

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: P545873

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-93-86-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: P545873
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-40-UNV-93-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

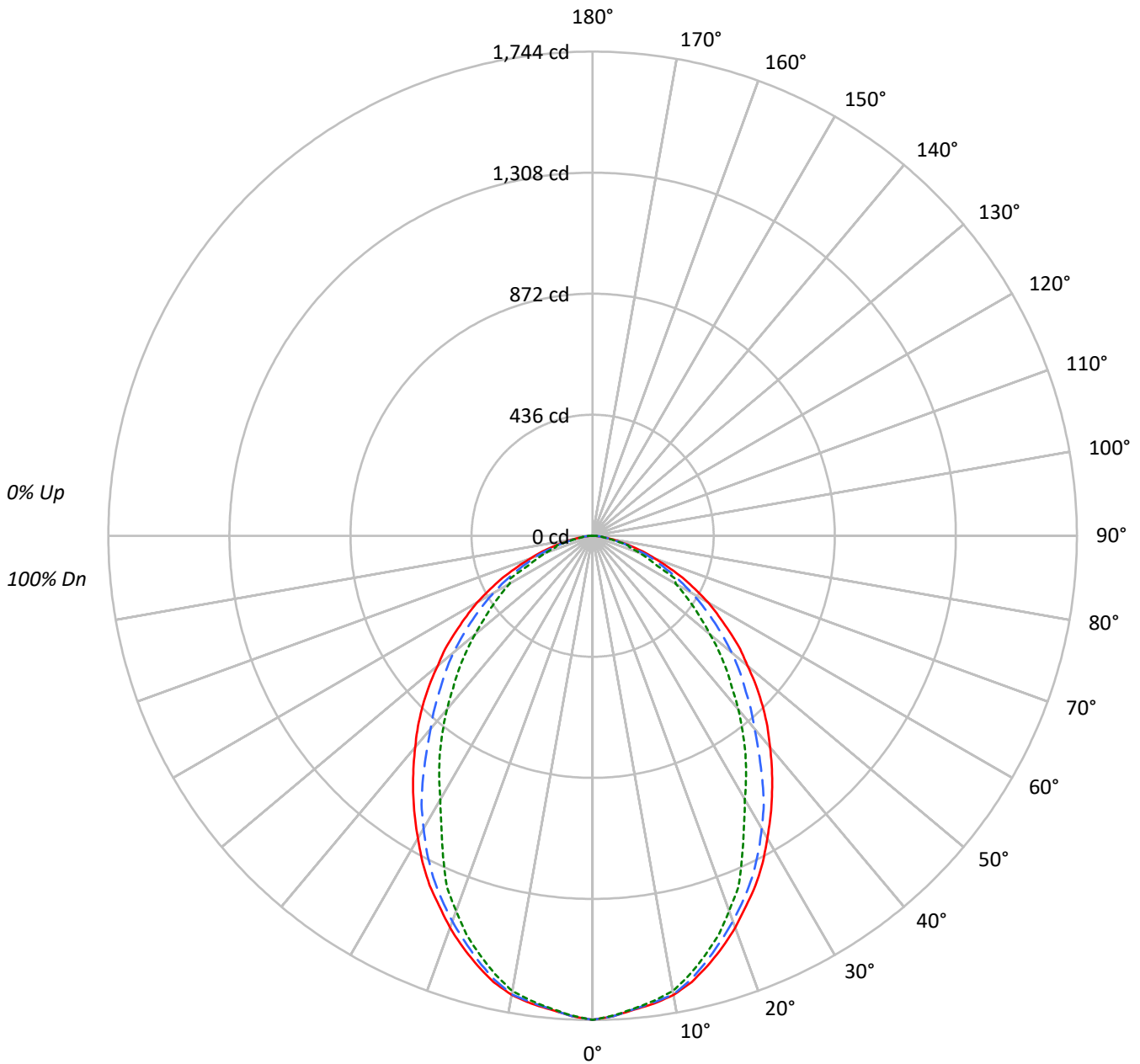
Lumens per Lamp: N/A
Luminaire Lumens: 3423.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P545873

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545873

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-93-86-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°	4692	4692	4692
5°	4628	4623	4618
10°	4588	4583	4550
15°	4464	4420	4358
20°	4300	4231	4116
25°	4124	4034	3783
30°	3908	3783	3407
35°	3702	3496	3152
40°	3491	3186	2868
45°	3291	2946	2593
50°	3046	2734	2312
55°	2818	2478	2071
60°	2582	2213	1855
65°	2272	1938	1643
70°	1872	1697	1396
75°	1488	1300	1362
80°	1000	938	874
85°	624	747	871



TEST NUMBER: P545873

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	4.7
10°-20°	445.4	13.0
20°-30°	616.7	18.0
30°-40°	657.6	19.2
40°-50°	599.9	17.5
50°-60°	470.0	13.7
60°-70°	306.3	8.9
70°-80°	135.7	4.0
80°-90°	29.1	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°	1224.4	35.8
0°-40°	1882.0	55.0
0°-60°	2951.9	86.2
0°-90°	3423.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3423.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1744	1744	1744	1744	1744	
5°	1713	1711	1711	1709	1709	163
15°	1602	1602	1586	1570	1564	451
25°	1389	1381	1359	1310	1274	638
35°	1127	1119	1064	984	960	704
45°	865	847	774	710	681	666
55°	601	583	528	466	442	539
65°	357	337	304	310	258	352
75°	143	133	125	119	131	153
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



TEST NUMBER: P545873

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1743.6	1743.6	1743.6	1743.6	1743.6
2.5°	1731.5	1731.5	1731.5	1729.5	1729.5
5°	1713.4	1711.4	1711.4	1709.4	1709.4
7.5°	1699.3	1697.3	1695.3	1693.2	1689.2
10°	1679.1	1679.1	1677.1	1667.0	1665.0
12.5°	1646.9	1644.9	1636.8	1622.7	1618.7
15°	1602.5	1602.5	1586.4	1570.3	1564.2
17.5°	1554.1	1552.1	1532.0	1515.8	1507.8
20°	1501.7	1497.7	1477.6	1451.3	1437.2
22.5°	1443.3	1443.3	1419.1	1384.8	1370.7
25°	1388.9	1380.8	1358.6	1310.2	1274.0
27.5°	1326.4	1314.3	1290.1	1221.5	1179.2
30°	1257.8	1251.8	1217.5	1128.8	1096.6
32.5°	1193.3	1183.2	1147.0	1054.2	1028.0
35°	1126.8	1118.7	1064.3	983.7	959.5
37.5°	1060.3	1050.2	981.7	917.2	886.9
40°	993.8	981.7	907.1	848.6	816.4
42.5°	931.3	915.2	842.6	780.1	743.8
45°	864.8	846.6	774.1	709.5	681.3
47.5°	798.2	782.1	715.6	649.1	616.8
50°	727.7	713.6	653.1	586.6	552.3
52.5°	669.2	647.1	588.6	522.1	493.9
55°	600.7	582.6	528.1	465.6	441.5
57.5°	538.2	520.1	469.7	411.2	391.1
60°	479.8	453.5	411.2	360.8	344.7
62.5°	415.2	395.1	358.8	316.5	336.6
65°	356.8	336.6	304.4	310.4	258.0
67.5°	292.3	282.2	254.0	225.8	217.7
70°	237.9	225.8	215.7	185.4	177.4
72.5°	189.5	177.4	163.3	147.2	141.1
75°	143.1	133.0	125.0	118.9	131.0
77.5°	98.8	94.7	88.7	82.6	80.6
80°	64.5	62.5	60.5	58.5	56.4
82.5°	38.3	38.3	38.3	38.3	38.3
85°	20.2	22.2	24.2	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.1
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)