

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: P589054

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-81-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589054  
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-LD4-2HI-50-UNV-81-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

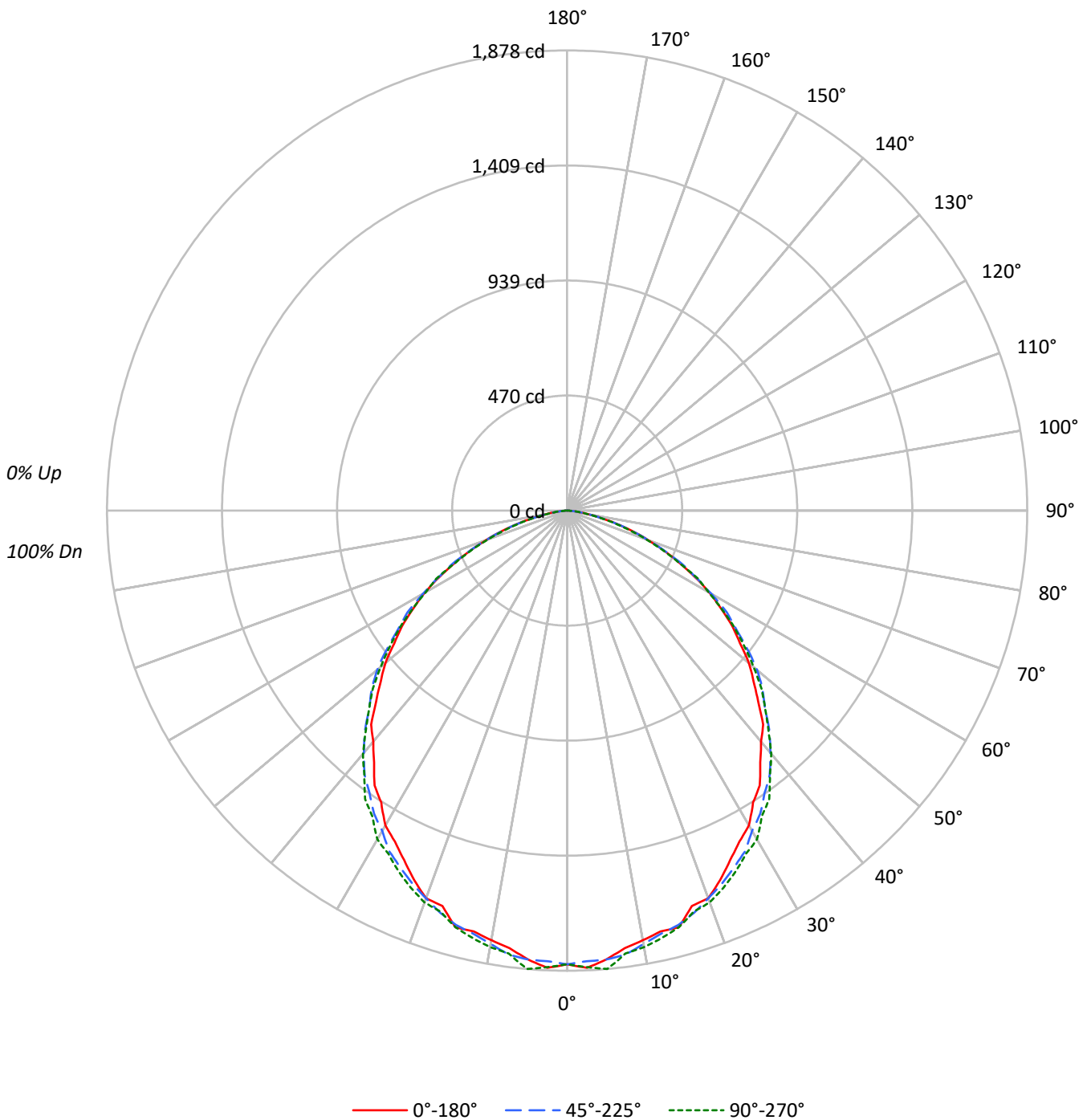
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4667.0 lumens  
Efficiency: N/A  
Efficacy: 108.0 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): 43.2  
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°	4983	4983	4983
5°	4967	4968	5073
10°	4866	4908	4943
15°	4904	4878	4905
20°	4822	4822	4873
25°	4673	4776	4828
30°	4609	4690	4815
35°	4501	4618	4722
40°	4325	4534	4554
45°	4195	4344	4350
50°	4057	4240	4159
55°	3865	3940	3912
60°	3615	3651	3585
65°	3223	3305	3200
70°	2766	2775	2698
75°	2190	2185	2100
80°	1468	1426	1371
85°	797	790	738



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.2	3.7
10°-20°	493.7	10.6
20°-30°	739.6	15.8
30°-40°	876.6	18.8
40°-50°	878.2	18.8
50°-60°	745.4	16.0
60°-70°	502.6	10.8
70°-80°	220.8	4.7
80°-90°	35.9	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°	1407.4	30.2
0°-40°	2284.0	48.9
0°-60°	3907.7	83.7
0°-90°	4667.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4667.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1852	1852	1852	1852	1852	
5°	1839	1834	1839	1834	1878	173
15°	1760	1740	1751	1760	1761	490
25°	1574	1582	1608	1629	1626	728
35°	1370	1374	1406	1438	1437	851
45°	1102	1123	1141	1171	1143	853
55°	824	818	840	834	834	733
65°	506	500	519	499	503	503
75°	211	206	210	195	202	226
85°	26	25	26	25	24	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1851.7	1851.7	1851.7	1851.7	1851.7
2.5°	1867.8	1853.7	1840.5	1855.8	1865.1
5°	1838.6	1834.3	1839.3	1833.8	1878.0
7.5°	1800.8	1817.3	1826.9	1820.9	1823.5
10°	1780.7	1775.0	1796.3	1811.1	1809.0
12.5°	1759.2	1767.8	1769.0	1785.0	1786.5
15°	1760.4	1740.1	1750.9	1759.9	1760.7
17.5°	1692.0	1714.0	1721.4	1742.2	1716.4
20°	1683.7	1667.6	1683.7	1704.9	1701.6
22.5°	1632.3	1614.3	1648.8	1667.6	1666.5
25°	1573.9	1582.5	1608.4	1629.4	1626.0
27.5°	1522.8	1532.8	1569.6	1598.6	1579.9
30°	1483.3	1478.3	1509.4	1535.2	1549.5
32.5°	1412.8	1431.0	1467.3	1492.9	1479.2
35°	1370.0	1374.0	1405.8	1438.4	1437.4
37.5°	1295.1	1314.0	1358.7	1367.8	1359.5
40°	1231.3	1250.2	1290.6	1300.4	1296.3
42.5°	1184.2	1187.6	1222.2	1233.5	1215.5
45°	1102.2	1122.8	1141.4	1170.8	1143.1
47.5°	1032.4	1042.0	1082.1	1090.0	1075.4
50°	969.0	972.4	1012.8	1003.0	993.4
52.5°	889.4	903.5	926.2	924.3	913.1
55°	823.9	818.4	839.9	834.2	833.9
57.5°	745.2	754.8	772.5	763.4	748.8
60°	671.6	671.8	678.3	668.0	666.1
62.5°	589.6	592.5	593.9	581.2	601.8
65°	506.2	499.5	519.1	499.2	502.6
67.5°	429.4	432.8	430.8	418.4	423.2
70°	351.5	355.8	352.7	338.6	342.9
72.5°	280.2	275.0	278.3	260.6	268.7
75°	210.6	206.3	210.2	195.3	202.0
77.5°	143.5	146.8	144.4	136.5	141.1
80°	94.7	92.0	92.0	87.5	88.5
82.5°	55.2	52.6	51.9	50.4	52.6
85°	25.8	25.1	25.6	24.9	23.9
87.5°	9.3	9.6	9.6	9.1	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)