

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: P546333

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-80-96-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: P546333  
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-80-96-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

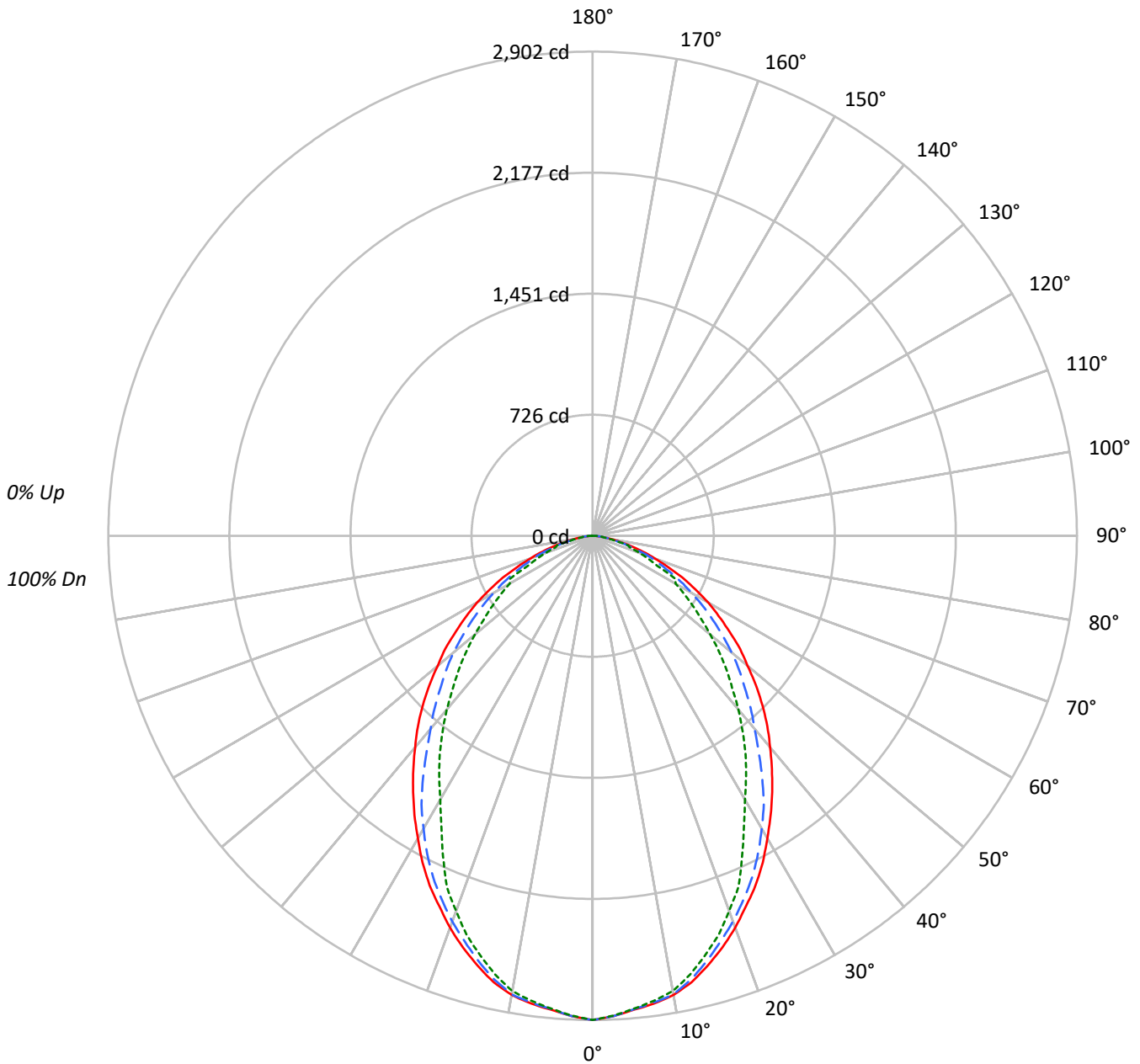
Lumens per Lamp: N/A  
Luminaire Lumens: 5697.0 lumens  
Efficiency: N/A  
Efficacy: 85.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7809	7809	7809
5°	7703	7694	7685
10°	7636	7627	7572
15°	7430	7356	7253
20°	7157	7042	6850
25°	6863	6714	6296
30°	6505	6297	5671
35°	6161	5819	5246
40°	5810	5303	4773
45°	5477	4903	4316
50°	5070	4551	3848
55°	4691	4124	3447
60°	4297	3683	3088
65°	3781	3226	2734
70°	3115	2825	2323
75°	2477	2163	2268
80°	1664	1559	1455
85°	1034	1244	1451



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	270.1	4.7
10°-20°	741.4	13.0
20°-30°	1026.4	18.0
30°-40°	1094.4	19.2
40°-50°	998.4	17.5
50°-60°	782.2	13.7
60°-70°	509.8	8.9
70°-80°	225.8	4.0
80°-90°	48.5	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°	2037.9	35.8
0°-40°	3132.3	55.0
0°-60°	4912.9	86.2
0°-90°	5697.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5697.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2902	2902	2902	2902	2902	
5°	2852	2848	2848	2845	2845	271
15°	2667	2667	2640	2614	2603	750
25°	2312	2298	2261	2181	2120	1061
35°	1875	1862	1771	1637	1597	1172
45°	1439	1409	1288	1181	1134	1109
55°	1000	970	879	775	735	897
65°	594	560	507	517	429	585
75°	238	221	208	198	218	255
85°	34	37	40	44	47	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2902.0	2902.0	2902.0	2902.0	2902.0
2.5°	2881.8	2881.8	2881.8	2878.5	2878.5
5°	2851.7	2848.3	2848.3	2844.9	2844.9
7.5°	2828.2	2824.8	2821.5	2818.1	2811.4
10°	2794.6	2794.6	2791.3	2774.5	2771.1
12.5°	2740.9	2737.6	2724.2	2700.7	2694.0
15°	2667.1	2667.1	2640.3	2613.5	2603.4
17.5°	2586.6	2583.3	2549.7	2522.9	2509.5
20°	2499.4	2492.7	2459.1	2415.5	2392.0
22.5°	2402.1	2402.1	2361.8	2304.8	2281.3
25°	2311.5	2298.1	2261.2	2180.7	2120.3
27.5°	2207.5	2187.4	2147.1	2033.1	1962.6
30°	2093.4	2083.4	2026.4	1878.7	1825.1
32.5°	1986.1	1969.3	1908.9	1754.6	1711.0
35°	1875.4	1862.0	1771.4	1637.2	1596.9
37.5°	1764.7	1747.9	1633.8	1526.5	1476.1
40°	1654.0	1633.8	1509.7	1412.4	1358.7
42.5°	1550.0	1523.1	1402.3	1298.3	1238.0
45°	1439.2	1409.1	1288.3	1180.9	1134.0
47.5°	1328.5	1301.7	1191.0	1080.3	1026.6
50°	1211.1	1187.6	1087.0	976.3	919.2
52.5°	1113.8	1076.9	979.6	868.9	821.9
55°	999.8	969.6	879.0	775.0	734.7
57.5°	895.8	865.6	781.7	684.4	650.8
60°	798.5	754.8	684.4	600.5	573.7
62.5°	691.1	657.6	597.2	526.7	560.3
65°	593.8	560.3	506.6	516.7	429.4
67.5°	486.5	469.7	422.7	375.7	362.3
70°	395.9	375.7	359.0	308.6	295.2
72.5°	315.4	295.2	271.7	244.9	234.8
75°	238.2	221.4	208.0	197.9	218.1
77.5°	164.4	157.7	147.6	137.6	134.2
80°	107.4	104.0	100.6	97.3	93.9
82.5°	63.7	63.7	63.7	63.7	63.7
85°	33.5	36.9	40.3	43.6	47.0
87.5°	20.1	20.1	23.5	26.8	30.2
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)