

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: P547319

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-80-84-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: P547319  
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-24-4-LD4-4HI-50-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

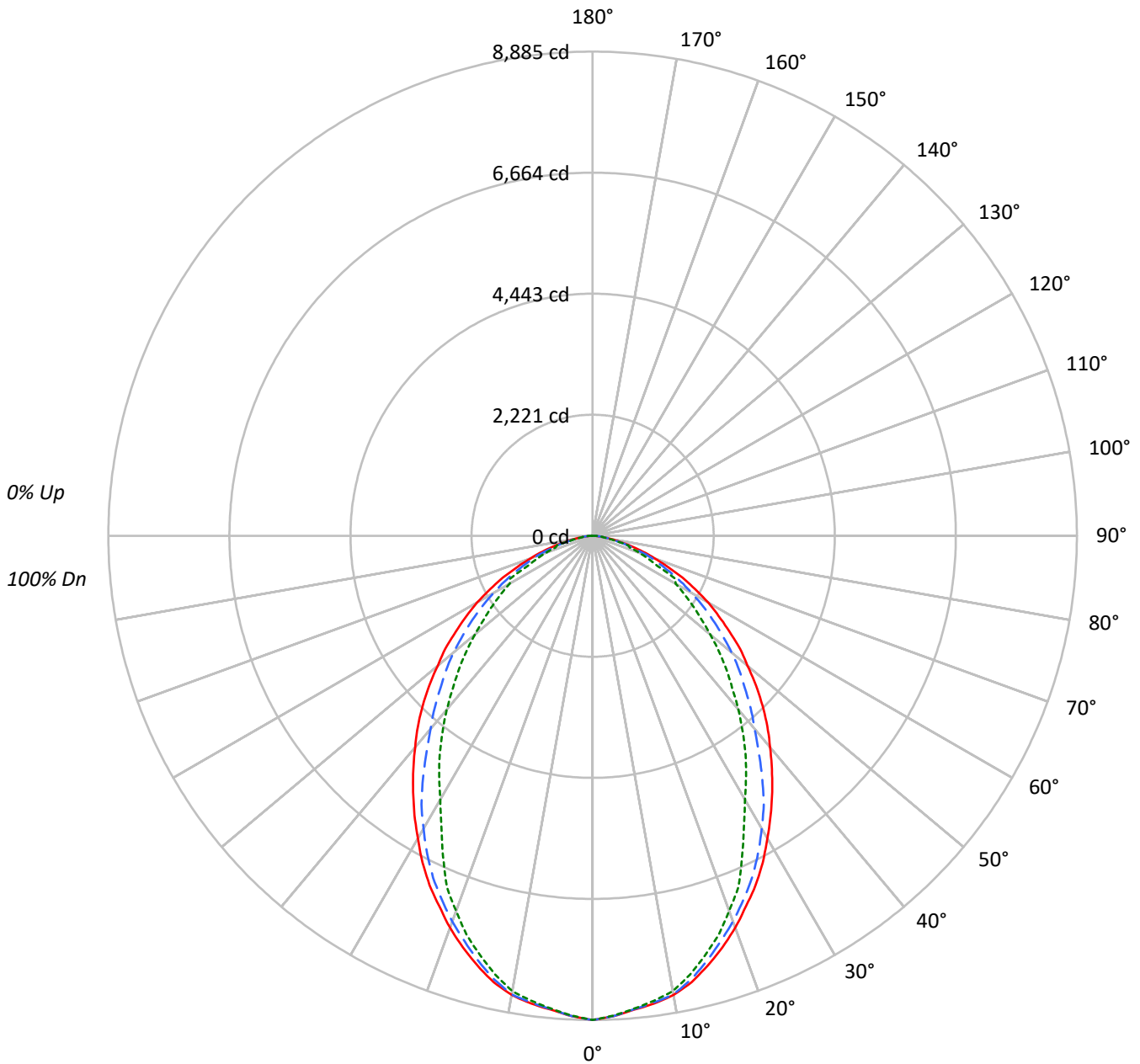
Lumens per Lamp: N/A  
Luminaire Lumens: 17443.0 lumens  
Efficiency: N/A  
Efficacy: 100.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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

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### Luminous Intensity Polar Plot





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**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°	11955	11955	11955
5°	11793	11779	11765
10°	11690	11676	11592
15°	11375	11261	11103
20°	10957	10781	10487
25°	10507	10278	9638
30°	9958	9639	8682
35°	9431	8908	8031
40°	8895	8119	7307
45°	8385	7505	6606
50°	7762	6966	5891
55°	7180	6313	5277
60°	6579	5639	4727
65°	5788	4938	4186
70°	4768	4324	3556
75°	3791	3311	3471
80°	2547	2388	2228
85°	1585	1903	2220



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	827.1	4.7
10°-20°	2269.9	13.0
20°-30°	3142.5	18.0
30°-40°	3350.8	19.2
40°-50°	3056.9	17.5
50°-60°	2394.9	13.7
60°-70°	1560.9	8.9
70°-80°	691.5	4.0
80°-90°	148.5	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°	6239.5	35.8
0°-40°	9590.3	55.0
0°-60°	15042.1	86.2
0°-90°	17443.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17443.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8885	8885	8885	8885	8885	
5°	8731	8721	8721	8711	8711	829
15°	8166	8166	8084	8002	7971	2296
25°	7077	7036	6923	6677	6492	3249
35°	5742	5701	5424	5013	4889	3590
45°	4407	4314	3944	3616	3472	3394
55°	3061	2969	2691	2373	2250	2746
65°	1818	1715	1551	1582	1315	1792
75°	729	678	637	606	668	782
85°	103	113	123	134	144	142
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8885.2	8885.2	8885.2	8885.2	8885.2
2.5°	8823.6	8823.6	8823.6	8813.3	8813.3
5°	8731.2	8720.9	8720.9	8710.6	8710.6
7.5°	8659.2	8649.0	8638.7	8628.4	8607.9
10°	8556.5	8556.5	8546.3	8494.9	8484.6
12.5°	8392.2	8381.9	8340.8	8268.9	8248.4
15°	8166.2	8166.2	8084.0	8001.8	7971.0
17.5°	7919.7	7909.4	7806.7	7724.5	7683.4
20°	7652.6	7632.1	7529.3	7395.8	7323.9
22.5°	7354.7	7354.7	7231.4	7056.8	6984.9
25°	7077.4	7036.3	6923.3	6676.8	6491.9
27.5°	6758.9	6697.3	6574.0	6224.8	6009.1
30°	6409.7	6378.9	6204.3	5752.3	5587.9
32.5°	6081.0	6029.6	5844.7	5372.2	5238.7
35°	5742.0	5700.9	5423.6	5012.7	4889.4
37.5°	5403.0	5351.7	5002.4	4673.7	4519.7
40°	5064.1	5002.4	4622.4	4324.5	4160.1
42.5°	4745.6	4663.5	4293.7	3975.2	3790.3
45°	4406.7	4314.2	3944.4	3615.7	3471.9
47.5°	4067.7	3985.5	3646.5	3307.6	3143.2
50°	3708.2	3636.3	3328.1	2989.1	2814.5
52.5°	3410.3	3297.3	2999.4	2660.4	2516.6
55°	3061.0	2968.6	2691.2	2372.8	2249.6
57.5°	2742.6	2650.2	2393.4	2095.5	1992.8
60°	2444.7	2311.2	2095.5	1838.7	1756.5
62.5°	2116.0	2013.3	1828.4	1612.7	1715.4
65°	1818.1	1715.4	1551.1	1581.9	1314.8
67.5°	1489.4	1438.1	1294.3	1150.5	1109.4
70°	1212.1	1150.5	1099.1	945.0	903.9
72.5°	965.6	903.9	832.0	749.9	719.0
75°	729.3	677.9	636.9	606.0	667.7
77.5°	503.3	482.8	452.0	421.1	410.9
80°	328.7	318.4	308.2	297.9	287.6
82.5°	195.2	195.2	195.2	195.2	195.2
85°	102.7	113.0	123.3	133.5	143.8
87.5°	61.6	61.6	71.9	82.2	92.4
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)