

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: P834638

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-3STD-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834638
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-LD4-3STD-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

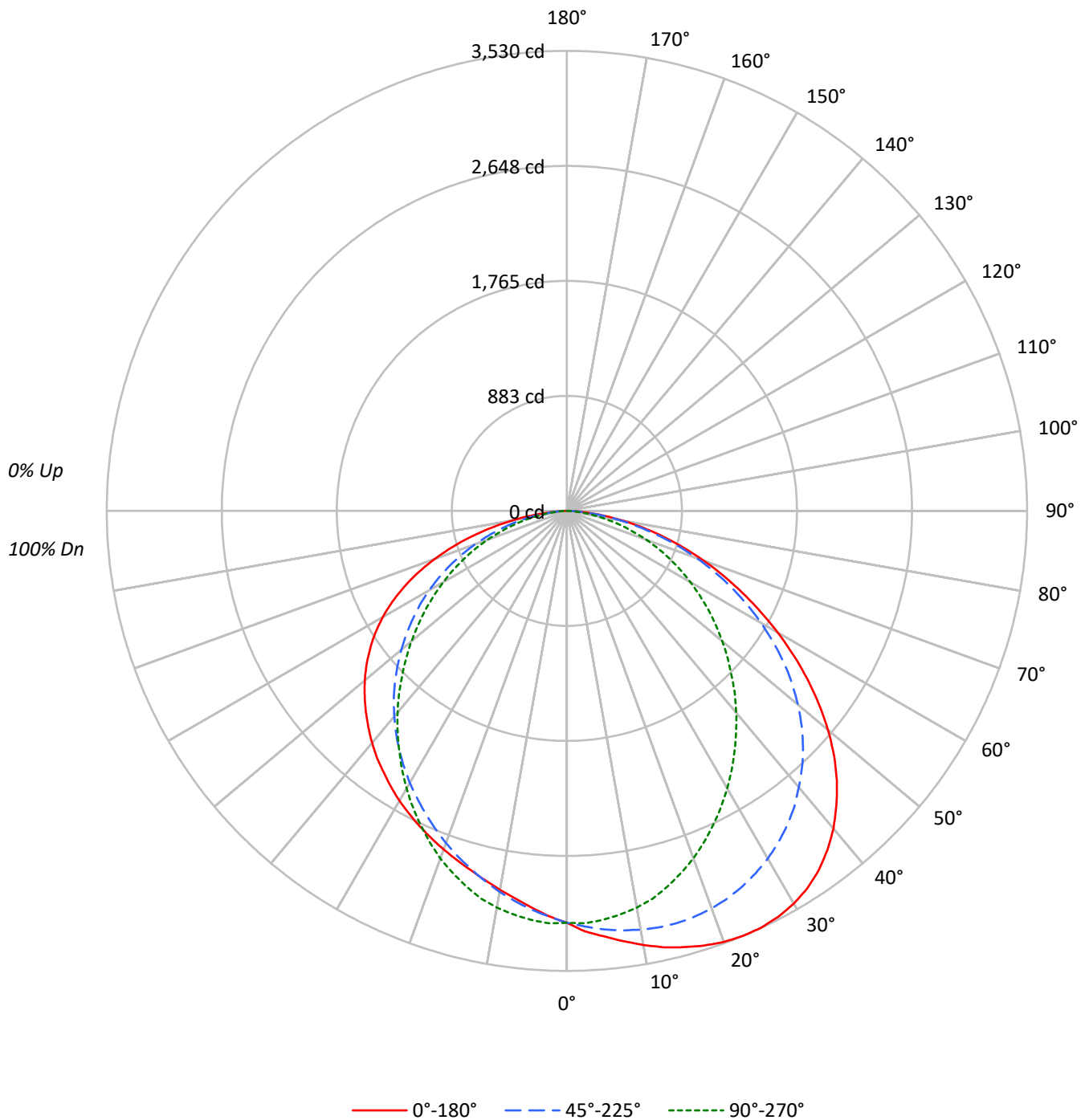
Lumens per Lamp: N/A
Luminaire Lumens: 9296.1 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4252	4252	4252
5°	4427	4254	4128
10°	4621	4222	4033
15°	4828	4155	3975
20°	5039	4063	3958
25°	5237	3945	3965
30°	5408	3822	3990
35°	5531	3685	4023
40°	5587	3549	4083
45°	5572	3399	4150
50°	5473	3256	4235
55°	5286	3106	4323
60°	5028	2946	4389
65°	4722	2767	4383
70°	4394	2552	4253
75°	3989	2241	3921
80°	3426	1841	3308
85°	2612	1258	2271

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.7	3.2
10°-20°	865.6	9.3
20°-30°	1326.1	14.3
30°-40°	1618.3	17.4
40°-50°	1692.4	18.2
50°-60°	1531.7	16.5
60°-70°	1160.0	12.5
70°-80°	646.5	7.0
80°-90°	155.9	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°	2491.3	26.8
0°-40°	4109.6	44.2
0°-60°	7333.7	78.9
0°-90°	9296.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9296.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3160	3160	3160	3160	3160	
5°	3278	3223	3150	3073	3057	316
15°	3466	3274	2983	2844	2854	983
25°	3528	3181	2657	2564	2670	1627
35°	3368	2946	2244	2241	2450	2103
45°	2928	2561	1786	1865	2181	2253
55°	2253	2034	1324	1441	1843	2011
65°	1483	1395	869	988	1377	1471
75°	767	725	431	515	754	814
85°	169	149	82	109	147	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3
2.5°	3230.1	3214.9	3202.4	3207.3	3210.0	3200.4	3192.1	3193.4	3185.2	3201.0	3163.7
5°	3277.7	3263.9	3249.4	3254.9	3249.4	3234.9	3223.1	3219.7	3197.6	3206.6	3168.6
7.5°	3330.9	3315.7	3294.3	3300.5	3288.8	3261.8	3246.6	3237.7	3203.8	3204.5	3162.4
10°	3382.0	3368.9	3339.9	3344.0	3322.6	3286.7	3262.5	3250.1	3202.4	3195.5	3152.0
12.5°	3429.7	3411.7	3380.6	3382.7	3351.6	3304.0	3272.9	3254.9	3192.8	3172.0	3129.2
15°	3466.3	3449.0	3411.7	3411.0	3371.0	3308.8	3273.6	3248.7	3170.0	3137.5	3092.6
17.5°	3497.4	3481.5	3435.2	3433.8	3385.5	3306.7	3264.6	3233.5	3136.8	3096.7	3047.0
20°	3519.5	3503.6	3451.8	3447.0	3388.9	3296.4	3245.9	3206.6	3093.3	3045.6	2990.4
22.5°	3529.9	3514.0	3455.2	3448.3	3380.6	3275.6	3219.0	3172.7	3043.5	2981.4	2924.0
25°	3527.8	3512.6	3446.3	3439.4	3364.8	3244.6	3181.0	3127.8	2980.7	2907.5	2850.8
27.5°	3510.5	3498.8	3429.0	3420.0	3335.7	3202.4	3134.7	3076.0	2910.9	2829.4	2767.9
30°	3480.8	3471.8	3397.9	3389.6	3299.8	3156.1	3080.8	3013.2	2835.6	2743.8	2681.6
32.5°	3433.1	3424.9	3350.3	3342.7	3251.5	3096.7	3018.0	2948.2	2753.4	2651.9	2589.7
35°	3367.5	3362.7	3290.2	3281.9	3189.3	3029.0	2945.5	2868.8	2667.8	2553.1	2493.7
37.5°	3281.2	3281.2	3211.4	3202.4	3111.9	2946.1	2863.9	2782.4	2571.1	2449.5	2390.8
40°	3181.0	3190.0	3118.8	3109.9	3022.1	2857.0	2767.2	2681.6	2466.8	2340.3	2283.0
42.5°	3060.8	3069.1	3009.7	3001.4	2919.2	2754.1	2670.5	2577.3	2357.6	2229.1	2169.7
45°	2928.2	2939.2	2886.1	2879.8	2803.2	2641.5	2561.4	2466.8	2243.6	2113.1	2055.1
47.5°	2780.4	2794.9	2748.6	2745.1	2674.0	2526.2	2442.6	2346.6	2124.1	1992.2	1937.6
50°	2614.6	2635.3	2597.3	2597.3	2533.8	2386.6	2314.1	2218.1	1999.8	1867.9	1814.0
52.5°	2437.0	2463.3	2435.0	2435.7	2383.9	2251.9	2176.6	2082.7	1869.9	1740.1	1690.3
55°	2253.3	2278.9	2260.9	2263.7	2222.9	2102.7	2034.3	1941.1	1737.3	1610.9	1563.9
57.5°	2061.3	2088.9	2077.2	2082.7	2054.4	1946.6	1875.5	1793.9	1600.5	1475.5	1435.4
60°	1868.5	1894.8	1888.6	1896.2	1878.2	1785.0	1720.0	1635.8	1463.1	1342.9	1307.6
62.5°	1673.7	1697.9	1696.5	1704.8	1695.2	1617.8	1559.8	1487.9	1320.8	1210.2	1177.8
65°	1483.1	1503.8	1502.4	1511.4	1509.3	1447.2	1394.7	1329.0	1178.5	1076.9	1048.6
67.5°	1298.0	1315.2	1310.4	1320.8	1323.5	1273.8	1228.2	1169.5	1043.1	944.3	920.1
70°	1117.0	1128.7	1122.5	1129.4	1135.6	1098.3	1059.6	1007.8	898.7	811.7	791.6
72.5°	939.5	947.7	938.1	945.0	950.5	923.6	891.8	846.9	756.4	681.1	664.5
75°	767.4	779.2	759.2	766.1	770.2	743.3	724.6	688.0	610.0	551.9	540.9
77.5°	601.0	607.9	596.8	594.1	596.8	577.5	563.0	534.7	475.9	428.3	421.4
80°	442.1	446.2	435.2	432.4	434.5	420.7	409.6	388.9	347.5	311.5	308.8
82.5°	296.3	298.4	288.7	286.0	287.4	283.2	270.1	255.6	236.2	205.9	205.2
85°	169.2	169.2	162.3	159.6	161.0	154.0	149.2	141.6	134.0	113.3	114.7
87.5°	62.2	62.2	58.7	58.0	64.9	57.3	55.3	51.8	53.9	42.8	45.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3	3160.3
2.5°	3174.1	3167.2	3161.0	3139.6	3148.5	3126.4	3125.1	3116.8	3110.6	3098.8	3114.0
5°	3163.7	3149.9	3132.0	3106.4	3114.0	3087.8	3082.2	3072.6	3064.3	3049.1	3060.8
7.5°	3147.2	3124.4	3096.0	3063.6	3073.9	3041.5	3033.2	3022.8	3015.9	2998.0	3008.3
10°	3123.0	3090.5	3057.4	3018.0	3025.6	2990.4	2980.0	2968.9	2962.7	2946.8	2957.2
12.5°	3085.7	3046.3	3001.4	2958.6	2966.9	2933.7	2919.9	2908.2	2906.1	2893.0	2905.4
15°	3037.3	2982.8	2936.5	2890.9	2900.6	2861.9	2855.7	2843.9	2847.4	2838.4	2853.6
17.5°	2975.9	2913.0	2862.6	2813.5	2823.2	2790.7	2785.9	2780.4	2783.8	2782.4	2799.0
20°	2906.8	2837.7	2779.7	2731.3	2736.8	2711.3	2713.4	2712.0	2718.9	2726.5	2749.3
22.5°	2828.7	2750.7	2689.9	2640.1	2648.4	2626.3	2636.0	2638.8	2650.5	2667.8	2696.8
25°	2741.0	2657.4	2593.9	2546.9	2554.5	2540.0	2556.6	2563.5	2582.1	2611.1	2640.8
27.5°	2649.1	2560.7	2493.0	2448.1	2462.6	2448.1	2473.0	2486.8	2515.1	2546.9	2583.5
30°	2551.7	2459.8	2390.1	2350.0	2363.8	2350.7	2390.8	2409.4	2437.7	2481.3	2524.8
32.5°	2449.5	2352.8	2284.4	2253.3	2263.0	2260.9	2305.8	2326.5	2364.5	2414.3	2460.5
35°	2344.5	2243.6	2174.6	2148.3	2160.0	2162.8	2216.7	2240.9	2282.3	2342.4	2392.1
37.5°	2236.0	2133.1	2065.4	2044.0	2054.4	2064.7	2127.6	2151.8	2198.7	2264.4	2318.9
40°	2123.4	2020.5	1954.2	1936.9	1947.3	1958.3	2026.7	2059.9	2111.0	2182.2	2241.6
42.5°	2009.5	1906.5	1842.3	1829.9	1840.2	1861.6	1934.2	1965.3	2019.1	2097.9	2163.5
45°	1893.4	1786.3	1730.4	1720.7	1731.8	1756.6	1827.8	1865.1	1922.4	2008.8	2079.2
47.5°	1776.0	1671.7	1618.5	1612.3	1623.3	1650.9	1729.7	1763.5	1824.3	1916.2	1992.2
50°	1657.2	1555.6	1504.5	1502.4	1512.8	1542.5	1617.8	1657.9	1720.7	1823.6	1901.7
52.5°	1537.0	1439.6	1393.3	1393.3	1403.0	1433.4	1509.3	1550.8	1615.7	1724.2	1810.5
55°	1416.8	1324.2	1280.0	1283.5	1297.3	1323.5	1397.4	1441.0	1506.6	1619.2	1710.4
57.5°	1296.6	1208.9	1168.8	1173.6	1186.7	1213.0	1285.5	1334.6	1394.0	1510.7	1604.0
60°	1177.8	1094.9	1059.6	1065.2	1076.9	1103.2	1178.5	1220.6	1280.0	1398.8	1492.1
62.5°	1057.6	982.3	949.1	956.0	966.4	992.6	1063.8	1104.5	1163.3	1280.0	1373.9
65°	938.8	869.0	840.7	847.6	857.2	881.4	948.4	987.8	1043.8	1157.7	1247.5
67.5°	821.3	757.8	734.3	741.2	748.8	771.6	826.9	869.7	922.2	1030.6	1115.6
70°	705.3	648.6	627.9	634.8	641.7	662.5	710.8	750.2	798.5	898.0	976.8
72.5°	590.6	535.3	525.0	531.2	536.7	554.7	601.0	632.1	674.2	762.6	830.3
75°	478.7	431.0	424.1	430.4	435.2	449.0	487.7	514.6	549.9	626.5	681.8
77.5°	370.9	330.9	328.1	333.0	337.8	347.5	377.9	406.2	433.8	490.4	539.5
80°	270.1	237.6	237.6	242.5	241.1	252.8	274.2	297.0	317.1	357.8	393.7
82.5°	178.2	152.7	156.1	159.6	161.6	166.5	179.6	196.9	209.3	234.2	257.7
85°	98.8	81.5	85.0	87.7	86.3	91.9	98.8	109.1	115.4	127.1	139.5
87.5°	36.6	30.4	31.1	33.2	34.5	37.3	37.3	43.5	44.2	45.6	48.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	3160.3	3160.3	3160.3
2.5°	3085.0	3101.6	3114.0
5°	3031.8	3045.6	3056.7
7.5°	2980.0	2992.4	3002.1
10°	2931.0	2944.8	2951.7
12.5°	2880.5	2896.4	2901.9
15°	2830.8	2846.7	2853.6
17.5°	2779.7	2800.4	2808.0
20°	2732.0	2758.3	2764.5
22.5°	2683.7	2710.6	2718.2
25°	2631.2	2662.9	2670.5
27.5°	2575.2	2613.2	2620.8
30°	2519.3	2560.7	2568.3
32.5°	2459.2	2504.1	2511.0
35°	2396.3	2441.2	2449.5
37.5°	2326.5	2375.6	2392.1
40°	2254.0	2307.2	2324.5
42.5°	2178.0	2236.0	2254.0
45°	2096.5	2160.0	2180.8
47.5°	2014.3	2086.1	2104.1
50°	1925.2	2001.9	2023.3
52.5°	1831.9	1915.5	1936.9
55°	1735.2	1819.5	1843.0
57.5°	1630.2	1717.3	1742.1
60°	1520.4	1607.4	1630.9
62.5°	1407.8	1486.5	1509.3
65°	1282.1	1356.0	1376.7
67.5°	1148.8	1216.5	1233.7
70°	1007.1	1065.9	1081.1
72.5°	859.3	900.1	920.1
75°	706.7	739.1	754.3
77.5°	553.3	576.1	588.5
80°	403.4	416.5	426.9
82.5°	263.9	269.4	277.0
85°	142.3	142.3	147.1
87.5°	48.4	46.3	48.4
90°	0.0	0.0	0.0

(END OF REPORT)