

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: P545394

Luminaire Tested: **FMR-12-2-LD4-1LO-40-UNV-93-87-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: P545394  
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-40-UNV-93-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

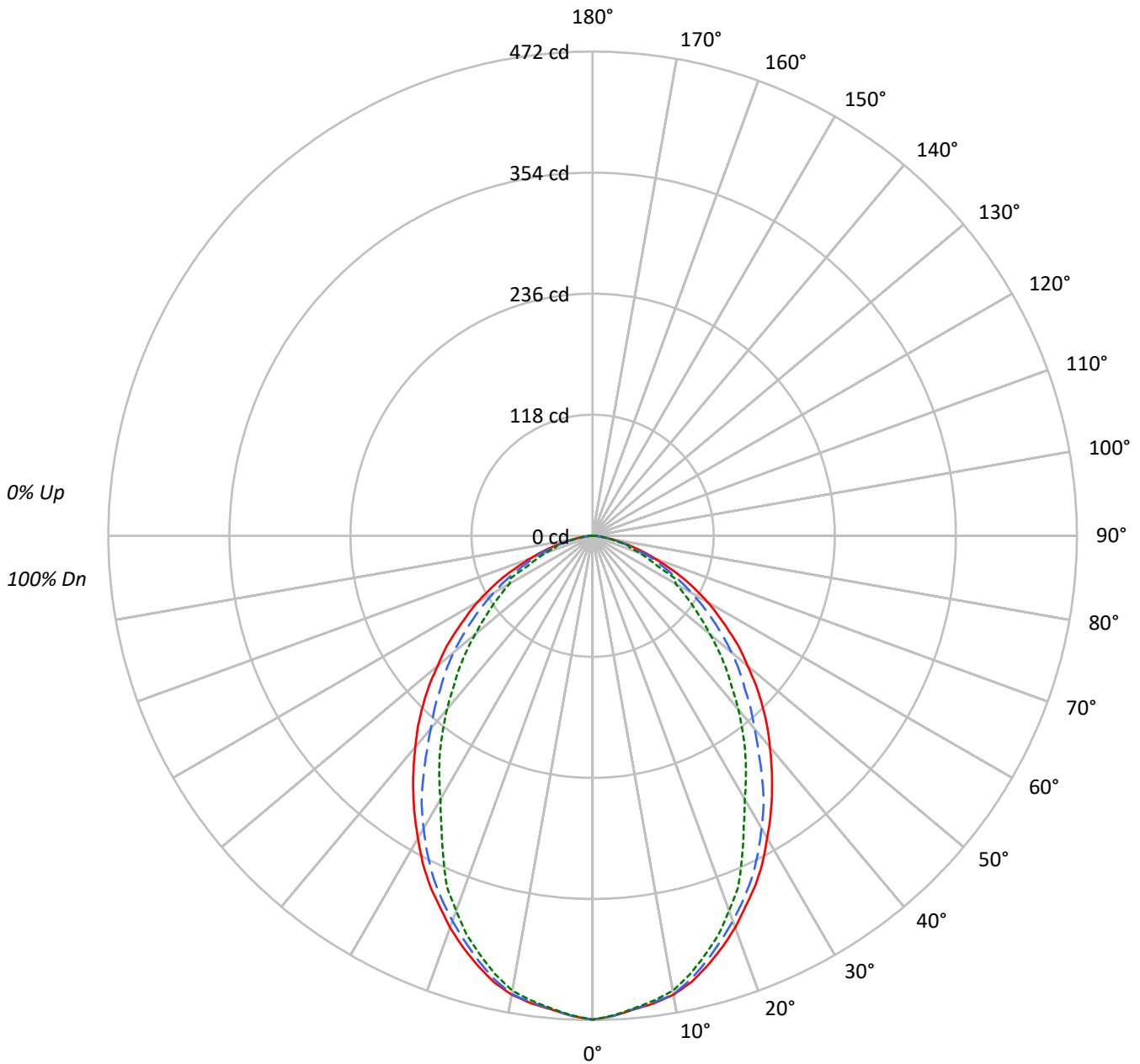
Lumens per Lamp: N/A  
Luminaire Lumens: 926.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
Input Voltage (V): NR  
Input Current (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°	2539	2539	2539
5°	2504	2501	2498
10°	2482	2479	2461
15°	2415	2391	2358
20°	2327	2289	2227
25°	2231	2182	2046
30°	2115	2047	1843
35°	2003	1892	1706
40°	1888	1724	1552
45°	1780	1594	1403
50°	1649	1479	1251
55°	1525	1341	1120
60°	1397	1197	1003
65°	1229	1048	889
70°	1012	917	755
75°	805	703	736
80°	539	508	474
85°	340	401	469



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.9	4.7
10°-20°	120.5	13.0
20°-30°	166.8	18.0
30°-40°	177.9	19.2
40°-50°	162.3	17.5
50°-60°	127.1	13.7
60°-70°	82.9	8.9
70°-80°	36.7	4.0
80°-90°	7.9	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°	331.2	35.8
0°-40°	509.1	55.0
0°-60°	798.5	86.2
0°-90°	926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	926.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	464	463	463	462	462	44
15°	434	434	429	425	423	122
25°	376	374	368	354	345	172
35°	305	303	288	266	260	191
45°	234	229	209	192	184	180
55°	162	158	143	126	119	146
65°	96	91	82	84	70	95
75°	39	36	34	32	35	41
85°	6	6	6	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	471.7	471.7	471.7	471.7	471.7
2.5°	468.4	468.4	468.4	467.9	467.9
5°	463.5	463.0	463.0	462.4	462.4
7.5°	459.7	459.1	458.6	458.1	457.0
10°	454.2	454.2	453.7	451.0	450.4
12.5°	445.5	445.0	442.8	439.0	437.9
15°	433.5	433.5	429.2	424.8	423.2
17.5°	420.4	419.9	414.4	410.1	407.9
20°	406.3	405.2	399.7	392.6	388.8
22.5°	390.4	390.4	383.9	374.6	370.8
25°	375.7	373.5	367.5	354.5	344.6
27.5°	358.8	355.5	349.0	330.5	319.0
30°	340.3	338.6	329.4	305.4	296.6
32.5°	322.8	320.1	310.3	285.2	278.1
35°	304.8	302.6	287.9	266.1	259.6
37.5°	286.8	284.1	265.6	248.1	239.9
40°	268.8	265.6	245.4	229.6	220.9
42.5°	251.9	247.6	227.9	211.0	201.2
45°	233.9	229.0	209.4	191.9	184.3
47.5°	215.9	211.6	193.6	175.6	166.9
50°	196.9	193.0	176.7	158.7	149.4
52.5°	181.0	175.0	159.2	141.2	133.6
55°	162.5	157.6	142.9	126.0	119.4
57.5°	145.6	140.7	127.1	111.2	105.8
60°	129.8	122.7	111.2	97.6	93.2
62.5°	112.3	106.9	97.1	85.6	91.1
65°	96.5	91.1	82.3	84.0	69.8
67.5°	79.1	76.3	68.7	61.1	58.9
70°	64.3	61.1	58.3	50.2	48.0
72.5°	51.3	48.0	44.2	39.8	38.2
75°	38.7	36.0	33.8	32.2	35.4
77.5°	26.7	25.6	24.0	22.4	21.8
80°	17.4	16.9	16.4	15.8	15.3
82.5°	10.4	10.4	10.4	10.4	10.4
85°	5.5	6.0	6.5	7.1	7.6
87.5°	3.3	3.3	3.8	4.4	4.9
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)