

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: P545119

Luminaire Tested: **FMR-12-1-LD4-2LO-50-UNV-81-84-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: P545119  
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-LD4-2LO-50-UNV-81-84-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

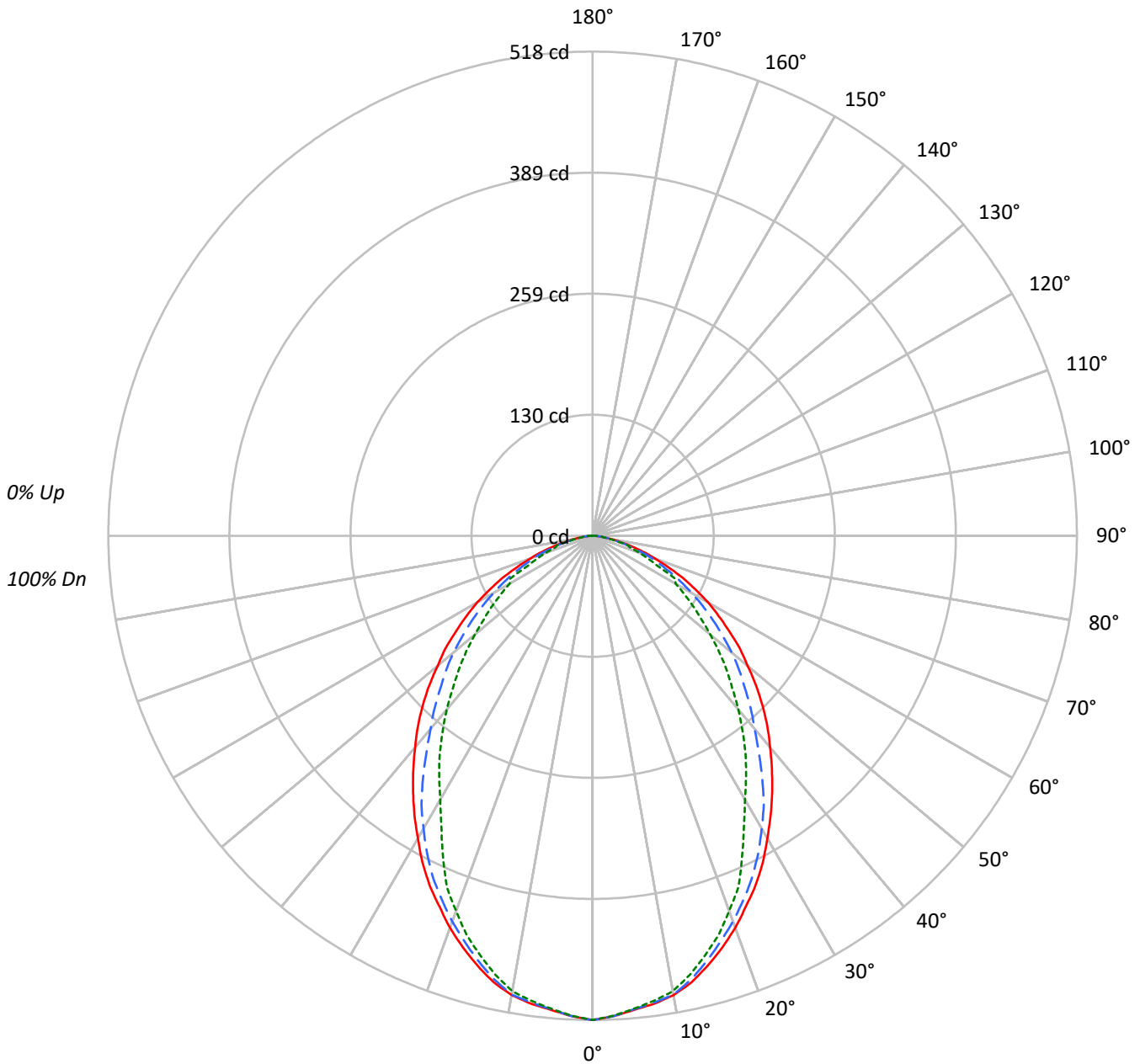
Lumens per Lamp: N/A  
Luminaire Lumens: 1017.0 lumens  
Efficiency: N/A  
Efficacy: 86.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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°	5576	5576	5576
5°	5501	5494	5488
10°	5453	5446	5407
15°	5305	5252	5178
20°	5111	5029	4891
25°	4900	4795	4495
30°	4645	4496	4049
35°	4399	4155	3746
40°	4149	3787	3409
45°	3911	3501	3081
50°	3620	3249	2748
55°	3350	2944	2462
60°	3068	2631	2204
65°	2700	2302	1954
70°	2225	2017	1659
75°	1768	1543	1618
80°	1190	1116	1041
85°	741	889	1037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.2	4.7
10°-20°	132.3	13.0
20°-30°	183.2	18.0
30°-40°	195.4	19.2
40°-50°	178.2	17.5
50°-60°	139.6	13.7
60°-70°	91.0	8.9
70°-80°	40.3	4.0
80°-90°	8.7	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°	363.8	35.8
0°-40°	559.2	55.0
0°-60°	877.0	86.2
0°-90°	1017.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1017.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	518	518	518	518	518	
5°	509	508	508	508	508	48
15°	476	476	471	466	465	134
25°	413	410	404	389	378	189
35°	335	332	316	292	285	209
45°	257	252	230	211	202	198
55°	178	173	157	138	131	160
65°	106	100	90	92	77	104
75°	42	40	37	35	39	46
85°	6	7	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	518.0	518.0	518.0	518.0	518.0
2.5°	514.5	514.5	514.5	513.9	513.9
5°	509.1	508.5	508.5	507.9	507.9
7.5°	504.9	504.3	503.7	503.1	501.9
10°	498.9	498.9	498.3	495.3	494.7
12.5°	489.3	488.7	486.3	482.1	480.9
15°	476.1	476.1	471.3	466.5	464.7
17.5°	461.7	461.2	455.2	450.4	448.0
20°	446.2	445.0	439.0	431.2	427.0
22.5°	428.8	428.8	421.6	411.4	407.3
25°	412.6	410.2	403.7	389.3	378.5
27.5°	394.1	390.5	383.3	362.9	350.4
30°	373.7	371.9	361.7	335.4	325.8
32.5°	354.5	351.6	340.8	313.2	305.4
35°	334.8	332.4	316.2	292.3	285.1
37.5°	315.0	312.0	291.7	272.5	263.5
40°	295.3	291.7	269.5	252.1	242.6
42.5°	276.7	271.9	250.3	231.8	221.0
45°	256.9	251.5	230.0	210.8	202.4
47.5°	237.2	232.4	212.6	192.8	183.3
50°	216.2	212.0	194.0	174.3	164.1
52.5°	198.8	192.2	174.9	155.1	146.7
55°	178.5	173.1	156.9	138.3	131.2
57.5°	159.9	154.5	139.5	122.2	116.2
60°	142.5	134.8	122.2	107.2	102.4
62.5°	123.4	117.4	106.6	94.0	100.0
65°	106.0	100.0	90.4	92.2	76.7
67.5°	86.8	83.8	75.5	67.1	64.7
70°	70.7	67.1	64.1	55.1	52.7
72.5°	56.3	52.7	48.5	43.7	41.9
75°	42.5	39.5	37.1	35.3	38.9
77.5°	29.3	28.1	26.4	24.6	24.0
80°	19.2	18.6	18.0	17.4	16.8
82.5°	11.4	11.4	11.4	11.4	11.4
85°	6.0	6.6	7.2	7.8	8.4
87.5°	3.6	3.6	4.2	4.8	5.4
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)