

LFR-4SQA SpectraSync

LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

DATE: _____ LOCATION: _____
 TYPE: _____ PROJECT: _____
 CATALOG #: _____

LITEFRAME[™]
2.0

FEATURES

- 4" LED adjustable accent delivering 1000–2000 lumens
- Direct Install from below ceiling for New Construction or Remodel applications, optional IC and CP housing accessories available
- Available in three beam distributions
- Precise hot aiming/locking 0–40° tilt
- SpectraSync™ Color Tuning technology allows the flexibility to tailor CCT to aesthetic preferences
- Available in Dim to Warm (2200K–3000K) or Tunable White (2700K–5000K or 2700K–6500K), 90+ CRI
- NX Lighting Controls wired and wireless controls capability available



SERVICE PROGRAMS



CONTROLS TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Standard Fixture Module designed for Non-IC, Direct Install construction
- Optional Non-IC frame, IC or CP housing available with pre-installed bar hangers
- Die cast aluminum fixture module support ring with spring steel clips for secure mounting to ceiling
- Driver J-Box can be installed and accessed from below the ceiling as direct install or easily snap on to optional housing frame/enclosures
- Light Engine connections use plenum rated (CMP) cable

OPTICS

- Manual friction adjustment with angle indicator and thumbscrew lock for precise hot aiming
- Vertical Tilt: 40° (≤ 0.75" ceiling thickness); 30° (up to 1.25" ceiling thickness)
- Multiple beam distributions allow dramatic effects with minimal occlusion
- High purity, four panel aluminum reflector, self-flanged
- Standard Angle Cut cone in Specular or Semi-Specular anodized or White with painted flange options

ELECTRICAL

- LED array with 3 SDCM color consistency
- Dim to Warm (2200K–3000K) or Tunable White (2700K–5000K or 2700K–6500K) options available
- 90+ CRI standard
- Long LED life: L70 at >60,000 hours (TM-21)
- Universal voltage 120V–277V driver,
- UL Class 2, inherent short circuit and overload protection, RoHS compliant
- Flicker free 0–10V dimming to 5%
- NX Lighting Controls provides options for standalone and networked functionality with wired or wireless connectivity for NX system deployments
- Emergency battery pack option available with remote test switch and indicator light

INSTALLATION

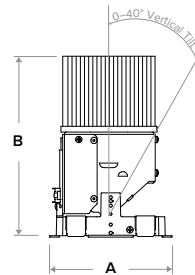
- Accommodates ceiling thickness from 0.50" to 1.25"
- Fixture Module including driver fully accessible from above or below the ceiling
- Chicago Plenum requires CP housing option

CERTIFICATIONS

- cCSAus certified to UL 1598
- Suitable for damp locations
- EMR: Certified under UL 924 standard for emergency lighting and power equipment
- EMR: Emergency battery packs are California Energy Commission (CEC) Title 20 Compliant
- Approved for 8 (4 in/4 out) No. 12AWG conductors rated for 90°C through wiring

WARRANTY

- 5 year warranty



Typical Dimensions and Weights			
Lumen Package	"A" Width Inches (mm)	"B" Height Inches (mm)	Weight lbs (kg)
10L - 15L	5.38 (137)	5.89 (149)	4.6 (2.1)
20L	5.38 (137)	7.47 (190)	4.9 (2.2)

See DIMENSIONS section for complete details

KEY DATA	
Lumen Range	1000–2000
Wattage Range	12.5–32.2
Efficacy Range (LPW)	60–84
Reported Life (Hours)	L70 / >60,000
Input Current (mA)	104–268 (120V)

*Based on Specular, 30K, 90 CRI

LFR-4SQA SpectraSync

LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

Gray Shading = Service Program **STOCK**

ORDERING GUIDE

Example: LFR-4SQA-M-10L2230TD9-WD-DMTW / LFR-4SQA-T-S / LFR-4SQD-H

CATALOG #

FIXTURE MODULE

LFR-4SQA-M	Lumen Output		CCT	CRI	Distribution	Driver Options	Control Options	Voltage	Module Options
LFR-4SQA-M 4" Square Adjustable Fixture Module for Direct Install <i>(Non-IC frame, IC or CP housings available under Housing Options below)</i>	10L	1000	2230TD	2200K–3000K SpectraSync™ Dim to Warm	9 90+ NR Narrow (24°) MD Medium (33°) WD Narrow (48°)	DMTW SpectraSync™ Dim to Warm, 0–10V Dimming to 5% ¹	NX Lighting Controls <u>Networked Wireless</u>	<i>Standard</i> 120–277V	EMR 6W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light ³ DTS Device Transfer Switch with Dimming Bypass ³ FM Flush Mount Flange ⁸
	15L	1500							
	20L	2000	2765T	2700K–6500K SpectraSync™ Tunable White		NXE NX Wired Dual RJ45 SmartPORTS, without Sensor			

TRIM (Ships separately)

LFR-4SQA-T	Aperture/Shape/Function	Trim Style	Reflector Finish/Color	Flange Color Options
LFR-4SQA-T	4" Square Adjustable Trim Assembly	<i>Standard Cut Cone</i>	S Specular SS Semi-Specular WC Painted White Cone and Flange	<i>Standard matches reflector color</i> WT White Flange ⁴ BT Black Flange

HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function
<input type="checkbox"/> LFR-4SQD-H 4" Housing Frame, New Construction, Non-IC
<input type="checkbox"/> LFR-4SQD-H-IC 4" Housing Enclosure, New Construction, IC Rated ^{5,6}
<input type="checkbox"/> LFR-4SQD-H-CP 4" Housing Enclosure, New Construction, Chicago Plenum ⁷

Accessories
<input type="checkbox"/> LiteGear LiteGear® Inverter, 125VA–250VA
<input type="checkbox"/> LPS Series LightPower Micro-Inverter, 20VA–55VA
<input type="checkbox"/> LF-MOR4-SQ-WH Metal Oversized Ring, 4" Square, White (8.3" outside dimension)



Notes:

- 1 Must select 2230TD with DMTW driver.
- 2 Must select either 2750T or 2765T with DMT driver.
- 3 Module options not available in combination.
- 4 WT not needed for WC.
- 5 IC available up to 10L
- 6 IC housing not available for use in combination with Controls or with Module options EMR, DTS.
- 7 CP available up to 10L; not available with DMX, Controls, or EMR options.

LFR-4SQA SpectraSync

LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

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
NX Wired	NXE	NX Wired Dual RJ45 SmartPORTS, without Sensor	✓	✓	✓	-	-	✓	✓	✓ ¹		NXDSP

1 Requires NXBTC, order separately.

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

LFR-4SQA SpectraSync

LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

SPECTRASYNCTM COLOR TUNING TECHNOLOGY

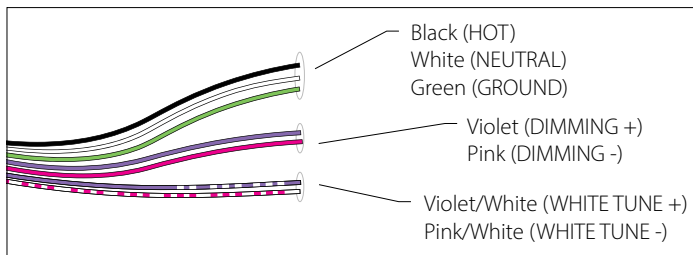
Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with distinct SpectraSync™ Color Tuning Technologies.



SPECTRASYNCTM COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Dim to Warm	2200K-3000K	Mimics the familiar warming effect that occurs with traditional incandescent sources as they are dimmed
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
Scheduled White	2700K-5000K 2700K-6500K	Mimics the rhythm of natural light or follows an alternative user-defined schedule throughout the day, enhancing an occupant's mood and well-being

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.

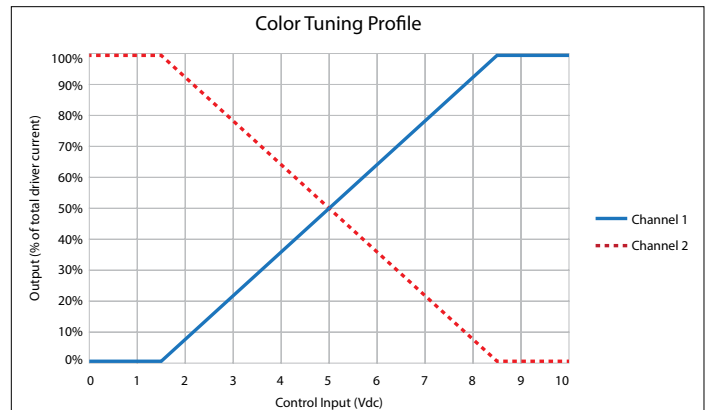


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and pink/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

Controller Manufacturer Data

SpectraSync Tunable White was designed to be used with sinking style dimmers (provided by others) and is compatible with:

- Current: NX Lighting Controls Room Controllers (NXRC) and In-fixture Controllers (NXFM)
- Lutron: DDTV, DVSTV, and NDTV dimmers
- Wattstopper: ADF120277 and CD4BL (Titan) dimmers



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

PERFORMANCE SUMMARY

Performance data provided below is for 2230TD, 90 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
10L	1000	Narrow	985	12.5	79
		Medium	934	12.5	75
		Wide	933	12.5	75
15L	1500	Narrow	1494	20.9	72
		Medium	1417	20.9	68
		Wide	1415	20.9	68
20L	2000	Narrow	1876	32.2	58
		Medium	1779	32.2	55
		Wide	1776	32.2	55

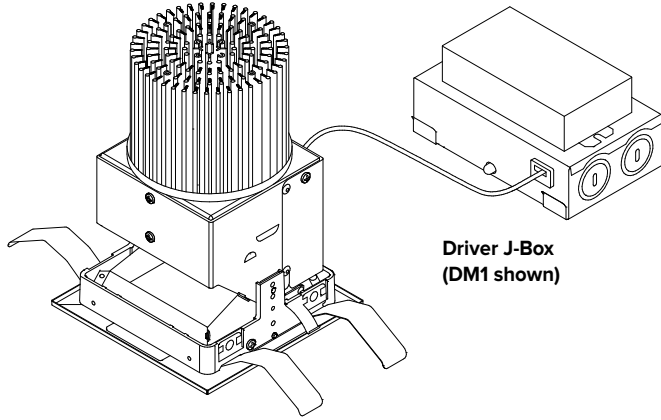
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DIMENSIONS

LFR-4SQA-M

Fixture Module consists of Light Engine and Driver J-Box assemblies.
Overall dimensions for each are dependent upon configuration selected.
See the following pages for details.



**Light Engine
with Trim assembly installed**

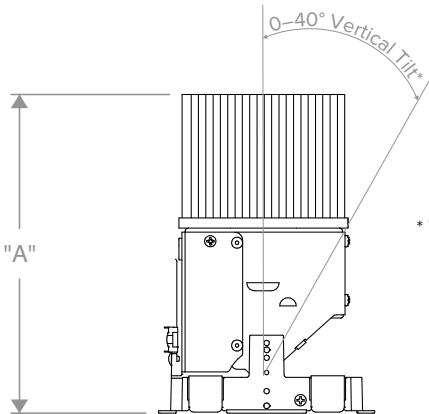
**Driver J-Box
(DM1 shown)**

DIMENSIONAL DATA	
APERTURE	□ 4.00" (101.6mm)
OVERALL	□ 5.37" (136.5mm)
FLANGE WIDTH	0.71" (18.0mm)
CEILING CUTOUT	□ 4.75" (120.7mm)
CEILING THICKNESS	0.50"-1.25" (12.7-31.8mm)

LFR-4SQA LIGHT ENGINE

OVERALL LIGHT ENGINE HEIGHT "A" *	
LUMEN PACKAGE	BEAM DISTRIBUTION
	NR / MD/ WD
10L-15L	5.89" (149.7mm)
20L	7.47" (189.8mm)

* Note: Add 1/2" minimum plenum clearance above overall Light Engine Height.
** Non-IC rating requires 3" from insulation and combustible materials.



Side View Standard

* Vertical Tilt:
0-40° up to 0.75" ceiling thickness
0-35° for 0.75" to 1" ceiling thickness
0-30° for 1" to 1.25" ceiling thickness

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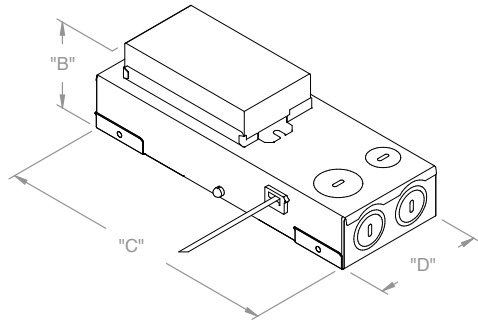
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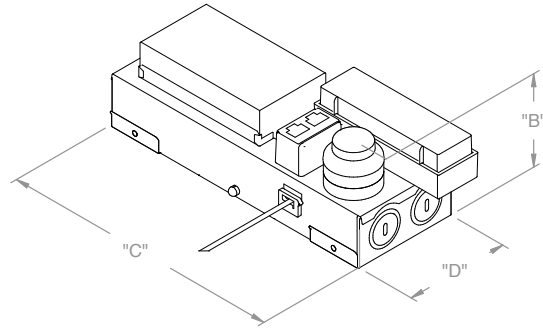
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DIMENSIONS CONTINUED

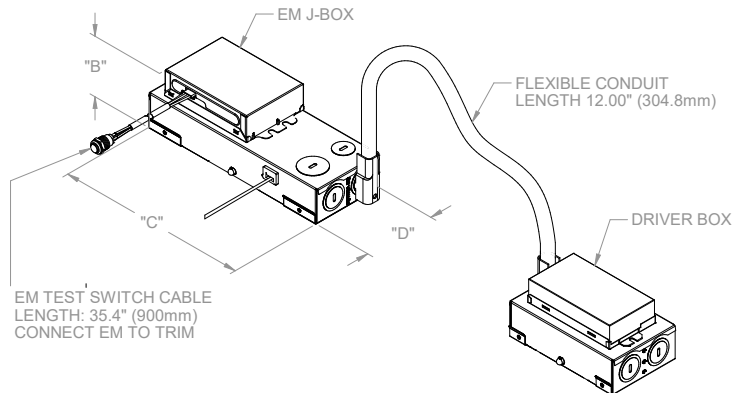
DRIVER J-BOX



DMT/DMTW



NX CONTROLS OPTION



DMT/DMTW EM/EMR OPTION

EM/EMR/Driver J-Box Conduit (provided) connects to Driver J-Box
(see Driver J-Box for additional details)

OVERALL DRIVER J-BOX DIMENSIONS (ALL LUMEN OUTPUTS)				
DRIVER/ CONTROLS OPTIONS	"B" (HEIGHT)	"C" (LENGTH)	"D" (WIDTH)	MINIMUM J-BOX PLENUM CLEARANCE
DMT/DMTW	2.67" (67.8mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.00" (76.2mm)
NX	3.02" (76.7mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.75" (95.3mm)
EM	2.73" (69.3mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.00" (76.2mm)
CP	1.89" (73.4mm)	6.50" (165.1mm)	2.72" (69.1mm)	3.00" (76.2mm)

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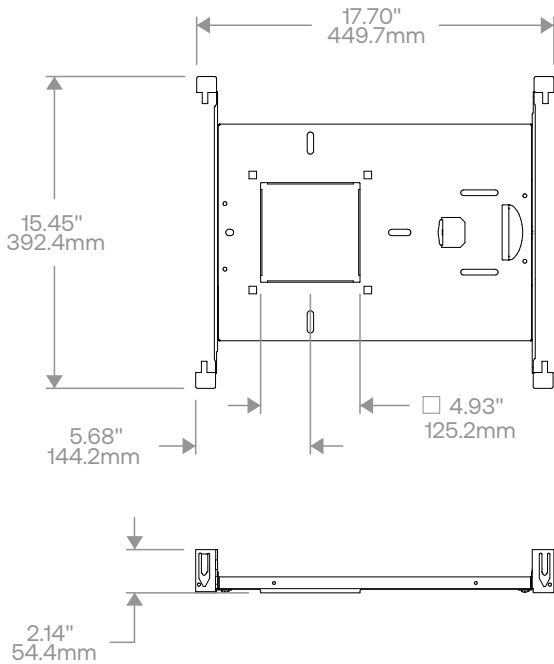
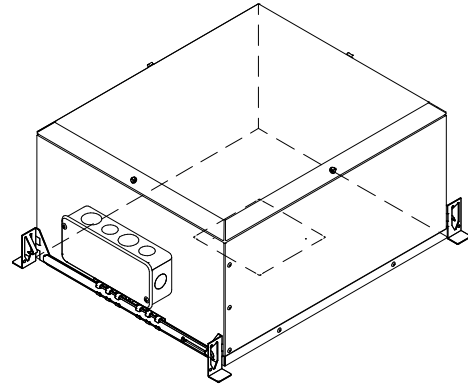
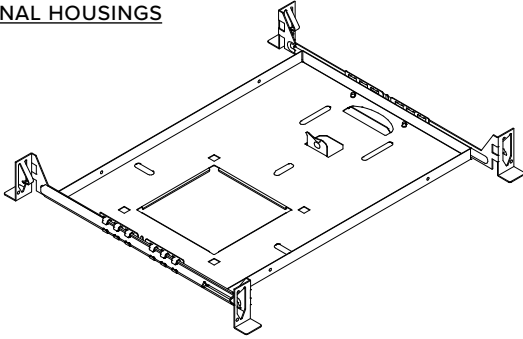
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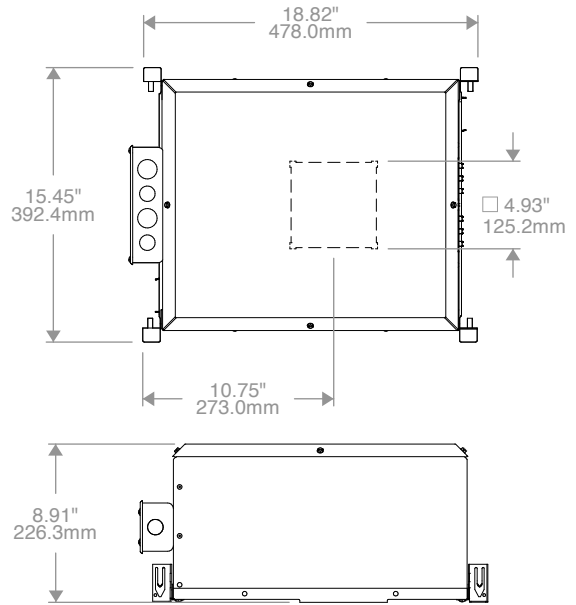
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DIMENSIONS CONTINUED

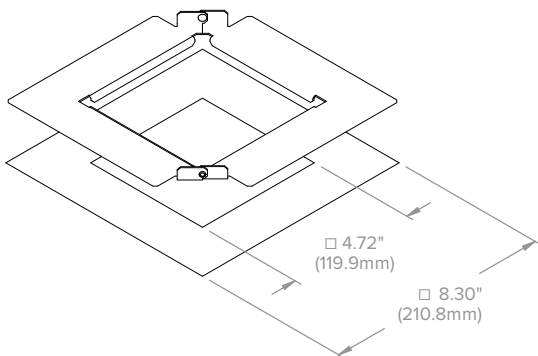
OPTIONAL HOUSINGS



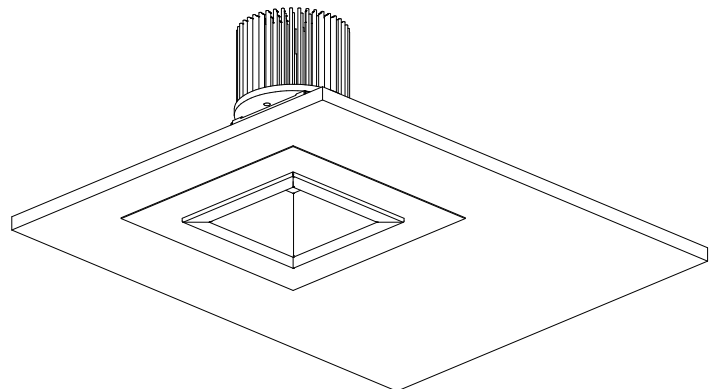
**LFR-4SQD-H
NON-IC HOUSING FRAME**



**LFR-4SQD-H-IC
LFR-4SQD-H-CP
IC or CP HOUSING**



**LF-MOR4-SQ
METAL OVERSIZED RING**
(See LF-MOR Installation Instruction for more details)



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LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

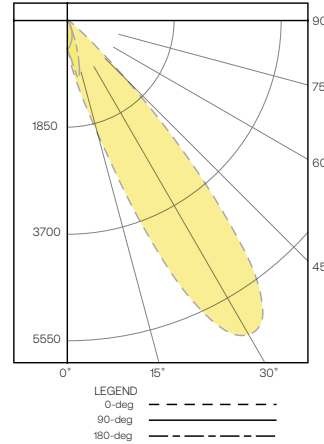
PHOTOMETRY

LFR-4SQA-M-15L2230TD9NR-DMT / LFR-4SQA-T-S

LUMINAIRE DATA

Test No.	22.01178
Description	1500 lm, Narrow, 3000K, 90 CRI
Delivered Lumens	1494
Watts	15.0W
Efficacy	72
Mounting	Recessed/Ceiling
Beam Angle (FWHM)	23

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	499
5	791
15	2063
25	5606
35	5841
45	1326
55	62
65	5
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	181665
55°	10472
65°	1146
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

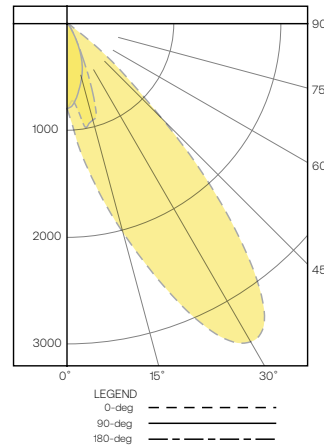
Zone	Lumens	% Luminaire
0-40	1300	87.0
0-60	1492	99.9
0-90	1494	100.0
0-180	1494	100.0

LFR-4SQA-M-15L2230TD9MD-DMT / LFR-4SQA-T-S

LUMINAIRE DATA

Test No.	22.01201
Description	1500 lm, Wide, 3000K, 90 CRI
Delivered Lumens	1417
Watts	15.0W
Efficacy	68
Mounting	Recessed/Ceiling
Beam Angle (FWHM)	33

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	800
5	1134
15	2037
25	3169
35	3190
45	1209
20	58
65	7
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	165636
55°	9796
65°	1605
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

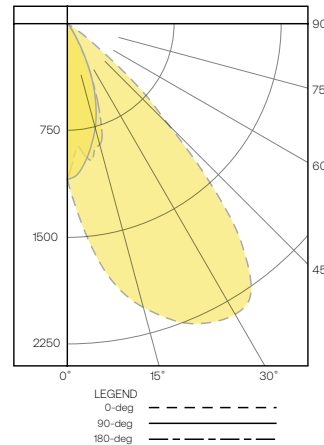
Zone	Lumens	% Luminaire
0-40	1196	84.4
0-60	1415	99.9
0-90	1417	100.0
0-180	1417	100.0

LFR-4SQA-M-15L2230TD9WD-DMT / LFR-4SQA-T-S

LUMINAIRE DATA

Test No.	P22.01179
Description	1500 lm, Wide, 3000K, 90 CRI
Delivered Lumens	1415
Watts	20.9W
Efficacy	68
Mounting	Recessed/Ceiling
Beam Angle (FWHM)	45

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1094
5	1482
15	2061
25	2316
35	2246
45	1005
55	133
65	2
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	137687
55°	22463
65°	458
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1201	84.9
0-60	1413	99.9
0-90	1415	100.0
0-180	1415	100.0

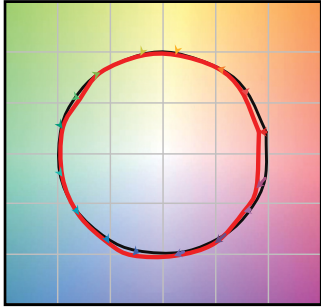
LFR-4SQA SpectraSync

LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

TM-30 DATA

SPECTRASYNC™ TUNABLE WHITE (2765T)

COLOR VECTOR GRAPHIC
2700K, 90+ CRI



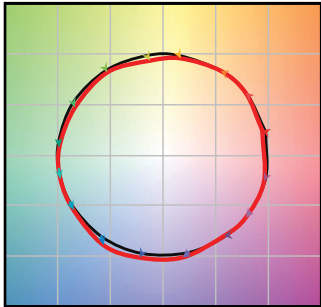
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
2700K, 90+ CRI



TEST RESULTS - TUNABLE WHITE @ 1500 LUMENS (NOMINAL)			
Value	2700K	4600K	6500K
Luminous Flux (lm)	1469	1779	1692
Wattage (W)	20.5	20.1	20.6
Efficacy (lm/W)	71.7	88.5	82.1
R _r	90	89	87
R _g	97	99	97
CCT (K)	2799	4177	7184
D _{uv}	0.0032	0.0088	0.0024
x	0.4468	0.3680	0.3047
y	0.3992	0.3515	0.3109
CIE R _a	90	94	94
CIE R _g	46.7	85.4	87.7

COLOR VECTOR GRAPHIC
4600K, 90+ CRI

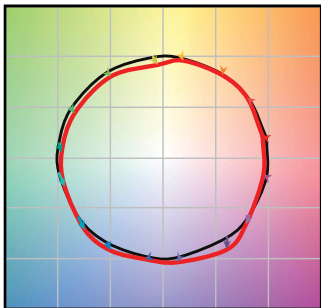


— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
4600K, 90+ CRI



COLOR VECTOR GRAPHIC
6500K, 90+ CRI



— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
6500K, 90+ CRI



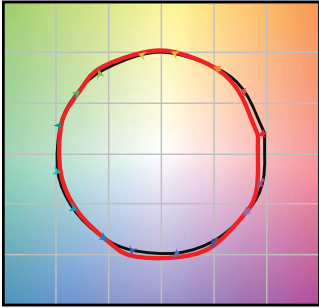
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LITEFRAME 4" SQUARE ADJUSTABLE WITH COLOR TUNING

TM-30 DATA CONTINUED

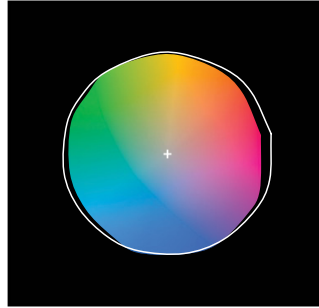
SPECTRASYNCTM DIM TO WARM (2230TD)

COLOR VECTOR GRAPHIC
3000K, 90+ CRI @ 100%



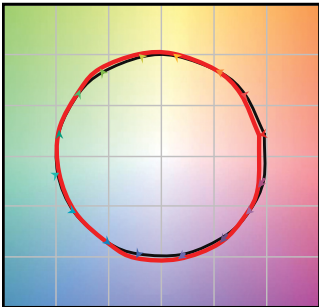
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3000K, 90+ CRI @ 100%



TEST RESULTS - DIM TO WARM @ 3 DIMMING LEVELS			
Value	100%	50% Dim	5% Dim
Luminous Flux (lm)	1470	833	50
Wattage (W)	20.3	20.1	20.6
Efficacy (lm/W)	71.7	88.5	82.1
R _r	90	89	87
R _g	97	99	97
CCT (K)	2799	4177	7184
D _{uv}	0.0032	0.0088	0.0024
x	0.4468	0.3680	0.3047
y	0.3992	0.3515	0.3109
CIE R _a	90	94	94
CIE R _g	46.7	85.4	87.7

COLOR VECTOR GRAPHIC
2600K, 90 CRI @ 50% DIM

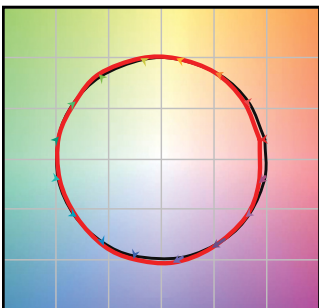


— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
2600K, 90 CRI @ 50% DIM

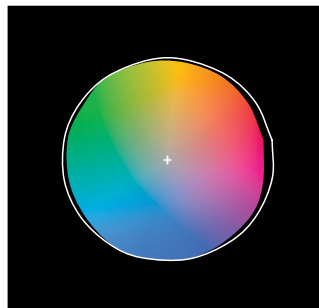


COLOR VECTOR GRAPHIC
2200K, 90 CRI @ 5% DIM



— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
2200K, 90 CRI @ 5% DIM



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ELECTRICAL DATA

DRIVER DATA	
Input Voltage	120–277 V
Input Frequency	50/60 Hz
Power Factor	≥0.90
THD	<20%
EMI Filtering (FCC 47 CFR Part 15)	Class A

ADDITIONAL INFORMATION

Dimming Compatibility

For more details and recommended dimmer list, see Dimming Compatibility Information on currentlighting.com/prescolite.

Central Inverters

For full fixture output in back-up mode, we recommend you visit currentlighting.com/dual-lite for your Central Lighting Inverter options. Please contact your local Current representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

Lumen Output in Emergency Mode

To determine the lumen output in emergency mode, multiply the battery pack wattage by the fixture lumens per watt (LPW). For example, 6W x 120 LPW = 720 lumens in emergency mode.