

LFR-4SQDS

LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

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

LITEFRAME[™] 2.0

FEATURES

- 4" 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, and Lutron EcoSystem
- NX Lighting Controls wired and wireless controls capability available



SERVICE PROGRAMS

STOCK QS10



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 housings
- 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

- 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
- Flicker-free dimming options in a wide range of protocols from 5% to <0.1% performance
- 0–10V, Phase (Forward/Reverse), DALI, DMX, and Lutron EcoSystem options
- 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

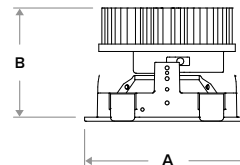
- Accommodates ceiling thickness from 0.50" to 2.50"
- Fixture Module including driver fully accessible from above or below the ceiling
- 10L–15L Fixture Modules are inherently protected IC without the use of IC housing enclosure. (IC housing is still recommended when using loose-fill or spray foam insulation 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
- 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



Typical Dimensions and Weights			
Lumen Package	"A" Width Inches (mm)	"B" Height Inches (mm)	Weight lbs (kg)
10L - 30L	5.38 (137)	3.56 (90)	3.83 (1.7)

See DIMENSIONS section for complete details

KEY DATA	
Lumen Range	1000–3000
Wattage Range	8–29
Efficacy Range (LPW)	101–127
Reported Life (Hours)	L90 / >50,000
Input Current (mA)	66–242 (120V)

*Based on Specular, 35K, 80 CRI

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Gray Shading = Service Program



ORDERING GUIDE

Example: LFR-4SQDS-M-10L35K8-WD-DM1 / LFR-4SQDS-T-S / LFR-4SQD-H

CATALOG #

FIXTURE MODULE

LFR-4SQDS-M	Lumen Output		CCT		CRI	Distribution	Driver Options	Control Options	Voltage	Module Options
Ap/Shp/Funct	10L	1000	27K	2700K	8 80+	VNR Very Narrow (19°/0.3 SC)	DM1 0–10V Dimming to 1%	NX Lighting Controls	<i>Standard</i> 120-277V	CP Chicago Plenum ^{5,6}
LFR-4SQDS-M 4" Square Shallow Downlight Fixture Module for Direct Install	15L	1500	30K	3000K	9 90+	NR Narrow (26°/0.4 SC)	DM01 0–10V Dimming to < 1%	Networked Wireless	34 347V ⁴	EMR 6W Emergency Battery Pack (CEC Title 20 Compliant) with remote test switch and indicator light ⁶
<i>(Non-IC frame or IC housing available under Housing Options below)</i>	20L	2000	35K	3500K	MD Medium (35°/0.6 SC)	PDM Phase (Forward/Reverse) Dimming to 1%	NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ³			
	25L	2500	40K	4000K	WD Wide (56°/0.9 SC)	DMX DMX with RDM dimming to < 0.1%	DMX DMX with RDM dimming to < 0.1%	Networked Wired		DTS Device Transfer Switch with Dimming Bypass ^{6,7}
	30L	3000 ¹	50K	5000K			DALI DALI Dimming to 1%	NXE NX Wired Dual RJ45 SmartPORTS, without Sensor ³		
							EDM Lutron Hi-Lume EcoSystem Dimming to 1% ²			

TRIM (Ships separately)

LFR-4SQDS-T	Distribution	Reflector Finish/Color	Flange Color Options	Lower Trim Options
Aperture/Shape/Function		S Specular	<i>Standard matches reflector color</i>	FM Flush Mount Flange ¹¹
LFR-4SQDS-T 4" Square Shallow Downlight Trim Assembly	<i>Standard</i> VNR, NR, MD, WD	SS Semi-Specular	WT White Flange ⁸	
		WC Painted White Cone and Flange	BT Black Flange	

HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function	
<input type="checkbox"/> LFR-4SQD-H 4" Housing Frame, New Construction, Non-IC	
<input type="checkbox"/> LFR-4SQD-H-IC 4" 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
<input type="checkbox"/> LF-FMR4-SQ	Flush Mount Mud-in Ring, 4" Square ¹¹
<input type="checkbox"/> LF-MOR4-SQ-WH	Metal Oversized Ring, 4" Square, White (8.3" outside dimension)



Notes:

- 30L requires marked spacing. See line art for more details.
- EDM available 15L–30L.
- NX requires DM1 driver option.
- 347V requires DM1 driver option; not available with Controls, DTS, EMR.
- CP not available with PDM, DMX, or Controls.
- Module options not available in combination.
- DTS available with DM1, DM01, or DALI.
- WT not needed for WC.
- IC available up to 30L; 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.
- Flush Mount Flange requires FMR accessory.

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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

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	983	7.7	128
		Narrow	965	7.7	126
		Medium	938	7.7	122
		Wide	972	7.7	127
15L	1500	Very Narrow	1509	12.3	123
		Narrow	1482	12.3	121
		Medium	1440	12.3	117
		Wide	1493	12.3	122
20L	2000	Very Narrow	1918	16.3	117
		Narrow	1883	16.3	115
		Medium	1830	16.3	112
		Wide	1897	16.1	118
25L	2500	Very Narrow	2483	22.5	110
		Narrow	2438	22.5	108
		Medium	2369	22.5	105
		Wide	2456	22.5	109
30L	3000	Very Narrow	2923	28.6	102
		Narrow	2871	28.6	100
		Medium	2790	28.6	97
		Wide	2892	28.6	101

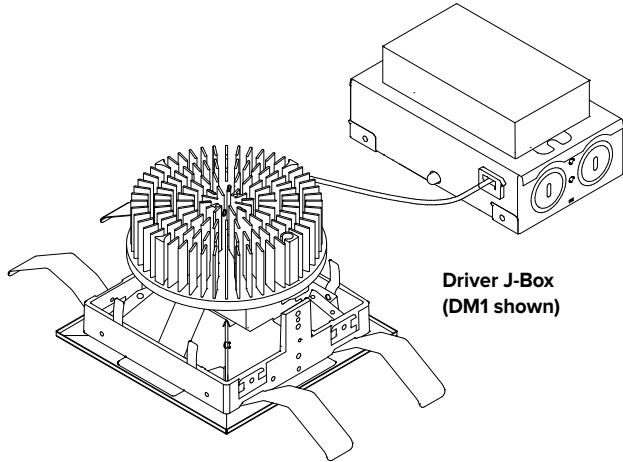
LFR-4SQDS

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DIMENSIONS

LFR-4SQDS-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**

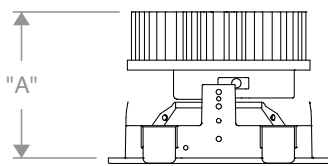
**Driver J-Box
(DM1 shown)**

DIMENSIONAL DATA		
APERTURE		□ 4.00" (101.6mm)
FLANGE WIDTH	Standard	0.69" (17.5mm)
	Flush Mount	0.18" (4.6mm)
FLANGE TO FLANGE	Standard	□ 5.38" (136.7mm)
	Flush Mount	□ 4.37" (111.0mm)
CEILING CUTOUT	Standard	□ 4.75" (120.7mm)
	Flush Mount	□ 4.88" (123.9mm)
CEILING THICKNESS		0.50"–2.50" (12.7–63.5mm)

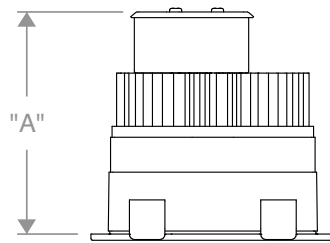
LFR-4SQDS LIGHT ENGINE

OVERALL LIGHT ENGINE HEIGHT "A" *		
LUMEN PACKAGE	FIXTURE MODULE	BEAM DISTRIBUTION
		VNR /NR / MD/ WD
10L–30L	STANDARD	3.56" (90.4mm)
	CP	4.93" (125.2mm)

* Note: Add 1/2" 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-4SQDS

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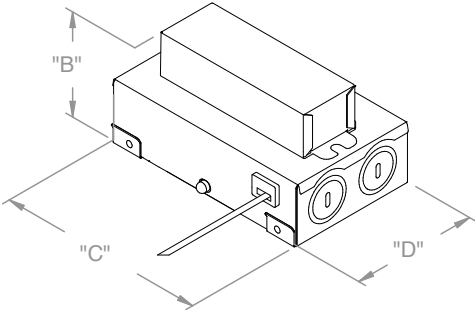
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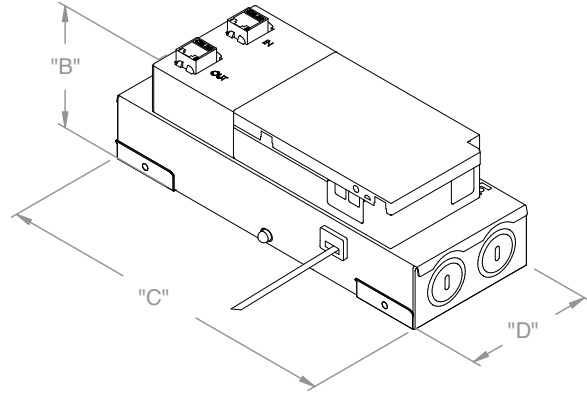
CATALOG #: _____

DIMENSIONS CONTINUED

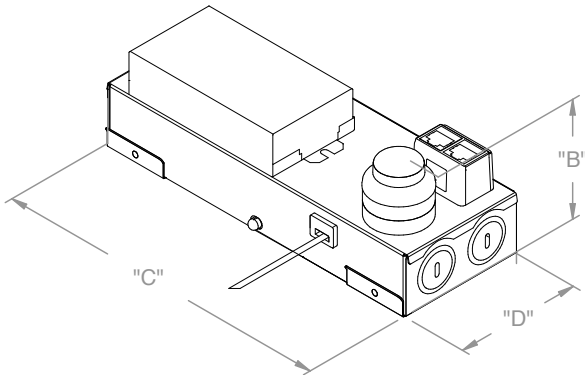
DRIVER J-BOX



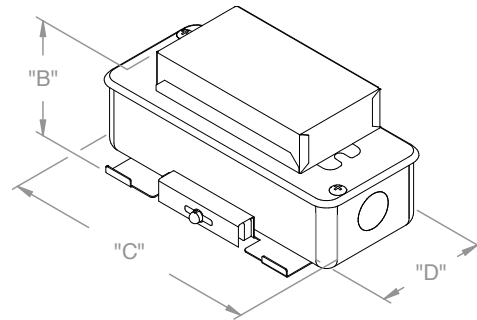
DM1 / DM01 / PDM / DALI



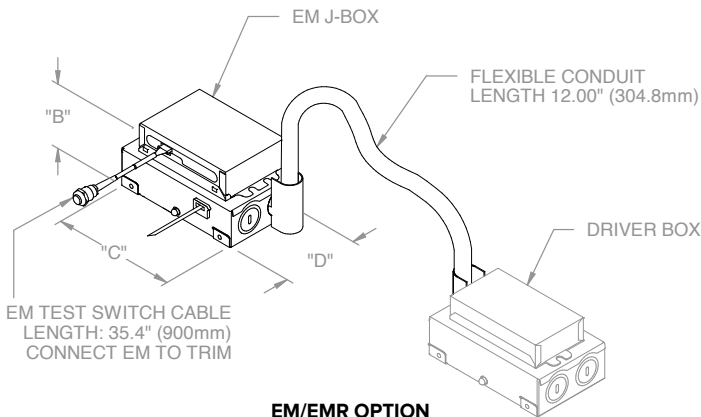
DMX



NX CONTROLS OPTION



CP



EM/EMR OPTION

EM 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)	3.50" (88.9mm)
DMX	3.07" (78.0mm)	8.68" (220.5mm)	3.23" (82.0mm)	5.00" (127.0mm)
NX	3.02" (76.7mm)	8.68" (220.5mm)	3.23" (82.0mm)	6.00" (152.4mm)
EM	2.73" (69.3mm)	5.34" (135.6mm)	3.23" (82.0mm)	4.00" (101.6mm)
CP	1.89" (73.4mm)	6.50" (165.1mm)	2.72" (69.1mm)	5.00" (127mm)

LFR-4SQDS

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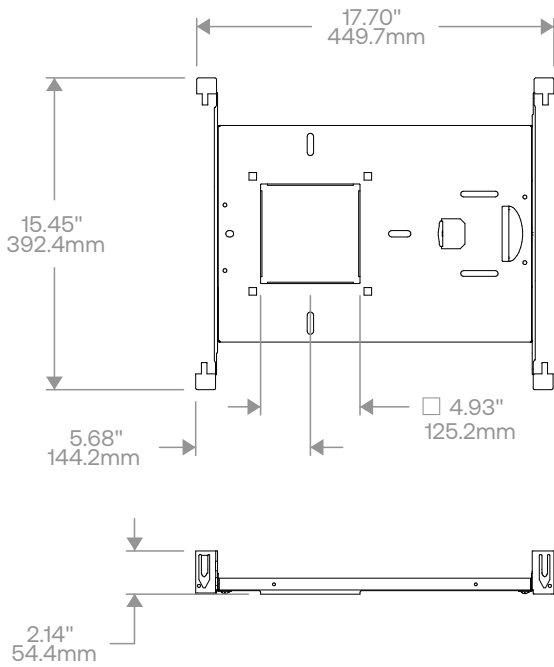
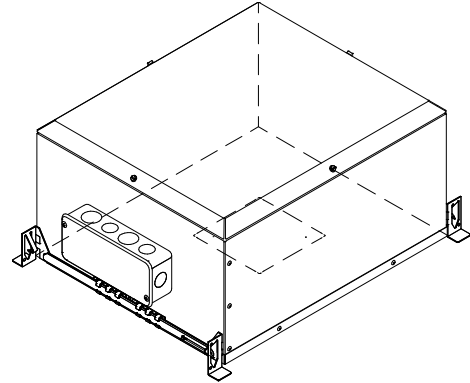
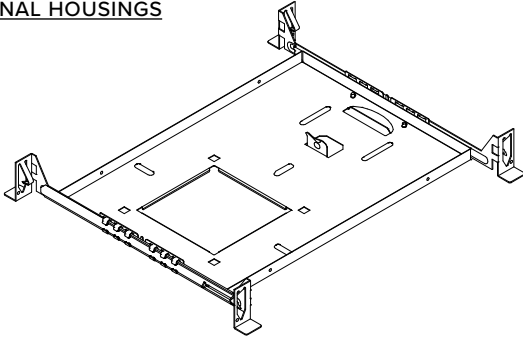
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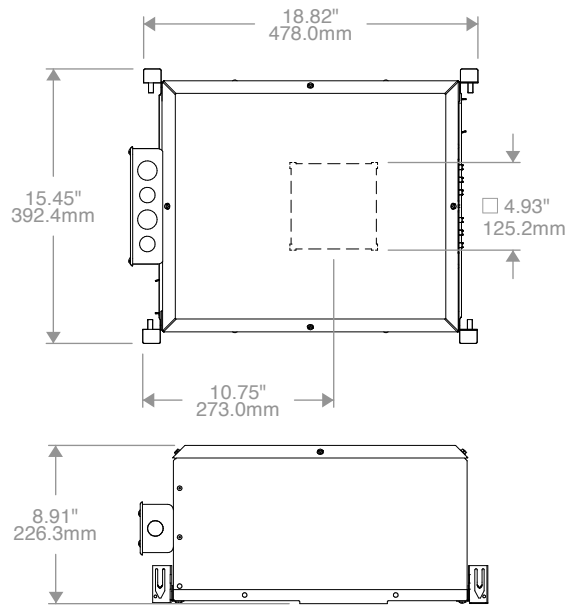
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DIMENSIONS CONTINUED

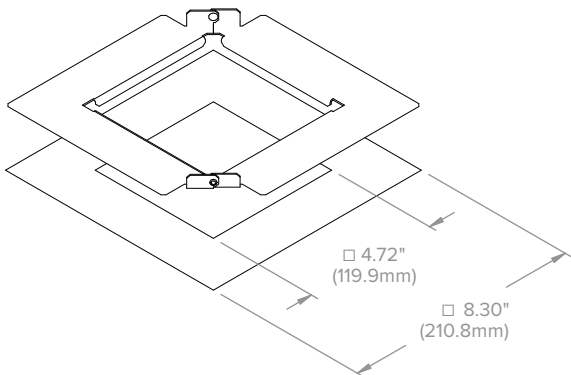
OPTIONAL HOUSINGS



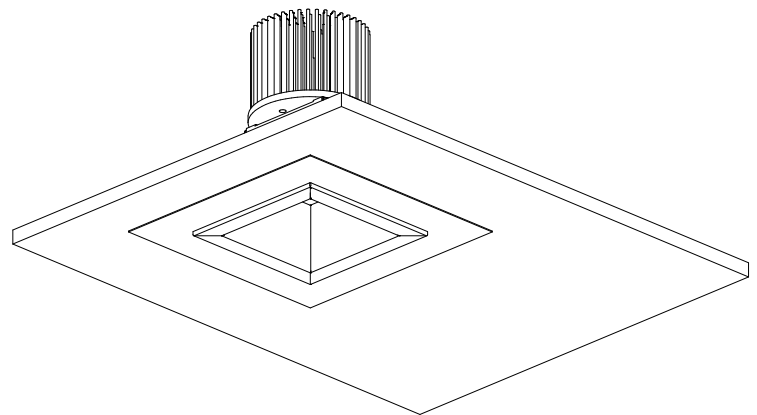
LFR-4SQD-H
NON-IC HOUSING FRAME



LFR-4SQD-H-IC
IC HOUSING
Not for use with CP Shroud



LF-MOR4-SQ
METAL OVERSIZED RING
(See LF-MOR Installation Instruction for more details)



LFR-4SQDS

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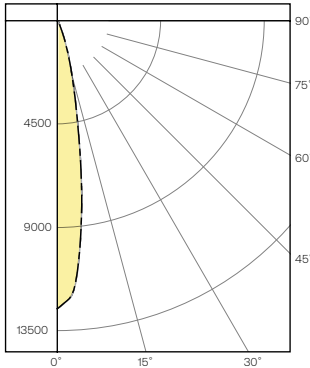
PHOTOMETRY

LFR-4SQDS-M-20L35K8VNR-DM1 / LFR-4SQDS-T-VNR-S

LUMINAIRE DATA

Test No.	22.01139
Description	2000 lm, Very Narrow, 3500K, 80 CRI
Delivered Lumens	1918
Watts	16.3W
Efficacy	117
Mounting	Recessed/Ceiling
Spacing Criterion	0.3
Beam Angle (FWHM)	19

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	12528
5	10575
15	2499
25	406
35	126
45	42
55	5
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	5754
55°	844
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

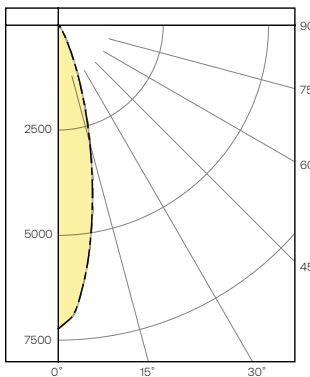
Zone	Lumens	% Luminaire
0-40	1870	97.5
0-60	1917	100.0
0-90	1918	100.0
0-180	1918	100.0

LFR-4SQDS-M-20L35K8NR-DM1 / LFR-4SQDS-T-S

LUMINAIRE DATA

Test No.	22.01140
Description	2000 lm, Narrow, 3500K, 80 CRI
Delivered Lumens	1883
Watts	16.3W
Efficacy	115
Mounting	Recessed/Ceiling
Spacing Criterion	0.4
Beam Angle (FWHM)	26

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	7215
5	6342
15	2939
25	745
35	171
45	48
55	6
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	6576
55°	1013
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

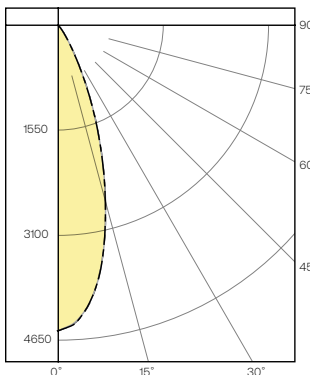
Zone	Lumens	% Luminaire
0-40	1828	97.1
0-60	1883	100.0
0-90	1883	100.0
0-180	1883	100.0

LFR-4SQDS-M-20L35K8MD-DM1 / LFR-4SQDS-T-S

LUMINAIRE DATA

Test No.	22.01141
Description	2000 lm, Medium, 3500K, 80 CRI
Delivered Lumens	1830
Watts	16.4W
Efficacy	112
Mounting	Recessed/Ceiling
Spacing Criterion	0.6
Beam Angle (FWHM)	35

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	4508
5	4275
15	2721
25	1022
35	220
45	49
55	7
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	6713
55°	1182
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1768	96.6
0-60	1829	100.0
0-90	1830	100.0
0-180	1830	100.0

LFR-4SQDS

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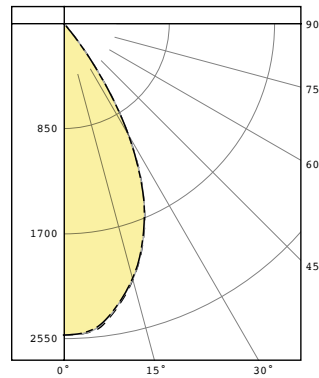
PHOTOMETRY CONTINUED

LFR-4SQDS-M-20L35K8WD-DM1 / LFR-4SQDS-T-S

LUMINAIRE DATA

Test No.	22.00849
Description	2000 lm, Wide, 3500K, 80 CRI
Delivered Lumens	1897
Watts	16.1W
Efficacy	118
Mounting	Recessed/Ceiling
Spacing Criterion	0.9
Beam Angle (FWHM)	56

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2518
5	2502
15	2150
25	1521
35	532
45	30
55	3
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	4110
55°	507
65°	0
75°	0
85°	0

*Candela/Square Meter

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1854	97.7
0-60	1897	100.0
0-90	1897	100.0
0-180	1897	100.0

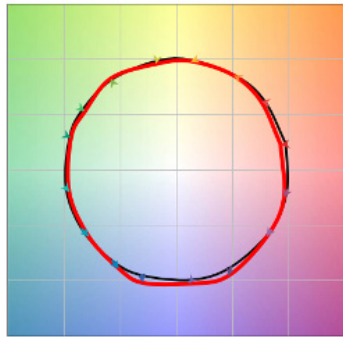
LUMEN MULTIPLIER

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.

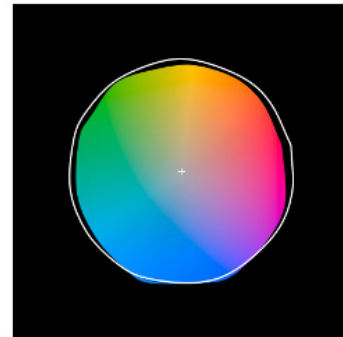
TM-30 DATA

COLOR VECTOR GRAPHIC 3500K, 90 CRI



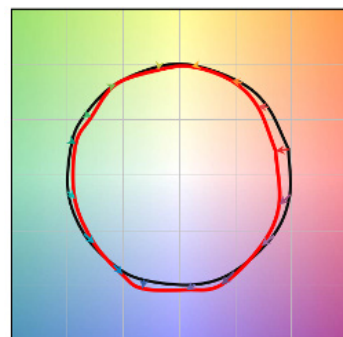
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC 3500K, 90 CRI



TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R _t	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-4SQDS

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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 Compatibility

For more details and recommended dimmer list, see Dimming Compatibility Information on currentlighting.com/prescolite.

DMX

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

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.