

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: P589670

Luminaire Tested: **FMR-24-2-LD4-4LO-35-UNV-82-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589670  
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-82-85-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

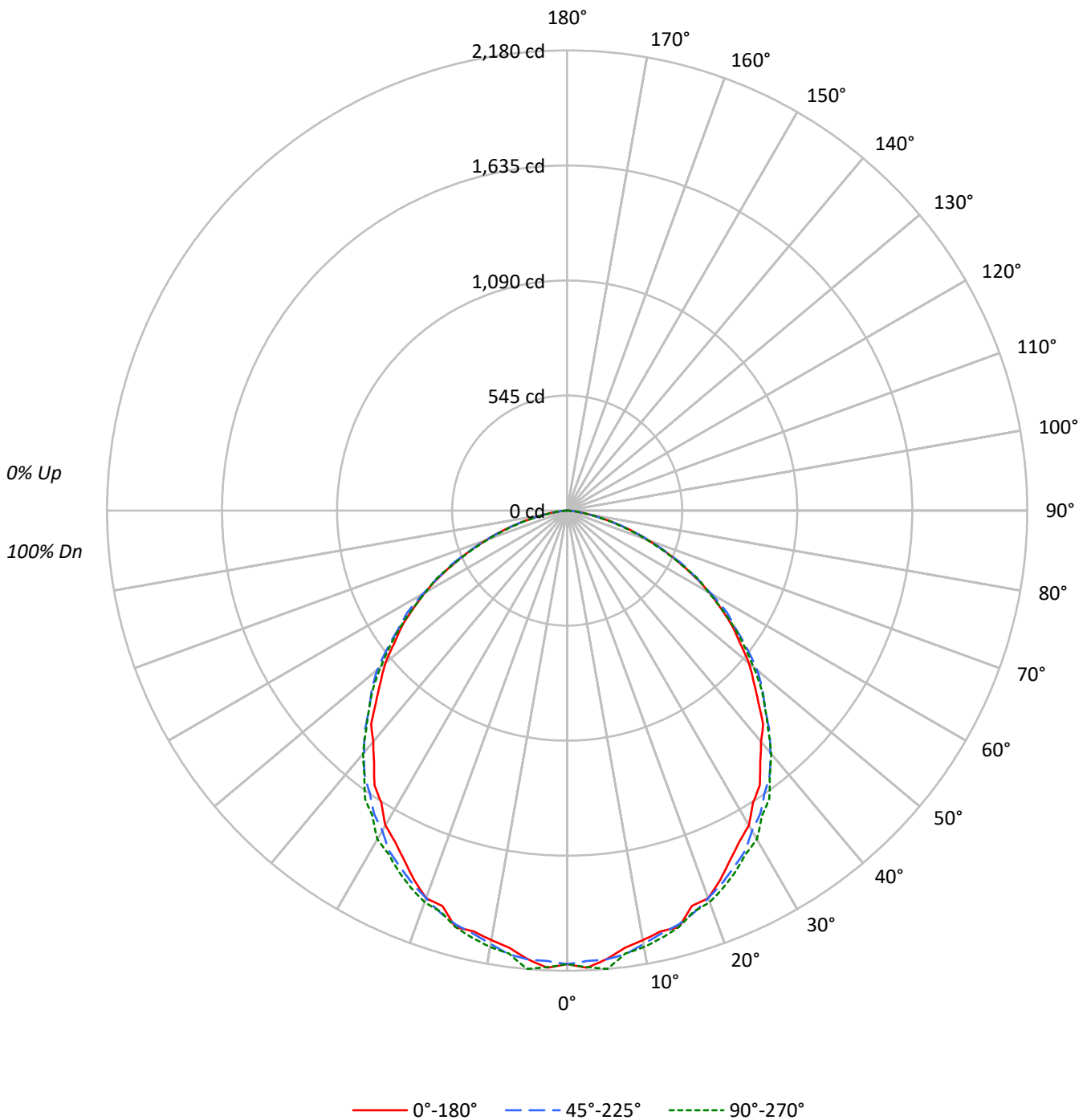
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5416.0 lumens  
Efficiency: N/A  
Efficacy: 115.7 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

TEST NUMBER: P589670

CATALOG NUMBER: FMR-24-2-LD4-4LO-35-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589670

CATALOG NUMBER: FMR-24-2-LD4-4LO-35-UNV-82-85-EDD

**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°	5783	5783	5783
5°	5764	5766	5887
10°	5647	5696	5736
15°	5691	5660	5692
20°	5595	5595	5655
25°	5423	5542	5603
30°	5349	5443	5588
35°	5223	5360	5480
40°	5019	5261	5285
45°	4868	5041	5048
50°	4708	4920	4826
55°	4486	4573	4541
60°	4195	4237	4160
65°	3740	3836	3713
70°	3209	3220	3131
75°	2541	2536	2438
80°	1703	1655	1592
85°	926	917	855



TEST NUMBER: P589670

CATALOG NUMBER: FMR-24-2-LD4-4LO-35-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.1	3.7
10°-20°	572.9	10.6
20°-30°	858.3	15.8
30°-40°	1017.3	18.8
40°-50°	1019.1	18.8
50°-60°	865.1	16.0
60°-70°	583.2	10.8
70°-80°	256.3	4.7
80°-90°	41.6	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°	1633.3	30.2
0°-40°	2650.6	48.9
0°-60°	4534.8	83.7
0°-90°	5416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5416.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2149	2149	2149	2149	2149	
5°	2134	2129	2134	2128	2180	201
15°	2043	2019	2032	2042	2043	569
25°	1826	1836	1866	1891	1887	844
35°	1590	1595	1632	1669	1668	987
45°	1279	1303	1325	1359	1326	989
55°	956	950	975	968	968	851
65°	587	580	602	579	583	584
75°	244	239	244	227	234	262
85°	30	29	30	29	28	43
90°	0	0	0	0	0	



TEST NUMBER: P589670

CATALOG NUMBER: FMR-24-2-LD4-4LO-35-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2148.9	2148.9	2148.9	2148.9	2148.9
2.5°	2167.5	2151.2	2135.9	2153.6	2164.5
5°	2133.7	2128.7	2134.5	2128.1	2179.5
7.5°	2089.8	2109.0	2120.1	2113.1	2116.2
10°	2066.5	2059.9	2084.6	2101.8	2099.3
12.5°	2041.6	2051.5	2052.9	2071.5	2073.2
15°	2042.9	2019.4	2031.8	2042.4	2043.2
17.5°	1963.6	1989.1	1997.7	2021.9	1991.9
20°	1953.9	1935.3	1953.9	1978.6	1974.7
22.5°	1894.2	1873.4	1913.4	1935.3	1933.9
25°	1826.5	1836.5	1866.5	1890.9	1887.0
27.5°	1767.1	1778.8	1821.5	1855.1	1833.5
30°	1721.4	1715.5	1751.6	1781.6	1798.2
32.5°	1639.5	1660.6	1702.8	1732.5	1716.6
35°	1589.8	1594.6	1631.5	1669.2	1668.1
37.5°	1503.0	1524.9	1576.8	1587.4	1577.6
40°	1428.9	1450.8	1497.7	1509.1	1504.4
42.5°	1374.3	1378.1	1418.4	1431.4	1410.6
45°	1279.1	1303.0	1324.6	1358.7	1326.5
47.5°	1198.1	1209.2	1255.8	1264.9	1248.0
50°	1124.5	1128.4	1175.3	1163.9	1152.8
52.5°	1032.2	1048.5	1074.9	1072.7	1059.6
55°	956.1	949.7	974.7	968.1	967.8
57.5°	864.8	875.9	896.5	885.9	869.0
60°	779.4	779.7	787.2	775.2	773.0
62.5°	684.2	687.5	689.2	674.5	698.4
65°	587.4	579.6	602.4	579.3	583.2
67.5°	498.3	502.2	500.0	485.6	491.1
70°	407.9	412.9	409.3	392.9	397.9
72.5°	325.2	319.1	323.0	302.4	311.9
75°	244.4	239.4	243.9	226.7	234.5
77.5°	166.5	170.4	167.6	158.4	163.7
80°	109.9	106.8	106.8	101.6	102.7
82.5°	64.1	61.0	60.2	58.5	61.0
85°	30.0	29.1	29.7	28.9	27.7
87.5°	10.8	11.1	11.1	10.5	10.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)