

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: P544804

Luminaire Tested: **FMR-12-1-LD4-1LO-40-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: P544804  
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-12-1-LD4-1LO-40-UNV-81-94-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

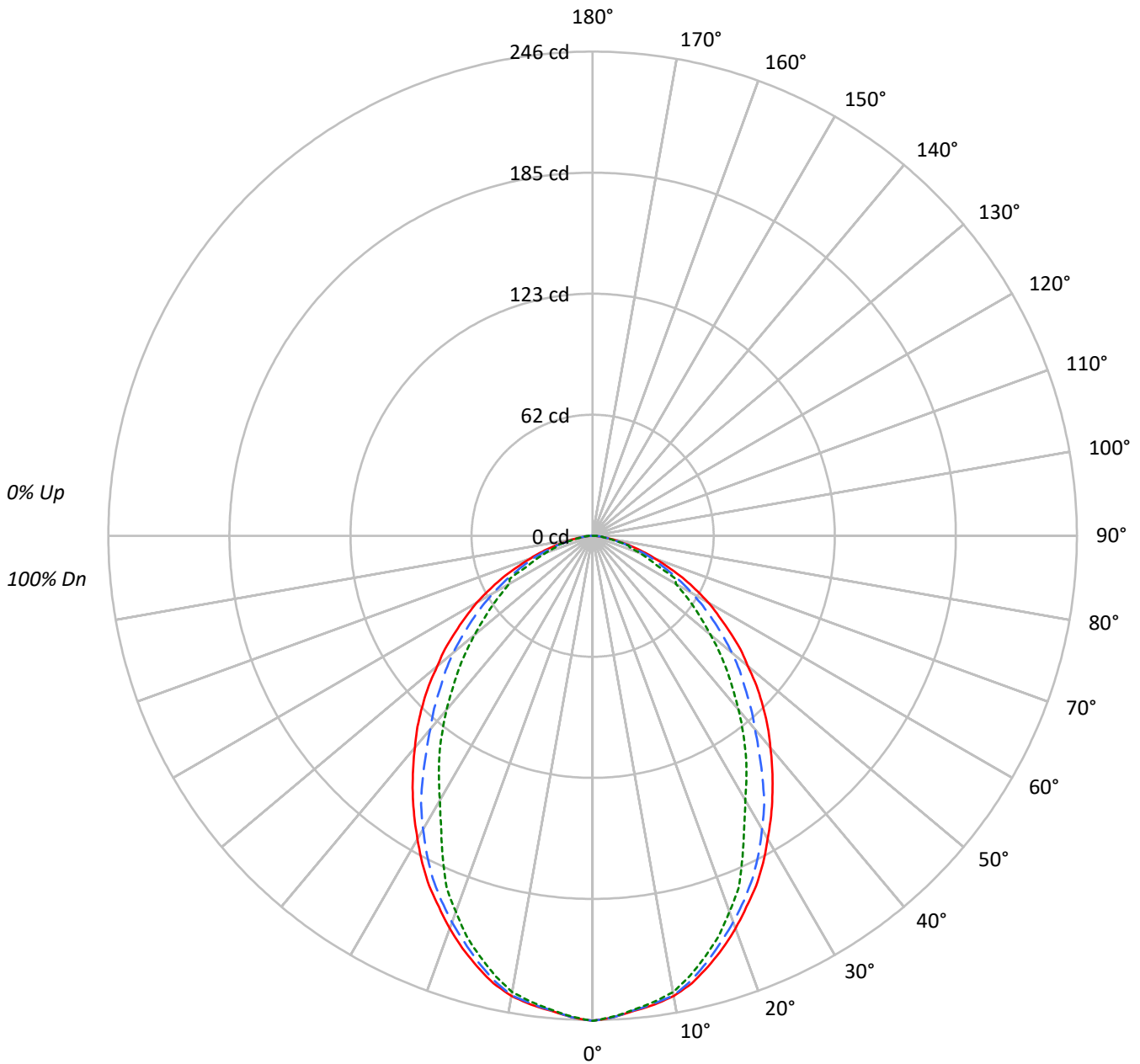
Lumens per Lamp: N/A  
Luminaire Lumens: 484.0 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.8  
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				
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	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	39	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2653	2653	2653
5°	2618	2615	2612
10°	2595	2591	2573
15°	2525	2500	2465
20°	2432	2393	2328
25°	2333	2282	2139
30°	2211	2140	1928
35°	2093	1978	1783
40°	1974	1803	1622
45°	1862	1665	1466
50°	1723	1546	1308
55°	1593	1402	1171
60°	1460	1251	1048
65°	1284	1095	930
70°	1057	960	790
75°	840	736	769
80°	564	533	496
85°	358	420	494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.9	4.7
10°-20°	63.0	13.0
20°-30°	87.2	18.0
30°-40°	93.0	19.2
40°-50°	84.8	17.5
50°-60°	66.4	13.7
60°-70°	43.3	8.9
70°-80°	19.2	4.0
80°-90°	4.1	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°	173.1	35.8
0°-40°	266.1	55.0
0°-60°	417.4	86.2
0°-90°	484.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	484.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	246	246	246	246	246	
5°	242	242	242	242	242	23
15°	227	227	224	222	221	64
25°	196	195	192	185	180	90
35°	159	158	150	139	136	100
45°	122	120	109	100	96	94
55°	85	82	75	66	62	76
65°	50	48	43	44	36	50
75°	20	19	18	17	18	22
85°	3	3	3	4	4	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	246.5	246.5	246.5	246.5	246.5
2.5°	244.8	244.8	244.8	244.5	244.5
5°	242.3	242.0	242.0	241.7	241.7
7.5°	240.3	240.0	239.7	239.4	238.8
10°	237.4	237.4	237.1	235.7	235.4
12.5°	232.9	232.6	231.4	229.4	228.9
15°	226.6	226.6	224.3	222.0	221.2
17.5°	219.8	219.5	216.6	214.3	213.2
20°	212.3	211.8	208.9	205.2	203.2
22.5°	204.1	204.1	200.7	195.8	193.8
25°	196.4	195.2	192.1	185.3	180.1
27.5°	187.5	185.8	182.4	172.7	166.7
30°	177.9	177.0	172.2	159.6	155.1
32.5°	168.7	167.3	162.2	149.1	145.4
35°	159.3	158.2	150.5	139.1	135.7
37.5°	149.9	148.5	138.8	129.7	125.4
40°	140.5	138.8	128.3	120.0	115.4
42.5°	131.7	129.4	119.1	110.3	105.2
45°	122.3	119.7	109.4	100.3	96.3
47.5°	112.9	110.6	101.2	91.8	87.2
50°	102.9	100.9	92.3	82.9	78.1
52.5°	94.6	91.5	83.2	73.8	69.8
55°	84.9	82.4	74.7	65.8	62.4
57.5°	76.1	73.5	66.4	58.1	55.3
60°	67.8	64.1	58.1	51.0	48.7
62.5°	58.7	55.9	50.7	44.7	47.6
65°	50.4	47.6	43.0	43.9	36.5
67.5°	41.3	39.9	35.9	31.9	30.8
70°	33.6	31.9	30.5	26.2	25.1
72.5°	26.8	25.1	23.1	20.8	20.0
75°	20.2	18.8	17.7	16.8	18.5
77.5°	14.0	13.4	12.5	11.7	11.4
80°	9.1	8.8	8.6	8.3	8.0
82.5°	5.4	5.4	5.4	5.4	5.4
85°	2.9	3.1	3.4	3.7	4.0
87.5°	1.7	1.7	2.0	2.3	2.6
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)