

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: P546102

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-93-97-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: P546102
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-LD4-1STD-50-UNV-93-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

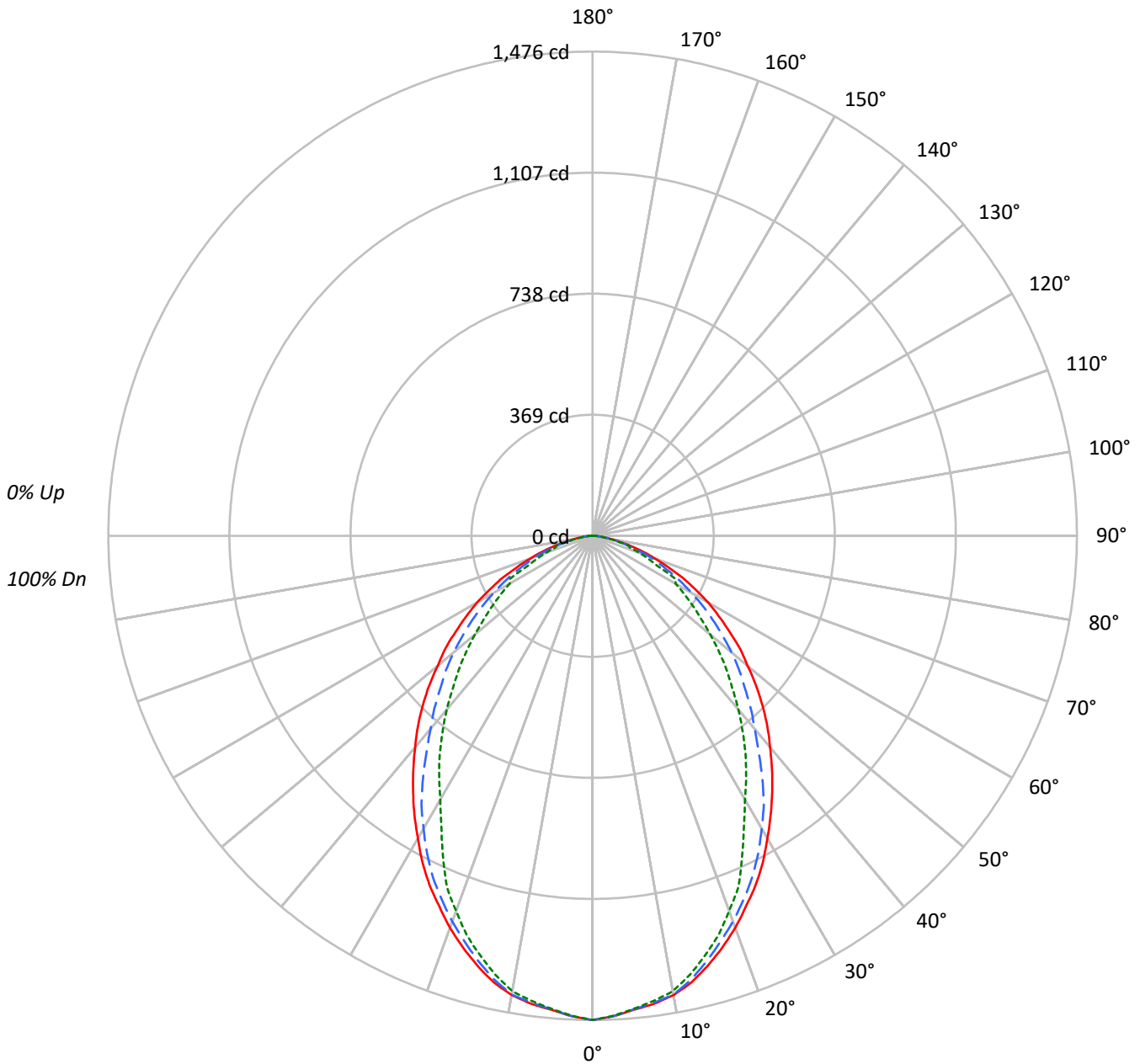
Lumens per Lamp: N/A
Luminaire Lumens: 2898.0 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	3972	3972	3972
5°	3918	3914	3909
10°	3885	3880	3852
15°	3780	3742	3689
20°	3641	3582	3485
25°	3491	3415	3203
30°	3309	3203	2885
35°	3134	2960	2668
40°	2956	2698	2428
45°	2786	2494	2195
50°	2579	2315	1958
55°	2386	2098	1753
60°	2186	1873	1570
65°	1924	1641	1391
70°	1585	1437	1182
75°	1260	1100	1153
80°	846	793	741
85°	528	633	738



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.4	4.7
10°-20°	377.1	13.0
20°-30°	522.1	18.0
30°-40°	556.7	19.2
40°-50°	507.9	17.5
50°-60°	397.9	13.7
60°-70°	259.3	8.9
70°-80°	114.9	4.0
80°-90°	24.7	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°	1036.6	35.8
0°-40°	1593.4	55.0
0°-60°	2499.1	86.2
0°-90°	2898.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2898.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1476	1476	1476	1476	1476	
5°	1451	1449	1449	1447	1447	138
15°	1357	1357	1343	1329	1324	381
25°	1176	1169	1150	1109	1079	540
35°	954	947	901	833	812	596
45°	732	717	655	601	577	564
55°	509	493	447	394	374	456
65°	302	285	258	263	218	298
75°	121	113	106	101	111	130
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1476.2	1476.2	1476.2	1476.2	1476.2
2.5°	1466.0	1466.0	1466.0	1464.3	1464.3
5°	1450.6	1448.9	1448.9	1447.2	1447.2
7.5°	1438.7	1437.0	1435.2	1433.5	1430.1
10°	1421.6	1421.6	1419.9	1411.4	1409.6
12.5°	1394.3	1392.6	1385.8	1373.8	1370.4
15°	1356.7	1356.7	1343.1	1329.4	1324.3
17.5°	1315.8	1314.1	1297.0	1283.4	1276.5
20°	1271.4	1268.0	1250.9	1228.7	1216.8
22.5°	1221.9	1221.9	1201.4	1172.4	1160.5
25°	1175.8	1169.0	1150.2	1109.3	1078.6
27.5°	1122.9	1112.7	1092.2	1034.2	998.4
30°	1064.9	1059.8	1030.8	955.7	928.4
32.5°	1010.3	1001.8	971.1	892.5	870.4
35°	954.0	947.2	901.1	832.8	812.3
37.5°	897.7	889.1	831.1	776.5	750.9
40°	841.4	831.1	768.0	718.5	691.2
42.5°	788.4	774.8	713.4	660.5	629.7
45°	732.1	716.8	655.3	600.7	576.8
47.5°	675.8	662.2	605.8	549.5	522.2
50°	616.1	604.1	552.9	496.6	467.6
52.5°	566.6	547.8	498.3	442.0	418.1
55°	508.6	493.2	447.1	394.2	373.7
57.5°	455.7	440.3	397.6	348.1	331.1
60°	406.2	384.0	348.1	305.5	291.8
62.5°	351.6	334.5	303.8	267.9	285.0
65°	302.1	285.0	257.7	262.8	218.4
67.5°	247.5	238.9	215.0	191.1	184.3
70°	201.4	191.1	182.6	157.0	150.2
72.5°	160.4	150.2	138.2	124.6	119.5
75°	121.2	112.6	105.8	100.7	110.9
77.5°	83.6	80.2	75.1	70.0	68.3
80°	54.6	52.9	51.2	49.5	47.8
82.5°	32.4	32.4	32.4	32.4	32.4
85°	17.1	18.8	20.5	22.2	23.9
87.5°	10.2	10.2	11.9	13.7	15.4
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)