Columbia LIGHTING

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

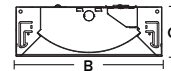# TCAT14
1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

FEATURES

- 1x4 single lens companion to 2x2 and 2x4 twin lens configuration

- High efficiency acrylic lens features 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

DLC LISTED · **DLC LISTED PREMIUM** · C CSA US · Built to UL 924 Standards · CP Chicago Plenum · TAA IN ACCORDANCE WITH THE TRADE AGREEMENTS ACT
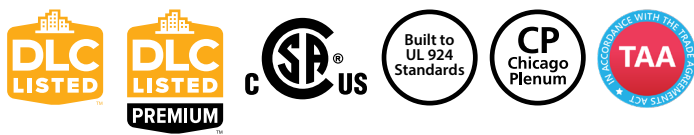
Typical Dimensions and Weights

Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
1x4	47.75 (1212.9)	11.75 (298.5)	4.0 (101.6)	11.25 (5.1)

CONTROLS TECHNOLOGY

SpectraSync Color Tuning Technology · NX WIRELESS · NX WIRED · NX CONNECT · OCCUPANCY SENSING · DAYLIGHT HARVESTING

SPECIFICATIONS

CONSTRUCTION
- Luminaire housing, reflectors and end caps are die formed code gauge cold rolled steel

- Removable lens and driver cover 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 lens features 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 ⅜" 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

CERTIFICATIONS
- IC label is standard for recessed products

- All luminaires are built to UL1598 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

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Current

Columbia LIGHTING

TCAT14

1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

ORDERING GUIDE

Example: TCAT14–35MLG–ESDU

CATALOG #

TCAT14 –			–		

Model	Color Temp		Nominal Lumens [2]		Ceiling Type		Driver		Voltage	
TCAT14 1' x 4' LED Contemporary Architectural Troffer	**30**	3000K	**XW**	2450–2625	**G**	Grid Lay-in[3]	**E**	Fixed Output	**U**	120–277V
	35	3500K	**VW**	3175–3625	**SM**	Surface Mount	**ED**	0–10V Dimming	**347**	347V
	40	4000K	**MW**	3475–3950	**CM**	Cable Suspended Mount	**ED1**	0–10V 1% Dimming		
	50	5000K	**LW**	4175–4750			**ESD**	Step Dimming[4]		
	2765T	2700K–6500K SpectraSync™ Tunable White[1]	**ML**	4725–5375			**LUTH**	Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology[4]		
			HL	5375–6125			**DALIP**	Powered by DALI[4]		
			VL	6700–7625						

Options		Control Options [8]
ELL14	Emergency Battery Pack Installed, 1400 Lumens[4, 5, 6]	**NX Lighting Controls**
DTS	Dimming Bypass Module[4, 6, 7]	_Networked Wireless_
C388	3-Wire Flex	**NXW** — NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor[9, 10, 11, 12]
C488	4-Wire Flex	**NXWSM** — NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming[9, 10, 12]
C588	5-Wire Flex	_Networked Wired_
GLR	Fast Blow Fuse	**NXE** — NX Wired Dual RJ45 SmartPORTS , without Sensor[9, 10, 11, 12]
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, 12]
INT	Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)	_Independent Control_
		NXCS — NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor[4, 13, 14, 15, 17]
CP	Chicago Plenum	**Other Lighting Controls**
		Networked Wireless
		LVR — Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only)[4, 15, 16, 17]
		LVS — Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing)[4, 15, 16, 17]
		AWNR — Lutron Athena Integral Fixture Control A-WN-D01-RF-WH (RF only)[4, 12, 15, 18]
		AWNS — Lutron Athena Integral Fixture Control A-WN-D01-OCC-WH with Daylight and Occupancy Sensing[4, 12, 15]
		Independent Control
		ODPG — Occupancy and Daylight Sensors w/ Grouping, Philips[4, 15, 17]

Accessories	
☐ **FK14**	1' × 4' Single Flange Kit (Shipped separately)
☐ **CM48YSC3F-KIT**	48" Cable Mount Kit for 1' 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, only available with 0-10V driver. See wiring diagram.

All Controls

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

NX In-Fixture Control Options

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

Third-Party Control Options:

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

Current ⊚

currentlighting.com/columbialighting

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Columbia LIGHTING

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1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

PRODUCT EXCEPTIONS & DETAILS

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

DRIVER AVAILABILITY TABLE							
	XW	VW	MW	LW	ML	HL	VL
E	X	X	X	X	X	X	X
ED	X	X	X	X	X	X	X
ED1	X	X	X	X	X	X	X
ESD				X	X	X	
LUTH	X	X	X	X	X	X	

DELIVERED LUMENS

LUMEN PACKAGE	LUMENS	INPUT WATTS	LPW
TCAT14-30XWG	2453	21	116.8
TCAT14-35XWG	2527	21	120.3
TCAT14-40XWG	2566	21	122.2
TCAT14-50XWG	2640	21	125.7
TCAT14-30VWG	3185	28	113.8
TCAT14-35VWG	3280	28	117.1
TCAT14-40VWG	3331	28	119
TCAT14-50VWG	3627	28	129.5
TCAT14-30MWG	3485	31	112.4
TCAT14-35MWG	3589	31	115.8
TCAT14-40MWG	3645	31	117.6
TCAT14-50MWG	3969	31	128
TCAT14-30LWG	4172	35	119.2
TCAT14-35LWG	4297	35	122.8
TCAT14-40LWG	4364	35	124.7
TCAT14-50LWG	4752	35	135.8
TCAT14-30MLG	4725	40	118.1
TCAT14-35MLG	4867	40	121.7
TCAT14-40MLG	4942	40	123.6
TCAT14-50MLG	5382	40	134.6
TCAT14-30HLG	5385	44	122.4
TCAT14-35HLG	5547	44	126.1
TCAT14-40HLG	5633	44	128
TCAT14-50HLG	6133	44	139.4
TCAT14-30VLG	6711	58	116
TCAT14-35VLG	6913	58	119
TCAT14-40VLG	7020	58	121
TCAT14-50VLG	7644	58	132

Current

Columbia LIGHTING

TCAT14
1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

NX LIGHTING CONTROLS

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.
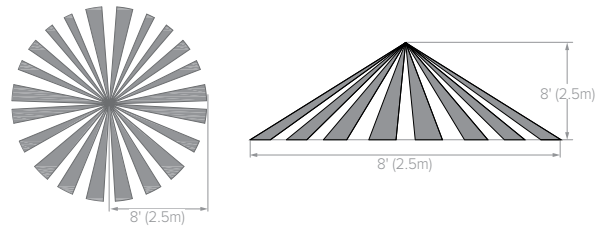
Apple iOS

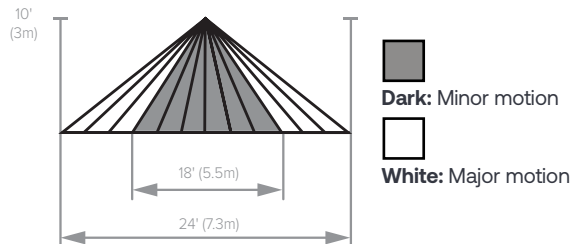COL_TCAT14_spec_R06

Columbia LIGHTING

TCAT14
1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

COVERAGE PATTERNS

NXWSM/NXESM (NXSMP2-SMI SENSOR)

8' (2.5m)

8' (2.5m)

8' (2.5m)

NXCS (NXC-WIZ20 SENSOR)

10' (3m)

18' (5.5m)

24' (7.3m)

Dark: Minor motion

White: Major motion

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
	AWNR	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 switches[1]
- 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-compliancy 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.

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

TCAT14
1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

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.
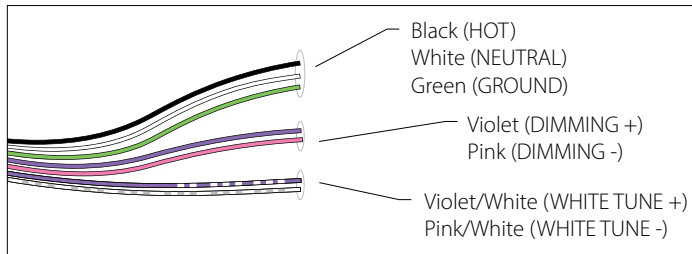
SpectraSync Color Tuning Technology

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.

Black (HOT)
White (NEUTRAL)
Green (GROUND)

Violet (DIMMING +)
Pink (DIMMING -)

Violet/White (WHITE TUNE +)
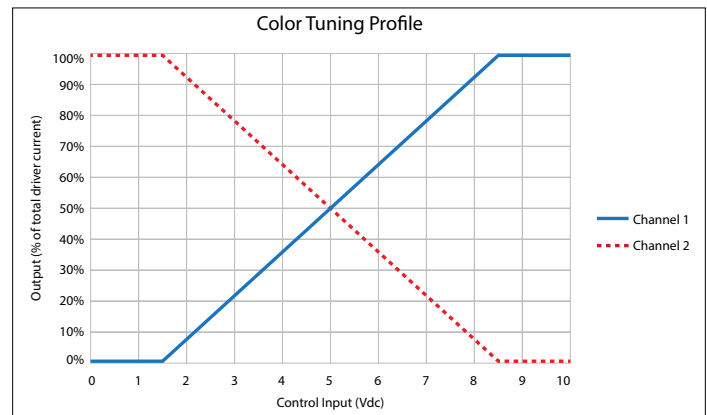Pink/White (WHITE TUNE -)

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: DVTV, DVSTV, and NFTV dimmers
- Wattstopper: ADF120277 and CD4BL (Titan) dimmers

Color Tuning Profile

Output (% of total driver current) vs Control Input (Vdc)

— Channel 1
---- Channel 2

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

DELIVERED LUMENS, SPECTRASYNC™

SpectraSync Color Tuning Technology

Lumen Output	Watts	2700		3000		3500		4000		5000		6500	
		Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
XW	21	2348	112	2453	117	2497	119	2529	120	2612	124	2573	123
VW	28	3048	109	3185	114	3242	116	3284	117	3392	121	3341	119
MW	31	3335	108	3485	112	3548	114	3593	116	3712	120	3656	118
LW	35	3993	114	4172	119	4247	121	4301	123	4443	127	4376	125
ML	40	4522	113	4725	118	4810	120	4871	122	5032	126	4957	124
HL	44	5153	117	5385	122	5482	125	5552	126	5735	130	5649	128

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Columbia LIGHTING

TCAT14
1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

DIMENSIONS

GRID

47.75"
(1212.9mm)

11.75"
(298.5mm)
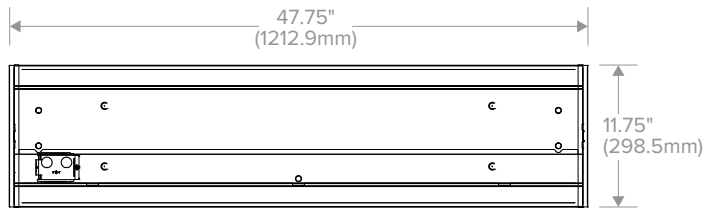
Grid, back of housing

4"
(101.6mm)
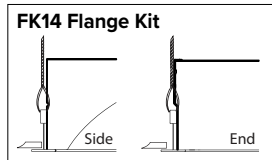
11.75"
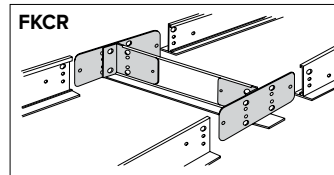(298.5mm)
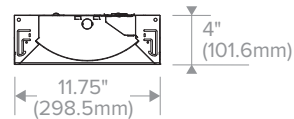
Grid, recessed section

CEILING COMPATIBILITY

Type G

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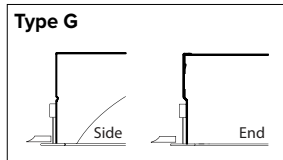
For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.

FK14 Flange Kit

Side   End

For hard ceiling applications, order FK14 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.
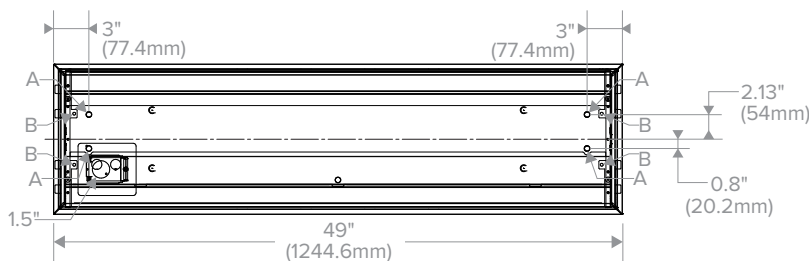
FKCR

For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK14 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK14 & (1) FKCR)
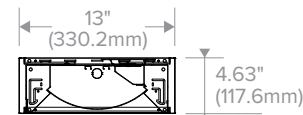
Row cut out dimensions using FK14s & FKCR adapters:
Width 12⅜", Length [48" × (# in row)] + ⅜".
Example: (48" × 2) + ⅜" = 96⅜"

Flange kit cut out dimension for single unit only: 12⅜" × 48⅜"

SURFACE MOUNT OR CABLE MOUNT

3"
(77.4mm)

3"
(77.4mm)

A   A
B   B
B   B
A   A

2.13"
(54mm)

0.8"
(20.2mm)

1.5"

49"
(1244.6mm)

Surface section (SM)

13"
(330.2mm)

4.63"
(117.6mm)

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, ⅜", provided in center channel as indicated at left, marked A.

Cable Mount:
Order CM ceiling type. Use CM48Y1SC3F-KIT 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) ⅞" 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.

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TCAT14

1'X4' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

PHOTOMETRY

TCAT14-35HLX-EDU

LUMINAIRE DATA

Test No.	16606
Description	1' x 4' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	5547
Watts	43.80
Efficacy	127
Mounting	Recessed
Spacing Criterion	0° = 1.19 90° = 1.28

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	1637	29.5
0–40	2663	48.0
0–60	4565	82.3
0–90	5547	100
0–180	5547	100

POLAR GRAPH

0.0 ——   45.0 ——   90.0 ——
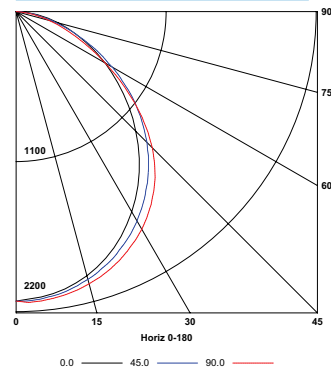
TCAT14-40HLX-EDU

LUMINAIRE DATA

Test No.	16607
Description	1' x 4' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	5633
Watts	43.80
Efficacy	129
Mounting	Recessed
Spacing Criterion	0° = 1.19 90° = 1.28

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	1663	29.5
0–40	2705	48.0
0–60	4636	82.3
0–90	5633	100
0–180	5633	100

POLAR GRAPH

0.0 ——   45.0 ——   90.0 ——
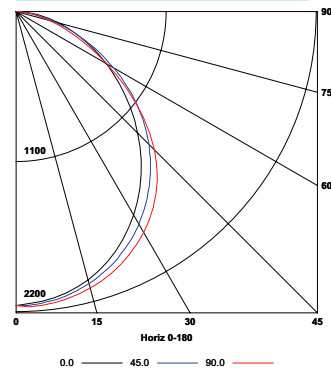
TCAT14-40VWX-EDU

LUMINAIRE DATA

Test No.	16595
Description	1' x 4' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	3331
Watts	28.30
Efficacy	118
Mounting	Recessed
Spacing Criterion	0° = 1.21 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	986	29.6
0–40	1603	48.1
0–60	2745	82.4
0–90	3331	100
0–180	3331	100

POLAR GRAPH

0.0 ——   45.0 ——   90.0 ——
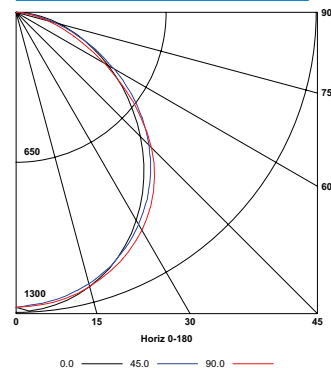
ADDITIONAL INFORMATION

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

WHITE/BLUE	Emergency Neutral
BLUE	Emergency Line
BLACK	Utility Line (Unswitched Hot)
WHITE	Utility Neutral
RED	Switched Hot
VIOLET	Dimming
PINK	Dimming