

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: P589545

Luminaire Tested: **FMR-24-2-LD4-3STD-50-UNV-82-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589545  
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-82-88-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

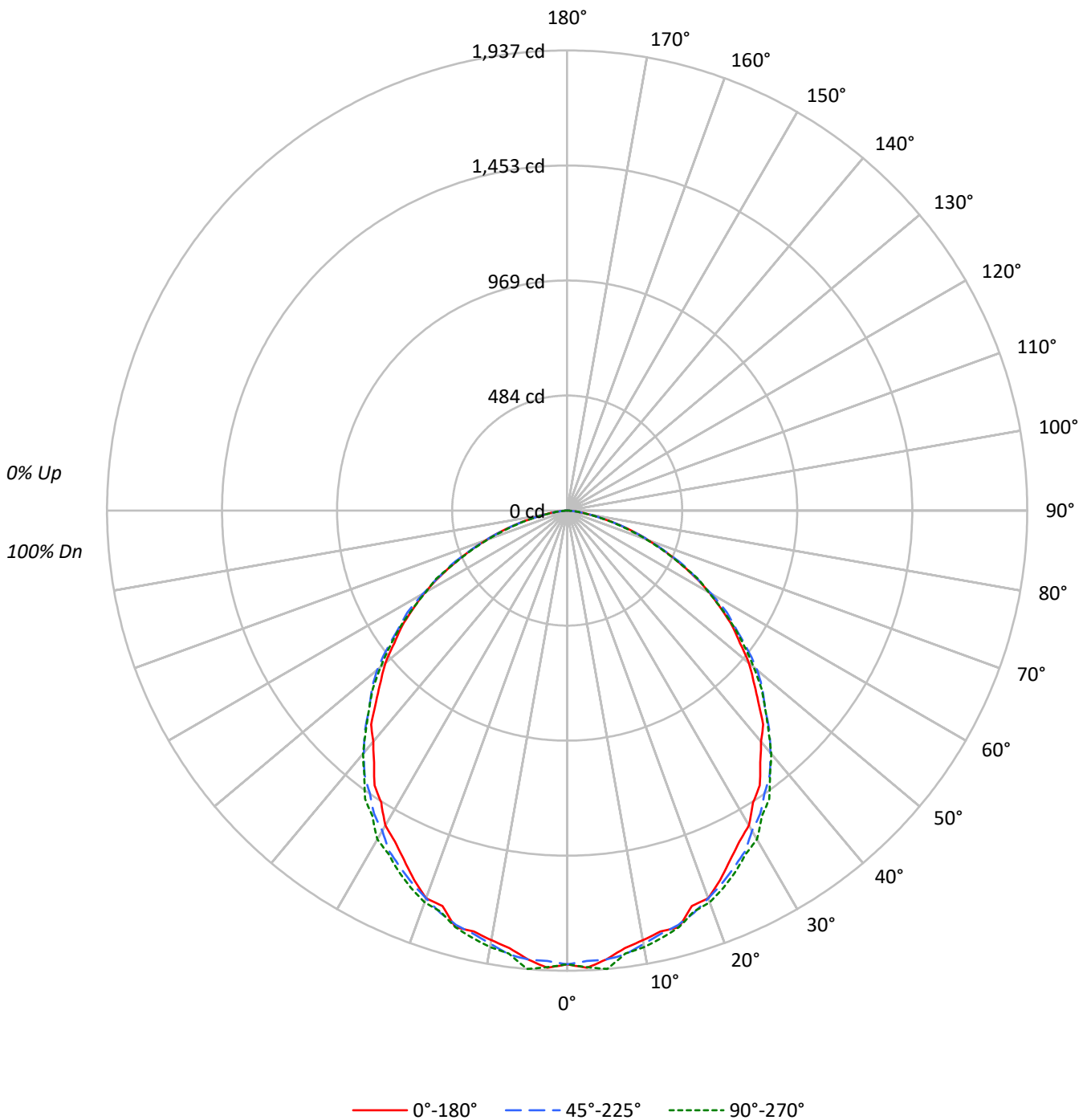
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4813.0 lumens  
Efficiency: N/A  
Efficacy: 96.3 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°	5139	5139	5139
5°	5122	5124	5232
10°	5018	5062	5097
15°	5058	5030	5058
20°	4972	4972	5025
25°	4820	4925	4979
30°	4753	4837	4965
35°	4641	4763	4870
40°	4461	4676	4696
45°	4326	4480	4486
50°	4183	4373	4289
55°	3986	4064	4035
60°	3728	3765	3697
65°	3324	3408	3300
70°	2852	2862	2782
75°	2258	2253	2167
80°	1512	1471	1413
85°	821	815	763



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.6	3.7
10°-20°	509.1	10.6
20°-30°	762.7	15.8
30°-40°	904.0	18.8
40°-50°	905.7	18.8
50°-60°	768.8	16.0
60°-70°	518.3	10.8
70°-80°	227.7	4.7
80°-90°	37.0	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°	1451.5	30.2
0°-40°	2355.5	48.9
0°-60°	4029.9	83.7
0°-90°	4813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4813.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1910	1910	1910	1910	1910	
5°	1896	1892	1897	1891	1937	179
15°	1816	1794	1806	1815	1816	506
25°	1623	1632	1659	1680	1677	750
35°	1413	1417	1450	1483	1482	877
45°	1137	1158	1177	1207	1179	879
55°	850	844	866	860	860	756
65°	522	515	535	515	518	519
75°	217	213	217	201	208	233
85°	27	26	26	26	25	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1909.7	1909.7	1909.7	1909.7	1909.7
2.5°	1926.2	1911.6	1898.1	1913.9	1923.5
5°	1896.1	1891.7	1896.9	1891.2	1936.8
7.5°	1857.2	1874.2	1884.0	1877.9	1880.6
10°	1836.4	1830.5	1852.5	1867.8	1865.5
12.5°	1814.3	1823.1	1824.4	1840.9	1842.4
15°	1815.5	1794.5	1805.6	1815.0	1815.7
17.5°	1745.0	1767.7	1775.3	1796.7	1770.1
20°	1736.3	1719.8	1736.3	1758.3	1754.8
22.5°	1683.3	1664.8	1700.3	1719.8	1718.6
25°	1623.2	1632.0	1658.7	1680.4	1676.9
27.5°	1570.4	1580.8	1618.7	1648.6	1629.3
30°	1529.7	1524.5	1556.6	1583.2	1598.0
32.5°	1457.0	1475.7	1513.2	1539.6	1525.5
35°	1412.8	1417.0	1449.8	1483.4	1482.4
37.5°	1335.7	1355.1	1401.3	1410.6	1402.0
40°	1269.8	1289.3	1331.0	1341.1	1336.9
42.5°	1221.3	1224.7	1260.5	1272.0	1253.6
45°	1136.7	1157.9	1177.1	1207.4	1178.8
47.5°	1064.7	1074.5	1116.0	1124.1	1109.1
50°	999.3	1002.8	1044.5	1034.4	1024.5
52.5°	917.2	931.8	955.2	953.2	941.6
55°	849.7	844.0	866.2	860.3	860.0
57.5°	768.6	778.4	796.7	787.3	772.3
60°	692.6	692.9	699.5	688.9	686.9
62.5°	608.0	611.0	612.5	599.4	620.6
65°	522.0	515.1	535.3	514.8	518.3
67.5°	442.8	446.3	444.3	431.5	436.4
70°	362.5	366.9	363.7	349.1	353.6
72.5°	289.0	283.6	287.0	268.8	277.1
75°	217.2	212.8	216.7	201.4	208.4
77.5°	147.9	151.4	148.9	140.8	145.5
80°	97.6	94.9	94.9	90.2	91.2
82.5°	57.0	54.2	53.5	52.0	54.2
85°	26.6	25.9	26.4	25.6	24.7
87.5°	9.6	9.9	9.9	9.4	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)