

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: P545361

Luminaire Tested: **FMR-12-2-LD4-1LO-35-UNV-93-86-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: P545361  
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-35-UNV-93-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

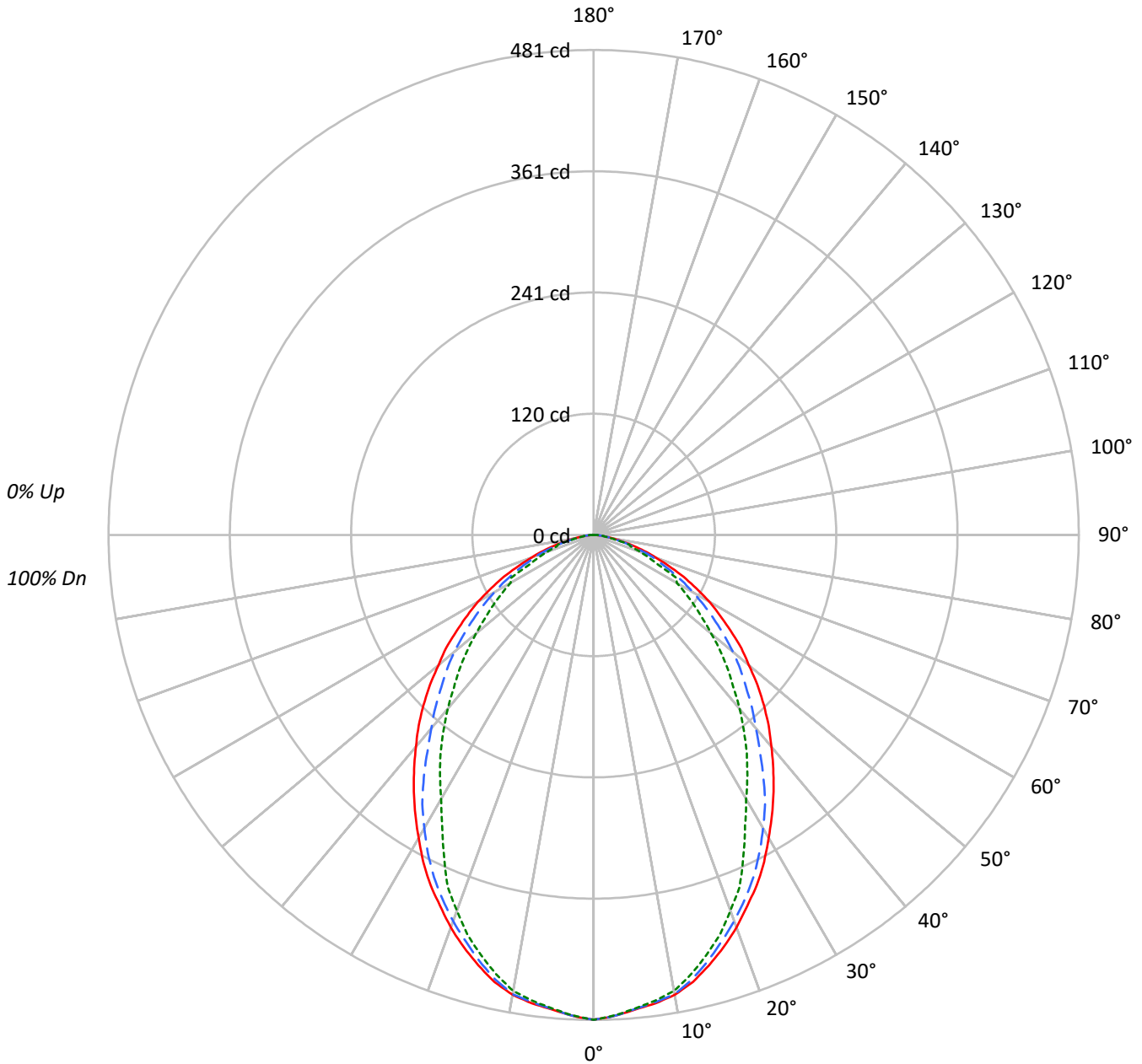
Lumens per Lamp: N/A  
Luminaire Lumens: 944.0 lumens  
Efficiency: N/A  
Efficacy: 80.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
Input Voltage (V): NR  
Input Current (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°	2588	2588	2588
5°	2553	2550	2547
10°	2531	2528	2510
15°	2462	2438	2404
20°	2372	2334	2270
25°	2274	2225	2086
30°	2156	2087	1879
35°	2042	1928	1738
40°	1926	1758	1581
45°	1815	1625	1430
50°	1680	1508	1275
55°	1555	1366	1142
60°	1424	1221	1024
65°	1253	1068	907
70°	1032	936	769
75°	821	717	751
80°	552	518	483
85°	346	414	482



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.8	4.7
10°-20°	122.8	13.0
20°-30°	170.1	18.0
30°-40°	181.3	19.2
40°-50°	165.4	17.5
50°-60°	129.6	13.7
60°-70°	84.5	8.9
70°-80°	37.4	4.0
80°-90°	8.0	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°	337.7	35.8
0°-40°	519.0	55.0
0°-60°	814.1	86.2
0°-90°	944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	944.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	481	481	481	481	481	
5°	472	472	472	471	471	45
15°	442	442	438	433	431	124
25°	383	381	375	361	351	176
35°	311	308	294	271	265	194
45°	238	234	214	196	188	184
55°	166	161	146	128	122	149
65°	98	93	84	86	71	97
75°	40	37	34	33	36	42
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	480.9	480.9	480.9	480.9	480.9
2.5°	477.5	477.5	477.5	477.0	477.0
5°	472.5	472.0	472.0	471.4	471.4
7.5°	468.6	468.1	467.5	467.0	465.9
10°	463.1	463.1	462.5	459.7	459.2
12.5°	454.2	453.6	451.4	447.5	446.4
15°	441.9	441.9	437.5	433.1	431.4
17.5°	428.6	428.0	422.5	418.0	415.8
20°	414.2	413.0	407.5	400.3	396.4
22.5°	398.0	398.0	391.4	381.9	378.0
25°	383.0	380.8	374.7	361.3	351.3
27.5°	365.8	362.5	355.8	336.9	325.2
30°	346.9	345.2	335.8	311.3	302.4
32.5°	329.1	326.3	316.3	290.7	283.5
35°	310.8	308.5	293.5	271.3	264.6
37.5°	292.4	289.6	270.7	252.9	244.6
40°	274.1	270.7	250.2	234.0	225.1
42.5°	256.8	252.4	232.4	215.1	205.1
45°	238.5	233.5	213.5	195.7	187.9
47.5°	220.1	215.7	197.3	179.0	170.1
50°	200.7	196.8	180.1	161.8	152.3
52.5°	184.6	178.4	162.3	144.0	136.2
55°	165.7	160.7	145.6	128.4	121.7
57.5°	148.4	143.4	129.5	113.4	107.8
60°	132.3	125.1	113.4	99.5	95.1
62.5°	114.5	109.0	99.0	87.3	92.8
65°	98.4	92.8	83.9	85.6	71.2
67.5°	80.6	77.8	70.0	62.3	60.0
70°	65.6	62.3	59.5	51.1	48.9
72.5°	52.3	48.9	45.0	40.6	38.9
75°	39.5	36.7	34.5	32.8	36.1
77.5°	27.2	26.1	24.5	22.8	22.2
80°	17.8	17.2	16.7	16.1	15.6
82.5°	10.6	10.6	10.6	10.6	10.6
85°	5.6	6.1	6.7	7.2	7.8
87.5°	3.3	3.3	3.9	4.4	5.0
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)