

Project		Catalog #		Type	
Prepared by		Notes		Date	



Fail-Safe FLD6CX/OR

Operating Room
250-7000 lumens
Bottom Trim Ring or Bottom Lens
NSF rated
MILSTD 461G available

Typical Applications:
Operating Rooms / Suites

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Top Product Features

- Up to 7000 lumens for design flexibility
- NSF rated for easy cleaning and wipe-down
- MILSTD 461G rating available for reduced conducted and radiated emissions
- Wet location standard
- Choice of 6 reflector finishes
- Glass, acrylic, or polycarbonate bottom lens available
- Options to meet Buy American and other domestic preference requirements

Product Certification

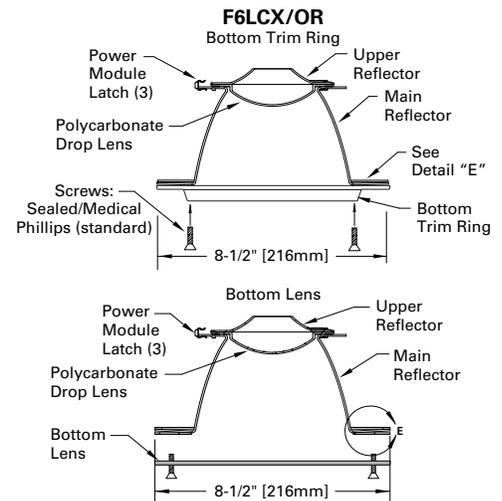
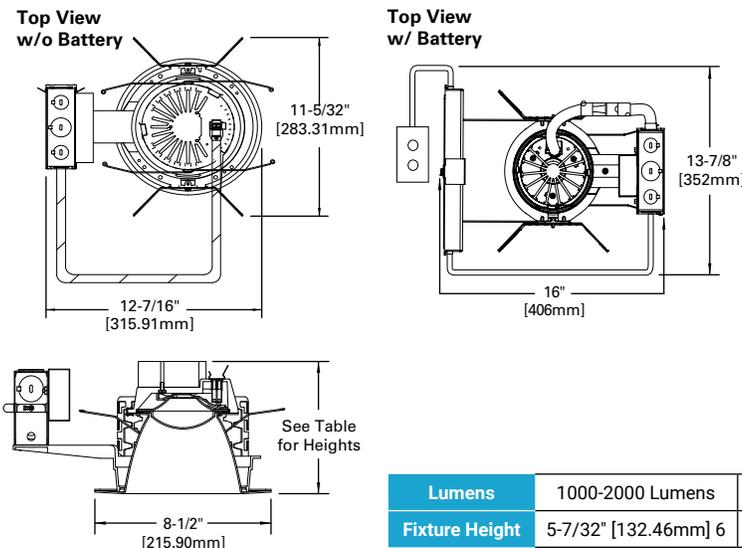


ISO3-8
CLEANROOM

Product features



Dimensional and Mounting Details



Lumens	1000-2000 Lumens	3000-5000 Lumens	6000-7000 Lumens
Fixture Height	5-7/32" [132.46mm] 6	6 1/64" [152.65mm]	7-3/4" [197.10mm]

1. HOUSING

SAMPLE: **FLD6CX/OR-45-D010**
FLD6CX/OR-60-DE010-IEMBOD
FLD6CX/OR-35-D2W-D010

Domestic Preferences ⁽¹⁾	Housing	Lumens ⁽²⁾	Color Control	Driver
[Blank] =Standard BAA =Buy American Act TAA =Trade Agreements Act	Operating Room FLD6CX/OR =Housing, Operating Room FLD6CX/ORCP =Housing, Operating Room, Chicago Plenum	02 =250 lumens 05 =500 lumens 08 =800 lumens 10 =1000 lumens 15 =1500 lumens 20 =2000 lumens 25 =2500 lumens 30 =3000 lumens 35 =3500 lumens 40 =4000 lumens 45 =4500 lumens 50 =5000 lumens ⁽³⁾ 55 =5500 lumens ⁽³⁾ 60 =6000 lumens ⁽³⁾ 65 =6500 lumens ⁽³⁾ 70 =7000 lumens ⁽³⁾	D2W =Dim To Warm (blank for all others) ⁽⁴⁾	D010 =0-10V Dimming, 1% to 100%, 120V-277V, up to 7000 lumens 1D010 =0-10V Dimming, 1% to 100%, 120V, 7000 lumens & above 2D010 =0-10V Dimming, 1% to 100%, 277V, 7000 lumens & above 3D010 =0-10V Dimming, 1% to 100%, 347V, dedicated drivers, 800-4000 lumens, 250, 500, 4500 & above use step down transformer DE010 =0-10V Dimming, 0% to 100%, 120V-277V, 500-7000 lumens 3DE010 =0-10V Dimming, 0% to 100%, 347V, step down transformer, 500-7000 lumens
Notes (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.	Operating Room 	Notes (2) Nominal Lumens will vary depending on selected color, driver and reflector finish. (3) Product is marked spacing and must be installed with the following minimum spacing.	Notes (4) D2W available 800-2500, 3500-4500, and 7000 lumens. See power module below.	

Fixture (Housing)Options	Accessories ⁽⁹⁾
EMBOD =Emergency Module, Remote Test Switch, 7 Watt ^{(5),(6)} IEMBOD =Emergency Module with Integral Test Switch, 7 Watt ^{(5),(6)} ETRD =Emergency Transfer Device MIL1 =MILSTD461G rated for conducted and radiated emissions ^{(7),(8)}	HSA6 =Slope Adapter for 6" Aperture Housings, Specify Slope HB26 =C-channel Bar Hanger, 26" Long, Pair HB50 =C-channel Bar Hanger, 50" Long, Pair RMB22 =Wood Joist Bar Hanger, 22" Long, Pair H347 =347 to 120V Step Down Transformer, 75VA H347200 =347 to 120V Step Down Transformer, 200VA
Notes (5) Not available with Chicago Plenum. (6) ULus listed only. (7) Must use trim/reflector with RFI grid lens (89BI, 89AV, 89BC). (8) MIL1 not applicable with Emergency options, EMBOD, IEMBOD, ETRD.	Notes (9) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

2. MODULE

SAMPLE: **FEU6C/OR-4080-97-27**
FEU6C/OR-3040-90-35
FEU6C/OR-3545-90-30-D2W
FEU6C/OR-3045-98-40

Domestic Preferences ⁽¹⁰⁾	Power Module	Lumen Levels	CRI	Color
[Blank] =Standard BAA =Buy American Act TAA =Trade Agreements Act	FEU6C/OR =6-inch Universal LED Module	For use with one driver 0208IC =250, 500 and 800 lumens, IC Rated (for use with all drivers, min 500 lumens with DE010) 1025 =1000, 1500, 2000, 2500 lumens 3040 =3000, 3500, 4000 lumens (for use with D010, and DE010 3000-4000) 4560 =4500, 5000, 5500, 6000 lumens (for use with D010, and DE010 4500-6000) 6570 =6500, 7000 lumens (for use with D010, and DE010)	90 =90 CRI Minimum 97 =97 CRI Minimum	90 CRI 24 =2400K 27 =2700K 30 =3000K 35 =3500K 40 =4000K 50 =5000K 98 CRI 27 =2700K 30 =3000K 35 =3500K 40 =4000K 50 =5000K
		98 CRI THRIVE LED 0208IC =250, 500 and 800 lumens 98 CRI, IC rated (For use with all drivers, min 500 lumens with DE010 and D5LT, min 800 lumens with Lutron) 1025 =1000, 1500, 2000 and 2500 lumens, 98 CRI (For use with D010, DE010 and Lutron 1000-2500 lumens) 3045 =3000, 3500, 4000 and 4500 lumens, 98 CRI (For use with D010 and DE010 3000-4500 lumens)	98 =98 CRI Minimum	98 CRI 27 =2700K 30 =3000K 35 =3500K 40 =4000K 50 =5000K
		Dim to Warm ⁽¹¹⁾ 0825-90-30-D2W =800-2500 lumen, 90 CRI (1 driver/1 LED) 3545-90-30-D2W =3500-4500 lumen, 90 CRI (2 drivers/2 LEDs) 70-90-30-D2W =7000 lumen, 90 CRI (3 drivers/3 LEDs)		
Notes (10) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.		Notes (11) Do not specify CRI or CCT with Dim 2 Warm. Dim 2 Warm is only available with 3000K and 90 CRI.	Notes Do not specify CRI or CCT with Dim 2 Warm.	

3. TRIM/REFLECTOR

SAMPLE: **F6LCX/OR-M-1-LI-BTR89AV**
F6LCX/OR-M-1-MW-BTR89BV
F6LCX/OR-M-1-GW-BL89BV

Base Trim	Distribution ⁽¹²⁾	Flange	Trim/Reflector Finish	Trim Options
F6LCX/OR-OR Trim	M=Medium (50° Beam), Spun Aluminum	1=Self-flanged	LI=Specular Clear H=Semi-Specular Clear WMH=Warm Haze MW=Matte White AMF=Antimicrobial Matte White GW=Gloss White ⁽¹³⁾	E=Integral Emergency Test Switch Hole (needed for IEM option) ⁽¹⁴⁾ Bottom Lens BL89BV=Bottom Lens , 0.125" smooth clear acrylic ⁽¹⁷⁾ BL89AM=Bottom Lens , 0.125" smooth opal polycarbonate ⁽¹⁷⁾ Bottom Trim Ring ^{(15),(16)} RFI Grid Lens BTR89BI=0.125" clear acrylic with RFI grid ⁽¹⁶⁾ BTR89AV=0.125" Pattern 12 acrylic with RFI grid ⁽¹⁶⁾ BTR89BC=0.125" Pattern 19 acrylic with RFI grid ⁽¹⁶⁾ Non-RFI Grid Lens BTR89BV=Bottom trim ring with 0.125" smooth clear acrylic lens ⁽¹⁶⁾
	Notes (12) Product is marked spacing and must be installed with the following minimum spacing. Center to center of adjacent luminaires: 36"; Center of luminaire to side of building member: 18" Minimum overhead: 1/2".		Notes (13) Bottom Trim Ring (BTR) is AMF standard.	Notes (14) Only available with medium bottom lens, and bottom trims. Required with all IEMBOD, IEM7, IEM14 housings. (15) Bottom Trim Ring (BTR) is AMF standard. For Gloss White Bottom Trim Ring, specify BTRGW then the lens designation. Example: BTRGW84. (16) If MIL1 is specified, the lenses with the RFI grid must be used Either 89BI, 89AV, or 89BC. (17) Not available with MIL1 option.

Product Specifications

Lower Shielding Reflector

- Self-flanged, spun .050" thick aluminum lower reflector in combination with a lensed upper optical chamber provides superior lumen output with minimal source brightness

Trim Retention

- For the bottom trim ring, the lower reflector is retained with (4) counter sunk screws
- Philips head screws are utilized, painted anti-microbial matte white
- Bottom Trim Ring is standard anti-microbial matte white paint
- Bottom lens (BL) is retained with (4) counter-sunk screws

LED

- High brightness LED's combined with a high reflectance upper reflector and convex lens for even distribution with no pixilation
- Lumen output shall not decrease by more than 10% over the minimum life of 55,000 hours (L90 > 55,000 hours)
- Auto resetting, thermally protected, LED's turn off when safe operating temperatures exceeded
- Color variation within 3-step MacAdam ellipses

- Disconnect allows for tool-less replacement of LED engine from below ceiling
- Available 90, 97 or 98 CRI

Driver

- Combination 120-277V 0-10V or 120V trailing edge phase cut driver provides flicker free dimming from 100% to 10%

Lenses

- All versions include a nonremovable upper lens, 0.060" thick frosted polycarbonate
- Non RFI Grid**
0.125" clear acrylic or 0.125" opal polycarbonate
- RFI Grid**
0.125" clear acrylic, 0.125" pattern 12 acrylic, 0.125" pattern 19 acrylic

Code Compliance

- cULus listed for wet locations under covered ceiling standard
- Non-IC rated insulation must be kept 3" from top and sides of housing
- NSF/ANSI 2 certified for Splash/NonFood Zone. Typical rating for lighting equipment not subjected to direct food contact

- IP66 rated from below the luminaire/ceiling when specified in the ordering logic
- Tested for ISO 5 compliance. ISO3 and ISO4 environments typically employ uni-directional vertical air-flow and a ventilated raised floor to remove airborne particles. Not uncommon for the entire ceiling to be either HEPA or ULPA filters. Filtered air is continually directed downward, passing through the ventilated raised floor, and recirculated – to remove more of the airborne particles than are created. Often, laminar-flow surface mount luminaires are used to illuminate the space. With proper air flow and air exchanges, this product is acceptable for use in ISO3+ environments.

Warranty

- 5 Year limited warranty

Energy Data

Energy Data
Sound Rating: Class A standards
(Values at non-dimming line voltage)
Minimum Starting Temperature: -30°C (-22°F)
EMI/RFI: FCC Title 47 CFR, Part 15, Class B (Consumer)
Input Voltage: UNV (120V - 277V)
Power Factor: >0.90 (at nominal input 120-277 VAC & 100% of Rated Output Power)
Input Frequency: 50/60Hz

Lumens	120V		277V	
	Inrush (A)	Duration (ms)	Inrush (A)	Duration (ms)
1000 Lumen D010	1.02	0.041	2.18	0.021
1500 Lumen D010	1.02	0.042	2.24	0.064
2000 Lumen D010	1.02	0.077	2.43	0.027
3000 Lumen D010	1.15	0.067	3.26	0.027
4000 Lumen D010	1.2	0.088	3.9	0.03

Energy Data

1000 Lumen D010		1500 Lumen D010	
Input Power: 11W	THD: <14%	Input Power: 15.5W	THD: <13%
120V Input Current: 0.09A	277V Input Current: 0.04A	120V Input Current: 0.13A	277V Input Current: 0.06A
2000 Lumen D010		3000 Lumen D010	
Input Power: 21.2W	THD: <9%	Input Power: 27.6W	THD: <10%
120V Input Current: 0.18A	277V Input Current: 0.08A	120V Input Current: 0.23A	277V Input Current: 0.10A
4000 Lumen D010		5000 Lumen D010TE	
Input Power: 41.6W	THD: <13%	Input Power: 57.9W	THD: <14%
120V Input Current: 0.35A	277V Input Current: 0.15A	120V Input Current: 0.49A	277V Input Current: 0.22A
6000 Lumen D010TE		7000 Lumen D010TE	
Input Power: 59.7W	THD: <14%	Input Power: 75.8W	THD: <13%
120V Input Current: 0.50A	277V Input Current: 0.22A	120V Input Current: 0.64A	277V Input Current: 0.29A

Marked Spacing

6-inch Marked spacing for 90 and 97 CRI			
4500-6000	36	36	6
6500-7000	36	36	8

Energy and Performance Data

D010 DRIVER ENERGY DATA

Series	250 lumen		500 lumen		800 lumen		1000 lumen		1500 lumen		2000 lumen	
Input Voltage 120-277VAC	120V	277V	120V	277V	120V	277V	120V	277V	120V	277V	120V	277V
Input Current (A)	0.029	0.017	0.061	0.032	0.085	0.041	0.084	0.042	0.135	0.063	0.189	0.084
Input Power (W)	3.45	3.87	7.33	7.78	10.15	10.52	10.04	10.43	16.17	16.56	22.58	22.63
In-rush (A)	2.1	8.5	3.7	8.5	3.6	8.3	3.6	8.4	2.3	9.5	2.1	9.7
Inrush duration (µs)	250	131	190	136	220	135	226	136	230	125	243	132
THDi (%)	7.21	16.92	7.82	10.78	5.57	9.63	7.78	9.24	4.75	9.93	8.03	7.44
PF	≥ 0.98	≥ 0.9	≥ 0.99	≥ 0.93	≥ 0.99	≥ 0.95	≥ 0.99	≥ 0.95	≥ 0.99	≥ 0.94	≥ 0.99	≥ 0.96

Series	2500 lumen		3000 lumen		3500 lumen		4000 lumen		4500 lumen		5000 lumen	
Input Voltage 120-277VAC	120V	277V										
Input Current (A)	0.276	0.121	0.276	0.041	0.333	0.152	0.404	0.181	0.421	0.192	0.491	0.216
Input Power (W)	32.98	32.57	32	10.52	39.83	39.84	48.38	47.94	50.22	50.17	58.69	58.01
In-rush (A)	2.5	11.8	3.6	8.3	3.1	14.3	3.1	14.5	5.6	22.6	5.6	22.6
Inrush duration (µs)	215	111	220	135	200	94	197	95	215	120	213	135
THDi (%)	9.86	6.57	5.57	9.63	4.25	10.05	5.02	7.97	6.12	8.35	8.51	7.92
PF	≥ 0.99	≥ 0.97	≥ 0.99	≥ 0.95	≥ 0.99	≥ 0.94	≥ 0.99	≥ 0.95	≥ 0.99	≥ 0.95	≥ 0.99	≥ 0.96

Series	5500 lumen		6000 lumen		6500 lumen		7000 lumen	
Input Voltage 120-277VAC	120V	277V	120V	277V	120V	277V	120V	277V
Input Current (A)	0.526	0.231	0.542	0.256	0.572	0.266	0.632	0.292
Input Power (W)	62.97	61.97	64.88	65.7	68.35	69.02	75.56	75.85
In-rush (A)	5.1	23.1	6.2	27.5	6.3	28.4	6.4	29.1
Inrush duration (µs)	217	138	188	101	189	92	187	90
THDi (%)	9.42	7.16	4.33	11.86	4.38	11.33	4.84	10.32
PF	≥ 0.99	≥ 0.96	≥ 0.99	≥ 0.93	≥ 0.99	≥ 0.93	≥ 0.99	≥ 0.94