

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: P545330

Luminaire Tested: **FMR-12-2-LD4-1HI-50-UNV-93-87-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: P545330  
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-93-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

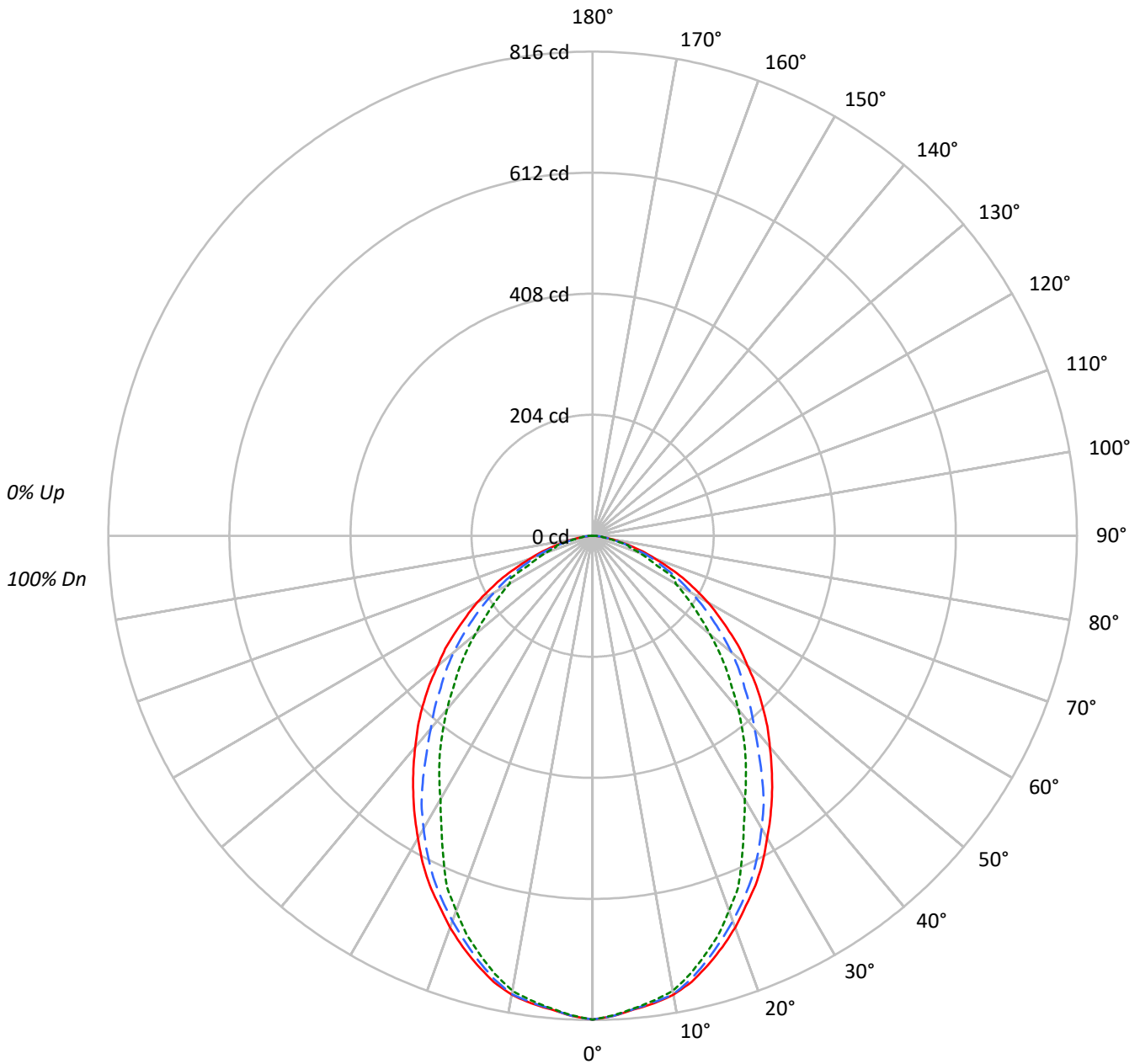
Lumens per Lamp: N/A  
Luminaire Lumens: 1601.0 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	4389	4389	4389
5°	4330	4324	4319
10°	4292	4287	4256
15°	4176	4134	4076
20°	4023	3958	3850
25°	3858	3774	3539
30°	3656	3539	3187
35°	3462	3271	2949
40°	3266	2981	2682
45°	3079	2755	2426
50°	2850	2558	2163
55°	2637	2318	1938
60°	2415	2070	1735
65°	2125	1813	1537
70°	1751	1588	1306
75°	1391	1216	1275
80°	936	877	818
85°	580	698	815



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.9	4.7
10°-20°	208.3	13.0
20°-30°	288.4	18.0
30°-40°	307.6	19.2
40°-50°	280.6	17.5
50°-60°	219.8	13.7
60°-70°	143.3	8.9
70°-80°	63.5	4.0
80°-90°	13.6	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°	572.7	35.8
0°-40°	880.2	55.0
0°-60°	1380.6	86.2
0°-90°	1601.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1601.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	801	800	800	800	800	76
15°	750	750	742	734	732	211
25°	650	646	636	613	596	298
35°	527	523	498	460	449	329
45°	404	396	362	332	319	312
55°	281	272	247	218	206	252
65°	167	157	142	145	121	164
75°	67	62	58	56	61	72
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	815.5	815.5	815.5	815.5	815.5
2.5°	809.9	809.9	809.9	808.9	808.9
5°	801.4	800.4	800.4	799.5	799.5
7.5°	794.8	793.8	792.9	792.0	790.1
10°	785.4	785.4	784.4	779.7	778.8
12.5°	770.3	769.3	765.6	759.0	757.1
15°	749.5	749.5	742.0	734.4	731.6
17.5°	726.9	726.0	716.5	709.0	705.2
20°	702.4	700.5	691.1	678.8	672.2
22.5°	675.0	675.0	663.7	647.7	641.1
25°	649.6	645.8	635.5	612.8	595.9
27.5°	620.4	614.7	603.4	571.3	551.5
30°	588.3	585.5	569.5	528.0	512.9
32.5°	558.1	553.4	536.5	493.1	480.8
35°	527.0	523.3	497.8	460.1	448.8
37.5°	495.9	491.2	459.1	429.0	414.8
40°	464.8	459.1	424.3	396.9	381.8
42.5°	435.6	428.0	394.1	364.9	347.9
45°	404.5	396.0	362.0	331.9	318.7
47.5°	373.4	365.8	334.7	303.6	288.5
50°	340.4	333.8	305.5	274.4	258.3
52.5°	313.0	302.6	275.3	244.2	231.0
55°	281.0	272.5	247.0	217.8	206.5
57.5°	251.7	243.2	219.7	192.3	182.9
60°	224.4	212.1	192.3	168.8	161.2
62.5°	194.2	184.8	167.8	148.0	157.4
65°	166.9	157.4	142.4	145.2	120.7
67.5°	136.7	132.0	118.8	105.6	101.8
70°	111.3	105.6	100.9	86.7	83.0
72.5°	88.6	83.0	76.4	68.8	66.0
75°	66.9	62.2	58.5	55.6	61.3
77.5°	46.2	44.3	41.5	38.7	37.7
80°	30.2	29.2	28.3	27.3	26.4
82.5°	17.9	17.9	17.9	17.9	17.9
85°	9.4	10.4	11.3	12.3	13.2
87.5°	5.7	5.7	6.6	7.5	8.5
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)