

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: P545413

Luminaire Tested: **FMR-12-2-LD4-1LO-50-UNV-81-96-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: P545413  
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-81-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

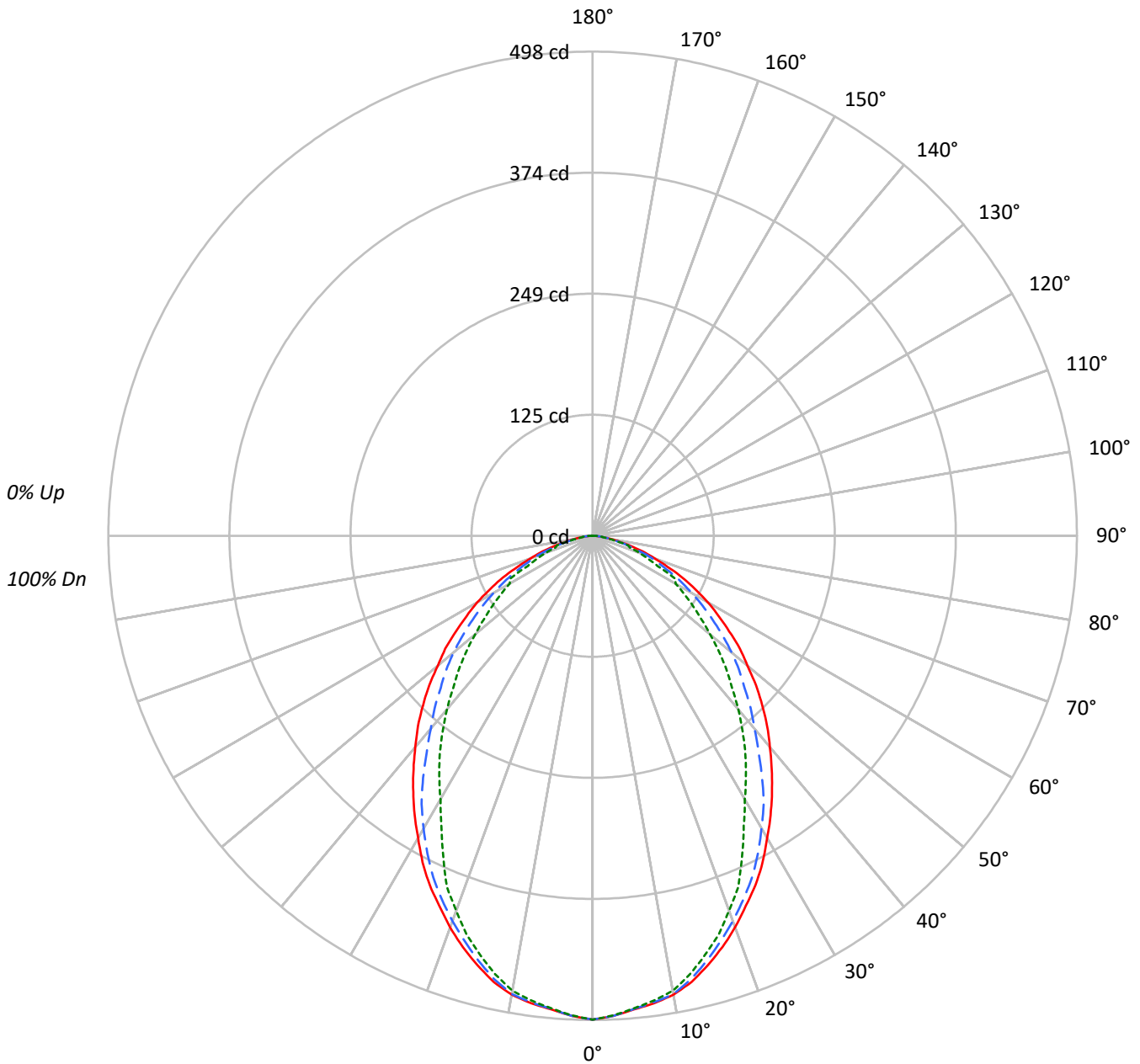
Lumens per Lamp: N/A  
Luminaire Lumens: 977.0 lumens  
Efficiency: N/A  
Efficacy: 83.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	2679	2679	2679
5°	2642	2639	2636
10°	2619	2616	2597
15°	2549	2523	2488
20°	2455	2415	2349
25°	2354	2303	2159
30°	2231	2160	1945
35°	2113	1996	1800
40°	1992	1819	1637
45°	1878	1681	1480
50°	1739	1561	1320
55°	1609	1414	1182
60°	1474	1264	1059
65°	1296	1107	937
70°	1068	969	796
75°	848	742	778
80°	570	536	499
85°	358	426	500



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.3	4.7
10°-20°	127.1	13.0
20°-30°	176.0	18.0
30°-40°	187.7	19.2
40°-50°	171.2	17.5
50°-60°	134.1	13.7
60°-70°	87.4	8.9
70°-80°	38.7	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°	349.5	35.8
0°-40°	537.2	55.0
0°-60°	842.5	86.2
0°-90°	977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	977.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	498	498	498	498	498	
5°	489	488	488	488	488	46
15°	457	457	453	448	446	129
25°	396	394	388	374	364	182
35°	322	319	304	281	274	201
45°	247	242	221	202	194	190
55°	172	166	151	133	126	154
65°	102	96	87	89	74	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°	497.7	497.7	497.7	497.7	497.7
2.5°	494.2	494.2	494.2	493.6	493.6
5°	489.0	488.5	488.5	487.9	487.9
7.5°	485.0	484.4	483.9	483.3	482.1
10°	479.3	479.3	478.7	475.8	475.2
12.5°	470.1	469.5	467.2	463.2	462.0
15°	457.4	457.4	452.8	448.2	446.5
17.5°	443.6	443.0	437.3	432.7	430.4
20°	428.6	427.5	421.7	414.2	410.2
22.5°	411.9	411.9	405.0	395.3	391.2
25°	396.4	394.1	387.8	374.0	363.6
27.5°	378.6	375.1	368.2	348.7	336.6
30°	359.0	357.3	347.5	322.2	313.0
32.5°	340.6	337.7	327.4	300.9	293.4
35°	321.6	319.3	303.8	280.8	273.9
37.5°	302.6	299.8	280.2	261.8	253.2
40°	283.6	280.2	258.9	242.2	233.0
42.5°	265.8	261.2	240.5	222.7	212.3
45°	246.8	241.6	220.9	202.5	194.5
47.5°	227.8	223.2	204.2	185.3	176.1
50°	207.7	203.7	186.4	167.4	157.6
52.5°	191.0	184.7	168.0	149.0	141.0
55°	171.5	166.3	150.7	132.9	126.0
57.5°	153.6	148.4	134.1	117.4	111.6
60°	136.9	129.5	117.4	103.0	98.4
62.5°	118.5	112.8	102.4	90.3	96.1
65°	101.8	96.1	86.9	88.6	73.6
67.5°	83.4	80.5	72.5	64.4	62.1
70°	67.9	64.4	61.6	52.9	50.6
72.5°	54.1	50.6	46.6	42.0	40.3
75°	40.8	38.0	35.7	33.9	37.4
77.5°	28.2	27.0	25.3	23.6	23.0
80°	18.4	17.8	17.3	16.7	16.1
82.5°	10.9	10.9	10.9	10.9	10.9
85°	5.8	6.3	6.9	7.5	8.1
87.5°	3.5	3.5	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)