

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: P546613

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-93-96-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: P546613
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-35-UNV-93-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

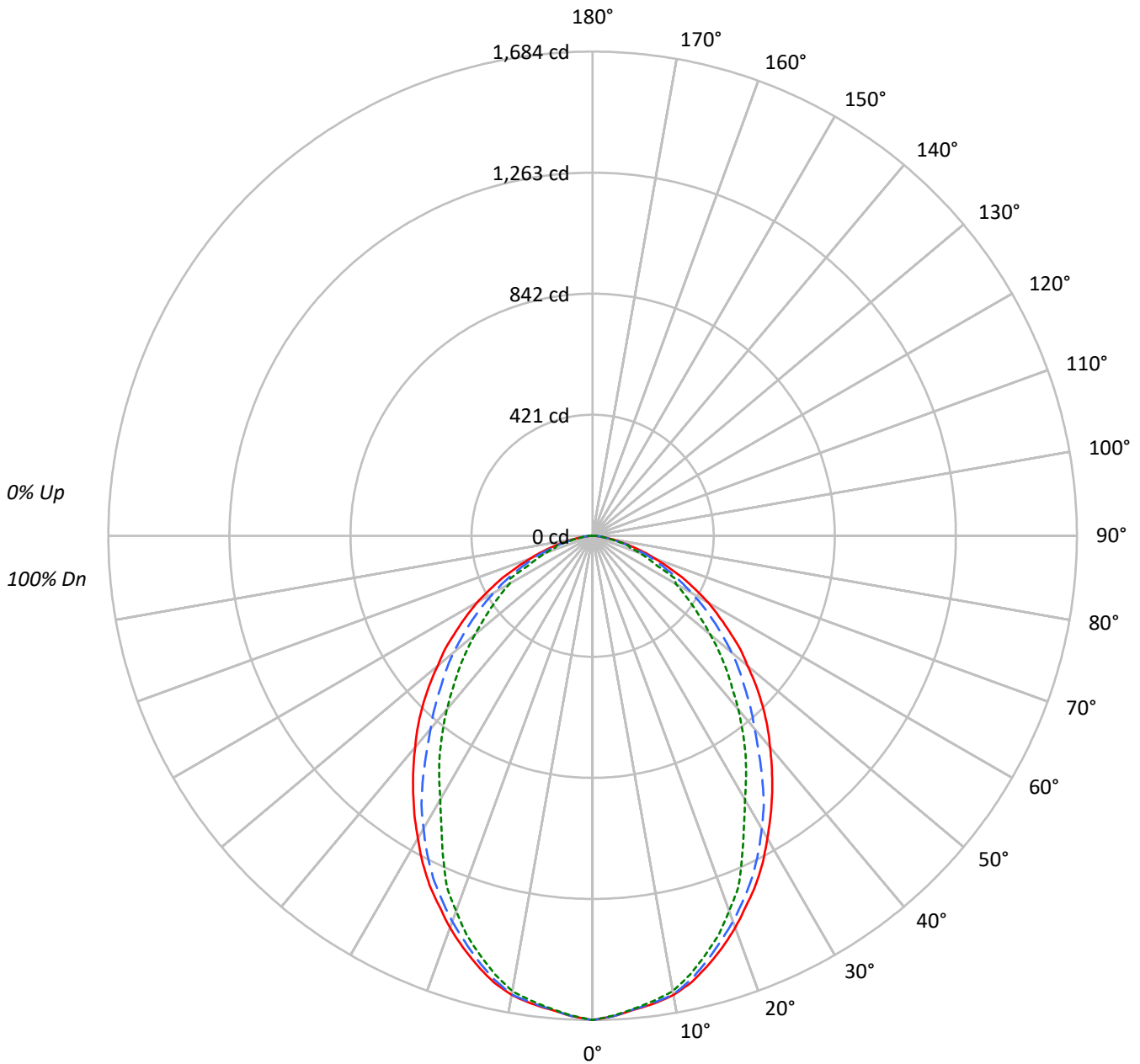
Lumens per Lamp: N/A
Luminaire Lumens: 3306.0 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	2266	2266	2266
5°	2235	2232	2230
10°	2216	2213	2197
15°	2156	2134	2104
20°	2077	2043	1988
25°	1991	1948	1827
30°	1887	1827	1645
35°	1788	1688	1522
40°	1686	1539	1385
45°	1589	1423	1252
50°	1471	1320	1117
55°	1361	1197	1000
60°	1247	1069	896
65°	1097	936	793
70°	904	819	674
75°	718	627	658
80°	483	453	422
85°	301	361	421



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.8	4.7
10°-20°	430.2	13.0
20°-30°	595.6	18.0
30°-40°	635.1	19.2
40°-50°	579.4	17.5
50°-60°	453.9	13.7
60°-70°	295.8	8.9
70°-80°	131.1	4.0
80°-90°	28.1	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°	1182.6	35.8
0°-40°	1817.7	55.0
0°-60°	2851.0	86.2
0°-90°	3306.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3306.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1684	1684	1684	1684	1684	
5°	1655	1653	1653	1651	1651	157
15°	1548	1548	1532	1517	1511	435
25°	1341	1334	1312	1266	1230	616
35°	1088	1080	1028	950	927	680
45°	835	818	748	685	658	643
55°	580	563	510	450	426	520
65°	345	325	294	300	249	340
75°	138	128	121	115	126	148
85°	20	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1684.0	1684.0	1684.0	1684.0	1684.0
2.5°	1672.4	1672.4	1672.4	1670.4	1670.4
5°	1654.8	1652.9	1652.9	1650.9	1650.9
7.5°	1641.2	1639.3	1637.3	1635.4	1631.5
10°	1621.7	1621.7	1619.8	1610.1	1608.1
12.5°	1590.6	1588.6	1580.8	1567.2	1563.3
15°	1547.8	1547.8	1532.2	1516.6	1510.8
17.5°	1501.0	1499.1	1479.6	1464.0	1456.2
20°	1450.4	1446.5	1427.0	1401.7	1388.1
22.5°	1394.0	1394.0	1370.6	1337.5	1323.9
25°	1341.4	1333.6	1312.2	1265.5	1230.4
27.5°	1281.0	1269.4	1246.0	1179.8	1138.9
30°	1214.8	1209.0	1175.9	1090.2	1059.1
32.5°	1152.5	1142.8	1107.8	1018.2	992.9
35°	1088.3	1080.5	1027.9	950.1	926.7
37.5°	1024.0	1014.3	948.1	885.8	856.6
40°	959.8	948.1	876.1	819.6	788.5
42.5°	899.4	883.9	813.8	753.4	718.4
45°	835.2	817.7	747.6	685.3	658.0
47.5°	771.0	755.4	691.1	626.9	595.7
50°	702.8	689.2	630.8	566.5	533.4
52.5°	646.4	624.9	568.5	504.2	477.0
55°	580.2	562.6	510.1	449.7	426.4
57.5°	519.8	502.3	453.6	397.2	377.7
60°	463.4	438.0	397.2	348.5	332.9
62.5°	401.1	381.6	346.5	305.7	325.1
65°	344.6	325.1	294.0	299.8	249.2
67.5°	282.3	272.6	245.3	218.0	210.3
70°	229.7	218.0	208.3	179.1	171.3
72.5°	183.0	171.3	157.7	142.1	136.3
75°	138.2	128.5	120.7	114.9	126.5
77.5°	95.4	91.5	85.7	79.8	77.9
80°	62.3	60.4	58.4	56.5	54.5
82.5°	37.0	37.0	37.0	37.0	37.0
85°	19.5	21.4	23.4	25.3	27.3
87.5°	11.7	11.7	13.6	15.6	17.5
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)