

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: P589806

Luminaire Tested: **FMR-24-2-LD4-4STD-40-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589806  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

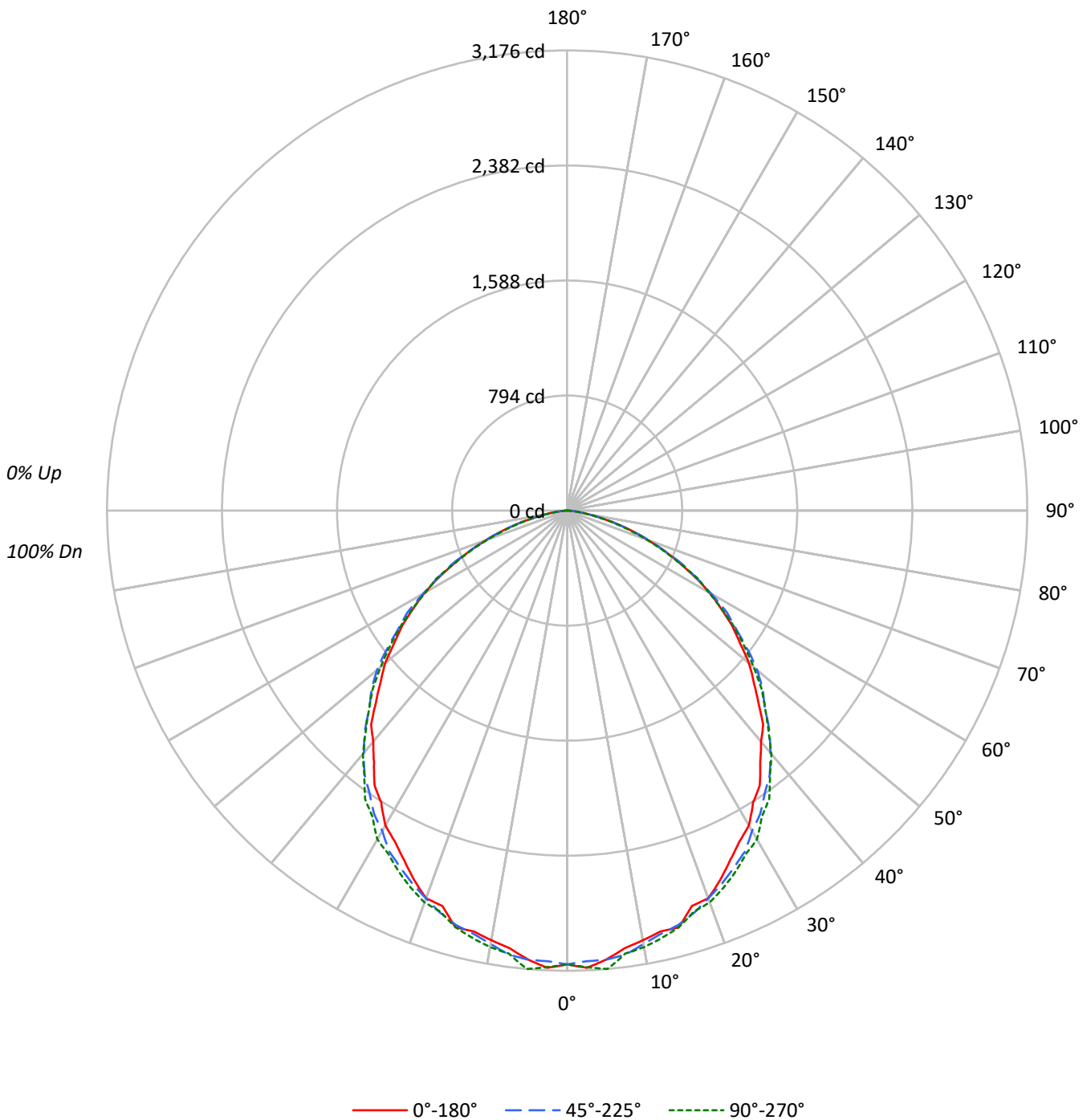
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7893.0 lumens  
Efficiency: N/A  
Efficacy: 118.5 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°	8427	8427	8427
5°	8400	8403	8580
10°	8229	8301	8360
15°	8294	8249	8296
20°	8154	8154	8241
25°	7904	8076	8165
30°	7795	7932	8143
35°	7612	7811	7986
40°	7315	7667	7702
45°	7094	7346	7357
50°	6861	7171	7034
55°	6537	6664	6617
60°	6113	6174	6063
65°	5450	5590	5412
70°	4677	4692	4562
75°	3703	3695	3553
80°	2481	2413	2318
85°	1349	1337	1247



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	294.6	3.7
10°-20°	834.9	10.6
20°-30°	1250.8	15.8
30°-40°	1482.5	18.8
40°-50°	1485.3	18.8
50°-60°	1260.7	16.0
60°-70°	850.0	10.8
70°-80°	373.5	4.7
80°-90°	60.7	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°	2380.3	30.2
0°-40°	3862.8	48.9
0°-60°	6608.8	83.7
0°-90°	7893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7893.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3132	3132	3132	3132	3132	
5°	3110	3102	3111	3101	3176	293
15°	2977	2943	2961	2976	2978	830
25°	2662	2676	2720	2756	2750	1231
35°	2317	2324	2378	2433	2431	1439
45°	1864	1899	1930	1980	1933	1442
55°	1393	1384	1420	1411	1410	1240
65°	856	845	878	844	850	851
75°	356	349	355	330	342	382
85°	44	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°	3131.7	3131.7	3131.7	3131.7	3131.7
2.5°	3158.8	3135.0	3112.7	3138.6	3154.4
5°	3109.5	3102.2	3110.7	3101.4	3176.2
7.5°	3045.6	3073.5	3089.7	3079.6	3084.0
10°	3011.6	3001.9	3037.9	3063.0	3059.4
12.5°	2975.3	2989.8	2991.8	3018.9	3021.4
15°	2977.3	2942.9	2961.1	2976.5	2977.7
17.5°	2861.6	2898.8	2911.4	2946.5	2902.9
20°	2847.5	2820.4	2847.5	2883.5	2877.8
22.5°	2760.5	2730.2	2788.4	2820.4	2818.4
25°	2661.9	2676.4	2720.1	2755.7	2750.0
27.5°	2575.3	2592.3	2654.6	2703.5	2672.0
30°	2508.6	2500.1	2552.7	2596.4	2620.6
32.5°	2389.3	2420.1	2481.5	2524.8	2501.8
35°	2317.0	2323.8	2377.6	2432.6	2431.0
37.5°	2190.4	2222.3	2298.0	2313.3	2299.2
40°	2082.4	2114.4	2182.7	2199.3	2192.4
42.5°	2002.8	2008.4	2067.1	2086.1	2055.7
45°	1864.1	1898.9	1930.4	1980.1	1933.2
47.5°	1746.0	1762.2	1830.1	1843.5	1818.8
50°	1638.9	1644.5	1712.9	1696.3	1680.1
52.5°	1504.2	1528.1	1566.5	1563.2	1544.2
55°	1393.4	1384.1	1420.5	1410.8	1410.4
57.5°	1260.4	1276.6	1306.5	1291.1	1266.4
60°	1135.8	1136.2	1147.2	1129.8	1126.5
62.5°	997.1	1002.0	1004.4	983.0	1017.8
65°	856.0	844.7	877.9	844.3	850.0
67.5°	726.2	731.9	728.7	707.6	715.7
70°	594.4	601.7	596.4	572.6	579.8
72.5°	473.9	465.0	470.7	440.7	454.5
75°	356.2	349.0	355.4	330.4	341.7
77.5°	242.6	248.3	244.2	230.9	238.6
80°	160.1	155.7	155.7	148.0	149.6
82.5°	93.4	89.0	87.7	85.3	89.0
85°	43.7	42.5	43.3	42.1	40.4
87.5°	15.8	16.2	16.2	15.4	14.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)