

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: P546374

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-81-97-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: P546374  
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-50-UNV-81-97-EDD  
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

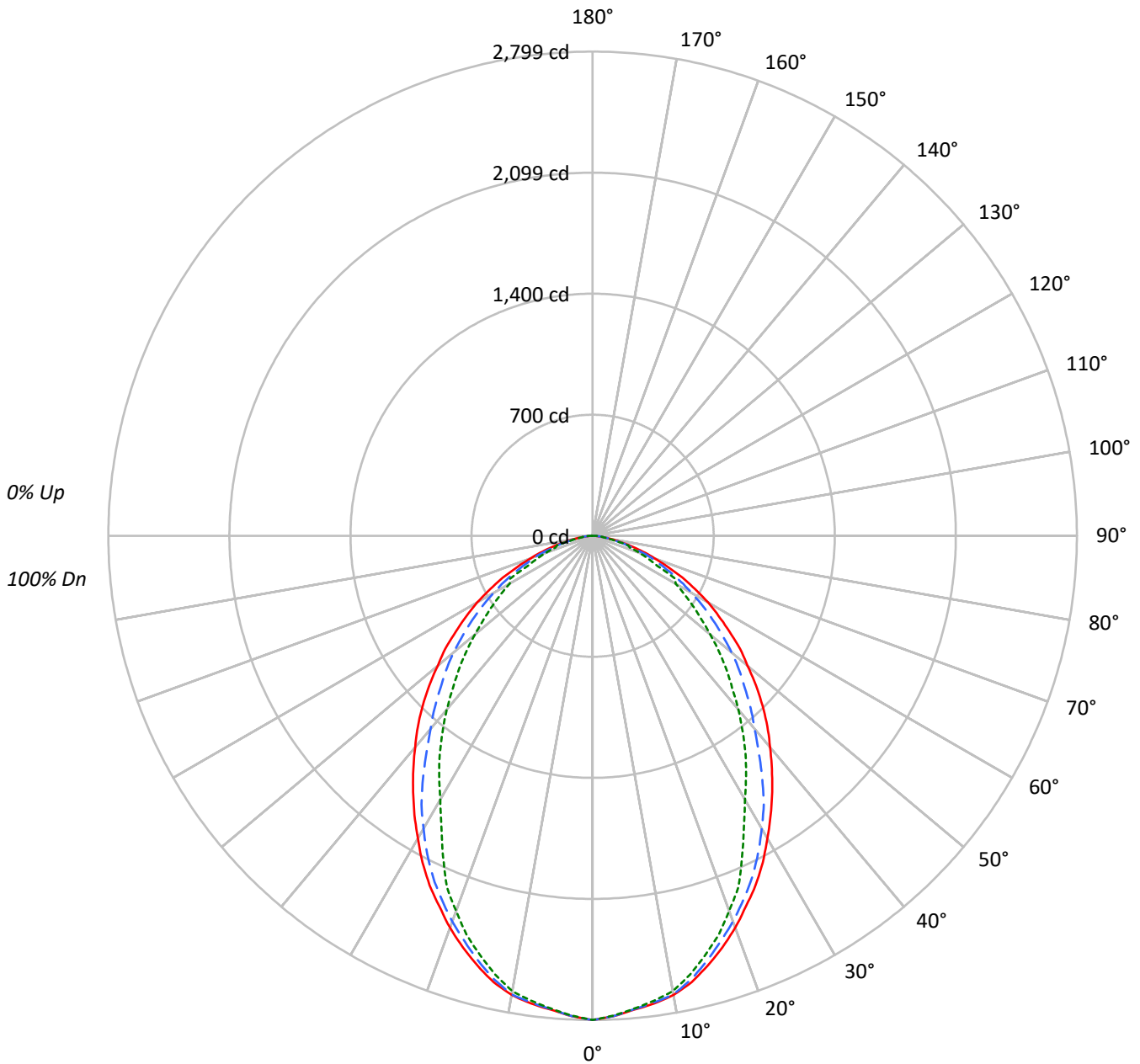
Lumens per Lamp: N/A  
Luminaire Lumens: 5495.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7532	7532	7532
5°	7430	7421	7413
10°	7365	7357	7304
15°	7167	7095	6996
20°	6904	6792	6607
25°	6620	6476	6072
30°	6274	6073	5470
35°	5942	5613	5060
40°	5604	5115	4604
45°	5283	4729	4162
50°	4891	4389	3712
55°	4524	3978	3325
60°	4145	3553	2978
65°	3647	3111	2637
70°	3004	2724	2241
75°	2389	2086	2187
80°	1604	1505	1404
85°	1000	1198	1399



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	260.6	4.7
10°-20°	715.1	13.0
20°-30°	990.0	18.0
30°-40°	1055.6	19.2
40°-50°	963.0	17.5
50°-60°	754.4	13.7
60°-70°	491.7	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°	1965.6	35.8
0°-40°	3021.2	55.0
0°-60°	4738.7	86.2
0°-90°	5495.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5495.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2799	2799	2799	2799	2799	
5°	2750	2747	2747	2744	2744	261
15°	2573	2573	2547	2521	2511	723
25°	2230	2217	2181	2103	2045	1024
35°	1809	1796	1709	1579	1540	1131
45°	1388	1359	1243	1139	1094	1069
55°	964	935	848	748	709	865
65°	573	540	489	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°	2799.1	2799.1	2799.1	2799.1	2799.1
2.5°	2779.7	2779.7	2779.7	2776.4	2776.4
5°	2750.5	2747.3	2747.3	2744.1	2744.1
7.5°	2727.9	2724.7	2721.4	2718.2	2711.7
10°	2695.5	2695.5	2692.3	2676.1	2672.9
12.5°	2643.8	2640.5	2627.6	2604.9	2598.5
15°	2572.6	2572.6	2546.7	2520.8	2511.1
17.5°	2494.9	2491.7	2459.3	2433.4	2420.5
20°	2410.8	2404.3	2371.9	2329.9	2307.2
22.5°	2316.9	2316.9	2278.1	2223.1	2200.4
25°	2229.6	2216.6	2181.0	2103.4	2045.1
27.5°	2129.2	2109.8	2071.0	1961.0	1893.0
30°	2019.2	2009.5	1954.5	1812.1	1760.3
32.5°	1915.7	1899.5	1841.2	1692.4	1650.3
35°	1808.9	1795.9	1708.6	1579.1	1540.3
37.5°	1702.1	1685.9	1575.9	1472.3	1423.8
40°	1595.3	1575.9	1456.2	1362.3	1310.6
42.5°	1495.0	1469.1	1352.6	1252.3	1194.1
45°	1388.2	1359.1	1242.6	1139.0	1093.7
47.5°	1281.4	1255.5	1148.8	1042.0	990.2
50°	1168.2	1145.5	1048.4	941.7	886.6
52.5°	1074.3	1038.7	944.9	838.1	792.8
55°	964.3	935.2	847.8	747.5	708.7
57.5°	864.0	834.9	754.0	660.1	627.8
60°	770.2	728.1	660.1	579.2	553.3
62.5°	666.6	634.2	576.0	508.0	540.4
65°	572.8	540.4	488.6	498.3	414.2
67.5°	469.2	453.0	407.7	362.4	349.5
70°	381.8	362.4	346.2	297.7	284.8
72.5°	304.2	284.8	262.1	236.2	226.5
75°	229.8	213.6	200.6	190.9	210.3
77.5°	158.6	152.1	142.4	132.7	129.4
80°	103.5	100.3	97.1	93.8	90.6
82.5°	61.5	61.5	61.5	61.5	61.5
85°	32.4	35.6	38.8	42.1	45.3
87.5°	19.4	19.4	22.7	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)