

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: P589682

Luminaire Tested: **FMR-24-2-LD4-4LO-35-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589682  
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-93-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

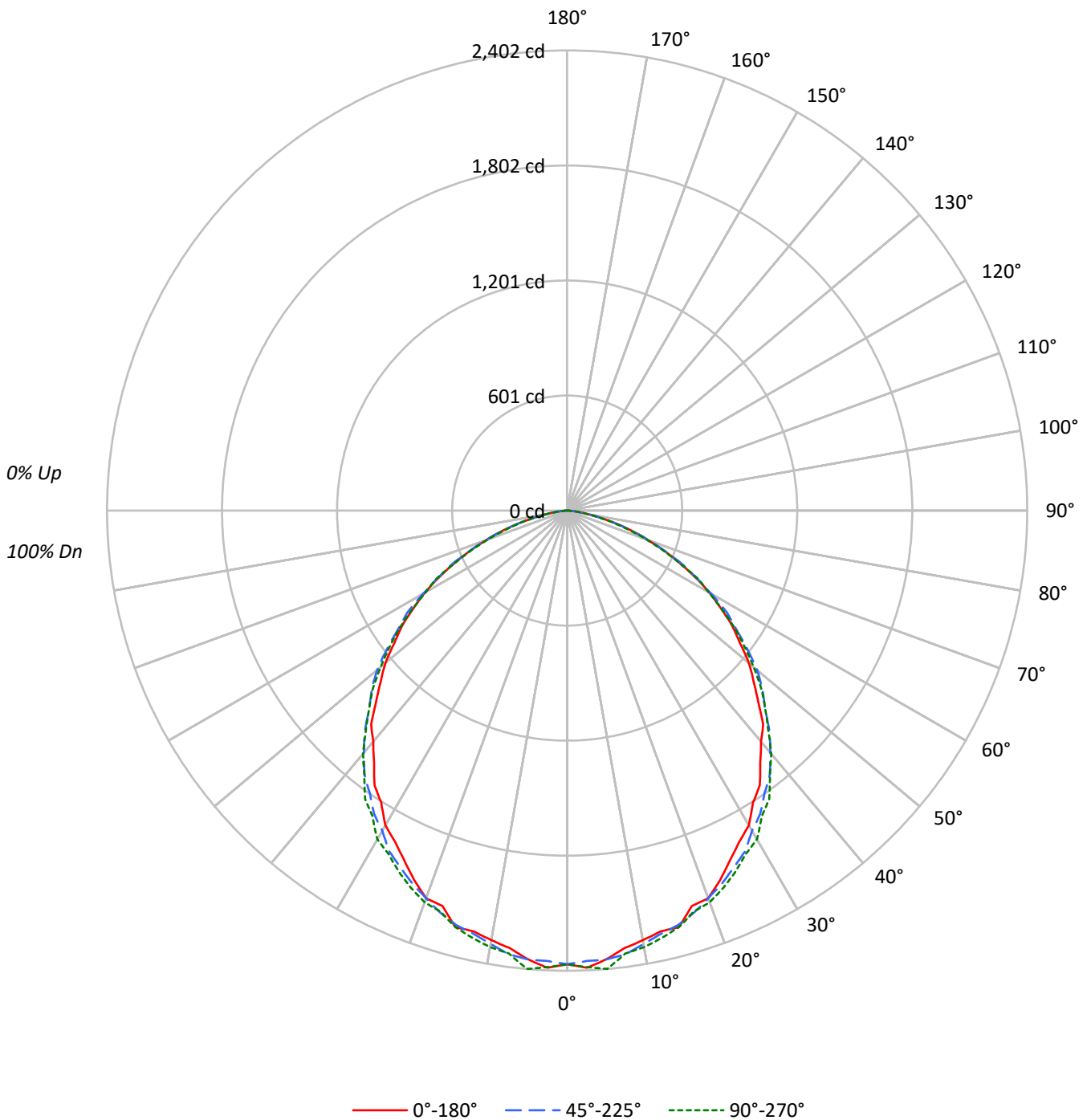
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5968.0 lumens  
Efficiency: N/A  
Efficacy: 127.5 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°	6372	6372	6372
5°	6351	6354	6487
10°	6222	6277	6321
15°	6272	6237	6272
20°	6166	6166	6231
25°	5976	6107	6174
30°	5894	5997	6157
35°	5755	5906	6038
40°	5531	5798	5823
45°	5364	5555	5563
50°	5188	5422	5318
55°	4943	5039	5003
60°	4622	4668	4584
65°	4122	4227	4092
70°	3536	3548	3449
75°	2801	2794	2686
80°	1877	1824	1753
85°	1019	1010	945



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.7	3.7
10°-20°	631.3	10.6
20°-30°	945.8	15.8
30°-40°	1120.9	18.8
40°-50°	1123.0	18.8
50°-60°	953.2	16.0
60°-70°	642.7	10.8
70°-80°	282.4	4.7
80°-90°	45.9	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°	1799.8	30.2
0°-40°	2920.7	48.9
0°-60°	4997.0	83.7
0°-90°	5968.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5968.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2368	2368	2368	2368	2368	
5°	2351	2346	2352	2345	2402	222
15°	2251	2225	2239	2250	2252	627
25°	2013	2024	2057	2084	2079	930
35°	1752	1757	1798	1839	1838	1088
45°	1410	1436	1460	1497	1462	1090
55°	1054	1046	1074	1067	1066	937
65°	647	639	664	638	643	644
75°	269	264	269	250	258	289
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°	2368.0	2368.0	2368.0	2368.0	2368.0
2.5°	2388.4	2370.4	2353.6	2373.1	2385.1
5°	2351.1	2345.6	2352.1	2345.0	2401.6
7.5°	2302.8	2323.9	2336.2	2328.5	2331.9
10°	2277.1	2269.8	2297.0	2316.0	2313.2
12.5°	2249.6	2260.6	2262.2	2282.7	2284.5
15°	2251.2	2225.2	2238.9	2250.5	2251.5
17.5°	2163.7	2191.8	2201.3	2227.9	2194.9
20°	2153.0	2132.5	2153.0	2180.2	2175.9
22.5°	2087.3	2064.4	2108.4	2132.5	2131.0
25°	2012.7	2023.7	2056.7	2083.6	2079.3
27.5°	1947.3	1960.1	2007.2	2044.2	2020.3
30°	1896.8	1890.4	1930.1	1963.2	1981.5
32.5°	1806.6	1829.9	1876.3	1909.0	1891.6
35°	1751.9	1757.1	1797.7	1839.3	1838.1
37.5°	1656.2	1680.3	1737.5	1749.1	1738.4
40°	1574.6	1598.7	1650.4	1662.9	1657.7
42.5°	1514.3	1518.6	1562.9	1577.3	1554.4
45°	1409.5	1435.8	1459.6	1497.2	1461.7
47.5°	1320.2	1332.4	1383.8	1393.9	1375.2
50°	1239.2	1243.4	1295.1	1282.6	1270.3
52.5°	1137.4	1155.4	1184.4	1182.0	1167.6
55°	1053.6	1046.5	1074.1	1066.7	1066.4
57.5°	953.0	965.2	987.8	976.2	957.6
60°	858.8	859.1	867.4	854.2	851.8
62.5°	754.0	757.6	759.5	743.3	769.5
65°	647.3	638.7	663.8	638.4	642.7
67.5°	549.1	553.4	550.9	535.0	541.2
70°	449.4	454.9	451.0	432.9	438.4
72.5°	358.3	351.6	355.9	333.3	343.7
75°	269.4	263.9	268.7	249.8	258.3
77.5°	183.4	187.7	184.7	174.6	180.4
80°	121.1	117.7	117.7	111.9	113.1
82.5°	70.6	67.3	66.3	64.5	67.3
85°	33.0	32.1	32.7	31.8	30.6
87.5°	11.9	12.2	12.2	11.6	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)