

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: P589695

Luminaire Tested: **FMR-24-2-LD4-4LO-40-UNV-81-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589695  
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-81-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

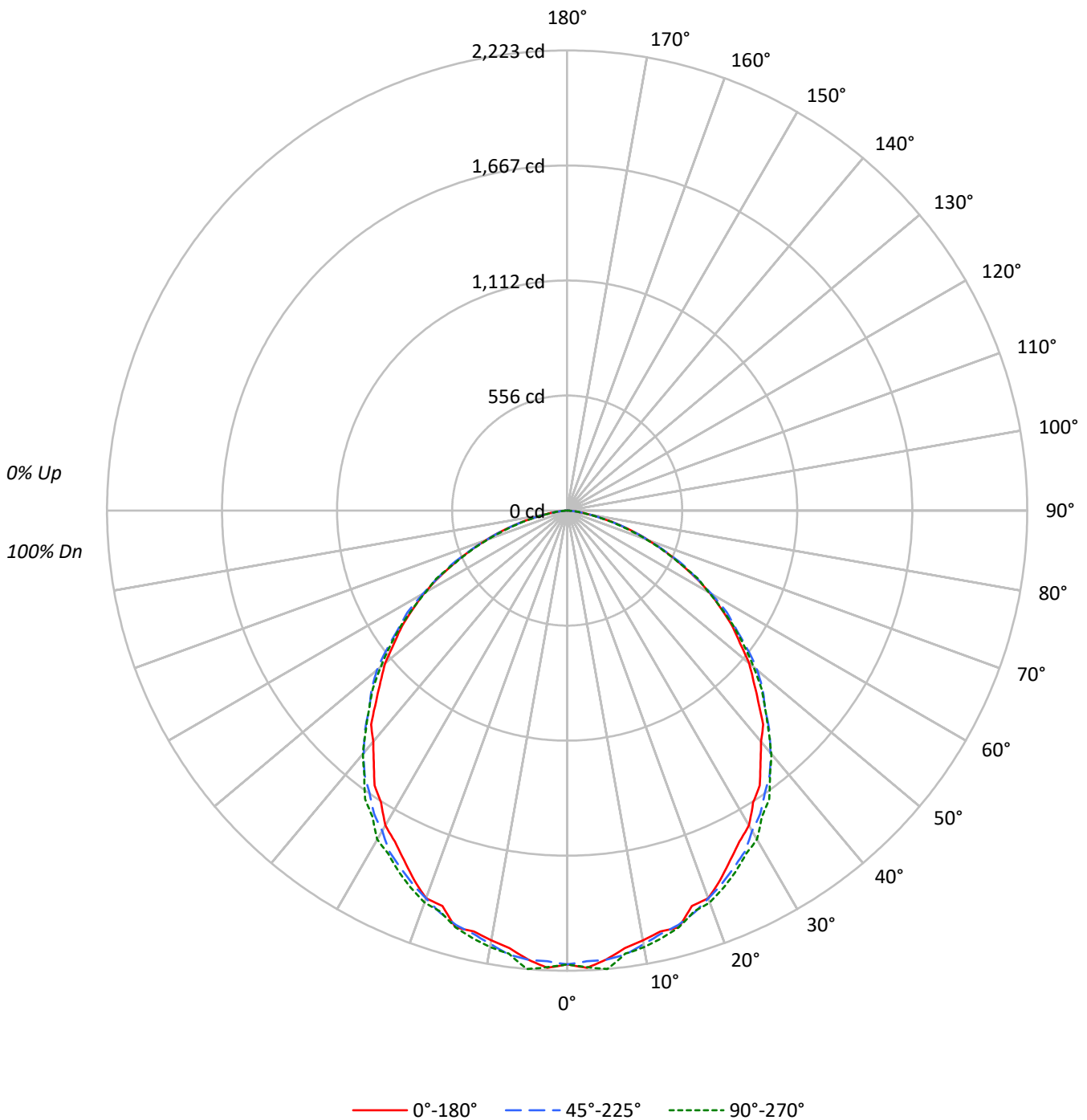
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5525.0 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°	5899	5899	5899
5°	5880	5882	6006
10°	5760	5811	5852
15°	5806	5774	5807
20°	5708	5708	5769
25°	5532	5653	5716
30°	5456	5552	5700
35°	5328	5467	5590
40°	5121	5367	5391
45°	4966	5143	5150
50°	4803	5020	4924
55°	4576	4665	4632
60°	4279	4322	4244
65°	3815	3913	3789
70°	3274	3285	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°	584.4	10.6
20°-30°	875.6	15.8
30°-40°	1037.7	18.8
40°-50°	1039.7	18.8
50°-60°	882.5	16.0
60°-70°	595.0	10.8
70°-80°	261.4	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°	1666.2	30.2
0°-40°	2703.9	48.9
0°-60°	4626.1	83.7
0°-90°	5525.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5525.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2192	2192	2192	2192	2192	
5°	2177	2172	2178	2171	2223	205
15°	2084	2060	2073	2084	2084	581
25°	1863	1874	1904	1929	1925	861
35°	1622	1627	1664	1703	1702	1007
45°	1305	1329	1351	1386	1353	1009
55°	975	969	994	988	987	868
65°	599	591	614	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°	2192.2	2192.2	2192.2	2192.2	2192.2
2.5°	2211.1	2194.4	2178.9	2197.0	2208.0
5°	2176.6	2171.5	2177.5	2171.0	2223.3
7.5°	2131.9	2151.4	2162.7	2155.7	2158.8
10°	2108.1	2101.3	2126.5	2144.1	2141.5
12.5°	2082.6	2092.8	2094.2	2113.2	2114.9
15°	2084.1	2060.0	2072.7	2083.5	2084.3
17.5°	2003.1	2029.1	2037.9	2062.5	2032.0
20°	1993.2	1974.2	1993.2	2018.4	2014.4
22.5°	1932.3	1911.1	1951.9	1974.2	1972.8
25°	1863.3	1873.5	1904.0	1928.9	1925.0
27.5°	1802.7	1814.6	1858.2	1892.4	1870.4
30°	1756.0	1750.1	1786.9	1817.4	1834.4
32.5°	1672.5	1694.0	1737.0	1767.3	1751.2
35°	1621.8	1626.7	1664.3	1702.8	1701.7
37.5°	1533.3	1555.6	1608.5	1619.3	1609.4
40°	1457.7	1480.0	1527.9	1539.5	1534.7
42.5°	1401.9	1405.9	1446.9	1460.2	1439.0
45°	1304.8	1329.2	1351.3	1386.1	1353.2
47.5°	1222.2	1233.5	1281.1	1290.4	1273.1
50°	1147.2	1151.1	1199.0	1187.4	1176.1
52.5°	1052.9	1069.6	1096.5	1094.3	1080.9
55°	975.4	968.9	994.3	987.5	987.3
57.5°	882.3	893.6	914.5	903.8	886.5
60°	795.1	795.4	803.0	790.8	788.6
62.5°	698.0	701.4	703.1	688.1	712.4
65°	599.2	591.3	614.5	591.0	595.0
67.5°	508.3	512.3	510.0	495.3	501.0
70°	416.1	421.2	417.5	400.8	405.9
72.5°	331.7	325.5	329.5	308.5	318.1
75°	249.4	244.3	248.8	231.2	239.2
77.5°	169.8	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)