

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: P545421

Luminaire Tested: **FMR-12-2-LD4-1LO-50-UNV-82-96-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: P545421  
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-82-96-EDD  
Description: 1X2 FMR TROFFER WITH .187 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**

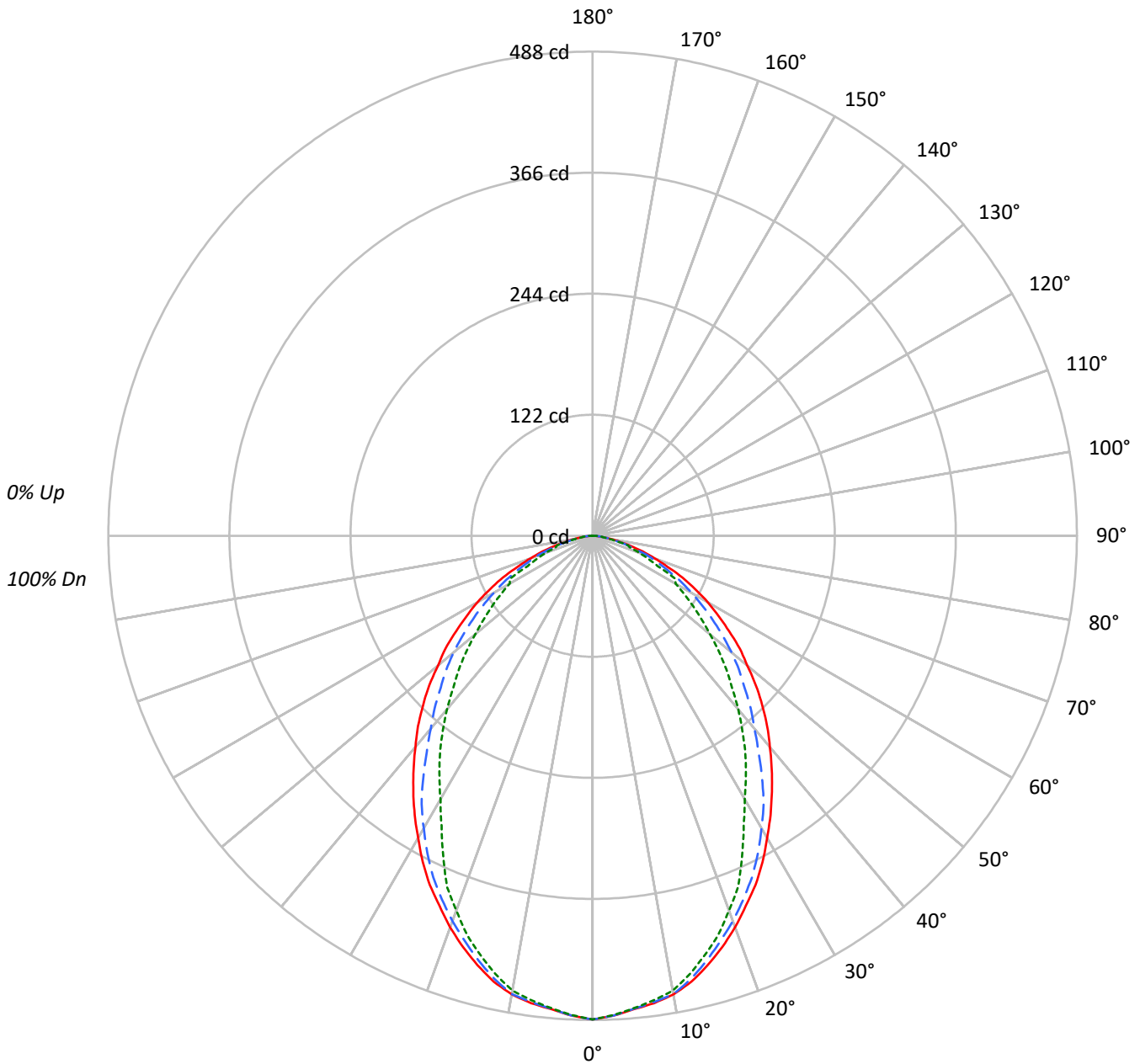
Lumens per Lamp: N/A  
Luminaire Lumens: 957.0 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	2624	2624	2624
5°	2588	2585	2582
10°	2565	2563	2544
15°	2496	2471	2437
20°	2405	2366	2301
25°	2306	2255	2115
30°	2186	2115	1905
35°	2070	1955	1763
40°	1952	1782	1603
45°	1840	1647	1450
50°	1703	1529	1293
55°	1575	1386	1158
60°	1443	1238	1038
65°	1271	1084	918
70°	1046	949	780
75°	832	726	761
80°	558	524	490
85°	346	420	488



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.4	4.7
10°-20°	124.5	13.0
20°-30°	172.4	18.0
30°-40°	183.8	19.2
40°-50°	167.7	17.5
50°-60°	131.4	13.7
60°-70°	85.6	8.9
70°-80°	37.9	4.0
80°-90°	8.1	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°	342.3	35.8
0°-40°	526.2	55.0
0°-60°	825.3	86.2
0°-90°	957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	957.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	488	488	488	488	488	
5°	479	478	478	478	478	45
15°	448	448	444	439	437	126
25°	388	386	380	366	356	178
35°	315	313	298	275	268	197
45°	242	237	216	198	190	186
55°	168	163	148	130	123	151
65°	100	94	85	87	72	98
75°	40	37	35	33	37	43
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°	487.5	487.5	487.5	487.5	487.5
2.5°	484.1	484.1	484.1	483.5	483.5
5°	479.0	478.5	478.5	477.9	477.9
7.5°	475.1	474.5	474.0	473.4	472.3
10°	469.4	469.4	468.9	466.1	465.5
12.5°	460.4	459.9	457.6	453.7	452.5
15°	448.0	448.0	443.5	439.0	437.3
17.5°	434.5	433.9	428.3	423.8	421.5
20°	419.9	418.7	413.1	405.8	401.8
22.5°	403.5	403.5	396.7	387.2	383.2
25°	388.3	386.0	379.8	366.3	356.2
27.5°	370.8	367.4	360.7	341.5	329.7
30°	351.7	350.0	340.4	315.6	306.6
32.5°	333.6	330.8	320.7	294.7	287.4
35°	315.0	312.8	297.6	275.0	268.3
37.5°	296.4	293.6	274.5	256.4	248.0
40°	277.8	274.5	253.6	237.3	228.2
42.5°	260.4	255.9	235.6	218.1	208.0
45°	241.8	236.7	216.4	198.4	190.5
47.5°	223.2	218.7	200.1	181.5	172.5
50°	203.4	199.5	182.6	164.0	154.4
52.5°	187.1	180.9	164.6	146.0	138.1
55°	167.9	162.9	147.7	130.2	123.4
57.5°	150.5	145.4	131.3	115.0	109.3
60°	134.1	126.8	115.0	100.9	96.4
62.5°	116.1	110.5	100.3	88.5	94.1
65°	99.8	94.1	85.1	86.8	72.1
67.5°	81.7	78.9	71.0	63.1	60.9
70°	66.5	63.1	60.3	51.8	49.6
72.5°	53.0	49.6	45.6	41.1	39.4
75°	40.0	37.2	34.9	33.3	36.6
77.5°	27.6	26.5	24.8	23.1	22.5
80°	18.0	17.5	16.9	16.3	15.8
82.5°	10.7	10.7	10.7	10.7	10.7
85°	5.6	6.2	6.8	7.3	7.9
87.5°	3.4	3.4	3.9	4.5	5.1
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)