

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: P545909

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-93-96-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: P545909
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-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

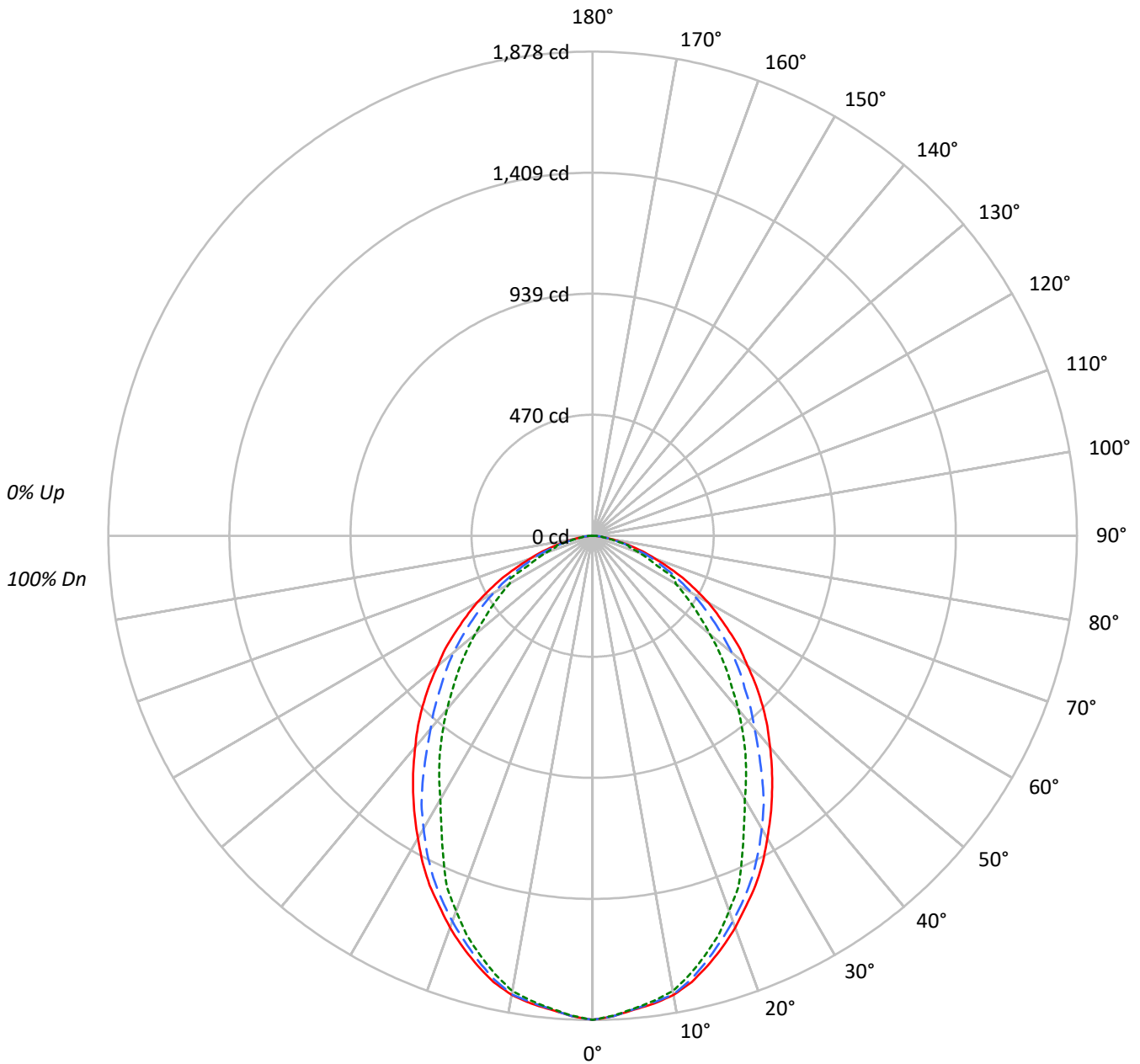
Lumens per Lamp: N/A
Luminaire Lumens: 3686.0 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P545909

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-96-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545909

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-96-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			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°	5053	5053	5053
5°	4984	4978	4972
10°	4941	4935	4899
15°	4808	4759	4693
20°	4631	4556	4432
25°	4441	4344	4073
30°	4209	4074	3669
35°	3986	3765	3394
40°	3759	3431	3088
45°	3544	3172	2792
50°	3280	2944	2490
55°	3035	2668	2230
60°	2780	2383	1998
65°	2446	2087	1769
70°	2015	1828	1503
75°	1602	1399	1467
80°	1077	1009	942
85°	670	803	939



TEST NUMBER: P545909

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-96-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.8	4.7
10°-20°	479.7	13.0
20°-30°	664.1	18.0
30°-40°	708.1	19.2
40°-50°	646.0	17.5
50°-60°	506.1	13.7
60°-70°	329.8	8.9
70°-80°	146.1	4.0
80°-90°	31.4	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°	1318.5	35.8
0°-40°	2026.6	55.0
0°-60°	3178.7	86.2
0°-90°	3686.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3686.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1845	1843	1843	1841	1841	175
15°	1726	1726	1708	1691	1684	485
25°	1496	1487	1463	1411	1372	687
35°	1213	1205	1146	1059	1033	759
45°	931	912	834	764	734	717
55°	647	627	569	501	475	580
65°	384	362	328	334	278	379
75°	154	143	135	128	141	165
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



TEST NUMBER: P545909

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-96-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1877.6	1877.6	1877.6	1877.6	1877.6
2.5°	1864.6	1864.6	1864.6	1862.4	1862.4
5°	1845.0	1842.9	1842.9	1840.7	1840.7
7.5°	1829.8	1827.7	1825.5	1823.3	1819.0
10°	1808.1	1808.1	1806.0	1795.1	1792.9
12.5°	1773.4	1771.2	1762.6	1747.4	1743.0
15°	1725.7	1725.7	1708.3	1690.9	1684.4
17.5°	1673.6	1671.4	1649.7	1632.3	1623.6
20°	1617.1	1612.8	1591.1	1562.9	1547.7
22.5°	1554.2	1554.2	1528.1	1491.2	1476.0
25°	1495.6	1486.9	1463.0	1410.9	1371.8
27.5°	1428.3	1415.3	1389.2	1315.4	1269.8
30°	1354.5	1348.0	1311.1	1215.6	1180.8
32.5°	1285.0	1274.2	1235.1	1135.2	1107.0
35°	1213.4	1204.7	1146.1	1059.3	1033.2
37.5°	1141.8	1130.9	1057.1	987.6	955.1
40°	1070.1	1057.1	976.8	913.8	879.1
42.5°	1002.8	985.5	907.3	840.0	801.0
45°	931.2	911.7	833.5	764.1	733.7
47.5°	859.6	842.2	770.6	698.9	664.2
50°	783.6	768.4	703.3	631.7	594.8
52.5°	720.7	696.8	633.8	562.2	531.8
55°	646.8	627.3	568.7	501.4	475.4
57.5°	579.6	560.0	505.8	442.8	421.1
60°	516.6	488.4	442.8	388.5	371.2
62.5°	447.2	425.4	386.4	340.8	362.5
65°	384.2	362.5	327.8	334.3	277.8
67.5°	314.7	303.9	273.5	243.1	234.4
70°	256.1	243.1	232.3	199.7	191.0
72.5°	204.0	191.0	175.8	158.5	151.9
75°	154.1	143.3	134.6	128.1	141.1
77.5°	106.4	102.0	95.5	89.0	86.8
80°	69.5	67.3	65.1	62.9	60.8
82.5°	41.2	41.2	41.2	41.2	41.2
85°	21.7	23.9	26.0	28.2	30.4
87.5°	13.0	13.0	15.2	17.4	19.5
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)