

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: P589690

Luminaire Tested: **FMR-24-2-LD4-4LO-40-UNV-80-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589690  
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-40-UNV-80-94-EDD  
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

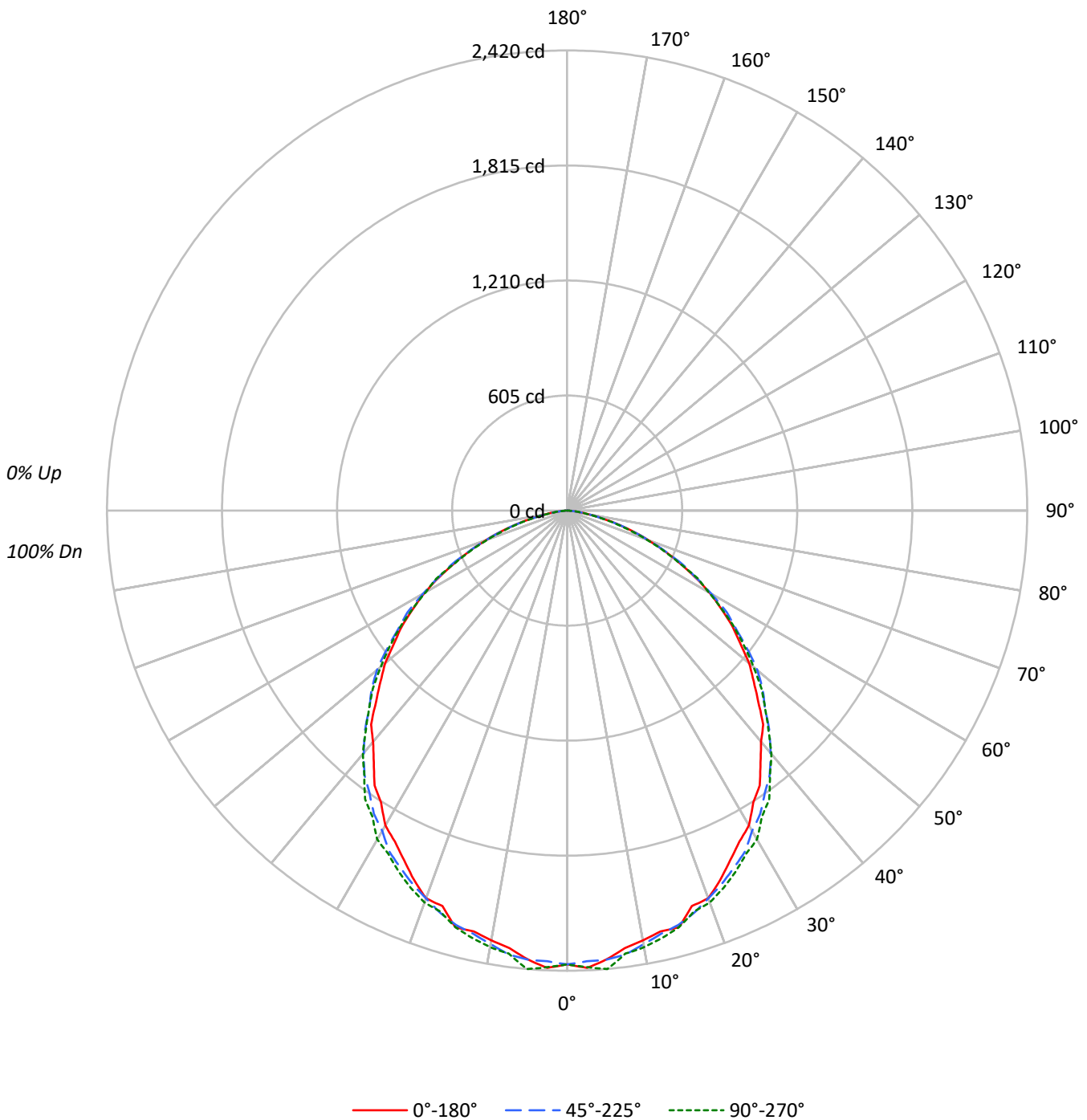
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6015.0 lumens  
Efficiency: N/A  
Efficacy: 128.5 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 (A<sub>in</sub>): 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°	6422	6422	6422
5°	6401	6404	6538
10°	6271	6326	6371
15°	6321	6287	6322
20°	6214	6214	6280
25°	6023	6155	6222
30°	5940	6045	6206
35°	5800	5952	6086
40°	5575	5843	5869
45°	5406	5598	5607
50°	5228	5465	5360
55°	4982	5079	5043
60°	4659	4705	4620
65°	4153	4260	4124
70°	3564	3576	3477
75°	2823	2817	2707
80°	1891	1838	1767
85°	1028	1019	951



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	224.5	3.7
10°-20°	636.3	10.6
20°-30°	953.2	15.8
30°-40°	1129.8	18.8
40°-50°	1131.9	18.8
50°-60°	960.8	16.0
60°-70°	647.7	10.8
70°-80°	284.6	4.7
80°-90°	46.2	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°	1814.0	30.2
0°-40°	2943.7	48.9
0°-60°	5036.4	83.7
0°-90°	6015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6015.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2387	2387	2387	2387	2387	
5°	2370	2364	2371	2364	2420	223
15°	2269	2243	2257	2268	2269	632
25°	2028	2040	2073	2100	2096	938
35°	1766	1771	1812	1854	1853	1096
45°	1421	1447	1471	1509	1473	1099
55°	1062	1055	1082	1075	1075	945
65°	652	644	669	643	648	649
75°	272	266	271	252	260	291
85°	33	32	33	32	31	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2386.6	2386.6	2386.6	2386.6	2386.6
2.5°	2407.2	2389.1	2372.1	2391.8	2403.9
5°	2369.7	2364.1	2370.6	2363.5	2420.5
7.5°	2321.0	2342.2	2354.6	2346.8	2350.2
10°	2295.1	2287.7	2315.1	2334.2	2331.4
12.5°	2267.3	2278.4	2280.0	2300.6	2302.5
15°	2268.9	2242.7	2256.6	2268.3	2269.2
17.5°	2180.8	2209.1	2218.7	2245.5	2212.2
20°	2170.0	2149.3	2170.0	2197.4	2193.1
22.5°	2103.7	2080.6	2125.0	2149.3	2147.8
25°	2028.5	2039.6	2072.9	2100.0	2095.7
27.5°	1962.6	1975.5	2023.0	2060.3	2036.2
30°	1911.7	1905.3	1945.3	1978.6	1997.1
32.5°	1820.8	1844.3	1891.1	1924.1	1906.5
35°	1765.7	1770.9	1811.9	1853.8	1852.6
37.5°	1669.2	1693.6	1751.2	1762.9	1752.1
40°	1587.0	1611.3	1663.4	1676.0	1670.8
42.5°	1526.3	1530.6	1575.2	1589.7	1566.6
45°	1420.6	1447.1	1471.1	1509.0	1473.3
47.5°	1330.6	1342.9	1394.7	1404.8	1386.0
50°	1248.9	1253.2	1305.3	1292.7	1280.4
52.5°	1146.3	1164.5	1193.8	1191.3	1176.8
55°	1061.9	1054.8	1082.5	1075.1	1074.8
57.5°	960.5	972.8	995.6	983.9	965.1
60°	865.6	865.9	874.2	861.0	858.5
62.5°	759.9	763.6	765.4	749.1	775.6
65°	652.3	643.7	669.0	643.4	647.7
67.5°	553.4	557.7	555.3	539.3	545.4
70°	453.0	458.5	454.5	436.3	441.9
72.5°	361.1	354.4	358.7	335.9	346.4
75°	271.5	265.9	270.9	251.8	260.4
77.5°	184.9	189.2	186.1	176.0	181.8
80°	122.0	118.6	118.6	112.8	114.0
82.5°	71.2	67.8	66.9	65.0	67.8
85°	33.3	32.4	33.0	32.0	30.8
87.5°	12.0	12.3	12.3	11.7	11.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)