

CATALOG #	TYPE	
JOB NAME	WATTAGE	VOLTAGE

4" LED 1300 LUMEN SERIES 20 WATT

MRS-04250

SmartLED™ MRI Lighting Systems



Shallow Lensed Downlight • LED

Up to 90,000 Hour Life • Type IC • LM-80 / LM-79 Certified

Use With:

- SmartSupply™ LPS-1220A
- SmartFilter™ RFI-3100D

Specifications

Delivered System Performance*

- Standard MFL distribution: 1342 delivered lumens / 61 LPW / 0.7 SC.
- -NFL: 1358 lumens / 62 LPW / 0.4 SC.
- -WFL: 1028 lumens / 49 LPW / 1.1 SC.
- 20 watt LED array. 3500°K standard (or see Options -27K, -30K or -41K).
- Up to 85 CRI and 90,000 hour life (L70**). For 90+ CRI, see Option -HC.
- Fully sustainable: removable for servicing.

Thermal Management System

- All aluminum proprietary heat sink, components and housing maximize cool operation and long life while minimizing maintenance.

SmartSupply™ (Remote Power Supply) Required - Order Separately

- Digitally controlled. Drives up to 12-20W luminaires, with 6 configurable channels. Maximum 100 ft. cable length from SmartSupply™ to fixture.
- 100-1% full range dimming in up to 3 zones.
- LPS-1220A: Compatible with 0-10V DC dimming controls. See vendor qualified list in the Owner's Manual (760412-00-00).
- Suitable for dry, non-plenum locations only with ambient temperature range of -20°C

(-4°F) to 40°C (104°F). 115 - 277V isolated circuit only; maximum input voltage 290V; 50-60 Hz.

- For more information, see specification sheet for LPS-1220A.

SmartFilter™ (RFI / EMI Filter) Required - Order Separately

- Protects up to 3 SmartSupply channels.
- Provides 100 db of RF signal attenuation, matching the most stringent MRI requirements.
- For more information, see specification sheet for RFI-3100D.

SmartPower™ Battery Backup

- EMI-21220 for emergency power.
- See specification sheet, order separately.

Trim Assembly

- Tapered aluminum all white smooth self-flanged trim.
- Regressed tempered prismatic spread lens.

Acrylic Enameled Aluminum Housing

- Rustproof and corrosion resistant. Exceeds 1000 hour ASTM 5% salt spray test.
- Shallow depth fits restricted plenums.
- Cool operation: Extends life of all components.
- Fully sustainable: Entire luminaire, including light engine is modular, easily visible, serviced through aperture. Built-in plaster flange.
- Air Tight design available, see Option -AT.

Use of SmartSupply™ and SmartFilter™ REQUIRED or Kirlin warranty is null and void

Outlet Box

- Prewired, 100% aluminum. U.L. listed.
- Accessible. 1/2" knockouts.

Installation

- Requires minimum 18 AWG twisted pair shielded wire from SmartSupply™ to fixtures.
- Recesses in ceilings up to 1-1/8" thick or see Option -79.

- Aluminum 27" hanger bars with adjustable mounting brackets (2) supplied.

UL CUL (Canada) Listings

- Wet, damp, dry locations, covered ceilings.
- Type IC: for direct contact with insulation.

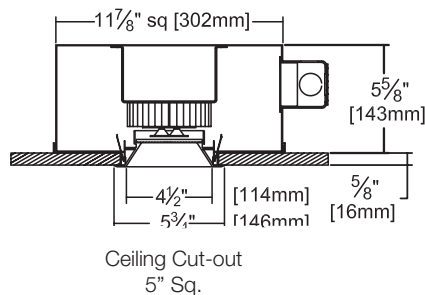
CE & FCC Compliance

- Meets IEC/EN 60601-1-2 electromagnetic compatibility standard for medical electrical equipment.
- FCC Part 15 certified for EMI/RFI emissions.

5 Year FIVE YEAR Limited Warranty

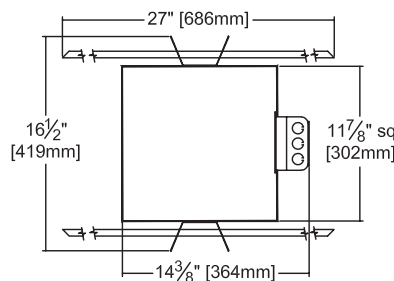
- Complete standard fixture.

Performance at a Glance

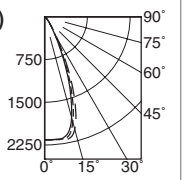


L70** for Kirlin Luminaires	
In Open Plenum	90,000 hours
In Insulation (Type IC)	60,000 hours

**Hours at 70% lumen maintenance



STANDARD (MFL) DISTRIBUTION
 Lumens: 1342
 Beam: ~42°
 SC: 0.7
 LPW: 61
 Effic: 85.2%
 ITL Test: 80312



Complete photometry for standard and optional distributions on next page



THE KIRLIN COMPANY

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*See note next page

SmartLED™ MRI Lighting Systems
 Luminaires • SmartSupply • SmartFilter

CATALOG NUMBER

MRS-04250

DUE TO OUR CONTINUING EFFORT TO IMPROVE PRODUCTS, TECHNICAL INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE. THE KIRLIN COMPANY EXPECTS PHOTOMETRIC PERFORMANCE TO IMPROVE SIGNIFICANTLY AND FREQUENTLY AS LED SOURCE TECHNOLOGY IMPROVES.

Detailed Photometry - Installed Fixture

Photometric testing done in accordance with IESNA LM-79-08

Photometry from I.T.L., Boulder, CO

STANDARD (MFL)

Lumens: 1342
Beam: ~42°
SC: 0.7
LPW: 61
Efficiency: 85.2%
ITL Test: 80312

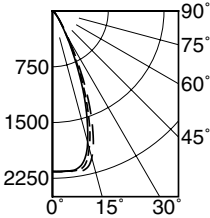


Total System Watts 21.9

CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	2159	2159	2159	2159	2159
5	2164	2164	2160	2161	2163
15	1909	1998	2043	1928	1829
25	776	844	901	796	713
35	203	209	205	207	188
45	74	70	63	68	68
55	21	23	29	22	21
65	6	7	8	7	6
75	3	3	3	3	3
85	1	1	1	1	1
90	0	0	0	0	0

Cone of Light ▲

Dist.	FC	Dia.
6	60.0	4.6
8	33.7	6.1
10	21.6	7.6
12	15.0	9.2
14	11.0	10.7
16	8.4	12.2



Option -SPT

Lumens: 1358
Beam: ~23°
SC: 0.4
LPW: 62
Efficiency: 86.2%
ITL Test: 80310

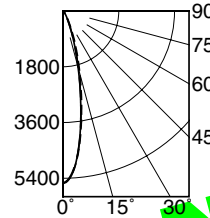


Total System Watts 21.9

CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	5553	5553	5553	5553	5553
5	4899	4913	4853	4884	4877
15	2105	2044	1915	1873	1876
25	591	529	454	451	477
35	165	136	116	124	139
45	59	53	51	50	50
55	19	21	26	20	18
65	6	6	7	6	6
75	3	3	3	3	2
85	1	1	1	1	1
90	0	0	0	0	0

Cone of Light ▲

Dist.	FC	Dia.
6	257.9	1.8
8	145.1	2.4
10	92.8	2.9
12	64.5	3.5
14	47.4	4.1
16	36.3	4.7



Option -WFL

Lumens: 1028
Beam: ~56°
SC: 1.1
LPW: 49
Efficiency: 63.4%
ITL Test: 83249

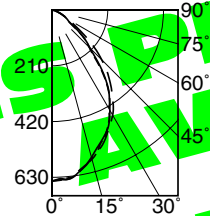


Total System Watts 20.8

CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	644	644	644	644	644
5	636	639	641	642	640
15	582	588	578	577	571
25	433	455	501	468	455
35	371	387	396	381	373
45	198	222	265	232	202
55	81	98	115	101	81
65	44	45	43	45	46
75	14	14	15	14	14
85	3	3	3	3	3
90	0	0	0	0	0

Cone of Light ▲

Dist.	FC	Dia.
6	11	8.5
8	6.4	10.6
10	4.5	12.7
12	3.3	14.9
14	2.5	17.0



LM-80 Qualified - LM-79 Certified Photometry

* LED manufacturers maintain a tolerance of ±7% on flux (lumens) and power (electrical) measurements. Kirlin photometrics are actual test data from independent Testing Laboratories (ITL) where photometry was measured from 1576 lumen (20W) and 1622 lumen (20W -WFL) light engines (within the established tolerance).

▲ Cone of Light Key
(Dia. (in ft.) shown is where FC value is half the FC at nadir.)

Ft. Distance from fixture
FC Footcandles at nadir (0°)
Dia. Circle of light at 50% of FC

Options

Color Temperature (CCT)

- 27K Color temperature 2700°K instead.
- 30K Color temperature 3000°K instead.
- 41K Color temperature 4100°K. Consult factory.
- HC 90+ CRI instead. Use with Option -27K or -30K only. Reduces output by ~15%.

Optics

- NFL Narrow flood distribution. (0.4 SC)
- WFL Wide flood distribution. (1.1 SC)

Trims

- 32 White oversize trim ring. Specify O.D.
- 45 Gasket between trim flange and ceiling.
- 46 Gasket between trim and lens.
- 94 Custom color/finish. Specify. Consult factory.

Other

- 79 Extension collar for up to 2" thick ceilings.
- 99 Special modification. Consult factory.
- AT Air tight version. Meets ASTM E283 restricted airflow of 2 CFM maximum.

3 Steps To "Artifact-Free" Imaging

1. Use complete Kirlin SmartLED™ MRI system: Luminaires, RFI-3100D SmartFilter™, LPS-1220A SmartSupply™
2. Use a minimum #18 AWG twisted, shielded pair wire
3. Use a 0-10V wall box dimmer that is approved for use with SmartSupply™ (consult Owner's Manual); wall dimmers must be located outside of room shield and must not be filtered through RFI-3100D SmartFilter™

SUBMITTAL DATA

JOB NAME _____
TYPE _____
WATTAGE _____ VOLTAGE _____
CATALOG NUMBER _____

APPROVAL STAMP



LIMITED WARRANTY: CATALOGED KIRLIN FIXTURES ARE WARRANTED FREE OF DEFECTS IN WORKMANSHIP OR MATERIAL FOR THREE YEARS FROM DATE OF PURCHASE. INSTALL TO N.E.C. IN NORMAL USE. Manufacturer of the option will replace or repair such fixture or refund the purchase price on presentation of proof of purchase and defective fixture at the office of manufacturer within three years of original shipment. Liability of manufacturer is limited to the foregoing and manufacturer shall not be liable for any other damages, direct or indirect, sustained or suffered by purchaser or any person. This warranty is subject to the buyer in place of all other warranties, expressed or implied. Seller does not warrant as to merchantability or fitness for a particular use, nor will any oral statement constitute a warranty or amend this specific warranty. Abnormal use, abuse of the fixture, improper installation, or repair or modification of the fixture without prior written authorization from the manufacturer will render the warranty void.