

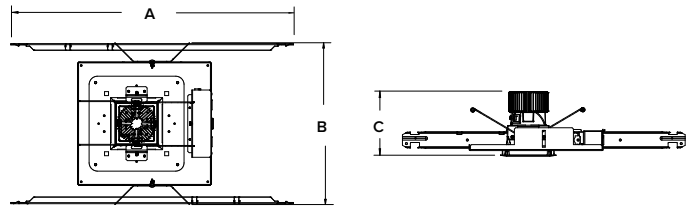
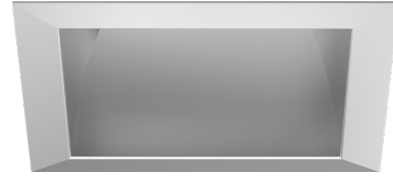
LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

FEATURES

- 4" square architectural LED downlight delivering 600 – 4000 lumens
- Standard with non-ferromagnetic construction, options/accessories and remote power supply as required for MRI applications
- Five beam distributions assist in targeted illumination of patient, equipment and diagnostic related tasks
- 50° cutoff to source and source image provides a low glare, calming environment for patients with enhanced visual acuity necessary for clinical staff
- Options for color temperature range from 2700K– 5000K in 80+ or 90+ CRI support a wide array of procedural related tasks
- Aluminum anodized reflectors are available in a wide array of colors and finishes



Typical Dimensions and Weights			
Lumen Package	"A" Length Inches (mm)	"B" Width Inches (mm)	"C" Height Inches (mm)
06L - 15L	24.0 (610)	15.34 (390)	4.83 (123)
20L - 30L	24.0 (610)	15.34 (390)	6.02 (153)
35L - 40L	24.0 (610)	15.34 (390)	7.20 (183)

See DIMENSIONS section for complete details

SPECIFICATIONS

CONSTRUCTION

- Non-ferromagnetic platform has pre-installed bar hangers for simple installation
- Light engine connections use plenum rated (CMP) cable
- Remote Driver Enclosure (RDE) houses remote power supply required for MRI applications

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 is integral to the light engine to ensure precise beam control
- High purity aluminum reflector enables reliable and consistent finish and color
- 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)

Remote Driver Cabinet (RDE)

- Universal voltage 120V–277V driver
- UL Class 2, inherent short circuit and overload protection
- Flicker free 0–10V dimming to 1%

INSTALLATION

- Accommodates ceiling thickness up to 2" (See DIMENSIONS section for details)
- Non-ferromagnetic adjustable mounting brackets and bar hangers included
- Light Engine fully serviceable from above or below the ceiling
- Remote driver cabinet requires MRI EMI lighting filters provided by others. (See ADDITIONAL INFORMATION section for details)

CERTIFICATIONS

- CSA certified
- Suitable for wet location (under covered ceiling)
- SL and ML Trim options comply with MIL-STD-461G for electromagnetic compatibility
- SL and ML Trim options comply with IEC / EN 60611-1-2:2020 for basic safety and performance for electromagnetic compatibility with medical electrical equipment and systems

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	600–4000
Wattage Range	8–52**
Efficacy Range (LPW)	89–99*
Life (Hours)	L90 / >55,000

*Based on 35K, 80 CRI
**Wattage per trim

LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT
MRI

ORDERING GUIDE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

Example: LTR-4SQD-H-MRI / LTR-4SQD-T-MRI-SL35K8MD-SS / RDE-LTR-SL10LDM1-1

CATALOG #

HOUSING

LTR-4SQD-H	MRI
Aperture/Shape/Function	Housing Type
LTR-4SQD-H 4" Square Downlight New Construction Housing	MRI MRI / Scanning (Non-ferromagnetic)

TRIM

LTR-4SQD-T-MRI									
Aperture/Shape/Function		Lumen Package	CCT	CRI	Distribution	Reflector Finish	Reflector Color	Flange Color Options	Reflector Options
LTR-4SQD-T-MRI 4" Square Non-ferromagnetic Downlight Light Engine /Trim Assembly		SL Standard Lumen	27K 2700K	8 80+ CRI	VNR Very Narrow (0.4 SC/23°) ⁸	<i>Finish not applicable with painted reflectors (WC or BC)</i>	Standard Clear	Standard matches reflector color	AM Antimicrobial Coating ⁴
		ML Medium Lumen	30K 3000K	9 90+ CRI	NR Narrow (0.6 SC/37°)	S Specular	CG Champagne Gold	WT White Flange ³	
		HL High Lumen ²	35K 3500K		MD Medium (0.7 SC/46°)	SS Semi-Specular	BL Black	BT Black Flange ³	
			40K 4000K		WD Wide (1.0 SC/60°)		LW Light Wheat		
			50K 5000K ¹		XW Extra Wide (1.2 SC/69°)		PW Pewter		
							WC Painted White Cone and Flange		
							BC Painted Black Cone and Flange		

REMOTE DRIVER CABINET^{5, 6, 7}

RDE-LTR				
Remote Driver Cabinet		Lumen Package	Lumen Output	Driver Options
RDE-LTR Remote Driver Cabinet for use with LTR MRI Downlights		SL Standard Lumen	06L 600 10L 1000 15L 1500	DM1 0-10V Dimming to 1%
		ML Medium Lumen	20L 2000 25L 2500 30L 3000	
		HL High Lumen	35L 3500 40L 4000	

Notes:

- 1 5000K available in 80+ CRI only.
- 2 HL options not available with MIL461G or IEC.
- 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 For cabinet dimensions and mounting details see DIMENSIONS section.
- 6 Cabinet contains power supply only. Filters not included and must be supplied by others.
- 7 For driver and input power information see ADDITIONAL INFORMATION section.
- 8 VNR available up to 30L.

LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

MRI

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	705	8.2	86
		Narrow	796	7.8	102
		Medium	764	7.8	98
		Wide	678	7.8	87
		Extra Wide	643	7.8	82
10L	1000	Very Narrow	1158	12.5	92
		Narrow	1273	12.0	106
		Medium	1222	12.0	102
		Wide	1085	12.0	90
		Extra Wide	1028	12.0	86
15L	1500	Very Narrow	1663	18.0	92
		Narrow	1821	18.6	98
		Medium	1748	18.6	94
		Wide	1552	18.6	83
		Extra Wide	1471	18.6	79
20L	2000	Very Narrow	2090	23.3	90
		Narrow	2237	22.7	99
		Medium	2209	22.7	97
		Wide	2081	22.7	92
		Extra Wide	2026	22.7	89
25L	2500	Very Narrow	2520	29.6	85
		Narrow	3029	27.8	109
		Medium	2907	27.8	105
		Wide	2580	27.8	93
		Extra Wide	2446	27.8	88
30L	3000	Very Narrow	2944	37.0	80
		Narrow	3636	34.6	105
		Medium	3490	34.6	101
		Wide	3097	34.6	90
		Extra Wide	2936	34.6	85
40L	4000	Narrow	4957	51.5	96
		Medium	4758	51.5	92
		Wide	4222	51.5	82
		Extra Wide	4003	51.5	78

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

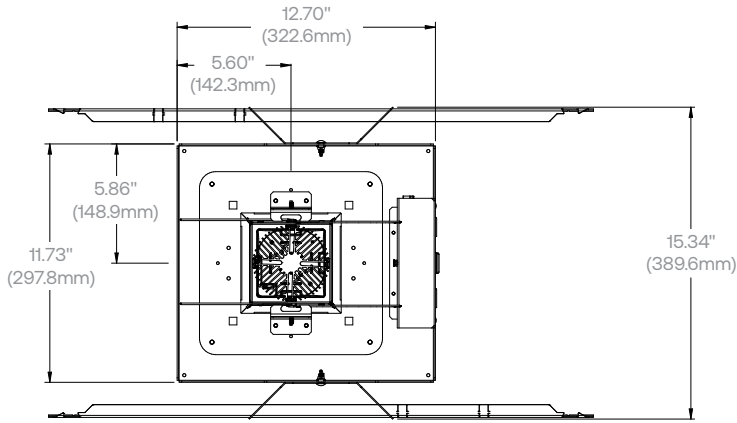
LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

MRI

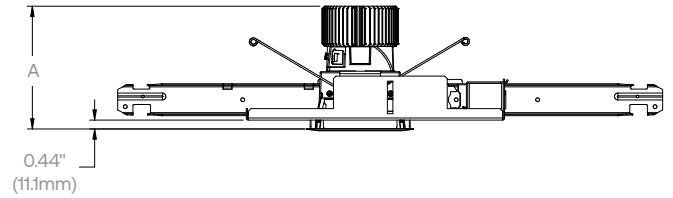
DIMENSIONS

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	



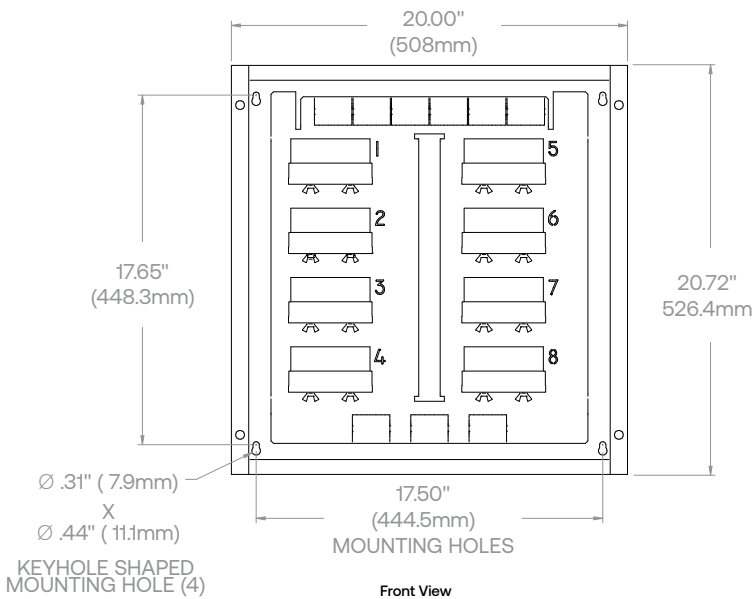
Top View

LTR-4SQD-H MRI New Construction

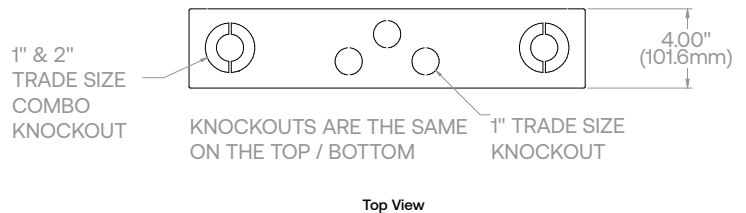


Lumen Package	"A"
06L-15L	4.83" (122.7mm)
20L-30L	6.02" (152.9mm)
35L-40L	7.20" (182.9mm)

Dimensional Data	
Aperture Opening	□ 4.00" (101.6 mm)
Overall Flange	□ 5.25" (133.4mm)
Ceiling Cutout	□ 5.00" (127.0mm)
Ceiling Thickness	0.50" to 2.00" (12.7 mm to 50.8 mm)



Front View



Top View

RDE-LTR Remote Driver Cabinet

LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

MRI

PHOTOMETRY

LTR-4SQD-H-MRI-ML20L-DM1 / LTR-4SQD-T-MRI-ML35K8VNR-SS / RDE-LTR-ML20LDM1-1

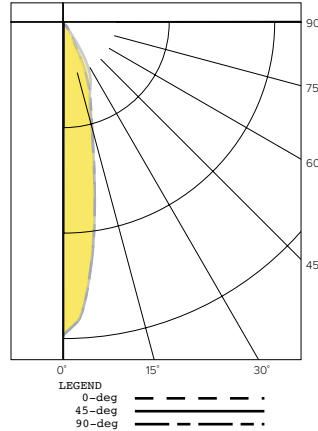
LUMINAIRE DATA

Test No.	20.01214
Description	2000 lm, Very Narrow, 3500K, 80 CRI
Delivered Lumens	2090
Watts	23.3W
Efficacy	90
Mounting	Recessed
Spacing Criterion	0.4
Beam Angle (FWHM)	23

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1994	95.4
0-60	2083	99.6
0-90	2090	100.0
0-180	2090	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela - 0	Candela - 45	Candela - 90
0	6726	6726	6726
5	5842	5834	5819
15	2473	2412	2440
25	1158	1490	1150
35	199	626	199
45	110	133	110
55	17	21	17
65	5	5	4
75	2	2	2
85	0	0	0
90	0	0	0

LTR-4SQD-H-MRI-ML20L-DM1 / LTR-4SQD-T-MRI-ML35K8NR-SS / RDE-LTR-ML20LDM1-1

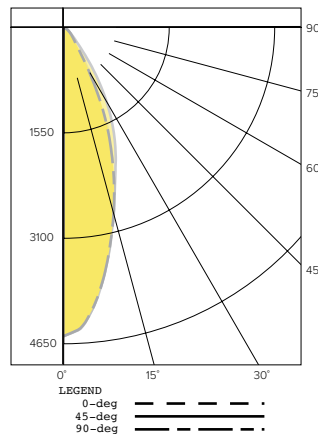
LUMINAIRE DATA

Test No.	P19.00949
Description	2000 lm, Narrow, 3500K, 80 CRI
Delivered Lumens	2237
Watts	22.7W
Efficacy	98.7
Mounting	Recessed
Spacing Criterion	0.6
Beam Angle (FWHM)	37

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2103	94.0
0-60	2227	99.6
0-90	2237	100.0
0-180	2237	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela - 0	Candela - 45	Candela - 90
0	4527	4527	4527
5	4233	4235	4231
15	2801	2791	2788
25	1321	1711	1318
35	282	655	283
45	110	133	110
55	23	30	24
65	5	6	5
75	2	2	2
85	1	1	1
90	0	0	0

LTR-4SQD-H-MRI-ML20L-DM1 / LTR-4SQD-T-MRI-ML35K8MD-SS / RDE-LTR-ML20LDM1-1

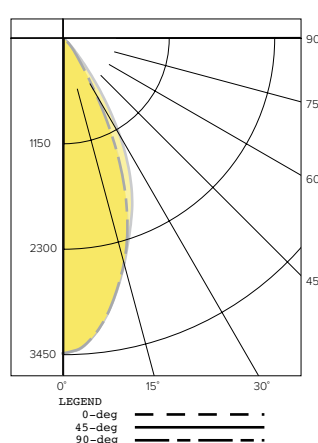
LUMINAIRE DATA

Test No.	P19.00950
Description	2000 lm, Medium, 3500K, 80 CRI
Delivered Lumens	2209
Watts	22.7W
Efficacy	97.4
Mounting	Recessed
Spacing Criterion	0.7
Beam Angle (FWHM)	46

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	2056	93.1
0-60	2199	99.6
0-90	2209	100.0
0-180	2209	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela - 0	Candela - 45	Candela - 90
0	3435	3435	3435
5	3305	3309	3307
15	2550	2565	2556
25	1414	1761	1424
35	365	739	371
45	123	155	124
55	26	34	26
65	6	6	5
75	2	3	2
85	1	1	1
90	0	0	0

LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

MRI

PHOTOMETRY CONTINUED

LTR-4SQD-H-MRI-ML20L-DM1 / LTR-4SQD-T-MRI-ML35K8WD-SS / RDE-LTR-ML20LDM1-1

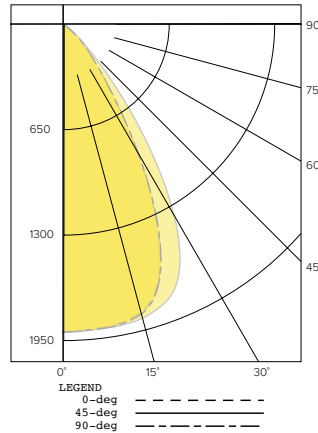
LUMINAIRE DATA

Test No.	P19.01045
Description	2000 lm, Wide, 3500K, 80 CRI
Delivered Lumens	2081
Watts	22.7W
Efficacy	91.8
Mounting	Recessed
Spacing Criterion	1.0
Beam Angle (FWHM)	60

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1846	96.3
0-60	2068	99.8
0-90	2081	100.0
0-180	2081	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela - 0	Candela - 45	Candela - 90
0	1906	1906	1906
5	1897	1902	1900
15	1850	1887	1861
25	1392	1702	1403
35	549	939	558
45	190	257	192
55	38	52	39
65	7	8	7
75	3	3	3
85	1	1	1
90	0	0	0

LTR-4SQD-H-MRI-ML20L-DM1 / LTR-4SQD-T-MRI-ML35K8XW-SS / RDE-LTR-ML20LDM1-1

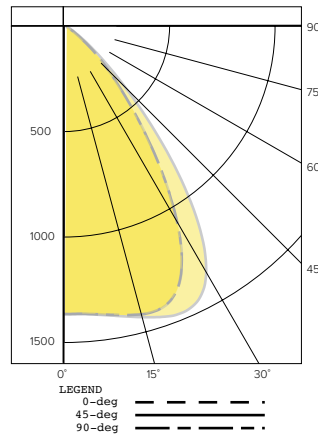
LUMINAIRE DATA

Test No.	P19.00952
Description	2000 lm, Extra Wide, 3500K, 80 CRI
Delivered Lumens	2026
Watts	22.7W
Efficacy	89.2
Mounting	Recessed
Spacing Criterion	1.2
Beam Angle (FWHM)	69

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	1699	83.9
0-60	2012	99.3
0-90	2026	100.0
0-180	2026	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela - 0	Candela - 45	Candela - 90
0	1368	1368	1368
5	1373	1375	1373
15	1418	1432	1417
25	1304	1458	1301
35	741	1064	738
45	271	376	271
55	48	73	49
65	8	9	8
75	3	3	3
85	1	1	1
90	0	0	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.

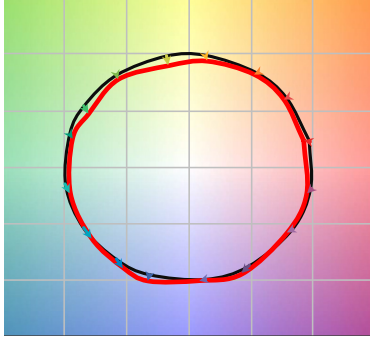
LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT

MRI

TM-30 DATA

COLOR VECTOR GRAPHIC
3500K, 90 CRI

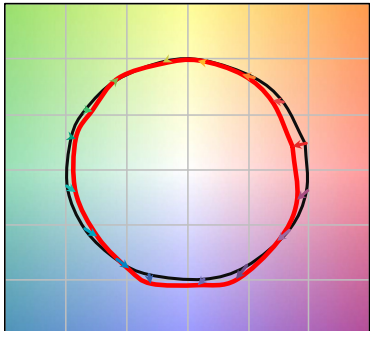


COLOR DISTORTION GRAPHIC
3500K, 90 CRI



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



COLOR DISTORTION GRAPHIC
3500K, 80 CRI



LTR-4SQD (MRI)

4" SQUARE COMPLEX ENVIRONMENT DOWNLIGHT
 MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ADDITIONAL INFORMATION

Dimming Compatibility

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

Remote Driver Cabinet (RDE)

WARNING: The Remote Driver Enclosure contains electronic devices and ferrous parts that could damage or interfere with the function of the MRI equipment if placed inside the MRI shield.

DO NOT PLACE THE REMOTE DRIVER ENCLOSURE INSIDE THE MRI RF SHIELD!

DO NOT ATTACH the Remote Driver Enclosure to the MRI RF shield!

See RDE Remote Driver Cabinet Installation instructions on currentlighting.com/lifeshield for complete details.

REMOTE DRIVER CABINET (RDE) ELECTRICAL DATA	
Input Voltage	120-277 V
Input Frequency	50/60 Hz
Power Factor	≥0.90
THD	<20%

UL Class 2, inherent short circuit and overload protection with 0–10V dimming to 1%

EMI FILTERS

An appropriately rated MRI EMI filter (supplied by others) is REQUIRED to be used on each driver/luminaire circuit to prevent interference and degradation of the MRI image. The EMI Filters should be rated for the DC voltage and current output of each of the driver/luminaire circuits.

Use the MRI Trim Electrical Data table for determining the MRI EMI filter ratings needed.

Some suggested MRI EMI Lighting Filters are:
 TE Corcom 1-1609091-3, 1-1609091-4, and 1-1609091-5
 Astrodyne TDI 059 Series MRI EMI Filters
 ETS-Lindgren MRI EMI Filters

MRI TRIM ELECTRICAL DATA				
Volts DC	Amps	Lumen Output	Cat. Logic	Optical Dist.
34	0.165	600 (06L)	SL	NR
34	0.280	1000 (10L)		
34	0.420	1500 (15L)		
34	0.550	2000 (20L)	ML	MD
34	0.700	2500 (25L)		
34	0.870	3000 (30L)		
34	1.050	3500 (35L)	HL	XW
34	1.250	4000 (40L)		
35.6	0.165	600 (06L)	SL	VNR
35.6	0.280	1000 (10L)		
35.6	0.420	1500 (15L)		
35.6	0.550	2000 (20L)	ML	
35.6	0.700	2500 (25L)		
35.6	0.870	3000 (30L)		