

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: P544902

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-81-97-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: P544902  
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-LD4-1STD-40-UNV-81-97-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

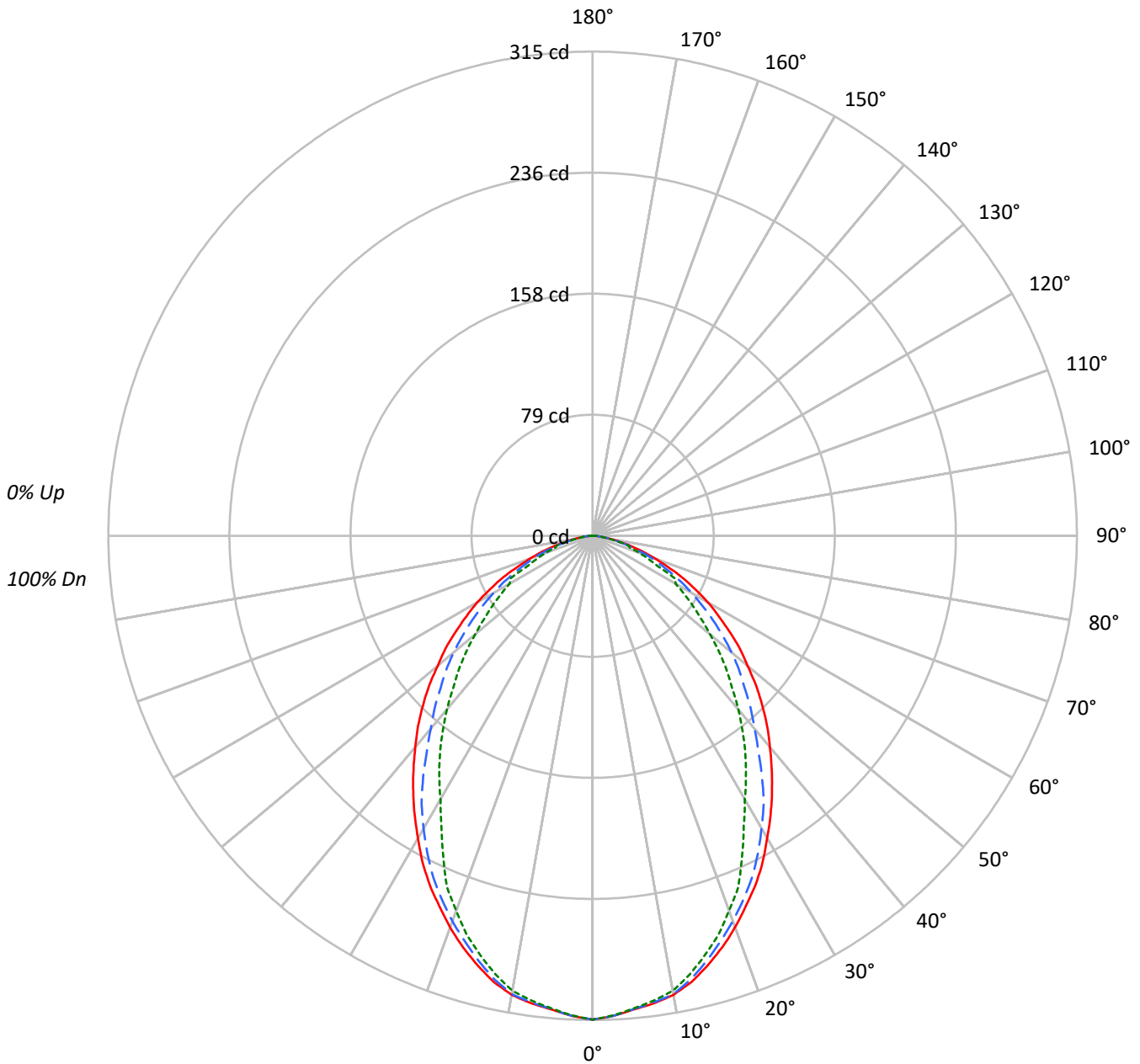
Lumens per Lamp: N/A  
Luminaire Lumens: 618.0 lumens  
Efficiency: N/A  
Efficacy: 74.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
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°	3388	3388	3388
5°	3342	3339	3334
10°	3314	3310	3286
15°	3224	3192	3147
20°	3105	3056	2972
25°	2977	2913	2732
30°	2823	2732	2461
35°	2673	2526	2276
40°	2521	2302	2071
45°	2376	2127	1872
50°	2200	1974	1670
55°	2036	1790	1496
60°	1864	1597	1339
65°	1640	1401	1187
70°	1350	1224	1007
75°	1073	940	986
80°	719	676	632
85°	445	543	630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.3	4.7
10°-20°	80.4	13.0
20°-30°	111.3	18.0
30°-40°	118.7	19.2
40°-50°	108.3	17.5
50°-60°	84.9	13.7
60°-70°	55.3	8.9
70°-80°	24.5	4.0
80°-90°	5.3	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°	221.1	35.8
0°-40°	339.8	55.0
0°-60°	532.9	86.2
0°-90°	618.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	618.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	315	315	315	315	315	
5°	309	309	309	309	309	29
15°	289	289	286	284	282	81
25°	251	249	245	237	230	115
35°	203	202	192	178	173	127
45°	156	153	140	128	123	120
55°	108	105	95	84	80	97
65°	64	61	55	56	47	63
75°	26	24	23	22	24	28
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	314.8	314.8	314.8	314.8	314.8
2.5°	312.6	312.6	312.6	312.3	312.3
5°	309.3	309.0	309.0	308.6	308.6
7.5°	306.8	306.4	306.1	305.7	305.0
10°	303.2	303.2	302.8	301.0	300.6
12.5°	297.3	297.0	295.5	293.0	292.2
15°	289.3	289.3	286.4	283.5	282.4
17.5°	280.6	280.2	276.6	273.7	272.2
20°	271.1	270.4	266.8	262.0	259.5
22.5°	260.6	260.6	256.2	250.0	247.5
25°	250.7	249.3	245.3	236.6	230.0
27.5°	239.5	237.3	232.9	220.5	212.9
30°	227.1	226.0	219.8	203.8	198.0
32.5°	215.4	213.6	207.1	190.3	185.6
35°	203.4	202.0	192.2	177.6	173.2
37.5°	191.4	189.6	177.2	165.6	160.1
40°	179.4	177.2	163.8	153.2	147.4
42.5°	168.1	165.2	152.1	140.8	134.3
45°	156.1	152.9	139.7	128.1	123.0
47.5°	144.1	141.2	129.2	117.2	111.4
50°	131.4	128.8	117.9	105.9	99.7
52.5°	120.8	116.8	106.3	94.3	89.2
55°	108.5	105.2	95.4	84.1	79.7
57.5°	97.2	93.9	84.8	74.2	70.6
60°	86.6	81.9	74.2	65.1	62.2
62.5°	75.0	71.3	64.8	57.1	60.8
65°	64.4	60.8	55.0	56.0	46.6
67.5°	52.8	51.0	45.9	40.8	39.3
70°	42.9	40.8	38.9	33.5	32.0
72.5°	34.2	32.0	29.5	26.6	25.5
75°	25.8	24.0	22.6	21.5	23.7
77.5°	17.8	17.1	16.0	14.9	14.6
80°	11.6	11.3	10.9	10.6	10.2
82.5°	6.9	6.9	6.9	6.9	6.9
85°	3.6	4.0	4.4	4.7	5.1
87.5°	2.2	2.2	2.5	2.9	3.3
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)