prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LFR-4SQDS

LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

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, 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

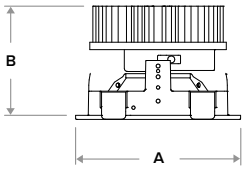
C US TriGain® technology

SERVICE PROGRAMS

STOCK QS10

CONTROLS TECHNOLOGY

NX WIRELESS NX WIRED



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

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, TriGain technology 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
- Current's patented TriGain® phosphor delivers 90 CRI color quality at 80 CRI efficacy

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
- Suitable for -20°C to 25°C standard. Up to 40°C available on certain configurations, contact factory for details

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	1000–3000
Wattage Range	8–29
Efficacy Range (LPW)	102–130
Reported Life (Hours)	L90 / >50,000
Input Current (mA)	66–243 (120V)

*Based on Specular, 35K, 90 CRI

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LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

Gray Shading = Service Program STOCK QS10 Limit of 150 Luminaries

ORDERING GUIDE

Example: LFR-4SQDS-M-10L35K9-WD-DM1 / LFR-4SQDS-T-S / LFR-4SQD-H

CATALOG #

FIXTURE MODULE

LFR-4SQDS-M – [ ] [ ] 9 – [ ] – [ ] [ ] [ ] – [ ]

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

TRIM (Ships separately)

LFR-4SQDS-T – [ ] – [ ] [ ] [ ]

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

HOUSING OPTIONS (Ships separately)

	Aperture/Shape/Function	
☐	**LFR-4SQD-H**	4" Housing Frame, New Construction, Non-IC
☐	**LFR-4SQD-H-IC**	4" Housing Enclosure, New Construction, IC Rated [9,10]

	Accessories	
☐	**LiteGear**	LiteGear® Inverter, 125VA–250VA
☐	**LPS Series**	LightPower Micro-Inverter, 20VA–55VA
☐	**LF-FMR4-SQ**	Flush Mount Mud-in Ring, 4" Square [11]
☐	**LF-MOR4-SQ-WH**	Metal Oversized Ring, 4" Square, White (8.3" outside dimension)

Notes:

1 30L requires marked spacing. See line art for more details.
2 EDM available 15L–30L.
3 NX requires DM1 driver option.
4 347V requires DM1 driver option; not available with Controls, DTS, EMR.
5 CP not available with PDM, DMX, or Controls.
6 Module options not available in combination.
7 DTS available with DM1, DM01, or DALI.
8 WT not needed for WC.
9 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.)
10 IC Housing not for use in combination with Controls or with Module Options CP, EMR, DTS.
11 Flush Mount Flange requires FMR accessory.

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LFR-4SQDS

LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

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, 90+ CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
10L	1000	Very Narrow	1205	7.8	156
		Narrow	1186	7.8	153
		Medium	1149	7.8	148
		Wide	1222	7.8	158
15L	1500	Very Narrow	1853	12.3	151
		Narrow	1824	12.3	149
		Medium	1767	12.3	144
		Wide	1879	12.3	153
20L	2000	Very Narrow	1955	15.7	125
		Narrow	1924	15.7	123
		Medium	1864	15.7	119
		Wide	1982	15.7	126
25L	2500	Very Narrow	3127	22.6	138
		Narrow	3077	22.6	136
		Medium	2981	22.6	132
		Wide	3170	22.6	140
30L	3000	Very Narrow	3758	28.9	130
		Narrow	3699	28.9	128
		Medium	3584	28.9	124
		Wide	3810	28.9	132

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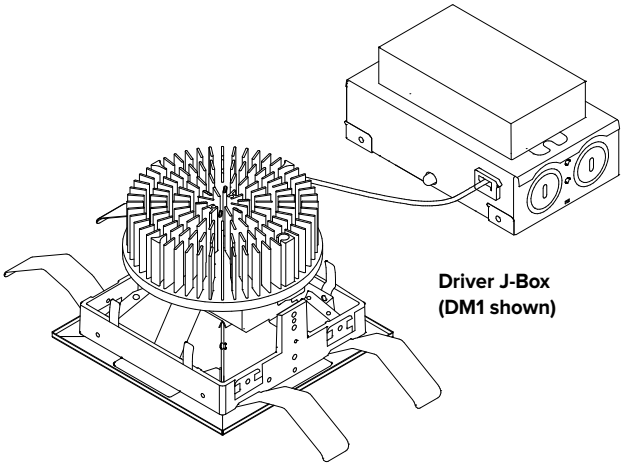
LFR-4SQDS

LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

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.



Driver J-Box (DM1 shown)

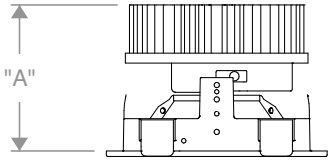
Light Engine with Trim assembly installed

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)

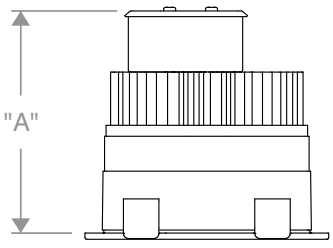
LFR-4SQDS LIGHT ENGINE

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 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

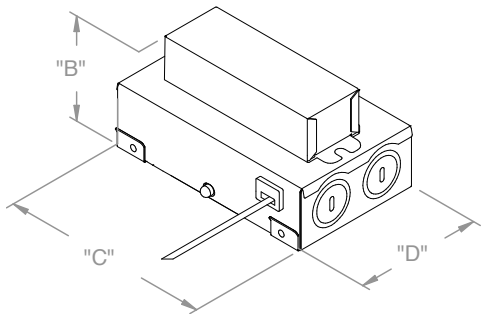
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LFR-4SQDS

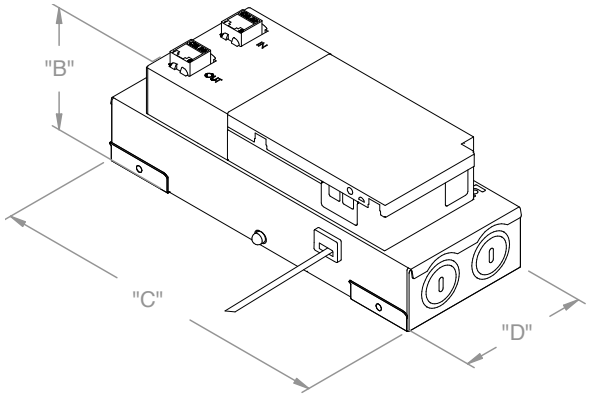
LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

DIMENSIONS (CONTINUED)

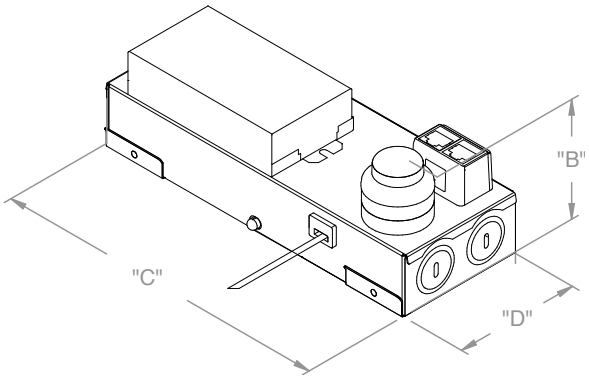
DRIVER J-BOX



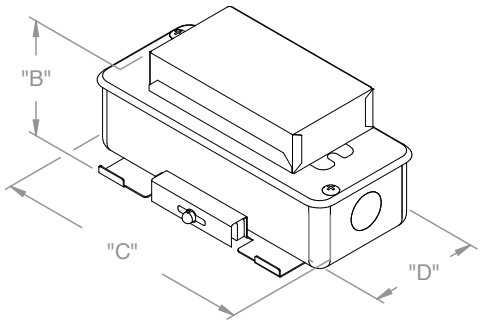
DM1 / DM01 / PDM / DALI



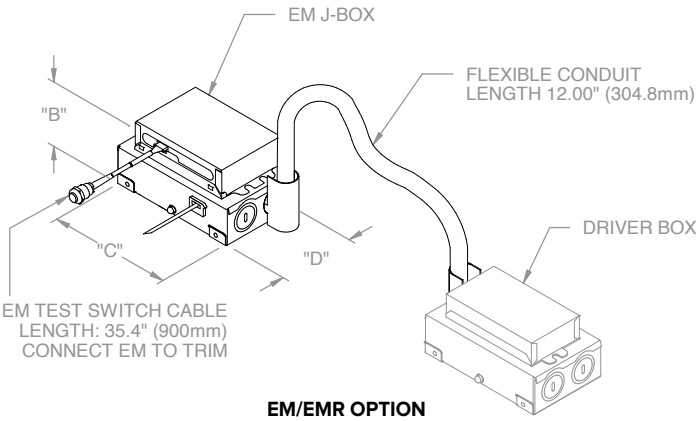
DMX



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)

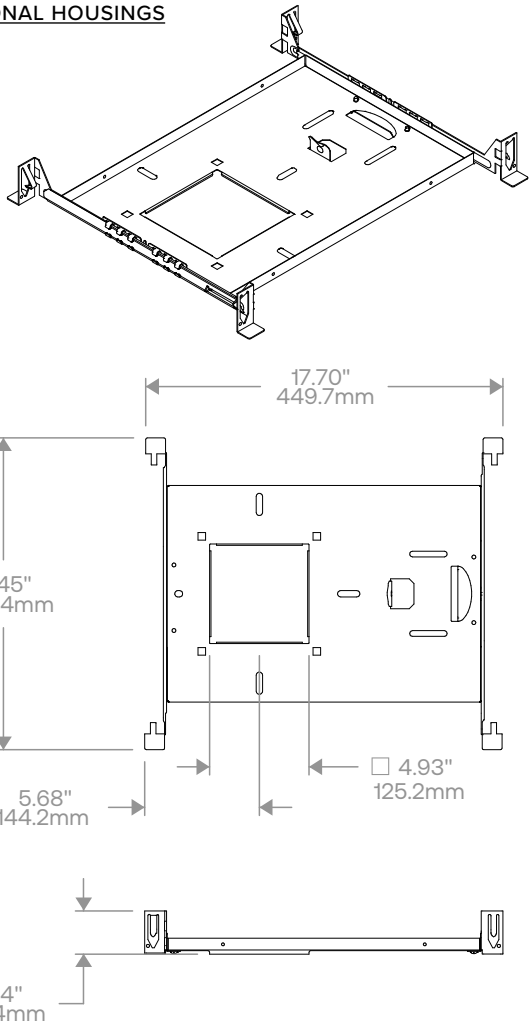
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LFR-4SQDS

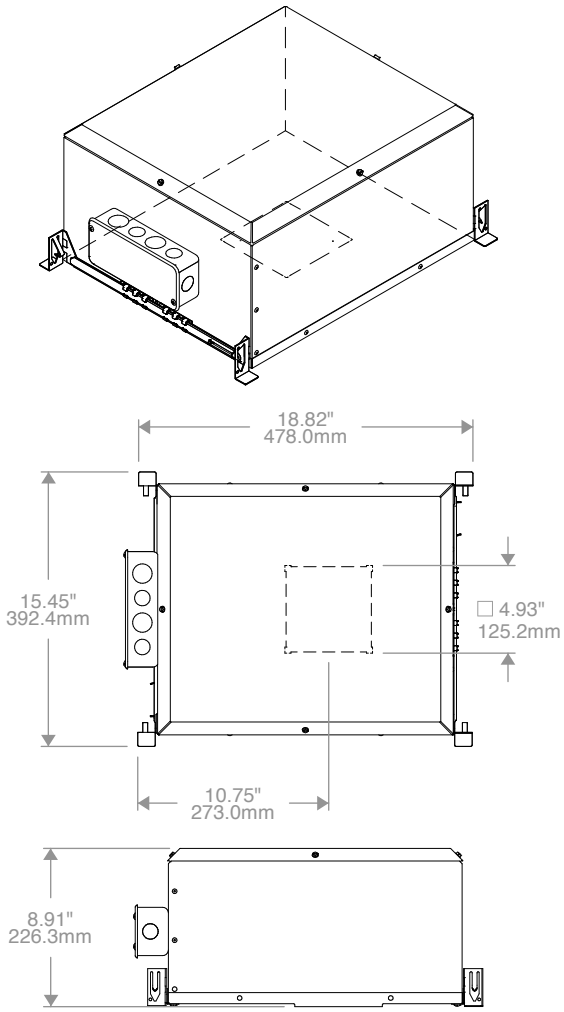
LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

DIMENSIONS (CONTINUED)

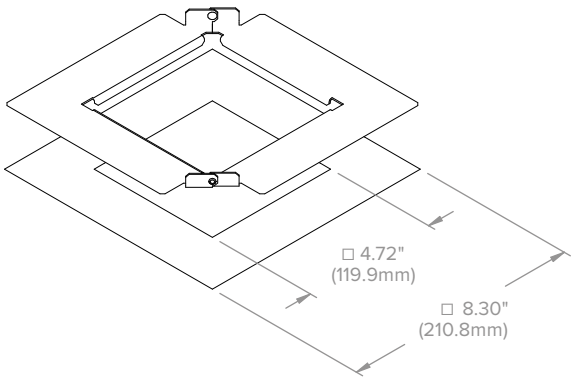
OPTIONAL HOUSINGS



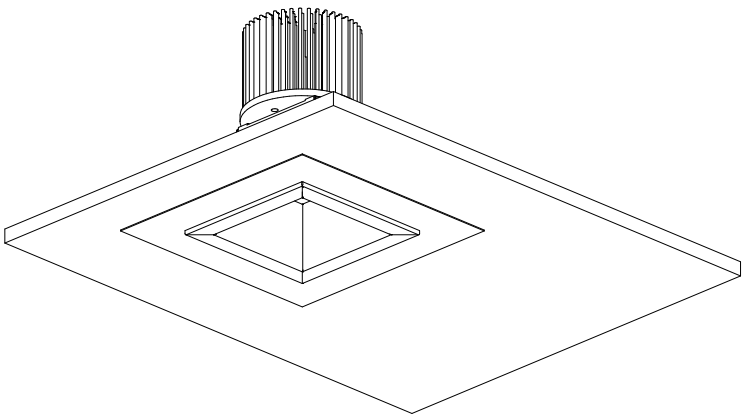
LFR-4SQD-H
NON-IC HOUSING FRAME



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)



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LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

PHOTOMETRY

LFR-4SQDS-M-20L35K9-VNR-DM1 / LFR-4SQDS-T-VNR-S

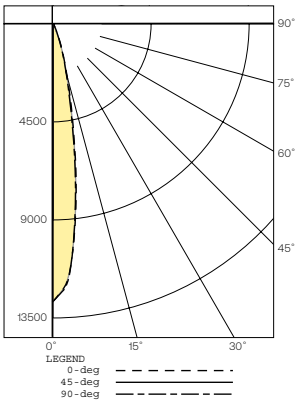
LUMINAIRE DATA

Test No.	**25.00756**
Description	**2000 lm, Very Narrow, 3500K, 90 CRI**
Delivered Lumens	**1955**
Watts	**15.7W**
Efficacy	**124**
Mounting	**Recessed/Ceiling**
Spacing Criterion	**0.3**
Beam Angle (FWHM)	**19**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	1907	97.6
0–60	1954	100.0
0–90	1955	100.0
0–180	1955	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	12749
5	10495
15	2623
25	497
35	134
45	44
55	6
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	6028
55°	1013
65°	0
75°	0
85°	0

*Candela/Square Meter

LFR-4SQDS-M-20L35K9-NR-DM1 / LFR-4SQDS-T-S

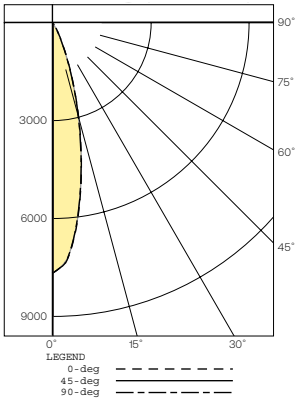
LUMINAIRE DATA

Test No.	**25.00757**
Description	**2000 lm, Narrow, 3500K, 90 CRI**
Delivered Lumens	**1925**
Watts	**15.7W**
Efficacy	**122**
Mounting	**Recessed/Ceiling**
Spacing Criterion	**0.4**
Beam Angle (FWHM)	**26**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	1874	97.4
0–60	1924	100.0
0–90	1925	100.0
0–180	1925	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	7656
5	6825
15	3105
25	700
35	147
45	43
55	7
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	5891
55°	1182
65°	0
75°	0
85°	0

*Candela/Square Meter

LFR-4SQDS-M-20L35K9-MD-DM1 / LFR-4SQDS-T-S

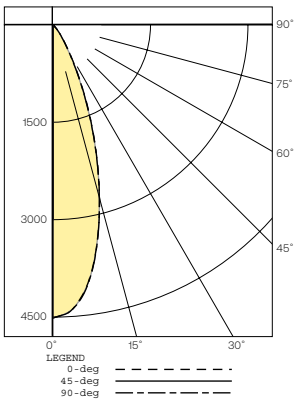
LUMINAIRE DATA

Test No.	**25.00758**
Description	**2000 lm, Medium, 3500K, 90 CRI**
Delivered Lumens	**1863**
Watts	**15.7W**
Efficacy	**119**
Mounting	**Recessed/Ceiling**
Spacing Criterion	**0.6**
Beam Angle (FWHM)	**35**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	1791	96.1
0–60	1863	100.0
0–90	1863	100.0
0–180	1863	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	4499
5	4283
15	2746
25	1052
35	255
45	61
55	9
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	8357
55°	1520
65°	0
75°	0
85°	0

*Candela/Square Meter

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LFR-4SQDS

LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

PHOTOMETRY (CONTINUED)

LFR-4SQDS-M-20L35K9-WD-DM1 / LFR-4SQDS-T-S

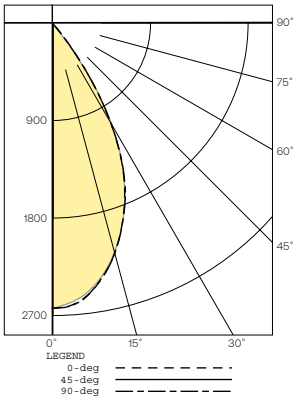
LUMINAIRE DATA

Test No.	**25.00759**
Description	**2000 lm, Wide, 3500K, 90 CRI**
Delivered Lumens	**1981**
Watts	**15.7W**
Efficacy	**126**
Mounting	**Recessed/Ceiling**
Spacing Criterion	**0.9**
Beam Angle (FWHM)	**56**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–40	1921	97.0
0–60	1981	100.0
0–90	1981	100.0
0–180	1981	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	2626
5	2584
15	2202
25	1552
35	578
45	42
55	4
65	0
75	0
85	0
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	5754
55°	676
65°	0
75°	0
85°	0

*Candela/Square Meter

LUMEN MULTIPLIER

Option	27K9	30K9	35K9	40K9	50K9
Multiplier	0.94	0.98	1.00	1.01	1.02

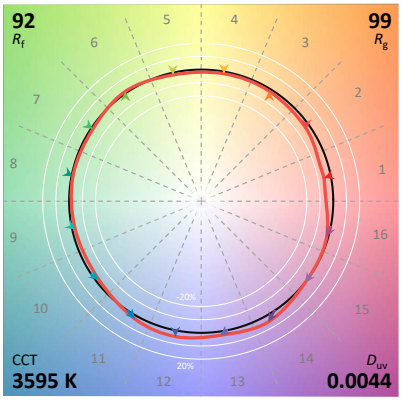
Photometrics are published at a nominal 3500 Kelvin, 90+ CRI. This table may be used to approximate the lumen values at different Kelvin temperatures. Power consumption would stay the same.

REFLECTOR FINISH MULTIPLIER (Based on Clear (Standard) Color)

Option	Specular (S)	Semi-Specular (SS)	White Cone (WC)
Multiplier	1	0.909	0.984

TM-30 DATA

COLOR VECTOR GRAPHIC
3500K, 90 CRI



TEST RESULTS - 3500K	
Value	90+ CRI
R_f	92
R_g	99
CCT (K)	3595
D_{UV}	0.0044
x	0.4045
y	0.4004
CIE R_a	93
CIE R_9	61

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LFR-4SQDS

LITEFRAME 4" SQUARE SHALLOW DOWNLIGHT

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, 10W x 120 LPW = 1200 lumens in emergency mode.

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