

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: P546872

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-80-85-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: P546872  
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-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

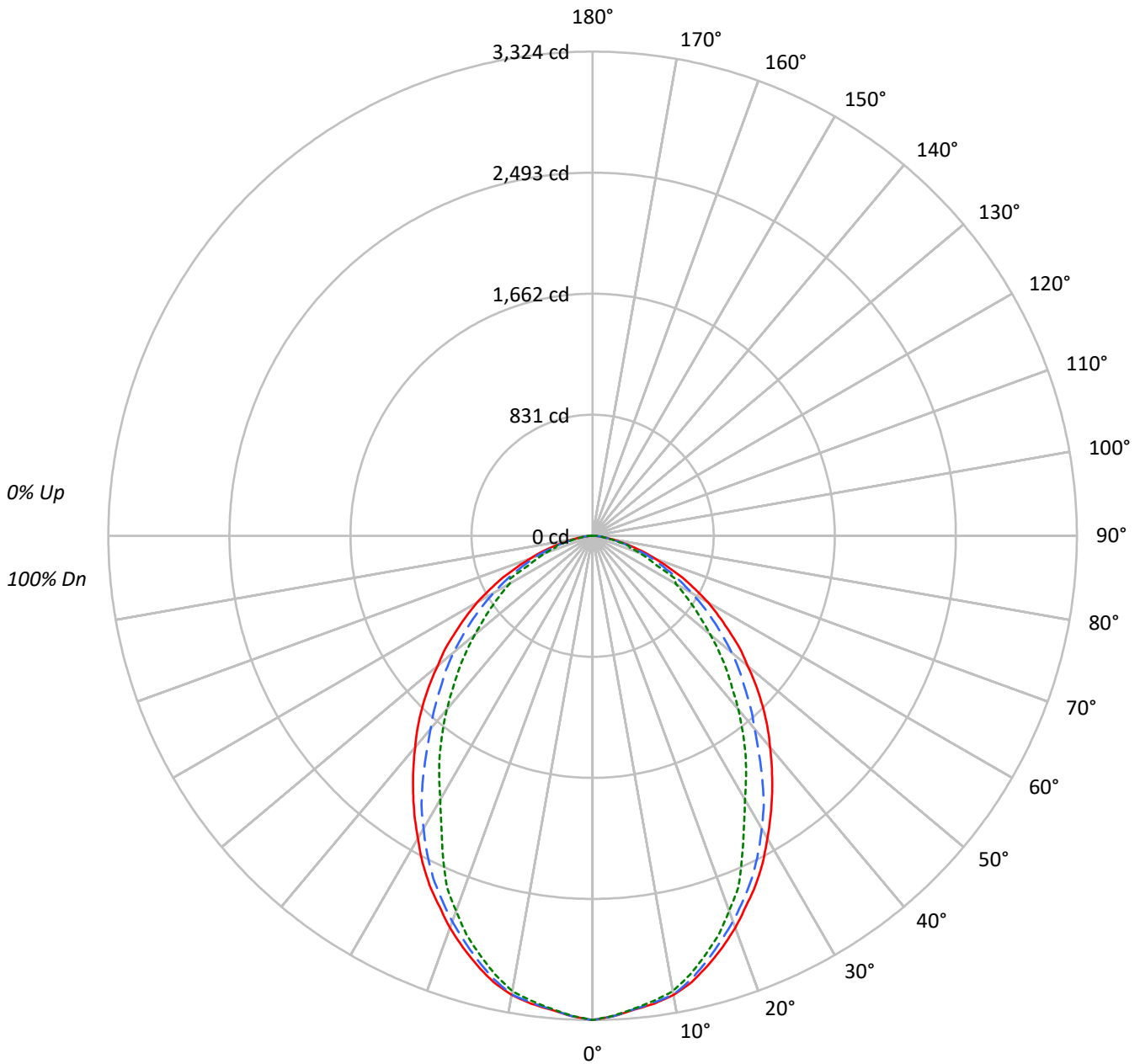
Lumens per Lamp: N/A  
Luminaire Lumens: 6526.0 lumens  
Efficiency: N/A  
Efficacy: 98.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	4473	4473	4473
5°	4412	4407	4402
10°	4374	4368	4337
15°	4256	4213	4154
20°	4100	4033	3923
25°	3931	3845	3606
30°	3726	3606	3248
35°	3529	3333	3005
40°	3328	3038	2734
45°	3137	2808	2472
50°	2904	2606	2204
55°	2686	2362	1974
60°	2461	2110	1769
65°	2166	1848	1566
70°	1784	1618	1330
75°	1419	1239	1299
80°	953	893	834
85°	593	712	831



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	309.4	4.7
10°-20°	849.2	13.0
20°-30°	1175.7	18.0
30°-40°	1253.7	19.2
40°-50°	1143.7	17.5
50°-60°	896.0	13.7
60°-70°	584.0	8.9
70°-80°	258.7	4.0
80°-90°	55.5	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°	2334.4	35.8
0°-40°	3588.1	55.0
0°-60°	5627.8	86.2
0°-90°	6526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6526.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3324	3324	3324	3324	3324	
5°	3267	3263	3263	3259	3259	310
15°	3055	3055	3024	2994	2982	859
25°	2648	2632	2590	2498	2429	1216
35°	2148	2133	2029	1875	1829	1343
45°	1649	1614	1476	1353	1299	1270
55°	1145	1111	1007	888	842	1027
65°	680	642	580	592	492	670
75°	273	254	238	227	250	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3324.3	3324.3	3324.3	3324.3	3324.3
2.5°	3301.2	3301.2	3301.2	3297.4	3297.4
5°	3266.6	3262.8	3262.8	3258.9	3258.9
7.5°	3239.7	3235.9	3232.0	3228.2	3220.5
10°	3201.3	3201.3	3197.4	3178.2	3174.4
12.5°	3139.8	3135.9	3120.6	3093.7	3086.0
15°	3055.2	3055.2	3024.5	2993.8	2982.2
17.5°	2963.0	2959.2	2920.7	2890.0	2874.6
20°	2863.1	2855.4	2817.0	2767.0	2740.1
22.5°	2751.6	2751.6	2705.5	2640.2	2613.3
25°	2647.9	2632.5	2590.2	2498.0	2428.8
27.5°	2528.7	2505.7	2459.6	2328.9	2248.2
30°	2398.1	2386.5	2321.2	2152.1	2090.6
32.5°	2275.1	2255.9	2186.7	2009.9	1960.0
35°	2148.3	2132.9	2029.1	1875.4	1829.3
37.5°	2021.5	2002.2	1871.6	1748.6	1691.0
40°	1894.6	1871.6	1729.4	1617.9	1556.4
42.5°	1775.5	1744.8	1606.4	1487.3	1418.1
45°	1648.7	1614.1	1475.7	1352.8	1299.0
47.5°	1521.9	1491.1	1364.3	1237.5	1176.0
50°	1387.3	1360.4	1245.2	1118.3	1053.0
52.5°	1275.9	1233.6	1122.2	995.4	941.6
55°	1145.2	1110.6	1006.9	887.7	841.6
57.5°	1026.1	991.5	895.4	784.0	745.6
60°	914.7	864.7	784.0	687.9	657.2
62.5°	791.7	753.2	684.1	603.4	641.8
65°	680.2	641.8	580.3	591.8	491.9
67.5°	557.2	538.0	484.2	430.4	415.1
70°	453.5	430.4	411.2	353.6	338.2
72.5°	361.2	338.2	311.3	280.5	269.0
75°	272.9	253.6	238.3	226.7	249.8
77.5°	188.3	180.6	169.1	157.6	153.7
80°	123.0	119.1	115.3	111.4	107.6
82.5°	73.0	73.0	73.0	73.0	73.0
85°	38.4	42.3	46.1	50.0	53.8
87.5°	23.1	23.1	26.9	30.7	34.6
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)