

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: P545429

Luminaire Tested: **FMR-12-2-LD4-1LO-50-UNV-93-96-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: P545429  
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-12-2-LD4-1LO-50-UNV-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

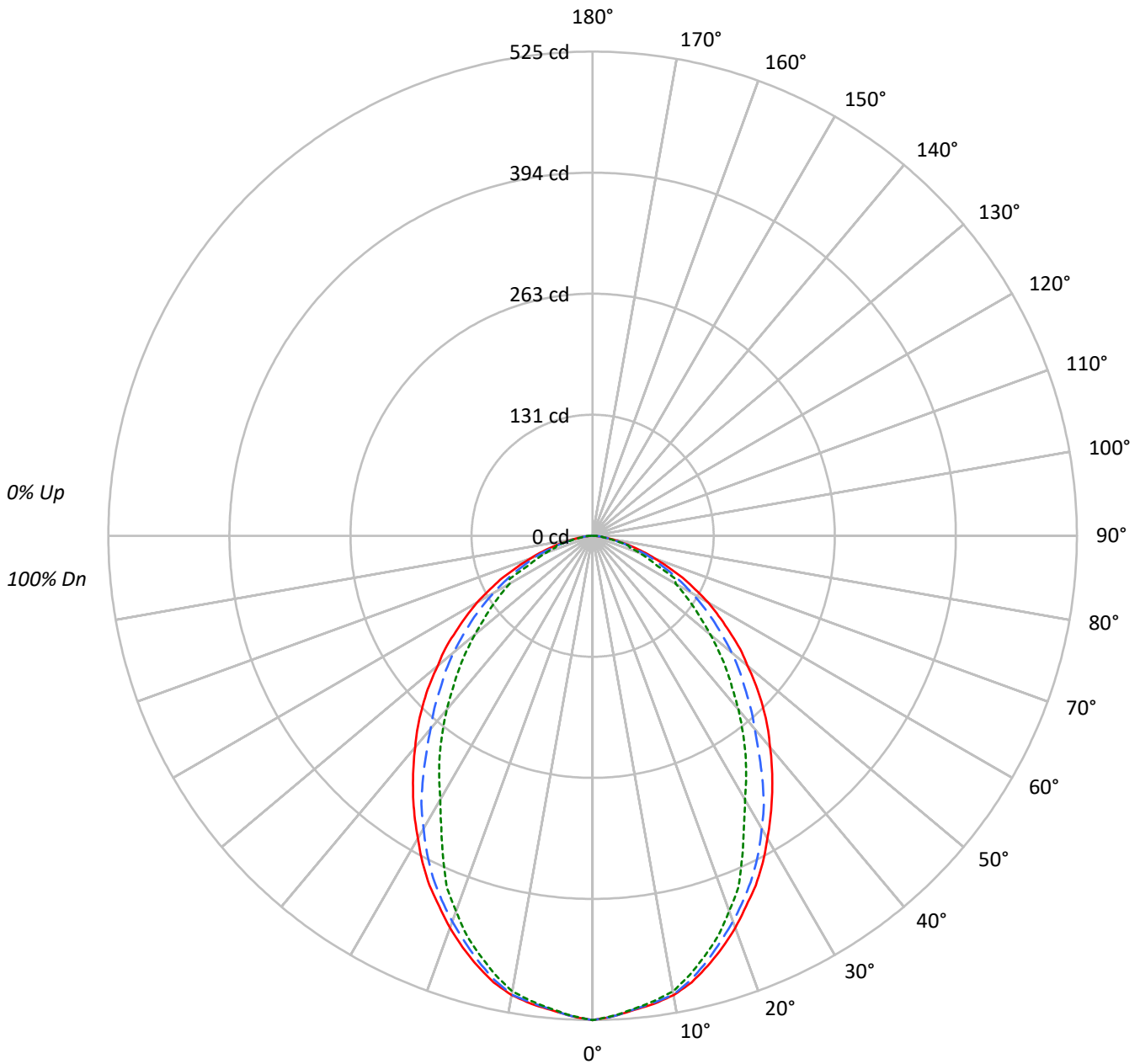
Lumens per Lamp: N/A  
Luminaire Lumens: 1031.0 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	2827	2827	2827
5°	2788	2785	2782
10°	2764	2760	2741
15°	2690	2662	2625
20°	2590	2549	2479
25°	2484	2430	2279
30°	2355	2279	2053
35°	2230	2106	1899
40°	2103	1919	1728
45°	1983	1774	1562
50°	1835	1647	1393
55°	1697	1493	1248
60°	1555	1334	1117
65°	1369	1168	989
70°	1127	1023	840
75°	896	782	821
80°	601	564	527
85°	377	451	525



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.9	4.7
10°-20°	134.2	13.0
20°-30°	185.7	18.0
30°-40°	198.1	19.2
40°-50°	180.7	17.5
50°-60°	141.6	13.7
60°-70°	92.3	8.9
70°-80°	40.9	4.0
80°-90°	8.8	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°	368.8	35.8
0°-40°	566.8	55.0
0°-60°	889.1	86.2
0°-90°	1031.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1031.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	525	525	525	525	525	
5°	516	516	516	515	515	49
15°	483	483	478	473	471	136
25°	418	416	409	395	384	192
35°	339	337	321	296	289	212
45°	260	255	233	214	205	201
55°	181	176	159	140	133	162
65°	108	101	92	94	78	106
75°	43	40	38	36	40	46
85°	6	7	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	525.2	525.2	525.2	525.2	525.2
2.5°	521.5	521.5	521.5	520.9	520.9
5°	516.1	515.5	515.5	514.9	514.9
7.5°	511.8	511.2	510.6	510.0	508.8
10°	505.7	505.7	505.1	502.1	501.5
12.5°	496.0	495.4	493.0	488.7	487.5
15°	482.7	482.7	477.8	473.0	471.1
17.5°	468.1	467.5	461.4	456.6	454.1
20°	452.3	451.1	445.0	437.1	432.9
22.5°	434.7	434.7	427.4	417.1	412.9
25°	418.3	415.9	409.2	394.6	383.7
27.5°	399.5	395.9	388.6	367.9	355.2
30°	378.9	377.0	366.7	340.0	330.3
32.5°	359.4	356.4	345.5	317.5	309.6
35°	339.4	337.0	320.6	296.3	289.0
37.5°	319.4	316.3	295.7	276.2	267.1
40°	299.3	295.7	273.2	255.6	245.9
42.5°	280.5	275.6	253.8	235.0	224.0
45°	260.5	255.0	233.1	213.7	205.2
47.5°	240.4	235.6	215.5	195.5	185.8
50°	219.2	214.9	196.7	176.7	166.4
52.5°	201.6	194.9	177.3	157.2	148.7
55°	180.9	175.5	159.1	140.2	133.0
57.5°	162.1	156.6	141.5	123.9	117.8
60°	144.5	136.6	123.9	108.7	103.8
62.5°	125.1	119.0	108.1	95.3	101.4
65°	107.5	101.4	91.7	93.5	77.7
67.5°	88.0	85.0	76.5	68.0	65.6
70°	71.6	68.0	65.0	55.9	53.4
72.5°	57.1	53.4	49.2	44.3	42.5
75°	43.1	40.1	37.6	35.8	39.5
77.5°	29.7	28.5	26.7	24.9	24.3
80°	19.4	18.8	18.2	17.6	17.0
82.5°	11.5	11.5	11.5	11.5	11.5
85°	6.1	6.7	7.3	7.9	8.5
87.5°	3.6	3.6	4.2	4.9	5.5
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)