

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: P545521

Luminaire Tested: **FMR-12-2-LD4-1STD-50-UNV-93-86-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: P545521  
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-50-UNV-93-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

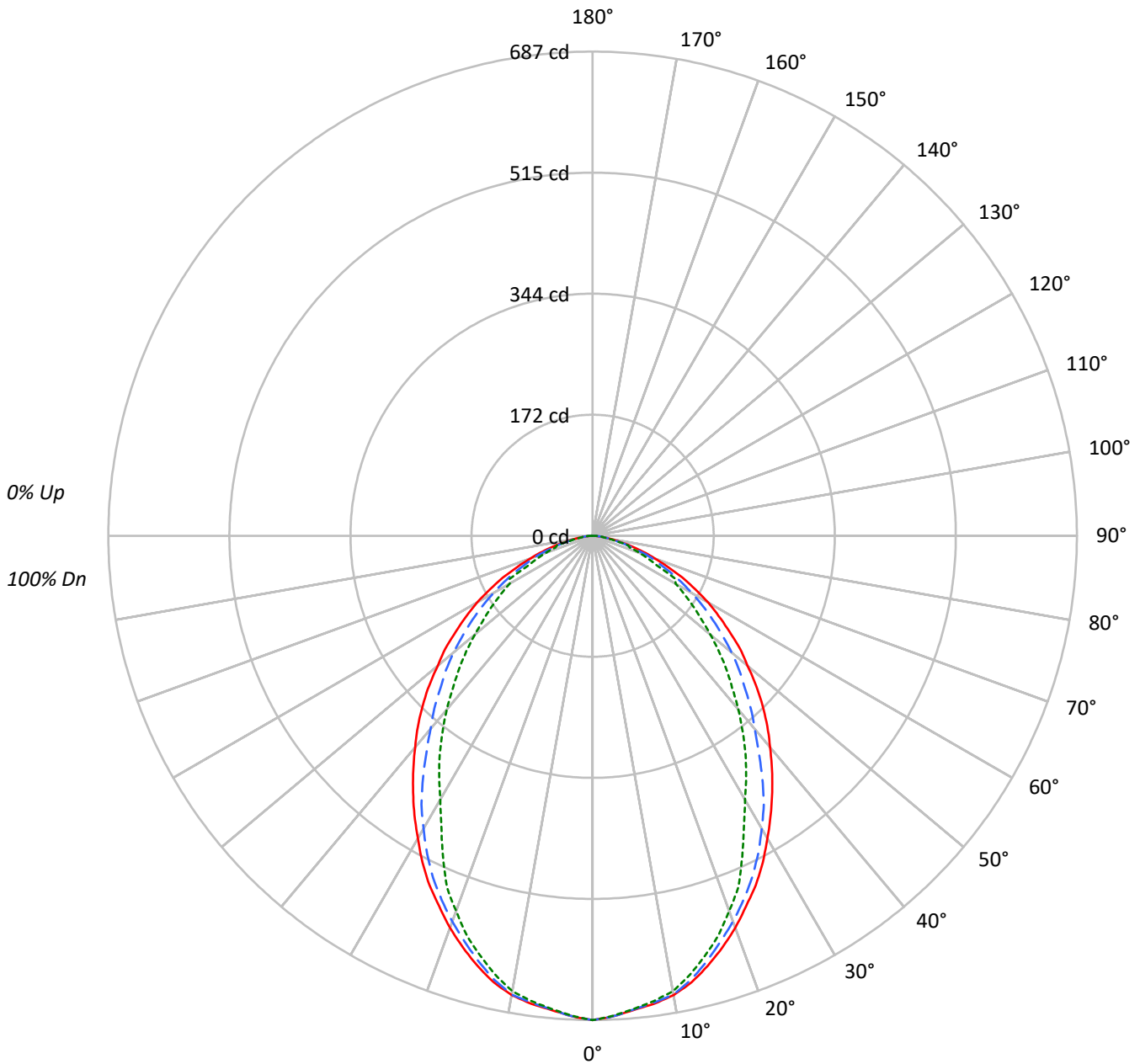
Lumens per Lamp: N/A  
Luminaire Lumens: 1349.0 lumens  
Efficiency: N/A  
Efficacy: 81.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	3698	3698	3698
5°	3648	3644	3640
10°	3616	3612	3586
15°	3519	3483	3435
20°	3389	3335	3244
25°	3250	3179	2982
30°	3081	2982	2686
35°	2918	2756	2484
40°	2751	2512	2260
45°	2594	2322	2044
50°	2401	2155	1823
55°	2221	1953	1633
60°	2035	1745	1462
65°	1791	1528	1295
70°	1474	1338	1100
75°	1173	1025	1073
80°	787	738	688
85°	488	587	685



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.0	4.7
10°-20°	175.5	13.0
20°-30°	243.0	18.0
30°-40°	259.1	19.2
40°-50°	236.4	17.5
50°-60°	185.2	13.7
60°-70°	120.7	8.9
70°-80°	53.5	4.0
80°-90°	11.5	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°	482.6	35.8
0°-40°	741.7	55.0
0°-60°	1163.3	86.2
0°-90°	1349.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1349.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	687	687	687	687	687	
5°	675	674	674	674	674	64
15°	632	632	625	619	616	178
25°	547	544	535	516	502	251
35°	444	441	419	388	378	278
45°	341	334	305	280	268	263
55°	237	230	208	184	174	212
65°	141	133	120	122	102	139
75°	56	52	49	47	52	60
85°	8	9	10	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	687.2	687.2	687.2	687.2	687.2
2.5°	682.4	682.4	682.4	681.6	681.6
5°	675.2	674.5	674.5	673.7	673.7
7.5°	669.7	668.9	668.1	667.3	665.7
10°	661.7	661.7	660.9	657.0	656.2
12.5°	649.0	648.2	645.1	639.5	637.9
15°	631.6	631.6	625.2	618.8	616.5
17.5°	612.5	611.7	603.7	597.4	594.2
20°	591.8	590.2	582.3	572.0	566.4
22.5°	568.8	568.8	559.3	545.8	540.2
25°	547.3	544.2	535.4	516.4	502.1
27.5°	522.7	518.0	508.4	481.4	464.7
30°	495.7	493.3	479.8	444.9	432.2
32.5°	470.3	466.3	452.0	415.5	405.1
35°	444.1	440.9	419.4	387.7	378.1
37.5°	417.9	413.9	386.9	361.5	349.5
40°	391.6	386.9	357.5	334.4	321.7
42.5°	367.0	360.7	332.1	307.4	293.1
45°	340.8	333.7	305.1	279.6	268.5
47.5°	314.6	308.2	282.0	255.8	243.1
50°	286.8	281.2	257.4	231.2	217.7
52.5°	263.7	255.0	232.0	205.8	194.6
55°	236.7	229.6	208.1	183.5	174.0
57.5°	212.1	205.0	185.1	162.1	154.1
60°	189.1	178.7	162.1	142.2	135.8
62.5°	163.6	155.7	141.4	124.7	132.7
65°	140.6	132.7	120.0	122.3	101.7
67.5°	115.2	111.2	100.1	89.0	85.8
70°	93.7	89.0	85.0	73.1	69.9
72.5°	74.7	69.9	64.3	58.0	55.6
75°	56.4	52.4	49.3	46.9	51.6
77.5°	38.9	37.3	35.0	32.6	31.8
80°	25.4	24.6	23.8	23.0	22.2
82.5°	15.1	15.1	15.1	15.1	15.1
85°	7.9	8.7	9.5	10.3	11.1
87.5°	4.8	4.8	5.6	6.4	7.1
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)