

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: P544751

Luminaire Tested: **FMR-12-1-LD4-1HI-50-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: P544751  
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-LD4-1HI-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

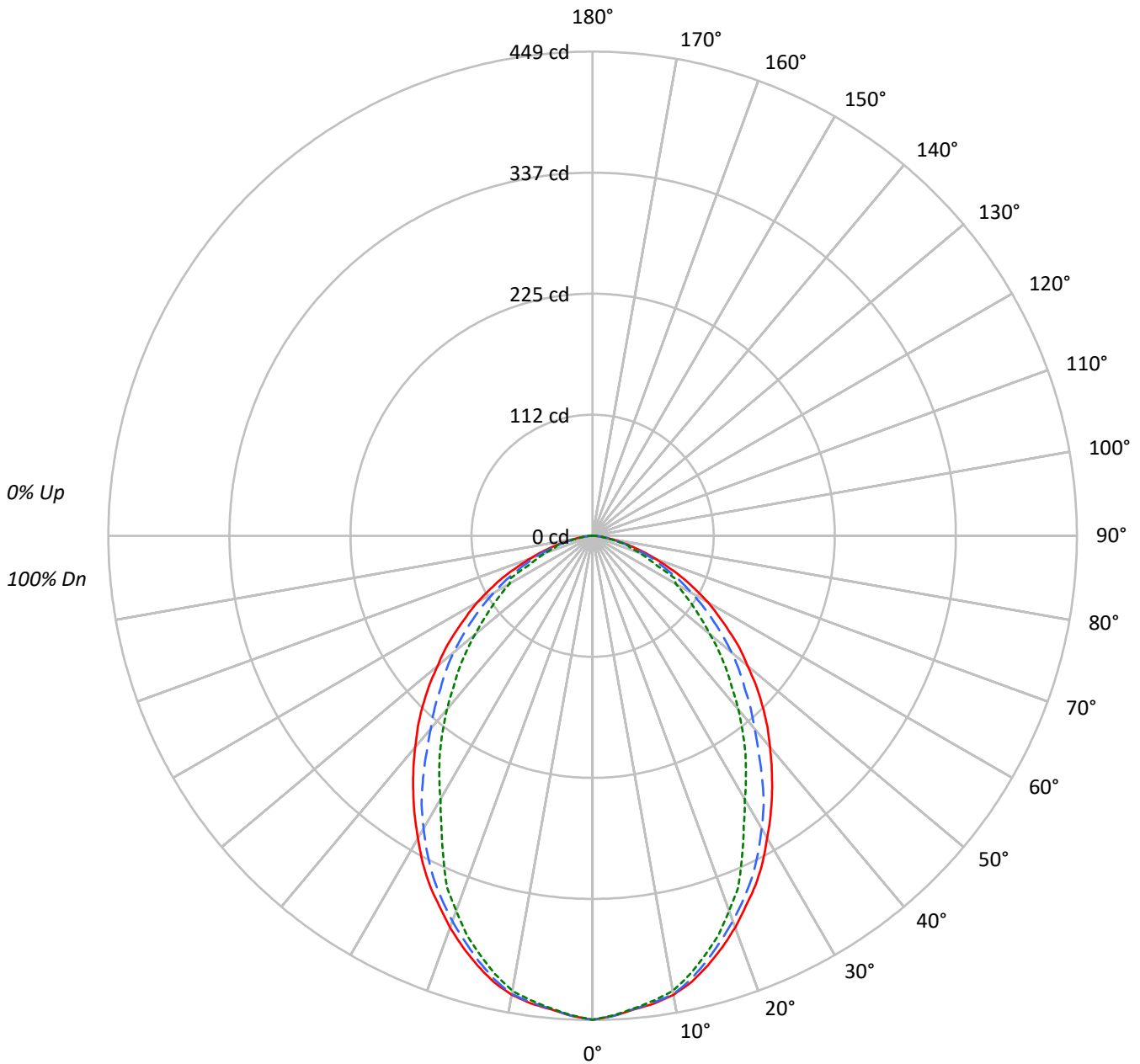
Lumens per Lamp: N/A  
Luminaire Lumens: 881.0 lumens  
Efficiency: N/A  
Efficacy: 81.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 10.8  
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	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°	4831	4831	4831
5°	4765	4760	4753
10°	4724	4717	4683
15°	4597	4550	4486
20°	4427	4356	4237
25°	4246	4153	3894
30°	4023	3895	3507
35°	3811	3599	3246
40°	3594	3281	2952
45°	3389	3032	2670
50°	3136	2815	2381
55°	2901	2550	2132
60°	2659	2278	1910
65°	2338	1994	1691
70°	1926	1747	1438
75°	1530	1339	1402
80°	1029	967	899
85°	642	766	902



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.8	4.7
10°-20°	114.6	13.0
20°-30°	158.7	18.0
30°-40°	169.2	19.2
40°-50°	154.4	17.5
50°-60°	121.0	13.7
60°-70°	78.8	8.9
70°-80°	34.9	4.0
80°-90°	7.5	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°	315.1	35.8
0°-40°	484.4	55.0
0°-60°	759.7	86.2
0°-90°	881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	881.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	449	449	449	449	449	
5°	441	440	440	440	440	42
15°	412	412	408	404	403	116
25°	358	355	350	337	328	164
35°	290	288	274	253	247	181
45°	223	218	199	183	175	171
55°	155	150	136	120	114	139
65°	92	87	78	80	66	90
75°	37	34	32	31	34	39
85°	5	6	6	7	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	448.8	448.8	448.8	448.8	448.8
2.5°	445.7	445.7	445.7	445.1	445.1
5°	441.0	440.5	440.5	439.9	439.9
7.5°	437.4	436.8	436.3	435.8	434.8
10°	432.2	432.2	431.6	429.1	428.5
12.5°	423.9	423.3	421.3	417.6	416.6
15°	412.5	412.5	408.3	404.2	402.6
17.5°	400.0	399.5	394.3	390.1	388.1
20°	386.5	385.5	380.3	373.5	369.9
22.5°	371.5	371.5	365.2	356.4	352.8
25°	357.5	355.4	349.7	337.2	327.9
27.5°	341.4	338.3	332.0	314.4	303.5
30°	323.7	322.2	313.4	290.5	282.2
32.5°	307.1	304.5	295.2	271.3	264.6
35°	290.0	287.9	273.9	253.2	247.0
37.5°	272.9	270.3	252.7	236.1	228.3
40°	255.8	252.7	233.5	218.4	210.1
42.5°	239.7	235.5	216.9	200.8	191.4
45°	222.6	217.9	199.2	182.6	175.4
47.5°	205.4	201.3	184.2	167.1	158.8
50°	187.3	183.7	168.1	151.0	142.2
52.5°	172.2	166.5	151.5	134.4	127.1
55°	154.6	149.9	135.9	119.8	113.6
57.5°	138.5	133.9	120.9	105.8	100.6
60°	123.5	116.7	105.8	92.9	88.7
62.5°	106.9	101.7	92.3	81.5	86.6
65°	91.8	86.6	78.3	79.9	66.4
67.5°	75.2	72.6	65.4	58.1	56.0
70°	61.2	58.1	55.5	47.7	45.7
72.5°	48.8	45.7	42.0	37.9	36.3
75°	36.8	34.2	32.2	30.6	33.7
77.5°	25.4	24.4	22.8	21.3	20.8
80°	16.6	16.1	15.6	15.0	14.5
82.5°	9.9	9.9	9.9	9.9	9.9
85°	5.2	5.7	6.2	6.7	7.3
87.5°	3.1	3.1	3.6	4.2	4.7
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)