

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.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Application

The CRS 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 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.

Ballast

Standard Class P, CBM/RTL ballast.

Labels

UL/cUL listed, standard wet label, NSF.



CRS

2x2

2x4

Cleanroom

SURFACE
Overlapping Door

IP65 Rated

TRI-SEAL™



ENERGY DATA

Input Watts:

STD Ballasts & STD Lamps

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

T5 ES Ballast & STD Lamps

- (2) 24W T5 Fluorescents: 52W
- (3) 24W T5 Fluorescents: 78W
- (2) 54W T5 Fluorescents: 106W
- (3) 54W T5 Fluorescents: 160W

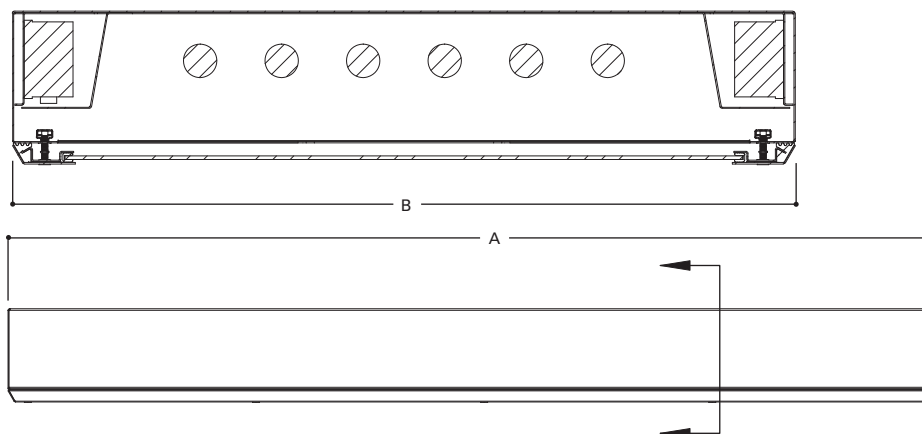
T8 ES Ballast & STD Lamps

- (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

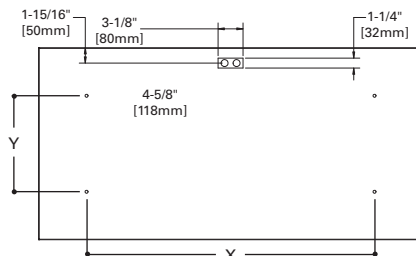
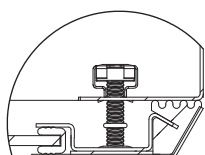
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DOOR FRAME

MOUNTING DATA

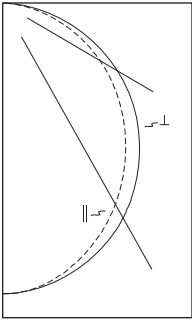
Surface Type= One Piece Door, One Piece Gasket, One Piece Lens Retention Device



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

Overall Length		
Housing Type	A (in)	B (in)
2' x 4'	48"	24"
2' x 2'	24"	24"

PHOTOMETRICS



CRS-24-632
Electronic Ballast
F32T8 Lamps
2850 Lumens

Spacing criterion:
(H) 1.2 x mounting
height, (⊥) 1.3 x
mounting height

Efficiency 71.5%

Test Report:
LTL15830

Coefficients of Utilization

		Effective floor cavity reflectance								20%							
		80%				70%				50%				30%			
rc																	
rw		70	50	30	10	70	50	30	10	50	30	10		50	30	10	0%
RCR																	
0		85	85	85	85	83	83	83	83	79	79	79		76	76	76	72
1		78	74	71	69	76	73	70	67	70	67	65		67	65	63	60
2		71	65	60	56	69	63	59	56	61	57	54		59	55	53	50
3		64	57	51	46	63	56	50	46	54	49	45		52	48	44	42
4		59	50	44	39	57	49	43	39	48	42	38		46	41	38	36
5		54	45	39	34	53	44	38	34	43	37	33		41	37	33	31
6		50	40	34	30	49	40	34	29	39	33	29		37	32	29	27
7		46	37	30	26	45	36	30	26	35	30	26		34	29	26	24
8		43	34	27	23	42	33	27	23	32	27	23		31	26	23	21
9		40	31	25	21	39	30	25	21	30	24	21		29	24	21	19
10		38	28	23	19	37	28	23	19	27	22	19		27	22	19	17

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0-30	3368	19.7	27.6
0-40	5479	32.0	44.8
0-60	9631	56.3	78.8
0-90	12224	71.5	100.0
0-180	12224	71.5	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	6073	6646	6827
55	8097	9117	9433
65	12986	14906	15661
75	25991	29891	33178
85	64751	77019	98658

Candela

Angle	Along H	45°	Across ⊥
0	4433	4433	4433
5	4402	4401	4409
10	4299	4318	4339
15	4137	4187	4232
20	3948	4034	4096
25	3724	3856	3927
30	3475	3644	3722
35	3206	3403	3488
40	2916	3140	3228
45	2618	2865	2943
50	2315	2570	2649
55	2002	2254	2333
60	1684	1916	1996
65	1357	1558	1637
70	1025	1183	1266
75	703	808	897
80	401	463	547
85	153	182	233
90	0	1	10

ORDERING INFORMATION

SAMPLE NUMBER: CRS-24-317-277-IK12-EB81-GLR

Product Family	Width	Lamp Type	Voltage	Lens Type	Ballast	Door /Finish Options	Options
CRS	24						
CRS=Clean Room Fluorescent Surface Type	24=24"	2' Fixture Length T5 Fluorescents 224T5=(2) 24W Lamps 324T5=(3) 24W Lamps 424T5=(4) 24W Lamps 624T5=(6) 24W Lamps T8 Fluorescents 217=(2) 17W Lamps 317=(3) 17W Lamps 417=(4) 17W Lamps 617=(6) 17W Lamps U Lamps 2U 1 5/8=(2) 31WT8 Lamps 3U 1 5/8=(3) 31WT8 Lamps 2U6T8=(2) 32WT8 Lamps Biaxial Fluorescents 240BX=(2) 40W Lamps 340BX=(3) 40W Lamps 4' Fixture Length T5 Fluorescents 254T5=(2) 54W Lamps 354T5=(3) 54W Lamps 454T5=(4) 54W Lamps 654T5=(6) 54W Lamps T8 Fluorescents 232=(2) 32W Lamps 332=(3) 32W Lamps 432=(4) 32W Lamps 632=(6) 32W Lamps	120=120V 277=277V UNV=120-277V	IK12=K-12 Prismatic Acrylic ID12=K-12 Prismatic Impact Resistant Acrylic IP12=K-12 Prismatic Polycarbonate KSH25=Bat Wing Distribution ¹ 93=Prismatic Tempered Glass	Electronic Ballast² 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

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.