

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: P589693

Luminaire Tested: **FMR-24-2-LD4-4LO-40-UNV-81-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589693  
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-LD4-4LO-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

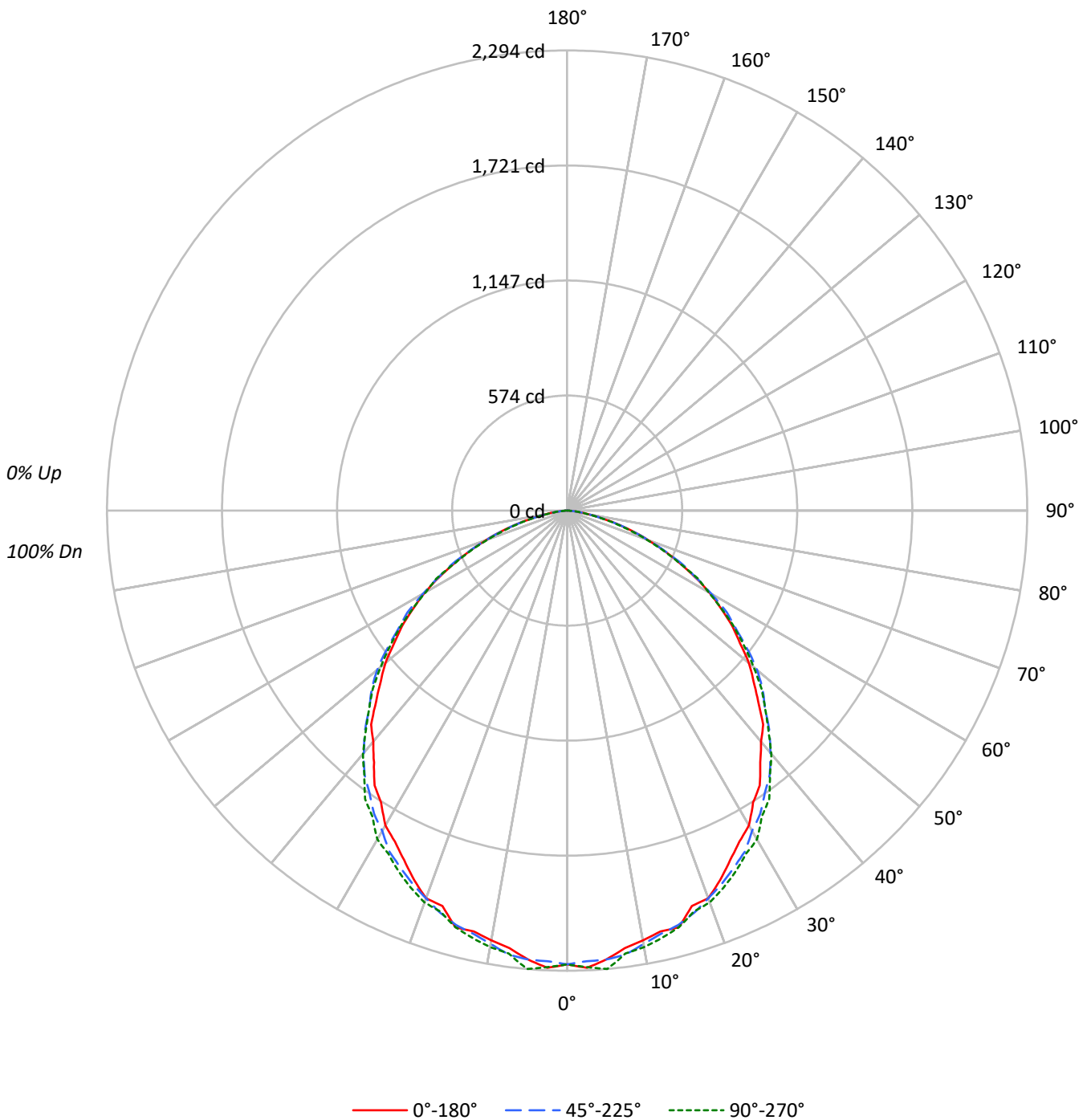
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5701.0 lumens  
Efficiency: N/A  
Efficacy: 121.8 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): 46.8  
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									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	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°	6087	6087	6087
5°	6067	6069	6197
10°	5944	5996	6038
15°	5991	5958	5992
20°	5890	5890	5952
25°	5709	5834	5898
30°	5630	5729	5881
35°	5498	5641	5768
40°	5284	5538	5563
45°	5124	5306	5314
50°	4955	5179	5080
55°	4722	4814	4779
60°	4415	4459	4379
65°	3937	4038	3909
70°	3378	3389	3295
75°	2675	2669	2566
80°	1793	1742	1675
85°	973	966	902



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	212.8	3.7
10°-20°	603.0	10.6
20°-30°	903.5	15.8
30°-40°	1070.8	18.8
40°-50°	1072.8	18.8
50°-60°	910.6	16.0
60°-70°	613.9	10.8
70°-80°	269.8	4.7
80°-90°	43.8	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°	1719.3	30.2
0°-40°	2790.1	48.9
0°-60°	4773.5	83.7
0°-90°	5701.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5701.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2262	2262	2262	2262	2262	
5°	2246	2241	2247	2240	2294	212
15°	2150	2126	2139	2150	2151	599
25°	1923	1933	1965	1990	1986	889
35°	1674	1678	1717	1757	1756	1039
45°	1346	1372	1394	1430	1396	1042
55°	1006	1000	1026	1019	1019	895
65°	618	610	634	610	614	615
75°	257	252	257	239	247	276
85°	32	31	31	30	29	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2262.0	2262.0	2262.0	2262.0	2262.0
2.5°	2281.6	2264.3	2248.3	2267.0	2278.4
5°	2245.9	2240.7	2246.8	2240.1	2294.1
7.5°	2199.8	2220.0	2231.6	2224.3	2227.5
10°	2175.3	2168.3	2194.3	2212.4	2209.7
12.5°	2149.0	2159.5	2161.0	2180.5	2182.3
15°	2150.4	2125.6	2138.8	2149.9	2150.7
17.5°	2066.9	2093.8	2102.8	2128.2	2096.7
20°	2056.7	2037.1	2056.7	2082.7	2078.6
22.5°	1993.9	1972.0	2014.1	2037.1	2035.7
25°	1922.6	1933.2	1964.7	1990.4	1986.3
27.5°	1860.1	1872.4	1917.4	1952.7	1929.9
30°	1811.9	1805.8	1843.8	1875.3	1892.8
32.5°	1725.8	1748.0	1792.4	1823.6	1807.0
35°	1673.5	1678.5	1717.3	1757.0	1755.9
37.5°	1582.1	1605.2	1659.8	1670.9	1660.7
40°	1504.1	1527.2	1576.5	1588.5	1583.6
42.5°	1446.6	1450.7	1493.0	1506.7	1484.8
45°	1346.4	1371.5	1394.3	1430.2	1396.3
47.5°	1261.1	1272.8	1321.9	1331.5	1313.7
50°	1183.7	1187.8	1237.2	1225.2	1213.5
52.5°	1086.5	1103.7	1131.4	1129.1	1115.4
55°	1006.4	999.7	1026.0	1019.0	1018.7
57.5°	910.4	922.0	943.6	932.6	914.7
60°	820.4	820.7	828.6	816.0	813.7
62.5°	720.2	723.7	725.5	710.0	735.1
65°	618.3	610.1	634.1	609.8	613.9
67.5°	524.5	528.6	526.3	511.1	516.9
70°	429.3	434.6	430.8	413.6	418.8
72.5°	342.3	335.9	340.0	318.3	328.3
75°	257.3	252.0	256.7	238.6	246.8
77.5°	175.2	179.3	176.4	166.8	172.3
80°	115.7	112.4	112.4	106.9	108.1
82.5°	67.5	64.3	63.4	61.6	64.3
85°	31.5	30.7	31.3	30.4	29.2
87.5°	11.4	11.7	11.7	11.1	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)