

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: P546013

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-80-96-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: P546013  
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-LD4-1STD-35-UNV-80-96-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

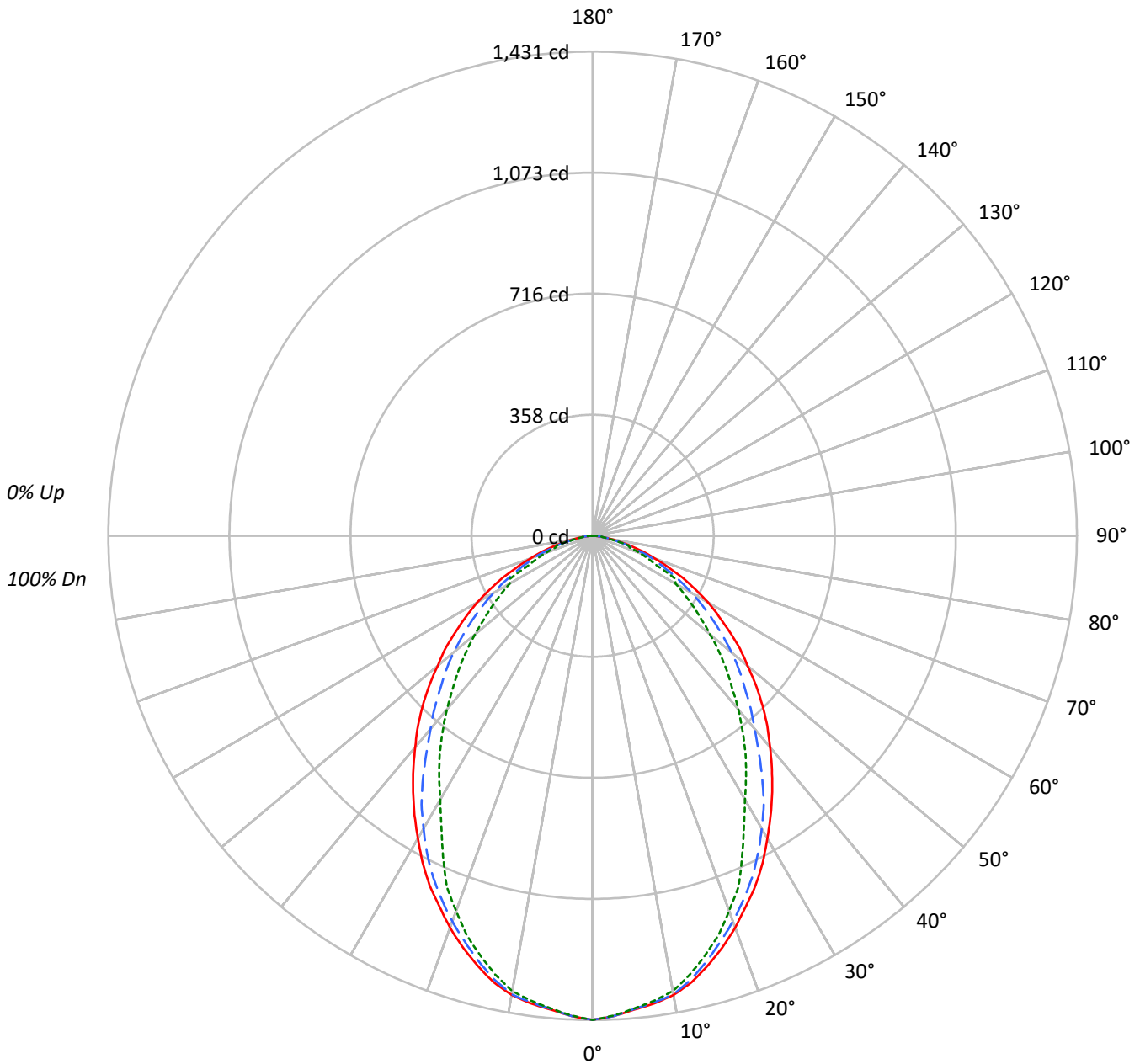
Lumens per Lamp: N/A  
Luminaire Lumens: 2809.0 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: P546013

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-80-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546013

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-80-96-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°	3851	3851	3851
5°	3798	3794	3789
10°	3765	3761	3734
15°	3664	3627	3576
20°	3529	3472	3377
25°	3384	3310	3104
30°	3207	3104	2796
35°	3038	2869	2587
40°	2865	2615	2353
45°	2700	2417	2128
50°	2500	2244	1897
55°	2312	2033	1700
60°	2119	1816	1523
65°	1864	1591	1348
70°	1536	1393	1146
75°	1221	1067	1118
80°	820	769	717
85°	509	614	716



TEST NUMBER: P546013

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-80-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.2	4.7
10°-20°	365.5	13.0
20°-30°	506.1	18.0
30°-40°	539.6	19.2
40°-50°	492.3	17.5
50°-60°	385.7	13.7
60°-70°	251.4	8.9
70°-80°	111.4	4.0
80°-90°	23.9	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°	1004.8	35.8
0°-40°	1544.4	55.0
0°-60°	2422.4	86.2
0°-90°	2809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2809.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1431	1431	1431	1431	1431	
5°	1406	1404	1404	1403	1403	133
15°	1315	1315	1302	1289	1284	370
25°	1140	1133	1115	1075	1045	523
35°	925	918	873	807	787	578
45°	710	695	635	582	559	547
55°	493	478	433	382	362	442
65°	293	276	250	255	212	289
75°	117	109	103	98	108	126
85°	16	18	20	22	23	23
90°	0	0	0	0	0	



TEST NUMBER: P546013

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-80-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1430.9	1430.9	1430.9	1430.9	1430.9
2.5°	1420.9	1420.9	1420.9	1419.3	1419.3
5°	1406.1	1404.4	1404.4	1402.7	1402.7
7.5°	1394.5	1392.8	1391.2	1389.5	1386.2
10°	1377.9	1377.9	1376.3	1368.0	1366.4
12.5°	1351.5	1349.8	1343.2	1331.6	1328.3
15°	1315.1	1315.1	1301.8	1288.6	1283.6
17.5°	1275.4	1273.7	1257.2	1243.9	1237.3
20°	1232.4	1229.1	1212.5	1191.0	1179.4
22.5°	1184.4	1184.4	1164.5	1136.4	1124.8
25°	1139.7	1133.1	1114.9	1075.2	1045.4
27.5°	1088.5	1078.5	1058.7	1002.4	967.7
30°	1032.2	1027.2	999.1	926.3	899.9
32.5°	979.3	971.0	941.2	865.1	843.6
35°	924.7	918.1	873.4	807.2	787.4
37.5°	870.1	861.8	805.6	752.7	727.8
40°	815.5	805.6	744.4	696.4	669.9
42.5°	764.2	751.0	691.4	640.2	610.4
45°	709.6	694.8	635.2	582.3	559.1
47.5°	655.1	641.8	587.2	532.6	506.2
50°	597.2	585.6	536.0	481.4	453.2
52.5°	549.2	531.0	483.0	428.4	405.3
55°	492.9	478.1	433.4	382.1	362.3
57.5°	441.7	426.8	385.4	337.5	320.9
60°	393.7	372.2	337.5	296.1	282.9
62.5°	340.8	324.2	294.4	259.7	276.2
65°	292.8	276.2	249.8	254.7	211.7
67.5°	239.9	231.6	208.4	185.3	178.7
70°	195.2	185.3	177.0	152.2	145.6
72.5°	155.5	145.6	134.0	120.8	115.8
75°	117.4	109.2	102.6	97.6	107.5
77.5°	81.1	77.7	72.8	67.8	66.2
80°	52.9	51.3	49.6	48.0	46.3
82.5°	31.4	31.4	31.4	31.4	31.4
85°	16.5	18.2	19.9	21.5	23.2
87.5°	9.9	9.9	11.6	13.2	14.9
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)