

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: P545221

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-81-96-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: P545221  
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-LD4-2STD-50-UNV-81-96-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

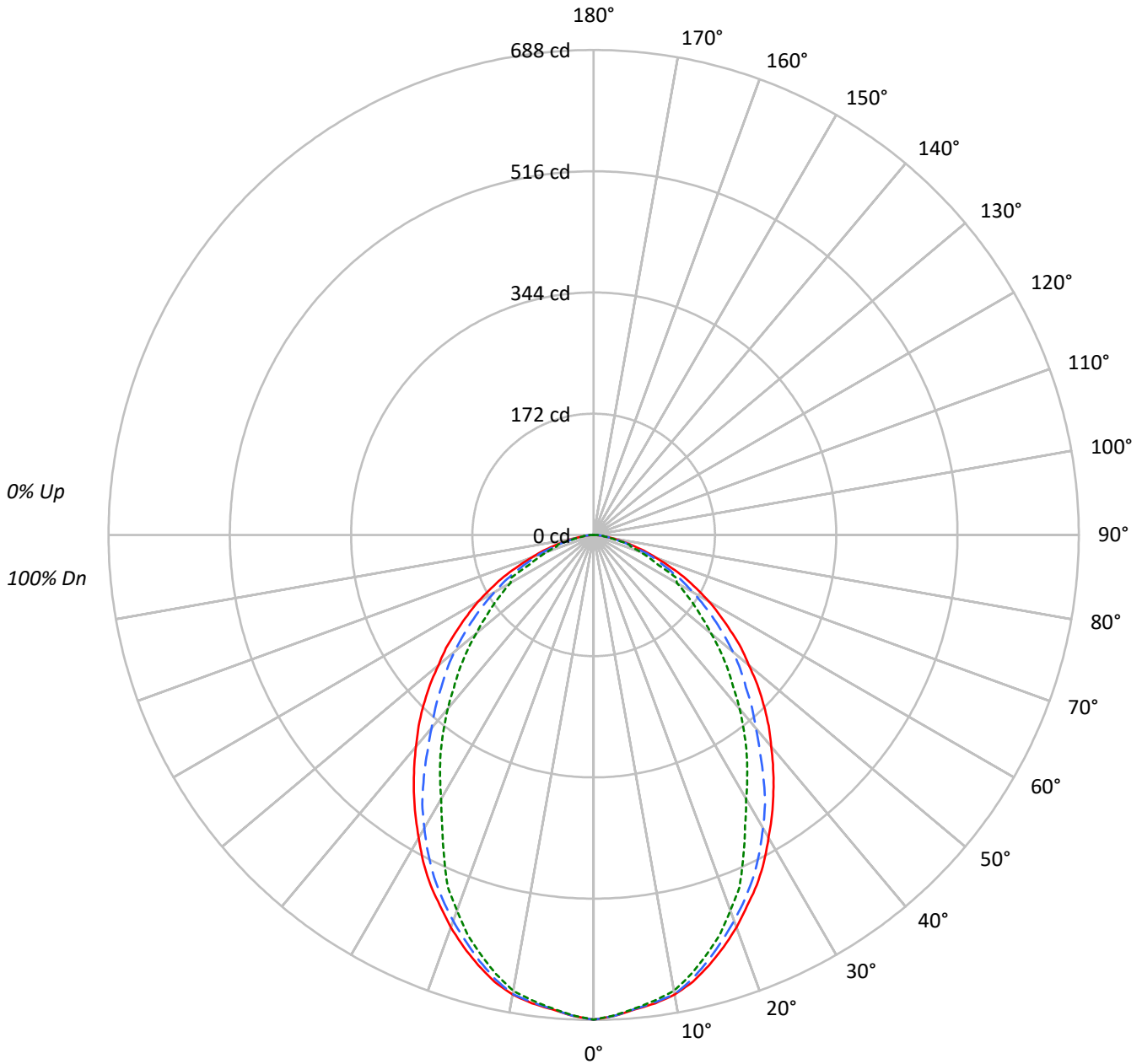
Lumens per Lamp: N/A  
Luminaire Lumens: 1350.0 lumens  
Efficiency: N/A  
Efficacy: 81.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	7402	7402	7402
5°	7301	7293	7285
10°	7238	7229	7178
15°	7043	6973	6875
20°	6785	6675	6493
25°	6506	6364	5967
30°	6166	5968	5376
35°	5840	5516	4972
40°	5507	5026	4525
45°	5192	4647	4090
50°	4806	4314	3647
55°	4446	3909	3267
60°	4073	3492	2926
65°	3584	3056	2593
70°	2952	2678	2203
75°	2346	2050	2150
80°	1574	1475	1382
85°	976	1173	1371



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.0	4.7
10°-20°	175.7	13.0
20°-30°	243.2	18.0
30°-40°	259.3	19.2
40°-50°	236.6	17.5
50°-60°	185.3	13.7
60°-70°	120.8	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°	482.9	35.8
0°-40°	742.2	55.0
0°-60°	1164.2	86.2
0°-90°	1350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1350.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	676	675	675	674	674	64
15°	632	632	626	619	617	178
25°	548	545	536	517	502	251
35°	444	441	420	388	378	278
45°	341	334	305	280	269	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°	687.7	687.7	687.7	687.7	687.7
2.5°	682.9	682.9	682.9	682.1	682.1
5°	675.7	675.0	675.0	674.2	674.2
7.5°	670.2	669.4	668.6	667.8	666.2
10°	662.2	662.2	661.4	657.5	656.7
12.5°	649.5	648.7	645.5	640.0	638.4
15°	632.0	632.0	625.7	619.3	616.9
17.5°	612.9	612.1	604.2	597.8	594.7
20°	592.3	590.7	582.7	572.4	566.8
22.5°	569.2	569.2	559.7	546.2	540.6
25°	547.8	544.6	535.8	516.7	502.4
27.5°	523.1	518.3	508.8	481.8	465.1
30°	496.1	493.7	480.2	445.2	432.5
32.5°	470.6	466.7	452.4	415.8	405.4
35°	444.4	441.2	419.8	388.0	378.4
37.5°	418.2	414.2	387.2	361.7	349.8
40°	391.9	387.2	357.7	334.7	322.0
42.5°	367.3	360.9	332.3	307.7	293.4
45°	341.1	333.9	305.3	279.8	268.7
47.5°	314.8	308.5	282.2	256.0	243.3
50°	287.0	281.4	257.6	231.3	217.8
52.5°	263.9	255.2	232.1	205.9	194.8
55°	236.9	229.8	208.3	183.6	174.1
57.5°	212.3	205.1	185.2	162.2	154.2
60°	189.2	178.9	162.2	142.3	135.9
62.5°	163.8	155.8	141.5	124.8	132.8
65°	140.7	132.8	120.0	122.4	101.8
67.5°	115.3	111.3	100.2	89.0	85.9
70°	93.8	89.0	85.1	73.1	70.0
72.5°	74.7	70.0	64.4	58.0	55.6
75°	56.4	52.5	49.3	46.9	51.7
77.5°	39.0	37.4	35.0	32.6	31.8
80°	25.4	24.6	23.8	23.1	22.3
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	7.2
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)