

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: P546052

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-81-94-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: P546052
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-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC 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

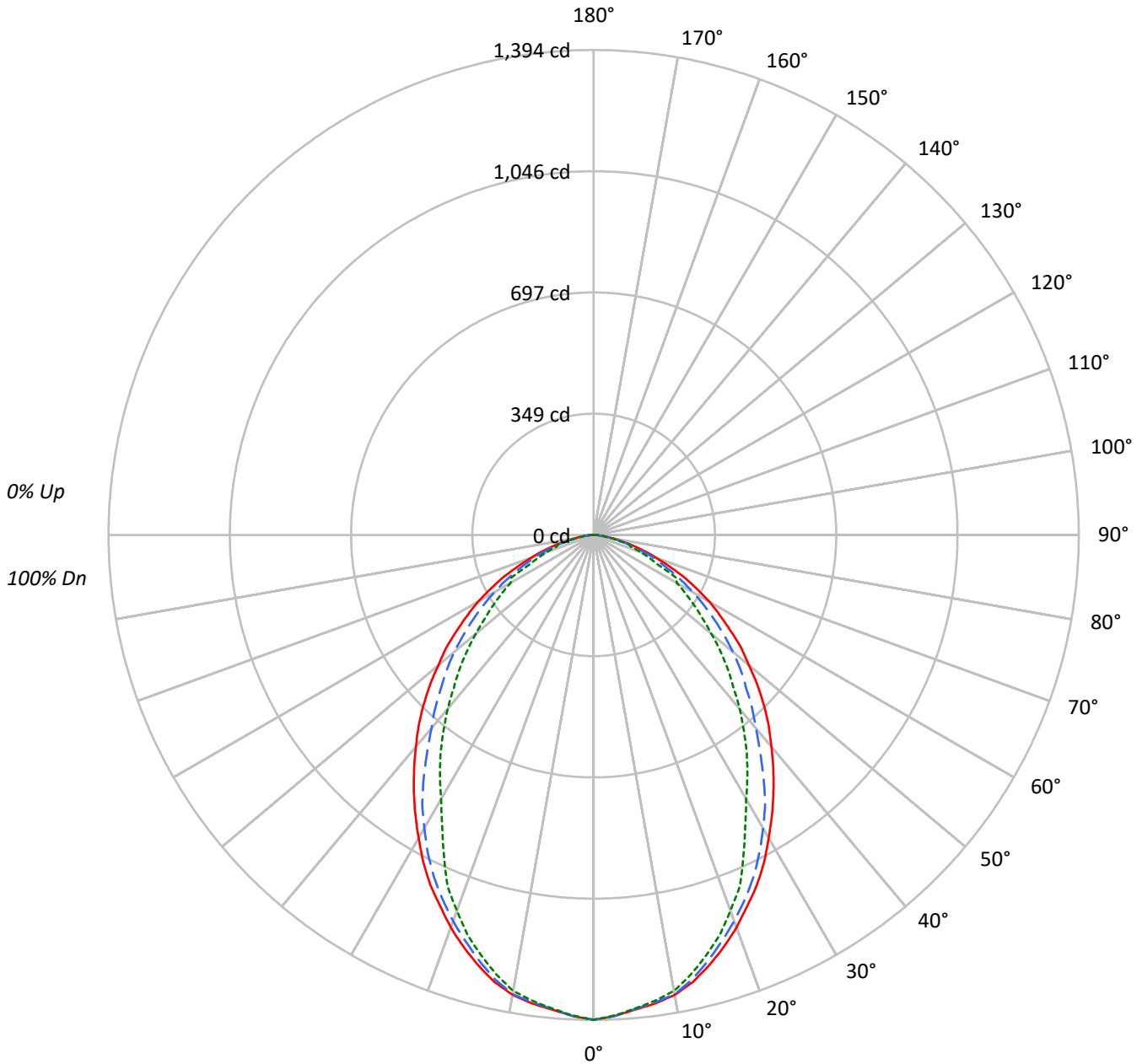
Lumens per Lamp: N/A
Luminaire Lumens: 2736.0 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3750	3750	3750
5°	3699	3695	3691
10°	3667	3663	3636
15°	3568	3533	3483
20°	3437	3382	3290
25°	3296	3224	3024
30°	3124	3024	2724
35°	2959	2795	2519
40°	2790	2547	2292
45°	2630	2355	2073
50°	2435	2185	1848
55°	2252	1980	1656
60°	2064	1769	1483
65°	1816	1549	1313
70°	1496	1356	1116
75°	1189	1039	1089
80°	800	748	699
85°	497	596	698



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.7	4.7
10°-20°	356.0	13.0
20°-30°	492.9	18.0
30°-40°	525.6	19.2
40°-50°	479.5	17.5
50°-60°	375.6	13.7
60°-70°	244.8	8.9
70°-80°	108.5	4.0
80°-90°	23.3	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°	978.7	35.8
0°-40°	1504.3	55.0
0°-60°	2359.4	86.2
0°-90°	2736.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2736.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1394	1394	1394	1394	1394	
5°	1370	1368	1368	1366	1366	130
15°	1281	1281	1268	1255	1250	360
25°	1110	1104	1086	1047	1018	510
35°	901	894	851	786	767	563
45°	691	677	619	567	545	532
55°	480	466	422	372	353	431
65°	285	269	243	248	206	281
75°	114	106	100	95	105	123
85°	16	18	19	21	23	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1393.7	1393.7	1393.7	1393.7	1393.7
2.5°	1384.0	1384.0	1384.0	1382.4	1382.4
5°	1369.5	1367.9	1367.9	1366.3	1366.3
7.5°	1358.2	1356.6	1355.0	1353.4	1350.2
10°	1342.1	1342.1	1340.5	1332.5	1330.8
12.5°	1316.3	1314.7	1308.3	1297.0	1293.8
15°	1280.9	1280.9	1268.0	1255.1	1250.3
17.5°	1242.2	1240.6	1224.5	1211.6	1205.2
20°	1200.3	1197.1	1181.0	1160.1	1148.8
22.5°	1153.6	1153.6	1134.3	1106.9	1095.6
25°	1110.1	1103.7	1085.9	1047.3	1018.3
27.5°	1060.2	1050.5	1031.2	976.4	942.5
30°	1005.4	1000.6	973.2	902.3	876.5
32.5°	953.8	945.8	916.8	842.7	821.7
35°	900.7	894.2	850.7	786.3	766.9
37.5°	847.5	839.4	784.7	733.1	708.9
40°	794.3	784.7	725.0	678.3	652.5
42.5°	744.4	731.5	673.5	623.5	594.5
45°	691.2	676.7	618.7	567.1	544.6
47.5°	638.0	625.1	572.0	518.8	493.0
50°	581.6	570.4	522.0	468.9	441.5
52.5°	534.9	517.2	470.5	417.3	394.7
55°	480.1	465.6	422.1	372.2	352.9
57.5°	430.2	415.7	375.4	328.7	312.6
60°	383.5	362.5	328.7	288.4	275.5
62.5°	331.9	315.8	286.8	253.0	269.1
65°	285.2	269.1	243.3	248.1	206.2
67.5°	233.6	225.6	203.0	180.5	174.0
70°	190.1	180.5	172.4	148.2	141.8
72.5°	151.5	141.8	130.5	117.6	112.8
75°	114.4	106.3	99.9	95.1	104.7
77.5°	78.9	75.7	70.9	66.1	64.4
80°	51.6	49.9	48.3	46.7	45.1
82.5°	30.6	30.6	30.6	30.6	30.6
85°	16.1	17.7	19.3	20.9	22.6
87.5°	9.7	9.7	11.3	12.9	14.5
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)