

# TCAT312

300MM × 1200MM LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

## FEATURES

- Single lens companion to 600mm × 600mm and 600mm × 1200mm twin lens configurations
- 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



## CONTROL TECHNOLOGY



## 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 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

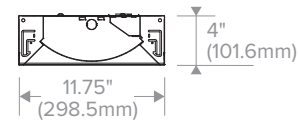
- Optional SpectraSync™ offers two modes of Tunable White solutions and integrates seamlessly into a variety of control systems
- NX Distributed Intelligence™ provides options for standalone and networked integrated sensor with wired or wireless connectivity for NX system deployments

### 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](#)

## RELATED PRODUCTS

- TCAT66 TCAT612



Grid, recessed section

### WARRANTY

- 5 year warranty
- See [HLI Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	2450–7625
Wattage Range	21–58
Efficacy Range (LPW)	112–139
Reported Life (Hours)	L80/60,000
Input Current Range (mA)	80–480

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DATE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_

CATALOG #: \_\_\_\_\_

## ORDERING GUIDE

Example: TCAT312-35MLG-ESDU

CATALOG #

TCAT312	Color Temp		Delivered Lumens		Ceiling Type		Driver		Voltage		
<b>TCAT312</b> 300mm × 1200mm LED Contemporary Architectural Troffer	<b>30</b>	3000K	<b>XW</b>	2450-2625	<b>G</b>	Grid Lay-in <sup>2</sup>	<b>E</b>	Fixed Output <sup>10</sup>	<b>U</b>	120-277V	
	<b>35</b>	3500K	<b>VW</b>	3175-3625	<b>SM</b>	Surface Mount <sup>9</sup>	<b>ED</b>	0-10V Dimming	<b>347</b>	347V <sup>11</sup>	
	<b>40</b>	4000K	<b>MW</b>	3475-3950	<b>CM</b>	Cable Suspended Mount <sup>3</sup>	<b>ED1</b>	0-10V 1% Dimming			
	<b>50</b>	5000K	<b>LW</b>	4175-4750			<b>ESD</b>	Step Dimming <sup>4,10</sup>			
	<b>2750T</b>	2700K-5000K SpectraSync™ Tunable White <sup>1</sup>	<b>ML</b>	4725-5375			<b>LUTH</b>	Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology <sup>4,5,10</sup>			
	<b>2765T</b>	2700K-6500K SpectraSync™ Tunable White <sup>1</sup>	<b>VL</b>	6700-7625 <sup>8</sup>			<b>LUT5</b>	5-Series EcoSystem LED driver <sup>4,5,10</sup>			
							<b>DALIP</b>	DALI Power Bus <sup>6</sup>			

Options	Control Options
<b>ELL14</b> Emergency Battery Pack Installed, 1400 Lumens <sup>4,5</sup>	<b><u>NX Standalone</u></b>
<b>DTS</b> Dimming Bypass Module <sup>7</sup>	<b>NXS</b> NX, PIR Occupancy Sensor, Dimming Daylight Harvesting <sup>10,11,13</sup>
<b>C388</b> 3-Wire Flex <sup>12</sup>	<b><u>NX Networked – Wired</u></b>
<b>C488</b> 4-Wire Flex <sup>12</sup>	<b>NXE</b> NX Enabled, Dual SmartPorts <sup>10,11,13</sup>
<b>C588</b> 5-Wire Flex <sup>12</sup>	<b>NXES</b> NX Enabled, PIR Occupancy Sensor, Dimming Daylight Harvesting <sup>10,11,13</sup>
<b>GLR</b> Fast Blow Fuse	<b><u>NX Networked – Wireless</u></b>
<b>EOR</b> End of Row (SM and CM only. Provides end wiring access for continuous row mounting.)	<b>NXSW</b> NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting <sup>9,10,11,13</sup>
<b>INT</b> Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.)	<b>NXWE</b> NX Wireless Enabled <sup>9,10,11,13</sup>
<b>CP</b> Chicago Plenum	<b><u>Third-Party Control Options</u></b>
	<b>ODPG</b> Occupancy and Daylight Sensors w/ Grouping, Philips <sup>4,14,18</sup>
	<b>LV</b> Lutron Vive Attached FCJS POWPAK Fixture Control (RF only for 0-10V drivers) <sup>15,16,17,18</sup>
	<b>LVS</b> Lutron Vive Integral Fixture Control DFCSJ-OEM-OCC (RF with daylight and occupancy sensing) <sup>14,16,18</sup>
	<b>LVR</b> Lutron Vive Integral Fixture Control DFCSJ-OEM-RF (RF only) <sup>14,16,18</sup>

### Accessories

- FK312** 300mm × 1200mm Single Flange Kit (Shipped separately)
- CM48Y1SC3F-KIT** 1200mm Cable Mount Kit for 300mm wide Cable Mount fixtures, 3-wire

Notes:

- 1 Available with ED driver only, N/A with VL and XL lumen outputs or ELL14
- 2 For drywall, order G with Flange Kit Accessory
- 3 Order hanger accessories separately
- 4 Not available in 347V
- 5 For compatibility with Dual-Lite LiteGear® inverters, contact Hubbell Lighting Representative
- 6 DALIP only available when LVS, LVR or ODPG control options are selected
- 7 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 page 7 for wiring diagram

**NX In-Fixture Control Options:**

- 8 NX control function not available with VL lumen output
- 9 NXSW, NXWE, NXE and NXES cannot be used with surface mount versions

- 10 NX is available with ED and ED1 drivers only
- 11 NX combined with Spectrasync is not available in 347V
- 12 For NX control and Flex Wire together, consult factory
- 13 NX controls can only be used with NX Sensor options

**Third-Party Control Options:**

- 14 LVS, LVR and ODPG only available with DALIP driver option
- 15 Only available with ED driver option
- 16 VIVE is a trademark of Lutron Electronics Co., Inc.
- 17 Installations controlled solely by the Lutron Pico controller require accessing the LV (Lutron FCJS) module for commissioning after the circuit has been energized
- 18 Not available with SpectraSync (2750T or 2765T)

For questions about configuration options, contact Hubbell Representative

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CATALOG #: \_\_\_\_\_

## 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	
LUT5	X	X	X	X	X	X	
LUTH	X	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 INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0-10V Dimming	On/off Control	Bluetooth® App Programming
<b>NX Standalone</b>								
<a href="#">NXS</a>	<a href="#">NXSMP-SMI</a>	No	Yes	Yes	Yes	Yes	Yes	Yes
<b>NX Networked – Wired</b>								
<a href="#">NXE</a>	N/A	Yes	Yes	No	No	Yes	Yes	Requires <a href="#">NXBTC/R</a> <sup>1</sup>
<a href="#">NXES</a>	<a href="#">NXSMP-SMI</a>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>NX Networked – Wireless</b>								
<a href="#">NXSW</a>	<a href="#">NXSMP-SMI</a>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<a href="#">NXWE</a>	N/A	Yes	Yes	No	No	Yes	Yes	No <sup>2</sup>

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<sup>1</sup>
- Uses Philips field apps for on site commissioning<sup>2,3</sup>
- 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](http://www.designlights.org)

1 Wireless switches only compatible with ODPG Philips EasySense

2 [See link to Philips commissioning](#)

3 Requires android device or IR dongle. See links for [phone compatibility](#) and [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



# TCAT312

300MM x 1200MM LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

## CONTROLS (CONTINUED)

### SpectraSync™ Color Tuning Technology:

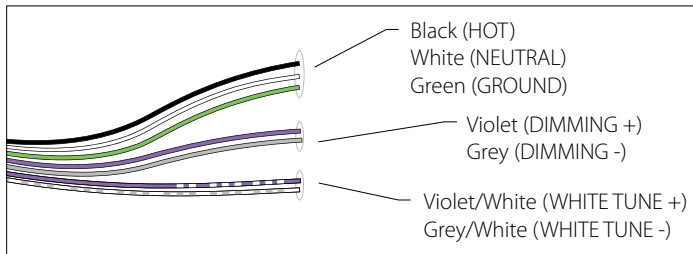
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.



SPECTRASYNC COLOR TUNING TECHNOLOGY		
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.

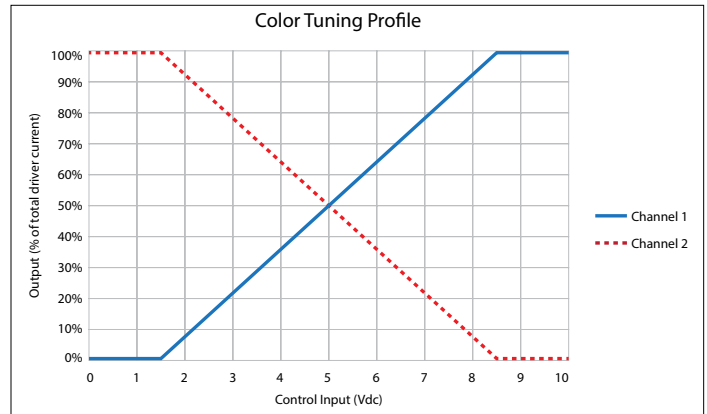


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and grey circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and grey/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

### 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: 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 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	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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CATALOG #: \_\_\_\_\_

## DELIVERED LUMENS

LUMEN PACKAGE	LUMENS	INPUT WATTS	LPW
TCAT312-30XWG	2453	21	116.8
TCAT312-35XWG	2527	21	120.3
TCAT312-40XWG	2566	21	122.2
TCAT312-50XWG	2640	21	125.7
TCAT312-30VWG	3185	28	113.8
TCAT312-35VWG	3280	28	117.1
TCAT312-40VWG	3331	28	119
TCAT312-50VWG	3627	28	129.5
TCAT312-30MWG	3485	31	112.4
TCAT312-35MWG	3589	31	115.8
TCAT312-40MWG	3645	31	117.6
TCAT312-50MWG	3969	31	128
TCAT312-30LWG	4172	35	119.2
TCAT312-35LWG	4297	35	122.8
TCAT312-40LWG	4364	35	124.7
TCAT312-50LWG	4752	35	135.8
TCAT312-30MLG	4725	40	118.1
TCAT312-35MLG	4867	40	121.7
TCAT312-40MLG	4942	40	123.6
TCAT312-50MLG	5382	40	134.6
TCAT312-30HLG	5385	44	122.4
TCAT312-35HLG	5547	44	126.1
TCAT312-40HLG	5633	44	128
TCAT312-50HLG	6133	44	139.4
TCAT312-30VLG	6711	58	116
TCAT312-35VLG	6913	58	119
TCAT312-40VLG	7020	58	121
TCAT312-50VLG	7644	58	132

# TCAT312

300MM × 1200MM LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

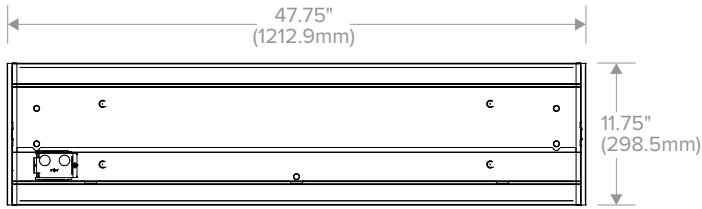
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TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_

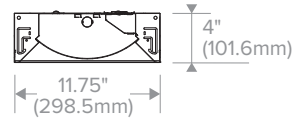
CATALOG #: \_\_\_\_\_

## DIMENSIONS

### GRID

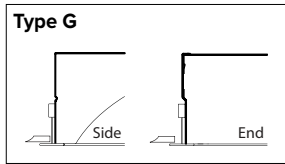


Grid, back of housing

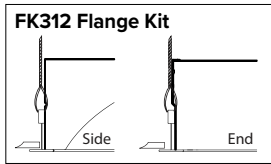


Grid, recessed section

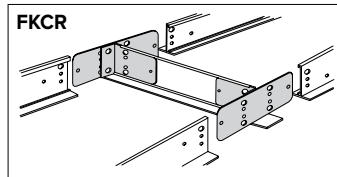
### CEILING COMPATIBILITY



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



For hard ceiling applications, order FK312 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 FK312 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK312 & (1) FKCR)

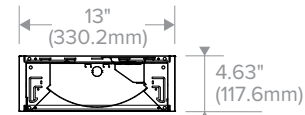
Row cut out dimensions using FK312s & FKCR adapters: Width 314mm, Length [1219mm × (# in row)] + 9.5mm. Example: (1219mm × 2) + 9.5mm = 2448mm.

**Flange kit cut out dimension for single unit only: 314mm × 1229mm**

### SURFACE MOUNT OR CABLE MOUNT



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

#### Cable Mount:

Order CM ceiling type. Use CM48Y1SC3F-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

### TCAT312-35HLX-EDU

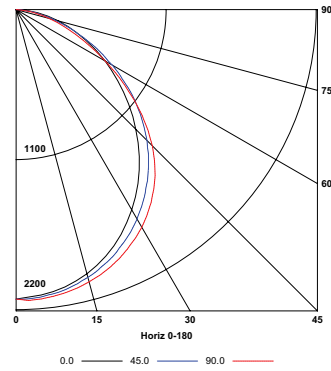
#### LUMINAIRE DATA

Test No.	16606
Description	300mm × 1200mm 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



### TCAT312-40HLX-EDU

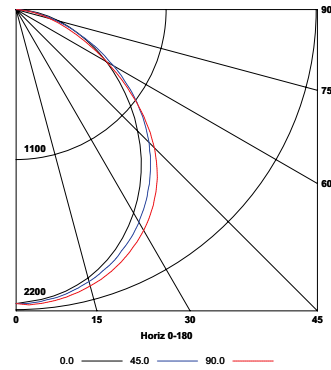
#### LUMINAIRE DATA

Test No.	16607
Description	300mm × 1200mm 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



### TCAT312-40VWX-EDU

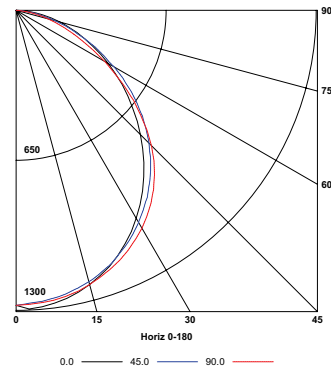
#### LUMINAIRE DATA

Test No.	16595
Description	300mm × 1200mm 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

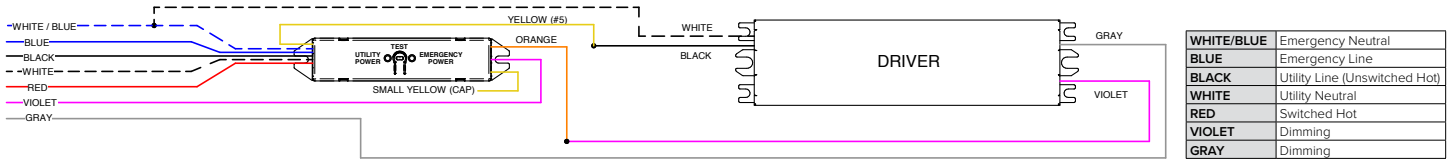
Zone	Lumens	% Luminaire
0-30	986	29.6
0-40	1603	48.1
0-60	2745	82.4
0-90	3331	100
0-180	3331	100

#### POLAR GRAPH



## ADDITIONAL INFORMATION

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



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