

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: P589678

Luminaire Tested: **FMR-24-2-LD4-4LO-35-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589678  
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-35-UNV-93-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

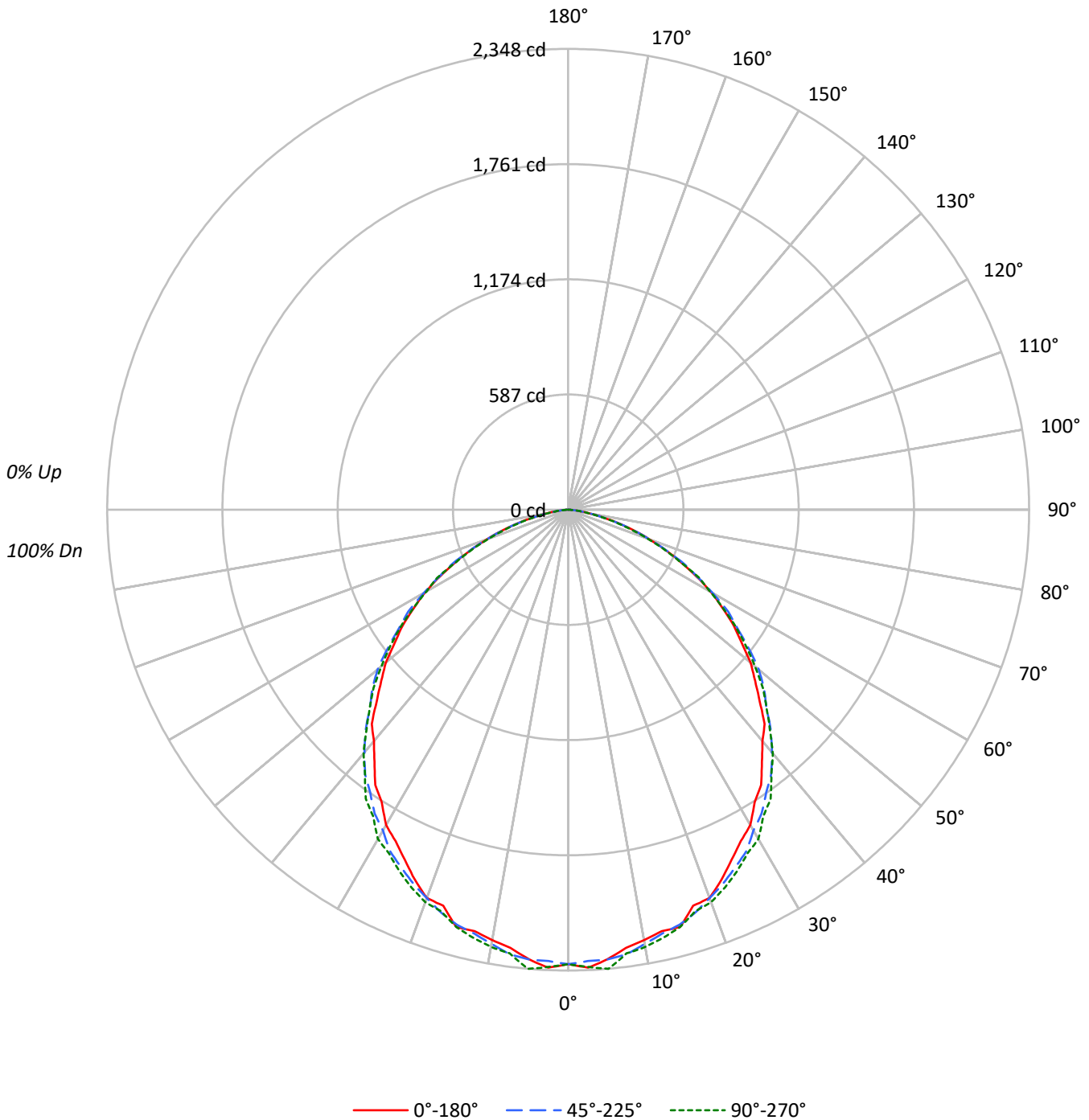
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5836.0 lumens  
Efficiency: N/A  
Efficacy: 124.7 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	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°	6231	6231	6231
5°	6210	6213	6344
10°	6085	6138	6181
15°	6133	6099	6134
20°	6029	6029	6093
25°	5844	5972	6037
30°	5764	5865	6021
35°	5628	5775	5905
40°	5409	5669	5695
45°	5245	5432	5440
50°	5073	5302	5200
55°	4834	4928	4892
60°	4520	4565	4483
65°	4030	4133	4001
70°	3458	3470	3373
75°	2739	2732	2626
80°	1835	1784	1714
85°	997	988	923



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.8	3.7
10°-20°	617.3	10.6
20°-30°	924.9	15.8
30°-40°	1096.2	18.8
40°-50°	1098.2	18.8
50°-60°	932.2	16.0
60°-70°	628.5	10.8
70°-80°	276.2	4.7
80°-90°	44.9	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°	1760.0	30.2
0°-40°	2856.1	48.9
0°-60°	4886.5	83.7
0°-90°	5836.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5836.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2316	2316	2316	2316	2316	
5°	2299	2294	2300	2293	2348	217
15°	2201	2176	2189	2201	2202	613
25°	1968	1979	2011	2038	2033	910
35°	1713	1718	1758	1799	1798	1064
45°	1378	1404	1427	1464	1429	1066
55°	1030	1023	1050	1043	1043	916
65°	633	625	649	624	628	629
75°	263	258	263	244	253	282
85°	32	31	32	31	30	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2315.6	2315.6	2315.6	2315.6	2315.6
2.5°	2335.6	2318.0	2301.5	2320.7	2332.3
5°	2299.1	2293.8	2300.0	2293.2	2348.5
7.5°	2251.9	2272.5	2284.5	2277.0	2280.3
10°	2226.8	2219.6	2246.2	2264.8	2262.1
12.5°	2199.9	2210.6	2212.1	2232.2	2234.0
15°	2201.4	2176.0	2189.4	2200.8	2201.7
17.5°	2115.9	2143.4	2152.6	2178.6	2146.4
20°	2105.4	2085.4	2105.4	2132.0	2127.8
22.5°	2041.1	2018.7	2061.7	2085.4	2083.9
25°	1968.2	1978.9	2011.2	2037.5	2033.3
27.5°	1904.2	1916.7	1962.8	1999.0	1975.6
30°	1854.9	1848.6	1887.4	1919.7	1937.7
32.5°	1766.7	1789.4	1834.8	1866.8	1849.8
35°	1713.1	1718.2	1758.0	1798.6	1797.5
37.5°	1619.6	1643.2	1699.1	1710.4	1700.0
40°	1539.7	1563.4	1613.9	1626.1	1621.1
42.5°	1480.8	1485.0	1528.4	1542.4	1520.0
45°	1378.3	1404.0	1427.3	1464.1	1429.4
47.5°	1291.0	1302.9	1353.2	1363.0	1344.8
50°	1211.8	1215.9	1266.5	1254.2	1242.2
52.5°	1112.2	1129.8	1158.2	1155.8	1141.8
55°	1030.3	1023.4	1050.3	1043.1	1042.8
57.5°	931.9	943.9	966.0	954.6	936.4
60°	839.8	840.1	848.2	835.3	833.0
62.5°	737.3	740.9	742.7	726.8	752.5
65°	632.9	624.6	649.1	624.3	628.4
67.5°	537.0	541.1	538.8	523.2	529.2
70°	439.5	444.9	441.0	423.4	428.7
72.5°	350.4	343.8	348.0	325.9	336.1
75°	263.4	258.0	262.8	244.3	252.6
77.5°	179.4	183.6	180.6	170.7	176.4
80°	118.4	115.1	115.1	109.4	110.6
82.5°	69.1	65.8	64.9	63.1	65.8
85°	32.3	31.4	32.0	31.1	29.9
87.5°	11.7	12.0	12.0	11.4	10.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)