

## DESCRIPTION

The Fail-Safe FSR Series combines maximum security construction features with energy saving technology. This recessed luminaire utilizes a one-piece overlapping door frame, security lensing and tamper resistant fasteners to maximize impact resistance and prevent contraband concealment and unauthorized fixture penetration. U.L. listed and C.S.A. certified for wet locations.

The FSR Series is ideal for confinement/security applications. Suitable for use in inmate cells, psychiatric wards, secure corridors and general population areas.

## SPECIFICATION FEATURES

### A ... Lens

Choice of prismatic acrylic, prismatic polycarbonate or prismatic tempered glass on fixture side, clear polycarbonate or clear tempered glass on environmental side.

### B ... Fasteners

Stainless steel tamper-resistant TORX® screws are standard. Allen-head screws with center reject pin are optional.

### C ... Housing

Clamshell design combines die-formed 12 ga.-18 ga. CRS body with welded corners to form a one-piece housing

### C ... Housing

which prevents contraband concealment and unauthorized fixture penetration. Standard white high reflectance polyester powder coat finish. Gloss: 85%; Reflectance: 93%; Hardness: 2H; Salt Spray: 500 Hours.

### D ... Lamps

(By Others)

### E ... Lens Retention

Lens secured by thru-studs and vertically adjustable internal CRS hold-downs.

### F ... Door

One-piece, CRS door frame with die-formed edges and tightly closed corners increases rigidity (gauge to match housing).

### G ... Ballast

Standard Class P, CBM/ETL ballast.

### H ... Light Mask

Polyurethane gasketing surrounds door frame and prevents light leaks.

### Labels

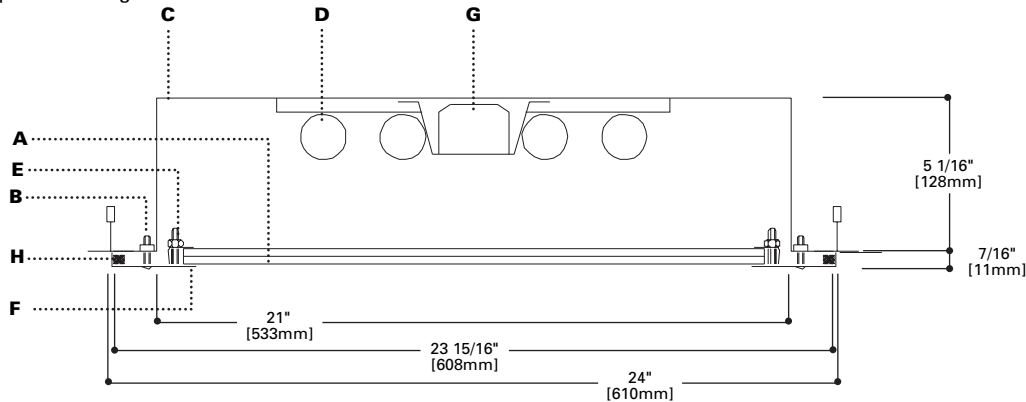
U.L. listed, C.S.A. certified, standard wet label.



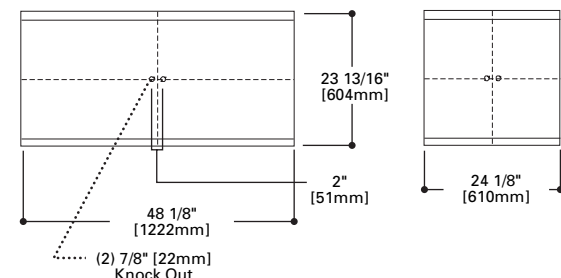
## FSR24

**34W - 160W**  
Fluorescent

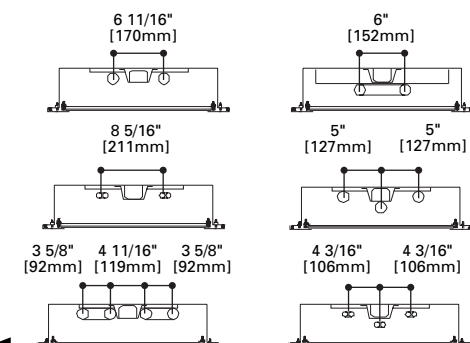
**MAXIMUM SECURITY**  
**RECESSED LUMINAIRE**



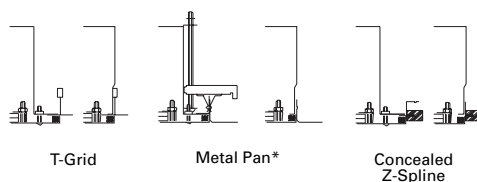
## MOUNTING DIMENSIONS



## LAMP CONFIGURATIONS



## CEILING COMPATIBILITY



\* Includes four (4) heavy gauge steel batwing hangers providing easy and secure mounting

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## ENERGY DATA

Input Watts:

### STD Ballasts & STD Lamps

- (2) 20W T12 Fluorescents: 53W
- (3) 20W T12 Fluorescents: 85W
- (4) 20W T12 Fluorescents: 106W
- (2) 40W Biaxial Fluorescents: 82W
- (3) 40W Biaxial Fluorescents: 127W

### ES Ballasts & STD Lamps

- (2) 17W T8 Fluorescents: 45W
- (3) 17W T8 Fluorescents: 68W
- (4) 17W T8 Fluorescents: 90W
- (2) 32W T8 Fluorescents: 71W
- (3) 32W T8 Fluorescents: 108W
- (4) 32W T8 Fluorescents: 142W
- (2) 40W T12 Fluorescents: 86W
- (3) 40W T12 Fluorescents: 136W
- (4) 40W T12 Fluorescents: 172W
- (1) 40W U-Lamp: 50W
- (2) 40W U-Lamps: 86W

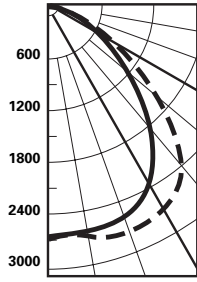
### ES Ballasts & ES Lamps

- (2) 40W T12 Fluorescents: 76W
- (3) 40W T12 Fluorescents: 120W
- (4) 40W T12 Fluorescents: 152W
- (1) 40W U-Lamp: 44W
- (2) 40W U-Lamps: 76W

Electronic Ballast Data  
 Consult Cooper Lighting Representative

PHOTOMETRICS

Candlepower Distribution



Test No. 5933  
**FMR24-X-340**  
 Lamp=(3) F40T12RS/  
 VVV  
 Lumens=3200  
 Spacing Criteria  
 I=1.5 II=1.3  
 Efficiency=71.4%

Candlepower

Deg.	I	II
0	2692	2692
5	2665	2654
15	2714	2627
25	2686	2443
35	2611	2143
45	2019	1512
55	1125	861
65	583	542
75	331	324
85	87	81
90	0	0

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Luminaire
0-30	2195	22.9	32.0
0-40	3713	38.7	54.2
0-60	5992	62.4	87.5
0-90	6852	71.4	100.0
90-180	0	0.0	0.0
0-180	6852	71.4	100.0

Coefficient of Utilization

rc	80%				70%			50%		30%		10%		0%
	70	50	30	10	50	30	10	50	10	50	10	50	10	0
RCR														
0	85	85	85	85	83	83	83	79	79	76	76	73	73	71
1	79	76	74	71	75	72	70	72	68	69	66	66	64	63
2	73	68	64	61	67	63	60	64	59	62	57	60	56	55
3	68	61	56	52	60	56	52	58	51	56	50	55	49	48
4	63	55	50	45	54	49	45	52	44	51	44	49	43	42
5	58	49	44	39	49	43	39	47	39	46	38	44	38	36
6	53	45	39	34	44	38	34	43	34	41	34	40	33	32
7	49	40	34	30	40	34	30	38	30	37	30	37	29	28
8	45	36	30	26	36	30	26	35	26	34	26	33	26	24
9	42	32	27	23	32	26	23	31	23	30	22	30	22	21
10	39	29	24	20	29	24	20	28	20	28	20	27	20	19

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

ORDERING INFORMATION

SAMPLE NUMBER: FSR-TG-X24-240-120-80/86-LE3-GLR

Product Family	Ceiling Type	Housing	Fixture Width	Lamp Type	Voltage	Lens Type	Ballast	Options
<b>FSR</b>			<b>24</b>			<b>/</b>		
FSR=Maximum Security Recessed Luminaire			24=24" Wide	<b>2' Nom. Length</b> T8 Fluorescents 217=(2) 17W Lamps 317=(3) 17W Lamps 417=(4) 17W Lamps  T12 Fluorescents <sup>(2)</sup> 220=(2) 20W Lamps 320=(3) 20W Lamps 420=(4) 20W Lamps  Biaxial Fluorescents 240BX=(2) 40W Lamps 340BX=(3) 40W Lamps 440BX=(4) 40W Lamps  U-Lamp 2U6T8=(2) 32W Lamp 2U15/8=(2) 31W Lamp 3U15/8=(3)31W Lamp  <b>4' Nom. Length</b> T8 Fluorescents 232=(2) 32W Lamps 332=(3) 32W Lamps 432=(4) 32W Lamps  T12 Fluorescents 240=(2) 40W Lamps 340=(3) 40W Lamps 440=(4) 40W Lamps	120=120V 277=277V	<b>Inner Layer (Optional)</b> 90=.005 UV Absorbing Overlay  <b>Fixture Side</b> 80=.125 Prismatic Acrylic 81=.156 Prismatic Polycarbonate 82=.187 Prismatic Polycarbonate 93=.156 Prismatic Tempered Glass  <b>Environmental Side</b> 84=.125 Clear Polycarbonate 85=.187 Clear Polycarbonate 86=.250 Clear Polycarbonate 87=.375 Clear Polycarbonate 88=.500 Clear Polycarbonate 94=.187 Clear Tempered Glass 96=.250 Clear Tempered Glass 97=.375 Clear Tempered Glass 98=.500 Clear Tempered Glass	Blank=Magnetic Ballast (Standard) <sup>(3)</sup> LEOC8=T8 Energy Saving Ballast LE3=40W T12 Energy Saving Ballast  <b>Electronic Ballast<sup>(1)</sup></b> EB81=(1) Ballast for use with T8 Lamp EB82=(2) Ballasts for use with T8 Lamp EB21=(1) Ballast for use with T12 Lamp <sup>(2)</sup> EB22=(2) Ballasts for use with T12 Lamp <sup>(2)</sup> EBX1=(1) Ballast for use with Biaxial Lamp EBX2=(2) Ballasts for use with Biaxial Lamp	CP=Concrete Pour EBP=Emergency Battery Pack (4' fixtures only) FNL=Fluorescent Night Light (specify 7W or 9W. Lamp by others.) LNL= LED Night Light (50,000 hrs.) provided by Cooper GLR=Fuse and Holder CPH=Concealed Piano Hinge RIF=Radio Interference Filter SPK=Speaker Housing Compartment (extends housing) <b>Auto Control Modules</b> ACM/FNL=for FNL <b>On/Off Switches</b> SPS=Security Push Button TCS=Touch Control System <sup>(4)</sup> <b>Stainless Steel Door</b> SSN=Natural Brushed Finish SSP=Polyester Powder Coat Finish <b>Fasteners</b> SF3=Allen-Head (center pin reject)

Accessories (order separately)

- 9306=Allen-Head Wrench
- VRSD=TORX®-Head Vandal Resistant Screwdriver

Notes:  
 For additional options consult Cooper Lighting Representative. Specifications and Dimensions 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.

<sup>1</sup>For specific electronic ballast specify brand and catalog number. <sup>2</sup>Electronic ballast not available for F20T12 lamps.

<sup>3</sup>For use with Compact Fluorescent, Biaxial, and 20W T12 lamps. <sup>4</sup>For additional information about the TCS option see

Fail-Safe spec sheet for TCS Touch Control System (ADC030025) or pages 1106 and 1107 in the 4th Edition of the Cooper Lighting Buyer's Guide.