

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: P546875

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-80-88-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: P546875  
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-80-88-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

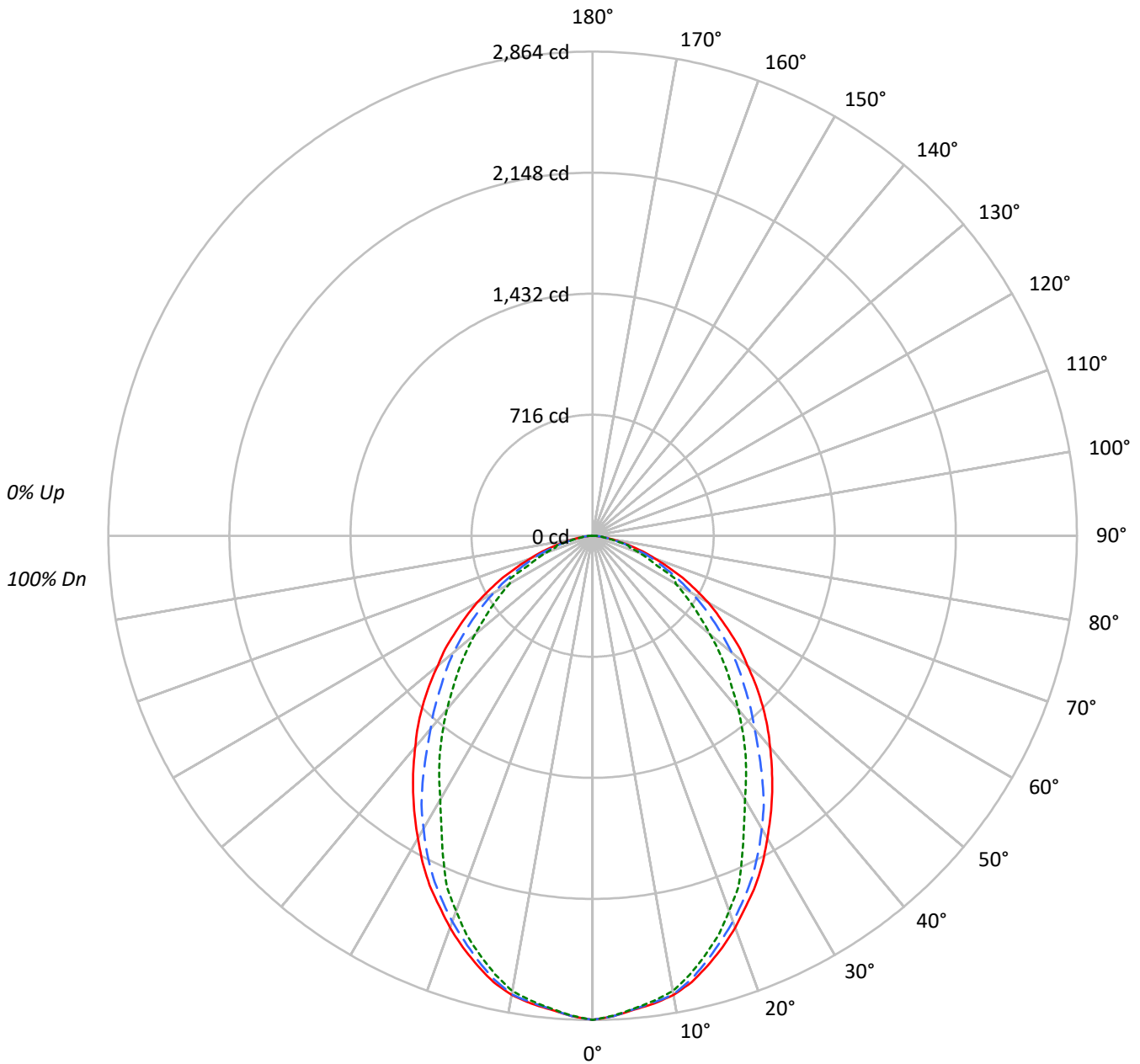
Lumens per Lamp: N/A  
Luminaire Lumens: 5622.0 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	3853	3853	3853
5°	3801	3796	3792
10°	3768	3763	3736
15°	3666	3629	3579
20°	3532	3475	3380
25°	3386	3313	3106
30°	3210	3107	2798
35°	3040	2871	2588
40°	2867	2617	2355
45°	2703	2419	2129
50°	2502	2245	1899
55°	2314	2035	1701
60°	2120	1817	1523
65°	1866	1592	1349
70°	1537	1393	1146
75°	1222	1067	1119
80°	821	769	718
85°	511	613	716



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	266.6	4.7
10°-20°	731.6	13.0
20°-30°	1012.9	18.0
30°-40°	1080.0	19.2
40°-50°	985.3	17.5
50°-60°	771.9	13.7
60°-70°	503.1	8.9
70°-80°	222.9	4.0
80°-90°	47.9	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°	2011.0	35.8
0°-40°	3091.0	55.0
0°-60°	4848.2	86.2
0°-90°	5622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5622.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2864	2864	2864	2864	2864	
5°	2814	2811	2811	2808	2808	267
15°	2632	2632	2606	2579	2569	740
25°	2281	2268	2231	2152	2092	1047
35°	1851	1837	1748	1616	1576	1157
45°	1420	1390	1271	1165	1119	1094
55°	987	957	867	765	725	885
65°	586	553	500	510	424	578
75°	235	218	205	195	215	252
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2863.8	2863.8	2863.8	2863.8	2863.8
2.5°	2843.9	2843.9	2843.9	2840.6	2840.6
5°	2814.1	2810.8	2810.8	2807.5	2807.5
7.5°	2790.9	2787.6	2784.3	2781.0	2774.4
10°	2757.8	2757.8	2754.5	2738.0	2734.7
12.5°	2704.9	2701.5	2688.3	2665.1	2658.5
15°	2632.0	2632.0	2605.5	2579.0	2569.1
17.5°	2552.6	2549.3	2516.1	2489.7	2476.4
20°	2466.5	2459.9	2426.8	2383.7	2360.5
22.5°	2370.5	2370.5	2330.7	2274.5	2251.3
25°	2281.1	2267.8	2231.4	2152.0	2092.4
27.5°	2178.5	2158.6	2118.9	2006.3	1936.8
30°	2065.9	2056.0	1999.7	1854.0	1801.0
32.5°	1959.9	1943.4	1883.8	1731.5	1688.5
35°	1850.7	1837.4	1748.1	1615.6	1575.9
37.5°	1741.4	1724.9	1612.3	1506.4	1456.7
40°	1632.2	1612.3	1489.8	1393.8	1340.8
42.5°	1529.6	1503.1	1383.9	1281.2	1221.7
45°	1420.3	1390.5	1271.3	1165.4	1119.0
47.5°	1311.0	1284.6	1175.3	1066.1	1013.1
50°	1195.2	1172.0	1072.7	963.4	907.1
52.5°	1099.2	1062.7	966.7	857.5	811.1
55°	986.6	956.8	867.4	764.8	725.0
57.5°	884.0	854.2	771.4	675.4	642.3
60°	788.0	744.9	675.4	592.6	566.1
62.5°	682.0	648.9	589.3	519.8	552.9
65°	586.0	552.9	499.9	509.9	423.8
67.5°	480.1	463.5	417.2	370.8	357.6
70°	390.7	370.8	354.2	304.6	291.3
72.5°	311.2	291.3	268.2	241.7	231.8
75°	235.1	218.5	205.3	195.3	215.2
77.5°	162.2	155.6	145.7	135.7	132.4
80°	105.9	102.6	99.3	96.0	92.7
82.5°	62.9	62.9	62.9	62.9	62.9
85°	33.1	36.4	39.7	43.0	46.4
87.5°	19.9	19.9	23.2	26.5	29.8
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)