

## LCAT24-S

2' x 4' SHALLOW LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

## FEATURES

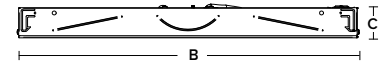
- Light weight, low profile construction for crowded ceilings and shallow plenums
- High lumen outputs for expanded mounting height options
- High efficiency, low glare center lens delivers comfortable illumination
- Discreetly integrated control options drive energy efficiency and code compliance
- Appropriate for offices, schools, medical, and public spaces
- LED modules accessible from below, electrical accessible from the plenum



## SERVICE PROGRAMS

QS10

Typical Dimensions and Weights				
Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
2x4	47.72 (1212)	23.77 (604)	2.25 (57)	14 (6.4)



## CONTROLS TECHNOLOGY



## SPECIFICATIONS

## CONSTRUCTION

- Luminaire housing, reflectors and end caps are die-formed code-gauge cold-rolled steel
- All reflective surfaces are finished after fabrication with unique formula high-reflectivity matte white paint for soft, uniform indirect illumination

## OPTICS

- Removable lens for easy access to LED module
- High transmission extruded acrylic enclosed lens features linear prisms with custom frost for high efficacy without pixelation

## INSTALLATION

- An access plate is furnished with each luminaire for fast wiring access without the necessity to open the fixture or wireway
- Luminaire fits recessed exposed grid ceilings (G); four integral T-bar clips with holes for seismic wires are standard
- Can be placed in Slot Grid (SG) style ceiling with regress 3/8" above ceiling plane
- A Flange Kit (FK) accessory is available for recessed hard ceiling applications
- Surface Mount (SM) option allows placement below ceiling plane
- Cable Mount (CM) option allows suspension below ceiling plane

## ELECTRICAL

- 66,000 hour LEDs at L80 for reduced maintenance
- 80 CRI standard or optional 90 CRI for color sensitive applications

## CONTROLS

- NX Lighting Controls provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments
- NX Connect is a standalone wireless deployment for room based applications using wireless enabled and battery operated devices.
- SpectraSync™ Color Tuning Technology offers a Tunable White solution and integrates seamlessly into a variety of control systems

## CERTIFICATIONS

- IC label is standard for recessed products. Note that IC label is void if product is installed on site with a combination of both battery pack plus through wiring
- All luminaires are built to UL1598 standards, and bear appropriate cCSAus labels
- 0° to 25°C when integrated batteries are selected
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Emergency battery pack options are California Energy Commission (CEC) Title 20 Compliant

## CERTIFICATIONS (CONTINUED)

- Damp Location label standard, Wet Location option available
- UL Sanitation certified to NSF standards
- Adheres to LM79, LM80, and TM21 industry standards
- Tested in accordance with ISO 14644-1; suitable for ISO Class 5-9 positive and negative pressure clean rooms
- DLC® (DesignLights Consortium) Qualified, Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org)
- For -BAA Option: This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9). [See Buy America\(n\) Solutions](#)
- Product configurations not including battery packs or controls meet federal procurement law requirements under the Trade Agreements Act (FAR 52.225-11). [See Buy America\(n\) Solutions](#)
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924.

## WARRANTY

- 5 year warranty

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Gray Shading = Service Program  
Limit of 250 Luminaries

QS10

## ORDERING GUIDE

Example: LCAT24-S-40L070G-EDU

LCAT24	S						
Model	Plenum	CRI	Color Temp	Nominal Lumens <sup>3</sup>	Ceiling Type	Shielding	Driver
LCAT24 2' x 4' LED Contemporary Architectural Troffer	S Shallow	Blank >80 9 >90	30 3000K 35 3500K 40 4000K 50 5000K 2765T 2700K–6500K SpectraSync™ Tunable White <sup>1,2</sup>	L032 3200 Lumens L036 3600 Lumens L042 4200 Lumens L048 4800 Lumens L058 5800 Lumens L070 7000 Lumens L085 8500 Lumens L097 9700 Lumens L120 12000 Lumens L130 13000 Lumens L140 14000 Lumens	G Grid Lay-in <sup>4</sup> SM Surface Mount CM Cable Suspended Mount	Blank Curve CRG Curve Reduced Glare	ED 0–10V Dimming ED1 0–10V 1% Dimming EDD 0–10V Dim to Off ESD Step Dimming <sup>5</sup> LUTH Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology <sup>5</sup> DALIP Powered by DALI <sup>5</sup>

Voltage	Options	Control Options <sup>13</sup>
U 120–277V 347 347V	ELL14 10W Emergency Battery Pack (CEC Title 20 Compliant) Installed <sup>5,6,7,8</sup> ELL14ST 10W Emergency Battery Pack (CEC Title 20 Compliant), Installed Self Test <sup>5,6,7,8</sup> ELL14H2 9W Emergency Battery Pack (CEC Title 20 Compliant), Installed 2-Hour Run Time <sup>5,6,7,8,9</sup> DTS Dimming Bypass Module <sup>5,7,8,10</sup> C388 3-wire Flex C488 4-wire Flex C588 5-wire Flex GLR Fast Blow Fuse CP Chicago Plenum <sup>11</sup> WL Wet Location <sup>11,12</sup> BAA Buy American Act (FAR 52.225-9) Compliant TAA Trade Agreements Act (FAR 52.225-11) Compliant	<b>NX Lighting Controls</b> <u>Networked Wireless</u> NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor <sup>14,15,16</sup> NXWSM NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming <sup>14,16</sup> <u>Networked Wired</u> NXE NX Wired Dual RJ45 SmartPORTS, without Sensor <sup>14,15,16</sup> NXESM NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming <sup>14,15,16</sup> <u>Independent Control</u> NXCS NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor <sup>5,17,18,19,20</sup> <b>Other Lighting Controls</b> <u>Networked Wireless</u> LVR Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) <sup>5,19,20,21</sup> LVS Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing) <sup>5,19,20,21</sup> AWNRL Lutron Athena Integral Fixture Control A-WN-D01-RF-WH (RF only) <sup>5,16,19,22</sup> <u>Independent Control</u> ODPG Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 <sup>5,19,20</sup>

## Accessories

- ☐ FK24 2' x 4' Single Flange Kit (Shipped separately)
- ☐ CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

## Notes:

- 1 Available with ED and 80 CRI only
- 2 Not available with L097 and higher lumen packages
- 3 Refer to performance tables for exact values and available lumen outputs for fixture size
- 4 For drywall, order G with flange kit accessory
- 5 Not available in 347V
- 6 To determine lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW)
- 7 Not available with L130 or L140 lumen packages
- 8 For compatibility with Dual-Lite Litegear inverters, contact lighting representative
- 9 Not available for use in Canada
- 10 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0-10V drivers. See wiring diagram.
- 11 Not available with CM or SM ceiling types
- 12 Not available with Emergency Battery Pack or Control Options

## All Controls

- 13 Minimum ambient temperature: 0°C (32°F)

## NX Lighting Controls

- 14 NX combined with SpectraSync is not available in 347V
- 15 Not compatible with SM ceiling type or Surface Mount Kit
- 16 Available with ED, ED1 or EDD drivers only
- 17 NX Connect devices can be configured using the NX Connect Mobile App, available in the Apple App Store
- 18 NX Connect devices are not compatible with NX Networked Wireless or Wired Options

## Other Lighting Controls Options

- 19 Not available with SpectraSync
- 20 Only available with DALIP driver option
- 21 Vive is a trademark of Lutron Electronics Co., Inc.
- 22 Not available with L140 lumen package

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## DELIVERED LUMENS

Lumen Package	Color	Lumens	Input Watts	LPW
<b>L032</b>	3000K	3156	24.2	130
	3500K	3235		134
	4000K	3289		136
	5000K	3289		136
<b>L036</b>	3000K	3742	28.5	131
	3500K	3836		135
	4000K	3901		136
	5000K	3901		136
<b>L042</b>	3000K	4105	29.6	139
	3500K	4207		142
	4000K	4278		145
	5000K	4278		145
<b>L048</b>	3000K	4720	33	143
	3500K	4837		147
	4000K	4918		149
	5000K	4918		149
<b>L058</b>	3000K	5791	40	145
	3500K	5935		148
	4000K	6035		151
	5000K	6035		151
<b>L070</b>	3000K	6819	50.1	136
	3500K	6989		139
	4000K	7107		142
	5000K	7107		142

Lumen Package	Color	Lumens	Input Watts	LPW
<b>L085</b>	3000K	8368	64	131
	3500K	8569		134
	4000K	8717		136
	5000K	8717		136
<b>L097</b>	3000K	9924	75	132
	3500K	10172		136
	4000K	10341		138
	5000K	10341		138
<b>L120</b>	3000K	11910	94.4	126
	3500K	12208		129
	4000K	12410		131
	5000K	12410		131
<b>L130</b>	3000K	12910	101.8	127
	3500K	13233		130
	4000K	13452		132
	5000K	13452		132
<b>L140</b>	3000K	13873	111.5	124
	3500K	14220		128
	4000K	14456		130
	5000K	14456		130

## PROJECTED LUMEN MAINTENANCE

Calculation Method	Ambient Temp	25,000 hrs	50,000 hrs	60,000 hrs *
TM-21-11	25C/77F	0.93	0.87	0.85
TM-21-22	25C/77F	0.93	0.86	0.83






\* Lumen maintenance values calculated per TM-21 using six times the LM-80 test time for the LED and in-situ thermal testing of the luminaire.

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## NX LIGHTING CONTROLS



Control Option Ordering Logic & Description			Control Option Functionality								Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming		
NX Wireless	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	-	-	✓	✓	✓		NXRM2-H
	NXWSM	NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth® Programming	✓	✓	✓	✓	✓	✓	✓	✓		NXSMP2-SMI
NX Wired	NXE	NX Wired Dual RJ45 SmartPORTS , without Sensor	✓	✓	✓	-	-	✓	✓	✓ <sup>1</sup>		NXDSP
	NXESM	NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth® Programming	✓	✓	✓	✓	✓	✓	✓	✓		NXDSP NXSMP2-SMI
NX Independent	NXCS	NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor	-	✓	-	✓	✓	✓	✓	✓ <sup>2</sup>		NXC-WIZ20

1 Requires NXBTC, order separately.

2 Requires use of NX Connect App available for download from Apple app store.

## DEFAULT SETTINGS

NX Wireless & Wired	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7 Minutes
	Occupancy Sensor Timeout	15 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	0% (OFF)
	Daylight Sensor	Disabled
	Bluetooth	Enabled
	2.4GHz Wireless Mesh	Off
	Passcode Factory Passcode: HubbN3T!	Enabled
NX Independent - NX Connect	Settling/Dwell Time	5 sec
	Hold Time	10 min
	Group Hold Time	10 min
	Grace Time	-
	Strategy	Auto ON/OFF
	Occupancy Sensitivity	5 (highest)
	Occupancy Indicator	ON
	Partial Off/Standby	0%
	Background Level	50%
	Task Level	100%
	Daylight Harvesting	-
	Low Ambient Output	250%
	High Ambient Output	OFF

## CONTROLS TECHNICAL SUPPORT

1-800-888-8006 (7:00 am–7:00 pm est)

## APP INFORMATION

### NX Lighting Controls App



The NX Lighting Controls App is a free to use mobile application for programming both an NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enabled luminaires and program your NX system settings.



Android



Apple iOS

### NX Connect App



The NX Connect mobile App is a free to use mobile application for programming a NX Connect System. The mobile App allows you to discover, configure and share your NX Connect system.



Apple iOS

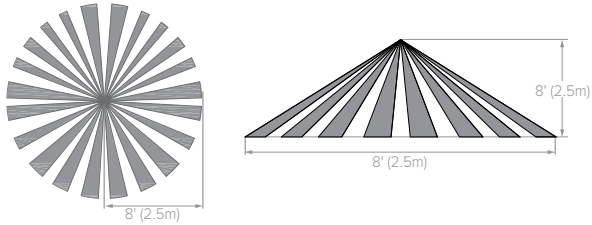
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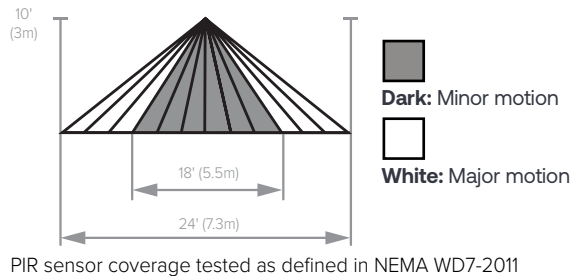
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## COVERAGE PATTERNS

### NXWSM/NXESM (NXSMP2-SMI SENSOR)



### NXCS (NXC-WIZ20 SENSOR)



PIR sensor coverage tested as defined in NEMA WD7-2011

## OTHER LIGHTING CONTROLS

Control Option Ordering Logic & Description											Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming		
Other	ODPG	Occupancy sensing, daylight harvesting and task tuning in one device. <sup>1</sup>	-	✓	-	✓	✓	✓	✓	✓ <sup>3</sup>		SNS200
	LVR	The Vive integral fixture control is a radio frequency (RF) device that controls either Lutron EcoSystem or DALI drivers based on RF input from Pico remote controls, Radio Powr Savr wireless sensors, or Vive hubs. <sup>2</sup>	✓	✓	✓	-	-	-	✓	-		DFCSJ-OEM-RF
	LVS	The Vive integral fixture control is a radio frequency (RF) device that controls either Lutron EcoSystem or DALI drivers based on RF input from Pico remote controls, Radio Powr Savr wireless sensors, or Vive hubs. <sup>2</sup>	✓	✓	✓	✓	✓	-	✓	-		DFCSJ-OEM-OCC
	AWNDR	The Athena wireless node is a radio frequency (RF) device that enables simple, digital control of individual light fixtures in an Athena control system. <sup>3</sup>	✓	✓	-	-	-	✓	✓	-		A-WN-D01-RF-WH

1 Philips MasterConnect App required for field configuration.

2 Lutron Vive Hub required to enable Networking, Grouping and Scheduling.

3 Lutron Athena Hub required to enable Networking, Grouping and Scheduling.

### Philips EasySense Controls (ODPG option) & Accessories:



- Occupancy sensing, daylight harvesting, task tuning and grouping in one device
- Standalone control or grouping to wireless switches<sup>1</sup>
- Uses Philips field apps for on site commissioning<sup>2</sup>
- Ability to create scenes for various room configurations
- Cost-effective solution for energy-savings and code-compliance strategies
- DLC® Qualified: Listed on the QPL for Networked Lighting Controls. Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org)

1 Wireless switches only compatible with ODPG Philips EasySense

2 Requires android device or IR dongle.

### Wireless Switch Accessories<sup>1</sup>

☐ PESR-WH EasySense compatible wireless single rocker switch, white

☐ PEDR-WH EasySense compatible wireless dual rocker switch, white



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## SPECTRASync™ COLOR TUNING TECHNOLOGY:

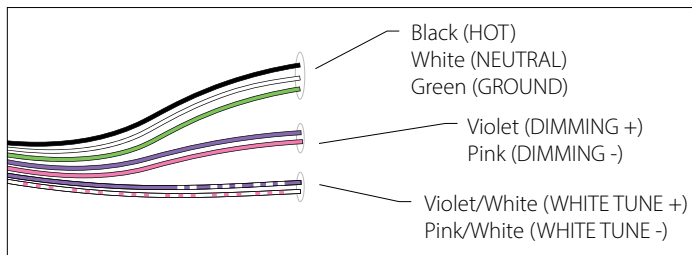
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.



SPECTRASync COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Tunable White	2700K–6500K	Offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space

### SpectraSync Tunable White

Requires two 0–10V controllers, one for intensity and one for CCT.  
Minimum 5% dimming.

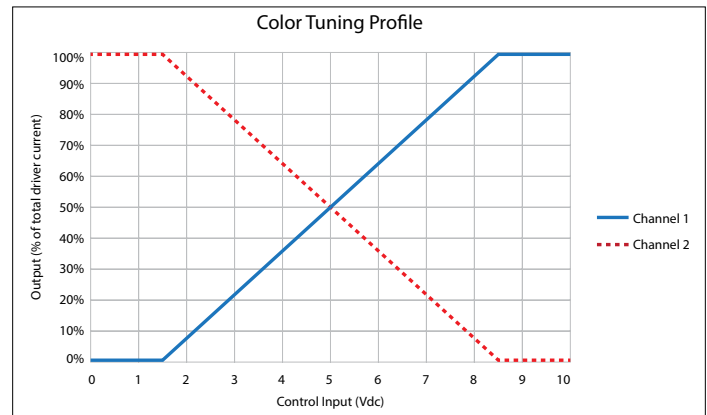


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and grey/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

### Controller Manufacturer Data

SpectraSync Tunable White was designed to be used with sinking style dimmers (provided by others) and is compatible with:

- NX Lighting Controls Room Controller (NXRC) and In-fixture Controllers (NXFM)
- Lutron: DDTV, DVSTV, and NFTV dimmers
- Wattstopper: ADF120277 and CD4BL (Titan) dimmers



To enable scheduling and for use with NX wall control preset stations please refer to NX SpectraSync technical sheet.

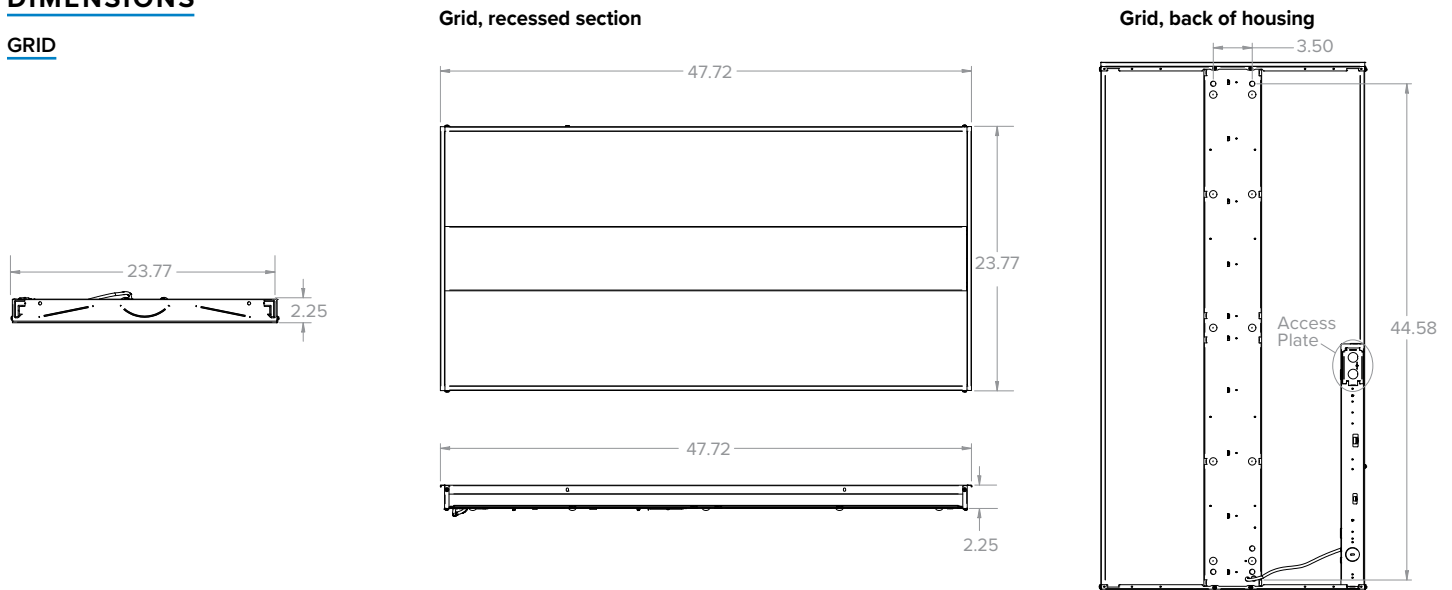
# LCAT24-S

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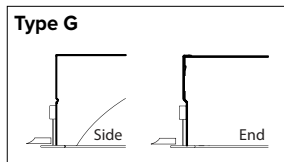
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## DIMENSIONS

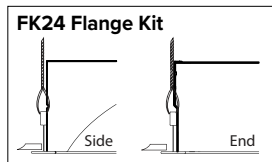
### GRID



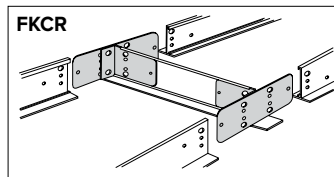
## CEILING COMPATIBILITY



For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.



For hard ceiling applications, order FK24 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

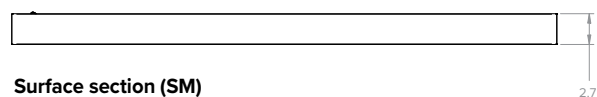
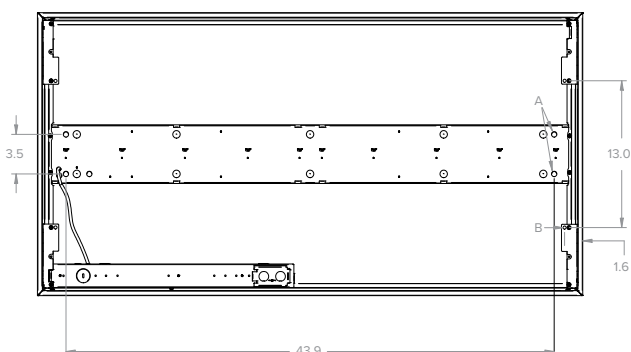


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK24 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK24 & (1) FKCR)

Row cut out dimensions using FK24s & FKCR adapters:  
Width  $24\frac{3}{8}"$ , Length  $[48" \times (\# \text{ in row})] + \frac{3}{8}"$ .  
Example:  $(48" \times 2) + \frac{3}{8}" = 96\frac{3}{8}"$

**Flange kit cut out dimension for single unit only:  $24\frac{3}{8}" \times 48\frac{3}{8}"$**

## SURFACE MOUNT OR CABLE MOUNT



### Surface section (SM)

**Surface Mount:**  
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs,  $\frac{1}{4}"$ , provided in center channel as indicated at left, marked A.

**Cable Mount:**  
Order CM ceiling type. Use CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide CM trim fixtures. Mounting holes are provided, marked B.

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PHOTOMETRY

LCAT24-S-40L085G

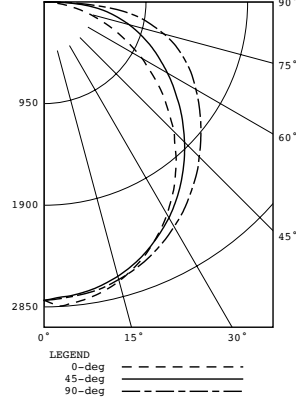
LUMINAIRE DATA

Test No.	P22.00373
Description	2' x 4' LED architectural troffer with frosted linear prisms lens
Delivered Lumens	8717
Watts	64
Efficacy	136.2
Mounting	Recessed/Ceiling
Spacing Criterion	0° = 1.22 90° = 1.30

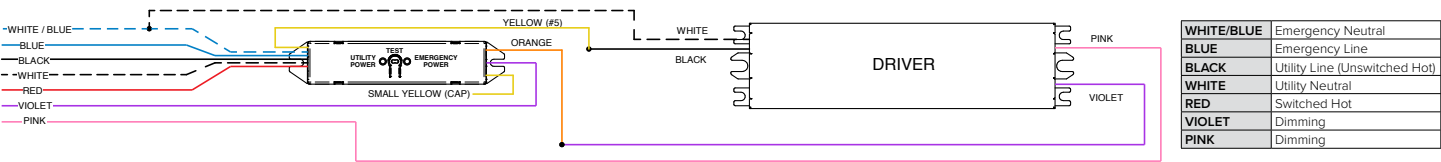
ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	2156	24.7
0-40	3528	40.5
0-60	6316	72.5
0-90	8711	99.9
0-180	8717	100

POLAR GRAPH



DTS WIRING DIAGRAM (0-10V DIMMING DRIVER SHOWN)



NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.