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LFR-6SQDS SpectraSync

LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
WITH COLOR TUNING

LITEFRAME 2.0

FEATURES

- 6" LED shallow downlight delivering 1000–1500 lumens

- Direct Install from below ceiling for New Construction or Remodel applications

- Optional housing accessories available

- Four beam distributions

- 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
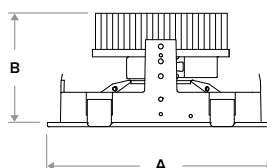
Typical Dimensions and Weights

Lumen Package	"A" Width Inches (mm)	"B" Height Inches (mm)	Weight lbs (kg)
10L - 15L	7.38 (187)	3.56 (90)	4.0 (1.8)

See DIMENSIONS section for complete details

CONTROLS TECHNOLOGY

NX WIRELESS   NX WIRED   SpectraSync™ Color Tuning Technology

SPECIFICATIONS

CONSTRUCTION
- Standard Fixture Module designed for Non-IC, Direct Install construction

- Optional Non-IC frame or IC 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/enclosure

- Light Engine connections use plenum rated (CMP) cable

OPTICS
- High purity, four panel aluminum reflector, self-flanged

- Specular or Semi-Specular anodized or White painted cone reflector finish/colors

- Painted flange options in White or Black

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

- Remote emergency battery option available

INSTALLATION
- Accommodates ceiling thickness from 0.50" to 2.50"

- Fixture Module including driver fully accessible from above or below the ceiling

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	1000–1500
Wattage Range	12.8–19.6
Efficacy Range (LPW)	69–81
Reported Life (Hours)	L70 / >60,000
Input Current (mA)	108–167 (120V)

*Based on Specular, 30K, 90 CRI

Current

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

LFR-6SQDS SpectraSync
LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
WITH COLOR TUNING

ORDERING GUIDE

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

CATALOG #

FIXTURE MODULE

LFR-6SQDS-M — ___ — ___ — ___ — ___

Ap/Shp/Funct	Lumen Output	CCT	CRI	Distribution	Driver Options	Control Options	Voltage	Module Options
LFR-6SQDS-M 6" Square Shallow Downlight Fixture Module for Direct Install *(Non-IC frame or IC housing available under Housing Options below)*	**10L** 1000 **15L** 1500	**2230TD** 2200K–3000K SpectraSync™ Dim to Warm **2750T** 2700K–5000K SpectraSync™ Tunable White **2765T** 2700K–6500K SpectraSync™ Tunable White	**9** 90+	**VNR** Very Narrow (22°/0.4 SC) **NR** Narrow (26°/0.4 SC) **MD** Medium (35°/0.6 SC) **WD** Wide (55°/0.9 SC)	**DMTW** SpectraSync™ Dim to Warm, 0–10V Dimming to 5% [1] **DMT** SpectraSync™ Tunable White, 0–10V Dimming to 5% [2]	**NX Lighting Controls** *Networked Wireless* **NXW** NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor *Networked Wired* **NXE** NX Wired Dual RJ45 SmartPORTS, without Sensor	*Standard 120–277V*	**CP** Chicago Plenum [3,4] **EMR** 6W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light [4] **DTS** Device Transfer Switch with Dimming Bypass [4]

TRIM (Ships separately)

LFR-6SQDS-T — ___ — ___

Aperture/Shape/Function	Distribution	Reflector Finish/Color	Flange Color Options	Lower Trim Options
LFR-6SQDS-T 6" Square Shallow Downlight Trim Assembly	*Standard VNR, NR, MD, WD*	**S** Specular **SS** Semi-Specular **WC** Painted White Cone and Flange	*Standard matches reflector color* **WT** White Flange [5] **BT** Black Flange	**FM** Flush Mount Flange [8]

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 [6,7]

Accessories	
☐ **LiteGear**	LiteGear® Inverter, 125VA–250VA
☐ **LPS Series**	LightPower Micro-Inverter, 20VA–55VA
☐ **LF-FMR6-SQ**	Flush Mount Mud-in Ring, 6" Square [8]
☐ **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. CP not available with Controls.
4. Module options not available in combination.
5. WT not needed for WC.
6. IC available up to 10L
7. IC Housing not for use in combination with Controls or with Module Options CP, EMR, DTS.
8. Flush Mount Flange (FM) requires FMR accessory (sold separately).

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LFR-6SQDS SpectraSync
LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
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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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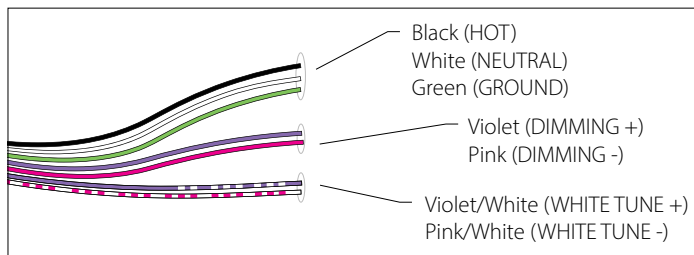
SPECTRASYNC™ COLOR TUNING TECHNOLOGY

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 -)

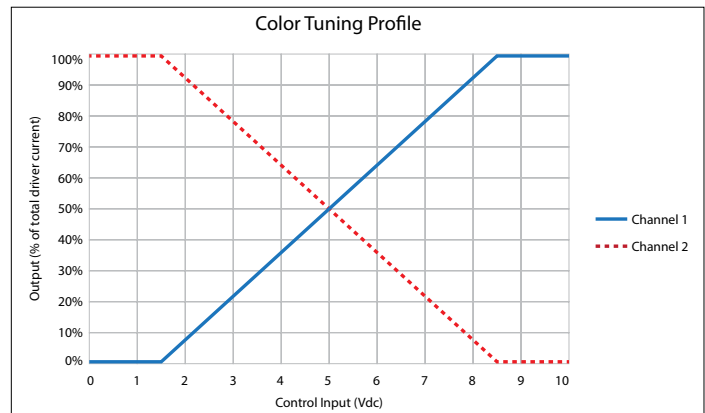Violet/White (WHITE TUNE +)
Pink/White (WHITE TUNE -)

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

X-axis: Control Input (Vdc)
Y-axis: Output (% of total driver current)

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

PERFORMANCE DATA TABLE

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	Very Narrow	1011	12.8	80
		Narrow	1010	12.8	79
		Medium	982	12.8	77
		Wide	1043	12.8	81
15L	1500	Very Narrow	1386	19.4	71
		Narrow	1381	19.6	70
		Medium	1343	19.6	69
		Wide	1426	19.6	73

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Rev 12/28/23
PRE_LFR-6SQDS_SpectraSync_Spec_R03
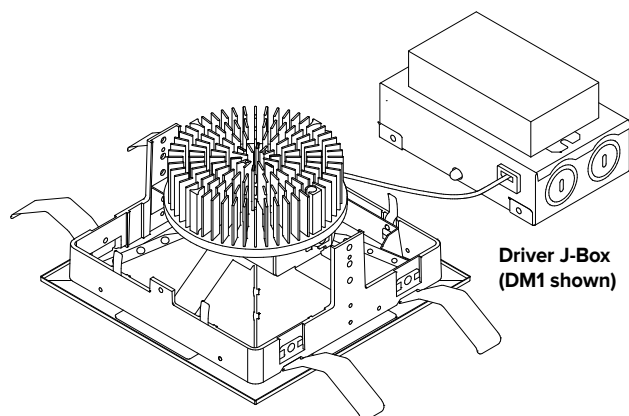
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DIMENSIONS

LFR-6SQDS-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 WIDTH	Standard	0.69" (17.5mm)
	Flush Mount	0.20" (5.1mm)
FLANGE TO FLANGE	Standard	□ 7.38" (187.4mm)
	Flush Mount	□ 6.40" (162.6mm)
CEILING CUTOUT	Standard	□ 6.75" (171.5mm)
	Flush Mount	□ 6.88" (174.7mm)
CEILING THICKNESS		0.50" – 2.50" (12.7 – 63.5mm)

LFR-6SQDS LIGHT ENGINE

OVERALL LIGHT ENGINE HEIGHT "A" *		
LUMEN PACKAGE	FIXTURE MODULE	BEAM DISTRIBUTION
		VNR / NR / MD / WD
10L–15L	STANDARD	3.56" (90.4mm)
	CP	4.95" (125.7mm)

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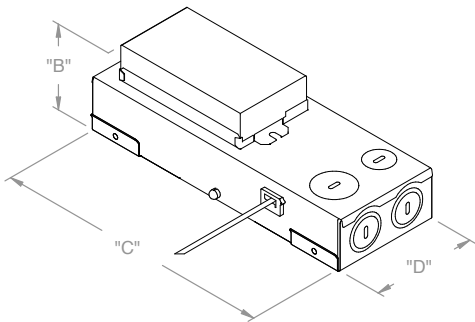
"A"
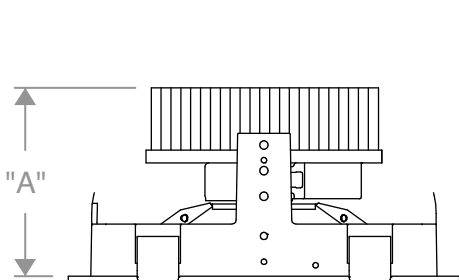
Side View Standard

"A"
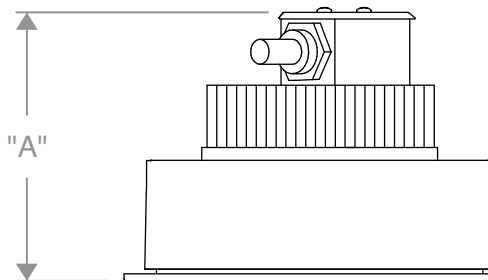
Side View CP – Chicago Plenum

PRE_LFR-6SQDS_SpectraSync_Spec_R03
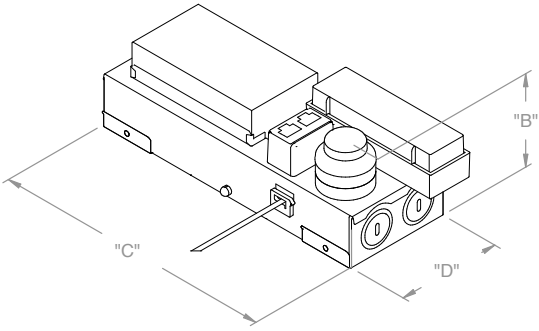
LFR-6SQDS SpectraSync
LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
WITH COLOR TUNING
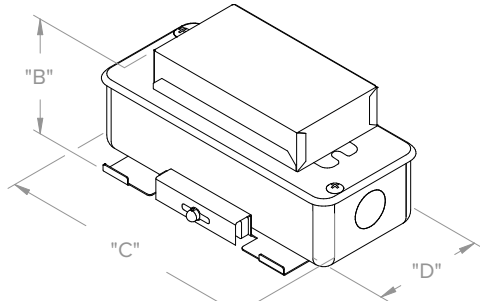
DIMENSIONS CONTINUED

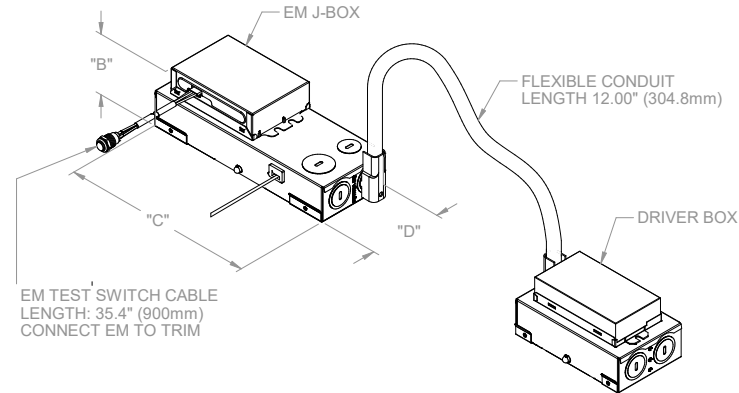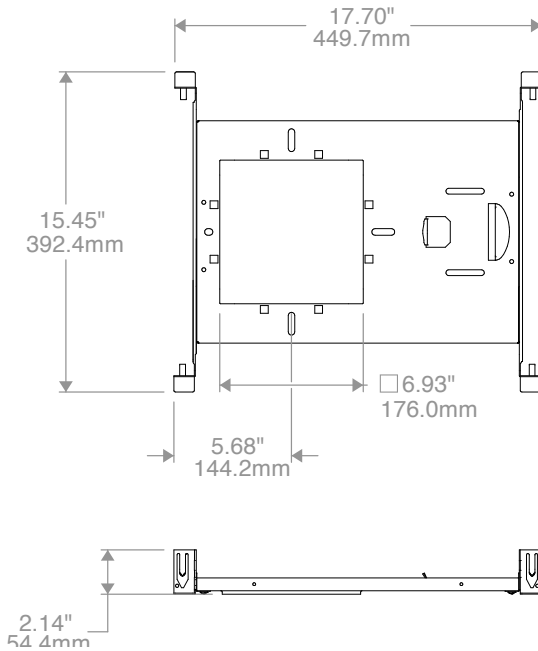DRIVER J-BOX

DMT/DMTW

NX CONTROLS OPTION

CP

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

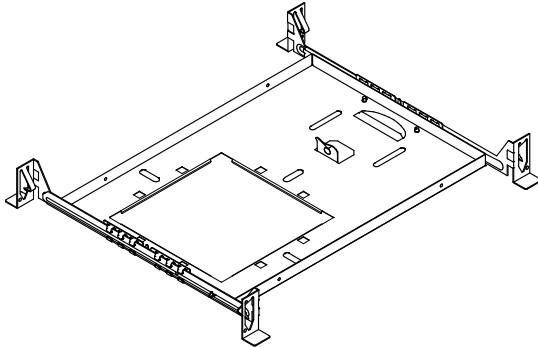| OVERALL DRIVER J-BOX DIMENSIONS (ALL LUMEN OUTPUTS)				
DRIVER/ CONTROLS OPTIONS	"B" (HEIGHT)	"C" (LENGTH)	"D" (WIDTH)	MINIMUM J-BOX PLENUM CLEARANCE
DMT/DMTW	2.67" (67.8mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.00" (76.2mm)
NX	3.02" (76.7mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.75" (95.3mm)
EM	2.73" (69.3mm)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

LFR-6SQDS SpectraSync
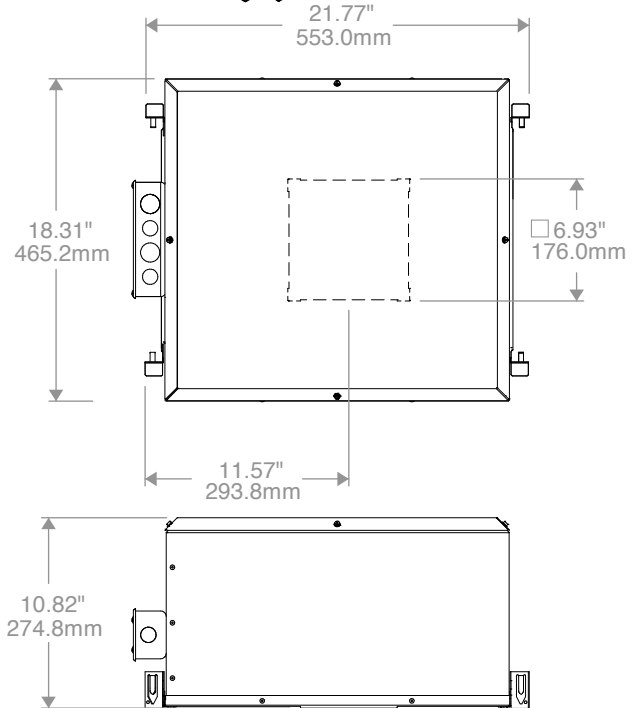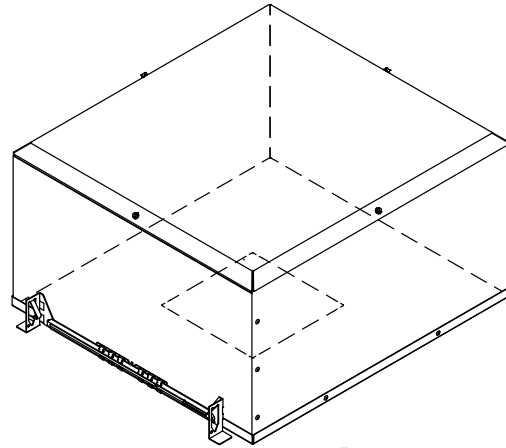LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
WITH COLOR TUNING

DIMENSIONS CONTINUED

OPTIONAL HOUSINGS

17.70"
449.7mm

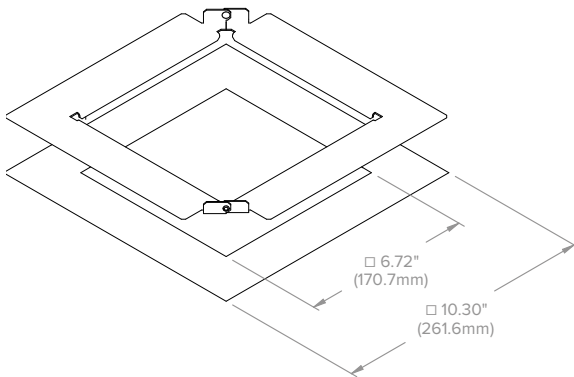15.45"
392.4mm

□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 HOUSING
Not for use with CP Shroud

□ 6.72"
(170.7mm)

□ 10.30"
(261.6mm)

LF-MOR6-SQ
METAL OVERSIZED RING
(See LF-MOR Installation Instruction for more details)
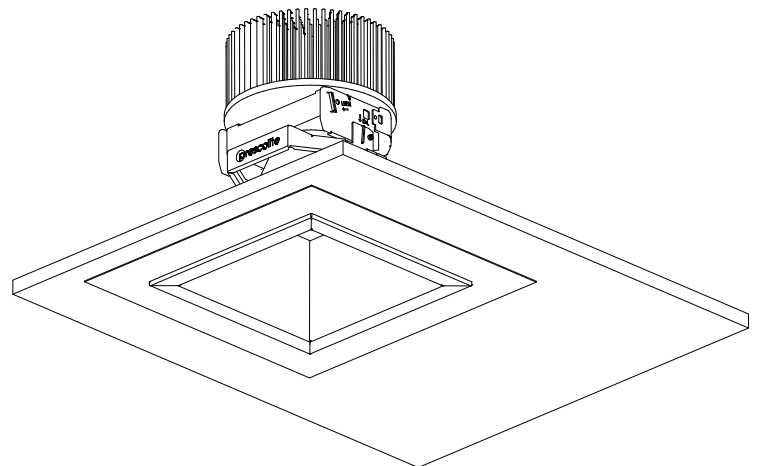
PRE_LFR-6SQDS_SpectraSync_Spec_R03

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LFR-6SQDS SpectraSync
LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
WITH COLOR TUNING

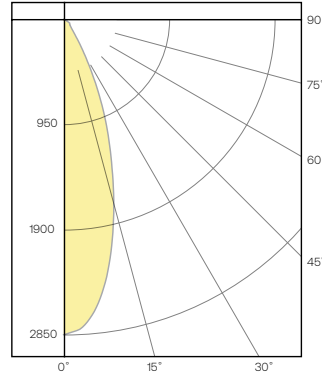## PHOTOMETRY

LFR-6SQDS-M-15L2230TD9VNR-DMTW / LFR-6SQDS-T-S

LUMINAIRE DATA

Test No.	22.01198
Description	1500 lm, Very Narrow, 3000K, 90 CRI
Delivered Lumens	1393
Watts	19.6W
Efficacy	71
Mounting	Recessed/Ceiling
Spacing Criterion	0.4
Beam Angle (FWHM)	22

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1311	94.1
0-60	1386	99.5
0-90	1393	100.0
0-180	1393	100.0

POLAR GRAPH

CANDELA DISTRIBUTION

Degree	Candela
0	6440
5	5727
15	1725
25	371
35	116
45	56
55	23
65	2
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	3410
55°	1727
65°	204
75°	0
85°	0

*Candela/Square Meter

LFR-6SQDS-M-15L2230TD9NR-DMTW / LFR-6SQDS-T-S

LUMINAIRE DATA

Test No.	22.01197
Description	1500 lm, Narrow, 3000K, 90 CRI
Delivered Lumens	1381
Watts	19.6W
Efficacy	71
Mounting	Recessed/Ceiling
Spacing Criterion	0.5
Beam Angle (FWHM)	30

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1282	92.8
0-60	1373	99.4
0-90	1381	100.0
0-180	1381	100.0

POLAR GRAPH
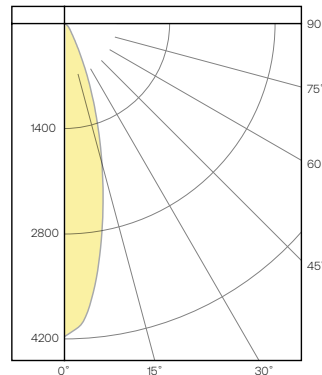
CANDELA DISTRIBUTION

Degree	Candela
0	4157
5	3764
15	1883
25	558
35	146
45	67
55	27
65	3
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	4080
55°	2027
65°	306
75°	0
85°	0

*Candela/Square Meter

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LFR-6SQDS SpectraSync

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PHOTOMETRY CONTINUED

LFR-6SQDS-M-15L2230TD9MD-DMTW / LFR-6SQDS-T-S

LUMINAIRE DATA

Test No.	22.01196
Description	1500 lm, Medium, 3000K, 90 CRI
Delivered Lumens	1343
Watts	19.6W
Efficacy	69
Mounting	Recessed/Ceiling
Spacing Criterion	0.6
Beam Angle (FWHM)	37

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1222	91.1
0-60	1331	99.1
0-90	1343	100.0
0-180	1343	100.0

POLAR GRAPH
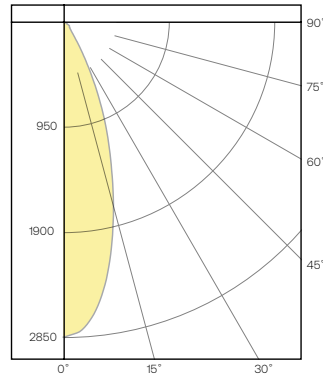
CANDELA DISTRIBUTION

Degree	Candela
0	2846
5	2706
15	1699
25	718
35	200
45	81
55	32
65	3
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	4932
55°	2402
65°	306
75°	0
85°	0

*Candela/Square Meter

LFR-6SQDS-M-15L2230TD9WD-DMTW / LFR-6SQDS-T-S

LUMINAIRE DATA

Test No.	22.01199
Description	1500 lm, Wide, 3000K, 90 CRI
Delivered Lumens	1426
Watts	19.6W
Efficacy	73
Mounting	Recessed/Ceiling
Spacing Criterion	1.0
Beam Angle (FWHM)	62

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1330	93.3
0-60	1422	99.7
0-90	1426	100.0
0-180	1426	100.0

POLAR GRAPH
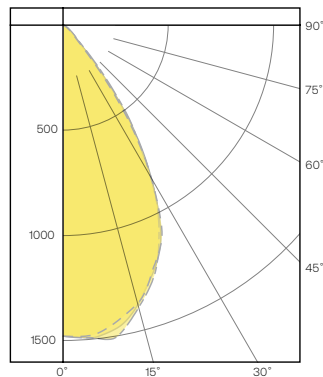
CANDELA DISTRIBUTION

Degree	Candela
0	1477
5	1479
15	1366
25	1106
35	497
45	66
55	19
65	1
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	4019
55°	1426
65°	102
75°	0
85°	0

*Candela/Square Meter

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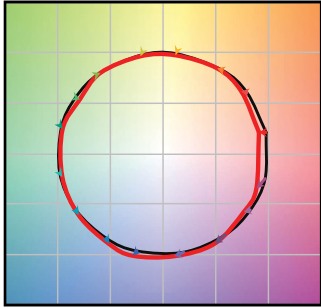
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TM-30 DATA

SPECTRASYNC™ TUNABLE WHITE (2765T)
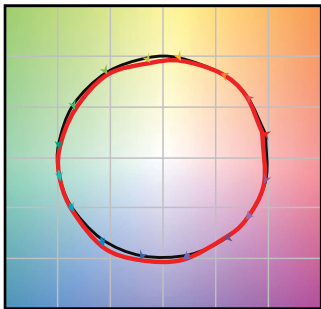
**COLOR VECTOR GRAPHIC
2700K, 90+ CRI**

— Reference Illuminant   — Test Source
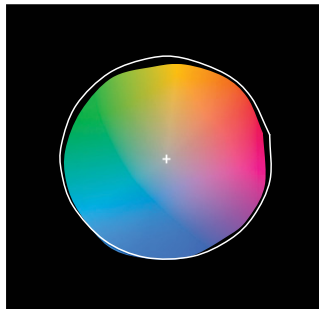
**COLOR DISTORTION GRAPHIC
2700K, 90+ CRI**

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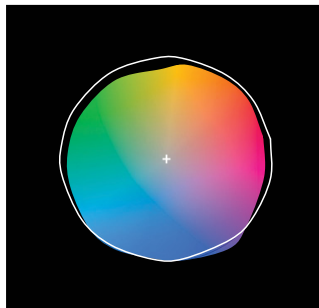
**COLOR DISTORTION GRAPHIC
4600K, 90+ CRI**

**COLOR VECTOR GRAPHIC
6500K, 90+ CRI**
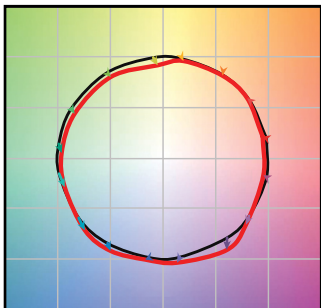
— Reference Illuminant   — Test Source
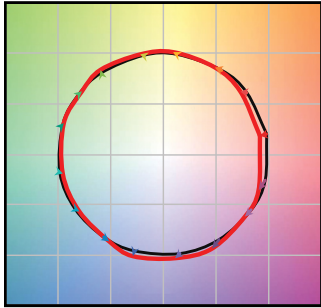
**COLOR DISTORTION GRAPHIC
6500K, 90+ CRI**

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

LFR-6SQDS SpectraSync
LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
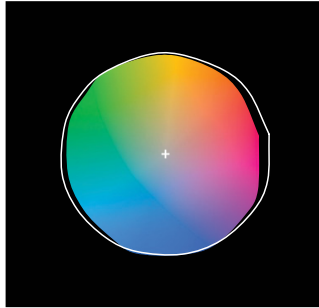WITH COLOR TUNING

TM-30 DATA CONTINUED

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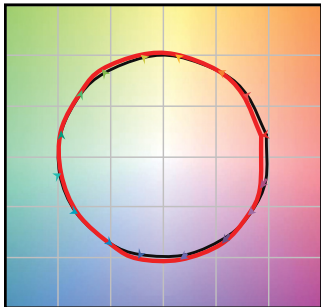
COLOR VECTOR GRAPHIC
3000K, 90+ CRI @ 100%

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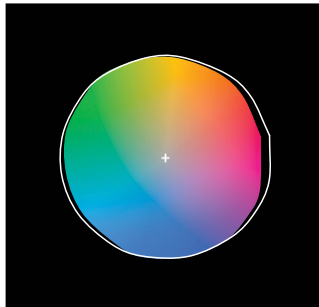
COLOR DISTORTION GRAPHIC
3000K, 90+ CRI @ 100%

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

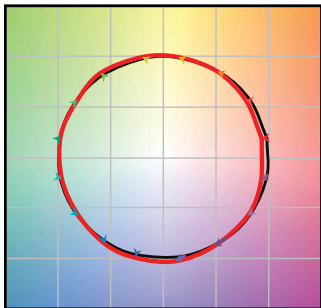**COLOR VECTOR GRAPHIC**
2600K, 90 CRI @ 50% DIM

— Reference Illuminant   — Test Source

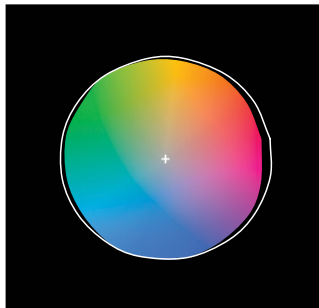**COLOR DISTORTION GRAPHIC**
2600K, 90 CRI @ 50% DIM

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

— Reference Illuminant   — Test Source

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

PRE_LFR-6SQDS_SpectraSync_Spec_R03

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LFR-6SQDS SpectraSync
LITEFRAME 6" SQUARE SHALLOW DOWNLIGHT
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.

Current

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