

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: P546068

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-93-94-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: P546068
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-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

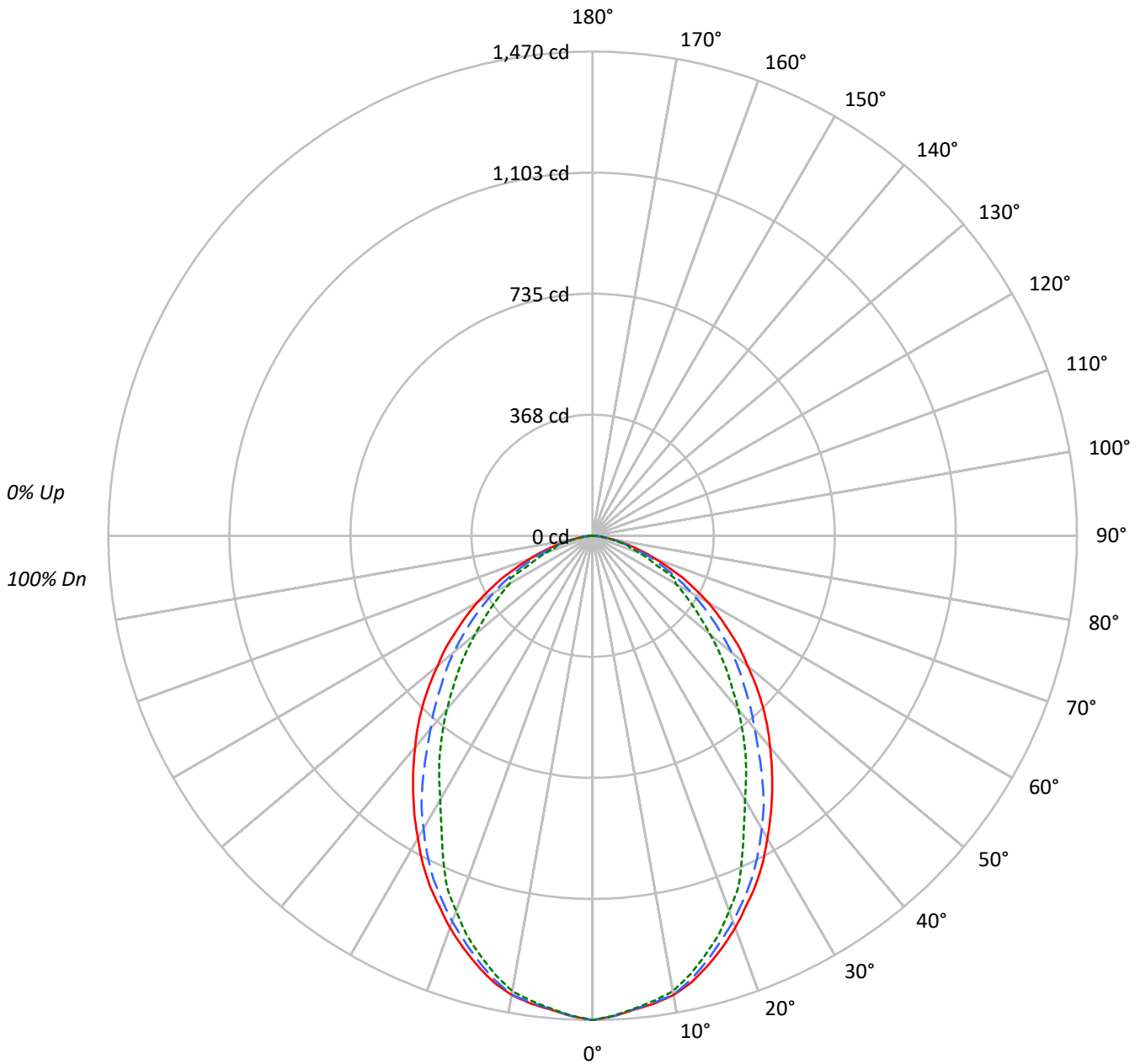
Lumens per Lamp: N/A
Luminaire Lumens: 2886.0 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3956	3956	3956
5°	3902	3898	3893
10°	3868	3864	3836
15°	3764	3726	3674
20°	3626	3568	3470
25°	3477	3401	3189
30°	3295	3190	2873
35°	3121	2948	2658
40°	2943	2687	2418
45°	2775	2484	2186
50°	2568	2305	1950
55°	2376	2089	1746
60°	2177	1866	1564
65°	1915	1634	1385
70°	1578	1430	1177
75°	1255	1096	1149
80°	843	790	738
85°	525	630	735



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	4.7
10°-20°	375.6	13.0
20°-30°	519.9	18.0
30°-40°	554.4	19.2
40°-50°	505.8	17.5
50°-60°	396.2	13.7
60°-70°	258.2	8.9
70°-80°	114.4	4.0
80°-90°	24.6	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°	1032.3	35.8
0°-40°	1586.8	55.0
0°-60°	2488.8	86.2
0°-90°	2886.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2886.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1470	1470	1470	1470	1470	
5°	1445	1443	1443	1441	1441	137
15°	1351	1351	1338	1324	1319	380
25°	1171	1164	1146	1105	1074	538
35°	950	943	897	829	809	594
45°	729	714	653	598	574	562
55°	506	491	445	393	372	454
65°	301	284	257	262	218	296
75°	121	112	105	100	110	129
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°	1470.1	1470.1	1470.1	1470.1	1470.1
2.5°	1459.9	1459.9	1459.9	1458.2	1458.2
5°	1444.6	1442.9	1442.9	1441.2	1441.2
7.5°	1432.7	1431.0	1429.3	1427.6	1424.2
10°	1415.7	1415.7	1414.0	1405.5	1403.8
12.5°	1388.5	1386.8	1380.0	1368.1	1364.7
15°	1351.1	1351.1	1337.5	1323.9	1318.8
17.5°	1310.3	1308.6	1291.6	1278.0	1271.2
20°	1266.1	1262.7	1245.8	1223.7	1211.8
22.5°	1216.9	1216.9	1196.5	1167.6	1155.7
25°	1171.0	1164.2	1145.5	1104.7	1074.1
27.5°	1118.3	1108.1	1087.7	1029.9	994.2
30°	1060.5	1055.4	1026.5	951.7	924.5
32.5°	1006.1	997.6	967.0	888.9	866.8
35°	950.0	943.2	897.3	829.4	809.0
37.5°	894.0	885.5	827.7	773.3	747.8
40°	837.9	827.7	764.8	715.5	688.3
42.5°	785.2	771.6	710.4	657.7	627.1
45°	729.1	713.8	652.6	598.2	574.4
47.5°	673.0	659.4	603.3	547.2	520.1
50°	613.5	601.6	550.6	494.6	465.7
52.5°	564.2	545.5	496.3	440.2	416.4
55°	506.5	491.2	445.3	392.6	372.2
57.5°	453.8	438.5	396.0	346.7	329.7
60°	404.5	382.4	346.7	304.2	290.6
62.5°	350.1	333.1	302.5	266.8	283.8
65°	300.8	283.8	256.6	261.7	217.5
67.5°	246.4	237.9	214.1	190.3	183.5
70°	200.5	190.3	181.8	156.4	149.6
72.5°	159.8	149.6	137.7	124.1	119.0
75°	120.7	112.2	105.4	100.3	110.5
77.5°	83.3	79.9	74.8	69.7	68.0
80°	54.4	52.7	51.0	49.3	47.6
82.5°	32.3	32.3	32.3	32.3	32.3
85°	17.0	18.7	20.4	22.1	23.8
87.5°	10.2	10.2	11.9	13.6	15.3
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)