

## DESCRIPTION

Fail-Safe's CLM sealed enclosure product is available with overlapping and inset doors. Available in 1 x 2, 1 x 4, 2 x 2 and 2 x 4 sizes, the CLM Series cleanroom fixtures are Class 100 rated (English 209E), ISO Class 5-8 rated and IP65 compliant.

Catalog #		Type
Project		
Comments		Date
Prepared by		

## SPECIFICATION FEATURES

### Mounting

Recessed grid for 1" or 1 1/2" NEMA Type "G" ceiling systems. Recessed flange for use with hard-pan ceilings. Mounting safety clips (4) available.

### Housing

3 1/2" deep, die-formed, heavy gauge steel, powder coat painted white. Welded construction. Optional die-formed aluminum.

### Door

Overlapping door, constructed of one piece die-formed steel or aluminum.

Inset door, constructed of die-formed steel or aluminum. All doors attached to the housing with two stainless steel aircraft cables.

### Fasteners

Captive, countersunk stainless steel Philips head screws secure door frame to the housing.

### Gasketing

**Lens to Door Frame:** Continuous gasket adheres lens to door frame.

### Door Frame to Housing:

Closed-cell gasket.

**Housing to Grid:** Closed-cell gasket (optional).

### Lens

Pattern 12 acrylic, 0.125" thick, inverted. Other lenses available, including polycarbonate and glass.

### LED

LEDs available in 2000K, 2700K, 3000K, 3500K, 4000K, and 5000K with 85 CRI. Red (630nm) LEDs available. Life is 50,000 hours at 70% lumen maintenance.

### Driver

Electronic, standard 0-10V. Dimming available.

### Finish

High gloss, electrostatically applied, white powder coat finish, average minimum reflectance 92%.

### Compliance/Ratings

Class 100  
ISO Class 5-8  
IP65  
NSF=NSF2 Listed (Non-food, splash zone)

### Labels

ETL listed for wet locations under covered ceilings.



## CLM

### LD4 LED

Sealed/ Cleanroom  
Vivarium / Red LED's

RECESSED FLANGE  
RECESSED GRID  
2x4/2x2/1x4/1x2

Inset or Overlapping Door  
Wet Location  
IP65 Rated  
ISO Class 5, 6, 7, 8  
Class 100  
NSF

2' x 2'		
No. of Modules, Level	Input Watts	Delivered Lumens*
2LO	26.2	2552
2STD	36.6	3384
2HI	45.2	4100
3LO	39.3	3179
3STD	54.9	4247
3HI	70.8	5522
4LO	52.4	4889
4STD	73.2	6482
4HI	90.3	7852

2' x 4'		
No. of Modules, Level	Input Watts	Delivered Lumens*
2LO	52.4	5461
2STD	73.2	7240
2HI	90.5	8772
3LO	78.6	6408
3STD	109.8	9140
3HI	141.8	11295
4LO	104.8	10663
4STD	146.4	14138
4HI	181.1	17129

1' x 4'		
No. of Modules, Level	Input Watts	Delivered Lumens*
1LO	26.2	2598
1STD	36.6	3445
1HI	45.3	4173
2LO	52.4	5010
2STD	73.2	6643
2HI	90.2	8048

### Approximate Color Temperature Multiplier

5000K	1.09
4000K	1.00
3500K	0.97
3000K	0.94
2700K	0.91
2000K	0.68

\* Approximate delivered lumens, 4000K.

\* Verify with actual photometric test reports.

## ORDERING INFORMATION

SAMPLE NUMBER: CLMF-12-4-ALH-INA-A12125-LD4-2STD-40-UNV-EDC2-MSB4-AMD (White only)  
CLMG-24-2-INS-A19156-LD4-4STD-R63-120-EDC1-EL10W-DF-AMA (Red only)

Product Family	Mounting	Width	Length	Housing Material	Door Type	Lens	LEDs	No. of LEDs	Illum Level	Color Temp.	Voltage	Driver	No. of Circuits	Options	
CLM							LD4								
<p><b>Series</b> CLM=Cleanroom Moderate</p> <p><b>F</b>=Flange 2 <b>G</b>=Grid (1", 1-1/2" NEMA G) <b>S</b>=Surface 5 (Surface available in 1x4, 2x2 and 2x4 )</p> <p><b>24</b>=24" Wide <b>12</b>=12" Wide</p> <p><b>2</b>=2' Length <b>4</b>=4' Length</p> <p><b>Blank</b>=Cold Rolled Steel, Powder Coat Painted White <b>ALH</b>=Aluminum Housing, Powder Coat Painted White <b>SHP</b>=Stainless Steel (304), Powder Coat Painted White <b>SHB</b>=Stainless Steel (304) Brushed</p>				<p><u><b>Inset Die Formed, One Piece</b></u> <b>INS</b>=Inset Door, Die-formed Steel, Painted White <b>INSSP</b>=Inset Door, Die-formed Stainless Steel, Painted White (Replace P with B for Brushed) <b>INA</b>=Inset Door, Die-formed Aluminum, Painted White <u><b>Overlapping, One Piece</b></u> <b>OLS</b>=Overlapping Door, Die-formed Steel, Painted White <b>OLSSP</b>=Overlapping Door, Die-formed Stainless Steel, Painted White (Replace P with B for Brushed) <b>OLA</b>=Overlapping Door, Die-formed Aluminum, Painted White</p>				<p><b>A12125</b>=Pattern 12 Acrylic, 0.125" Thick, Inverted <b>A19156</b>=Pattern 19, 0.156" Thick, Inverted <b>P12125</b>=Pattern 12 Polycarbonate, 0.125" Thick, Inverted</p> <p>Other Lenses / thicknesses available, consult factory or Lens Ordering Guide on web-site</p> <p><b>LD4</b>=Linear LED, Version 4.0</p> <p><b>1</b>=(1) LED Module in X-section <b>2</b>=(2) LED Modules in X-section <b>3</b>=(3) LED Modules in X-section (2' width only) <b>4</b>=(4) LED Modules in X-section (2' width only)</p> <p><b>STD</b>=Standard</p>				<p><b>120</b>=120V <b>277</b>=277V <b>UNV</b>=120-277V</p> <p><b>EDC</b>=Electronic Driver, Non-Dimming <b>EDD</b>=Electronic Driver, 0-10V Dimming 10% <b>ED1D</b>=Electronic Driver, 0-10V Dimming 1% <b>LUA/ES</b>=Lutron A-Series, 1% EcoSystem Dimming <b>LUA/3W</b>=Lutron A-Series, 1% EcoSystem 3-wire Dimming</p> <p><b>1</b>= 1 Circuit <b>2</b>= 2 Circuit <b>3</b>= 3 Circuit 1 <b>4</b>= 4 Circuit 1</p> <p><b>MSB4</b>=Mounting Safety Brackets 6 (4) with hardware <b>EL7W</b>=7W EM Pack 4,5 <b>EL10W</b>=10W EM Pack 4,5</p>			

## Notes:

1. 3 and 4 Circuit only available in 4' length fixture
2. Flange ship standard with (4) mounting brackets for quick and easy installation.
3. Hard metric fixtures available (600mm x 600mm, 300mm x 1200mm, 600mm x 1200mm). Consult product technical support to verify ceiling compatibility (Main-T height and width, Cross-T height and width, other related specifications).
4. Emergency requires backbox on fixture top, which adds approximately 3" to fixture height.
5. Emergency not available on Surface mount.
6. MSB4 for use with grid fixtures only.

## Please see below for ordering logic for the application of Red &amp; White Leds in combination

Sample Number: CLMG-24-4-INS-A12125-LD4-4LOR63-UNV-EDC1 (Red only)  
 Sample Number: CLMF-24-4-INS-A12125-LD4-4STD-40-UNV-EDC1 (White only)  
 Sample Number: CLMG-24-4-INS-A12125-LD4-2LO30/2LOR63-UNV-EDC2 (White/Red)

\* Red &amp; White LEDs (4 modules max in cross-section)

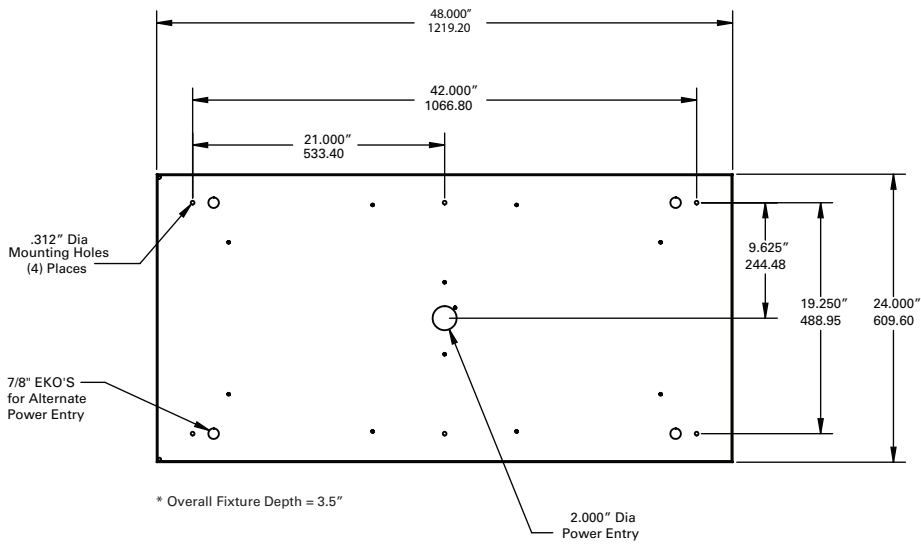
Rows of White	Illumination Level White	Color Temp White	Rows of Red	Illumination Level Red	Color Temp Red
1	STD	30	1	STD	R63
2	LO	35	2	LO	
3	HI	40	3	HI	
4		50	4		

2x2/2x4 LED Placement (Red/White)			
# Total Rows of LEDs	# Rows of White LEDs	# Rows of Red LEDs	Placement of Red & White LEDs
3	2	1	White, Red, White
3	1	2	Red, White, Red
4	3	1	White, White, Red, White
4	2	2	White, Red, Red, White
4	1	3	Red, Red, White, Red

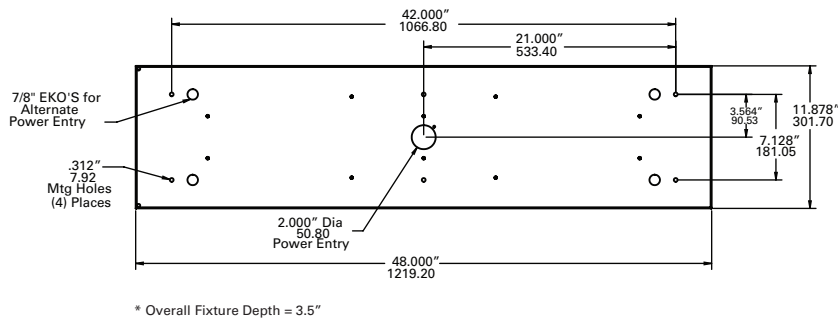
Approximate Lumen Multiplier for Red LED	
Color	Multiplier from White 4000K
White, 4000K	1.00
Red, 630nm	0.30

Surface

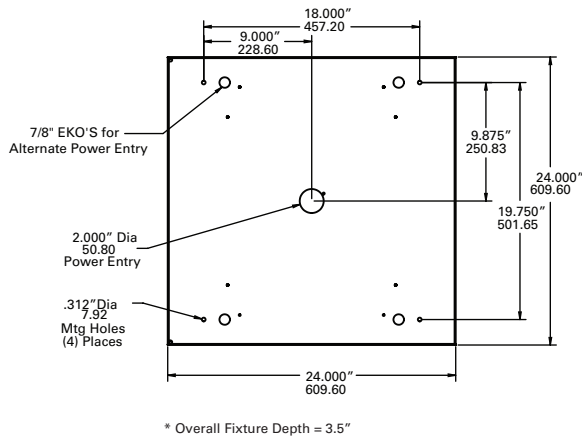
2x4 CLPS Mounting Detail



1x4 CLPS Mounting Detail

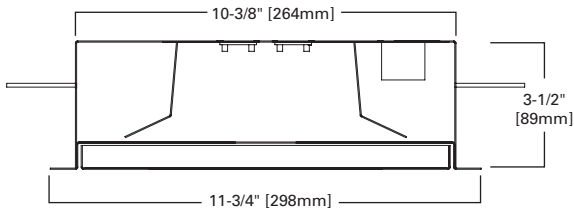


2x2 CLPS Mounting Detail

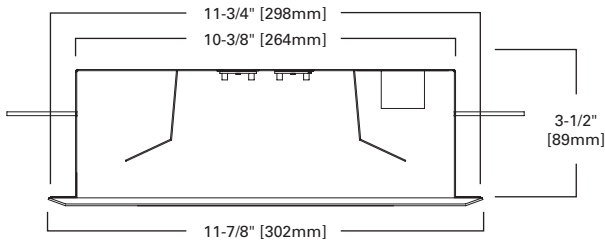


**Recessed Flange**

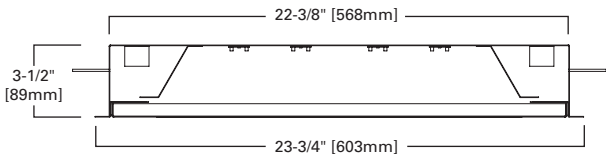
**1' Wide, Inset Door**



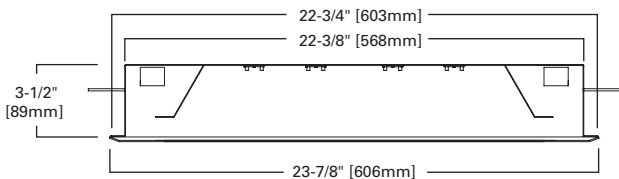
**1' Wide, Overlapping Door**



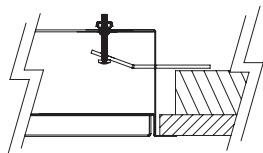
**2' Wide, Inset Door**



**2' Wide, Overlapping Door**



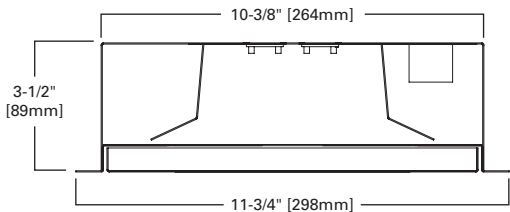
**Mounting Bracket - Standard**



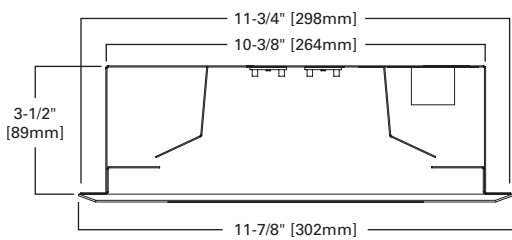
Cut-Out Dimensions	
1x4	10-5/8" x 46-5/8"
1x2	10-5/8" x 22-5/8"
2x4	22-5/8" x 46-5/8"
2x2	22-5/8" x 22-5/8"

**Recessed Grid**

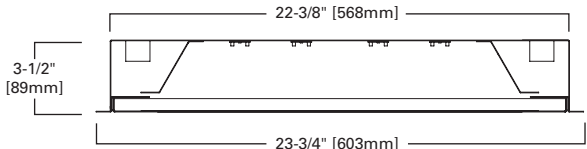
**1' Wide, Inset Door**



**1' Wide, Overlapping Door**



**2' Wide, Inset Door**



**2' Wide, Overlapping Door**

