



CLEAN ROOM LED

FGR221 (2X4) SERIES (2X2 AVAILABLE)

CLASS 100 TRIM FLANGE CLEAN ROOM LUMINAIRE

ORDERING INFO SYSTEM DATA DRIVER SENSORS ACCESSORIES PHOTOMETRICS

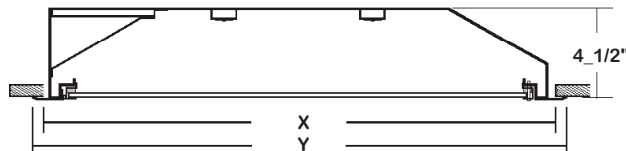
INTERACTIVE BUTTONS

JOB	
TYPE	
DATE	

WWW.LALIGHTING.COM
626-454-8300

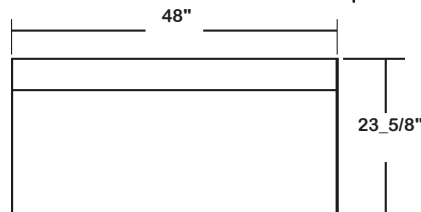
CLASS 100 RECESSED MOUNTED LED LUMINAIRE

DIMENSIONS



Ceiling Opening X - 24_1/2" X 48_1/2"
Overall Width By Length Y - 25_5/8" X 49_5/8"

*No Unused Holes And KO's On Backplate.



APPLICATIONS

- Class 100 Clean Room, Sealed Ceiling Areas, Commercial

FEATURES

- Class 100 / ISO Class 5 equivalent
- 0-10V dimming driver standard
- Supports California Title 24 compliance

OPTIONS

- Wet location available (UL listed with sprinkler test)
- Full customization available upon request
- Additional lumen packages and color temperatures available
- Controls and sensors available
- Wireless control options available
- Variety of lenses available
- Emergency battery pack available
- Antimicrobial finished housing and door frame available
- Tamper proof screws available
- Hanger yokes available

SPECIFICATIONS

CONSTRUCTION

- 22 ga. cold rolled steel welded housing
- All parts fitted and sealed, no unused holes or knockouts
- 20 ga. cold rolled steel door frame secured by full length stainless steel piano hinge and 2 stainless steel captive screws
- Door frame and lens sealed with closed cell neoprene gasket
- 18 ga. trim flange

FINISH

- Baked white powder coated finish / welded and painted after fabrication / minimum reflectance 90%

OPTICAL

- Inverted clear prismatic acrylic lens (nominal 0.125) standard

ELECTRICAL

- High efficiency drivers coupled with long-life LEDs
- Service life tested at 50,000-51,000 hours (L70)
- Universal voltage 120V through 277V (347V / 480V available)
- Power Factor (PF) ≥ 0.9
- Total Harmonic Distortion (THD) ≤ 20%

LISTING

- UL USA and Canada listed / suitable for damp locations

WARRANTY

- 5-year limited warranty, 10-year limited warranty available.



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BAA Compliant



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Revised 09/18/20

WARNING

ORDERING INFORMATION

EXAMPLE: FCR221-12-4L-FSW-PA2-BPL1.5-DRDM-UNV-2/840

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SERIES	LED LUMEN PACKAGE	EFFICACY	NOMINAL LENGTH	FINISH	DOOR FRAME	OPTICAL	MECHANICAL	ELECTRICAL	DRIVER	VOLTAGE	# OF LED ROW	CRI / CCT
FCR221			4L						DRDM	UNV	2	
FCR221 Class 100 Trim Flange Clean Room LED Luminaire	2 Nom. 2000 Lumens 4 Nom. 4000 Lumens 6 Nom. 6000 Lumens 8 Nom. 8000 Lumens 12 Nom. 12000 Lumens <i>*Additional Lumen Packages Available</i>	(Blank) Standard HE High Efficacy	4L 2' x 4'	AMF Antimicrobial Finished Housing and Door Frame <i>*Leave Blank if Not Specified</i>	FSW Flat Steel White Enamel Door Frame	PA2 Clear Prismatic Acrylic 0.125 Nominal DRP8 High Impact Clear Prismatic Acrylic 0.187 Nominal FPA2 Frosted Prismatic Acrylic 0.125 Nominal	WL Wet Location TP Tamper Proof Screws (Hex Socket with Post) <i>*Leave Blank if Not Specified</i> GSKN3 Three-Way Gasket	BPL1.5 Emergency Battery Pack, Constant 10W Nom. 1500 lm WLC(LED RU) EnOcean Wireless Control <i>*Leave Blank if Not Specified</i>	DRDM 0-10V Dimming Driver	UNV 120V-277V	2 Two LED Rows	830 80+CRI / 3000K Color Temp. 835 80+CRI / 3500K Color Temp. 840 80+CRI / 4000K Color Temp. 850 80+CRI / 5000K Color Temp. 8TW Tunable White 827 to 865 <i>*Additional Color Temp. Available</i>

MECHANICAL OPTIONS

ELECTRICAL OPTIONS

DRIVERS OPTIONS

SENSOR OPTIONS

INTERACTIVE BUTTONS

SYSTEM DATA

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THESE ARE THE MOST POPULAR LUMEN PACKAGES. PLEASE CONSULT FACTORY FOR ADDITIONAL SYSTEM DATA.

LED LUMEN PACKAGE	NORMAL AMBIENT TEMPERATURE PRODUCT CODE	DELIVERED LUMENS	SYSTEM WATTS	LUMINAIRE EFFICACY	AMBIENT TEMP.	FLUORESCENT EQUIVALENT	IES FILES
2000 Lumens (Nominal)	FCR221-2-4L-FSW-PA2-DRDM-UNV-2/840	1820 lm	15.2 W	119.8 lm/W	-20°C / 35°C	1-F32T8	*
4000 Lumens (Nominal)	FCR221-4-4L-FSW-PA2-DRDM-UNV-2/840	3561 lm	31.4 W	113.2 lm/W	-20°C / 35°C	2-F32T8, 1-F54T5HO	*
6000 Lumens (Nominal)	FCR221-6-4L-FSW-PA2-DRDM-UNV-2/840 *	5752 lm	47.5 W	121.09 lm/W	-20°C / 35°C	3-F32T8	LA-T3340-2
8000 Lumens (Nominal)	FCR221-8-4L-FSW-PA2-DRDM-UNV-2/840	6802 lm	64.8 W	105 lm/W	-20°C / 35°C	4-F32T8, 2-F54T5HO	LA-T3099-1
12000 Lumens (Nominal)	FCR221-12-4L-FSW-PA2-DRDM-UNV-2/840	9724 lm	104.6 W	92.9 lm/W	-20°C / 35°C	6-F32T8	*

LED LUMEN PACKAGE	NORMAL AMBIENT TEMPERATURE (HIGH EFFICACY) PRODUCT CODE	DELIVERED LUMENS	SYSTEM WATTS	LUMINAIRE EFFICACY	AMBIENT TEMP.	FLUORESCENT EQUIVALENT	IES FILES
2000 Lumens (Nominal)	FCR221-2HE-4L-FSW-PA2-DRDM-UNV-2/840	1669 lm	12.6 W	132.9 lm/W	-20°C / 35°C	1-F32T8	*
4000 Lumens (Nominal)	FCR221-4HE-4L-FSW-PA2-DRDM-UNV-2/840	3378 lm	25.4 W	133.0 lm/W	-20°C / 35°C	2-F32T8, 1-F54T5HO	*
6000 Lumens (Nominal)	FCR221-6HE-4L-FSW-PA2-DRDM-UNV-2/840	5063 lm	38.5 W	131.5 lm/W	-20°C / 35°C	3-F32T8	*
8000 Lumens (Nominal)	FCR221-8HE-4L-FSW-PA2-DRDM-UNV-2/840	6724 lm	51.8 W	127.9 lm/W	-20°C / 35°C	4-F32T8, 2-F54T5HO	*
12000 Lumens (Nominal)	FCR221-12HE-4L-FSW-PA2-DRDM-UNV-2/840	9975 lm	79.3 W	125.8 lm/W	-20°C / 35°C	6-F32T8	*

NOTE:

System data is based on 120V input voltage. DLC system data* based on DLC testing parameters. Actual performance may differ as a result of end-user environment and application.

This fixture has been tested and listed in accordance with UL Standards. L.A. Lighting certifies that it will operate safely when installed properly, and within an ambient temperature range noted in the system data table.

Additional lumen packages and color temperatures available. Due to constant updates on this product, please visit the [DLC QPL Website](#) for the most accurate system data and information.



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DRIVER OPTIONS

BATTERY PACK OPTIONS

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PLEASE CONSULT FACTORY TO SEE IF YOUR SELECTED DRIVER OPTION WORKS WITH THIS FIXTURE.

PLEASE CONSULT FACTORY TO SEE IF YOUR SELECTED BATTERY PACK OPTION WORKS WITH THIS FIXTURE.

LED EMERGENCY BATTERY PACKS
(Operate for 90 minutes unless otherwise specified)

DRDM () UNV

VOLTAGE

- 120V** 120 Volt
- 277V** 277 Volt
- UNV** Universal 120-277 Volt *
- 347V** 347 Volt
- 480V** 480 Volt

TY

TY 10-Years Limited Warranty

DRIVER TYPE

- DRDM** 0-10V Dimming Driver *
- DRDM1** 0-10V Dimming Driver, 1% Dimming
- DRDM2C** 2-Channel 0-10V Dimming Driver (for Color Tunable White)
- DR2W** 2-Wire Phase Dimming Driver
- DRDA** Digital Addressable DALI Dimming Driver
- DRDA2C** Digit Digital Addressable DALI Type8 2-Channel Driver (for Color Tunable White)
- DRDA2.0** Digital Addressable DALI 2.0 Dimming Driver
- DRDA2.02C** Digital Addressable DALI 2.0 Type8 2-Channel Driver (for Color Tunable White)
- DRSD** Step Dimming Driver
- DR(LTEA2W)** Lutron® 2-Wire 1% Dimming Driver (120V Forward Phase only)
- DR(LDE1)** Lutron® EcoSystem 1% Soft-On, Fade-to-Black™ Dimming Driver
- DR(LDE5)** Lutron® EcoSystem 5% Dimming Driver
- DR(PEQ0E)** Lutron® EcoSystem 0.1% Soft-On, Fade-to-Black Dimming Driver
- DR(PSQ020)** Lutron® T-Series Digital 1% Dimming 2-Channel Driver (for Color Tunable White)
- DRCR** Control Ready Driver
- DRCR(DXL)** Osram Dexal Driver
- DRCR(SR)** Philips Sensor Ready Driver

BPL 1.5 (2H)

NOTE

2H 2 hours

LUMEN PACKAGE

- 0.7** Nominal 750 Lumens
 - 1.5** Nominal 1500 Lumens *
 - 3.0** Nominal 3000 Lumens
- *Additional lumen packages available*

TYPE

- (Blank)** Normal Ambient Temp. / Standard Operation
- C** Cold Environment (-20°C)
- F** With Flex for Remote Mounting
- SL** Slim Casing
- ST** Self Test / Diagnostic

* Normal Stock Item



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SENSOR OPTIONS

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CONTROLS AND SENSORS

WLC(LED RU) - EnOcean® LED Relay Zone Controller

- Supports a single LED fixture or multiple daisy chained LED fixtures
- Module installed inside lighting fixture

ESRPU-W-EO - EnOcean® Rocker Switch – Single – Surface Mount

- Wireless single rocker switch with mounting plate
- No batteries needed

EDRPU-W-EO - EnOcean® Rocker Switch – Double – Surface Mount

- Wireless double rocker switch with mounting plate
- No batteries needed

S3054-N300 - EnOcean® Navigan NWC 300U – Commissioning Tool

- Navigan Wireless Commissioner is used to configure EnOcean controllers & sensors
- It can be used to define link tables, change parameters/settings, and to edit & store projects
- Configuration settings can be saved and cloned to enable quick configuration
- Connectivity is through the NWC 300U USB Stick

EOSWU-W-EO - EnOcean® Occupancy Sensor – Wall Mount

- Wireless wall mounted occupancy sensor
- Solar powered - no batteries needed (coin battery operated in low light conditions)
- PIR motion sensor with both wide angle (50') and long range (100') options
- Mounting height: 6-8 feet

EOSCU-W-EO - EnOcean® Occupancy Sensor – Ceiling Mount

- Wireless ceiling mounted occupancy sensor
- Solar powered - no batteries needed (coin battery operated in low light conditions)
- PIR motion sensor with 360 degree viewing angle lens (34' diameter)
- Mounting height: 7-10 feet

ELLSU-W-EO - EnOcean® Light Level Sensor – Ceiling Mount

- Light Level sensor that measures and reports the level of available natural light
- Solar powered - no batteries needed (coin battery operated in low light conditions)
- Enables implementation of daylight harvesting control systems
- Mounting position: At the ceiling, close to ambient light source



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OPTICAL OPTIONS

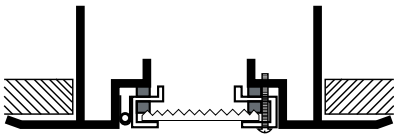
STANDARD LENSES FOR FCR221

PA2	Clear Prismatic Acrylic, Nom. 0.125 OA Thickness, Female Prisms 3/16 Square Base
DRP8	High Impact Clear Prismatic Acrylic, Nom. 0.187 OA Thickness, Female Prisms 3/16 Square Base
FPA2	Frosted Prismatic Acrylic, Nom. 0.125 OA Thickness

[CLICK HERE FOR FULL OPTICAL OPTIONS LIST](#)

DOOR FRAME

CROSS SECTION



FEATURES

- Full Length Stainless Steel Piano Hinge
- Inverted Lens
- Two 10-24 Stainless Steel Captive Machine Screws
- Sealed with Closed Cell Neoprene Gasket

FS W

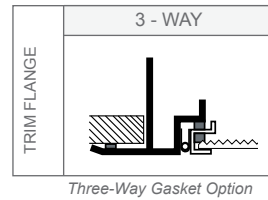
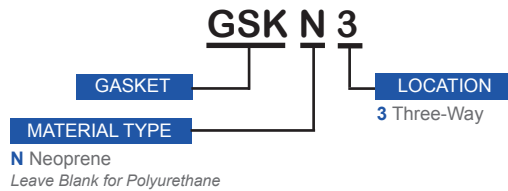
FINISHES

- W** White Enamel
- B** Black Enamel

STYLES

- FS** Flat Steel

GASKET OPTIONS

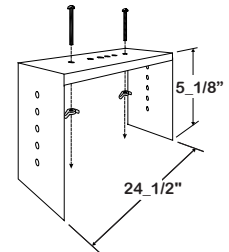
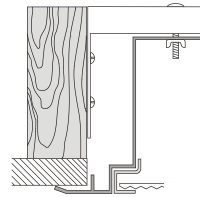


ACCESSORIES

HS-24_1/2

- Hanger Yokes
- Compatible with all types of recessed flanged fixtures
- 1/4 - 20 x 3" machine screws locate into knockout on back of fixture housing
- Two (2) per fixture

Note: Must drill own holes. Caulking compound should be used to seal the holes.

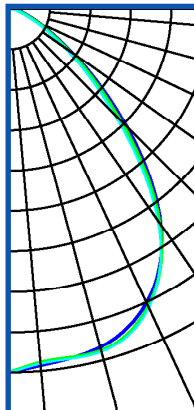


PHOTOMETRIC DATA - FCR221 SERIES

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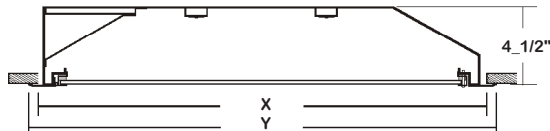
FCR221-8-4L-FSW-PA2-DRDM-UNV-2/840

TEST NO. = LA-T3099-1
 LED TYPE = 48 LED MODULE
 NO. OF MODULE = 4
 SYSTEM WATT (W) = 64.8
 CRI ≥ 80
 L70(Hrs.) ≥ 50,000
 PHOTOMETRY TYPE = C



CANDLEPOWER			
ANGLE	END	45	CROSS
0	3619	3619	3619
5	3563	3532	3545
15	3486	3522	3534
25	3225	3265	3280
35	2627	2605	2573
45	1645	1556	1471
55	763	711	666
65	307	274	244
75	126	101	73
85	73	45	11
90	30	14	2
95	18	10	2
105	23	10	1
115	23	10	2
125	20	10	2
135	16	8	2
145	10	7	1
155	6	7	0
165	7	4	0
175	1	0	0
180	0	0	0

ZONAL LUMEN SUMMARY			
DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	2844	33.2	41.8
0-40	4479	52.3	65.8
0-60	6324	73.8	93
0-90	6743	78.7	99.1
90-120	35.5	0.4	0.5
90-150	55	0.7	0.8
90-180	59	0.7	0.9
0-180	6802	79.4	100



Ceiling Opening X - 24_1/2" X 48_1/2"
 Overall Width By Length Y - 25_5/8" X 49_5/8"

Luminaire Output= 6802 lm
 Luminaire Efficacy = 105 lm/W

SPACING CRITERION	
ALONG	ACROSS
1.19	1.19

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