

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: P546334

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-80-97-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: P546334  
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-12-4-LD4-2STD-40-UNV-80-97-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

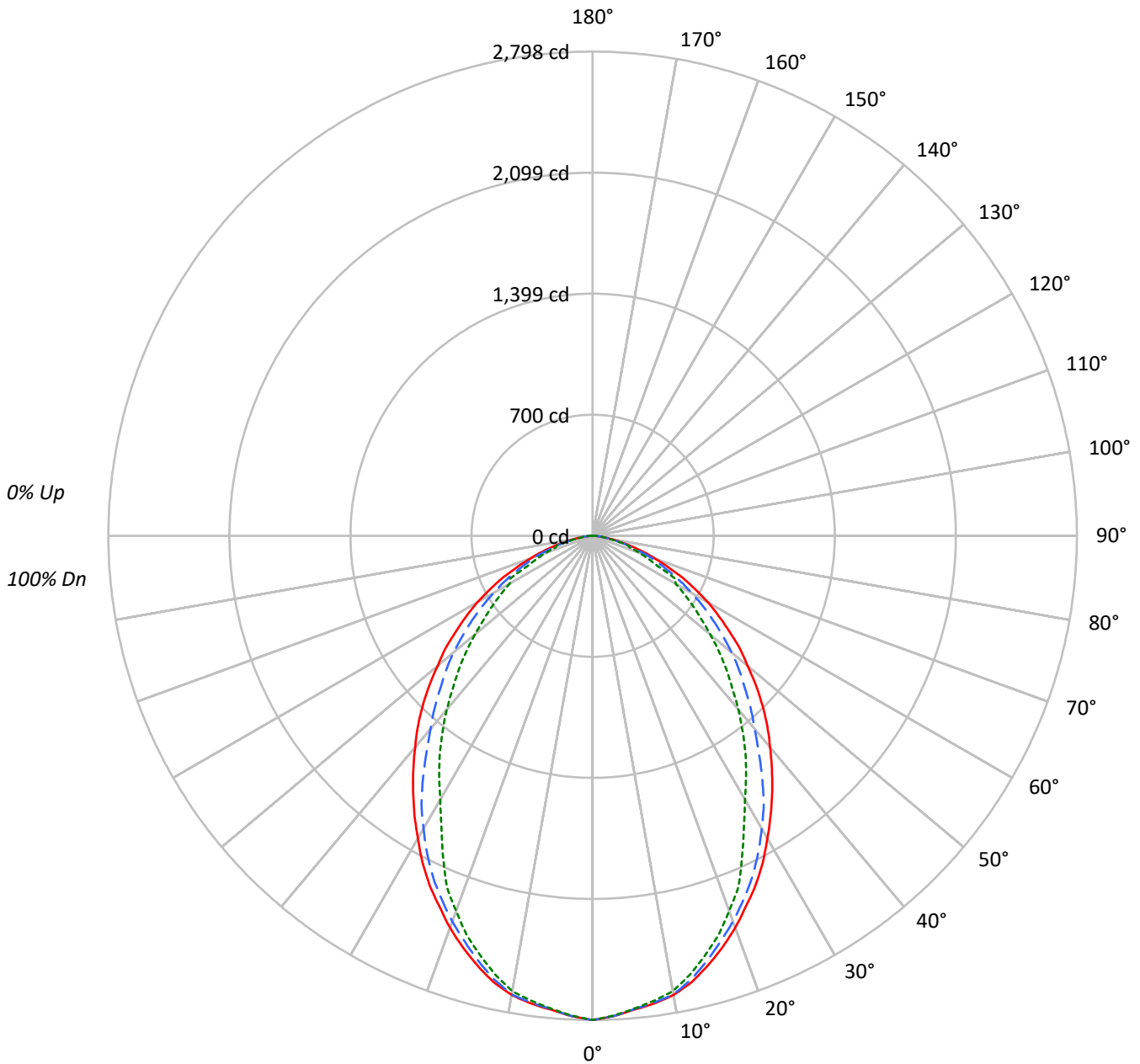
Lumens per Lamp: N/A  
Luminaire Lumens: 5493.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7530	7530	7530
5°	7427	7418	7410
10°	7363	7354	7301
15°	7164	7092	6993
20°	6901	6790	6605
25°	6617	6473	6070
30°	6272	6071	5468
35°	5940	5611	5058
40°	5602	5113	4602
45°	5281	4727	4161
50°	4888	4388	3710
55°	4523	3976	3324
60°	4144	3552	2977
65°	3646	3110	2636
70°	3003	2723	2240
75°	2388	2086	2187
80°	1604	1503	1404
85°	997	1198	1399



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	260.5	4.7
10°-20°	714.8	13.0
20°-30°	989.6	18.0
30°-40°	1055.2	19.2
40°-50°	962.7	17.5
50°-60°	754.2	13.7
60°-70°	491.5	8.9
70°-80°	217.8	4.0
80°-90°	46.8	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°	1964.9	35.8
0°-40°	3020.1	55.0
0°-60°	4736.9	86.2
0°-90°	5493.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5493.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2798	2798	2798	2798	2798	
5°	2750	2746	2746	2743	2743	261
15°	2572	2572	2546	2520	2510	723
25°	2229	2216	2180	2103	2044	1023
35°	1808	1795	1708	1579	1540	1130
45°	1388	1359	1242	1139	1093	1069
55°	964	935	848	747	708	865
65°	573	540	488	498	414	564
75°	230	214	201	191	210	246
85°	32	36	39	42	45	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2798.1	2798.1	2798.1	2798.1	2798.1
2.5°	2778.7	2778.7	2778.7	2775.4	2775.4
5°	2749.5	2746.3	2746.3	2743.1	2743.1
7.5°	2726.9	2723.7	2720.4	2717.2	2710.7
10°	2694.5	2694.5	2691.3	2675.1	2671.9
12.5°	2642.8	2639.6	2626.6	2604.0	2597.5
15°	2571.6	2571.6	2545.8	2519.9	2510.2
17.5°	2494.0	2490.8	2458.4	2432.5	2419.6
20°	2409.9	2403.4	2371.1	2329.0	2306.4
22.5°	2316.1	2316.1	2277.3	2222.3	2199.6
25°	2228.7	2215.8	2180.2	2102.6	2044.4
27.5°	2128.5	2109.1	2070.2	1960.3	1892.3
30°	2018.5	2008.8	1953.8	1811.5	1759.7
32.5°	1915.0	1898.8	1840.6	1691.8	1649.7
35°	1808.2	1795.3	1707.9	1578.6	1539.7
37.5°	1701.5	1685.3	1575.3	1471.8	1423.3
40°	1594.7	1575.3	1455.6	1361.8	1310.1
42.5°	1494.5	1468.6	1352.1	1251.8	1193.6
45°	1387.7	1358.6	1242.1	1138.6	1093.3
47.5°	1281.0	1255.1	1148.3	1041.6	989.8
50°	1167.7	1145.1	1048.1	941.3	886.3
52.5°	1073.9	1038.4	944.5	837.8	792.5
55°	964.0	934.8	847.5	747.2	708.4
57.5°	863.7	834.6	753.7	659.9	627.5
60°	769.9	727.8	659.9	579.0	553.1
62.5°	666.4	634.0	575.8	507.9	540.2
65°	572.6	540.2	488.4	498.2	414.0
67.5°	469.0	452.9	407.6	362.3	349.4
70°	381.7	362.3	346.1	297.6	284.7
72.5°	304.1	284.7	262.0	236.1	226.4
75°	229.7	213.5	200.6	190.9	210.3
77.5°	158.5	152.0	142.3	132.6	129.4
80°	103.5	100.3	97.0	93.8	90.6
82.5°	61.5	61.5	61.5	61.5	61.5
85°	32.3	35.6	38.8	42.1	45.3
87.5°	19.4	19.4	22.6	25.9	29.1
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)