

CATALOG #	TYPE	
JOB NAME	WATTAGE	VOLTAGE

4" LED 1300 LUMEN SERIES 20 WATT

MRR-04210

## SmartLED™ MRI Lighting Systems



### Porthole Lensed Downlight • Type IC

Up to 90,000 Hour Life (L70)

LM-80 Qualified • LM-79 Certified Photometry

Use With:

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

### Specifications

#### Delivered System Performance\*

- Standard MFL distribution: 883 delivered lumens / 42 LPW / 0.8 SC.
- -WFL: 718 lumens / 35 LPW / 1.0 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.
- For more information see specification sheet for RFI-3100D.

#### SmartPower™ Battery Backup

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

#### Porthole Trim with Brushed Nickel Finish

- Cast aluminum, brushed satin nickel finish porthole flat trim & (4) silver knurled finials with frosted G#73 prismatic tempered spread lens.
- Low brightness reflector above trim.
- Optional (white only) anti-microbial Kirlin BioGuard™ finish, see Option -BG.
- Optional finishes and finials.

#### 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, C-UL (Canada) Listings

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

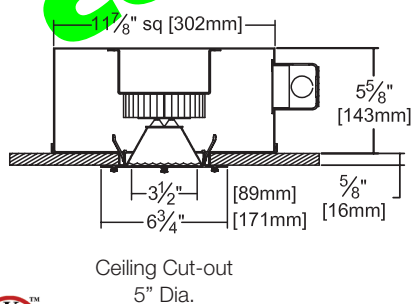
#### CE & FCC Compliance

- 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

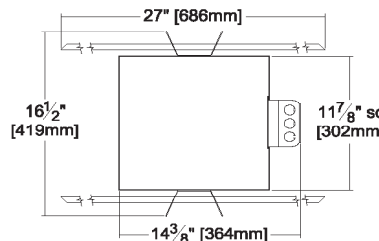


Ceiling Cut-out  
5" Dia.



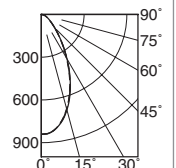
L70** for Kirlin Luminaires	
In Open Plenum	90,000 hours
In Insulation (Type IC)	60,000 hours

\*\*Hours at 70% lumen maintenance



#### STANDARD (MFL) DISTRIBUTION

Lumens: 883  
Beam: ~45°  
SC: 0.8  
LPW: 42  
Effic: 62.2%  
ITL Test: 79832



Complete photometry for standard and optional distributions on next page



## 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-04210

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

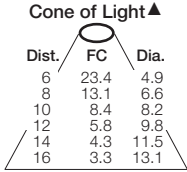
### STANDARD (MFL)

Lumens: 883  
Beam: ~45°  
SC: 0.8  
LPW: 42  
Effic: 62.2%  
ITL Test: 79832



Total System Watts 21.0

	CANDLEPOWER DISTRIBUTION				
	0.0	22.5	45.0	67.5	90.0
0	841	841	841	841	841
5	827	827	827	828	828
10	685	685	689	691	693
15	464	465	469	472	473
20	258	259	262	265	265
25	130	131	133	133	132
30	70	70	71	71	71
35	40	40	40	40	40
40	21	21	21	21	21
45	3	3	3	3	3
90	0	0	0	0	0

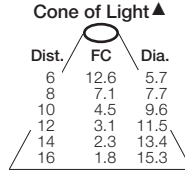


### Option -WFL

Lumens: 718  
Beam: ~51°  
SC: 1.0  
LPW: 35  
Efficiency: 44.3%  
ITL Test: 83245

Total System Watts 00.0

	CANDLEPOWER DISTRIBUTION				
	0.0	22.5	45.0	67.5	90.0
0	453	453	453	453	453
5	445	446	446	446	446
10	393	393	394	394	395
15	316	314	313	313	313
20	229	227	224	221	221
25	148	147	144	141	140
30	90	88	87	86	86
35	53	53	52	52	52
40	28	28	29	28	28
45	8	8	9	8	8
90	0	0	0	0	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 1418 lumen (20W) and 1622 lumen (20W -WFL) light engines (within the established tolerance).

**Cone of Light Key**  
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

- WFL Wide flood distribution. (1.0 SC)

#### Porthole Trims

- 30 White acrylic enameled finish.
- 32 White oversize trim ring. Specify O.D.
- 35 Natural aluminum enameled finish.
- 38 Black acrylic enameled finish.
- 45 Gasket between trim flange and ceiling.
- 46 Gasket between trim and lens.
- 48 Custom color trim. Specify. Consult factory.
- 94 Anti-microbial Kirlin BioGard™ white (only) trim finish.
- BLF Black finial finish.
- BRF Brass finial finish.
- COF Cone shaped finials. Silver finish standard or add optional finish.

- ROF Round shaped finials. Silver finish standard or add optional finish.
- WHF White finial finish.

#### Other

- 79 Collar for ceilings up to 2" or consult factory.
- 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 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 purchase. 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 laws 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 the 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.