

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: P589823

Luminaire Tested: **FMR-24-2-LD4-4STD-50-UNV-81-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589823  
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-50-UNV-81-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

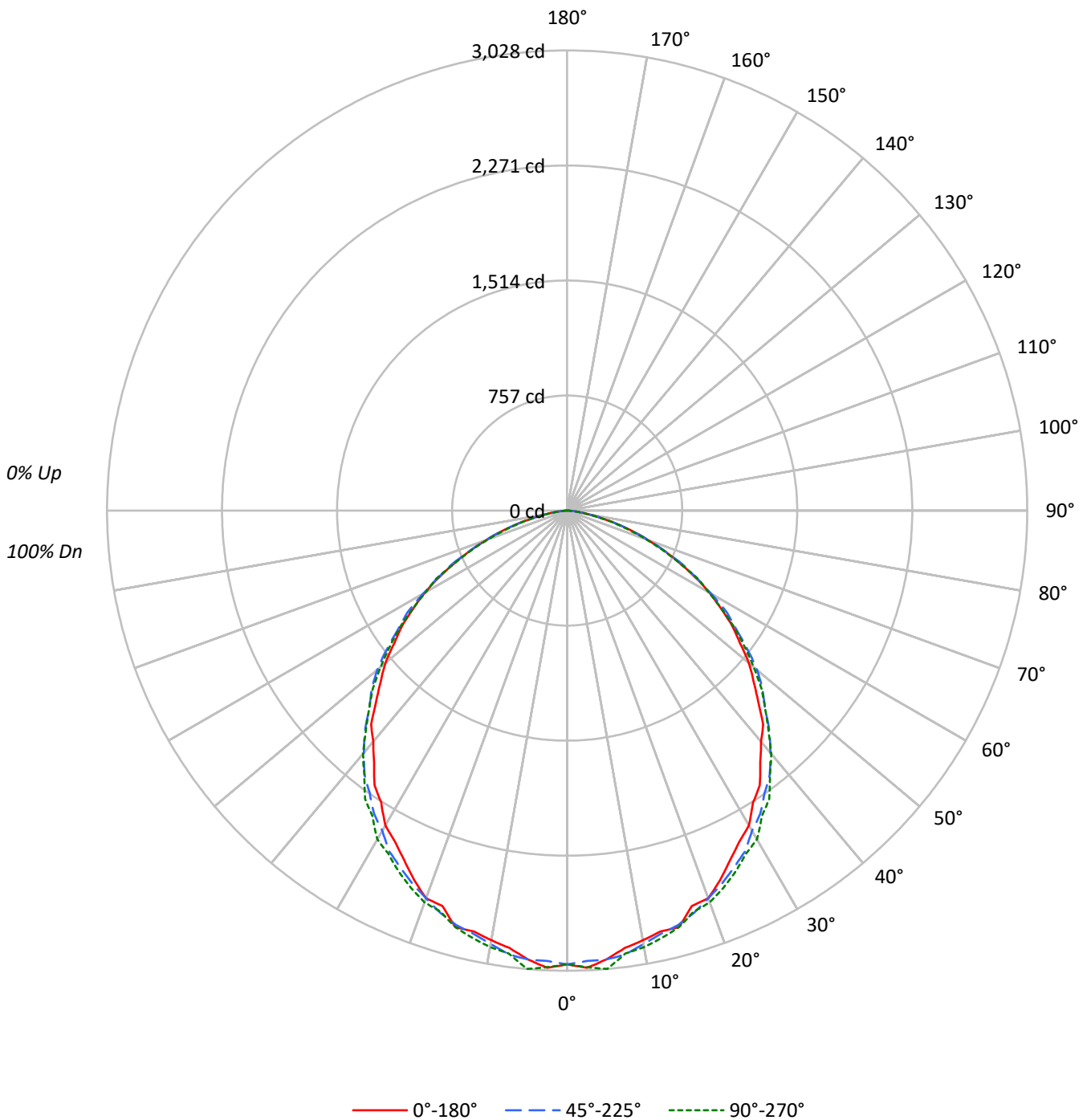
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7524.0 lumens  
Efficiency: N/A  
Efficacy: 113.0 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°	8033	8033	8033
5°	8007	8010	8179
10°	7845	7913	7969
15°	7907	7864	7908
20°	7773	7773	7856
25°	7534	7699	7784
30°	7431	7561	7762
35°	7255	7446	7613
40°	6973	7309	7341
45°	6762	7003	7013
50°	6540	6836	6705
55°	6232	6353	6308
60°	5827	5885	5780
65°	5196	5328	5159
70°	4458	4473	4349
75°	3531	3523	3386
80°	2365	2300	2210
85°	1284	1272	1189



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	280.8	3.7
10°-20°	795.9	10.6
20°-30°	1192.4	15.8
30°-40°	1413.2	18.8
40°-50°	1415.8	18.8
50°-60°	1201.8	16.0
60°-70°	810.2	10.8
70°-80°	356.0	4.7
80°-90°	57.8	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°	2269.1	30.2
0°-40°	3682.3	48.9
0°-60°	6299.9	83.7
0°-90°	7524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7524.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2985	2985	2985	2985	2985	
5°	2964	2957	2965	2956	3028	279
15°	2838	2805	2823	2837	2838	791
25°	2537	2551	2593	2627	2622	1173
35°	2209	2215	2266	2319	2317	1371
45°	1777	1810	1840	1888	1843	1375
55°	1328	1319	1354	1345	1344	1182
65°	816	805	837	805	810	812
75°	340	333	339	315	326	364
85°	42	40	41	40	38	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2985.3	2985.3	2985.3	2985.3	2985.3
2.5°	3011.2	2988.4	2967.2	2991.9	3006.9
5°	2964.1	2957.2	2965.3	2956.4	3027.7
7.5°	2903.2	2929.8	2945.2	2935.6	2939.8
10°	2870.9	2861.6	2895.9	2919.8	2916.3
12.5°	2836.2	2850.0	2852.0	2877.8	2880.1
15°	2838.1	2805.3	2822.7	2837.3	2838.5
17.5°	2727.9	2763.3	2775.3	2808.8	2767.2
20°	2714.4	2688.5	2714.4	2748.7	2743.3
22.5°	2631.5	2602.6	2658.1	2688.5	2686.6
25°	2537.4	2551.3	2592.9	2626.9	2621.5
27.5°	2454.9	2471.1	2530.5	2577.1	2547.1
30°	2391.4	2383.3	2433.4	2475.0	2498.1
32.5°	2277.6	2306.9	2365.5	2406.8	2384.8
35°	2208.6	2215.2	2266.5	2318.9	2317.3
37.5°	2088.0	2118.4	2190.5	2205.2	2191.7
40°	1985.1	2015.5	2080.7	2096.5	2089.9
42.5°	1909.1	1914.5	1970.4	1988.6	1959.6
45°	1776.9	1810.1	1840.2	1887.6	1842.9
47.5°	1664.4	1679.8	1744.6	1757.3	1733.8
50°	1562.2	1567.6	1632.8	1617.0	1601.6
52.5°	1433.9	1456.6	1493.2	1490.2	1472.0
55°	1328.3	1319.4	1354.1	1344.8	1344.5
57.5°	1201.5	1216.9	1245.4	1230.8	1207.2
60°	1082.7	1083.1	1093.5	1077.0	1073.9
62.5°	950.5	955.2	957.5	937.0	970.2
65°	816.0	805.2	836.8	804.8	810.2
67.5°	692.3	697.7	694.6	674.5	682.3
70°	566.6	573.6	568.5	545.8	552.7
72.5°	451.8	443.3	448.7	420.1	433.2
75°	339.6	332.6	338.8	314.9	325.7
77.5°	231.3	236.7	232.8	220.1	227.4
80°	152.6	148.4	148.4	141.1	142.6
82.5°	89.0	84.8	83.6	81.3	84.8
85°	41.6	40.5	41.2	40.1	38.5
87.5°	15.0	15.4	15.4	14.6	13.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)