

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: P546045

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-80-96-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: P546045
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-40-UNV-80-96-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

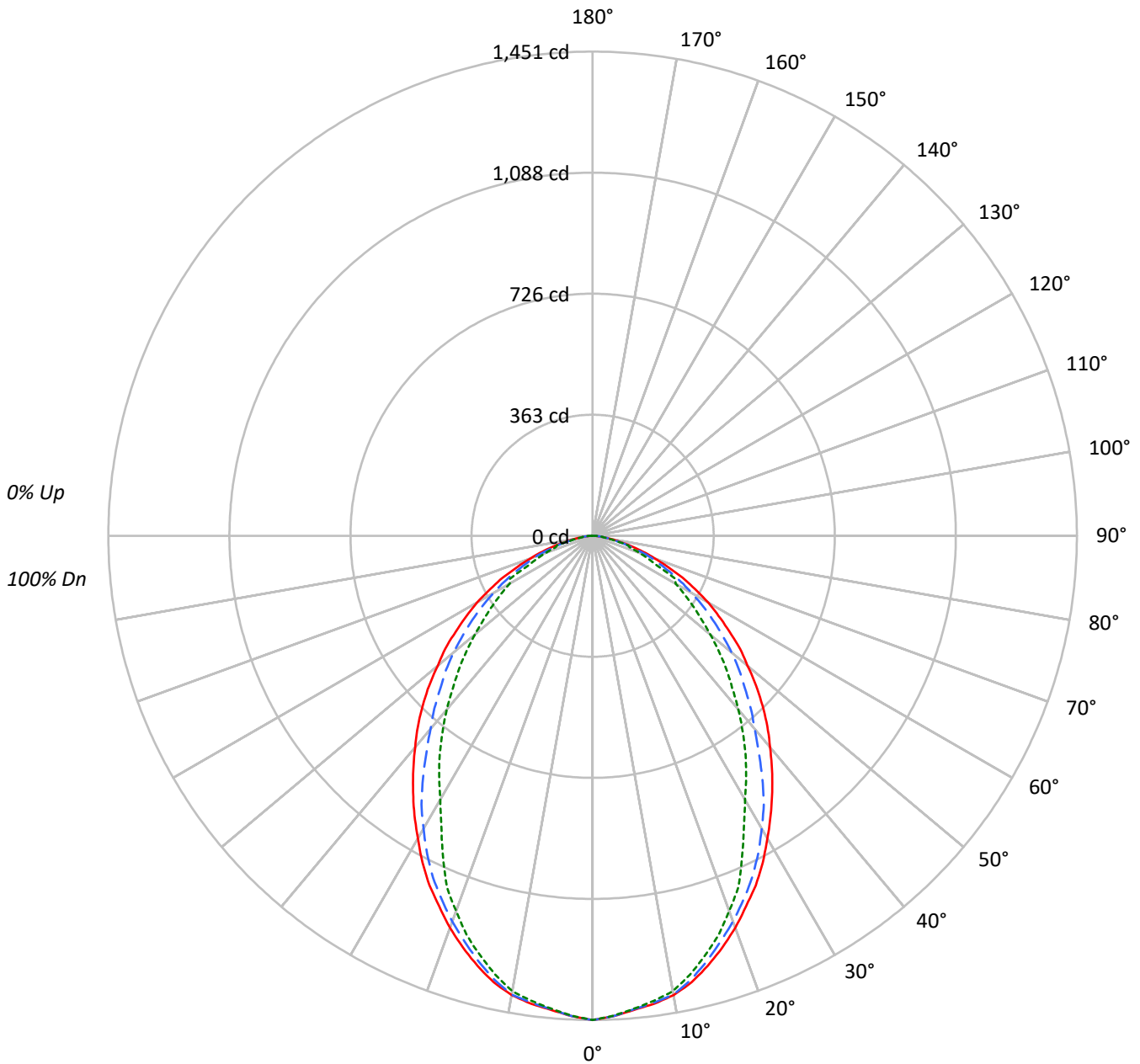
Lumens per Lamp: N/A
Luminaire Lumens: 2849.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3905	3905	3905
5°	3852	3848	3843
10°	3819	3814	3787
15°	3716	3679	3627
20°	3579	3522	3426
25°	3432	3358	3148
30°	3253	3149	2836
35°	3081	2910	2623
40°	2905	2652	2387
45°	2739	2452	2158
50°	2536	2276	1924
55°	2346	2062	1724
60°	2149	1842	1544
65°	1891	1613	1368
70°	1558	1412	1161
75°	1238	1081	1134
80°	832	779	728
85°	519	621	726



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.1	4.7
10°-20°	370.7	13.0
20°-30°	513.3	18.0
30°-40°	547.3	19.2
40°-50°	499.3	17.5
50°-60°	391.2	13.7
60°-70°	254.9	8.9
70°-80°	112.9	4.0
80°-90°	24.3	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°	1019.1	35.8
0°-40°	1566.4	55.0
0°-60°	2456.9	86.2
0°-90°	2849.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2849.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1451	1451	1451	1451	1451	
5°	1426	1424	1424	1423	1423	135
15°	1334	1334	1320	1307	1302	375
25°	1156	1149	1131	1090	1060	531
35°	938	931	886	819	799	586
45°	720	705	644	591	567	554
55°	500	485	440	388	367	448
65°	297	280	253	258	215	293
75°	119	111	104	99	109	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1451.2	1451.2	1451.2	1451.2	1451.2
2.5°	1441.2	1441.2	1441.2	1439.5	1439.5
5°	1426.1	1424.4	1424.4	1422.7	1422.7
7.5°	1414.3	1412.7	1411.0	1409.3	1405.9
10°	1397.6	1397.6	1395.9	1387.5	1385.8
12.5°	1370.7	1369.0	1362.3	1350.6	1347.2
15°	1333.8	1333.8	1320.4	1307.0	1301.9
17.5°	1293.5	1291.9	1275.1	1261.7	1254.9
20°	1249.9	1246.6	1229.8	1208.0	1196.2
22.5°	1201.3	1201.3	1181.1	1152.6	1140.9
25°	1156.0	1149.2	1130.8	1090.5	1060.3
27.5°	1104.0	1093.9	1073.8	1016.7	981.5
30°	1046.9	1041.9	1013.4	939.5	912.7
32.5°	993.2	984.8	954.6	877.5	855.6
35°	937.9	931.1	885.8	818.7	798.6
37.5°	882.5	874.1	817.1	763.4	738.2
40°	827.1	817.1	755.0	706.3	679.5
42.5°	775.1	761.7	701.3	649.3	619.1
45°	719.7	704.6	644.3	590.6	567.1
47.5°	664.4	651.0	595.6	540.2	513.4
50°	605.7	593.9	543.6	488.2	459.7
52.5°	557.0	538.6	489.9	434.5	411.0
55°	500.0	484.9	439.6	387.6	367.4
57.5°	448.0	432.9	390.9	342.3	325.5
60°	399.3	377.5	342.3	300.3	286.9
62.5°	345.6	328.8	298.6	263.4	280.2
65°	297.0	280.2	253.3	258.4	214.8
67.5°	243.3	234.9	211.4	187.9	181.2
70°	198.0	187.9	179.5	154.4	147.6
72.5°	157.7	147.6	135.9	122.5	117.4
75°	119.1	110.7	104.0	99.0	109.1
77.5°	82.2	78.9	73.8	68.8	67.1
80°	53.7	52.0	50.3	48.7	47.0
82.5°	31.9	31.9	31.9	31.9	31.9
85°	16.8	18.5	20.1	21.8	23.5
87.5°	10.1	10.1	11.7	13.4	15.1
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)