

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: P546082

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-81-87-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: P546082
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-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

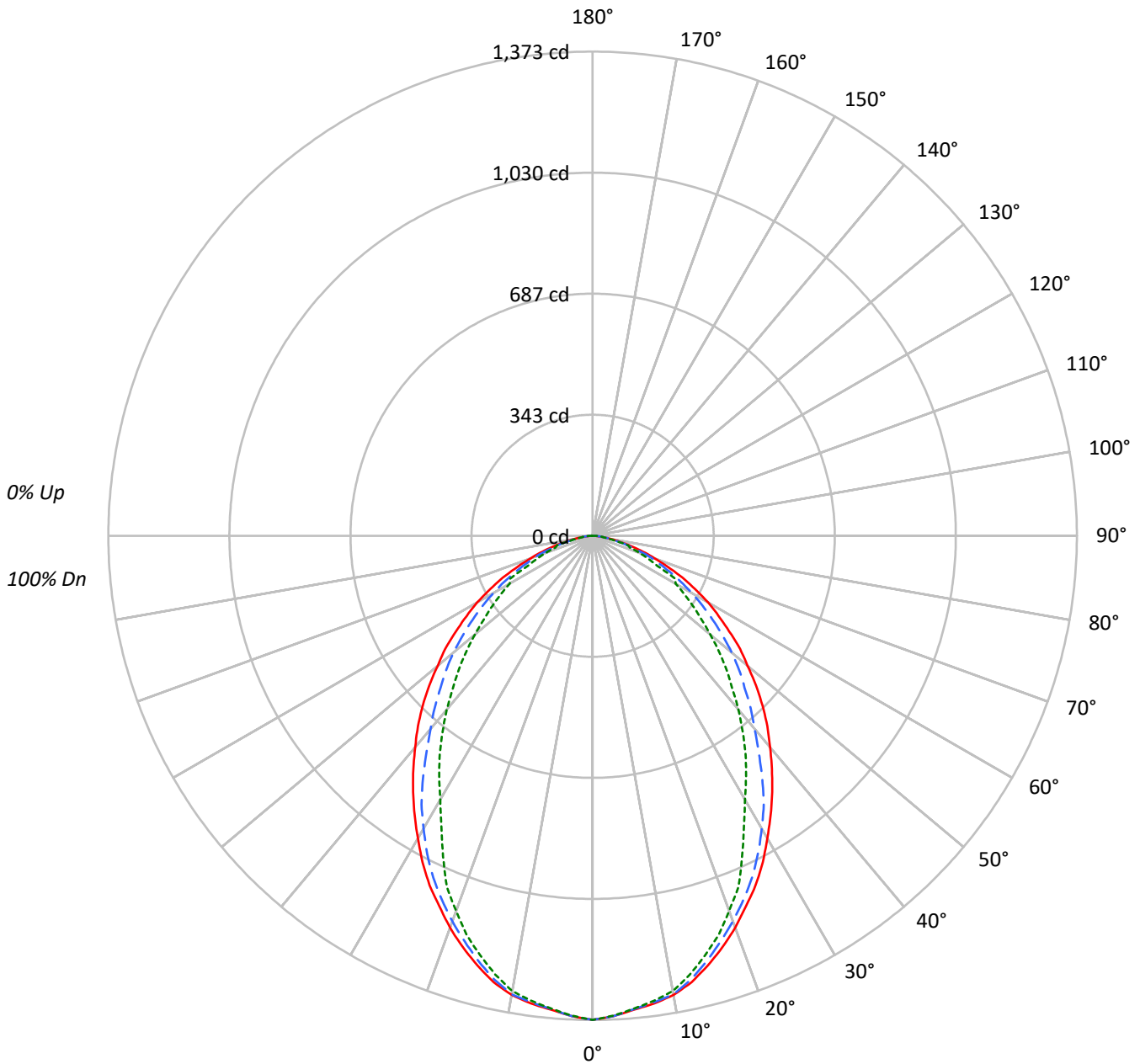
Lumens per Lamp: N/A
Luminaire Lumens: 2695.0 lumens
Efficiency: N/A
Efficacy: 80.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	3694	3694	3694
5°	3644	3640	3635
10°	3612	3608	3582
15°	3515	3480	3431
20°	3386	3331	3241
25°	3247	3176	2978
30°	3077	2979	2683
35°	2915	2753	2482
40°	2748	2509	2258
45°	2591	2319	2041
50°	2398	2153	1821
55°	2219	1951	1631
60°	2033	1743	1461
65°	1789	1526	1293
70°	1474	1336	1099
75°	1172	1023	1073
80°	787	738	688
85°	491	587	685



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.8	4.7
10°-20°	350.7	13.0
20°-30°	485.5	18.0
30°-40°	517.7	19.2
40°-50°	472.3	17.5
50°-60°	370.0	13.7
60°-70°	241.2	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°	964.0	35.8
0°-40°	1481.7	55.0
0°-60°	2324.1	86.2
0°-90°	2695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2695.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1373	1373	1373	1373	1373	
5°	1349	1347	1347	1346	1346	128
15°	1262	1262	1249	1236	1232	355
25°	1094	1087	1070	1032	1003	502
35°	887	881	838	774	755	555
45°	681	667	609	559	536	524
55°	473	459	416	367	348	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°	1372.8	1372.8	1372.8	1372.8	1372.8
2.5°	1363.3	1363.3	1363.3	1361.7	1361.7
5°	1349.0	1347.4	1347.4	1345.8	1345.8
7.5°	1337.9	1336.3	1334.7	1333.1	1329.9
10°	1322.0	1322.0	1320.4	1312.5	1310.9
12.5°	1296.6	1295.0	1288.7	1277.6	1274.4
15°	1261.7	1261.7	1249.0	1236.3	1231.5
17.5°	1223.6	1222.0	1206.2	1193.5	1187.1
20°	1182.4	1179.2	1163.3	1142.7	1131.6
22.5°	1136.3	1136.3	1117.3	1090.3	1079.2
25°	1093.5	1087.1	1069.7	1031.6	1003.0
27.5°	1044.3	1034.8	1015.7	961.8	928.4
30°	990.3	985.6	958.6	888.7	863.4
32.5°	939.5	931.6	903.0	830.0	809.4
35°	887.2	880.8	838.0	774.5	755.4
37.5°	834.8	826.9	772.9	722.1	698.3
40°	782.4	772.9	714.2	668.1	642.8
42.5°	733.2	720.5	663.4	614.2	585.6
45°	680.8	666.6	609.4	558.6	536.4
47.5°	628.5	615.8	563.4	511.0	485.6
50°	572.9	561.8	514.2	461.8	434.9
52.5°	526.9	509.4	463.4	411.0	388.8
55°	472.9	458.7	415.8	366.6	347.6
57.5°	423.7	409.5	369.8	323.8	307.9
60°	377.7	357.1	323.8	284.1	271.4
62.5°	326.9	311.1	282.5	249.2	265.0
65°	280.9	265.0	239.6	244.4	203.1
67.5°	230.1	222.2	200.0	177.7	171.4
70°	187.3	177.7	169.8	146.0	139.7
72.5°	149.2	139.7	128.6	115.9	111.1
75°	112.7	104.7	98.4	93.6	103.2
77.5°	77.8	74.6	69.8	65.1	63.5
80°	50.8	49.2	47.6	46.0	44.4
82.5°	30.2	30.2	30.2	30.2	30.2
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)