

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: P545864

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-82-85-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: P545864
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-82-85-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

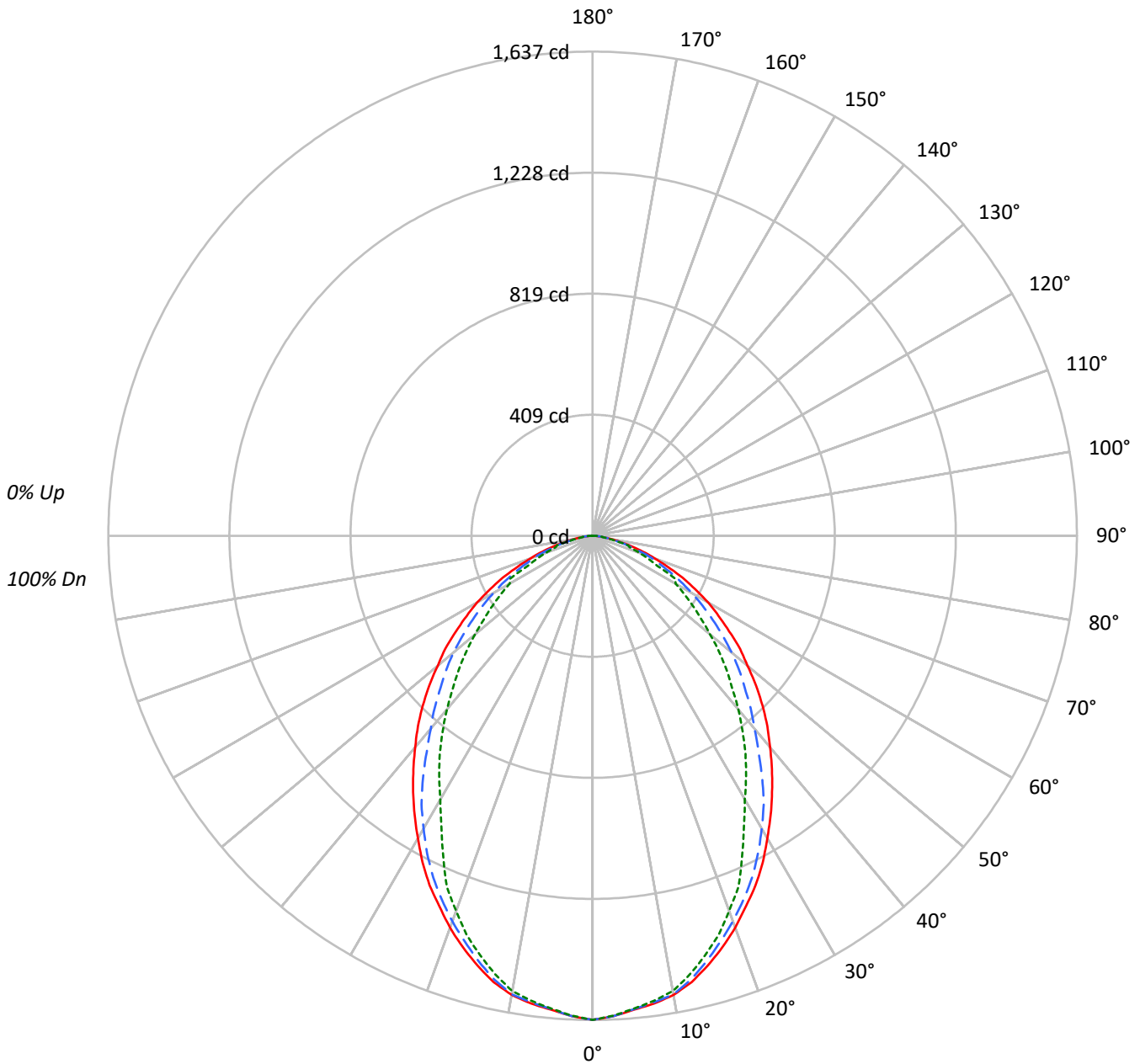
Lumens per Lamp: N/A
Luminaire Lumens: 3213.0 lumens
Efficiency: N/A
Efficacy: 74.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P545864

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-82-85-EDD

Luminous Intensity Polar Plot





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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°	4404	4404	4404
5°	4344	4339	4334
10°	4307	4301	4271
15°	4191	4148	4091
20°	4037	3972	3863
25°	3871	3787	3551
30°	3669	3551	3198
35°	3475	3282	2959
40°	3277	2991	2692
45°	3089	2765	2434
50°	2859	2566	2170
55°	2645	2326	1944
60°	2423	2077	1741
65°	2132	1819	1542
70°	1757	1593	1310
75°	1396	1220	1279
80°	938	880	821
85°	584	701	818



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.4	4.7
10°-20°	418.1	13.0
20°-30°	578.9	18.0
30°-40°	617.2	19.2
40°-50°	563.1	17.5
50°-60°	441.1	13.7
60°-70°	287.5	8.9
70°-80°	127.4	4.0
80°-90°	27.3	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°	1149.3	35.8
0°-40°	1766.5	55.0
0°-60°	2770.8	86.2
0°-90°	3213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1637	1637	1637	1637	1637	
5°	1608	1606	1606	1604	1604	153
15°	1504	1504	1489	1474	1468	423
25°	1304	1296	1275	1230	1196	599
35°	1058	1050	999	923	901	661
45°	812	795	727	666	640	625
55°	564	547	496	437	414	506
65°	335	316	286	291	242	330
75°	134	125	117	112	123	144
85°	19	21	23	25	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1636.7	1636.7	1636.7	1636.7	1636.7
2.5°	1625.3	1625.3	1625.3	1623.4	1623.4
5°	1608.3	1606.4	1606.4	1604.5	1604.5
7.5°	1595.0	1593.1	1591.2	1589.4	1585.6
10°	1576.1	1576.1	1574.2	1564.8	1562.9
12.5°	1545.8	1543.9	1536.4	1523.1	1519.3
15°	1504.2	1504.2	1489.1	1473.9	1468.3
17.5°	1458.8	1456.9	1438.0	1422.9	1415.3
20°	1409.6	1405.8	1386.9	1362.3	1349.1
22.5°	1354.7	1354.7	1332.0	1299.9	1286.6
25°	1303.7	1296.1	1275.3	1229.9	1195.8
27.5°	1245.0	1233.6	1210.9	1146.6	1106.9
30°	1180.7	1175.0	1142.8	1059.6	1029.3
32.5°	1120.1	1110.7	1076.6	989.6	965.0
35°	1057.7	1050.1	999.0	923.3	900.6
37.5°	995.2	985.8	921.4	860.9	832.5
40°	932.8	921.4	851.4	796.6	766.3
42.5°	874.1	859.0	790.9	732.2	698.2
45°	811.7	794.7	726.6	666.0	639.5
47.5°	749.3	734.1	671.7	609.3	579.0
50°	683.0	669.8	613.0	550.6	518.4
52.5°	628.2	607.4	552.5	490.1	463.6
55°	563.8	546.8	495.7	437.1	414.4
57.5°	505.2	488.2	440.9	386.0	367.1
60°	450.3	425.7	386.0	338.7	323.5
62.5°	389.8	370.8	336.8	297.1	316.0
65°	334.9	316.0	285.7	291.4	242.2
67.5°	274.4	264.9	238.4	211.9	204.3
70°	223.3	211.9	202.5	174.1	166.5
72.5°	177.9	166.5	153.3	138.1	132.4
75°	134.3	124.9	117.3	111.6	123.0
77.5°	92.7	88.9	83.3	77.6	75.7
80°	60.5	58.7	56.8	54.9	53.0
82.5°	35.9	35.9	35.9	35.9	35.9
85°	18.9	20.8	22.7	24.6	26.5
87.5°	11.4	11.4	13.2	15.1	17.0
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)