

LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

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

LITEFRAME[™] 2.0



FEATURES

- 6" LED downlight delivering 1000–3000 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



CONTROLS 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
- Optional clear lens trim for wet location applications

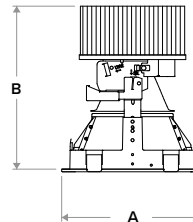
ELECTRICAL

- 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
- Integral and remote emergency battery options available

INSTALLATION

- Accommodates ceiling thickness from 0.50" to 2.50"
- 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)

SERVICE PROGRAMS



Typical Dimensions and Weights			
Lumen Package	"A" Width (SQ) Inches (mm)	"B" Height Inches (mm)	Weight lbs (kg)
10L - 30L	7.38 (187)	7.28 (185)	4.8 (2.2)

See DIMENSIONS section for complete details

CERTIFICATIONS

- cCSAus certified to UL 1598
- Suitable for wet locations, covered ceiling when used with CL lens trim; all other configurations, suitable for damp locations
- EM/EMR: Certified under UL 924 standard for emergency lighting and power equipment
- EM/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	
Lumen Range	1000–3000
Wattage Range	12–42
Efficacy Range (LPW)	66–92
Reported Life (Hours)	L70 / >60,000
Input Current (mA)	100–350 (120V)

*Based on Specular, 30K, 90 CRI

LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

Gray Shading = Service Program **STOCK**

ORDERING GUIDE

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

CATALOG #

FIXTURE MODULE

LFR-6SQD-M	Lumen Output		CCT	CRI	Distribution	Driver Options	Control Options	Voltage	Module Options	
Ap/Shp/Funct										
LFR-6SQD-M 6" Square Downlight Fixture Module for Direct Install <i>(Non-IC frame or IC housing available under Housing Options below)</i>	10L	1000	2230TD	2200K-3000K SpectraSync™ Dim to Warm	9 90+	NR Narrow (27°/0.5 SC)	DMTW SpectraSync™ Dim to Warm, 0-10V Dimming to 5% ¹	NX Lighting Controls <u>Networked Wireless</u> NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	<i>Standard</i> 120-277V	CP Chicago Plenum ^{2,4} EM 6W Emergency Battery Pack (CEC Title 20 Compliant) with integral test switch and indicator light 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
	15L	1500				MD Medium (38°/0.6 SC)				
	20L	2000	2750T	2700K-5000K SpectraSync™ Tunable White		WD Wide (50°/0.9 SC)	DMT SpectraSync™ Tunable White, 0-10V Dimming to 5% ²	<u>Networked Wired</u> NXE NX Wired Dual RJ45 SmartPORTS, without Sensor		
	25L	2500				XW Extra Wide (62°/1.2 SC) ⁹				
	30L	3000	2765T	2700K-6500K SpectraSync™ Tunable White						

TRIM (Ships separately)

LFR-6SQD-T	Reflector Finish/Color	Flange Color Options	Lens Options	Lower Trim Options
Aperture/Shape/Function				
LFR-6SQD-T 6" Square Downlight Trim Assembly	S Specular ⁹ SS Semi-Specular WC Painted White Cone and Flange	<i>Standard matches reflector color</i> WT White Flange ⁵ BT Black Flange	<i>Standard no lens</i> CL Clear Lens (Wet listed) ⁶	EM Pre-punched reflector for EM integral test switch and indicator ⁶ FM Flush Mount Flange ¹⁰

HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function
<input type="checkbox"/> LFR-6SQD-H 6" Housing Frame, New Construction, Non-IC
<input type="checkbox"/> LFR-6SQD-H-IC 6" Housing Enclosure, New Construction, IC Rated ^{7,8}

Accessories

- SFL6** Soft Focus Lens and Clip, 6" Square
- WAL6** Wide Angle 80° Lens and Clip, 6" Square
- LiteGear** LiteGear® Inverter, 125VA-250VA
- LPS Series** LightPower Micro-Inverter, 20VA-55VA
- LF-FMR6-SQ** Flush Mount Mud-in Ring, 6" Square¹⁰
- 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 CL lens and EM trim options not available in combination.
- 7 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.)
- 8 IC Housing not for use in combination with Controls or with Module Options CP, EM, EMR, DTS.
- 9 XW distribution is not available for Specular (S) reflector finish.
- 10 Flush Mount Flange (FM) requires FMR accessory (sold separately).

LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT 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-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT 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.



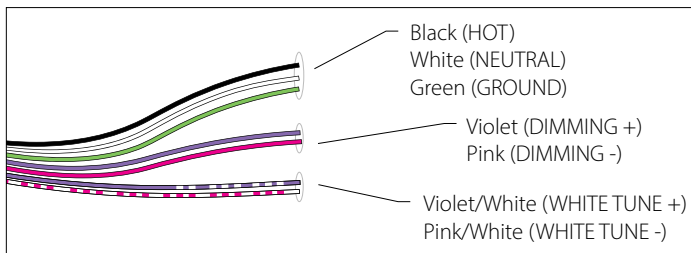
SPECTRASYNC COLOR TUNING TECHNOLOGY		
Mode	Kelvin Range	Description
Dim to Warm	2200K-3000K	Mimics the familiar warming effect that occurs with traditional incandescent sources as they are dimmed
Tunable White	2700K-5000K 2700K-6500K	Offers users the ability to tailor CCT to their personal preference, 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.

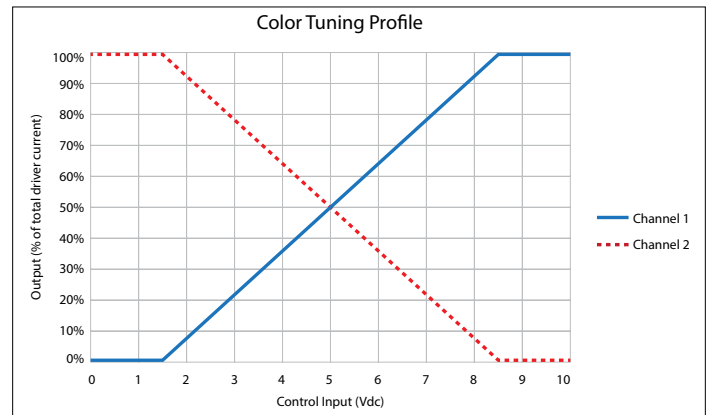


SpectraSync Tunable White luminaires are provided with two 0–10V circuits. The violet and pink circuit is for wiring to any qualified 0–10V controller for dimming. The violet/white and pink/white circuit is for wiring to any qualified 0–10V controller for Tunable White CCT control.

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



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	Narrow	1094	11.9	92
		Medium	1064	11.9	89
		Wide	994	11.9	84
		Extra Wide	1077	11.9	91
15L	1500	Narrow	1338	18.3	73
		Medium	1301	18.3	71
		Wide	1216	18.3	66
		Extra Wide	1317	18.3	72
20L	2000	Narrow	2221	25.2	88
		Medium	2159	25.2	86
		Wide	2018	25.2	80
		Extra Wide	2185	25.2	87
25L	2500	Narrow	2774	33.0	84
		Medium	2697	33.0	82
		Wide	2521	33.0	76
		Extra Wide	2730	33.0	83
30L	3000	Narrow	3333	42.0	79
		Medium	3240	42.0	77
		Wide	3030	42.0	72
		Extra Wide	3280	42.0	78

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LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

DATE: _____ LOCATION: _____

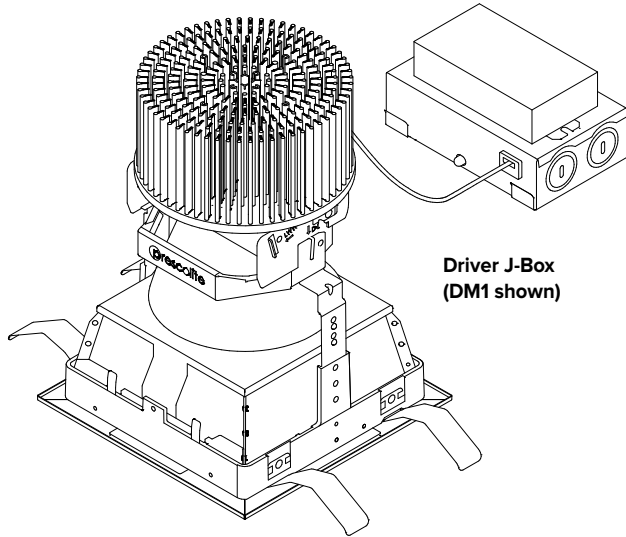
TYPE: _____ PROJECT: _____

CATALOG #: _____

DIMENSIONS

LFR-6SQD-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**

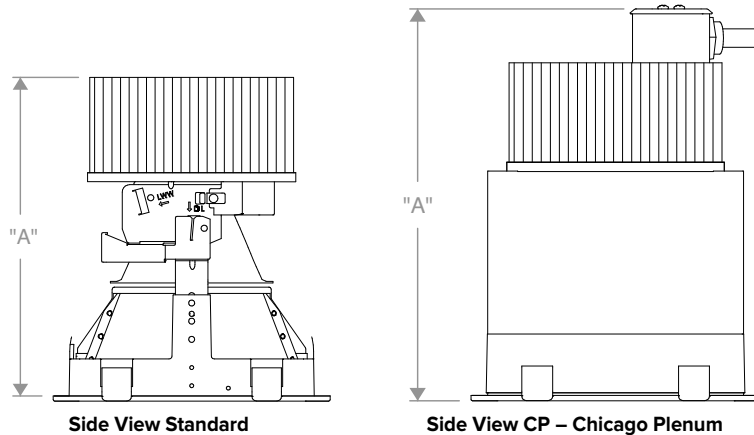
**Driver J-Box
(DM1 shown)**

DIMENSIONAL DATA		
APERTURE		□ 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-6SQD LIGHT ENGINE

OVERALL LIGHT ENGINE HEIGHT "A" *			
LUMEN PACKAGE	FIXTURE MODULE	BEAM DISTRIBUTION	
		NR / MD/ WD	XW
10L-30L	STANDARD	7.28" (185.0mm)	6.80" (172.8mm)
	CP	9.89" (250.6mm)	9.39" (238.5mm)

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



LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

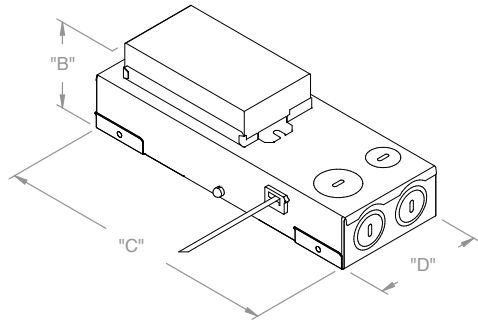
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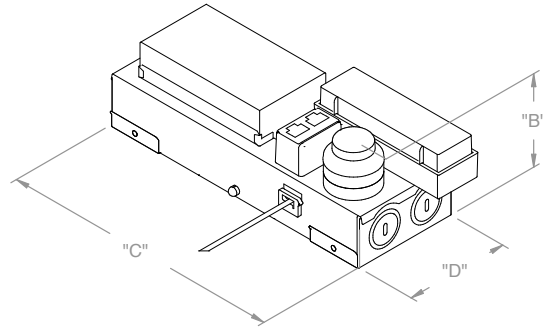
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DIMENSIONS CONTINUED

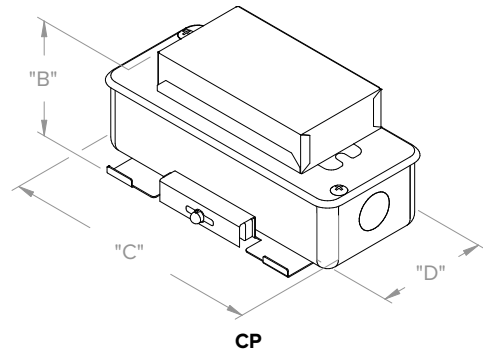
DRIVER J-BOX



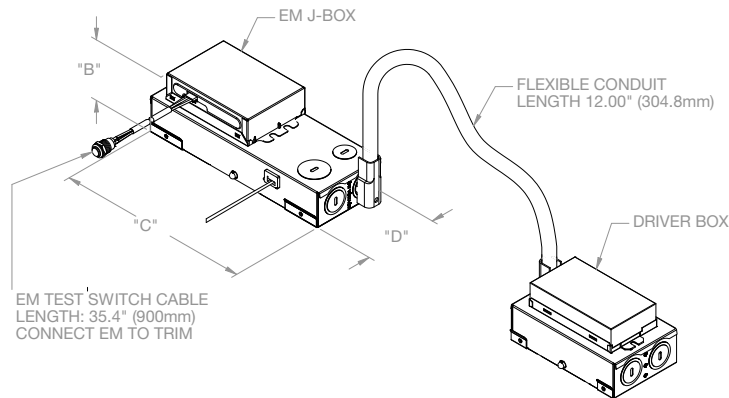
DMT/DMTW



NX CONTROLS OPTION



CP



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)

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LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

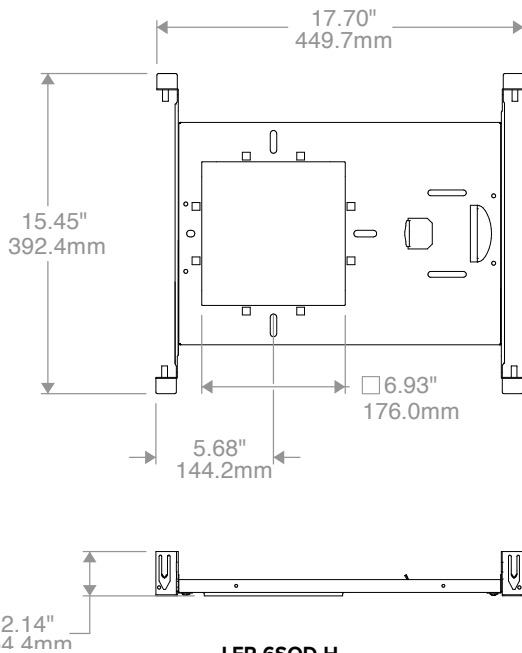
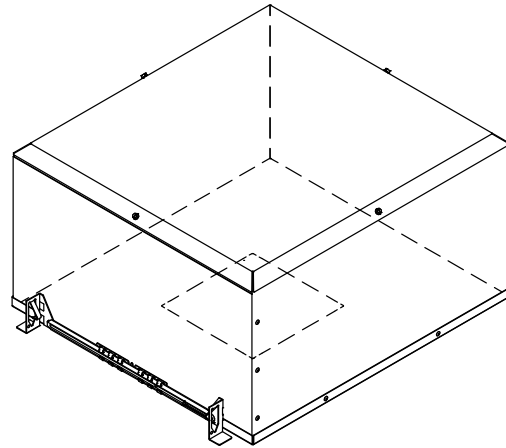
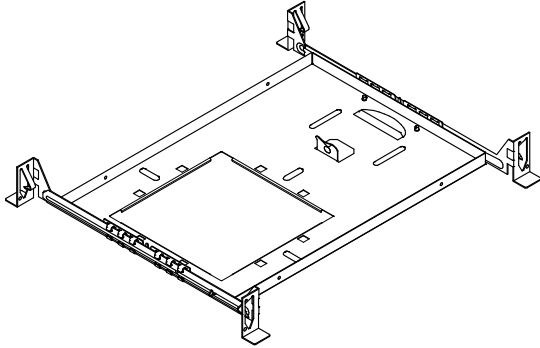
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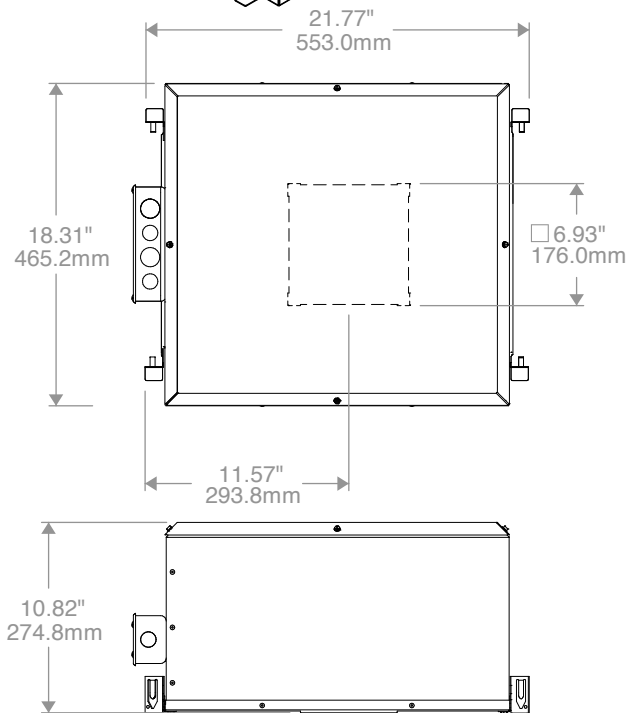
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DIMENSIONS CONTINUED

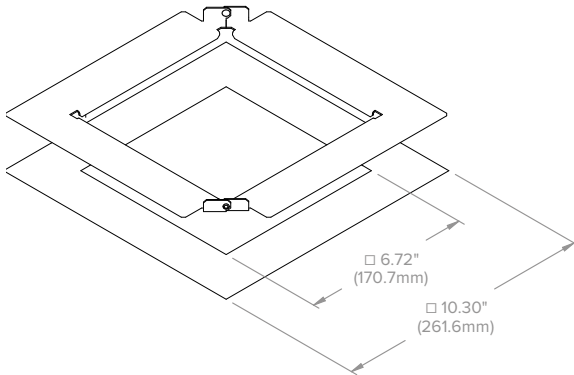
OPTIONAL HOUSINGS



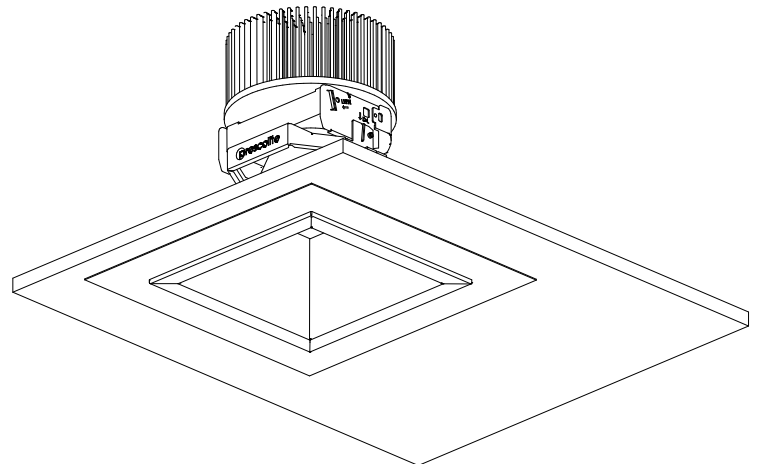
**LFR-6SQD-H
NON-IC HOUSING FRAME**



**LFR-6SQD-H-IC
IC HOUSING**
Not for use with CP Shroud



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



LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

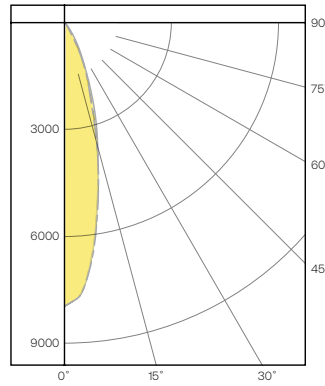
PHOTOMETRY

LFR-6SQD-M-20L2230TD9NR-DMTW / LFR-6SQD-T-S

LUMINAIRE DATA

Test No.	22.01193
Description	2000 lm, Narrow, 3000K, 90 CRI
Delivered Lumens	2221
Watts	25.2W
Efficacy	88
Mounting	Recessed/Ceiling
Spacing Criterion	0.4
Beam Angle (FWHM)	49

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	7934
5	7134
15	3423
25	1105
35	58
45	12
55	1
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	974
55°	225
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

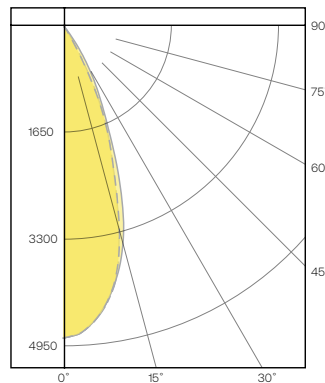
Zone	Lumens	% Luminaire
0-40	2206	99.4
0-60	2221	100.0
0-90	2221	100.0
0-180	2221	100.0

LFR-6SQD-M-20L2230TD9MD-DMTW / LFR-6SQD-T-S

LUMINAIRE DATA

Test No.	22.01192
Description	2000 lm, Medium, 3000K, 90 CRI
Delivered Lumens	2159
Watts	25.2W
Efficacy	86
Mounting	Recessed/Ceiling
Spacing Criterion	0.6
Beam Angle (FWHM)	38

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	4816
5	4646
15	3338
25	1334
35	75
45	15
55	1
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	913
55°	75
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

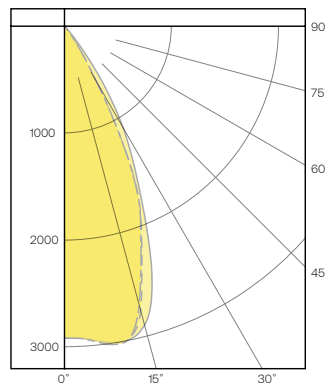
Zone	Lumens	% Luminaire
0-40	2003	99.2
0-60	2141	100.0
0-90	2159	100.0
0-180	2159	100.0

LFR-6SQD-M-20L2230TD9WD-DMTW / LFR-6SQD-T-S

LUMINAIRE DATA

Test No.	P22.01194
Description	2000 lm, Wide, 3000K, 90 CRI
Delivered Lumens	2018
Watts	25.2W
Efficacy	80
Mounting	Recessed/Ceiling
Spacing Criterion	0.8
Beam Angle (FWHM)	49

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2907
5	2934
15	2745
25	1501
35	208
45	26
55	2
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	1583
55°	150
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1980	98.1
0-60	2018	100.0
0-90	2018	100.0
0-180	2018	100.0

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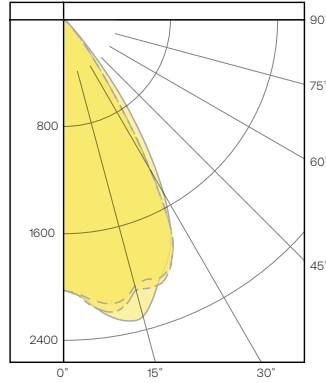
PHOTOMETRY CONTINUED

LFR-6SQD-M-20L2230TD9XW-DMTW / LFR-6SQD-T-SS

LUMINAIRE DATA

Test No.	22.0195
Description	2000 lm, Extra Wide, 3000K, 90 CRI
Delivered Lumens	2185
Watts	25.2W
Efficacy	87
Mounting	Recessed/Ceiling
Spacing Criterion	1.1
Beam Angle (FWHM)	61

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2024
5	2094
15	2060
25	1918
35	519
45	48
55	0
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	2923
55°	0
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2116	96.8
0-60	2185	100.0
0-90	2185	100.0
0-180	2185	100.0

LENS OPTION / LENS FILTER ACCESSORY MULTIPLIER (Based on Clear Specular)

Option	CL (Clear Lens)
Multiplier	0.97

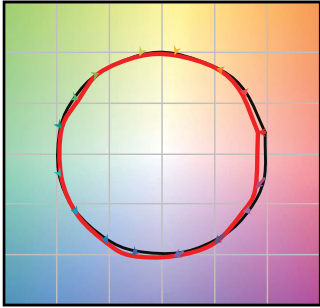
LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

TM-30 DATA

SPECTRASYNCTM TUNABLE WHITE (2765T)

COLOR VECTOR GRAPHIC
2700K, 90+ CRI



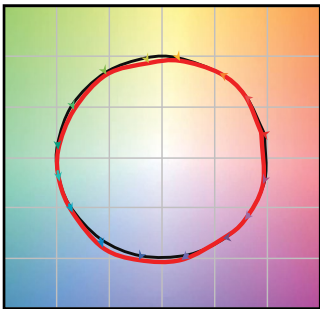
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
2700K, 90+ CRI



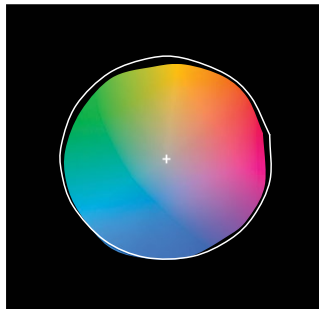
TEST RESULTS - TUNABLE WHITE @ 1500 LUMENS (NOMINAL)			
Value	2700K	4600K	6500K
Luminous Flux (lm)	1469	1779	1692
Wattage (W)	20.5	20.1	20.6
Efficacy (lm/W)	71.7	88.5	82.1
R _r	90	89	87
R _g	97	99	97
CCT (K)	2799	4177	7184
D _{uv}	0.0032	0.0088	0.0024
x	0.4468	0.3680	0.3047
y	0.3992	0.3515	0.3109
CIE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

COLOR VECTOR GRAPHIC
4600K, 90+ CRI

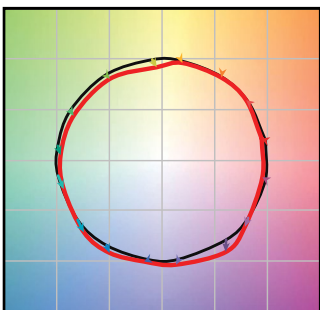


— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
4600K, 90+ CRI

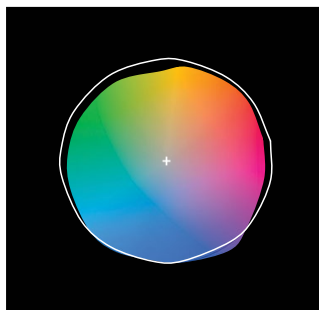


COLOR VECTOR GRAPHIC
6500K, 90+ CRI



— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
6500K, 90+ CRI



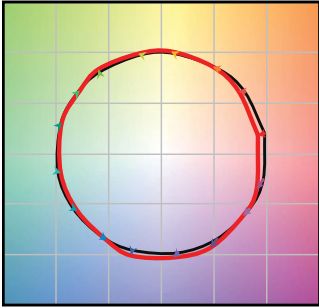
LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE DOWNLIGHT WITH COLOR TUNING

TM-30 DATA CONTINUED

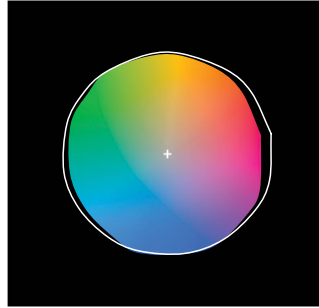
SPECTRASYNCTM DIM TO WARM (2230TD)

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



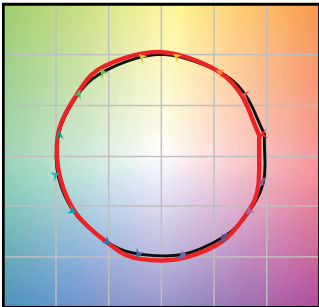
— Reference Illuminant — Test Source

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 _t	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

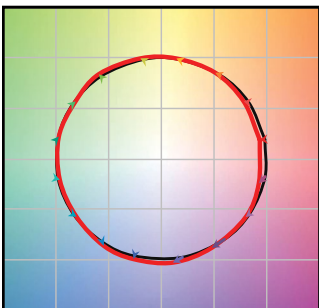


— Reference Illuminant — Test Source

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

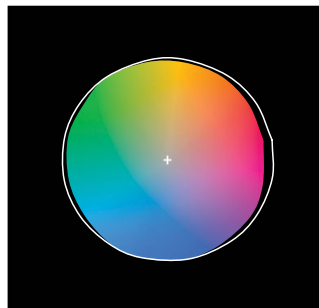


COLOR VECTOR GRAPHIC
2200K, 90 CRI @ 5% DIM



— Reference Illuminant — Test Source

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



LFR-6SQD SpectraSync

LITEFRAME 6" SQUARE 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.