

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P545707

Luminaire Tested: **FMR-12-2-LD4-2LO-50-UNV-82-88-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P545707  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-12-2-LD4-2LO-50-UNV-82-88-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

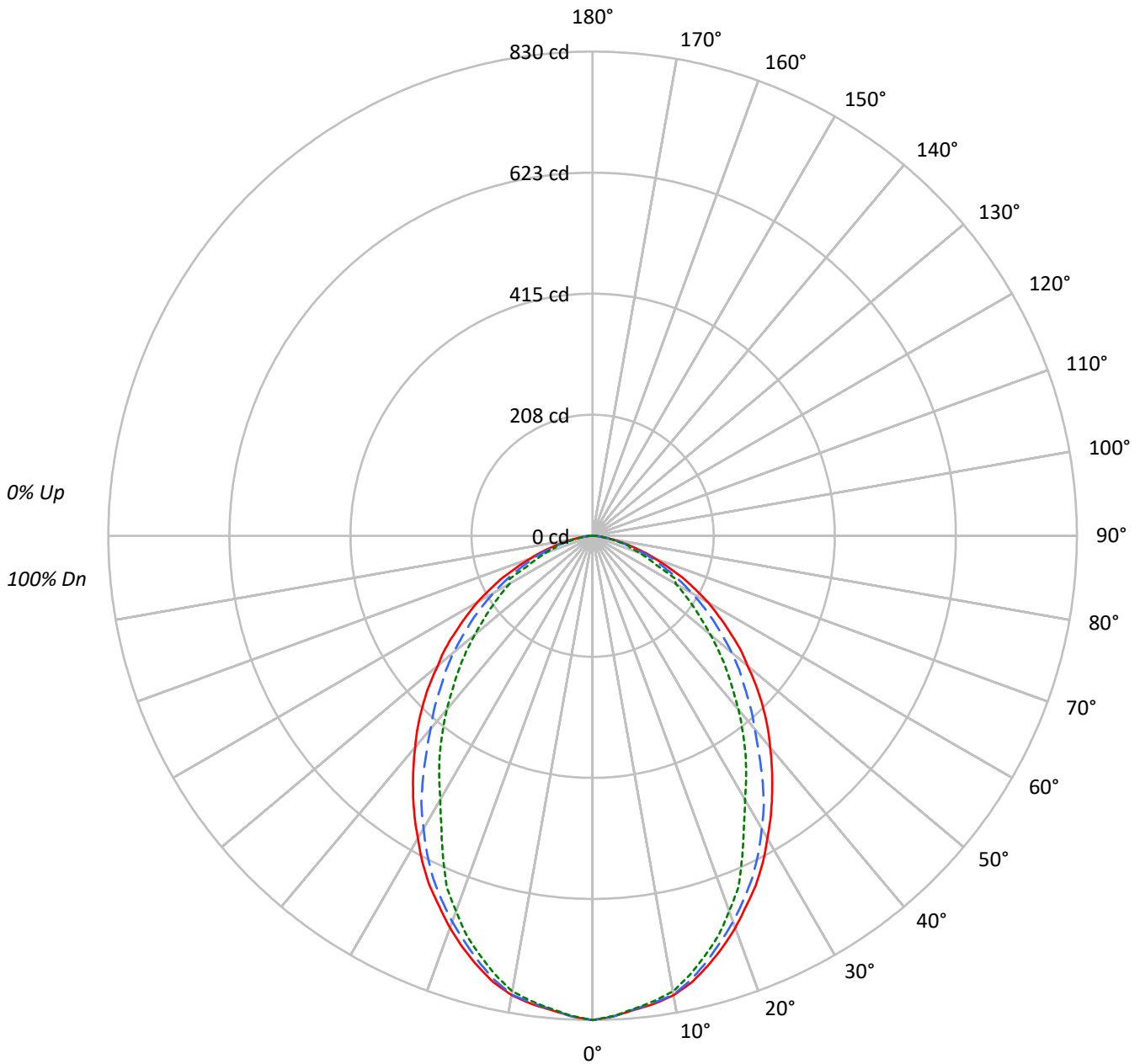
Lumens per Lamp: N/A  
Luminaire Lumens: 1630.0 lumens  
Efficiency: N/A  
Efficacy: 69.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

TEST NUMBER: P545707

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-82-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P545707

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-82-88-EDD

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4469	4469	4469
5°	4408	4403	4398
10°	4370	4364	4333
15°	4252	4209	4150
20°	4096	4030	3920
25°	3928	3842	3602
30°	3723	3603	3245
35°	3526	3330	3002
40°	3325	3034	2732
45°	3134	2806	2469
50°	2901	2604	2202
55°	2684	2360	1972
60°	2460	2108	1766
65°	2164	1845	1565
70°	1783	1616	1330
75°	1418	1237	1298
80°	951	893	834
85°	593	710	827



TEST NUMBER: P545707

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-82-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.3	4.7
10°-20°	212.1	13.0
20°-30°	293.7	18.0
30°-40°	313.1	19.2
40°-50°	285.7	17.5
50°-60°	223.8	13.7
60°-70°	145.9	8.9
70°-80°	64.6	4.0
80°-90°	13.9	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	583.1	35.8
0°-40°	896.2	55.0
0°-60°	1405.6	86.2
0°-90°	1630.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1630.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	830	830	830	830	830	
5°	816	815	815	814	814	77
15°	763	763	755	748	745	215
25°	661	658	647	624	607	304
35°	537	533	507	468	457	335
45°	412	403	369	338	324	317
55°	286	277	252	222	210	257
65°	170	160	145	148	123	167
75°	68	63	60	57	62	73
85°	10	11	12	12	13	13
90°	0	0	0	0	0	



TEST NUMBER: P545707

CATALOG NUMBER: FMR-12-2-LD4-2LO-50-UNV-82-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	830.3	830.3	830.3	830.3	830.3
2.5°	824.5	824.5	824.5	823.6	823.6
5°	815.9	814.9	814.9	814.0	814.0
7.5°	809.2	808.2	807.3	806.3	804.4
10°	799.6	799.6	798.6	793.8	792.9
12.5°	784.2	783.3	779.4	772.7	770.8
15°	763.1	763.1	755.4	747.8	744.9
17.5°	740.1	739.1	729.5	721.8	718.0
20°	715.1	713.2	703.6	691.1	684.4
22.5°	687.3	687.3	675.8	659.4	652.7
25°	661.4	657.5	647.0	623.9	606.6
27.5°	631.6	625.8	614.3	581.7	561.5
30°	599.0	596.1	579.8	537.5	522.2
32.5°	568.3	563.5	546.2	502.0	489.5
35°	536.6	532.7	506.8	468.4	456.9
37.5°	504.9	500.1	467.5	436.7	422.3
40°	473.2	467.5	431.9	404.1	388.8
42.5°	443.5	435.8	401.2	371.5	354.2
45°	411.8	403.2	368.6	337.9	324.4
47.5°	380.1	372.4	340.8	309.1	293.7
50°	346.5	339.8	311.0	279.3	263.0
52.5°	318.7	308.1	280.3	248.6	235.2
55°	286.0	277.4	251.5	221.7	210.2
57.5°	256.3	247.7	223.7	195.8	186.2
60°	228.5	216.0	195.8	171.8	164.1
62.5°	197.7	188.1	170.9	150.7	160.3
65°	169.9	160.3	144.9	147.8	122.9
67.5°	139.2	134.4	120.9	107.5	103.7
70°	113.3	107.5	102.7	88.3	84.5
72.5°	90.2	84.5	77.8	70.1	67.2
75°	68.2	63.4	59.5	56.6	62.4
77.5°	47.0	45.1	42.2	39.4	38.4
80°	30.7	29.8	28.8	27.8	26.9
82.5°	18.2	18.2	18.2	18.2	18.2
85°	9.6	10.6	11.5	12.5	13.4
87.5°	5.8	5.8	6.7	7.7	8.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)