

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: P545904

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-93-85-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: P545904
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-LD4-1HI-50-UNV-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

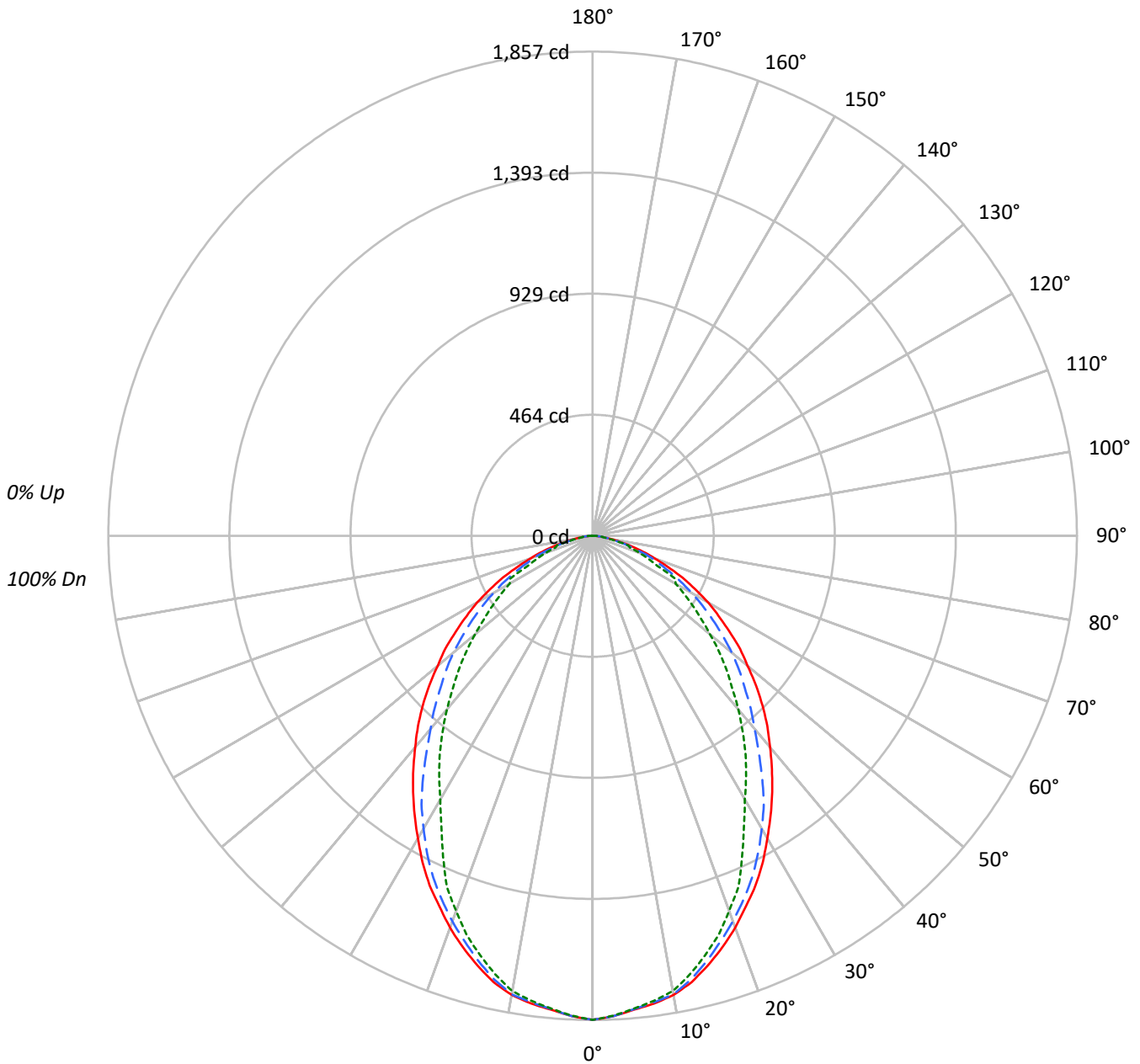
Lumens per Lamp: N/A
Luminaire Lumens: 3645.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P545904

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545904

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-85-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4996	4996	4996
5°	4928	4923	4917
10°	4886	4880	4845
15°	4754	4706	4640
20°	4579	4506	4383
25°	4391	4295	4028
30°	4162	4029	3628
35°	3942	3723	3356
40°	3717	3393	3054
45°	3504	3137	2761
50°	3244	2912	2462
55°	3001	2639	2206
60°	2750	2357	1975
65°	2419	2064	1750
70°	1993	1807	1486
75°	1585	1384	1450
80°	1065	998	931
85°	664	797	929



TEST NUMBER: P545904

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	4.7
10°-20°	474.3	13.0
20°-30°	656.7	18.0
30°-40°	700.2	19.2
40°-50°	638.8	17.5
50°-60°	500.4	13.7
60°-70°	326.2	8.9
70°-80°	144.5	4.0
80°-90°	31.0	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°	1303.8	35.8
0°-40°	2004.1	55.0
0°-60°	3143.3	86.2
0°-90°	3645.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3645.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1857	1857	1857	1857	1857	
5°	1824	1822	1822	1820	1820	173
15°	1706	1706	1689	1672	1666	480
25°	1479	1470	1447	1395	1357	679
35°	1200	1191	1133	1048	1022	750
45°	921	902	824	756	726	709
55°	640	620	562	496	470	574
65°	380	358	324	331	275	374
75°	152	142	133	127	140	163
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



TEST NUMBER: P545904

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1856.7	1856.7	1856.7	1856.7	1856.7
2.5°	1843.8	1843.8	1843.8	1841.7	1841.7
5°	1824.5	1822.4	1822.4	1820.2	1820.2
7.5°	1809.5	1807.3	1805.2	1803.1	1798.8
10°	1788.0	1788.0	1785.9	1775.1	1773.0
12.5°	1753.7	1751.5	1743.0	1727.9	1723.6
15°	1706.5	1706.5	1689.3	1672.1	1665.7
17.5°	1654.9	1652.8	1631.3	1614.2	1605.6
20°	1599.1	1594.8	1573.4	1545.5	1530.4
22.5°	1536.9	1536.9	1511.1	1474.6	1459.6
25°	1478.9	1470.3	1446.7	1395.2	1356.6
27.5°	1412.4	1399.5	1373.8	1300.8	1255.7
30°	1339.4	1333.0	1296.5	1202.0	1167.7
32.5°	1270.7	1260.0	1221.4	1122.6	1094.7
35°	1199.9	1191.3	1133.3	1047.5	1021.7
37.5°	1129.1	1118.3	1045.3	976.7	944.5
40°	1058.2	1045.3	965.9	903.7	869.3
42.5°	991.7	974.5	897.2	830.7	792.1
45°	920.8	901.5	824.3	755.6	725.5
47.5°	850.0	832.8	762.0	691.2	656.8
50°	774.9	759.9	695.5	624.6	588.1
52.5°	712.6	689.0	626.8	555.9	525.9
55°	639.7	620.3	562.4	495.8	470.1
57.5°	573.1	553.8	500.1	437.9	416.4
60°	510.9	483.0	437.9	384.2	367.0
62.5°	442.2	420.7	382.1	337.0	358.5
65°	379.9	358.5	324.1	330.6	274.8
67.5°	311.2	300.5	270.5	240.4	231.8
70°	253.3	240.4	229.7	197.5	188.9
72.5°	201.8	188.9	173.9	156.7	150.3
75°	152.4	141.7	133.1	126.6	139.5
77.5°	105.2	100.9	94.4	88.0	85.9
80°	68.7	66.5	64.4	62.2	60.1
82.5°	40.8	40.8	40.8	40.8	40.8
85°	21.5	23.6	25.8	27.9	30.1
87.5°	12.9	12.9	15.0	17.2	19.3
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)