

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: P589328

Luminaire Tested: **FMR-24-2-LD4-3HI-40-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589328  
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-LD4-3HI-40-UNV-93-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

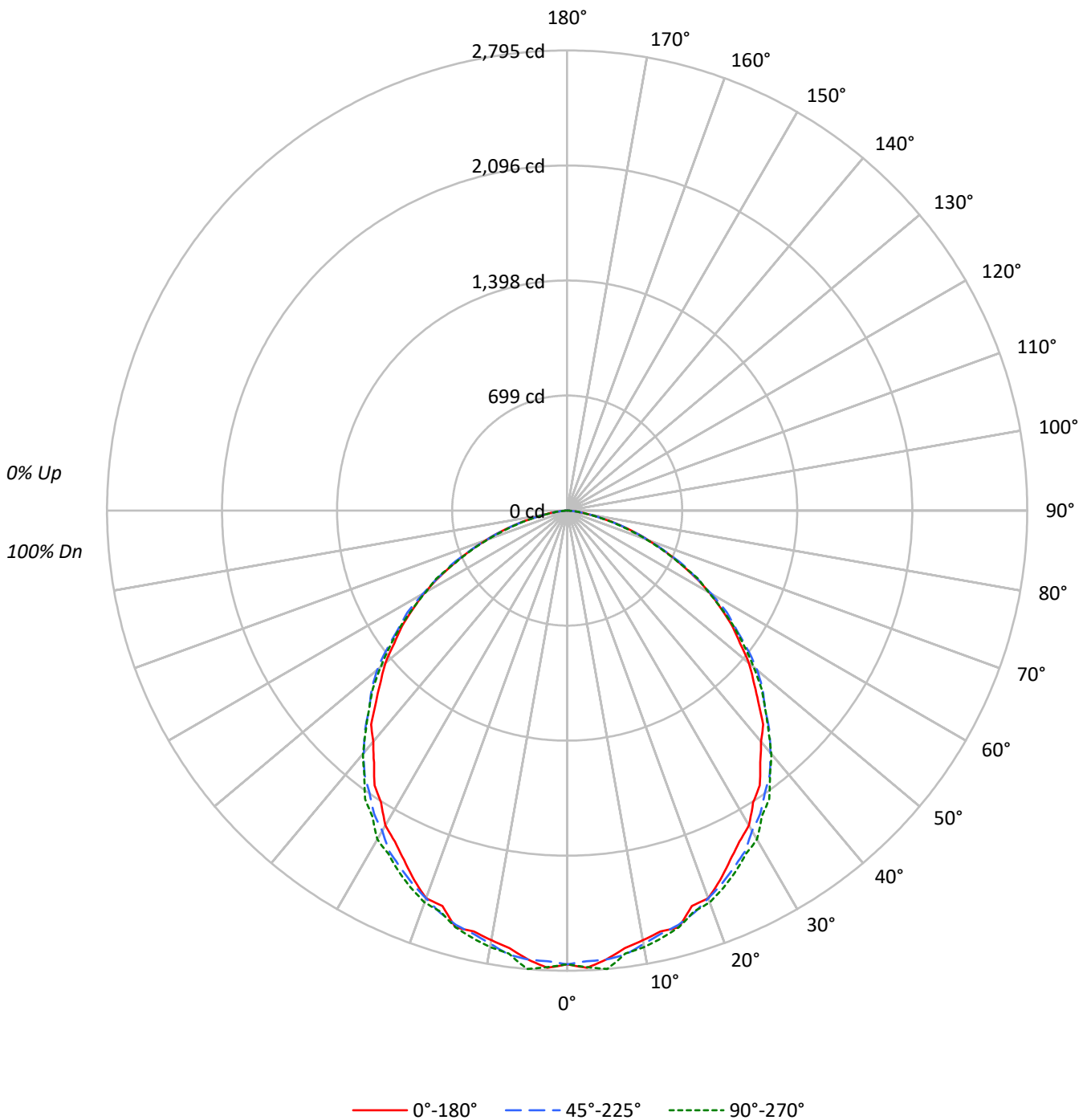
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6946.0 lumens  
Efficiency: N/A  
Efficacy: 107.2 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): 64.8  
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	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°	7416	7416	7416
5°	7392	7395	7550
10°	7242	7305	7357
15°	7299	7260	7300
20°	7176	7176	7252
25°	6955	7108	7186
30°	6860	6980	7166
35°	6698	6874	7028
40°	6438	6747	6778
45°	6243	6465	6474
50°	6038	6310	6190
55°	5753	5865	5823
60°	5380	5433	5336
65°	4797	4919	4763
70°	4116	4130	4015
75°	3260	3252	3126
80°	2183	2123	2041
85°	1186	1176	1099



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	259.2	3.7
10°-20°	734.7	10.6
20°-30°	1100.8	15.8
30°-40°	1304.6	18.8
40°-50°	1307.1	18.8
50°-60°	1109.5	16.0
60°-70°	748.0	10.8
70°-80°	328.7	4.7
80°-90°	53.4	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°	2094.7	30.2
0°-40°	3399.4	48.9
0°-60°	5815.9	83.7
0°-90°	6946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6946.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2756	2756	2756	2756	2756	
5°	2736	2730	2738	2729	2795	258
15°	2620	2590	2606	2619	2620	730
25°	2342	2355	2394	2425	2420	1083
35°	2039	2045	2092	2141	2139	1266
45°	1640	1671	1699	1743	1701	1269
55°	1226	1218	1250	1242	1241	1091
65°	753	743	772	743	748	749
75°	314	307	313	291	301	336
85°	38	37	38	37	36	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2756.0	2756.0	2756.0	2756.0	2756.0
2.5°	2779.8	2758.8	2739.3	2762.0	2775.9
5°	2736.4	2730.0	2737.5	2729.3	2795.1
7.5°	2680.2	2704.8	2719.0	2710.1	2714.0
10°	2650.3	2641.8	2673.4	2695.5	2692.3
12.5°	2618.3	2631.1	2632.9	2656.7	2658.9
15°	2620.1	2589.8	2605.8	2619.4	2620.4
17.5°	2518.3	2551.0	2562.1	2593.0	2554.6
20°	2505.8	2482.0	2505.8	2537.5	2532.5
22.5°	2429.3	2402.6	2453.9	2482.0	2480.2
25°	2342.5	2355.3	2393.8	2425.1	2420.1
27.5°	2266.4	2281.3	2336.1	2379.2	2351.4
30°	2207.6	2200.2	2246.4	2284.9	2306.2
32.5°	2102.7	2129.7	2183.8	2221.9	2201.6
35°	2039.0	2045.0	2092.4	2140.7	2139.3
37.5°	1927.6	1955.7	2022.3	2035.8	2023.3
40°	1832.6	1860.7	1920.8	1935.4	1929.4
42.5°	1762.5	1767.5	1819.1	1835.8	1809.1
45°	1640.4	1671.0	1698.8	1742.6	1701.3
47.5°	1536.5	1550.8	1610.5	1622.3	1600.6
50°	1442.2	1447.2	1507.3	1492.8	1478.5
52.5°	1323.7	1344.7	1378.5	1375.7	1359.0
55°	1226.2	1218.0	1250.1	1241.5	1241.2
57.5°	1109.2	1123.4	1149.7	1136.2	1114.5
60°	999.6	999.9	1009.5	994.2	991.4
62.5°	877.5	881.8	883.9	865.1	895.7
65°	753.3	743.4	772.5	743.0	748.0
67.5°	639.1	644.1	641.2	622.7	629.8
70°	523.1	529.5	524.9	503.9	510.3
72.5°	417.0	409.2	414.2	387.9	400.0
75°	313.5	307.1	312.8	290.7	300.7
77.5°	213.5	218.5	214.9	203.2	209.9
80°	140.9	137.0	137.0	130.2	131.7
82.5°	82.2	78.3	77.2	75.1	78.3
85°	38.4	37.4	38.1	37.0	35.6
87.5°	13.9	14.2	14.2	13.5	12.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)