

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: P589540

Luminaire Tested: **FMR-24-2-LD4-3STD-50-UNV-81-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589540  
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-81-97-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

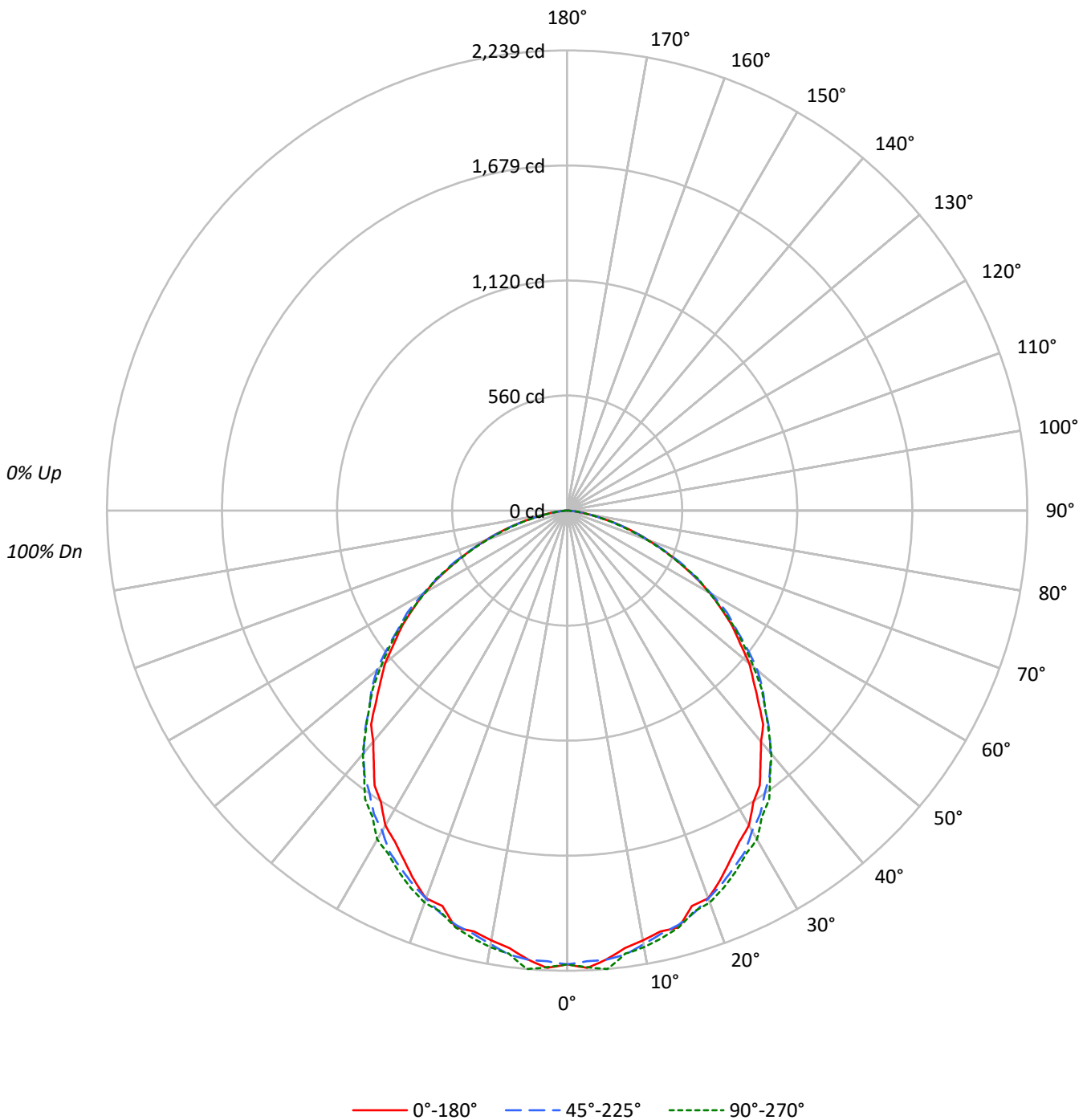
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5565.0 lumens  
Efficiency: N/A  
Efficacy: 111.3 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°	5942	5942	5942
5°	5922	5924	6049
10°	5802	5853	5894
15°	5848	5816	5849
20°	5749	5749	5810
25°	5573	5694	5757
30°	5496	5592	5741
35°	5367	5507	5631
40°	5158	5406	5430
45°	5002	5179	5187
50°	4837	5056	4959
55°	4609	4699	4665
60°	4310	4353	4275
65°	3843	3941	3816
70°	3297	3308	3216
75°	2612	2606	2505
80°	1750	1702	1635
85°	951	942	880



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.7	3.7
10°-20°	588.6	10.6
20°-30°	881.9	15.8
30°-40°	1045.2	18.8
40°-50°	1047.2	18.8
50°-60°	888.9	16.0
60°-70°	599.3	10.8
70°-80°	263.3	4.7
80°-90°	42.8	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°	1678.3	30.2
0°-40°	2723.5	48.9
0°-60°	4659.6	83.7
0°-90°	5565.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5565.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2208	2208	2208	2208	2208	
5°	2192	2187	2193	2187	2239	207
15°	2099	2075	2088	2099	2099	585
25°	1877	1887	1918	1943	1939	868
35°	1634	1638	1676	1715	1714	1014
45°	1314	1339	1361	1396	1363	1017
55°	982	976	1002	995	994	874
65°	604	596	619	595	599	600
75°	251	246	251	233	241	269
85°	31	30	30	30	28	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2208.1	2208.1	2208.1	2208.1	2208.1
2.5°	2227.2	2210.3	2194.7	2212.9	2224.0
5°	2192.4	2187.2	2193.2	2186.7	2239.4
7.5°	2147.3	2167.0	2178.4	2171.3	2174.4
10°	2123.4	2116.5	2141.9	2159.6	2157.0
12.5°	2097.7	2108.0	2109.4	2128.5	2130.2
15°	2099.1	2074.9	2087.7	2098.6	2099.4
17.5°	2017.6	2043.8	2052.7	2077.5	2046.7
20°	2007.6	1988.5	2007.6	2033.0	2029.0
22.5°	1946.3	1925.0	1966.0	1988.5	1987.1
25°	1876.8	1887.0	1917.8	1942.9	1938.9
27.5°	1815.8	1827.7	1871.6	1906.1	1883.9
30°	1768.7	1762.7	1799.8	1830.6	1847.7
32.5°	1684.6	1706.3	1749.6	1780.1	1763.9
35°	1633.6	1638.4	1676.4	1715.1	1714.0
37.5°	1544.4	1566.9	1620.2	1631.0	1621.0
40°	1468.2	1490.8	1538.9	1550.6	1545.8
42.5°	1412.1	1416.1	1457.4	1470.8	1449.4
45°	1314.3	1338.8	1361.0	1396.1	1363.0
47.5°	1231.0	1242.4	1290.3	1299.7	1282.4
50°	1155.5	1159.5	1207.7	1196.0	1184.6
52.5°	1060.5	1077.4	1104.5	1102.2	1088.8
55°	982.4	975.9	1001.5	994.7	994.4
57.5°	888.6	900.0	921.1	910.3	892.9
60°	800.8	801.1	808.8	796.6	794.3
62.5°	703.0	706.5	708.2	693.1	717.6
65°	603.5	595.6	618.9	595.3	599.3
67.5°	512.0	516.0	513.7	498.9	504.6
70°	419.1	424.2	420.5	403.7	408.8
72.5°	334.1	327.9	331.8	310.8	320.4
75°	251.2	246.0	250.6	232.9	240.9
77.5°	171.1	175.0	172.2	162.8	168.2
80°	112.9	109.8	109.8	104.3	105.5
82.5°	65.9	62.7	61.9	60.2	62.7
85°	30.8	29.9	30.5	29.6	28.5
87.5°	11.1	11.4	11.4	10.8	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)