

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: P589544

Luminaire Tested: **FMR-24-2-LD4-3STD-50-UNV-82-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589544  
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-82-87-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

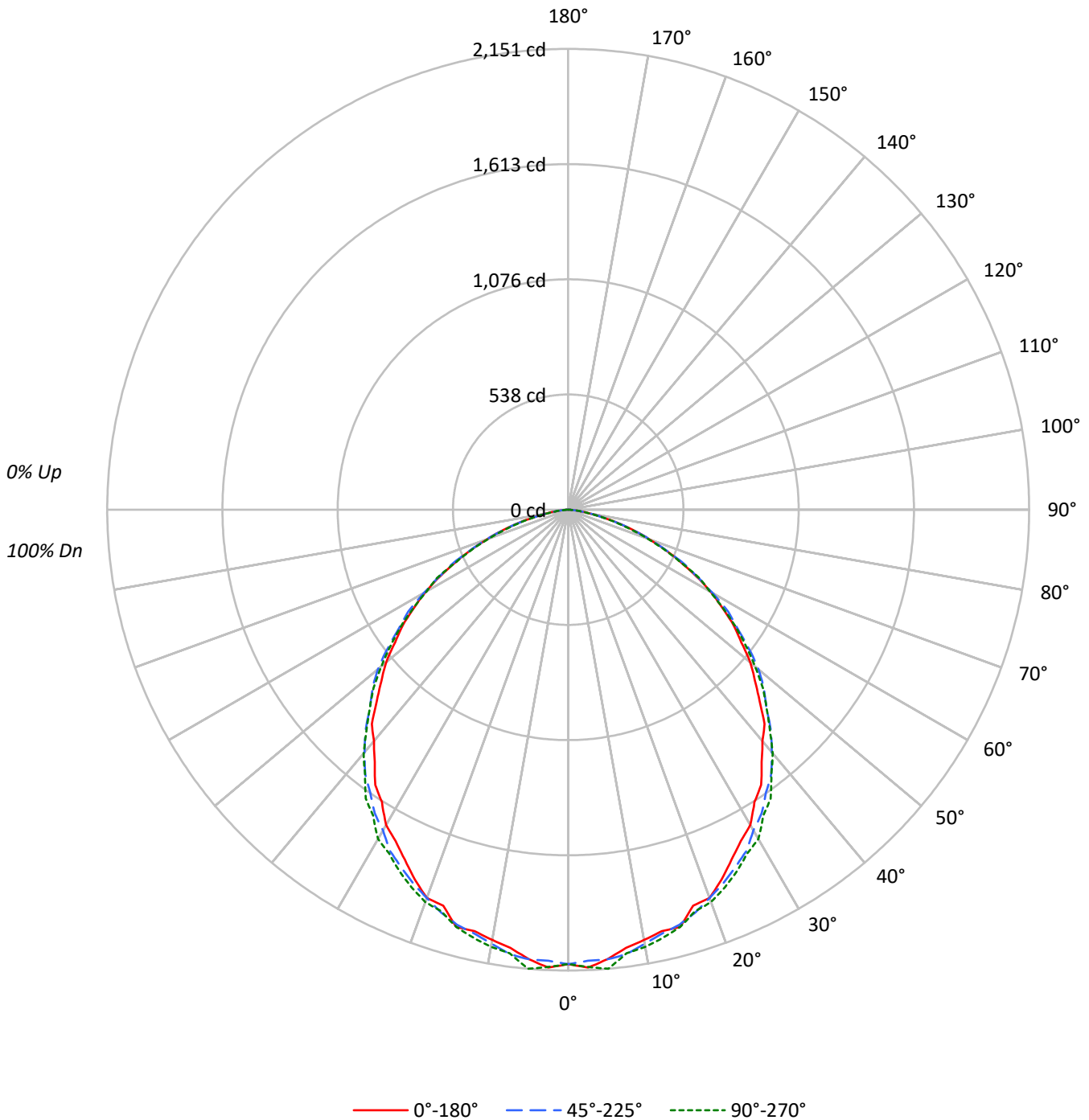
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5345.0 lumens  
Efficiency: N/A  
Efficacy: 106.9 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°	5707	5707	5707
5°	5688	5690	5810
10°	5573	5621	5661
15°	5617	5586	5618
20°	5522	5522	5581
25°	5352	5469	5529
30°	5279	5371	5514
35°	5154	5289	5408
40°	4954	5192	5215
45°	4804	4975	4982
50°	4646	4856	4763
55°	4427	4513	4481
60°	4140	4181	4106
65°	3691	3785	3665
70°	3167	3178	3090
75°	2508	2503	2406
80°	1680	1633	1570
85°	914	905	846



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	199.5	3.7
10°-20°	565.4	10.6
20°-30°	847.1	15.8
30°-40°	1003.9	18.8
40°-50°	1005.8	18.8
50°-60°	853.7	16.0
60°-70°	575.6	10.8
70°-80°	252.9	4.7
80°-90°	41.1	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°	1611.9	30.2
0°-40°	2615.8	48.9
0°-60°	4475.4	83.7
0°-90°	5345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5345.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2121	2121	2121	2121	2121	
5°	2106	2101	2106	2100	2151	199
15°	2016	1993	2005	2016	2016	562
25°	1803	1812	1842	1866	1862	833
35°	1569	1574	1610	1647	1646	974
45°	1262	1286	1307	1341	1309	976
55°	944	937	962	955	955	839
65°	580	572	594	572	576	577
75°	241	236	241	224	231	259
85°	30	29	29	28	27	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2120.8	2120.8	2120.8	2120.8	2120.8
2.5°	2139.1	2123.0	2107.9	2125.4	2136.1
5°	2105.7	2100.8	2106.5	2100.2	2150.9
7.5°	2062.4	2081.3	2092.3	2085.4	2088.4
10°	2039.4	2032.9	2057.2	2074.2	2071.7
12.5°	2014.8	2024.6	2026.0	2044.4	2046.0
15°	2016.2	1992.9	2005.2	2015.6	2016.4
17.5°	1937.8	1963.0	1971.5	1995.3	1965.8
20°	1928.3	1909.9	1928.3	1952.6	1948.8
22.5°	1869.4	1848.9	1888.3	1909.9	1908.5
25°	1802.6	1812.4	1842.0	1866.1	1862.3
27.5°	1744.0	1755.5	1797.6	1830.8	1809.4
30°	1698.8	1693.0	1728.6	1758.2	1774.6
32.5°	1618.0	1638.8	1680.5	1709.8	1694.1
35°	1569.0	1573.7	1610.1	1647.3	1646.2
37.5°	1483.3	1504.9	1556.1	1566.5	1557.0
40°	1410.2	1431.8	1478.1	1489.3	1484.7
42.5°	1356.2	1360.1	1399.8	1412.7	1392.1
45°	1262.3	1285.9	1307.2	1340.9	1309.1
47.5°	1182.4	1193.3	1239.3	1248.4	1231.7
50°	1109.8	1113.6	1159.9	1148.7	1137.7
52.5°	1018.6	1034.8	1060.8	1058.6	1045.7
55°	943.6	937.3	961.9	955.4	955.1
57.5°	853.5	864.5	884.7	874.3	857.6
60°	769.2	769.4	776.8	765.1	762.9
62.5°	675.2	678.5	680.2	665.7	689.2
65°	579.7	572.0	594.5	571.7	575.6
67.5°	491.8	495.6	493.4	479.2	484.7
70°	402.5	407.4	403.9	387.7	392.7
72.5°	320.9	314.9	318.7	298.5	307.8
75°	241.2	236.3	240.7	223.7	231.4
77.5°	164.3	168.1	165.4	156.4	161.6
80°	108.4	105.4	105.4	100.2	101.3
82.5°	63.3	60.2	59.4	57.8	60.2
85°	29.6	28.8	29.3	28.5	27.4
87.5°	10.7	11.0	11.0	10.4	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)