

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: P546385

Luminaire Tested: **FMR-12-4-LD4-2STD-50-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: P546385
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-93-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

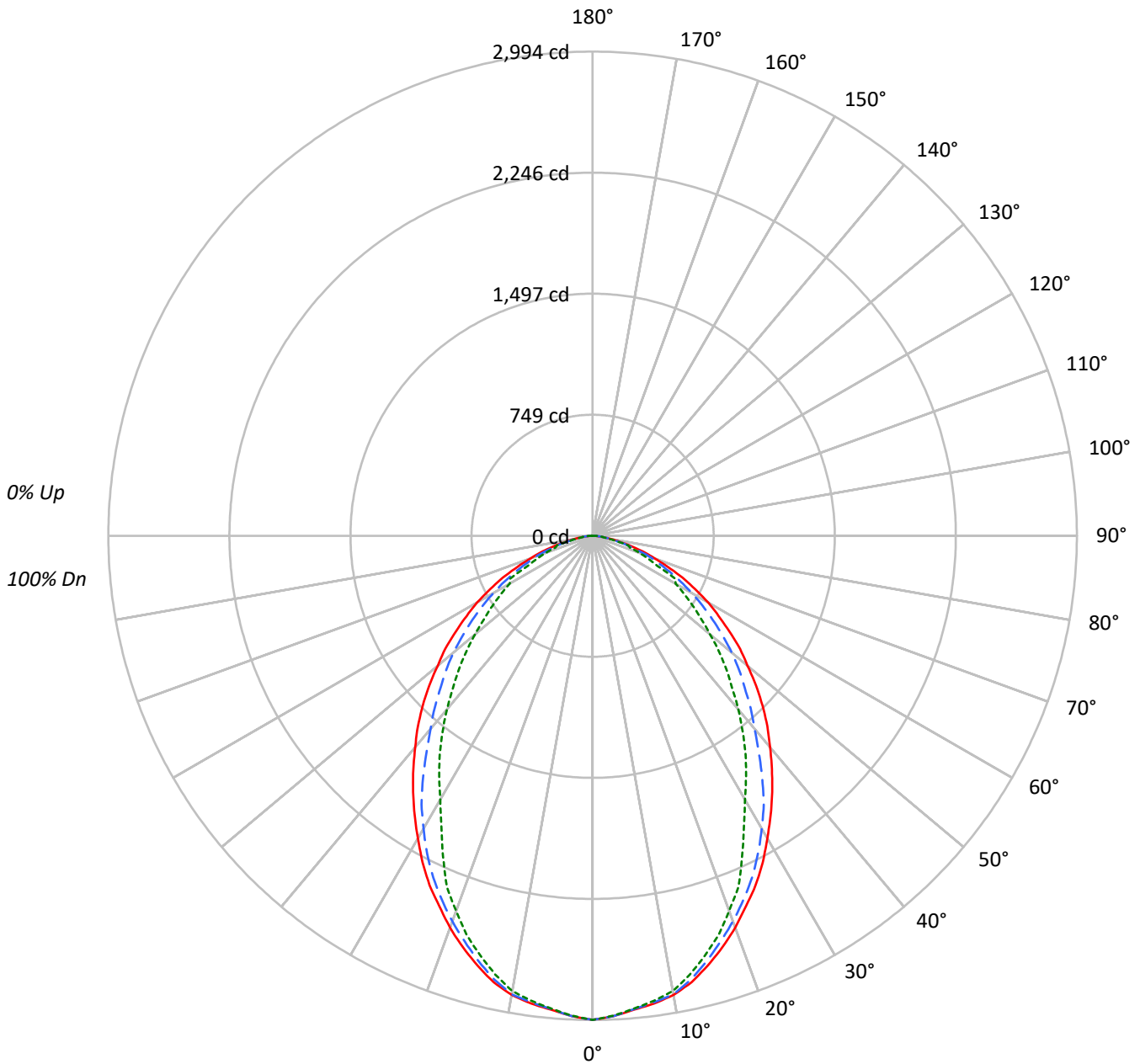
Lumens per Lamp: N/A
Luminaire Lumens: 5877.0 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	8056	8056	8056
5°	7947	7937	7928
10°	7877	7868	7811
15°	7665	7588	7482
20°	7384	7265	7066
25°	7080	6926	6494
30°	6710	6495	5850
35°	6355	6003	5412
40°	5994	5471	4924
45°	5650	5058	4452
50°	5231	4694	3970
55°	4838	4254	3556
60°	4433	3800	3185
65°	3901	3328	2821
70°	3213	2913	2397
75°	2555	2231	2339
80°	1715	1609	1502
85°	1068	1281	1497



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.7	4.7
10°-20°	764.8	13.0
20°-30°	1058.8	18.0
30°-40°	1129.0	19.2
40°-50°	1030.0	17.5
50°-60°	806.9	13.7
60°-70°	525.9	8.9
70°-80°	233.0	4.0
80°-90°	50.0	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°	2102.2	35.8
0°-40°	3231.2	55.0
0°-60°	5068.1	86.2
0°-90°	5877.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5877.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2994	2994	2994	2994	2994	
5°	2942	2938	2938	2935	2935	279
15°	2751	2751	2724	2696	2686	773
25°	2384	2371	2333	2250	2187	1095
35°	1935	1921	1827	1689	1647	1209
45°	1485	1454	1329	1218	1170	1144
55°	1031	1000	907	800	758	925
65°	613	578	523	533	443	604
75°	246	228	215	204	225	263
85°	35	38	42	45	48	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2993.7	2993.7	2993.7	2993.7	2993.7
2.5°	2972.9	2972.9	2972.9	2969.4	2969.4
5°	2941.8	2938.3	2938.3	2934.8	2934.8
7.5°	2917.5	2914.1	2910.6	2907.1	2900.2
10°	2882.9	2882.9	2879.5	2862.2	2858.7
12.5°	2827.5	2824.1	2810.2	2786.0	2779.1
15°	2751.4	2751.4	2723.7	2696.0	2685.6
17.5°	2668.3	2664.9	2630.3	2602.6	2588.7
20°	2578.4	2571.4	2536.8	2491.8	2467.6
22.5°	2478.0	2478.0	2436.5	2377.6	2353.4
25°	2384.5	2370.7	2332.6	2249.6	2187.3
27.5°	2277.3	2256.5	2215.0	2097.3	2024.6
30°	2159.6	2149.2	2090.4	1938.1	1882.7
32.5°	2048.8	2031.5	1969.2	1810.0	1765.1
35°	1934.6	1920.8	1827.3	1688.9	1647.4
37.5°	1820.4	1803.1	1685.5	1574.7	1522.8
40°	1706.2	1685.5	1557.4	1457.0	1401.7
42.5°	1598.9	1571.2	1446.6	1339.4	1277.1
45°	1484.7	1453.6	1329.0	1218.2	1169.8
47.5°	1370.5	1342.8	1228.6	1114.4	1059.0
50°	1249.4	1225.2	1121.3	1007.1	948.3
52.5°	1149.0	1110.9	1010.6	896.4	847.9
55°	1031.3	1000.2	906.8	799.5	757.9
57.5°	924.1	892.9	806.4	706.0	671.4
60°	823.7	778.7	706.0	619.5	591.8
62.5°	712.9	678.3	616.0	543.4	578.0
65°	612.6	578.0	522.6	533.0	443.0
67.5°	501.8	484.5	436.1	387.6	373.8
70°	408.4	387.6	370.3	318.4	304.6
72.5°	325.3	304.6	280.3	252.6	242.3
75°	245.7	228.4	214.6	204.2	225.0
77.5°	169.6	162.7	152.3	141.9	138.4
80°	110.7	107.3	103.8	100.4	96.9
82.5°	65.8	65.8	65.8	65.8	65.8
85°	34.6	38.1	41.5	45.0	48.5
87.5°	20.8	20.8	24.2	27.7	31.1
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)