

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: P546610

Luminaire Tested: **FMR-24-4-LD4-1STD-35-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: P546610
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-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

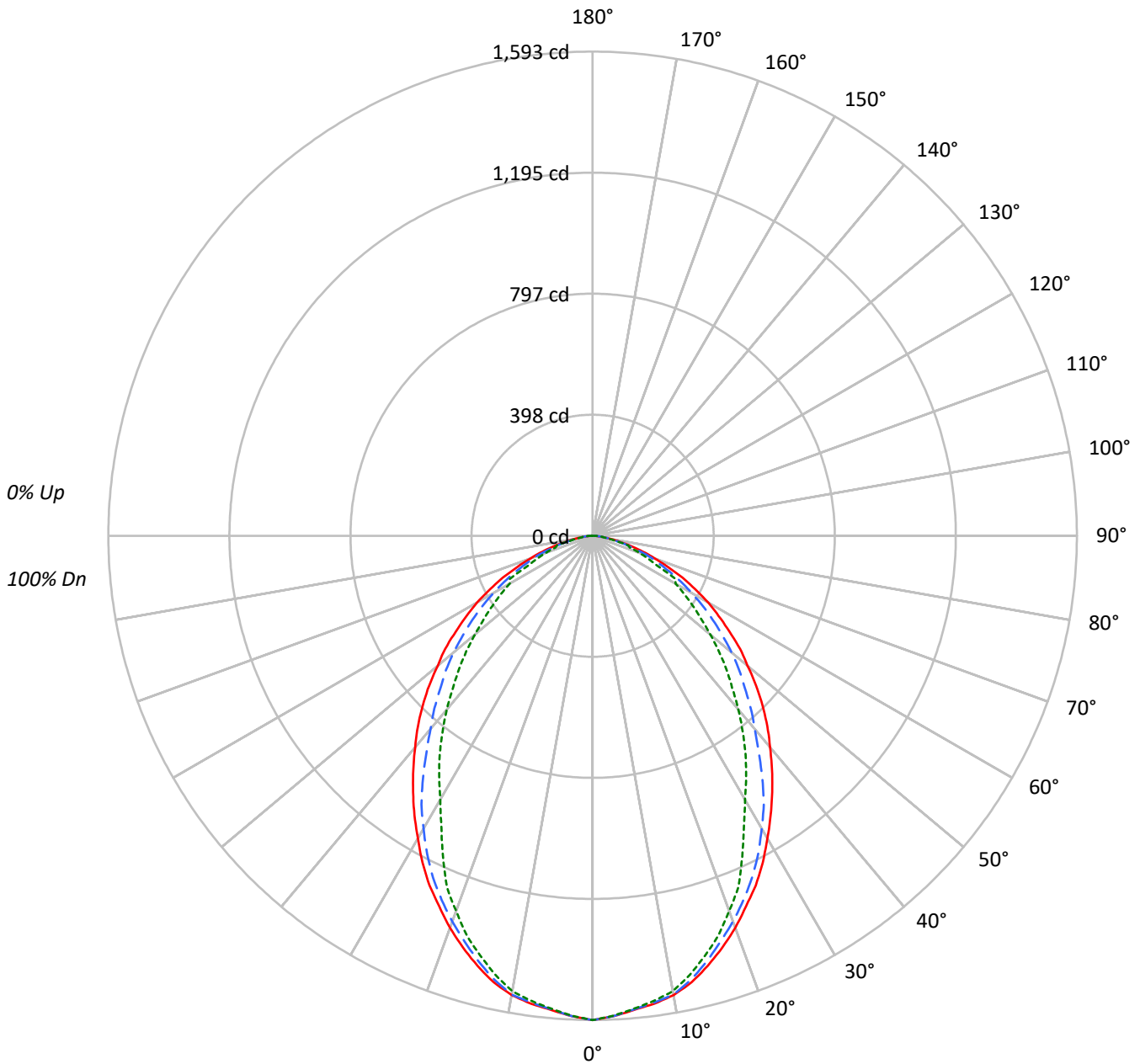
Lumens per Lamp: N/A
Luminaire Lumens: 3128.0 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2144	2144	2144
5°	2115	2112	2110
10°	2096	2094	2079
15°	2040	2019	1991
20°	1965	1933	1881
25°	1884	1843	1728
30°	1786	1729	1557
35°	1691	1598	1440
40°	1595	1456	1310
45°	1504	1346	1185
50°	1392	1249	1056
55°	1288	1132	946
60°	1180	1011	848
65°	1038	885	751
70°	855	775	638
75°	680	594	622
80°	456	428	400
85°	284	341	398



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	4.7
10°-20°	407.0	13.0
20°-30°	563.5	18.0
30°-40°	600.9	19.2
40°-50°	548.2	17.5
50°-60°	429.5	13.7
60°-70°	279.9	8.9
70°-80°	124.0	4.0
80°-90°	26.6	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°	1118.9	35.8
0°-40°	1719.8	55.0
0°-60°	2697.5	86.2
0°-90°	3128.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3128.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1593	1593	1593	1593	1593	
5°	1566	1564	1564	1562	1562	149
15°	1464	1464	1450	1435	1429	412
25°	1269	1262	1242	1197	1164	583
35°	1030	1022	973	899	877	644
45°	790	774	707	648	623	609
55°	549	532	483	426	403	492
65°	326	308	278	284	236	321
75°	131	122	114	109	120	140
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1593.4	1593.4	1593.4	1593.4	1593.4
2.5°	1582.3	1582.3	1582.3	1580.5	1580.5
5°	1565.7	1563.9	1563.9	1562.0	1562.0
7.5°	1552.8	1551.0	1549.2	1547.3	1543.6
10°	1534.4	1534.4	1532.6	1523.4	1521.5
12.5°	1504.9	1503.1	1495.7	1482.8	1479.2
15°	1464.4	1464.4	1449.7	1434.9	1429.4
17.5°	1420.2	1418.4	1399.9	1385.2	1377.8
20°	1372.3	1368.6	1350.2	1326.3	1313.4
22.5°	1318.9	1318.9	1296.8	1265.5	1252.6
25°	1269.2	1261.8	1241.5	1197.3	1164.2
27.5°	1212.1	1201.0	1178.9	1116.3	1077.6
30°	1149.4	1143.9	1112.6	1031.5	1002.1
32.5°	1090.5	1081.3	1048.1	963.4	939.4
35°	1029.7	1022.3	972.6	898.9	876.8
37.5°	968.9	959.7	897.1	838.1	810.5
40°	908.1	897.1	828.9	775.5	746.0
42.5°	851.0	836.3	770.0	712.9	679.7
45°	790.2	773.7	707.3	648.4	622.6
47.5°	729.4	714.7	653.9	593.1	563.7
50°	665.0	652.1	596.8	536.0	504.7
52.5°	611.6	591.3	537.9	477.1	451.3
55°	548.9	532.3	482.6	425.5	403.4
57.5°	491.8	475.2	429.2	375.8	357.4
60°	438.4	414.5	375.8	329.7	315.0
62.5°	379.5	361.0	327.9	289.2	307.6
65°	326.0	307.6	278.1	283.7	235.8
67.5°	267.1	257.9	232.1	206.3	198.9
70°	217.4	206.3	197.1	169.5	162.1
72.5°	173.2	162.1	149.2	134.5	128.9
75°	130.8	121.6	114.2	108.7	119.7
77.5°	90.3	86.6	81.0	75.5	73.7
80°	58.9	57.1	55.3	53.4	51.6
82.5°	35.0	35.0	35.0	35.0	35.0
85°	18.4	20.3	22.1	23.9	25.8
87.5°	11.1	11.1	12.9	14.7	16.6
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)