

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: P589485

Luminaire Tested: **FMR-24-2-LD4-3STD-35-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589485  
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-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

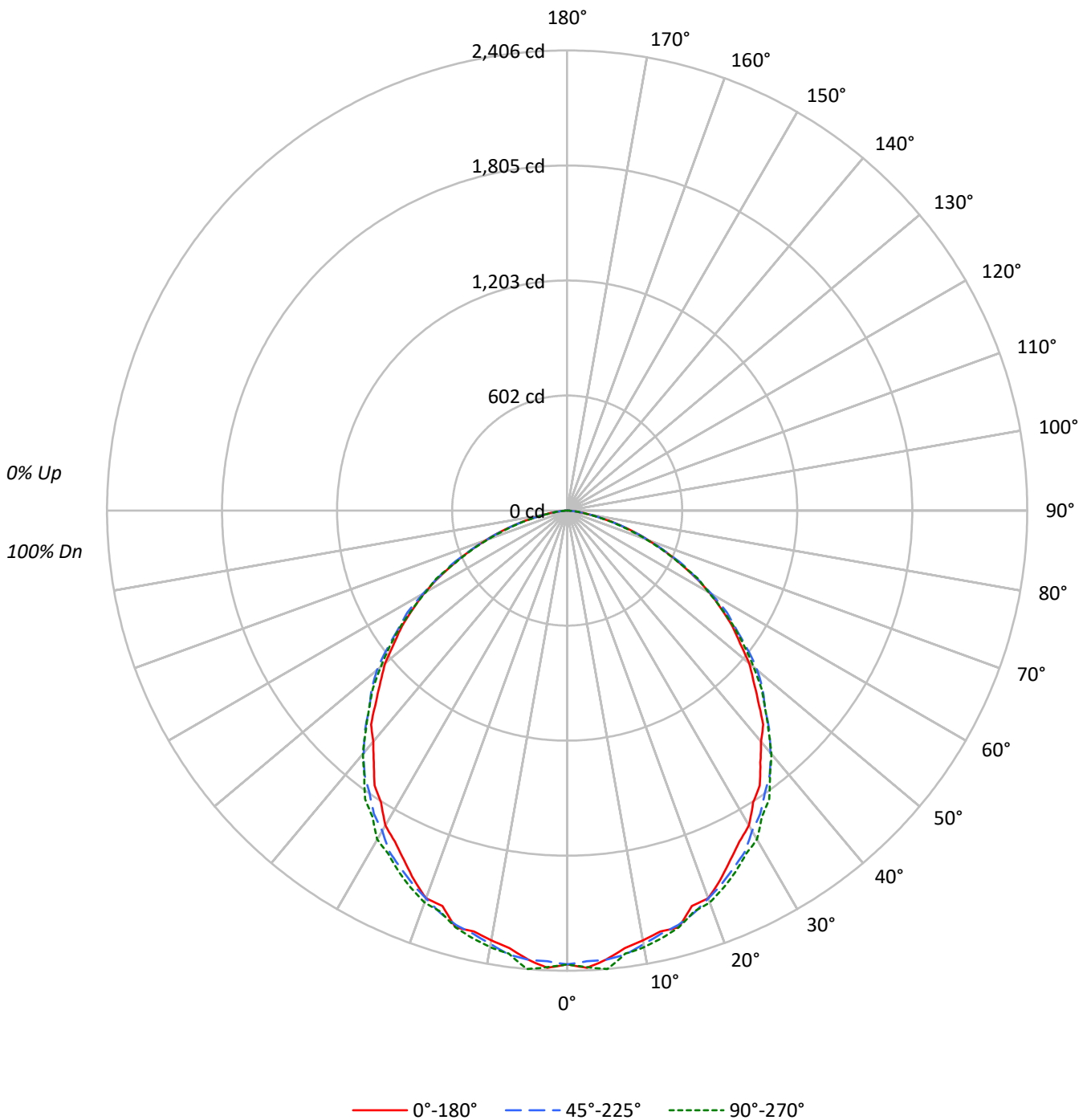
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5980.0 lumens  
Efficiency: N/A  
Efficacy: 119.6 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 (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: P589485

CATALOG NUMBER: FMR-24-2-LD4-3STD-35-UNV-93-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589485

CATALOG NUMBER: FMR-24-2-LD4-3STD-35-UNV-93-84-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°	6385	6385	6385
5°	6364	6366	6500
10°	6235	6289	6334
15°	6284	6250	6285
20°	6178	6178	6244
25°	5988	6119	6186
30°	5906	6009	6169
35°	5767	5918	6050
40°	5542	5809	5835
45°	5375	5566	5574
50°	5198	5433	5329
55°	4953	5049	5013
60°	4631	4677	4594
65°	4130	4235	4101
70°	3543	3556	3456
75°	2806	2800	2692
80°	1880	1827	1757
85°	1022	1013	945



TEST NUMBER: P589485

CATALOG NUMBER: FMR-24-2-LD4-3STD-35-UNV-93-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.2	3.7
10°-20°	632.5	10.6
20°-30°	947.7	15.8
30°-40°	1123.2	18.8
40°-50°	1125.3	18.8
50°-60°	955.2	16.0
60°-70°	644.0	10.8
70°-80°	283.0	4.7
80°-90°	46.0	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°	1803.4	30.2
0°-40°	2926.6	48.9
0°-60°	5007.1	83.7
0°-90°	5980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5980.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2373	2373	2373	2373	2373	
5°	2356	2350	2357	2350	2406	222
15°	2256	2230	2243	2255	2256	628
25°	2017	2028	2061	2088	2084	932
35°	1755	1761	1801	1843	1842	1090
45°	1412	1439	1462	1500	1465	1092
55°	1056	1049	1076	1069	1069	939
65°	649	640	665	640	644	645
75°	270	264	269	250	259	289
85°	33	32	33	32	31	48
90°	0	0	0	0	0	



TEST NUMBER: P589485

CATALOG NUMBER: FMR-24-2-LD4-3STD-35-UNV-93-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2372.7	2372.7	2372.7	2372.7	2372.7
2.5°	2393.2	2375.2	2358.3	2377.9	2389.9
5°	2355.9	2350.3	2356.8	2349.7	2406.4
7.5°	2307.5	2328.6	2340.9	2333.2	2336.6
10°	2281.7	2274.4	2301.6	2320.6	2317.9
12.5°	2254.2	2265.2	2266.7	2287.2	2289.1
15°	2255.7	2229.6	2243.4	2255.1	2256.0
17.5°	2168.1	2196.3	2205.7	2232.4	2199.3
20°	2157.3	2136.8	2157.3	2184.6	2180.3
22.5°	2091.5	2068.5	2112.6	2136.8	2135.3
25°	2016.7	2027.8	2060.8	2087.8	2083.5
27.5°	1951.2	1964.0	2011.2	2048.3	2024.4
30°	1900.6	1894.2	1934.0	1967.1	1985.5
32.5°	1810.2	1833.5	1880.1	1912.9	1895.4
35°	1755.4	1760.6	1801.4	1843.0	1841.8
37.5°	1659.5	1683.7	1741.0	1752.7	1741.9
40°	1577.7	1601.9	1653.7	1666.3	1661.1
42.5°	1517.4	1521.7	1566.1	1580.5	1557.5
45°	1412.3	1438.6	1462.5	1500.2	1464.7
47.5°	1322.8	1335.1	1386.6	1396.7	1378.0
50°	1241.7	1245.9	1297.7	1285.2	1272.9
52.5°	1139.6	1157.7	1186.8	1184.4	1170.0
55°	1055.7	1048.7	1076.2	1068.9	1068.6
57.5°	954.9	967.2	989.8	978.2	959.5
60°	860.5	860.9	869.1	856.0	853.5
62.5°	755.5	759.1	761.0	744.7	771.1
65°	648.6	640.0	665.1	639.7	644.0
67.5°	550.2	554.5	552.1	536.1	542.2
70°	450.3	455.9	451.9	433.8	439.3
72.5°	359.0	352.3	356.6	333.9	344.3
75°	269.9	264.4	269.3	250.3	258.9
77.5°	183.8	188.1	185.0	174.9	180.7
80°	121.3	117.9	117.9	112.1	113.4
82.5°	70.8	67.4	66.5	64.6	67.4
85°	33.1	32.2	32.8	31.9	30.6
87.5°	11.9	12.3	12.3	11.6	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)