

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: P546882

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-81-87-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: P546882  
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-LD4-2STD-35-UNV-81-87-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

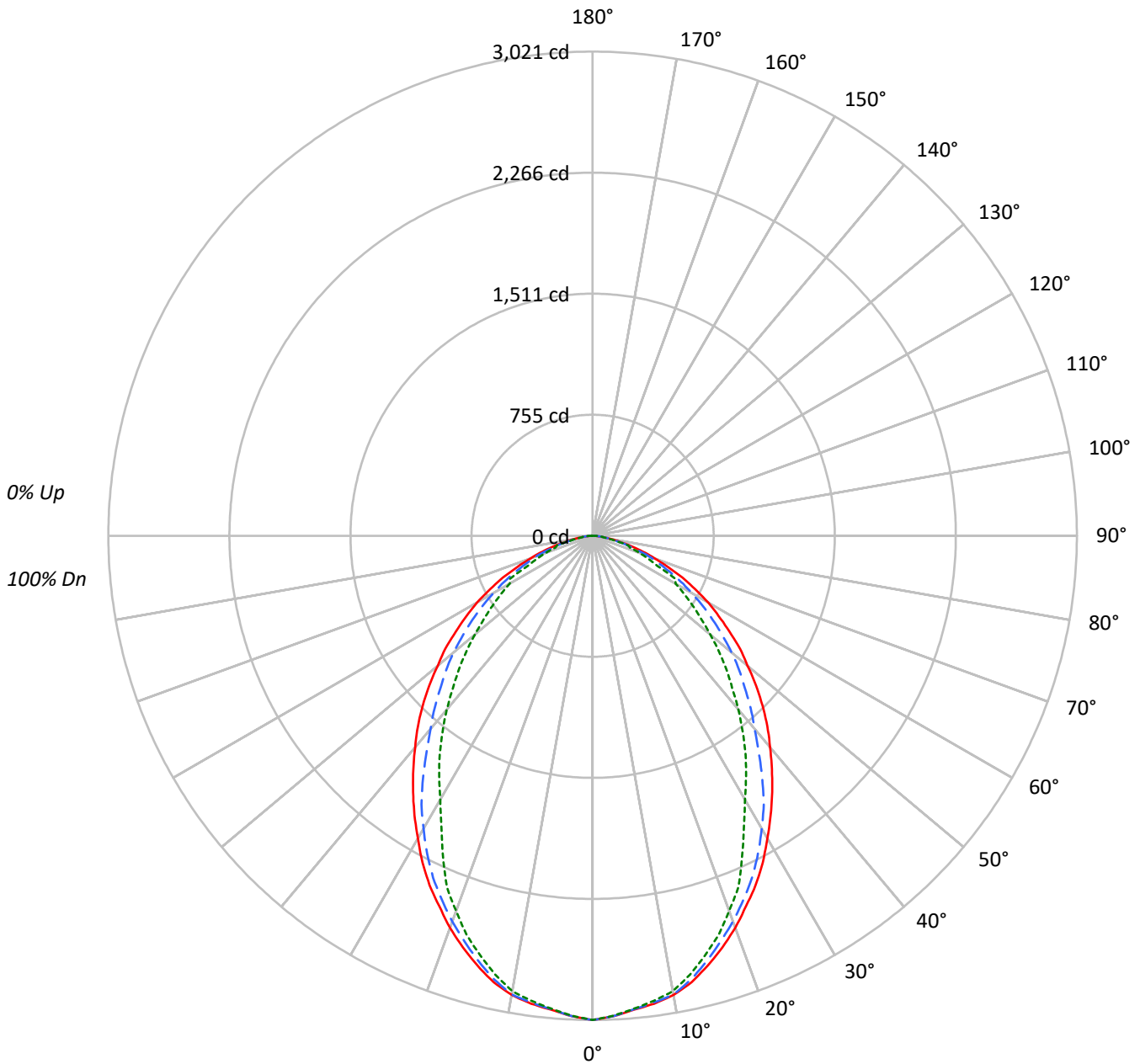
Lumens per Lamp: N/A  
Luminaire Lumens: 5931.0 lumens  
Efficiency: N/A  
Efficacy: 89.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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

TEST NUMBER: P546882

CATALOG NUMBER: FMR-24-4-LD4-2STD-35-UNV-81-87-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546882

CATALOG NUMBER: FMR-24-4-LD4-2STD-35-UNV-81-87-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°	4065	4065	4065
5°	4010	4005	4000
10°	3975	3970	3942
15°	3868	3829	3775
20°	3726	3666	3566
25°	3573	3495	3277
30°	3386	3278	2952
35°	3207	3029	2731
40°	3024	2761	2484
45°	2851	2552	2246
50°	2639	2369	2003
55°	2441	2147	1794
60°	2237	1917	1607
65°	1968	1679	1423
70°	1621	1470	1209
75°	1289	1125	1180
80°	866	812	758
85°	539	647	755



TEST NUMBER: P546882

CATALOG NUMBER: FMR-24-4-LD4-2STD-35-UNV-81-87-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	281.2	4.7
10°-20°	771.8	13.0
20°-30°	1068.5	18.0
30°-40°	1139.4	19.2
40°-50°	1039.4	17.5
50°-60°	814.3	13.7
60°-70°	530.7	8.9
70°-80°	235.1	4.0
80°-90°	50.5	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°	2121.6	35.8
0°-40°	3260.9	55.0
0°-60°	5114.7	86.2
0°-90°	5931.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5931.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3021	3021	3021	3021	3021	
5°	2969	2965	2965	2962	2962	282
15°	2777	2777	2749	2721	2710	781
25°	2406	2392	2354	2270	2207	1105
35°	1952	1938	1844	1704	1662	1221
45°	1498	1467	1341	1229	1180	1154
55°	1041	1009	915	807	765	934
65°	618	583	527	538	447	609
75°	248	230	216	206	227	266
85°	35	38	42	45	49	48
90°	0	0	0	0	0	



TEST NUMBER: P546882

CATALOG NUMBER: FMR-24-4-LD4-2STD-35-UNV-81-87-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3021.2	3021.2	3021.2	3021.2	3021.2
2.5°	3000.2	3000.2	3000.2	2996.7	2996.7
5°	2968.8	2965.3	2965.3	2961.8	2961.8
7.5°	2944.3	2940.8	2937.3	2933.9	2926.9
10°	2909.4	2909.4	2905.9	2888.5	2885.0
12.5°	2853.5	2850.0	2836.1	2811.6	2804.6
15°	2776.7	2776.7	2748.7	2720.8	2710.3
17.5°	2692.9	2689.4	2654.4	2626.5	2612.5
20°	2602.1	2595.1	2560.1	2514.7	2490.3
22.5°	2500.8	2500.8	2458.8	2399.5	2375.0
25°	2406.5	2392.5	2354.1	2270.2	2207.4
27.5°	2298.2	2277.2	2235.3	2116.6	2043.2
30°	2179.4	2169.0	2109.6	1955.9	1900.0
32.5°	2067.7	2050.2	1987.3	1826.7	1781.3
35°	1952.4	1938.4	1844.1	1704.4	1662.5
37.5°	1837.2	1819.7	1700.9	1589.2	1536.8
40°	1721.9	1700.9	1571.7	1470.4	1414.5
42.5°	1613.6	1585.7	1459.9	1351.7	1288.8
45°	1498.4	1466.9	1341.2	1229.4	1180.5
47.5°	1383.1	1355.2	1239.9	1124.6	1068.8
50°	1260.9	1236.4	1131.6	1016.4	957.0
52.5°	1159.6	1121.2	1019.9	904.6	855.7
55°	1040.8	1009.4	915.1	806.8	764.9
57.5°	932.5	901.1	813.8	712.5	677.6
60°	831.3	785.9	712.5	625.2	597.2
62.5°	719.5	684.6	621.7	548.4	583.3
65°	618.2	583.3	527.4	537.9	447.1
67.5°	506.4	489.0	440.1	391.2	377.2
70°	412.1	391.2	373.7	321.3	307.4
72.5°	328.3	307.4	282.9	255.0	244.5
75°	248.0	230.5	216.5	206.1	227.0
77.5°	171.1	164.2	153.7	143.2	139.7
80°	111.8	108.3	104.8	101.3	97.8
82.5°	66.4	66.4	66.4	66.4	66.4
85°	34.9	38.4	41.9	45.4	48.9
87.5°	21.0	21.0	24.4	27.9	31.4
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)