

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: P546373

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-81-96-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: P546373  
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-81-96-EDD  
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

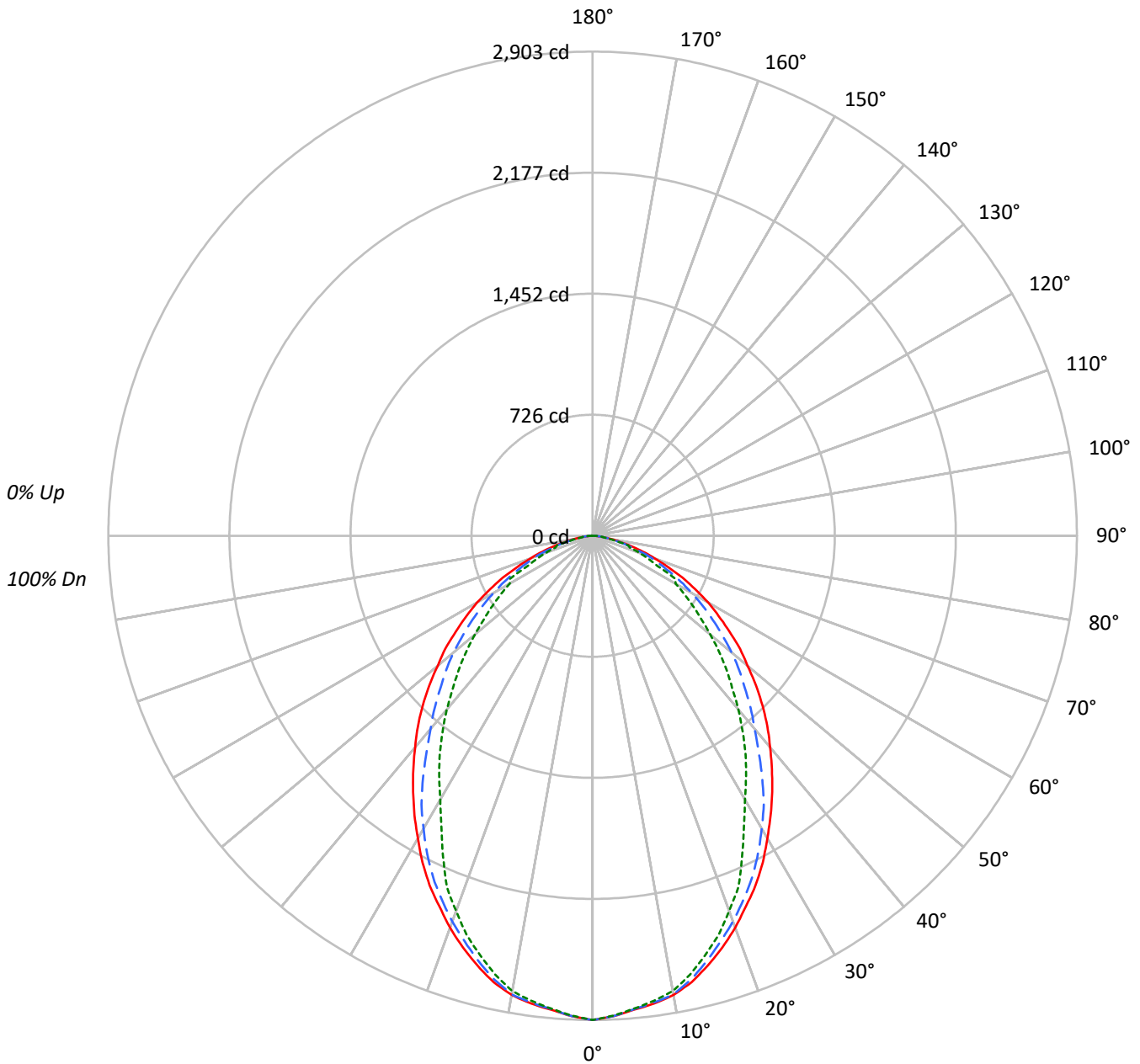
Lumens per Lamp: N/A  
Luminaire Lumens: 5699.0 lumens  
Efficiency: N/A  
Efficacy: 85.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7812	7812	7812
5°	7706	7697	7688
10°	7639	7630	7575
15°	7433	7358	7255
20°	7160	7045	6852
25°	6866	6716	6298
30°	6507	6299	5673
35°	6163	5821	5248
40°	5812	5305	4775
45°	5479	4904	4317
50°	5072	4552	3850
55°	4692	4125	3448
60°	4299	3684	3089
65°	3782	3227	2735
70°	3116	2825	2323
75°	2478	2164	2268
80°	1664	1561	1457
85°	1037	1244	1451



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	270.2	4.7
10°-20°	741.6	13.0
20°-30°	1026.7	18.0
30°-40°	1094.8	19.2
40°-50°	998.8	17.5
50°-60°	782.5	13.7
60°-70°	510.0	8.9
70°-80°	225.9	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°	2038.6	35.8
0°-40°	3133.4	55.0
0°-60°	4914.6	86.2
0°-90°	5699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5699.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2903	2903	2903	2903	2903	
5°	2853	2849	2849	2846	2846	271
15°	2668	2668	2641	2614	2604	750
25°	2312	2299	2262	2181	2121	1062
35°	1876	1863	1772	1638	1598	1173
45°	1440	1410	1289	1181	1134	1109
55°	1000	970	879	775	735	897
65°	594	560	507	517	430	585
75°	238	222	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°	2903.0	2903.0	2903.0	2903.0	2903.0
2.5°	2882.9	2882.9	2882.9	2879.5	2879.5
5°	2852.7	2849.3	2849.3	2845.9	2845.9
7.5°	2829.2	2825.8	2822.4	2819.1	2812.4
10°	2795.6	2795.6	2792.2	2775.5	2772.1
12.5°	2741.9	2738.5	2725.1	2701.6	2694.9
15°	2668.1	2668.1	2641.2	2614.4	2604.3
17.5°	2587.5	2584.2	2550.6	2523.8	2510.3
20°	2500.3	2493.6	2460.0	2416.4	2392.9
22.5°	2402.9	2402.9	2362.7	2305.6	2282.1
25°	2312.3	2298.9	2262.0	2181.4	2121.0
27.5°	2208.3	2188.2	2147.9	2033.8	1963.3
30°	2094.2	2084.1	2027.1	1879.4	1825.7
32.5°	1986.8	1970.0	1909.6	1755.2	1711.6
35°	1876.0	1862.6	1772.0	1637.8	1597.5
37.5°	1765.3	1748.5	1634.4	1527.0	1476.7
40°	1654.5	1634.4	1510.2	1412.9	1359.2
42.5°	1550.5	1523.7	1402.8	1298.8	1238.4
45°	1439.8	1409.5	1288.7	1181.3	1134.3
47.5°	1329.0	1302.2	1191.4	1080.7	1027.0
50°	1211.5	1188.0	1087.4	976.6	919.6
52.5°	1114.2	1077.3	980.0	869.2	822.2
55°	1000.1	969.9	879.3	775.3	735.0
57.5°	896.1	865.9	782.0	684.6	651.1
60°	798.7	755.1	684.6	600.7	573.9
62.5°	691.3	657.8	597.4	526.9	560.5
65°	594.0	560.5	506.8	516.8	429.6
67.5°	486.6	469.8	422.9	375.9	362.5
70°	396.0	375.9	359.1	308.8	295.3
72.5°	315.5	295.3	271.8	245.0	234.9
75°	238.3	221.5	208.1	198.0	218.1
77.5°	164.4	157.7	147.7	137.6	134.2
80°	107.4	104.0	100.7	97.3	94.0
82.5°	63.8	63.8	63.8	63.8	63.8
85°	33.6	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)