

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: P546674

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-93-87-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: P546674
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-LD4-1STD-50-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

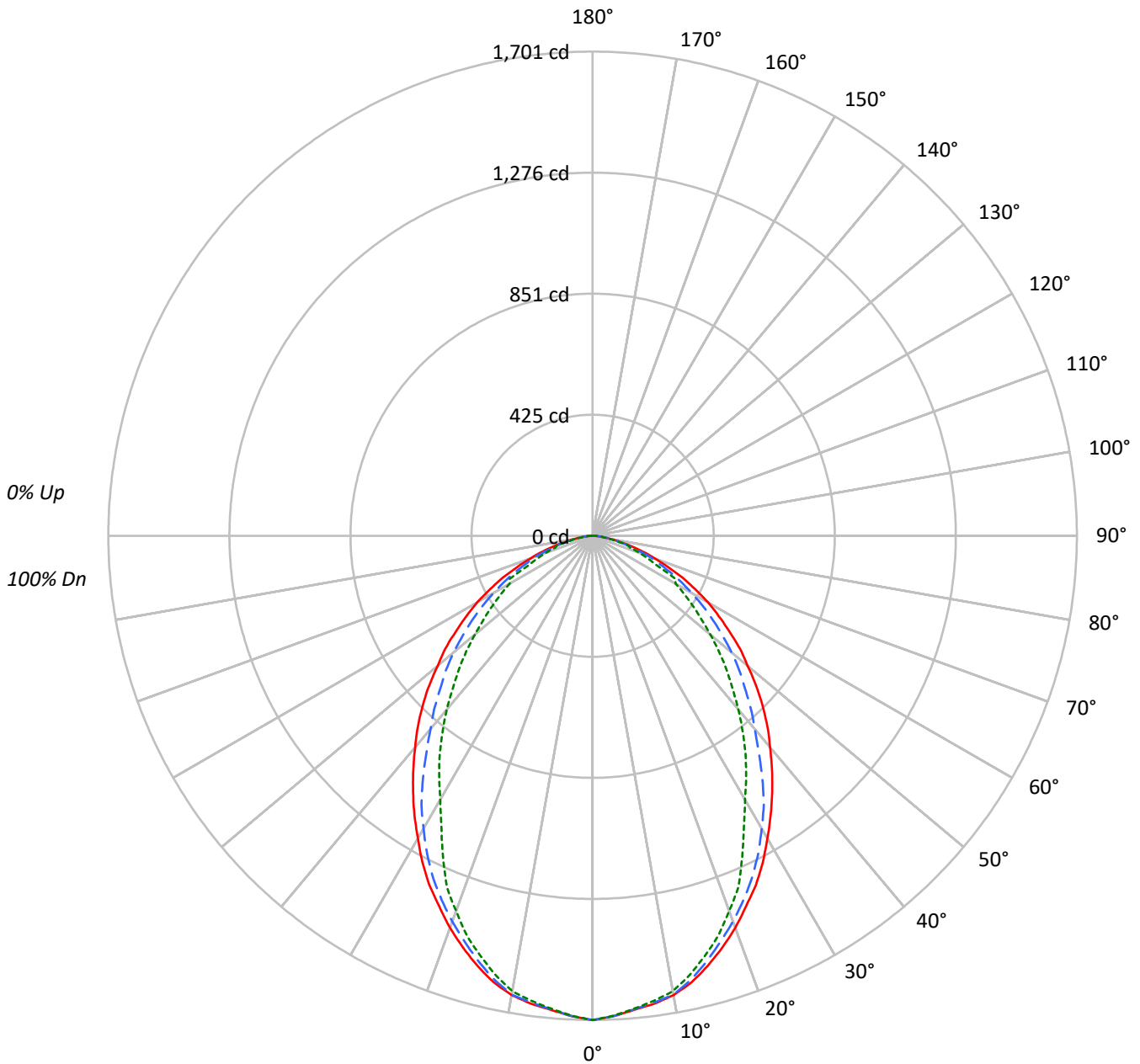
Lumens per Lamp: N/A
Luminaire Lumens: 3340.0 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2289	2289	2289
5°	2258	2255	2253
10°	2238	2236	2220
15°	2178	2156	2126
20°	2098	2064	2008
25°	2012	1968	1845
30°	1907	1846	1662
35°	1806	1706	1538
40°	1703	1555	1399
45°	1606	1437	1265
50°	1486	1334	1128
55°	1375	1209	1010
60°	1260	1080	905
65°	1108	946	802
70°	913	828	681
75°	726	634	664
80°	487	457	427
85°	304	364	425



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.4	4.7
10°-20°	434.6	13.0
20°-30°	601.7	18.0
30°-40°	641.6	19.2
40°-50°	585.3	17.5
50°-60°	458.6	13.7
60°-70°	298.9	8.9
70°-80°	132.4	4.0
80°-90°	28.4	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°	1194.7	35.8
0°-40°	1836.4	55.0
0°-60°	2880.3	86.2
0°-90°	3340.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3340.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1701	1701	1701	1701	1701	
5°	1672	1670	1670	1668	1668	159
15°	1564	1564	1548	1532	1526	440
25°	1355	1347	1326	1278	1243	622
35°	1100	1092	1038	960	936	687
45°	844	826	755	692	665	650
55°	586	568	515	454	431	526
65°	348	328	297	303	252	343
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1701.4	1701.4	1701.4	1701.4	1701.4
2.5°	1689.6	1689.6	1689.6	1687.6	1687.6
5°	1671.8	1669.9	1669.9	1667.9	1667.9
7.5°	1658.1	1656.1	1654.1	1652.2	1648.2
10°	1638.4	1638.4	1636.4	1626.6	1624.6
12.5°	1606.9	1605.0	1597.1	1583.3	1579.4
15°	1563.7	1563.7	1547.9	1532.2	1526.3
17.5°	1516.5	1514.5	1494.8	1479.1	1471.2
20°	1465.3	1461.4	1441.7	1416.2	1402.4
22.5°	1408.3	1408.3	1384.7	1351.2	1337.5
25°	1355.2	1347.3	1325.7	1278.5	1243.1
27.5°	1294.2	1282.4	1258.8	1191.9	1150.6
30°	1227.3	1221.4	1188.0	1101.5	1070.0
32.5°	1164.4	1154.6	1119.2	1028.7	1003.1
35°	1099.5	1091.6	1038.5	959.8	936.2
37.5°	1034.6	1024.7	957.9	894.9	865.4
40°	969.7	957.9	885.1	828.1	796.6
42.5°	908.7	893.0	822.2	761.2	725.8
45°	843.8	826.1	755.3	692.3	664.8
47.5°	778.9	763.1	698.2	633.3	601.9
50°	710.0	696.3	637.3	572.4	538.9
52.5°	653.0	631.4	574.3	509.4	481.9
55°	586.1	568.4	515.3	454.3	430.7
57.5°	525.2	507.5	458.3	401.2	381.6
60°	468.1	442.5	401.2	352.1	336.3
62.5°	405.2	385.5	350.1	308.8	328.5
65°	348.1	328.5	297.0	302.9	251.8
67.5°	285.2	275.4	247.8	220.3	212.4
70°	232.1	220.3	210.5	181.0	173.1
72.5°	184.9	173.1	159.3	143.6	137.7
75°	139.6	129.8	121.9	116.0	127.8
77.5°	96.4	92.4	86.5	80.6	78.7
80°	62.9	61.0	59.0	57.0	55.1
82.5°	37.4	37.4	37.4	37.4	37.4
85°	19.7	21.6	23.6	25.6	27.5
87.5°	11.8	11.8	13.8	15.7	17.7
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)