

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: P546897

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-93-86-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P546897  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-4-LD4-2STD-35-UNV-93-86-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

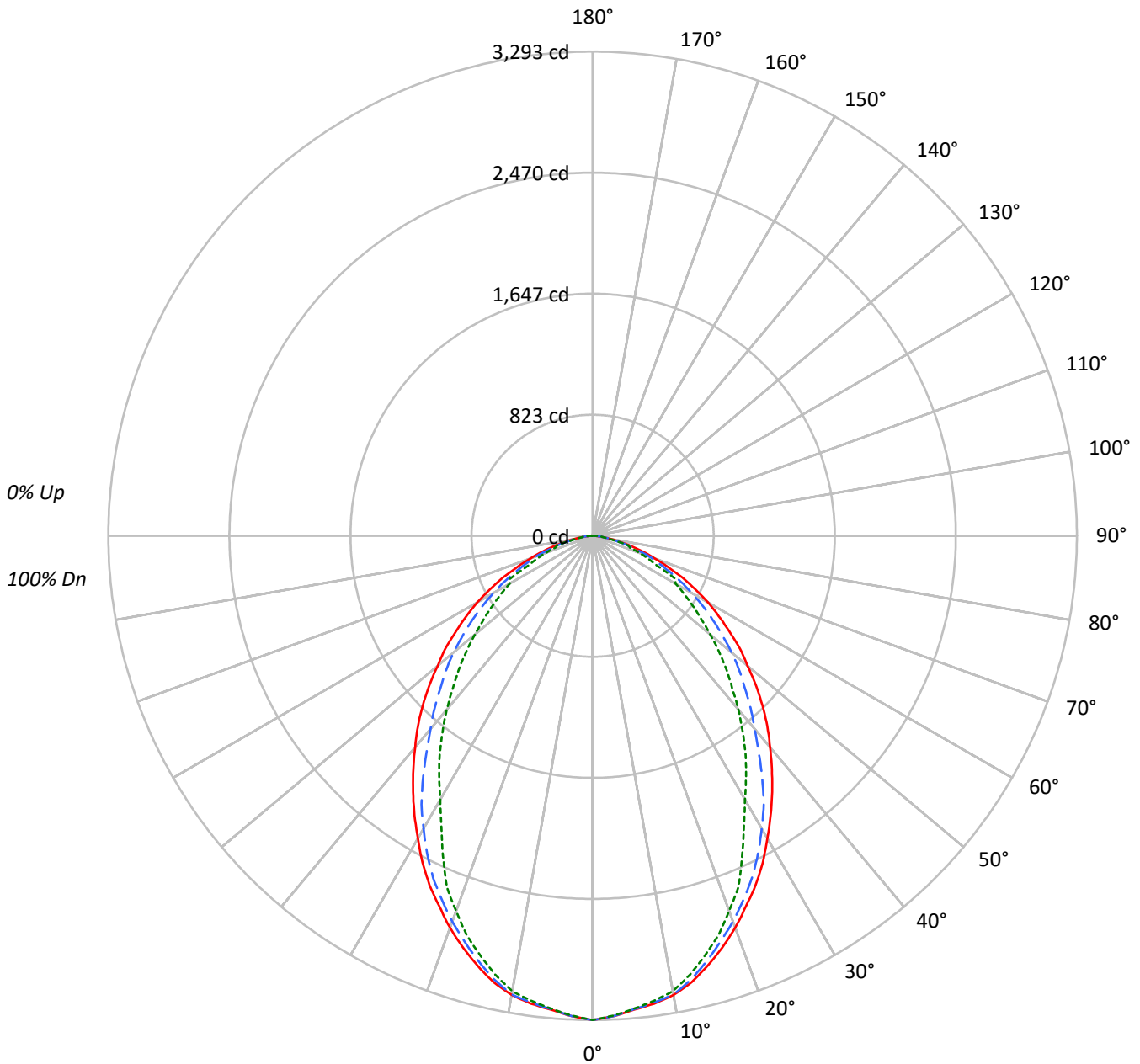
Lumens per Lamp: N/A  
Luminaire Lumens: 6465.0 lumens  
Efficiency: N/A  
Efficacy: 97.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4431	4431	4431
5°	4371	4366	4361
10°	4333	4328	4296
15°	4216	4174	4115
20°	4061	3996	3887
25°	3894	3809	3572
30°	3691	3573	3218
35°	3496	3302	2977
40°	3297	3009	2708
45°	3108	2782	2449
50°	2877	2582	2184
55°	2661	2340	1956
60°	2438	2090	1752
65°	2145	1830	1551
70°	1767	1603	1318
75°	1405	1227	1287
80°	944	885	826
85°	588	706	823



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	306.6	4.7
10°-20°	841.3	13.0
20°-30°	1164.7	18.0
30°-40°	1241.9	19.2
40°-50°	1133.0	17.5
50°-60°	887.6	13.7
60°-70°	578.5	8.9
70°-80°	256.3	4.0
80°-90°	55.0	0.9
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°	2312.6	35.8
0°-40°	3554.5	55.0
0°-60°	5575.2	86.2
0°-90°	6465.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6465.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3293	3293	3293	3293	3293	
5°	3236	3232	3232	3228	3228	307
15°	3027	3027	2996	2966	2954	851
25°	2623	2608	2566	2475	2406	1204
35°	2128	2113	2010	1858	1812	1331
45°	1633	1599	1462	1340	1287	1258
55°	1134	1100	998	880	834	1018
65°	674	636	575	586	487	664
75°	270	251	236	225	248	290
85°	38	42	46	50	53	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3293.2	3293.2	3293.2	3293.2	3293.2
2.5°	3270.3	3270.3	3270.3	3266.5	3266.5
5°	3236.1	3232.3	3232.3	3228.5	3228.5
7.5°	3209.4	3205.6	3201.8	3198.0	3190.4
10°	3171.4	3171.4	3167.5	3148.5	3144.7
12.5°	3110.4	3106.6	3091.4	3064.8	3057.1
15°	3026.7	3026.7	2996.2	2965.8	2954.3
17.5°	2935.3	2931.5	2893.4	2863.0	2847.7
20°	2836.3	2828.7	2790.6	2741.1	2714.5
22.5°	2725.9	2725.9	2680.2	2615.5	2588.9
25°	2623.1	2607.9	2566.0	2474.6	2406.1
27.5°	2505.1	2482.3	2436.6	2307.1	2227.2
30°	2375.7	2364.2	2299.5	2132.0	2071.1
32.5°	2253.8	2234.8	2166.3	1991.1	1941.6
35°	2128.2	2113.0	2010.2	1857.9	1812.2
37.5°	2002.6	1983.5	1854.1	1732.3	1675.1
40°	1876.9	1854.1	1713.2	1602.8	1541.9
42.5°	1758.9	1728.4	1591.4	1473.4	1404.8
45°	1633.3	1599.0	1461.9	1340.1	1286.8
47.5°	1507.6	1477.2	1351.5	1225.9	1165.0
50°	1374.4	1347.7	1233.5	1107.9	1043.2
52.5°	1264.0	1222.1	1111.7	986.1	932.8
55°	1134.5	1100.3	997.5	879.5	833.8
57.5°	1016.5	982.2	887.1	776.7	738.6
60°	906.1	856.6	776.7	681.5	651.0
62.5°	784.3	746.2	677.7	597.7	635.8
65°	673.9	635.8	574.9	586.3	487.3
67.5°	552.0	533.0	479.7	426.4	411.2
70°	449.2	426.4	407.4	350.3	335.0
72.5°	357.9	335.0	308.4	277.9	266.5
75°	270.3	251.3	236.0	224.6	247.5
77.5°	186.6	178.9	167.5	156.1	152.3
80°	121.8	118.0	114.2	110.4	106.6
82.5°	72.3	72.3	72.3	72.3	72.3
85°	38.1	41.9	45.7	49.5	53.3
87.5°	22.8	22.8	26.7	30.5	34.3
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)