

LFR-6RDS

LITEFRAME 6" ROUND SHALLOW DOWNLIGHT

LITEFRAME
2.0

FEATURES

- 6" LED shallow downlight delivering 1000-3000 lumens
- Direct Install from below ceiling for New Construction or Remodel applications
- Optional housing accessories available
- Four 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

- Ø [LFR-6RD](#)
- Ø [LFR-6RA](#)
- Ø [LFR-6RW](#)
- Ø [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
- 61° visual cutoff to source image and 45° cutoff to source
- Specular or Semi-Specular anodized or White painted cone reflector finish/colors
- Painted flange options in White or Black

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
- 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
- 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 30L: Marked spacing required 36" fixture center to center; 18" fixture center to building member; 0.5" above fixture
- Suitable for damp locations
- 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	1000–3000
Wattage Range	8–29
Efficacy Range (LPW)	105-129
Reported Life (Hours)	L90 / >50,000
Input Current (mA)	66–242 (120V)

*Based on Specular, 35K, 80 CRI


LFR-6RDS

LITEFRAME 6" ROUND SHALLOW DOWNLIGHT

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

 = Service Program



Click icon for Stocked item list

ORDERING GUIDE

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

CATALOG #

FIXTURE MODULE

LFR-6RDS-M	Lumen Output		CCT		CRI	Distribution	Driver Options	Control Options	Voltage	Module Options
Ap/Shp/Funct										
LFR-6RDS-M 6" Round Shallow 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 (19°/0.3 SC)	DM1 0-10V Dimming to 1% DMO1 0-10V Dimming to < 1%	NXE NX Enabled, Dual SmartPorts ³ NXWE NX Wireless Enabled ³	<i>Standard</i> 120-277V 34 347V ⁴	CP Chicago Plenum ^{5,6} EMR Emergency Battery Pack with remote test switch and indicator light ⁶ DTS Device Transfer Switch with Dimming Bypass ^{6,7}
	15L	1500	30K	3000K	9 90+					
	20L	2000	35K	3500K		MD Medium (34°/0.6 SC)	DMX DMX with RDM dimming to < 0.1%			
	25L	2500	40K	4000K				WD Wide (55°/0.8 SC)	DALI DALI Dimming to 1% ²	
30L	3000	50K	5000K			2DM Lutron Hi-Lume 2-wire Dimming to 1% (120V Forward Phase only) ² EDM Lutron Hi-Lume EcoSystem Dimming to 1% ²				

TRIM (Ships separately)

LFR-6RDS-T	Distribution	Reflector Finish/Color	Flange Color Options
Aperture/Shape/Function			
LFR-6RDS-T 6" Round Shallow Downlight Trim Assembly	<i>Standard</i> NR, MD, WD, XW VNR Very Narrow	S Specular SS Semi-Specular WC Painted White Cone and Flange	<i>Standard matches reflector color</i> WT White Flange ⁸ BT Black Flange

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 ^{9,10}

Accessories	
<input type="checkbox"/> LiteGear	LiteGear® Inverter, 125VA–250VA
<input type="checkbox"/> LPS Series	LightPower Micro-Inverter, 20VA–55VA

Notes:

- 30L requires marked spacing. See line art for more details.
- 2DM and EDM available 15L–30L.
- NX requires DM1 driver option.
- 347V requires DM1 driver option; not available with Controls, DTS, EMR.
- CP not available with DMX, Controls, or EMR options.
- Module options not available in combination.
- DTS available with DM1, DMO1, or DALI.
- WT not needed for WC.
- 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.)
- IC Housing not for use in combination with Controls or with Module Options CP, EMR, DTS.

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 provided below is for 3500K, 80 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
10L	1000	Very Narrow	935	7.6	123
		Narrow	926	7.6	122
		Medium	897	7.6	118
		Wide	965	7.6	126
15L	1500	Very Narrow	1442	12.3	117
		Narrow	1428	12.3	116
		Medium	1384	12.3	112
		Wide	1488	12.3	121
20L	2000	Very Narrow	1934	16.4	118
		Narrow	1915	16.4	117
		Medium	1855	16.4	113
		Wide	1995	16.4	121
25L	2500	Very Narrow	2452	23.0	107
		Narrow	2428	23.0	106
		Medium	2352	23.0	102
		Wide	2529	23.0	110
30L	3000	Very Narrow	2905	29.1	100
		Narrow	2877	29.1	99
		Medium	2787	29.1	96
		Wide	2997	29.1	103

LFR-6RDS

LITEFRAME 6" ROUND SHALLOW DOWNLIGHT

DATE: _____ LOCATION: _____

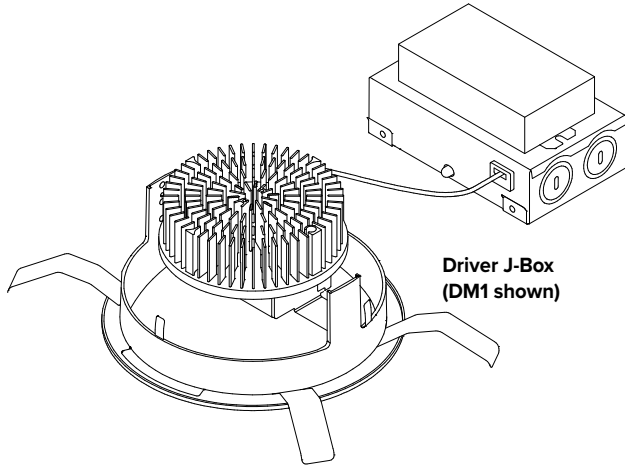
TYPE: _____ PROJECT: _____

CATALOG #: _____

DIMENSIONS

LFR-6RDS-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.



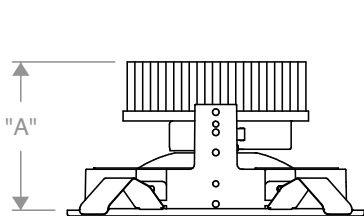
DIMENSIONAL DATA	
APERTURE	ø5.75" (146.1mm)
OVERALL	ø7.13" (181.0mm)
FLANGE WIDTH	0.69" (17.5mm)
CEILING CUTOUT	ø6.50" (165.1mm)
CEILING THICKNESS	0.50" - 2.50" (12.7 - 63.5mm)

**Light Engine
with Trim assembly installed**

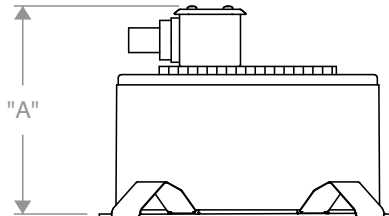
LFR-6RDS LIGHT ENGINE

OVERALL LIGHT ENGINE HEIGHT "A" *		
LUMEN PACKAGE	FIXTURE MODULE	BEAM DISTRIBUTION
		VNR / NR / MD / WD
10L-30L	STANDARD	3.56" (90.4mm)
	CP	4.95" (125.7mm)

* Note: Add ½" minimum plenum clearance above overall Light Engine Height.
** For 30L: 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.



Side View Standard



Side View CP - Chicago Plenum

LFR-6RDS

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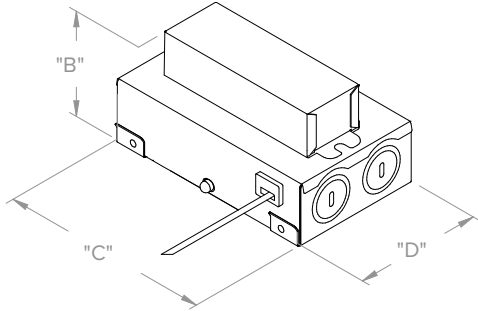
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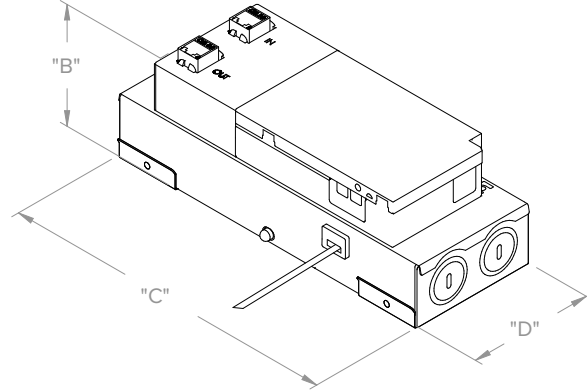
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DIMENSIONS CONTINUED

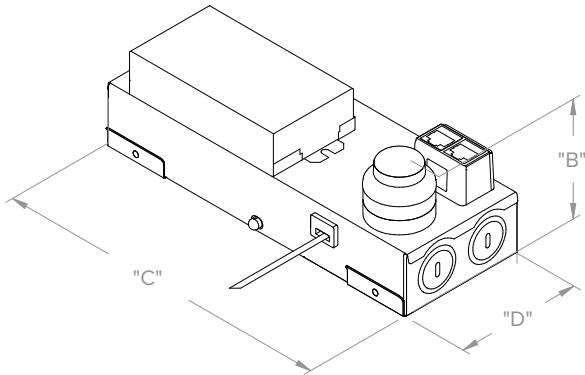
DRIVER J-BOX



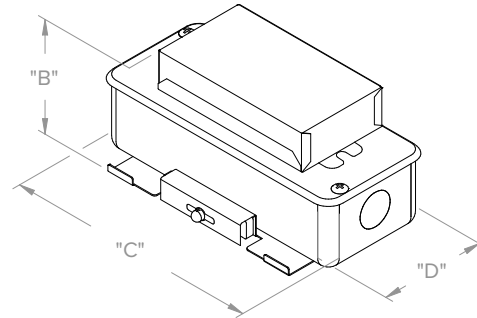
DM1 / DM01 / PDM / DALI



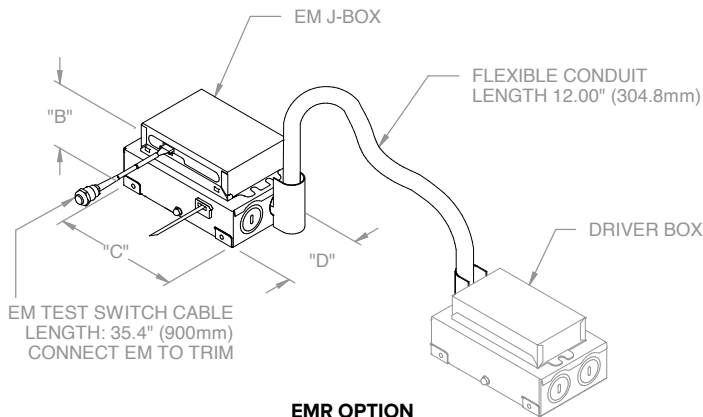
DMX



NX CONTROLS OPTION



CP



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
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)
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-6RDS

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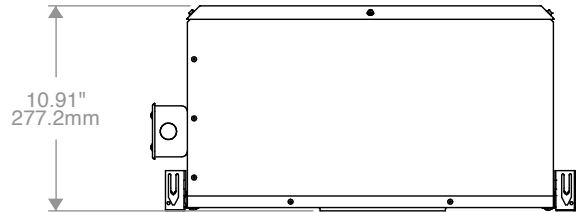
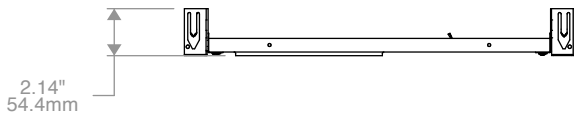
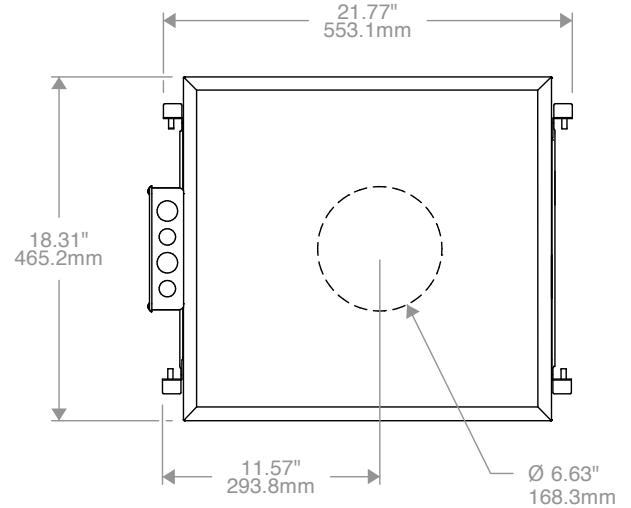
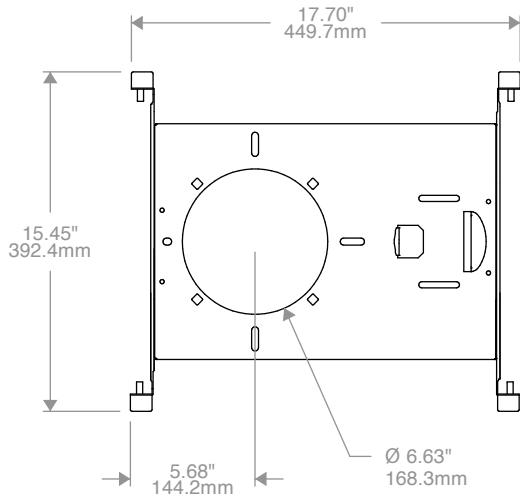
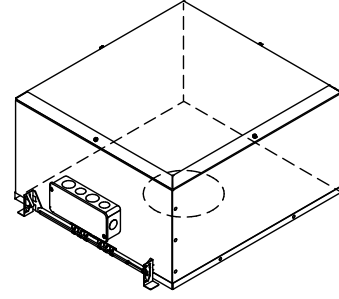
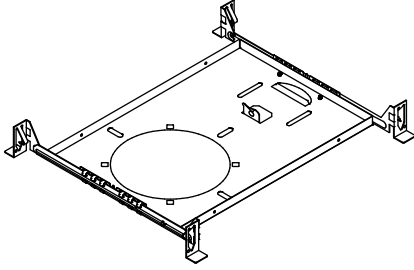
DATE: _____ LOCATION: _____

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-6RDS

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PHOTOMETRY

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

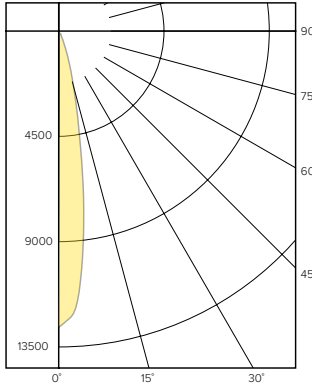
LUMINAIRE DATA

Test No.	21.00941
Description	2000 lm, Very Narrow, 3500K, 80 CRI
Delivered Lumens	1934
Watts	16.4W
Efficacy	117.7
Mounting	Recessed
Spacing Criterion	0.32
Beam Angle (FWHM)	19

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1864	96.4
0-60	1930	99.8
0-90	1934	100.0
0-180	1934	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	12661
5	10708
15	2467
25	392
35	121
45	52
55	29
65	2
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	4390
55°	3018
65°	282
75°	0
85°	0

*Candela/Square Meter

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

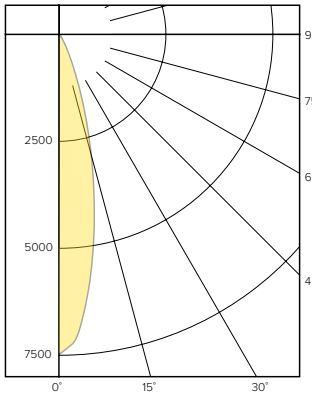
LUMINAIRE DATA

Test No.	21.00942
Description	2000 lm, Narrow, 3500K, 80 CRI
Delivered Lumens	1915
Watts	16.4W
Efficacy	116.8
Mounting	Recessed
Spacing Criterion	0.42
Beam Angle (FWHM)	25

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1826	95.4
0-60	1911	99.8
0-90	1915	100.0
0-180	1915	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	7484
5	6573
15	2912
25	693
35	171
45	68
55	36
65	2
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	5740
55°	3746
65°	282
75°	0
85°	0

*Candela/Square Meter

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

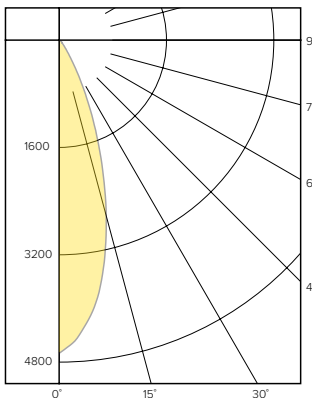
LUMINAIRE DATA

Test No.	21.00944
Description	2000 lm, Medium, 3500K, 80 CRI
Delivered Lumens	1855
Watts	16.4W
Efficacy	112.9
Mounting	Recessed
Spacing Criterion	0.56
Beam Angle Controls or with (FWHM)	34

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1759	94.8
0-60	1850	99.7
0-90	1855	100.0
0-180	1855	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	4669
5	4294
15	2711
25	1017
35	222
45	69
55	42
65	3
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	5825
55°	4371
65°	424
75°	0
85°	0

*Candela/Square Meter

LFR-6RDS

LITEFRAME 6" ROUND SHALLOW DOWNLIGHT

PHOTOMETRY CONTINUED

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

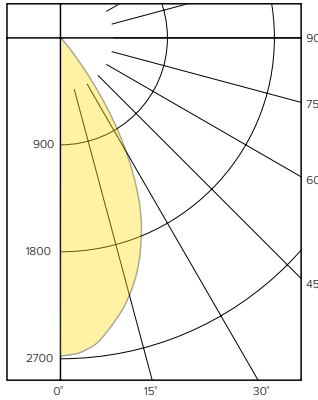
LUMINAIRE DATA

Test No.	21.00943
Description	2000 lm, Wide, 3500K, 80 CRI
Delivered Lumens	1995
Watts	16.4W
Efficacy	121.4
Mounting	Recessed
Spacing Criterion	0.83
Beam Angle (FWHM)	55

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1936	97.1
0-60	1993	99.9
0-90	1995	100.0
0-180	1995	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2677
5	2628
15	2241
25	1587
35	560
45	41
55	18
65	1
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	3461
55°	1873
65°	141
75°	0
85°	0

*Candela/Square Meter

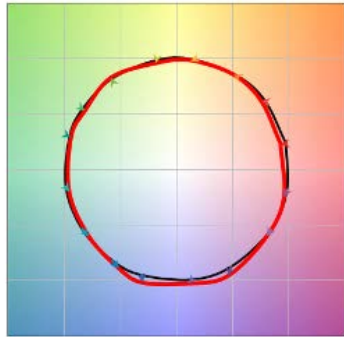
LUMEN MULTIPLIER

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.

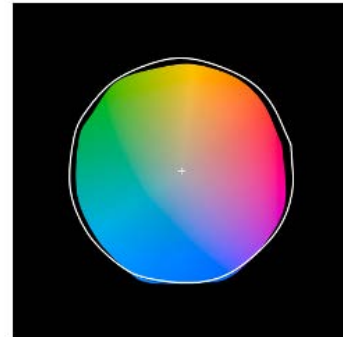
TM-30 DATA

COLOR VECTOR GRAPHIC 3500K, 90 CRI



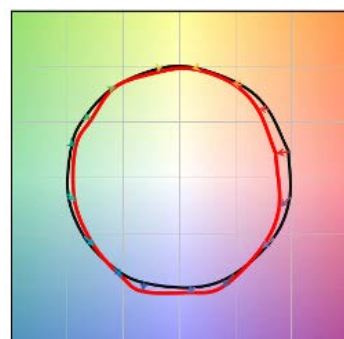
— Reference Illuminant — Test Source

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-6RDS

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DATE: _____ LOCATION: _____

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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

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