

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: P546291

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-93-88-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: P546291
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-50-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

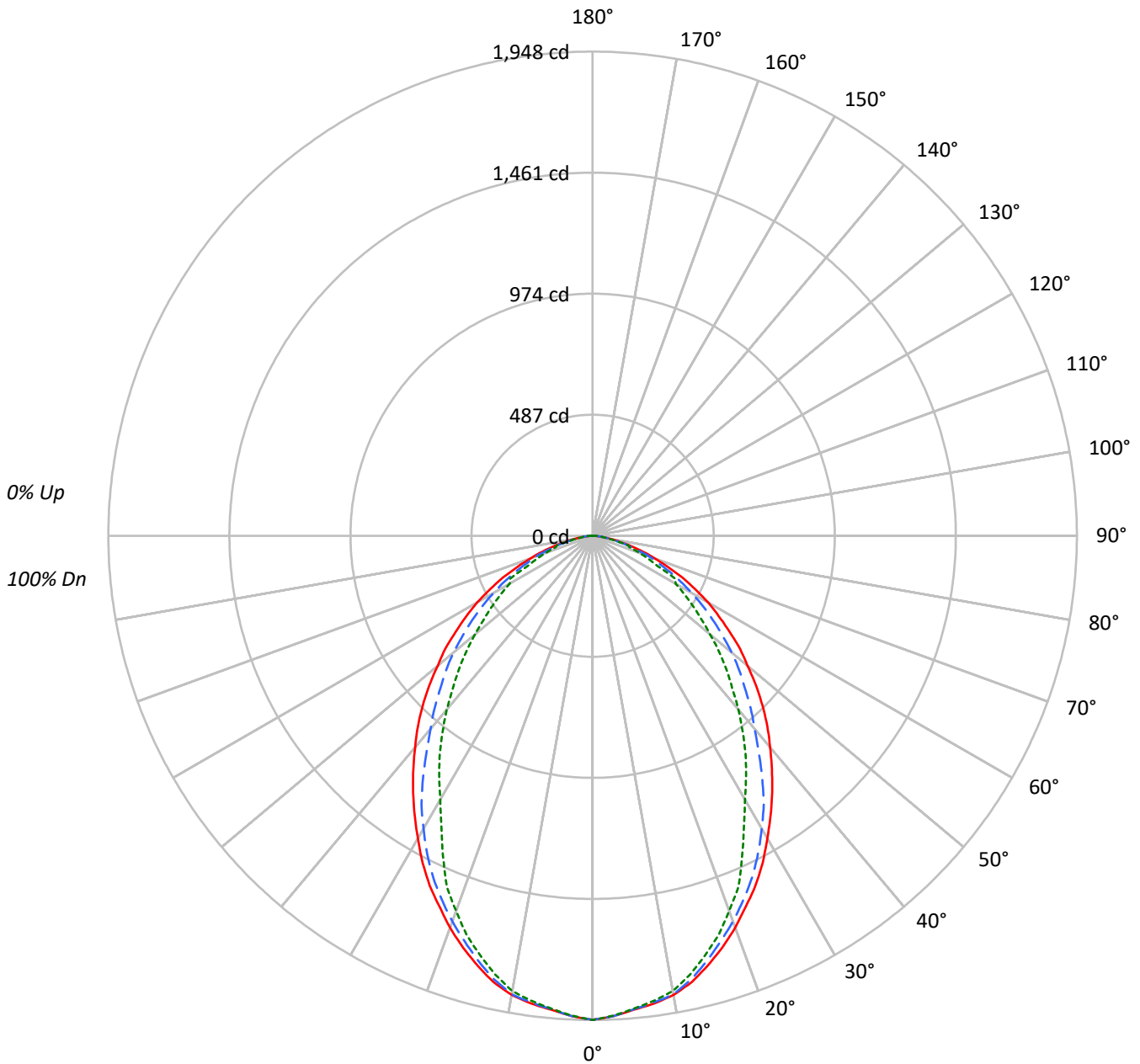
Lumens per Lamp: N/A
Luminaire Lumens: 3824.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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: P546291

CATALOG NUMBER: FMR-12-4-LD4-2LO-50-UNV-93-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546291

CATALOG NUMBER: FMR-12-4-LD4-2LO-50-UNV-93-88-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°	5242	5242	5242
5°	5170	5165	5158
10°	5126	5120	5083
15°	4988	4937	4868
20°	4804	4727	4598
25°	4607	4507	4226
30°	4366	4226	3806
35°	4135	3906	3521
40°	3900	3560	3204
45°	3677	3291	2896
50°	3403	3054	2583
55°	3149	2768	2314
60°	2885	2472	2073
65°	2538	2165	1835
70°	2090	1896	1559
75°	1663	1451	1522
80°	1117	1048	978
85°	695	834	973



TEST NUMBER: P546291

CATALOG NUMBER: FMR-12-4-LD4-2LO-50-UNV-93-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.3	4.7
10°-20°	497.6	13.0
20°-30°	688.9	18.0
30°-40°	734.6	19.2
40°-50°	670.2	17.5
50°-60°	525.0	13.7
60°-70°	342.2	8.9
70°-80°	151.6	4.0
80°-90°	32.6	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°	1367.9	35.8
0°-40°	2102.5	55.0
0°-60°	3297.7	86.2
0°-90°	3824.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3824.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1948	1948	1948	1948	1948	
5°	1914	1912	1912	1910	1910	182
15°	1790	1790	1772	1754	1748	503
25°	1552	1543	1518	1464	1423	712
35°	1259	1250	1189	1099	1072	787
45°	966	946	865	793	761	744
55°	671	651	590	520	493	602
65°	399	376	340	347	288	393
75°	160	149	140	133	146	171
85°	22	25	27	29	32	31
90°	0	0	0	0	0	



TEST NUMBER: P546291

CATALOG NUMBER: FMR-12-4-LD4-2LO-50-UNV-93-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1947.9	1947.9	1947.9	1947.9	1947.9
2.5°	1934.4	1934.4	1934.4	1932.1	1932.1
5°	1914.1	1911.9	1911.9	1909.6	1909.6
7.5°	1898.4	1896.1	1893.8	1891.6	1887.1
10°	1875.8	1875.8	1873.6	1862.3	1860.1
12.5°	1839.8	1837.6	1828.5	1812.8	1808.3
15°	1790.3	1790.3	1772.2	1754.2	1747.5
17.5°	1736.2	1734.0	1711.4	1693.4	1684.4
20°	1677.7	1673.2	1650.6	1621.4	1605.6
22.5°	1612.4	1612.4	1585.3	1547.1	1531.3
25°	1551.6	1542.6	1517.8	1463.7	1423.2
27.5°	1481.8	1468.2	1441.2	1364.7	1317.4
30°	1405.2	1398.4	1360.1	1261.1	1225.0
32.5°	1333.1	1321.9	1281.3	1177.7	1148.5
35°	1258.8	1249.8	1189.0	1098.9	1071.9
37.5°	1184.5	1173.2	1096.7	1024.6	990.8
40°	1110.2	1096.7	1013.4	948.1	912.0
42.5°	1040.4	1022.4	941.3	871.5	831.0
45°	966.1	945.8	864.7	792.7	761.1
47.5°	891.8	873.7	799.4	725.1	689.1
50°	812.9	797.2	729.6	655.3	617.0
52.5°	747.6	722.9	657.6	583.2	551.7
55°	671.1	650.8	590.0	520.2	493.2
57.5°	601.3	581.0	524.7	459.4	436.9
60°	536.0	506.7	459.4	403.1	385.1
62.5°	463.9	441.4	400.8	353.5	376.1
65°	398.6	376.1	340.0	346.8	288.2
67.5°	326.5	315.3	283.7	252.2	243.2
70°	265.7	252.2	241.0	207.2	198.2
72.5°	211.7	198.2	182.4	164.4	157.6
75°	159.9	148.6	139.6	132.9	146.4
77.5°	110.3	105.8	99.1	92.3	90.1
80°	72.1	69.8	67.6	65.3	63.1
82.5°	42.8	42.8	42.8	42.8	42.8
85°	22.5	24.8	27.0	29.3	31.5
87.5°	13.5	13.5	15.8	18.0	20.3
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)