Columbia LIGHTING

TCAT612

600MM × 1200MM LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

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

c CSA US   **Built to UL 924 Standards**   **CP Chicago Plenum**

RELATED PRODUCTS

TCAT312   TCAT66

CONTROL TECHNOLOGY

SpectraSync™ Color Tuning Technology   NX DISTRIBUTED™ INTELLIGENCE

23.75"
(603.3mm)

4"
(101.6mm)

Grid, recessed section

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 9.5mm 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 two modes of Tunable White solutions and integrates seamlessly into a variety of control systems

- NX Distributed Intelligence™ 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 2108 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

- NX is available in U.S., Canada and Mexico. For other locations consult factory

- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See page 7 for wiring diagram. Link to Dimming Bypass Module Specification sheet
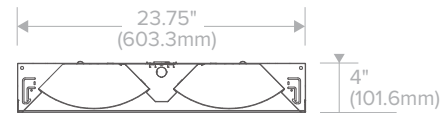
WARRANTY
- 5 year warranty

- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	2475–8925
Wattage Range	19–69
Efficacy Range (LPW)	119–145
Reported Life (Hours)	L80/60,000
Input Current Range (mA)	70–580

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PHOTOMETRY   BROCHURE   DIMENSIONAL DRAWINGS   SPECTRASYNC FAQ   NX IN-FIXTURE SOLUTION GUIDE

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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
ESD				X	X	X	X	X
LUT5		X	X	X	X	X		
LUTH		X	X	X	X	X		

CONTROLS

NX Distributed Intelligence™ Lighting Controls:
Supports both indoor and outdoor applications in a variety of deployment options- wired, wireless, hybrid.
Integrates with and enables a wide array of luminaires including those with SpectraSync™ Color Tuning Technology.

NX DISTRIBUTED™ INTELLIGENCE

NX INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0–10V Dimming	On/off Control	Bluetooth® App Programming
NX Standalone								
NXS	NXSMP-SMI	No	Yes	Yes	Yes	Yes	Yes	Yes
NX Networked – Wired								
NXE	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R[1]
NXES	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NX Networked – Wireless								
NXSW	NXSMP-SMI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NXWE	N/A	Yes	Yes	No	No	Yes	Yes	No[2]

1   NXBTC/R needs to be plugged into an available NX SmartPORT™ on the fixture network

2   To program NXWE option, need to consult factory. If connected to an area controller, programming can be done from that

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   See link to Philips commssioning

3   Requires android device or IR dongle. See links for phone compatiblity and IR dongle

Wireless Switch Accessories[1]

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

Sidebar tabs:
- NX Design & Application Guide
- NX Brochure
- Philips SNS200
- EasySense Design-in Guide

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DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

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CONTROLS (CONTINUED)

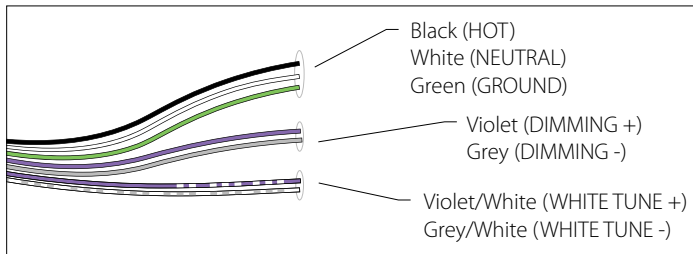### SpectraSync™ Color Tuning Technology:

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–5000K 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 two options: 2750T (2700K–5000K) or 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 +)
Grey (DIMMING -)
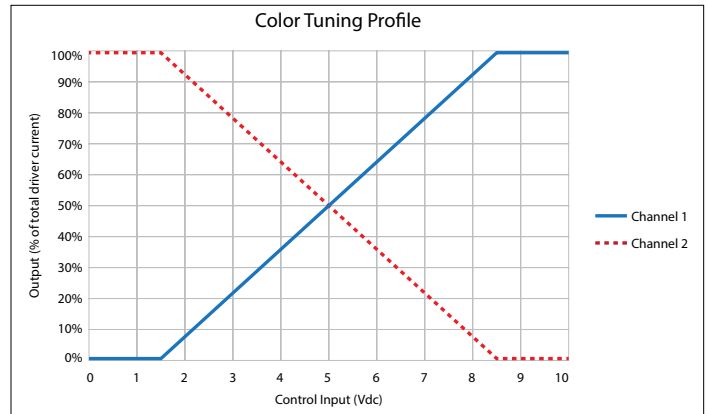
Violet/White (WHITE TUNE +)
Grey/White (WHITE TUNE -)

SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and grey 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:
- Hubbell Control Solutions (HCS): NX Distributed Intelligence™ Room Controllers (NXRC) and In-fixture Controllers (NXFM)
- Lutron: DVTV, DVSTV, and NFTV dimmers
- Wattstopper: ADF120277 and CD4BL (Titan) dimmers

Color Tuning Profile

Y-axis: Output (% of total driver current) — 0% to 100%
X-axis: Control Input (Vdc) — 0 to 10

Channel 1
Channel 2

To enable scheduling and for use with NX wall control preset stations please refer to Hubbell Control Solutions 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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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

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DELIVERED LUMENS

LUMEN PACKAGE	LUMENS	INPUT WATTS	LPW
TCAT612-30XWG	2493	19	131.2
TCAT612-35XWG	2568	19	135.2
TCAT612-40XWG	2608	19	137.3
TCAT612-50XWG	2667	19	140.4
TCAT612-30VWG	3157	25	126.3
TCAT612-35VWG	3251	25	130
TCAT612-40VWG	3302	25	132.1
TCAT612-50VWG	3595	25	143.8
TCAT612-30MWG	3558	28	127.1
TCAT612-35MWG	3665	28	130.9
TCAT612-40MWG	3722	28	132.9
TCAT612-50MWG	4053	28	144.8
TCAT612-30LWG	4152	34	122.1
TCAT612-35LWG	4276	34	125.8
TCAT612-40LWG	4343	34	127.7
TCAT612-50LWG	4729	34	139.1
TCAT612-30MLG	4713	39	120.8
TCAT612-35MLG	4855	39	124.5
TCAT612-40MLG	4930	39	126.4
TCAT612-50MLG	5368	39	137.6
TCAT612-30HLG	5368	45	119.3
TCAT612-35HLG	5530	45	122.9
TCAT612-40HLG	5615	45	124.8
TCAT612-50HLG	6115	45	135.9
TCAT612-30VLG	6883	55	125.1
TCAT612-35VLG	7090	55	128.9
TCAT612-40VLG	7200	55	130.9
TCAT612-50VLG	7840	55	142.5
TCAT612-30XLG	8321	69	120.6
TCAT612-35XLG	8571	69	124.2
TCAT612-40XLG	8704	69	126.1
TCAT612-50XLG	8932	69	129.4

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DIMENSIONS

GRID

47.75"
(1212.9mm)

23.75"
(603.3mm)

Grid, back of housing

23.75"
(603.3mm)

4"
(101.6mm)

Grid, recessed section
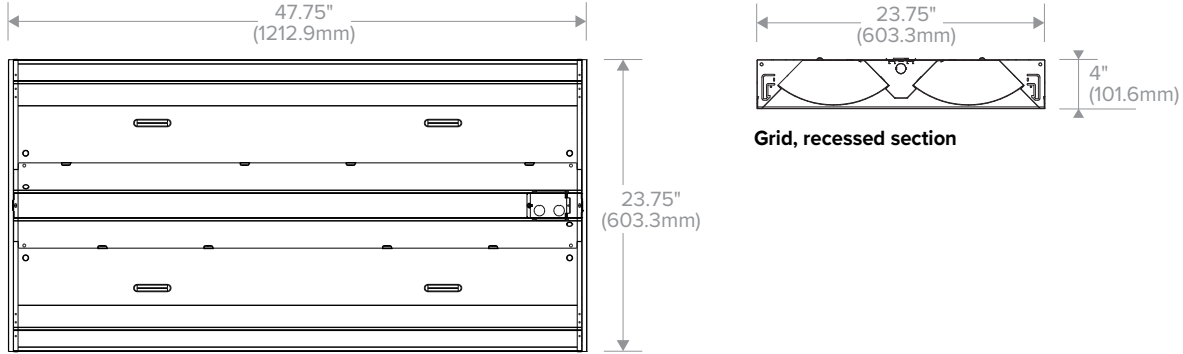
CEILING COMPATIBILITY

Type G

Side   End
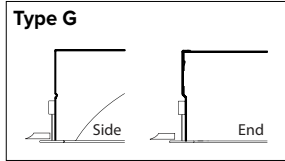
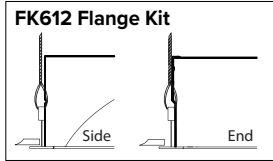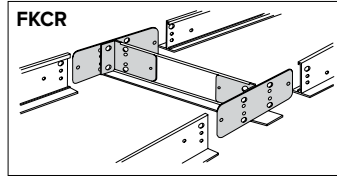For lay-in installation in exposed grid ceilings. Maximum tee widths of 25mm and maximum tee heights of 51mm allowed.

FK612 Flange Kit

Side   End

For hard ceiling applications, order FK612 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.
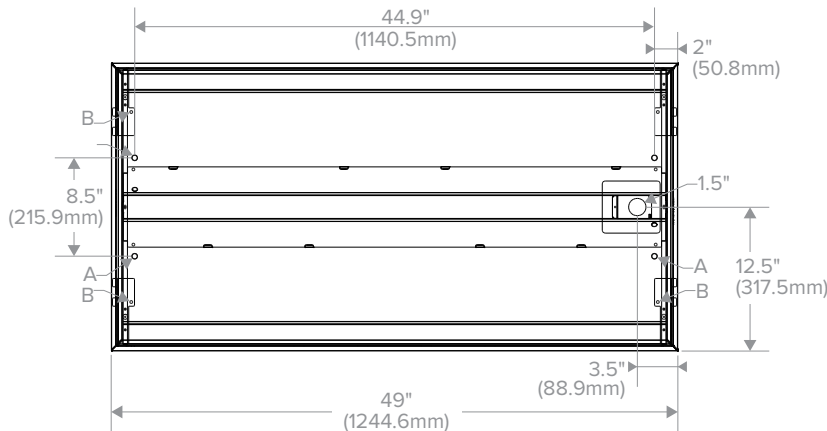
FKCR

For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK612 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK612 & (1) FKCR)
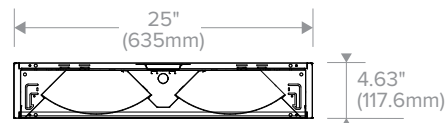
Row cut out dimensions using FK612s & FKCR adapters: Width 619mm, Length [1219mm × (# in row)] +9.5mm. Example: (1219 × 2) + 9.5mm = 2448mm.

Flange kit cut out dimension for single unit only: 619mm × 1229mm

SURFACE MOUNT OR CABLE MOUNT

44.9"
(1140.5mm)

2"
(50.8mm)

B

8.5"
(215.9mm)

A
B

1.5"

A
B

12.5"
(317.5mm)

3.5"
(88.9mm)

49"
(1244.6mm)

Surface section (SM)

25"
(635mm)

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, 9.5mm, provided in center channel as indicated at left, marked A.

Cable Mount:
Order CM ceiling type. Use CM48Y2SC3F-KIT 1219mm Cable Mount Kit for 610mm wide CM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked B.

* For Cable Mount a 51mm x 76mm access plate with (4) 22mm 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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PHOTOMETRY

TCAT612-35LWX-EDU

LUMINAIRE DATA

Test No.	16567
Description	600mm × 1200mm 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

Horiz 0-180

0.0 ——   45.0 ——   90.0 ——
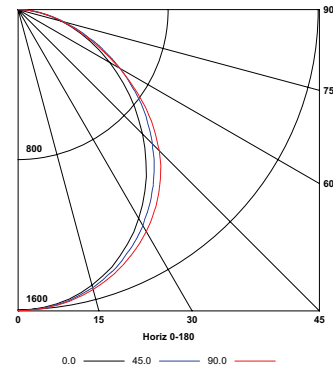
TCAT612-35MLX-EDU

LUMINAIRE DATA

Test No.	16570
Description	600mm × 1200mm 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

Horiz 0-180

0.0 ——   45.0 ——   90.0 ——
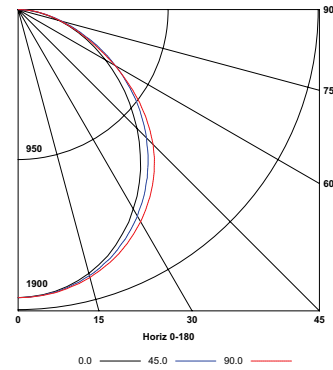
TCAT612-35HLX-EDU

LUMINAIRE DATA

Test No.	16576
Description	600mm × 1200mm 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

Horiz 0-180

0.0 ——   45.0 ——   90.0 ——
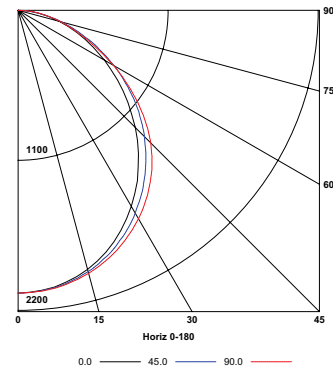
ADDITIONAL INFORMATION

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
GRAY	Dimming
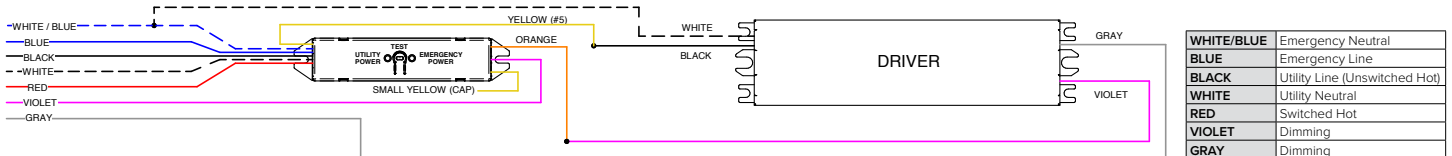
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