

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: P546213

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-81-96-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: P546213
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-12-4-LD4-2LO-35-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC 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

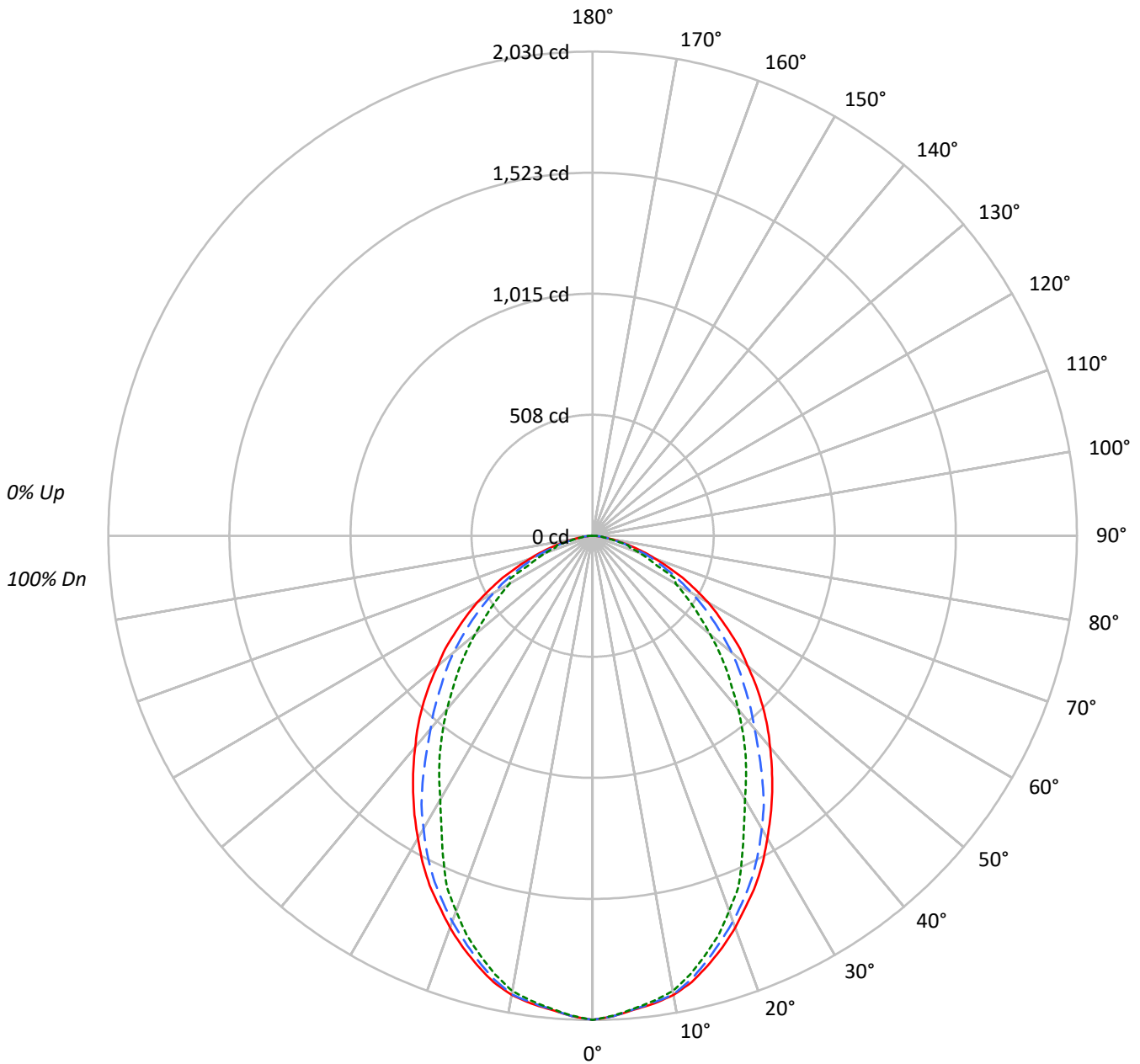
Lumens per Lamp: N/A
Luminaire Lumens: 3985.0 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5462	5462	5462
5°	5388	5382	5376
10°	5341	5335	5297
15°	5197	5145	5073
20°	5007	4926	4792
25°	4801	4696	4404
30°	4550	4404	3967
35°	4309	4071	3669
40°	4064	3710	3339
45°	3831	3429	3019
50°	3547	3183	2692
55°	3281	2884	2411
60°	3006	2576	2160
65°	2645	2257	1913
70°	2179	1976	1625
75°	1732	1513	1586
80°	1164	1091	1018
85°	726	871	1016



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.0	4.7
10°-20°	518.6	13.0
20°-30°	717.9	18.0
30°-40°	765.5	19.2
40°-50°	698.4	17.5
50°-60°	547.1	13.7
60°-70°	356.6	8.9
70°-80°	158.0	4.0
80°-90°	33.9	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°	1425.5	35.8
0°-40°	2191.0	55.0
0°-60°	3436.5	86.2
0°-90°	3985.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3985.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2030	2030	2030	2030	2030	
5°	1995	1992	1992	1990	1990	189
15°	1866	1866	1847	1828	1821	524
25°	1617	1608	1582	1525	1483	742
35°	1312	1302	1239	1145	1117	820
45°	1007	986	901	826	793	775
55°	699	678	615	542	514	627
65°	415	392	354	361	300	409
75°	167	155	146	138	152	179
85°	24	26	28	30	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2029.9	2029.9	2029.9	2029.9	2029.9
2.5°	2015.8	2015.8	2015.8	2013.5	2013.5
5°	1994.7	1992.4	1992.4	1990.0	1990.0
7.5°	1978.3	1975.9	1973.6	1971.2	1966.5
10°	1954.8	1954.8	1952.5	1940.7	1938.4
12.5°	1917.3	1914.9	1905.5	1889.1	1884.4
15°	1865.6	1865.6	1846.9	1828.1	1821.0
17.5°	1809.3	1807.0	1783.5	1764.7	1755.3
20°	1748.3	1743.6	1720.1	1689.6	1673.2
22.5°	1680.2	1680.2	1652.1	1612.2	1595.8
25°	1616.9	1607.5	1581.7	1525.4	1483.1
27.5°	1544.1	1530.1	1501.9	1422.1	1372.8
30°	1464.3	1457.3	1417.4	1314.2	1276.6
32.5°	1389.3	1377.5	1335.3	1227.3	1196.8
35°	1311.8	1302.4	1239.1	1145.2	1117.0
37.5°	1234.4	1222.6	1142.8	1067.8	1032.6
40°	1156.9	1142.8	1056.0	988.0	950.4
42.5°	1084.2	1065.4	980.9	908.2	865.9
45°	1006.7	985.6	901.1	826.0	793.2
47.5°	929.3	910.5	833.1	755.6	718.1
50°	847.2	830.7	760.3	682.9	643.0
52.5°	779.1	753.3	685.2	607.8	574.9
55°	699.3	678.2	614.8	542.1	513.9
57.5°	626.6	605.5	546.8	478.7	455.3
60°	558.5	528.0	478.7	420.1	401.3
62.5°	483.4	460.0	417.7	368.4	391.9
65°	415.4	391.9	354.4	361.4	300.4
67.5°	340.3	328.5	295.7	262.8	253.4
70°	276.9	262.8	251.1	215.9	206.5
72.5°	220.6	206.5	190.1	171.3	164.3
75°	166.6	154.9	145.5	138.5	152.5
77.5°	115.0	110.3	103.3	96.2	93.9
80°	75.1	72.7	70.4	68.1	65.7
82.5°	44.6	44.6	44.6	44.6	44.6
85°	23.5	25.8	28.2	30.5	32.9
87.5°	14.1	14.1	16.4	18.8	21.1
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)