

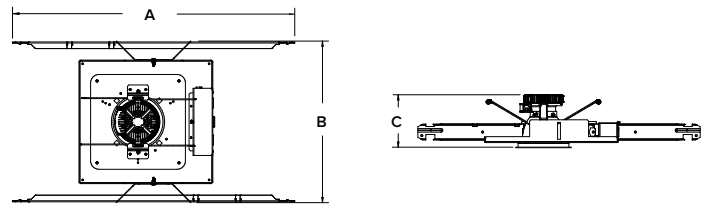
LTR-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

FEATURES

- 4" round 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 and wall wash 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)	4.97 (126)
20L - 30L	24.0 (610)	15.34 (390)	6.15 (156)
35L - 40L	24.0 (610)	15.34 (390)	7.33 (186)

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)	75-107*
Reported Life (Hours)	L90 / >55,000

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

LTR-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

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

CATALOG #

HOUSING

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

TRIM

Aperture/Shape/Function	Lumen Package	CCT	CRI	Distribution	Reflector Finish	Reflector Color	Flange Color Options	Reflector Options
LTR-4RD-T-MRI 4" Round Non-ferromagnetic Downlight Light Engine / Trim Assembly	SL Standard Lumen	27K 2700K	8 80+ CRI	VNR Very Narrow (0.3 SC/18°) ⁹	<i>Finish not applicable with painted reflectors (WC or BC)</i>	<i>Standard Clear</i>	<i>Standard matches reflector color</i>	AM Antimicrobial Coating ⁴
	ML Medium Lumen	30K 3000K	9 90+ CRI	NR Narrow (0.4 SC/29°)	S Specular	CG Champagne Gold	WT White Flange ³	
	HL High Lumen ⁸	35K 3500K		MD Medium (0.7 SC/44°)	SS Semi- Specular	BL Black	BT Black Flange ³	
		40K 4000K		WD Wide (0.9 SC/61°)	MFC American Matte™	LW Light Wheat	PW Pewter	
		50K 5000K ¹		XW Extra Wide (1.2 SC/78°)	VS Softglow®	WC Painted White Cone and Flange	BC Painted Black Cone and Flange	
LTR-4RW-T-MRI 4" Round Non-ferromagnetic Wall Wash Light Engine / Trim Assembly ²				WW Single Wall Wash ²	VSS SoftSheen™			

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	
				Number of Drivers
				1 1 Driver
				2 2 Drivers
				3 3 Drivers
				4 4 Drivers
				5 5 Drivers
				6 6 Drivers
				7 7 Drivers
				8 8 Drivers

Notes:

- 5000K available in 80+ CRI only.
- Wall wash trim requires WW distribution option.
- WT not needed for WC, BT not needed for BC.
- AM available with WC or Specular Clear (S or SWT). Consult factory for other colors.
- For cabinet dimensions and mounting details see DIMENSIONS section.
- Cabinet contains power supply only. Filters not included and must be supplied by others.
- For driver and input power information see ADDITIONAL INFORMATION section.
- HL options not available with MIL46IG or IEC.
- VNR available up to 30L.

LTR-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PERFORMANCE DATA TABLE (3500K, 80CRI)

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

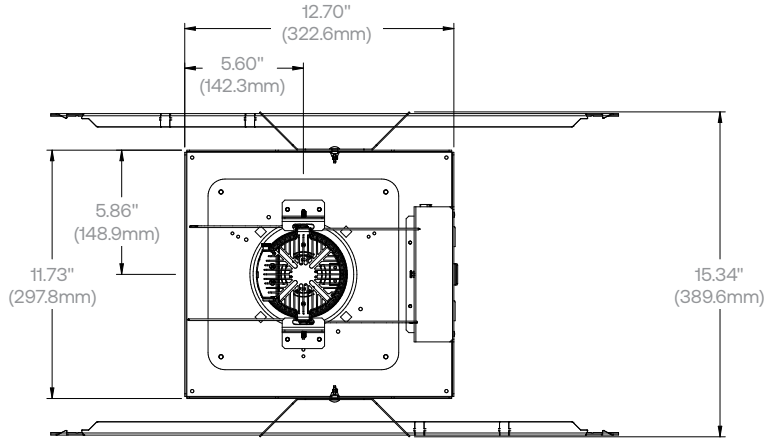
Lumen Package	Nominal Lumens	Distribution	Delivered Lumens	Watts	LPW
06L	600	Very Narrow	691	7.6	91
		Narrow	785	7.8	101
		Medium	726	7.8	93
		Wide	664	7.8	85
		Extra Wide	644	7.8	83
		Wall Wash	620	7.8	79
10L	1000	Very Narrow	1132	11.8	96
		Narrow	1255	12.0	105
		Medium	1160	12.0	97
		Wide	1062	12.0	89
		Extra Wide	1030	12.0	86
		Wall Wash	991	12.0	83
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
		Wall Wash	1418	18.6	76
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
		Wall Wash	1989	22.7	88
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
		Wall Wash	2357	27.8	85
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
		Wall Wash	2829	34.6	82
35L	3500	Narrow	4280	42.9	100
		Medium	3957	42.9	92
		Wide	3622	42.9	84
		Extra Wide	3514	42.9	82
		Wall Wash	3380	42.9	79
40L	4000	Narrow	4885	51.5	95
		Medium	4517	51.5	88
		Wide	4134	51.5	80
		Extra Wide	4011	51.5	78
		Wall Wash	3858	51.5	75

LTR-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

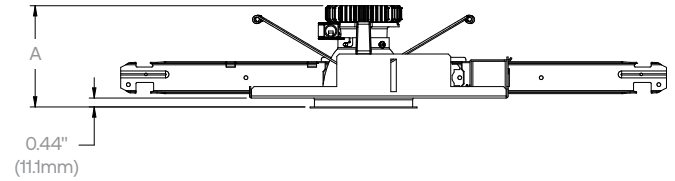
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TYPE:	PROJECT:
CATALOG #:	

DIMENSIONS



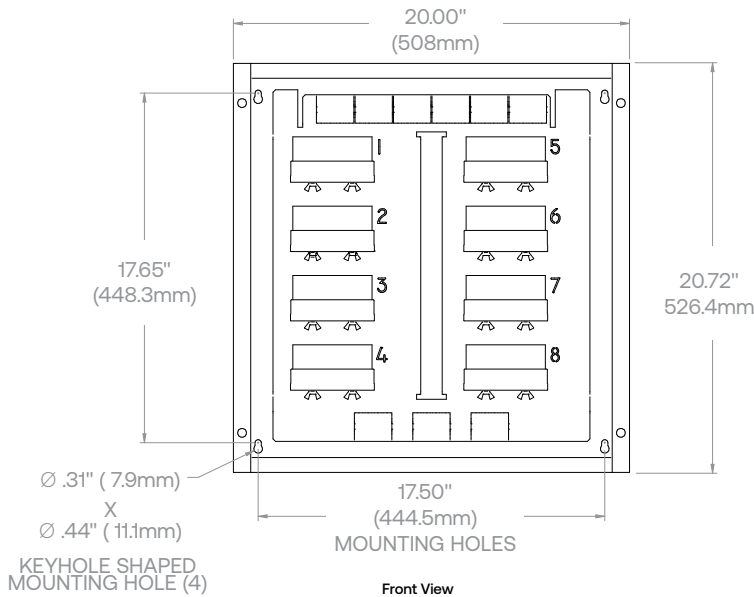
Top View

LTR-4RD-H MRI New Construction

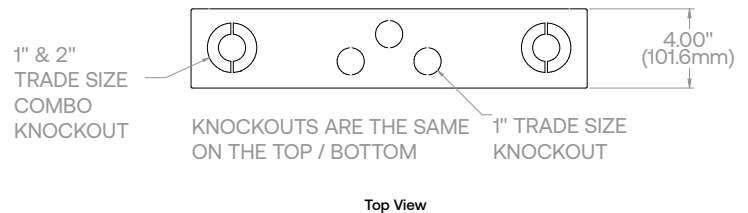


Lumen Package	"A"
06L-15L	4.97" (126.2mm)
20L-30L	6.15" (156.2mm)
35L-40L	7.33" (186.2mm)

Dimensional Data	
Aperture Opening	Ø 4.00" (101.6 mm)
Overall Flange	Ø 5.25" (133.4mm)
Ceiling Cutout	Ø 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-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PHOTOMETRY

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

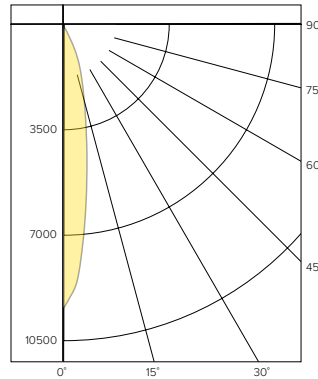
LUMINAIRE DATA

Test No.	20.01331
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-H-MRI-ML20L-DM1 / LTR-4RD-T-MRI-ML35K8NR-SS / RDE-LTR-ML20LDM1-1

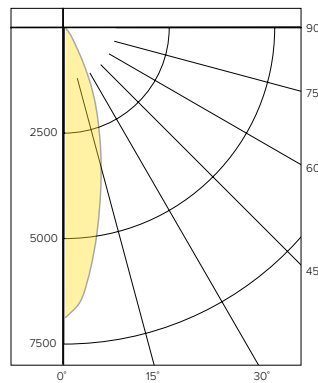
LUMINAIRE DATA

Test No.	19.00532
Description	2000 lm, Narrow, 3500K, 80 CRI
Delivered Lumens	2238
Watts	22.5W
Efficacy	99.3
Mounting	Recessed
Spacing Criterion	0.4
Beam Angle (FWHM)	29

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

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

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

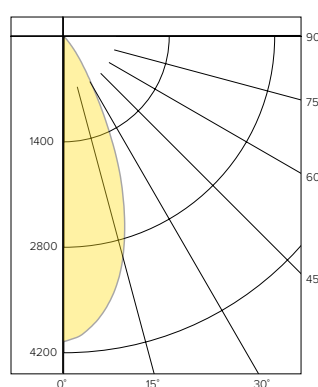
LUMINAIRE DATA

Test No.	19.00533
Description	2000 lm, Medium, 3500K, 80 CRI
Delivered Lumens	2152
Watts	22.5W
Efficacy	95.6
Mounting	Recessed
Spacing Criterion	0.7
Beam Angle (FWHM)	44

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

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

LTR-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PHOTOMETRY CONTINUED

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

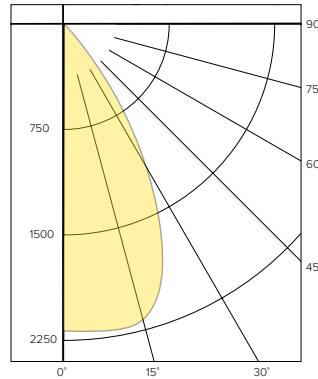
LUMINAIRE DATA

Test No.	19.00534
Description	2000 lm, Wide, 3500K, 80 CRI
Delivered Lumens	2059
Watts	22.5W
Efficacy	91.6
Mounting	Recessed
Spacing Criterion	0.9
Beam Angle (FWHM)	61

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

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

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

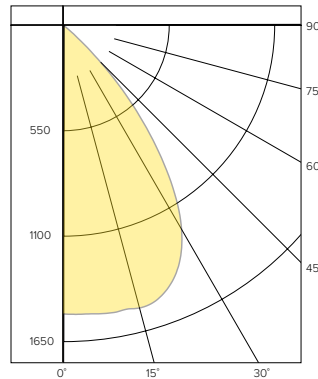
LUMINAIRE DATA

Test No.	19.00535
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

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

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

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

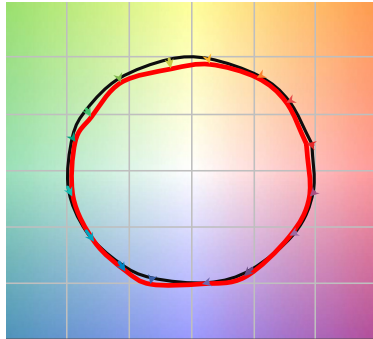
LTR-4RD (MRI)

4" ROUND COMPLEX ENVIRONMENT DOWNLIGHT
MRI

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

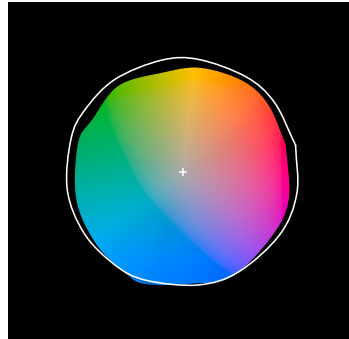
TM-30 DATA

COLOR VECTOR GRAPHIC
3500K, 90 CRI



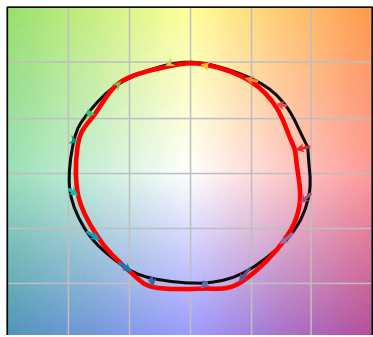
— Reference Illuminant — Test Source

COLOR DISTORTION GRAPHIC
3500K, 90 CRI



TEST RESULTS - 3500K		
Value	80+ CRI	90+ CRI
R_i	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



LTR-4RD (MRI)

4" ROUND 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 MD WD XW
34	0.280	1000 (10L)		
34	0.420	1500 (15L)		
34	0.550	2000 (20L)	ML	
34	0.700	2500 (25L)		
34	0.870	3000 (30L)		
34	1.050	3500 (35L)	HL	
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)		