

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: P589632

Luminaire Tested: **FMR-24-2-LD4-4HI-50-UNV-81-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589632  
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-LD4-4HI-50-UNV-81-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

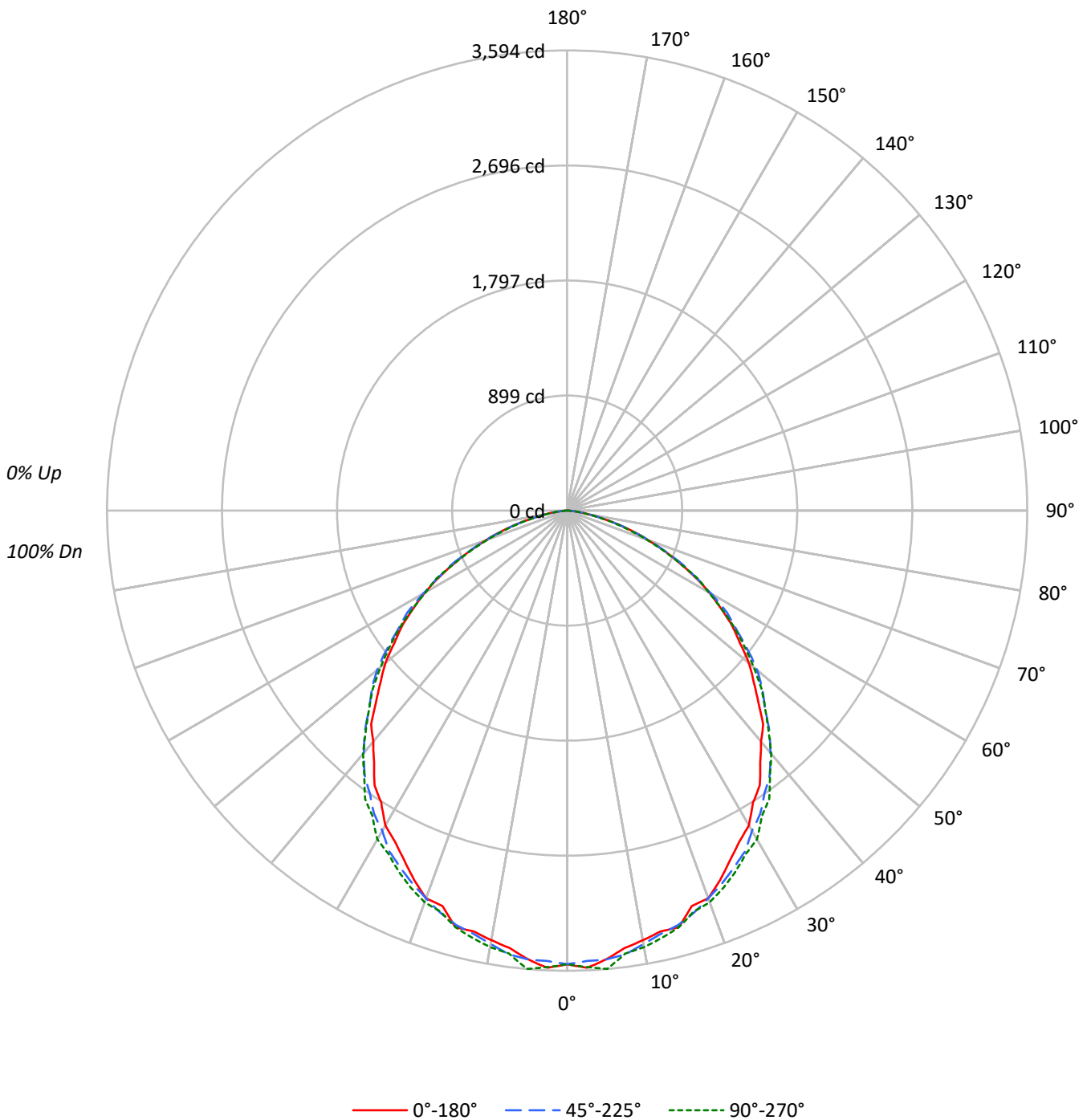
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8930.0 lumens  
Efficiency: N/A  
Efficacy: 103.4 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): 86.4  
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	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°	9535	9535	9535
5°	9503	9507	9707
10°	9310	9392	9458
15°	9384	9333	9385
20°	9226	9226	9324
25°	8942	9138	9238
30°	8819	8974	9213
35°	8612	8837	9035
40°	8276	8675	8714
45°	8026	8311	8324
50°	7762	8113	7958
55°	7396	7540	7486
60°	6916	6985	6859
65°	6167	6324	6123
70°	5291	5309	5161
75°	4190	4181	4020
80°	2808	2729	2624
85°	1525	1513	1411



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	333.3	3.7
10°-20°	944.6	10.6
20°-30°	1415.2	15.8
30°-40°	1677.3	18.8
40°-50°	1680.4	18.8
50°-60°	1426.4	16.0
60°-70°	961.7	10.8
70°-80°	422.6	4.7
80°-90°	68.7	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°	2693.1	30.2
0°-40°	4370.3	48.9
0°-60°	7477.1	83.7
0°-90°	8930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8930.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3543	3543	3543	3543	3543	
5°	3518	3510	3519	3509	3594	332
15°	3368	3330	3350	3368	3369	938
25°	3012	3028	3078	3118	3111	1392
35°	2621	2629	2690	2752	2750	1628
45°	2109	2148	2184	2240	2187	1631
55°	1576	1566	1607	1596	1596	1402
65°	968	956	993	955	962	963
75°	403	395	402	374	387	432
85°	49	48	49	48	46	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3543.2	3543.2	3543.2	3543.2	3543.2
2.5°	3573.8	3546.9	3521.7	3551.0	3568.8
5°	3518.0	3509.8	3519.4	3508.9	3593.5
7.5°	3445.8	3477.3	3495.6	3484.2	3489.2
10°	3407.3	3396.3	3437.1	3465.4	3461.3
12.5°	3366.2	3382.6	3384.9	3415.6	3418.3
15°	3368.4	3329.6	3350.1	3367.5	3368.9
17.5°	3237.6	3279.7	3293.9	3333.7	3284.3
20°	3221.6	3190.9	3221.6	3262.3	3255.9
22.5°	3123.2	3088.9	3154.8	3190.9	3188.6
25°	3011.6	3028.1	3077.5	3117.7	3111.3
27.5°	2913.7	2932.9	3003.4	3058.7	3023.0
30°	2838.2	2828.6	2888.1	2937.5	2964.9
32.5°	2703.3	2738.0	2807.6	2856.5	2830.4
35°	2621.4	2629.1	2690.0	2752.2	2750.4
37.5°	2478.2	2514.3	2599.9	2617.3	2601.2
40°	2356.0	2392.2	2469.5	2488.2	2480.5
42.5°	2265.9	2272.3	2338.6	2360.1	2325.8
45°	2109.0	2148.3	2184.0	2240.3	2187.2
47.5°	1975.4	1993.7	2070.6	2085.7	2057.8
50°	1854.2	1860.6	1937.9	1919.1	1900.8
52.5°	1701.8	1728.8	1772.3	1768.6	1747.1
55°	1576.5	1566.0	1607.1	1596.2	1595.7
57.5°	1426.0	1444.3	1478.1	1460.7	1432.8
60°	1285.1	1285.5	1297.9	1278.2	1274.5
62.5°	1128.2	1133.6	1136.4	1112.1	1151.5
65°	968.5	955.7	993.2	955.2	961.6
67.5°	821.6	828.0	824.4	800.6	809.7
70°	672.5	680.7	674.8	647.8	656.0
72.5°	536.2	526.1	532.5	498.7	514.2
75°	403.0	394.8	402.1	373.8	386.6
77.5°	274.5	280.9	276.3	261.2	269.9
80°	181.2	176.1	176.1	167.4	169.3
82.5°	105.7	100.6	99.3	96.5	100.6
85°	49.4	48.0	49.0	47.6	45.7
87.5°	17.8	18.3	18.3	17.4	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)