

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: P545410

Luminaire Tested: **FMR-12-2-LD4-1LO-50-UNV-81-87-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: P545410  
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-81-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

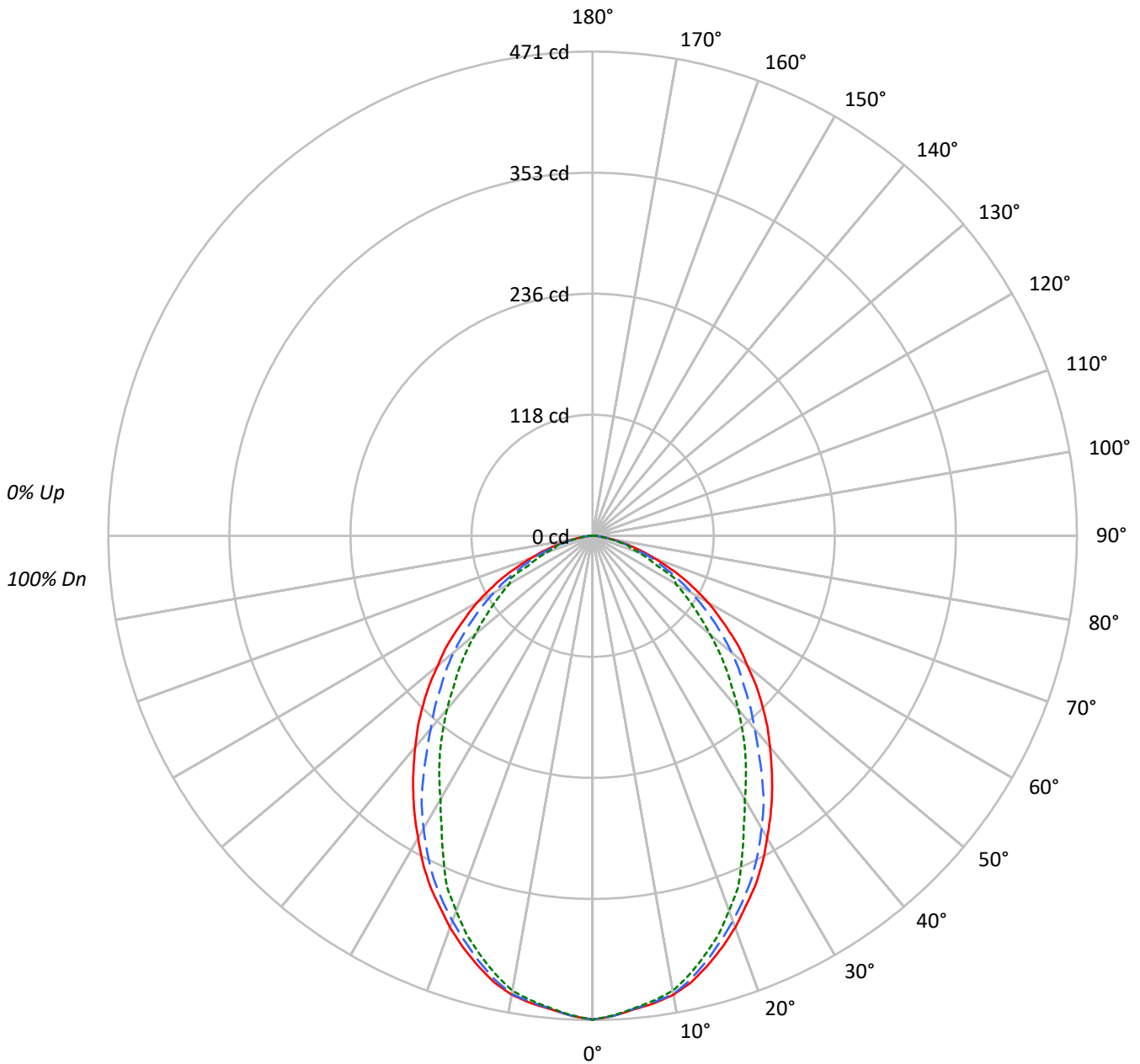
Lumens per Lamp: N/A  
Luminaire Lumens: 924.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	2533	2533	2533
5°	2499	2496	2493
10°	2477	2474	2457
15°	2410	2386	2352
20°	2322	2284	2222
25°	2226	2178	2042
30°	2110	2043	1840
35°	1999	1888	1702
40°	1885	1721	1548
45°	1776	1590	1400
50°	1644	1476	1248
55°	1522	1338	1118
60°	1394	1195	1001
65°	1226	1047	886
70°	1010	916	754
75°	803	701	736
80°	539	505	471
85°	333	401	469



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.8	4.7
10°-20°	120.2	13.0
20°-30°	166.5	18.0
30°-40°	177.5	19.2
40°-50°	161.9	17.5
50°-60°	126.9	13.7
60°-70°	82.7	8.9
70°-80°	36.6	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°	330.5	35.8
0°-40°	508.0	55.0
0°-60°	796.8	86.2
0°-90°	924.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	924.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	471	471	471	471	471	
5°	462	462	462	461	461	44
15°	433	433	428	424	422	122
25°	375	373	367	354	344	172
35°	304	302	287	266	259	190
45°	233	228	209	192	184	180
55°	162	157	143	126	119	145
65°	96	91	82	84	70	95
75°	39	36	34	32	35	41
85°	5	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°	470.7	470.7	470.7	470.7	470.7
2.5°	467.4	467.4	467.4	466.9	466.9
5°	462.5	462.0	462.0	461.4	461.4
7.5°	458.7	458.2	457.6	457.1	456.0
10°	453.3	453.3	452.7	450.0	449.5
12.5°	444.6	444.0	441.8	438.0	436.9
15°	432.6	432.6	428.2	423.9	422.2
17.5°	419.5	419.0	413.5	409.2	407.0
20°	405.4	404.3	398.8	391.8	388.0
22.5°	389.6	389.6	383.1	373.8	370.0
25°	374.9	372.7	366.7	353.7	343.9
27.5°	358.0	354.8	348.2	329.7	318.3
30°	339.5	337.9	328.7	304.7	296.0
32.5°	322.1	319.4	309.6	284.6	277.5
35°	304.2	302.0	287.3	265.5	259.0
37.5°	286.2	283.5	265.0	247.6	239.4
40°	268.3	265.0	244.9	229.1	220.4
42.5°	251.4	247.0	227.4	210.6	200.8
45°	233.4	228.5	208.9	191.5	183.9
47.5°	215.5	211.1	193.2	175.2	166.5
50°	196.4	192.6	176.3	158.3	149.1
52.5°	180.7	174.7	158.9	140.9	133.3
55°	162.2	157.3	142.6	125.7	119.2
57.5°	145.3	140.4	126.8	111.0	105.6
60°	129.5	122.4	111.0	97.4	93.0
62.5°	112.1	106.6	96.9	85.4	90.9
65°	96.3	90.9	82.2	83.8	69.6
67.5°	78.9	76.2	68.6	60.9	58.8
70°	64.2	60.9	58.2	50.1	47.9
72.5°	51.1	47.9	44.1	39.7	38.1
75°	38.6	35.9	33.7	32.1	35.4
77.5°	26.7	25.6	23.9	22.3	21.8
80°	17.4	16.9	16.3	15.8	15.2
82.5°	10.3	10.3	10.3	10.3	10.3
85°	5.4	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)