

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: P589774

Luminaire Tested: **FMR-24-2-LD4-4STD-35-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589774  
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-LD4-4STD-35-UNV-93-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

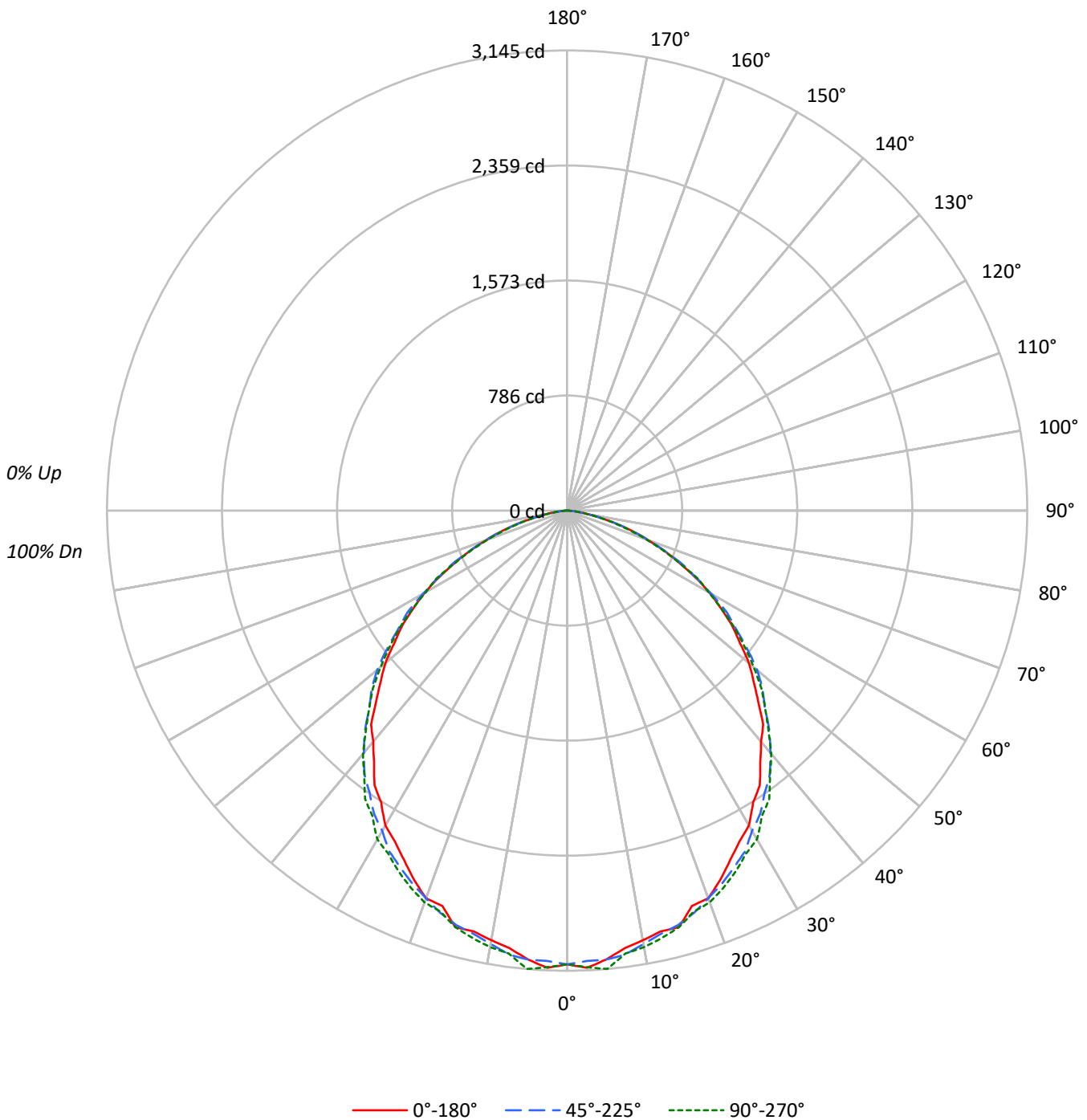
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7815.0 lumens  
Efficiency: N/A  
Efficacy: 117.3 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): 66.6  
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

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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°	8344	8344	8344
5°	8317	8320	8495
10°	8148	8219	8277
15°	8213	8168	8214
20°	8074	8074	8160
25°	7826	7997	8085
30°	7718	7854	8062
35°	7536	7733	7907
40°	7243	7592	7626
45°	7024	7274	7284
50°	6793	7100	6964
55°	6473	6599	6552
60°	6053	6113	6003
65°	5397	5535	5359
70°	4630	4646	4517
75°	3667	3659	3517
80°	2456	2388	2295
85°	1334	1321	1235



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.7	3.7
10°-20°	826.6	10.6
20°-30°	1238.5	15.8
30°-40°	1467.9	18.8
40°-50°	1470.6	18.8
50°-60°	1248.3	16.0
60°-70°	841.6	10.8
70°-80°	369.8	4.7
80°-90°	60.1	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°	2356.8	30.2
0°-40°	3824.7	48.9
0°-60°	6543.5	83.7
0°-90°	7815.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7815.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3101	3101	3101	3101	3101	
5°	3079	3072	3080	3071	3145	290
15°	2948	2914	2932	2947	2948	821
25°	2636	2650	2693	2728	2723	1218
35°	2294	2301	2354	2409	2407	1424
45°	1846	1880	1911	1961	1914	1428
55°	1380	1370	1406	1397	1396	1227
65°	848	836	869	836	842	843
75°	353	346	352	327	338	378
85°	43	42	43	42	40	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3100.8	3100.8	3100.8	3100.8	3100.8
2.5°	3127.6	3104.0	3082.0	3107.6	3123.2
5°	3078.8	3071.6	3080.0	3070.8	3144.8
7.5°	3015.5	3043.1	3059.2	3049.1	3053.6
10°	2981.9	2972.3	3007.9	3032.7	3029.1
12.5°	2945.9	2960.3	2962.3	2989.1	2991.5
15°	2947.9	2913.8	2931.8	2947.1	2948.3
17.5°	2833.4	2870.2	2882.6	2917.4	2874.2
20°	2819.3	2792.5	2819.3	2855.0	2849.4
22.5°	2733.3	2703.2	2760.9	2792.5	2790.5
25°	2635.6	2650.0	2693.2	2728.5	2722.9
27.5°	2549.9	2566.7	2628.4	2676.8	2645.6
30°	2483.8	2475.4	2527.5	2570.7	2594.7
32.5°	2365.7	2396.2	2457.0	2499.9	2477.0
35°	2294.1	2300.9	2354.1	2408.6	2407.0
37.5°	2168.8	2200.4	2275.3	2290.5	2276.5
40°	2061.9	2093.5	2161.1	2177.6	2170.8
42.5°	1983.0	1988.6	2046.6	2065.5	2035.4
45°	1845.7	1880.1	1911.3	1960.6	1914.1
47.5°	1728.8	1744.8	1812.0	1825.2	1800.8
50°	1622.7	1628.3	1695.9	1679.5	1663.5
52.5°	1489.3	1513.0	1551.0	1547.8	1529.0
55°	1379.6	1370.4	1406.5	1396.9	1396.5
57.5°	1247.9	1263.9	1293.6	1278.4	1253.9
60°	1124.6	1125.0	1135.8	1118.6	1115.4
62.5°	987.3	992.1	994.5	973.3	1007.7
65°	847.6	836.4	869.2	836.0	841.6
67.5°	719.0	724.7	721.5	700.6	708.6
70°	588.5	595.7	590.5	566.9	574.1
72.5°	469.2	460.4	466.0	436.4	450.0
75°	352.7	345.5	351.9	327.1	338.3
77.5°	240.2	245.8	241.8	228.6	236.2
80°	158.5	154.1	154.1	146.5	148.1
82.5°	92.5	88.1	86.9	84.5	88.1
85°	43.2	42.0	42.8	41.6	40.0
87.5°	15.6	16.0	16.0	15.2	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)