

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: P546003

Luminaire Tested: **FMR-12-4-LD4-1LO-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: P546003  
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-12-4-LD4-1LO-50-UNV-93-88-EDD  
Description: 1X4 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**

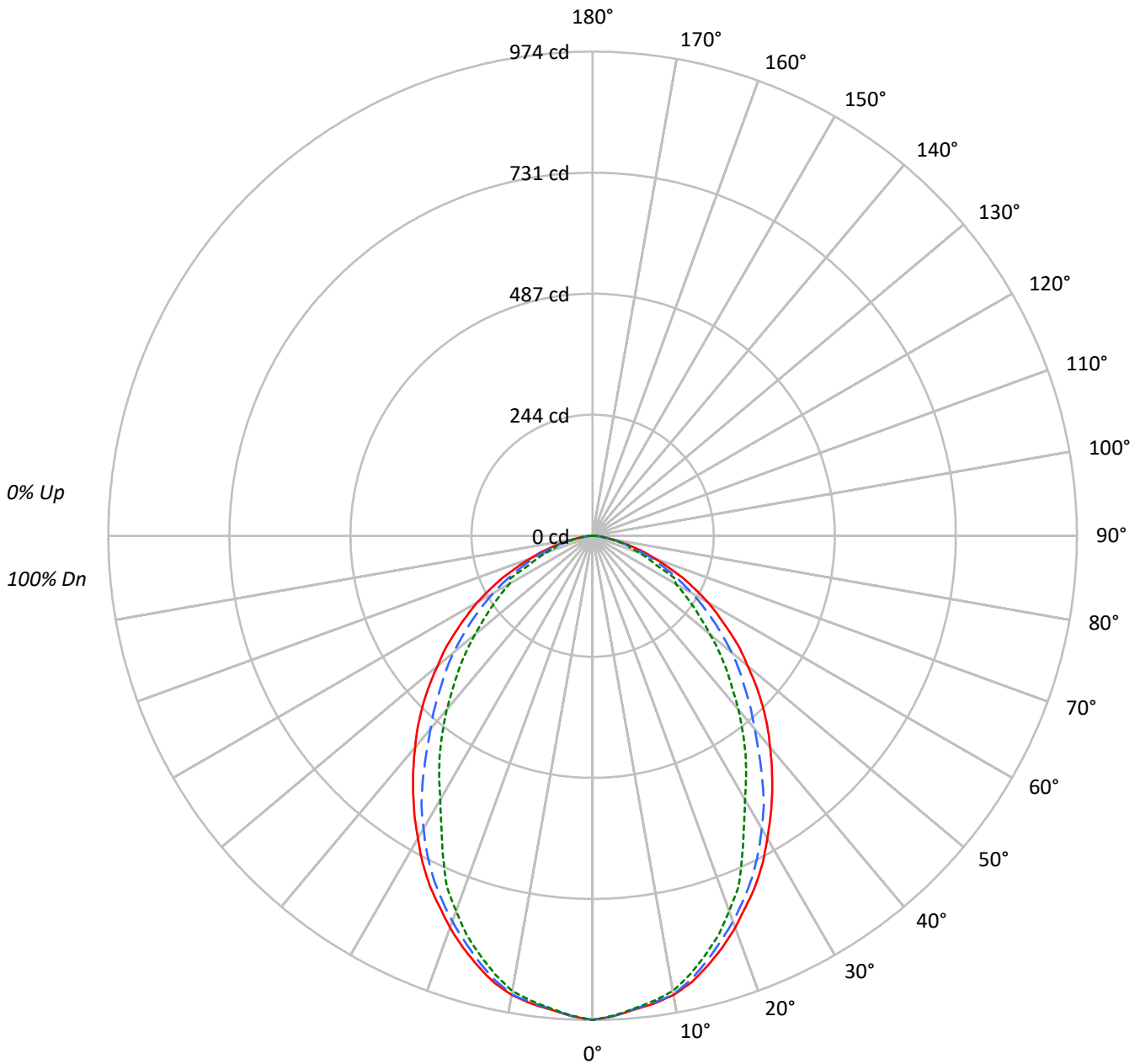
Lumens per Lamp: N/A  
Luminaire Lumens: 1912.0 lumens  
Efficiency: N/A  
Efficacy: 81.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2621	2621	2621
5°	2585	2582	2579
10°	2563	2560	2541
15°	2494	2469	2434
20°	2402	2363	2299
25°	2303	2253	2113
30°	2183	2113	1903
35°	2068	1953	1761
40°	1950	1780	1602
45°	1838	1646	1448
50°	1702	1527	1292
55°	1574	1384	1157
60°	1442	1236	1036
65°	1269	1082	918
70°	1046	948	780
75°	831	726	761
80°	558	524	488
85°	349	417	488



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.7	4.7
10°-20°	248.8	13.0
20°-30°	344.5	18.0
30°-40°	367.3	19.2
40°-50°	335.1	17.5
50°-60°	262.5	13.7
60°-70°	171.1	8.9
70°-80°	75.8	4.0
80°-90°	16.3	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°	683.9	35.8
0°-40°	1051.2	55.0
0°-60°	1648.8	86.2
0°-90°	1912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1912.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	974	974	974	974	974	
5°	957	956	956	955	955	91
15°	895	895	886	877	874	252
25°	776	771	759	732	712	356
35°	629	625	594	550	536	394
45°	483	473	432	396	381	372
55°	336	325	295	260	247	301
65°	199	188	170	173	144	196
75°	80	74	70	66	73	86
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	973.9	973.9	973.9	973.9	973.9
2.5°	967.2	967.2	967.2	966.1	966.1
5°	957.1	955.9	955.9	954.8	954.8
7.5°	949.2	948.1	946.9	945.8	943.5
10°	937.9	937.9	936.8	931.2	930.0
12.5°	919.9	918.8	914.3	906.4	904.1
15°	895.1	895.1	886.1	877.1	873.7
17.5°	868.1	867.0	855.7	846.7	842.2
20°	838.8	836.6	825.3	810.7	802.8
22.5°	806.2	806.2	792.7	773.5	765.6
25°	775.8	771.3	758.9	731.9	711.6
27.5°	740.9	734.1	720.6	682.3	658.7
30°	702.6	699.2	680.1	630.5	612.5
32.5°	666.6	660.9	640.7	588.9	574.2
35°	629.4	624.9	594.5	549.5	536.0
37.5°	592.3	586.6	548.3	512.3	495.4
40°	555.1	548.3	506.7	474.0	456.0
42.5°	520.2	511.2	470.6	435.7	415.5
45°	483.0	472.9	432.4	396.3	380.6
47.5°	445.9	436.9	399.7	362.6	344.5
50°	406.5	398.6	364.8	327.7	308.5
52.5°	373.8	361.4	328.8	291.6	275.9
55°	335.5	325.4	295.0	260.1	246.6
57.5°	300.6	290.5	262.3	229.7	218.4
60°	268.0	253.3	229.7	201.5	192.5
62.5°	231.9	220.7	200.4	176.8	188.0
65°	199.3	188.0	170.0	173.4	144.1
67.5°	163.3	157.6	141.9	126.1	121.6
70°	132.9	126.1	120.5	103.6	99.1
72.5°	105.8	99.1	91.2	82.2	78.8
75°	79.9	74.3	69.8	66.4	73.2
77.5°	55.2	52.9	49.5	46.2	45.0
80°	36.0	34.9	33.8	32.7	31.5
82.5°	21.4	21.4	21.4	21.4	21.4
85°	11.3	12.4	13.5	14.6	15.8
87.5°	6.8	6.8	7.9	9.0	10.1
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)