

LCAT24

2' x 4' LED CONTEMPORARY ARCHITECTURAL TROFFER

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

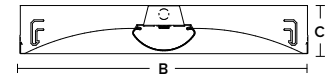
FEATURES

- 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

SERVICE PROGRAMS
STOCK QS10

Typical Dimensions and Weights				
Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
2x4	47.75 (1213)	23.77 (604)	3.98 (101)	17.0 (7.7)

CONTROLS TECHNOLOGY



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 standards, and bear appropriate cCSAus labels
- 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

CERTIFICATIONS (CONTINUED)

- 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

WARRANTY

- 5 year warranty

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ORDERING GUIDE

= Service Program
Limit of 250 luminaires

QS10

Example: LCAT24-35MLG-ESDU

CATALOG #

LCAT24									
Model	CRI	Color Temp	Nominal Lumens ²	Ceiling Type	Shielding	Air Function	Driver ⁵		
LCAT24 2' x 4' LED Contemporary Architectural Troffer	Blank	>80	30 3000K	XW 2350-2560	G Grid Lay-in ³	Blank	Static	E Fixed Output	
	9	>90	35 3500K	VW 2953-3339	SM Surface Mount ⁴	Curve	A Air Return Side Slots	ED 0-10V Dimming ⁶	
			40 4000K	MW 3205-3626	CM Cable Suspended Mount ⁴	Rectangular		ED1 0-10V 1% Dimming	
			50 5000K	LW 4041-4617				EDD 0-10V Dim-to-Off ⁷	
			2765T 2700K-6500K SpectraSync™ Tunable White ¹	ML 4448-5026				ESD Step Dimming ⁷	
				HL 5065-5786				LUTH Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology ^{7,8}	
				VL 6542-7440					
				XL 7517-8367				DALIP Powered by DALI ^{7,8}	
Voltage	Options	Control Options ¹³							
U 120-277V	ELL14 Emergency Battery Pack Installed, 1400 Lumens ^{8,9,10}	<u>NX Lighting Controls</u>							
347 347V	ELL14ST Emergency Battery Pack, 1400 Lumens, Self Test ^{8,9,10}	<u>Networked Wireless</u>							
	ELL14H2 Emergency Battery Pack, 2-Hour Run Time ^{8,9,10,11}	NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{14,15,16}							
	DTS Dimming Bypass Module ^{8,10,12}	NXWSM NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,16}							
	C388 3-wire Flex	<u>Networked Wired</u>							
	C488 4-wire Flex	NXE NX Wired Dual RJ45 SmartPORTS , without Sensor ^{14,15,16}							
	C588 5-wire Flex	NXESM NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{14,15,16}							
	GLR Fast Blow Fuse	<u>Independent Control</u>							
	EOR End of Row (SM and CM only. Provides end wiring access for continuous row mounting.)	NXCS NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor ^{8,17,18,19,21}							
	INT Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)	<u>Other Lighting Controls</u>							
	CP Chicago Plenum	<u>Networked Wireless</u>							
		LVR Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) ^{8,19,20,21}							
		LVS Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing) ^{8,19,20,21}							
		AWNRR Lutron Athena Integral Fixture Control A-WN-DO1-RF-WH (RF only) ^{8,16,19}							
		<u>Independent Control</u>							
		ODPG Occupancy and Daylight Sensors w/ Grouping, Philips SNS200 ^{8,19,21}							

Accessories	
<input type="checkbox"/> FK24	2' x 4' Single Flange Kit (Shipped separately)
<input type="checkbox"/> CM48Y2SC3F-KIT	48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire
<input type="checkbox"/> SMK-LCAT 2x4	2x4 Surface Mount Kit, Field Install

- Notes:
- 1

Available with ED driver and 80 CRI only. Not available with VL or XL lumen package
- 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. 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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PRODUCT EXCEPTIONS & DETAILS

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

DRIVER AVAILABILITY TABLE								
	XW	VW	MW	LW	ML	HL	VL	XL
E	X	X	X	X	X	X	X	X
ED	X	X	X	X	X	X	X	X
ED1	X	X	X	X	X	X	X	X
EDD		X	X	X	X	X		
ESD				X	X	X	X	X
LUTH	X	X	X	X	X	X		
DALIP		X	X	X	X	X	X	X
347	X	X	X	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
XW		3000K	2448	18.7	131
		3500K	2532	18.7	135
		4000K	2560	18.7	137
		5000K	2560	18.7	137
	R	3000K	2350	18.6	126
		3500K	2532	18.7	135
		4000K	2560	18.7	137
		5000K	2560	18.7	137
VW		3000K	3112	24.3	128
		3500K	3303	24.3	136
		4000K	3339	24.3	138
		5000K	3339	24.3	138
	R	3000K	2953	24.3	122
		3500K	3135	24.3	129
		4000K	3169	24.3	130
		5000K	3169	24.3	130
MW		3000K	3379	26.4	128
		3500K	3587	26.4	136
		4000K	3626	26.4	137
		5000K	3626	26.4	137
	R	3000K	3205	26.5	121
		3500K	3402	26.5	128
		4000K	3439	26.5	130
		5000K	3439	26.5	130
LW		3000K	4302	32.1	134
		3500K	4567	32.1	142
		4000K	4617	32.1	144
		5000K	4617	32.1	144
	R	3000K	4041	32.2	125
		3500K	4290	32.2	133
		4000K	4337	32.2	135
		5000K	4337	32.2	135

Product Availability 80 CRI (continued)					
Lumen Package	Shielding	Color	Lumens	Input Watts	LPW
ML		3000K	4683	36.0	130
		3500K	4971	36.0	138
		4000K	5026	36.0	140
		5000K	5026	36.0	140
	R	3000K	4448	36.1	123
		3500K	4722	36.1	131
		4000K	4774	36.1	132
		5000K	4774	36.1	132
HL		3000K	5391	39.7	136
		3500K	5723	39.7	144
		4000K	5786	39.7	146
		5000K	5786	39.7	146
	R	3000K	5065	39.8	127
		3500K	5377	39.8	135
		4000K	5436	39.8	137
		5000K	5436	39.8	137
VL		3000K	6933	52.9	131
		3500K	7358	52.9	139
		4000K	7440	52.9	141
		5000K	7440	52.9	141
	R	3000K	6542	53.1	123
		3500K	6942	53.1	131
		4000K	7019	53.1	132
		5000K	7019	53.1	132
XL		3000K	7798	63.0	124
		3500K	8273	63.0	131
		4000K	8367	63.0	133
		5000K	8367	63.0	133
	R	3000K	7517	63.0	119
		3500K	7894	62.9	126
		4000K	7894	62.9	126
		5000K	7517	62.9	120

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.

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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	✓	✓	✓	-	-	✓	✓	✓ ¹		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	-	✓	-	✓	✓	✓	✓	✓ ²		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.



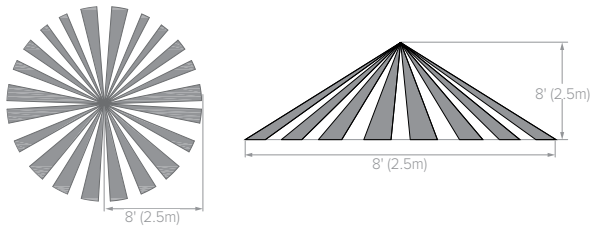
Apple iOS

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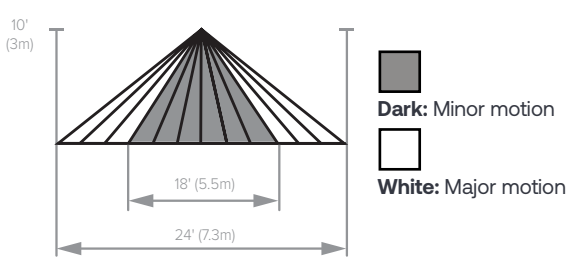
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COVERAGE PATTERNS

NXWSM/NXESM (NXSMP2-SMI SENSOR)



NXCS (NXC-WIZ20 SENSOR)



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. ¹	-	✓	-	✓	✓	✓	✓ ³		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. ²	✓	✓	✓	-	-	✓	-		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. ³	✓	✓	-	-	-	✓	✓		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 switches¹
- Uses Philips field apps for on site commissioning²
- 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

1 Wireless switches only compatible with ODPG Philips EasySense
2 Requires android device or IR dongle.

Wireless Switch Accessories¹

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

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

CONTROLS (CONTINUED)

SpectraSync™ Color Tuning Technology:

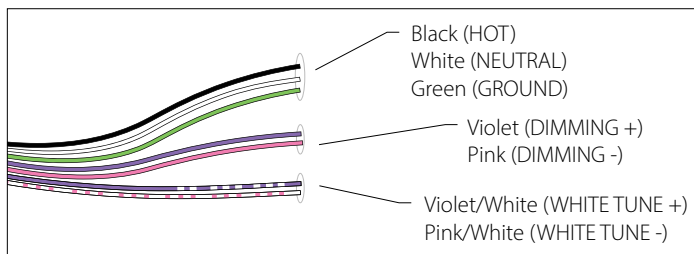
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.



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.

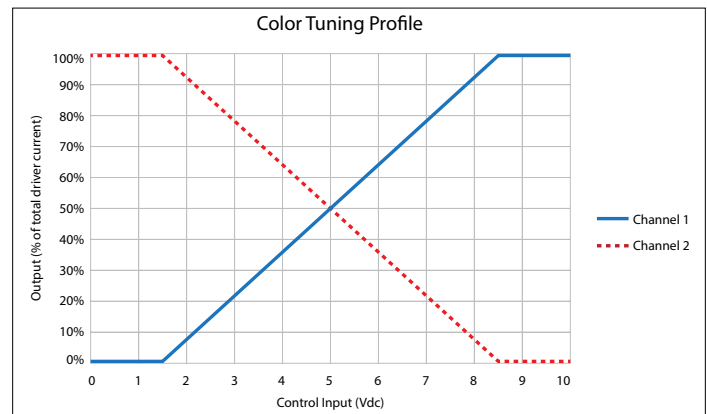


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and grey/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

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: DTVT, 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	XW	19	2240	117	2341	123	2383	125	2414	126	2493	131	2456	129
	VW	28	2990	108	3124	113	3180	115	3221	117	3327	121	3277	119
	MW	30	3218	107	3363	111	3424	113	3467	115	3582	119	3528	117
	LW	36	4084	113	4268	118	4345	120	4400	122	4545	126	4477	124
	ML	39	4566	118	4771	123	4857	125	4919	127	5081	131	5005	129
	HL	44	5209	118	5443	124	5541	126	5612	128	5797	132	5710	130
Rectangle	XW	20	2489	123	2601	128	2648	130	2682	132	2770	136	2728	134
	VW	28	3085	109	3224	114	3282	116	3324	118	3434	122	3382	120
	MW	30	3323	110	3472	115	3534	117	3580	119	3698	122	3642	121
	LW	36	4230	117	4420	122	4500	125	4557	126	4707	130	4637	128
	ML	39	4711	121	4923	127	5012	129	5076	131	5243	135	5164	133
	HL	43	5295	123	5533	128	5633	131	5705	132	5893	137	5804	135

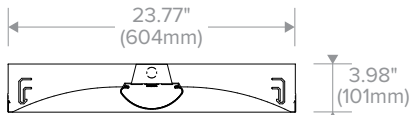
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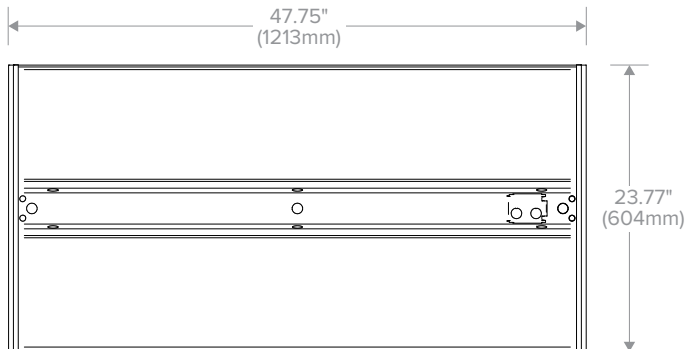
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CATALOG #:	

DIMENSIONS

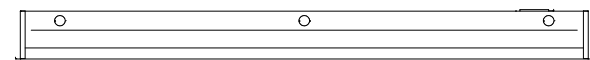
GRID



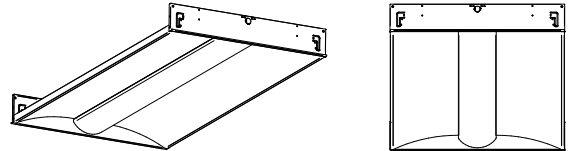
Grid, recessed section



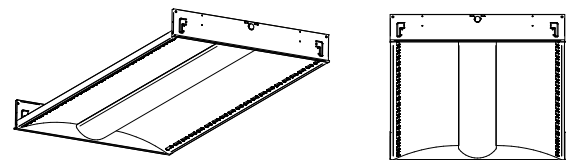
Grid, back of housing



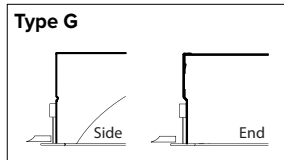
GRID, STATIC



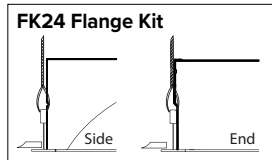
GRID, AIR RETURN



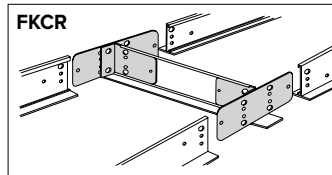
CEILING COMPATIBILITY



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

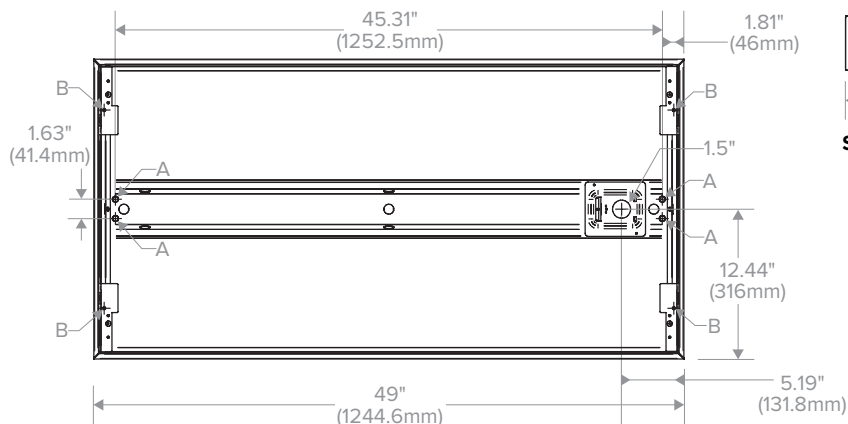


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK24 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK24 & (1) FKCR)

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

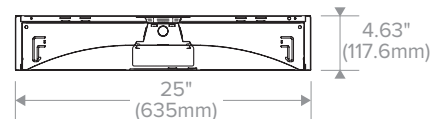
Flange kit cut out dimension for single unit only: 24 $\frac{3}{8}$ " x 48 $\frac{3}{8}$ "

SURFACE MOUNT OR CABLE MOUNT, STATIC ONLY



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

* For Cable Mount a 2" x 3" access plate with (4) $\frac{7}{8}$ " KOs provided in place of Mounting Collar shown.



Surface section (SM)

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 CM48Y2SC3F-KIT 48" Cable Mount Kit for 2" wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

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

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PHOTOMETRY

LCAT24-35MLG-EU

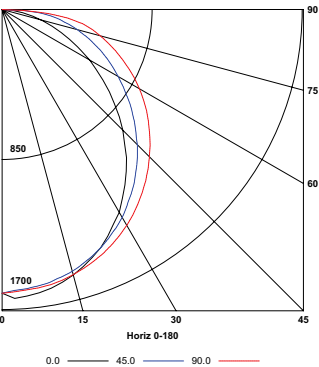
LUMINAIRE DATA

Test No.	16522
Description	2' x 4' LED architectural troffer with frosted linear prisms lens
Delivered Lumens	4914
Watts	38.80
Efficacy	127
Mounting	Recessed
Spacing Criterion	0° = 1.22 90° = 1.30

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	1250	25.4
0-40	2049	41.7
0-60	3648	74.2
0-90	4914	100
0-180	4914	100

POLAR GRAPH



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

