FAIL-SAFE®

DESCRIPTION

The Fail-Safe CFD Cleanroom Troffer is enclosed and gasketed to maintain ceiling integrity and protect against infiltration of particles and airborne bacteria. The housing and door are designed to work with 1" inverted T-Grid ceilings. The sealed, hole-free housing prevents air exchange between the fixture and plenum and allows relamping without contamination of clean areas. These luminaires are UL/cUL listed for wet locations for covered ceiling applications, and are manufactured in accordance with U.S.D.A., F.D.A., and Federal Standard 209E.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

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

Housing
Nominal 3 3/4" deep recessed housing consists of one-piece, code gauge, prime cold rolled steel. The hole-free embossed housing has full length die formed stiffeners for added strength. End plates are securely attached and completely sealed for air-tight construction.

Finish
Electrostatically applied baked white polyester powder enamel finish. Minimum reflectance 90%. Multistage cleaning cycle, iron phosphate coating with rust inhibitor. Conveyorized application and baking timing accurately controlled at an elevated temperature.

Door Frame
Die formed, heavy gauge, flat extruded aluminum door with reinforced corners and baked white enamel finish. Positive light seals.

Hinging/ Latching
Two slide-latches with safety screws secure lens frame in the closed position. Lens frame hinges and is removable without the use of tools.

Gasket
One piece continuous gasket surrounds perimeter of lens to seal lens to door frame. Additional gasketing seals door to housing.

Ballast
Standard Class P, CBM/ETL ballast.

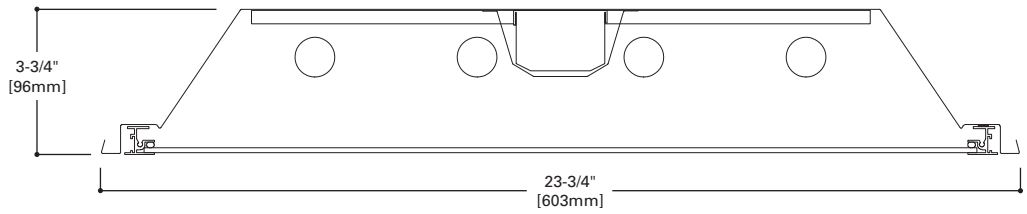
Labels
UL/cUL listed. 100 PSI High-Pressure hose-down rated. Optional 200 PSI rating.

CFD

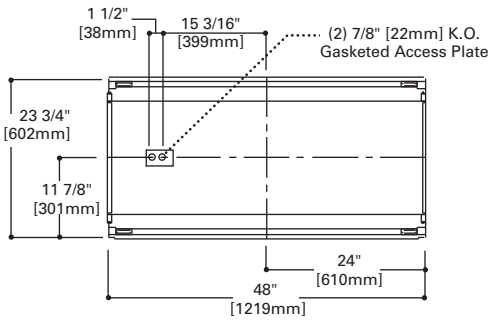
2x4
Cleanroom

RECESSED GRID
Inset Flat Door
1" Grid

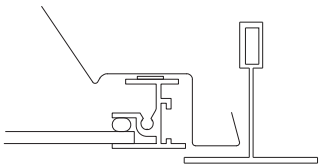
100 PSI Hosedown



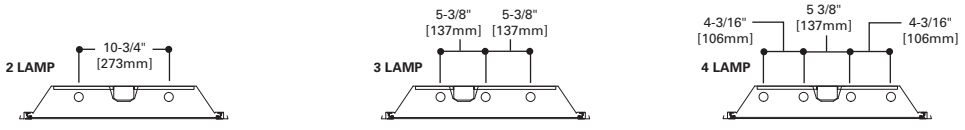
MOUNTING DIMENSIONS



DOOR FRAME



LAMP CONFIGURATIONS



ENERGY DATA

Input Watts:
ES Ballasts & STD Lamps
(2) 32WT8 Fluorescents: 71W
(3) 32WT8 Fluorescents: 108W
(4) 32WT8 Fluorescents: 142W

Electronic Ballast Data
Consult Cooper Lighting Representative

ORDERING INFORMATION

SAMPLE NUMBER: CFDFA-432A125-UNV-EL4-EB81-U

Product Family	No. of Lamps	Wattage (Length)	Lamp Type	Voltage	Options	Ballast [2]	Options	Packaging	Accessories (Order Separately)
CFD									

Series
CFD= Fluorescent Grid

Door Frame
FA= Flat White Extruded Aluminum Door

2, 3, or 4 Lamps
(Not included)

32= 32WT8
28T5= 28WT5
54T5= 54WT5HO

A125= #12 Pattern Acrylic (0.125" Nominal thickness)
A19/156= #19 Pattern Acrylic (0.156" Nominal thickness)
KSH25 = Bat Wing Distribution [1]
POLY12/125= #12 Pattern Polycarbonate (0.125" Nominal thickness)

120= 120V
277= 277V
347= 347V
UNV=120V-277V

GL= Internal Single Element Fusing
EL4= Emergency Battery Pack, 1 T8 lamp
EL5HO= Emergency Battery Pack, 1 T5 or T5HO lamp
GM= Internal Double Element Fusing

EB81= (1) Ballast for use with T8 Lamp
EB82= (2) Ballasts for use with T8 Lamp
EB51= (1) Ballast for use with T5 Lamp
EB52= (2) Ballasts for use with T5 Lamp

RIF1= Radio Interference Suppressor
PSI= 200 PSI Hose Down Rating
15T= Compatible with 1 1/2" T-Grid Ceilings
G3= Gasket applied to housing lip to seal against grid

U=Unit Pack
PALC=Palletized in Carton

EQ-Clip-U= Safety Earthquake Clips

Notes:

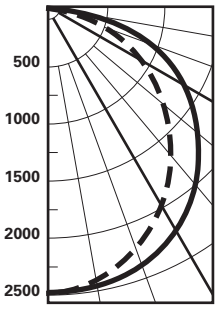
Electronic ballast may cause interference with other electronic devices. If interference occurs, move the device away from the product or plug/connect into a different circuit/outlet.

[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.

PHOTOMETRICS

Candlepower Distribution



Test No. 180P104
CFDSF-332A
Lamp=(3) 32WT8
Lumens=2800
Spacing Criteria
⊥=1.2 ||=1.1
Efficiency=80.2%

⊥
||

Average Luminance

Deg.	⊥	||
45	4010	3423
55	3943	3222
65	3778	2967
75	3388	2516
85	2629	1680

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	1871	22.3	27.8
0-40	3026	36.0	44.9
0-60	5304	63.1	78.7
0-90	6736	80.2	100.0
90-180	0	0.0	0.0
0-180	6736	80.2	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	95	95	95	95	93	93	93	89	89	85	85	82	82	80
1	88	84	81	78	82	79	77	79	74	76	72	73	70	68
2	80	74	69	65	73	68	64	70	62	60	52	58	51	50
3	74	66	59	54	64	59	54	62	53	53	45	52	44	43
4	68	58	52	46	57	51	46	55	45	53	45	52	44	43
5	62	52	44	39	51	44	39	49	39	47	38	46	38	36
6	57	46	39	34	45	39	34	44	34	43	33	41	33	31
7	52	42	35	30	41	34	29	40	34	29	38	29	37	29
8	48	37	30	26	37	30	26	36	25	35	25	34	25	24
9	44	33	27	22	33	27	22	32	22	31	22	30	22	20
10	41	30	24	20	30	24	20	29	19	28	19	28	19	18

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