

DESCRIPTION

The Fail-Safe FRS-2 high abuse, rough service fluorescent two-lamp luminaire is available in two lengths and has a built-in reflector, snap-in wireway, wraparound polycarbonate diffuser and stem mounting capability. Fixture is serviceable without the use of tools. U.L. listed for damp locations.

The FRS-2 is ideal for use in schools, corridors, dormitories and commercial high traffic areas.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

A ... Construction

Housing is 20 gauge cold rolled steel. Removable reflector/wireway cover 20 gauge cold rolled steel. Endcaps are 18 gauge cold rolled steel with knockouts on each end. Fixture can be entered without tools.

B ... Electrical

Ballasts are CBM/ETL Class "P" and positively secured on both ends. Pressure lock lampholders assure good lamp/holder connection.

C ... Finish

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

D ... Lens

Prismatic polycarbonate .125 refractor provides high efficiency while maintaining low surface brightness. Wraparound design ensures superior strength and resistance to vandalism and the elements.

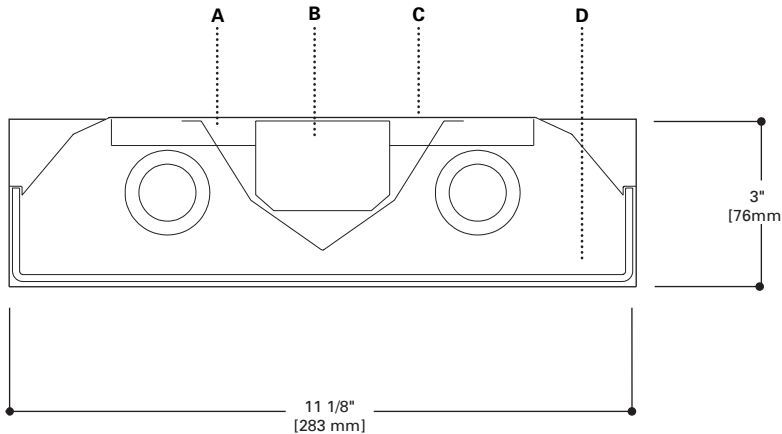
Labels

U.L. listed, C.S.A. certified. Standard damp label.

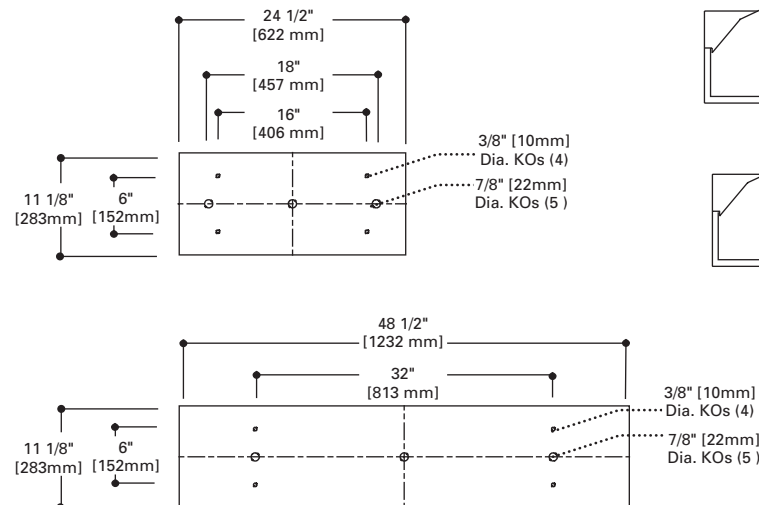


FRS
217
220
232
240
240BX

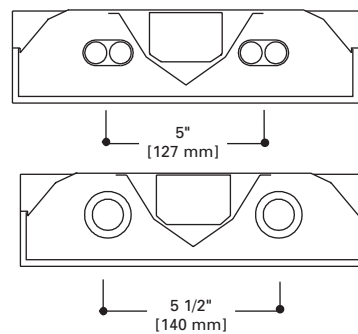
1' x 2'
1' x 4'
**FLUORESCENT
SURFACE MOUNT
ROUGH SERVICE
LUMINAIRE
2 Lamps**



MOUNTING DIMENSIONS



LAMP CONFIGURATION



ENERGY DATA

STD Ballasts & STD Lamps

220 (53 Watts)

ES Ballasts & STD Lamps

217 (45 Watts)

232 (71 Watts)

240 (86 Watts)

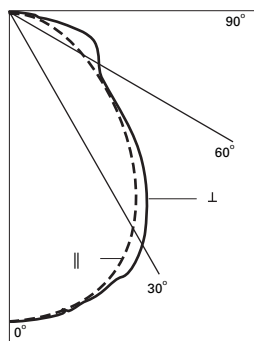
240BX (82 Watts)

ES Ballasts & ES Lamps

240 (76 Watts)

Electronic Ballasts

Consult Factory



Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	80%				70%													
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	84	84	84	84	82	82	82	82	78	78	78	74	74	74	70	70	70	68
1	77	74	71	68	75	72	69	67	68	66	64	65	63	62	62	61	59	58
2	71	66	61	57	69	64	60	56	61	57	54	58	55	53	55	53	51	49
3	65	58	53	49	63	57	52	48	55	50	47	52	49	46	50	47	44	43
4	60	52	46	42	58	51	46	41	49	44	41	47	43	40	45	42	39	37
5	55	47	41	36	54	46	40	36	44	39	35	42	38	34	40	37	34	32
6	51	42	36	32	50	41	36	31	40	35	31	38	34	30	37	33	30	28
7	47	38	32	28	46	37	32	27	36	31	27	34	30	27	33	29	26	25
8	44	34	28	24	42	33	28	24	32	27	24	31	27	23	30	26	23	21
9	40	31	25	21	39	30	25	21	29	24	20	28	23	20	27	23	20	19
10	37	28	22	19	36	27	22	18	26	21	18	25	21	18	25	21	18	16

Candlepower

Angle	Along II	45°	Across ⊥
0	1449	1449	1449
10	1435	1439	1448
20	1375	1398	1411
30	1204	1241	1299
40	994	1069	1135
50	672	722	767
60	311	422	551
70	143	280	469
80	57	199	347
90	0	107	175
100	0	63	89
110	0	37	53
120	0	28	47
130	0	22	34
140	0	18	27
150	0	17	22
160	0	14	17
170	0	11	12
180	0	0	0

FRS-232-120

(2) F32T8/735/RS Lamps
2850 Lumens each

Efficiency: 72%

Plane: 0° 90°
Spacing Criteria: 1.2 1.3

Report # 8002.0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixture
0- 30	1159	20.3	28.4
0- 40	1904	33.4	46.6
0- 60	3131	54.9	76.7
0- 90	3882	68.1	95.1
90-180	199	3.5	4.9
0-180	4081	71.6	100.0

ORDERING INFORMATION

SAMPLE NUMBER: FRS-240-120

Product Family	Lamp Type	Voltage ²	Ballast	Options
FRS				
FRS=Fluorescent Rough Service	2' 217=(2) 17W T8 Lamps 220 ¹ =(2) 20W T12 Lamps 240BX=(2) 40W Biaxial Lamps 4' 232=(2) 32W T8 Lamps 240=(2) 40W T12 Lamps	120=120V 277=277V 347=347V	LE3 = Energy Saving ballast for T12 lamps LEOC8=Energy Saving ballast for T8 lamp Electronic Ballast EB81=(1) Ballast for T8 lamps EB82=(2) Ballast for T8 lamps EB21=(1) Ballast for T12 lamps EB22=(2) Ballast for T12 lamps EBX1=(1) Ballast for use with biaxial lamps EBX2=(2) Ballast for use with biaxial lamps	GLR=Single Fuse TRC=Tamper Resistant EBP=Emergency Battery Pack RIF=Radio Interference Filter FNL= Fluorescent Night Light (lamp provided by others)

NOTE:
For additional options consult Cooper Lighting Representative. Specifications and Dimensions subject to change without notice.

¹Electronic ballast not available, magnetic only.
²Products also available in non-US voltages and 50Hz for international markets. Consult your Cooper Lighting Representative for availability and ordering information.

SHIPPING INFORMATION

Catalog Number	Weight
FRS-217	11 lbs.
FRS-220	11 lbs.
FRS-232	19 lbs.
FRS-240	19 lbs.
FRS-240BX	11 lbs.

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