

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: P545333

Luminaire Tested: **FMR-12-2-LD4-1HI-50-UNV-93-96-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: P545333  
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-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

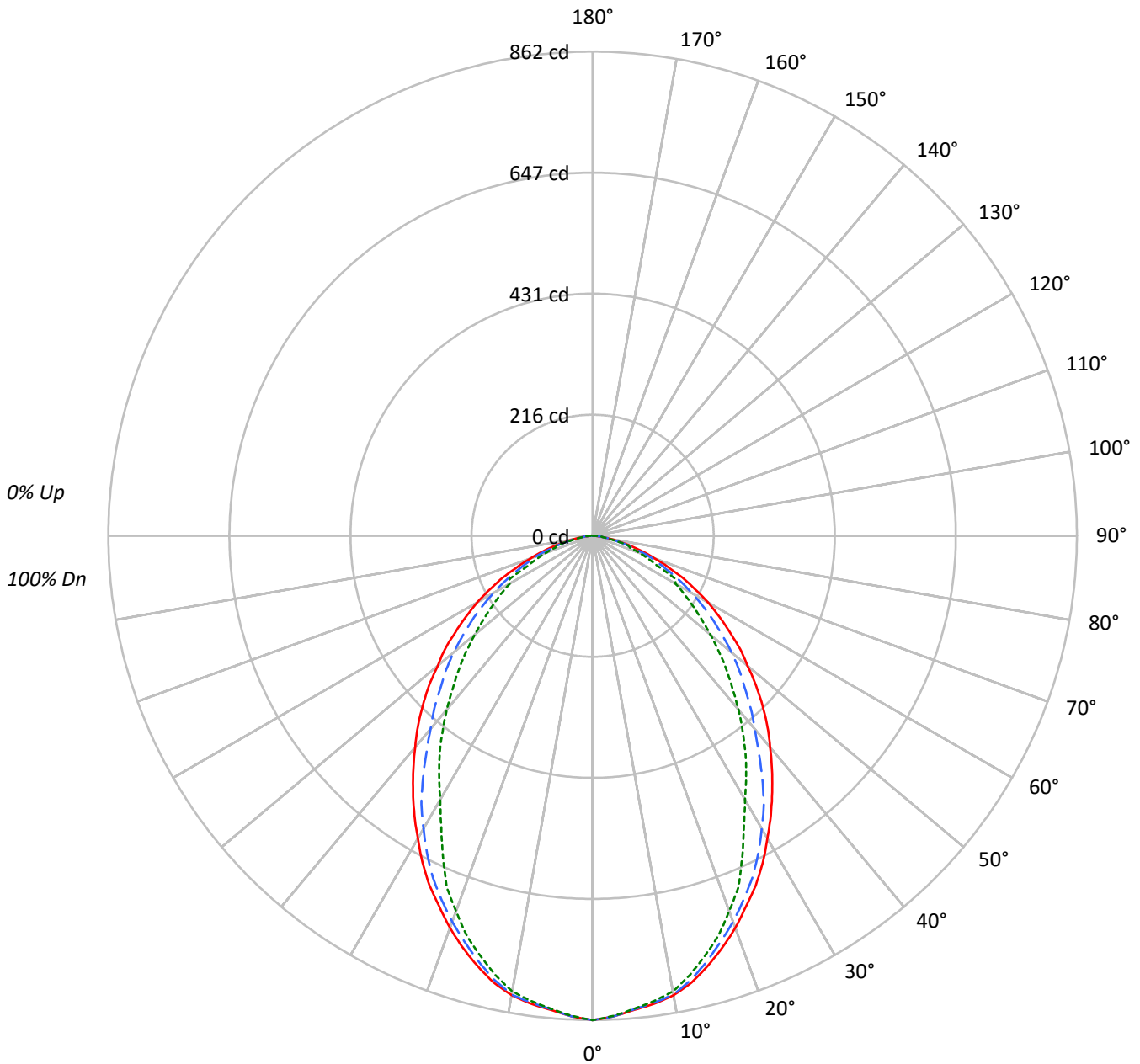
Lumens per Lamp: N/A  
Luminaire Lumens: 1693.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	4641	4641	4641
5°	4578	4573	4567
10°	4539	4533	4500
15°	4416	4372	4311
20°	4254	4186	4071
25°	4079	3991	3742
30°	3866	3742	3371
35°	3662	3459	3118
40°	3453	3152	2837
45°	3255	2914	2565
50°	3013	2704	2287
55°	2788	2451	2048
60°	2554	2189	1835
65°	2248	1917	1625
70°	1851	1679	1380
75°	1472	1285	1347
80°	989	927	865
85°	618	741	865



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.3	4.7
10°-20°	220.3	13.0
20°-30°	305.0	18.0
30°-40°	325.2	19.2
40°-50°	296.7	17.5
50°-60°	232.4	13.7
60°-70°	151.5	8.9
70°-80°	67.1	4.0
80°-90°	14.4	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°	605.6	35.8
0°-40°	930.8	55.0
0°-60°	1459.9	86.2
0°-90°	1693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1693.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	862	862	862	862	862	
5°	847	846	846	845	845	80
15°	793	793	785	777	774	223
25°	687	683	672	648	630	315
35°	557	553	526	486	475	348
45°	428	419	383	351	337	329
55°	297	288	261	230	218	266
65°	176	166	150	154	128	174
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	862.4	862.4	862.4	862.4	862.4
2.5°	856.4	856.4	856.4	855.4	855.4
5°	847.4	846.4	846.4	845.4	845.4
7.5°	840.5	839.5	838.5	837.5	835.5
10°	830.5	830.5	829.5	824.5	823.5
12.5°	814.5	813.5	809.6	802.6	800.6
15°	792.6	792.6	784.6	776.7	773.7
17.5°	768.7	767.7	757.7	749.7	745.7
20°	742.8	740.8	730.8	717.8	710.8
22.5°	713.8	713.8	701.9	684.9	677.9
25°	686.9	682.9	672.0	648.0	630.1
27.5°	656.0	650.0	638.1	604.2	583.2
30°	622.1	619.1	602.2	558.3	542.4
32.5°	590.2	585.2	567.3	521.4	508.5
35°	557.3	553.3	526.4	486.5	474.6
37.5°	524.4	519.4	485.5	453.6	438.7
40°	491.5	485.5	448.6	419.7	403.8
42.5°	460.6	452.6	416.7	385.8	367.9
45°	427.7	418.7	382.8	350.9	337.0
47.5°	394.8	386.8	353.9	321.0	305.1
50°	359.9	352.9	323.0	290.1	273.2
52.5°	331.0	320.0	291.1	258.2	244.3
55°	297.1	288.1	261.2	230.3	218.3
57.5°	266.2	257.2	232.3	203.4	193.4
60°	237.3	224.3	203.4	178.5	170.5
62.5°	205.4	195.4	177.5	156.5	166.5
65°	176.5	166.5	150.5	153.5	127.6
67.5°	144.6	139.6	125.6	111.7	107.7
70°	117.6	111.7	106.7	91.7	87.7
72.5°	93.7	87.7	80.8	72.8	69.8
75°	70.8	65.8	61.8	58.8	64.8
77.5°	48.9	46.9	43.9	40.9	39.9
80°	31.9	30.9	29.9	28.9	27.9
82.5°	18.9	18.9	18.9	18.9	18.9
85°	10.0	11.0	12.0	13.0	14.0
87.5°	6.0	6.0	7.0	8.0	9.0
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)