

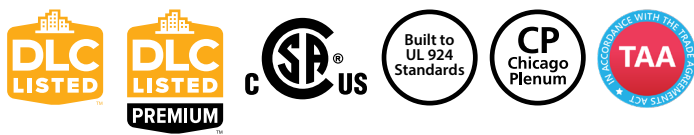
TCAT24

2'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

FEATURES

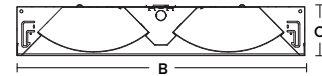
- High efficiency acrylic lenses feature custom formulation for high performance without pixelation
- Appropriate for offices, schools, medical, and public spaces
- LED modules and electrical accessible from below
- Optional architecturally styled integration of daylight and occupancy sensor(s)
- Compatible 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)
2x4	47.75 (1212.9)	23.75 (603.3)	4.0 (101.6)	17.0 (7.7)



SPECIFICATIONS

CONSTRUCTION

- Luminaire housing, reflectors and end caps are die formed code gauge cold rolled steel
- Removable lenses and center channel for easy access to LED module and electrical components
- All reflective surfaces are finished after fabrication with unique formula high reflectivity matte white paint for soft, uniform illumination

OPTICS

- High transmission extruded acrylic lenses feature custom formulation 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 NEC compliant T-bar clips 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

CONTROLS

- Optional SpectraSync™ offers a Tunable White solution and 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 applications using wireless enabled and battery operated devices

CERTIFICATIONS

- IC label is standard for recessed products
- All luminaires are built to UL1598 standards, and bear appropriate CSA labels
- Damp location label standard
- Emergency-equipped fixtures are Dry Location unless specified
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Adheres to LM79, LM80, and TM21 industry standards
- DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

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](#)

WARRANTY

- 5 year warranty

ORDERING GUIDE

Example: TCAT24-35MLG-ESDU

CATALOG #

TCAT24												
Model	Color Temp		Nominal Lumens ²		Ceiling Type		Driver		Voltage			
TCAT24 2' x 4' LED Contemporary Architectural Troffer	30	3000K	XW	2475–2650	G	Grid Lay-in ³	E	Fixed Output	U	120–277V		
	35	3500K	VW	3150–3575	SM	Surface Mount	ED	0–10V Dimming	347	347V		
	40	4000K	MW	3550–4050	CM	Mount	ED1	0–10V 1% Dimming				
	50	5000K	LW	4150–4725		Cable Suspended Mount	ESD	Step Dimming				
	2765T	2700K–6500K SpectraSync™ Tunable White ¹	ML	4700–5350		HL	5350–6100	VL			6875–7825	LUTH
			VL	6875–7825								
			XL	8300–8925								

Options	Control Options ⁸
ELL14 Emergency Battery Pack Installed, 1400 Lumens ^{4, 5, 6}	<u>NX Lighting Controls</u>
DTS Dimming Bypass Module ^{4, 6, 7}	<u>Networked Wireless</u>
C388 3-Wire Flex	NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{9, 10, 11}
C488 4-Wire Flex	NXWSM NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{9, 11}
C588 5-Wire Flex	<u>Networked Wired</u>
GLR Fast Blow Fuse	NXE NX Wired Dual RJ45 SmartPORTS, without Sensor ^{9, 10, 11}
EOR End of Row (SM and CM only. Provides end wiring access for continuous row mounting.)	NXESM NX Wired Dual RJ45 SmartPORTS and Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{9, 10, 11}
INT Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)	<u>Independent Control</u>
CP Chicago Plenum	NXCS NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor ^{4, 12, 13, 14, 16}
	<u>Other Lighting Controls</u>
	<u>Networked Wireless</u>
	LVR Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) ^{4, 14, 15, 16}
	LVS Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing) ^{4, 14, 15, 16}
	AWNRLutron Athena Integral Fixture Control A-WN-D01-RF-WH (RF only) ^{4, 11, 14, 17}
	AWNS Lutron Athena Integral Fixture Control A-WN-D01-OCC-WH with Daylight and Occupancy Sensing ^{4, 11, 14}
	<u>Independent Control</u>
	ODPG Occupancy and Daylight Sensors w/ Grouping, Philips ^{4, 14, 16}

Accessories

- ☐ FK24 2' x 4' Single Flange Kit (Shipped separately)
- ☐ CM48YSC3F-KIT 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

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 347V
- 5 To determine lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW)
- 6 For compatibility with Dual-Lite Litegear inverters, contact lighting representative
- 7 For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See wiring diagram.

All Controls

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

NX Lighting Controls Options

- 9 NX combined with SpectraSync is not available in 347V
- 10 Not compatible with Surface Mount Kit
- 11 Available with ED or ED1 drivers only
- 12 NX Connect devices can be configured using the NX Connect Mobile App, available in the Apple App Store
- 13 NX Connect devices are not compatible with NX Networked Wireless or Wired Options

Other Lighting Controls Options

- 14 Not available with SpectraSync
- 15 Vive is a trademark of Lutron Electronics Co., Inc.
- 16 Only available with DALIP driver option
- 17 When installing in a hard ceiling application room side mounting is suggested, please consult factory

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
ESD				X	X	X	X	X
LUTH		X	X	X	X	X		

DELIVERED LUMENS

LUMEN PACKAGE	LUMENS	INPUT WATTS	LPW
TCAT24-30XWG	2493	19	131.2
TCAT24-35XWG	2568	19	135.2
TCAT24-40XWG	2608	19	137.3
TCAT24-50XWG	2667	19	140.4
TCAT24-30VWG	3157	25	126.3
TCAT24-35VWG	3251	25	130
TCAT24-40VWG	3302	25	132.1
TCAT24-50VWG	3595	25	143.8
TCAT24-30MWG	3558	28	127.1
TCAT24-35MWG	3665	28	130.9
TCAT24-40MWG	3722	28	132.9
TCAT24-50MWG	4053	28	144.8
TCAT24-30LWG	4152	34	122.1
TCAT24-35LWG	4276	34	125.8
TCAT24-40LWG	4343	34	127.7
TCAT24-50LWG	4729	34	139.1
TCAT24-30MLG	4713	39	120.8
TCAT24-35MLG	4855	39	124.5
TCAT24-40MLG	4930	39	126.4
TCAT24-50MLG	5368	39	137.6
TCAT24-30HLG	5368	45	119.3
TCAT24-35HLG	5530	45	122.9
TCAT24-40HLG	5615	45	124.8
TCAT24-50HLG	6115	45	135.9
TCAT24-30VLG	6883	55	125.1
TCAT24-35VLG	7090	55	128.9
TCAT24-40VLG	7200	55	130.9
TCAT24-50VLG	7840	55	142.5
TCAT24-30XLG	8321	69	120.6
TCAT24-35XLG	8571	69	124.2
TCAT24-40XLG	8704	69	126.1
TCAT24-50XLG	8932	69	129.4

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.



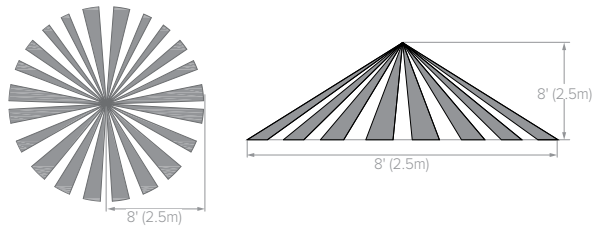
Apple iOS

TCAT24

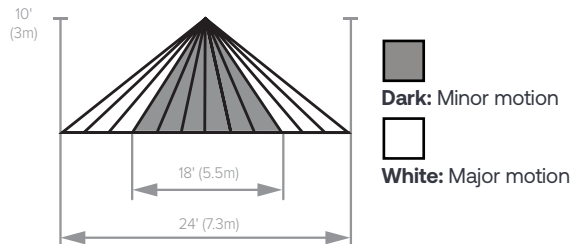
2'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

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. 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
	AWNS		✓	✓	✓	✓	✓	✓	-		A-WN-D01-OCC-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 Sensor:



- 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 commissioning^{2,3}
- 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

1 Wireless switches only compatible with ODPG Philips EasySense

2 Requires android device or IR dongle.

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.



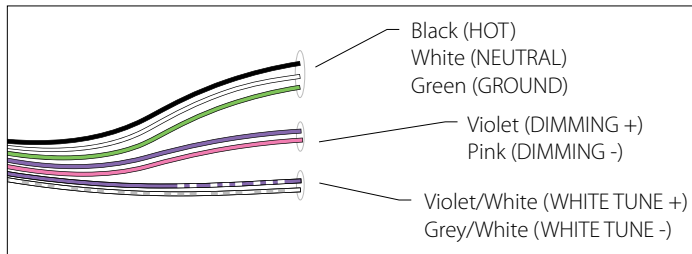
SPECTRASync COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Tunable White	2700K–6500K	Offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space

SpectraSync Tunable White

Available in 2765T (2700K–6500K).

Requires two 0–10V controllers, one for intensity and one for CCT.

Minimum 5% dimming.

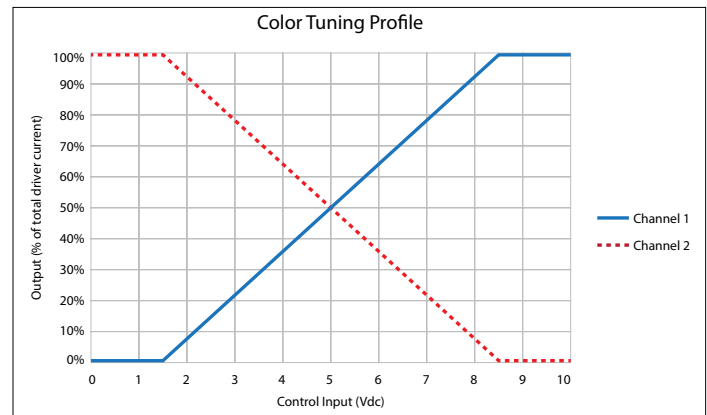


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and pink/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

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.

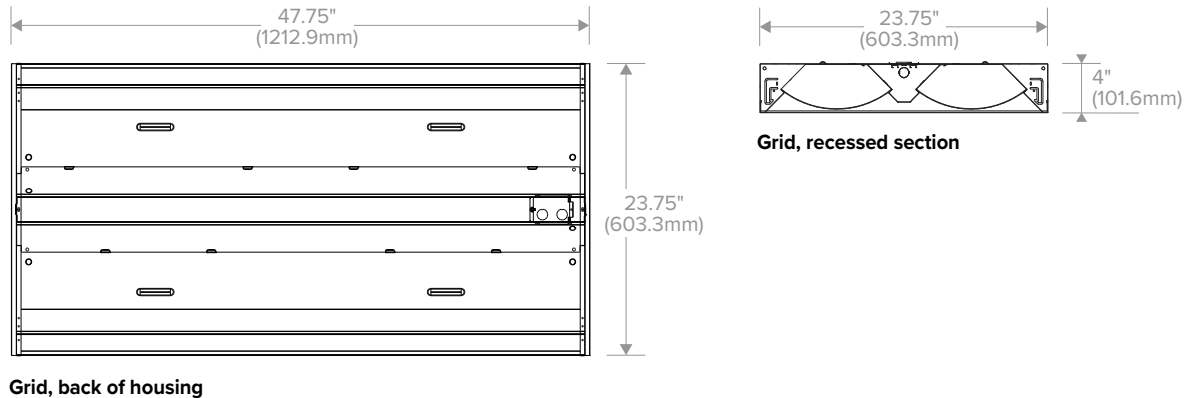
DELIVERED LUMENS, SPECTRASync™

Lumen Output	Watts	2700		3000		3500		4000		5000		6500	
		Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
XW	19	2386	126	2493	131	2538	134	2570	135	2655	140	2615	138
VW	25	3021	121	3157	126	3214	129	3255	130	3362	134	3312	132
MW	28	3405	122	3558	127	3622	129	3668	131	3789	135	3732	133
LW	34	3973	117	4152	122	4227	124	4281	126	4422	130	4355	128
ML	39	4510	116	4713	121	4798	123	4859	125	5019	129	4944	127
HL	45	5137	114	5368	119	5465	121	5534	123	5717	127	5631	125

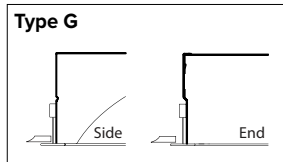
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DIMENSIONS

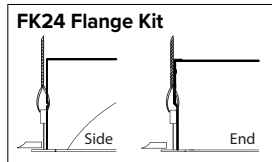
GRID



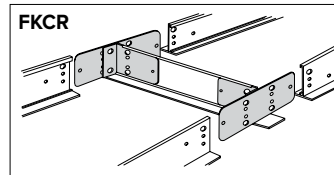
CEILING COMPATIBILITY



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.

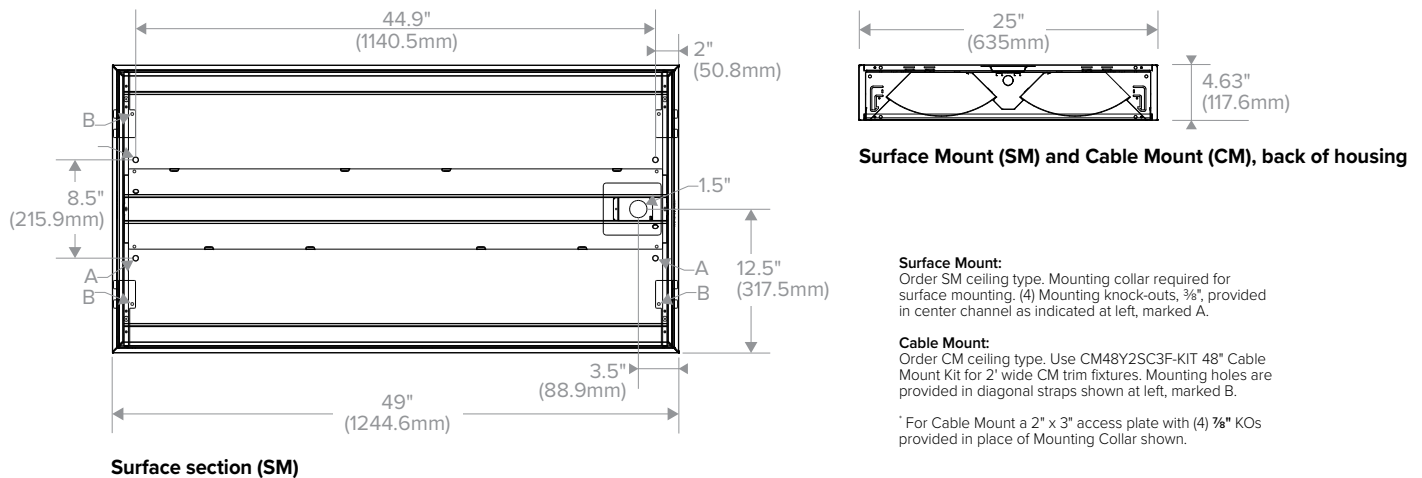


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK24 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK24 & (1) FKCR)

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 Mount:
Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, $\frac{3}{8}"$, 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.

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

NOTE: Dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

PHOTOMETRY

TCAT24-35LWX-EDU

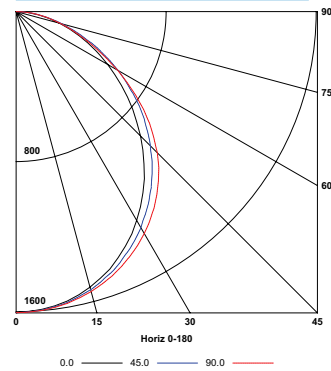
LUMINAIRE DATA

Test No.	16567
Description	2' x 4' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	4276
Watts	33.50
Efficacy	128
Mounting	Recessed
Spacing Criterion	0° = 1.19 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	1236	28.9
0-40	2007	46.9
0-60	3453	80.7
0-90	4276	100
0-180	4276	100

POLAR GRAPH



TCAT24-35MLX-EDU

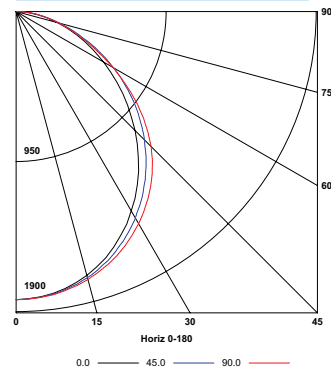
LUMINAIRE DATA

Test No.	16570
Description	2' x 4' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	4855
Watts	38.90
Efficacy	125
Mounting	Recessed
Spacing Criterion	0° = 1.19 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	1404	28.9
0-40	2280	47
0-60	3920	80.7
0-90	4855	100
0-180	4855	100

POLAR GRAPH



TCAT24-35HLX-EDU

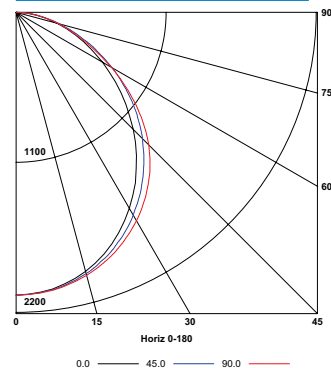
LUMINAIRE DATA

Test No.	16576
Description	2' x 4' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	5530
Watts	44.60
Efficacy	124
Mounting	Recessed
Spacing Criterion	0° = 1.19 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	1597	28.9
0-40	2593	46.9
0-60	4462	80.7
0-90	5530	100
0-180	5530	100

POLAR GRAPH



ADDITIONAL INFORMATION

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

