

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: P589535

Luminaire Tested: **FMR-24-2-LD4-3STD-50-UNV-81-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589535  
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-81-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

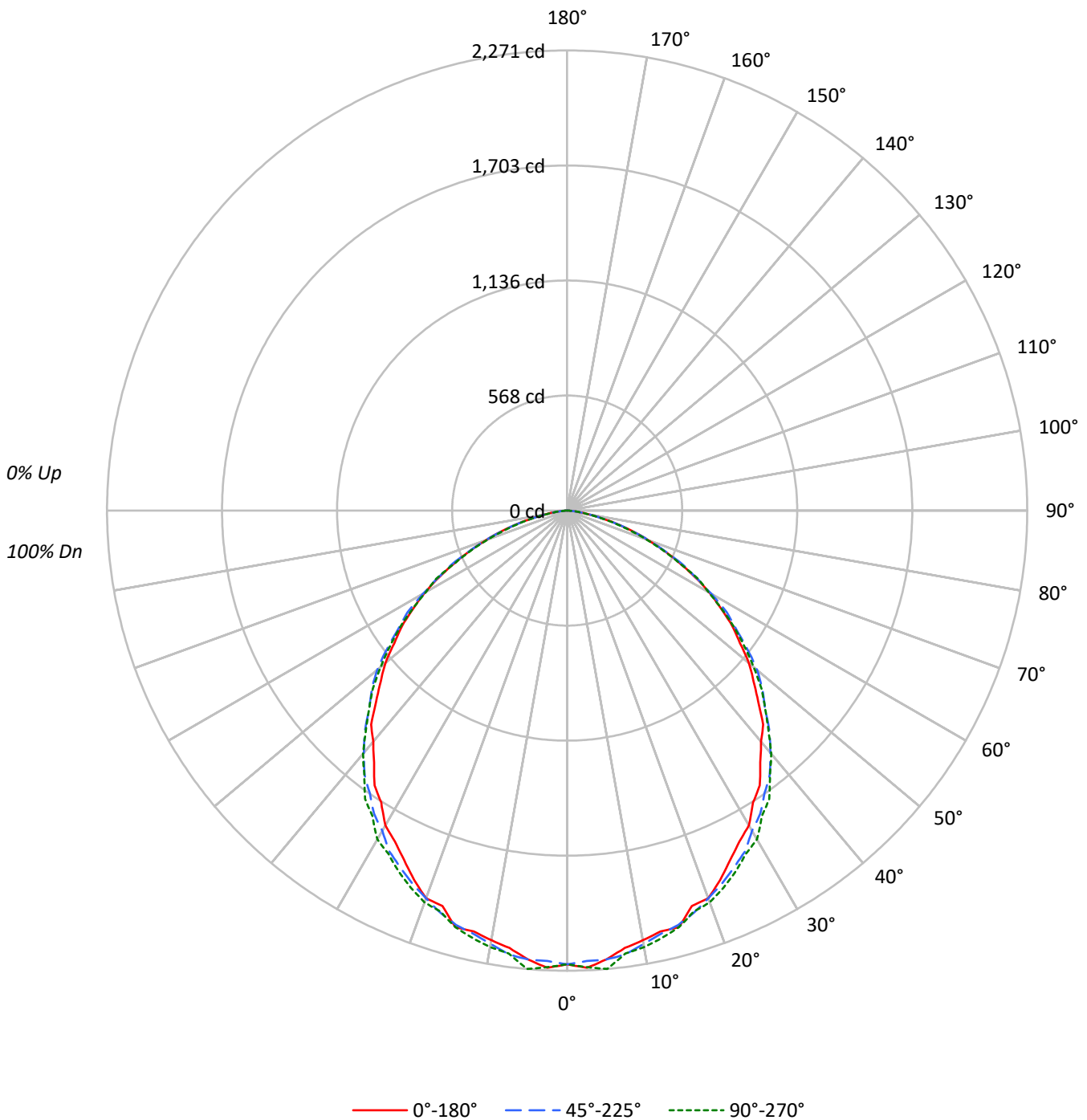
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5643.0 lumens  
Efficiency: N/A  
Efficacy: 112.9 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°	6025	6025	6025
5°	6005	6008	6134
10°	5883	5935	5977
15°	5930	5898	5931
20°	5830	5830	5892
25°	5651	5774	5838
30°	5573	5671	5822
35°	5442	5584	5709
40°	5230	5482	5506
45°	5072	5252	5260
50°	4905	5127	5029
55°	4674	4765	4731
60°	4371	4414	4335
65°	3897	3996	3869
70°	3344	3355	3262
75°	2648	2642	2540
80°	1774	1725	1658
85°	963	954	892



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	210.6	3.7
10°-20°	596.9	10.6
20°-30°	894.3	15.8
30°-40°	1059.9	18.8
40°-50°	1061.9	18.8
50°-60°	901.3	16.0
60°-70°	607.7	10.8
70°-80°	267.0	4.7
80°-90°	43.4	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°	1701.8	30.2
0°-40°	2761.7	48.9
0°-60°	4724.9	83.7
0°-90°	5643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5643.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2239	2239	2239	2239	2239	
5°	2223	2218	2224	2217	2271	210
15°	2129	2104	2117	2128	2129	593
25°	1903	1914	1945	1970	1966	880
35°	1656	1661	1700	1739	1738	1028
45°	1333	1358	1380	1416	1382	1031
55°	996	990	1016	1009	1008	886
65°	612	604	628	604	608	609
75°	255	250	254	236	244	273
85°	31	30	31	30	29	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2239.0	2239.0	2239.0	2239.0	2239.0
2.5°	2258.4	2241.3	2225.4	2243.9	2255.2
5°	2223.1	2217.9	2224.0	2217.3	2270.8
7.5°	2177.4	2197.4	2208.9	2201.7	2204.9
10°	2153.1	2146.2	2171.9	2189.9	2187.3
12.5°	2127.1	2137.5	2139.0	2158.3	2160.1
15°	2128.6	2104.0	2117.0	2128.0	2128.9
17.5°	2045.9	2072.5	2081.4	2106.6	2075.4
20°	2035.8	2016.4	2035.8	2061.5	2057.5
22.5°	1973.6	1951.9	1993.6	2016.4	2015.0
25°	1903.1	1913.5	1944.7	1970.1	1966.1
27.5°	1841.2	1853.4	1897.9	1932.9	1910.3
30°	1793.5	1787.4	1825.0	1856.2	1873.6
32.5°	1708.2	1730.2	1774.1	1805.1	1788.6
35°	1656.5	1661.4	1699.8	1739.2	1738.0
37.5°	1566.0	1588.8	1642.9	1653.9	1643.8
40°	1488.8	1511.7	1560.5	1572.4	1567.4
42.5°	1431.9	1435.9	1477.8	1491.4	1469.7
45°	1332.7	1357.6	1380.1	1415.7	1382.1
47.5°	1248.3	1259.9	1308.4	1318.0	1300.3
50°	1171.7	1175.7	1224.6	1212.7	1201.2
52.5°	1075.4	1092.5	1119.9	1117.6	1104.0
55°	996.2	989.6	1015.6	1008.6	1008.3
57.5°	901.1	912.7	934.0	923.1	905.4
60°	812.1	812.3	820.1	807.7	805.4
62.5°	712.9	716.4	718.1	702.8	727.6
65°	612.0	603.9	627.6	603.6	607.7
67.5°	519.2	523.3	520.9	505.9	511.7
70°	425.0	430.2	426.4	409.4	414.6
72.5°	338.8	332.5	336.5	315.1	324.9
75°	254.7	249.5	254.1	236.2	244.3
77.5°	173.5	177.5	174.6	165.1	170.6
80°	114.5	111.3	111.3	105.8	107.0
82.5°	66.8	63.6	62.7	61.0	63.6
85°	31.2	30.4	30.9	30.1	28.9
87.5°	11.3	11.6	11.6	11.0	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)