

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: P545359

Luminaire Tested: **FMR-12-2-LD4-1LO-35-UNV-93-84-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: P545359  
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-93-84-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

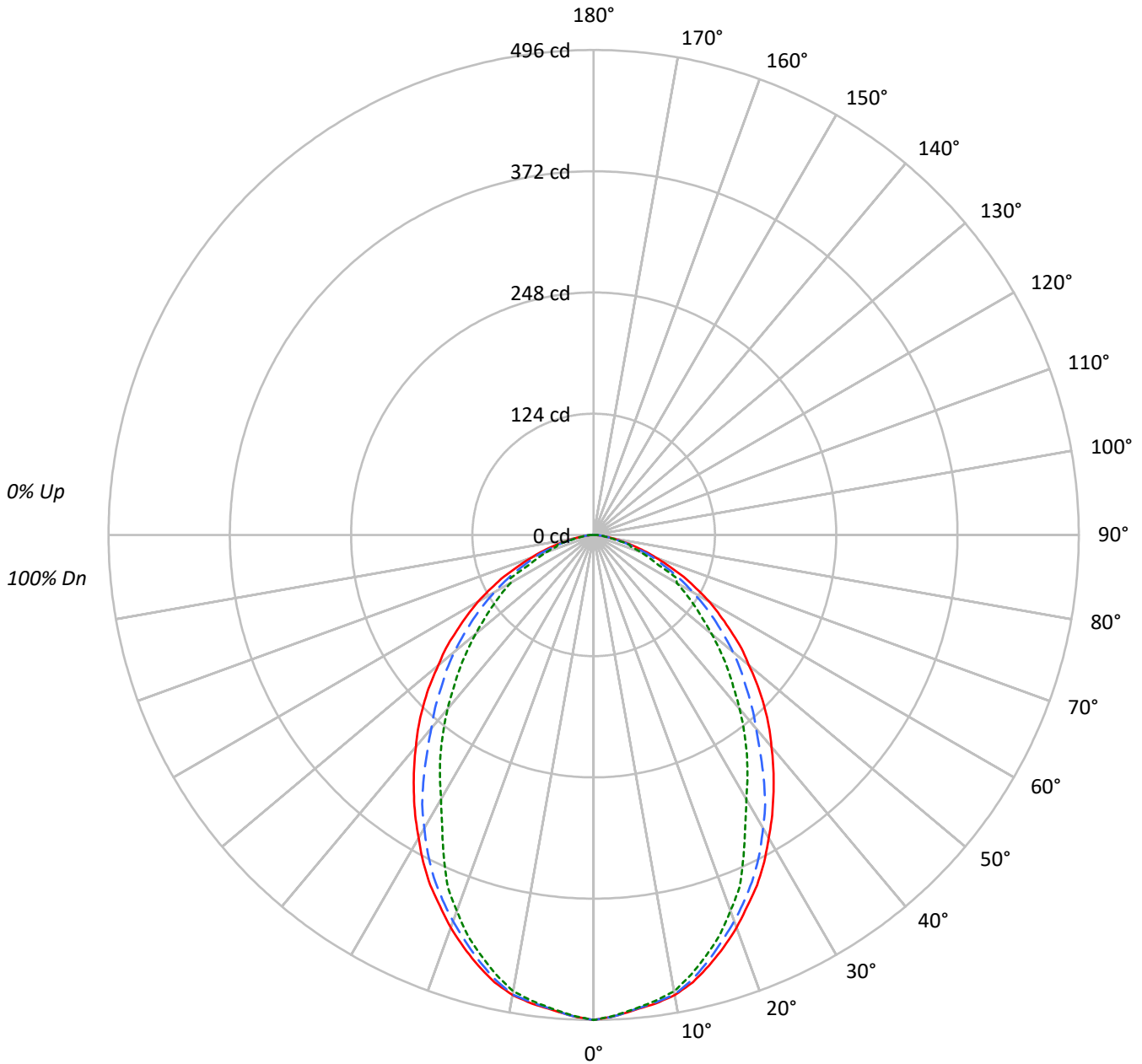
Lumens per Lamp: N/A  
Luminaire Lumens: 974.0 lumens  
Efficiency: N/A  
Efficacy: 83.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	2670	2670	2670
5°	2634	2631	2628
10°	2611	2608	2589
15°	2541	2515	2480
20°	2447	2408	2342
25°	2347	2296	2153
30°	2224	2153	1939
35°	2106	1989	1794
40°	1987	1813	1632
45°	1873	1677	1476
50°	1734	1556	1316
55°	1604	1410	1179
60°	1469	1259	1056
65°	1293	1103	935
70°	1065	966	795
75°	846	740	776
80°	570	533	499
85°	352	426	494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.2	4.7
10°-20°	126.7	13.0
20°-30°	175.5	18.0
30°-40°	187.1	19.2
40°-50°	170.7	17.5
50°-60°	133.7	13.7
60°-70°	87.2	8.9
70°-80°	38.6	4.0
80°-90°	8.3	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°	348.4	35.8
0°-40°	535.5	55.0
0°-60°	839.9	86.2
0°-90°	974.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	974.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	496	496	496	496	496	
5°	488	487	487	486	486	46
15°	456	456	451	447	445	128
25°	395	393	387	373	362	181
35°	321	318	303	280	273	200
45°	246	241	220	202	194	190
55°	171	166	150	132	126	153
65°	102	96	87	88	73	100
75°	41	38	36	34	37	44
85°	6	6	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	496.1	496.1	496.1	496.1	496.1
2.5°	492.7	492.7	492.7	492.1	492.1
5°	487.5	487.0	487.0	486.4	486.4
7.5°	483.5	483.0	482.4	481.8	480.7
10°	477.8	477.8	477.2	474.3	473.8
12.5°	468.6	468.0	465.7	461.7	460.6
15°	456.0	456.0	451.4	446.8	445.1
17.5°	442.2	441.7	435.9	431.3	429.0
20°	427.3	426.2	420.4	413.0	409.0
22.5°	410.7	410.7	403.8	394.0	390.0
25°	395.2	392.9	386.6	372.8	362.5
27.5°	377.4	374.0	367.1	347.6	335.5
30°	357.9	356.2	346.4	321.2	312.0
32.5°	339.6	336.7	326.4	300.0	292.5
35°	320.6	318.3	302.8	279.9	273.0
37.5°	301.7	298.8	279.3	261.0	252.4
40°	282.8	279.3	258.1	241.5	232.3
42.5°	265.0	260.4	239.8	222.0	211.6
45°	246.1	240.9	220.3	201.9	193.9
47.5°	227.1	222.5	203.6	184.7	175.5
50°	207.1	203.0	185.8	166.9	157.2
52.5°	190.4	184.1	167.5	148.6	140.5
55°	170.9	165.8	150.3	132.5	125.6
57.5°	153.1	148.0	133.6	117.0	111.3
60°	136.5	129.1	117.0	102.7	98.1
62.5°	118.2	112.4	102.1	90.1	95.8
65°	101.5	95.8	86.6	88.3	73.4
67.5°	83.2	80.3	72.3	64.2	61.9
70°	67.7	64.2	61.4	52.8	50.5
72.5°	53.9	50.5	46.5	41.9	40.2
75°	40.7	37.9	35.6	33.8	37.3
77.5°	28.1	27.0	25.2	23.5	22.9
80°	18.4	17.8	17.2	16.6	16.1
82.5°	10.9	10.9	10.9	10.9	10.9
85°	5.7	6.3	6.9	7.5	8.0
87.5°	3.4	3.4	4.0	4.6	5.2
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)