

DESCRIPTION

The CRS is designed to meet the toughest requirements in cleanroom and BSL applications. The enclosed and gasketed housing and one-piece door protect against infiltration of airborne bacteria. Die-formed edges on the door frame and the hole-free housing prevent air exchange between the fixture and plenum, allowing re-lamping without contaminating the area. One-piece gaskets are included on the lens for easy replacement and on door edge. UL/cUL listed for wet locations. IP65 rated and manufactured in accordance with ISO 14644, NSF and Federal Standard 209E in a certified ISO 9001:2000 facility.

SPECIFICATION FEATURES

Application

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

Fasteners

Flush-mounted, stainless steel machine screws and molded washers ensure a proper seal; secured through captive cage nuts in the housing, and evenly spaced to compress gasketing on all sides.

Housing

Die-Formed, 20 ga. CRS with tightly butted, 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.

Hinge

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

Door

One-piece, 20 ga. door with baked white polyester powder coat. Fully gasketed, outside door with dieformed edges eliminates seams which could entrap microscopic contaminants. Other doors also available.

Gasket

White, closed cell one-piece silicone gasketing is standard around perimeter of lens, and around perimeter of door. Additional fixture-to-ceiling gasketing is available.

Access

A gasketed access plate on top of the housing with two flattened, 7/8" diameter for 1/2" trade size K.O. allows connection of vapor tight

Catalog #		Type
Project		
Comments		Date
Prepared by		

conduit fitting. Optional above-ceiling, top access door for luminaire maintenance is available.

Lens

Lens is clear, extruded with prisms positioned inside the fixture providing a smooth surface on the outside for easy cleaning.

Lamps

T5, T8, Biaxial.

Lens Retention

Unique, one-piece Particulock™ lens retention system utilizes continuous, media clampdowns to sandwich gasketing and integrate lens and door frame for equalized pressure on the lens.

Labels

UL/cUL listed, standard wet label, NSF.



CRS

1x2

1x4

Cleanroom

SURFACE
Overlapping Door

IP65 Rated

TRI-SEAL™



ENERGY DATA

Input Watts

STD Ballasts & STD Lamps

(2) 40W Biaxial Fluorescents: 82W

T5 ES Ballast & STD Lamps

(2) 14W T5 Fluorescents: 38W
(3) 14W T5 Fluorescents: 57W
(2) 24W T5 Fluorescents: 52W
(3) 24W T5 Fluorescents: 78W
(2) 28W T5 Fluorescents: 68W
(3) 28W T5 Fluorescents: 102W
(2) 54W T5 Fluorescents: 106W
(3) 54W T5 Fluorescents: 160W

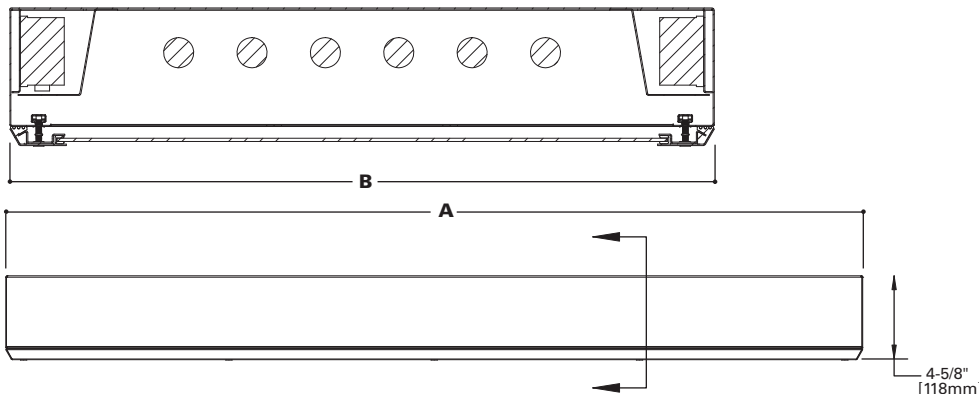
T8 ES Ballast & STD Lamps

(2) 17W T8 Fluorescents: 36W
(3) 17W T8 Fluorescents: 56W
(2) 32W T8 Fluorescents: 71W
(3) 32W T8 Fluorescents: 108W

Electronic Ballast Data

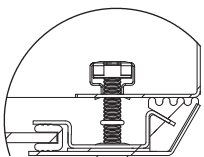
Consult Cooper Lighting Representative

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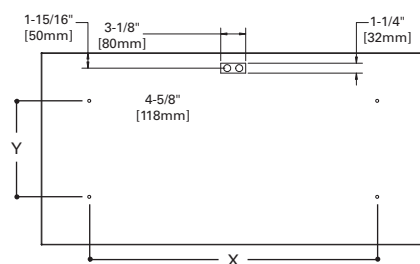


DOOR FRAME

Surface Type: One Piece Door, One Piece Gasket, One Piece Lens Retention Device



MOUNTING DATA

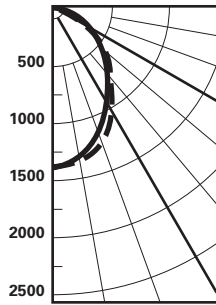


Mounting Dimensions		
Ceiling Type	X (in)	Y (in)
1' x 4'	36"	2"
1' x 2'	12"	2"

Overall Sizes		
Housing Type	A (in)	B (in)
1' x 4'	48"	12"
1' x 2'	24"	12"

PHOTOMETRICS

Candlepower Distribution



Test No. 168P125
CFS12LP-232-120-1K12
 Lamp=F032/35K
 Lumens=2800
 Spacing Criteria
 $\perp=1.2$ $\parallel=1.2$
 Efficiency=63.1%

Average Luminance

Deg.	\perp	\parallel
45	1516	1511
55	1364	1410
65	1190	1287
75	966	1074
85	683	668

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-30	1047	18.7	29.6
0-40	1680	30.0	47.6
0-60	2862	51.1	81.0
0-90	3532	63.1	100.0
90-180	0	0.0	0.0
0-180	3532	63.1	100.0

Coefficient of Utilization

rc	80%				70%				50%				30%				10%				0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	75	75	75	75	73	73	73	73	70	70	70	67	67	67	64	64	64	64	64	64	63
1	69	67	64	62	68	65	63	61	63	61	59	60	59	57	58	57	56	58	57	56	54
2	64	59	55	52	62	58	54	51	56	53	50	54	51	49	52	50	48	52	50	48	46
3	59	52	48	44	57	51	47	44	50	46	43	48	45	42	46	44	41	46	44	41	40
4	54	47	42	38	52	46	41	37	44	40	37	43	39	36	42	38	36	42	38	36	35
5	49	41	36	32	48	41	36	32	39	35	32	38	34	31	37	34	31	37	34	31	30
6	45	37	32	28	44	37	32	28	36	31	28	35	30	27	34	30	27	34	30	27	26
7	42	34	28	24	41	33	28	24	32	27	24	31	27	24	30	27	24	30	27	24	23
8	39	30	25	21	38	30	25	21	29	24	21	28	24	21	27	24	21	27	24	21	20
9	36	27	22	18	35	27	22	18	26	21	18	25	21	18	25	21	18	25	21	18	17
10	33	25	20	16	32	24	20	16	24	19	16	23	19	16	23	19	16	23	19	16	15

rc=Ceiling reflectance, rw=Wall reflectance, RCR=Room cavity ratio

CU Data Based on 20% Effective Floor Cavity Reflectance.

ORDERING INFORMATION

SAMPLE NUMBER: CRS-12-232-277-1K12-EB81-GLR

Product Family	Width	Lamp Type	Voltage	Lens Type	Ballast	Door /Finish Options	Options
CRS	12						
CRS=Clean Room Fluorescent Surface Type	12=12" (12" is 3 Lamp Maximum)		120=120V 277=277V UNV=120-277V	1K12=K-12 Prismatic Acrylic, 0.125" thick ID12=K-12 Prismatic Impact Resistant Acrylic IP12=K-12 Prismatic Polycarbonate KSH25=Bat Wing Distribution ⁽¹⁾ 93=Prismatic Tempered Glass	Electronic Ballast ⁽²⁾ EB51=(1) Ballast for use with T5 Lamp EB52=(2) Ballast for use with T5 Lamp EB81=(1) Ballast for use with T8 Lamp EB82=(2) Ballast for use with T8 Lamp EBX1=(1) Ballast for use with Biax Lamp EBX2=(2) Ballast for use with Biax Lamp	Blank=Standard, CRS with baked white finish SSN=Stainless Steel Door/Brushed finish SSP=Stainless Steel Door/Polyester Powder Coat Finish ALP=Aluminum Door/Polyester Powder Finish	EBP=Emergency Battery Pack GLR=Fuse and Holder RIF=Radio Frequency Interference Filter AM=Antimicrobial Finish Housing Options SHN=Stainless Steel, Brushed Finish SHP=Stainless Steel, Polyester Powder Finish ALH=Aluminum, Polyester Powder Finish GSK=Gasket Applied to Back of Housing to Seal Against Ceiling
2' Fixture Length T5HO Fluorescent 124T5=(1) 24W Lamp 224T5=(2) 24W Lamps 324T5=(3) 24W Lamps T5 Fluorescent 114T5=(1) 14W Lamp 214T5=(2) 14W Lamps 314T5=(3) 14W Lamps T8 Fluorescent 117=(1) 17W Lamp 217=(2) 17W Lamps 317=(3) 17W Lamps U Lamps 1U 1 5/8=(1) 31W T8 Lamp Biaxial Fluorescent 240BX=(2) 40W Lamps	4' Fixture Length T5HO Fluorescent 154T5=(1) 54W Lamp 254T5=(2) 54W Lamps 354T5=(3) 54W Lamps T5 Fluorescent 128T5=(1) 28W Lamp 228T5=(2) 28W Lamps 328T5=(3) 28W Lamps T8 Fluorescent 132=(1) 32W Lamp 232=(2) 32W Lamps 332=(3) 32W Lamps						

NOTES:
 For additional options please consult Cooper Lighting Representative. Specifications and Dimensions are 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. ⁽²⁾For specific electronic ballast, specify brand and catalog number.