

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: P546242

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-81-87-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: P546242
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-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

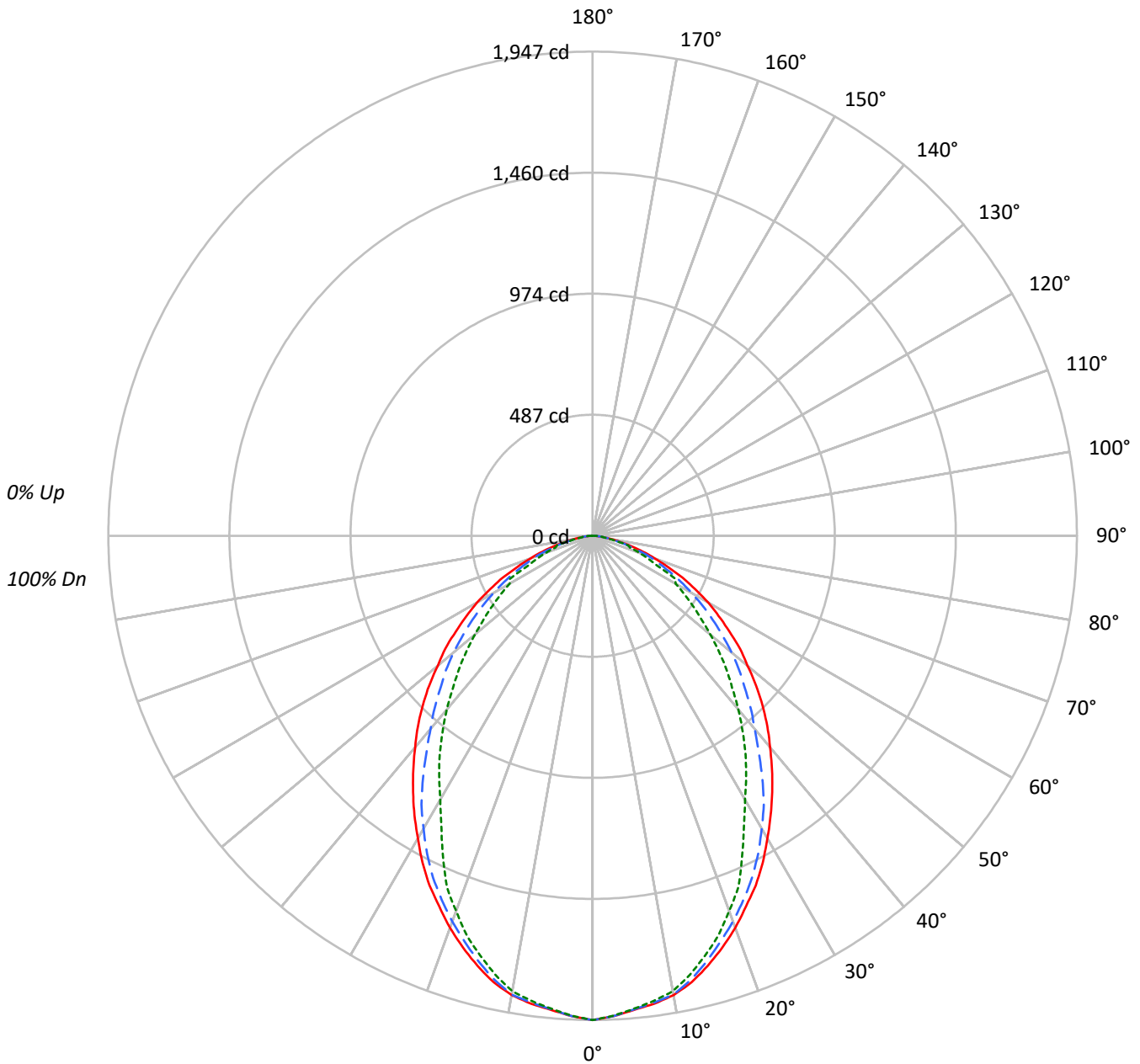
Lumens per Lamp: N/A
Luminaire Lumens: 3823.0 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546242

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546242

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-87-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°	5240	5240	5240
5°	5169	5163	5157
10°	5124	5118	5081
15°	4986	4936	4867
20°	4803	4726	4597
25°	4606	4505	4225
30°	4365	4225	3805
35°	4134	3905	3520
40°	3899	3559	3203
45°	3675	3290	2896
50°	3402	3054	2583
55°	3148	2767	2313
60°	2884	2472	2072
65°	2537	2164	1835
70°	2090	1895	1559
75°	1661	1451	1521
80°	1116	1046	976
85°	695	834	973



TEST NUMBER: P546242

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.3	4.7
10°-20°	497.5	13.0
20°-30°	688.7	18.0
30°-40°	734.4	19.2
40°-50°	670.0	17.5
50°-60°	524.9	13.7
60°-70°	342.1	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°	1367.5	35.8
0°-40°	2101.9	55.0
0°-60°	3296.8	86.2
0°-90°	3823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3823.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1947	1947	1947	1947	1947	
5°	1914	1911	1911	1909	1909	182
15°	1790	1790	1772	1754	1747	503
25°	1551	1542	1517	1463	1423	712
35°	1258	1250	1189	1099	1072	787
45°	966	946	864	792	761	744
55°	671	651	590	520	493	602
65°	398	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: P546242

CATALOG NUMBER: FMR-12-4-LD4-2LO-40-UNV-81-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1947.4	1947.4	1947.4	1947.4	1947.4
2.5°	1933.9	1933.9	1933.9	1931.6	1931.6
5°	1913.6	1911.4	1911.4	1909.1	1909.1
7.5°	1897.9	1895.6	1893.4	1891.1	1886.6
10°	1875.3	1875.3	1873.1	1861.8	1859.6
12.5°	1839.3	1837.1	1828.1	1812.3	1807.8
15°	1789.8	1789.8	1771.8	1753.8	1747.0
17.5°	1735.8	1733.5	1711.0	1693.0	1684.0
20°	1677.2	1672.7	1650.2	1620.9	1605.2
22.5°	1611.9	1611.9	1584.9	1546.7	1530.9
25°	1551.2	1542.1	1517.4	1463.4	1422.8
27.5°	1481.4	1467.9	1440.8	1364.3	1317.0
30°	1404.8	1398.1	1359.8	1260.7	1224.7
32.5°	1332.8	1321.5	1281.0	1177.4	1148.2
35°	1258.5	1249.5	1188.7	1098.6	1071.6
37.5°	1184.2	1172.9	1096.4	1024.3	990.6
40°	1109.9	1096.4	1013.1	947.8	911.8
42.5°	1040.1	1022.1	941.0	871.3	830.7
45°	965.8	945.6	864.5	792.5	760.9
47.5°	891.5	873.5	799.2	724.9	688.9
50°	812.7	797.0	729.4	655.1	616.9
52.5°	747.4	722.7	657.4	583.1	551.6
55°	670.9	650.6	589.8	520.1	493.0
57.5°	601.1	580.8	524.6	459.3	436.8
60°	535.8	506.5	459.3	403.0	385.0
62.5°	463.8	441.3	400.7	353.5	376.0
65°	398.5	376.0	339.9	346.7	288.2
67.5°	326.4	315.2	283.7	252.1	243.1
70°	265.7	252.1	240.9	207.1	198.1
72.5°	211.6	198.1	182.4	164.3	157.6
75°	159.8	148.6	139.6	132.8	146.3
77.5°	110.3	105.8	99.1	92.3	90.1
80°	72.0	69.8	67.5	65.3	63.0
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)