

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: P544886

Luminaire Tested: **FMR-12-1-LD4-1STD-35-UNV-93-97-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: P544886  
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-35-UNV-93-97-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

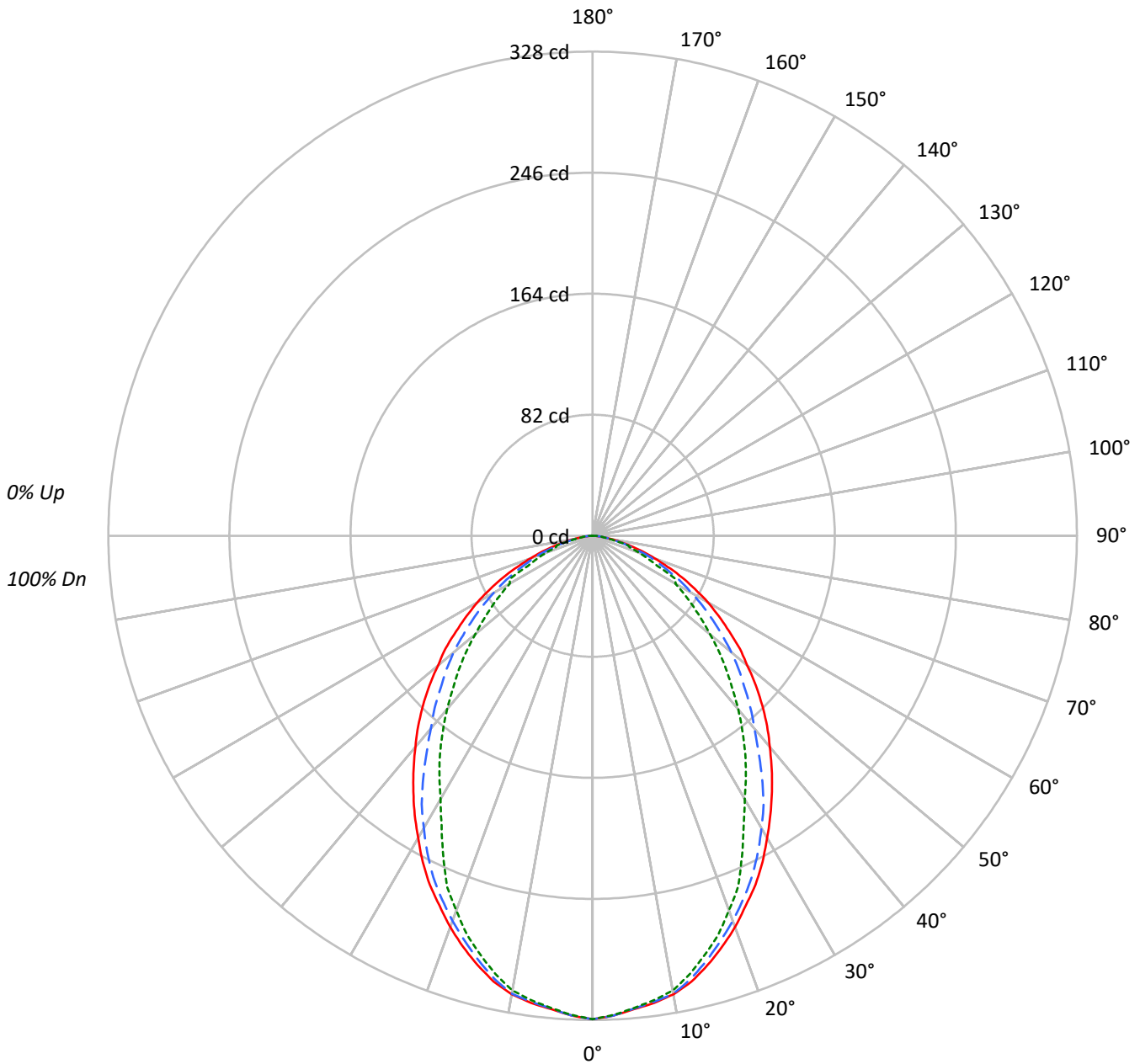
Lumens per Lamp: N/A  
Luminaire Lumens: 643.0 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
Input Voltage (V): NR  
Input Current (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°	3525	3525	3525
5°	3478	3474	3469
10°	3447	3443	3419
15°	3354	3321	3274
20°	3231	3180	3093
25°	3099	3031	2842
30°	2937	2843	2560
35°	2782	2627	2368
40°	2623	2394	2155
45°	2472	2213	1948
50°	2289	2055	1738
55°	2117	1862	1556
60°	1940	1662	1393
65°	1706	1457	1235
70°	1407	1275	1048
75°	1119	977	1023
80°	750	707	657
85°	469	556	655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.5	4.7
10°-20°	83.7	13.0
20°-30°	115.8	18.0
30°-40°	123.5	19.2
40°-50°	112.7	17.5
50°-60°	88.3	13.7
60°-70°	57.5	8.9
70°-80°	25.5	4.0
80°-90°	5.5	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°	230.0	35.8
0°-40°	353.5	55.0
0°-60°	554.5	86.2
0°-90°	643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	643.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	328	328	328	328	328	
5°	322	322	322	321	321	31
15°	301	301	298	295	294	85
25°	261	259	255	246	239	120
35°	212	210	200	185	180	132
45°	162	159	145	133	128	125
55°	113	109	99	88	83	101
65°	67	63	57	58	48	66
75°	27	25	24	22	25	29
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	327.5	327.5	327.5	327.5	327.5
2.5°	325.3	325.3	325.3	324.9	324.9
5°	321.9	321.5	321.5	321.1	321.1
7.5°	319.2	318.8	318.4	318.1	317.3
10°	315.4	315.4	315.0	313.1	312.8
12.5°	309.4	309.0	307.5	304.8	304.1
15°	301.0	301.0	298.0	295.0	293.8
17.5°	291.9	291.6	287.8	284.7	283.2
20°	282.1	281.3	277.6	272.6	270.0
22.5°	271.1	271.1	266.6	260.1	257.5
25°	260.9	259.4	255.2	246.1	239.3
27.5°	249.2	246.9	242.3	229.5	221.5
30°	236.3	235.1	228.7	212.0	206.0
32.5°	224.2	222.3	215.5	198.0	193.1
35°	211.7	210.2	199.9	184.8	180.2
37.5°	199.2	197.3	184.4	172.3	166.6
40°	186.7	184.4	170.4	159.4	153.4
42.5°	174.9	171.9	158.3	146.5	139.7
45°	162.4	159.0	145.4	133.3	128.0
47.5°	149.9	146.9	134.4	121.9	115.9
50°	136.7	134.0	122.7	110.2	103.8
52.5°	125.7	121.5	110.6	98.1	92.8
55°	112.8	109.4	99.2	87.5	82.9
57.5°	101.1	97.7	88.2	77.2	73.5
60°	90.1	85.2	77.2	67.8	64.7
62.5°	78.0	74.2	67.4	59.4	63.2
65°	67.0	63.2	57.2	58.3	48.5
67.5°	54.9	53.0	47.7	42.4	40.9
70°	44.7	42.4	40.5	34.8	33.3
72.5°	35.6	33.3	30.7	27.6	26.5
75°	26.9	25.0	23.5	22.3	24.6
77.5°	18.6	17.8	16.7	15.5	15.1
80°	12.1	11.7	11.4	11.0	10.6
82.5°	7.2	7.2	7.2	7.2	7.2
85°	3.8	4.2	4.5	4.9	5.3
87.5°	2.3	2.3	2.7	3.0	3.4
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)