

LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

LITEFRAME
2.0

FEATURES

- 6" LED downlight delivering 1000-8000 lumens
- Direct Install from below ceiling for New Construction or Remodel applications
- Optional housing accessories available
- Five beam distributions
- 2700K–5000K, 80+ and 90+ CRI (2 SDCM)
- Dimming protocols include 0-10V, Phase (Forward/Reverse), DALI, DMX, Lutron 2-wire Forward Phase, and EcoSystem
- NX Distributed Intelligence™ wired and wireless controls capability available



RELATED PRODUCTS

- [LFR-6RDS Shallow](#)
- [LFR-6RA](#)
- [LFR-6RW](#)
- [LiteFrame Family](#)

SERVICE PROGRAMS



CONTROL 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 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
- Wide Angle and Soft Focus lens filter/clip accessories available

ELECTRICAL

- Chip-on-board LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >50,000 hours (TM-21)
- Universal voltage 120–277V driver, 347V optional
- UL Class 2, inherent short circuit and overload protection, RoHS compliant
- Flicker-free dimming options in a wide range of protocols from 1% to <0.1% performance
- 0–10V, Phase (Forward/Reverse), DALI, DMX, Lutron 2-wire Forward Phase, and EcoSystem options
- 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-15L 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
- For ≥60L: Marked spacing required 36" fixture center to center; 18" fixture center to building member; 0.5" above fixture
- 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
- Approved for 8 (4 in/4 out) No. 12AWG conductors rated for 90°C through wiring

WARRANTY

- 5 year warranty
- See [HLI Standard Warranty](#) for additional information

KEY DATA	
Lumen Range	1000–8000
Wattage Range	8–71
Efficacy Range (LPW)	118-139
Reported Life (Hours)	L90 / >50,000
Input Current (mA)	66–592 (120V)

*Based on Specular, 35K, 80 CRI

LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

 = Service Program



Click icon for Stocked item list

ORDERING GUIDE

Example: LFR-6RD-M-10L35K8-WD-DM1 / LFR-6RD-T-S / LFR-6RD-H

CATALOG #

FIXTURE MODULE

LFR-6RD-M	Lumen Output		CCT		CRI		Distribution	Driver Options	Control Options	Voltage	Module Options
Ap/Shp/Funct											
LFR-6RD-M 6" Round Downlight Fixture Module for Direct Install <i>(Non-IC frame or IC housing available under Housing Options below)</i>	10L	1000	27K	2700K	8	80+	VNR Very Narrow (15°/0.3 SC)	DM1 0-10V Dimming to 1%	NXE NX Enabled, Dual SmartPorts ³	Standard 120-277V	CP Chicago Plenum ^{5,6}
	15L	1500	30K	3000K	9	90+	NR Narrow (25°/0.4 SC)	DM01 0-10V Dimming to < 1% ²	NXWE NX Wireless Enabled ³	34 347V ⁴	EM Emergency Battery Pack with integral test switch and indicator light ⁶
	20L	2000	35K	3500K			MD Medium (38°/0.7 SC)	PDM Phase (Forward/ Reverse) Dimming to 1% ²	NXWD NX Wireless Enabled, Dual SmartPorts ³		EMR Emergency Battery Pack with remote test switch and indicator light ⁶
	25L	2500	40K	4000K			WD Wide (46°/0.7 SC)	DMX DMX with RDM dimming to < 0.1% ²			DTS Device Transfer Switch with Dimming Bypass ^{6,7}
	30L	3000	50K	5000K			XW Extra Wide (59°/0.9 SC) ¹²	DALI DALI Dimming to 1% ²			
	35L	3500						2DM Lutron Hi-Lume 2-wire Dimming to 1% (120V Forward Phase only) ²			
	40L	4000						EDM Lutron Hi-Lume EcoSystem Dimming to 1% ²			
	45L	4500									
	50L	5000									
	60L	6000 ¹									
70L	7000 ¹										
80L	8000 ¹										

TRIM (Ships separately)

LFR-6RD-T	Distribution	Reflector Finish/Color	Flange Color Options	Lens Options	Lower Trim Options
LFR-6RD-T 6" Round Downlight Trim Assembly	Standard NR, MD, WD, XW VNR Very Narrow	S Specular ¹² SS Semi-Specular WC Painted White Cone and Flange	Standard matches reflector color WT White Flange ⁸ BT Black Flange	Standard no lens CL Clear Lens (Wet listed) ⁹	EM Pre-punched reflector for EM integral test switch and indicator ⁹

HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function	
<input type="checkbox"/> LFR-6RD-H	6" Housing Frame, New Construction, Non-IC
<input type="checkbox"/> LFR-6RD-H-IC	6" Housing Enclosure, New Construction, IC Rated ^{10,11}

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

Notes:

- 1 60L - 80L require marked spacing. See line art for more details.
- 2 DM01, PDM, DMX, DALI available up to 50L. 2DM and EDM available 15L–40L.
- 3 NX requires DM1 driver option.
- 4 347V requires DM1 driver option; 10L–40L not available with Controls, DTS, EM, or EMR.
- 5 CP available up to 35L; not available with DMX, Controls, EM or EMR options.
- 6 Module options not available in combination.
- 7 DTS available with DM1, DM01, or DALI.
- 8 WT not needed for WC.
- 9 CL lens and EM trim options not available in combination.
- 10 IC available up to 35L; 10L-15L 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 types.)
- 11 IC Housing not for use in combination with Controls or with Module Options CP, EM, EMR, DTS.
- 12 XW distribution is not available for Specular (S) reflector finish.

LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

CONTROLS

NX Distributed Intelligence™ Lighting Controls:

Supports applications in a variety of deployment options- wired, wireless, hybrid. Integrates with and enables a wide array of luminaires including those with SpectraSync™ Color Tuning Technology.



NX INTEGRATED CONTROLS REFERENCE								
NX Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	0-10V Dimming	On/off Control	Bluetooth® App Programming
NX Networked – Wired								
NXE	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R ¹
NX Networked – Wireless								
NXWE ²	N/A	Yes	Yes	No	No	Yes	Yes	No ³
NX Networked – Wired/Wireless								
NXWD	N/A	Yes	Yes	No	No	Yes	Yes	Requires NXBTC/R ^{1,3}

- 1 NXBTC/R needs to be plugged into an available NX SmartPort™ on the fixture network
- 2 Programming via App requires factory assistance
- 3 To program NXWE option, need to consult factory. If connected to an area controller, programming can be done from that

PERFORMANCE DATA TABLE

Performance data shown is 3500K 80+CRI with Specular reflector except Extra Wide distribution which is Semi-Specular.

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
10L	1000	Very Narrow	1014	7.3	139
		Narrow	1042	7.3	143
		Medium	1022	7.3	140
		Wide	967	7.3	132
		Extra Wide	1010	7.3	138
15L	1500	Very Narrow	1559	11.4	137
		Narrow	1602	11.4	141
		Medium	1572	11.4	138
		Wide	1487	11.4	131
		Extra Wide	1553	11.4	136
20L	2000	Very Narrow	2008	14.5	138
		Narrow	2063	14.6	141
		Medium	2024	14.6	139
		Wide	1915	14.6	131
		Extra Wide	2000	14.6	138
25L	2500	Very Narrow	2644	19.5	136
		Narrow	2717	19.5	139
		Medium	2666	19.5	137
		Wide	2522	19.5	129
		Extra Wide	2634	19.5	135
30L	3000	Very Narrow	3238	24.3	133
		Narrow	3327	24.3	137
		Medium	3264	24.3	134
		Wide	3088	24.3	127
		Extra Wide	3225	24.3	133
35L	3500	Very Narrow	3802	29.1	131
		Narrow	3906	29.1	134
		Medium	3833	29.1	132
		Wide	3626	29.1	124
		Extra Wide	3787	29.1	130
40L	4000	Very Narrow	4210	32.6	129
		Narrow	4325	32.6	133
		Medium	4244	32.6	130
		Wide	4015	32.6	123
		Extra Wide	4193	32.6	129
50L	5000	Very Narrow	5242	42.3	124
		Narrow	5387	42.3	127
		Medium	5285	42.3	125
		Wide	5000	42.3	118
		Extra Wide	5222	42.3	123
60L	6000	Very Narrow	6503	50.1	130
		Narrow	6682	50.1	133
		Medium	6556	50.1	131
		Wide	6202	50.1	124
		Extra Wide	6478	50.1	129
70L	7000	Very Narrow	7568	59.5	127
		Narrow	7776	59.5	131
		Medium	7630	59.5	128
		Wide	7218	59.5	121
		Extra Wide	7539	59.5	127
80L	8000	Very Narrow	8688	70.1	124
		Narrow	8927	70.1	127
		Medium	8759	70.1	125
		Wide	8286	70.1	118
		Extra Wide	8654	70.1	123

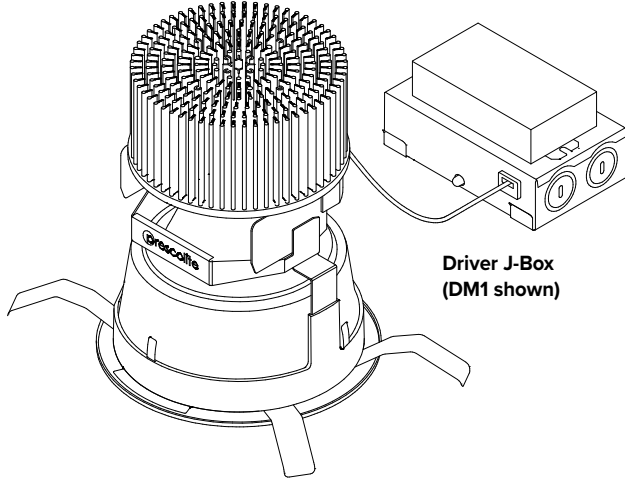
LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

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.



**Light Engine
with Trim assembly installed**

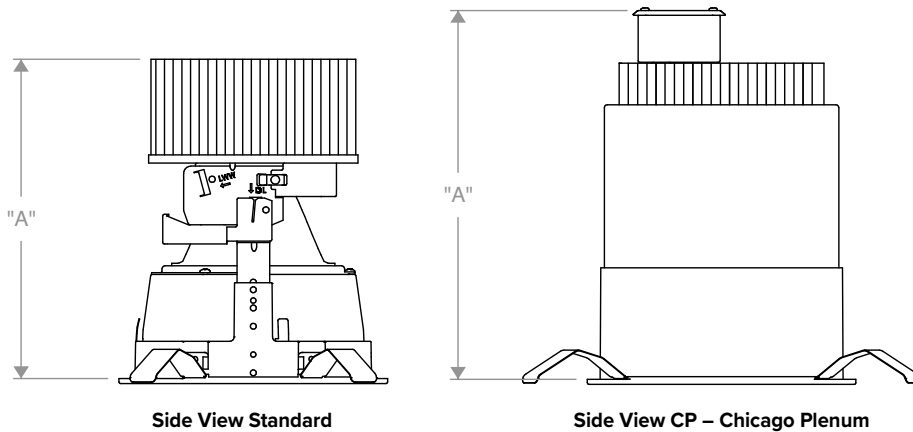
**Driver J-Box
(DM1 shown)**

DIMENSIONAL DATA	
APERTURE	ø5.75" (146.1mm)
OVERALL	ø7.13" (181.0mm)
FLANGE WIDTH	0.69" (17.5mm)
CEILING CUTOUT	ø6.50" (165.1mm)
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		
		VNR	NR / MD/ WD	XW
10L-35L	STANDARD	7.95" (202.0mm)	6.71" (170.5mm)	6.23" (158.3mm)
	CP	9.35" (237.4mm)	8.11" (205.9mm)	7.63" (193.8mm)
40L-60L	STANDARD	8.52" (216.5mm)	7.28" (185.0mm)	6.80" (172.8mm)
	CP	9.92" (251.9mm)	8.68" (220.4mm)	8.20" (208.2mm)
70L-80L	STANDARD	9.71" (246.7mm)	8.47" (215.2mm)	7.99" (203.0mm)
	CP	11.11" (282.1mm)	9.89" (250.6mm)	9.39" (238.5mm)

* Note: Add ½" minimum plenum clearance above overall Light Engine Height.
** For ≥60L: Marked spacing required 36" fixture center to center, 18" fixture center to building member; 0.5" above fixture.
*** Non-IC rating requires 3" from insulation and combustible materials.



LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

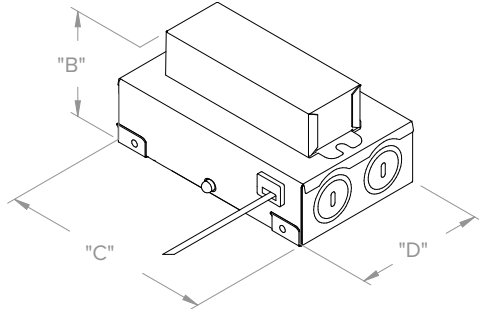
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

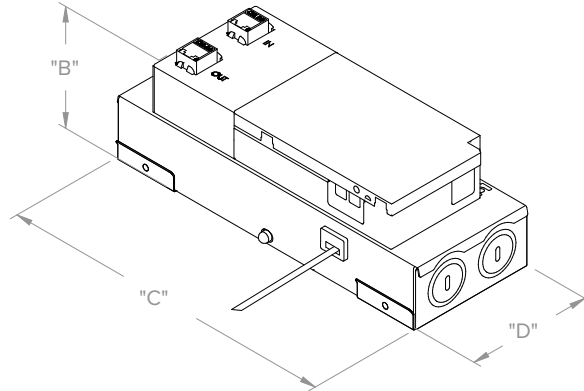
CATALOG #: _____

DIMENSIONS CONTINUED

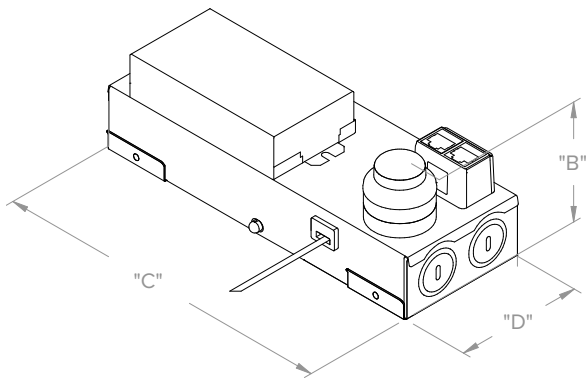
DRIVER J-BOX



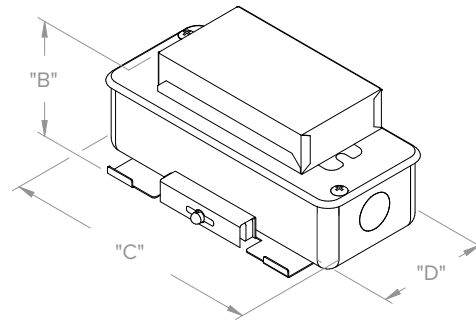
DM1 / DM01 / PDM / DALI



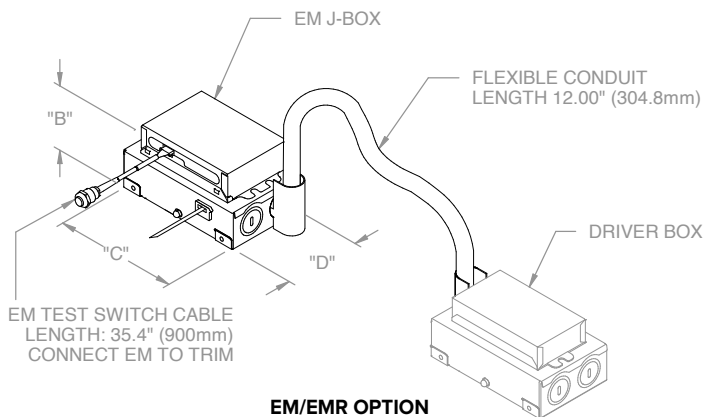
DMX



NX CONTROLS OPTION



CP



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
DM1 / DM01 / PDM / DALI	2.67" (67.8mm)	5.34" (135.6mm)	3.23" (82.0mm)	3.00" (76.2mm)
DMX	3.07" (78.0mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.50" (88.9mm)
NX	3.02" (76.7mm)	8.68" (220.5mm)	3.23" (82.0mm)	3.75" (95.3mm)
EM/EMR	2.73" (69.3mm)	5.34" (135.6mm)	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

LITEFRAME 6" ROUND DOWNLIGHT

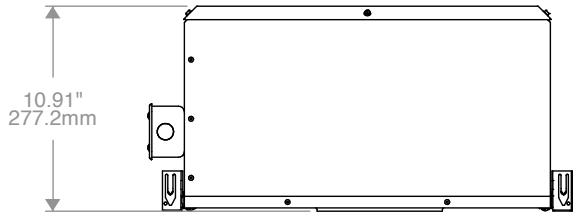
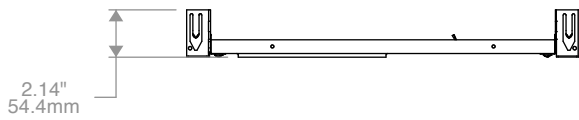
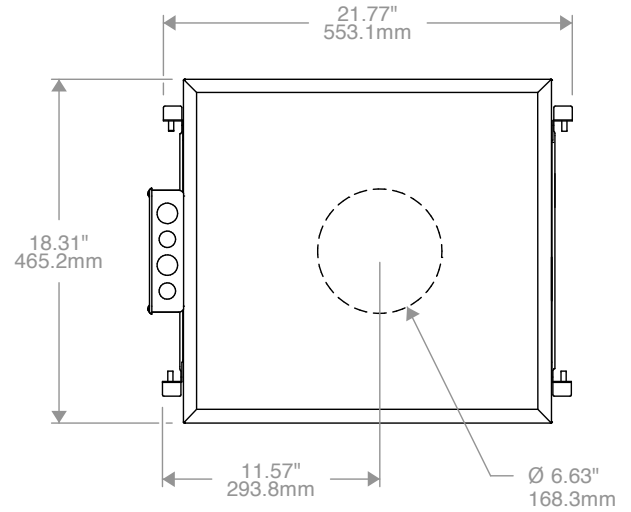
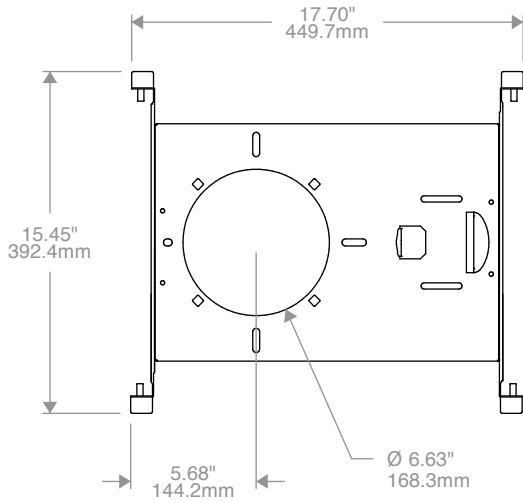
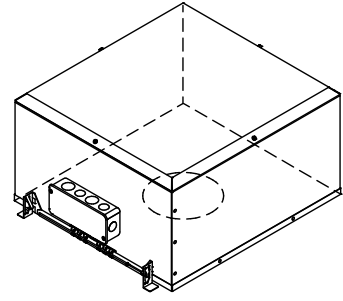
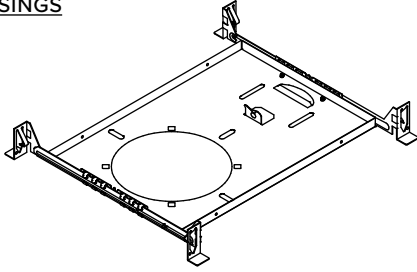
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

DIMENSIONS CONTINUED

OPTIONAL HOUSINGS



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

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

LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

PHOTOMETRY

LFR-6RD-M-20L35K8VNR-DM1 / LFR-6RD-T-VNR-S

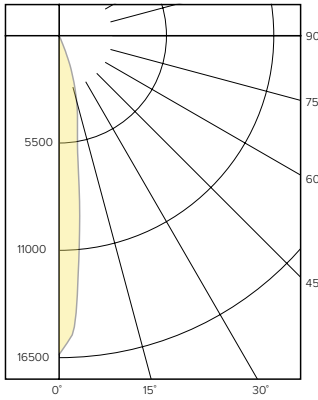
LUMINAIRE DATA

Test No.	21.001495
Description	2000 lm, Very Narrow, 3500K, 80 CRI
Delivered Lumens	2008
Watts	15.0W
Efficacy	138
Mounting	Recessed
Spacing Criterion	0.3
Beam Angle (FWHM)	15

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2001	99.7
0-60	2006	99.9
0-90	2008	100.0
0-180	2008	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	16343
5	11547
15	3460
25	109
35	9
45	4
55	2
65	1
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	338
55°	208
65°	141
75°	231
85°	0

*Candela/Square Meter

LFR-6RD-M-20L35K8NR-DM1 / LFR-6RD-T-S

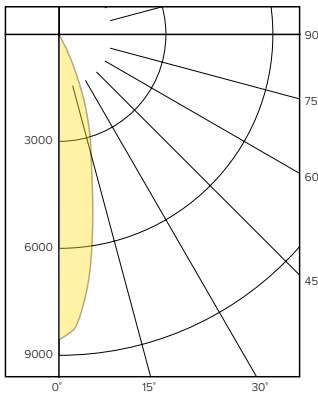
LUMINAIRE DATA

Test No.	21.00607
Description	2000 lm, Narrow, 3500K, 80 CRI
Delivered Lumens	2063
Watts	14.6W
Efficacy	141.4
Mounting	Recessed
Spacing Criterion	0.42
Beam Angle (FWHM)	25

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2060	99.9
0-60	2063	100.0
0-90	2063	100.0
0-180	2063	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	8568
5	7672
15	3482
25	885
35	6
45	2
55	1
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	169
55°	104
65°	0
75°	0
85°	0

*Candela/Square Meter

LFR-6RD-M-20L35K8MD-DM1 / LFR-6RD-T-S

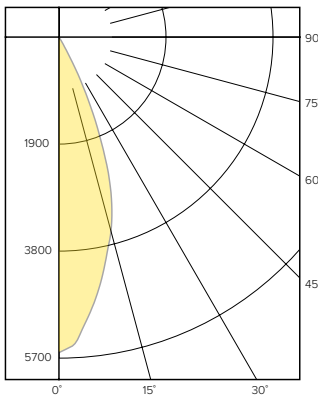
LUMINAIRE DATA

Test No.	21.00620
Description	2000 lm, Medium, 3500K, 80 CRI
Delivered Lumens	2024
Watts	14.6W
Efficacy	138.8
Mounting	Recessed
Spacing Criterion	0.6
Beam Angle (FWHM)	38

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2019	99.7
0-60	2023	99.9
0-90	2024	100.0
0-180	2024	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	5602
5	5134
15	3567
25	1232
35	8
45	3
55	1
65	1
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	253
55°	104
65°	141
75°	0
85°	0

*Candela/Square Meter

LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

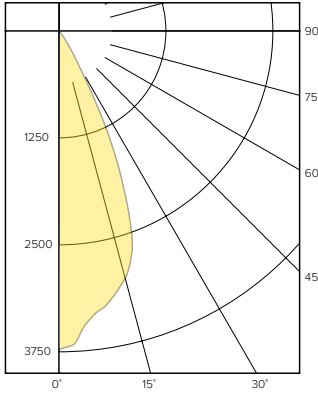
PHOTOMETRY CONTINUED

LFR-6RD-M-20L35K8WD-DM1 / LFR-6RD-T-S

LUMINAIRE DATA

Test No.	21.00610
Description	2000 lm, Wide, 3500K, 80 CRI
Delivered Lumens	1915
Watts	14.6W
Efficacy	131.4
Mounting	Recessed
Spacing Criterion	0.7
Beam Angle (FWHM)	46

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	3721
5	3455
15	2991
25	1456
35	148
45	8
55	2
65	1
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	675
55°	208
65°	141
75°	231
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

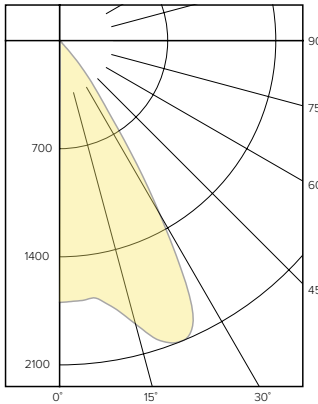
Zone	Lumens	% Luminaire
0-40	1902	99.3
0-60	1913	99.9
0-90	1915	100
0-180	1915	100

LFR-6RD-M-20L35K8XW-DM1 / LFR-6RD-T-SS

LUMINAIRE DATA

Test No.	21.001457
Description	2000 lm, Extra Wide, 3500K, 80 CRI
Delivered Lumens	2000
Watts	14.6W
Efficacy	138.0
Mounting	Recessed
Spacing Criterion	1.0
Beam Angle (FWHM)	59

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	1696
5	1689
15	1900
25	2038
35	506
45	23
55	7
65	3
75	1
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	1942
55°	728
65°	424
75°	231
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1948	97.4
0-60	1996	99.8
0-90	2000	100.0
0-180	2000	100.0

LUMEN MULTIPLIER

Option	27K8	30K8	35K8	40K8	50K8	27K9	30K9	35K9	40K9	50K9
Multiplier	0.93	0.96	1.00	1.01	1.03	0.78	0.82	0.85	0.87	0.89

Photometrics are published below at a nominal 3500 Kelvin, 80+ CRI. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

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

Option	CL (Clear Lens)	SFL6 (Soft Focus Accessory)	WAL6 (Wide Angle Accessory)
Multiplier	0.95	0.96	0.83

Multiply lumen/lens multipliers to calculate applicable combinations. Example: 30K8 with Clear Lens option (CL) = 0.96 x 0.95 = 0.91

LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

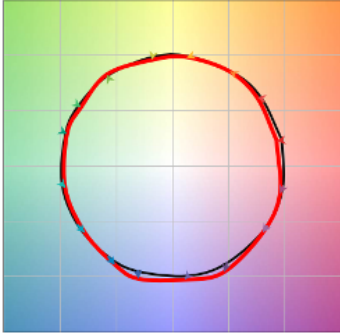
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

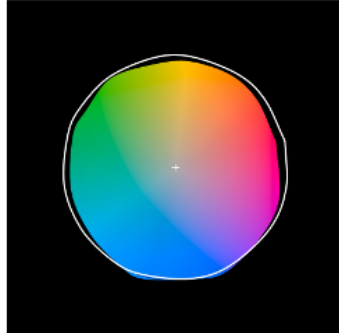
TM-30 DATA

COLOR VECTOR GRAPHIC
3500K, 90 CRI



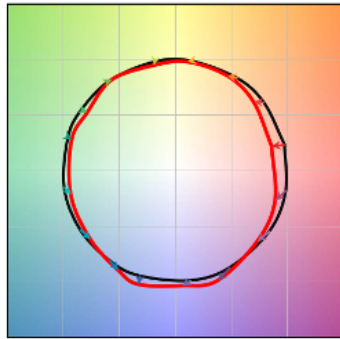
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 90 CRI



TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R_i	85	90
R_g	95	99
CCT (K)	3422	3416
D_{uv}	-0.0008	-0.0019
x	0.4089	0.408
y	0.3906	0.3877
CIE R_a	85	93
CIE R_s	16	66

COLOR VECTOR GRAPHIC
3500K, 80 CRI



— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 80 CRI



LFR-6RD

LITEFRAME 6" ROUND DOWNLIGHT

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

ELECTRICAL DATA

DRIVER DATA		
Input Voltage	120-277 V	347 V
Input Frequency	50/60 Hz	50/60 Hz
Power Factor	≥0.90	≥0.90
THD	<20%	<20%
EMI Filtering (FCC 47 CFR Part 15)	Class A	Class A

* Values for DM1 option shown, values for other dimming options may vary.

ADDITIONAL INFORMATION

Dimming Compatability

See the DIMMING link for more information on dimming compatability and recommended dimmer list.

DMX

See instruction sheet on www.prescolite.com for connection & installation information.

Central Inverters

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

LiteGear: www.dual-lite.com/products/litegear_lg_series

LPS Series: www.dual-lite.com/products/lps

All product and company names, logos and product identifiers are trademarks ™ or registered trademarks ® of Hubbell Lighting, Inc. or their respective owners. Use of them does not necessarily imply any affiliation with or endorsement by such respective owners.