

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: P547340

Luminaire Tested: **FMR-24-4-LD4-4HI-50-UNV-82-94-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: P547340  
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-82-94-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

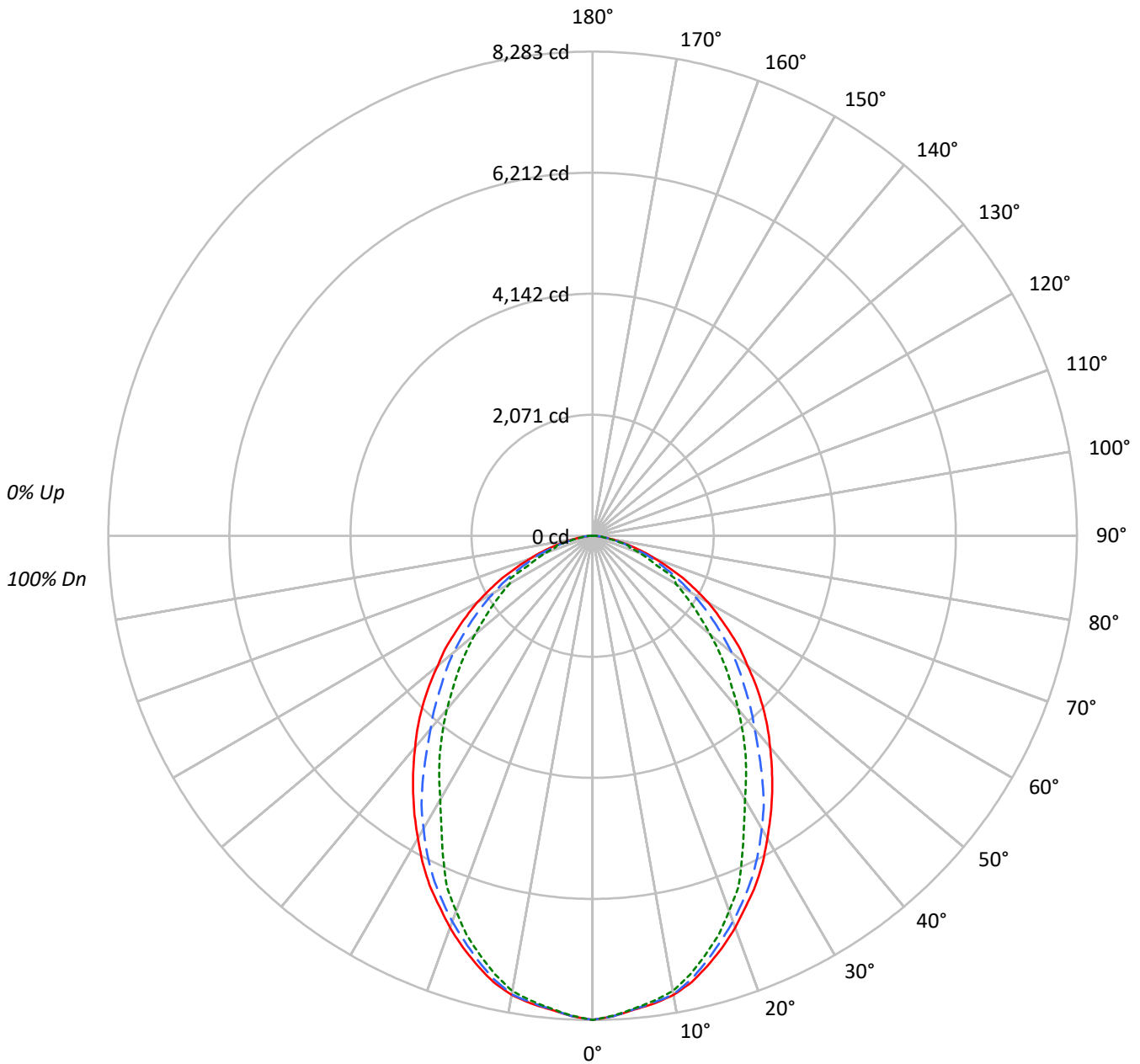
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16260.0 lumens  
Efficiency: N/A  
Efficacy: 94.1 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					20					
RC	80					70					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°	11144	11144	11144
5°	10993	10980	10967
10°	10897	10884	10806
15°	10604	10497	10350
20°	10214	10050	9775
25°	9794	9581	8984
30°	9283	8985	8093
35°	8792	8304	7486
40°	8291	7568	6811
45°	7816	6996	6158
50°	7236	6494	5492
55°	6693	5885	4919
60°	6132	5257	4406
65°	5396	4603	3902
70°	4445	4031	3315
75°	3534	3086	3236
80°	2374	2226	2077
85°	1479	1774	2070



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	771.0	4.7
10°-20°	2115.9	13.0
20°-30°	2929.4	18.0
30°-40°	3123.6	19.2
40°-50°	2849.6	17.5
50°-60°	2232.4	13.7
60°-70°	1455.0	8.9
70°-80°	644.6	4.0
80°-90°	138.4	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°	5816.3	35.8
0°-40°	8939.9	55.0
0°-60°	14022.0	86.2
0°-90°	16260.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16260.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8283	8283	8283	8283	8283	
5°	8139	8129	8129	8120	8120	773
15°	7612	7612	7536	7459	7430	2140
25°	6597	6559	6454	6224	6052	3029
35°	5353	5314	5056	4673	4558	3346
45°	4108	4022	3677	3370	3236	3164
55°	2853	2767	2509	2212	2097	2559
65°	1695	1599	1446	1475	1226	1670
75°	680	632	594	565	622	729
85°	96	105	115	124	134	133
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8282.6	8282.6	8282.6	8282.6	8282.6
2.5°	8225.2	8225.2	8225.2	8215.6	8215.6
5°	8139.0	8129.4	8129.4	8119.8	8119.8
7.5°	8072.0	8062.4	8052.8	8043.2	8024.1
10°	7976.2	7976.2	7966.6	7918.8	7909.2
12.5°	7823.0	7813.4	7775.1	7708.1	7689.0
15°	7612.4	7612.4	7535.8	7459.2	7430.4
17.5°	7382.5	7373.0	7277.2	7200.6	7162.3
20°	7133.6	7114.4	7018.7	6894.2	6827.2
22.5°	6855.9	6855.9	6741.0	6578.2	6511.2
25°	6597.4	6559.1	6453.7	6223.9	6051.6
27.5°	6300.5	6243.1	6128.2	5802.6	5601.5
30°	5975.0	5946.3	5783.5	5362.2	5209.0
32.5°	5668.6	5620.7	5448.3	5007.9	4883.4
35°	5352.6	5314.3	5055.8	4672.7	4557.8
37.5°	5036.6	4988.7	4663.2	4356.8	4213.1
40°	4720.6	4663.2	4308.9	4031.2	3878.0
42.5°	4423.8	4347.2	4002.5	3705.6	3533.3
45°	4107.8	4021.6	3676.9	3370.5	3236.4
47.5°	3791.8	3715.2	3399.2	3083.2	2930.0
50°	3456.7	3389.7	3102.4	2786.4	2623.6
52.5°	3179.0	3073.7	2796.0	2480.0	2345.9
55°	2853.4	2767.3	2508.7	2211.9	2097.0
57.5°	2556.6	2470.4	2231.0	1953.4	1857.6
60°	2278.9	2154.4	1953.4	1714.0	1637.4
62.5°	1972.5	1876.8	1704.4	1503.3	1599.1
65°	1694.8	1599.1	1445.9	1474.6	1225.6
67.5°	1388.4	1340.5	1206.5	1072.4	1034.1
70°	1129.9	1072.4	1024.6	880.9	842.6
72.5°	900.1	842.6	775.6	699.0	670.3
75°	679.8	632.0	593.7	564.9	622.4
77.5°	469.2	450.0	421.3	392.6	383.0
80°	306.4	296.8	287.3	277.7	268.1
82.5°	181.9	181.9	181.9	181.9	181.9
85°	95.8	105.3	114.9	124.5	134.1
87.5°	57.5	57.5	67.0	76.6	86.2
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)