

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: P589809

Luminaire Tested: **FMR-24-2-LD4-4STD-40-UNV-93-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589809  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-4STD-40-UNV-93-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

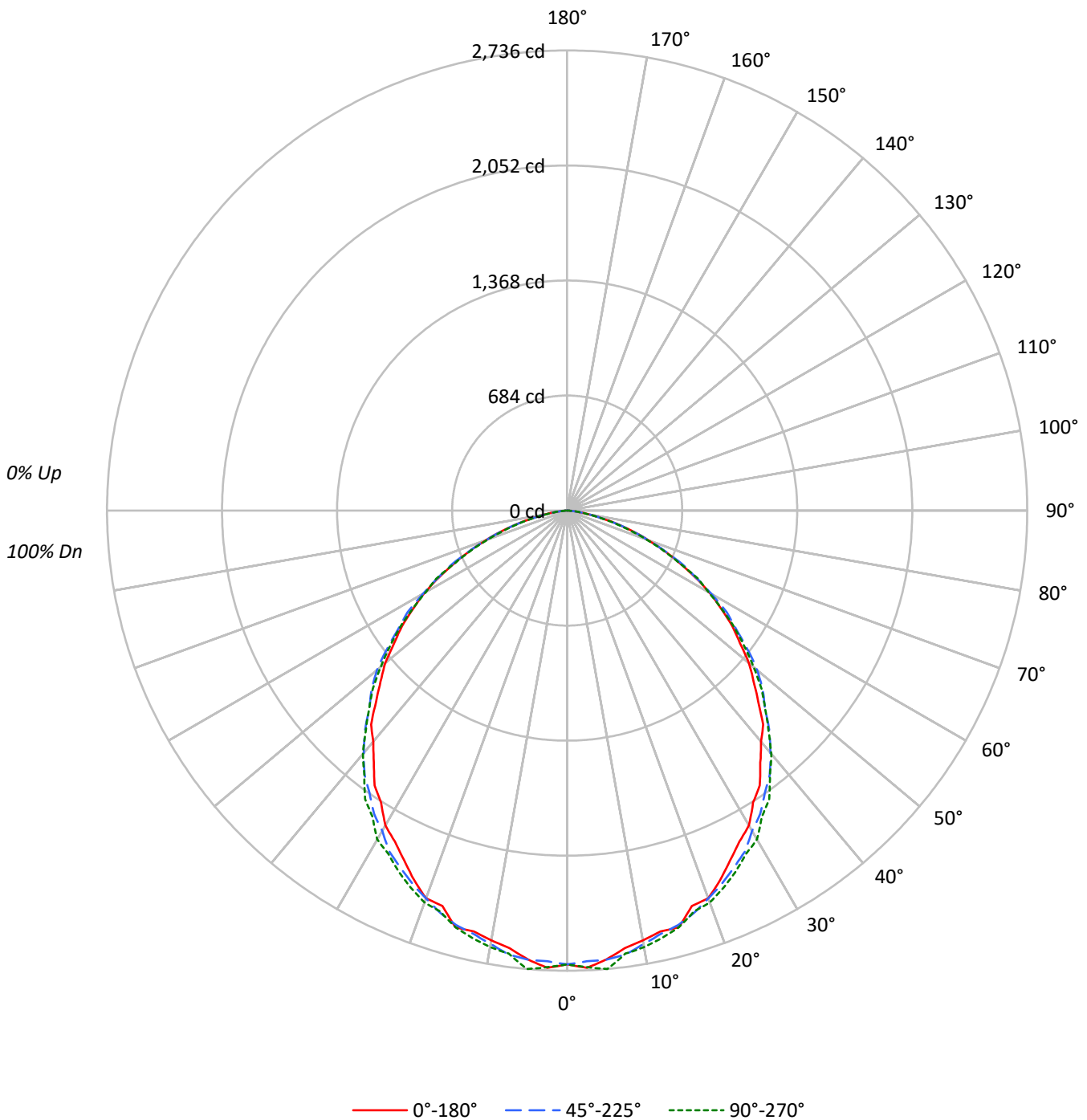
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6800.0 lumens  
Efficiency: N/A  
Efficacy: 102.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	7261	7261	7261
5°	7236	7239	7392
10°	7090	7151	7202
15°	7146	7107	7147
20°	7025	7025	7100
25°	6809	6958	7035
30°	6715	6834	7015
35°	6557	6729	6880
40°	6302	6606	6635
45°	6112	6329	6338
50°	5911	6178	6059
55°	5632	5742	5701
60°	5267	5319	5223
65°	4696	4816	4663
70°	4029	4043	3931
75°	3191	3184	3061
80°	2139	2078	1998
85°	1161	1152	1074



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	253.8	3.7
10°-20°	719.3	10.6
20°-30°	1077.6	15.8
30°-40°	1277.2	18.8
40°-50°	1279.6	18.8
50°-60°	1086.2	16.0
60°-70°	732.3	10.8
70°-80°	321.8	4.7
80°-90°	52.3	0.8
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°	2050.7	30.2
0°-40°	3327.9	48.9
0°-60°	5693.7	83.7
0°-90°	6800.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6800.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2698	2698	2698	2698	2698	
5°	2679	2673	2680	2672	2736	253
15°	2565	2535	2551	2564	2565	715
25°	2293	2306	2343	2374	2369	1060
35°	1996	2002	2048	2096	2094	1239
45°	1606	1636	1663	1706	1666	1242
55°	1200	1192	1224	1215	1215	1068
65°	738	728	756	727	732	733
75°	307	301	306	285	294	329
85°	38	37	37	36	35	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2698.1	2698.1	2698.1	2698.1	2698.1
2.5°	2721.4	2700.9	2681.7	2704.0	2717.6
5°	2678.9	2672.6	2680.0	2671.9	2736.4
7.5°	2623.9	2647.9	2661.8	2653.1	2657.0
10°	2594.6	2586.2	2617.2	2638.8	2635.7
12.5°	2563.3	2575.8	2577.5	2600.9	2603.0
15°	2565.0	2535.4	2551.1	2564.3	2565.3
17.5°	2465.4	2497.4	2508.2	2538.5	2500.9
20°	2453.2	2429.8	2453.2	2484.2	2479.3
22.5°	2378.3	2352.1	2402.3	2429.8	2428.1
25°	2293.3	2305.8	2343.4	2374.1	2369.2
27.5°	2218.7	2233.4	2287.0	2329.2	2302.0
30°	2161.2	2153.9	2199.2	2236.8	2257.7
32.5°	2058.5	2085.0	2137.9	2175.2	2155.3
35°	1996.1	2002.0	2048.4	2095.7	2094.4
37.5°	1887.1	1914.6	1979.7	1993.0	1980.8
40°	1794.1	1821.6	1880.5	1894.7	1888.8
42.5°	1725.4	1730.3	1780.8	1797.2	1771.1
45°	1606.0	1635.9	1663.1	1705.9	1665.5
47.5°	1504.2	1518.2	1576.7	1588.2	1566.9
50°	1411.9	1416.8	1475.7	1461.4	1447.4
52.5°	1295.9	1316.5	1349.6	1346.8	1330.4
55°	1200.5	1192.4	1223.8	1215.4	1215.1
57.5°	1085.8	1099.8	1125.6	1112.3	1091.1
60°	978.6	978.9	988.3	973.3	970.5
62.5°	859.1	863.2	865.3	846.9	876.8
65°	737.5	727.7	756.3	727.4	732.3
67.5°	625.7	630.5	627.7	609.6	616.6
70°	512.1	518.4	513.8	493.3	499.6
72.5°	408.3	400.6	405.5	379.7	391.6
75°	306.9	300.6	306.2	284.6	294.4
77.5°	209.0	213.9	210.4	198.9	205.5
80°	138.0	134.1	134.1	127.5	128.9
82.5°	80.5	76.6	75.6	73.5	76.6
85°	37.6	36.6	37.3	36.2	34.8
87.5°	13.6	13.9	13.9	13.2	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)