

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: P589746

Luminaire Tested: **FMR-24-2-LD4-4LO-50-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589746  
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-93-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

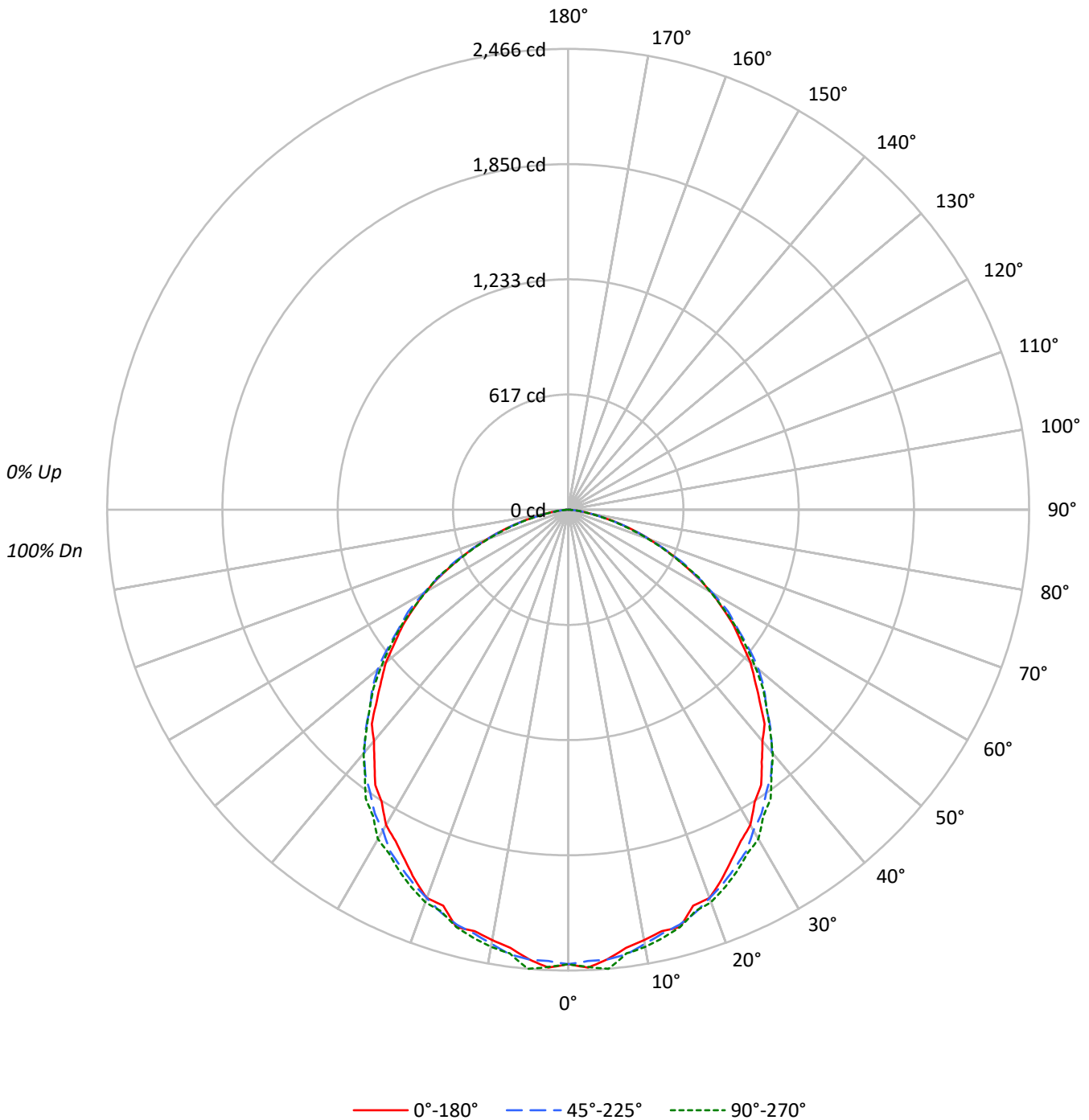
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6129.0 lumens  
Efficiency: N/A  
Efficacy: 131.0 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): 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°	6544	6544	6544
5°	6522	6525	6662
10°	6390	6446	6491
15°	6441	6406	6442
20°	6332	6332	6399
25°	6137	6271	6340
30°	6053	6159	6323
35°	5910	6065	6201
40°	5680	5954	5980
45°	5509	5705	5713
50°	5328	5568	5462
55°	5076	5175	5138
60°	4747	4794	4708
65°	4232	4341	4202
70°	3632	3644	3543
75°	2876	2870	2758
80°	1926	1874	1801
85°	1047	1037	969



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	228.7	3.7
10°-20°	648.3	10.6
20°-30°	971.3	15.8
30°-40°	1151.2	18.8
40°-50°	1153.3	18.8
50°-60°	979.0	16.0
60°-70°	660.0	10.8
70°-80°	290.0	4.7
80°-90°	47.1	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°	1848.4	30.2
0°-40°	2999.5	48.9
0°-60°	5131.8	83.7
0°-90°	6129.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6129.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2432	2432	2432	2432	2432	
5°	2415	2409	2416	2408	2466	228
15°	2312	2285	2299	2311	2312	644
25°	2067	2078	2112	2140	2135	956
35°	1799	1804	1846	1889	1888	1117
45°	1448	1474	1499	1538	1501	1120
55°	1082	1075	1103	1096	1095	962
65°	665	656	682	656	660	661
75°	277	271	276	256	265	296
85°	34	33	34	33	31	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2431.8	2431.8	2431.8	2431.8	2431.8
2.5°	2452.9	2434.3	2417.1	2437.2	2449.4
5°	2414.6	2408.9	2415.5	2408.3	2466.4
7.5°	2365.0	2386.6	2399.2	2391.3	2394.8
10°	2338.6	2331.0	2359.0	2378.5	2375.6
12.5°	2310.3	2321.6	2323.2	2344.2	2346.1
15°	2311.9	2285.2	2299.3	2311.3	2312.2
17.5°	2222.1	2251.0	2260.7	2288.0	2254.1
20°	2211.1	2190.1	2211.1	2239.0	2234.6
22.5°	2143.6	2120.0	2165.3	2190.1	2188.5
25°	2067.0	2078.3	2112.2	2139.8	2135.4
27.5°	1999.8	2013.0	2061.3	2099.3	2074.8
30°	1948.0	1941.4	1982.2	2016.1	2035.0
32.5°	1855.4	1879.2	1926.9	1960.5	1942.6
35°	1799.1	1804.5	1846.2	1888.9	1887.7
37.5°	1700.9	1725.7	1784.4	1796.3	1785.3
40°	1617.0	1641.8	1694.9	1707.8	1702.4
42.5°	1555.2	1559.6	1605.1	1619.9	1596.3
45°	1447.5	1474.5	1499.0	1537.6	1501.2
47.5°	1355.8	1368.4	1421.1	1431.5	1412.3
50°	1272.6	1277.0	1330.1	1317.2	1304.6
52.5°	1168.0	1186.6	1216.4	1213.9	1199.1
55°	1082.0	1074.8	1103.0	1095.5	1095.2
57.5°	978.7	991.3	1014.5	1002.6	983.4
60°	882.0	882.3	890.8	877.3	874.8
62.5°	774.3	778.1	779.9	763.3	790.3
65°	664.7	655.9	681.7	655.6	660.0
67.5°	563.9	568.3	565.8	549.5	555.8
70°	461.6	467.2	463.1	444.6	450.3
72.5°	368.0	361.1	365.5	342.2	352.9
75°	276.6	271.0	276.0	256.5	265.3
77.5°	188.4	192.8	189.6	179.3	185.3
80°	124.3	120.9	120.9	114.9	116.2
82.5°	72.5	69.1	68.1	66.3	69.1
85°	33.9	33.0	33.6	32.7	31.4
87.5°	12.2	12.6	12.6	11.9	11.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)