

# LTR-4RD-RFH

LITEISTRY 4" ROUND RETROFIT DOWNLIGHT

## LITEISTRY™

### FEATURES

- 4" architectural LED retrofit downlight delivering 600 – 3000 lm
- Five beam distributions from 0.3 to 1.2 Spacing Criteria
- Quiet reflector appearance with superior 50° optical cutoff
- 2700K – 5000K, 80+ and 90+ CRI options
- For use in retrofit (non-IC) applications
- Variety of dimming protocol options including 0–10V, DALI, Lutron Forward Phase and EcoSystem



### RELATED PRODUCTS

- ∅ [LTR-4RD New Construction](#)
- ∅ [LTR-4RD SpectraSync](#)
- ∅ [LTR-4RD PowerHUBB](#)
- ∅ [3" LITEISTRY Family](#)
- ∅ [4" LITEISTRY Family](#)
- ∅ [6" LITEISTRY Family](#)

### SPECIFICATIONS

#### CONSTRUCTION

- Die cast aluminum mounting ring with 5-axis adjustable junction box
- Retrofit housing allows below ceiling installation without removing existing fixture
- Pre-wired junction box with snap-on covers for easy access
- Snap-in connection from driver compartment allows easy installation
- Light Engine connections use plenum rated (CMP) cable

#### OPTICS

- Visually pleasing 50° cutoff to source and source image
- The light distribution is free of distracting bright spots or pixelation and the perimeter has a smooth transition
- Optical grade silicone lens integral to light engine
- High purity spun aluminum reflector, self-flanged
- Flush Mount flange option with mud-in ring available
- Large selection of anodized finishes and colors
- Painted cones and flange options available

#### ELECTRICAL

- Chip-on-board LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >55,000 hours (TM-21)
- Universal voltage 120V–277V driver, 347V optional
- UL Class 2, inherent short circuit and overload protection, RoHS compliant
- Flicker free 0-10V dimming with 1% or <1% performance
- DALI and Lutron Forward Phase and EcoSystem options
- Refer to additional spec sheets for information on [SpectraSync™ Tunable White or Dim-to-Warm](#)

#### INSTALLATION

- Accommodates ceiling thickness up to 2"
- Light Engine/Driver fully serviceable from above or below the ceiling

#### CERTIFICATIONS

- cCSAus certified to UL 1598
- Suitable for wet locations, covered ceiling.
- Approved for 8 (4 in/4 out) No. 12AWG conductors rated for 90°C through wiring
- ENERGY STAR® certified models available (See list and additional information on page 7)
- This product qualifies as a “designated country construction material” per FAR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 6/6/2020. See [Buy American Solutions](#).

#### WARRANTY

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

KEY DATA	
Lumen Range	600-3000
Wattage Range	8-35
Efficacy Range (LPW)	90-99*
Reported Life (Hours)	L90 / >55,000
Input Current (mA)	67-292 (120V)

\*Based on Specular, 35K, 80 CRI



# LTR-4RD-RFH

LITEISTRY 4" ROUND RETROFIT DOWNLIGHT

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

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

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

## ORDERING GUIDE

**Example:** LTR-4RD-RFH-SL10L-DM1-LTR-4RD-T-SL35K8MD-S

CATALOG #

### HOUSING

LTR-4RD-RFH		Lumen Package		Lumen Output		Driver Options		Voltage		Housing Options	
Aperture/Shape/Function											
LTR-4RD-RFH	4" Round Downlight Retrofit Housing <sup>5</sup>	SL	Standard Lumen	06L	600	DM1	0-10V Dimming to 1%	Standard	120-277V	F	Fuse
				10L	1000						
				15L	1500						
LTR-4RD-RFHW	4" Round Downlight Retrofit Housing (for Wide Diameter) <sup>5</sup>	ML	Medium Lumen	20L	2000	DM01	0-10V Dimming to < 1%	34	347V <sup>6</sup>		
				25L	2500						
				30L	3000						
						DALI	DALI Dimming to 1%				
						2DM	Lutron Hi-Lume 2-wire Dimming to 1% (120V Forward Phase only) <sup>2</sup>				
						EDM	Lutron Hi-Lume EcoSystem Dimming to 1% <sup>2</sup>				

### TRIM

LTR-4RD-T		Lumen Package		CCT		CRI		Distribution			
Aperture/Shape/Function											
LTR-4RD-T	4" Round Downlight Light Engine/Trim Assembly	SL	Standard Lumen	27K	2700K	8	80+CRI	VNR	Very Narrow (0.3 SC/20°) <sup>7</sup>		
				ML	Medium Lumen	30K	3000K	9	90+CRI	NR	Narrow (0.4 SC/29°)
						35K	3500K			MD	Medium (0.7 SC/44°)
						40K	4000K			WD	Wide (0.9 SC/61°)
						50K	5000K <sup>1</sup>			XW	Extra Wide (1.2 SC/78°)

### TRIM CONTINUED

Reflector Finish		Reflector Color		Flange Color Options		Lower Trim Options		Reflector Options	
<i>Finish not applicable with painted reflectors (WC or BC)</i>		Standard Clear		Standard matches reflector color		WF Wide Flange		AM Antimicrobial Coating <sup>4</sup>	
S	Specular	CG	Champagne Gold	WT	White Flange <sup>3</sup>				
SS	Semi-Specular	BL	Black	BT	Black Flange <sup>3</sup>				
MFC	American Matte™	LW	Light Wheat						
VS	Softglow®	PW	Pewter						
VSS	SoftSheen™	WC	Painted White Cone and Flange						
		BC	Painted Black Cone and Flange						

### Accessories

- LiteGear** LiteGear® Inverter, 125VA-250VA
- LPS Series** LightPower Micro-Inverter, 20VA-55VA
- MOR4-R-WH** Metal Oversized Ring, 4" Round, White (8.25" outside diameter)
- MOR4-R-BL** Metal Oversized Ring, 4" Round, Black (8.25" outside diameter)

#### Notes:

- 1 5000K available in 80+ CRI only.
- 2 2DM and EDM available in 10L-30L.
- 3 WT not needed for WC, BT not needed for BC.
- 4 AM available with WC or Specular Clear (S or SWT). Consult factory for other colors.
- 5 See line art for compatibility with existing aperture diameters.
- 6 347V requires DM1 driver option; not available in 06L or F.
- 7 VNR available up to 30L. Not available with IC or CP options.



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

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

## PERFORMANCE DATA TABLE

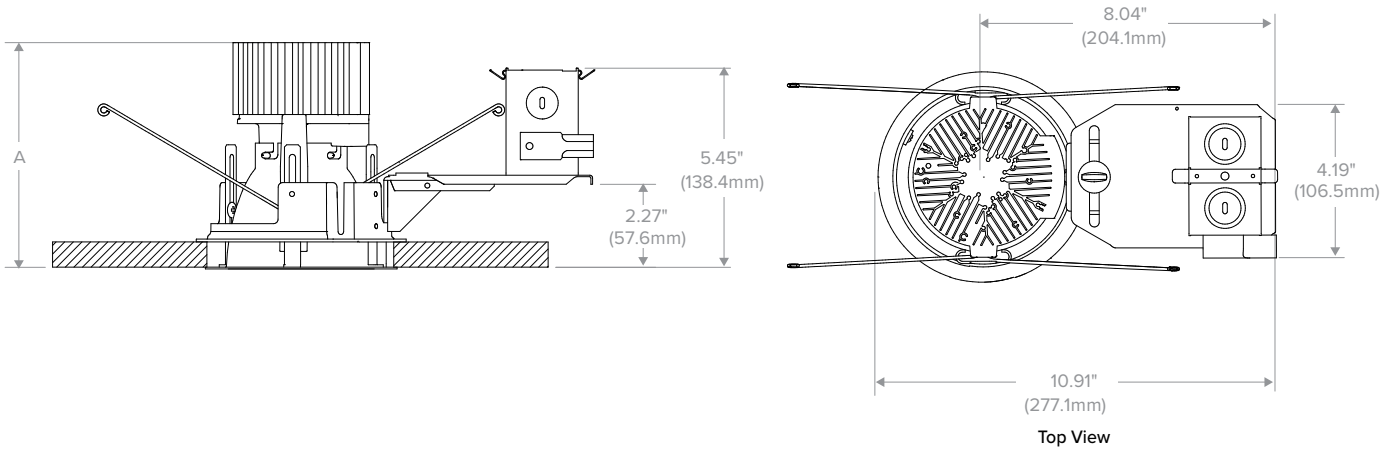
Performance data provided below is for 3500K, 80 CRI with Specular Clear reflector finish/color

Lumen Package	Nominal Lumens	Distribution	"Delivered Lumens"	Watts	LPW
06L	600	Very Narrow	691	7.6	91
		Narrow	785	7.8	101
		Medium	726	7.8	93
		Wide	664	7.8	85
		Extra Wide	644	7.8	83
10L	1000	Very Narrow	1132	11.8	96
		Narrow	1255	12.0	105
		Medium	1160	12.0	97
		Wide	1062	12.0	89
		Extra Wide	1030	12.0	86
15L	1500	Very Narrow	1623	17.2	94
		Narrow	1795	18.6	97
		Medium	1660	18.6	89
		Wide	1519	18.6	82
		Extra Wide	1474	18.6	79
20L	2000	Very Narrow	2032	22.4	91
		Narrow	2238	22.5	99
		Medium	2152	22.5	96
		Wide	2059	22.5	92
		Extra Wide	2028	22.5	90
25L	2500	Very Narrow	2447	28.6	86
		Narrow	2985	27.8	107
		Medium	2760	27.8	99
		Wide	2526	27.8	91
		Extra Wide	2451	27.8	88
30L	3000	Very Narrow	2855	35.9	80
		Narrow	3583	34.6	104
		Medium	3313	34.6	96
		Wide	3032	34.6	88
		Extra Wide	2941	34.6	85

# LTR-4RD-RFH

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## DIMENSIONS



Housing Compatibility Guide			
Existing Frame Opening**		Use Housing	Use Flange Option
MIN	MAX		
4.75" (120.7mm)	5.00" (127.0mm)	-RFH	(Standard)
5.00" (127.0mm)	5.50" (139.7mm)	-RFHW	WF

\*\*Measure the existing plaster frame opening at its narrowest point

Dimensional Data		
Aperture		4.00" (101.6mm)
Flange:	Standard	5.25" (133.4mm)
	Flush Mount	4.50" (114.3mm)
	Wide (WF)	5.75" (146.1mm)
Ceiling Cutout:	Standard	5.00" (127.0mm)
	Flush Mount	5.12" (130.0mm)
Ceiling Thickness:		0.50" to 2.00" (12.7mm to 50.8mm)

Lumen Package	"A"
06L-15L	4.97" (126.2mm)
20L-30L	6.15" (156.2mm)

### LTR-4RD-RFH/-RFHW

## PHOTOMETRY

### LTR-4RD-RFH-ML20L-DM1 / LTR-4RD-T-ML35K8VNR-S

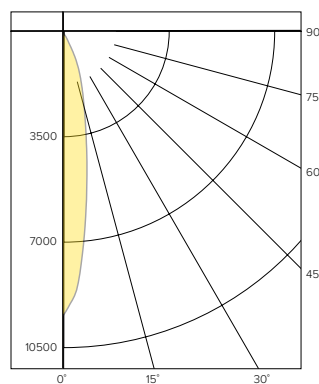
#### LUMINAIRE DATA

Test No.	R20.01331-02
Description	2000 lm, Very Narrow, 3500K, 80 CRI
Delivered Lumens	2032
Watts	22.4W
Efficacy	91
Mounting	Recessed
Spacing Criterion	0.3
Beam Angle (FWHM)	20

#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2011	99.0
0-60	2032	100.0
0-90	2032	100.0
0-180	2032	100.0

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	9388
5	7360
15	2780
25	1073
35	198
45	20
55	0
65	0
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	3489
55°	0
65°	0
75°	0
85°	0

\*Candela/Square Meter

# LTR-4RD-RFH

LITEISTRY 4" ROUND RETROFIT DOWNLIGHT

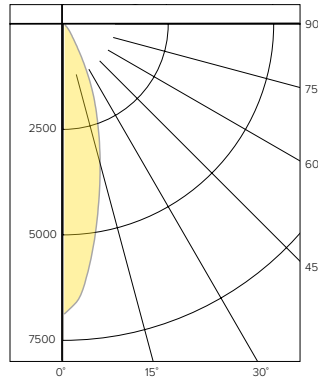
## PHOTOMETRY CONTINUED

### LTR-4RD-RFH-ML20L-DM1 / LTR-4RD-T-ML35K8NR-S

#### LUMINAIRE DATA

Test No.	<b>R19.00532-C02</b>
Description	<b>2000 lm, Narrow, 3500K, 80 CRI</b>
Delivered Lumens	<b>2238</b>
Watts	<b>22.5W</b>
Efficacy	<b>99.3</b>
Mounting	<b>Recessed</b>
Spacing Criterion	<b>0.4</b>
Beam Angle (FWHM)	<b>29</b>

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	6877
5	6035
15	3284
25	1313
35	260
45	26
55	3
65	1
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	4535
55°	645
65°	292
75°	0
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

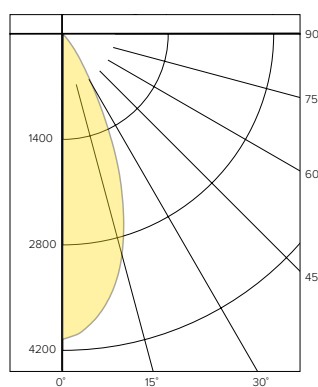
Zone	Lumens	% Luminaire
0-40	2208	98.6
0-60	2237	99.9
0-90	2238	100.0
0-180	2238	100.0

### LTR-4RD-RFH-ML20L-DM1 / LTR-4RD-T-ML35K8MD-S

#### LUMINAIRE DATA

Test No.	<b>R19.00533-C02</b>
Description	<b>2000 lm, Medium, 3500K, 80 CRI</b>
Delivered Lumens	<b>2152</b>
Watts	<b>22.5W</b>
Efficacy	<b>95.6</b>
Mounting	<b>Recessed</b>
Spacing Criterion	<b>0.7</b>
Beam Angle (FWHM)	<b>44</b>

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	4053
5	3893
15	3037
25	1493
35	366
45	34
55	3
65	1
75	0
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	5931
55°	645
65°	292
75°	0
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

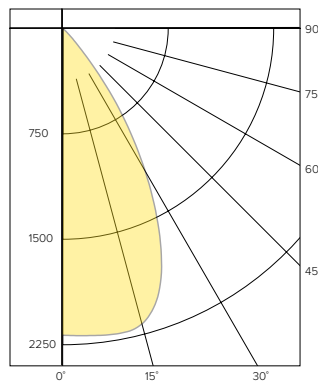
Zone	Lumens	% Luminaire
0-40	2113	98.2
0-60	2151	99.9
0-90	2152	100.0
0-180	2152	100.0

### LTR-4RD-RFH-ML20L-DM1 / LTR-4RD-T-ML35K8WD-S

#### LUMINAIRE DATA

Test No.	<b>R19.00534-C02</b>
Description	<b>2000 lm, Wide, 3500K, 80 CRI</b>
Delivered Lumens	<b>2059</b>
Watts	<b>22.5W</b>
Efficacy	<b>91.6</b>
Mounting	<b>Recessed</b>
Spacing Criterion	<b>0.9</b>
Beam Angle (FWHM)	<b>61</b>

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	2201
5	2210
15	2051
25	1504
35	692
45	169
55	10
65	3
75	1
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	11338
55°	1075
65°	584
75°	477
85°	0

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1983	96.3
0-60	2056	99.8
0-90	2059	100.0
0-180	2059	100.0

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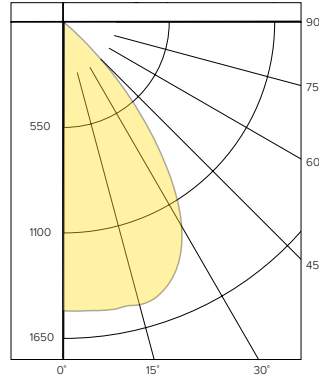
## PHOTOMETRY CONTINUED

### LTR-4RD-RFH-ML20L-DM1 / LTR-4RD-T-ML35K8XW-S

#### LUMINAIRE DATA

Test No.	R19.00535-C02
Description	2000 lm, Extra Wide, 3500K, 80 CRI
Delivered Lumens	2028
Watts	22.5W
Efficacy	90.2
Mounting	Recessed
Spacing Criterion	1.2
Beam Angle (FWHM)	78

#### POLAR GRAPH



#### CANDELA DISTRIBUTION

Degree	Candela
0	1235
5	1252
15	1392
25	1454
35	1010
45	256
55	6
65	2
75	1
85	0
90	0

#### LUMINANCE DATA\*

Vertical Angle	Average
45°	44656
55°	1290
65°	584
75°	231
85°	477

\*Candela/Square Meter

#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1794	88.5
0-60	2025	99.8
0-90	2028	100.0
0-180	2028	100.0

#### LUMEN MULTIPLIER

Option	27K8	30K8	35K8	40K8	50K8	27K9	30K9	35K9	40K9
Multiplier	0.94	0.98	1.00	1.01	1.02	0.81	0.84	0.85	0.85

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.

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

Option	Specular (S)	Semi-Specular (SS)	American Matte (MFC)	Softglow (VS)	Softsheen (VSS)
Multiplier	1	1	0.984	0.888	0.938

#### REFLECTOR COLOR MULTIPLIER (Based on Semi-Specular (SS) Finish)

Option	Clear (Standard)	Champagne Gold (CG)	Black (BL)	Light Wheat (LW)	Pewter (PW)	White Cone (WC)	Black Cone (BC)
Multiplier	1	0.974	0.444	0.861	0.915	0.984	0.442

Multiply FINISH x COLOR to calculate other reflector finish and color combinations. Example: SoftGlow Pewter (VSPW) = 0.888 (VS) x 0.915 (PW) = 0.813

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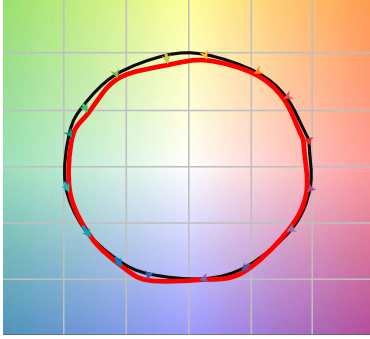
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TYPE: \_\_\_\_\_ PROJECT: \_\_\_\_\_

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

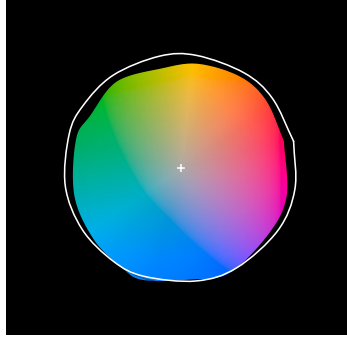
## TM-30 DATA

COLOR VECTOR GRAPHIC  
3500K, 90 CRI



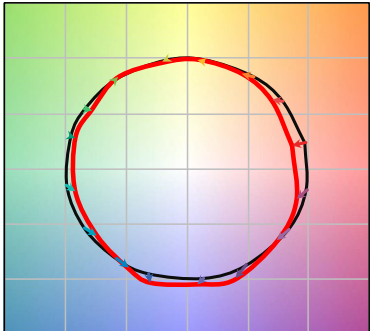
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC  
3500K, 90 CRI



TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
$R_t$	84	88
$R_g$	95	95
CCT (K)	3411	3419
$D_{uv}$	0.0015	0.0042
x	0.4120	0.4147
y	0.3974	0.4052
CIE $R_a$	84	93
CIE $R_g$	11	62

COLOR VECTOR GRAPHIC  
3500K, 80 CRI



— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC  
3500K, 80 CRI





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

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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.

WATTAGE DATA		
Lumen Output	Nominal Lumens	Wattage
06L	600	8
10L	1000	12
15L	1500	19
20L	2000	23
25L	2500	28
30L	3000	35

\* Wattage may vary based on configuration and options selected

## ADDITIONAL INFORMATION

DIMMING COMPATIBILITY CHART		
Dimming Driver	Manufacturer	Web Link
DM1 /DM01	Lutron DVTV	<a href="http://bit.ly/11jSvZg">http://bit.ly/11jSvZg</a>
DM1	Leviton AWRMG-7xx, AWSMG-7xx, AWSMT-7xx	<a href="http://bit.ly/1BjN2R9">http://bit.ly/1BjN2R9</a>
EDM	Lutron	<a href="http://bit.ly/1vtjHAI">http://bit.ly/1vtjHAI</a>
2DM	Lutron	<a href="http://bit.ly/1S4WjXK">http://bit.ly/1S4WjXK</a>

### 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)

### ENERGY STAR®

For a list of certified models, click on the ENERGY STAR® MODELS link or visit [www.energystar.gov](http://www.energystar.gov).