

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: P546916

Luminaire Tested: **FMR-24-4-LD4-2STD-40-UNV-81-94-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: P546916  
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-40-UNV-81-94-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

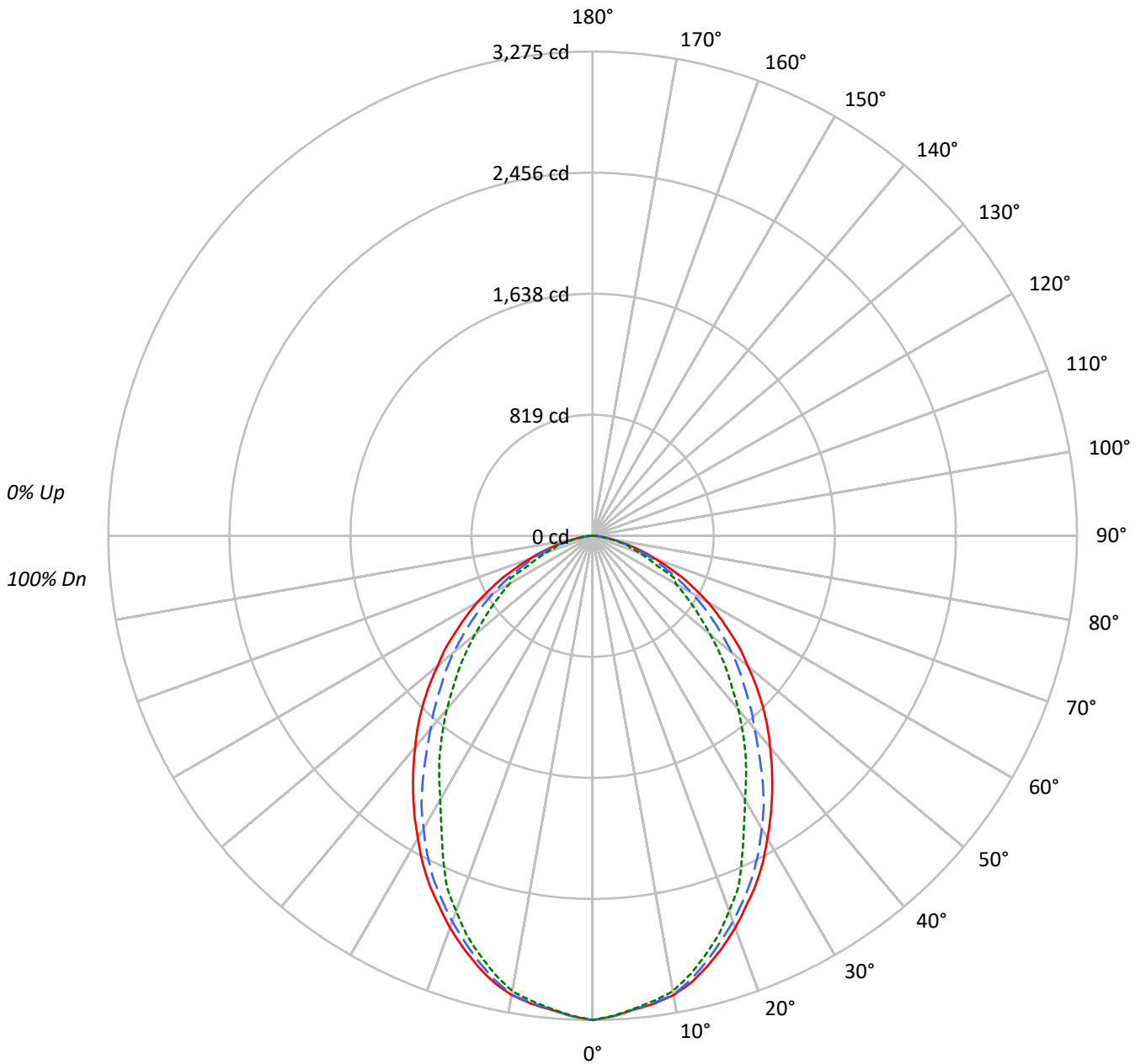
Lumens per Lamp: N/A  
Luminaire Lumens: 6430.0 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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: P546916

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-81-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546916

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-81-94-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°	4407	4407	4407
5°	4347	4342	4337
10°	4309	4304	4273
15°	4193	4151	4093
20°	4039	3974	3866
25°	3873	3789	3553
30°	3671	3553	3200
35°	3477	3284	2961
40°	3279	2993	2693
45°	3091	2767	2435
50°	2861	2568	2172
55°	2647	2327	1945
60°	2425	2079	1742
65°	2134	1820	1543
70°	1758	1594	1311
75°	1397	1221	1279
80°	939	880	821
85°	585	701	818



TEST NUMBER: P546916

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-81-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	304.9	4.7
10°-20°	836.7	13.0
20°-30°	1158.4	18.0
30°-40°	1235.2	19.2
40°-50°	1126.9	17.5
50°-60°	882.8	13.7
60°-70°	575.4	8.9
70°-80°	254.9	4.0
80°-90°	54.7	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°	2300.1	35.8
0°-40°	3535.3	55.0
0°-60°	5545.0	86.2
0°-90°	6430.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6430.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3275	3275	3275	3275	3275	
5°	3219	3215	3215	3211	3211	306
15°	3010	3010	2980	2950	2938	846
25°	2609	2594	2552	2461	2393	1198
35°	2117	2102	1999	1848	1802	1323
45°	1624	1590	1454	1333	1280	1251
55°	1128	1094	992	875	829	1012
65°	670	632	572	583	485	660
75°	269	250	235	223	246	288
85°	38	42	45	49	53	53
90°	0	0	0	0	0	



TEST NUMBER: P546916

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-81-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3275.4	3275.4	3275.4	3275.4	3275.4
2.5°	3252.6	3252.6	3252.6	3248.9	3248.9
5°	3218.6	3214.8	3214.8	3211.0	3211.0
7.5°	3192.1	3188.3	3184.5	3180.7	3173.1
10°	3154.2	3154.2	3150.4	3131.5	3127.7
12.5°	3093.6	3089.8	3074.7	3048.2	3040.6
15°	3010.3	3010.3	2980.0	2949.7	2938.4
17.5°	2919.4	2915.6	2877.8	2847.5	2832.3
20°	2821.0	2813.4	2775.5	2726.3	2699.8
22.5°	2711.2	2711.2	2665.7	2601.4	2574.8
25°	2608.9	2593.8	2552.1	2461.3	2393.1
27.5°	2491.5	2468.8	2423.4	2294.6	2215.1
30°	2362.8	2351.4	2287.1	2120.5	2059.9
32.5°	2241.6	2222.7	2154.5	1980.4	1931.1
35°	2116.7	2101.5	1999.3	1847.8	1802.4
37.5°	1991.7	1972.8	1844.0	1722.9	1666.1
40°	1866.8	1844.0	1703.9	1594.1	1533.5
42.5°	1749.4	1719.1	1582.8	1465.4	1397.2
45°	1624.4	1590.3	1454.0	1332.9	1279.9
47.5°	1499.5	1469.2	1344.2	1219.3	1158.7
50°	1366.9	1340.4	1226.8	1101.9	1037.5
52.5°	1257.1	1215.5	1105.7	980.7	927.7
55°	1128.4	1094.3	992.1	874.7	829.3
57.5°	1011.0	976.9	882.3	772.5	734.6
60°	901.2	852.0	772.5	677.8	647.5
62.5°	780.0	742.2	674.0	594.5	632.4
65°	670.2	632.4	571.8	583.1	484.7
67.5°	549.0	530.1	477.1	424.1	408.9
70°	446.8	424.1	405.2	348.4	333.2
72.5°	355.9	333.2	306.7	276.4	265.1
75°	268.8	249.9	234.8	223.4	246.1
77.5°	185.5	178.0	166.6	155.2	151.5
80°	121.2	117.4	113.6	109.8	106.0
82.5°	71.9	71.9	71.9	71.9	71.9
85°	37.9	41.7	45.4	49.2	53.0
87.5°	22.7	22.7	26.5	30.3	34.1
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)