

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: P545444

Luminaire Tested: **FMR-12-2-LD4-1STD-35-UNV-81-94-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: P545444  
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-LD4-1STD-35-UNV-81-94-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

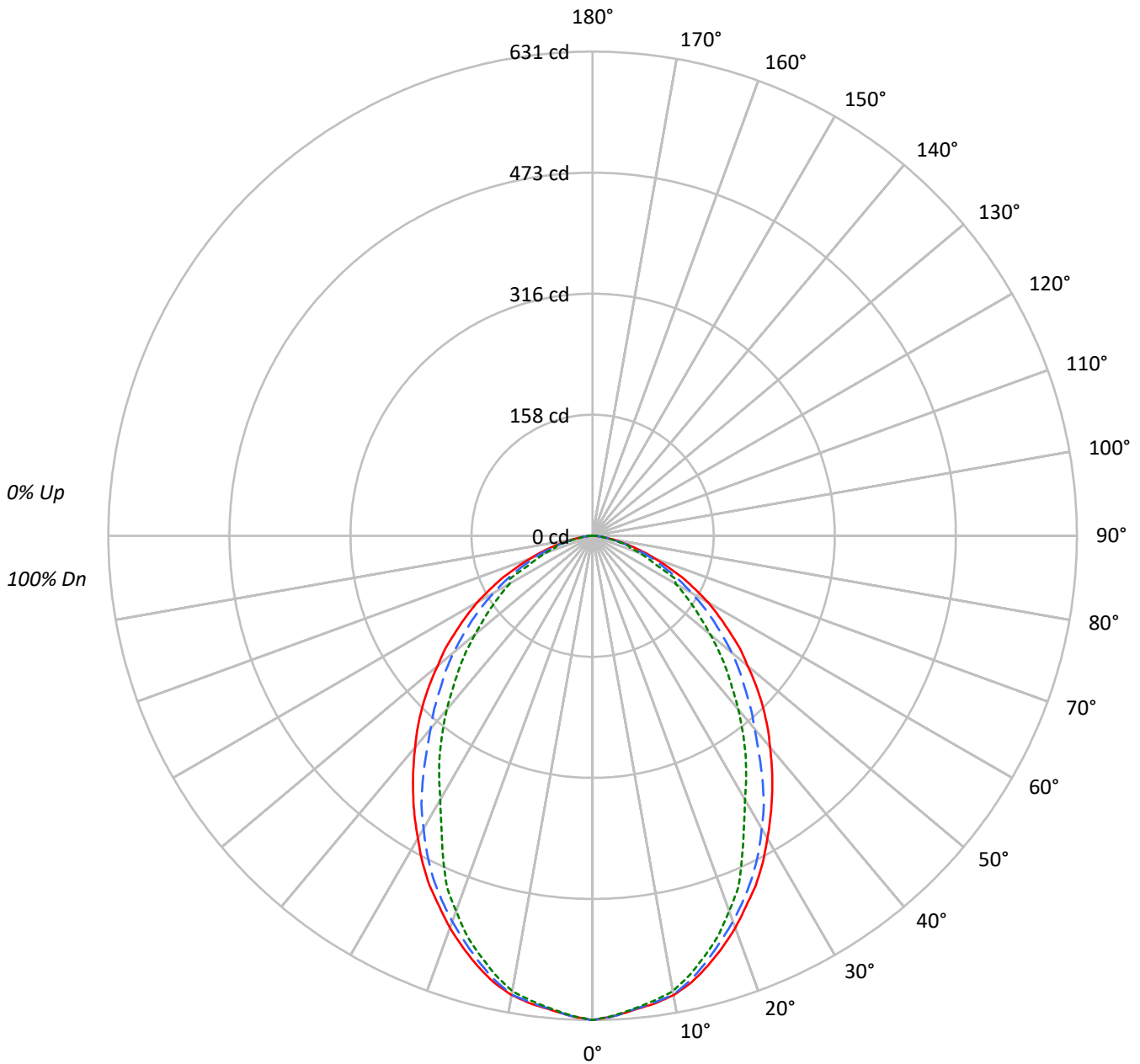
Lumens per Lamp: N/A  
Luminaire Lumens: 1239.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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°	3397	3397	3397
5°	3351	3347	3343
10°	3322	3318	3294
15°	3232	3199	3155
20°	3113	3063	2979
25°	2985	2920	2738
30°	2829	2739	2467
35°	2680	2531	2282
40°	2527	2307	2076
45°	2382	2133	1877
50°	2205	1979	1674
55°	2040	1794	1499
60°	1870	1602	1343
65°	1644	1403	1189
70°	1355	1229	1010
75°	1077	940	986
80°	722	679	632
85°	451	543	630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.8	4.7
10°-20°	161.2	13.0
20°-30°	223.2	18.0
30°-40°	238.0	19.2
40°-50°	217.1	17.5
50°-60°	170.1	13.7
60°-70°	110.9	8.9
70°-80°	49.1	4.0
80°-90°	10.6	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°	443.2	35.8
0°-40°	681.2	55.0
0°-60°	1068.5	86.2
0°-90°	1239.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1239.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	631	631	631	631	631	
5°	620	620	620	619	619	59
15°	580	580	574	568	566	163
25°	503	500	492	474	461	231
35°	408	405	385	356	347	255
45°	313	306	280	257	247	241
55°	217	211	191	168	160	195
65°	129	122	110	112	93	127
75°	52	48	45	43	47	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	631.1	631.1	631.1	631.1	631.1
2.5°	626.8	626.8	626.8	626.0	626.0
5°	620.2	619.5	619.5	618.7	618.7
7.5°	615.1	614.3	613.6	612.9	611.4
10°	607.8	607.8	607.1	603.4	602.7
12.5°	596.1	595.4	592.5	587.4	585.9
15°	580.1	580.1	574.2	568.4	566.2
17.5°	562.5	561.8	554.5	548.7	545.8
20°	543.6	542.1	534.8	525.3	520.2
22.5°	522.4	522.4	513.7	501.3	496.1
25°	502.7	499.8	491.8	474.3	461.1
27.5°	480.1	475.7	467.0	442.2	426.8
30°	455.3	453.1	440.7	408.6	396.9
32.5°	431.9	428.3	415.2	381.6	372.1
35°	407.9	404.9	385.2	356.1	347.3
37.5°	383.8	380.1	355.3	332.0	321.0
40°	359.7	355.3	328.3	307.2	295.5
42.5°	337.1	331.3	305.0	282.4	269.2
45°	313.0	306.4	280.2	256.8	246.6
47.5°	288.9	283.1	259.0	234.9	223.3
50°	263.4	258.3	236.4	212.3	199.9
52.5°	242.2	234.2	213.1	189.0	178.8
55°	217.4	210.9	191.2	168.5	159.8
57.5°	194.8	188.2	170.0	148.8	141.5
60°	173.7	164.2	148.8	130.6	124.8
62.5°	150.3	143.0	129.9	114.6	121.8
65°	129.1	121.8	110.2	112.4	93.4
67.5°	105.8	102.1	91.9	81.7	78.8
70°	86.1	81.7	78.1	67.1	64.2
72.5°	68.6	64.2	59.1	53.3	51.1
75°	51.8	48.2	45.2	43.0	47.4
77.5°	35.8	34.3	32.1	29.9	29.2
80°	23.3	22.6	21.9	21.2	20.4
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.0	8.8	9.5	10.2
87.5°	4.4	4.4	5.1	5.8	6.6
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)