

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: P545442

Luminaire Tested: **FMR-12-2-LD4-1STD-35-UNV-81-87-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: P545442  
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-LD4-1STD-35-UNV-81-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

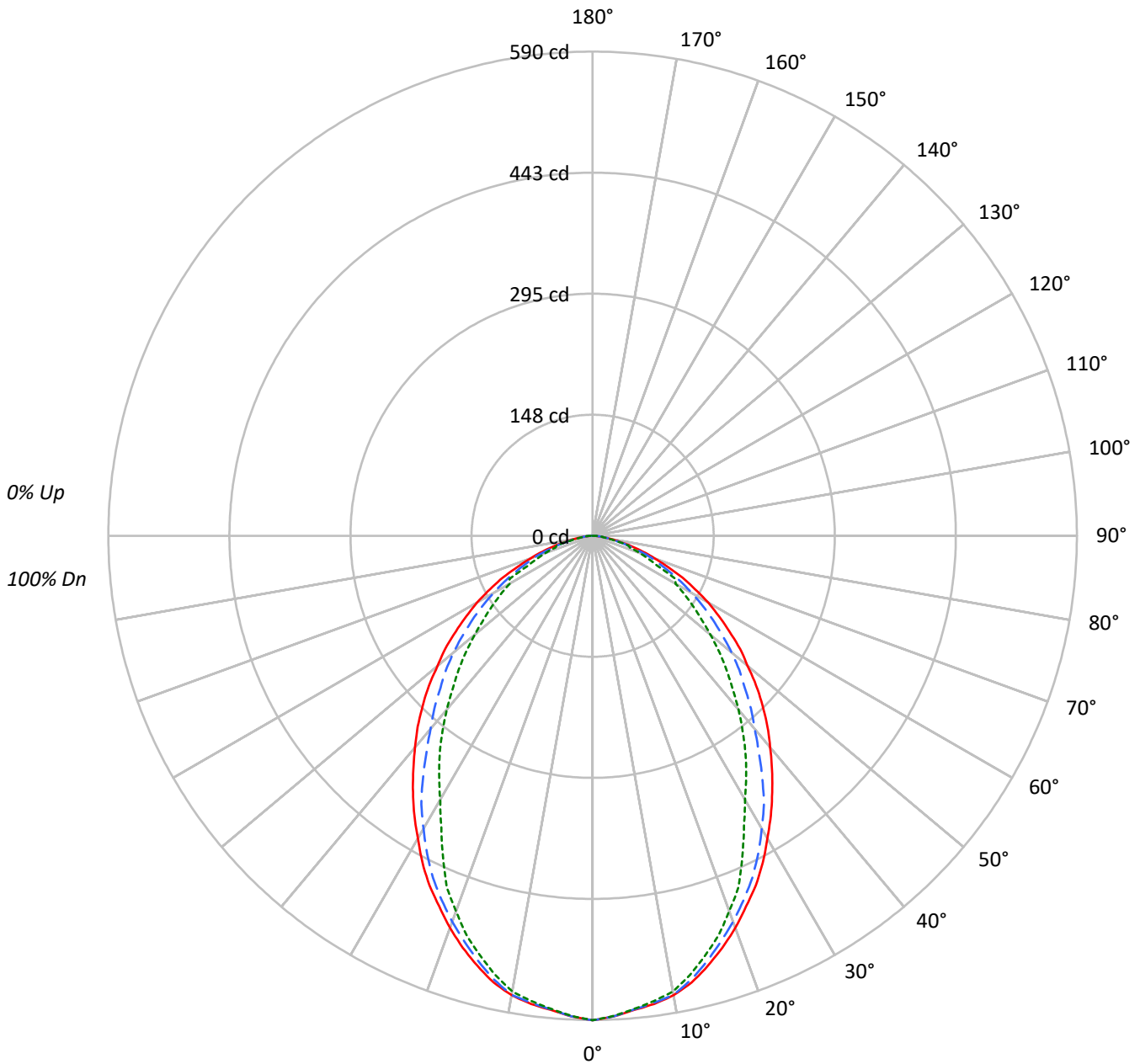
Lumens per Lamp: N/A  
Luminaire Lumens: 1159.0 lumens  
Efficiency: N/A  
Efficacy: 69.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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°	3178	3178	3178
5°	3134	3131	3127
10°	3107	3104	3081
15°	3023	2993	2951
20°	2912	2865	2787
25°	2793	2732	2562
30°	2647	2562	2307
35°	2507	2368	2135
40°	2364	2158	1942
45°	2229	1995	1756
50°	2063	1851	1566
55°	1909	1678	1403
60°	1748	1498	1256
65°	1538	1313	1113
70°	1267	1149	946
75°	1009	880	923
80°	676	635	592
85°	420	506	593



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.0	4.7
10°-20°	150.8	13.0
20°-30°	208.8	18.0
30°-40°	222.6	19.2
40°-50°	203.1	17.5
50°-60°	159.1	13.7
60°-70°	103.7	8.9
70°-80°	46.0	4.0
80°-90°	9.9	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°	414.6	35.8
0°-40°	637.2	55.0
0°-60°	999.5	86.2
0°-90°	1159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1159.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	590	590	590	590	590	
5°	580	580	580	579	579	55
15°	543	543	537	532	530	153
25°	470	468	460	444	431	216
35°	382	379	360	333	325	239
45°	293	287	262	240	231	226
55°	203	197	179	158	150	182
65°	121	114	103	105	87	119
75°	48	45	42	40	44	52
85°	7	8	8	9	10	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	590.4	590.4	590.4	590.4	590.4
2.5°	586.3	586.3	586.3	585.6	585.6
5°	580.1	579.5	579.5	578.8	578.8
7.5°	575.4	574.7	574.0	573.3	572.0
10°	568.5	568.5	567.9	564.4	563.8
12.5°	557.6	556.9	554.2	549.4	548.1
15°	542.6	542.6	537.1	531.7	529.6
17.5°	526.2	525.5	518.7	513.3	510.5
20°	508.5	507.1	500.3	491.4	486.6
22.5°	488.7	488.7	480.5	468.9	464.1
25°	470.3	467.5	460.0	443.6	431.4
27.5°	449.1	445.0	436.8	413.6	399.3
30°	425.9	423.8	412.2	382.2	371.3
32.5°	404.1	400.6	388.4	357.0	348.1
35°	381.5	378.8	360.4	333.1	324.9
37.5°	359.0	355.6	332.4	310.5	300.3
40°	336.5	332.4	307.1	287.3	276.4
42.5°	315.3	309.9	285.3	264.1	251.8
45°	292.8	286.7	262.1	240.2	230.7
47.5°	270.3	264.8	242.3	219.8	208.9
50°	246.4	241.6	221.1	198.6	187.0
52.5°	226.6	219.1	199.3	176.8	167.2
55°	203.4	197.2	178.8	157.7	149.5
57.5°	182.2	176.1	159.0	139.2	132.4
60°	162.4	153.6	139.2	122.2	116.7
62.5°	140.6	133.8	121.5	107.2	114.0
65°	120.8	114.0	103.1	105.1	87.4
67.5°	99.0	95.6	86.0	76.4	73.7
70°	80.5	76.4	73.0	62.8	60.1
72.5°	64.2	60.1	55.3	49.8	47.8
75°	48.5	45.0	42.3	40.3	44.4
77.5°	33.4	32.1	30.0	28.0	27.3
80°	21.8	21.2	20.5	19.8	19.1
82.5°	13.0	13.0	13.0	13.0	13.0
85°	6.8	7.5	8.2	8.9	9.6
87.5°	4.1	4.1	4.8	5.5	6.1
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)