

Project		Catalog #		Type	
Prepared by		Notes		Date	



Fail-Safe

FSR

Correctional Recessed
Grid or Metal Pan
1x1 / 1x2 / 1X4 / 2x2 / 2X4

Typical Applications

Jails • Prisons • Behavioral Health • Psychiatric Wards • High Abuse •
Industrial • Manufacturing

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- Product Warranty

Top Product Features

- Compatible with regressed grid, metal pan or concealed Z-spline ceilings
- Ligature resistant
- Clear or prismatic acrylic, and polycarbonate or clear tempered glass lens
- Optional installation swing-out brackets or yoke mounting frames
- Wet location under covered ceiling available
- Options to meet Buy American and other domestic preference requirements

Product Certification



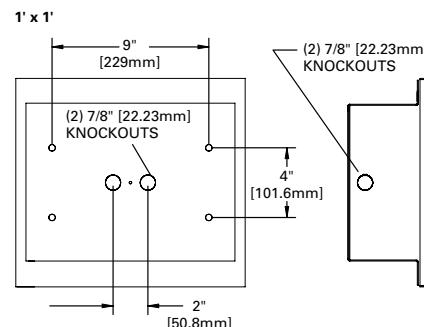
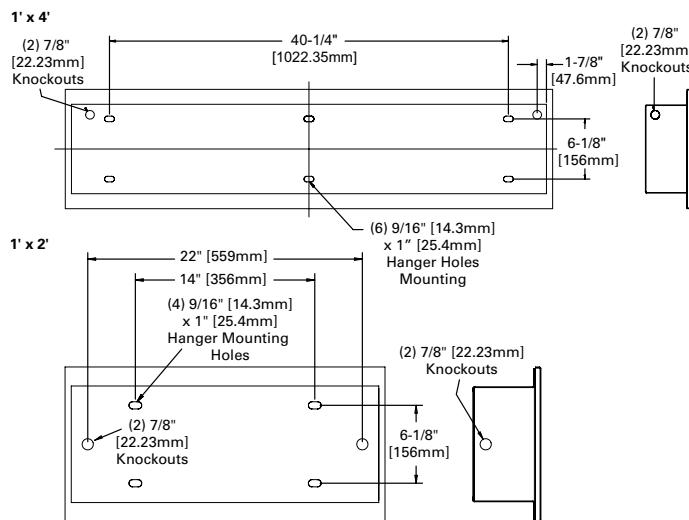
Product Features



16 Architectural Colors
See page 2 for details

Dimensional and Mounting Details

1' WIDTH TYPICAL MOUNTING DETAIL



[additional product diagrams](#)

Order Information

SAMPLE ORDER NUMBER: FSR-TG-X24-4-LD4-4STD-40-80/86-EDC1
 SAMPLE ORDER NUMBER: FSR-SC-D24-2-LD4-2LO-40-81/84-EDD1-90

Domestic Preferences ⁽¹⁾	Product Family	Ceiling Type	Door	Width	Length	LED	No. of LEDs	Illumination Level	Color Temperature
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act Compliant	FSR	TG=T-grid ⁽²⁾ CZ=Concealed Z-spline ⁽²⁾ SC=Security Ceiling ^{(3),(4)}	S=12 ga. (Ultimax) X=14 ga. (Maximum) D=16 ga. (Medium) N=18 ga. (Minimum)	24=24" Wide 12=12" Wide	1=1' Length (1' x 1' only) 2=2' Length 4=4' Length	LD4=LED	1=(1) LED Module 2=(2) LED Modules 3=(3) LED Modules (24" width only) 4=(4) LED Modules (24" width only)	STD=Standard LO=Low HI=High ⁽⁵⁾	30=3000K 35=3500K 40=4000K 50=5000K
Notes (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.		Notes (2) TG and CZ ship without swing-out brackets or yoke mounting frame. Please specify SWBR or YMF if required. (3) SC ships with swing-out brackets standard. For yoke mounting frames, specify YMF. (4) SC designed for security ceilings that consist of metal "panels", either solid or perforated. A hole is cut in the "panel", and the fixture is placed above. Door frame protrudes below ceiling line, and fully conceals fixture/housing.						Notes (5) 24" width fixture, 4H not available. 12" width fixture, 2H not available.	

Voltage	Inner Lens	Outer Lens	Driver	No. of Circuits	Options	Accessories ⁽¹²⁾
UNV=120-277V	Fixture Side 80=0.125 Prismatic Acrylic 81=0.156 Prismatic Polycarbonate 82=0.187 Prismatic Polycarbonate	Environmental Side 84=0.125 Clear Polycarbonate 85=0.187 Clear Polycarbonate 86=0.250 Clear Polycarbonate 87=0.375 Clear Polycarbonate 88=0.500 Clear Polycarbonate 94=0.187 Clear Tempered Glass 96=0.250 Clear Tempered Glass 97=0.375 Clear Tempered Glass	EDC _=Electronic Driver, Non-Dimming EDD _=Electronic Driver, 0-10V Dimming 10% ED1D _=Electronic Driver, 0-10V Dimming 1% 5HTLD =DALI, 5% Dimming ⁽⁶⁾	1=1 Circuit 2=2 Circuits 3=3 Circuits 4=4 Circuits	EL7W =7W Emergency Battery Pack ^{(7),(8)} EL10W =10W Emergency Battery Pack ^{(7),(9)} EL14W =14W Emergency Battery Pack ^{(7),(9)} LLNL =Linear LED Night Light, Dimmable ⁽¹⁰⁾ GLR =Fuse and Holder 14G =14 Gauge Housing CPHF =Continuous Piano Hinge, Full Length WL =Wet Location Under Covered Ceiling AM =Anti-microbial matte white finish 90=90cri	Standard Colors [Blank]=Matte White AM=Antimicrobial Matte White GW=Gloss White DP=Dark Platinum, Satin Finish BK=Black, Satin Finish BZ=Bronze
					Mounting Options SWBR=Swing-out Brackets(4) YMF=Yoke Mounting Frame(2) ⁽⁸⁾	Architectural Colors TCB=Terra Cotta Brick MRR=Merlot Red PMK=Pumpkin GLD=Goldenrod SGG=Sage Green EVG=Evergreen CBL=Coastal Blue NTB=Night Blue UMB=Ultramarine Blue PPV=Purple Violet NTN=Neutral Tan DBG=Dark Beige CRM=Cream SLG=Silver Grey OLG=Olive Green MHB=Mahogany Brown RALxxx=RAL Number Color ⁽¹¹⁾
					Notes (6) Consult technical support for number of drivers.	Notes (7) Emergency not available 1' x 1' or 1' x 2'. May be necessary to back mount Emergency on 2' x 2' fixtures using a backbox, causing fixture depth to increase by 2". (8) YMF consists of two C-channel frames, with four 3-1/2" bolts and nuts. Not valid with 2x2 fixture with back box. (9) Emergency available with "LO" or "STD" illumination levels only. (10) LLNL is nominal 600 delivered lumens. LLNL is a dedicated single circuit, with its own dimmable driver. LLNL not available on 1x1. (11) Replace XXXX with unique 4 digit RAL number. Please contact Fail-Safe Tech for a list of additional finish swatches.

Fail-Safe Standard Colors



Gloss White (GW) Matte White (BLANK) Matte White Anti-microbial (AM)



Black (BK) Dark Platinum (DP) Bronze (BZ)

Fail-Safe Architectural Colors



Terra Cotta Brick (TCB) RAL 3020 Merlot Red (MRR) RAL 3005 Pumpkin (PMK) RAL 2004 Goldenrod (GLD) RAL 1003 Sage Green (SGG) RAL 6019 Evergreen (EVG) RAL 6001 Coastal Blue (CBL) RAL 5015 Night Blue (NTB) RAL 5022



Ultramarine Blue (UMB) RAL 5002 Purple Violet (PPV) RAL 4007 Neutral Tan (NTN) RAL 7032 Dark Beige (DBG) RAL 7006 Cream (CRM) RAL 9001 Silver Gray (SLG) RAL 7001 Olive Green (OLG) RAL 6003 Mahogany Brown (MHB) RAL 8016

Product Specifications

Housing

- Die-formed 16-gauge CRS body construction; 14-gauge option
- One-piece, seamless housing
- Continuous welded corners
- Maximum impact resistance and prevention of unauthorized fixture penetration
- High gloss, electrostatically applied, White powder coat finish
- Average minimum reflectance 92%

Fasteners and Hinge

- Stainless steel tamper-resistant T20 TORX® screws with center pin reject standard
- Allen head screws with center pin reject optional
- Two stainless steel aircraft cables to attach door to housing is provided
- Concealed piano hinge to prevent removal, optional

Door and Light Mask

- One-piece, CRS door frame with die-formed edges
- Available in 12-, 14-, 16- or 18-gauge
- Tightly closed corners increase rigidity
- Aircraft cable secures door to housing
- Gasketing around door prevents light leaks

Lens and Lens Retention

- Choice of prismatic acrylic or prismatic polycarbonate on fixture side
- Clear polycarbonate or clear tempered glass on environmental side (see lens options)
- Lens secured by thru-studs
- Vertically adjustable internal CRS hold-downs

LEDs

- Available in 3500K, 4000K and 5000K; 80 CRI minimum
- Choice of Standard, Low or High illumination levels
- TM-21 calculations of 84% lumen maintenance at 60,000 hrs

Electrical

- Electronic driver 120-277V, dimming driver standard
- 0-10V dimming down to 1% or 10%
- DALI driver available

Compliances

- cULus listed for damp locations
- Wet location listed under covered ceiling optional

Warranty

- Five year limited warranty on LEDs and Electrical, consult website for details.
www.cooperlighting.com/legal

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Nominal Input Watts/Delivered Lumens

[!\[\]\(dfbd6b3763a6d1d9afaa974f64e2e4b5_img.jpg\) View IES files](#)

*CRI: 80; CCT: 4000				80/84 Shielding	
Fixture Size	# Modules	Level	Nominal Input Watts	Nominal Delivered Lumens	LPW
1' x 1'	1	LO	5.85	543	92.8
	1	STD	8.325	728	87.4
	1	HI	10.8	892	82.6
	2	LO	11.7	1086	92.8
	2	STD	16.65	1454	87.3

Lumen Calculator

Approximate CCT Multiplier	
3000K	0.98
3500K	1.00
4000K	1.00
5000K	1.01

Lens Multiplier Table

	Lens	Multiplioer
Fixture Side	80	1
	81	0.95
	82	0.93
	84	1
	85	0.981
Environment Side	86	0.969
	87	0.938
	88	0.844
	94	1
	96	0.991
	97	0.956

1' x 2'	1	LO	11.7	1052	90.0
	1	STD	16.65	1410	84.7
	1	HI	21.6	1730	80.1
	2	LO	23.4	2106	90.0
	2	STD	33.3	2820	84.7

1' x 4'	1	LO	23.4	2292	98.0
	1	STD	33.3	3070	92.2
	1	HI	43.2	3766	87.2
	2	LO	46.8	4585	98.0
	2	STD	66.6	6140	92.2

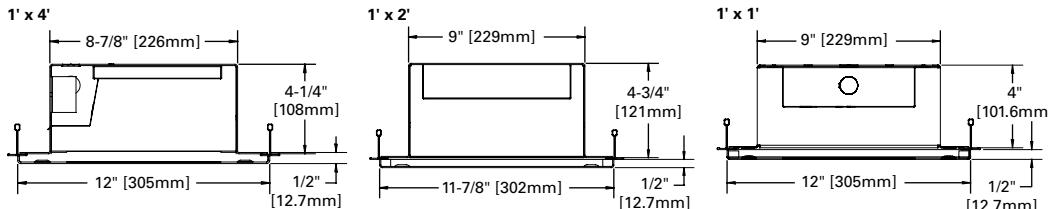
2' x 2'	1	LO	11.7	1347	115.1
	1	STD	16.65	1804	108.3
	1	HI	21.6	2212	102.4
	2	LO	23.4	2693	115.1
	2	STD	33.3	3607	108.3
	2	HI	43.2	4424	102.4
	3	LO	35.1	4040	115.1
	3	STD	49.95	5410	108.3
	3	HI	64.8	6637	102.4
	4	LO	46.8	5387	115.1
	4	STD	66.6	7214	108.3

2' x 4'	1	LO	23.4	2693	115.1
	1	STD	33.3	3607	108.3
	1	HI	43.2	4424	102.4
	2	LO	46.8	5387	115.1
	2	STD	66.6	7214	108.3
	2	HI	86.4	8849	102.4
	3	LO	70.2	8080	115.1
	3	STD	99.9	10821	108.3
	3	HI	129.6	13272	102.4
	4	LO	93.6	10774	115.1
	4	STD	133.2	14428	108.3

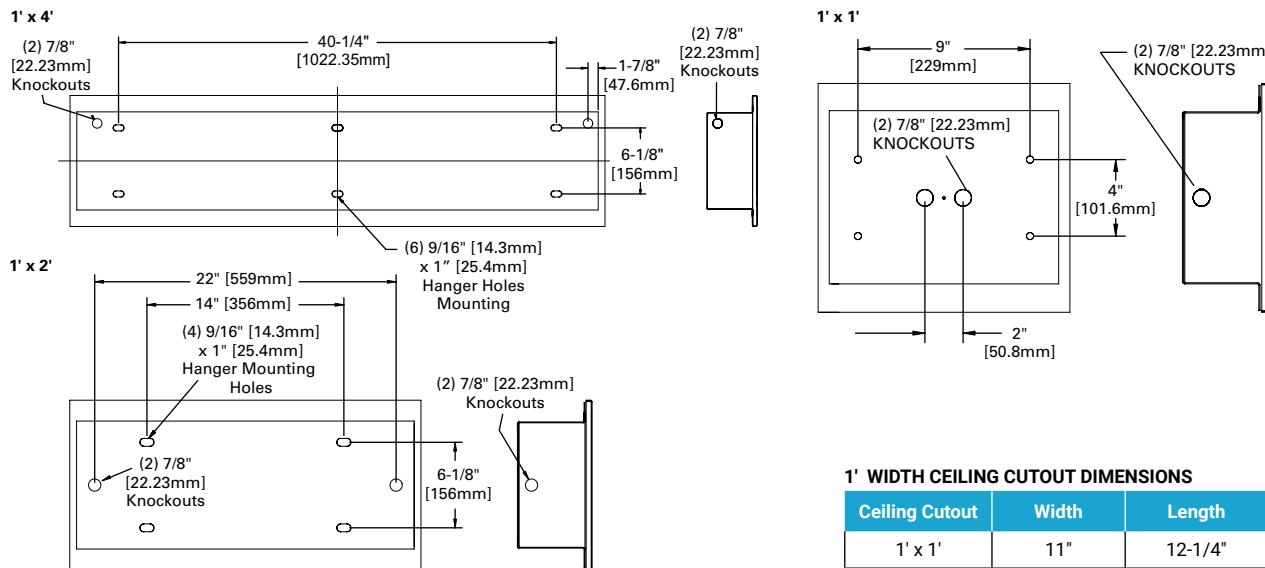
Nominal input wattage values include LED voltage, drive current, and typical driver efficiency. Refer to LM79 data/photometric files for exact delivered lumen values and input wattage. Values in table are nominal values only.

Dimensional and Mounting Details

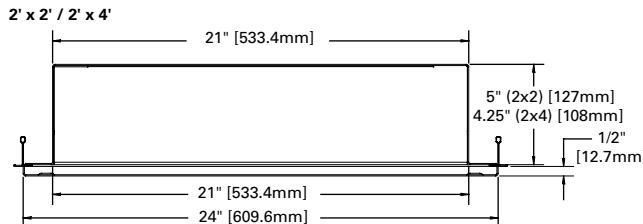
1' WIDTH CROSS-SECTION DIMENSIONS



1' WIDTH TYPICAL MOUNTING DETAIL



CROSS-SECTION DIMENSIONS



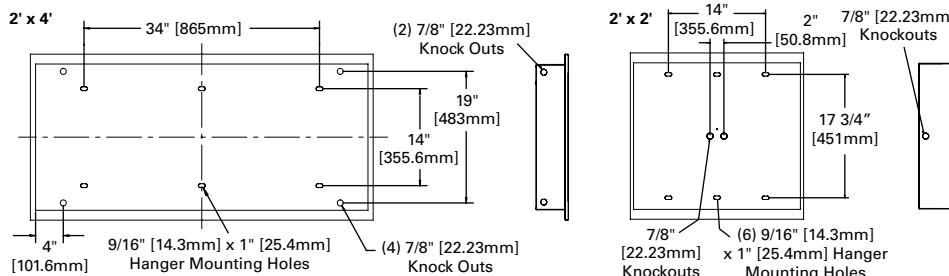
1' WIDTH CEILING CUTOUT DIMENSIONS

Ceiling Cutout	Width	Length
1' x 1'	11"	12-1/4"
1' x 2'	11"	24-1/4"
1' x 4'	11"	48-1/4"

2' WIDTH CEILING CUTOUT DIMENSIONS

Ceiling Cutout	Width	Length
2' x 2'	23-1/4"	24-1/4"
2' x 4'	23-1/4"	48-1/4"

2' WIDTH TYPICAL MOUNTING DETAIL



CEILING COMPATIBILITY

