

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: P546451

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-93-88-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: P546451
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-LD4-1HI-35-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

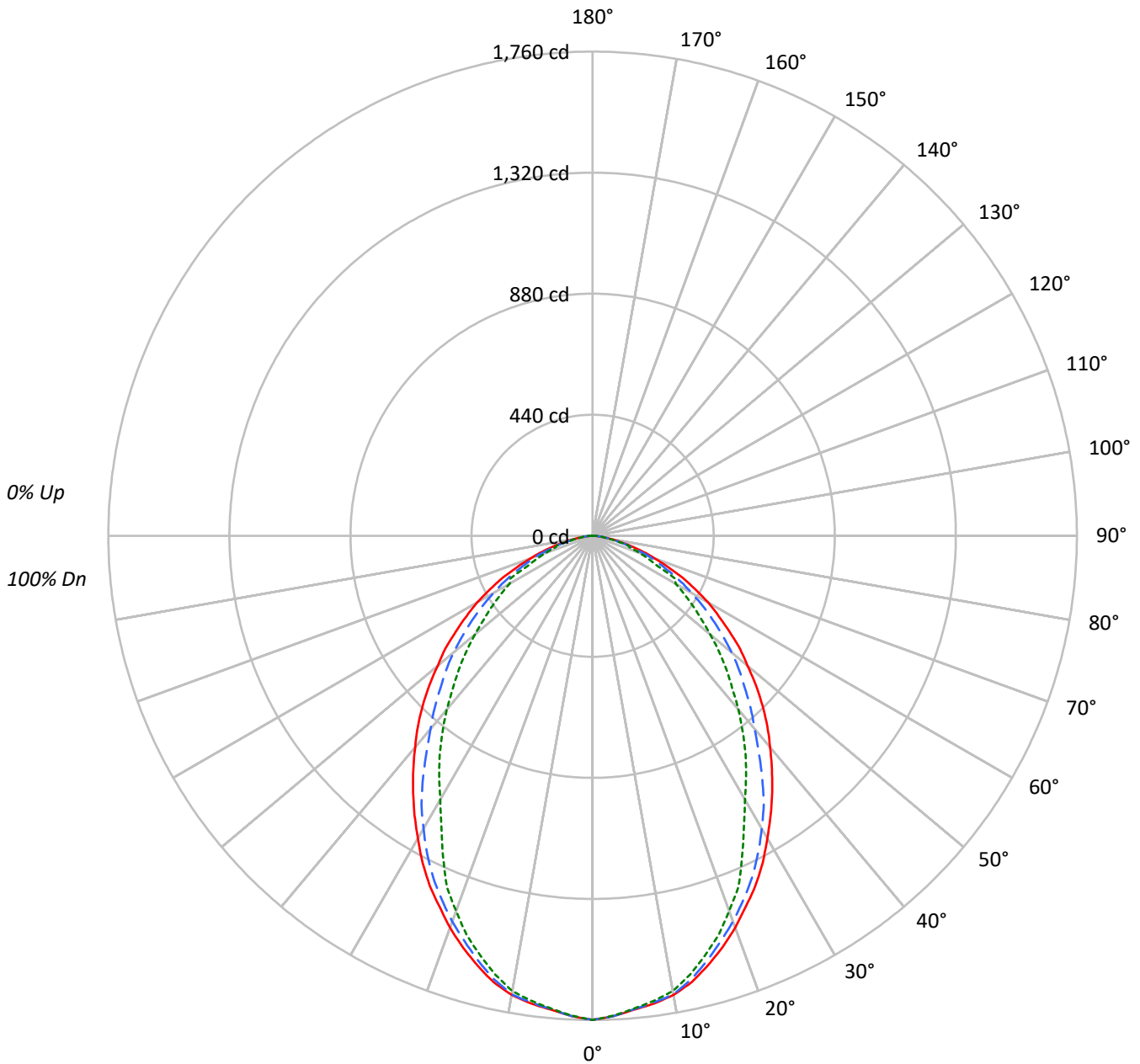
Lumens per Lamp: N/A
Luminaire Lumens: 3455.0 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	2368	2368	2368
5°	2336	2333	2330
10°	2316	2313	2296
15°	2253	2230	2199
20°	2170	2135	2077
25°	2081	2036	1909
30°	1972	1909	1720
35°	1868	1765	1591
40°	1762	1608	1447
45°	1661	1487	1309
50°	1537	1380	1167
55°	1422	1251	1045
60°	1303	1117	936
65°	1146	978	829
70°	945	856	704
75°	751	656	687
80°	504	473	442
85°	313	377	440



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.8	4.7
10°-20°	449.6	13.0
20°-30°	622.5	18.0
30°-40°	663.7	19.2
40°-50°	605.5	17.5
50°-60°	474.4	13.7
60°-70°	309.2	8.9
70°-80°	137.0	4.0
80°-90°	29.4	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°	1235.9	35.8
0°-40°	1899.6	55.0
0°-60°	2979.5	86.2
0°-90°	3455.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3455.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1760	1760	1760	1760	1760	
5°	1729	1727	1727	1725	1725	164
15°	1618	1618	1601	1585	1579	455
25°	1402	1394	1371	1322	1286	644
35°	1137	1129	1074	993	968	711
45°	873	854	781	716	688	672
55°	606	588	533	470	446	544
65°	360	340	307	313	260	355
75°	144	134	126	120	132	155
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°	1759.9	1759.9	1759.9	1759.9	1759.9
2.5°	1747.7	1747.7	1747.7	1745.7	1745.7
5°	1729.4	1727.4	1727.4	1725.3	1725.3
7.5°	1715.2	1713.1	1711.1	1709.1	1705.0
10°	1694.8	1694.8	1692.8	1682.6	1680.6
12.5°	1662.3	1660.2	1652.1	1637.9	1633.8
15°	1617.5	1617.5	1601.2	1585.0	1578.9
17.5°	1568.7	1566.6	1546.3	1530.0	1521.9
20°	1515.8	1511.7	1491.4	1464.9	1450.7
22.5°	1456.8	1456.8	1432.4	1397.8	1383.5
25°	1401.8	1393.7	1371.3	1322.5	1285.9
27.5°	1338.8	1326.6	1302.1	1233.0	1190.2
30°	1269.6	1263.5	1228.9	1139.4	1106.8
32.5°	1204.5	1194.3	1157.7	1064.1	1037.6
35°	1137.3	1129.2	1074.3	992.9	968.5
37.5°	1070.2	1060.0	990.9	925.7	895.2
40°	1003.1	990.9	915.6	856.6	824.0
42.5°	940.0	923.7	850.5	787.4	750.8
45°	872.8	854.5	781.3	716.2	687.7
47.5°	805.7	789.4	722.3	655.1	622.6
50°	734.5	720.2	659.2	592.1	557.5
52.5°	675.5	653.1	594.1	527.0	498.5
55°	606.3	588.0	533.1	470.0	445.6
57.5°	543.2	524.9	474.1	415.1	394.7
60°	484.2	457.8	415.1	364.2	347.9
62.5°	419.1	398.8	362.2	319.4	339.8
65°	360.1	339.8	307.2	313.3	260.4
67.5°	295.0	284.8	256.4	227.9	219.7
70°	240.1	227.9	217.7	187.2	179.0
72.5°	191.3	179.0	164.8	148.5	142.4
75°	144.5	134.3	126.1	120.0	132.2
77.5°	99.7	95.6	89.5	83.4	81.4
80°	65.1	63.1	61.0	59.0	57.0
82.5°	38.7	38.7	38.7	38.7	38.7
85°	20.3	22.4	24.4	26.4	28.5
87.5°	12.2	12.2	14.2	16.3	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)