

DESCRIPTION

The Fail-Safe MAF Series 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 die formed edges on the door frame and the hole-free design of the housing prevent air exchange between the fixture and plenum, allowing relamping without contamination of the clean areas. These luminaires are U.L. listed and C.S.A. certified for wet locations and manufactured in accordance with U.S.D.A., F.D.A., N.S.F. and Federal Standard 209E guidelines. Rated for high pressure hose down at 200 PSI.

Catalog #		Type	
Project		Date	
Comments			
Prepared by			

SPECIFICATION FEATURES

Application

Applications include surgical suites, clean rooms, technical and biomedical labs, food processing/testing centers and pharmaceutical labs.

A ... Lens

(To be specified.) One-piece, clear extruded lens with internal prism pattern. Choice of prismatic acrylic, prismatic polycarbonate, Radialens (TM) or prismatic tempered glass on environmental side. See Lens Options.

B ... Fasteners

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

C ... 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.

D ... Lamps

(By Others)

E ... 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.

F ... Hinge

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

G ... Door

(To be specified.) One-piece, 18 ga., fully gasketed, outside flanged door with die-formed edges eliminates seams which could entrap microscopic contaminants.

H ... Ballast

Standard Class P, CBM/ETL ballast.

I ... 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. Another layer on the flange seals fixture to ceiling system after installation.

J ... Access

A gasketed access plate on top of the housing with two flattened, 7/8" diameter knockouts allows connection of vapor tight conduit fitting.

Labels

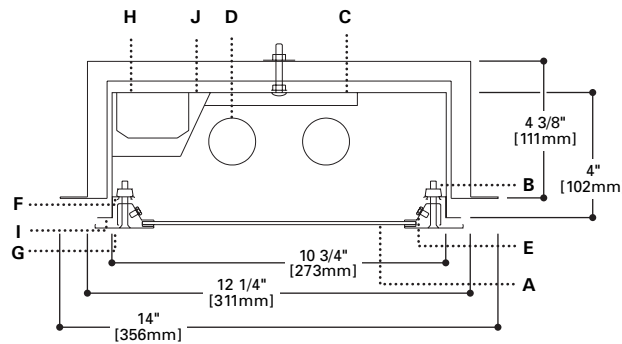
U.L. listed, C.S.A. certified, standard wet label.



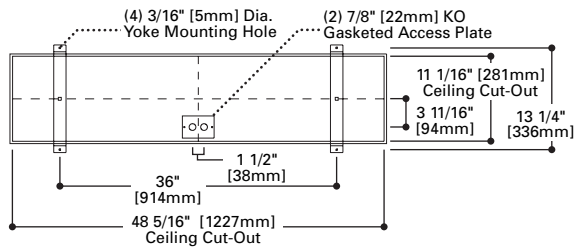
MAF

**17W - 40W
Fluorescent**

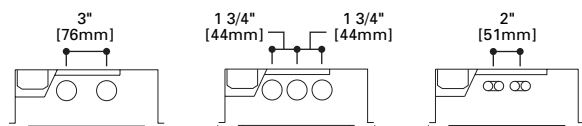
**1' X 4'
FLUORESCENT FLANGE
Symmetric/Asymmetric Lens
One-Piece Door**



MOUNTING DIMENSIONS

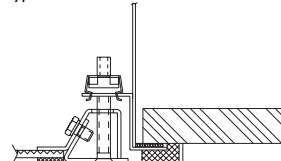


LAMP CONFIGURATIONS



DOOR FRAME

Flange Type-One-Piece Door



ENERGY DATA

Input Watts:

STD Ballasts & STD Lamps

- (1) 20W T12 Fluorescent: 32W
- (2) 20W T12 Fluorescents: 53W
- (3) 20W T12 Fluorescents: 85W
- (1) 40W Biaxial Fluorescent: 45W
- (2) 40W Biaxial Fluorescents: 82W

ES Ballasts & STD Lamps

- (1) 17W T8 Fluorescent: 23W
- (2) 17W T8 Fluorescents: 45W
- (3) 17W T8 Fluorescents: 68W
- (1) 32W T8 Fluorescent: 37W
- (2) 32W T8 Fluorescents: 71W
- (3) 32W T8 Fluorescents: 108W
- (1) 40W T12 Fluorescent: 50W
- (2) 40W T12 Fluorescents: 86W
- (3) 40W T12 Fluorescents: 136W

ES Ballasts & ES Lamps

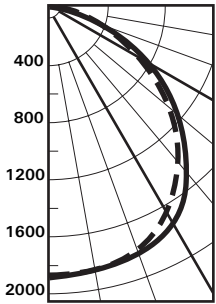
- (1) 40W T12 Fluorescent: 44W
- (2) 40W T12 Fluorescents: 76W
- (3) 40W T12 Fluorescents: 120W

Electronic Ballast Data:

Consult Factory

PHOTOMETRICS

Candlepower Distribution



Test No. 5892
CFF-12-340
 Lamp=F40T12RS/WW
 No. Lamps=3
 Lumens=3200
 Spacing Criteria
 $\perp=1.2$ $\parallel=1.1$
 Efficiency=38.7%



Average Luminance

Deg.	\perp	\parallel
45	2018	1833
55	1332	1227
65	1074	1010
75	1124	1050
85	1044	927

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	1741	18.1	37.5
0-40	2775	28.9	59.8
0-60	4105	42.8	88.4
0-90	4643	48.4	100.0
90-180	0	0.0	0.0
0-180	4643	48.4	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	58	58	58	58	56	56	56	54	54	51	51	49	49	48
1	54	52	50	49	51	49	48	49	46	47	45	45	44	43
2	50	47	44	42	46	43	41	44	40	43	39	41	39	38
3	46	42	39	36	41	38	36	40	35	39	35	38	34	33
4	43	38	35	32	38	34	32	36	31	35	31	34	30	30
5	40	34	31	28	34	30	28	33	27	32	27	31	27	26
6	37	31	28	25	31	27	25	30	25	29	24	29	24	23
7	34	28	25	22	28	25	22	27	22	27	22	26	22	21
8	32	26	22	20	25	22	19	25	19	24	19	24	19	18
9	29	23	20	17	23	19	17	22	17	22	17	21	17	16
10	27	21	18	15	21	18	15	21	15	20	15	20	15	14

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

ORDERING INFORMATION

SAMPLE NUMBER: MAF-12-340-277-IK12-LE3-GLR

Product Family	Width	Lamp Type	Voltage ³	Lens Type	Ballast	Door/Finish Options	Options
MAF	12						
MAF=Medical Asymmetric / Symmetric Fluorescent Flange	12=12"	2' Fixture Length T8 Fluorescents 117=(1) 17W Lamp 217=(2) 17W Lamps 317=(3) 17W Lamps T12 Fluorescents 120=(1) 20W Lamp 220=(2) 20W Lamps 320=(3) 20W Lamps Biaxial Fluorescents 140BX=(1) 40W Lamp 240BX=(2) 40W Lamps 4' Fixture Length T8 Fluorescents 132=(1) 32W Lamp 232=(2) 32W Lamps 332=(3) 32W Lamps T12 Fluorescents 140=(1) 40W Lamp 240=(2) 40W Lamps 340=(3) 40W Lamp	120=120V 277=277V 347=347V IK12=K-12 Prismatic Acrylic IP12=K-12 Prismatic Polycarbonate KSH25 ¹ =Bat Wing Distribution ASY/SYM=Asymmetric / Symmetric Lens ASY/SYM/RFI=Asymmetric / Symmetric Lens with RFI grid	LE3=Energy Saving Ballast Electronic Ballast^{2,4} EB81=(1) Ballast for use with T8 Lamp EB82=(2) Ballasts for use with T8 Lamp EB21=(1) Ballast for use with T12 Lamp EB22=(2) Ballasts for use with T12 Lamp EBX1=(1) Ballast for use with Biaxial Lamp EBX2=(2) Ballasts for use with Biaxial Lamp	Blank=Standard, CRS with baked white finish SSN=Stainless Steel Door / Brushed 304 finish SSP=Stainless Steel Door / Polyester Powder Coat Finish ALXP=Extruded Aluminum / Polyester Powder Coat Finish ALP=Formed Aluminum / Polyester Powder Coat Finish ALX=Extruded Aluminum / Anodized	EBP=Emergency Battery Pack GLR=Fuse and Holder RIF=Radio Frequency Interference Filter Housing Options SHN=Stainless Steel, Brushed 304 Coat SHP=Stainless Steel, Polyester Powder Coat ALH=Aluminum, Polyester Powder Finish	

Accessories (order separately)

- MFCF12-2FT=2FT Mounting Frame
- MFCF12-4FT=4FT Mounting Frame

Notes:
 For additional options please consult Cooper Lighting Representative. Specifications and Dimensions subject to change without notice.
 Electronic ballast may cause interference with other electronic devices. If interference occurs move the device away from the product or plug/connect into a different circuit/outlet.
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 Products available in non-US voltages and 50 Hz for international markets. Consult your Cooper Lighting Representative for availability and ordering information.
⁴ Electronic ballast not available with 20W lamps.