

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: P546353

Luminaire Tested: **FMR-12-4-LD4-2STD-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: P546353
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-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

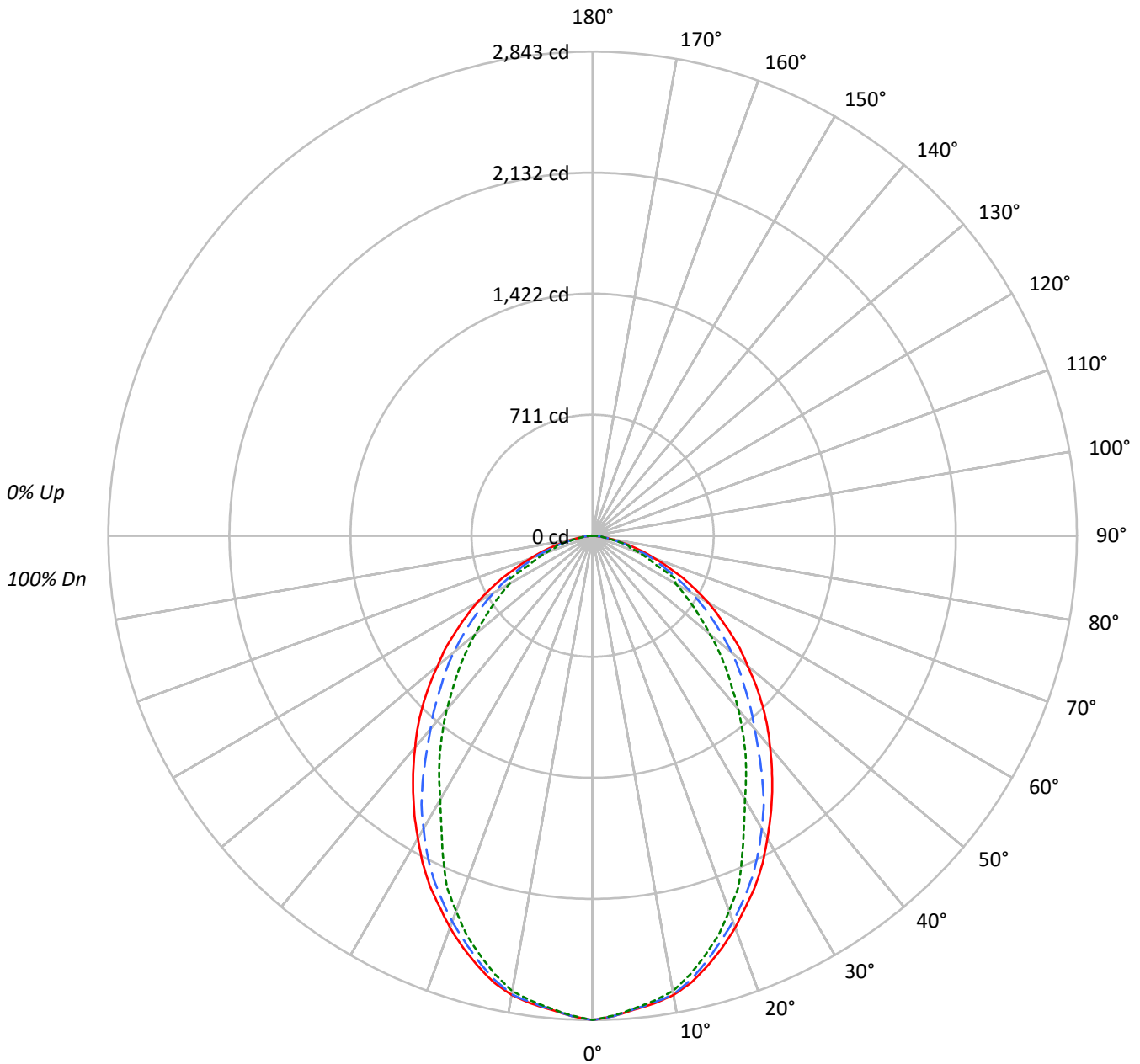
Lumens per Lamp: N/A
Luminaire Lumens: 5581.0 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7650	7650	7650
5°	7546	7537	7528
10°	7481	7472	7418
15°	7279	7206	7105
20°	7012	6899	6710
25°	6723	6577	6167
30°	6372	6168	5555
35°	6035	5701	5139
40°	5692	5195	4676
45°	5366	4803	4228
50°	4967	4458	3770
55°	4595	4040	3377
60°	4210	3609	3025
65°	3704	3160	2679
70°	3051	2767	2275
75°	2426	2119	2221
80°	1630	1528	1426
85°	1016	1216	1420



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.6	4.7
10°-20°	726.3	13.0
20°-30°	1005.5	18.0
30°-40°	1072.1	19.2
40°-50°	978.1	17.5
50°-60°	766.3	13.7
60°-70°	499.4	8.9
70°-80°	221.3	4.0
80°-90°	47.5	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°	1996.4	35.8
0°-40°	3068.5	55.0
0°-60°	4812.8	86.2
0°-90°	5581.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5581.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2843	2843	2843	2843	2843	
5°	2794	2790	2790	2787	2787	265
15°	2613	2613	2586	2560	2550	735
25°	2264	2251	2215	2136	2077	1040
35°	1837	1824	1735	1604	1564	1149
45°	1410	1380	1262	1157	1111	1086
55°	979	950	861	759	720	878
65°	582	549	496	506	421	573
75°	233	217	204	194	214	250
85°	33	36	39	43	46	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2842.9	2842.9	2842.9	2842.9	2842.9
2.5°	2823.2	2823.2	2823.2	2819.9	2819.9
5°	2793.6	2790.3	2790.3	2787.0	2787.0
7.5°	2770.6	2767.3	2764.0	2760.7	2754.1
10°	2737.7	2737.7	2734.4	2718.0	2714.7
12.5°	2685.1	2681.8	2668.7	2645.7	2639.1
15°	2612.8	2612.8	2586.5	2560.2	2550.4
17.5°	2533.9	2530.7	2497.8	2471.5	2458.4
20°	2448.5	2441.9	2409.1	2366.3	2343.3
22.5°	2353.2	2353.2	2313.7	2257.9	2234.9
25°	2264.4	2251.3	2215.2	2136.3	2077.1
27.5°	2162.6	2142.8	2103.4	1991.7	1922.6
30°	2050.8	2041.0	1985.1	1840.5	1787.9
32.5°	1945.7	1929.2	1870.1	1718.9	1676.2
35°	1837.2	1824.0	1735.3	1603.8	1564.4
37.5°	1728.7	1712.3	1600.6	1495.4	1446.1
40°	1620.3	1600.6	1479.0	1383.6	1331.1
42.5°	1518.4	1492.1	1373.8	1271.9	1212.7
45°	1409.9	1380.4	1262.0	1156.9	1110.9
47.5°	1301.5	1275.2	1166.7	1058.3	1005.7
50°	1186.5	1163.4	1064.9	956.4	900.5
52.5°	1091.1	1055.0	959.7	851.2	805.2
55°	979.4	949.8	861.1	759.2	719.8
57.5°	877.5	847.9	765.8	670.5	637.6
60°	782.2	739.5	670.5	588.3	562.0
62.5°	677.0	644.2	585.0	516.0	548.9
65°	581.7	548.9	496.3	506.1	420.7
67.5°	476.6	460.1	414.1	368.1	355.0
70°	387.8	368.1	351.7	302.4	289.2
72.5°	308.9	289.2	266.2	239.9	230.1
75°	233.3	216.9	203.8	193.9	213.6
77.5°	161.0	154.5	144.6	134.7	131.5
80°	105.2	101.9	98.6	95.3	92.0
82.5°	62.4	62.4	62.4	62.4	62.4
85°	32.9	36.2	39.4	42.7	46.0
87.5°	19.7	19.7	23.0	26.3	29.6
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)