

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: P589733

Luminaire Tested: **FMR-24-2-LD4-4LO-50-UNV-82-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589733  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

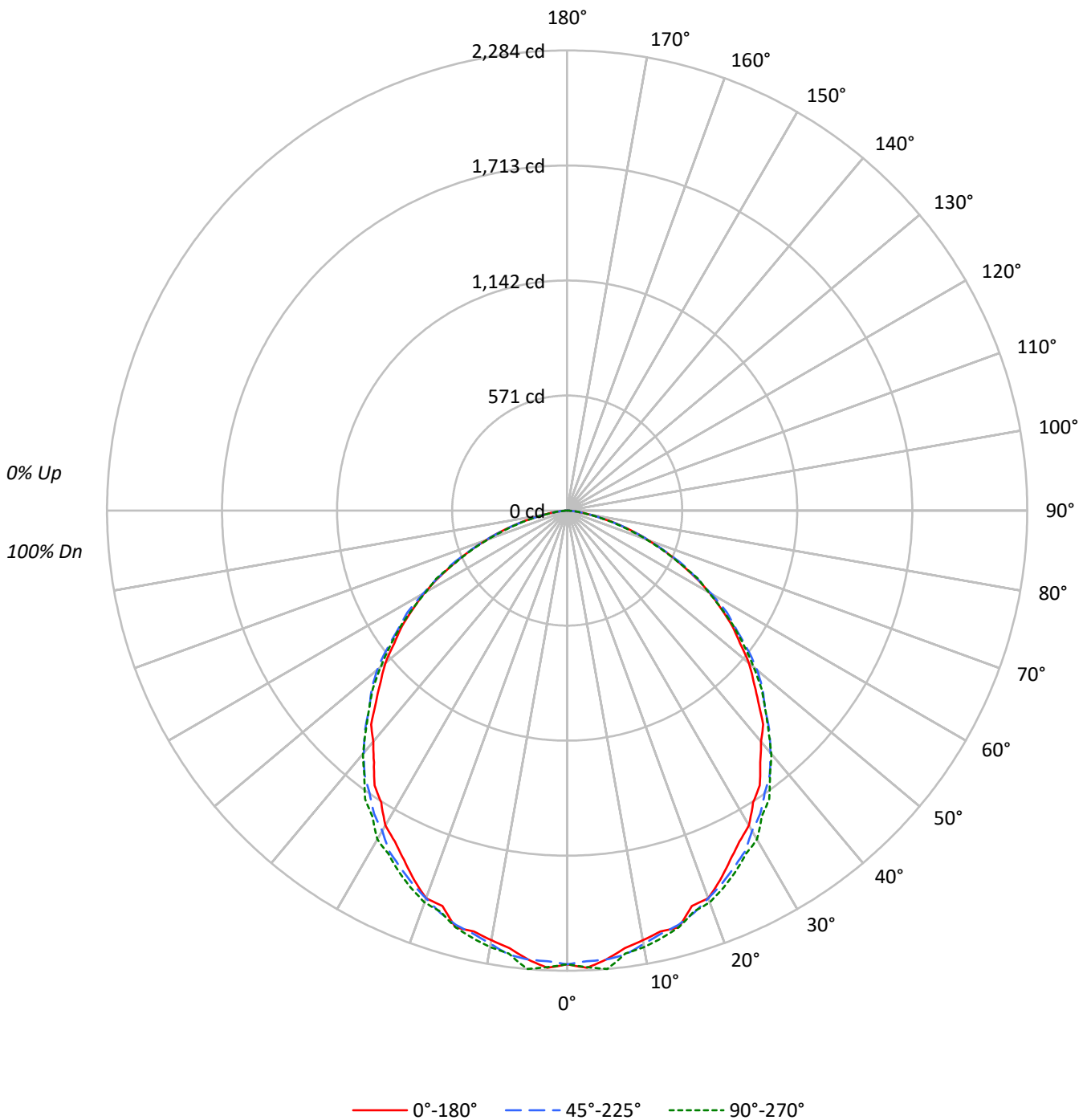
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5676.0 lumens  
Efficiency: N/A  
Efficacy: 121.3 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): 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	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					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6060	6060	6060
5°	6040	6043	6170
10°	5918	5969	6011
15°	5965	5932	5965
20°	5864	5864	5926
25°	5684	5808	5872
30°	5606	5704	5856
35°	5474	5617	5743
40°	5260	5514	5538
45°	5101	5283	5291
50°	4934	5156	5058
55°	4701	4792	4758
60°	4396	4440	4360
65°	3920	4020	3892
70°	3363	3375	3281
75°	2664	2658	2555
80°	1784	1736	1667
85°	969	960	898



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	211.8	3.7
10°-20°	600.4	10.6
20°-30°	899.5	15.8
30°-40°	1066.1	18.8
40°-50°	1068.1	18.8
50°-60°	906.6	16.0
60°-70°	611.2	10.8
70°-80°	268.6	4.7
80°-90°	43.6	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°	1711.7	30.2
0°-40°	2777.8	48.9
0°-60°	4752.5	83.7
0°-90°	5676.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5676.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2252	2252	2252	2252	2252	
5°	2236	2231	2237	2230	2284	211
15°	2141	2116	2129	2140	2141	597
25°	1914	1925	1956	1982	1978	885
35°	1666	1671	1710	1749	1748	1035
45°	1340	1366	1388	1424	1390	1037
55°	1002	995	1022	1014	1014	891
65°	616	607	631	607	611	612
75°	256	251	256	238	246	275
85°	31	30	31	30	29	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2252.1	2252.1	2252.1	2252.1	2252.1
2.5°	2271.6	2254.4	2238.4	2257.0	2268.4
5°	2236.1	2230.9	2237.0	2230.3	2284.1
7.5°	2190.2	2210.2	2221.9	2214.6	2217.8
10°	2165.7	2158.8	2184.6	2202.7	2200.0
12.5°	2139.6	2150.0	2151.5	2171.0	2172.7
15°	2141.0	2116.3	2129.4	2140.4	2141.3
17.5°	2057.9	2084.6	2093.6	2118.9	2087.5
20°	2047.7	2028.2	2047.7	2073.6	2069.5
22.5°	1985.2	1963.3	2005.2	2028.2	2026.7
25°	1914.2	1924.7	1956.1	1981.7	1977.6
27.5°	1852.0	1864.2	1909.0	1944.2	1921.5
30°	1804.0	1797.9	1835.7	1867.1	1884.5
32.5°	1718.2	1740.3	1784.5	1815.6	1799.1
35°	1666.2	1671.1	1709.8	1749.3	1748.2
37.5°	1575.2	1598.1	1652.5	1663.6	1653.4
40°	1497.5	1520.5	1569.6	1581.6	1576.6
42.5°	1440.2	1444.3	1486.5	1500.1	1478.3
45°	1340.5	1365.5	1388.2	1424.0	1390.2
47.5°	1255.6	1267.2	1316.1	1325.7	1307.9
50°	1178.5	1182.6	1231.7	1219.8	1208.2
52.5°	1081.7	1098.9	1126.5	1124.2	1110.5
55°	1002.0	995.3	1021.5	1014.5	1014.2
57.5°	906.4	918.0	939.5	928.5	910.7
60°	816.8	817.1	824.9	812.4	810.1
62.5°	717.1	720.6	722.3	706.9	731.9
65°	615.6	607.4	631.3	607.1	611.2
67.5°	522.2	526.3	524.0	508.9	514.7
70°	427.4	432.7	428.9	411.7	417.0
72.5°	340.8	334.4	338.5	317.0	326.8
75°	256.2	250.9	255.6	237.6	245.7
77.5°	174.5	178.5	175.6	166.0	171.6
80°	115.1	112.0	112.0	106.4	107.6
82.5°	67.2	64.0	63.1	61.4	64.0
85°	31.4	30.5	31.1	30.2	29.1
87.5°	11.3	11.6	11.6	11.0	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)