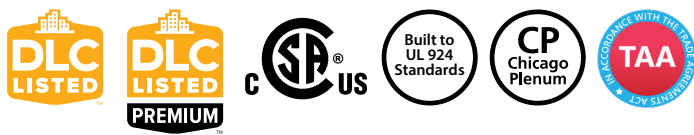


DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

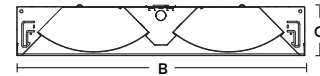
FEATURES

- 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



Typical Dimensions and Weights				
Sizes	(A) Length Inches (mm)	(B) Width Inches (mm)	(C) Height Inches (mm)	Weight lbs (kg)
2x2	23.75 (603.3)	23.75 (603.3)	4.0 (101.6)	11 (5)

CONTROLS TECHNOLOGY



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

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

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: TCAT22-35HLG-ESDU

CATALOG #	
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TCAT22											
Model	Color Temp		Nominal Lumens ²		Ceiling Type		Driver		Voltage		
TCAT22 2' x 2' LED Contemporary Architectural Troffer	30	3000K	VW	1400–1500	G	Grid Lay-in ³	E	Fixed Output	U	120–277V	
	35	3500K	MW	2075–2350	SM	Surface Mount	ED	0–10V Dimming	347	347V	
	40	4000K	LW	2525–2875	CM	Cable Suspended Mount	ED1	0–10V 1% Dimming			
	50	5000K	ML	3375–3825			ESD	Step Dimming ⁴			
	2765T	2700K–6500K SpectraSync™ Tunable White ¹	HL	3850–4050			LUTH	Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology ⁴			
			VL	4300–4625			DALIP	Powered by DALI ⁴			

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, 12}
C488 4-Wire Flex	NXWSM NX Networked Wireless Enabled Integral NXSMP2-SMI PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming
C588 5-Wire Flex	<u>Networked Wired</u>
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.)	<u>Independent Control</u>
CP Chicago Plenum	NXCS NX Connect NXC-WIZ20 Wireless Indoor Occupancy and Photocell Sensor ^{4, 13, 14, 15, 17}
	<u>Other Lighting Controls</u>
	<u>Networked Wireless</u>
	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}
	<u>Independent Control</u>
	ODPG Occupancy and Daylight Sensors w/ Grouping, Philips ^{4, 15, 17}

Accessories

- ☐ FK22 2' x 2' Single Flange Kit (Shipped separately)
- ☐ CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide Cable Mount fixtures, 3-wire

Notes:

- 1 Available with ED driver and 80 CRI only.
- 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 Lighting Controls 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

Other Lighting Controls Options

- 15 Not available with SpectraSync
- 16 Vive is a trademark of Lutron Electronics Co., Inc.
- 17 Only available with DALIP driver option

PRODUCT EXCEPTIONS & DETAILS

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

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

DELIVERED LUMENS

LUMEN PACKAGE	LUMENS	INPUT WATTS	LPW
TCAT22-30VWG	1417	12	118.1
TCAT22-35VWG	1460	12	121.7
TCAT22-40VWG	1483	12	123.6
TCAT22-50VWG	1517	12	126.4
TCAT22-30MWG	2075	18	115.3
TCAT22-35MWG	2138	18	118.8
TCAT22-40MWG	2177	18	120.9
TCAT22-50MWG	2364	18	131.3
TCAT22-30LWG	2530	22	115
TCAT22-35LWG	2606	22	118.5
TCAT22-40LWG	2646	22	120.3
TCAT22-50LWG	2882	22	131
TCAT22-30MLG	3375	31	108.9
TCAT22-35MLG	3476	31	112.1
TCAT22-40MLG	3530	31	113.9
TCAT22-50MLG	3844	31	124
TCAT22-30HLG	3558	30	118.6
TCAT22-35HLG	3665	30	122.2
TCAT22-40HLG	3722	30	124.1
TCAT22-50HLG	4053	30	135.1
TCAT22-30VLG	4315	37	116.6
TCAT22-35VLG	4445	37	120.1
TCAT22-40VLG	4514	37	122
TCAT22-50VLG	4620	37	124.9

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.



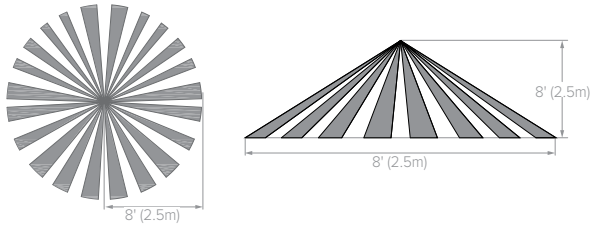
Apple iOS

TCAT22

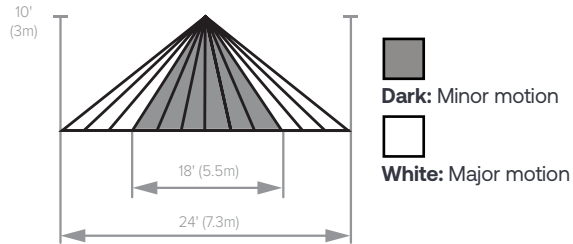
2'X2' LED TWIN CONTEMPORARY ARCHITECTURAL TROFFER

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

¹ Philips MasterConnect App required for field configuration.

² Lutron Vive 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.

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.



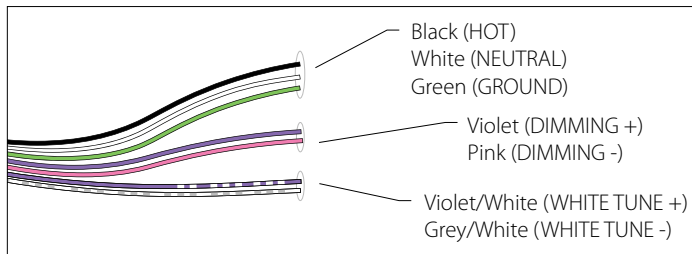
SPECTRASYNCH COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Tunable White	2700K–6500K	Offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space

SpectraSync Tunable White

Available in 2765T (2700K–6500K).

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

Minimum 5% dimming.

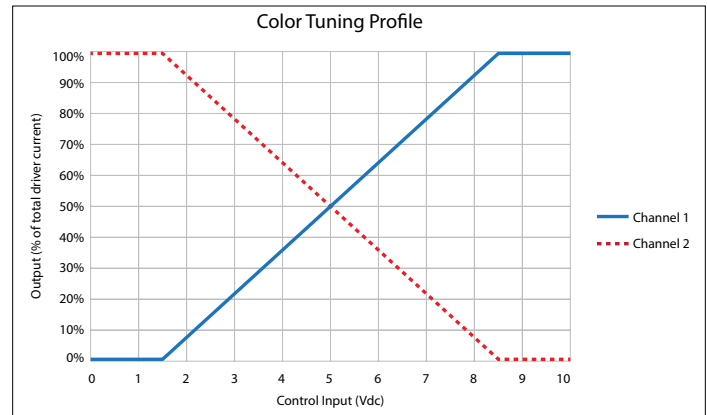


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and pink/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

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.

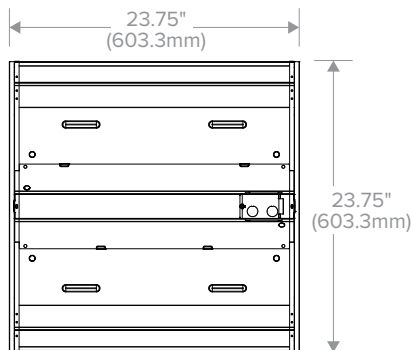
DELIVERED LUMENS, SPECTRASYNCH™



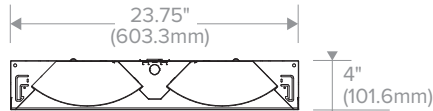
Lumen Output	Watts	2700		3000		3500		4000		5000		6500	
		Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
VW	12	1356	113	1417	118	1443	120	1461	122	1509	126	1486	124
MW	18	1986	110	2075	115	2112	117	2139	119	2210	123	2177	121
LW	22	2421	110	2530	115	2576	117	2608	119	2694	122	2654	121
ML	31	3230	104	3375	109	3436	111	3480	112	3594	116	3540	114
HL	30	3405	114	3558	119	3622	121	3668	122	3789	126	3732	124
VL	37	4129	112	4315	117	4393	119	4449	120	4595	124	4526	122

DIMENSIONS

GRID

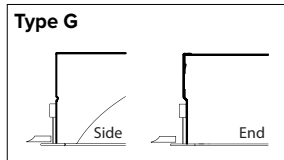


Grid, back of housing

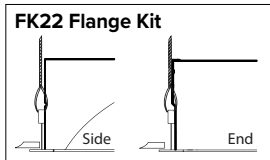


Grid, recessed section

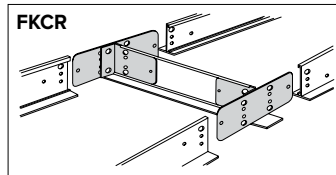
CEILING COMPATIBILITY



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 FK22 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

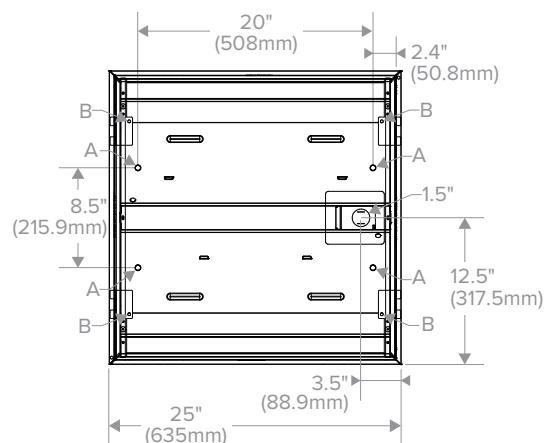


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK22 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK22 & (1) FKCR)

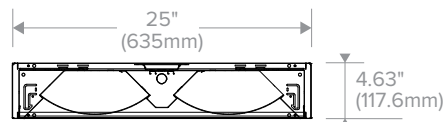
Row cut out dimensions using FK22s & FKCR adapters:
Width $24\frac{3}{8}"$, Length $[24" \times (\# \text{ in row})] + \frac{3}{8}"$.
Example: $[24" \times 2] + \frac{3}{8}" = 48\frac{3}{8}"$

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

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, $\frac{5}{8}"$, 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

TCAT22-35LWX-EDU

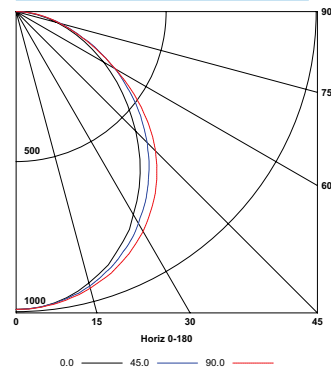
LUMINAIRE DATA

Test No.	16556
Description	2' x 2' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	2606
Watts	21.60
Efficacy	121
Mounting	Recessed
Spacing Criterion	0° = 1.17 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	760	29.2
0-40	1232	47.3
0-60	2110	80.9
0-90	2606	100
0-180	2606	100

POLAR GRAPH



TCAT22-35MLX-EDU

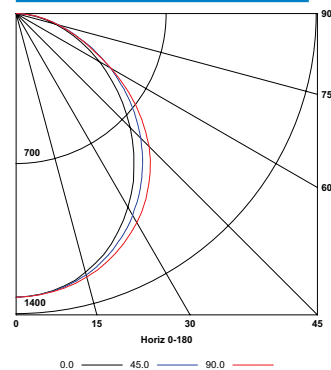
LUMINAIRE DATA

Test No.	16573
Description	2' x 2' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	3476
Watts	30.80
Efficacy	113
Mounting	Recessed
Spacing Criterion	0° = 1.18 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	1013	29.1
0-40	1642	47.2
0-60	2812	80.9
0-90	3476	100
0-180	3476	100

POLAR GRAPH



TCAT22-35HLX-EDU

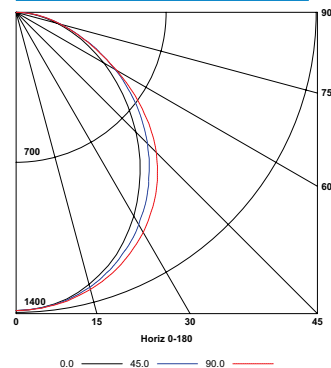
LUMINAIRE DATA

Test No.	16576
Description	2' x 2' LED recessed architectural troffer with acrylic refractor
Delivered Lumens	3665
Watts	29.90
Efficacy	123
Mounting	Recessed
Spacing Criterion	0° = 1.18 90° = 1.26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-30	1066	29.1
0-40	1728	47.1
0-60	2962	80.8
0-90	3665	100
0-180	3665	100

POLAR GRAPH



ADDITIONAL INFORMATION

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

