

FEATURES

- Available in 4' and 8' lengths
- Choice of 4' reflectors in solid top or 5% uplight distribution
- Rotary lock tombstone lampholders
- 2½" lamp spacing
- For individual or continuous row mounting
- Channel ends double as joiners
- Two 4' reflectors with reflector aligners supplied on 8' fixtures

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

HOUSING

Die formed steel with knockouts for stems or chain hangers.

REFLECTOR

Die embossed with transverse ribs for maximum rigidity. Available with apertures for uplight.

BALLASTS

Energy efficient, thermally protected, automatic resetting, Class P, high power factor, sound rated A, unless otherwise specified. CEE NEMA Premium compliant.

ELECTRICAL

Standard class "P," thermally protected, autoresetting HPF ballast, sound rated A. CEE NEMA Premium compliant. All ballast leads extend a minimum of 6" through access location. NEC/CEC-compliant ballast disconnect is standard.

FINISH

White painted parts are treated with a five stage phosphate bonding process and finished after fabrication with a minimum 90% reflective gloss baked enamel. LSR and M4R reflectors specular room side, Mill finish aluminum top surface.

CERTIFICATION

All luminaires are built to UL 1598 standards and bear appropriate UL and cUL or CSA labels. Damp location labeling is standard. Emergency-equipped fixtures labeled UL 924.

ORDERING INFORMATION

EXAMPLE CSR4-232-U-EU-EL

CSR								
MODEL	SIZE	NO. OF LAMPS IN CROSS SECTION	LAMP TYPE	REFLECTOR TYPE	BALLAST	VOLTAGE	OPTIONS	
CSR Industrial	4 4'	1 One	28 4', T5: 28 Watt	ST Solid Reflector, No Uplight	E Electronic T8, Instant Start	U 120V-277V	GLR	Fast Blow Fuse ¹
	8 8'	2 Two	32 4', T8: 32, 30, 28 or 25 Watt	U Apertured Reflector for 5% Uplight	4E 4-Lamp Electronic T8, Instant Start	347 347V	GMF	Slow Blow Fuse ¹
		3 Three	54 4', T5: 54 Watt	LSRU Apertured Alum Reflector with Specular Silver Finish	3E 3-Lamp Electronic T8, Instant Start		EL	Emergency Battery Pack ¹
				LSRST Solid Top Alum Reflector with Specular Silver Finish	EP Electronic T5 or T8, Programmed Start		BC	Branch Circuit Plug-on Wiring System(See options section for details.)
				M4RU Apertured Alum Reflector with 95% Reflective Specular Silver Finish	3EP 3-Lamp Electronic T5 or T8, Programmed Start		PAF	Paint After Fabrication
				M4RST Solid Top Alum Reflector with 95% Reflection Specular Silver Finish	4EP 4-Lamp Electronic T8 or T5HO			
						For a specific ballast vendor, show as option.		
ACCESSORIES (ORDER SEPARATELY)								
CSZTF	Zip Tee Hanger - flush mounting on T-Bar ceiling							
CSZT	Zip Tee Hanger - 1½" spacer on tee bar ceiling							
CSTH	Slide Clamp Tong Hanger							
S18	18" Stem, canopy and 8° aligner							
SS18	18", 45° Swivel Stem & Canopy							
ITB4	Close Mounting on T-Bar ceiling							
CSHC	14" Chain Hanging Assembly							
CSRWG4	4' Wire Guard (two required for 8' fixture)							
OS1360K	Occupancy/Daylight sensor kit, 120/277/347V, one relay, 360 Lens, snap on drop down adaptor, quick connect wiring ²							

¹ Option requires fixture voltage in catalog numbers.

² Use programmed start ballast. Not recommended for use with an instant start. For more occupancy/daylight harvesting sensor accessories see Technical section.

PHOTOMETRIC DATA

LUMINAIRE DATA

Luminaire	CSR4-232 CSR Industrial 1 X 4 2-Lamp with Baked White Enamel Reflector
Ballast	B232I120
Ballast Factor	0.88
Lamp	FO32
Lumens per Lamp	2900
Watts	60
Shielding Angle	N/A
Spacing Criterion	0° = 1.27 90° = 1.46
Luminous Opening in Feet	Length: 4.00 Width: 0.88 Height: 0.00

ZONAL LUMEN SUMMARY

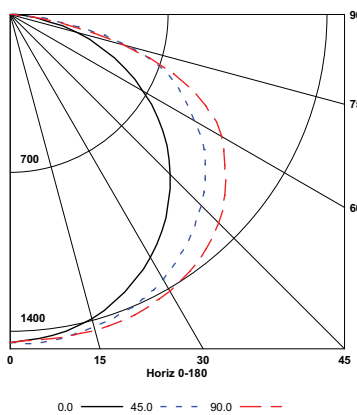
Zone	Lumens	Lamp	Fixt.
0-30	1173	20.2	22.5
0-40	1980	34.1	38.0
0-60	3790	65.3	72.7
0-90	5211	89.8	100.0
0-180	5211	89.8	100.0

Test 10331 Test Date 1/8/03

ENERGY DATA

Total Luminaire Efficiency	89.8%
Luminaire Efficacy Rating (LER)	76
IESNA RP-1-1993 Compliance	Non-Compliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$3.16 based on 3000 hrs. and \$0.08 per KWH

INDOOR CANDELA PLOT



AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
Average Luminance Angle					
0	4419	4419	4419	4419	4419
30	4361	4513	4756	4908	4965
40	4331	4603	4986	5269	5369
45	4307	4662	5142	5501	5613
50	4277	4729	5338	5752	5875
55	4228	4820	5555	6003	6158
60	4153	4948	5161	6385	6587
65	4045	5123	6056	6751	6910
70	3862	5275	6455	6849	6858
75	3568	5364	6463	6120	6037
80	3047	5882	5371	4631	4508
85	2210	4947	2982	1754	1649

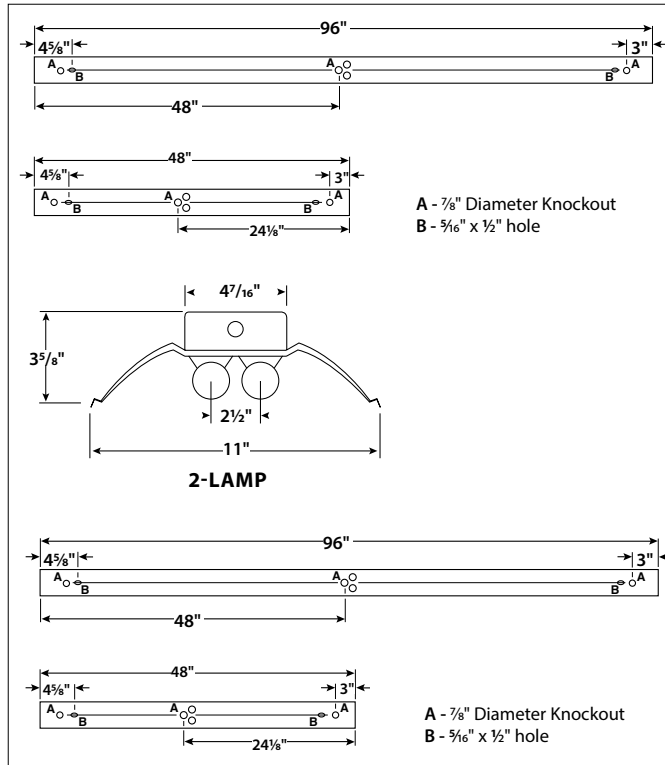
COEFFICIENTS OF UTILIZATION (%)

RCR	RC	80					70					50			0
	RW	70	50	30	10	70	50	30	10	50	30	10	0		
	1	97	92	88	84	94	90	86	83	86	83	80	73		
	2	87	79	72	67	85	77	71	66	74	69	64	59		
	3	79	68	61	54	76	67	60	54	64	58	53	49		
	4	72	60	52	45	69	59	51	45	57	50	44	41		
	5	66	53	45	38	64	52	44	38	50	42	38	35		
	6	60	48	39	33	59	47	39	33	45	38	33	30		
	7	56	43	35	29	54	42	34	29	41	34	29	26		
	8	52	39	31	26	50	38	31	25	37	30	25	23		
9	48	36	28	23	47	35	28	23	34	27	23	21			
10	45	33	25	21	44	32	25	20	31	25	20	19			

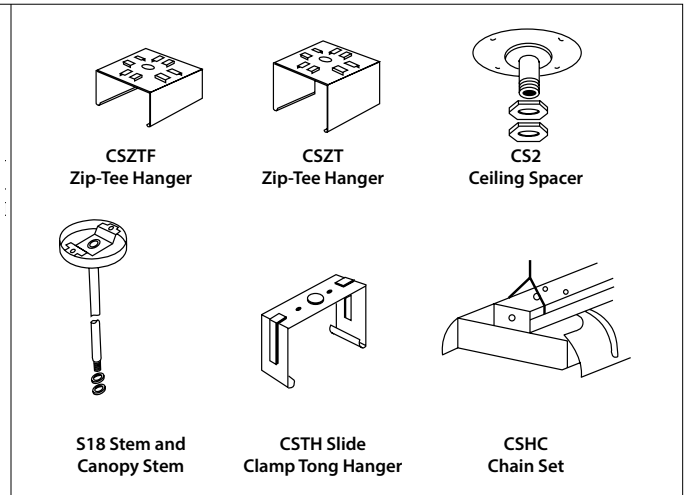
RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

DIMENSIONAL DATA



MOUNTING ACCESSORIES



NOTE: All Non-Shielded (strip) fixtures - Deduct 1/16" from overall dimension for continuous row mounting. All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.