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LFR-6RD SpectraSync
LITEFRAME 6" ROUND DOWNLIGHT
WITH COLOR TUNING

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

LITEFRAME 2.0

SERVICE PROGRAMS

STOCK

CSA C US

WET LOCATION

IP65 — With CL Lens Option

CONTROLS TECHNOLOGY

NX WIRELESS | NX WIRED | SpectraSync Color Tuning Technology

Typical Dimensions and Weights

Lumen Package	"A" Diameter Inches (mm)	"B" Height Inches (mm)	Weight lbs (kg)
10L - 30L	7.13 (181)	7.28 (185)	4.6 (2.1)

See DIMENSIONS section for complete details

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 spun aluminum reflector, self-flanged

- 57° visual cutoff to source image and 31° cutoff to source

- 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

ELECTRICAL (CONTINUED)
- 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.)
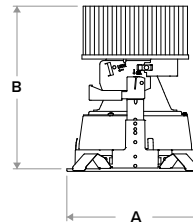
CERTIFICATIONS
- cCSAus certified to UL 1598

- Suitable for wet locations, covered ceiling when used with CL lens trim; all other configurations, suitable for damp locations

CERTIFICATIONS (CONTINUED)
- IP65 rated (room side) when properly installed per installation instructions with CL lens option

- 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	11.9–42.0
Efficacy Range (LPW)	71–93
Reported Life (Hours)	L70 / >60,000
Input Current (mA)	99–350 (120V)

*Based on Specular, 30K, 90 CRI

Current

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DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

LFR-6RD SpectraSync
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ORDERING GUIDE

Gray Shading = Service Program **ST⊘CK**

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

CATALOG # [   ]

FIXTURE MODULE

LFR-6RD-M — — — —

Ap/Shp/Funct	Lumen Output		CCT		CRI		Distribution		Driver Options		Control Options		Voltage	Module Options	
LFR-6RD-M 6" Round Downlight Fixture Module for Direct Install *(Non-IC frame or IC housing available under Housing Options below)*	**10L**	1000	**2230TD**	2200K–3000K SpectraSync™ Dim to Warm	**9**	90+	**NR**	Narrow (25°/0.4 SC)	**DMTW**	SpectraSync™ Dim to Warm, 0–10V Dimming to 5% [1]	**NX Lighting Controls** _Networked Wireless_		*Standard 120–277V*	**CP**	Chicago Plenum [3,4]
	15L	1500					**MD**	Medium (38°/0.7 SC)			**NXW** NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor			**EM**	6W Emergency Battery Pack (CEC Title 20 Compliant) with integral test switch and indicator light [4]
	20L	2000	**2750T**	2700K–5000K SpectraSync™ Tunable White			**WD**	Wide (46°/0.7 SC)	**DMT**	SpectraSync™ Tunable White, 0–10V Dimming to 5% [2]					
	25L	2500					**XW**	Extra Wide (59°/0.9 SC) [9]			_Networked Wired_			**EMR**	6W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light [4]
	30L	3000	**2765T**	2700K–6500K SpectraSync™ Tunable White							**NXE** NX Wired Dual RJ45 SmartPORTS, without Sensor			**DTS**	Device Transfer Switch with Dimming Bypass [4]

TRIM (Ships separately)

LFR-6RD-T —

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

HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function	
☐ **LFR-6RD-H**	6" Housing Frame, New Construction, Non-IC
☐ **LFR-6RD-H-IC**	6" Housing Enclosure, New Construction, IC Rated [7,8]

Accessories	
☐ SFL6	Soft Focus Lens and Clip, 6" Round
☐ WAL6	Wide Angle 80° Lens and Clip, 6" Round
☐ LiteGear	LiteGear® Inverter, 125VA–250VA
☐ LPS Series	LightPower Micro-Inverter, 20VA–55VA
☐ LF-FMR6-R	Flush Mount Mud-in Ring, 6" [10]
☐ LF-MOR6-R-WH	Metal Oversized Ring, 6" Round, White (10.12" outside diameter)
☐ LFR-SCA6-__	Sloped Ceiling Adapter, 6" White [11]

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).
11. Specify slope angle 5°–35° in 5° increments. Not available with EM or FM options.

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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

Current

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LFR-6RD SpectraSync

LITEFRAME 6" ROUND DOWNLIGHT
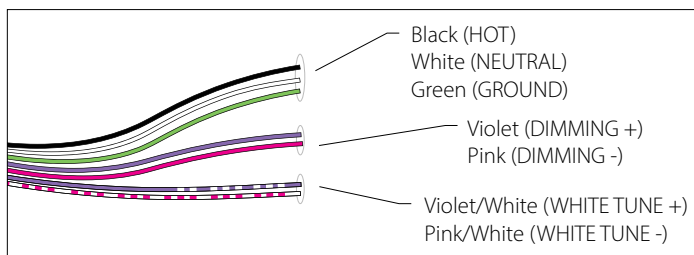WITH COLOR TUNING

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

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 +)
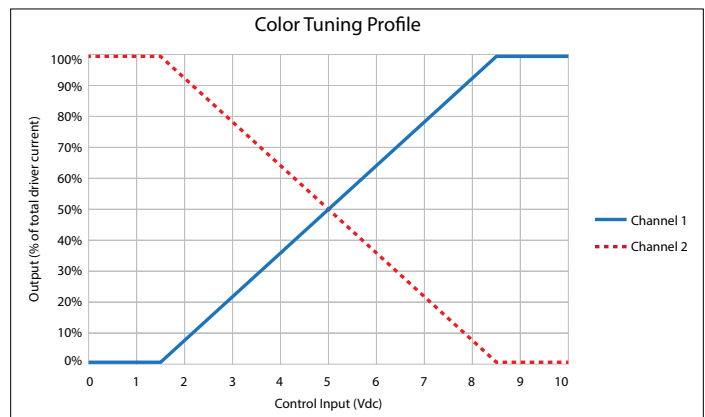Pink/White (WHITE TUNE -)

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

Output (% of total driver current) vs Control Input (Vdc)

— Channel 1
--- Channel 2

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	1101	11.9	93
		Medium	1074	11.9	90
		Wide	1010	11.9	85
		Extra Wide	1063	11.9	89
15L	1500	Narrow	1347	18.3	74
		Medium	1313	18.3	72
		Wide	1543	18.3	84
		Extra Wide	1300	18.3	71
20L	2000	Narrow	2235	25.3	88
		Medium	2179	25.2	86
		Wide	2050	25.2	81
		Extra Wide	2158	25.2	86
25L	2500	Narrow	2792	33.0	85
		Medium	2722	33.0	82
		Wide	2561	33.0	78
		Extra Wide	2696	33.0	82
30L	3000	Narrow	3355	42.0	80
		Medium	3271	42.0	78
		Wide	3077	42.0	73
		Extra Wide	3240	42.0	77

Current

LFR-6RD SpectraSync

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DIMENSIONS

LFR-6RD-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**
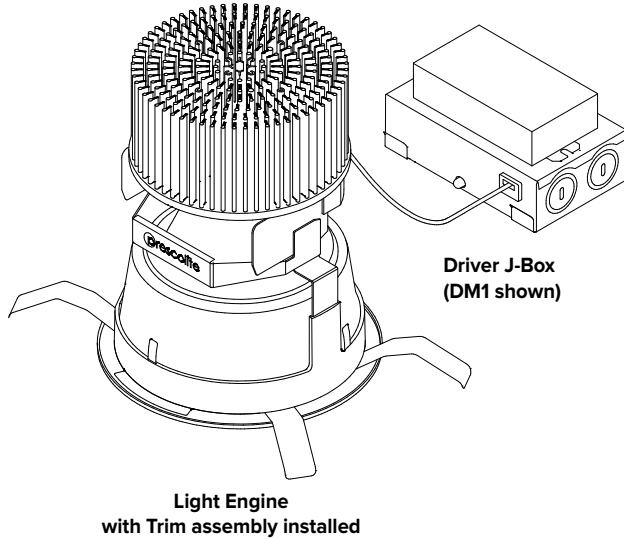
DIMENSIONAL DATA		
APERTURE		Ø5.75" (101.6mm)
OVERALL		Ø 7.13" (181.0mm)
FLANGE WIDTH	Standard	0.69" (17.5mm)
	Flush Mount	0.20" (5.1mm)
FLANGE TO FLANGE	Standard	Ø7.13" (136.6mm)
	Flush Mount	Ø6.15" (156.2mm)
CEILING CUTOUT	Standard	Ø6.50" (165.1mm)
	Flush Mount	Ø6.63" (168.4mm)
CEILING THICKNESS		0.50" – 2.50" (12.7 – 63.5mm)

LFR-6RD 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 ½" minimum plenum clearance above overall Light Engine Height.
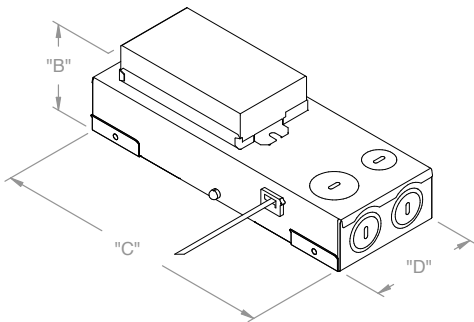**   Non-IC rating requires 3" from insulation and combustible materials.

"A"

"A"

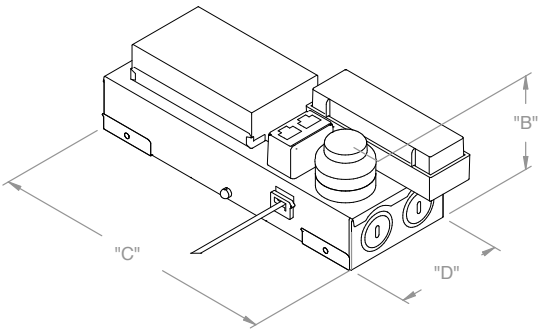**Side View Standard**

Side View CP – Chicago Plenum

PRE_LFR-6RD-SpectraSync_Spec_R03
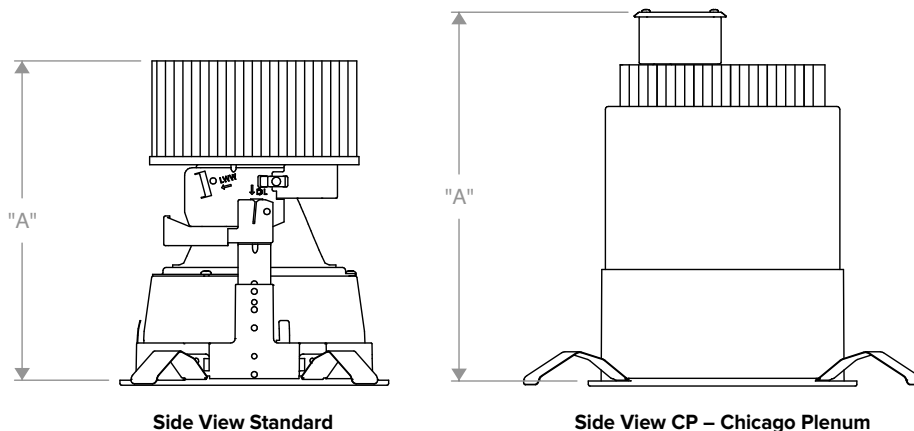
LFR-6RD SpectraSync

LITEFRAME 6" ROUND DOWNLIGHT
WITH COLOR TUNING

DIMENSIONS CONTINUED

DRIVER J-BOX

DMT/DMTW

NX CONTROLS OPTION

CP

EM J-BOX

FLEXIBLE CONDUIT
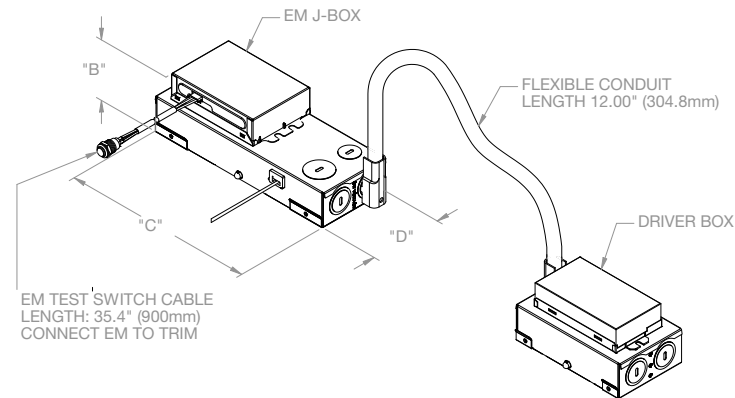LENGTH 12.00" (304.8mm)

DRIVER BOX

EM TEST SWITCH CABLE
LENGTH: 35.4" (900mm)
CONNECT EM TO TRIM
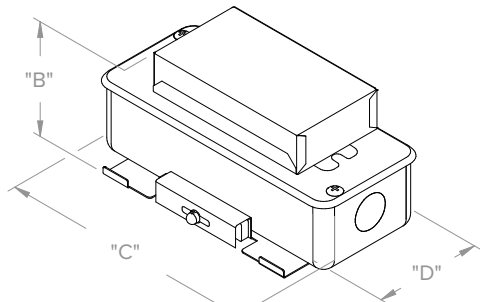
DMT/DMTW EM/EMR OPTION

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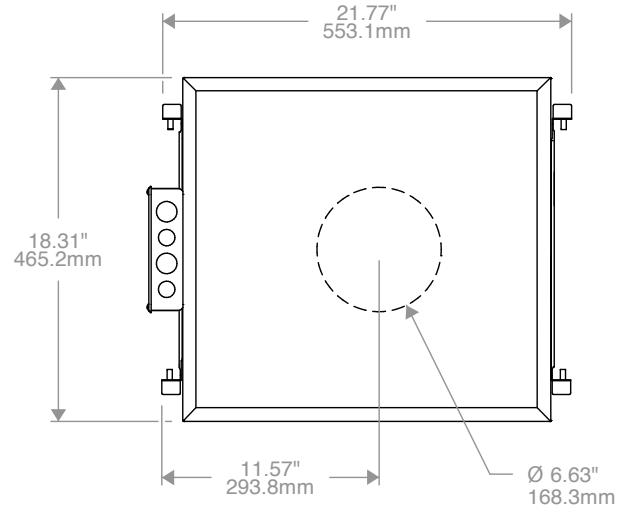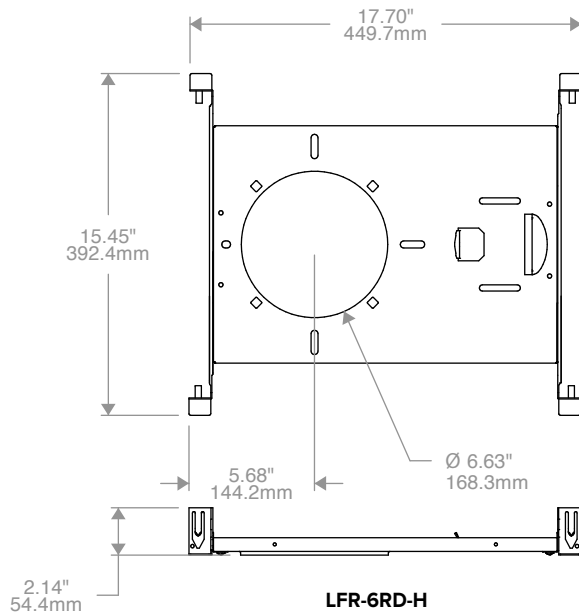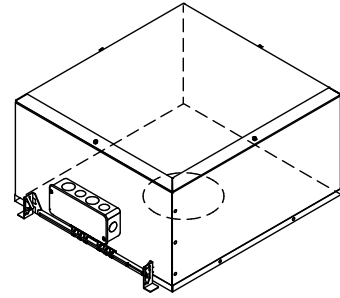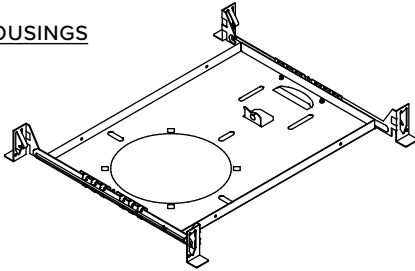(see Driver J-Box for additional details)

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-6RD SpectraSync

LITEFRAME 6" ROUND DOWNLIGHT
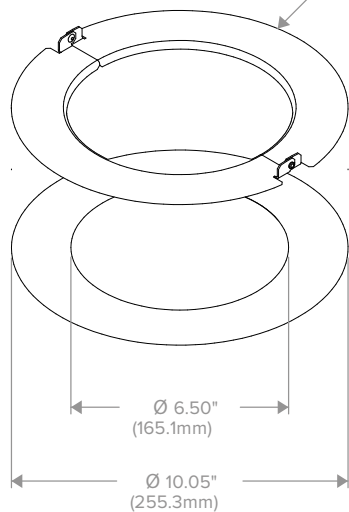WITH COLOR TUNING

DIMENSIONS CONTINUED

OPTIONAL HOUSINGS

21.77"
553.1mm

18.31"
465.2mm

11.57"
293.8mm

Ø 6.63"
168.3mm

17.70"
449.7mm

15.45"
392.4mm

Ø 6.63"
168.3mm

5.68"
144.2mm

2.14"
54.4mm

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

Metal 2-piece adapter (included)
to be installed above ceiling

10.91"
277.2mm

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

Ø 6.50"
(165.1mm)

Ø 10.05"
(255.3mm)

**ROUND LF-MOR6-R
METAL OVERSIZED RING**
(See LF-MOR Installation Instruction for more details)
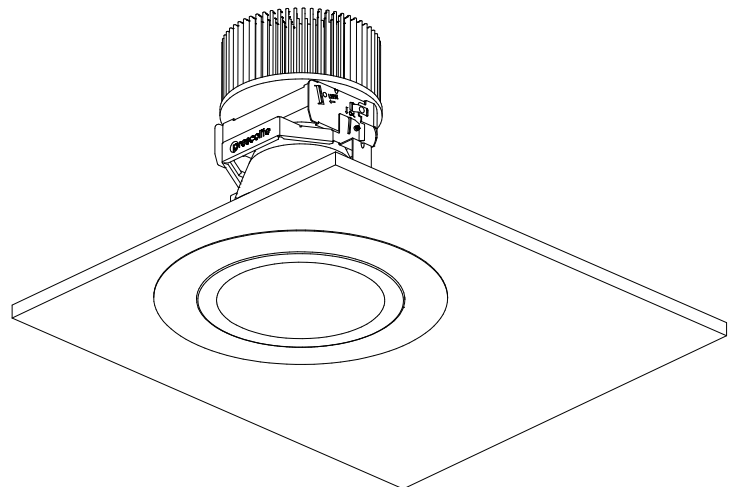
PRE_LFR-6RD-SpectraSync_Spec_R03

LFR-6RD SpectraSync

LITEFRAME 6" ROUND DOWNLIGHT
WITH COLOR TUNING

PHOTOMETRY

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

LUMINAIRE DATA

Test No.	22.00488
Description	2000 lm, Narrow, 3000K, 90 CRI
Delivered Lumens	2235
Watts	25.3W
Efficacy	88
Mounting	Recessed
Spacing Criterion	0.4
Beam Angle (FWHM)	26

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	2219	99.3
0–60	2234	99.9
0–90	2235	100.0
0–180	2235	100.0

POLAR GRAPH
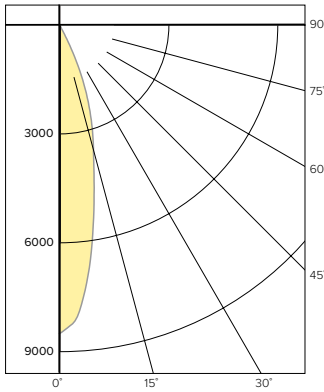
CANDELA DISTRIBUTION

Degree	Candela
0	8493
5	7524
15	3614
25	1092
35	65
45	16
55	1
65	1
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	1351
55°	104
65°	141
75°	0
85°	0

*Candela/Square Meter

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

LUMINAIRE DATA

Test No.	22.00489
Description	2000 lm, Medium, 3000K, 90 CRI
Delivered Lumens	2179
Watts	25.2W
Efficacy	86
Mounting	Recessed
Spacing Criterion	0.6
Beam Angle (FWHM)	38

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	2158	99.0
0–60	2177	99.9
0–90	2179	100.0
0–180	2179	100.0

POLAR GRAPH
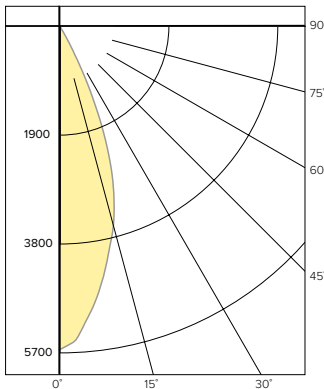
CANDELA DISTRIBUTION

Degree	Candela
0	5647
5	5189
15	3627
25	1369
35	81
45	21
55	2
65	1
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	1773
55°	208
65°	141
75°	231
85°	0

*Candela/Square Meter

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

LUMINAIRE DATA

Test No.	22.00490
Description	2000 lm, Wide, 3000K, 90 CRI
Delivered Lumens	2050
Watts	25.2W
Efficacy	81
Mounting	Recessed
Spacing Criterion	0.7
Beam Angle (FWHM)	48

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	2012	98.1
0–60	2048	99.9
0–90	2050	100.0
0–180	2050	100.0

POLAR GRAPH
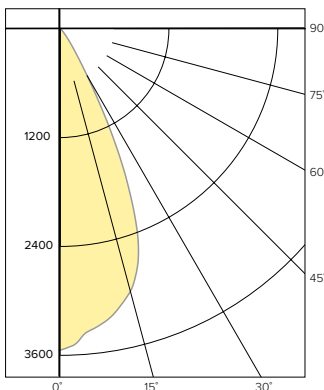
CANDELA DISTRIBUTION

Degree	Candela
0	3554
5	3370
15	3008
25	1577
35	224
45	37
55	3
65	1
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	3123
55°	312
65°	141
75°	231
85°	0

*Candela/Square Meter

PRE_LFR-6RD-SpectraSync_Spec_R03

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LFR-6RD SpectraSync
LITEFRAME 6" ROUND DOWNLIGHT
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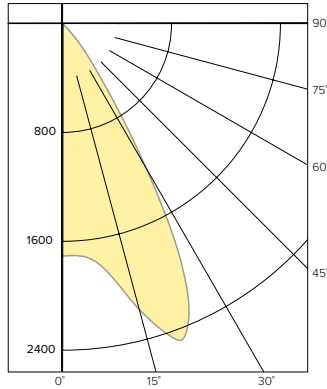## PHOTOMETRY CONTINUED

LFR-6RD-M-20L2230TD9XW-DMTW / LFR-6RD-T-S

LUMINAIRE DATA

Test No.	22.00512
Description	2000 lm, Extra Wide, 3000K, 90 CRI
Delivered Lumens	2158
Watts	25.2W
Efficacy	86
Mounting	Recessed
Spacing Criterion	0.9
Beam Angle (FWHM)	60

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	2094	97.0
0–60	2157	99.9
0–90	2158	100.00
0–180	2158	100.00

POLAR GRAPH

CANDELA DISTRIBUTION

Degree	Candela
0	1710
5	1719
15	2172
25	2179
35	516
45	57
55	2
65	1
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	4812
55°	208
65°	141
75°	231
85°	0

*Candela/Square Meter

LENS OPTION MULTIPLIER (Based on Clear Specular)

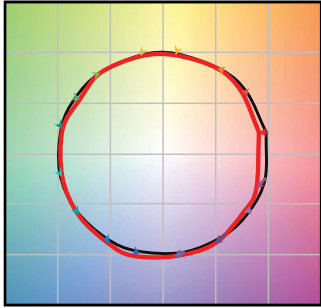| Option	CL (Clear Lens)
Multiplier	0.95

PRE_LFR-6RD-SpectraSync_Spec_R03

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LFR-6RD SpectraSync
LITEFRAME 6" ROUND DOWNLIGHT
WITH COLOR TUNING

TM-30 DATA

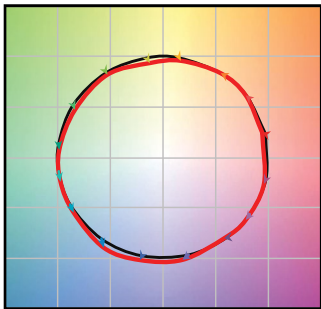**SPECTRASYNC™ TUNABLE WHITE (2765T)**

COLOR VECTOR GRAPHIC
2700K, 90+ CRI

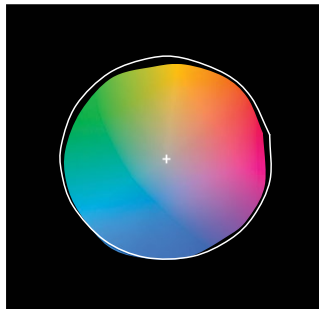— Reference Illuminant   — Test Source

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

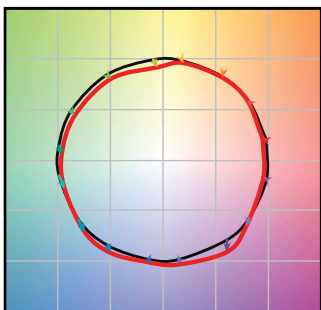**COLOR VECTOR GRAPHIC**
4600K, 90+ CRI

— Reference Illuminant   — Test Source

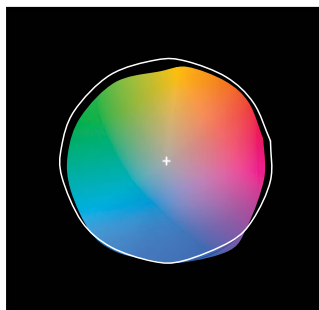**COLOR DISTORTION GRAPHIC**
4600K, 90+ CRI

COLOR VECTOR GRAPHIC
6500K, 90+ CRI

— Reference Illuminant   — Test Source

COLOR DISTORTION GRAPHIC
6500K, 90+ CRI
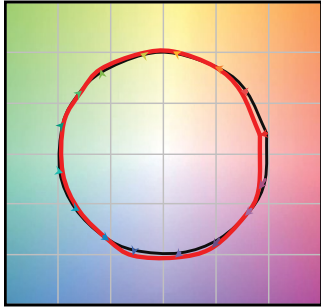

Current

currentlighting.com/prescolite

prescolite

LFR-6RD SpectraSync
LITEFRAME 6" ROUND DOWNLIGHT
WITH COLOR TUNING

TM-30 DATA CONTINUED

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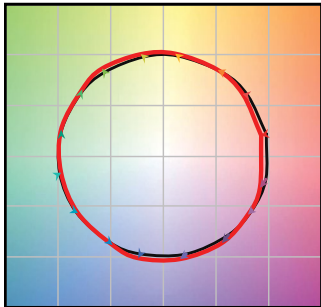
COLOR VECTOR GRAPHIC
3000K, 90+ CRI @ 100%

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
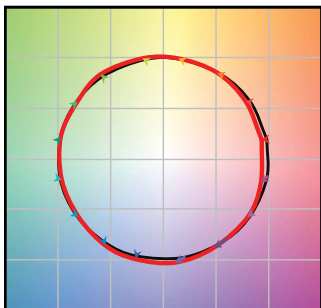**2600K, 90 CRI @ 50% DIM**

Reference Illuminant — Test Source

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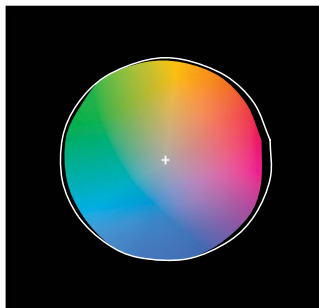**2600K, 90 CRI @ 50% DIM**

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

Reference Illuminant — Test Source

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

Current

currentlighting.com/prescolite

LFR-6RD SpectraSync
LITEFRAME 6" ROUND 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.

PRE_LFR-6RD-SpectraSync_Spec_R03