

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: P834514

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834514
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-LD4-4LO-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

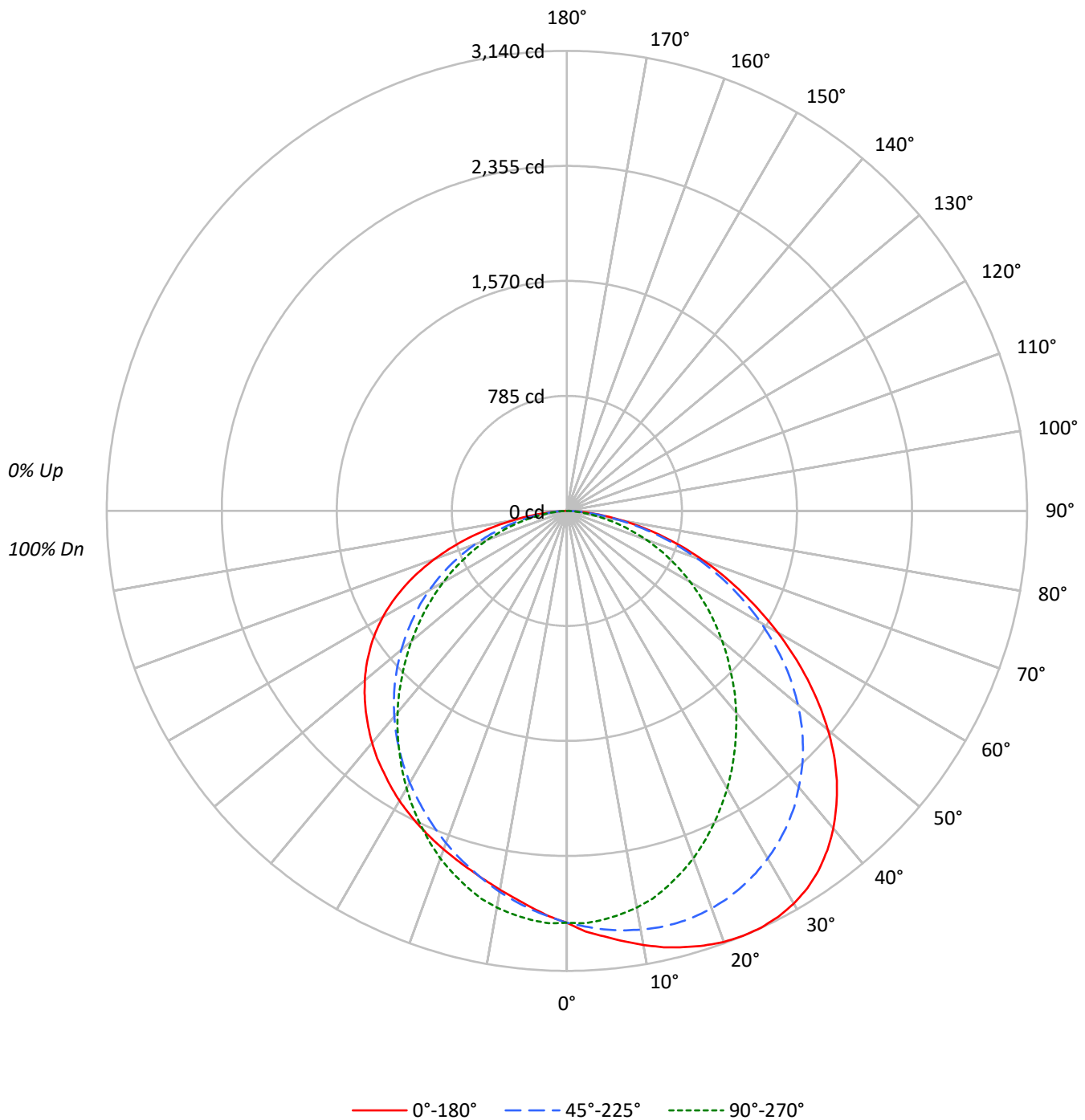
Lumens per Lamp: N/A
Luminaire Lumens: 8268.9 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3782	3782	3782
5°	3938	3784	3672
10°	4110	3756	3587
15°	4295	3696	3536
20°	4483	3614	3521
25°	4659	3509	3526
30°	4810	3399	3549
35°	4920	3278	3579
40°	4970	3157	3632
45°	4956	3023	3691
50°	4868	2896	3767
55°	4702	2763	3845
60°	4473	2621	3904
65°	4200	2461	3899
70°	3909	2270	3783
75°	3549	1993	3488
80°	3047	1638	2942
85°	2323	1119	2021

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.6	3.2
10°-20°	769.9	9.3
20°-30°	1179.5	14.3
30°-40°	1439.5	17.4
40°-50°	1505.4	18.2
50°-60°	1362.4	16.5
60°-70°	1031.8	12.5
70°-80°	575.0	7.0
80°-90°	138.7	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°	2216.1	26.8
0°-40°	3655.5	44.2
0°-60°	6523.3	78.9
0°-90°	8268.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8268.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2811	2811	2811	2811	2811	
5°	2916	2867	2802	2733	2719	281
15°	3083	2912	2653	2530	2538	874
25°	3138	2830	2364	2280	2375	1448
35°	2995	2620	1996	1993	2179	1870
45°	2605	2278	1589	1659	1940	2004
55°	2004	1810	1178	1282	1639	1789
65°	1319	1241	773	879	1225	1309
75°	683	645	383	458	671	724
85°	150	133	72	97	131	181
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°	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1
2.5°	2873.1	2859.6	2848.6	2852.9	2855.3	2846.7	2839.3	2840.6	2833.2	2847.3	2814.1
5°	2915.5	2903.2	2890.3	2895.3	2890.3	2877.4	2867.0	2863.9	2844.3	2852.2	2818.4
7.5°	2962.8	2949.3	2930.3	2935.8	2925.4	2901.4	2887.9	2879.9	2849.8	2850.4	2812.9
10°	3008.3	2996.6	2970.8	2974.5	2955.5	2923.5	2902.0	2891.0	2848.6	2842.4	2803.7
12.5°	3050.7	3034.7	3007.1	3008.9	2981.3	2938.9	2911.2	2895.3	2840.0	2821.5	2783.4
15°	3083.3	3067.9	3034.7	3034.1	2998.5	2943.2	2911.8	2889.7	2819.7	2790.8	2750.9
17.5°	3110.9	3096.8	3055.6	3054.4	3011.4	2941.3	2903.9	2876.2	2790.2	2754.5	2710.3
20°	3130.6	3116.5	3070.4	3066.1	3014.5	2932.1	2887.3	2852.2	2751.5	2709.1	2659.9
22.5°	3139.8	3125.7	3073.4	3067.3	3007.1	2913.7	2863.3	2822.1	2707.2	2651.9	2600.9
25°	3138.0	3124.4	3065.5	3059.3	2993.0	2886.0	2829.5	2782.2	2651.3	2586.2	2535.8
27.5°	3122.6	3112.2	3050.1	3042.1	2967.1	2848.6	2788.3	2736.1	2589.3	2516.8	2462.1
30°	3096.2	3088.2	3022.4	3015.1	2935.2	2807.4	2740.4	2680.2	2522.3	2440.6	2385.3
32.5°	3053.8	3046.4	2980.0	2973.3	2892.2	2754.5	2684.5	2622.4	2449.2	2358.8	2303.5
35°	2995.4	2991.1	2926.6	2919.2	2836.9	2694.3	2620.0	2551.8	2373.0	2271.0	2218.1
37.5°	2918.6	2918.6	2856.5	2848.6	2768.1	2620.6	2547.5	2475.0	2287.0	2178.8	2126.6
40°	2829.5	2837.5	2774.2	2766.2	2688.2	2541.3	2461.5	2385.3	2194.2	2081.7	2030.7
42.5°	2722.6	2730.0	2677.1	2669.8	2596.6	2449.8	2375.4	2292.5	2097.1	1982.8	1930.0
45°	2604.6	2614.5	2567.1	2561.6	2493.4	2349.6	2278.4	2194.2	1995.7	1879.6	1828.0
47.5°	2473.1	2486.0	2444.9	2441.8	2378.5	2247.0	2172.7	2087.3	1889.4	1772.1	1723.5
50°	2325.7	2344.1	2310.3	2310.3	2253.8	2122.9	2058.4	1973.0	1778.8	1661.5	1613.5
52.5°	2167.8	2191.1	2165.9	2166.5	2120.4	2003.1	1936.1	1852.5	1663.3	1547.8	1503.5
55°	2004.3	2027.0	2011.1	2013.5	1977.3	1870.4	1809.5	1726.6	1545.3	1432.9	1391.1
57.5°	1833.5	1858.1	1847.6	1852.5	1827.4	1731.5	1668.2	1595.7	1423.7	1312.5	1276.8
60°	1662.1	1685.4	1679.9	1686.6	1670.7	1587.7	1530.0	1455.0	1301.4	1194.5	1163.1
62.5°	1488.8	1510.3	1509.1	1516.4	1507.8	1439.0	1387.4	1323.5	1174.8	1076.5	1047.6
65°	1319.2	1337.6	1336.4	1344.4	1342.6	1287.3	1240.6	1182.2	1048.2	957.9	932.7
67.5°	1154.5	1169.9	1165.6	1174.8	1177.3	1133.0	1092.5	1040.3	927.8	839.9	818.4
70°	993.6	1004.0	998.5	1004.6	1010.1	977.0	942.6	896.5	799.4	722.0	704.2
72.5°	835.6	843.0	834.4	840.6	845.5	821.5	793.2	753.3	672.8	605.8	591.1
75°	682.6	693.1	675.3	681.4	685.1	661.1	644.6	612.0	542.6	490.9	481.1
77.5°	534.6	540.7	530.9	528.4	530.9	513.7	500.8	475.6	423.4	381.0	374.8
80°	393.2	396.9	387.1	384.6	386.5	374.2	364.4	345.9	309.1	277.1	274.7
82.5°	263.6	265.4	256.8	254.4	255.6	251.9	240.2	227.3	210.1	183.1	182.5
85°	150.5	150.5	144.4	141.9	143.2	137.0	132.7	126.0	119.2	100.8	102.0
87.5°	55.3	55.3	52.2	51.6	57.8	51.0	49.2	46.1	47.9	38.1	40.6
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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CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1	2811.1
2.5°	2823.4	2817.2	2811.7	2792.6	2800.6	2781.0	2779.7	2772.4	2766.8	2756.4	2769.9
5°	2814.1	2801.9	2785.9	2763.2	2769.9	2746.6	2741.6	2733.0	2725.7	2712.2	2722.6
7.5°	2799.4	2779.1	2753.9	2725.1	2734.3	2705.4	2698.0	2688.8	2682.7	2666.7	2675.9
10°	2777.9	2749.0	2719.5	2684.5	2691.3	2659.9	2650.7	2640.9	2635.3	2621.2	2630.4
12.5°	2744.7	2709.7	2669.8	2631.7	2639.0	2609.5	2597.3	2586.8	2585.0	2573.3	2584.3
15°	2701.7	2653.2	2612.0	2571.4	2580.0	2545.6	2540.1	2529.7	2532.7	2524.7	2538.3
17.5°	2647.0	2591.1	2546.3	2502.6	2511.2	2482.3	2478.0	2473.1	2476.2	2475.0	2489.7
20°	2585.6	2524.1	2472.5	2429.5	2434.4	2411.7	2413.5	2412.3	2418.4	2425.2	2445.5
22.5°	2516.1	2446.7	2392.6	2348.4	2355.8	2336.1	2344.7	2347.2	2357.6	2373.0	2398.8
25°	2438.1	2363.8	2307.2	2265.5	2272.2	2259.3	2274.1	2280.2	2296.8	2322.6	2349.0
27.5°	2356.4	2277.7	2217.5	2177.6	2190.5	2177.6	2199.7	2212.0	2237.2	2265.5	2298.0
30°	2269.8	2188.0	2126.0	2090.3	2102.6	2090.9	2126.6	2143.2	2168.4	2207.1	2245.8
32.5°	2178.8	2092.8	2032.0	2004.3	2012.9	2011.1	2051.0	2069.4	2103.2	2147.5	2188.6
35°	2085.4	1995.7	1934.3	1910.9	1921.4	1923.8	1971.7	1993.3	2030.1	2083.6	2127.8
37.5°	1989.0	1897.4	1837.2	1818.1	1827.4	1836.6	1892.5	1914.0	1955.8	2014.1	2062.7
40°	1888.8	1797.2	1738.3	1722.9	1732.1	1741.9	1802.8	1832.3	1877.7	1941.0	1993.9
42.5°	1787.4	1695.9	1638.7	1627.7	1636.9	1655.9	1720.4	1748.1	1796.0	1866.1	1924.4
45°	1684.2	1588.9	1539.2	1530.6	1540.4	1562.5	1625.8	1659.0	1710.0	1786.8	1849.5
47.5°	1579.7	1487.0	1439.6	1434.1	1443.9	1468.5	1538.6	1568.7	1622.7	1704.5	1772.1
50°	1474.0	1383.7	1338.3	1336.4	1345.6	1372.1	1439.0	1474.7	1530.6	1622.1	1691.6
52.5°	1367.1	1280.5	1239.3	1239.3	1247.9	1275.0	1342.6	1379.4	1437.2	1533.6	1610.5
55°	1260.2	1177.9	1138.6	1141.6	1153.9	1177.3	1243.0	1281.7	1340.1	1440.3	1521.4
57.5°	1153.3	1075.3	1039.6	1043.9	1055.6	1079.0	1143.5	1187.1	1239.9	1343.8	1426.7
60°	1047.6	973.9	942.6	947.5	957.9	981.3	1048.2	1085.7	1138.6	1244.2	1327.2
62.5°	940.7	873.7	844.2	850.4	859.6	883.0	946.2	982.5	1034.7	1138.6	1222.1
65°	835.0	773.0	747.8	753.9	762.5	784.0	843.6	878.7	928.4	1029.8	1109.7
67.5°	730.6	674.0	653.2	659.3	666.1	686.3	735.5	773.6	820.3	916.7	992.3
70°	627.3	577.0	558.5	564.7	570.8	589.3	632.3	667.3	710.3	798.8	868.8
72.5°	525.3	476.2	467.0	472.5	477.4	493.4	534.6	562.2	599.7	678.3	738.6
75°	425.8	383.4	377.3	382.8	387.1	399.4	433.8	457.8	489.1	557.3	606.5
77.5°	330.0	294.3	291.9	296.2	300.5	309.1	336.1	361.3	385.9	436.3	479.9
80°	240.2	211.4	211.4	215.7	214.4	224.9	243.9	264.2	282.0	318.3	350.2
82.5°	158.5	135.8	138.9	141.9	143.8	148.1	159.8	175.1	186.2	208.3	229.2
85°	87.9	72.5	75.6	78.0	76.8	81.7	87.9	97.1	102.6	113.1	124.1
87.5°	32.6	27.0	27.6	29.5	30.7	33.2	33.2	38.7	39.3	40.6	43.0
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°	2811.1	2811.1	2811.1
2.5°	2744.1	2758.8	2769.9
5°	2696.8	2709.1	2718.9
7.5°	2650.7	2661.8	2670.4
10°	2607.1	2619.4	2625.5
12.5°	2562.2	2576.4	2581.3
15°	2518.0	2532.1	2538.3
17.5°	2472.5	2491.0	2497.7
20°	2430.1	2453.5	2459.0
22.5°	2387.1	2411.1	2417.8
25°	2340.4	2368.7	2375.4
27.5°	2290.6	2324.4	2331.2
30°	2240.9	2277.7	2284.5
32.5°	2187.4	2227.4	2233.5
35°	2131.5	2171.4	2178.8
37.5°	2069.4	2113.1	2127.8
40°	2004.9	2052.2	2067.6
42.5°	1937.3	1989.0	2004.9
45°	1864.8	1921.4	1939.8
47.5°	1791.7	1855.6	1871.6
50°	1712.5	1780.7	1799.7
52.5°	1629.5	1703.9	1722.9
55°	1543.5	1618.4	1639.3
57.5°	1450.1	1527.5	1549.6
60°	1352.4	1429.8	1450.7
62.5°	1252.2	1322.3	1342.6
65°	1140.4	1206.2	1224.6
67.5°	1021.8	1082.0	1097.4
70°	895.9	948.1	961.6
72.5°	764.4	800.6	818.4
75°	628.6	657.5	671.0
77.5°	492.2	512.4	523.5
80°	358.8	370.5	379.7
82.5°	234.7	239.6	246.4
85°	126.6	126.6	130.9
87.5°	43.0	41.2	43.0
90°	0.0	0.0	0.0

(END OF REPORT)