FAIL-SAFE®

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 frame protect 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. Door frames feature a gasket design which eliminates ledge or crevice exposure preventing the harboring of contaminants. The CFG's hole-free housing prevents air exchange between the fixture and plenum. UL/cUL listed for wet locations.

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. 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.

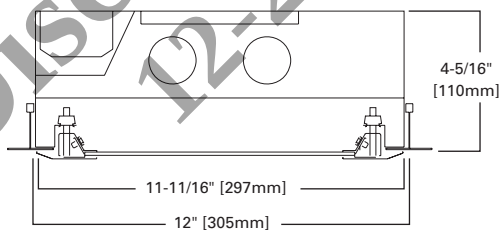
Lens
One-piece, clear Pattern 12 acrylic lens with internal prism pattern. Choice of prismatic acrylic, prismatic polycarbonate, Radialens or prismatic tempered glass on environmental side.

Lamps
(By Others)

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

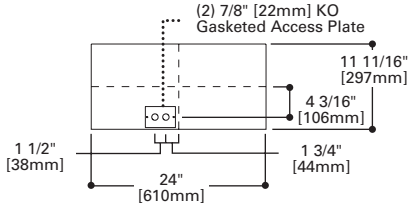
Ballast
Standard Class P, CBM/ETL ballast.

Labels
UL/cUL listed, standard wet label. IP66 rated for standard die-formed steel, stainless steel and aluminum doors.

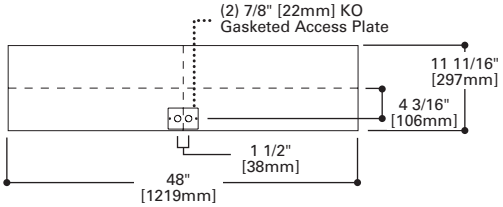


MOUNTING DIMENSIONS

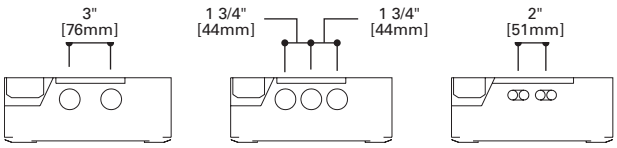
Mounts in Standard 1' x 2' Grid Type Ceiling



Mounts in Standard 1' x 4' Grid Type Ceiling

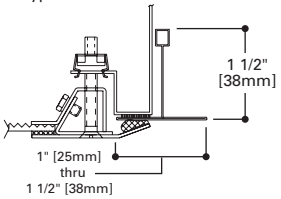


LAMP CONFIGURATIONS



DOOR FRAME

Grid Type - One-Piece Door



CFG

1x2
1x4
Cleanroom

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

ENERGY DATA

Input Watts:
STD Ballasts & STD Lamps
(1) 40W Biaxial Fluorescent: 45W
(2) 40W Biaxial Fluorescent: 82W

ES Ballasts & STD Lamps
(1) 17W T8 Fluorescent: 23W
(2) 17W T8 Fluorescent: 45W
(3) 17W T8 Fluorescent: 68W
(1) 32W T8 Fluorescent: 37W
(2) 32W T8 Fluorescent: 71W
(3) 32W T8 Fluorescent: 108W

Electronic Ballast Data:
Consult Cooper Lighting Solutions Representative

COOPER Lighting Solutions

Specifications and dimensions subject to change without notice.
Consult your representative for additional options and finishes.

ORDERING INFORMATION

SAMPLE NUMBER: CFG-12-332-277-IK12-EB82-GLR

Product Family	Width	Lamp Type	Voltage	Lens Type [4]	Ballast	Overlapping Door/Finish Options	Options
CFG	**12**						

CFG=Fluorescent Grid Type

12=12" (3 lamp max.)

2' Fixture Length

T5 Fluorescent
114=(1) 14W Lamp
214=(2) 14W Lamps
314=(3) 14W Lamps

T5HO Fluorescent
124=(1) 24W Lamp
224=(2) 24W Lamps

T8 Fluorescent
117=(1) 17W Lamp
217=(2) 17W Lamps
317=(3) 17W Lamps

Biaxial Fluorescent
140BX=(1) 40W Lamp
240BX=(2) 40W Lamps

4' Fixture Length

T5 Fluorescent
128=(1) 28W Lamps
228=(2) 28W Lamps
328=(3) 28W Lamps

T5HO Fluorescent
154=(1) 54W Lamp
254=(2) 54W Lamps

T8 Fluorescent
132=(1) 32W Lamp
232=(2) 32W Lamps
332=(3) 32W Lamps

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 [1]
93=Prismatic Tempered Glass, 0.156" thick

Electronic Ballast [2]
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) Ballast for use with Biaxial Lamps
EB51=(1) Ballast for use with T5 Lamp
EB52=(2) Ballasts for use with T5 Lamps

Blank=Steel, powder coat painted white [5]
SSN=Stainless Steel Door/Brushed finish [5]
SSP=Stainless Steel Door, powder coat painted white [5]
ALP=Aluminum Door, powder coat painted white [5]

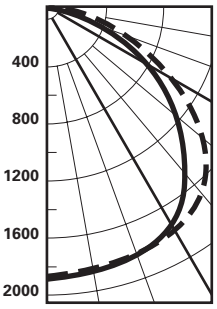
EL4=EM Pack, T8, BX
EL5=EM Pack, T5, T5HO
GLR=Fuse and Holder
RIF=Radio Frequency Interference Filter
TAD=Top Access Door [3]
AM=Anti-microbial Finish

Housing Options
ALH=Die formed Aluminum, powder coat painted white
SHN=Stainless Steel, Brushed finish
SHP=Stainless Steel, powder coat painted white

NOTES:
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 Solutions Representative for dimensional details.
4 Refer to Lens Ordering Guide for additional lens choices.
5 IP66 rated.

PHOTOMETRICS

Candlepower Distribution



Test No. 5890
CFG-12-340
Lamp=F40T12RS/WW
No. Lamps=3
Lumens=3200
Spacing Criteria
⊥=1.2 ||=1.1
Efficiency=38.7%

– – – ⊥
——— ||

Average Luminance

Deg.	⊥	||
45	1624	1463
55	1075	983
65	795	746
75	599	584
85	191	221

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	1446	15.1	38.9
0-40	2300	24.0	62.0
0-60	3371	35.1	90.8
0-90	3713	38.7	100.0
90-180	0	0.0	0.0
0-180	3713	38.7	100.0

Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%
rw	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR														
0	46	46	46	46	45	45	45	43	43	41	41	39	39	39
1	43	42	41	3	41	40	39	39	38	38	36	37	35	35
2	40	38	36	34	37	35	34	36	33	35	32	33	31	31
3	37	34	32	30	34	31	29	33	29	32	29	31	28	27
4	35	31	28	26	31	28	26	30	26	29	25	28	25	24
5	32	28	25	23	28	25	23	27	23	26	22	25	22	21
6	30	26	23	20	25	22	20	25	20	24	20	23	20	19
7	28	23	20	18	23	20	18	22	18	22	18	21	18	17
8	26	21	18	16	21	18	16	20	16	20	16	19	16	15
9	24	19	16	14	19	16	14	18	14	18	14	18	14	13
10	22	17	15	13	`17	14	13	17	13	16	12	16	12	12

rc=Ceiling reflectance, rw=W all reflectance, RCR=Room cavity ratio
CU Data Based on 20% Effective Floor Cavity Reflectance.