

# LFR-4RDS

LITEFRAME 4" ROUND SHALLOW DOWNLIGHT

LITEFRAME<sup>™</sup>  
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, Lutron 2-wire Forward Phase, and EcoSystem
- NX Distributed Intelligence™ wired and wireless controls capability available



### RELATED PRODUCTS

- Ø [LFR-4RD](#)
- Ø [LFR-4RW](#)
- Ø [LFR-4RA](#)
- 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 housings
- 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 5% 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)	103-126
Reported Life (Hours)	L90 / >50,000
Input Current (mA)	66–242 (120V)

\*Based on Specular, 35K, 80 CRI

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DATE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_

CATALOG #: \_\_\_\_\_

 = Service Program



Click icon for Stocked item list

## ORDERING GUIDE

**Example:** LFR-4RDS-M-10L35K8-WD-DM1 / LFR-4RDS-T-S / LFR-4RD-H

CATALOG #

### FIXTURE MODULE

LFR-4RDS-M												
Ap/Shp/Funct	Lumen Output		CCT	CRI	Distribution	Driver Options		Control Options		Voltage		Module Options
<b>LFR-4RDS-M</b> 4" 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+	<b>VNR</b> Very Narrow (13°/0.2 SC)  <b>NR</b> Narrow (26°/0.4 SC)  <b>MD</b> Medium (34°/0.6 SC)  <b>WD</b> Wide (49°/0.7 SC)	<b>DM1</b> 0-10V Dimming to 1%  <b>DM01</b> 0-10V Dimming to < 1%  <b>PDM</b> Phase (Forward/Reverse) Dimming to 1%  <b>DMX</b> DMX with RDM dimming to < 0.1%  <b>DALI</b> DALI Dimming to 1%  <b>2DM</b> Lutron Hi-Lume 2-wire Dimming to 1% (120V Forward Phase only) <sup>2</sup>  <b>EDM</b> Lutron Hi-Lume EcoSystem Dimming to 1% <sup>2</sup>	<b>NXE</b> NX Enabled, Dual SmartPorts <sup>3</sup>  <b>NXWE</b> NX Wireless Enabled <sup>3</sup>  <b>NXWD</b> NX Wireless Enabled, Dual SmartPorts <sup>3</sup>	<i>Standard</i> 120-277V  <b>34</b> 347V <sup>4</sup>	<b>CP</b> Chicago Plenum <sup>5,6</sup>  <b>EMR</b> Emergency Battery Pack with remote test switch and indicator light <sup>6</sup>  <b>DTS</b> Device Transfer Switch with Dimming Bypass <sup>6,7</sup>	
	15L	1500	30K	3000K	9	90+						
	20L	2000	35K	3500K								
	25L	2500	40K	4000K								
	30L	3000	50K	5000K								

### TRIM (Ships separately)

LFR-4RDS-T				
Aperture/Shape/Function	Distribution		Reflector Finish/Color	Flange Color Options
<b>LFR-4RDS-T</b> 4" Round Shallow Downlight Trim Assembly	<i>Standard</i> NR, MD, WD, XW		<b>S</b> Specular	<i>Standard matches reflector color</i>  <b>WT</b> White Flange <sup>8</sup>  <b>BT</b> Black Flange
	<b>VNR</b> Very Narrow		<b>SS</b> Semi-Specular  <b>WC</b> Painted White Cone and Flange	

### HOUSING OPTIONS (Ships separately)

Aperture/Shape/Function	
<input type="checkbox"/>	<b>LFR-4RD-H</b> 4" Housing Frame, New Construction, Non-IC
<input type="checkbox"/>	<b>LFR-4RD-H-IC</b> 4" Housing Enclosure, New Construction, IC Rated <sup>9,10</sup>

#### Accessories

- LiteGear** LiteGear® Inverter, 125VA–250VA
- LPS Series** LightPower Micro-Inverter, 20VA–55VA

#### Notes:

- 1 30L requires marked spacing. See line art for more details.
- 2 2DM and 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 DMX, Controls, 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 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.)
- 10 IC Housing not for use in combination with Controls or with Module Options CP, EMR, DTS.

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## 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	954	7.6	126
		Narrow	949	7.6	125
		Medium	916	7.6	120
		Wide	987	7.6	129
15L	1500	Very Narrow	1474	12.3	120
		Narrow	1465	12.3	119
		Medium	1414	12.3	115
		Wide	1524	12.3	124
20L	2000	Very Narrow	1921	16.4	117
		Narrow	1910	16.4	116
		Medium	1842	16.4	112
		Wide	1986	16.4	121
25L	2500	Very Narrow	2511	23.1	109
		Narrow	2497	23.1	108
		Medium	2409	23.1	104
		Wide	2597	23.1	112
30L	3000	Very Narrow	2951	29.1	101
		Narrow	2935	29.1	101
		Medium	2831	29.1	97
		Wide	3052	29.1	105

# LFR-4RDS

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DATE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

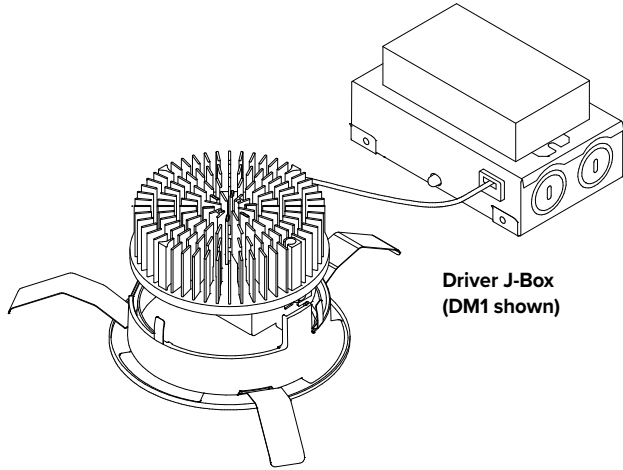
TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_

CATALOG #: \_\_\_\_\_

## DIMENSIONS

### LFR-4RDS-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)**

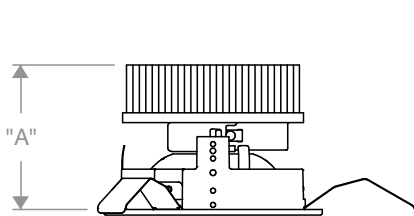
**Light Engine  
with Trim assembly installed**

DIMENSIONAL DATA	
APERTURE	ø4.00" (101.6mm)
OVERALL	ø5.37" (136.5mm)
FLANGE WIDTH	0.69" (17.5mm)
CEILING CUTOUT	ø4.75" (120.7mm)
CEILING THICKNESS	0.50" - 2.50" (12.7 - 63.5mm)

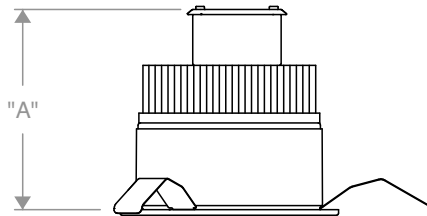
### LFR-4RDS LIGHT ENGINE

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**

# LFR-4RDS

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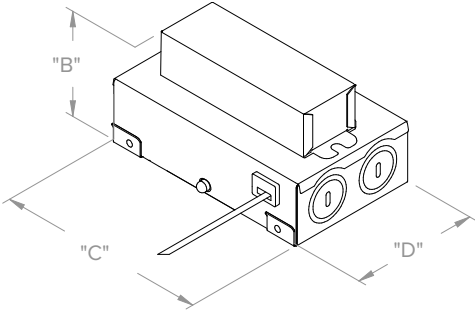
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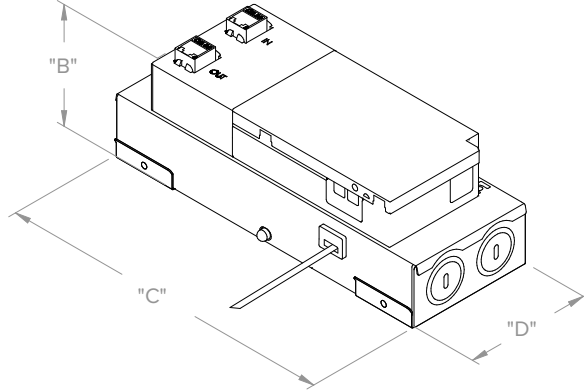
CATALOG #: \_\_\_\_\_

## DIMENSIONS CONTINUED

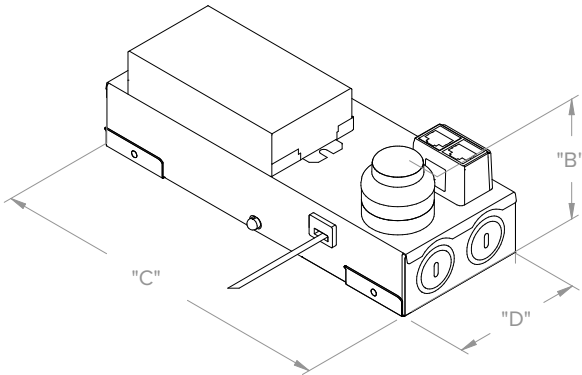
### DRIVER J-BOX



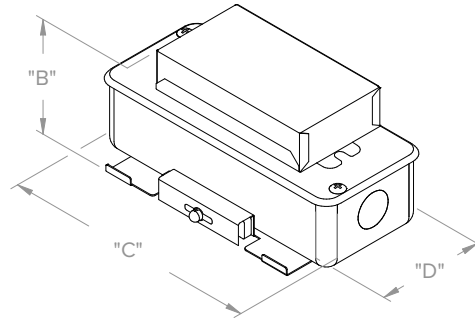
**DM1 / DM01 / PDM / DALI**



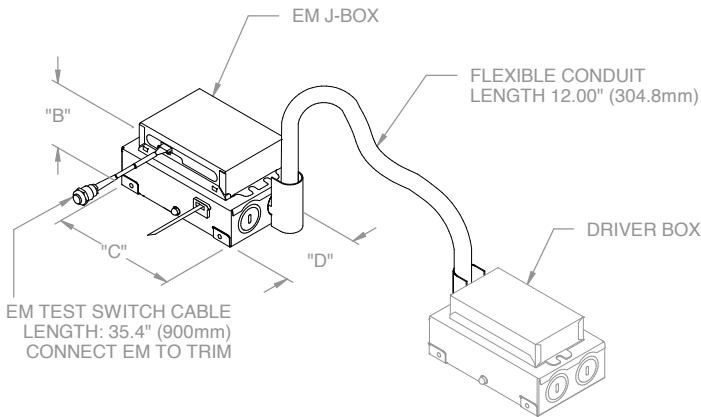
**DMX**



**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)

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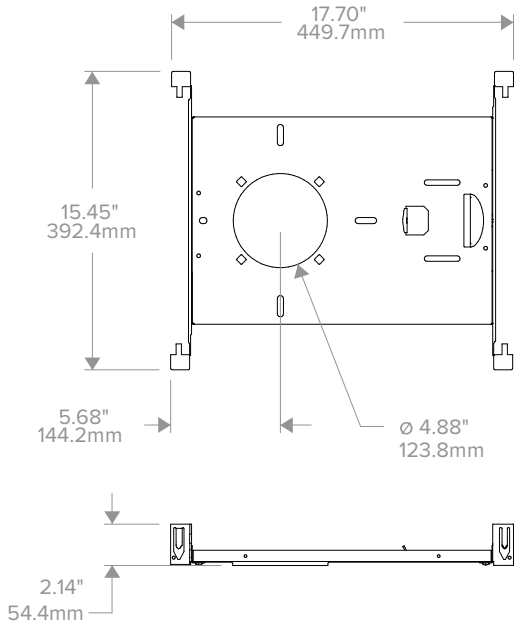
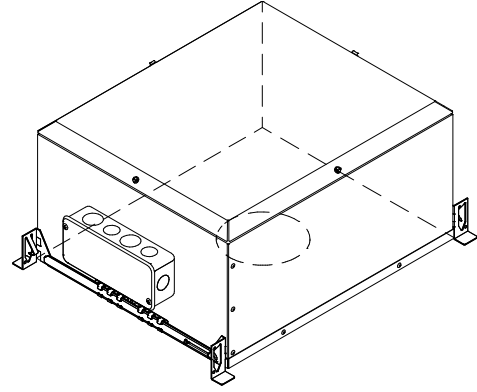
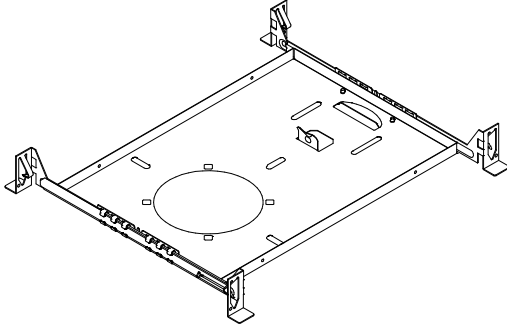
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TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_

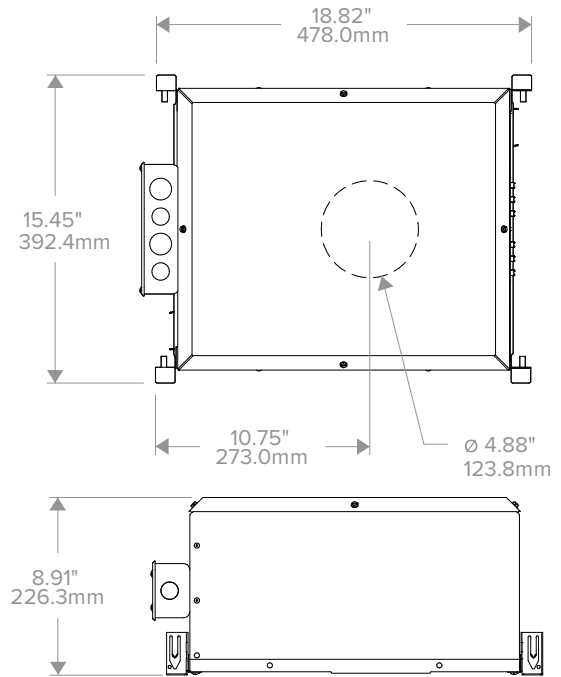
CATALOG #: \_\_\_\_\_

## DIMENSIONS CONTINUED

### OPTIONAL HOUSINGS



**LFR-4RD-H  
NON-IC HOUSING FRAME**



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

# LFR-4RDS

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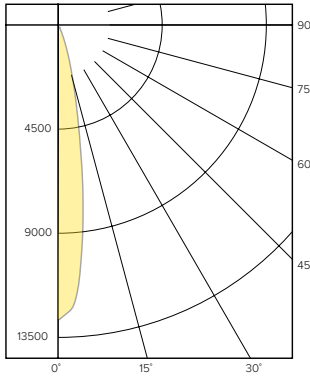
## PHOTOMETRY

### LFR-4RDS-M-20L35K8VNR-DM1 / LFR-4RDS-T-VNR-S

#### LUMINAIRE DATA

Test No.	21.00937
Description	2000 lm, Very Narrow, 3500K, 80 CRI
Delivered Lumens	1921
Watts	16.4W
Efficacy	117.1
Mounting	Recessed
Spacing Criterion	0.32
Beam Angle (FWHM)	19

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	12764
5	10808
15	2520
25	393
35	113
45	39
55	4
65	0
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	6803
55°	860
65°	0
75°	0
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

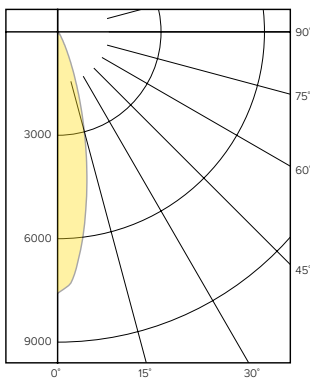
Zone	Lumens	% Luminaire
0-40	1885	98.1
0-60	1920	100.0
0-90	1921	100.0
0-180	1921	100.0

### LFR-4RDS-M-20L35K8NR-DM1 / LFR-4RDS-T-S

#### LUMINAIRE DATA

Test No.	21.00938
Description	2000 lm, Narrow, 3500K, 80 CRI
Delivered Lumens	1910
Watts	16.4W
Efficacy	116.4
Mounting	Recessed
Spacing Criterion	0.43
Beam Angle (FWHM)	26

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	7583
5	6707
15	2990
25	702
35	164
45	56
55	6
65	0
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	9768
55°	1290
65°	0
75°	0
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

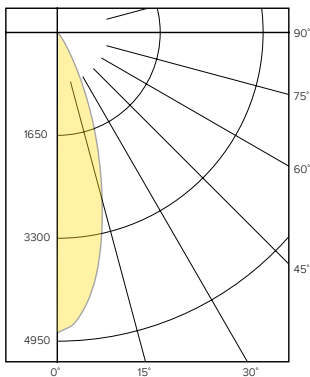
Zone	Lumens	% Luminaire
0-40	1860	97.4
0-60	1909	100.0
0-90	1910	100.0
0-180	1910	100.0

### LFR-4RDS-M-20L35K8MD-DM1 / LFR-4RDS-T-S

#### LUMINAIRE DATA

Test No.	21.00940
Description	2000 lm, Medium, 3500K, 80 CRI
Delivered Lumens	1842
Watts	16.4W
Efficacy	112.3
Mounting	Recessed
Spacing Criterion	0.6
Beam Angle (FWHM)	34

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	4816
5	4510
15	2775
25	1026
35	208
45	49
55	8
65	0
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	8547
55°	1720
65°	0
75°	0
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1793	97.3
0-60	1842	100.0
0-90	1842	100.0
0-180	1842	100.0

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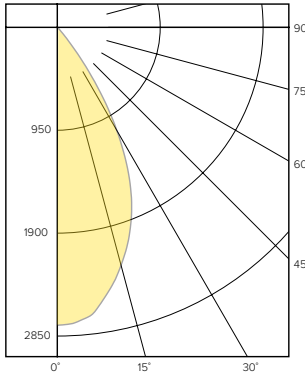
## PHOTOMETRY CONTINUED

### LFR-4RDS-M-20L35K8WD-DM1 / LFR-4RDS-T-S

#### LUMINAIRE DATA

Test No.	21.00939
Description	2000 lm, Wide, 3500K, 80 CRI
Delivered Lumens	1986
Watts	16.4W
Efficacy	126.4
Mounting	Recessed
Spacing Criterion	0.83
Beam Angle (FWHM)	54

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	2751
5	2706
15	2274
25	1589
35	555
45	27
55	3
65	0
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	4710
55°	645
65°	0
75°	0
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1953	98.3
0-60	1986	100.0
0-90	1986	100.0
0-180	1986	100.0

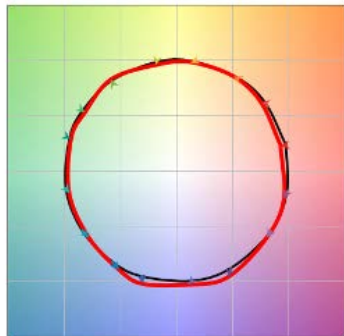
#### LUMEN MULTIPLIER

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



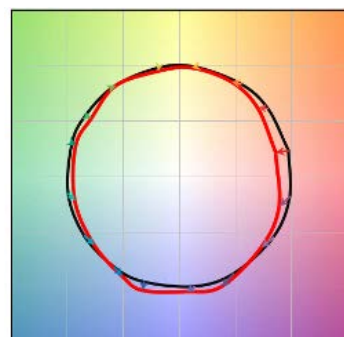
— Reference Illuminant — Test Source

#### COLOR DISTORTION GRAPHIC 3500K, 90 CRI



TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R <sub>t</sub>	85	90
R <sub>g</sub>	95	99
CCT (K)	3422	3416
D <sub>uv</sub>	-0.0008	-0.0019
x	0.4089	0.408
y	0.3906	0.3877
CIE R <sub>a</sub>	85	93
CIE R <sub>g</sub>	16	66

#### COLOR VECTOR GRAPHIC 3500K, 80 CRI



— Reference Illuminant — Test Source

#### COLOR DISTORTION GRAPHIC 3500K, 80 CRI





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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](http://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](http://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](http://www.dual-lite.com/products/litegear_lg_series)

LPS Series: [www.dual-lite.com/products/lps](http://www.dual-lite.com/products/lps)

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