

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: P589533

Luminaire Tested: **FMR-24-2-LD4-3STD-50-UNV-81-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589533  
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-LD4-3STD-50-UNV-81-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

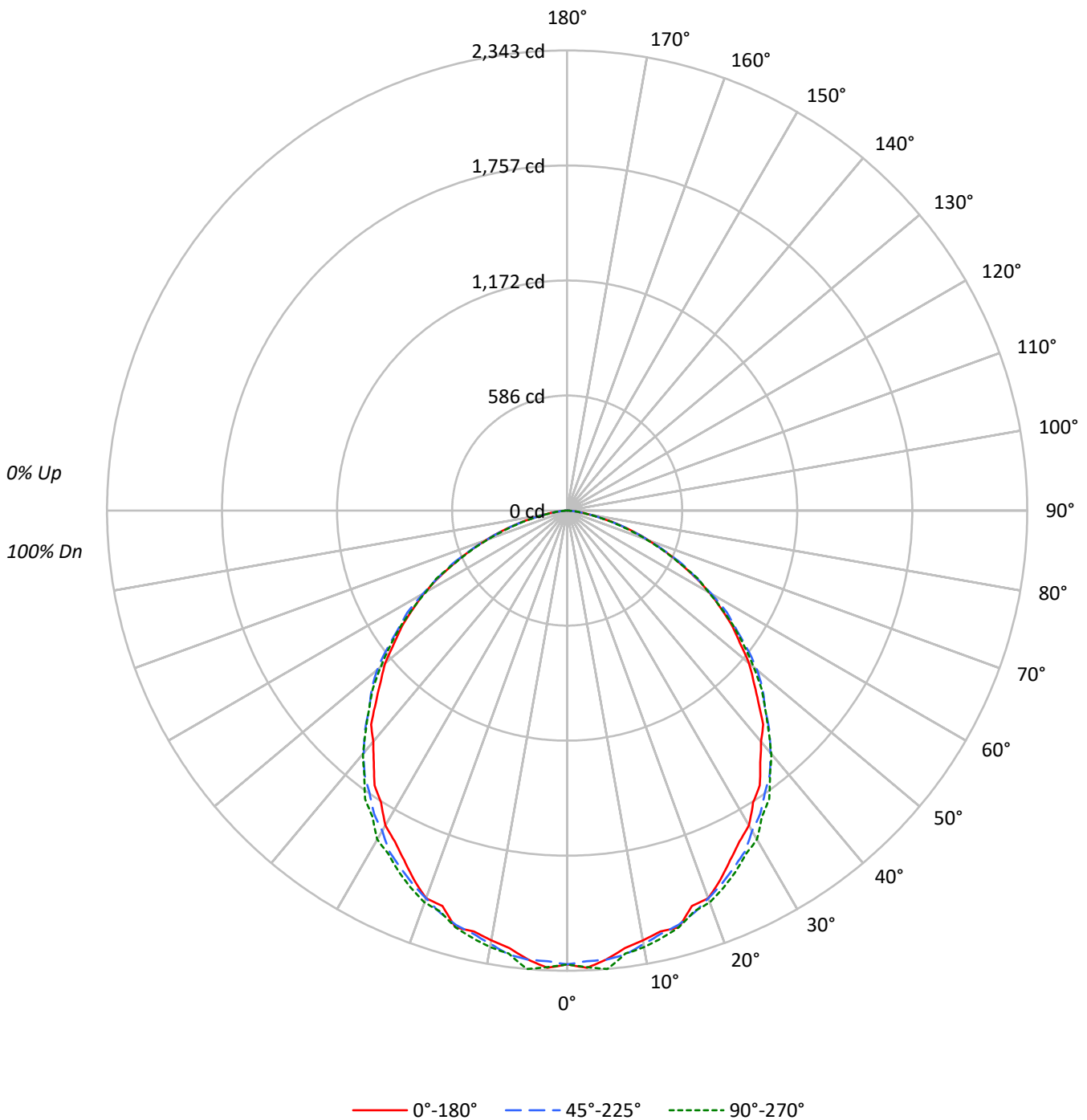
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5823.0 lumens  
Efficiency: N/A  
Efficacy: 116.5 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): 50  
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°	6217	6217	6217
5°	6197	6199	6330
10°	6071	6124	6167
15°	6119	6086	6120
20°	6016	6016	6080
25°	5831	5958	6024
30°	5751	5852	6008
35°	5615	5762	5891
40°	5397	5657	5682
45°	5233	5420	5428
50°	5062	5290	5189
55°	4823	4917	4882
60°	4510	4555	4473
65°	4021	4124	3992
70°	3450	3462	3366
75°	2732	2726	2621
80°	1830	1779	1711
85°	994	985	920



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.3	3.7
10°-20°	615.9	10.6
20°-30°	922.8	15.8
30°-40°	1093.7	18.8
40°-50°	1095.7	18.8
50°-60°	930.1	16.0
60°-70°	627.1	10.8
70°-80°	275.5	4.7
80°-90°	44.7	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°	1756.1	30.2
0°-40°	2849.8	48.9
0°-60°	4875.6	83.7
0°-90°	5823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2310	2310	2310	2310	2310	
5°	2294	2289	2295	2288	2343	216
15°	2196	2171	2184	2196	2197	612
25°	1964	1974	2007	2033	2029	908
35°	1709	1714	1754	1795	1793	1061
45°	1375	1401	1424	1461	1426	1064
55°	1028	1021	1048	1041	1040	914
65°	632	623	648	623	627	628
75°	263	257	262	244	252	282
85°	32	31	32	31	30	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2310.4	2310.4	2310.4	2310.4	2310.4
2.5°	2330.4	2312.8	2296.4	2315.5	2327.1
5°	2294.0	2288.6	2294.9	2288.0	2343.2
7.5°	2246.9	2267.5	2279.4	2271.9	2275.2
10°	2221.8	2214.7	2241.2	2259.7	2257.0
12.5°	2195.0	2205.7	2207.2	2227.2	2229.0
15°	2196.5	2171.1	2184.5	2195.9	2196.8
17.5°	2111.1	2138.6	2147.8	2173.8	2141.6
20°	2100.7	2080.7	2100.7	2127.3	2123.1
22.5°	2036.6	2014.2	2057.2	2080.7	2079.2
25°	1963.8	1974.5	2006.7	2033.0	2028.8
27.5°	1899.9	1912.5	1958.4	1994.5	1971.2
30°	1850.7	1844.5	1883.2	1915.5	1933.4
32.5°	1762.7	1785.4	1830.7	1862.7	1845.7
35°	1709.3	1714.4	1754.1	1794.6	1793.4
37.5°	1616.0	1639.5	1695.3	1706.6	1696.2
40°	1536.3	1559.9	1610.3	1622.5	1617.4
42.5°	1477.5	1481.7	1525.0	1539.0	1516.6
45°	1375.2	1400.9	1424.1	1460.8	1426.2
47.5°	1288.1	1300.0	1350.2	1360.0	1341.8
50°	1209.1	1213.2	1263.6	1251.4	1239.5
52.5°	1109.7	1127.3	1155.7	1153.3	1139.3
55°	1028.0	1021.1	1048.0	1040.8	1040.5
57.5°	929.8	941.8	963.8	952.5	934.3
60°	838.0	838.3	846.3	833.5	831.1
62.5°	735.6	739.2	741.0	725.2	750.8
65°	631.5	623.2	647.6	622.9	627.0
67.5°	535.8	539.9	537.6	522.0	528.0
70°	438.5	443.9	440.0	422.4	427.8
72.5°	349.6	343.1	347.2	325.2	335.3
75°	262.8	257.4	262.2	243.7	252.1
77.5°	179.0	183.2	180.2	170.3	176.0
80°	118.1	114.8	114.8	109.2	110.4
82.5°	68.9	65.6	64.7	62.9	65.6
85°	32.2	31.3	31.9	31.0	29.8
87.5°	11.6	11.9	11.9	11.3	10.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)