

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: P546984

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-82-85-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: P546984  
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-LD4-3HI-35-UNV-82-85-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

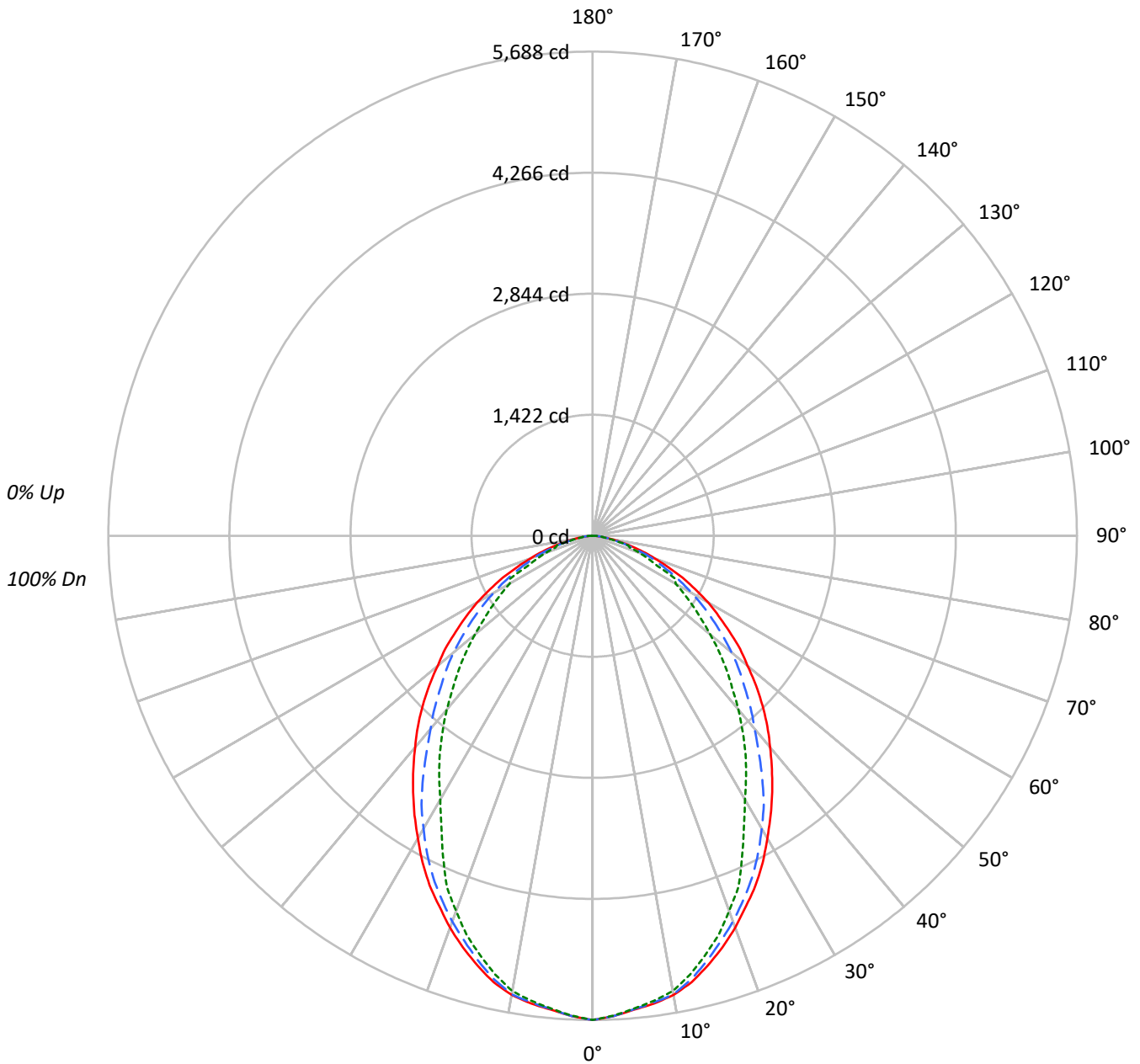
Lumens per Lamp: N/A  
Luminaire Lumens: 11166.0 lumens  
Efficiency: N/A  
Efficacy: 86.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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: P546984

CATALOG NUMBER: FMR-24-4-LD4-3HI-35-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546984

CATALOG NUMBER: FMR-24-4-LD4-3HI-35-UNV-82-85-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°	7653	7653	7653
5°	7549	7540	7531
10°	7483	7474	7421
15°	7282	7208	7108
20°	7014	6901	6713
25°	6726	6580	6169
30°	6375	6170	5558
35°	6037	5703	5141
40°	5694	5197	4677
45°	5368	4805	4229
50°	4969	4460	3771
55°	4597	4041	3378
60°	4211	3610	3026
65°	3706	3161	2680
70°	3052	2768	2276
75°	2427	2119	2222
80°	1630	1529	1426
85°	1016	1218	1422



TEST NUMBER: P546984

CATALOG NUMBER: FMR-24-4-LD4-3HI-35-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	529.5	4.7
10°-20°	1453.1	13.0
20°-30°	2011.7	18.0
30°-40°	2145.0	19.2
40°-50°	1956.9	17.5
50°-60°	1533.1	13.7
60°-70°	999.2	8.9
70°-80°	442.7	4.0
80°-90°	95.0	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°	3994.2	35.8
0°-40°	6139.2	55.0
0°-60°	9629.1	86.2
0°-90°	11166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11166.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5688	5688	5688	5688	5688	
5°	5589	5583	5583	5576	5576	531
15°	5228	5228	5175	5122	5103	1470
25°	4530	4504	4432	4274	4156	2080
35°	3676	3649	3472	3209	3130	2298
45°	2821	2762	2525	2315	2222	2173
55°	1960	1900	1723	1519	1440	1758
65°	1164	1098	993	1013	842	1147
75°	467	434	408	388	427	500
85°	66	72	79	86	92	91
90°	0	0	0	0	0	



TEST NUMBER: P546984

CATALOG NUMBER: FMR-24-4-LD4-3HI-35-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5687.8	5687.8	5687.8	5687.8	5687.8
2.5°	5648.4	5648.4	5648.4	5641.8	5641.8
5°	5589.2	5582.6	5582.6	5576.0	5576.0
7.5°	5543.2	5536.6	5530.0	5523.4	5510.3
10°	5477.4	5477.4	5470.8	5437.9	5431.4
12.5°	5372.2	5365.6	5339.3	5293.3	5280.1
15°	5227.5	5227.5	5174.9	5122.3	5102.6
17.5°	5069.7	5063.1	4997.4	4944.8	4918.5
20°	4898.8	4885.6	4819.8	4734.4	4688.3
22.5°	4708.1	4708.1	4629.2	4517.4	4471.3
25°	4530.5	4504.2	4431.9	4274.1	4155.7
27.5°	4326.7	4287.2	4208.3	3984.8	3846.7
30°	4103.1	4083.4	3971.6	3682.3	3577.1
32.5°	3892.7	3859.8	3741.5	3439.0	3353.5
35°	3675.7	3649.4	3471.9	3208.8	3129.9
37.5°	3458.7	3425.8	3202.3	2991.9	2893.2
40°	3241.7	3202.3	2959.0	2768.3	2663.1
42.5°	3037.9	2985.3	2748.6	2544.7	2426.4
45°	2820.9	2761.7	2525.0	2314.6	2222.5
47.5°	2603.9	2551.3	2334.3	2117.3	2012.1
50°	2373.8	2327.7	2130.5	1913.5	1801.7
52.5°	2183.1	2110.7	1920.0	1703.1	1611.0
55°	1959.5	1900.3	1722.8	1518.9	1440.0
57.5°	1755.7	1696.5	1532.1	1341.4	1275.6
60°	1565.0	1479.5	1341.4	1177.0	1124.4
62.5°	1354.6	1288.8	1170.4	1032.4	1098.1
65°	1163.9	1098.1	992.9	1012.6	841.7
67.5°	953.4	920.6	828.5	736.5	710.2
70°	775.9	736.5	703.6	604.9	578.6
72.5°	618.1	578.6	532.6	480.0	460.3
75°	466.9	434.0	407.7	388.0	427.4
77.5°	322.2	309.0	289.3	269.6	263.0
80°	210.4	203.8	197.3	190.7	184.1
82.5°	124.9	124.9	124.9	124.9	124.9
85°	65.8	72.3	78.9	85.5	92.1
87.5°	39.5	39.5	46.0	52.6	59.2
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)