

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: P544815

Luminaire Tested: **FMR-12-1-LD4-1LO-40-UNV-93-84-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: P544815  
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-LD4-1LO-40-UNV-93-84-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

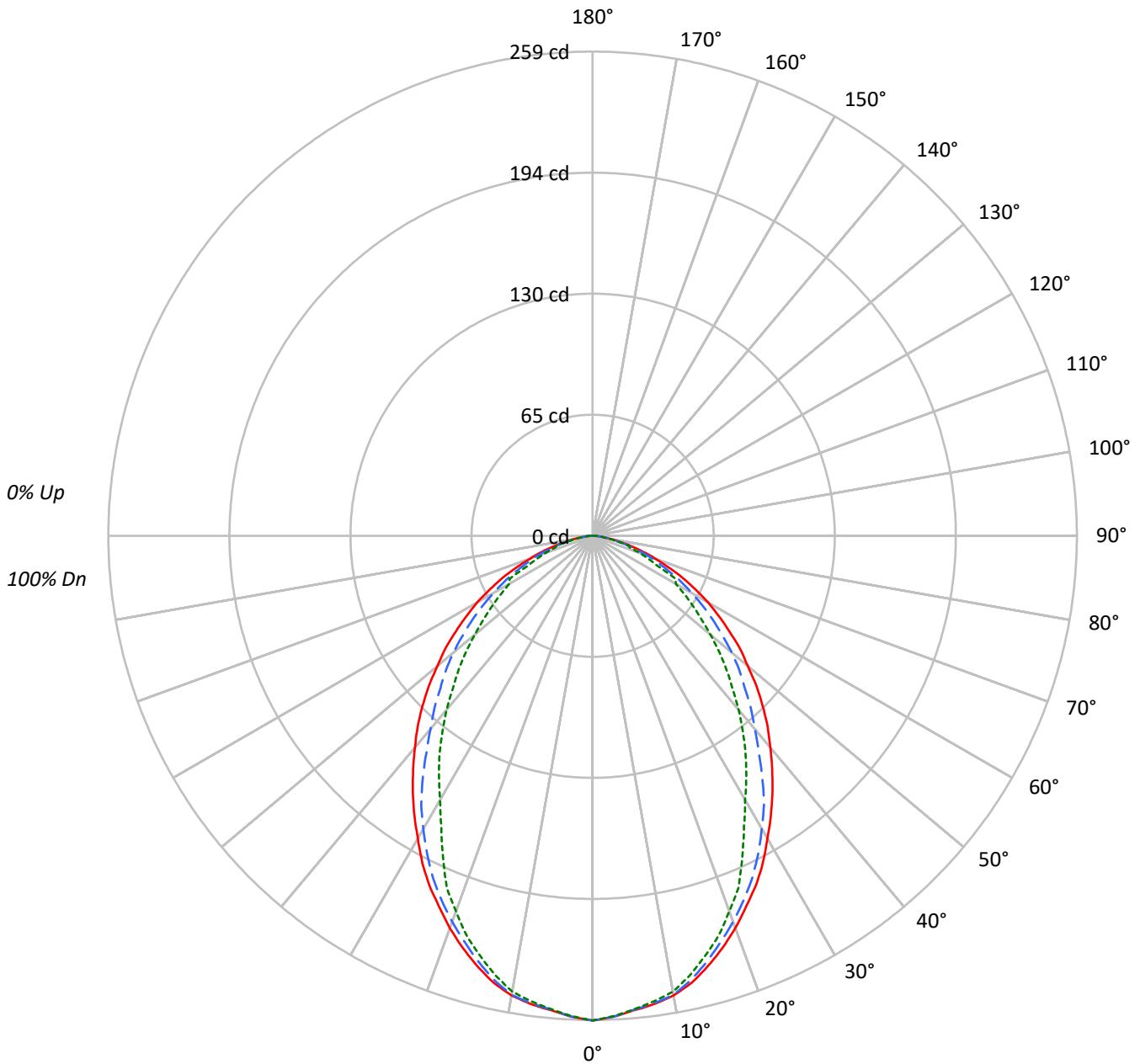
Lumens per Lamp: N/A  
Luminaire Lumens: 509.0 lumens  
Efficiency: N/A  
Efficacy: 87.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.8  
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	47	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°	2791	2791	2791
5°	2753	2750	2747
10°	2729	2726	2706
15°	2656	2629	2592
20°	2558	2517	2448
25°	2453	2399	2249
30°	2324	2250	2027
35°	2202	2080	1875
40°	2077	1896	1706
45°	1958	1752	1542
50°	1812	1626	1375
55°	1676	1473	1231
60°	1535	1315	1104
65°	1352	1154	978
70°	1114	1010	831
75°	886	774	811
80°	595	558	521
85°	371	445	519



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.1	4.7
10°-20°	66.2	13.0
20°-30°	91.7	18.0
30°-40°	97.8	19.2
40°-50°	89.2	17.5
50°-60°	69.9	13.7
60°-70°	45.6	9.0
70°-80°	20.2	4.0
80°-90°	4.3	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°	182.1	35.8
0°-40°	279.9	55.0
0°-60°	438.9	86.2
0°-90°	509.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	509.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	259	259	259	259	259	
5°	255	254	254	254	254	24
15°	238	238	236	234	233	67
25°	206	205	202	195	189	95
35°	168	166	158	146	143	105
45°	129	126	115	106	101	99
55°	89	87	78	69	66	80
65°	53	50	45	46	38	52
75°	21	20	19	18	20	23
85°	3	3	4	4	4	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	259.3	259.3	259.3	259.3	259.3
2.5°	257.5	257.5	257.5	257.2	257.2
5°	254.8	254.5	254.5	254.2	254.2
7.5°	252.7	252.4	252.1	251.8	251.2
10°	249.7	249.7	249.4	247.9	247.6
12.5°	244.9	244.6	243.4	241.3	240.7
15°	238.3	238.3	235.9	233.5	232.6
17.5°	231.1	230.8	227.8	225.4	224.2
20°	223.3	222.7	219.7	215.8	213.7
22.5°	214.6	214.6	211.0	205.9	203.8
25°	206.5	205.3	202.0	194.8	189.4
27.5°	197.2	195.4	191.8	181.6	175.3
30°	187.0	186.1	181.0	167.9	163.1
32.5°	177.4	175.9	170.6	156.8	152.9
35°	167.6	166.4	158.3	146.3	142.7
37.5°	157.7	156.2	146.0	136.4	131.9
40°	147.8	146.0	134.9	126.2	121.4
42.5°	138.5	136.1	125.3	116.0	110.6
45°	128.6	125.9	115.1	105.5	101.3
47.5°	118.7	116.3	106.4	96.5	91.7
50°	108.2	106.1	97.1	87.2	82.1
52.5°	99.5	96.2	87.5	77.6	73.4
55°	89.3	86.6	78.5	69.2	65.6
57.5°	80.0	77.3	69.8	61.1	58.2
60°	71.3	67.4	61.1	53.7	51.3
62.5°	61.7	58.7	53.4	47.1	50.1
65°	53.1	50.1	45.3	46.2	38.4
67.5°	43.5	42.0	37.8	33.6	32.4
70°	35.4	33.6	32.1	27.6	26.4
72.5°	28.2	26.4	24.3	21.9	21.0
75°	21.3	19.8	18.6	17.7	19.5
77.5°	14.7	14.1	13.2	12.3	12.0
80°	9.6	9.3	9.0	8.7	8.4
82.5°	5.7	5.7	5.7	5.7	5.7
85°	3.0	3.3	3.6	3.9	4.2
87.5°	1.8	1.8	2.1	2.4	2.7
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)