

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: P545348

Luminaire Tested: **FMR-12-2-LD4-1LO-35-UNV-81-94-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: P545348  
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-81-94-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

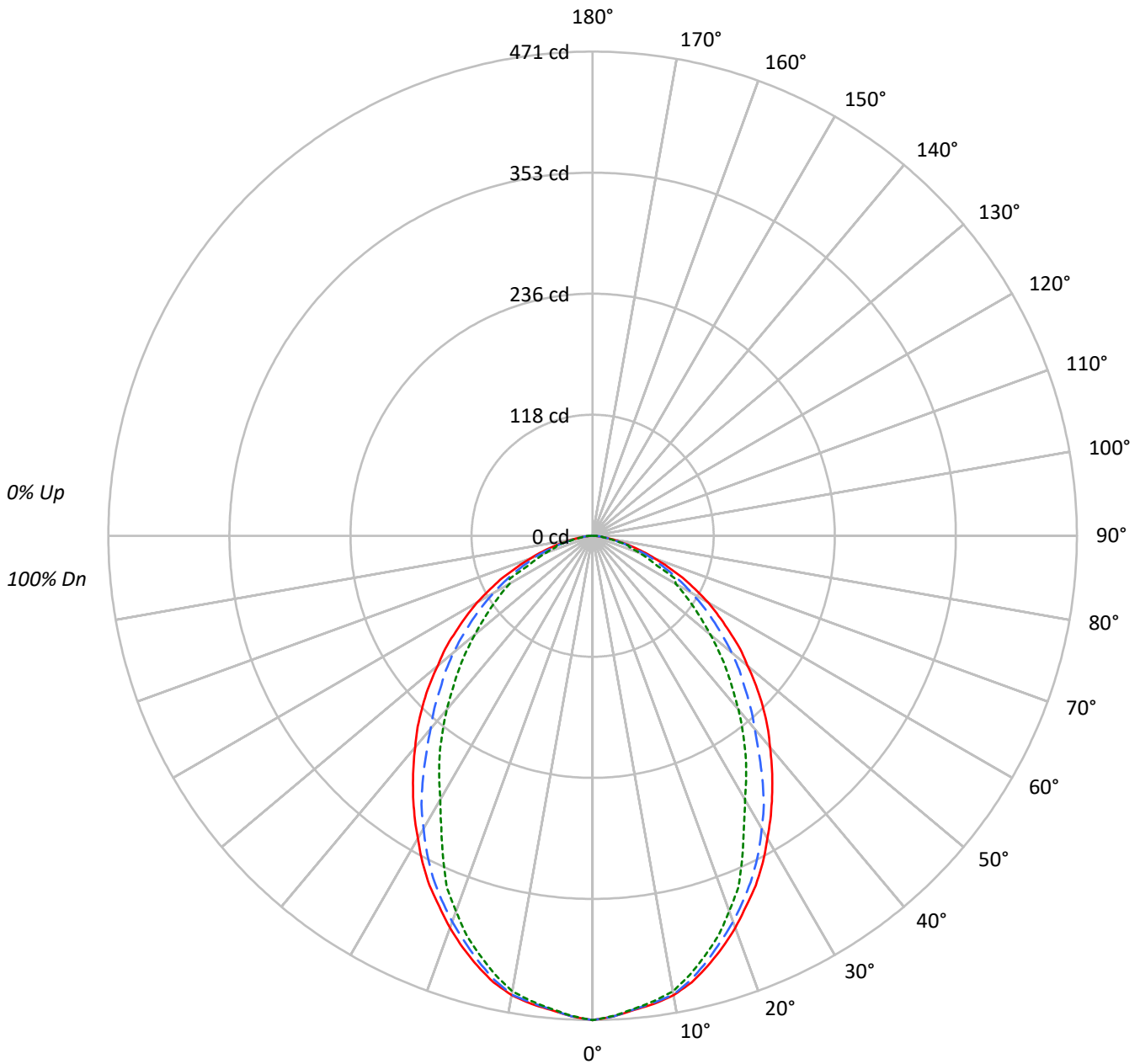
Lumens per Lamp: N/A  
Luminaire Lumens: 925.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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									
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			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°	2536	2536	2536
5°	2501	2499	2495
10°	2480	2477	2459
15°	2413	2389	2355
20°	2324	2287	2225
25°	2229	2180	2045
30°	2112	2045	1841
35°	2001	1890	1704
40°	1886	1722	1550
45°	1779	1592	1401
50°	1646	1478	1250
55°	1523	1339	1119
60°	1395	1196	1002
65°	1228	1048	888
70°	1012	917	754
75°	805	703	736
80°	539	505	474
85°	333	401	469



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.9	4.7
10°-20°	120.4	13.0
20°-30°	166.6	18.0
30°-40°	177.7	19.2
40°-50°	162.1	17.5
50°-60°	127.0	13.7
60°-70°	82.8	8.9
70°-80°	36.7	4.0
80°-90°	7.9	0.8
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°	330.9	35.8
0°-40°	508.6	55.0
0°-60°	797.7	86.2
0°-90°	925.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	925.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	471	471	471	471	471	
5°	463	462	462	462	462	44
15°	433	433	429	424	423	122
25°	375	373	367	354	344	172
35°	304	302	288	266	259	190
45°	234	229	209	192	184	180
55°	162	157	143	126	119	146
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°	471.2	471.2	471.2	471.2	471.2
2.5°	467.9	467.9	467.9	467.4	467.4
5°	463.0	462.5	462.5	461.9	461.9
7.5°	459.2	458.7	458.1	457.6	456.5
10°	453.8	453.8	453.2	450.5	449.9
12.5°	445.0	444.5	442.3	438.5	437.4
15°	433.1	433.1	428.7	424.3	422.7
17.5°	420.0	419.4	414.0	409.6	407.5
20°	405.8	404.7	399.3	392.2	388.4
22.5°	390.0	390.0	383.5	374.2	370.4
25°	375.3	373.1	367.1	354.1	344.3
27.5°	358.4	355.2	348.6	330.1	318.7
30°	339.9	338.3	329.0	305.0	296.3
32.5°	322.5	319.8	309.9	284.9	277.8
35°	304.5	302.3	287.6	265.8	259.3
37.5°	286.5	283.8	265.3	247.8	239.7
40°	268.5	265.3	245.1	229.3	220.6
42.5°	251.7	247.3	227.7	210.8	201.0
45°	233.7	228.8	209.2	191.7	184.1
47.5°	215.7	211.4	193.4	175.4	166.7
50°	196.6	192.8	176.5	158.5	149.3
52.5°	180.8	174.9	159.1	141.1	133.5
55°	162.3	157.4	142.7	125.8	119.3
57.5°	145.4	140.5	126.9	111.1	105.7
60°	129.6	122.6	111.1	97.5	93.1
62.5°	112.2	106.8	97.0	85.5	91.0
65°	96.4	91.0	82.3	83.9	69.7
67.5°	79.0	76.3	68.6	61.0	58.8
70°	64.3	61.0	58.3	50.1	47.9
72.5°	51.2	47.9	44.1	39.8	38.1
75°	38.7	36.0	33.8	32.1	35.4
77.5°	26.7	25.6	24.0	22.3	21.8
80°	17.4	16.9	16.3	15.8	15.3
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)