

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: P546649

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-80-86-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: P546649
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-80-86-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

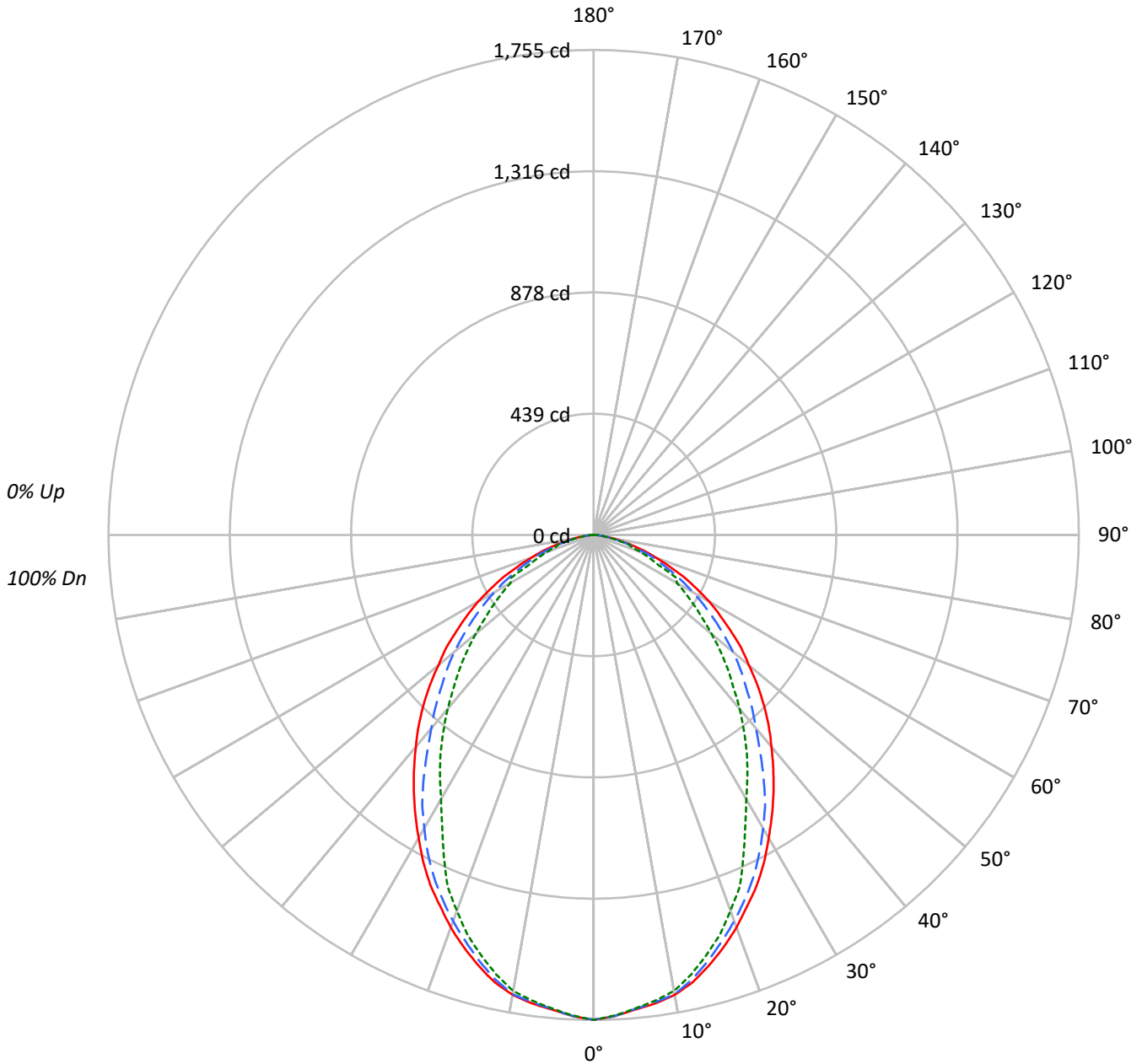
Lumens per Lamp: N/A
Luminaire Lumens: 3445.0 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2361	2361	2361
5°	2329	2326	2323
10°	2309	2306	2289
15°	2247	2224	2193
20°	2164	2129	2071
25°	2075	2030	1903
30°	1967	1904	1715
35°	1863	1759	1586
40°	1757	1603	1443
45°	1656	1482	1305
50°	1533	1376	1164
55°	1418	1247	1042
60°	1299	1114	934
65°	1143	975	827
70°	942	854	702
75°	749	654	686
80°	503	472	440
85°	313	375	438



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.4	4.7
10°-20°	448.3	13.0
20°-30°	620.6	18.0
30°-40°	661.8	19.2
40°-50°	603.7	17.5
50°-60°	473.0	13.7
60°-70°	308.3	8.9
70°-80°	136.6	4.0
80°-90°	29.3	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°	1232.3	35.8
0°-40°	1894.1	55.0
0°-60°	2970.8	86.2
0°-90°	3445.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3445.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1755	1755	1755	1755	1755	
5°	1724	1722	1722	1720	1720	164
15°	1613	1613	1597	1580	1574	453
25°	1398	1390	1367	1319	1282	642
35°	1134	1126	1071	990	966	709
45°	870	852	779	714	686	670
55°	605	586	532	469	444	542
65°	359	339	306	312	260	354
75°	144	134	126	120	132	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1754.8	1754.8	1754.8	1754.8	1754.8
2.5°	1742.7	1742.7	1742.7	1740.6	1740.6
5°	1724.4	1722.4	1722.4	1720.3	1720.3
7.5°	1710.2	1708.2	1706.1	1704.1	1700.1
10°	1689.9	1689.9	1687.9	1677.7	1675.7
12.5°	1657.5	1655.4	1647.3	1633.1	1629.1
15°	1612.8	1612.8	1596.6	1580.4	1574.3
17.5°	1564.1	1562.1	1541.8	1525.6	1517.5
20°	1511.4	1507.3	1487.0	1460.7	1446.5
22.5°	1452.6	1452.6	1428.2	1393.7	1379.5
25°	1397.8	1389.7	1367.4	1318.7	1282.1
27.5°	1334.9	1322.7	1298.4	1229.4	1186.8
30°	1265.9	1259.8	1225.3	1136.1	1103.6
32.5°	1201.0	1190.9	1154.3	1061.0	1034.6
35°	1134.1	1125.9	1071.2	990.0	965.7
37.5°	1067.1	1057.0	988.0	923.1	892.6
40°	1000.2	988.0	912.9	854.1	821.6
42.5°	937.3	921.0	848.0	785.1	748.6
45°	870.3	852.1	779.0	714.1	685.7
47.5°	803.4	787.1	720.2	653.2	620.8
50°	732.4	718.2	657.3	590.4	555.9
52.5°	673.5	651.2	592.4	525.4	497.0
55°	604.6	586.3	531.5	468.6	444.3
57.5°	541.7	523.4	472.7	413.9	393.6
60°	482.8	456.5	413.9	363.1	346.9
62.5°	417.9	397.6	361.1	318.5	338.8
65°	359.1	338.8	306.3	312.4	259.7
67.5°	294.2	284.0	255.6	227.2	219.1
70°	239.4	227.2	217.1	186.6	178.5
72.5°	190.7	178.5	164.3	148.1	142.0
75°	144.0	133.9	125.8	119.7	131.9
77.5°	99.4	95.3	89.3	83.2	81.1
80°	64.9	62.9	60.9	58.8	56.8
82.5°	38.5	38.5	38.5	38.5	38.5
85°	20.3	22.3	24.3	26.4	28.4
87.5°	12.2	12.2	14.2	16.2	18.3
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)