

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: P545331

Luminaire Tested: **FMR-12-2-LD4-1HI-50-UNV-93-88-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: P545331  
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-12-2-LD4-1HI-50-UNV-93-88-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

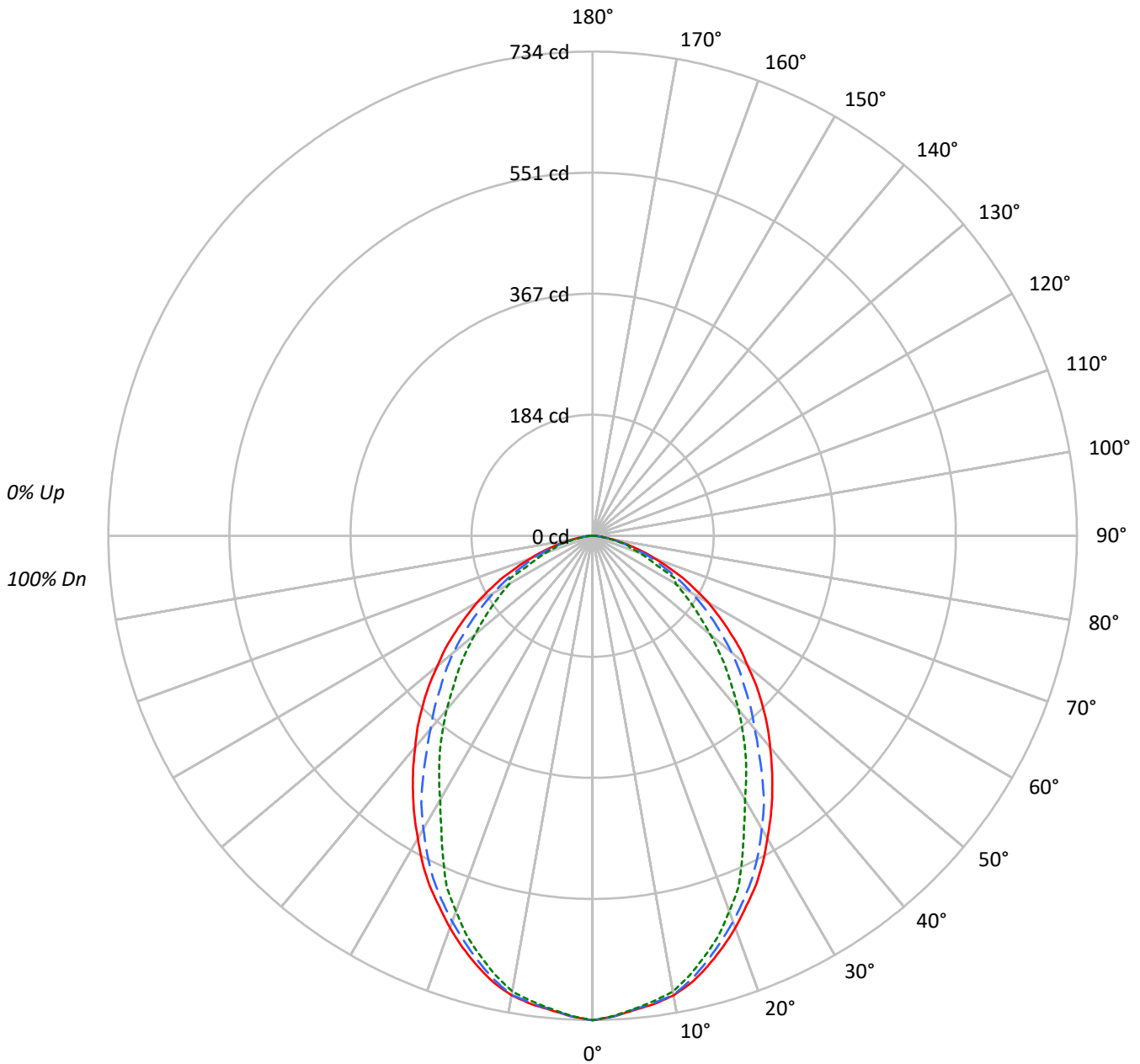
Lumens per Lamp: N/A  
Luminaire Lumens: 1442.0 lumens  
Efficiency: N/A  
Efficacy: 66.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	3953	3953	3953
5°	3900	3895	3890
10°	3866	3861	3833
15°	3762	3724	3672
20°	3623	3565	3468
25°	3475	3399	3187
30°	3293	3187	2871
35°	3119	2946	2656
40°	2941	2684	2416
45°	2773	2482	2184
50°	2567	2303	1948
55°	2375	2088	1745
60°	2175	1864	1563
65°	1914	1633	1384
70°	1577	1430	1175
75°	1254	1094	1148
80°	843	790	738
85°	525	630	735



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.4	4.7
10°-20°	187.7	13.0
20°-30°	259.8	18.0
30°-40°	277.0	19.2
40°-50°	252.7	17.5
50°-60°	198.0	13.7
60°-70°	129.0	8.9
70°-80°	57.2	4.0
80°-90°	12.3	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°	515.8	35.8
0°-40°	792.8	55.0
0°-60°	1243.5	86.2
0°-90°	1442.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1442.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	734	734	734	734	734	
5°	722	721	721	720	720	69
15°	675	675	668	662	659	190
25°	585	582	572	552	537	269
35°	475	471	448	414	404	297
45°	364	357	326	299	287	281
55°	253	245	222	196	186	227
65°	150	142	128	131	109	148
75°	60	56	53	50	55	65
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	734.5	734.5	734.5	734.5	734.5
2.5°	729.4	729.4	729.4	728.6	728.6
5°	721.8	720.9	720.9	720.1	720.1
7.5°	715.9	715.0	714.2	713.3	711.6
10°	707.4	707.4	706.5	702.3	701.4
12.5°	693.8	692.9	689.5	683.6	681.9
15°	675.1	675.1	668.3	661.5	659.0
17.5°	654.7	653.9	645.4	638.6	635.2
20°	632.6	630.9	622.4	611.4	605.5
22.5°	608.0	608.0	597.8	583.4	577.4
25°	585.1	581.7	572.3	552.0	536.7
27.5°	558.8	553.7	543.5	514.6	496.8
30°	529.9	527.3	512.9	475.5	462.0
32.5°	502.7	498.5	483.2	444.1	433.1
35°	474.7	471.3	448.4	414.4	404.2
37.5°	446.7	442.4	413.5	386.4	373.6
40°	418.6	413.5	382.1	357.5	343.9
42.5°	392.3	385.5	355.0	328.6	313.3
45°	364.3	356.7	326.1	298.9	287.0
47.5°	336.3	329.5	301.5	273.4	259.8
50°	306.6	300.6	275.1	247.1	232.7
52.5°	281.9	272.6	248.0	219.9	208.0
55°	253.1	245.4	222.5	196.2	186.0
57.5°	226.7	219.1	197.9	173.2	164.7
60°	202.1	191.1	173.2	152.0	145.2
62.5°	174.9	166.4	151.2	133.3	141.8
65°	150.3	141.8	128.2	130.8	108.7
67.5°	123.1	118.9	107.0	95.1	91.7
70°	100.2	95.1	90.9	78.1	74.7
72.5°	79.8	74.7	68.8	62.0	59.4
75°	60.3	56.0	52.6	50.1	55.2
77.5°	41.6	39.9	37.4	34.8	34.0
80°	27.2	26.3	25.5	24.6	23.8
82.5°	16.1	16.1	16.1	16.1	16.1
85°	8.5	9.3	10.2	11.0	11.9
87.5°	5.1	5.1	5.9	6.8	7.6
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)