

## DESCRIPTION

The Fail-Safe CFR is designed for use in horizontal or non-laminar air flow clean rooms. The enclosed and gasketed housing and one-piece, outside flanged door protect against infiltration of airborne bacteria. The extruded aluminum inset door and the hole-free design of the housing prevent air exchange between the fixture and plenum, allowing relamping without contamination of the clean areas. UL/cUL listed for wet locations under covered ceiling.

| Catalog #   |  | Type |
|-------------|--|------|
| Project     |  |      |
| Comments    |  | Date |
| Prepared by |  |      |

## SPECIFICATION FEATURES

### Application

The CFR is suitable for use in I.E.S. Class 100, 1,000, 10,000 and 100,000 clean room environments. Applications include clean rooms, technical and biomedical labs, food processing/testing centers and pharmaceutical labs.

### Fasteners

Machine screws secure through captive cagenuts in housing and are spaced to compress gasketing on all sides.

### Housing

Die-formed, 20 ga. CRS with tightly butted and spot welded, sealed end caps. Contains no holes that would allow air passage. Standard white high reflectance polyester powder coat finish. Gloss: 85%; Reflectance: 93%; Hardness: 2H; Salt Spray: 500 Hours.

### Finish

High gloss, electrostatically applied, white powder coat finish, average minimum reflectance 92%. 1000 hour salt spray test.

### Hinge

Two braided, stainless steel cables on one side of door provide hinging.

### Door

Fully gasketed, inset door with baked white polyester powder coat and withstands stringent cleaning and "wet location" conditions.

### Gasket

White, closed cell, Flexiseal(TM) gasketing surrounds perimeter of lens to seal lens to door frame and around perimeter of door to seal door to housing.

### Access

A gasketed access plate on top of the housing with two flattened, 7/8" diameter knockouts allows connection of vapor tight conduit fitting. Optional, above ceiling, top access door for luminaire maintenance is available and ideal for food processing and cleanroom applications.

### Lens

Lens is clear Pattern 12 acrylic with

prisms positioned inside fixture and smooth surface on the outside for easy cleaning.

### Lamps

(By Others)

### Lens Retention

Unique, Particlock(TM) lens retention system utilizes continuous, 18 ga. media clampdowns to sandwich gasketing and integrate lens and door frame for even environmental seal.

### Ballast

Electronic Class P, CBM/ETL ballast.

### Listings

UL/cUL listed for wet location under covered ceiling.



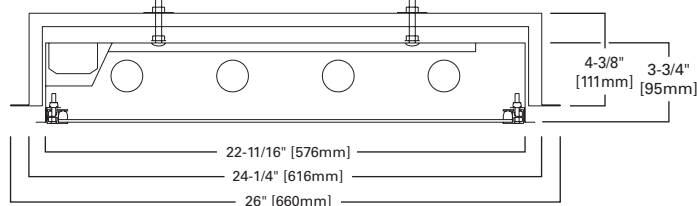
**CFR24**

2x2

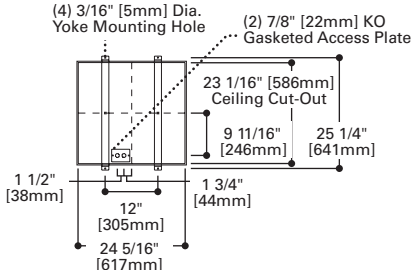
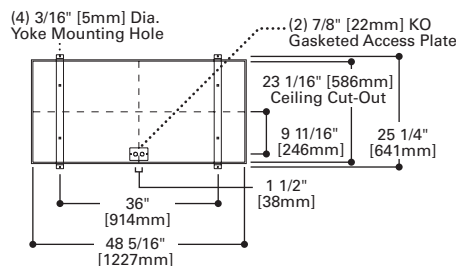
2x4

Cleanroom

**RECESSED FLANGE**  
Inset Flat Door

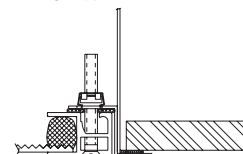


## MOUNTING DIMENSIONS



## DOOR FRAME

Flange Type-Inset Door



## ORDERING INFORMATION

SAMPLE NUMBER: CFR-24-332-277-IK12-EB81-GLR

| Product Family  | Grid Size   | Lamp Type  | Voltage   | Lamp Type <sup>4</sup> | Ballast  | Door/Finish Options  | Options   |
|---|---|--|---|------------------------|--|--|---|
| <b>CFR</b>  | <b>24</b>   |  |   |                        |  |  |   |
| CFR=Fluorescent<br>Flange<br>Recessed   |   |  | 120=120V<br>277=277V<br>347=347V<br>UNV=120V-277V |                        | <b>Electronic Ballasts<sup>2</sup></b><br><b>EB51</b> = (1) Ballast for use with T5 Lamp<br><b>EB52</b> =(2) Ballasts for use with T5 Lamp<br><b>EB81</b> = (1) Ballast for use with T8 Lamp<br><b>EB82</b> = (2) Ballasts for use with T8 Lamp<br><b>EBX1</b> = (1) Ballast for use with Biaxial Lamp<br><b>EBX2</b> = (2) Ballasts for use with Biaxial Lamp | <b>Blank</b> =Extruded aluminum, white powder coat paint<br><b>ALX</b> =Extruded aluminum, clear anodized finish | <b>EL4</b> =EM Pack, T8, BX<br><b>EL5</b> =EM Pack, T5, T5HO<br><b>GLR</b> =Fuse and Holder<br><b>RIF</b> =Radio Frequency Interference Filter<br><b>TAD</b> =Top Access Door <sup>3</sup><br><b>AM</b> =Anti-microbial matte white finish <sup>6</sup><br><br><b>Housing Options</b><br><b>ALH</b> =Die formed Aluminum, powder coat painted white |
| 24= 24"   |   |  |   |                        |  |  |   |
| <b>2' Fixture Length</b><br><b>T5 Fluorescent</b><br>214=(2) 14W Lamps<br>314=(3) 14W Lamps<br>414=(4) 14W Lamps<br>224=(2) 24W Lamps<br>324=(3) 24W Lamps<br>424=(4) 24W Lamps<br><b>T8 Fluorescent</b><br>217=(2) 17W Lamps<br>317=(3) 17W Lamps<br>417=(4) 17W Lamps<br>617=(6) 17W Lamps<br><b>Biaxial Fluorescent</b><br>240BX=(2) 40W Lamps<br>340BX=(3) 40W Lamps<br>440BX=(4) 40W Lamps | <b>4' Fixture Length</b><br><b>T5 Fluorescent</b><br>228=(2) 28W Lamps<br>328=(3) 28W Lamps<br>428=(4) 28W Lamps<br>254=(2) 54W Lamps<br>354=(3) 54W Lamps<br>454=(4) 54W Lamps<br>654=(6) 54W Lamps<br><br><b>T8 Fluorescent</b><br>232=(2) 32W Lamps<br>332=(3) 32W Lamps<br>432=(4) 32W Lamps<br>632=(6) 32W Lamps | <b>IK12</b> =Pattern 12 Prismatic Acrylic, 0.110" thick<br><b>IP12</b> =Pattern 12 Prismatic Polycarbonate, 0.110" thick<br><b>KSH25</b> = Linear Ribbed Acrylic, 0.115" thick <sup>1</sup><br><b>93</b> =Prismatic Tempered Glass, 0.156" thick |   |                        |  |  |   |

**NOTES:**

<sup>1</sup> The KSH25 provides improved visual performance and wide angle distribution. This lens has an integral prism pattern designed so that prisms face the lamp cavity and still supply superior photometrics. Highly recommended for all high-tech manufacturing environments.

<sup>2</sup> For specific electronic ballast, specify brand and catalog number.

<sup>3</sup> Contact your Cooper Lighting Representative for dimensional details.

<sup>4</sup> Refer to Lens Ordering Guide for additional lens choices.

<sup>5</sup> EM Pack not available with (2) T5 ballast.

<sup>6</sup> AM not available with ALX anodized finish.