

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: P546042

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-80-87-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: P546042
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-80-87-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

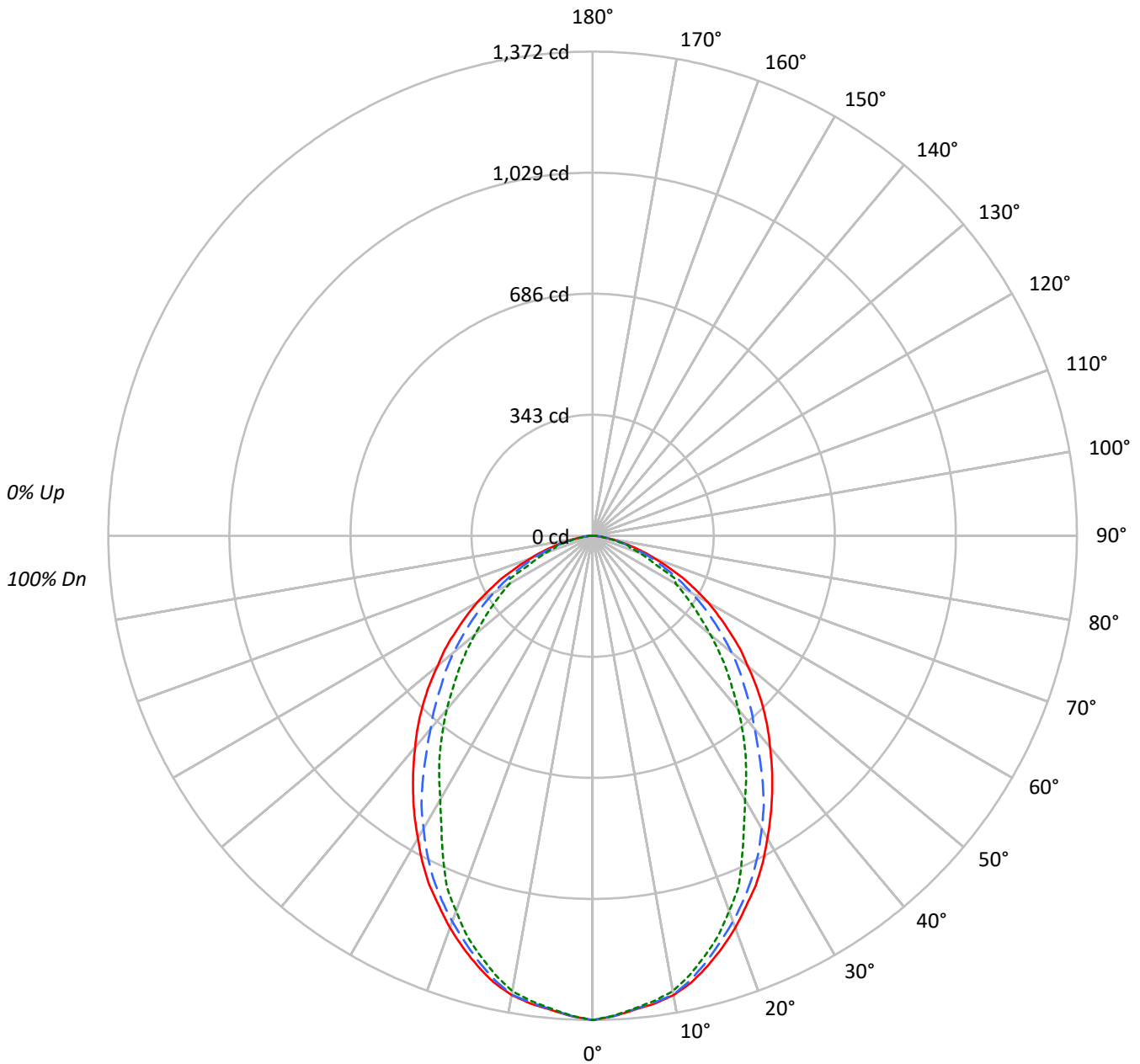
Lumens per Lamp: N/A
Luminaire Lumens: 2694.0 lumens
Efficiency: N/A
Efficacy: 80.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	3693	3693	3693
5°	3643	3638	3634
10°	3611	3607	3581
15°	3514	3478	3430
20°	3385	3330	3239
25°	3246	3175	2977
30°	3076	2977	2682
35°	2913	2752	2481
40°	2747	2508	2257
45°	2590	2318	2041
50°	2398	2152	1820
55°	2218	1950	1630
60°	2032	1742	1460
65°	1788	1526	1293
70°	1473	1336	1098
75°	1171	1023	1072
80°	787	738	688
85°	491	587	685



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.7	4.7
10°-20°	350.6	13.0
20°-30°	485.3	18.0
30°-40°	517.5	19.2
40°-50°	472.1	17.5
50°-60°	369.9	13.7
60°-70°	241.1	8.9
70°-80°	106.8	4.0
80°-90°	22.9	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°	963.7	35.8
0°-40°	1481.2	55.0
0°-60°	2323.2	86.2
0°-90°	2694.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2694.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1348	1347	1347	1345	1345	128
15°	1261	1261	1248	1236	1231	355
25°	1093	1087	1069	1031	1003	502
35°	887	880	838	774	755	554
45°	681	666	609	558	536	524
55°	473	458	416	366	347	424
65°	281	265	240	244	203	277
75°	113	105	98	94	103	121
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1372.3	1372.3	1372.3	1372.3	1372.3
2.5°	1362.8	1362.8	1362.8	1361.2	1361.2
5°	1348.5	1346.9	1346.9	1345.3	1345.3
7.5°	1337.4	1335.8	1334.2	1332.6	1329.5
10°	1321.5	1321.5	1319.9	1312.0	1310.4
12.5°	1296.1	1294.6	1288.2	1277.1	1273.9
15°	1261.2	1261.2	1248.5	1235.9	1231.1
17.5°	1223.2	1221.6	1205.7	1193.0	1186.7
20°	1181.9	1178.7	1162.9	1142.3	1131.1
22.5°	1135.9	1135.9	1116.9	1089.9	1078.8
25°	1093.1	1086.7	1069.3	1031.2	1002.6
27.5°	1043.9	1034.4	1015.3	961.4	928.1
30°	990.0	985.2	958.2	888.4	863.0
32.5°	939.2	931.3	902.7	829.7	809.1
35°	886.8	880.5	837.7	774.2	755.2
37.5°	834.5	826.5	772.6	721.8	698.0
40°	782.1	772.6	713.9	667.9	642.5
42.5°	732.9	720.3	663.1	614.0	585.4
45°	680.6	666.3	609.2	558.4	536.2
47.5°	628.2	615.5	563.2	510.8	485.5
50°	572.7	561.6	514.0	461.7	434.7
52.5°	526.7	509.3	463.2	410.9	388.7
55°	472.8	458.5	415.7	366.5	347.4
57.5°	423.6	409.3	369.6	323.6	307.8
60°	377.6	357.0	323.6	284.0	271.3
62.5°	326.8	310.9	282.4	249.1	264.9
65°	280.8	264.9	239.6	244.3	203.1
67.5°	230.0	222.1	199.9	177.7	171.3
70°	187.2	177.7	169.8	146.0	139.6
72.5°	149.1	139.6	128.5	115.8	111.1
75°	112.6	104.7	98.4	93.6	103.1
77.5°	77.7	74.6	69.8	65.0	63.5
80°	50.8	49.2	47.6	46.0	44.4
82.5°	30.1	30.1	30.1	30.1	30.1
85°	15.9	17.5	19.0	20.6	22.2
87.5°	9.5	9.5	11.1	12.7	14.3
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)