

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: P546803

Luminaire Tested: **FMR-24-4-LD4-2LO-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: P546803
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-LD4-2LO-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

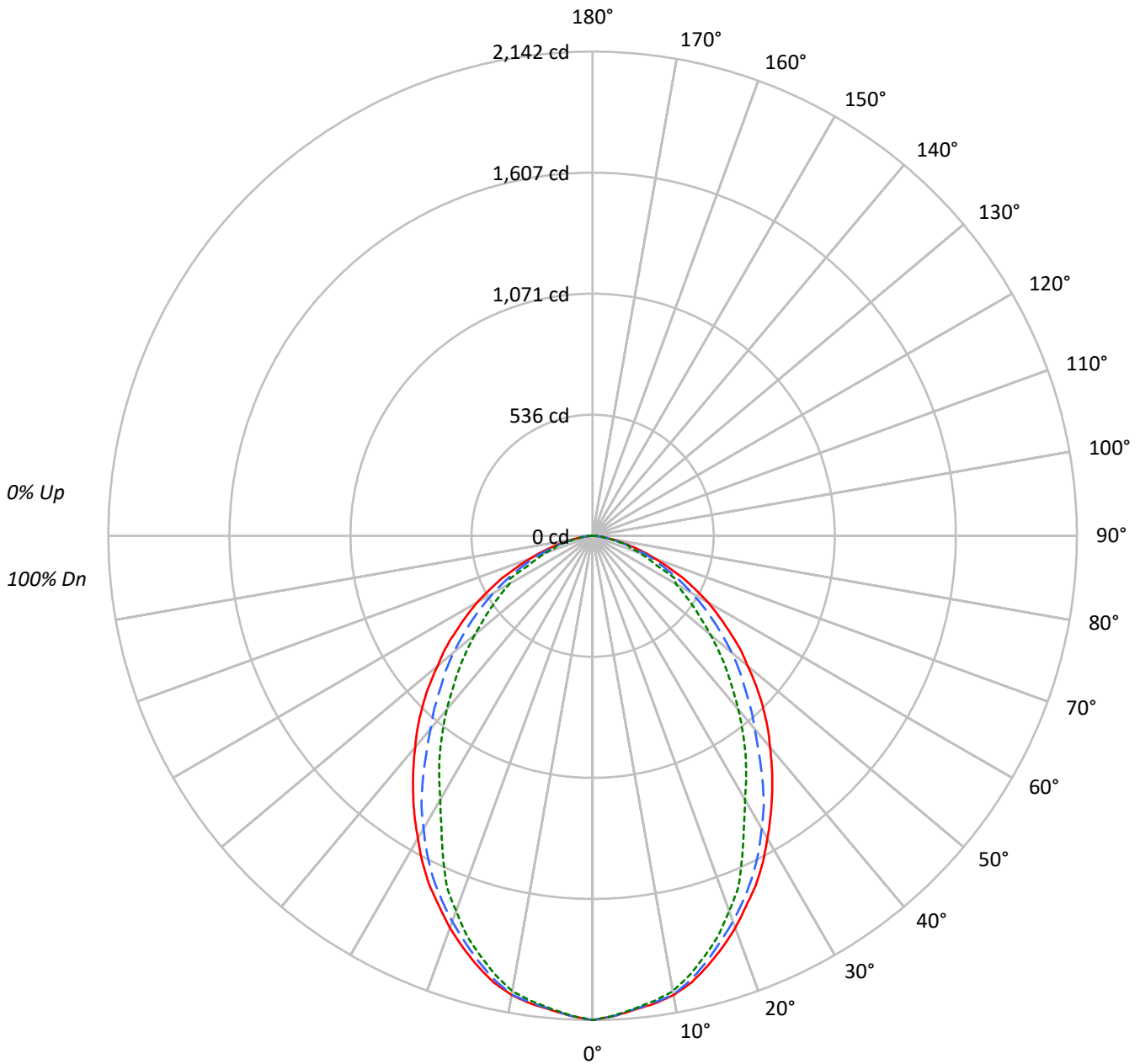
Lumens per Lamp: N/A
Luminaire Lumens: 4206.0 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2883	2883	2883
5°	2843	2840	2837
10°	2819	2815	2795
15°	2743	2715	2677
20°	2642	2600	2529
25°	2534	2478	2324
30°	2401	2324	2093
35°	2274	2148	1937
40°	2145	1958	1762
45°	2022	1810	1593
50°	1872	1680	1421
55°	1731	1522	1272
60°	1586	1360	1140
65°	1396	1191	1009
70°	1150	1042	858
75°	914	799	837
80°	614	576	538
85°	383	459	536



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.4	4.7
10°-20°	547.3	13.0
20°-30°	757.7	18.0
30°-40°	808.0	19.2
40°-50°	737.1	17.5
50°-60°	577.5	13.7
60°-70°	376.4	8.9
70°-80°	166.8	4.0
80°-90°	35.8	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°	1504.5	35.8
0°-40°	2312.5	55.0
0°-60°	3627.1	86.2
0°-90°	4206.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4206.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2142	2142	2142	2142	2142	
5°	2105	2103	2103	2100	2100	200
15°	1969	1969	1949	1930	1922	554
25°	1707	1697	1669	1610	1565	783
35°	1385	1375	1308	1209	1179	866
45°	1063	1040	951	872	837	818
55°	738	716	649	572	542	662
65°	438	414	374	381	317	432
75°	176	164	154	146	161	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2142.5	2142.5	2142.5	2142.5	2142.5
2.5°	2127.6	2127.6	2127.6	2125.1	2125.1
5°	2105.3	2102.9	2102.9	2100.4	2100.4
7.5°	2088.0	2085.5	2083.0	2080.6	2075.6
10°	2063.2	2063.2	2060.7	2048.4	2045.9
12.5°	2023.6	2021.1	2011.2	1993.9	1988.9
15°	1969.1	1969.1	1949.3	1929.5	1922.0
17.5°	1909.7	1907.2	1882.4	1862.6	1852.7
20°	1845.3	1840.3	1815.5	1783.3	1766.0
22.5°	1773.4	1773.4	1743.7	1701.6	1684.3
25°	1706.6	1696.6	1669.4	1610.0	1565.4
27.5°	1629.8	1614.9	1585.2	1501.0	1449.0
30°	1545.6	1538.1	1496.0	1387.0	1347.4
32.5°	1466.3	1453.9	1409.3	1295.4	1263.2
35°	1384.6	1374.7	1307.8	1208.7	1179.0
37.5°	1302.8	1290.4	1206.2	1127.0	1089.8
40°	1221.1	1206.2	1114.6	1042.8	1003.1
42.5°	1144.3	1124.5	1035.3	958.5	914.0
45°	1062.6	1040.3	951.1	871.9	837.2
47.5°	980.8	961.0	879.3	797.5	757.9
50°	894.1	876.8	802.5	720.8	678.7
52.5°	822.3	795.1	723.2	641.5	606.8
55°	738.1	715.8	648.9	572.2	542.4
57.5°	661.3	639.0	577.1	505.3	480.5
60°	589.5	557.3	505.3	443.4	423.5
62.5°	510.2	485.5	440.9	388.9	413.6
65°	438.4	413.6	374.0	381.4	317.0
67.5°	359.1	346.8	312.1	277.4	267.5
70°	292.3	277.4	265.0	227.9	218.0
72.5°	232.8	218.0	200.6	180.8	173.4
75°	175.9	163.5	153.6	146.1	161.0
77.5°	121.4	116.4	109.0	101.6	99.1
80°	79.3	76.8	74.3	71.8	69.4
82.5°	47.1	47.1	47.1	47.1	47.1
85°	24.8	27.2	29.7	32.2	34.7
87.5°	14.9	14.9	17.3	19.8	22.3
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)