

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: P545165

Luminaire Tested: **FMR-12-1-LD4-2STD-35-UNV-82-96-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: P545165  
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-35-UNV-82-96-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

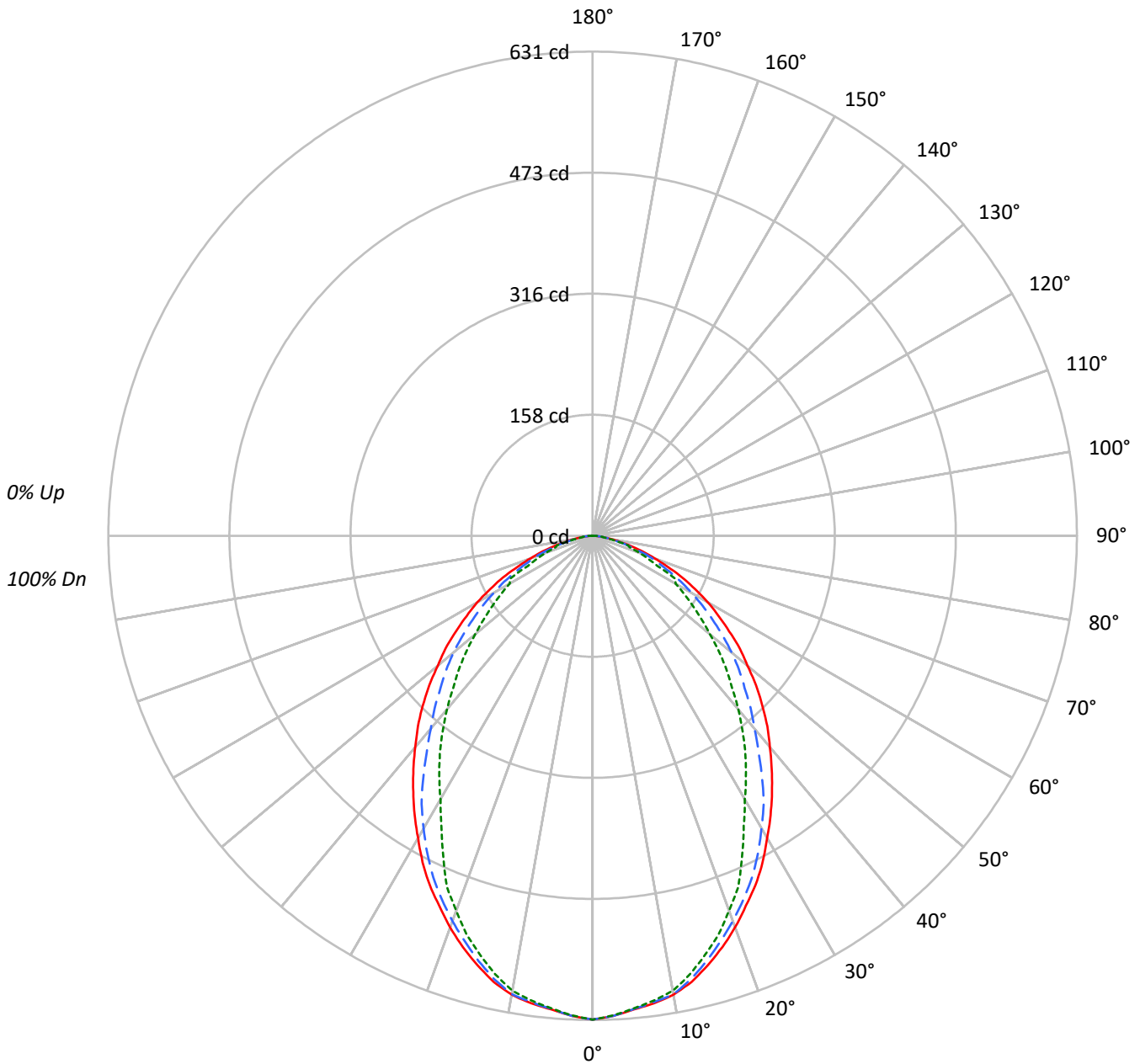
Lumens per Lamp: N/A  
Luminaire Lumens: 1238.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	6788	6788	6788
5°	6696	6688	6680
10°	6638	6630	6582
15°	6459	6394	6304
20°	6221	6121	5954
25°	5966	5836	5473
30°	5654	5473	4929
35°	5355	5058	4560
40°	5050	4610	4149
45°	4762	4262	3751
50°	4407	3955	3346
55°	4078	3584	2997
60°	3735	3201	2685
65°	3286	2804	2376
70°	2707	2455	2020
75°	2154	1880	1971
80°	1444	1358	1265
85°	902	1074	1260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.7	4.7
10°-20°	161.1	13.0
20°-30°	223.0	18.0
30°-40°	237.8	19.2
40°-50°	217.0	17.5
50°-60°	170.0	13.7
60°-70°	110.8	8.9
70°-80°	49.1	4.0
80°-90°	10.5	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°	442.8	35.8
0°-40°	680.7	55.0
0°-60°	1067.6	86.2
0°-90°	1238.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1238.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	631	631	631	631	631	
5°	620	619	619	618	618	59
15°	580	580	574	568	566	163
25°	502	499	491	474	461	231
35°	408	405	385	356	347	255
45°	313	306	280	257	246	241
55°	217	211	191	168	160	195
65°	129	122	110	112	93	127
75°	52	48	45	43	47	55
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	630.6	630.6	630.6	630.6	630.6
2.5°	626.2	626.2	626.2	625.5	625.5
5°	619.7	619.0	619.0	618.2	618.2
7.5°	614.6	613.9	613.1	612.4	610.9
10°	607.3	607.3	606.6	602.9	602.2
12.5°	595.6	594.9	592.0	586.9	585.4
15°	579.6	579.6	573.8	567.9	565.7
17.5°	562.1	561.4	554.1	548.2	545.3
20°	543.1	541.7	534.4	524.9	519.8
22.5°	522.0	522.0	513.2	500.9	495.7
25°	502.3	499.4	491.4	473.9	460.8
27.5°	479.7	475.3	466.6	441.8	426.5
30°	454.9	452.7	440.3	408.3	396.6
32.5°	431.6	427.9	414.8	381.3	371.8
35°	407.5	404.6	384.9	355.8	347.0
37.5°	383.5	379.8	355.0	331.7	320.8
40°	359.4	355.0	328.1	306.9	295.3
42.5°	336.8	331.0	304.7	282.1	269.0
45°	312.8	306.2	280.0	256.6	246.4
47.5°	288.7	282.9	258.8	234.8	223.1
50°	263.2	258.1	236.2	212.2	199.8
52.5°	242.0	234.0	212.9	188.8	178.6
55°	217.3	210.7	191.0	168.4	159.7
57.5°	194.7	188.1	169.9	148.7	141.4
60°	173.5	164.0	148.7	130.5	124.7
62.5°	150.2	142.9	129.8	114.5	121.7
65°	129.0	121.7	110.1	112.3	93.3
67.5°	105.7	102.1	91.9	81.7	78.7
70°	86.0	81.7	78.0	67.1	64.2
72.5°	68.5	64.2	59.1	53.2	51.0
75°	51.8	48.1	45.2	43.0	47.4
77.5°	35.7	34.3	32.1	29.9	29.2
80°	23.3	22.6	21.9	21.1	20.4
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.0	8.7	9.5	10.2
87.5°	4.4	4.4	5.1	5.8	6.6
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)