

CM4-13/18

4" Vertical Compact Fluorescent

13 or 18 watt



Catalog Number: _____

Type: _____

Project: _____



Description

Four inch downlight rated for use with a wide variety of lamp wattages and trims. Emergency remote option provides a self contained emergency battery which operates one lamp for a minimum of 90 minutes following a power failure.

Features

- Adjustable socket cup.
- Easy, snap fit installation.
- Many wet location trim options.
- Standard electronic ballast with <10% THD.
- c/UL listed for damp locations and through branch circuit wiring.

CATALOG SYSTEM AND OPTIONS

SAMPLE CATALOG NUMBER: CM4-FV13U-V43

Plaster Frame	Electrical System	Ballast Options	Options	Trims
CM4	-	-	-	-
	FV13 ¹ FV18	U 120V-277V S3 347V DX1 dimming 120V DX2 dimming 277V	RI Radio Filter FS2 Fusing ² ER Remote Emergency Ballast ⁴	V43 Gold Reflector V44 Black Reflector V45 Low Iridescent clear reflector V46 White Reflector V47 Wheat Reflector V45BC Black Baffle, Clear Lens Insert ³ V45BP Black Baffle, C73 Prismatic Lens ³ V45B Low Iridescent Reflector, Black Baffle V45WB Low Iridescent Reflector, White Baffle V45WBC White Baffle Clear Lens Insert ³ V45WBP White Baffle, C73 Prismatic Lens ³ V45C Clear Cone, Clear Lens Insert ³ V45P Clear Cone, C73 Prismatic Lens ³ V46C White Splay, Clear Lens Insert ³ V46P White Splay, C73 Prismatic Lens ³

Footnotes:

1. Dimming not available in 13W.
2. Field Installable.
3. UL Listed Wet location.
4. ER option is available with dry location trims only.

General Notes:

DX1 and DX2 are standard Advance Mark X dimming. Optional DL1 and DL2 for Lutron Compact SE dimming available.

FRAME

1. **Frame** - 22 gauge die stamped metal frame with flanged edges to provide a smooth handling surface. The frame can be easily converted in the field to 6" and 8" aperture sizes with optional interchangeable aperture rings. Frames can be installed before lamp source or wattage has been determined. Suitable for installation in environmental air-handling ceilings.
2. **Mounting** - Adjustable spring steel butterfly brackets accommodate CH24 or CH48 channel bar hangers, BH3 flat bar hangers, or 1/2" EMT conduit. L-brackets slide into place on any of the four corners to secure emergency option to the frame. Emergency tray rests on bar hangers or EMT for support. Frame is vertically adjustable to accommodate various mounting heights. Frame can be supported with aircraft cable where required.

2. **Socket Cup** - The socket cup attaches directly to the trim without the need for tools. All socket cups orient the lamp at optical focal plane of reflector for precise optics and optimum performance. Socket is adjustable.
3. **Junction Box** - Plaster frame integrated 47 cubic inch junction box with four 1/2" and two 1" knockouts. Electrical connections are made through a single junction box door, which allows all electrical systems to snap into place on the frame.
4. **c/UL Listed** - c/UL listed for damp locations and through branch circuit wiring.
5. **Remote Emergency Module** - A special high temperature nickel cadmium battery charger, and electronic circuitry contained in a compact case. Test switch and charging indicator are mounted outside the reflector. Emergency illumination exceeds NEC, NFPA-LSC and UL 90-minute req.

white painted finishes.

3. **Installation** - Capri One trims attach directly to the frame via expandable torsion springs. When used in conjunction with the molded spring tabs on the plaster frame, the torsion springs allow for full rotation and adjustment from below the fixture.

4. **c/UL Listed** - All emergency units are dry location only. For damp emergency consult factory.

OPTIONS

- Dimming Ballast** - Dependent upon lamp configuration.
- Fuse** - Fuse kit field installation. (FS2)
- Radio interference filter.** (RI)

ACCESSORIES (Order separately)

- 27" Flat Bar HangersBH3
- 26" C-Channel Bar HangersCH24
- 50" C-Channel Bar HangersCH48
- Emergency Remote Field installable KitERFK

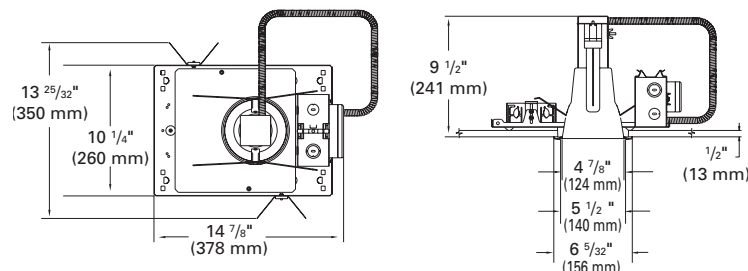
ELECTRICAL SYSTEM

1. **Ballast** - All ballasts are electronic High Power Factor and are attached directly to the junction box door at the factory. Available with optional dimming ballast for energy efficiency. Pre-installed quick connectors.

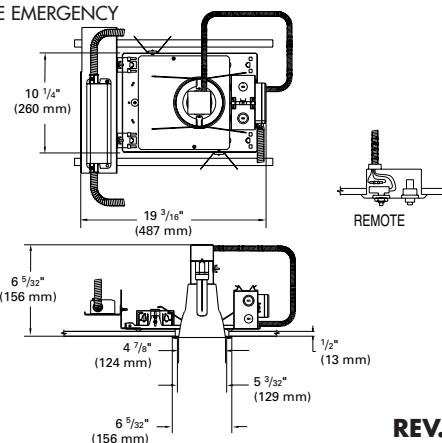
TRIMS

1. **Reflector** - Precision spun low iridescent .050 aluminum. Separate injection molded, white polycarbonate trim ring.
2. **Baffle** - Precision spun .040 aluminum with deep grooves to reduce aperture glare. Non-reflective matte black or

DIMENSIONS



REMOTE EMERGENCY



REV. 11/07

4 INCH TRIMS



V45 Clear Reflector



V43 Gold Reflector



V44 Black Reflector



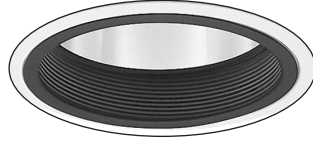
V46 White Reflector



Black Baffle, Glass Lens Insert
V42BC Clear Lens*
V42BP C73 Prismatic Lens*



V47 Wheat Reflector



V45B Clear Reflector,
 Black Baffle



V45WB Clear Reflector,
 White Baffle



Clear Cone, Glass Lens Insert
V45C Clear Lens*
V45P C73 Prismatic Lens*



White Splay, Glass Lens Insert
V46C Clear Lens*
V46P C73 Prismatic Lens*



White Baffle, Glass Lens Insert
V45WBC Clear Lens*
V45WBP C73 Prismatic Lens*

* cUL Listed Wet Location.

PHOTOMETRICS

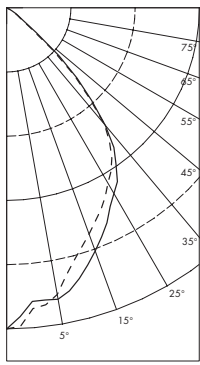
CM4-FV13U-V45

Description: 4" Compact
 Fluorescent Vertical
 Downlight, Clear Reflector

Lamp: (1) CFQ13W/G24q
 IES Spacing Criteria: Nor - 1.0, Par - 1.0

Beam Angle: 77.33°
 Lamp Position: Lamp in number 4 position
 Efficiency: 37.9%

Candlepower Curve



90: 0
 0: F21255

Candlepower Summary

Zone Degree	0° Candelas	90° Candelas
90	0	0
85	0	0
80	0	0
75	0	0
70	0	0
65	0	0
60	.5	.3
55	1.2	.11
50	3.2	.25
45	8.3	.80
40	128	1.27
35	159	1.53
30	179	1.69
25	198	1.86
20	216	2.01
15	234	2.18
10	247	2.43
5	246	2.52
0	268	2.68

Coefficients of Utilization

Room Cavity Ratio	Ceiling Cavity Reflectance											
	80					50					10	
	Wall Reflectance											
	CU for Floor Cavity Reflectance = 20%											
0	45	45	45	41	41	41	39	39	39			
1	41	40	40	39	39	38	36	35	35			
2	38	36	34	35	34	34	34	33	32			
3	34	33	30	34	32	29	32	30	29			
4	32	29	28	30	28	28	28	28	27			
5	29	27	25	28	27	25	27	26	25			
6	27	25	23	27	23	23	25	23	22			
7	25	23	20	25	22	20	23	22	20			
8	23	20	19	23	20	19	22	20	19			
9	22	19	17	20	19	17	20	19	17			
10	20	17	16	20	17	16	19	17	16			

These coefficients were computed by the zonal-cavity method, I.E.S. recommended practice, and prepared from the candlepower distribution data in photometric test no. F21255

Conversion Factors

For average footcandle calculations,
 Multiply footcandles by conversion factor.

Trim Catalog #	Conversion Factor
V43	.90
V44	.75
V46	.88
V47	.87

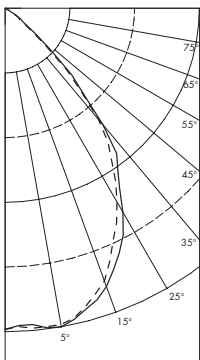
CM4-FV18U-V45B

Description: 4" Compact
 Fluorescent Vertical
 Downlight, Black Baffle

Lamp: (1) CFQ13W/G24q
 IES Spacing Criteria: Nor - 1.1, Par - 1.1

Beam Angle: 77.60°
 Lamp Position: Lamp in number 4 position
 Efficiency: 31.5%

Candlepower Curve



90: ----
 0: F21254

Candlepower Summary

Zone Degree	0° Candelas	90° Candelas
90	0	0
85	0	0
80	0	0
75	0	0
70	0	0
65	1	.1
60	4	.3
55	16	1.4
50	33	2.5
45	79	7.3
40	128	12.2
35	165	15.6
30	198	18.8
25	227	21.5
20	249	24.4
15	262	26.0
10	272	27.0
5	267	27.0
0	270	27.0

Coefficients of Utilization

Room Cavity Ratio	Ceiling Cavity Reflectance											
	80					50					10	
	Wall Reflectance											
	CU for Floor Cavity Reflectance = 20%											
0	36	36	36	34	34	34	32	32	32			
1	34	34	33	33	32	30	29	29	29			
2	32	29	28	29	28	28	28	28	27			
3	28	27	26	28	27	25	26	25	25			
4	27	25	23	26	23	23	25	23	22			
5	25	23	20	23	22	20	23	22	20			
6	23	20	19	22	20	19	20	20	19			
7	20	19	17	20	19	17	20	17	17			
8	20	17	16	19	17	16	19	17	16			
9	17	16	14	17	16	14	17	16	14			
10	17	14	14	17	14	14	16	14	14			

These coefficients were computed by the zonal-cavity method, I.E.S. recommended practice, and prepared from the candlepower distribution data in photometric report F21254

Conversion Factors

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V47	.87

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