

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: P545192

Luminaire Tested: **FMR-12-1-LD4-2STD-40-UNV-82-85-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: P545192  
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-40-UNV-82-85-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

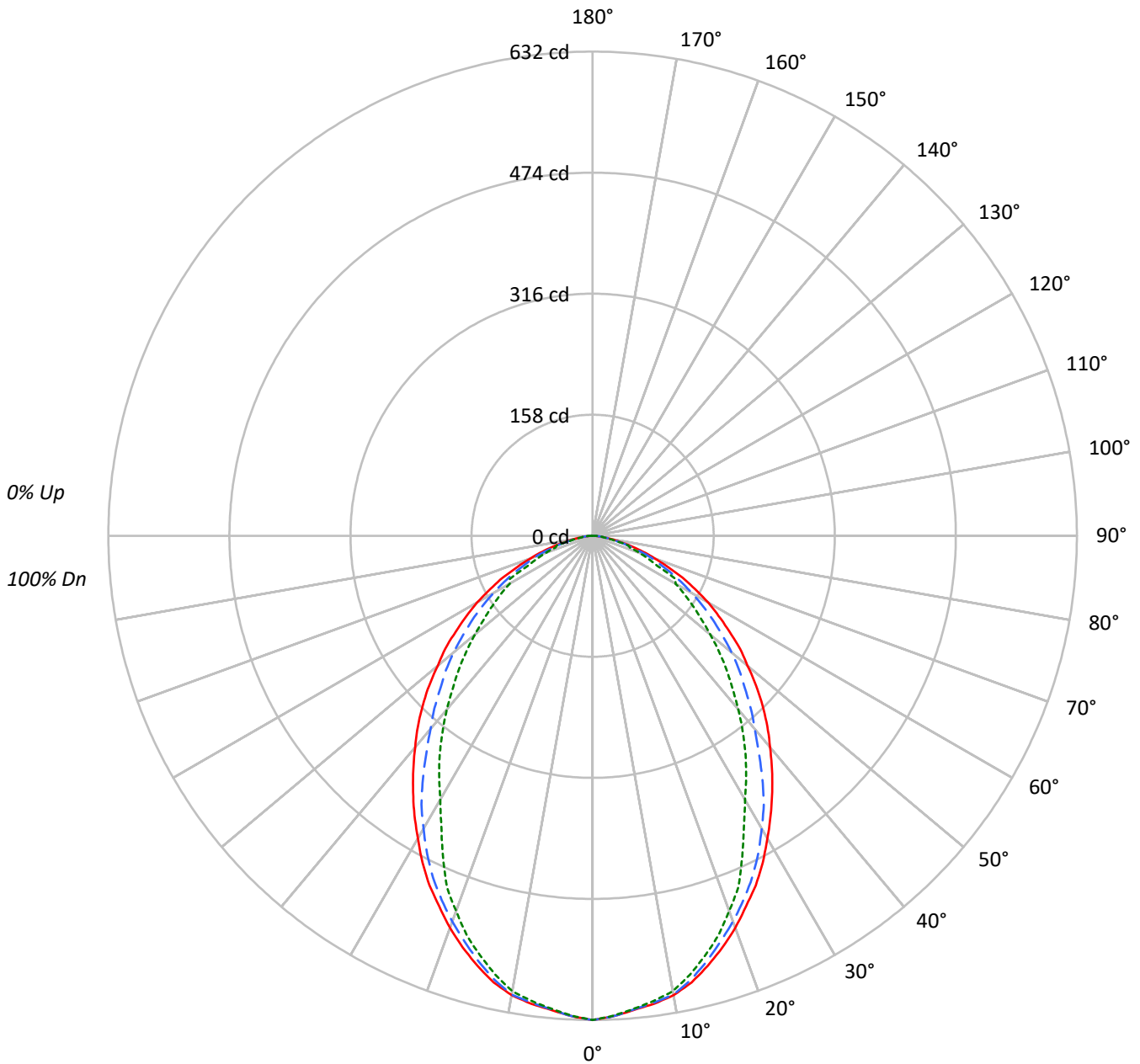
Lumens per Lamp: N/A  
Luminaire Lumens: 1241.0 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	6804	6804	6804
5°	6712	6705	6696
10°	6654	6645	6597
15°	6474	6409	6320
20°	6237	6136	5969
25°	5980	5850	5486
30°	5668	5486	4942
35°	5368	5071	4572
40°	5063	4621	4159
45°	4772	4271	3760
50°	4418	3965	3352
55°	4087	3594	3003
60°	3744	3210	2691
65°	3296	2812	2381
70°	2713	2461	2024
75°	2158	1884	1975
80°	1450	1358	1271
85°	902	1087	1260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.8	4.7
10°-20°	161.5	13.0
20°-30°	223.6	18.0
30°-40°	238.4	19.2
40°-50°	217.5	17.5
50°-60°	170.4	13.7
60°-70°	111.0	8.9
70°-80°	49.2	4.0
80°-90°	10.6	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°	443.9	35.8
0°-40°	682.3	55.0
0°-60°	1070.2	86.2
0°-90°	1241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1241.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	632	632	632	632	632	
5°	621	620	620	620	620	59
15°	581	581	575	569	567	163
25°	504	501	493	475	462	231
35°	408	406	386	357	348	255
45°	314	307	281	257	247	241
55°	218	211	192	169	160	195
65°	129	122	110	112	94	127
75°	52	48	45	43	48	56
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°	632.1	632.1	632.1	632.1	632.1
2.5°	627.8	627.8	627.8	627.0	627.0
5°	621.2	620.5	620.5	619.7	619.7
7.5°	616.1	615.3	614.6	613.9	612.4
10°	608.8	608.8	608.0	604.4	603.6
12.5°	597.1	596.3	593.4	588.3	586.8
15°	581.0	581.0	575.1	569.3	567.1
17.5°	563.5	562.7	555.4	549.6	546.6
20°	544.5	543.0	535.7	526.2	521.1
22.5°	523.3	523.3	514.5	502.1	496.9
25°	503.5	500.6	492.6	475.0	461.9
27.5°	480.9	476.5	467.7	442.9	427.5
30°	456.0	453.8	441.4	409.3	397.6
32.5°	432.6	429.0	415.8	382.2	372.7
35°	408.5	405.6	385.9	356.6	347.9
37.5°	384.4	380.8	355.9	332.5	321.6
40°	360.3	355.9	328.9	307.7	296.0
42.5°	337.6	331.8	305.5	282.8	269.7
45°	313.5	306.9	280.6	257.2	247.0
47.5°	289.4	283.6	259.4	235.3	223.6
50°	263.8	258.7	236.8	212.7	200.2
52.5°	242.6	234.6	213.4	189.3	179.0
55°	217.8	211.2	191.5	168.8	160.0
57.5°	195.1	188.5	170.3	149.1	141.8
60°	173.9	164.4	149.1	130.8	125.0
62.5°	150.5	143.2	130.1	114.7	122.0
65°	129.4	122.0	110.4	112.5	93.5
67.5°	106.0	102.3	92.1	81.9	78.9
70°	86.2	81.9	78.2	67.2	64.3
72.5°	68.7	64.3	59.2	53.3	51.2
75°	51.9	48.2	45.3	43.1	47.5
77.5°	35.8	34.3	32.2	30.0	29.2
80°	23.4	22.7	21.9	21.2	20.5
82.5°	13.9	13.9	13.9	13.9	13.9
85°	7.3	8.0	8.8	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)