

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: P834563

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834563
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

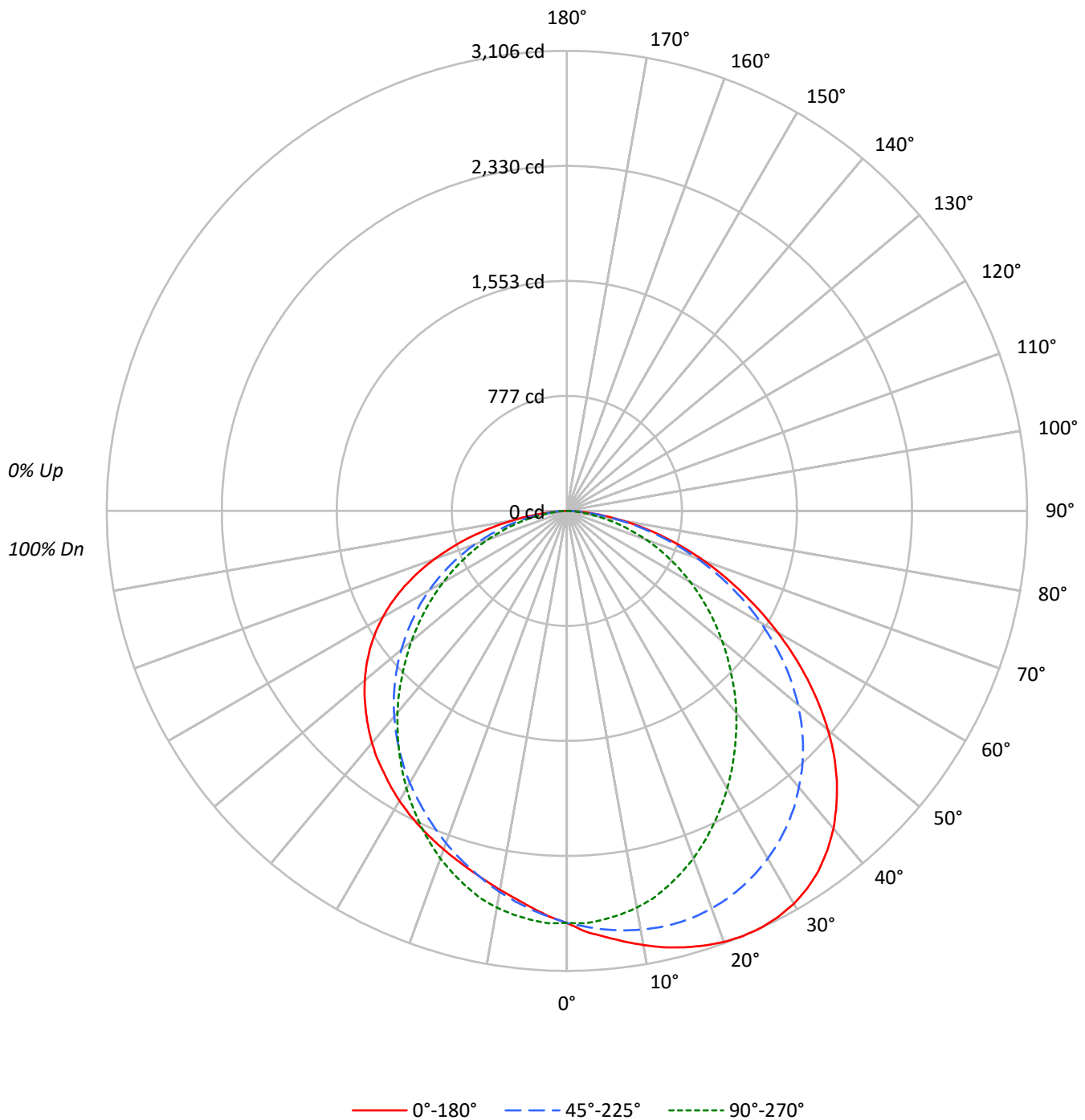
Lumens per Lamp: N/A
Luminaire Lumens: 8181.2 lumens
Efficiency: N/A
Efficacy: 122.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V): 120
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: 28.75 FT

TEST NUMBER: P834563

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834563

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3742	3742	3742
5°	3896	3744	3633
10°	4066	3716	3549
15°	4249	3657	3498
20°	4435	3576	3484
25°	4609	3472	3489
30°	4759	3363	3512
35°	4868	3243	3541
40°	4917	3123	3593
45°	4904	2991	3652
50°	4816	2866	3727
55°	4652	2734	3805
60°	4425	2593	3862
65°	4155	2435	3857
70°	3867	2245	3743
75°	3511	1972	3451
80°	3015	1620	2911
85°	2299	1107	1999

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834563

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.8	3.2
10°-20°	761.8	9.3
20°-30°	1167.0	14.3
30°-40°	1424.2	17.4
40°-50°	1489.4	18.2
50°-60°	1348.0	16.5
60°-70°	1020.9	12.5
70°-80°	568.9	7.0
80°-90°	137.2	1.7
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°	2192.6	26.8
0°-40°	3616.8	44.2
0°-60°	6454.2	78.9
0°-90°	8181.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8181.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2781	2781	2781	2781	2781	
5°	2885	2837	2772	2704	2690	278
15°	3051	2881	2625	2503	2511	865
25°	3105	2800	2339	2256	2350	1432
35°	2964	2592	1975	1972	2156	1851
45°	2577	2254	1572	1641	1919	1983
55°	1983	1790	1165	1268	1622	1770
65°	1305	1227	765	869	1212	1295
75°	675	638	379	453	664	716
85°	149	131	72	96	130	179
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834563

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3
2.5°	2842.7	2829.3	2818.4	2822.6	2825.0	2816.5	2809.2	2810.5	2803.2	2817.1	2784.3
5°	2884.6	2872.5	2859.7	2864.6	2859.7	2846.9	2836.6	2833.6	2814.1	2822.0	2788.6
7.5°	2931.4	2918.1	2899.2	2904.7	2894.3	2870.6	2857.3	2849.4	2819.6	2820.2	2783.1
10°	2976.4	2964.9	2939.3	2943.0	2924.1	2892.5	2871.2	2860.3	2818.4	2812.3	2774.0
12.5°	3018.4	3002.6	2975.2	2977.0	2949.7	2907.7	2880.4	2864.6	2809.8	2791.6	2753.9
15°	3050.6	3035.4	3002.6	3002.0	2966.7	2912.0	2881.0	2859.1	2789.8	2761.2	2721.7
17.5°	3077.9	3064.0	3023.2	3022.0	2979.5	2910.2	2873.1	2845.7	2760.6	2725.3	2681.6
20°	3097.4	3083.4	3037.8	3033.6	2982.5	2901.0	2856.7	2822.0	2722.3	2680.4	2631.7
22.5°	3106.5	3092.5	3040.9	3034.8	2975.2	2882.8	2832.9	2792.2	2678.5	2623.8	2573.4
25°	3104.7	3091.3	3033.0	3026.9	2961.2	2855.4	2799.5	2752.7	2623.2	2558.8	2508.9
27.5°	3089.5	3079.2	3017.8	3009.9	2935.7	2818.4	2758.8	2707.1	2561.8	2490.1	2436.0
30°	3063.4	3055.5	2990.4	2983.1	2904.1	2777.6	2711.4	2651.8	2495.5	2414.7	2360.0
32.5°	3021.4	3014.1	2948.5	2941.8	2861.5	2725.3	2656.0	2594.6	2423.2	2333.8	2279.1
35°	2963.7	2959.4	2895.6	2888.3	2806.8	2665.8	2592.2	2524.7	2347.8	2246.9	2194.6
37.5°	2887.7	2887.7	2826.3	2818.4	2738.7	2592.8	2520.5	2448.7	2262.7	2155.7	2104.0
40°	2799.5	2807.4	2744.8	2736.9	2659.7	2514.4	2435.4	2360.0	2170.9	2059.7	2009.2
42.5°	2693.7	2701.0	2648.7	2641.5	2569.1	2423.8	2350.3	2268.2	2074.9	1961.8	1909.5
45°	2577.0	2586.7	2539.9	2534.5	2467.0	2324.7	2254.2	2170.9	1974.6	1859.7	1808.6
47.5°	2446.9	2459.7	2418.9	2415.9	2353.3	2223.2	2149.6	2065.1	1869.4	1753.3	1705.2
50°	2301.0	2319.2	2285.8	2285.8	2229.9	2100.4	2036.6	1952.1	1760.0	1643.8	1596.4
52.5°	2144.8	2167.9	2142.9	2143.6	2098.0	1981.8	1915.6	1832.9	1645.7	1531.4	1487.6
55°	1983.1	2005.6	1989.8	1992.2	1956.3	1850.5	1790.4	1708.3	1528.9	1417.7	1376.4
57.5°	1814.1	1838.4	1828.0	1832.9	1808.0	1713.1	1650.5	1578.8	1408.6	1298.5	1263.3
60°	1644.4	1667.5	1662.1	1668.8	1653.0	1570.9	1513.7	1439.6	1287.6	1181.8	1150.8
62.5°	1473.0	1494.3	1493.1	1500.4	1491.9	1423.8	1372.7	1309.5	1162.4	1065.1	1036.5
65°	1305.2	1323.5	1322.2	1330.1	1328.3	1273.6	1227.4	1169.7	1037.1	947.8	922.8
67.5°	1142.3	1157.5	1153.2	1162.4	1164.8	1121.0	1080.9	1029.2	918.0	831.0	809.8
70°	983.0	993.4	987.9	994.0	999.4	966.6	932.6	887.0	790.9	714.3	696.7
72.5°	826.8	834.1	825.6	831.6	836.5	812.8	784.8	745.3	665.7	599.4	584.8
75°	675.4	685.7	668.1	674.2	677.8	654.1	637.7	605.5	536.8	485.7	476.0
77.5°	528.9	535.0	525.3	522.8	525.3	508.2	495.5	470.5	418.9	376.9	370.8
80°	389.1	392.7	383.0	380.6	382.4	370.2	360.5	342.3	305.8	274.2	271.7
82.5°	260.8	262.6	254.1	251.7	252.9	249.3	237.7	224.9	207.9	181.2	180.6
85°	148.9	148.9	142.9	140.4	141.6	135.6	131.3	124.6	117.9	99.7	100.9
87.5°	54.7	54.7	51.7	51.1	57.1	50.5	48.6	45.6	47.4	37.7	40.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834563

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3	2781.3
2.5°	2793.4	2787.4	2781.9	2763.0	2770.9	2751.5	2750.3	2743.0	2737.5	2727.2	2740.5
5°	2784.3	2772.2	2756.4	2733.9	2740.5	2717.4	2712.6	2704.1	2696.8	2683.4	2693.7
7.5°	2769.7	2749.7	2724.7	2696.2	2705.3	2676.7	2669.4	2660.3	2654.2	2638.4	2647.5
10°	2748.4	2719.9	2690.7	2656.0	2662.7	2631.7	2622.6	2612.9	2607.4	2593.4	2602.5
12.5°	2715.6	2681.0	2641.5	2603.8	2611.1	2581.9	2569.7	2559.4	2557.6	2546.0	2556.9
15°	2673.1	2625.0	2584.3	2544.2	2552.7	2518.6	2513.2	2502.8	2505.9	2498.0	2511.4
17.5°	2619.0	2563.6	2519.3	2476.1	2484.6	2456.0	2451.8	2446.9	2450.0	2448.7	2463.3
20°	2558.2	2497.4	2446.3	2403.8	2408.6	2386.1	2387.9	2386.7	2392.8	2399.5	2419.6
22.5°	2489.5	2420.8	2367.3	2323.5	2330.8	2311.3	2319.9	2322.3	2332.6	2347.8	2373.4
25°	2412.3	2338.7	2282.8	2241.4	2248.1	2235.4	2249.9	2256.0	2272.4	2298.0	2324.1
27.5°	2331.4	2253.6	2194.0	2154.5	2167.3	2154.5	2176.4	2188.5	2213.5	2241.4	2273.7
30°	2245.7	2164.8	2103.4	2068.2	2080.3	2068.8	2104.0	2120.5	2145.4	2183.7	2222.0
32.5°	2155.7	2070.6	2010.4	1983.1	1991.6	1989.8	2029.3	2047.5	2080.9	2124.7	2165.4
35°	2063.3	1974.6	1913.8	1890.7	1901.0	1903.4	1950.8	1972.1	2008.6	2061.5	2105.3
37.5°	1967.9	1877.3	1817.7	1798.9	1808.0	1817.1	1872.4	1893.7	1935.0	1992.8	2040.8
40°	1868.8	1778.2	1719.8	1704.6	1713.8	1723.5	1783.7	1812.8	1857.8	1920.4	1972.7
42.5°	1768.5	1677.9	1621.3	1610.4	1619.5	1638.4	1702.2	1729.6	1777.0	1846.3	1904.0
45°	1666.3	1572.1	1522.9	1514.4	1524.1	1546.0	1608.6	1641.4	1691.9	1767.9	1829.9
47.5°	1563.0	1471.2	1424.4	1418.9	1428.6	1453.0	1522.3	1552.0	1605.5	1686.4	1753.3
50°	1458.4	1369.1	1324.1	1322.2	1331.4	1357.5	1423.8	1459.0	1514.4	1604.9	1673.6
52.5°	1352.6	1266.9	1226.2	1226.2	1234.7	1261.5	1328.3	1364.8	1421.9	1517.4	1593.4
55°	1246.9	1165.4	1126.5	1129.5	1141.7	1164.8	1229.8	1268.1	1325.9	1425.0	1505.2
57.5°	1141.1	1063.9	1028.6	1032.9	1044.4	1067.5	1131.4	1174.5	1226.8	1329.5	1411.6
60°	1036.5	963.6	932.6	937.4	947.8	970.9	1037.1	1074.2	1126.5	1231.1	1313.1
62.5°	930.7	864.5	835.3	841.4	850.5	873.6	936.2	972.1	1023.8	1126.5	1209.2
65°	826.2	764.8	739.8	745.9	754.4	775.7	834.7	869.3	918.6	1018.9	1097.9
67.5°	722.8	666.9	646.2	652.3	659.0	679.1	727.7	765.4	811.6	907.0	981.8
70°	620.7	570.8	552.6	558.7	564.8	583.0	625.6	660.2	702.8	790.3	859.6
72.5°	519.8	471.1	462.0	467.5	472.4	488.2	528.9	556.3	593.3	671.2	730.7
75°	421.3	379.3	373.3	378.7	383.0	395.2	429.2	452.9	483.9	551.4	600.0
77.5°	326.5	291.2	288.8	293.0	297.3	305.8	332.5	357.5	381.8	431.6	474.8
80°	237.7	209.1	209.1	213.4	212.2	222.5	241.3	261.4	279.0	314.9	346.5
82.5°	156.8	134.4	137.4	140.4	142.3	146.5	158.1	173.3	184.2	206.1	226.8
85°	86.9	71.7	74.8	77.2	76.0	80.9	86.9	96.1	101.5	111.9	122.8
87.5°	32.2	26.7	27.4	29.2	30.4	32.8	32.8	38.3	38.9	40.1	42.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834563

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2STD-35-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2781.3	2781.3	2781.3
2.5°	2715.0	2729.6	2740.5
5°	2668.2	2680.4	2690.1
7.5°	2622.6	2633.5	2642.1
10°	2579.4	2591.6	2597.7
12.5°	2535.1	2549.0	2553.9
15°	2491.3	2505.3	2511.4
17.5°	2446.3	2464.5	2471.2
20°	2404.4	2427.5	2432.9
22.5°	2361.8	2385.5	2392.2
25°	2315.6	2343.6	2350.3
27.5°	2266.4	2299.8	2306.5
30°	2217.1	2253.6	2260.3
32.5°	2164.2	2203.7	2209.8
35°	2108.9	2148.4	2155.7
37.5°	2047.5	2090.7	2105.3
40°	1983.7	2030.5	2045.7
42.5°	1916.8	1967.9	1983.7
45°	1845.1	1901.0	1919.2
47.5°	1772.7	1835.9	1851.8
50°	1694.3	1761.8	1780.6
52.5°	1612.2	1685.8	1704.6
55°	1527.1	1601.3	1622.0
57.5°	1434.7	1511.3	1533.2
60°	1338.1	1414.7	1435.3
62.5°	1239.0	1308.3	1328.3
65°	1128.3	1193.4	1211.6
67.5°	1011.0	1070.6	1085.8
70°	886.4	938.0	951.4
72.5°	756.3	792.1	809.8
75°	621.9	650.5	663.9
77.5°	487.0	507.0	518.0
80°	355.0	366.6	375.7
82.5°	232.2	237.1	243.8
85°	125.2	125.2	129.5
87.5°	42.6	40.7	42.6
90°	0.0	0.0	0.0

(END OF REPORT)