configured. The sensor receives all configuration properties from the connected P-ACP after binding. Alternatively, if the sensor doesn't automatically bind to the P-ACP, it can be identified by pressing the **[Walk Test]** button or by using the connected Paradigm Processor Station Connections feature in the Arch Setup Menu. See [Configuration on page 1](#).

# ETC Installation Guide

## Ceiling-Mount Occupancy Sensor

---

### Dual Technology

When both PIR and acoustic detection are used, the following logic is used:

- When the space is vacant, only PIR detection can switch the state to occupied.
- When the space is occupied, both PIR and acoustic detection can reset the vacancy timeout.
- When occupancy in the space has only been triggered by acoustic detection for 60 minutes, acoustic detection is disabled until the next PIR detection event.

### PIR (only) Detection

When acoustic detection is disabled, the following logic is used:

- When the space is vacant, only PIR detection can switch the state to occupied.
- When the space is occupied, PIR detection resets the vacancy timeout.

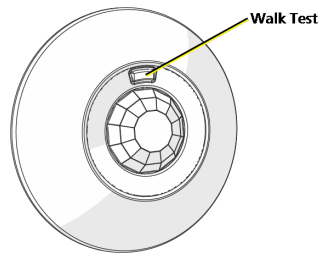
### Lens Masking

Lens masks are provided in the packaging for your convenience. Use this to block a section of the lens from detecting occupancy. To attach, cut to the desired size, remove the backing and stick it on the sensor lens, covering the desired sections.

### Walk Test

The sensor offers a Walk Test Mode, which shortens the vacancy timer to ten seconds and allows for simple and quick verification of the sensor's coverage and range in the installed space.

Walk Test Mode is available only when the sensor is bound to the P-ACP. Attempting a test with an unbound sensor results in the sensor Walk Test LED blinking amber continuously. See [Binding the Sensor on the previous page](#).



# ETC Installation Guide

## Ceiling-Mount Occupancy Sensor

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1. Prepare the site for configuration.
    - a. Make certain the sensor is powered and bound to the P-ACP.
    - b. You will need direct access to the sensor in order to place it into Walk Test Mode.
- 



**Note:** *Using LightDesigner software, you can enter and exit Walk Test Mode on a bound sensor using the Wink command from the Network view.*

---

2. Press the **[Walk Test]** button on to enable the Walk Test feature at the sensor.
  3. Move throughout the space including corners and areas that may specifically be obscured from line of sight to the sensor. Each time the sensor detects movement, the lens will illuminate red. If acoustic detection is enabled, the acoustic detection LED will illuminate when sound is detected. If both sound and PIR are detected, both detection LEDs will indicate. Adjust the lens mask, if installed, blocking areas of the space from sensor detection.
  4. Walk Test Mode will automatically exit after five minutes from the time it was enabled or press the **[Walk Test]** button again.
- 



**Note:** *When in Walk Test Mode, status LEDs will always behave as indicated above, even if they have been programmed to be off by the system configuration.*

---

### Verify Vacancy Operation

In systems configured for the installed sensor to control specific lighting circuits, Walk Test Mode can also be used to verify vacancy operation.

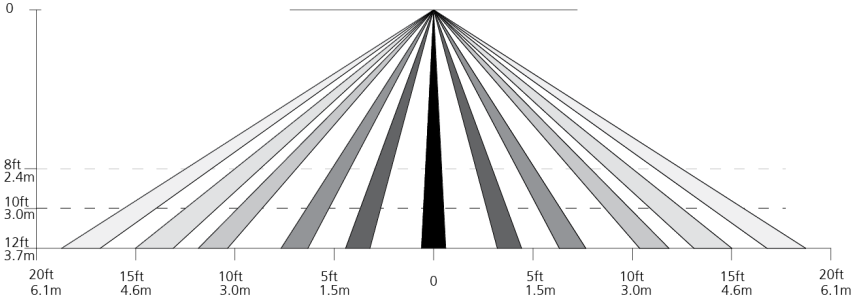
1. Confirm the installing technician has programmed the system.
2. Enable Walk Test Mode (see [Walk Test on the previous page](#)).
3. Exit the room for 15 seconds to allow the 10 second timer to expire.
4. Re-enter the room and confirm the configured vacancy / no occupancy state was properly recalled.
5. Walk Test Mode will automatically exit after five minutes from the time it was enabled. To manually exit the Walk Test Mode, press either of the buttons on the sensor.

# ETC Installation Guide

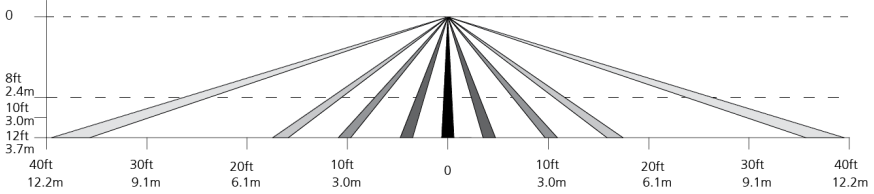
## Ceiling-Mount Occupancy Sensor

### Sensor Coverage

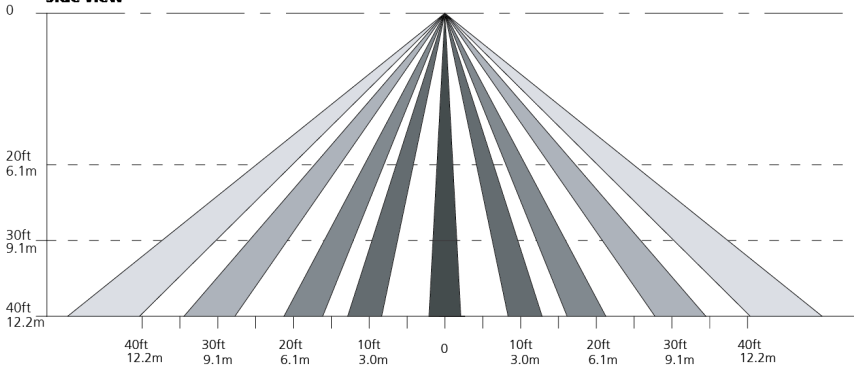
**Small Room Lens**  
side view



**Large Room Lens**  
side view



**High Ceiling Lens**  
side view





Type(s)  
Project  
Date  
Notes

**GENERAL INFORMATION**

Sophisticated and stylish - with the control you need. These LinkConnect-powered stations are designed to initiate preset, zone, and space controls for your entire lighting system. They communicate efficiently with a single space or the rest of the Paradigm family of lighting controls to provide necessary control for any installation. Paradigm Inspire are an elegant way to add control to any facility.

**APPLICATIONS**

- Education
- Hospitality
- Healthcare facilities
- Office buildings
- Conference rooms
- Meeting rooms
- Retail

**FEATURES**

- LinkConnect: two-wire topology-free system gives you the freedom to easily place stations wherever they are needed
- Fastener-Free Faceplate System: no visible means of attachment
- Decorator style face plates available in one-, two-, three- and four-gang options
- Color control: the four button with fader station provides live feedback and control for:
  - Variable Color: Intensity, Saturation and Hue
  - Variable White: Intensity, Tint and Color Temperature
- Color condition: rear-illuminated indicators that reflect system status using RGB LEDs. Allowing for customized control indication on a per-button basis
- Laser engraved legend system with custom button labeling available

**GENERAL**

- UL and cUL LISTED
- CE marked

**ORDERING INFORMATION**

**Paradigm Inspire Stations**

MODEL	DESCRIPTION
PI1001-__	Inspire 1-Button Control Station
PI1002-__	Inspire 2-Button Control Station
PI1004-__	Inspire 4-Button Control Station
PI1006-__	Inspire 6-Button Control Station
PI1008-__	Inspire 8-Button Control Station
PI1104-__	Inspire 4-Button with Fader Control Station

**Enter station color code in \_\_ space provided:**

1 = Cream (RAL 9001), 3= Grey (RAL 7001), 4 = Black (RAL 9004), 5 = Signal White (RAL 9003)

Stations flush-mount (F) in industry-standard gang boxes. (By others)

Surface mount boxes available from manufacture upon request.

**Additional Faceplates**

MODEL	DESCRIPTION
1IFP-__	Inspire 1-gang faceplate
2IFP-__	Inspire 2-gang faceplate
3IFP-__	Inspire 3-gang faceplate
4IFP-__	Inspire 4-gang faceplate

**Enter station color code in \_\_ space provided:**

1 = Cream (RAL 9001), 3= Grey (RAL 7001), 4 = Black (RAL 9004), 5 = Signal White (RAL 9003)

Stations ship with 1-gang faceplate. Additional faceplates can be ordered separately.

**Compatible Control Systems**

MODEL	DESCRIPTION
P-ACP	Paradigm Architectural Control Processor

**Note: A Paradigm Station Power Module (P-SPM) is required**





**SPECIFICATIONS****FUNCTIONAL**

- Zone or preset control from any station
- RGB button illumination for activity status
- Button functions include: preset selection, record mode activation, station lockout, raise, lower, macro activation, zone on/off control, timed-event override and wall open/close or toggle
- Fader functions include: zone or group intensity, color control, variable white control
- Custom button functionality programmable via LightDesigner configuration software
- Programmable electronic lockout levels
  - Allows for programming of individual lockout levels

**MECHANICAL**

- 1, 2, 4, 6 and 8 buttons or 4 buttons with rotary fader
- Gangable for custom applications
- Enclosed electronics assembly
- Cantilevered switch arrays with replaceable button caps
- No visible means of attachment
- Flush-mount in industry standard backbox, RACO 690 or equivalent
- Surface-mount backboxes available from ETC upon request
- Constructed of injection-molded, ABS plastic in four RAL standard colors:
  - Cream (RAL 9001)
  - Grey (RAL 7001)
  - Black (RAL 9004)
  - White (RAL 9003)

**ELECTRICAL**

- Connect via LinkConnect two-wire control network utilizing low-voltage Class 2 wiring
  - Topology-free and polarity-independent wiring over Belden 8471 or equivalent and one #14 ESD drain wire
  - Wiring may be bus, loop, home run or any combination of these
- All station terminations utilize removable connectors
- UL and cUL LISTED, CE marked

**THERMAL**

- Ambient room temperature: 0–40° C (32–104° F)
- Ambient humidity: Maximum 90% non-condensing

PHYSICAL

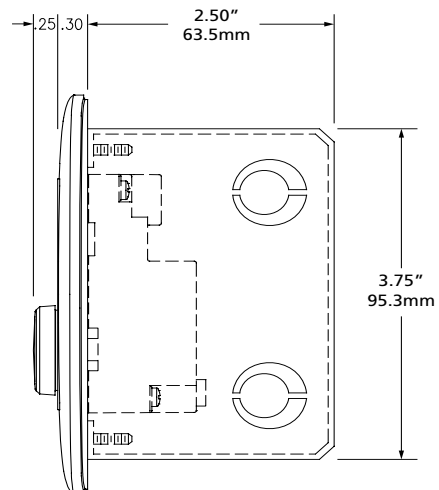
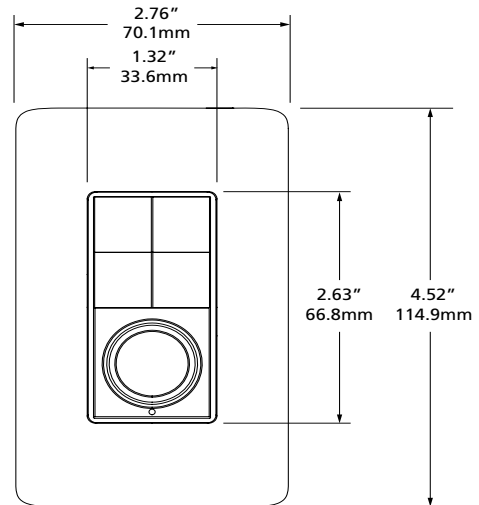
Station Dimensions\*

MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
PI100X	4.52	115	2.76	71	0.30	8
PI1104	4.52	115	2.76	71	0.55	14

Station Weights\*

MODEL	WEIGHT		SHIPPING WEIGHT	
	oz	g	oz	g
PI100X	3.68	105	7.49	213
PI1104	3.75	107	7.54	214

\*Weights and dimensions typical



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 \*Trademark and patent info: [etcconnect.com/IE](http://etcconnect.com/IE)

etcconnect.com



## GENERAL INFORMATION

The Paradigm Station Power Module (P-SPM-E) was designed for use with the Unison DRd and ERn enclosures with Paradigm control. The addition of a Station Power Module offers support for button, fader and touchscreen stations.

### APPLICATIONS

- Houses of worship
- Schools
- Restaurants
- Hotels
- Museums
- Casinos
- Ballrooms

### FEATURES

- Designed for use in Unison DRd and ERn enclosures
- Plug and Play: ready to go out of the box, no software or external programming required
- LinkConnect: The two wire topology-free system gives you the freedom to put stations where you need them
  - Up to 63 stations
  - Up to 500 m of wiring per system
- Auxiliary power: 24 VDC power to support Unison interface stations and Paradigm Touchscreens
  - Up to four touchscreen stations supported per P-SPM-E

### REGULATORY AND COMPLIANCE

- cULus Listed
- CE Compliant

## ORDERING INFORMATION

### Paradigm Station Power Module

MODEL	DESCRIPTION
P-SPM-E	Unison Paradigm Station Power Module Mk2

### Unison Dimming and Control Enclosures

MODEL	DESCRIPTION
DRd6	Unison 6-slot (12 circuit) Dimming Enclosure
DRd12	Unison 12-slot (24 circuit) Dimming Enclosure
ERn2*	Unison 2-slot Control Enclosure
ERn4*	Unison 4-slot Control Enclosure

\*ERn available in wall- and rack-mount configurations

### Unison Paradigm System Components

MODEL	DESCRIPTION
P-ACP	Unison Paradigm Architectural Control Processor
P-REP	Unison Paradigm ERn Repeater Module
P-DREP	Unison Paradigm ERn Dual Repeater Module
P-REP-W	Unison Paradigm Wall-Mount Repeater
P-DREP-W	Unison Paradigm Wall-Mount Dual Repeater
P-REP-RM	Unison Paradigm Rack-Mount Repeater
P-DREP-RM	Unison Paradigm Rack-Mount Dual Repeater

## SPECIFICATIONS

### FUNCTIONAL

- Provides Echelon® LonTalk® with LinkPower for up to 63 stations
- Provides 24 V auxiliary power for interface and touchscreen stations
- Provides 1,640 ft (500 m) of station bus from the ERn or DRd enclosure

### MECHANICAL

- Designed for use in Unison Dimming (DRd) and Control (ERn) Series Enclosures
- 18-gauge formed steel construction
- Fine-textured, scratch-resistant, epoxy paint
- Wall-mount and 19 in rack-mount variants available
- Convection cooled
- Fully contained plug in module with no discrete wire connections
- Tool-free installation
- Front-panel status indicators

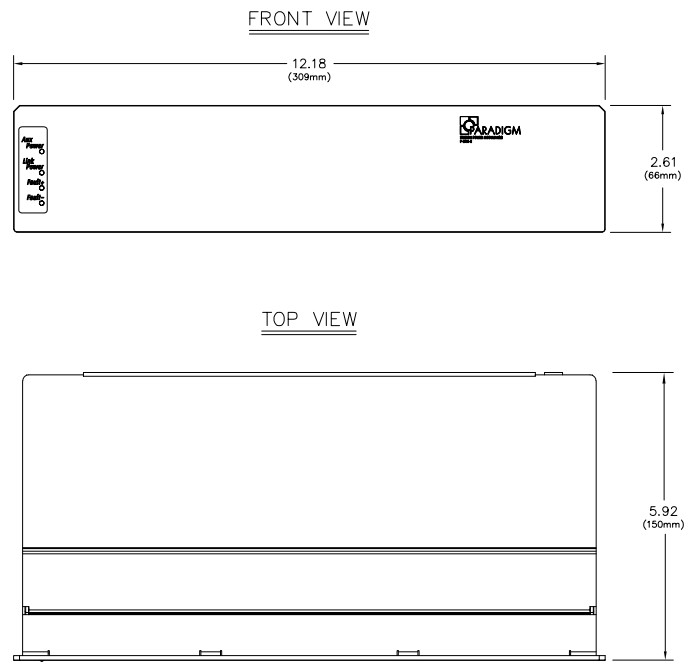
### ELECTRICAL

- No discrete wiring connections required for use in a DRd dimming or ERn control enclosure
- Echelon LinkPower communications with remote devices, including button stations, button/fader stations, touchscreen stations, sensors, and third-party LonMARK-compliant products
- 24 V Auxiliary power for interface and touchscreen stations

### THERMAL

- Ambient room temperature: 0°–40° C / 32°–104° F
- Ambient humidity: 10–90% non-condensing

## PHYSICAL



### Module Dimensions\*

MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
P-SPM-E	2.6	66	12.2	310	5.9	150

### Module Weights\*

MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
P-SPM-E	4.8	2.18	5.8	2.63

\*Weights and dimensions typical



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Trademark and patent info: etconnect.com/IP

etconnect.com



Type(s)  
Project  
Date  
Notes

**GENERAL INFORMATION**

With the ERn enclosure, you choose the features you need for your facility’s unique lighting and building-control requirements: processing, station support, power options, and networking. By isolating core components as a module, we optimize the system’s longevity and performance. Compact external control enclosures available in two sizes: ERn2 and ERn4.

**APPLICATIONS**

- Houses of worship
- Hotels
- Resorts
- Convention centers
- Theaters
- Schools
- Restaurants
- Theme parks
- Cruise ships

**FEATURES**

- LinkConnect: using Echelon® LonTalk® protocol with LinkPower, the two-wire topology-free system gives you the freedom to put stations where you need them
- Use of low-cost, easy-to-install Cat5/5e cable with PoE to connect touchscreen stations and other devices to a networked Paradigm system
- Optional 5-port Power Over Ethernet (PoE) Ethernet Switch\*
- Optional Redundant Rack Power Supply\*
- Wall-mount or 19 in equipment rack-mount

\*Option module required

**Options and Accessories**

MODEL	DESCRIPTION
ERn-Net**	ERn Ethernet Switch with Power over Ethernet
ERn-RPS**	ERn Redundant Power Supply
URTO	Unison RideThru Option
UBPO*	Unison BatteryPack Option

\* For use with wall-mount ERn enclosures only

\*\* Not compatible with ERn-4-\_\_-S

**ORDERING INFORMATION**

**100-120 Volt ERn Enclosure**

MODEL	DESCRIPTION
ERn2-W-__ <sup>1</sup>	Single Processor Control Enclosure-Wall Mount
ERn2-RM-__ <sup>1</sup>	Single Processor Control Enclosure-Rack Mount
ERn4-W-__ <sup>1</sup>	Dual Processor Control Enclosure-Wall Mount
ERn4-RM-__ <sup>2</sup>	Dual Processor Control Enclosure-Rack Mount
ERn4-W-__-S <sup>1,3</sup>	Single Processor Enclosure -Wall Mount with P-TS7 opening

<sup>1</sup> Available for 100 V, 120 V, 230 V and 240 V options. Enter desired voltage in blank space when ordering. Example: ERn4-W-120

<sup>2</sup> Available for 100 V, 120 V and 240 V options for UL markets. Enter desired voltage in blank space when ordering. Example: ERn4-W-120

<sup>3</sup>P-TS7 purchased separately

**Control Module Options**

MODEL	DESCRIPTION
P-ACP	Paradigm Architectural Control Processor

**Option Modules**

MODEL	DESCRIPTION
P-SPM-E	Paradigm Station Power Module
ERn-BM	ERn Blank Module

\*For use with ERn4 only



## SPECIFICATIONS

### GENERAL

- External Processing Enclosure designed for one ERn2 or two ERn4 control processors plus options and accessories
- Full two-year warranty

### MECHANICAL

- 18-gauge formed steel construction
- Fine-texture, scratch-resistant epoxy paint
- Wall-mount and 19 in rack-mount variants
- Rack-mount enclosure sizes:
  - ERn2: 5U
  - ERn4: 8U
- Convection-cooled
- Locking door with limited access to control processor
- Tool-free module removal and installation
- 19 in equipment-rack mount offers connectorized rear panel for all wiring connections
- Wall-mount offers front access wiring terminations
- Top, bottom and side knockouts for conduit entry
- Optional variant with field installed Touchscreen Control Station

### ELECTRICAL

- External control enclosure rated for 100 V, 120 V, 230 V CE or 240 V UL single phase configurations, 3.5 A maximum draw at 120 V
- Completely pre-wired by the manufacturer
- Designed to support the following wire terminations
  - AC (single phase)
  - 24 VDC (2-16AWG)
  - LinkConnect®
  - Two configurable DMX512A ports
  - RS232 Bi-directional serial
  - Cat5/5e UTP Ethernet
  - Contact I/O, 4in/4out (14-26AWG)
    - Contact output rated 1 A at 30 VDC
- Contractor-supplied input and control wiring
- Factory-provided connectors for wiring terminations
- UL and cUL Listed

### THERMAL

- Ambient room temperature: 0° to 40° C (32° to 104° F)
- Ambient humidity: 10–90% non-condensing

## RACK OPTIONS AND ACCESSORIES

### CONTROL PROCESSORS

- Paradigm Architectural Control Processor (P-ACP)

### STATION POWER MODULES

- Station Power Module (P-SPM-E)
  - Provides Echelon LinkPower for up to 63 stations
  - Provides 24 V auxiliary power for interface and touchscreen stations
  - Provides 500 m (1,640 ft) of station bus from the ERn enclosure

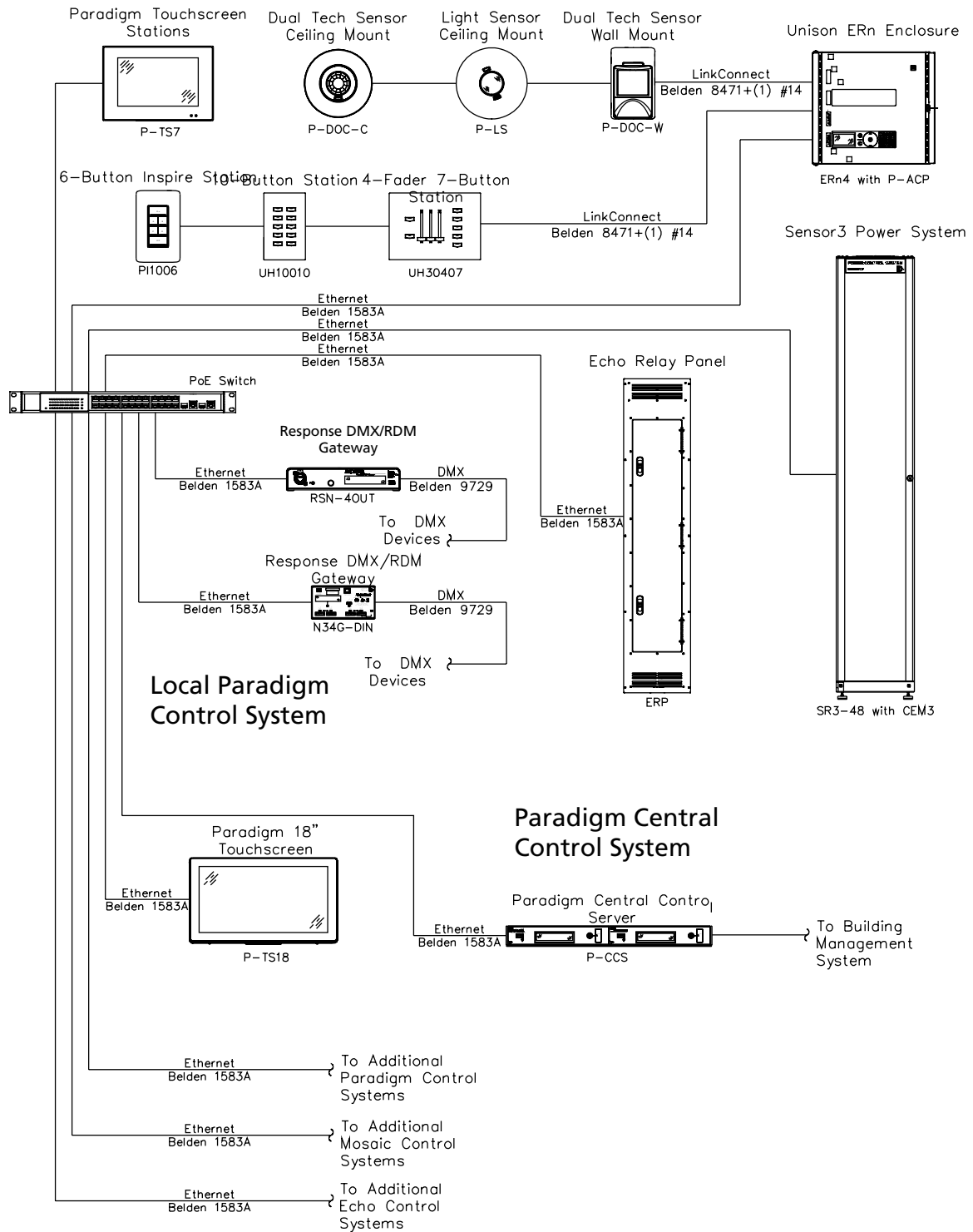
### OPTION MODULES

- Ethernet Switch (ERn-NET)
  - Five-port Ethernet switch with four ports supplying Power over Ethernet (PoE)
  - 100BaseTX 802.3af PSE compliant
  - For use in wall-mount ERn only
  - Not compatible with ERn4-W-\_\_-S
- Redundant Power Supply (ERn-RPS)
  - Seamless power for control processors upon failure or removal of the primary power supply
  - Front-panel indicator for RPS status

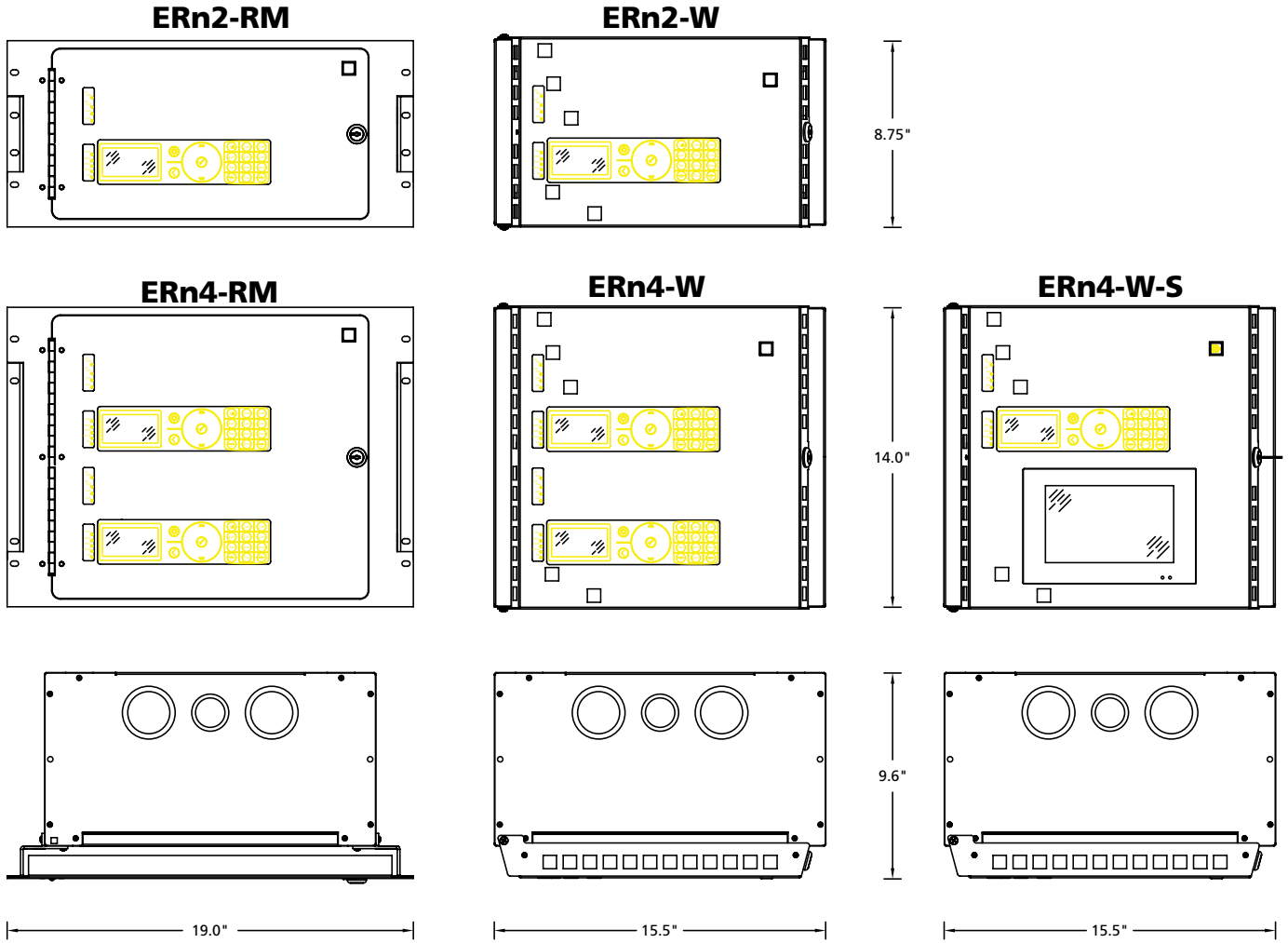
### ACCESSORIES

- Unison RideThru Option (URTO)
  - Short-term power backup of control electronics for at least 10 seconds during short power outages
  - Automatically engages when power is lost
  - Recharges during normal power operation
- Unison Battery Pack Option (UBPO)
  - Long-term power backup of control electronics for at least 90 minutes
  - Automatically engages when power is lost
  - Recharges during normal power operation

TYPICAL SYSTEM RISER – PARADIGM CONTROL



PHYSICAL



ERn Dimensions\*

MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
ERn2-W	8.75	223	15.5	394	9.6	244
ERn2-RM	8.75	223	19.0	483	9.6	244
ERn4-W/ W-S	14.0	356	15.5	394	9.6	244
ERn4-RM	14.0	356	19.0	483	9.6	244

ERn Weights\*

MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
ERn2-W	15	6.80	20	9.08
ERn2-RM	20	9.07	21	9.53
ERn4-W/ W-S	20	9.07	25	11.34
ERn4-RM	25	11.34	29	13.15

\*Weights and dimensions typical



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24-61140-0

3/31/2024

<b>Submission Type</b>		
<input checked="" type="checkbox"/> Prior Approval	<input type="checkbox"/> Resubmittal for Approval	<input type="checkbox"/> Approval
<input type="checkbox"/> Corrections	<input type="checkbox"/> Your Use	<input type="checkbox"/> Other
		<input type="text"/>

**PRIOR APPROVAL SUBSTITUTION REQUEST FORM**

The undersigned, qualified bidder, subcontractor, manufacturer, or supplier requests that the following product be accepted for use in the Project

PRODUCT: \_\_\_\_\_ **SEE ATTACHED LIST** \_\_\_\_\_  
MODEL NO.: \_\_\_\_\_ \_\_\_\_\_  
MANUFACTURER: \_\_\_\_\_ \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ \_\_\_\_\_

The above product would be used in lieu of

PRODUCT: \_\_\_\_\_

specified in

SECTION: \_\_\_\_\_

PARAGRAPH: \_\_\_\_\_

Attached are the following circled items:

1. Product description including specifications, performance and test data, and applicable reference standards.
2. Drawings.
3. Photographs.
4. Samples.
5. Tabulated comparison with specified product.
6. For items requiring color selections, full range of manufacturer's color samples.
7. Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned certifies that the following statements are correct. Explanations for all items which are not true are attached.

1. Proposed substitution has been thoroughly investigated and function, appearance, and quality meet or exceed that of specified product. **TRUE** FALSE
2. Same warranty will be provided for substitution as for specified product. **TRUE** FALSE
3. No aspect of Project will require re-design. **TRUE** FALSE
4. Use of substitution will not adversely affect:

- a. Dimensions shown on Drawings.  TRUE  FALSE
- b. Construction schedule and date of completion.  TRUE  FALSE
- c. Work of other trades.  TRUE  FALSE
- 5. Maintenance service and replacement parts for proposed substitution will be readily available in the Albuquerque/local area.  TRUE  FALSE
- 6. Proposed substitution does not contain asbestos in any form.  TRUE  FALSE

Submitted By:

COMPANY: RKL SALES CORPORATION

ADDRESS: 4417 CORRALES RD. SUITE A, CORRALES, NM 87048

TELEPHONE NUMBER: 505-837-2262

NAME OF PERSON SUBMITTING REQUEST: ALEX TACKMAN

TITLE: PRINCIPAL

DATE: APRIL 1, 2024



APRIL 1, 2024

**JOB:** NM FIRST JUDICIAL DISTRICT ATTORNEY  
**ARCHITECT:** LLOYD & ASSOCIATES  
**ENGINEER:** AC ENGINEERING  
**BID DATE:** APRIL 11, 2024

**FIXTURE SCHEDULE**

	<i>SPECIFIED</i>		<i>PROPOSED TO FURNISH</i>	
<b>A</b>	<b>COLUMBIA</b>	<b>VS24 2765T VWHE G ED U</b>	<b>ACUITY</b>	<b>WHSPR 2X4 80CRI TUWH RHYR 4000LM DARK 277 SWC NLIGHT</b>
<b>A1</b>	<b>COLUMBIA</b>	<b>VS22 2765T VWHE G ED U</b>	<b>ACUITY</b>	<b>WHSPR 2X2 80CRI TUWH RHYR 2000LM DARK 277 SWC NLIGHT</b>
<b>B</b>	<b>AXIS</b>	<b>EX4S 400 80 40 SO 4 C 120 DP 1 SC</b>	<b>ALIGHT</b>	<b>ACL3ST 4 LS 40 U HE F CUSTOM D Q</b>
<b>C</b>	<b>LUMINATION</b>	<b>LRX S6 10 8 40 MD</b>	<b>ACUITY</b>	<b>65SEMW HL SWW5 90CRI M6</b>
<b>D</b>	<b>STERNBERG</b>	<b>SH 1230LED 1RND 27T MLD03 SV1</b>	<b>LIGHTWAY</b>	<b>JPTH 18 LED 04C 4 FINISH WTP 1545</b>
<b>D1</b>	<b>VISA</b>	<b>0W191 L40K MVOLT 0W1291 BRNZ</b>	<b>CAMMAN</b>	<b>OW915-24 40K MV WA PBR T3</b>
<b>F</b>	<b>COLUMBIA</b>	<b>CRW4 LSCS</b>	<b>ACUITY</b>	<b>STL4 40L GZ10 LP840 DNA</b>
<b>F1</b>	<b>COLUMBIA</b>	<b>CUC4 CS ED120</b>	<b>WAC</b>	<b>BA-ACLED42-27/30WT</b>
<b>EXIT</b>	<b>COMPASS</b>	<b>CCR0SQ</b>	<b>ACUITY</b>	<b>ECRG SQ M6</b>
<b>EM</b>	<b>COMPASS</b>	<b>CU2SQ</b>	<b>EMERGILITE</b>	<b>EL-2SQL</b>

**NOTE: RKL Sales does plan on quoting an nLight control system on this project, BOM to be determined.**

# MARK ARCHITECTURAL LIGHTING™



## The **Whisper LED** Series **Tunable White**

Whisper LED has joined the Mainstream Dynamic family of luminaires with two Tunable White ranges in the same beautiful and distinguished form. Distributed intelligence enables the previously unachievable - independent control of color temperature and intensity.

Gently sloping side panels give Whisper LED its depth and appealing angles. Whether units are installed in rows or individually, the look is artfully clean and simple. Whisper LED is available in 1' x 4', 2' x 2', and 2' x 4' sizes, and fits perfectly in a variety of business and institutional settings including offices, schools, and hospitals.

Type:

Project:

Catalog Number:

DO NOT TYPE HERE. Autopopulated field.

### Specification Features (continued on page 2)

**Housing**  
Nominal 1'x4', 2'x2' or 2'x4' housings fabricated from 22-gauge, cold-rolled steel.

**Finish**  
Matte-white powder coat.

**Reflector**  
Precision-formed steel; highly reflective white.

**Shielding**  
Hinged door frame is constructed of extruded aluminum center and side rails with cold-rolled steel end caps capturing the 3 individual optical panels, forming a single unit. The frame can be positioned on either side of the fixture housing to provide easy room side access for maintenance. Shielding options are as follows:  
Center Panel: Soft-white acrylic or optional microprismatic conical de-glaring lens.  
Side Panels: Soft-white acrylic.

**Mounting**  
Accommodates 9/16" slot grid or 15/16" inverted tee or 9/16" inverted tee.

For recessed mounting in hard ceiling applications, use a Drywall Grid Adapter (DGA22, DGA24, or DGA14WHS). Ordered separately.

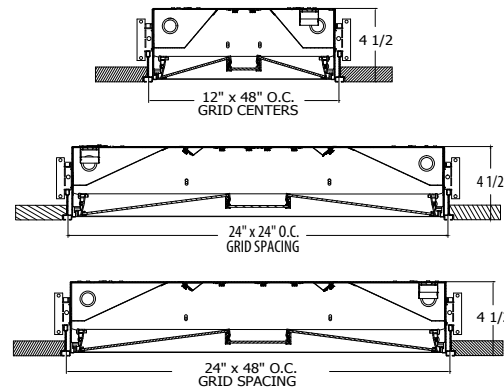
**Shipping**  
5-10 business days from clean release.

See WHSPR QS spec sheet for 5 day shipping configurations.

**LED Life**  
Rated 60,000 hours (L80) at 25° C ambient temperature.

**Color Consistency**  
The Acuity Brands circuit boards with color a variation of no greater than a 2.5 Step MacAdam (2.5SDCM) along the black body locus from board to board.

### Technical Drawing



Declare.



eldoLED  
your product's our drive



Example: WHSPR 2X4 4800LM TUWH RHYR 80CRI DARK NLIGHT MVOLT PDT ADC SWC

Series	Size	LED Output <sup>1</sup>	Dynamic Feature	Dynamic Range	LED Color Rendering	Minimum Dimming Level	Control Input
WHSPR Whisper LED	2X2 2' x 2'	2000LM <sup>2</sup> 2000 Lumens	TUWH Tunable White	PROR Productivity Range (3000K - 5000K) RHYR Rhythm Range (2700K - 6500K)	80CRI >80 CRI 90CRI >90 CRI	DARK <1% Minimum Dimming	NLIGHT nLight Enabled
	2X4 2' x 4'	3000LM <sup>3</sup> 3000 Lumens					
	1X4 1' x 4'	3300LM <sup>4</sup> 3300 Lumens					
		4000LM 4000 Lumens					
		4800LM 4800 Lumens					
		6000LM <sup>5</sup> 6000 Lumens					
Voltage		Primary Sensors <sup>6</sup>		Shielding Center		Options	
120 120V 277 277V	(blank) No Sensor PIR Occupancy Sensor- Passive Infrared PDT Occupancy Sensor- Dual Technology (Passive Infrared & Microphonics) API PIR Occupancy Sensor & Photocell APD PDT Occupancy Sensor & Photocell	SWC Soft White Acrylic YBC Microprismatic Conical Deglaring Lens	E10WLCP <sup>7</sup> 10W integral battery pack, constant power with self diagnostic. T20 Compliant. BGTD <sup>8</sup> Generator Transfer Device AMF Antimicrobial Finish LATC Earthquake Clips GLR <sup>9</sup> Fast-blow Fuse GMF <sup>9</sup> Slow-blow Fuse				

For footnotes, see page 3.

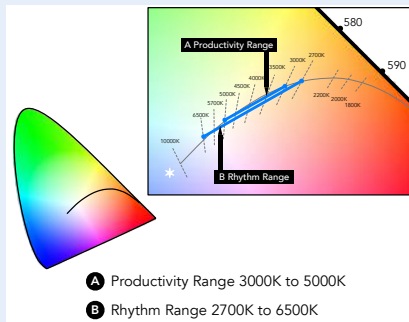
# MARK ARCHITECTURAL LIGHTING™

## The Whisper LED Series Tunable White

### Specification Features (continued)

#### Mainstream Dynamic Tunable White with nTune Technology

Tunable white nTune™ is an all digital light color temperature control within an nLight enabled luminaire. This brings tunable white lighting control into the mainstream with repeatable, consistent results in an economical luminaire form and system already familiar to schools. Designers and facility operators are granted the freedom to tie scenes to specific activities or to complement colors or materials within a visual environment. nTune™ allows color temperature settings through the Productivity Range of 3000K-5000K or Rhythm Range of 2700K to 6500K. Refer to the nLight Programming User's Guide for instructions on customizing to your application with SensorView™.



#### Tunable White GPHD

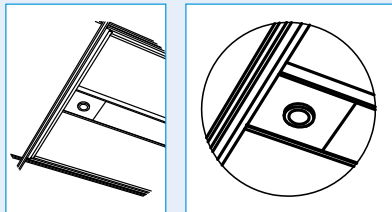
- **Gamut:** One dimensional warm-Cool
- **Path:** Direct 3000K to 5000k (Productivity Range) or 2700K to 6500K (Rhythm Range)
- **Handle:** Two Natural Language Handles: Intensity and CCT
- **Data:** nLight with nTune technology for both handles of control

#### Driver

eldoLED constant current driver option delivers choice of dimming range for ultra-smooth dimming resolution from 100% to less than 1%, and choices for control, while assuring flicker free, low current inrush, 89% efficiency and low EMI.

#### Integrated Controls

Optional nLight® embedded controls make luminaire addressable- allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocells. Simply connect all the nLight enabled control devices using standard CAT5 Cabling.



Pictured with Occupancy Sensor and Photocell

#### Maintenance

Serviceable from below with easy access to electrical components.

#### Lumen Management

An optional lumen management system provides onboard intelligence that actively manages the LED light source so that constant lumen output is maintained over the system's life, creating a consistently illuminated environment while preventing energy waste. (Option: CL80)

#### A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a **shaded background\***
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a **shaded background\***

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus).

\*See ordering tree for details

#### Certification

CSA Certified to meet U.S. and Canadian standards, CSA Certified for damp locations, IC-rated.

#### Warranty

5-year limited warranty. Complete warranty terms located at: [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

**Note:** Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

\* Applies to eldoLED driver configurations.

#### Notes

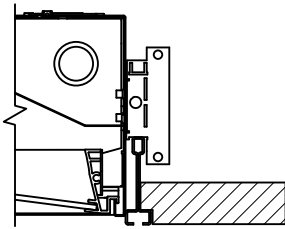
1. Nominal values.
2. 2000LM output valid for 2x2 and 1x4 sizes.
3. 3000LM output valid for 2x4 size.
4. 3300LM output valid for 2x2.
5. 6000LM output valid for 2x4 size.
6. Not available with 1x4. All sensors are factory-installed onboard sensors.
7. Test switch located on internal reflector behind diffuser. Glow of test switch visible from below.
8. Must select 120 or 277 option not available with E10WLCP option.
9. Voltage specified must select 120 or 277.

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LIGHTING™

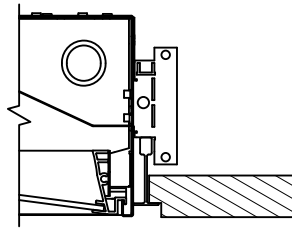
The **Whisper LED** Series  
**Tunable White**

**Mounting**

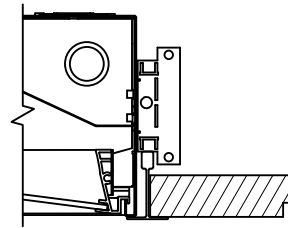
Recessed, lay-in formed steel trim. Universal trim accommodates 9/16" slot grid or 15/16" inverted tee, or 9/16" inverted tee.



UNIV  
(9/16" Slot Grid)



UNIV  
(9/16" Grid)



UNIV  
(15/16" Grid)

For recessed mounting in hard ceiling applications, use one of the following drywall grid adapters (ordered separately).

Fixture	Drywall Grid Adapter (DGA)
WHSPR 2X2	DGA22
WHSPR 2X4	DGA24
WHSPR 1X4	DGA14WHS

**MARK**  
ARCHITECTURAL  
LIGHTING™

The **Whisper LED** Series

**Wall Pods**

**Tunable White Wall Pods**



nPODM 2P DX CCT



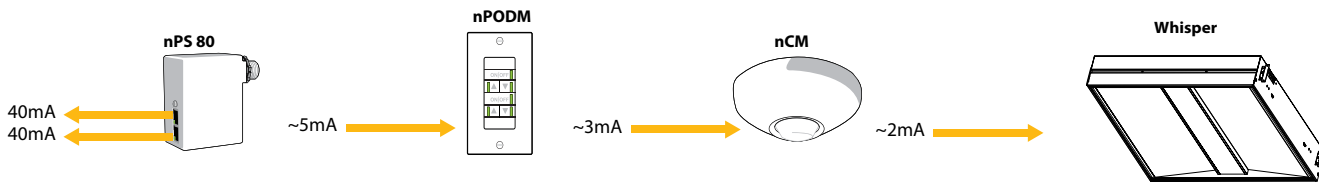
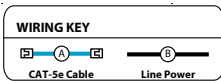
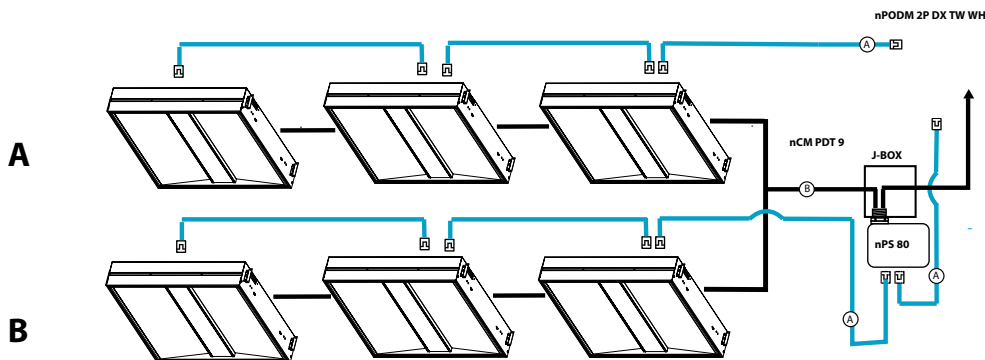
nPODM 4S DX EDUTW



nPODM 4S EDUTW

**Typical nLight network layout**

Typical nLight network layout with power supply, sensor and wallpod.



\*Note: Also applicable to linear runs. Each 4' fixture section must be connected, by CAT5 cable, to another fixture.



# MARK ARCHITECTURAL LIGHTING™



## The **Whisper LED** Series **Tunable White**

Whisper LED has joined the Mainstream Dynamic family of luminaires with two Tunable White ranges in the same beautiful and distinguished form. Distributed intelligence enables the previously unachievable - independent control of color temperature and intensity.

Gently sloping side panels give Whisper LED its depth and appealing angles. Whether units are installed in rows or individually, the look is artfully clean and simple. Whisper LED is available in 1' x 4', 2' x 2', and 2' x 4' sizes, and fits perfectly in a variety of business and institutional settings including offices, schools, and hospitals.

Type:

Project:

Catalog Number:

DO NOT TYPE HERE. Autopopulated field.

### Specification Features (continued on page 2)

**Housing**  
Nominal 1'x4', 2'x2' or 2'x4' housings fabricated from 22-gauge, cold-rolled steel.

**Finish**  
Matte-white powder coat.

**Reflector**  
Precision-formed steel; highly reflective white.

**Shielding**  
Hinged door frame is constructed of extruded aluminum center and side rails with cold-rolled steel end caps capturing the 3 individual optical panels, forming a single unit. The frame can be positioned on either side of the fixture housing to provide easy room side access for maintenance. Shielding options are as follows:  
Center Panel: Soft-white acrylic or optional microprismatic conical de-glaring lens.  
Side Panels: Soft-white acrylic.

**Mounting**  
Accommodates 9/16" slot grid or 15/16" inverted tee or 9/16" inverted tee.

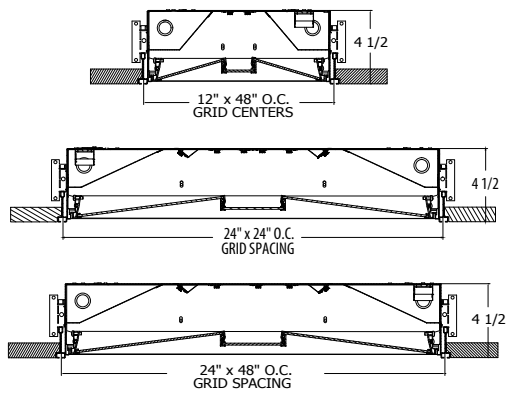
For recessed mounting in hard ceiling applications, use a Drywall Grid Adapter (DGA22, DGA24, or DGA14WHS). Ordered separately.

**Shipping**  
5-10 business days from clean release.  
See WHSPR QS spec sheet for 5 day shipping configurations.

**LED Life**  
Rated 60,000 hours (L80) at 25° C ambient temperature.

**Color Consistency**  
The Acuity Brands circuit boards with color a variation of no greater than a 2.5 Step MacAdam (2.5SDCM) along the black body locus from board to board.

### Technical Drawing



A+ Capable options indicated by this color background.



Example: WHSPR 2X4 4800LM TUWH RHYR 80CRI DARK NLIGHT MVOLT PDT ADC SWC

Series	Size	LED Output <sup>1</sup>	Dynamic Feature	Dynamic Range	LED Color Rendering	Minimum Dimming Level	Control Input
WHSPR Whisper LED	2X2 2' x 2'	2000LM <sup>2</sup> 2000 Lumens	TUWH Tunable White	PROR Productivity Range (3000K - 5000K) RHYR Rhythm Range (2700K - 6500K)	80CRI >80 CRI 90CRI >90 CRI	DARK <1% Minimum Dimming	NLIGHT nLight Enabled
	2X4 2' x 4'	3000LM <sup>3</sup> 3000 Lumens					
	1X4 1' x 4'	3300LM <sup>4</sup> 3300 Lumens					
		4000LM 4000 Lumens					
		4800LM 4800 Lumens					
		6000LM <sup>5</sup> 6000 Lumens					
Voltage	Primary Sensors <sup>6</sup>	Shielding Center	Options				
120 120V 277 277V	(blank) No Sensor PIR Occupancy Sensor- Passive Infrared PDT Occupancy Sensor- Dual Technology (Passive Infrared & Microphonics) API PIR Occupancy Sensor & Photocell APD PDT Occupancy Sensor & Photocell	SWC Soft White Acrylic YBC Microprismatic Conical Deglaring Lens	E10WLCP <sup>7</sup> 10W integral battery pack, constant power with self diagnostic. T20 Compliant. BGTD <sup>8</sup> Generator Transfer Device AMF Antimicrobial Finish LATC Earthquake Clips GLR <sup>9</sup> Fast-blow Fuse GMF <sup>9</sup> Slow-blow Fuse				

For footnotes, see page 3.

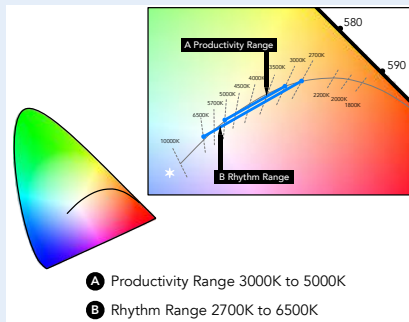
# MARK ARCHITECTURAL LIGHTING™

## The Whisper LED Series Tunable White

### Specification Features (continued)

#### Mainstream Dynamic Tunable White with nTune Technology

Tunable white nTune™ is an all digital light color temperature control within an nLight enabled luminaire. This brings tunable white lighting control into the mainstream with repeatable, consistent results in an economical luminaire form and system already familiar to schools. Designers and facility operators are granted the freedom to tie scenes to specific activities or to complement colors or materials within a visual environment. nTune™ allows color temperature settings through the Productivity Range of 3000K-5000K or Rhythm Range of 2700K to 6500K. Refer to the nLight Programming User's Guide for instructions on customizing to your application with SensorView™.



#### Tunable White GPHD

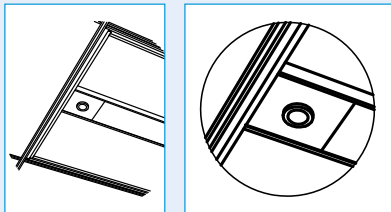
- **Gamut:** One dimensional warm-Cool
- **Path:** Direct 3000K to 5000k (Productivity Range) or 2700K to 6500K (Rhythm Range)
- **Handle:** Two Natural Language Handles: Intensity and CCT
- **Data:** nLight with nTune technology for both handles of control

#### Driver

eldoLED constant current driver option delivers choice of dimming range for ultra-smooth dimming resolution from 100% to less than 1%, and choices for control, while assuring flicker free, low current inrush, 89% efficiency and low EMI.

#### Integrated Controls

Optional nLight® embedded controls make luminaire addressable- allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices using standard CAT5 Cabling.



Pictured with Occupancy Sensor and Photocell

#### Maintenance

Serviceable from below with easy access to electrical components.

#### Lumen Management

An optional lumen management system provides onboard intelligence that actively manages the LED light source so that constant lumen output is maintained over the system's life, creating a consistently illuminated environment while preventing energy waste. (Option: CL80)

#### A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a **shaded background\***
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a **shaded background\***

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus).

\*See ordering tree for details

#### Certification

CSA Certified to meet U.S. and Canadian standards, CSA Certified for damp locations, IC-rated.

#### Warranty

5-year limited warranty. Complete warranty terms located at: [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

**Note:** Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

\* Applies to eldoLED driver configurations.

#### Notes

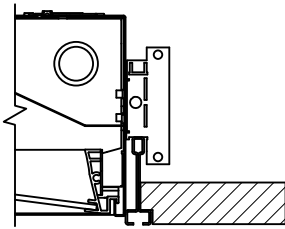
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4. 3300LM output valid for 2x2.
5. 6000LM output valid for 2x4 size.
6. Not available with 1x4. All sensors are factory-installed onboard sensors.
7. Test switch located on internal reflector behind diffuser. Glow of test switch visible from below.
8. Must select 120 or 277 option not available with E10WLCP option.
9. Voltage specified must select 120 or 277.

**MARK**  
ARCHITECTURAL  
LIGHTING™

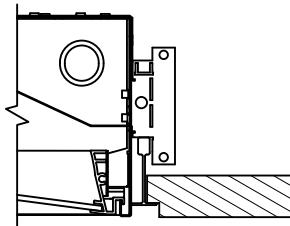
The **Whisper LED** Series  
**Tunable White**

**Mounting**

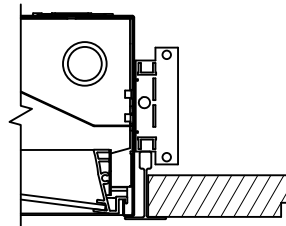
Recessed, lay-in formed steel trim. Universal trim accommodates 9/16" slot grid or 15/16" inverted tee, or 9/16" inverted tee.



UNIV  
(9/16" Slot Grid)



UNIV  
(9/16" Grid)



UNIV  
(15/16" Grid)

For recessed mounting in hard ceiling applications, use one of the following drywall grid adapters (ordered separately).

Fixture	Drywall Grid Adapter (DGA)
WHSPR 2X2	DGA22
WHSPR 2X4	DGA24
WHSPR 1X4	DGA14WHS

**MARK**  
ARCHITECTURAL  
LIGHTING™

The **Whisper LED** Series

**Wall Pods**

**Tunable White Wall Pods**



nPODM 2P DX CCT



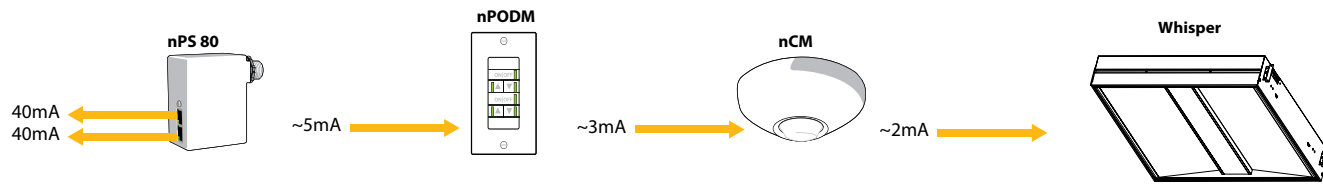
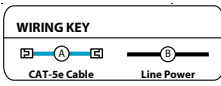
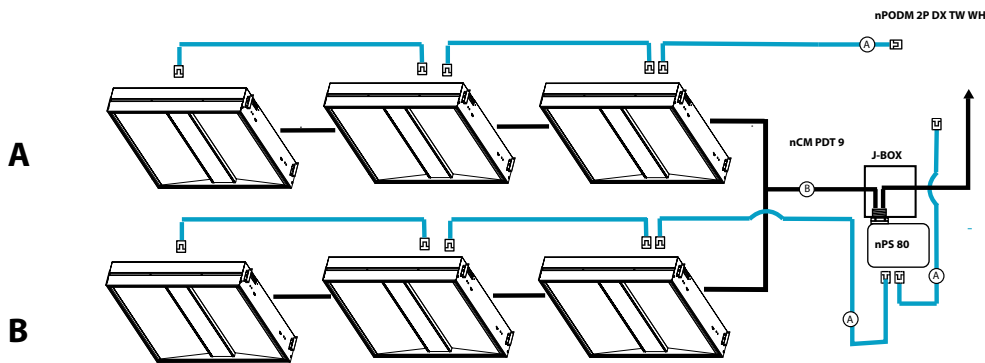
nPODM 4S DX EDUTW



nPODM 4S EDUTW

**Typical nLight network layout**

Typical nLight network layout with power supply, sensor and wallpod.



\*Note: Also applicable to linear runs. Each 4' fixture section must be connected, by CAT5 cable, to another fixture.

ACCOLED | ACL3ST | SUSPENDED | SURFACE | WALL



# ACL3ST

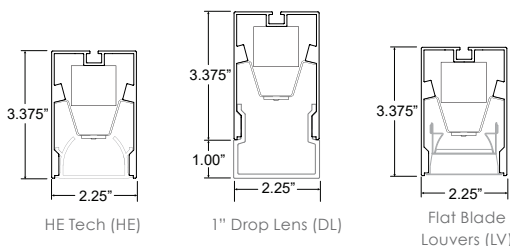
Direct - Suspended - Surface - Wall

ACL3ST combines clean lines with high performance direct distribution, for a functional and aesthetically pleasing slim profile.

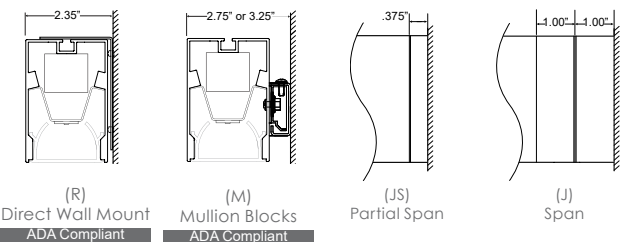
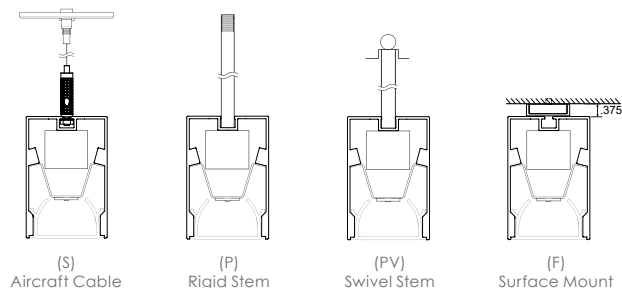
### Replacement of ACCOLED - ACL3

- Unique patterns with fully lit corners and intersections possible with Design Assist.
- Individual units and continuous runs in exact lengths.
- Adjustable mounting options for ease of installation.
- Custom color options.
- Quickship nominal options.
- ADA compliant mounting options.

### DIMENSIONS



### MOUNTING OPTIONS

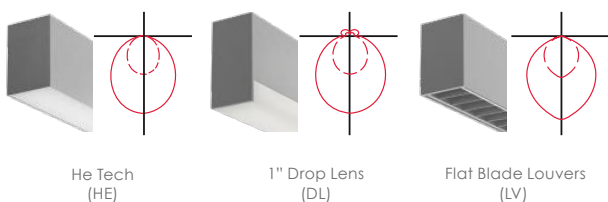


### PERFORMANCE

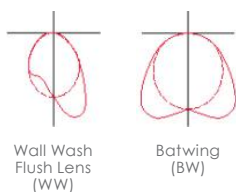
OUTPUT	OPTICS	NOMINAL		
		LM OUTPUT	INPUT WATTS	EFFICACY
LH <small>(high)</small>	HE Tech™	1075 lm/ft	10 W/ft	109 lm/W
	1" Drop Lens	861 lm/ft	9.8 W/ft	88 lm/W
LS <small>(standard)</small>	HE Tech™	572 lm/ft	4.9 W/ft	117 lm/W
	1" Drop Lens	453 lm/ft	4.9 W/ft	95 lm/W

Based on static white 35K HE lens fixtures. For the complete photometric data of this fixture refer to page 4.

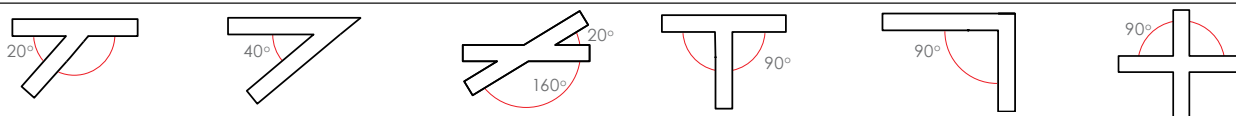
### DOWNLIGHT LENS OPTIONS



### OTHER OPTIONS



### MULTIPLE INTERSECTIONS AND CORNERS OPTIONS



**ACL3ST | SPECIFICATION**

DIRECT PERFORMANCE AT 3500K

OUTPUT	DISTRIBUTION	DIRECT NOMINAL LUMEN OUTPUT	INPUT WATT	EFFICACY
LH HIGH	HE TECH™	1075 lm/ft	9.7 W / ft	109 lm /W
	FLAT BLADE LOUVERS	982 lm / ft	9.7 W / ft	100 lm /W
	1" DROP-LENS	843 lm / ft	9.7 W / ft	86 lm /W
	WALL WASH	771 lm / ft	9.7 W / ft	79.3 lm /W
LS STANDARD	BATWING WIDE	665 lm / ft	9.7 W / ft	68.4 lm /W
	HE TECH™	572 lm / ft	4.9 W / ft	117 lm /W
	FLAT BLADE LOUVERS	517 lm / ft	4.9 W / ft	106 lm/W
	1" DROP-LENS	443 lm / ft	4.9 W / ft	90 lm /W
	WALL WASH	385 lm / ft	4.9 W / ft	80.3 lm/W
	BATWING WIDE	332 lm / ft	4.9 W / ft	68 lm /W

Custom tuned output available from 25% to 125% of high output. Please consult factory for custom lumen output and wattage. \*Flat Blade Louver calculated using the aluminum finish.

PROJECT INFORMATION

Project Info \_\_\_\_\_ Date \_\_\_\_\_  
 Type \_\_\_\_\_ Quantity \_\_\_\_\_

**Need help? Don't see what you need?**  
 Please reach out to our factory for any specific request or questions you have. Our talented Design Assist team at: [designassist@alights.com](mailto:designassist@alights.com)

**ACL3ST**

ACL3ST	4 FT						
SERIES	LENGTH OR PATTERN TYPE	INTERSECTION TYPE	OUTPUT	LED CCT	CRI	VOLTAGE	DIRECT OPTICS
ACL3ST	- Nominal Length* M_ Exact Length** PL_ "L" Shape*** PU_ "U" Shape*** PR_ Rectangle / Square**** CP Custom Pattern**** <small>*Specify in feet to the nearest foot (i.e. 12)            **Specify in inches to the nearest 1/8 (i.e. 180/125)            ***Specify in inches to the nearest 1/8 (See Pattern Guide (P.6) for configurations)            ****Contact Design Assist</small>	IT "T" Intersection* IX "X" Intersection* IY "Y" Intersection* <small>*Not available with Drop Lens. Available with Flat Blade Louvers only in 90° degrees.            **Fully illuminated intersection available with HE Tech and Polycarbonate Flush WISP optics only. Contact Design Assist.</small>	LH High Output LS Standard Output C_ Custom Output* TW Tunable White* DW Dim-to-warm* <small>*Available from 25% to 125% of LED High Output.</small>	27 2700K 30 3000K 35 3500K 40 4000K TW Tunable White* DW Dim-to-warm* <small>*Standard CCT range is 27-50K. Contact design assist for custom range. Not available with Direct Wall Wash or Batwing wide.</small>	- 80+ CRI CRI 90+ CRI* <small>* Not offered with (TW) Tunable white or (DW) Dim-to-warm.</small>	U 120V-277V 3 347V* <small>*Not available with LEDcode or EM.</small>	HE HE Tech™ DL 1" Drop Lens* LV Flat Blade Louvers** WW Direct Wall Wash BW Direct Batwing Wide <small>* Not available in Wet Location.            **Aluminum Standard. Not available in Wet Location.</small>

MOUNTING	FINISH	DIMMING	EMERGENCY	SENSORS	OPTIONS
S Aircraft Cable* P_ Rigid Stem** PV_ Swivel Stem** R Direct Wall Mount M_ Mullion Blocks*** Surface Mount**** JS Partial Span***** J Full Span***** <small>Standard power cord exit point is 3" away from end-cap. Contact Design Assist for custom location.            *Standard 48" field adjustable cable, specify length to nearest inch if over 48". Black power cord provided for black and titanium finish and white power cord provided for all other fixture finishes, unless otherwise specified.            **Indicate stem length to nearest inch, 6.00" minimum - 98" maximum. Coupler and multiple stems will be provided to requests longer than 98". Longer stems with coupler not recommended if fixture is exposed to winds/wivel pendant stem.            ***Enter 1 for 1" depth. Enter 5 for 1/2" depth.            ****Available for ceiling and wall surface mounting.            *****Not available with drop lens.</small>	T Titanium W White B Black O_ Other* CBD SFH SDW LME SPN SMN SCY <small>*Specify RAL#</small>	D Standard 0-10V dimming* D2 Phase dimming** D3 DMX 0.1% dim-to-dark D4 DALI dim-to-off (EldoLED) NAIR nLight@AIR (dim-to-off)*** NWIR nLight@Wired (dim-to-off) <small>* 1% Dimming standard unless otherwise specified.            **Reference ERP-PHB driver for compatible dimmers.            ***nLight AIR components completely integrated into fixture. Not available with 347V + LEDcode or EM. If 347V, only available in 0-10V.</small>	EC Emergency - circuited E_ Emergency - battery* <small>Not available for 347V. See technical data for more information.            Not available on fixtures &lt; 4" length.            *Factory-installed emergency battery pack. Specify desired quantity of batteries.</small>	OF Occupancy Sensor - Fixture PF Photocell / Daylight Sensor - Fixture OPF Occupancy / Daylight Sensor - Fixture <small>*Sensor will be matched to dimming input. All sensors to be integral to fixture. Remote sensors are to be provided by others.</small>	M Multi-Circuit* R Right End cap Feed L Left End cap Feed K Natatorium Application** Q Wet Location*** MRI MRI**** <small>*Submit multi-circuiting requirements            **Not available with aircraft cable. See guide and contact Design Assist. Not compatible with Drop Lens, Flat Blade Louvers.            *** Client must specify power feed location. Not available with aircraft cable. Wet location suitable in full coverage and/or mullion mounted applications (direct to sky not recommended); not suitable for extreme weather applications. Refer to Wet Location brochure and contact Design Assist for more information. Not compatible with Drop Lens, Flat Blade Louvers optics.            ****Review MRI brochure for more information.</small>



**ACL3ST | PHOTOMETRY**

**LIGHT DISTRIBUTION**

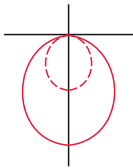
OUTPUT

LH: High output - 9.8 W/ft  
LS: Standard output - 4.9 W/ft  
C: Custom tuned output - Contact Design Assist

HE TECH™

LH- 4FT- 3500K

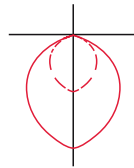
Lumens: 1075 lm/ft  
Input watts: 9.7 W/ft  
Efficacy: 109 lm/W



DIRECT FLAT BLADE LOUVERS

LH- 4FT- 3500K

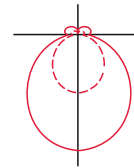
Lumens: 982 lm/ft  
Input watts: 9.7 W/ft  
Efficacy: 100 lm/W



DIRECT 1" DROP-LENS

LH- 4FT- 3500K

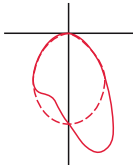
Lumens: 843 lm/ft  
Input watts: 9.7 W/ft  
Efficacy: 86 lm/W



DIRECT WALL WASH

LH- 4FT- 3500K

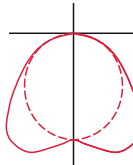
Lumens: 771 lm/ft  
Input watts: 9.7 W/ft  
Efficacy: 79.3 lm/W



DIRECT BATWING

LH- 4FT- 3500K

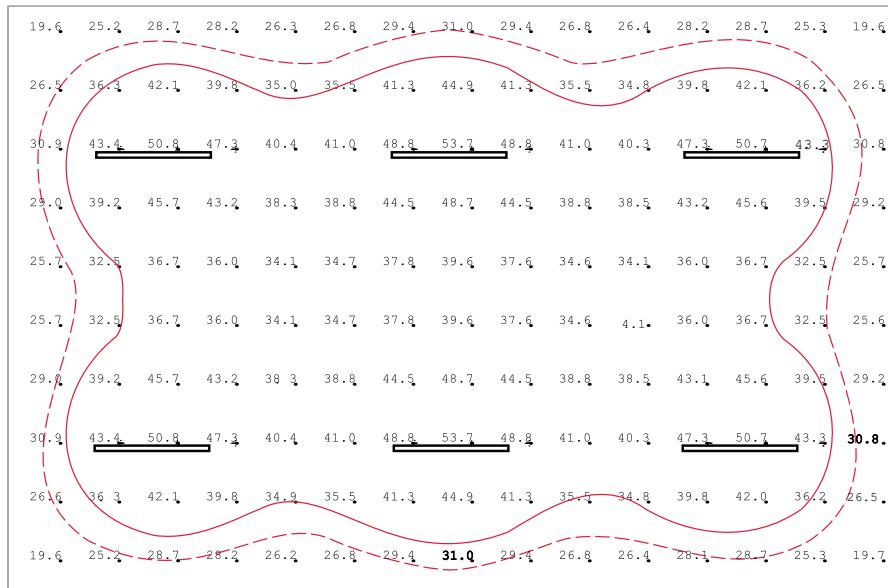
Lumens: 665 lm/ft  
Input watts: 9.7 W/ft  
Efficacy: 68.4 lm/W



**SAMPLE INSTALLATION - WORKSPACE**

LH DOWN - 3500K

Room dimensions: 30'L x 20'W x 12'H  
Reflectance: 80% / 50% / 20%  
Mounting height: 9 ft A.F.F.  
Fixture length: 4 ft  
Calculation grid: 2 ft x 2 ft  
Calculation plane (horizontal): 2.5 ft A.F.F.  
Average Illuminance: 36 fc  
Fixture spacing: 10 ft x 10 ft  
Uniformity: 1.9:1 (avg/min)



TOP VIEW  
30 fc: ———  
25 fc: - - - -



Project 24-61140-0  
 NM FIRST JUDICIAL DA  
 Submitted By  
 RKL SALES CORP

Catalog Number: ACL3ST 4 LS 40 U HE F CUSTOM D Q  
 Note:

Type  
**B**

**ACL3ST | PHOTOMETRY**

**LIGHT LOSS FACTOR (LLF)**

OUTPUT	CCT	LLF RATIO		DIRECT									
				HE TECH™		FLAT BLADE LOUVERS		1" DROP-LENS		WALL WASH		BATWING	
		CRI 80+	CRI 90+	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +	CRI 80 +	CRI 90 +
LH (high)	4000k	102.1%	90.2%	1098 lm/ft	970 lm/ft	1003 lm/ft	886 lm/ft	861 lm/ft	760 lm/ft	788 lm/ft	696 lm/ft	679 lm/ft	600 lm/ft
	3500k	100.0%	87.3%	1075 lm/ft	938 lm/ft	982 lm/ft	857 lm/ft	843 lm/ft	735 lm/ft	771 lm/ft	673 lm/ft	665 lm/ft	580 lm/ft
	3000k	96.2%	82.4%	1034 lm/ft	886 lm/ft	945 lm/ft	809 lm/ft	811 lm/ft	695 lm/ft	742 lm/ft	636 lm/ft	640 lm/ft	548 lm/ft
LS (standard)	2700k	92.6%	78.1%	995 lm/ft	840 lm/ft	909 lm/ft	767 lm/ft	780 lm/ft	659 lm/ft	714 lm/ft	603 lm/ft	615 lm/ft	519 lm/ft
	4000k	54.3%	48.0%	584 lm/ft	516 lm/ft	528 lm/ft	466 lm/ft	453 lm/ft	400 lm/ft	393 lm/ft	347 lm/ft	339 lm/ft	299 lm/ft
	3500k	53.2%	46.4%	572 lm/ft	499 lm/ft	517 lm/ft	451 lm/ft	443 lm/ft	387 lm/ft	385lm/ft	336 lm/ft	332 lm/ft	290 lm/ft
	3000k	51.2%	43.8%	550 lm/ft	471 lm/ft	497 lm/ft	426 lm/ft	427 lm/ft	366 lm/ft	370 lm/ft	317 lm/ft	319 lm/ft	274 lm/ft
	2700k	49.2%	41.6%	529 lm/ft	447 lm/ft	478 lm/ft	404 lm/ft	410 lm/ft	347 lm/ft	356lm/ft	301 lm/ft	307 lm/ft	259 lm/ft

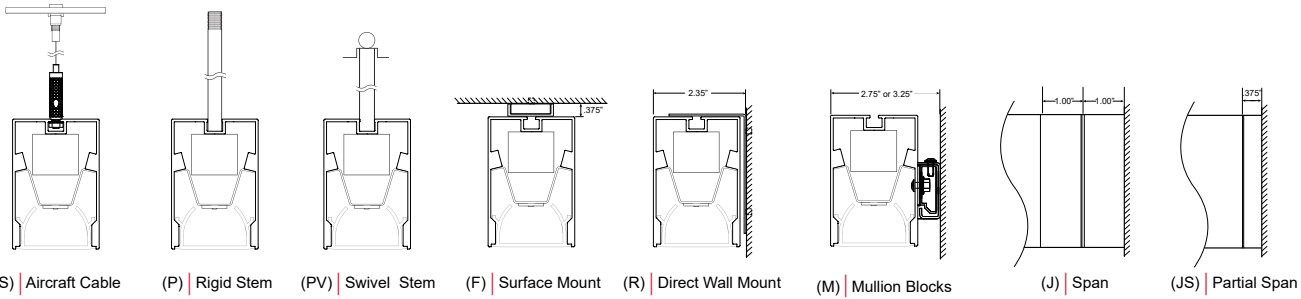
**TUNNABLE WHITE | LIGHT LOSS FACTORS (LLF)**

OUTPUT	CCT	CRI 80+			
		%	OPTICS		
			HE Tech™	Drop Lens	Flat Blade Louver
LH (High)	5000k	100%	890 lm/ft	727 lm/ft	847 lm/ft
	2700k	93.6%	833 lm/ft	667 lm/ft	776 lm/ft
LS (Standard)	5000k	100%	469 lm/ft	351 lm/ft	446 lm/ft
	2700k	93.6%	439 lm/ft	383 lm/ft	409 lm/ft

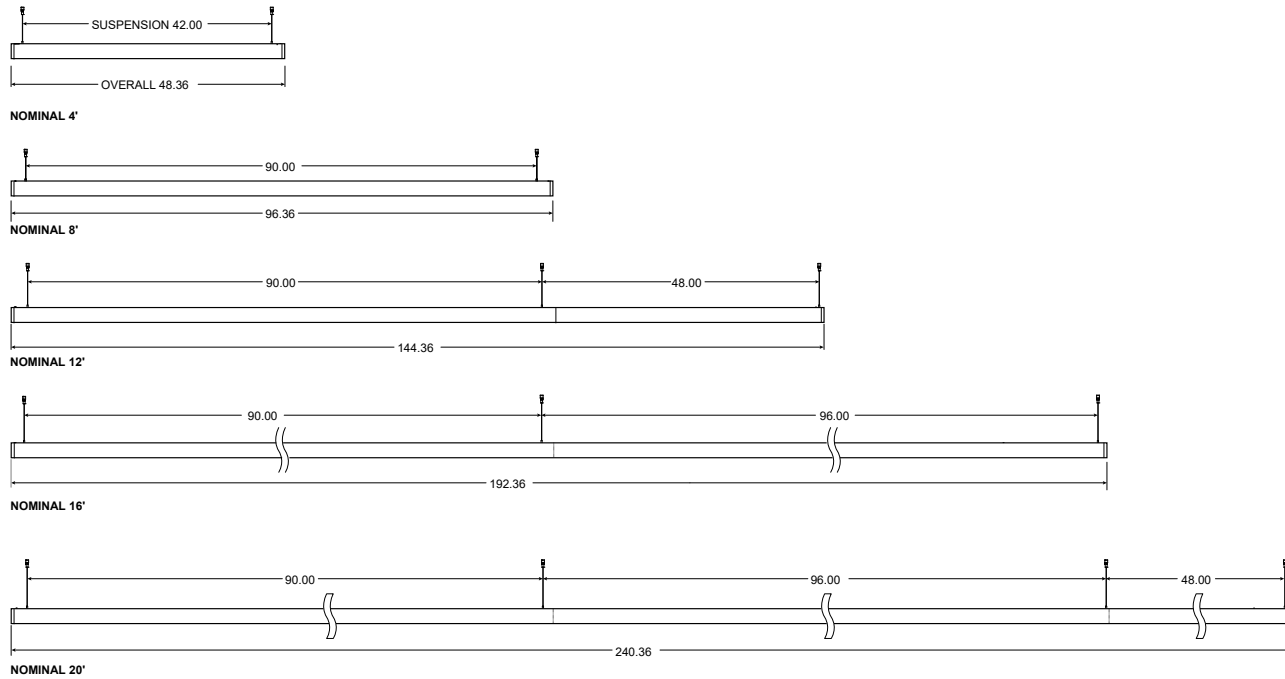
For standard output (LS) -50%. Values are applicable for Tunable White and Dim-to-warm only.



**ACL3ST | MOUNTING & DIMENSIONS**



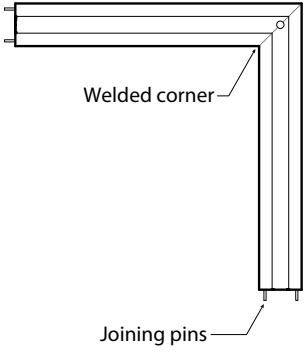
**MOUNTING LENGTHS**



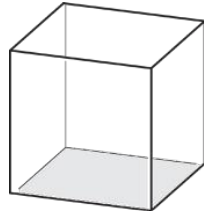
Standard dimensions shown for suspension points, all aircraft cable mounting lengths are adjustable on site.  
\*For nLight AIR applications: gripper needs to be at least 3.5" from the antenna. Refer to nLight dimensions section for more details.

**ACL3ST | PATTERNS**

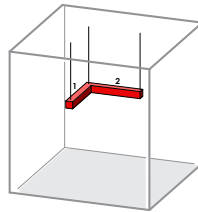
**CORNER DETAIL**



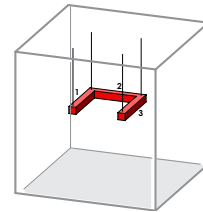
**STANDARD PATTERNS**



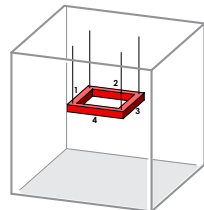
Custom Pattern\*



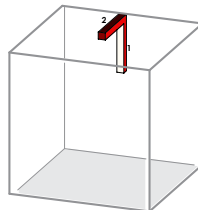
PL



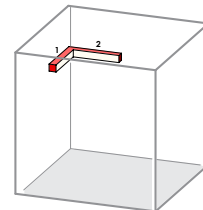
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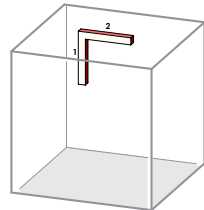
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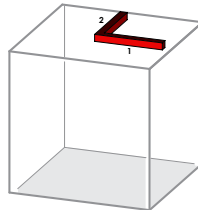
PLCW | Wall to Ceiling



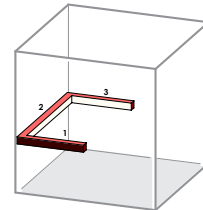
PLWW | Wall to Wall



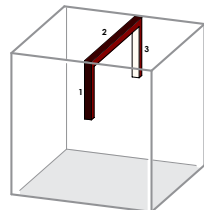
PLW | Wall Only



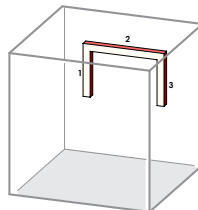
PLC | Ceiling Only



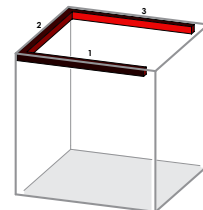
PUWW | Wall to Wall



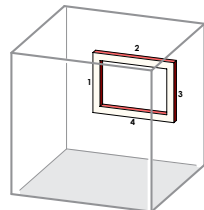
PUCW | Wall to Ceiling to Wall



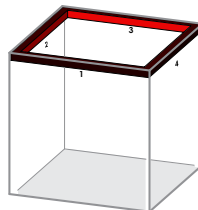
PUW | Wall Only



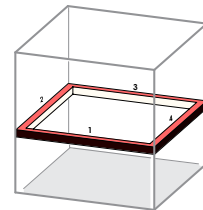
PUC | Ceiling Only



PRW | Wall Only



PRC | Ceiling Only



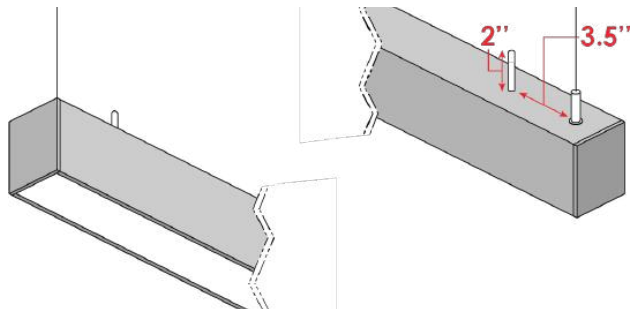
PRWW | Rectangle Wall to Wall

\*Contact design assist for custom patterns.

**ACL3ST | NLIGHT**

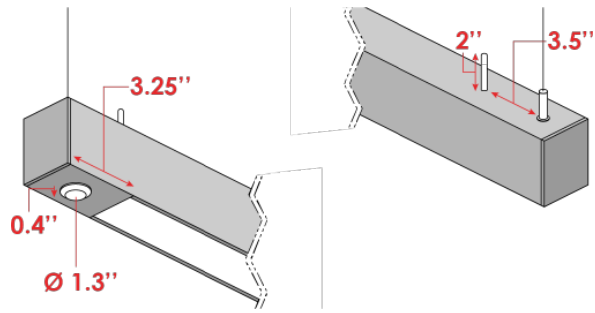
**NLIGHT® DIMENSIONS**

AIR : r10



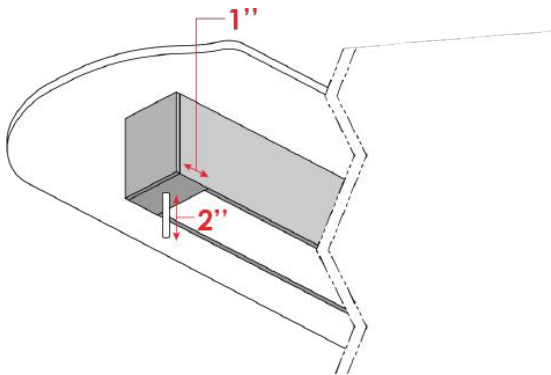
\*Fixture mounted sensors and filler panel for nLight AIR only.

AIR : res7



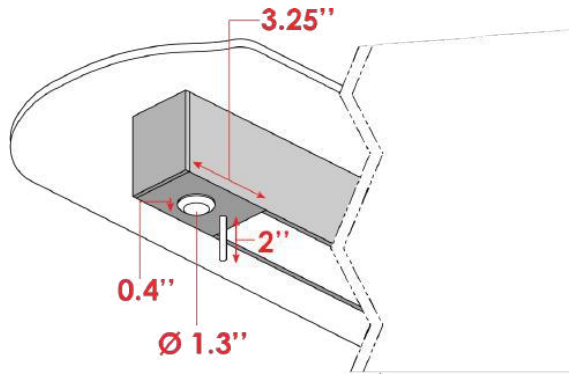
\*Fixture mounted sensors and filler panel for nLight AIR only.

AIR : r10 Surface



\*Fixture mounted sensors and filler panel for nLightAIR only.

AIR : res7 Surface



\*Fixture mounted sensors and filler panel for nLightAIR only.



Project 24-61140-0  
 NM FIRST JUDICIAL DA  
 Submitted By  
 RKL SALES CORP

Catalog Number: ACL3ST 4 LS 40 U HE F CUSTOM D Q  
 Note:

Type  
**B**

**ACL3ST | TECHNICAL DATA**

**LINEAR DIMENSIONS**

Nominal length individual fixtures can be joined to create continuous row lengths.

Nominal or exact lengths to the nearest 1/8th of an inch available as individual fixtures or joined to create continuous row lengths, minimum fixture lengths is 12 inches. Patterns comprised of 90 degree precisely welded fully illuminated corners provide a multitude of geometric options and architectural transitions. Custom angled corners and intersections also available upon request.

**Custom** - Contact [Design Assist](#) for modifications to product not detailed within specification sheets.

**OPTICS**

He Tech™ patented high efficacy extruded diffuse acrylic lens technology with integrated opaque white reflector delivers superior lumen output with optimal uniform lens surface luminance for direct distribution.

Flat Blade Louvers are used to cut down on glare and better control the light source on ACL3ST. This option includes a linear film diffuser (inserted between the louvers and the LEDs), that enhances glare control. The louvers standard finish is aluminum. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

Drop Lens is a light diffuser option for ACL3ST that turns the luminaire into a decorative graphical statement. The diffuser drops down from the luminaire's main body of 1" and sits flush with the metal end caps. Once lit, the drop lens glows vividly and offers a wider diffusion pattern.

Perimeter fill - Wall wash and Batwing wide for direct distributions are film optics that refract light along with an HE Tech™ extruded diffuse acrylic lens with integrated opaque white reflector.

**LED LIGHT SOURCE**

Custom manufactured linear board array uses high performance Nichia® LED in combination with a performance driven heat sink technology. Tested in accordance with LM79 and LM-80; L70>60,000hr; operated at reduced output for high efficacy and lumen maintenance. 2700K, 3000K, 3500K, and 4000K with 80+ CRI standard; other color temperatures and 90+ CRI available upon request, contact factory. LED color variation maintained at a 3-step MacAdam ellipse (SDCM 3x). LEDs are available in Standard, and High outputs. Refer to photometry for delivered lumens. Custom output available in the range 25% to 125% of high output, contact factory.

**LED DIMMING DRIVER**

Factory tuned constant current electronic 0-10V control dimming driver is standard. Specification grade dimming down to 1%. Driver life of 50,000 hrs with ambient operating temperature range of -20°C to 50°C, maximum case temperature of 80°C. Electrical specifications at maximum driver load: PF >0.9, THD <20%, >85% Efficiency.

**EMERGENCY**

This luminaire is provided with a factory installed LED emergency lighting battery pack for both normal and emergency operation, 120-277v only. This fixture integrated unit contains long-life Ni-Cad recyclable battery, 24 hour charger, and converter circuit. Test switch and charge indicator provided. Test button to be remote located within 3 feet of the luminaire, in accordance with local code. Emergency mode provides constant power to a nominal 12W LED load for a period of 90 minutes, delivering 1200 lumens of unwavering illumination throughout the full 90 minute emergency duration. Unless otherwise specified, the emergency battery pack will illuminate one 2 foot end in the direct portion of the fixture. Not available in fixtures <4ft'.

Emergency circuiting provided as a separate circuit from normal power circuit according to NEC requirements, specify circuit length and location.

**CONTROLS**

Low-profile integral occupancy and daylight sensors are available to deliver high performance control in an architecturally pleasing package.

Integrated nLight® for system networking wired and wireless:

**nLIGHT® AIR WIRELESS**

The integrated API smart sensor is part of each luminaire in the nLight® AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application. Optionally you can order nLight® AIR sensors for compatibility with an nLight Air wireless system. The rIO, rES7, rMSOD, and rCMS models are available for integration.

**CONTROLS AND SYSTEM NETWORKING OPTIONS**

For wired networking via Cat-5e, choose an nLight® wired module. The nIO EZ PH, nIO EZDL CCT, nES7 and nCM are available for integration.

nLight enabled, remote mounted controls provided by others. Please contact an Acuity controls representative for more information.



Project 24-61140-0  
NM FIRST JUDICIAL DA  
Submitted By  
RKL SALES CORP

Catalog Number: ACL3ST 4 LS 40 U HE F CUSTOM D Q  
Note:

Type  
**B**

## ACL3ST | TECHNICAL DATA

### MOUNTING

Suspension with aircraft cables or pendant stems, and full or partial span mounting available.

Aircraft cable set includes 48" standard length 1/16" stainless steel adjustable aircraft cables with secure micro grippers to field set suspension length and adjustable suspension points to accommodate existing architecture, comes factory pre-installed in fixture. 4-1/2" x 4-1/2" square white canopies, unless otherwise noted. Cord strain also included for power canopies. Power cord options available for aircraft cable. Black power cord provided for black and titanium finish, white power cord provided for all other fixture finishes unless otherwise specified.

Rigid pendant stem set includes 1/4" hollow white threaded rod for suspension and power feed, standard specification length, 6" minimum and up to 98" maximum. Anything longer will be made up of multiple stems with couplers, provided by factory. 5" square mono point white canopies.

Swivel stem set includes 1/4" hollow white threaded rod for suspension and power feed, standard specification length, 6" minimum and up to 98" maximum. Anything longer will be made up of multiple stems with couplers, provided by factory; longer stems that require couplers are not recommended to be installed in direct contact with wind that will create a swivel. 5" square mono point white 45 degree angle swivel stem.

Specify if another suspension length is required. Canopies provided as required for the quantity of power feed and non-power feed locations (crossbar included). Specify if another shape, size, or color is required.

Direct wall mounting is ADA compliant. Factory pre-drilled holes can be tapped for 1/2" chase nipple, submit dimension requirements when ordering. The top groove of the fixture is used to mount the fixture and provides a firm and flexible mounting option.

Surface ceiling and wall mounting is offered with die-cast mounting blocks with sheet metal brackets used to provide a firm flexible mounting option in any orientation the system might be installed in.

Mullion blocks are used to mount fixtures to a horizontal or vertical window mullion and can also be used to offset fixtures from the wall. 1/2" and 1" offsets are available standard. Custom offsets are also available upon request. (2) Mullion blocks are provided for fixtures 8ft or less. Fixtures larger than 8ft are provided with (3) blocks. The maximum distance between (2) mounting blocks is 8ft. Power feed holes are pre-drilled and mounting hardware is pre-installed at the factory to the fixture housing. Standard mullion block center location point has a 3" distance from endcap. Submit custom dimension requirements when ordering.

Partial /Full span mounting conditions utilize special expansion joint end caps to mount fixture to the wall (blocking required) and feed power through the end cap, specify end feed location. Additional attachment hardware provided as required depending on partial span condition. Provide architectural details at time of ordering for inclusion in factory shop drawings; field verified dimensions required for full span mounting. Not available with drop lens.

### STRUCTURE

Robust, high quality 60% recycled aluminum extruded housing. 0.040" thick aluminum internal gear trays. Flat or flanged aluminum end caps. Aluminum joiner brackets. 3 lbs/ft approximate fixture weight.

### FINISH

Electrostatically applied powder coat finish. Standard finish options include titanium, white, and black. Other colors and custom finish options available, specify RAL# or contact factory regarding custom finish requirement.

### LISTING

UL/CUL rated for damp locations. Tested under UL 1598 and certified to CEC/CSA C22.1, NEC, ANSI/NFPA 70, and NOM-001-SEDE.

UL Wet location label available. Complies with UL definition of wet locations to prevent the accumulation of water on live parts, electrical components, other conductor not identified for use in contact with water through the provision of weep holes. Waterproof connector to be provided by others. Installing contractor responsible for properly sealing and waterproofing all mounting and power feed locations.

The ACL3ST is assembled in the U.S.A. and comply with the Buy America(n) Act (BAA) government procurement requirements under FAR, DFARS, and DOT.

### WARRANTY

Limited defect-free manufactured equipment warranty provided under normal use and proper storage for five (5) year. LED products (LED boards and drivers) will be covered for five (5) years. Please refer to the full terms and conditions on our website.



## E Series LED Trim Kit

5"/6" Switchable White LED Downlight

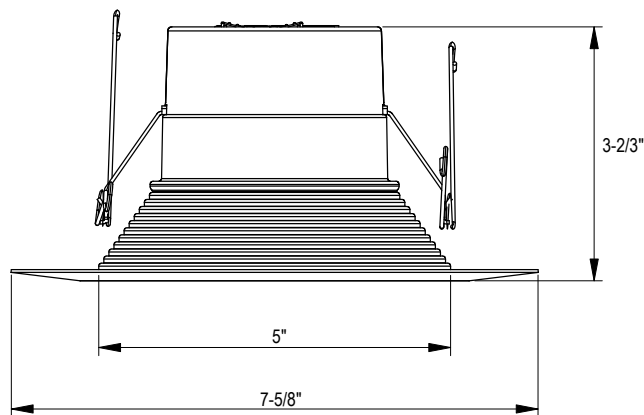
**65BE/65SE SWW5**

Project:
Fixture Type:
Location:
Contact/Phone:

### 65BE/65SE SWW5 Series



### Dimensions



Ships with:



**E26 Adapter**

### Product Features

The 5"/6" recessed LED trim kit is the most economical means to create a well lit environment with exceptional energy efficiency and near zero maintenance. Great for retrofit into existing downlight cans or new construction and remodel applications. The LED downlight maintains at least 70% light output for 50,000 hours.

- 5 switchable white color temperatures to choose from via switch; 2700K, 3000K, 3500K, 4000K, 5000K CCT; 90 CRI
- Lumens: 900L standard, 1200 w/ HL option
- Adjustable torsion spring allows fitment into many 5" and 6" cans
- Baffle or smooth trim options with designer color finish trim inserts (sold separately)

### Applications

- Retrofit into existing downlight cans or new and remodel construction in residential and light commercial applications
- Suitable for installation in standard and shallow-height rough-in sections
- Wet rated and air-loc: perfect for showers, bathrooms, and outdoor soffits

### Performance

Delivered Lumens	Nominal 900L; 1200L at 3000K
LED Color Temperature	Switchable White (2700K, 3000K, 3500K, 4000K, 5000K) Default set at 3000K
CRI	90+
Voltage	Dedicated 120V
Dimming	Dimmable flicker-free dimming from 100% to 10%

For a list of compatible dimmers see [JUNOESERIES-DIM](#)

### Specifications

Aperture:	5"
Ceiling opening:	5.25"
Overlap trim:	7.62"
Height:	3.67"

**65BE/65SE SWW5**

**Juno® E Series LED Trim Kit**  
5"/6" Switchable White LED Downlight



**CS** Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to www.contractorselect.com

**ORDERING INFORMATION**

**Downlight**

Example: 65BEMW SWW5 90CRI

Series	LED	Color Temperature	Rendering Index
65BEMW 6" Juno E Series Baffle Trim Kit	(Blank) Standard Lumen (900L)	SWW5 Switchable White (2700K, 3000K, 3500K, 4000K, 5000K)	90CRI 90+ CRI
65SEMW 6" Juno E Series Smooth Trim Kit	HL Hi Lumen (1200L)		

**Notes**  
1. Contractor Pack packaging option available on 65BEMW and 65SEMW high lumen

**Accessories: Order as separate catalog number.**

TSA6 J6	6" torsion spring adaptor (pack of 6)
LEDRETROWHIP	Replacement E26 screw base adapter for installation into incandescent housings

**Contractor Pack (CP6) Ordering Examples:**  
 Example 1: Ordered in Qty of 1  
 Ordered Line: Qty: 1 65SEMW HL SWW5 90CRI CP6 M2  
 \*Will receive 1 box with 6 units not individually packaged  
 Example 2: Ordered in Qty of 2  
 Ordered Line: Qty: 2 65SEMW HL SWW5 90CRI CP6 M2  
 \*Will receive 1 master carton that includes 2 separate boxes with 6 units in each box not individually packaged

Pairs perfectly with Juno housings for a complete downlight solution: Order housings as separate catalog number.

**QC6 Series - New Construction Quick Connect LED Housing**

**QC6R Series - New Construction Quick Connect LED Housing**



**TRIM INSERTS**

TRIM INSERTS (for field configuration; ordered separately)

Example: 65SEBN R4

Series/Finish	Packaging
65BEMB 6" Baffle, Matte Black	R4 Retail Pack of 4 units
65SEBN 6" Smooth, Matte Black	
65BEBN 6" Baffle, Matte Nickel	
65SEORB 6" Smooth, Brush Nickel	
65BEORB 6" Baffle, Oil-Rubbed Bronze	
65SEORB 6" Smooth, Oil-Rubbed Bronze	



6" Baffle, Matte Black (65BEMB)



6" Baffle, Brush Nickel (65BEBN)



6" Baffle, Oil-Rubbed Bronze (65BEORB)



6" Smooth, Matte Black (65SEMB)



6" Smooth, Brush Nickel (65SEBN)



6" Smooth, Oil-Rubbed Bronze (65SEORB)



Pre-Install color finish trim insert over white 6" E Series downlight.



Press down color finish tabs for post-installation to create final LED 6" downlight.

**65BE/65SE SWW5**

# Juno® E Series LED Trim Kit

## 5"/6" Switchable White LED Downlight



### Specifications

#### LED Downlight Trim Kit

Aluminum spun reflector with deep regression for reduced glare • Inner reflector cone funnels light through the pressed-in diffused lens • All-in-one design where LED light engine mounts directly to trim for ease of installation into existing 5" or 6" recessed housings with medium base sockets • Provided with torsion springs.

#### LED Light Engine

LEDs are mounted directly to aluminum housing providing superior thermal management to ensure long life • Switchable white LED color temperature technology offers 2700K, 3000K, 3500K, 4000K, 5000K all in one trim • 90 CRI minimum • Accommodates 120 volts DC at 60Hz • Dimmable with most standard incandescent, magnetic low voltage and electronic low voltage dimmers • For a list of compatible dimmers, see [JUNOESERIES-DIM](#).

#### Electrical Connections

Trim features quick connect plug installed as standard for installation into Juno quick connect housings with mating connector • Trim ships with a medium base socket adapter whip for installation into 5" or 6" incandescent housings with medium base sockets.

#### Optical System

Diffused lens at end of mixing chamber to provide even light distribution for general illumination • 900L is equivalent to 75W BR30 lamp • 1200L is equivalent to 120W PAR30 lamp.

**Designer Color Finish Trim Inserts** (sold separately)  
Color Finish Trim inserts are accessory rings that attach to the 65BE/65SE trim kit for a permanent finish. The finishes are available in Baffle or Smooth option:

- Black
- Brush Nickel
- Oil-Rubbed Bronze

#### Life

Rated for 50,000 hours at 70% lumen maintenance.

#### Labels

CSA certified to US and Canadian safety standards • ENERGY STAR® certified product • Suitable for wet location • Air-Loc certified in accordance with ASTM E283-2004 • NOM Certified • Can be used to comply with California Title 24 Part 6 High Efficacy LED light Source Requirements • T20 Certified.

#### Testing

All reports are based on published industry procedures; field performance may differ from laboratory performance.

**Warranty** 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

[www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

Specifications subject to change without notice.

### PERFORMANCE DATA

	65BE/65SE 900L	65BE/65SE 1200L
Input Voltage	120V	120V
Input Power Typical	10.5W (+/-5%)	13.9W (+/-5%)
Power Factor	.9	.9
Frequency	60 Hz	60 HZ
EMV/RFI	FCC Title 47, Part 15 Class B (consumer)	FCC Title 47, Part 15 Class B (consumer)
Minimum Starting Temp	-20°C (-4°F) minimum	-20°C (-4°F) minimum

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C.

65BEMW HL SWW5 90CRI M6

LIGHTING PERFORMANCE DATA DONNÉES SUR LE RENDEMENT DE L'ÉCLAIRAGE	
Light Appearance (CCT) Aspect de la lumière (CCT)	
2700K soft white   blanc doux	1160 lumens   88 lumens per watt
3000K warm white   blanc chaud	1190 lumens   87 lumens per watt
3500K neutral white   blanc neutre	1203 lumens   87 lumens per watt
4000K cool white   blanc froid	1216 lumens   86 lumens per watt
5000K daylight   blanc neutre	1224 lumens   83 lumens per watt
Watts	13.9
Color Accuracy (CRI) Précision des couleurs (CRI)	90

65BEMW SWW5 90CRI M6

LIGHTING PERFORMANCE DATA DONNÉES SUR LE RENDEMENT DE L'ÉCLAIRAGE	
Light Appearance (CCT) Aspect de la lumière (CCT)	
2700K soft white   blanc doux	882 lumens   84 lumens per watt
3000K warm white   blanc chaud	891 lumens   85 lumens per watt
3500K neutral white   blanc neutre	913 lumens   87 lumens per watt
4000K cool white   blanc froid	921 lumens   88 lumens per watt
5000K daylight   blanc neutre	931 lumens   89 lumens per watt
Watts	10.5
Color Accuracy (CRI) Précision des couleurs (CRI)	90



**65BE/65SE SWW5**

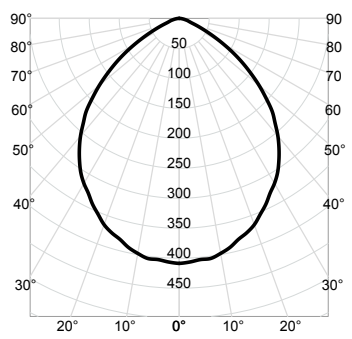
**Juno® E Series LED Trim Kit**  
5"/6" Switchable White LED Downlight



**PHOTOMETRICS**

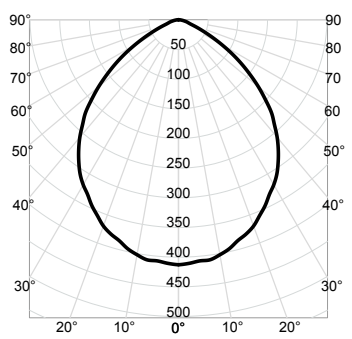
Distribution Curve      Distribution Data      Output Data      Coefficient of Utilization      Illuminance Data at 30" Above Floor for a Single Luminaire

**65BEMW SWW5 90CRI, 2700K, Input Watts: 10.4, Delivered Lumens: 882, LPW: 84.8, S/MH: 1.15, Test No: ISF 202495P1**



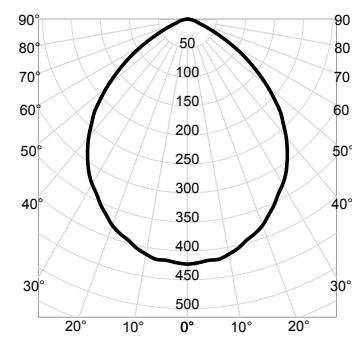
CP Summary				Zonal Lumen Summary				Coefficients of Utilization												Cone of Light			Luminance (cd/sq.m)	
0°	Zone	Lumens	% Fixture	pf	pc	80%				20%				Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance							
						50%	30%	10%	50%	30%	10%	50%	30%					10%						
0°	0° - 30°	311	35%	0	119	119	119	116	116	116	111	111	111	6.0	11.4	12.7	0°	31,746						
5°	0° - 40°	497	56%	1	107	104	100	105	102	99	101	98	96	8.0	6.4	16.9	45°	24,093						
15°	0° - 60°	800	91%	2	96	90	85	94	88	84	90	86	82	10.0	4.1	21.1	55°	17,402						
25°	0° - 90°	882	100%	3	85	78	73	84	77	72	81	75	71	12.0	2.8	25.3	65°	8,524						
35°	90° - 180°	0	0%	4	77	69	63	75	68	63	73	67	62	14.0	2.1	29.6	75°	4,350						
45°	0° - 180°	882	100%	5	69	61	55	68	61	55	66	59	54	Beam Angle: 93.1°			85°	2,583						
55°		128		6	63	55	49	62	54	49	60	53	48	Field Angle: 136.0°										
65°		46		7	57	49	44	57	49	43	55	48	43											
75°		14		8	53	45	39	52	44	39	51	44	39											
85°		3		9	48	41	36	48	40	35	47	40	35											
90°		0		10	45	37	32	44	37	32	43	37	32											

**65BEMW SWW5 90CRI, 3000K, Input Watts: 10.4, Delivered Lumens: 891, LPW: 85.7, S/MH: 1.15, Test No: ISF 202495P2**



CP Summary				Zonal Lumen Summary				Coefficients of Utilization												Cone of Light			Luminance (cd/sq.m)	
0°	Zone	Lumens	% Fixture	pf	pc	80%				20%				Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance							
						50%	30%	10%	50%	30%	10%	50%	30%					10%						
0°	0° - 30°	314	35%	0	119	119	119	116	116	116	111	111	111	6.0	11.5	12.7	0°	32,070						
5°	0° - 40°	502	56%	1	107	104	100	105	102	99	101	98	96	8.0	6.4	16.9	45°	24,339						
15°	0° - 60°	808	91%	2	96	90	85	94	88	84	90	86	82	10.0	4.1	21.1	55°	17,580						
25°	0° - 90°	891	100%	3	85	78	73	84	77	72	81	75	71	12.0	2.9	25.3	65°	8,611						
35°	90° - 180°	0	0%	4	77	69	63	75	68	63	73	67	62	14.0	2.1	29.6	75°	4,394						
45°	0° - 180°	891	100%	5	69	61	55	68	61	55	66	59	54	Beam Angle: 93.1°			85°	2,610						
55°		130		6	63	55	49	62	54	49	60	53	48	Field Angle: 136.0°										
65°		47		7	57	49	44	57	49	43	55	48	43											
75°		15		8	53	45	39	52	44	39	51	44	39											
85°		3		9	48	41	36	48	40	35	47	40	35											
90°		0		10	45	37	32	44	37	32	43	37	32											

**65BEMW SWW5 90CRI, 3500K, Input Watts: 10.4, Delivered Lumens: 913, LPW: 87.8, S/MH: 1.15, Test No: ISF 202495P3**



CP Summary				Zonal Lumen Summary				Coefficients of Utilization												Cone of Light			Luminance (cd/sq.m)	
0°	Zone	Lumens	% Fixture	pf	pc	80%				20%				Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance							
						50%	30%	10%	50%	30%	10%	50%	30%					10%						
0°	0° - 30°	322	35%	0	119	119	119	116	116	116	111	111	111	6.0	11.8	12.7	0°	32,864						
5°	0° - 40°	514	56%	1	107	104	100	105	102	99	101	98	96	8.0	6.6	16.9	45°	24,941						
15°	0° - 60°	828	91%	2	96	90	85	94	88	84	90	86	82	10.0	4.2	21.1	55°	18,015						
25°	0° - 90°	913	100%	3	85	78	73	84	77	72	81	75	71	12.0	2.9	25.3	65°	8,824						
35°	90° - 180°	0	0%	4	77	69	63	75	68	63	73	67	62	14.0	2.2	29.6	75°	4,503						
45°	0° - 180°	913	100%	5	69	61	55	68	61	55	66	59	54	Beam Angle: 93.1°			85°	2,674						
55°		133		6	63	55	49	62	54	49	60	53	48	Field Angle: 136.0°										
65°		48		7	57	49	44	57	49	43	55	48	43											
75°		15		8	53	45	39	52	44	39	51	44	39											
85°		3		9	48	41	36	48	40	35	47	40	35											
90°		0		10	45	37	32	44	37	32	43	37	32											

**65BE/65SE SWW5**

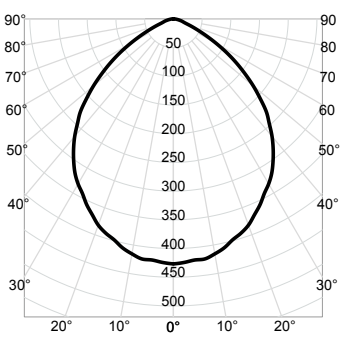
**Juno® E Series LED Trim Kit**  
5"/6" Switchable White LED Downlight



**PHOTOMETRICS**

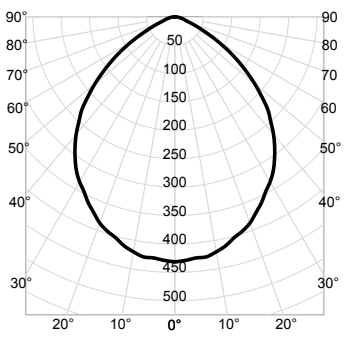
Distribution Curve      Distribution Data      Output Data      Coefficient of Utilization      Illuminance Data at 30" Above Floor for a Single Luminaire

**65BEMW SWW5 90CRI, 4000K, Input Watts: 10.4, Delivered Lumens: 921, LPW: 88.6, S/MH: 1.15, Test No: ISF 202495P4**



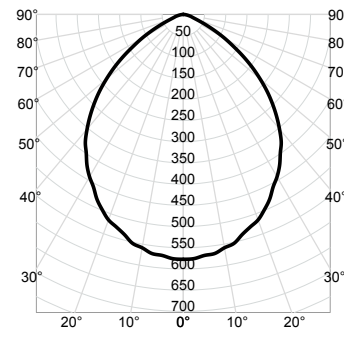
CP Summary				Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
0°	Zone	Lumens	% Fixture	pf	pc	80%		20%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance					
						50%	30%	10%	50%	30%	10%	50%	30%					10%				
0°	0° - 30°	324	35%	0	119	119	119	116	116	116	111	111	111	6.0	11.9	12.7	0°	33,153				
5°	0° - 40°	519	56%	1	107	104	100	105	102	99	101	98	96	8.0	6.7	16.9	45°	25,161				
15°	0° - 60°	836	91%	2	96	90	85	94	88	84	90	86	82	10.0	4.3	21.1	55°	18,174				
25°	0° - 90°	921	100%	3	85	78	73	84	77	72	81	75	71	12.0	3.0	25.3	65°	8,902				
35°	90° - 180°	0	0%	4	77	69	63	75	68	63	73	67	62	14.0	2.2	29.6	75°	4,542				
45°	0° - 180°	921	100%	5	69	61	55	68	61	55	66	59	54	Beam Angle: 93.1°			85°	2,698				
55°	134											Field Angle: 136.0°										
65°	48																					
75°	15																					
85°	3																					
90°	0																					

**65BEMW SWW5 90CRI, 5000K, Input Watts: 10.4, Delivered Lumens: 931, LPW: 89.5, S/MH: 1.15, Test No: ISF 202495P5**



CP Summary				Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
0°	Zone	Lumens	% Fixture	pf	pc	80%		20%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance					
						50%	30%	10%	50%	30%	10%	50%	30%					10%				
0°	0° - 30°	328	35%	0	119	119	119	116	116	116	111	111	111	6.0	12.0	12.7	0°	33,513				
5°	0° - 40°	524	56%	1	107	104	100	105	102	99	101	98	96	8.0	6.7	16.9	45°	25,434				
15°	0° - 60°	845	91%	2	96	90	85	94	88	84	90	86	82	10.0	4.3	21.1	55°	18,371				
25°	0° - 90°	931	100%	3	85	78	73	84	77	72	81	75	71	12.0	3.0	25.3	65°	8,999				
35°	90° - 180°	0	0%	4	77	69	63	75	68	63	73	67	62	14.0	2.2	29.6	75°	4,592				
45°	0° - 180°	931	100%	5	69	61	55	68	61	55	66	59	54	Beam Angle: 93.1°			85°	2,727				
55°	136											Field Angle: 136.0°										
65°	49																					
75°	15																					
85°	3																					
90°	0																					

**65BEMW SWW5 HL 90CRI, 2700K, Input Watts: 14.5, Delivered Lumens: 1230, LPW: 84.8, S/MH: 1.14, Test No: ISF 202133P1**



CP Summary				Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
0°	Zone	Lumens	% Fixture	pf	pc	80%		20%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance					
						50%	30%	10%	50%	30%	10%	50%	30%					10%				
0°	0° - 30°	438	36%	0	119	119	119	116	116	116	111	111	111	6.0	16.0	12.3	0°	44,848				
5°	0° - 40°	697	57%	1	107	104	101	105	102	99	101	98	96	8.0	9.0	16.4	45°	32,628				
15°	0° - 60°	1,118	91%	2	96	90	85	94	89	84	90	86	82	10.0	5.8	20.4	55°	23,364				
25°	0° - 90°	1,230	100%	3	86	78	73	84	77	72	81	76	71	12.0	4.0	24.5	65°	11,170				
35°	90° - 180°	0	0%	4	77	69	63	76	68	63	73	67	62	14.0	2.9	28.6	75°	5,590				
45°	0° - 180°	1,230	100%	5	69	61	55	68	61	55	66	60	55	Beam Angle: 91.3°			85°	2,621				
55°	172											Field Angle: 135.8°										
65°	61																					
75°	19																					
85°	3																					
90°	0																					

**Juno® E Series LED Trim Kit** **65BE/65SE SWW5**

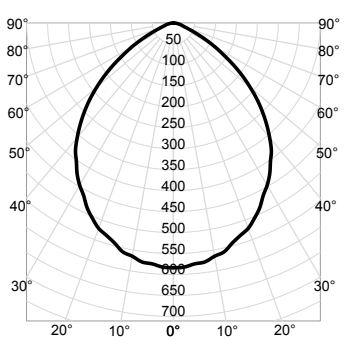
5"/6" Switchable White LED Downlight



**PHOTOMETRICS**

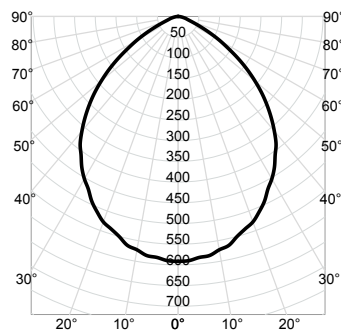
Distribution Curve      Distribution Data      Output Data      Coefficient of Utilization      Illuminance Data at 30" Above Floor for a Single Luminaire

**65BEMW SWW5 HL 90CRI, 3000K, Input Watts: 14.5, Delivered Lumens: 1244, LPW: 85.8, S/MH: 1.14, Test No: ISF 202133P2**



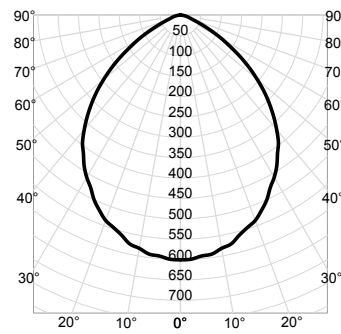
CP Summary		Zonal Lumen Summary		Coefficients of Utilization								Cone of Light			Luminance (cd/sq.m)			
0°	Zone	Lumens	% Fixture	pf	80%		20%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance		
				pc	50%	30%	10%	50%	30%	10%	50%	30%						
0°	584	0° - 30°	443	36%	0	119	119	119	116	116	116	111	111	111	6.0	16.2	12.3	0° 45,359
5°	577	0° - 40°	705	57%	1	107	104	101	105	102	99	101	98	96	8.0	9.1	16.4	45° 33,000
15°	543	0° - 60°	1,131	91%	2	96	90	85	94	89	84	90	86	82	10.0	5.8	20.4	55° 23,631
25°	487	0° - 90°	1,244	100%	3	86	78	73	84	77	72	81	76	71	12.0	4.1	24.5	65° 11,298
35°	403	90° - 180°	0	0%	4	77	69	63	76	68	63	73	67	62	14.0	3.0	28.6	75° 5,653
45°	300	0° - 180°	1,244	100%	5	69	61	55	68	61	55	66	60	55				85° 2,651
55°	174				6	63	55	49	62	54	49	60	54	48	Beam Angle: 91.3°			
65°	61				7	58	49	44	57	49	44	55	48	43	Field Angle: 135.8°			
75°	19				8	53	45	39	52	45	39	51	44	39				
85°	3				9	49	41	36	48	41	36	47	40	36				
90°	0				10	45	38	33	45	37	33	44	37	32				

**65BEMW SWW5 HL 90CRI, 3500K, Input Watts: 14.5, Delivered Lumens: 1260, LPW: 86.9, S/MH: 1.14, Test No: ISF 202133P3**



CP Summary		Zonal Lumen Summary		Coefficients of Utilization								Cone of Light			Luminance (cd/sq.m)			
0°	Zone	Lumens	% Fixture	pf	80%		20%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance		
				pc	50%	30%	10%	50%	30%	10%	50%	30%						
0°	591	0° - 30°	448	36%	0	119	119	119	116	116	116	111	111	111	6.0	16.4	12.3	0° 45,944
5°	584	0° - 40°	715	57%	1	107	104	101	105	102	99	101	98	96	8.0	9.2	16.4	45° 33,425
15°	550	0° - 60°	1,145	91%	2	96	90	85	94	89	84	90	86	82	10.0	5.9	20.4	55° 23,935
25°	493	0° - 90°	1,260	100%	3	86	78	73	84	77	72	81	76	71	12.0	4.1	24.5	65° 11,443
35°	409	90° - 180°	0	0%	4	77	69	63	76	68	63	73	67	62	14.0	3.0	28.6	75° 5,726
45°	304	0° - 180°	1,260	100%	5	69	61	55	68	61	55	66	60	55				85° 2,685
55°	177				6	63	55	49	62	54	49	60	54	48	Beam Angle: 91.3°			
65°	62				7	58	49	44	57	49	44	55	48	43	Field Angle: 135.8°			
75°	19				8	53	45	39	52	45	39	51	44	39				
85°	3				9	49	41	36	48	41	36	47	40	36				
90°	0				10	45	38	33	45	37	33	44	37	32				

**65BEMW SWW5 HL 90CRI, 4000K, Input Watts: 14.5, Delivered Lumens: 1280, LPW: 88.3, S/MH: 1.14, Test No: ISF 202133P4**



CP Summary		Zonal Lumen Summary		Coefficients of Utilization								Cone of Light			Luminance (cd/sq.m)			
0°	Zone	Lumens	% Fixture	pf	80%		20%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance		
				pc	50%	30%	10%	50%	30%	10%	50%	30%						
0°	601	0° - 30°	456	36%	0	119	119	119	116	116	116	111	111	111	6.0	16.7	12.3	0° 46,674
5°	594	0° - 40°	726	57%	1	107	104	101	105	102	99	101	98	96	8.0	9.4	16.4	45° 33,956
15°	559	0° - 60°	1,163	91%	2	96	90	85	94	89	84	90	86	82	10.0	6.0	20.4	55° 24,315
25°	501	0° - 90°	1,280	100%	3	86	78	73	84	77	72	81	76	71	12.0	4.2	24.5	65° 11,625
35°	415	90° - 180°	0	0%	4	77	69	63	76	68	63	73	67	62	14.0	3.1	28.6	75° 5,817
45°	309	0° - 180°	1,280	100%	5	69	61	55	68	61	55	66	60	55				85° 2,728
55°	180				6	63	55	49	62	54	49	60	54	48	Beam Angle: 91.3°			
65°	63				7	58	49	44	57	49	44	55	48	43	Field Angle: 135.8°			
75°	19				8	53	45	39	52	45	39	51	44	39				
85°	3				9	49	41	36	48	41	36	47	40	36				
90°	0				10	45	38	33	45	37	33	44	37	32				

**65BE/65SE SWW5**

# Juno® E Series LED Trim Kit

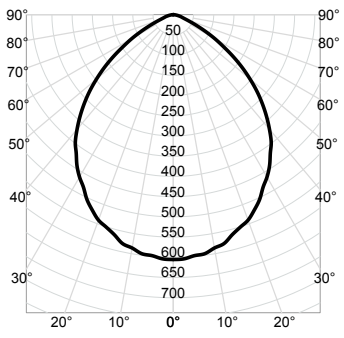
5"/6" Switchable White LED Downlight



### PHOTOMETRICS

Distribution Curve      Distribution Data      Output Data      Coefficient of Utilization      Illuminance Data at 30" Above Floor for a Single Luminaire

65BEMW SWW5 HL 90CRI, 5000K, Input Watts: 14.5, Delivered Lumens: 1290, LPW: 89.0, S/MH: 1.14, Test No: ISF 202133P5



CP Summary	Zonal Lumen Summary		Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)			
			Zone	Lumens	% Fixture	pf pc	80%		20% 70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance			
							pw	50%	30%	10%	50%	30%					10%	50%	30%
0°	605	0° - 30°	459	36%	0	119	119	119	116	116	116	111	111	111	6.0	16.8	12.3	0°	47,039
5°	598	0° - 40°	732	57%	1	107	104	101	105	102	99	101	98	96	8.0	9.5	16.4	45°	34,222
15°	563	0° - 60°	1,172	91%	2	96	90	85	94	89	84	90	86	82	10.0	6.1	20.4	55°	24,506
25°	505	0° - 90°	1,290	100%	3	86	78	73	84	77	72	81	76	71	12.0	4.2	24.5	65°	11,716
35°	418	90° - 180°	0	0%	4	77	69	63	76	68	63	73	67	62	14.0	3.1	28.6	75°	5,863
45°	311	0° - 180°	1,290	100%	5	69	61	55	68	61	55	66	60	55				85°	2,749
55°	181				6	63	55	49	62	54	49	60	54	48					
65°	64				7	58	49	44	57	49	44	55	48	43					
75°	20				8	53	45	39	52	45	39	51	44	39					
85°	3				9	49	41	36	48	41	36	47	40	36					
90°	0				10	45	38	33	45	37	33	44	37	32					

# JPTH

**Construction:**

- Steel housing hung from a decorative rigid frame
- Diffuser is .080" thick white textured or optional white smooth polycarbonate.
- Optional alabaster lenses are .080" thick acrylic

**Light Source:**

- LED
- Dimming (0 - 10v) to 10% **Included**

**Notes:**

- Canopy mounts to J-Box with integral safety cable
- Custom heights available
- Chain link swivel standard
- Standard bottom lens is white smooth polycarbonate; optional clear acrylic or solid cover
- UL and CUL listed DAMP location
- LED Components
  - Replaceable Module
  - CRI > 80
  - Universal 120/277 volt standard
  - 5-Year Warranty on LED Components

<b>Type:</b>	
<b>Job Name:</b>	



Height - 18"  
Width - 11 1/2"  
Depth - 11 1/2"  
OAH - 52"



## ORDERING INFORMATION

**Example: JPTH-18-LED-O4C-4-Z3-WTP-WBL-52"OAH**

↖ **JPTH**

Size	LED					Kelvin	Cage	Finish	Diffuser	Options
		Watts	Source Lumens	Dimming	Energy Star	2 3000K 4 4000K		<b>B1</b> Satin Black <b>B2</b> Text Black <b>Z1</b> Satin Bronze <b>Z3</b> Text Bronze <b>W1</b> York White <b>W2</b> Gloss White <b>T4</b> Shimmer Gray <b>M13</b> Anod Silver <b>T6</b> Pewter <b>W13</b> Pearl Beige  Optional (See Price List) <b>M17</b> Brass Powder	<b>WTP</b> White Textured Polycarbonate  <b>WBL</b> White Bottom Lens (Standard)  <b>Optional Lens Material</b> (See Price List) <b>AHA</b> Amber Honey Alabaster <b>BAA</b> Beige Alabaster <b>OAA</b> Opal Alabaster <b>WSP</b> White Smooth Poly  <b>CBL</b> Clear Bottom Lens (Optional) <b>SBC</b> Solid Bottom Cover (Optional)	<b>(Suspension Systems)</b> Please list <b>Over All Height</b> <b>CHN</b> - 3' of chain / 6' cord (STD) <b>1S45</b> - Single Stem (Standard) <b>1SLM45</b> - Single Stem 45 degree swivel <b>1AC</b> - Aircraft Cable w/SJ cord <b>WSJ</b> - White "SJ" Cord <b>BSJ</b> - Black "SJ" Cord  <b>DIM</b> LED dimming driver (0 - 10v)  <b>Battery Backup Options</b> (Available with 0-10v only) <b>BB10</b> 10 Watts (1170lm) for 90-Minutes
<b>18-LED</b>	<b>O4C</b>	36	4840	0-10v	NO					
	<b>1E26</b>		0	TRIAC/ELV	NO					



Fixture Number			
Project Title	Type	Qty	
Comments			



- White Acrylic Diffuser
- Decorative Metal Top & Bottom Cap
- Three Trim Options
- Wet Location
- ADA

**Dimensions and Lamping:**

<b>OW915-24</b>	7.25" A x 24" B x 4" D x 12" MC .....Weight: 10 lbs. LN LED: Nominal 25W, 1150 Delivered Lumens
<b>OW915-36</b>	7.25" A x 36" B x 4" D x 18" MC .....Weight: 12 lbs. LN LED: Nominal 40W, 2100 Delivered Lumens
<b>OW915-48</b>	7.25" A x 48" B x 4" D x 24" MC .....Weight: 14 lbs. LN LED: Nominal 55W, 3150 Delivered Lumens

**LED Color Temperature:**

30K	3000K	<b>35K</b>	3500K	40K	4000K
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**Control:**

CLV Integral Power Supply, 0-10V Dimming to 1%

**Voltage:**

1	120V	2	277V	<b>MV</b>	Multi-Volt
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**Diffusers:**

<b>WA</b>	Gloss White Acrylic
<b>WM</b>	Matte White Acrylic

**Standard Finishes:**

<b>PAL</b>	Aluminum	<b>PBB</b>	Brushed Brass	<b>POR</b>	Pure Orange (RAL 2004)
<b>PNL</b>	Nickel	<b>PAB</b>	Antique Brass	<b>PYL</b>	Traffic Yellow (RAL 1023)
<b>PBR</b>	Bronze	<b>PHB</b>	Hammered Bronze	<b>PGR</b>	Emerald Green (RAL 6001)
<b>PLB</b>	Light Bronze	<b>PHC</b>	Hammered Copper	<b>PBL</b>	Signal Blue (RAL 5005)
<b>PMB</b>	Medium Bronze	<b>PHS</b>	Hammered Silver	<b>STBD</b>	To Be Determined
<b>PDB</b>	Dark Bronze	<b>PSG</b>	Satin Gold		
<b>PSB</b>	Satin Black	<b>PPA</b>	Patina		
<b>PMW</b>	Matte White	<b>PRD</b>	Traffic Red (RAL 3020)		

**Premium Finishes:**

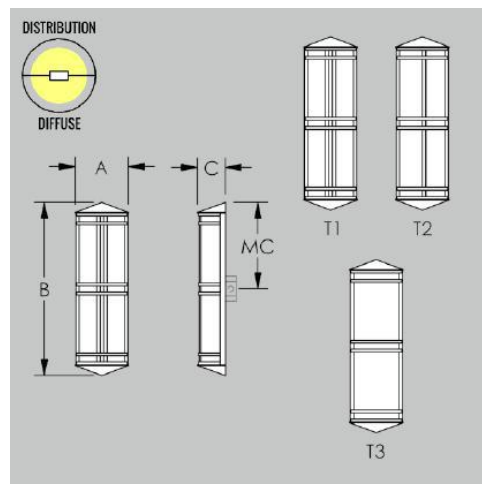
<b>BA</b>	Brushed Aluminum	<b>PB</b>	Polished Brass
<b>SN</b>	Satin Nickel	<b>AB</b>	Antique Brass
<b>PC</b>	Polished Chrome	<b>PTBD</b>	To Be Determined
<b>BB</b>	Brushed Brass		

**Trim Options:**

<b>T1</b>	Dual Horizontal, Dual Vertical Trim
<b>T2</b>	Dual Horizontal, Single Vertical Trim
<b>T3</b>	Dual Horizontal, No Vertical Trim

**Other Options:**

REM Remote Emergency Power Supply



**Notes:**

- Custom sizes and finishes available upon request.
- Camman reserves the right to make design changes without prior notice.
- Mounting is to a 4 inch octagonal junction box.
- Photometric information is available at [cammanlighting.com](http://cammanlighting.com)



### Additional Information

Color Temperature Adjustment	
Color Temperature	Multiplier
2700K	.967
3000K	.984
3500K	1.000
4000K	1.032

LED Performance	
Color Rendering Index	80CRI Standard (90CRI Available)
L70 (Projected):	>72,000 hours

<b>Warranty</b>	<b>5 years</b>
	(electrical components retain the component manufacturer warranty).

### Camman Plus Customizations



Camman **Standard Plus** products provide an extra degree of freedom to customize most standard products, including dimensions, finish, performance, and adding or removing details. Visit [www.cammanlighting.com/plus](http://www.cammanlighting.com/plus) to learn more about the Plus program, and visit this fixture to see what specific options might be available.

### Standard Finishes

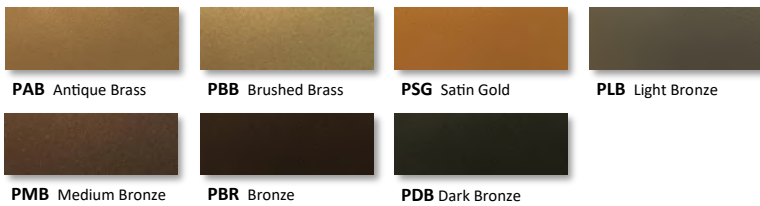
#### MODERN



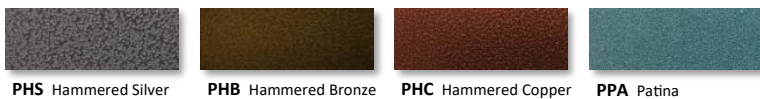
#### COLORS



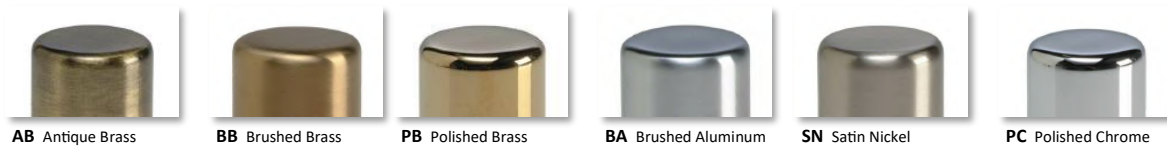
#### NEUTRAL



#### TEXTURES



### Premium Finishes



- Colors are for reference only and may vary per monitor.
- See [cammanlighting.com/resources](http://cammanlighting.com/resources) for more information, or contact your local rep for finish samples.



## FEATURES & SPECIFICATIONS

**INTENDED USE** — The STL combines digital LED lighting and controls technologies with high-performance optical design to offer the most advanced surface-mount luminaire for general ambient lighting applications. High-efficiency light engine delivers long life and excellent color, ensuring a superior quality lighting installation that is highly efficient and sustainable.

**CONSTRUCTION** — Housing is roll formed from code-gauge steel. Impact modified linear-faceted refractor with light diffusing film. Refractor attaches to die cast ends by simple hook and pin design with controlled tension provided by sonically welded end plate, providing secure installation and easy maintenance.

Decorative die-cast end caps provide added durability.  
 Finish: All metal parts are post-painted in white polyester powder coat for smooth, finished edges and uniform light distribution. Natural aluminum finish available on end caps (see Options).

Injection-molded plastic light traps prevent light leaks between shielding and end plates and centers diffuser on channel.

**OPTICS** — Volumetric illumination is achieved by creating an optimal mix of light to vertical and horizontal work surfaces, rendering interior space, objects and occupants in a more balanced luminous environment. Light distribution is carefully controlled at high angles, providing just enough luminous flux to create the volumetric effect.

Angled mounting surface combined with crescent-shape linear faceted refractor system obscures and integrates individual LED images and uniformly washes fixture surface with light.

**ELECTRICAL** — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. STL is rated to deliver L90 performance at 60,000 hours. The LEDs have a CRI of 82.

elDoLED driver options deliver choice of dimming range and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Optional nLight® embedded controls continuously monitor system performance, allow for constant lumen management / compensation function, facilitate simple “plug-and-play” network and controls upgrading via Cat-5 cable. Ballast disconnect provided where required to comply with US and Canadian codes.

**LISTINGS** — CSA certified to meet U.S. and Canadian standards.  
 DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

Patents pending. Damp listed.  
**WARRANTY** — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



# STL4

4'  
 LED



### A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a **shaded background**\*
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a **shaded background**\*

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus).

\*See ordering tree for details



# STL4 LED Surface Volumetric

A+ Capable options indicated by this color background.

**ORDERING INFORMATION** Lead times will vary depending on options selected. Consult with your sales representative. **Example:** STL4 20L EZ1 LP840

STL4 Series	Lumens <sup>1</sup>	Voltage	Driver	Color temperature	Control	Options	Finish <sup>5</sup>
STL4 4' surface volumetric LED	20L 30L 40L 48L 60L	(blank) MVOLT (120-277) 347 347V <sup>2</sup>	EZ1 eldoLED dims to 1% 0-10V EZB eldoLED dims to dark, 0-10V SLD Step-level dimming <sup>3</sup> GZ10 Dims to 10% (0-10V dimming) <sup>6</sup>	LP830 3000K LP835 3500K LP840 4000K LP850 5000K	(blank) No controls N80 nLight with 80% (L80) lumen management N80EMG nLight with 80% (L80) lumen management for use with generator supply EM power N100 nLight without lumen management N100EMG nLight without lumen management for use with generator supply EM power LSXRHL Sensor Switch <sup>4</sup> fixture mount sensor with High/Low occupancy operation <sup>4</sup> LSXR10 Sensor Switch <sup>4</sup> fixture mount sensor with On/Off occupancy operation	EL7L 700 nominal lumen battery pack (Noncompliant with CA T20) EL14L 1400 nominal lumen battery pack (Noncompliant with CA T20) E10WLCP EM Self-Diagnostic battery pack, 10W Constant Power, Certified in CA Title 20 MAEDBS SC1 Surface conduit end cap provisions for one endcap SC2 Surface conduit end cap provisions for both end caps BDP Factory Installed Ballast Disconnect Plug	(blank) White DNA Natural aluminum MB Matte Black

Accessories: Order as separate catalog number.							
CI Code	Model	Kit Type	Voltage	Dimming	Length	Ceiling Type*	
*208XVT	STACG36 F1	Adjustable aircraft cable gripper suspension kit	NA	NA	36 inch	F1	
*208XVY	STACG36 F2					F2	
*208XW2	STACG72 F1				72 inch	F1	
*208XVW	STACG72 F2					F2	
*208XW7	STACGF36 F1	Adjustable aircraft cable gripper w/power feed	120-277V	Non-Dimming	36 inch	F1	
*208XVV	STACGF36 F2					F2	
*208XW3	STACGF72 F1				72 inch	F1	
*208XW0	STACGF72 F2					F2	
*2594WC	STACGFD36 F1		0-10V Dimming	347V	0-10V Dimming	36 inch	F1
*2594WK	STACGFD36 F2						F2
*2594WP	STACGFD72 F1					72 inch	F1
*2594WV	STACGFD72 F2						F2
*2594X0	STACG347FD36 F1	Adjustable aircraft cable gripper w/emergency power feed	120-277V		Non-Dimming	36 inch	F1
*2594YJ	STACG347FD36 F2						F2
*2594YK	STACG347FD72 F1					72 inch	F1
*2594YN	STACG347FD72 F2						F2
*210AC1	STACGE36 F1	Adjustable aircraft cable gripper w/emergency power feed	120-277V	Non-Dimming	36 inch	F1	
*210CN1	STACGE36 F2					F2	
*210AAV	STACGE72 F1				72 inch	F1	
*210CMP	STACGE72 F2					F2	

- Notes**
- 1 Approximate lumen output.
  - 2 Not available with EL battery packs or SLD driver.
  - 3 Not available with controls options
  - 4 Requires SC1 option. Dims to approximately 10% light output when unoccupied. See sensor details on next page.
  - 5 For additional paint finishes refer to: [Architectural Colors](#).
  - 6 GZ10 drivers not available with any Controls or sensor options.

\*Reference mounting data for ceiling type

## STL4 LED Surface Volumetric

Performance Data			
Lumen Package	Input Watts <sup>1</sup>	Lumens	LPW
30L LP830	26.7	2904	108.8
30L LP835	26.7	3049	114.2
30L LP840	26.7	3195	119.7
30L LP850	26.7	3282	122.9
40L LP830	34.9	3688	105.7
40L LP835	34.9	3834	109.9
40L LP840	34.9	3979	114.0
40L LP850	34.9	4124	118.2
48L LP830	45.2	4615	102.1
48L LP835	45.2	4850	107.3
48L LP840	45.2	5088	112.6
48L LP850	45.2	5184	114.7
60L LP830	53.2	5294	99.5
60L LP835	53.2	5559	104.5
60L LP840	53.2	5811	109.2
60L LP850	53.2	5954	111.9



Sensor Switch LSXR Sensor	
<b>Lens type:</b>	<b>10</b> - Low Mount 360°
<b>Dimming:</b>	<b>HL</b> - High/Low Occupancy operation
<b>Min Dim Level:</b>	<b>3V</b> - approximately 10% light output when unoccupied
<b>Time Delay:</b>	<b>5M</b> - 5 minutes

### How to Calculate Delivered Lumens in Emergency Mode

Use the formula below to determine the delivered lumens in emergency mode

$$\text{Delivered Lumens} = 1.25 \times P \times \text{LPW}$$

P = Output power of emergency driver. P = 10W for E10WLCP option.

LPW = Lumen per watt rating of the luminaire. LPW information available in Performance Data section.

## MOUNTING DATA

Suspension Kit Ceiling Types: F1 for use with most T-bar and screw slot grid ceiling applications. Designed for on-grid and off-grid installations.

F2 for use with recessed or surface-mount horizontal J-box applications.

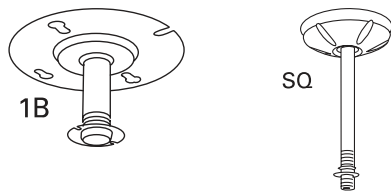
For unit or row installation; surface or suspend mounting.

Individual installation — Two single-stem hangers required.

For aircraft cable, one STACG<sub>1</sub>, STACGF<sub>1</sub>, or STACGE<sub>1</sub> required for each suspension point.

Note: 2' configurations with emergency option cannot be stem mounted.

See ACCESSORIES below for hanging devices.



## DIMENSIONS

All dimensions are inches (centimeters) unless otherwise noted.

### Specifications

Length: 46-3/8 (117.8)

Width: 10-1/8 (25.7)

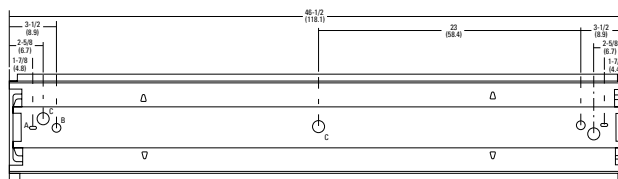
Depth: 3-7/8 (9.8)

Weight: 13LB

A = 1/4 x 1/2 (.635 x 1.27) Oval Hole

B = 11/16 (1.75) Dia. K.O.

C = 7/8 (2.22) Dia. K.O.



## DUO AC-LED COLOR OPTION LIGHT BARS

### BA-ACLED



#### PRODUCT DESCRIPTION

Bringing out the best in bold, eye-catching residential, retail and commercial displays, DUO AC-LED COLOR OPTION Light Bars are ideal for counters and cabinets. Thermally efficient, these fixtures are crafted for illuminating heat sensitive perishables and color sensitive apparel, artwork and collectibles.

#### FEATURES

- High CRI 90+
- Does not require any driver or transformer
- True 1" profile
- Backlighting with parabolic reflector allows a high uniformity of light
- Each light bar includes one "I" connector
- Minimal space between diffusers for a visually seamless line of illumination
- Free of projected heat, UV and IR radiation
- 54,000 hour rated life
- 5 year WAC Lighting product warranty

#### SPECIFICATIONS

- Construction:** Extruded aluminum body with polycarbonate lens.
- Power:** Direct 120VAC 60Hz input.
- Light Source:** 2700K and 3000K AC LEDs. CRI: 90.
- Dimming:** May be dimmed to 10% with electronic low voltage (ELV) dimmer. Compatible with **LUTRON DVELV-300, SELV-300** Electronic Low Voltage dimmer
- Finish:** Abrasion resistant Bronze (BZ), Brushed Aluminum (AL) and White (WT) powder coat.
- Standards:** Title 24 CEC Compliant. ETL & cETL Listed.

#### ORDER NUMBER

Model#	Length	Color Temp	Finish
	8"		
	12"		
	18"		
<b>BA-ACLED</b>	24"	<b>27/30</b> 2700K and 3000K	<b>BZ</b> Bronze
	30"		<b>AL</b> Brushed Aluminum
	36"		<b>WT</b> White
	42"		

**BA-ACLED** [ ] - [ ] [ ]

Example: **BA-ACLED12-27/30AL**

WAC Lighting  
www.waclighting.com  
Phone (800) 526.2588 • Fax (800) 526.2585

Headquarters/Eastern Distribution Center  
44 Harbor Park Drive • Port Washington, NY 11050  
Phone (516) 515.5000 • Fax (516) 515.5050

Western Distribution Center  
1750 Archibald Avenue • Ontario, CA 91760  
Phone (800) 526.2588 • Fax (800) 526.2585

# WAC LIGHTING

## Responsible Lighting®

Fixture Type:

Catalog Number:




Project:

Location:

#### FIXTURE PERFORMANCE

Model #	Color Temp	Power	Lumens	Efficacy
<b>BA-ACLED8-27/30</b>		6.0W	330	55 Lm/W
<b>BA-ACLED12-27/30</b>		8.0W	475	59 Lm/W
<b>BA-ACLED18-27/30</b>	2700K	10.0W	545	55 Lm/W
<b>BA-ACLED24-27/30</b>	and	15.0W	930	62 Lm/W
<b>BA-ACLED30-27/30</b>	3000K	17.5W	1095	63 Lm/W
<b>BA-ACLED36-27/30</b>		19.5W	1305	67 Lm/W
<b>BA-ACLED42-27/30</b>		22.5W	1445	64 Lm/W

#### ACCESSORIES

6' power cord 	<b>BA-PC6-WT</b>	Supplies power in any application.
"I" connector 	<b>BA-I-WT</b>	Interconnection for seamless end to end transitions. One included with each light bar.
Interconnect cable 	<b>BA-IC12-WT</b> <b>BA-IC24-WT</b> <b>BA-IC36-WT</b>	12" 24" 36" Links two light bars using a single power connection.

#### FINISHES





Contractor Select™  
**ECRG**  
 Lithonia Lighting Basics™  
 Emergency Light/Exit Combo



The Lithonia Lighting® ECRG, is a combination of exit and emergency lighting. The ECRG is ideal for safely illuminating the path of egress above-the-door in small spaces at lower mounting heights while providing 90 minutes of emergency power. Available in red and green letters.

**FEATURES:**

- Internal toggle switch for red or green exit
- Test switch and status indicator
- UL indoor damp location 50°F to 104°F (10°C to 40°C) listed standard
- ECRG RD: multi-voltage 120-277V, 50/60Hz
- ECRG SQ: dual-voltage 120/277, 60Hz



† Exit Signs Certified in the CA Title 20 Appliance Efficiency Database.

Catalog Number	UPC	Description	Supply Voltage	Input Wattage		Input Amps		Pallet Qty	Carton Qty
				120	277	120	277		
ECRG RD M6	00194994900412	Red/Green LED Exit/Unit Combo, Round Lamp Heads	120-277V	2W	2W	.03	.02	360	6
ECRG HO RD M6	00194994900429	Red/Green LED Exit/Unit Combo with remote capacity, Round Lamp Heads	120-277V	2.8W	2.8W	.05	.03	360	6
ECRG SQ M6	00194994900467	Red/Green LED Exit/Unit Combo, Square Lamp Heads	120/277V	3.5W	3.5W	.03	.02	360	6
ECRG HO SQ M6	00194994900504	Red/Green LED Exit/Unit Combo with remote capacity, Square Lamp Heads	120/277	4W	4W	.03	.02	360	6

**Battery Capacity and Loading (HO only)**

Battery	Total Capacity	Maximum# Remote Lamp Heads*
3.6V	2W (ECRG RD)	2 - ERE W SGL RD M24
		1 - ERE W T RD M24
	3W (ECRG SQ)	2 - ERE GY SGL WP RD M12
		1 - ERE GY T WP RD M12

\* Remotes are in addition to the lamp heads on the product.

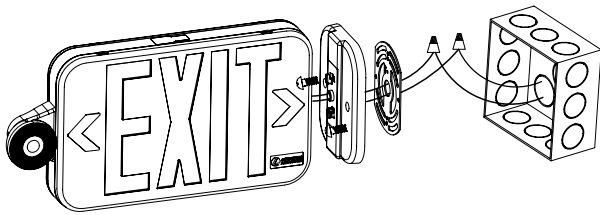
**Accessories: Order as separate catalog number.**

ERE W SGL RD	Single, LED indoor remote head, round, ivory white, .75W, 3.6V input. See spec sheet <a href="#">ERE.1</a>
ERE W T RD	Twin, LED indoor remote head, round, ivory white, 1.5W, 3.6V input. See spec sheet <a href="#">ERE.1</a>
ERE GY SGL WP RD	Single, LED weather-proof head, round, gray, 0.75W, 3.6V input. See spec sheet <a href="#">ERE.1</a>
ERE GY T WP RD	Twin, LED weather-proof head, round, gray, 1.5W, 3.6V input. See spec sheet <a href="#">ERE.1</a>
ERE GY SGL WP SQ	Single, LED weather-proof remote head, square, gray, 1W, 3.6V-12V voltage sensing. See spec sheet <a href="#">ERE.1</a>
ERE GY T WP SQ	Twin, weather-proof, remote head, square, gray, 2W, 3.6V-12V voltage sensing. See spec sheet <a href="#">ERE.1</a>
ELA WG3	Wireguard (back mount), 30 5/8"W x 13 3/4"H x 6"D. See spec sheet <a href="#">ELA-WG</a> .

1 Only available with HO option.



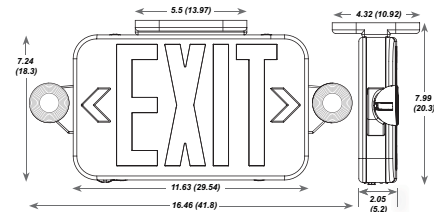
### ECRG side/end mount example



### Dimensions

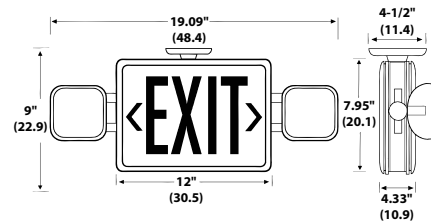
#### ECRG RD

Length: 16.46 (41.8)  
Depth: 2.05 (5.2)  
Height: 7.24 (18.3)  
Weight: RD - 1.9 (0.86kgs)  
HO RD - 1.95 (0.88kgs)



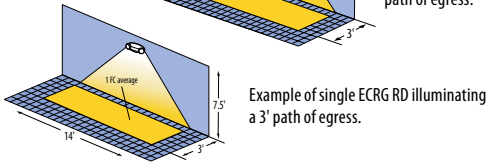
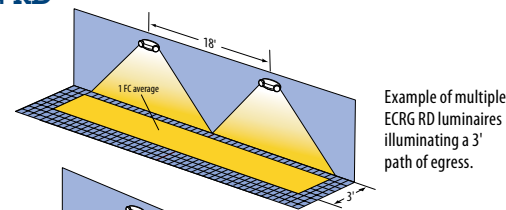
#### ECRG SQ

Length: 19.09 (48.4)  
Depth: 4.33 (10.9)  
Height: 7.95 (20.1)  
Weight: SQ - 3.09 lbs (1.40kgs)  
HO SQ - 3.25 lbs (1.47kgs)

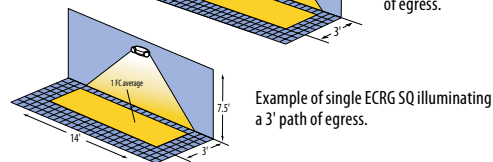
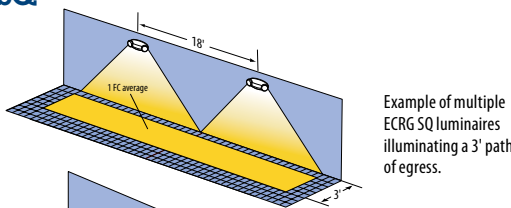


All dimensions are inches (centimeters) unless otherwise indicated.

### ECRG RD



### ECRG SQ



### Spacing guidelines

Maximum Spacing Guidelines <sup>1</sup>							
Series	Mounting Height	Illumination Level	Single Luminaire		Multiple Luminaires		Application Notes
			3' Path of Egress	6' Path of Egress	3' Path of Egress	6' Path of Egress	
ECRG RD	7.5'	1FC Avg	14'	10'	18'	14'	"100' Corridor 8' wide, and 9' high with 80/50/20 reflectances"
ECRG SQ	7.5'	1FC Avg	10'	6'	14'	11'	

Notes:  
1. Also meets the additional illumination requirements of NFPA 101: 1FC minimum and max/min ratio of 40:1.



Project 24-61140-0  
 NM FIRST JUDICIAL DA  
 Submitted By  
 RKL SALES CORP

Catalog Number: ECRG SQ M6  
 Note:

Type  
**EXIT**



## Specifications

### INTENDED USE:

Provides a minimum of 90 minutes illumination for the rated wattage upon loss of AC power to meet code required emergency lighting. Ideal for applications requiring low profile, emergency unit for lower mounting heights. The ECRG has an internal switch that ships standard as a red emergency light/exit combo and can be switched in the field to green. It is also packaged standard with an extra faceplate along with red and green inserts.

### CONSTRUCTION:

The housing is a standard white thermoplastic with a compact and low-profile design with all-inclusive lamp, reflector and lens assembly. It is 5VA flame rated and impact-resistant.

### OPTICS:

The typical life of the LED is 10 years.

ECRG is 0.75W white LED per lamp head

ECRG SQ is 1W LED per lamp head.

CRI: RD 80CRI  
 SQ 75CRI

CCT: RD 6200K  
 SQ 6200K

Lumen: RD 85 lumens  
 SQ 113 lumens

### ELECTRICAL:

ECRG RD: multi-voltage 120-277V, 50/60Hz.

ECRG SQ: dual-voltage 120/277, 60Hz.

Bi-color LED status indicator for battery condition. (Green-normal, Red-check battery).

ECRG HO RD has 2W of remote capacity and ECRG HO SQ has 3W of remote capacity.

BATTERY: 3.6V maintenance-free, rechargeable, Nickel metal hydride.

### INSTALLATION:

ECRG RD: Top, end and back mount.

ECRG SQ: Top, end and back mount.

Mounting pattern on canopy (top and side mount) and back plate (back mount) fits most standard size junction boxes.

### LISTINGS:

UL Listed. Meets all applicable requirements for UL 924, NFPA 101 (current Life Safety Code), NFPA 70 (NEC), FCC Title 47, Part 15, Subpart B and OSHA.

Indoor damp location 50°F to 104°F (10°C to 40°C) listed.

### WARRANTY:

2-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

## EL-2SQL LED Series

1W LED heads, thermoplastic 3.6V nickel-cadmium battery unit



### Housing

- UV stabilized thermoplastic body
- Two fully adjustable glare-free square lighting heads
- White finish

### Mounting

- Ceiling or wall mount
- Universal J-box mounting

### Lamp type

Two 3.6V-1W LED heads, 100 lumens per head

### Options

- Remote capacity for EF12D-LED or EF47DSQL available with optional

### Electronics

- Pulse plus charger
- Low voltage disconnect
- Automatic brownout protection
- Battery lock-out
- Fused output circuit
- Optional Advanced Diagnostics
- 120/277 60Hz

### Battery type

- 3.6V maintenance free rechargeable nickel-cadmium battery

### Approvals

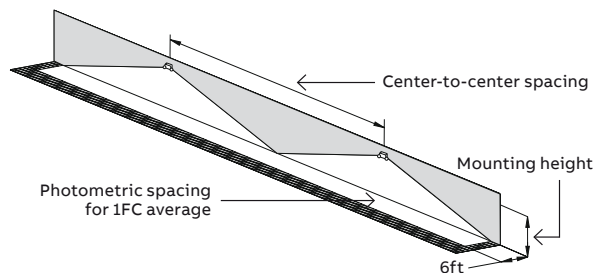
- UL 924 listed
- Damp location (50°F to 104°F)
- UL 94, 5VA flame rated

### Warranty (subject to proper installation and maintenance)

- Unit has a three-year warranty
- Detailed warranty terms located on page 178 or online at:  
[www.emergi-lite.com/usa/files/EL\\_Warranty.pdf](http://www.emergi-lite.com/usa/files/EL_Warranty.pdf)

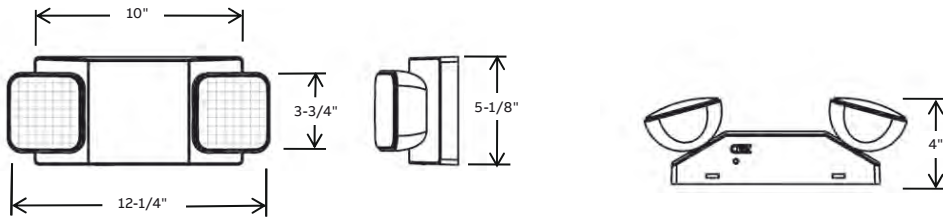
### Photometric performance

Spacing center-to-center (feet)	
7' mounting height	15' mounting height
13'	4'



**Dimensions**

Dimensions are approximate and subject to change.



**Accessories** (order as a separate item)

Description	Suffix
Replacement battery for EL-2SQL	022433-E
Replacement battery for EL-2SQLR & EL-SSQLRAD	2 X 022433-E
Wire guard (heads in any position)	WG10-E
Pendant black	P*BK
Pendant white	P*WT

**Power consumption**

Series	AC specs		DC specs	
	Units dual voltage <sup>1</sup>		Battery	Voltage
EL-2SQL	120/277 VAC, 60Hz	0.024A		
EL-2SQLR	120/277 VAC, 60Hz	0.028A	Nickel-cadmium battery	3.6V
EL-2SQLRAD	120/277VAC, 60Hz	0.028A		

**How to order**

Series	Head style	Option
EL= Self-powered	-2SQL	Blank= No option R= Remote capacity to power one double head remote <sup>1</sup> R-AD= Remote capacity to power one double head dedicated remote with Advanced-Diagnostics <sup>1</sup>

Example: EL-2SQLAD

<sup>1</sup>To be used with EF47DSQL or EF12D-LED only

DISTRIBUTOR SELECT



**AcuityControls**

nLight®

RKL Sales does plan on bidding an nLight control system on this job.

**nLight**®

Quick Reference Guide


























Occupancy Sensors  
Daylight Sensors  
User Interfaces  
Load Controllers  
Backbone & Accessories

## nLight Quick Reference Guide

### Introduction




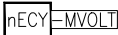




















The nLight Quick Reference Guide brings you the best of nLight in a simple, easy-to-read chart, including CAD symbols, product descriptions and technical resources...all designed to make specifying nLight a breeze.

### Occupancy Sensors

Product Image	Model Name	CAD Symbol	Description
	nCM 9 nCM 9 ADCX	 	Low Voltage Ceiling Mount Passive Infrared Sensor; Standard Range 360° Low Voltage Ceiling Mount Passive Infrared Sensor; Standard Range 360°; Automatic Dimming Control Photocell
	nCM PDT 9 nCM PDT 9 ADCX	 	Low Voltage Ceiling Mount Dual Technology Sensor; Standard Range 360° Low Voltage Ceiling Mount Dual Technology Sensor; Standard Range 360°; Automatic Dimming Control Photocell
	nCM 10 nCM 10 ADCX	 	Low Voltage Ceiling Mount Passive Infrared Sensor; Extended Range 360° Low Voltage Ceiling Mount Passive Infrared Sensor; Extended Range 360°; Automatic Dimming Control Photocell
	nCM PDT 10 nCM PDT 10 ADCX	 	Low Voltage Ceiling Mount Dual Technology Sensor; Extended Range 360° Low Voltage Ceiling Mount Dual Technology Sensor; Extended Range 360°; Automatic Dimming Control Photocell
	nCM 6		Low Voltage Ceiling Mount Passive Infrared Sensor; High Bay 360°
	nRM 9 nRM 9 ADCX	 	Low Voltage Recess Mount Passive Infrared Sensor; Standard Range 360° Low Voltage Recess Mount Passive Infrared Sensor; Standard Range 360°; Automatic Dimming Control Photocell
	nRM PDT 9 nRM PDT 9 ADCX	 	Low Voltage Recess Mount Dual Technology Sensor; Standard Range 360° Low Voltage Recess Mount Dual Technology Sensor; Standard Range 360°; Automatic Dimming Control Photocell
	nRM 10 nRM 10 ADCX	 	Low Voltage Recess Mount Passive Infrared Sensor; Extended Range 360° Low Voltage Recess Mount Passive Infrared Sensor; Extended Range 360°; Automatic Dimming Control Photocell
	nRM PDT 10 nRM PDT 10 ADCX	 	Low Voltage Recess Mount Passive Infrared Sensor; Extended Range 360° Low Voltage Recess Mount Passive Infrared Sensor; Extended Range 360°; Automatic Dimming Control Photocell
	nRM 6		Low Voltage Recess Mount Passive Infrared Sensor; High Bay 360°
	nWV 16		Low Voltage Corner Mount Passive Infrared Sensor; Wide View 120°
	nWV PDT 16		Low Voltage Corner Mount Dual Technology Sensor; Wide View 120°

## nLight Quick Reference Guide









### Backbone & Accessories

Product Image	Model Name	CAD Symbol	Description
	nECY 24 (BAC) (SVS) (SVEA)		nLight ECLYPSE™ Controller, 750 Device Limit, 24VAC/DC, Optional - BACnet™ Capability (BAC), Visualization Software (SVS), SiteView™ Energy (SVEA), and enabled with Atrius™
	nECY MVOLT (BAC) (SVS)(SVEA) ENC		nLight ECLYPSE™ Controller; 750 Device Limit; 120-277VAC, 347VAC Optional; Optional - BACnet™ Capability (BAC), Visualization Software (SVS), and SiteView™ Energy (SVEA) ; Installed within NEMA1 enclosure; and enabled with Atrius™
	nBRG 8 KIT		Bridge; 8-Port; Power Supply Included
	nADR		OpenADR Demand Response Device; 5 nECY Limit
	nADR L400		OpenADR Demand Response Device; 1-nECY Limit
	nIO 1S (KO)		Contact Closure Input Device; Optional Knock-Out Form Factor
	nIO D (KO)		0-10V Dimming Control Device; Optional Knock-Out Form Factor
	nIO BT		Low Energy Communication Programming Module with Bluetooth® wireless technology
	nSHADE		Dry Contact Pulse On/Off Shade Controller; Momentary Open and Close Contacts
	nIO X KIT		External Third Party RS-232 Input Device
	nAR40		Auxiliary Dry Contact Relay
	nPS 80		Bus Power Supply; 80mA
	CATS xyFT J1		Single Plenum Rated CAT-5e Cable (available lengths include: 6', 2', 5', 10', 15', 30', 50')




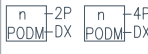



















NOTE: xy indicates length

## nLight Quick Reference Guide

### Daylight Sensors

Product Image	Model Name	CAD Symbol	Description
	nCM PC		Low Voltage Ceiling Mount Sensor; On/Off Photocell
	nCM ADCX		Low Voltage Ceiling Mount Sensor; Automatic Dimming Control Photocell
	nRM PC		Low Voltage Recess Mount Sensor; On/Off Photocell
	nRM ADCX		Low Voltage Recess Mount Sensor; Automatic Dimming Control Photocell
	nIO PC KIT		Outdoor On/Off Photocell Kit

### User Interfaces

Product Image	Model Name	CAD Symbol	Description
	nPODM (2P)(4P) xx		Wallpod; Single Channel On/Off; Optional 2-Pole (2P) and 4-Pole (4P)
	nPODM (2P)(4P) DX xx		Wallpod; Single Channel On/Off/Dimming; Optional 2-Pole (2P) and 4-Pole (4P)
	nPODM 2S xx		Wallpod; 2-Scene Controller
	nPODM 2S DX xx		Wallpod; 2-Scene Controller; On/Off/Dimming
	nPODM 4S xx		Wallpod; 4-Scene Controller
	nPODM 4S DX xx		Wallpod; 4-Scene Controller; On/Off/Dimming
	nPOD GFX xx		Graphic Wallpod; 16-Scene Controller; 16 Channel On/Off/Dimming
	nWSX LV xx		Low Voltage Passive Infrared Wall Switch Sensor
	nWSX PDT LV xx		Low Voltage Dual Technology Wall Switch Sensor
	nWSX LV DX xx		Low Voltage Passive Infrared Wall Switch Sensor; Dimming
	nWSX PDT LV DX xx		Low Voltage Dual Technology Wall Switch Sensor; Dimming
	nPOD KEY xz		Low Voltage Digital Key Switch; Return to Center Momentary
	nPOD KEY MNTN xz		Low Voltage Digital Key Switch; Maintain Position

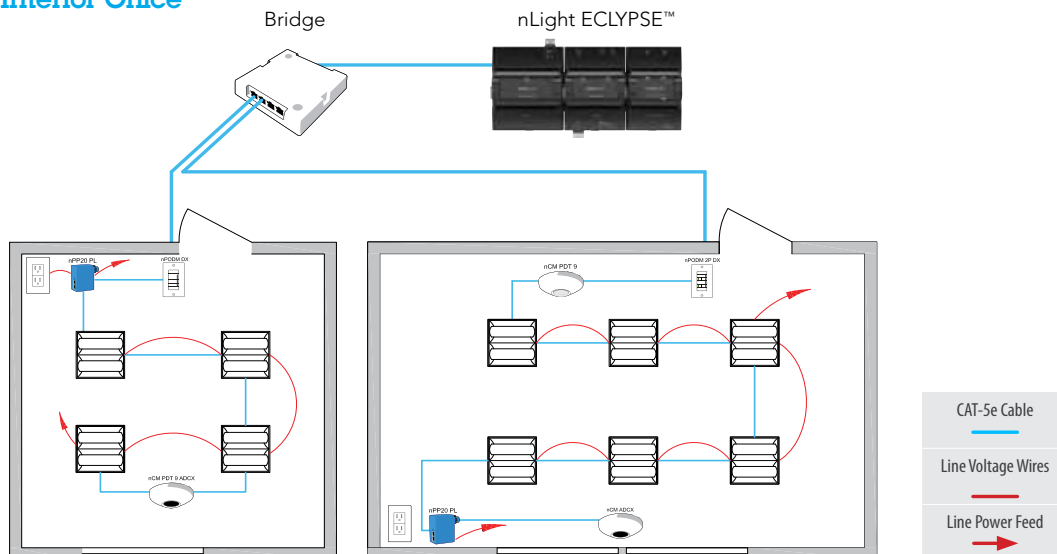
NOTE: xx indicates color option - available in White (WH), Ivory (IV), Almond (AL), Black (BK), Gray (GY)  
xz indicates color option - available in White (WH), Ivory (IV), Almond (AL), Stainless Steel (STS)

## nLight Quick Reference Guide

### Load Controllers

Product Image	Model Name	CAD Symbol	Description
	nPP16		Power/Relay Pack; 16 Amp
	nPP16 D		Power/Relay Pack; 16 Amp; 0-10V Dimming
	nPP16 DS		Power/Relay Pack; 16 Amp; 0-10V Dimming via Side Slot
	nPP16 ER		Power/Relay Pack; 16 Amp; Emergency Loads
	nPP16 D ER		Power/Relay Pack; 16 Amp; 0-10V Dimming; Emergency Loads
	nPP16 DS ER		Power/Relay Pack; 16 Amp; 0-10V Dimming via Side Slot; Emergency Loads
	nPP20 PL		Plug Load (Receptacle) Power Pack; 20 Amp
	nSP5 PCD 2W		Secondary Pack; Forward Phase Control Dimming; 2-Wire
	nSP5 PCD 3W		Secondary Pack; Forward Phase Control Dimming; 3-Wire
	nSP5 PCD MLV		Secondary Pack; Forward Phase Control Dimming; Magnetic Low Voltage
	nSP5 PCD ELV 120		Secondary Pack; Reverse Phase Control Dimming; 120VAC; Electronic Low Voltage
	ARP INTENC08 NLT 8FCR MVOLT SC SM		Relay Panel; 8 Field Configurable Relays; 120-277VAC; Screw Cover Surface Mount
	ARP INTENC16 NLT 16FCR MVOLT SC SM		Relay Panel; 16 Field Configurable Relays; 120-277VAC; Screw Cover Surface Mount

### Typical Interior Office





nLight®

## Additional Resources

### Application Typical Designs

[www.acuitybrands.com/typicals](http://www.acuitybrands.com/typicals)

### BIM Models

[www.acuitybrands.com/bimmodels](http://www.acuitybrands.com/bimmodels)

### Specification Sheets

[www.acuitybrands.com/nlight](http://www.acuitybrands.com/nlight)

### Energy Code Application Guides

[www.acuitybrands.com/nlightresources](http://www.acuitybrands.com/nlightresources)



**A+ Certified** solutions from Acuity Brands help you quickly and confidently select and implement lighting systems that are both compatible and consistent.

For lighting applications, A+ means verified consistent performance, visual appearance and system interoperability of all luminaires and controls within the certified solutions.

For lighting professionals it means confidence that all parts of the lighting system will work together and meet common Acuity Brands specifications.

Go to [www.acuitybrands.com/solutions/a-certified](http://www.acuitybrands.com/solutions/a-certified) or contact your local Acuity Brands representative for more information.

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