

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: P547343

Luminaire Tested: **FMR-24-4-LD4-4HI-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: P547343  
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-24-4-LD4-4HI-50-UNV-93-84-EDD  
Description: 2X4 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**

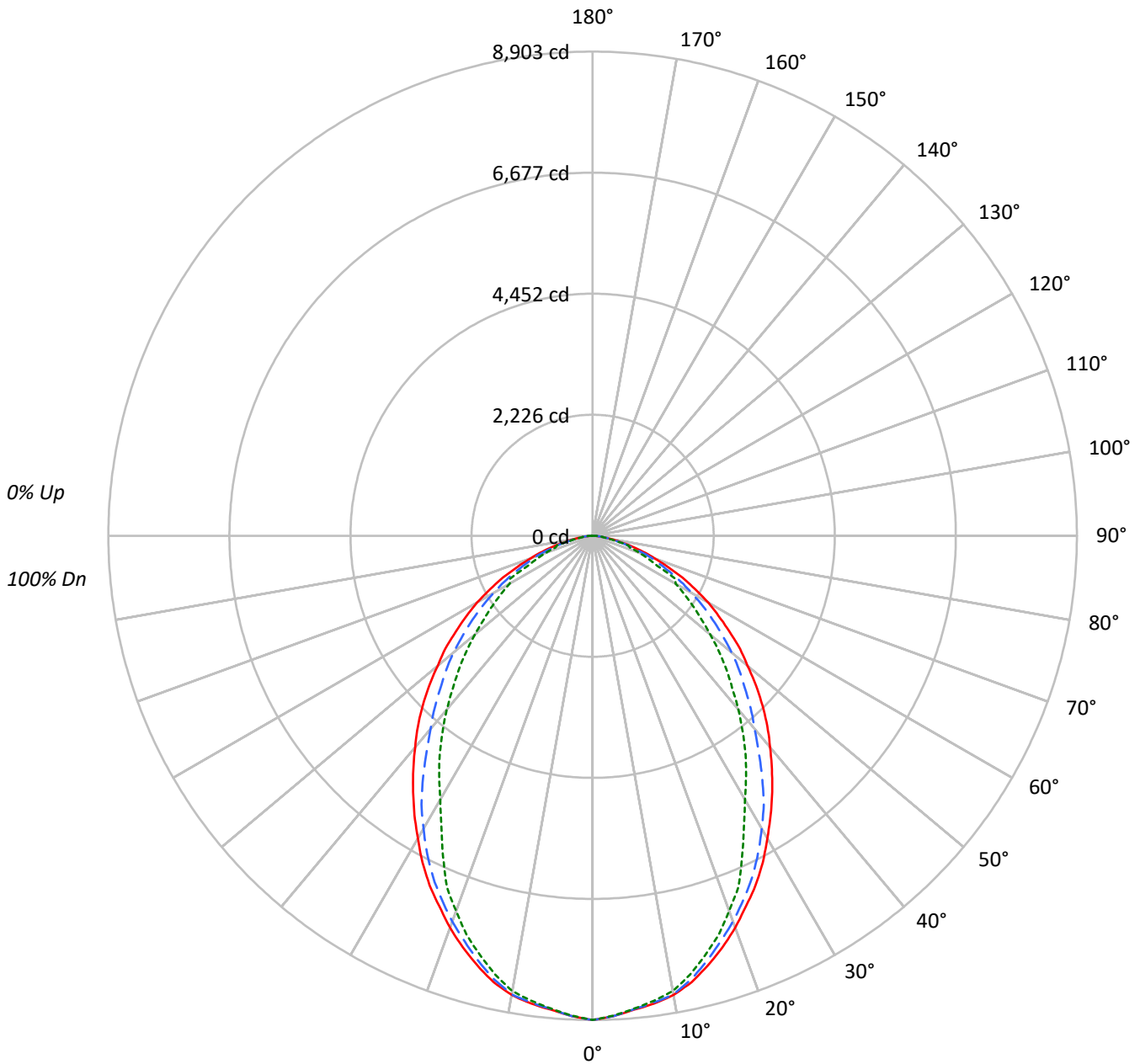
Lumens per Lamp: N/A  
Luminaire Lumens: 17478.0 lumens  
Efficiency: N/A  
Efficacy: 101.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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

TEST NUMBER: P547343

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-93-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547343

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-93-84-EDD

**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°	11979	11979	11979
5°	11816	11802	11788
10°	11714	11700	11615
15°	11398	11283	11126
20°	10979	10802	10508
25°	10528	10299	9657
30°	9978	9658	8699
35°	9450	8926	8047
40°	8912	8135	7322
45°	8402	7520	6620
50°	7778	6980	5903
55°	7195	6326	5288
60°	6592	5650	4736
65°	5800	4948	4194
70°	4778	4332	3563
75°	3799	3317	3478
80°	2552	2393	2233
85°	1589	1907	2225



TEST NUMBER: P547343

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-93-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	828.8	4.7
10°-20°	2274.4	13.0
20°-30°	3148.8	18.0
30°-40°	3357.6	19.2
40°-50°	3063.1	17.5
50°-60°	2399.7	13.7
60°-70°	1564.0	8.9
70°-80°	692.9	4.0
80°-90°	148.8	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°	6252.0	35.8
0°-40°	9609.6	55.0
0°-60°	15072.3	86.2
0°-90°	17478.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17478.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8903	8903	8903	8903	8903	
5°	8749	8738	8738	8728	8728	830
15°	8183	8183	8100	8018	7987	2300
25°	7092	7050	6937	6690	6505	3256
35°	5754	5712	5434	5023	4899	3597
45°	4416	4323	3952	3623	3479	3401
55°	3067	2974	2697	2378	2254	2751
65°	1822	1719	1554	1585	1317	1795
75°	731	679	638	607	669	783
85°	103	113	124	134	144	143
90°	0	0	0	0	0	



TEST NUMBER: P547343

CATALOG NUMBER: FMR-24-4-LD4-4HI-50-UNV-93-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8903.1	8903.1	8903.1	8903.1	8903.1
2.5°	8841.3	8841.3	8841.3	8831.0	8831.0
5°	8748.7	8738.4	8738.4	8728.1	8728.1
7.5°	8676.6	8666.3	8656.0	8645.7	8625.2
10°	8573.7	8573.7	8563.4	8511.9	8501.7
12.5°	8409.0	8398.7	8357.6	8285.5	8264.9
15°	8182.6	8182.6	8100.2	8017.9	7987.0
17.5°	7935.6	7925.3	7822.3	7740.0	7698.8
20°	7668.0	7647.4	7544.4	7410.6	7338.6
22.5°	7369.5	7369.5	7246.0	7071.0	6998.9
25°	7091.6	7050.4	6937.2	6690.2	6504.9
27.5°	6772.5	6710.7	6587.2	6237.3	6021.1
30°	6422.6	6391.7	6216.7	5763.8	5599.1
32.5°	6093.2	6041.7	5856.5	5383.0	5249.2
35°	5753.5	5712.4	5434.5	5022.8	4899.3
37.5°	5413.9	5362.4	5012.5	4683.1	4528.7
40°	5074.2	5012.5	4631.6	4333.2	4168.5
42.5°	4755.2	4672.8	4302.3	3983.2	3798.0
45°	4415.5	4322.9	3952.3	3623.0	3478.9
47.5°	4075.9	3993.5	3653.9	3314.2	3149.5
50°	3715.6	3643.6	3334.8	2995.1	2820.2
52.5°	3417.1	3303.9	3005.4	2665.8	2521.7
55°	3067.2	2974.5	2696.6	2377.6	2254.1
57.5°	2748.1	2655.5	2398.2	2099.7	1996.8
60°	2449.6	2315.8	2099.7	1842.4	1760.0
62.5°	2120.3	2017.3	1832.1	1615.9	1718.9
65°	1821.8	1718.9	1554.2	1585.1	1317.4
67.5°	1492.4	1441.0	1296.9	1152.8	1111.6
70°	1214.5	1152.8	1101.3	946.9	905.7
72.5°	967.5	905.7	833.7	751.4	720.5
75°	730.8	679.3	638.1	607.3	669.0
77.5°	504.3	483.8	452.9	422.0	411.7
80°	329.4	319.1	308.8	298.5	288.2
82.5°	195.6	195.6	195.6	195.6	195.6
85°	102.9	113.2	123.5	133.8	144.1
87.5°	61.8	61.8	72.0	82.3	92.6
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)