

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: P546243

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-81-88-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: P546243
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-LD4-2LO-40-UNV-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

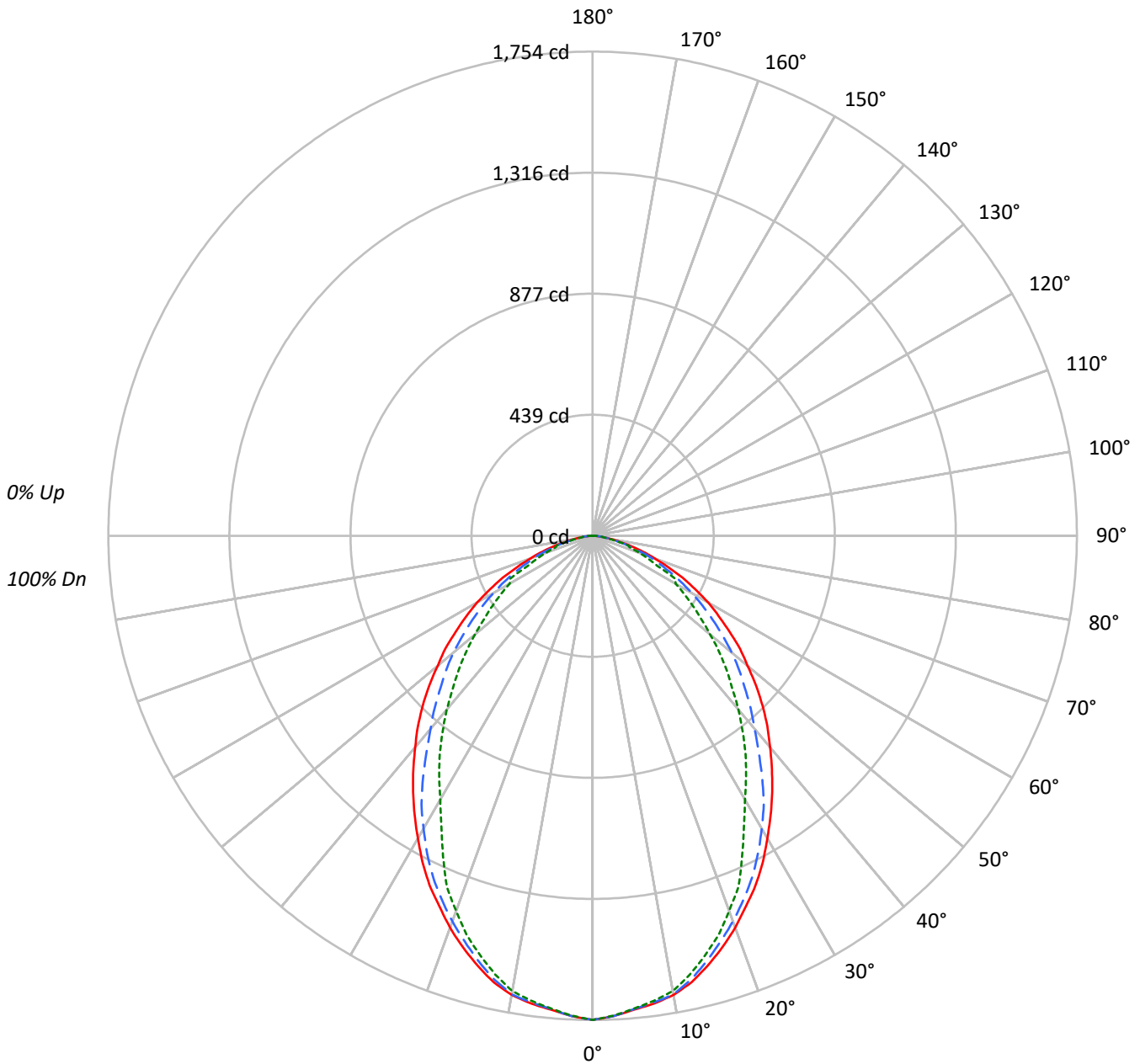
Lumens per Lamp: N/A
Luminaire Lumens: 3443.0 lumens
Efficiency: N/A
Efficacy: 73.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (A_{in}): 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: P546243

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546243

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-88-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°	4719	4719	4719
5°	4655	4650	4645
10°	4615	4609	4576
15°	4491	4445	4383
20°	4326	4256	4140
25°	4148	4058	3805
30°	3931	3805	3427
35°	3723	3517	3170
40°	3511	3205	2885
45°	3310	2963	2608
50°	3064	2750	2326
55°	2835	2492	2083
60°	2597	2226	1866
65°	2285	1950	1652
70°	1882	1707	1404
75°	1497	1307	1370
80°	1006	942	880
85°	627	750	877



TEST NUMBER: P546243

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.3	4.7
10°-20°	448.0	13.0
20°-30°	620.3	18.0
30°-40°	661.4	19.2
40°-50°	603.4	17.5
50°-60°	472.7	13.7
60°-70°	308.1	8.9
70°-80°	136.5	4.0
80°-90°	29.3	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°	1231.6	35.8
0°-40°	1893.0	55.0
0°-60°	2969.1	86.2
0°-90°	3443.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3443.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1754	1754	1754	1754	1754	
5°	1723	1721	1721	1719	1719	164
15°	1612	1612	1596	1580	1573	453
25°	1397	1389	1367	1318	1281	641
35°	1133	1125	1070	989	965	709
45°	870	852	779	714	685	670
55°	604	586	531	468	444	542
65°	359	339	306	312	260	354
75°	144	134	126	120	132	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



TEST NUMBER: P546243

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1753.8	1753.8	1753.8	1753.8	1753.8
2.5°	1741.7	1741.7	1741.7	1739.6	1739.6
5°	1723.4	1721.4	1721.4	1719.4	1719.4
7.5°	1709.2	1707.2	1705.2	1703.1	1699.1
10°	1688.9	1688.9	1686.9	1676.8	1674.7
12.5°	1656.5	1654.5	1646.4	1632.2	1628.1
15°	1611.9	1611.9	1595.7	1579.5	1573.4
17.5°	1563.2	1561.2	1540.9	1524.7	1516.6
20°	1510.5	1506.5	1486.2	1459.8	1445.6
22.5°	1451.7	1451.7	1427.4	1392.9	1378.7
25°	1397.0	1388.9	1366.6	1317.9	1281.4
27.5°	1334.1	1322.0	1297.6	1228.7	1186.1
30°	1265.2	1259.1	1224.6	1135.4	1103.0
32.5°	1200.3	1190.2	1153.7	1060.4	1034.0
35°	1133.4	1125.3	1070.5	989.4	965.1
37.5°	1066.5	1056.3	987.4	922.5	892.1
40°	999.6	987.4	912.4	853.6	821.2
42.5°	936.7	920.5	847.5	784.7	748.2
45°	869.8	851.6	778.6	713.7	685.3
47.5°	802.9	786.7	719.8	652.9	620.4
50°	731.9	717.7	656.9	590.0	555.5
52.5°	673.1	650.8	592.0	525.1	496.7
55°	604.2	586.0	531.2	468.4	444.0
57.5°	541.4	523.1	472.4	413.6	393.3
60°	482.6	456.2	413.6	362.9	346.7
62.5°	417.7	397.4	360.9	318.3	338.6
65°	358.9	338.6	306.2	312.2	259.5
67.5°	294.0	283.9	255.5	227.1	219.0
70°	239.2	227.1	216.9	186.5	178.4
72.5°	190.6	178.4	164.2	148.0	141.9
75°	144.0	133.8	125.7	119.6	131.8
77.5°	99.3	95.3	89.2	83.1	81.1
80°	64.9	62.9	60.8	58.8	56.8
82.5°	38.5	38.5	38.5	38.5	38.5
85°	20.3	22.3	24.3	26.4	28.4
87.5°	12.2	12.2	14.2	16.2	18.2
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)