

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: P544916

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-93-94-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: P544916  
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-LD4-1STD-40-UNV-93-94-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

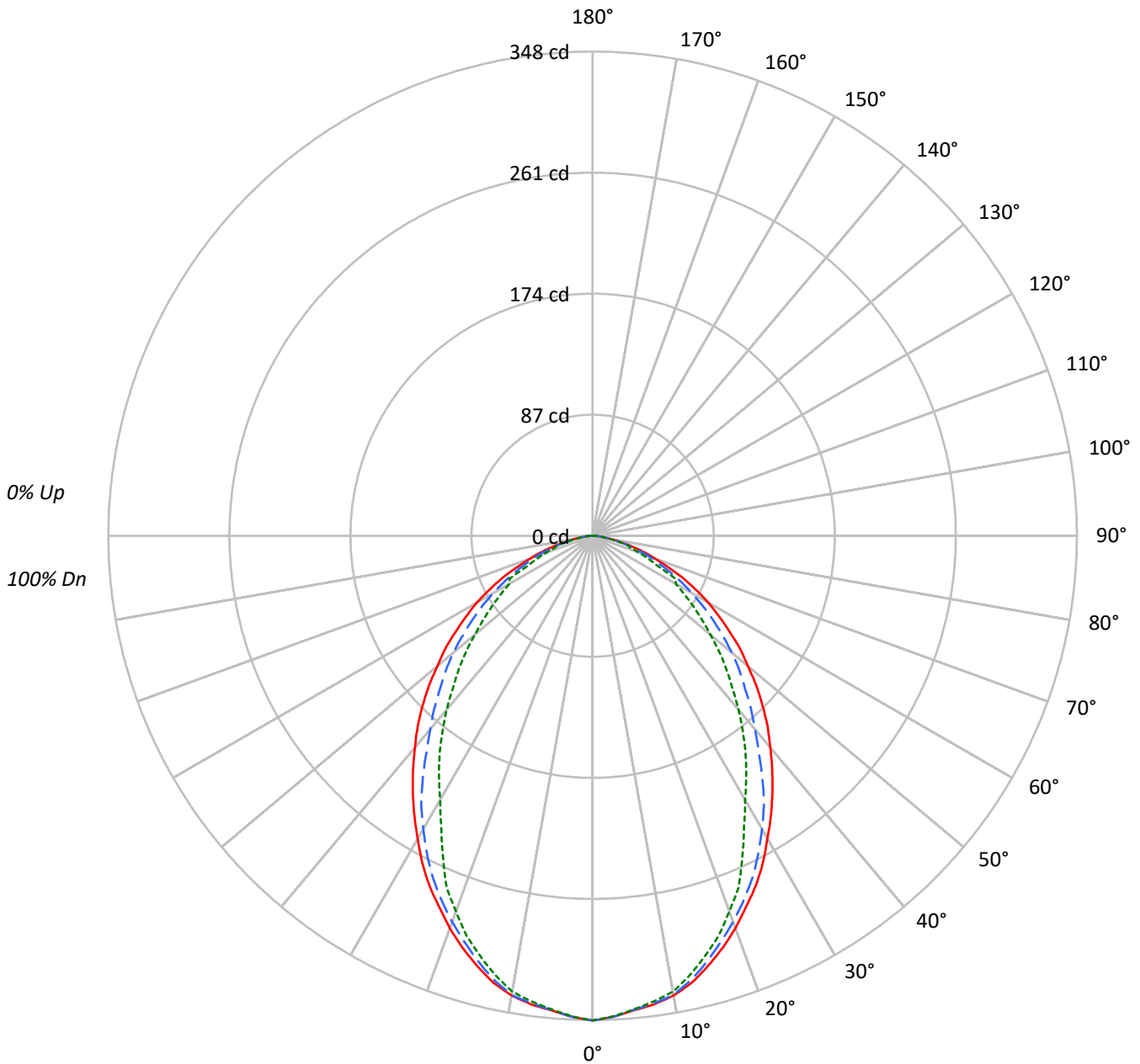
Lumens per Lamp: N/A  
Luminaire Lumens: 684.0 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	3750	3750	3750
5°	3700	3695	3691
10°	3667	3663	3636
15°	3568	3533	3483
20°	3438	3383	3290
25°	3296	3225	3024
30°	3123	3024	2723
35°	2959	2795	2519
40°	2791	2547	2292
45°	2630	2355	2072
50°	2435	2185	1849
55°	2252	1980	1655
60°	2065	1770	1483
65°	1816	1549	1314
70°	1495	1356	1114
75°	1189	1040	1090
80°	800	750	700
85°	494	593	692



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.4	4.7
10°-20°	89.0	13.0
20°-30°	123.2	18.0
30°-40°	131.4	19.2
40°-50°	119.9	17.5
50°-60°	93.9	13.7
60°-70°	61.2	8.9
70°-80°	27.1	4.0
80°-90°	5.8	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°	244.7	35.8
0°-40°	376.1	55.0
0°-60°	589.9	86.2
0°-90°	684.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	684.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	348	348	348	348	348	
5°	342	342	342	342	342	33
15°	320	320	317	314	313	90
25°	278	276	272	262	255	127
35°	225	224	213	197	192	141
45°	173	169	155	142	136	133
55°	120	116	106	93	88	108
65°	71	67	61	62	52	70
75°	29	27	25	24	26	31
85°	4	4	5	5	6	6
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	348.4	348.4	348.4	348.4	348.4
2.5°	346.0	346.0	346.0	345.6	345.6
5°	342.4	342.0	342.0	341.6	341.6
7.5°	339.6	339.2	338.8	338.4	337.5
10°	335.5	335.5	335.1	333.1	332.7
12.5°	329.1	328.7	327.1	324.3	323.4
15°	320.2	320.2	317.0	313.8	312.6
17.5°	310.6	310.2	306.1	302.9	301.3
20°	300.1	299.3	295.3	290.0	287.2
22.5°	288.4	288.4	283.6	276.7	273.9
25°	277.5	275.9	271.5	261.8	254.6
27.5°	265.0	262.6	257.8	244.1	235.6
30°	251.3	250.1	243.3	225.6	219.1
32.5°	238.5	236.4	229.2	210.7	205.4
35°	225.2	223.6	212.7	196.6	191.7
37.5°	211.9	209.9	196.2	183.3	177.2
40°	198.6	196.2	181.3	169.6	163.1
42.5°	186.1	182.9	168.4	155.9	148.6
45°	172.8	169.2	154.7	141.8	136.1
47.5°	159.5	156.3	143.0	129.7	123.3
50°	145.4	142.6	130.5	117.2	110.4
52.5°	133.7	129.3	117.6	104.3	98.7
55°	120.0	116.4	105.5	93.0	88.2
57.5°	107.5	103.9	93.9	82.2	78.1
60°	95.9	90.6	82.2	72.1	68.9
62.5°	83.0	78.9	71.7	63.2	67.3
65°	71.3	67.3	60.8	62.0	51.6
67.5°	58.4	56.4	50.8	45.1	43.5
70°	47.5	45.1	43.1	37.1	35.4
72.5°	37.9	35.4	32.6	29.4	28.2
75°	28.6	26.6	25.0	23.8	26.2
77.5°	19.7	18.9	17.7	16.5	16.1
80°	12.9	12.5	12.1	11.7	11.3
82.5°	7.7	7.7	7.7	7.7	7.7
85°	4.0	4.4	4.8	5.2	5.6
87.5°	2.4	2.4	2.8	3.2	3.6
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)