

## FEATURES

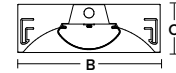
- High efficiency acrylic center lens features linear prisms for high performance without pixelation
- Appropriate for offices, schools, medical, and public spaces
- High performance reflector with matte white paint standard
- LED modules and electrical accessible from below
- Optional architecturally styled integration of daylight and occupancy sensor(s)
- QR code traceability
- Compatible with Dual-Lite inverters



## CONTROLS TECHNOLOGY



Typical Dimensions and Weights				
Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
1x2	23.75 (603)	11.75 (298)	3.98 (101)	11.25 (5.1)



## SPECIFICATIONS

### CONSTRUCTION

- Luminaire housing, reflectors and end caps are die-formed code-gauge cold-rolled steel
- High transmission extruded acrylic enclosed lens features linear prisms with custom frost for high efficacy without pixelation
- 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 and electrical components

### 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

- 60,000 hour LEDs at L80 for reduced maintenance
- 83 CRI standard or optional 90 CRI for color sensitive applications

### CONTROLS

- Optional SpectraSync™ Tunable White solution integrates seamlessly into a variety of control systems
- 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 application using wireless enabled and battery operated devices

### CERTIFICATIONS

- Emergency battery pack options are California Energy Commission (CEC) Title 20 Compliant
- 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 or for air return fixtures
- All luminaires are built to UL1598 and bear appropriate cCSAus labels

### CERTIFICATIONS (CONTINUED)

- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Damp Location label standard
- Adheres to LM79, LM80, and TM21 industry standards
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924.
- 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
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org)

### WARRANTY

- 5 year warranty

LCAT12

1' x 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: LCAT12-35MLG-ESDU

CATALOG #

LCAT12										
Model	CRI	Color Temp	Nominal Lumens <sup>2</sup>		Ceiling Type	Shielding	Air Function		Driver <sup>5</sup>	
LCAT12 1' x 2' LED Contemporary Architectural Troffer	Blank	>80	30	3000K	VW	1520-1668	G	Grid Lay-in <sup>3</sup>	E	Fixed Output
	9	>90	35	3500K	MW	1912-2126	SM	Surface Mount <sup>4</sup>	ED	0-10V Dimming <sup>6</sup>
			40	4000K	LW	2591-2872			ED1	0-10V 1% Dimming
			50	5000K	ML	3449-3811	CM	Cable Suspended Mount <sup>4</sup>	EDD	0-10V Dim-to-Off <sup>7</sup>
			2765T	2700K-6500K SpectraSync™ Tunable White <sup>1</sup>	HL	4627-5141			ESD	Step Dimming <sup>7</sup>
									LUTH	Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology <sup>7,8</sup>
									DALIP	Powered by DALI <sup>7,8</sup>

Voltage	Options	Control Options <sup>13</sup>
U 120-277V 347 347V	<b>ELL14</b> Emergency Battery Pack Installed, 1400 Lumens <sup>8, 9, 10</sup> <b>ELL14ST</b> Emergency Battery Pack, 1400 Lumens, Self Test <sup>8, 9, 10</sup> <b>ELL14H2</b> Emergency Battery Pack, 2-Hour Run Time <sup>8, 9, 10, 11</sup> <b>DTS</b> Dimming Bypass Module <sup>8, 10, 12</sup> <b>C388</b> 3-wire Flex <b>C488</b> 4-wire Flex <b>C588</b> 5-wire Flex <b>GLR</b> Fast Blow Fuse <b>EOR</b> End of Row (SM and CM only. Provides end wiring access for continuous row mounting.) <b>INT</b> Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.) <b>CP</b> Chicago Plenum	<b><u>NX Lighting Controls</u></b> <b><u>Networked Wireless</u></b> <b>NXW</b> NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor <sup>14, 15, 16</sup> <b>NXWSM</b> NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming <sup>14, 16</sup> <b><u>Networked Wired</u></b> <b>NXE</b> NX Wired Dual RJ45 SmartPORTS , without Sensor <sup>14, 15, 16</sup> <b>NXESM</b> NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming <sup>14, 15, 16</sup> <b><u>Independent Control</u></b> <b>NXCS</b> NX Connect NXW-ZW20 Wireless Indoor Occupancy and Photocell Sensor <sup>8, 17, 18, 19, 21</sup> <b><u>Other Lighting Controls</u></b> <b><u>Networked Wireless</u></b> <b>LVR</b> Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) <sup>8, 19, 20, 21</sup> <b>LVS</b> Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing) <sup>8, 19, 20, 21</sup> <b>AWNRR</b> Lutron Athena Integral Fixture Control A-WN-DO1-RF-WH (RF only) <sup>8, 16, 19</sup> <b><u>Independent Control</u></b> <b>ODPG</b> Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 <sup>8, 19, 21</sup>

Accessories

☐ **FK12** 1' x 2' Single Flange Kit (Shipped separately)

☐ **CM48Y1SC3F48** 48" Cable Mount Kit for 1' wide Cable Mount fixtures, 3-wire

- Notes:
- 1

Available with ED driver and 80 CRI only
- 2

Refer to performance tables for exact values and available lumen outputs for fixture size
- 3

For drywall, order G with flange kit accessory
- 4

Not available with Air Return (A) air function
- 5

Dimming curves may vary dependent upon lumen output and driver option chosen. Separate dimming circuits are recommended if multiple driver options are chosen.
- 6

1V minimum low-end trim recommended when paired with a 0-10V dimmer
- 7

Not available in all lumen packages, refer to Driver Availability table
- 8

Not available with 347V
- 9

To determine lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW)
- 10

For compatibility with Dual-Lite Litegear inverters, contact lighting representative
- 11

Not available for use in Canada
- 12

For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0-10V drivers. Universal voltage only. See wiring diagram.

- All Controls**
- 13

Minimum ambient temperature: 0°C (32°F)
- NX Lighting Controls Options**
- 14

NX combined with SpectraSync is not available in 347V
- 15

Not compatible with 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

Vive is a trademark of Lutron Electronics Co., Inc.
- 21

Only available with DALIP driver option

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1' x 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

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PRODUCT EXCEPTIONS & DETAILS

Driver options listed below are available for the outputs as shown.

DRIVER AVAILABILITY TABLE					
	VW	MW	LW	ML	HL
E	X	X	X	X	X
ED	X	X	X	X	X
ED1	X	X	X	X	X
EDD		X	X	X	X
ESD		X	X	X	X
LUTH		X	X	X	
DALIP			X	X	X
347	X	X	X	X	X

DELIVERED LUMENS (View 90 CRI data on supplemental document)

Product Availability 80 CRI					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
VW		3000K	1574	12.2	129
		3500K	1670	12.2	137
		4000K	1689	12.2	139
		5000K	1668	12.1	137
	R	3000K	1520	12.2	125
		3500K	1594	12.1	131
		4000K	1612	12.1	133
		5000K	1612	12.1	133
MW		3000K	1981	15.8	125
		3500K	2103	15.8	133
		4000K	2126	15.8	134
		5000K	2126	15.8	134
	R	3000K	1912	15.8	121
		3500K	2030	15.8	128
		4000K	2052	15.8	130
		5000K	2052	15.8	130
LW		3000K	2676	20.5	130
		3500K	2841	20.5	138
		4000K	2872	20.5	140
		5000K	2872	20.5	140
	R	3000K	2591	20.5	126
		3500K	2750	20.5	134
		4000K	2780	20.5	135
		5000K	2780	20.5	135
ML		3000K	3579	28.3	127
		3500K	3769	28.3	133
		4000K	3811	28.3	135
		5000K	3811	28.3	135
	R	3000K	3449	28.3	122
		3500K	3639	28.2	129
		4000K	3679	28.2	130
		5000K	3679	28.2	130

Product Availability 80 CRI (continued)					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
HL		3000K	4792	41.1	117
		3500K	5084	41.1	124
		4000K	5141	41.1	125
		5000K	5141	41.1	125
	R	3000K	4627	41.1	112
		3500K	4909	41.1	119
		4000K	4964	41.1	121
		5000K	4964	41.1	121

PROJECTED LUMEN MAINTENANCE

Calculation Method	Ambient Temp	25,000 hrs	50,000 hrs	60,000 hrs *
TM-21-11	25C/77F	0.94	0.89	0.87
TM-21-21	25C/77F	0.94	0.88	0.86






\* 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.

# LCAT12

1' x 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

## 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.



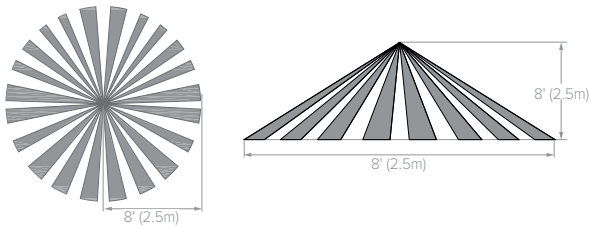
Apple iOS

LCAT12

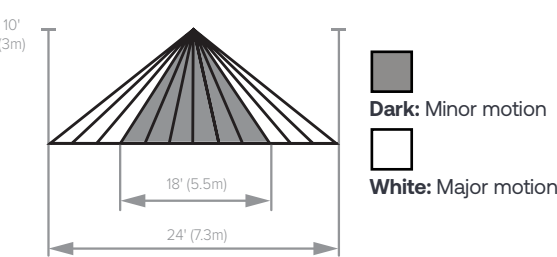
1' x 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

COVERAGE PATTERNS





NXWSM/NXESM (NXSMP2-SMI SENSOR)



NXCS (NXC-WIZ20 SENSOR)



OTHER 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		
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		✓	✓	✓	✓	✓	-	✓	-		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 GPL 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

**CONTROLS (CONTINUED)****SpectraSync™ Color Tuning Technology:**

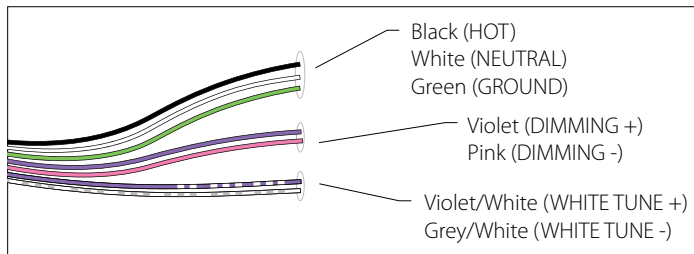
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.



SPECTRASYNCH 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.

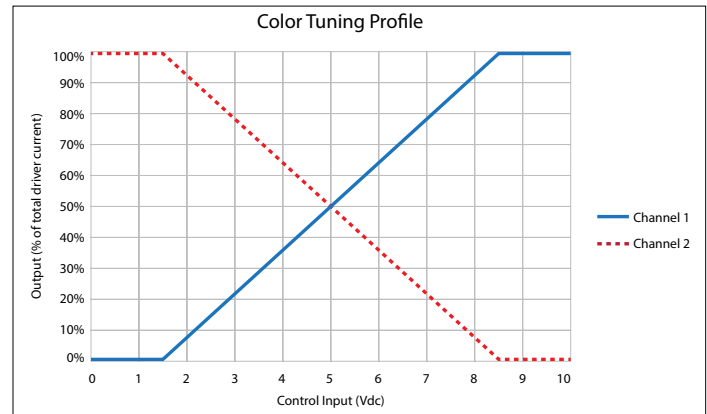


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and grey/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

**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.

**DELIVERED LUMENS, SPECTRASYNCH™**

Shielding	Lumen Output	Watts	2700		3000		3500		4000		5000		6500	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
Curve	VW	13	1454	109	1519	114	1546	116	1566	118	1618	122	1593	120
	MW	18	1669	95	1744	99	1775	101	1798	102	1857	106	1829	104
	LW	23	2561	113	2676	118	2724	121	2759	122	2850	126	2807	124
	ML	29	3188	111	3331	116	3391	118	3434	119	3548	123	3494	121
	HL	32	3430	109	3584	113	3649	115	3695	117	3817	121	3760	119
Rectangle	VW	13	1488	111	1555	116	1583	118	1603	120	1656	124	1631	122
	MW	18	1936	109	2023	114	2059	116	2086	117	2154	121	2122	119
	LW	23	2537	112	2651	117	2699	119	2733	121	2823	125	2781	123
	ML	29	3160	110	3302	115	3361	117	3404	118	3517	122	3464	120
	HL	32	3216	102	3361	106	3421	108	3465	110	3579	113	3526	112

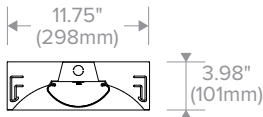
## LCAT12

1' x 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

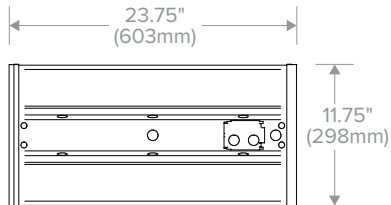
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## DIMENSIONS

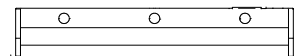
## GRID



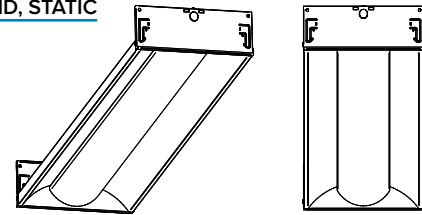
Grid, recessed section



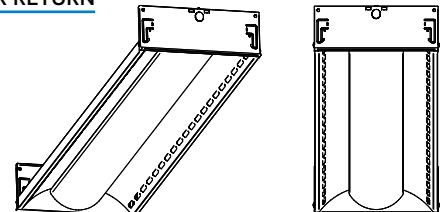
Grid, back of housing



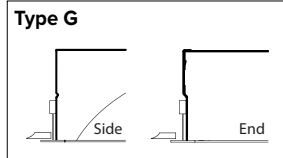
## GRID, STATIC



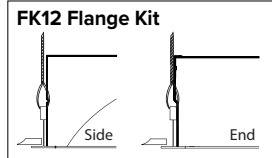
## GRID, AIR RETURN



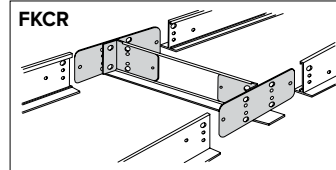
## CEILING COMPATIBILITY



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 FK12 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

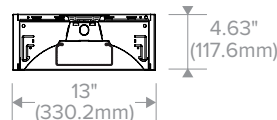
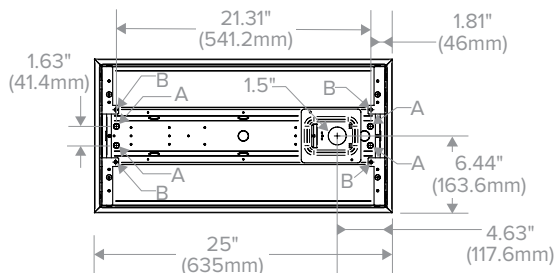


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK12 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK12 & (1) FKCR)

Row cut out dimensions using FK12s & FKCR adapters:  
Width 12 $\frac{3}{8}$ ", Length [24" x (# in row)] +  $\frac{3}{8}$ ".  
Example: (24" x 2) + 3/8" = 48 $\frac{3}{8}$ "

Flange kit cut out dimension for single unit only: 12 $\frac{3}{8}$ " x 24 $\frac{3}{8}$ "

## SURFACE MOUNT OR CABLE MOUNT, STATIC ONLY



Surface section (SM)

Surface Mount (SM) and Cable Mount (CM), back of housing

## Surface Mount:

Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3/8", provided in center channel as indicated at left, marked A.

## Cable Mount:

Order CM ceiling type. Use CM48Y1SC3F48 48" Cable Mount Kit for 1' wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

\* For Cable Mount a 2" x 3" access plate with (4) 3/8" KOs provided in place of Mounting Collar shown.

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

LCAT12

1' x 2' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE:	LOCATION:
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PHOTOMETRY

LCAT12-35MLG-EU

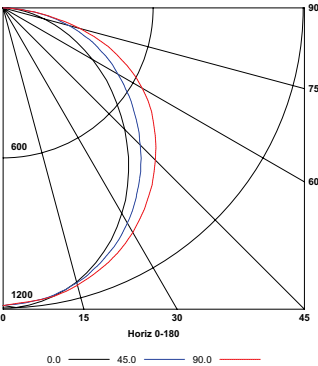
LUMINAIRE DATA

Test No.	16459
Description	1' x 2' LED architectural troffer with frosted linear prisms lens
Delivered Lumens	3431
Watts	28.80
Efficacy	117
Mounting	Recessed
Spacing Criterion	0° = 1.19 90° = 1.29

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	918	26.8
0-40	1497	43.6
0-60	2643	77
0-90	3431	100
0-180	3431	100

POLAR GRAPH



ADDITIONAL INFORMATION

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

