

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: P589490

Luminaire Tested: **FMR-24-2-LD4-3STD-35-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589490  
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-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: -

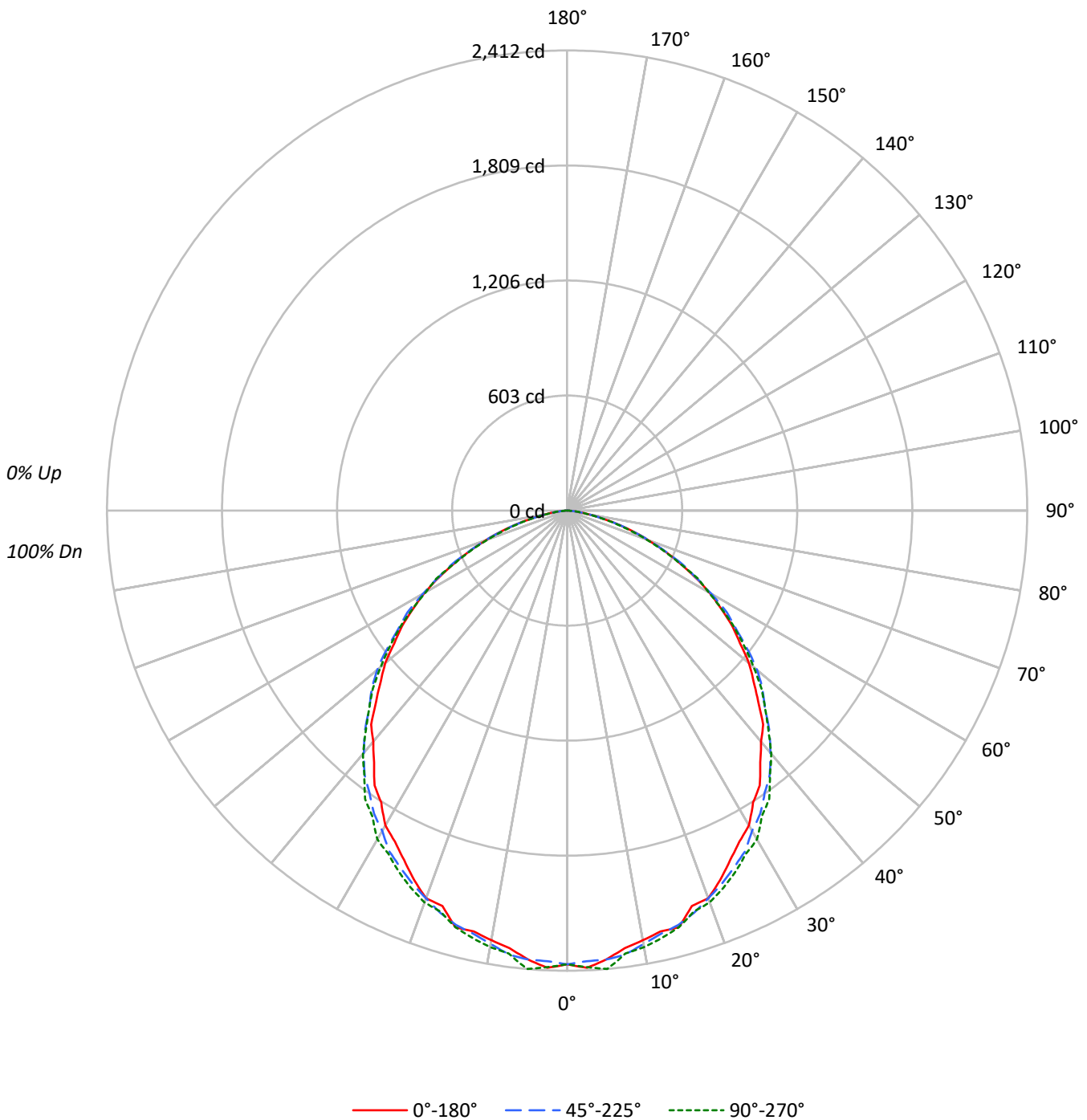
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5994.0 lumens  
Efficiency: N/A  
Efficacy: 119.9 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 (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°	6400	6400	6400
5°	6379	6381	6515
10°	6249	6304	6348
15°	6299	6265	6300
20°	6192	6192	6258
25°	6002	6133	6201
30°	5920	6023	6184
35°	5780	5932	6065
40°	5555	5823	5848
45°	5387	5579	5587
50°	5210	5446	5341
55°	4965	5061	5025
60°	4642	4689	4604
65°	4139	4245	4110
70°	3552	3563	3464
75°	2812	2806	2698
80°	1884	1832	1760
85°	1025	1016	948



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.7	3.7
10°-20°	634.0	10.6
20°-30°	949.9	15.8
30°-40°	1125.8	18.8
40°-50°	1127.9	18.8
50°-60°	957.4	16.0
60°-70°	645.5	10.8
70°-80°	283.6	4.7
80°-90°	46.1	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°	1807.6	30.2
0°-40°	2933.5	48.9
0°-60°	5018.8	83.7
0°-90°	5994.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5994.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2378	2378	2378	2378	2378	
5°	2361	2356	2362	2355	2412	223
15°	2261	2235	2249	2260	2261	630
25°	2022	2032	2066	2093	2088	935
35°	1760	1765	1806	1847	1846	1092
45°	1416	1442	1466	1504	1468	1095
55°	1058	1051	1079	1071	1071	941
65°	650	642	667	641	646	647
75°	270	265	270	251	260	290
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°	2378.3	2378.3	2378.3	2378.3	2378.3
2.5°	2398.8	2380.7	2363.8	2383.5	2395.5
5°	2361.4	2355.9	2362.3	2355.2	2412.0
7.5°	2312.9	2334.0	2346.3	2338.7	2342.0
10°	2287.1	2279.7	2307.0	2326.1	2323.3
12.5°	2259.4	2270.5	2272.0	2292.6	2294.4
15°	2261.0	2234.9	2248.7	2260.4	2261.3
17.5°	2173.1	2201.4	2210.9	2237.6	2204.5
20°	2162.4	2141.8	2162.4	2189.7	2185.4
22.5°	2096.4	2073.3	2117.6	2141.8	2140.3
25°	2021.5	2032.5	2065.7	2092.7	2088.4
27.5°	1955.7	1968.6	2015.9	2053.1	2029.1
30°	1905.1	1898.6	1938.5	1971.7	1990.1
32.5°	1814.5	1837.8	1884.5	1917.4	1899.9
35°	1759.5	1764.7	1805.6	1847.3	1846.1
37.5°	1663.4	1687.7	1745.1	1756.8	1746.0
40°	1581.4	1605.7	1657.6	1670.2	1664.9
42.5°	1520.9	1525.2	1569.7	1584.2	1561.2
45°	1415.6	1442.0	1466.0	1503.7	1468.1
47.5°	1325.9	1338.2	1389.8	1399.9	1381.2
50°	1244.6	1248.9	1300.8	1288.2	1275.9
52.5°	1142.3	1160.4	1189.6	1187.1	1172.7
55°	1058.2	1051.1	1078.7	1071.4	1071.1
57.5°	957.1	969.4	992.1	980.5	961.7
60°	862.6	862.9	871.2	858.0	855.5
62.5°	757.2	760.9	762.8	746.5	772.9
65°	650.1	641.5	666.7	641.2	645.5
67.5°	551.5	555.8	553.3	537.4	543.5
70°	451.4	456.9	452.9	434.8	440.3
72.5°	359.9	353.1	357.4	334.7	345.1
75°	270.5	265.0	269.9	250.9	259.5
77.5°	184.2	188.5	185.5	175.3	181.2
80°	121.6	118.2	118.2	112.4	113.6
82.5°	70.9	67.6	66.6	64.8	67.6
85°	33.2	32.2	32.9	31.9	30.7
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)