

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: P589543

Luminaire Tested: **FMR-24-2-LD4-3STD-50-UNV-82-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589543  
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-82-86-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

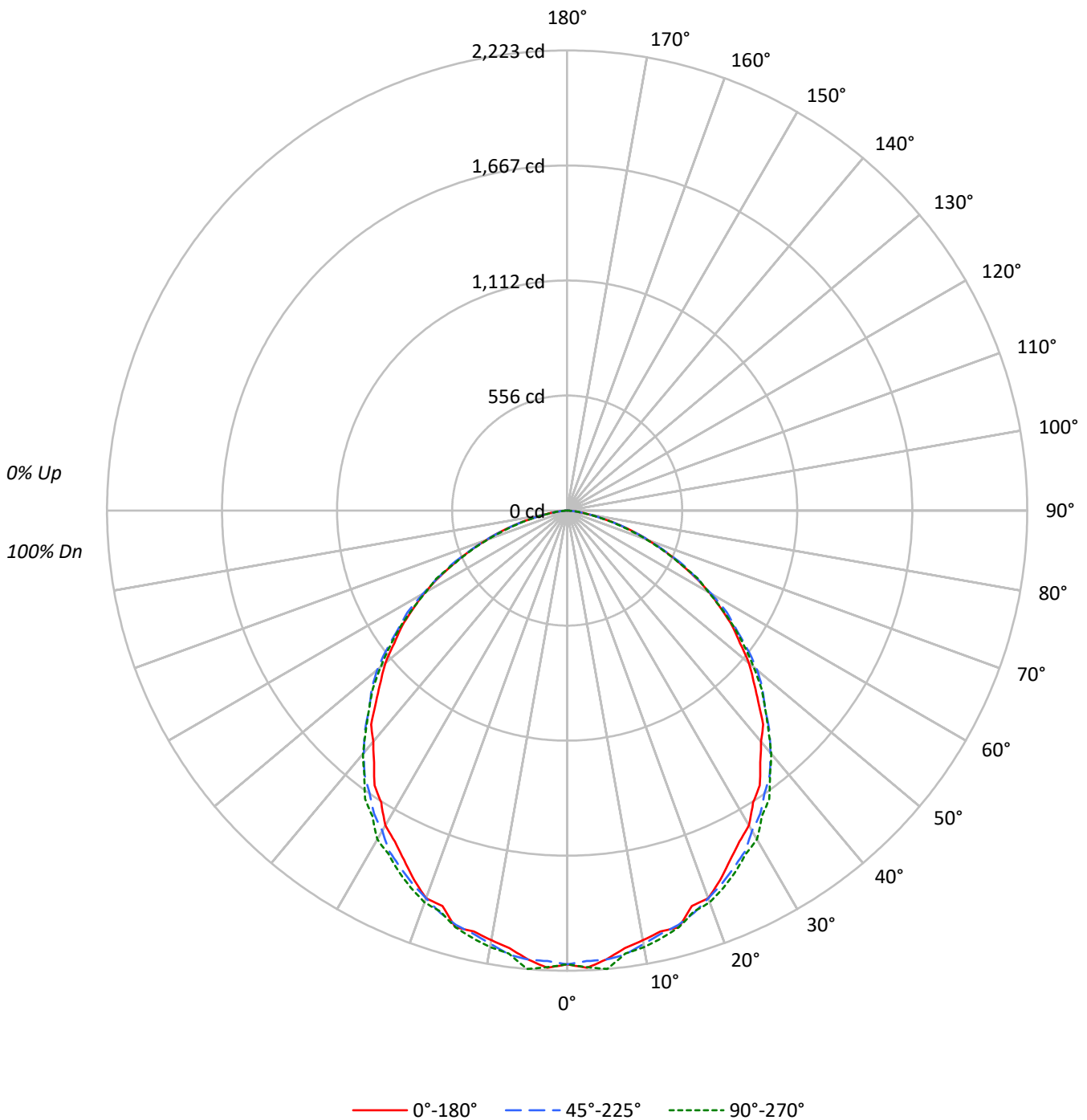
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5524.0 lumens  
Efficiency: N/A  
Efficacy: 110.5 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°	5898	5898	5898
5°	5878	5881	6005
10°	5759	5810	5851
15°	5805	5774	5806
20°	5707	5707	5768
25°	5531	5652	5714
30°	5455	5551	5699
35°	5327	5466	5589
40°	5120	5366	5390
45°	4965	5141	5149
50°	4802	5019	4922
55°	4575	4664	4631
60°	4278	4321	4243
65°	3815	3912	3788
70°	3273	3284	3193
75°	2592	2587	2486
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°	584.3	10.6
20°-30°	875.4	15.8
30°-40°	1037.6	18.8
40°-50°	1039.5	18.8
50°-60°	882.3	16.0
60°-70°	594.9	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°	1665.9	30.2
0°-40°	2703.5	48.9
0°-60°	4625.3	83.7
0°-90°	5524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5524.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2192	2192	2192	2192	2192	
5°	2176	2171	2177	2171	2223	205
15°	2084	2060	2072	2083	2084	581
25°	1863	1873	1904	1929	1925	861
35°	1622	1626	1664	1702	1701	1007
45°	1305	1329	1351	1386	1353	1009
55°	975	969	994	987	987	867
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°	2191.8	2191.8	2191.8	2191.8	2191.8
2.5°	2210.7	2194.0	2178.5	2196.6	2207.6
5°	2176.2	2171.1	2177.1	2170.6	2222.9
7.5°	2131.5	2151.0	2162.4	2155.3	2158.4
10°	2107.7	2100.9	2126.1	2143.7	2141.1
12.5°	2082.3	2092.5	2093.9	2112.8	2114.5
15°	2083.7	2059.6	2072.4	2083.1	2084.0
17.5°	2002.7	2028.8	2037.6	2062.2	2031.6
20°	1992.8	1973.9	1992.8	2018.0	2014.1
22.5°	1932.0	1910.8	1951.5	1973.9	1972.5
25°	1862.9	1873.1	1903.7	1928.6	1924.6
27.5°	1802.4	1814.3	1857.9	1892.1	1870.0
30°	1755.7	1749.7	1786.5	1817.1	1834.1
32.5°	1672.2	1693.7	1736.7	1767.0	1750.9
35°	1621.6	1626.4	1664.0	1702.5	1701.4
37.5°	1533.0	1555.3	1608.3	1619.0	1609.1
40°	1457.4	1479.8	1527.6	1539.2	1534.4
42.5°	1401.7	1405.6	1446.7	1460.0	1438.7
45°	1304.6	1328.9	1351.0	1385.8	1353.0
47.5°	1222.0	1233.3	1280.8	1290.2	1272.9
50°	1147.0	1150.9	1198.8	1187.2	1175.8
52.5°	1052.7	1069.4	1096.3	1094.1	1080.8
55°	975.2	968.7	994.2	987.4	987.1
57.5°	882.1	893.4	914.4	903.6	886.3
60°	794.9	795.2	802.9	790.7	788.4
62.5°	697.9	701.3	703.0	688.0	712.3
65°	599.1	591.2	614.4	590.9	594.9
67.5°	508.3	512.2	510.0	495.2	500.9
70°	416.0	421.1	417.4	400.7	405.8
72.5°	331.7	325.4	329.4	308.5	318.1
75°	249.3	244.2	248.8	231.2	239.1
77.5°	169.8	173.8	170.9	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)