

SmartLED™ MRI Lighting Systems

Sealed & Gasketed • Anti-Microbial Trim

Hybrid MRI and Intraoperative MRI Applications

LM-80 Qualified • LM-79 Certified Photometry



Use With:

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

Specifications

Delivered System Performance*

- Standard MFL distribution: 1327 delivered lumens / 63 LPW / 0.7 SC.
- -NFL: 1317 lumens / 63 LPW / 0.5 SC.
- -WFL: 1187 lumens / 57 LPW / 1.3 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 12-15W 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.
- See specification sheet for LPS-1220A.

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

- Protects up to 3 SmartSupply channels.
- See specification sheet for RFI-3100D.

SmartPower™ Battery Backup

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

Trim / Lens Assembly

- Rustproof 100% aluminum grooveless, smooth, self-flanged white trim.
- Kirlin BioGard™ antimicrobial white finish continuously inhibits growth of bacteria on the coating of the trim.
- Regressed tempered prismatic spread lens.

5X Sealed and Gasketed

- (1) Silicone seal between trim and lens seals lens to trim; (2) closed cell gasketing between trim and housing flange seals trim to housing; (3) closed cell gasketing on trim flange seals flange to bottom pan seals housing to ceiling and (5) neoprene O-rings on stainless steel fasteners seal fasteners to trim.
- Meets ASTM E283 restricted airflow of 2 CFM maximum.

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.

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

- Air tight design (CCEA compliant) available, see Option -AT.

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 1/4" thick.
- Aluminum 27" hanger bars with adjustable mounting brackets (2) supplied.

UL, C-UL (Canada) Listings

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

CEC FCC Compliance

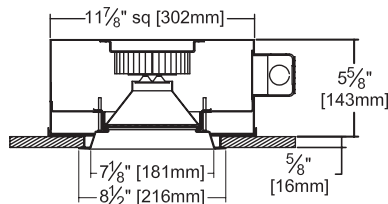
- Meets IEC/EN 60601-1-2 electromagnetic compatibility standard for medical electrical equipment.
- FCC Part 15 certified for EMI/RFI emissions.

5 Year

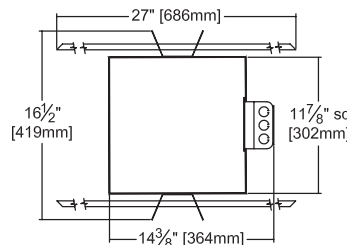
FIVE YEAR Limited Warranty

- Complete standard fixture.

Performance at a Glance



Ceiling Cut-out
8" Dia.



L70** for Kirlin Luminaires

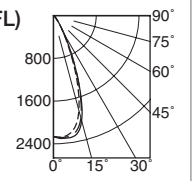
In Open Plenum	90,000 hours
In Insulation (Type IC)	60,000 hours

**Hours at 70% lumen maintenance



STANDARD (MFL) DISTRIBUTION

Lumens: 1327
Beam: ~40°
SC: 0.7
LPW: 63
Effic: 93.5%
ITL Test: 79852



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

MRR-07217

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)

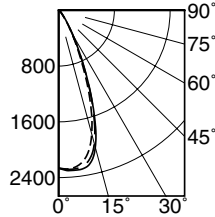
Lumens: 1327
Beam: ~40°
SC: 0.7
LPW: 63
Effic: 93.5%
ITL Test: 79852



Total System Watts 21.0

Cone of Light ▲

Dist.	FC	Dia.
6	62.9	4.4
8	35.4	5.9
10	22.7	7.3
12	15.7	8.8
14	11.6	10.3
16	8.8	11.7



CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	2265	2265	2265	2265	2265
5	2272	2279	2288	2305	2305
10	1835	1887	1978	2025	2035
15	717	754	795	813	801
20	189	190	181	198	205
25	59	58	56	60	64
30	23	24	25	25	24
35	10	23	11	11	10
40	3	3	3	3	2
45	1	1	1	1	0
90	0	0	0	0	0

Option -NFL

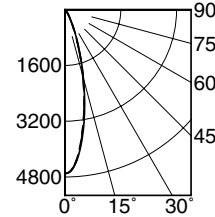
Lumens: 1317
Beam: ~25°
SC: 0.5
LPW: 63
Effic: 92.8%
ITL Test: 79851



Total System Watts 21.0

Cone of Light ▲

Dist.	FC	Dia.
6	130.4	2.7
8	73.4	3.6
10	47.1	4.4
12	32.6	5.3
14	24.0	6.2
16	18.3	7.1



CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	4696	4696	4696	4696	4696
5	4204	4190	4217	4241	4249
10	1998	1980	1956	1998	2030
15	575	539	514	534	564
20	139	127	117	124	139
25	43	42	45	42	43
30	16	16	18	17	16
35	7	7	8	7	7
40	2	2	2	2	2
45	0	0	1	1	1
90	0	0	0	0	0

Option -WFL

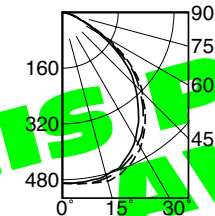
Lumens: 1187
Beam: ~66°
SC: 1.3
LPW: 57
Efficiency: 73.2%
ITL Test: 83255



Total System Watts 20.9

Cone of Light ▲

Dist.	FC	Dia.
6	13.6	7.3
8	7.7	10.0
10	5.9	12.5
12	4.4	15.1
14	3.4	18.1
16	1.9	20.7



CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	490	490	490	490	490
5	490	488	491	490	489
10	401	400	401	400	400
15	470	472	461	450	440
20	410	407	402	387	381
25	324	322	314	301	292
30	213	213	200	189	186
35	80	80	80	76	76
40	37	29	29	28	28
45	8	8	8	8	8
90	0	0	0	0	0

LM-80 Qualified • LM-79 Certified Photometry

* LED manufacturers maintain a tolerance of $\pm 7\%$ on flux (lumens) and power (electrical) measurements. Kirlin photometrics are actual test data from Independent Testing Laboratories (ITL) where photometry was measured from 1418 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. (0.5 SC)
- WFL Wide flood distribution. (1.3 SC)

Trims

- 94 Custom color/finish. Specify. Consult factory.

Other

- 99 Special modification. Consult factory.
- AT Air tight medical grade sealed Type IC housing:
 1. Meets ASTM E283 restricted airflow of 2 CFM maximum
 2. CCEA Approved
 3. Cleanroom Class 5 rated (ISO 14644-1)

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

CATALOG NUMBER

VOLTAGE

APPROVAL STAMP

