

Project		Catalog #		Type	
Prepared by		Notes		Date	



Fail-Safe

CLP - Cleanroom Premium

Sealed and Gasketed
 Recessed Flange, Grid and Surface
 1 x 1, 1 x 2, 1 x 4, 2 x 2 and 2 x 4

Typical Applications:
 Laboratories • Cleanrooms • Pharmaceuticals • Vivariums • Compounding • Semiconductor • Biotechnology • Nanotechnology • Electronics • Aerospace • Cosmetics

- Interactive Menu**
- Order Information [page 2](#)
 - Product Specifications [page 3](#)
 - Product Warranty

Product Certification



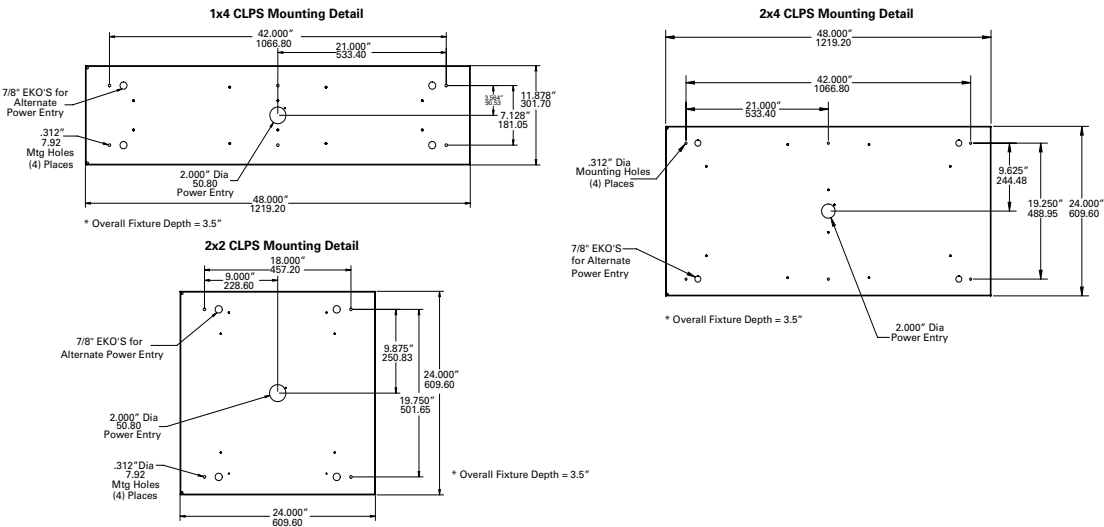
Product features



Top Product Features

- IP66 rated, suitable for use in ISO3 environments
- USP797 and USP800 compliant, BSL 1-4 rated
- Recessed grid, flange and surface mount; flange fits into grid ceilings; overlapping and inset doors
- Die-formed heavy gauge steel, aluminum or stainless steel housing and door
- Prismatic or smooth acrylic or polycarbonate lenses
- 2000K, 2700K, 3000K, 3500K, 4000K and 5000K CCT; 80 and 90 CRI
- Red, amber, and green LEDs available, narrow spectrum
- Options to meet Buy American Act requirements

Dimensional and Mounting Details - Surface



additional product diagrams

Order Information

SAMPLE ORDER NUMBER: **CLPF-12-4-ALH-INA-A12125-LD4-2STD-40-UNV-EDC2-AMD** (White only)
CLPG-24-2-ALH-INA-A19156-LD4-4STD-50-UNV-EDC1-EL10W-DF-AMA (White only)
CLPG-24-4-INS-A12125-LD4-3HIR63-UNV-EDC2 (Red only)
CLPG-24-4-INS-A12125-LD4-2STD35/2LOR63-UNV-EDC2 (White/Red)

Domestic Preferences	Product Family	Width	Length	Housing Material	Door Type	Lens	LEDs	Rows of LEDs
Domestic Preferences ⁽¹⁾	Product Family	Width	Length	Housing Material	Door Type	Lens	LEDs	Rows of LEDs
[Blank] =Standard BAA =Buy American Act	CLPF =Recessed Flange ⁽²⁾ CLPFE =Recessed Flange Extended ⁽²⁾ CLPG =Recessed Grid ^{(3), (5)} (1", 1-1/2", 2" NEMA G) CLPS =Surface ⁽⁴⁾ (only available in 1x4, 2x2, and 2x4)	24 =24" Wide 12 =12" Wide	1 =1' Length ⁽⁶⁾ 2 =2' Length 4 =4' Length	[Blank] =Cold Rolled Steel, Powder Coat Painted White ALH =Aluminum Housing, Painted Powder Coat White SHB =Stainless Steel (304) Brushed SH316B =Stainless Steel (316) Brushed SHP =Stainless Steel (304) Powder Coat Painted White SH316P =Stainless Steel (316) Powder Coat Painted White	Inset Die Formed, One Piece INS =Inset Door, Die-formed Steel, Painted White INA =Inset Door, Die-formed Aluminum, Painted White INSSP =Inset Door, Die-formed Stainless Steel, Painted White (Replace P with B for Brushed) INSS316P =Inset Door, Die-formed Stainless Steel (316) Painted White (Replace P with B for Brushed) Overlapping, One Piece ⁽⁷⁾ OLS =Overlapping Door, Die-formed Steel, Painted White OLA =Overlapping Door, Die-formed Aluminum, Painted White OLSSP =Overlapping Door, Die-formed Stainless Steel, Painted White - (Replace P with B for Brushed) OLSS316P =Overlapping Door, Die-formed Stainless Steel (316), Painted White (Replace P with B for Brushed)	A12125 =Pattern 12 Acrylic, 0.125" Thick, Inverted A19156 =Pattern 19, 0.156" Thick, Inverted P12125 =Pattern 12 Polycarbonate, 0.125" Thick, Inverted 89BW =Acrylic, Opal Smooth, 0.125" Thick 89AM =Polycarbonate, Opal Smooth, 0.125" Thick Other Lenses / thicknesses available, consult factory or the Lens Ordering Guide on web-site	LD4 =Linear LED, Version 4.0	1 =(1) LED Module in X-section 2 =(2) LED Modules in X-section 3 =(3) LED Modules in X-section ⁽⁹⁾ 4 =(4) LED Modules in X-section (2x2, 2x4 Only) 5 =(5) LED Modules in X-section (2x2, 2x4 Only) ⁽⁸⁾
Notes (1) Only product configurations with this designated prefix are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.	Notes (2) Flange and extended flange ship standard with 4 Swing-out 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 not available on CLPS (surface mount). (5) Compatible with 2" wide ceiling systems with standard on-center spacing (1x4, 2x2, 2x4).		Notes (6) 1x4, 2x2, and 2x4 sizes are available with 3 row LED module cross-section. 1x1 and 1x2 sizes are not available with 3 rows of LED's. The 1x4 3LO or 3STD with EM option is available. The 1x4 3HI with EM option is not available.		Notes (7) Compatible with 2" wide ceiling systems with standard on-center spacing (1x4, 2x2, 2x4).			Notes (8) CLPF, CLPG with 5 LED modules in cross-section, at HI illumination level require voltage specific thermal protector. Specify voltage 120 or 277 in ordering logic. See page 4 for thermal protector detail. (9) 1x4, 2x2, and 2x4 sizes are available with 3 row LED module cross-section. 1x1 and 1x2 sizes are not available with 3 rows of LED's. The 1x4 3LO or 3STD with EM option is available. The 1x4 3HI with EM option is not available.

Illumination Level	Color Temperature	Voltage	Driver	No. of Circuits	Options	Accessories
Illumination Level	Color Temperature	Voltage	Driver	No. of Circuits	Options	Accessories ⁽¹⁸⁾
STD =Standard LO =Low HI =High	20 =2000K 27 =2700K 30 =3000K 35 =3500K 40 =4000K 50 =5000K R63 =Red, 630nm A59 =Amber, 590nm G52 =Green, 520nm	120 =120V 277 =277V UNV =120V-277V	Electronic Driver EDC =Electronic Driver, Non-Dimming EDD =Electronic Driver, Dimming 10% EDTD =Electronic Driver, Dimming 1%	1 =1 Circuit 2 =2 Circuits 3 =3 Circuits 4 =4 Circuits ⁽¹⁰⁾ 5 =5 Circuits ⁽¹⁰⁾	EL7W =7W EM Pack Output ^{(11), (12), (14), (15), (16)} EL10W =10W EM Pack Output ^{(11), (12), (14), (15), (16)} EL14W =14W EM Pack Output ^{(11), (12), (14), (15), (16)} AMA =Antimicrobial, All Parts (Not available with stainless brushed door or housing) AMD =Antimicrobial, Door Only DF = 0.02" thick opal acrylic film, high light transmission diffusing film MSB4 =Mounting Safety Brackets (4) with Hardware ⁽¹³⁾ 90 =90 CRI	MSB4-PK =Mounting Safety Brackets (4) with Hardware ⁽¹⁷⁾
				Notes (10) 4 and 5 Circuits only available with 2x4 fixtures.	Notes (11) Emergency requires backbox on fixture top, which adds approximately 3" to fixture height. (12) Emergency not available on CLPS (surface mount). (13) MSB4 for use with grid fixtures only. (14) CLPF, CLPG with 5 LED modules in cross-section, at HI illumination level require voltage specific thermal protector. (15) 1x4, 2x2, and 2x4 sizes are available with 3 row LED module cross-section. 1x1 and 1x2 sizes are not available with 3 rows of LED's. The 1x4 3LO or 3STD with EM option is available. The 1x4 3HI with EM option is not available. (16) Integral emergency battery packs are unavailable for 1x1 form factor.	Notes (17) MSB4 for use with grid fixtures only. (18) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

Please see below for ordering logic for the application of Red & White LEDs in combination - substitute A59 for R63 for amber, and G52 for R63 for green

SAMPLE NUMBER: CLPG-24-4-INS-A12125-LD4-4LOR63-UNV-EDC1 (Red only)
 CLPG-24-4-INS-A12125-LD4-4STD-40-UNV-EDC1 (White only)
 CLPF-24-4-INS-A12125-LD4-2LO30/2LOR63-UNV-EDC2 (White/Red)

* Red & White LEDs (5 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	20	1	STD	R63
2	LO	27	2	LO	
3	HI	30	3	HI	
4		35	4		
5		40	5		
		50			

1x4/2x2/2x4 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
5	1	4	Red,Red,White,Red,Red
5	2	3	Red,White,Red, White,Red
5	3	2	White,Red,White,Red,White
5	4	1	White,White,Red,White,White

Approximate Lumen Multiplier for LEDs	
Color	Multiplier from White 4000K
White, 4000K	1.00
Red, 630nm	0.29
Amber, 590nm	0.25
Green, 520nm	0.71

Product Specifications

Application

- Designed for use in cleanroom/sterile environment where a sealed enclosure product is required

Housing

- Die-formed heavy gauge steel, seam-welded construction
- Optional stainless steel or aluminum
- Absent of holes for robust seal above ceiling
- High gloss, electrostatically applied, White powder coat finish; Antimicrobial option
- Average minimum reflectance 92%

Fasteners

- Captive, countersunk, stainless steel Phillips-head screws secure door to housing
- Screws are painted to match door finish

Gasketing

- Lens to Door Frame: one-piece, continuous closed-cell silicone gasket seals lens to door frame
- Door frame to housing or ceiling: One-piece continuous closed-cell gasket
- Housing to grid: Closed-cell silicone gasket

Door

- Overlapping door: One-piece, die-formed steel, stainless steel or aluminum door
- Inset door: Die-formed stainless steel, or aluminum
- Two stainless steel aircraft cables attach door to housing

Lens

- Pattern 12 acrylic lens; 0.125" thickness; Inverted
- Pattern 19 acrylic lens; 0.156" thickness; Inverted
- Pattern 12 polycarbonate; 0.125" thickness; Inverted
- Other lenses and thicknesses available, refer to Ordering Information

Mounting

- Recessed grid for 1" or 1 ½" NEMA G T-bar system
- Overlapping door compatible with 2" wide ceiling systems with standard on-center spacing (1' x 4', 2' x 2' and 2' x 4')
- Recessed flange for use with hard ceiling pan ceilings
- 4 optional mounting safety brackets
- Surface-mount using 4 holes (0.312")

LEDs

- Available in 2000K, 2700K, 3000K, 3500K, 4000K and 5000K; 80 CRI minimum, 90 CRI available
- Choice of Standard, Low or High illumination levels
- TM-21 calculations of 84% lumen maintenance at 60,000 hours
- Red (630nm), Amber (590nm), Green (G52) LEDs available. Narrow spectrum

Electrical

- Electronic driver 120-277V, dimming driver standard
- 0-10V dimming down to 1% or 10%
- Non-dimming available

Compliance

- 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. Filtered air is continually directed downward, passing through the ventilated raised floor, and recirculated – to remove more of the airborne particles than are created. Not uncommon for the entire ceiling to be either HEPA or ULPA filters. Therefore, laminar-flow surface mount luminaires are often used to illuminate the space. With proper air flow, air exchanges, and installation - this non-shedding luminaire is acceptable for use in ISO3-9 environments.
- cULus listed for wet locations under covered ceilings.
- IP66 from below the luminaire/ceiling
- Insulated Ceiling (IC) rated (fixture configuration up to 4 rows of LED modules)

Warranty

- Five-year warranty on LEDs and electrical, consult website for details. www.cooperlighting.com/legal

Input Watts/Delivered Lumens

[View IES files](#)

1' x 2'			
No. of Modules, Level	Input Watts	Delivered Lumens*	LPW
1LO	11.7	1328	113.5
1STD	16.65	1777	106.8
1HI	21.6	2182	101.0
2LO	23.4	2656	113.5
2STD	33.3	3557	106.8
2HI	43.2	4363	101.0

2' x 2'			
No. of Modules, Level	Input Watts	Delivered Lumens*	LPW
2LO	23.4	3113	133.0
2STD	33.3	4169	125.2
2HI	43.2	5113	118.4
3LO	35.1	4670	133.0
3STD	49.95	6253	125.2
3HI	64.8	7670	118.4
4LO	46.8	6226	133.0
4STD	66.6	8338	125.2
4HI	86.4	10227	118.4
5LO	58.5	7783	133.0
5STD	83.25	10422	125.2
5HI	108	12784	118.4

1' x 4'			
No. of Modules, Level	Input Watts	Delivered Lumens*	LPW
1LO	23.4	2756	117.8
1STD	33.3	3691	110.8
1HI	43.2	4528	104.8
2LO	46.8	5513	117.8
2STD	66.6	7382	110.8
2HI	86.4	9055	104.8
3LO	70.2	8269	117.8
3STD	99.9	11074	110.8
3HI	129.6	13583	104.8

2' x 4'			
No. of Modules, Level	Input Watts	Delivered Lumens*	LPW
2LO	46.8	6328	135.2
2STD	66.6	8474	127.2
2HI	86.4	10394	120.3
3LO	70.2	9492	135.2
3STD	99.9	12711	127.2
3HI	129.6	15591	120.3
4LO	93.6	12656	135.2
4STD	133.2	16948	127.2
4HI	172.8	20788	120.3
5LO	117	15820	135.2
5STD	166.5	21185	127.2
5HI	216	25985	120.3

* Approximate delivered lumens, 4000K.

* Verify with actual photometric test reports.

* A12125 lens.

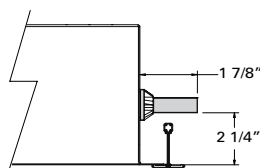
Lumen Calculator

Approximate CCT Multiplier	80 CRI	90 CRI
2000K	0.67	0.56
2700K	0.89	0.75
3000K	0.94	0.82
3500K	0.99	0.83
4000K	1.00	0.84
5000K	1.02	0.88

Lens	Multiplier
A12125	1
A19156	0.994
P12125	0.906

Thermal Protector Detail

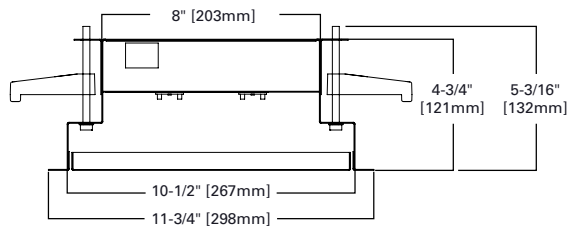
Factory wired on the side of fixture.
Customer must remove split bushing
and insert TP in housing in the field.



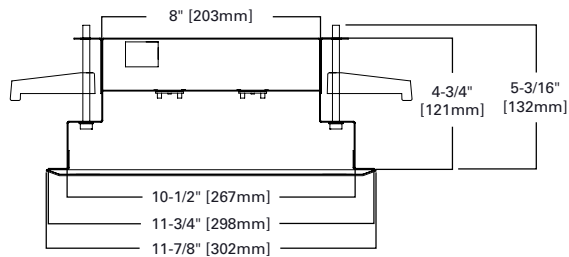
Dimensional and Mounting Details - Recessed

Recessed Flange

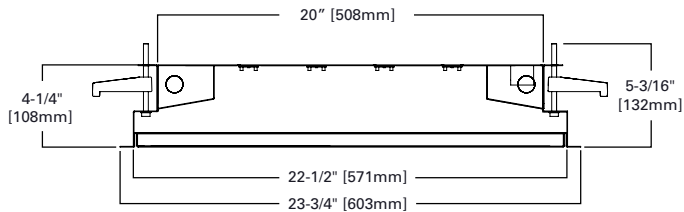
1' Wide, Inset Door



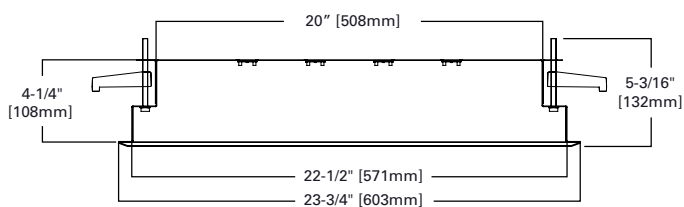
1' Wide, Overlapping Door



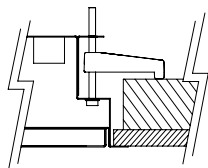
2' Wide, Inset Door



2' Wide, Overlapping Door



Swing-out Bracket - Standard

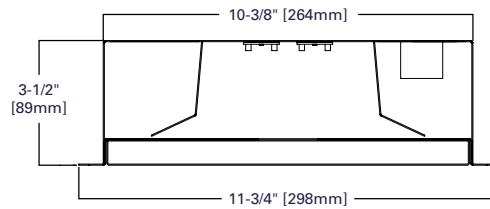


Cut-Out Dimensions

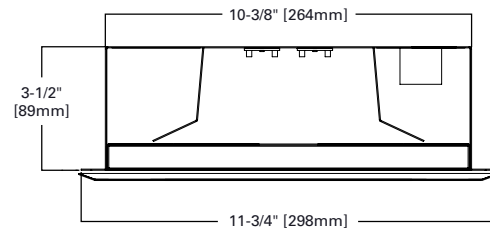
1x4	10-3/4" x 46-3/4"
1x2	10-3/4" x 22-3/4"
1x1	10-3/4" x 10-3/4"
2x4	22-3/4" x 46-3/4"
2x2	22-3/4" x 22-3/4"

Recessed Grid

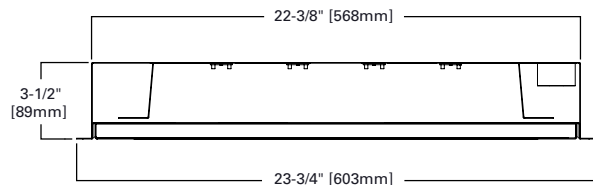
1' Wide, Inset Door



1' Wide, Overlapping Door



2' Wide, Inset Door



2' Wide, Overlapping Door

