

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: P546425

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-80-86-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: P546425  
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-LD4-1HI-35-UNV-80-86-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

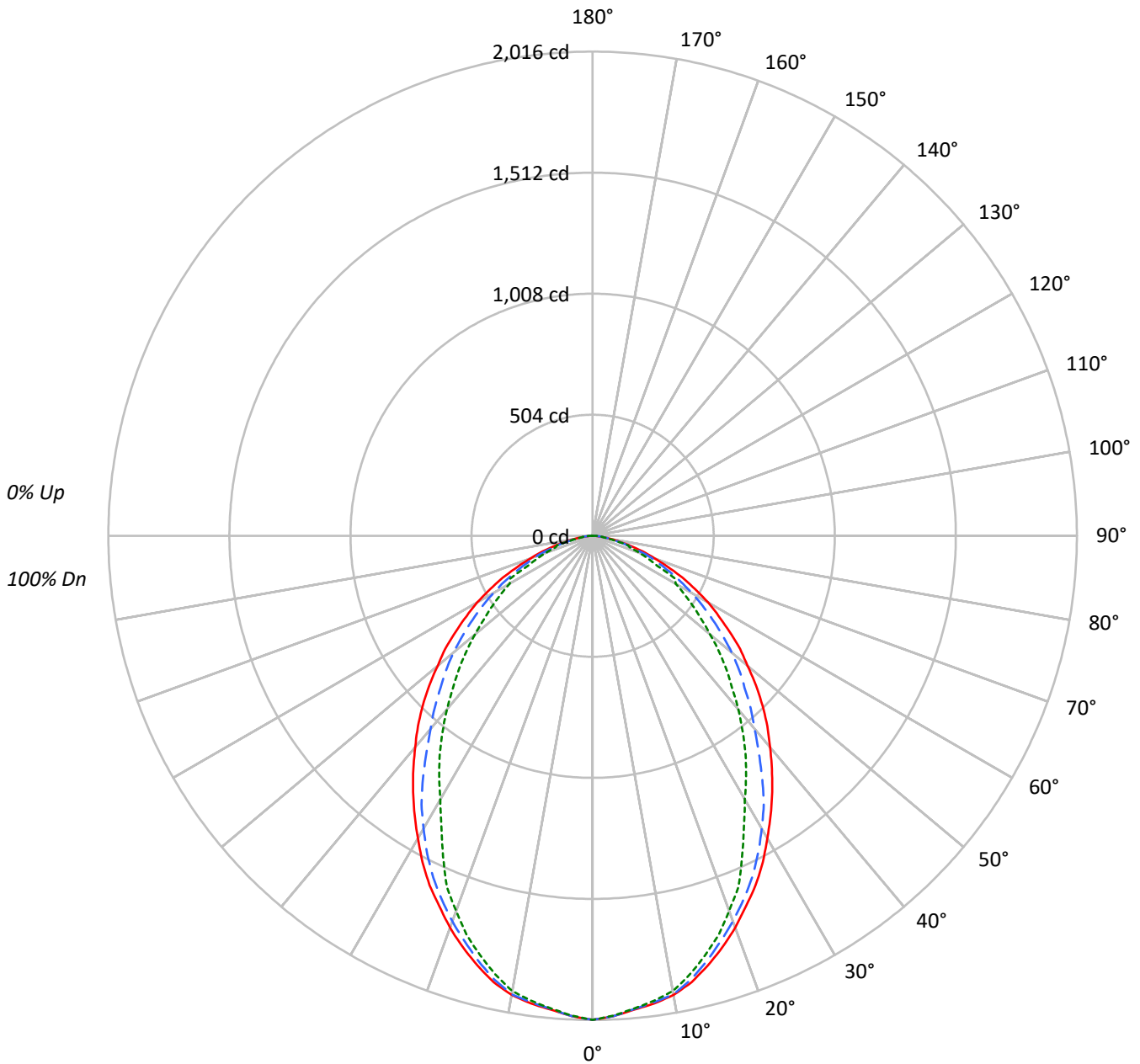
Lumens per Lamp: N/A  
Luminaire Lumens: 3957.0 lumens  
Efficiency: N/A  
Efficacy: 91.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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: P546425

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-80-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546425

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-80-86-EDD

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2712	2712	2712
5°	2675	2672	2669
10°	2652	2649	2630
15°	2580	2555	2519
20°	2486	2446	2379
25°	2383	2332	2186
30°	2259	2187	1969
35°	2140	2021	1822
40°	2018	1842	1658
45°	1902	1703	1499
50°	1761	1580	1337
55°	1629	1432	1197
60°	1492	1279	1072
65°	1313	1120	950
70°	1082	981	807
75°	860	751	788
80°	578	542	505
85°	360	432	503



TEST NUMBER: P546425

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-80-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.6	4.7
10°-20°	514.9	13.0
20°-30°	712.9	18.0
30°-40°	760.1	19.2
40°-50°	693.5	17.5
50°-60°	543.3	13.7
60°-70°	354.1	8.9
70°-80°	156.9	4.0
80°-90°	33.7	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°	1415.5	35.8
0°-40°	2175.6	55.0
0°-60°	3412.3	86.2
0°-90°	3957.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3957.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2016	2016	2016	2016	2016	
5°	1981	1978	1978	1976	1976	188
15°	1852	1852	1834	1815	1808	521
25°	1606	1596	1571	1515	1473	737
35°	1303	1293	1230	1137	1109	814
45°	1000	979	895	820	788	770
55°	694	673	610	538	510	623
65°	412	389	352	359	298	406
75°	165	154	144	138	152	177
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



TEST NUMBER: P546425

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-80-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2015.6	2015.6	2015.6	2015.6	2015.6
2.5°	2001.7	2001.7	2001.7	1999.3	1999.3
5°	1980.7	1978.4	1978.4	1976.0	1976.0
7.5°	1964.4	1962.0	1959.7	1957.4	1952.7
10°	1941.1	1941.1	1938.7	1927.1	1924.8
12.5°	1903.8	1901.5	1892.1	1875.8	1871.2
15°	1852.5	1852.5	1833.9	1815.2	1808.3
17.5°	1796.6	1794.3	1771.0	1752.3	1743.0
20°	1736.0	1731.4	1708.1	1677.8	1661.4
22.5°	1668.4	1668.4	1640.5	1600.9	1584.6
25°	1605.5	1596.2	1570.6	1514.6	1472.7
27.5°	1533.3	1519.3	1491.3	1412.1	1363.2
30°	1454.1	1447.1	1407.5	1304.9	1267.6
32.5°	1379.5	1367.8	1325.9	1218.7	1188.4
35°	1302.6	1293.3	1230.4	1137.1	1109.2
37.5°	1225.7	1214.0	1134.8	1060.3	1025.3
40°	1148.8	1134.8	1048.6	981.0	943.7
42.5°	1076.6	1057.9	974.0	901.8	859.9
45°	999.7	978.7	894.8	820.2	787.6
47.5°	922.8	904.1	827.2	750.3	713.0
50°	841.2	824.9	755.0	678.1	638.5
52.5°	773.6	748.0	680.4	603.5	570.9
55°	694.4	673.4	610.5	538.3	510.3
57.5°	622.2	601.2	542.9	475.4	452.1
60°	554.6	524.3	475.4	417.1	398.5
62.5°	480.0	456.7	414.8	365.8	389.1
65°	412.4	389.1	351.9	358.9	298.3
67.5°	337.9	326.2	293.6	261.0	251.7
70°	275.0	261.0	249.3	214.4	205.1
72.5°	219.0	205.1	188.7	170.1	163.1
75°	165.4	153.8	144.5	137.5	151.5
77.5°	114.2	109.5	102.5	95.5	93.2
80°	74.6	72.2	69.9	67.6	65.2
82.5°	44.3	44.3	44.3	44.3	44.3
85°	23.3	25.6	28.0	30.3	32.6
87.5°	14.0	14.0	16.3	18.6	21.0
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)