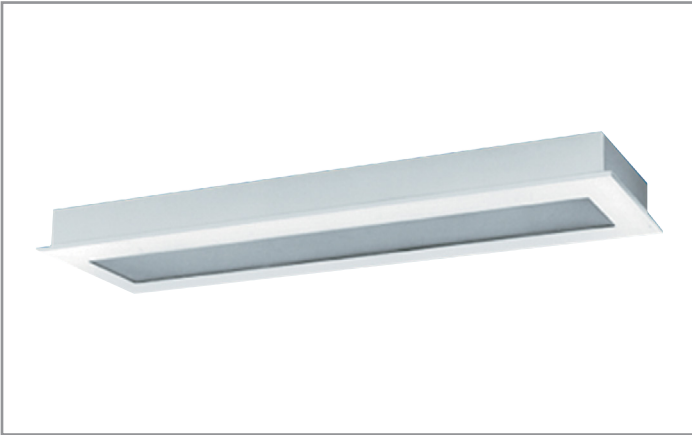


Project		Catalog #		Type	
Prepared by		Notes		Date	



Fail-Safe

FMR | LD4 LED

Confinement/Correctional, Security
 Recessed Flange, 1' and 2' Width
 1' x 1', 1' x 2', 1' x 4', 2' x 2', and 2' x 4'

Typical Applications

Confinement/Correctional • Inmate Cells • Psychiatric Wards • Secure Corridors
 • General Population Areas

Interactive Menu

- Order Information [page 2](#)
- Product Specifications [page 2](#)
- Nominal Input Watts/Delivered Lumens [page 3](#)
- Product Warranty

Product Certification



Product Features

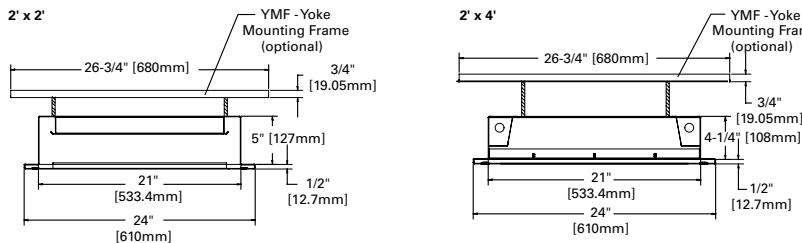


Top Product Features

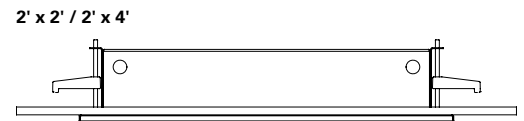
- Recessed flange for hard-lid ceilings requiring a robust fixture
- Die-formed 16-gauge continuous welded one-piece housing (14-gauge option); 12- to 18-gauge overlapping door
- Prismatic acrylic, polycarbonate or tempered glass lens
- Optional installation swing-out brackets or yoke mounting frames
- 3500K, 4000K and 5000K CCT; 80 CRI minimum
- Options to meet Buy American Act requirements

Dimensional and Mounting Details

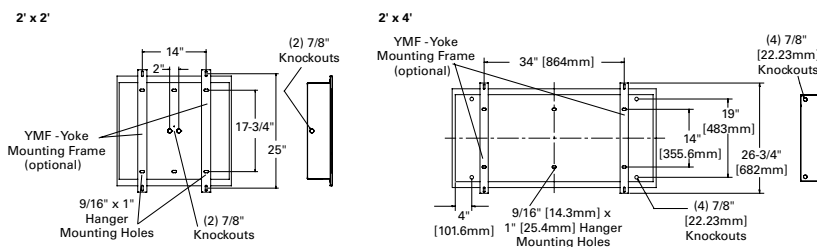
2' WIDTH CROSS-SECTION DIMENSIONS / SHOWN WITH OPTIONAL YOKE MOUNTING FRAME - YMF



2' WIDTH OPTIONAL SWING-OUT BRACKET (SWBR)



2' WIDTH TYPICAL MOUNTING DETAIL / SHOWN WITH OPTIONAL YOKE MOUNTING FRAME - YMF



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"

[additional product diagrams](#)

Order Information

Domestic Preferences	Product Family	Door	Width	Length	LED	No. of LEDs	Illumination Level	Color Temperature	Voltage
Domestic Preferences ⁽⁸⁾	Product Family	Door	Width	Length	LED	No. of LEDs	Illumination Level	Color Temperature	Voltage
[Blank]=Standard BAA=Buy American Act	FMR	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	UNV=120-277V
Notes (8) Only product configurations with this designated prefix are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.							Notes (5) 24" width fixture, 4HI not available. 12" width fixture, 2HI not available.		

Inner Lens	Outer Lens	Driver	No. of Circuits	Options	Accessories
Inner Lens	Outer Lens	Driver	No. of Circuits	Options	Accessories ⁽⁹⁾
Lens Type Inner Layer (optional) 90=0.005 UV Absorbing Overlay Fixture Side 80=0.125 Prismatic Acrylic 81=0.156 Prismatic Polycarbonate 82=0.187 Prismatic Polycarbonate 93=0.156 Prismatic Tempered Glass	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%	1=1 Circuit 2=2 Circuits 3=3 Circuits	EL7W =7W Emergency Battery Pack ^{(3),(4)} EL10W =10W Emergency Battery Pack ^{(3),(4)} EL14W =14W Emergency Battery Pack ^{(3),(4)} LLNL =Linear LED Night Light, Dimmable ⁽⁷⁾ GLR =Fuse and Holder 14G =14 Gauge Housing CPHF =Continuous Piano Hinge, Full Length WL =Wet Location Under Covered Ceiling AM =Antimicrobial matte white finish 90=90 CRI Mounting Options SWBR =Swing-out Brackets (4) YMF =Yoke Mounting Frame (2) Stainless Steel Door SSN =Natural Brushed Finish SSP =Polyester Powder Coat Finish Fasteners SF3 =Allen-Head (center pin reject)	9306 =Allen-Head Wrench PF24-2FT =Plaster Frame and Yoke Assembly PF24-4FT =Plaster Frame and Yoke Assembly VRSD =T20 Center Pin Tamperproof TORX® - head screwdriver
Notes (3) EM not available 1' x 1' or 1' x 2'. May be necessary to mount EM on back of 2' x 2' fixture adding 2" to fixture depth. (4) EM only available in "LO" or "STD" illumination levels. (7) LLNL not available on 1x1.				Notes (9) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.	

Notes: (1) See Lens Guide for additional lens choices. (2) YMF consists of (2) C-channel frames, with (4) 3-1/2" bolts and nuts to attach YMF to fixture housing. YMF's attach to rigid structure above. Default fixture includes eye-bolt kit. Does not include SWBR or YMF. Mounting hardware found in "Mounting Options". Specify "SWBR" or "YMF" if necessary.

Product Specifications

Application

- Confinement/correctional luminaire suitable for use in:
 - Inmate cells
 - Psychiatric wards
 - Secure corridors
 - General population areas

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, prismatic polycarbonate or prismatic tempered glass 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; 85 CRI minimum
- Choice of Standard, Low or High illumination levels
- Projected life is 50,000 hours at 70% lumen maintenance

Electrical

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

[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	605	103.4	
	1	STD	8.325	810	97.3	
	1	HI	10.8	994	92	
	2	LO	11.7	1210	103.4	
	2	STD	16.65	1621	97.4	
	2	HI	21.6	1988	92	
1' x 2'	1	LO	11.7	1173	100.3	
	1	STD	16.65	1571	94.4	
	1	HI	21.6	1927	89.2	
	2	LO	23.4	2346	100.3	
	2	STD	33.3	3141	94.3	
	2	HI	43.2	3853	89.2	
1' x 4'	1	LO	23.4	2554	109.1	
	1	STD	33.3	3420	102.7	
	1	HI	43.2	4195	97.1	
	2	LO	46.8	5108	109.1	
	2	STD	66.6	6840	102.7	
	2	HI	86.4	8390	97.1	
2' x 2'	1	LO	11.7	1500	128.2	
	1	STD	16.65	2009	120.7	
	1	HI	21.6	2464	114.1	
	2	LO	23.4	3001	128.2	
	2	STD	33.3	4018	120.7	
	2	HI	43.2	4929	114.1	
	3	LO	35.1	4501	128.2	
	3	STD	49.95	6028	120.7	
	3	HI	64.8	7393	114.1	
	4	LO	46.8	6001	128.2	
	4	STD	66.6	8037	120.7	
	4	HI	86.4	9858	114.1	
	2' x 4'	1	LO	23.4	3001	128.2
		1	STD	33.3	4018	120.7
1		HI	43.2	4929	114.1	
2		LO	46.8	6001	128.2	
2		STD	66.6	8037	120.7	
2		HI	86.4	9858	114.1	
3		LO	70.2	9002	128.2	
3		STD	99.9	12055	120.7	
3		HI	129.6	14786	114.1	
4		LO	93.6	12003	128.2	
4		STD	133.2	16073	120.7	
4		HI	172.8	19715	114.1	

Lumen Calculator

CCT	Multiplier
2000	0.673
2700	0.893
3000	0.943
3500	0.99
4000	1
5000	1.017

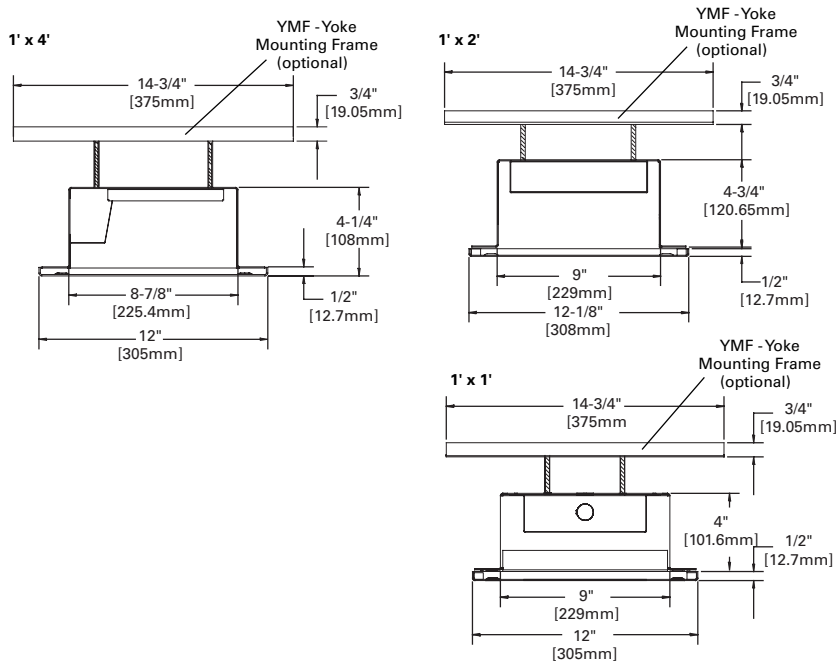
Lens Multiplier Table

	Lens	Multiplier
Fixture Side	80	1
	81	0.95
	82	0.93
	93	1
	84	1
	85	0.981
Environment Side	86	0.969
	87	0.938
	88	0.844
	94	1
	96	0.991
	97	0.956

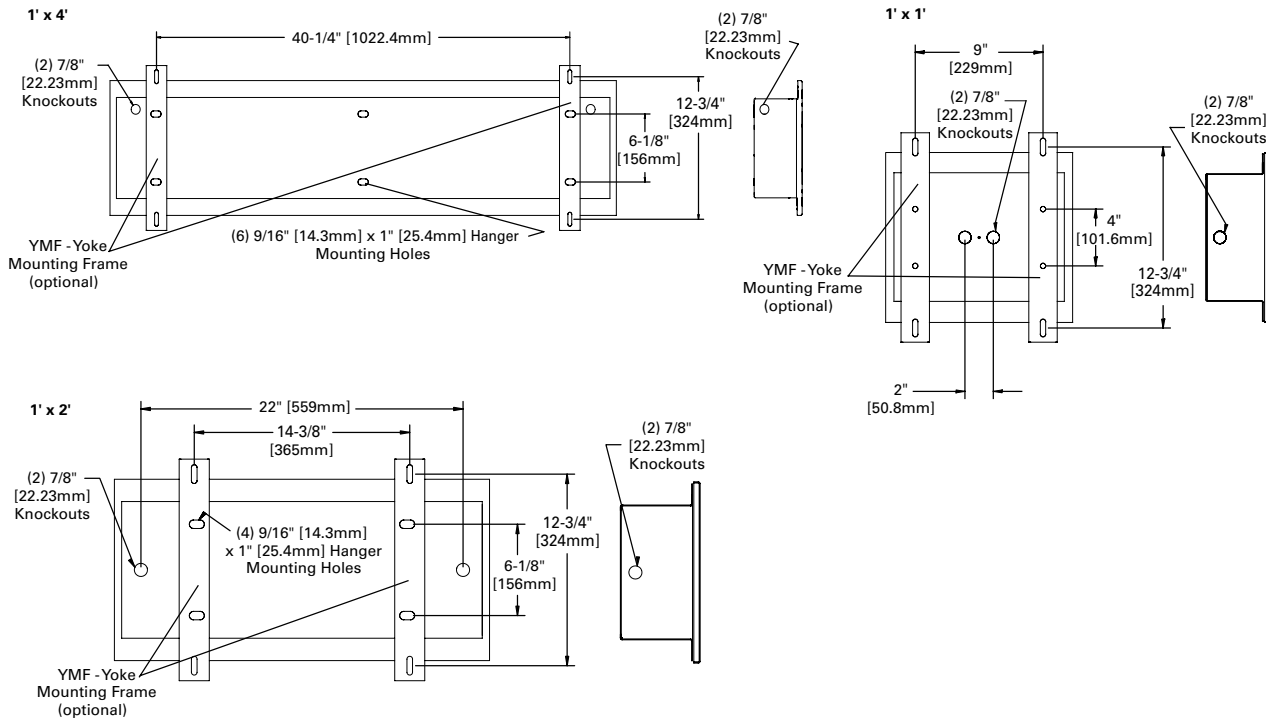
Nominal input wattage values include LED voltage, drive current, and typical driver efficiency. Refer to LM79 data/photometric files for exact delivered lumen values and input wattage. Values in table are nominal values only.

Dimensional and Mounting Details

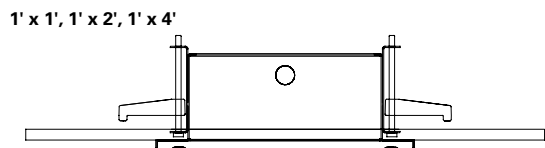
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1' WIDTH CEILING CUTOUT DIMENSIONS

Ceiling Cutout	Width	Length
1' x 1'	10-1/2"	12-1/2"
1' x 2'	10-1/2"	24-1/2"
1' x 4'	10-1/2"	48-1/2"