

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: P546582

Luminaire Tested: **FMR-24-4-LD4-1LO-50-UNV-93-97-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: P546582
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-24-4-LD4-1LO-50-UNV-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

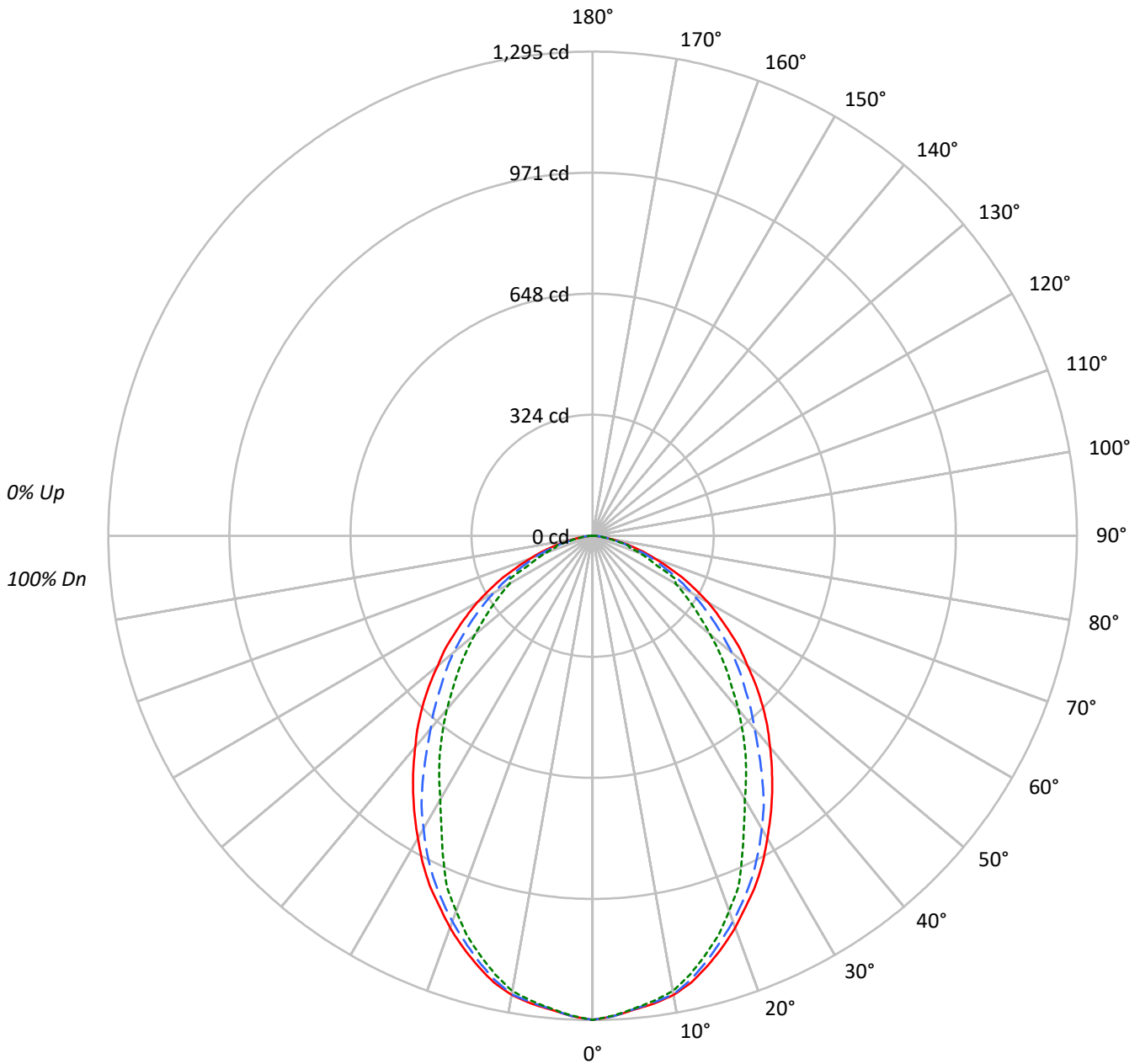
Lumens per Lamp: N/A
Luminaire Lumens: 2542.0 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	1742	1742	1742
5°	1719	1717	1714
10°	1704	1702	1689
15°	1658	1641	1618
20°	1597	1571	1528
25°	1531	1498	1405
30°	1451	1405	1265
35°	1374	1298	1170
40°	1296	1183	1065
45°	1222	1094	963
50°	1131	1015	859
55°	1046	920	769
60°	959	822	689
65°	844	720	610
70°	695	630	518
75°	553	482	506
80°	371	348	325
85°	232	278	324



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.5	4.7
10°-20°	330.8	13.0
20°-30°	458.0	18.0
30°-40°	488.3	19.2
40°-50°	445.5	17.5
50°-60°	349.0	13.7
60°-70°	227.5	8.9
70°-80°	100.8	4.0
80°-90°	21.6	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°	909.3	35.8
0°-40°	1397.6	55.0
0°-60°	2192.1	86.2
0°-90°	2542.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2542.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1295	1295	1295	1295	1295	
5°	1272	1271	1271	1269	1269	121
15°	1190	1190	1178	1166	1162	335
25°	1031	1025	1009	973	946	474
35°	837	831	790	730	712	523
45°	642	629	575	527	506	495
55°	446	433	392	346	328	400
65°	265	250	226	230	192	261
75°	106	99	93	88	97	114
85°	15	16	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1294.9	1294.9	1294.9	1294.9	1294.9
2.5°	1285.9	1285.9	1285.9	1284.4	1284.4
5°	1272.4	1270.9	1270.9	1269.4	1269.4
7.5°	1261.9	1260.4	1258.9	1257.4	1254.4
10°	1247.0	1247.0	1245.5	1238.0	1236.5
12.5°	1223.0	1221.5	1215.5	1205.0	1202.1
15°	1190.1	1190.1	1178.1	1166.1	1161.6
17.5°	1154.1	1152.7	1137.7	1125.7	1119.7
20°	1115.2	1112.2	1097.3	1077.8	1067.3
22.5°	1071.8	1071.8	1053.9	1028.4	1017.9
25°	1031.4	1025.4	1008.9	973.0	946.1
27.5°	985.0	976.0	958.0	907.2	875.7
30°	934.1	929.6	904.2	838.3	814.3
32.5°	886.2	878.7	851.8	782.9	763.4
35°	836.8	830.8	790.4	730.5	712.5
37.5°	787.4	779.9	729.0	681.1	658.7
40°	738.0	729.0	673.6	630.2	606.3
42.5°	691.6	679.6	625.7	579.3	552.4
45°	642.2	628.7	574.8	526.9	506.0
47.5°	592.8	580.8	531.4	482.0	458.1
50°	540.4	529.9	485.0	435.6	410.2
52.5°	497.0	480.5	437.1	387.7	366.8
55°	446.1	432.6	392.2	345.8	327.8
57.5°	399.7	386.2	348.8	305.4	290.4
60°	356.3	336.8	305.4	268.0	256.0
62.5°	308.4	293.4	266.5	235.0	250.0
65°	265.0	250.0	226.0	230.5	191.6
67.5°	217.1	209.6	188.6	167.7	161.7
70°	176.6	167.7	160.2	137.7	131.7
72.5°	140.7	131.7	121.3	109.3	104.8
75°	106.3	98.8	92.8	88.3	97.3
77.5°	73.4	70.4	65.9	61.4	59.9
80°	47.9	46.4	44.9	43.4	41.9
82.5°	28.4	28.4	28.4	28.4	28.4
85°	15.0	16.5	18.0	19.5	21.0
87.5°	9.0	9.0	10.5	12.0	13.5
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)