

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: P545409

Luminaire Tested: **FMR-12-2-LD4-1LO-50-UNV-81-86-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: P545409  
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-81-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

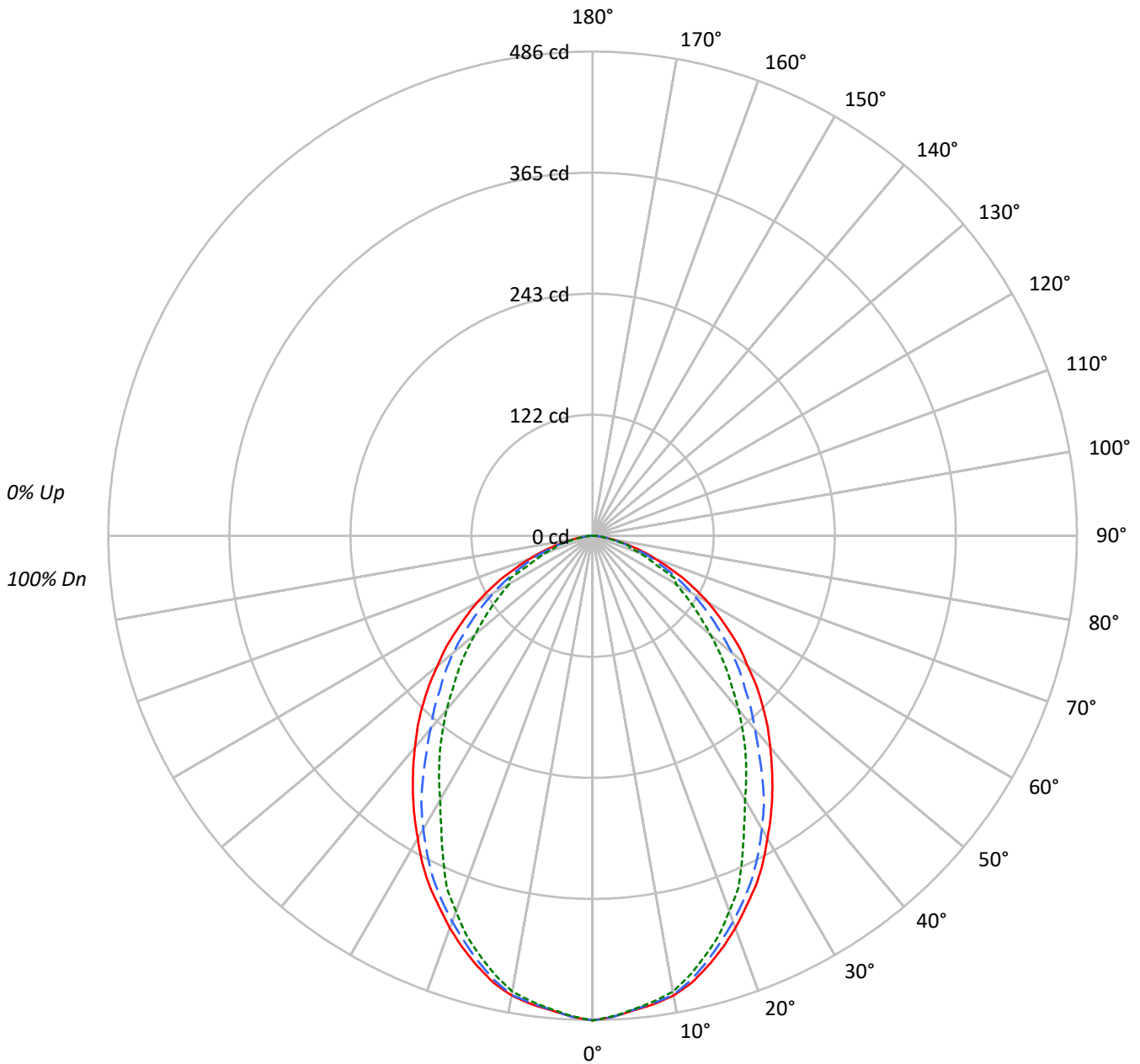
Lumens per Lamp: N/A  
Luminaire Lumens: 955.0 lumens  
Efficiency: N/A  
Efficacy: 81.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2618	2618	2618
5°	2582	2580	2576
10°	2560	2557	2538
15°	2491	2466	2432
20°	2400	2361	2297
25°	2301	2251	2110
30°	2181	2111	1901
35°	2066	1951	1759
40°	1948	1778	1600
45°	1837	1644	1447
50°	1700	1526	1290
55°	1573	1382	1156
60°	1440	1235	1035
65°	1267	1081	917
70°	1045	947	779
75°	830	726	761
80°	558	524	487
85°	346	414	488



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.3	4.7
10°-20°	124.3	13.0
20°-30°	172.1	18.0
30°-40°	183.5	19.2
40°-50°	167.4	17.5
50°-60°	131.1	13.7
60°-70°	85.5	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°	341.6	35.8
0°-40°	525.1	55.0
0°-60°	823.5	86.2
0°-90°	955.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	955.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	478	478	478	477	477	45
15°	447	447	443	438	436	126
25°	388	385	379	366	355	178
35°	314	312	297	274	268	197
45°	241	236	216	198	190	186
55°	168	162	147	130	123	150
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°	486.5	486.5	486.5	486.5	486.5
2.5°	483.1	483.1	483.1	482.5	482.5
5°	478.0	477.5	477.5	476.9	476.9
7.5°	474.1	473.5	473.0	472.4	471.3
10°	468.5	468.5	467.9	465.1	464.5
12.5°	459.5	458.9	456.7	452.7	451.6
15°	447.1	447.1	442.6	438.1	436.4
17.5°	433.6	433.0	427.4	422.9	420.7
20°	419.0	417.9	412.2	404.9	401.0
22.5°	402.7	402.7	395.9	386.4	382.4
25°	387.5	385.2	379.0	365.6	355.4
27.5°	370.1	366.7	359.9	340.8	329.0
30°	350.9	349.2	339.7	314.9	305.9
32.5°	332.9	330.1	320.0	294.1	286.8
35°	314.4	312.1	296.9	274.4	267.7
37.5°	295.8	293.0	273.9	255.9	247.5
40°	277.3	273.9	253.1	236.8	227.8
42.5°	259.8	255.3	235.1	217.6	207.5
45°	241.3	236.2	216.0	198.0	190.1
47.5°	222.7	218.2	199.6	181.1	172.1
50°	203.0	199.1	182.2	163.7	154.1
52.5°	186.7	180.5	164.2	145.7	137.8
55°	167.6	162.5	147.3	129.9	123.2
57.5°	150.2	145.1	131.0	114.7	109.1
60°	133.8	126.5	114.7	100.7	96.2
62.5°	115.9	110.2	100.1	88.3	93.9
65°	99.5	93.9	84.9	86.6	72.0
67.5°	81.5	78.7	70.9	63.0	60.7
70°	66.4	63.0	60.2	51.7	49.5
72.5°	52.9	49.5	45.6	41.1	39.4
75°	39.9	37.1	34.9	33.2	36.6
77.5°	27.6	26.4	24.7	23.1	22.5
80°	18.0	17.4	16.9	16.3	15.7
82.5°	10.7	10.7	10.7	10.7	10.7
85°	5.6	6.2	6.7	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)