

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: P546311

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-82-84-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: P546311
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-LD4-2STD-35-UNV-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

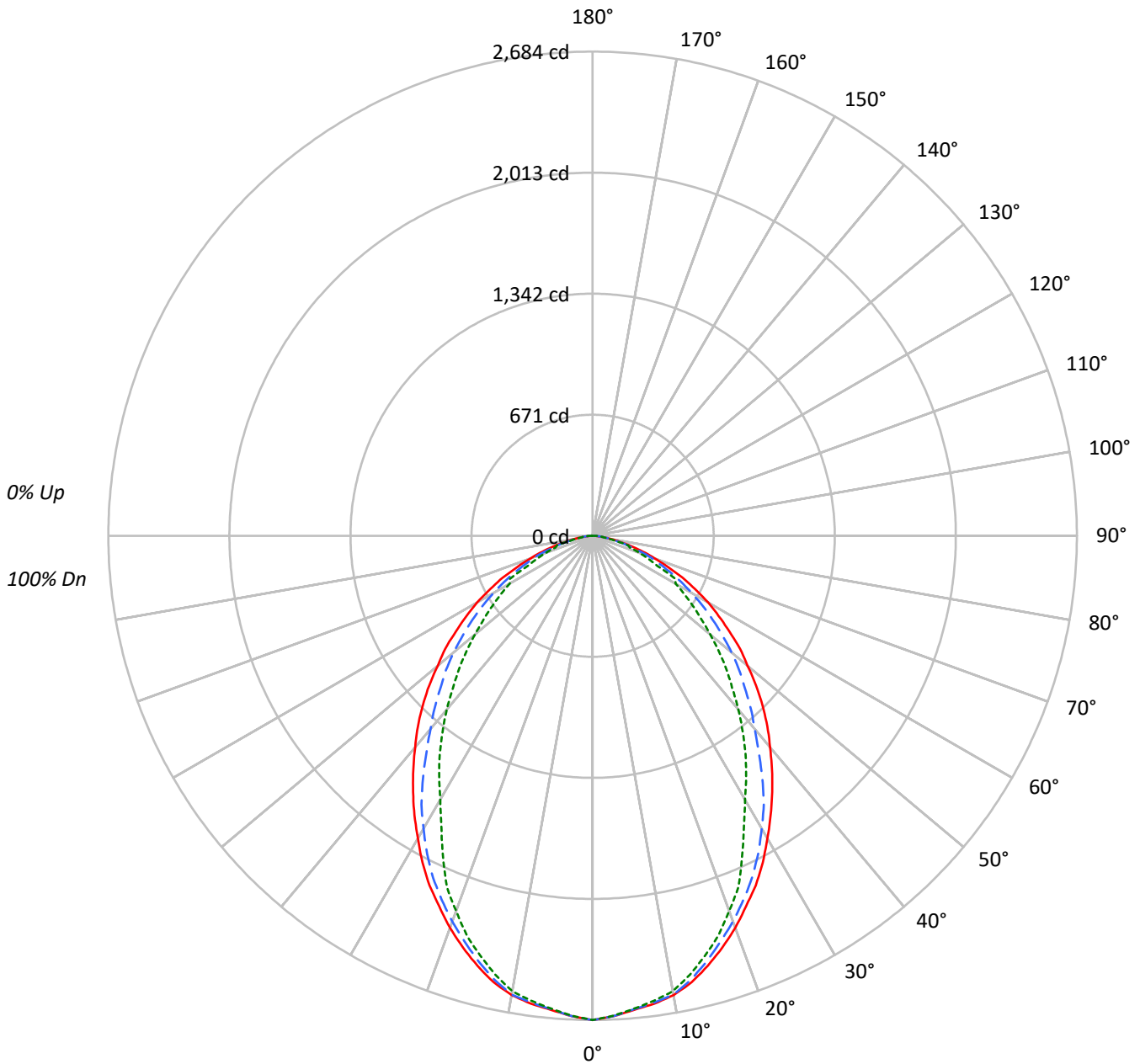
Lumens per Lamp: N/A
Luminaire Lumens: 5270.0 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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

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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°	7224	7224	7224
5°	7126	7117	7109
10°	7064	7056	7004
15°	6873	6804	6709
20°	6621	6514	6336
25°	6349	6211	5824
30°	6017	5825	5246
35°	5699	5383	4853
40°	5375	4906	4415
45°	5067	4535	3992
50°	4690	4209	3560
55°	4339	3815	3189
60°	3975	3407	2856
65°	3498	2984	2529
70°	2881	2613	2149
75°	2290	2000	2097
80°	1539	1443	1347
85°	957	1149	1340



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.9	4.7
10°-20°	685.8	13.0
20°-30°	949.4	18.0
30°-40°	1012.4	19.2
40°-50°	923.6	17.5
50°-60°	723.6	13.7
60°-70°	471.6	8.9
70°-80°	208.9	4.0
80°-90°	44.8	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°	1885.1	35.8
0°-40°	2897.5	55.0
0°-60°	4544.6	86.2
0°-90°	5270.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5270.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2684	2684	2684	2684	2684	
5°	2638	2635	2635	2632	2632	250
15°	2467	2467	2442	2418	2408	694
25°	2138	2126	2092	2017	1961	982
35°	1735	1722	1639	1514	1477	1085
45°	1331	1303	1192	1092	1049	1026
55°	925	897	813	717	680	829
65°	549	518	469	478	397	541
75°	220	205	192	183	202	236
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2684.5	2684.5	2684.5	2684.5	2684.5
2.5°	2665.8	2665.8	2665.8	2662.7	2662.7
5°	2637.9	2634.8	2634.8	2631.7	2631.7
7.5°	2616.2	2613.1	2610.0	2606.9	2600.7
10°	2585.2	2585.2	2582.1	2566.5	2563.4
12.5°	2535.5	2532.4	2520.0	2498.3	2492.1
15°	2467.2	2467.2	2442.4	2417.6	2408.3
17.5°	2392.7	2389.6	2358.6	2333.8	2321.4
20°	2312.1	2305.8	2274.8	2234.5	2212.7
22.5°	2222.1	2222.1	2184.8	2132.1	2110.3
25°	2138.3	2125.9	2091.7	2017.2	1961.4
27.5°	2042.1	2023.4	1986.2	1880.7	1815.5
30°	1936.5	1927.2	1874.5	1737.9	1688.3
32.5°	1837.2	1821.7	1765.9	1623.1	1582.7
35°	1734.8	1722.4	1638.6	1514.5	1477.2
37.5°	1632.4	1616.9	1511.4	1412.1	1365.5
40°	1530.0	1511.4	1396.5	1306.5	1256.9
42.5°	1433.8	1409.0	1297.2	1201.0	1145.2
45°	1331.4	1303.4	1191.7	1092.4	1049.0
47.5°	1229.0	1204.1	1101.7	999.3	949.6
50°	1120.3	1098.6	1005.5	903.1	850.3
52.5°	1030.3	996.2	906.2	803.8	760.3
55°	924.8	896.9	813.1	716.9	679.7
57.5°	828.6	800.7	723.1	633.1	602.1
60°	738.6	698.3	633.1	555.5	530.7
62.5°	639.3	608.3	552.4	487.2	518.3
65°	549.3	518.3	468.6	477.9	397.2
67.5°	450.0	434.5	391.0	347.6	335.2
70°	366.2	347.6	332.1	285.5	273.1
72.5°	291.7	273.1	251.4	226.6	217.2
75°	220.3	204.8	192.4	183.1	201.7
77.5°	152.1	145.9	136.6	127.2	124.1
80°	99.3	96.2	93.1	90.0	86.9
82.5°	59.0	59.0	59.0	59.0	59.0
85°	31.0	34.1	37.2	40.3	43.4
87.5°	18.6	18.6	21.7	24.8	27.9
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)