

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: P589669

Luminaire Tested: **FMR-24-2-LD4-4LO-35-UNV-82-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589669  
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-35-UNV-82-84-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

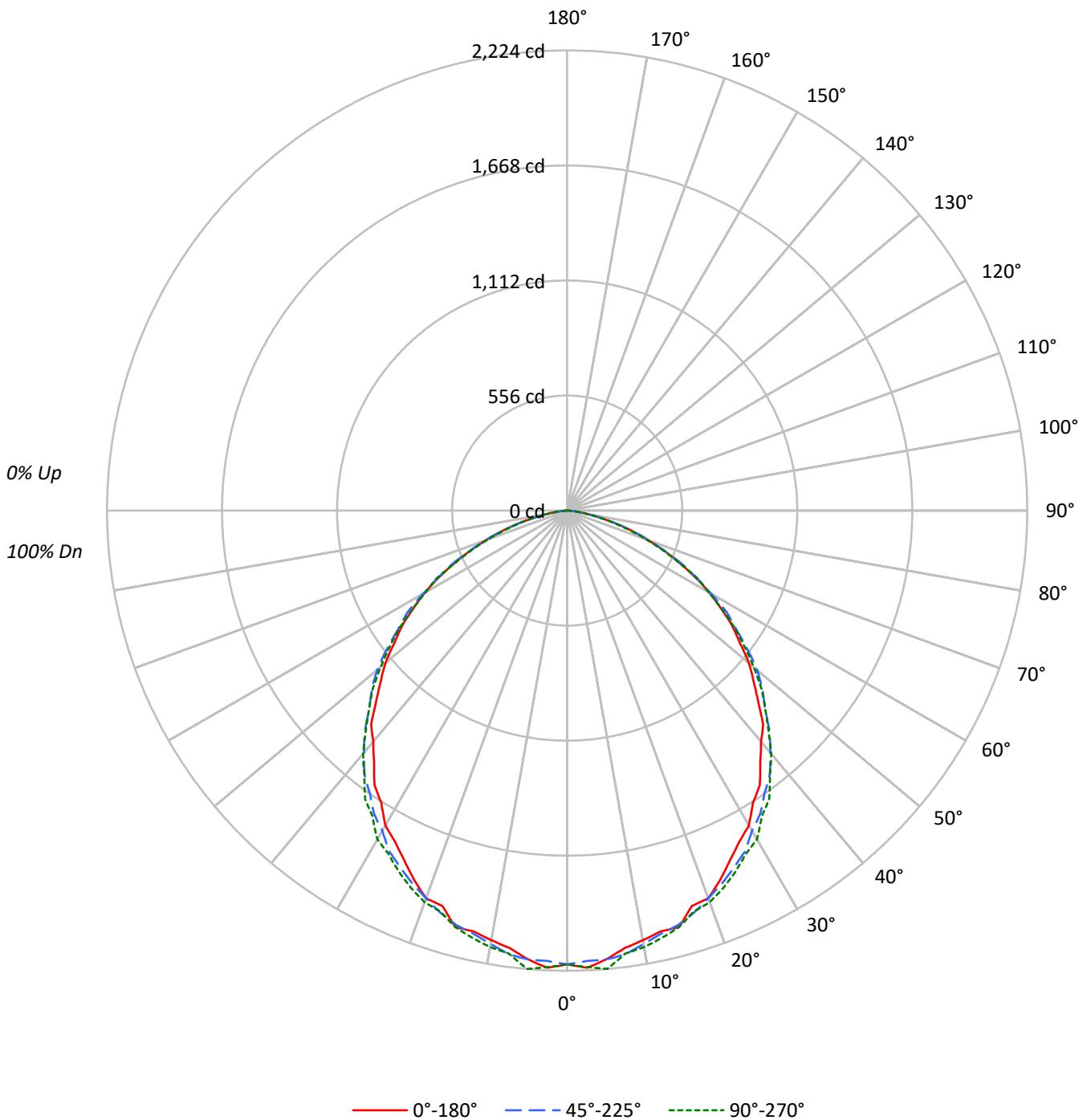
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5526.0 lumens  
Efficiency: N/A  
Efficacy: 118.1 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				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°	5900	5900	5900
5°	5881	5883	6007
10°	5761	5812	5853
15°	5807	5775	5808
20°	5709	5709	5770
25°	5533	5654	5717
30°	5457	5553	5701
35°	5329	5468	5591
40°	5121	5368	5392
45°	4967	5143	5151
50°	4803	5020	4924
55°	4577	4666	4632
60°	4280	4322	4245
65°	3816	3913	3789
70°	3275	3286	3194
75°	2593	2587	2487
80°	1737	1689	1623
85°	945	936	874



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.2	3.7
10°-20°	584.5	10.6
20°-30°	875.7	15.8
30°-40°	1037.9	18.8
40°-50°	1039.8	18.8
50°-60°	882.6	16.0
60°-70°	595.1	10.8
70°-80°	261.5	4.7
80°-90°	42.5	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°	1666.5	30.2
0°-40°	2704.4	48.9
0°-60°	4626.9	83.7
0°-90°	5526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5526.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2193	2193	2193	2193	2193	
5°	2177	2172	2178	2171	2224	205
15°	2084	2060	2073	2084	2085	581
25°	1864	1874	1904	1929	1925	862
35°	1622	1627	1665	1703	1702	1007
45°	1305	1329	1352	1386	1354	1010
55°	976	969	994	988	987	868
65°	599	591	615	591	595	596
75°	249	244	249	231	239	267
85°	31	30	30	29	28	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2192.6	2192.6	2192.6	2192.6	2192.6
2.5°	2211.5	2194.8	2179.3	2197.4	2208.4
5°	2177.0	2171.9	2177.9	2171.3	2223.7
7.5°	2132.3	2151.8	2163.1	2156.1	2159.2
10°	2108.5	2101.7	2126.9	2144.5	2141.9
12.5°	2083.0	2093.2	2094.6	2113.6	2115.3
15°	2084.4	2060.4	2073.1	2083.9	2084.7
17.5°	2003.5	2029.5	2038.3	2062.9	2032.3
20°	1993.6	1974.6	1993.6	2018.8	2014.8
22.5°	1932.7	1911.5	1952.2	1974.6	1973.2
25°	1863.6	1873.8	1904.4	1929.3	1925.3
27.5°	1803.0	1814.9	1858.5	1892.8	1870.7
30°	1756.3	1750.4	1787.2	1817.8	1834.7
32.5°	1672.8	1694.3	1737.4	1767.7	1751.5
35°	1622.1	1627.0	1664.6	1703.1	1702.0
37.5°	1533.5	1555.9	1608.8	1619.6	1609.7
40°	1457.9	1480.3	1528.2	1539.8	1534.9
42.5°	1402.2	1406.1	1447.2	1460.5	1439.3
45°	1305.1	1329.4	1351.5	1386.3	1353.5
47.5°	1222.4	1233.7	1281.3	1290.6	1273.4
50°	1147.4	1151.4	1199.2	1187.6	1176.3
52.5°	1053.1	1069.8	1096.7	1094.4	1081.1
55°	975.5	969.0	994.5	987.7	987.4
57.5°	882.4	893.7	914.7	903.9	886.7
60°	795.2	795.5	803.1	791.0	788.7
62.5°	698.1	701.5	703.2	688.2	712.6
65°	599.3	591.4	614.6	591.1	595.1
67.5°	508.4	512.4	510.1	495.4	501.1
70°	416.2	421.2	417.6	400.9	406.0
72.5°	331.8	325.6	329.5	308.6	318.2
75°	249.4	244.3	248.8	231.3	239.2
77.5°	169.9	173.8	171.0	161.6	167.0
80°	112.1	109.0	109.0	103.6	104.7
82.5°	65.4	62.3	61.4	59.7	62.3
85°	30.6	29.7	30.3	29.4	28.3
87.5°	11.0	11.3	11.3	10.8	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)