

## DESCRIPTION

The CFG is designed for use in horizontal or non-laminar air flow clean rooms. The enclosed and gasketed housing and one-piece, outside door protects against infiltration of particles and airborne bacteria. The housing and door are designed to work with standard 1" and 1 1/2" T-grid ceilings. The gasketed door frame's design eliminates ledge or crevice exposure preventing the harboring of contaminants. The CFG hole-free housing prevents air exchange between the fixture and plenum. UL/cUL listed for wet locations under covered ceilings.

Catalog #		Type
Project		
Comments		Date
Prepared by		

## SPECIFICATION FEATURES

### Application

The CFG is suitable for use in I.E.S. Class 100, 1,000, 10,000 and 100,000 clean room environments and manufactured in accordance with U.S.D.A., F.D.A., N.S.F. and Federal Standard 209E. Applications include clean rooms, technical and biomedical labs, food processing/testing centers and pharmaceutical labs.

### Fasteners

Flush-mounted, stainless steel machine screws secure through captive cage nuts in housing and are evenly spaced to compress gasketing on all sides.

### Housing

Die-formed, 20 ga. CRS with tightly butted and seam-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%.

### Hinge

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

### Door

One-piece, 18 ga. door with baked white polyester powder coat, fully gasketed, outside door with die-formed and beveled edges eliminates seams which could entrap microscopic contaminants. Optional doors available.

### 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 ceiling system. Another layer seals fixture to ceiling system after installation.

### 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

One-piece, clear Pattern 12 acrylic lens with internal prism pattern. Choice of prismatic acrylic, prismatic polycarbonate, Radialens or prismatic tempered glass on environmental side.

### 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. IP66 rated for standard die-formed steel, stainless steel and aluminum doors.



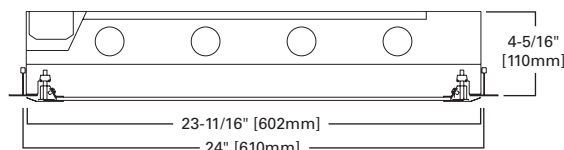
## CFG

2x2

2x4

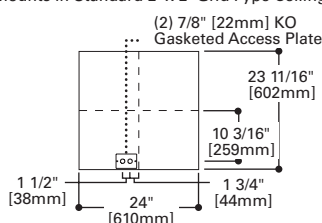
Cleanroom

**RECESSED GRID  
Overlapping Door  
1" and 1-1/2" Grid**

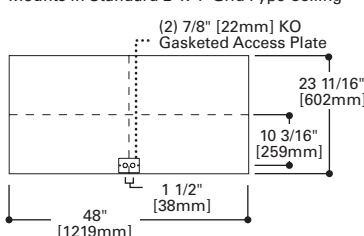


## MOUNTING DIMENSIONS

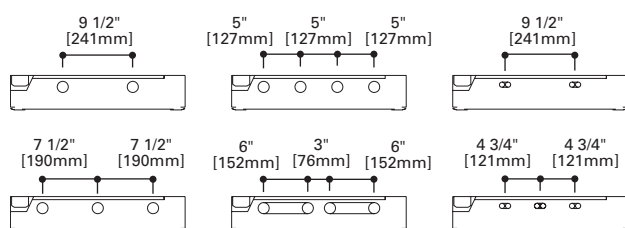
Mounts in Standard 2' x 2' Grid Type Ceiling



Mounts in Standard 2' x 4' Grid Type Ceiling

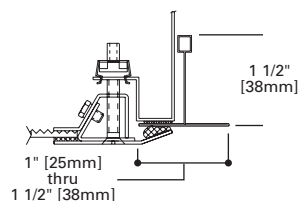


## LAMP CONFIGURATIONS



## DOOR FRAME

Grid Type-One-Piece Door



## ENERGY DATA

Input Watts:

**STD Ballasts & STD Lamps**

- (2) 40W Biaxial Fluorescents: 82W
- (3) 40W Biaxial Fluorescents: 127W

**ES Ballasts & STD Lamps**

- (2) 17W T8 Fluorescents: 45W
- (3) 17W T8 Fluorescents: 68W
- (4) 17W T8 Fluorescents: 90W
- (2) 32W T8 Fluorescents: 71W
- (3) 32W T8 Fluorescents: 108W
- (4) 32W T8 Fluorescents: 142W

**Electronic Ballast Data**

Consult Cooper Lighting Representative

**Cooper Lighting**

by **F.T.N**

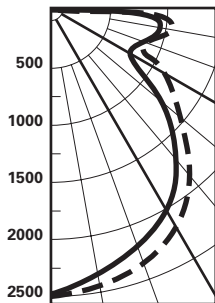
## ORDERING INFORMATION

SAMPLE NUMBER: CFG-24-232-277-IK12-EB81-SSN

Product Family	Width	Lamp Type	Voltage	Lens Type <sup>4</sup>	Ballast	Overlapping Door/Finish Options	Options
<b>CFG</b>	<b>24</b>						
CFG=Fluorescent Grid Type	24=24"	120= 120V 277=277V UNV=120V-277V		IK12=Pattern 12 Prismatic Acrylic, 0.110" thick IP12=Pattern 12 Prismatic Polycarbonate, 0.110" thick KSH25= Linear Ribbed Acrylic, 0.115" thick <sup>1</sup> 93=Prismatic Tempered Glass, 0.156" thick	Electronic Ballast <sup>2</sup> EB81=(1) Ballast for use with T8 Lamp EB82=(2) Ballasts for use with T8 Lamp EBX1=EB1 Ballast for use with Biaxial Lamp EBX2=(2) Ballasts for use with Biaxial Lamp EB51=(1) Ballast for use with T5 Lamp EB52=(2) Ballasts for use with T5 Lamp	Blank=Steel, powder coat painted white <sup>6</sup> SSN=Stainless Steel Door/Brushed finish <sup>6</sup> SSP=Stainless Steel Door, powder coat painted white <sup>6</sup> ALP=Aluminum Door, powder coat painted white <sup>6</sup>	
<b>2' Fixture Length</b> <b>T5 Fluorescent</b> 214=(2) 14W Lamps 314=(3) 14W Lamps 414=(4) 14W Lamps <b>T5HO Fluorescent</b> 224=(2) 24W Lamps 324=(3) 24W Lamps 424=(4) 24W Lamps <b>T8 Fluorescent</b> 217=(2) 17W Lamps 317=(3) 17W Lamps 417=(4) 17W Lamps <b>U Lamps</b> 2U 1 5/8=(2) 31W T8 Lamps 3U 1/58=(3) 31W T8 Lamps 2U6T8=(2) 32W T8 Lamps		<b>Biaxial Fluorescent</b> 240BX=(2) 40W Lamps 340BX=(3) 40W Lamps <b>4' Fixture Length</b> <b>T5 Fluorescent</b> 228=(2) 28W Lamps 328=(3) 28W Lamps 428=(4) 28W Lamps <b>T5HO Fluorescent</b> 254=(2) 54W Lamps 354=(3) 54W Lamps 454=(4) 54W Lamps 654=(6) 54W Lamps <b>T8 Fluorescent</b> 332=(3) 32W Lamps 432=(4) 32W Lamps 632=(6) 32W Lamps		<b>NOTES:</b> 1 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. 2 For specific electronic ballast, specify brand and catalog number. 3 Contact your Cooper Lighting Representative for dimensional details. 4 Refer to Lens Ordering Guide for additional lens choices. 5 EM Pack not available with (2) T5 ballasts. 6 IP66 rated.			
<b>Housing Options</b> ALH=Die formed Aluminum, powder coat painted white SHN=Stainless Steel, Brushed finish SHP=Stainless Steel, powder coat painted white							

## PHOTOMETRICS

## Candlepower Distribution



Test No. ITL36036

CFG-24-440-IK12  
Lamp=(4) 40WT12  
Lumens=8526Spacing Criteria  
I=1.4 II=1.2  
Efficiency=67.7%

--- I

--- II

## Average Luminance

Deg.	I	II
45	1595	1323
55	1154	980
65	822	779
75	871	857
85	1018	933

## Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	2728	21.7	32.0
0-40	4499	35.7	52.8
0-60	7316	58.1	85.8
0-90	8526	67.7	100.0
90-180	0	0.0	0.0
0-180	8526	67.7	100.0

## Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%
	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR														
0	81	81	81	81	79	79	79	75	75	72	72	69	69	68
1	75	72	69	67	70	68	66	67	64	65	62	62	60	59
2	69	64	60	57	63	59	56	61	55	58	54	56	52	51
3	64	58	53	49	57	52	48	55	48	53	47	51	46	45
4	59	52	46	42	51	46	42	49	42	48	41	46	40	39
5	54	46	41	37	46	40	36	44	36	43	36	42	35	34
6	50	42	36	32	41	36	32	40	32	39	31	38	31	30
7	46	38	32	28	37	32	28	36	28	35	28	34	28	26
8	43	34	28	25	33	28	24	33	24	32	24	31	24	23
9	39	30	25	21	30	25	21	29	21	29	21	28	21	20
10	37	28	22	19	27	22	19	27	19	26	19	25	19	17

rc=Ceiling reflectance, rw=W all reflectance, RCR=Room cavity ratio

CU Data Based on 20% Effective Floor Cavity Reflectance.