

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: P546386

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-93-87-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: P546386
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-50-UNV-93-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

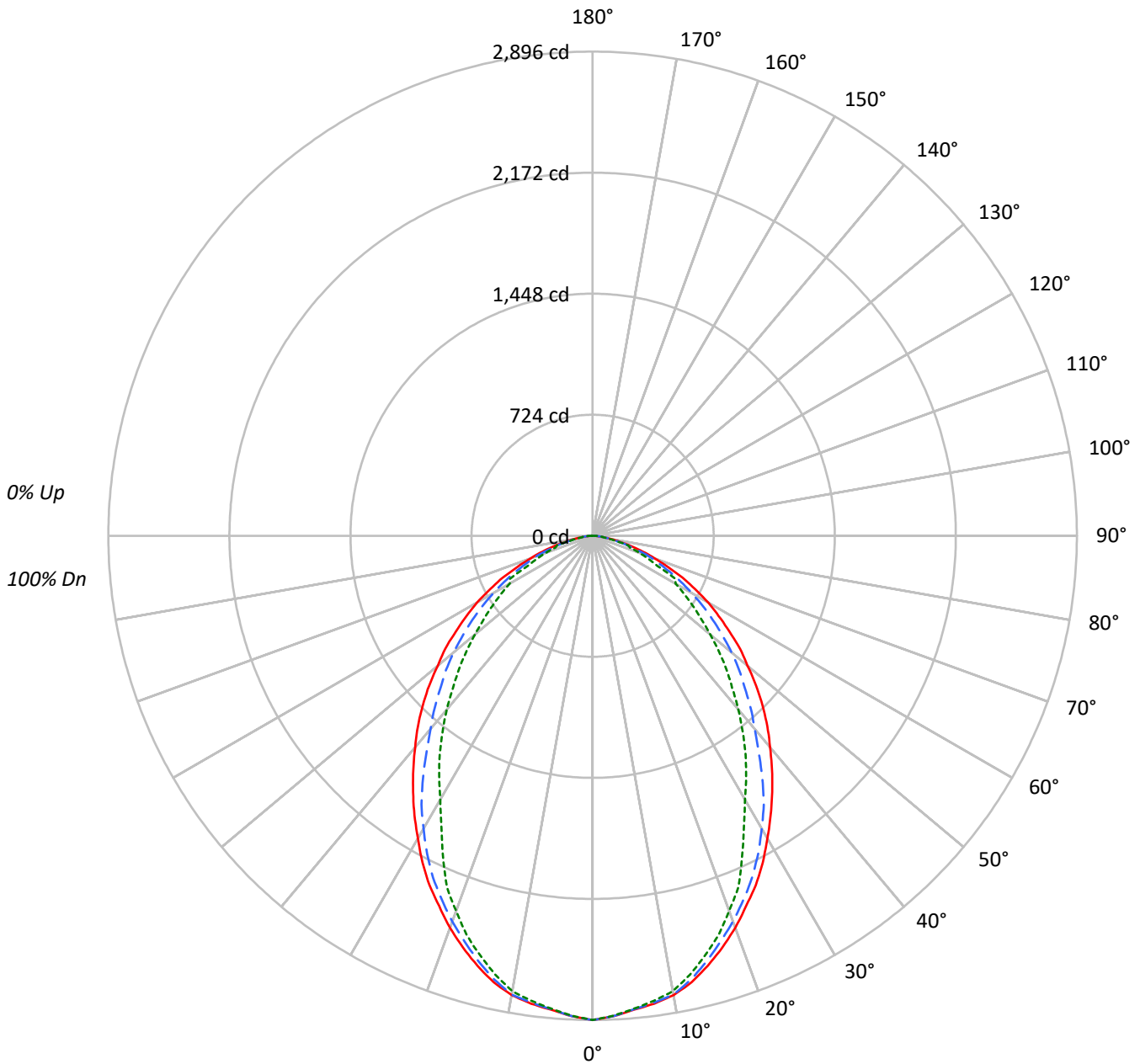
Lumens per Lamp: N/A
Luminaire Lumens: 5686.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	7794	7794	7794
5°	7688	7679	7670
10°	7621	7612	7558
15°	7416	7341	7239
20°	7144	7029	6837
25°	6850	6701	6283
30°	6492	6284	5660
35°	6149	5808	5236
40°	5799	5293	4764
45°	5467	4893	4307
50°	5061	4542	3841
55°	4681	4116	3440
60°	4289	3676	3082
65°	3774	3219	2729
70°	3109	2819	2319
75°	2471	2158	2262
80°	1660	1557	1454
85°	1034	1241	1448



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.6	4.7
10°-20°	739.9	13.0
20°-30°	1024.4	18.0
30°-40°	1092.3	19.2
40°-50°	996.5	17.5
50°-60°	780.7	13.7
60°-70°	508.8	8.9
70°-80°	225.4	4.0
80°-90°	48.4	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°	2033.9	35.8
0°-40°	3126.2	55.0
0°-60°	4903.4	86.2
0°-90°	5686.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5686.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2896	2896	2896	2896	2896	
5°	2846	2843	2843	2839	2839	270
15°	2662	2662	2635	2608	2598	748
25°	2307	2294	2257	2176	2116	1059
35°	1872	1858	1768	1634	1594	1170
45°	1436	1406	1286	1179	1132	1107
55°	998	968	877	774	733	895
65°	593	559	506	516	429	584
75°	238	221	208	198	218	255
85°	34	37	40	44	47	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2896.4	2896.4	2896.4	2896.4	2896.4
2.5°	2876.3	2876.3	2876.3	2872.9	2872.9
5°	2846.1	2842.8	2842.8	2839.4	2839.4
7.5°	2822.7	2819.4	2816.0	2812.7	2806.0
10°	2789.2	2789.2	2785.9	2769.1	2765.8
12.5°	2735.6	2732.3	2718.9	2695.5	2688.8
15°	2662.0	2662.0	2635.2	2608.4	2598.4
17.5°	2581.6	2578.3	2544.8	2518.0	2504.6
20°	2494.6	2487.9	2454.4	2410.9	2387.4
22.5°	2397.5	2397.5	2357.3	2300.4	2276.9
25°	2307.1	2293.7	2256.8	2176.5	2116.2
27.5°	2203.3	2183.2	2143.0	2029.1	1958.8
30°	2089.4	2079.4	2022.4	1875.1	1821.5
32.5°	1982.3	1965.5	1905.2	1751.2	1707.7
35°	1871.8	1858.4	1768.0	1634.0	1593.8
37.5°	1761.3	1744.5	1630.7	1523.5	1473.3
40°	1650.8	1630.7	1506.8	1409.7	1356.1
42.5°	1547.0	1520.2	1399.6	1295.8	1235.6
45°	1436.5	1406.3	1285.8	1178.6	1131.8
47.5°	1326.0	1299.2	1188.7	1078.2	1024.6
50°	1208.8	1185.3	1084.9	974.4	917.5
52.5°	1111.7	1074.8	977.7	867.2	820.4
55°	997.8	967.7	877.3	773.5	733.3
57.5°	894.0	863.9	780.2	683.1	649.6
60°	796.9	753.4	683.1	599.4	572.6
62.5°	689.8	656.3	596.0	525.7	559.2
65°	592.7	559.2	505.6	515.7	428.6
67.5°	485.5	468.8	421.9	375.0	361.6
70°	395.1	375.0	358.3	308.1	294.7
72.5°	314.8	294.7	271.2	244.4	234.4
75°	237.7	221.0	207.6	197.6	217.6
77.5°	164.1	157.4	147.3	137.3	133.9
80°	107.1	103.8	100.5	97.1	93.8
82.5°	63.6	63.6	63.6	63.6	63.6
85°	33.5	36.8	40.2	43.5	46.9
87.5°	20.1	20.1	23.4	26.8	30.1
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)