CATALOG #		TYPE
JOB NAME	WATTAGE	VOLTAGE

6" LED   1300 LUMEN SERIES   20 WATT

MRR-06216

SmartLED™ MRI Lighting Systems

Regressed Lensed Downlight • White Trim
Up to 90,000 Hour Life (L70) • Type IC
LM-80 Qualified • LM-79 Certified Photometry

AWARD WINNER pia'll GOLD

Use With:
- SmartSupply™ LPS-1220A
- SmartFilter™ RFI-3100D

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

Specifications

Delivered System Performance*
- Standard MFL distribution: 1348 delivered lumens / 64 LPW / 0.8 SC.
- -NFL: 1348 lumens / 64 LPW / 0.4 SC.
- -WFL: 1249 lumens / 60 LPW / 1.2 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 10 luminaires, with 6 configurable channels. Maximum 100 ft. cable length from SmartSupply™ to fixture.
- 100-1% full range dimming in under 3 sec.
- LPS-1220A: Compatible with most dimming controls. See vendor listing in the Owner's Manual (760412-0XXX).
- 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.
- For more information see specification sheet for RFI-3100D.

SmartPower™ Battery Back-up
- EMI-21220: emergency power.
- See specification sheet; order separately.

Trim Assembly
- Seamless tapered aluminum self-flanged trim with white finish.
- (option -WH only) anti-microbial Kirlin BioGuard™ finish, see Option -BG.
- Regressed tempered prismatic acrylic lens.

Acrylic Enamel on Aluminum Housing
- Performance and gloss retention exceeds minimum 1,000 hr. 5% salt spray test.
- Shallow design fits restricted plenums.
- Cool operation: Extends life of components.
- Fully sustainable LED luminaire, including light engine, is modular, easily visible, serviced through aperture. Built-in plaster flange.
- Air Tight design available, see Option -AT.

J-Quiet Box
- Provided. 100% aluminum. U.L. listed.
- Accessible knockouts.

Installation
- Connects minimum 18 AWG twisted pair shielded wire from SmartSupply™ to fixtures.
- Recesses in ceilings up to 1¼" thick or see Option -DT.
- Minimum 27" hanger bars with adjustable mounting brackets supplied.

U.L. (UL Canada) Listings
- Wet, damp, dry locations, covered ceilings.
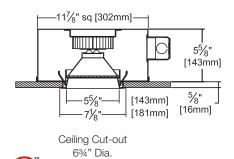- Type IC: for direct contact with insulation.

CE & IEC Compliance
- Meets IEC/EN 60601-1-2 electromagnetic compatibility standard for medical electrical equipment.
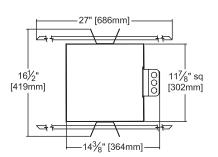- FCC Part 15 certified for EMI/RFI emissions.
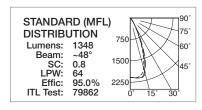
5 Year — FIVE YEAR Limited Warranty
- Complete standard fixture.

Performance at a Glance

11⅞" sq [302mm]
5⅝" [143mm]
5⅝" [143mm]
7⅞" [181mm]
⅝" [16mm]

Ceiling Cut-out 6¾" Dia.

Air Tight Optional

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

**Hours at 70% lumen maintenance

27" [686mm]
16½" [419mm]
11⅞" sq [302mm]
14⅜" [364mm]

EEE Exceptional Energy Efficiency

STANDARD (MFL) DISTRIBUTION
Lumens:	1348
Beam:	~48°
SC:	0.8
LPW:	64
Effic:	95.0%
ITL Test:	79862

Complete photometry for standard and optional distributions on next page

FC CE IEC

THE KIRLIN COMPANY
3401 EAST JEFFERSON AVENUE • DETROIT, MICHIGAN 48207-4232
(313) 259-6400 • Fax: (313) 259-9409 OR (313) 259-3121 • www.kirlinlighting.com

*See note next page

SmartLED™ MRI Lighting Systems
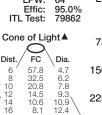**Luminaires • SmartSupply • SmartFilter**

CATALOG NUMBER
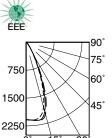## MRR-06216

Detailed Photometry - Installed Fixture
Photometric testing done in accordance with IESNA LM-79-08

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

STANDARD (MFL)

Lumens:	1348
Beam:	~48°
SC:	0.8
LPW:	64
Effic:	95.0%
ITL Test:	79862

EEE

Cone of Light▲

Dist.	FC	Dia.
6	57.8	4.7
8	32.5	6.2
10	20.8	7.8
12	14.5	9.3
14	10.6	10.9
16	8.1	12.4

Total System Watts 21.1

CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	2081	2081	2081	2081	2081
5	2100	2102	2107	2107	2102
10	1802	1882	2003	1979	1927
15	750	822	907	854	803
20	200	213	212	214	208
25	57	58	54	58	58
30	24	24	24	24	24
35	15	15	15	15	15
40	7	6	7	7	7
45	1	1	1	2	1
90	0	0	0	0	0

90° 75° 60° 45° 0° 15° 30° / 750 1500 2250

Option -NFL

Lumens:	1344
Beam:	~24°
SC:	0.4
LPW:	64
Effic:	94.7%
ITL Test:	79861

EEE

Cone of Light▲

Dist.	FC	Dia.
6	159.2	2.4
8	89.5	3.2
10	57.3	4.0
12	39.8	4.8
14	29.2	5.6
16	22.4	6.5

Total System Watts 21.0

CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	5730	5730	5730	5730	5730
5	5058	5061	5073	5084	5082
10	2090	2057	1985	1976	1993
15	535	475	429	448	496
20	122	106	97	102	116
25	32	31	32	29	29
30	15	15	16	15	15
35	9	10	9	10	9
40	6	6	6	6	6
45	3	3	2	1	2
90	0	0	0	0	0

90° 75° 60° 45° 0° 15° 30° / 1950 3900 5850

Option -WFL

Lumens:	1249
Beam:	~64°
SC:	1.2
LPW:	60
Efficiency:	77.0%
ITL Test:	83254

EEE

Cone of Light▲

Dist.	FC	Dia.
8	8.8	10.0
10	5.7	12.5
12	3.9	15.0
14	2.9	17.5
16	2.2	20.0

Total System Watts 20.8

CANDLEPOWER DISTRIBUTION					
	0.0	22.5	45.0	67.5	90.0
0	566	566	566	566	566
5	566	565	565	565	566
10	563	559	557	559	560
15	520	520	522	518	515
20	429	433	441	432	430
25	301	308	311	304	302
30	162	164	169	165	166
35	84	85	85	84	84
40	43	43	43	43	42
45	10	10	10	10	9
90	0	0	0	0	0

90° 75° 60° 45° 0° 15° 30° / 190 380 570

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 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. (0.4 SC)
- -WFL Wide flood distribution. (1.2 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.
- -BG Anti-microbial Kirlin BioGard™ white (only) trim finish.

Other
- -79 Extension collar for up to 2" thick ceilings.
- -99 Special modification. Consult factory.
- -AT Air tight medical grade sealed housing with Type IC. 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 <u>not</u> be filtered through RFI-3100D SmartFilter™

SUBMITTAL DATA

JOB NAME

TYPE

WATTAGE   VOLTAGE

CATALOG NUMBER

APPROVAL STAMP

RECOVERY.GOV
ARRA QUALIFIED