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LFR-6SQA SpectraSync
LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

**LITEFRAME 2.0**

FEATURES

- 6" LED adjustable accent delivering 1000–3000 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

STOCK

CONTROLS TECHNOLOGY

NX WIRELESS   NX WIRED   SpectraSync™ Color Tuning Technology
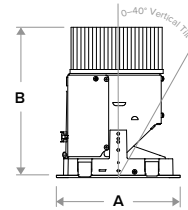
Typical Dimensions and Weights

Lumen Package	"A" Width Inches (mm)	"B" Height Inches (mm)	Weight lbs (kg)
10L - 30L	7.38 (187)	7.05 (179)	5.5 (2.5)

See DIMENSIONS section for complete details

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

- 10L Fixture Modules are inherently protected IC without the use of IC housing enclosure. (IC housing is still recommended when using loose-fill or spray foam insulation types.)

- 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

KEY DATA

KEY DATA	
Lumen Range	1000–3000
Wattage Range	11.9–42
Efficacy Range (LPW)	64–83
Reported Life (Hours)	L70 / >60,000
Input Current (mA)	99–350 (120V)

*Based on Specular, 35K, 90 CRI

Current

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LFR-6SQA SpectraSync
LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

ORDERING GUIDE

Gray Shading = Service Program **STOCK**

Example: LFR–6SQA–M–10L2230TD9–WD–DMTW / LFR–6SQA–T–S / LFR–6SQD–H

CATALOG #

FIXTURE MODULE

LFR-6SQA-M

Ap/Shp/Funct	Lumen Output		CCT		CRI		Distribution		Driver Options		Control Options		Voltage	Module Options	
LFR-6SQA-M 6" Square Adjustable Fixture Module for Direct Install *(Non-IC frame, IC or CP housings available under Housing Options below)*	**10L**	1000	**2230TD**	2200K–3000K SpectraSync™ Dim to Warm	**9**	90+	**NR**	Narrow (24°)	**DMTW**	SpectraSync™ Dim to Warm, 0–10V Dimming to 5% [1]	**NX Lighting Controls**		*Standard 120–277V*	**EMR**	6W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light [3]
	15L	1500					**MD**	Medium (38°)			**Networked Wireless**				
	20L	2000	**2750T**	2700K–5000K SpectraSync™ Tunable White			**WD**	Narrow (52°)	**DMT**	SpectraSync™ Tunable White, 0–10V Dimming to 5% [2]	**NXW**	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor		**DTS**	Device Transfer Switch with Dimming Bypass [3]
	25L	2500	**2765T**	2700K–6500K SpectraSync™ Tunable White											
	30L	3000									**Networked Wired**				
											NXE	NX Wired Dual RJ45 SmartPORTS, without Sensor			

TRIM (Ships separately)

LFR-64RA-T

Aperture/Shape/Function		Trim Style	Reflector Finish/Color		Flange Color Options	
LFR-6SQA-T	6" Square Adjustable Trim Assembly	*Standard Cut Cone*	**S**	Specular	*Standard matches reflector color*	
			SS	Semi-Specular	**WT**	White Flange [4]
			WC	Painted White Cone and Flange	**BT**	Black Flange

HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function	
☐ **LFR-6SQD-H**	6" Housing Frame, New Construction, Non-IC
☐ **LFR-6SQD-H-IC**	6" Housing Enclosure, New Construction, IC Rated [5,6]
☐ **LFR-6SQD-H-CP**	6" Housing Enclosure, New Construction, Chicago Plenum [7]

Accessories	
☐ **LiteGear**	LiteGear® Inverter, 125VA–250VA
☐ **LPS Series**	LightPower Micro-Inverter, 20VA–55VA
☐ **LF-MOR6-SQ-WH**	Metal Oversized Ring, 6" Square, White (10.3" 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 25L; 10L Fixture Modules are inherently protected IC without the use of IC housing enclosure. (IC housing is still recommended when using loose-fill or spray foam insulation types.)
6. IC housing not available for use in combination with Controls or with Module options EMR, DTS.
7. CP available up to 25L; not available with DMX, Controls, or EMR options.

Current

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

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

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LFR-6SQA SpectraSync
LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

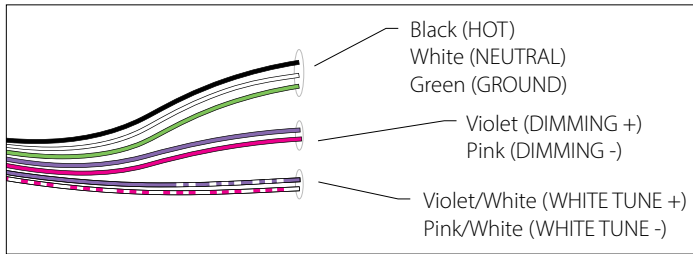## SPECTRASYNC™ COLOR TUNING TECHNOLOGY

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
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.

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

Color Tuning Profile

— Channel 1
· · · Channel 2
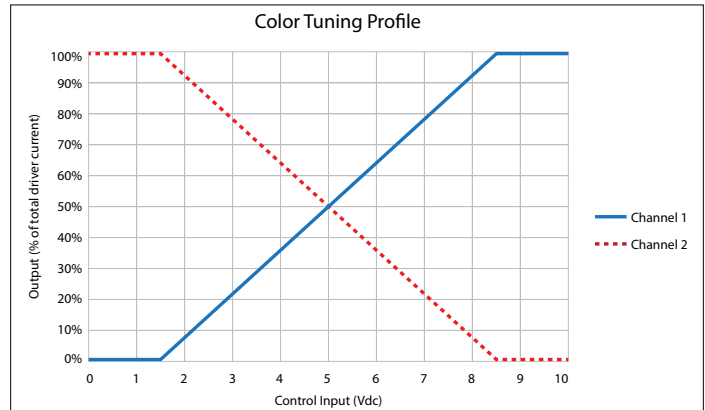
To enable scheduling and for use with NX wall control preset stations please refer to SpectraSync technical sheet.

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	992	11.9	83
		Medium	957	11.9	80
		Wide	887	11.9	75
15L	1500	Narrow	1213	18.3	66
		Medium	1170	18.3	64
		Wide	1084	18.3	59
20L	2000	Narrow	2013	25.2	80
		Medium	1942	25.2	77
		Wide	1800	25.2	72
25L	2500	Narrow	2515	33.0	76
		Medium	2426	33.0	74
		Wide	2249	33.0	68
30L	3000	Narrow	3022	42.0	72
		Medium	2915	42.0	69
		Wide	2702	42.0	64

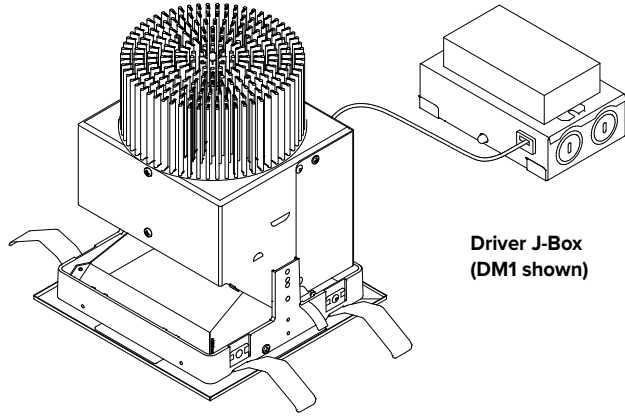PRE_LFR-6SQA-Spectrasync_Spec_R02

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LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

DIMENSIONS

LFR-6SQA-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.

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

**Light Engine
with Trim assembly installed**

DIMENSIONAL DATA	
APERTURE	□ 6.00" (152.4mm)
FLANGE TO FLANGE	□ 7.38" (187.4mm
FLANGE WIDTH	0.71" (18.0mm)
CEILING CUTOUT	□ 6.75" (171.5mm)
CEILING THICKNESS	0.50"–1.25" (12.7–31.8mm)

LFR-6SQA LIGHT ENGINE

OVERALL LIGHT ENGINE HEIGHT "A" *	
LUMEN PACKAGE	BEAM DISTRIBUTION
	NR / MD/ WD
10L–30L	7.51" (190.7mm)

* Note: Add ½" minimum plenum clearance above overall Light Engine Height.
** Non-IC rating requires 3" from insulation and combustible materials.

0–40° Vertical Tilt*

"A"
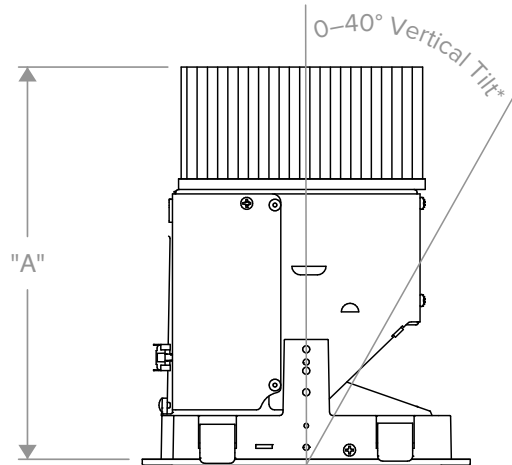
Side View Standard

* 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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LFR-6SQA SpectraSync
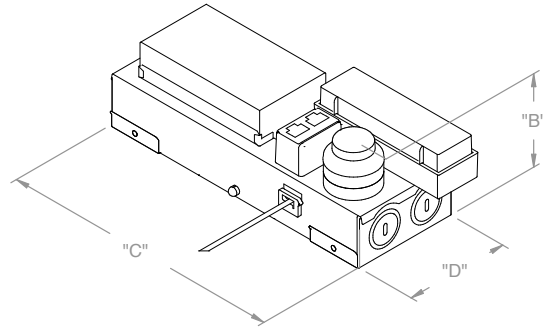LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING
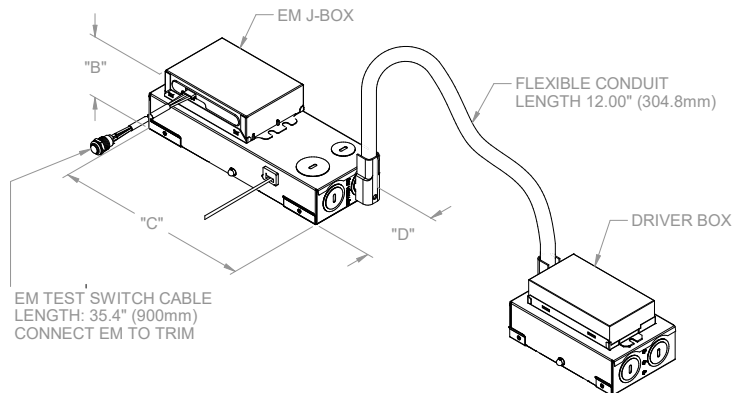
DIMENSIONS CONTINUED

DRIVER J-BOX
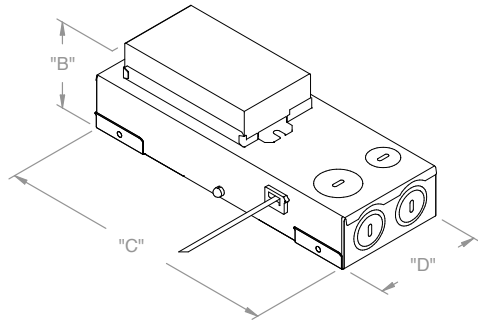
DMT/DMTW

NX CONTROLS OPTION

DMT/DMTW EM/EMR OPTION

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)

LFR-6SQA SpectraSync
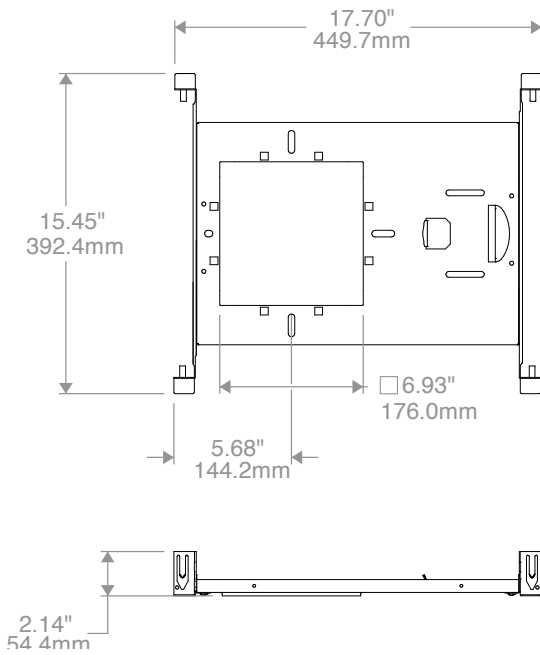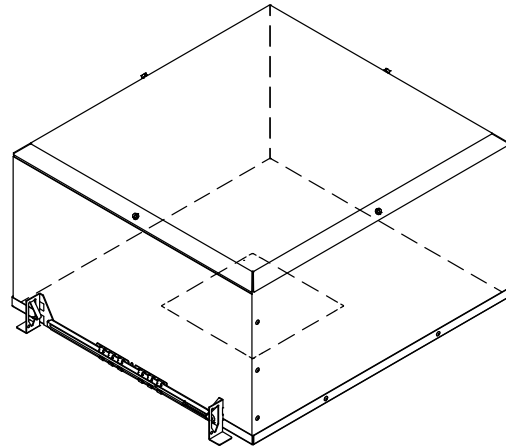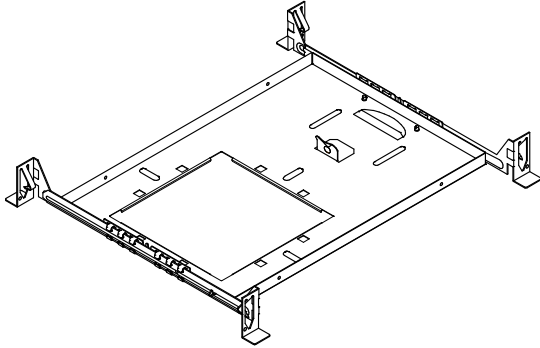LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

DIMENSIONS CONTINUED

OPTIONAL HOUSINGS

17.70"
449.7mm

15.45"
392.4mm

□6.93"
176.0mm

5.68"
144.2mm

2.14"
54.4mm

LFR-6SQD-H
NON-IC HOUSING FRAME

21.77"
553.0mm

18.31"
465.2mm

□6.93"
176.0mm

11.57"
293.8mm

10.82"
274.8mm
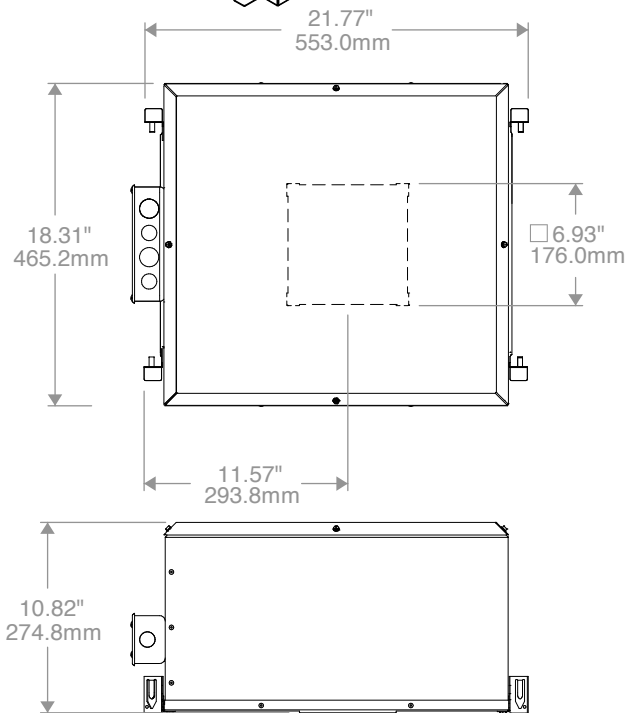
LFR-6SQD-H-IC
LFR-6SQD-H-CP
IC or CP HOUSING

□ 6.72"
(170.7mm)

□ 10.30"
(261.6mm)
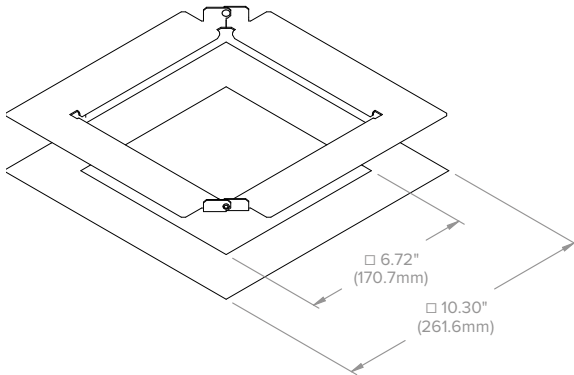
LF-MOR6-SQ
METAL OVERSIZED RING
(See LF-MOR Installation Instruction for more details)

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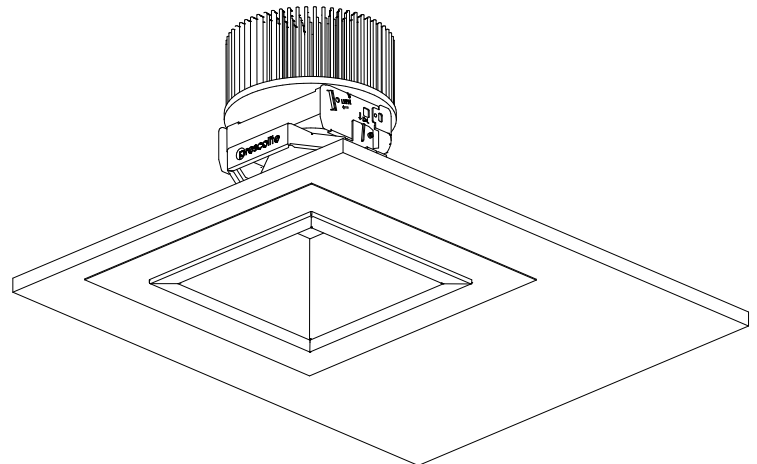
LFR-6SQA SpectraSync
LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

PHOTOMETRY

LFR-6SQA-M-20L2230TD9NR-DMT / LFR-6SQA-T-S

LUMINAIRE DATA

Test No.	22.01190
Description	2000 lm, Narrow, 3500K, 90 CRI
Delivered Lumens	2013
Watts	25.2W
Efficacy	80
Mounting	Recessed/Ceiling
Beam Angle (FWHM)	24

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1723	85.6
0-60	2010	99.9
0-90	2013	100.0
0-180	2013	100.0

POLAR GRAPH
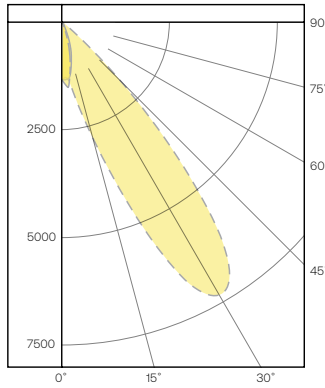
CANDELA DISTRIBUTION

Degree	Candela
0	1344
5	1308
15	2816
25	6463
35	6687
45	1831
55	89
65	16
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	111489
55°	6681
65°	1630
75°	0
85°	0

*Candela/Square Meter

LFR-6SQA-M-20L2230TD9MD-DMT / LFR-6SQA-T-S

LUMINAIRE DATA

Test No.	22.02130
Description	2000 lm, Medium, 3500K, 90 CRI
Delivered Lumens	1942
Watts	25.2W
Efficacy	77
Mounting	Recessed/Ceiling
Beam Angle (FWHM)	38

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1647	84.8
0-60	1939	99.8
0-90	1942	100.0
0-180	1942	100.0

POLAR GRAPH
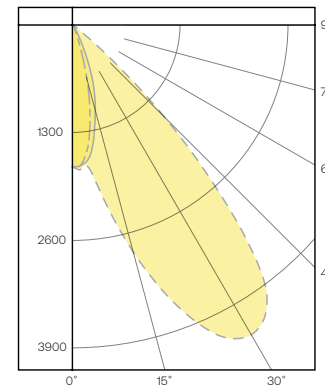
CANDELA DISTRIBUTION

Degree	Candela
0	1711
5	1699
15	2833
25	4119
35	4091
45	1572
55	82
65	15
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	95719
55°	6155
65°	1528
75°	0
85°	0

*Candela/Square Meter

LFR-6SQA-M-20L2230TD9WD-DMT / LFR-6SQA-T-S

LUMINAIRE DATA

Test No.	22.01191
Description	2000 lm, Wide, 3500K, 90 CRI
Delivered Lumens	1800
Watts	25.2W
Efficacy	72
Mounting	Recessed/Ceiling
Beam Angle (FWHM)	55

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1482	82.3
0-60	1795	99.9
0-90	1800	100.0
0-180	1800	100.0

POLAR GRAPH
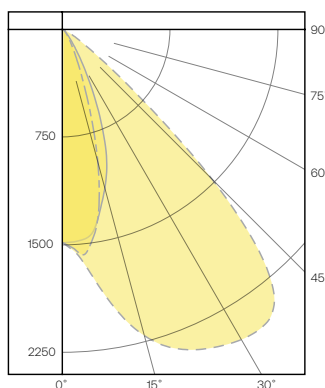
CANDELA DISTRIBUTION

Degree	Candela
0	1485
5	1627
15	2210
25	2446
35	2483
45	1443
55	177
65	19
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	87864
55°	13287
65°	1936
75°	0
85°	0

*Candela/Square Meter

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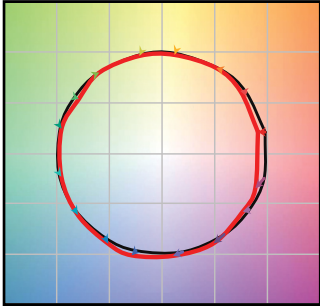Page **8** of **11**
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LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

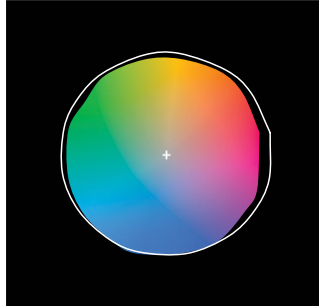## TM-30 DATA

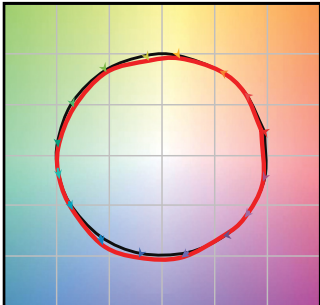### SPECTRASYNC™ TUNABLE WHITE (2765T)

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_f	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_9	46.7	85.4	87.7

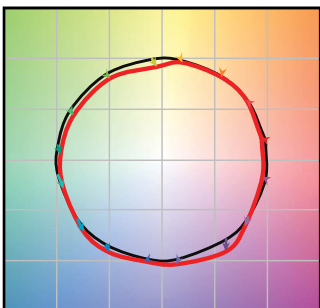**COLOR VECTOR GRAPHIC**
4600K, 90+ CRI

—— Reference Illuminant   —— Test Source

COLOR DISTORTION GRAPHIC
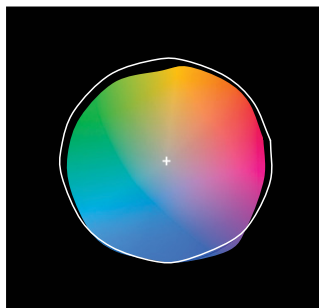**4600K, 90+ CRI**

COLOR VECTOR GRAPHIC
6500K, 90+ CRI

—— Reference Illuminant   —— Test Source

COLOR DISTORTION GRAPHIC
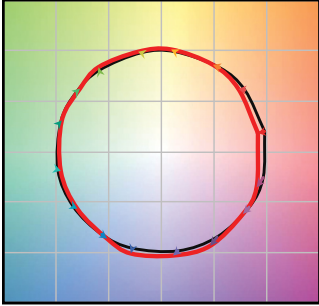**6500K, 90+ CRI**

LFR-6SQA SpectraSync
LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

TM-30 DATA CONTINUED

SPECTRASYNC™ DIM TO WARM (2230TD)
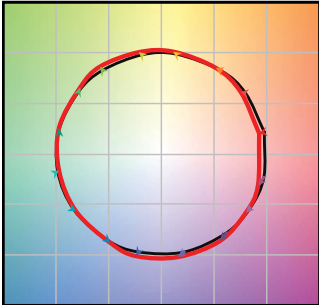
COLOR VECTOR GRAPHIC
3000K, 90+ CRI @ 100%

— Reference Illuminant   — Test Source
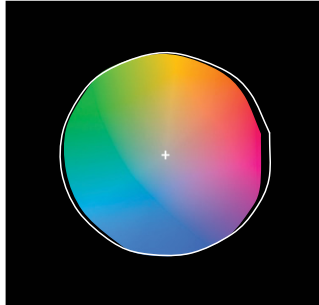
COLOR DISTORTION GRAPHIC
3000K, 90+ CRI @ 100%

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_f	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_9	46.7	85.4	87.7

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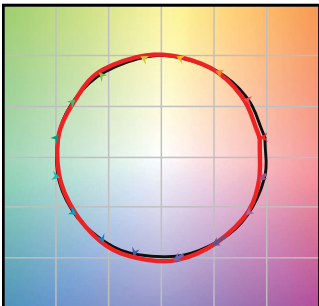**2600K, 90 CRI @ 50% DIM**

— Reference Illuminant   — Test Source
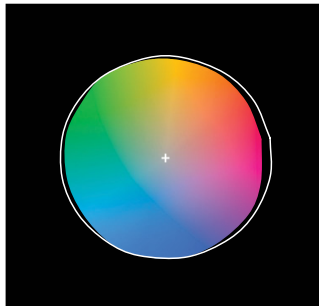
COLOR DISTORTION GRAPHIC
2600K, 90 CRI @ 50% DIM

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

— Reference Illuminant   — Test Source

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

PRE_LFR-6SQA-Spectrasync_Spec_R02

LFR-6SQA SpectraSync
LITEFRAME 6" SQUARE ADJUSTABLE WITH COLOR TUNING

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.

PRE_LFR-6SQA-Spectrasync_Spec_R02