

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: P589359

Luminaire Tested: **FMR-24-2-LD4-3HI-50-UNV-93-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589359  
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-LD4-3HI-50-UNV-93-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

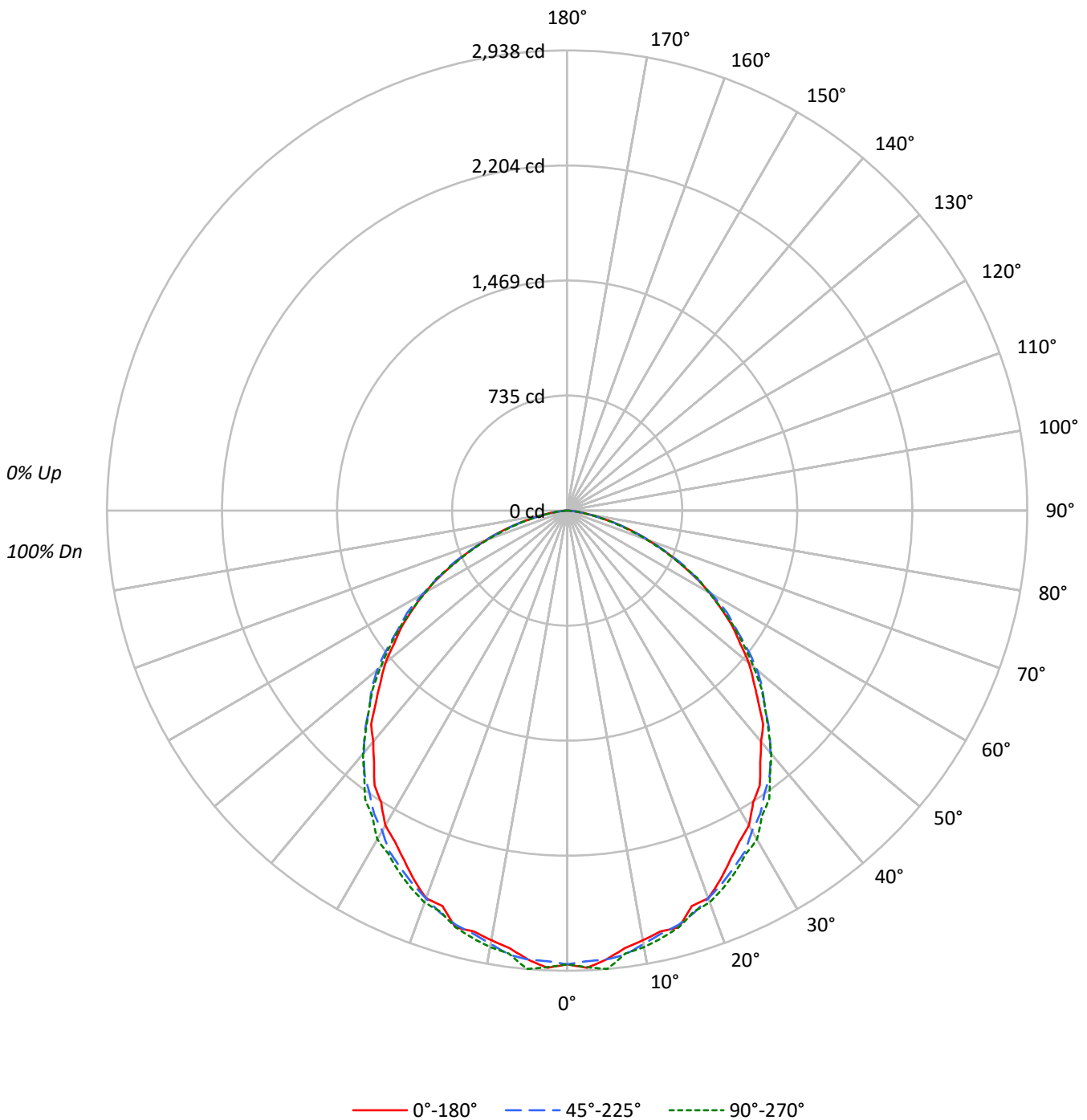
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7301.0 lumens  
Efficiency: N/A  
Efficacy: 112.7 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): 64.8  
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: P589359

CATALOG NUMBER: FMR-24-2-LD4-3HI-50-UNV-93-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589359

CATALOG NUMBER: FMR-24-2-LD4-3HI-50-UNV-93-86-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°	7795	7795	7795
5°	7770	7773	7936
10°	7612	7679	7733
15°	7672	7631	7673
20°	7543	7543	7623
25°	7311	7471	7553
30°	7210	7337	7532
35°	7041	7225	7387
40°	6766	7092	7124
45°	6562	6795	6805
50°	6346	6633	6506
55°	6047	6165	6121
60°	5654	5711	5608
65°	5042	5170	5006
70°	4326	4341	4220
75°	3426	3419	3287
80°	2295	2232	2145
85°	1247	1235	1155



TEST NUMBER: P589359

CATALOG NUMBER: FMR-24-2-LD4-3HI-50-UNV-93-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.5	3.7
10°-20°	772.3	10.6
20°-30°	1157.0	15.8
30°-40°	1371.3	18.8
40°-50°	1373.9	18.8
50°-60°	1166.2	16.0
60°-70°	786.2	10.8
70°-80°	345.5	4.7
80°-90°	56.1	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°	2201.8	30.2
0°-40°	3573.1	48.9
0°-60°	6113.2	83.7
0°-90°	7301.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7301.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2897	2897	2897	2897	2897	
5°	2876	2870	2877	2869	2938	271
15°	2754	2722	2739	2753	2754	767
25°	2462	2476	2516	2549	2544	1138
35°	2143	2150	2199	2250	2249	1331
45°	1724	1756	1786	1832	1788	1334
55°	1289	1280	1314	1305	1305	1147
65°	792	781	812	781	786	788
75°	330	323	329	306	316	353
85°	40	39	40	39	37	59
90°	0	0	0	0	0	



TEST NUMBER: P589359

CATALOG NUMBER: FMR-24-2-LD4-3HI-50-UNV-93-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2896.9	2896.9	2896.9	2896.9	2896.9
2.5°	2921.9	2899.8	2879.3	2903.2	2917.8
5°	2876.3	2869.5	2877.4	2868.8	2938.0
7.5°	2817.2	2843.0	2858.0	2848.6	2852.7
10°	2785.8	2776.8	2810.1	2833.3	2829.9
12.5°	2752.1	2765.6	2767.4	2792.5	2794.7
15°	2754.0	2722.2	2739.0	2753.2	2754.3
17.5°	2647.0	2681.4	2693.0	2725.5	2685.2
20°	2633.9	2608.9	2633.9	2667.2	2662.0
22.5°	2553.5	2525.4	2579.3	2608.9	2607.0
25°	2462.2	2475.7	2516.1	2549.0	2543.8
27.5°	2382.2	2397.9	2455.5	2500.8	2471.6
30°	2320.5	2312.6	2361.2	2401.6	2424.1
32.5°	2210.1	2238.6	2295.4	2335.4	2314.1
35°	2143.2	2149.5	2199.3	2250.2	2248.7
37.5°	2026.1	2055.7	2125.6	2139.8	2126.7
40°	1926.2	1955.8	2019.0	2034.3	2028.0
42.5°	1852.6	1857.8	1912.0	1929.6	1901.6
45°	1724.3	1756.4	1785.6	1831.6	1788.2
47.5°	1615.1	1630.0	1692.9	1705.2	1682.4
50°	1515.9	1521.2	1584.4	1569.1	1554.1
52.5°	1391.4	1413.5	1449.0	1446.0	1428.4
55°	1288.9	1280.3	1314.0	1305.0	1304.6
57.5°	1165.8	1180.8	1208.5	1194.3	1171.5
60°	1050.6	1051.0	1061.1	1045.0	1042.0
62.5°	922.4	926.8	929.1	909.3	941.4
65°	791.8	781.3	812.0	781.0	786.2
67.5°	671.8	677.0	674.0	654.6	662.0
70°	549.8	556.6	551.7	529.6	536.4
72.5°	438.4	430.1	435.4	407.7	420.4
75°	329.5	322.8	328.8	305.6	316.1
77.5°	224.4	229.7	225.9	213.6	220.7
80°	148.1	144.0	144.0	136.9	138.4
82.5°	86.4	82.3	81.2	78.9	82.3
85°	40.4	39.3	40.0	38.9	37.4
87.5°	14.6	15.0	15.0	14.2	13.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)