

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: P834672

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834672
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-LD4-2HI-35-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

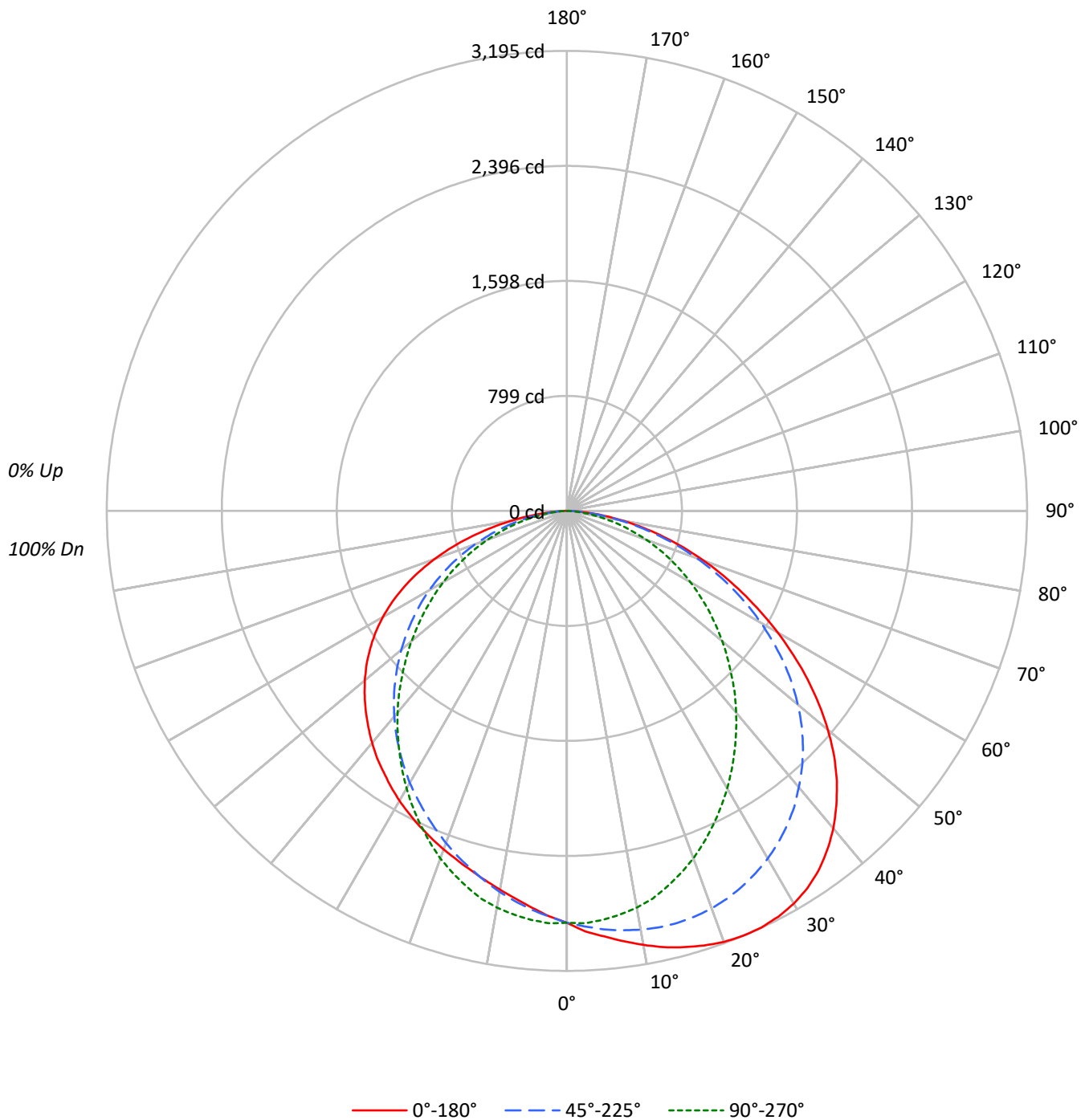
Lumens per Lamp: N/A
Luminaire Lumens: 8413.1 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 88
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

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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°	3848	3848	3848
5°	4007	3850	3736
10°	4182	3821	3650
15°	4370	3760	3597
20°	4561	3677	3582
25°	4740	3570	3588
30°	4894	3459	3611
35°	5006	3335	3641
40°	5057	3212	3695
45°	5043	3076	3755
50°	4953	2947	3833
55°	4784	2811	3913
60°	4551	2666	3972
65°	4273	2504	3967
70°	3977	2309	3849
75°	3611	2028	3549
80°	3100	1667	2993
85°	2365	1139	2056

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.3	3.2
10°-20°	783.4	9.3
20°-30°	1200.1	14.3
30°-40°	1464.6	17.4
40°-50°	1531.6	18.2
50°-60°	1386.2	16.5
60°-70°	1049.8	12.5
70°-80°	585.1	7.0
80°-90°	141.1	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°	2254.7	26.8
0°-40°	3719.3	44.2
0°-60°	6637.1	78.9
0°-90°	8413.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8413.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2860	2860	2860	2860	2860	
5°	2966	2917	2851	2781	2766	286
15°	3137	2963	2699	2574	2582	890
25°	3193	2879	2405	2320	2417	1473
35°	3048	2666	2030	2028	2217	1903
45°	2650	2318	1617	1688	1974	2039
55°	2039	1841	1198	1304	1668	1820
65°	1342	1262	786	894	1246	1331
75°	695	656	390	466	683	737
85°	153	135	74	99	133	184
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°	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1
2.5°	2923.2	2909.5	2898.2	2902.6	2905.1	2896.4	2888.9	2890.1	2882.6	2897.0	2863.2
5°	2966.4	2953.9	2940.8	2945.8	2940.8	2927.6	2917.0	2913.9	2893.9	2902.0	2867.6
7.5°	3014.5	3000.8	2981.4	2987.0	2976.4	2952.0	2938.3	2930.1	2899.5	2900.1	2862.0
10°	3060.8	3048.9	3022.6	3026.4	3007.0	2974.5	2952.6	2941.4	2898.2	2892.0	2852.6
12.5°	3103.9	3087.7	3059.5	3061.4	3033.3	2990.1	2962.0	2945.8	2889.5	2870.7	2832.0
15°	3137.1	3121.4	3087.7	3087.0	3050.8	2994.5	2962.6	2940.1	2868.9	2839.5	2798.8
17.5°	3165.2	3150.8	3108.9	3107.7	3063.9	2992.6	2954.5	2926.4	2838.9	2802.6	2757.6
20°	3185.2	3170.8	3123.9	3119.5	3067.0	2983.3	2937.6	2902.0	2799.5	2756.3	2706.3
22.5°	3194.6	3180.2	3127.1	3120.8	3059.5	2964.5	2913.2	2871.4	2754.5	2698.2	2646.3
25°	3192.7	3178.9	3118.9	3112.7	3045.2	2936.4	2878.9	2830.7	2697.6	2631.3	2580.0
27.5°	3177.1	3166.4	3103.3	3095.2	3018.9	2898.2	2837.0	2783.8	2634.4	2560.7	2505.0
30°	3150.2	3142.1	3075.2	3067.7	2986.4	2856.4	2788.2	2726.9	2566.3	2483.1	2426.9
32.5°	3107.0	3099.5	3032.0	3025.2	2942.6	2802.6	2731.3	2668.2	2491.9	2400.0	2343.7
35°	3047.7	3043.3	2977.6	2970.1	2886.4	2741.3	2665.7	2596.3	2414.4	2310.6	2256.8
37.5°	2969.5	2969.5	2906.4	2898.2	2816.3	2666.3	2591.9	2518.1	2326.8	2216.8	2163.7
40°	2878.9	2887.0	2822.6	2814.5	2735.1	2585.7	2504.4	2426.9	2232.4	2118.0	2066.2
42.5°	2770.1	2777.6	2723.8	2716.3	2641.9	2492.5	2416.9	2332.5	2133.7	2017.4	1963.6
45°	2650.1	2660.1	2611.9	2606.3	2536.9	2390.6	2318.1	2232.4	2030.5	1912.4	1859.9
47.5°	2516.3	2529.4	2487.5	2484.4	2420.0	2286.2	2210.6	2123.7	1922.4	1803.0	1753.6
50°	2366.2	2385.0	2350.6	2350.6	2293.1	2159.9	2094.3	2007.4	1809.8	1690.4	1641.7
52.5°	2205.6	2229.3	2203.7	2204.3	2157.4	2038.0	1969.9	1884.9	1692.3	1574.8	1529.8
55°	2039.3	2062.4	2046.1	2048.7	2011.8	1903.0	1841.1	1756.7	1572.3	1457.9	1415.4
57.5°	1865.5	1890.5	1879.9	1884.9	1859.2	1761.7	1697.3	1623.5	1448.5	1335.3	1299.1
60°	1691.1	1714.8	1709.2	1716.1	1699.8	1615.4	1556.6	1480.4	1324.1	1215.3	1183.4
62.5°	1514.8	1536.6	1535.4	1542.9	1534.1	1464.1	1411.6	1346.6	1195.3	1095.3	1065.9
65°	1342.2	1361.0	1359.7	1367.9	1366.0	1309.7	1262.2	1202.8	1066.5	974.6	949.0
67.5°	1174.7	1190.3	1185.9	1195.3	1197.8	1152.8	1111.5	1058.4	944.0	854.6	832.7
70°	1010.9	1021.5	1015.9	1022.1	1027.8	994.0	959.0	912.1	813.3	734.6	716.4
72.5°	850.2	857.7	849.0	855.2	860.2	835.8	807.1	766.4	684.6	616.4	601.4
75°	694.6	705.2	687.1	693.3	697.1	672.7	655.8	622.7	552.0	499.5	489.5
77.5°	543.9	550.1	540.1	537.6	540.1	522.6	509.5	483.9	430.7	387.6	381.3
80°	400.1	403.9	393.9	391.4	393.2	380.7	370.7	352.0	314.5	281.9	279.4
82.5°	268.2	270.1	261.3	258.8	260.1	256.3	244.4	231.3	213.8	186.3	185.7
85°	153.2	153.2	146.9	144.4	145.7	139.4	135.0	128.2	121.3	102.5	103.8
87.5°	56.3	56.3	53.1	52.5	58.8	51.9	50.0	46.9	48.8	38.8	41.3
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°	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1	2860.1
2.5°	2872.6	2866.4	2860.7	2841.4	2849.5	2829.5	2828.2	2820.7	2815.1	2804.5	2818.2
5°	2863.2	2850.7	2834.5	2811.3	2818.2	2794.5	2789.5	2780.7	2773.2	2759.5	2770.1
7.5°	2848.2	2827.6	2802.0	2772.6	2782.0	2752.6	2745.1	2735.7	2729.4	2713.2	2722.6
10°	2826.3	2797.0	2767.0	2731.3	2738.2	2706.3	2696.9	2686.9	2681.3	2666.9	2676.3
12.5°	2792.6	2757.0	2716.3	2677.6	2685.1	2655.1	2642.6	2631.9	2630.0	2618.2	2629.4
15°	2748.8	2699.4	2657.6	2616.3	2625.0	2590.0	2584.4	2573.8	2576.9	2568.8	2582.5
17.5°	2693.2	2636.3	2590.7	2546.3	2555.0	2525.6	2521.3	2516.3	2519.4	2518.1	2533.1
20°	2630.7	2568.2	2515.6	2471.9	2476.9	2453.8	2455.6	2454.4	2460.6	2467.5	2488.1
22.5°	2560.0	2489.4	2434.4	2389.4	2396.9	2376.9	2385.6	2388.1	2398.7	2414.4	2440.6
25°	2480.6	2405.0	2347.5	2305.0	2311.8	2298.7	2313.7	2320.0	2336.8	2363.1	2390.0
27.5°	2397.5	2317.5	2256.2	2215.6	2228.7	2215.6	2238.1	2250.6	2276.2	2305.0	2338.1
30°	2309.3	2226.2	2163.1	2126.8	2139.3	2127.4	2163.7	2180.6	2206.2	2245.6	2285.0
32.5°	2216.8	2129.3	2067.4	2039.3	2048.0	2046.1	2086.8	2105.5	2139.9	2184.9	2226.8
35°	2121.8	2030.5	1968.0	1944.2	1954.9	1957.4	2006.1	2028.0	2065.5	2119.9	2164.9
37.5°	2023.6	1930.5	1869.2	1849.8	1859.2	1868.6	1925.5	1947.4	1989.9	2049.3	2098.7
40°	1921.7	1828.6	1768.6	1752.9	1762.3	1772.3	1834.2	1864.2	1910.5	1974.9	2028.6
42.5°	1818.6	1725.4	1667.3	1656.0	1665.4	1684.8	1750.4	1778.6	1827.3	1898.6	1958.0
45°	1713.6	1616.7	1566.0	1557.3	1567.3	1589.8	1654.2	1687.9	1739.8	1818.0	1881.7
47.5°	1607.3	1512.9	1464.8	1459.1	1469.1	1494.1	1565.4	1596.0	1651.0	1734.2	1803.0
50°	1499.8	1407.9	1361.6	1359.7	1369.1	1396.0	1464.1	1500.4	1557.3	1650.4	1721.1
52.5°	1391.0	1302.8	1260.9	1260.9	1269.7	1297.2	1366.0	1403.5	1462.2	1560.4	1638.5
55°	1282.2	1198.4	1158.4	1161.5	1174.1	1197.8	1264.7	1304.1	1363.5	1465.4	1547.9
57.5°	1173.4	1094.0	1057.8	1062.1	1074.0	1097.8	1163.4	1207.8	1261.6	1367.2	1451.6
60°	1065.9	990.9	959.0	964.0	974.6	998.4	1066.5	1104.7	1158.4	1265.9	1350.3
62.5°	957.1	889.0	859.0	865.2	874.6	898.4	962.7	999.6	1052.8	1158.4	1243.4
65°	849.6	786.5	760.8	767.1	775.8	797.7	858.3	894.0	944.6	1047.8	1129.0
67.5°	743.3	685.8	664.5	670.8	677.7	698.3	748.3	787.1	834.6	932.7	1009.6
70°	638.3	587.0	568.3	574.5	580.8	599.5	643.3	678.9	722.7	812.7	884.0
72.5°	534.5	484.5	475.1	480.7	485.7	502.0	543.9	572.0	610.2	690.2	751.4
75°	433.2	390.1	383.8	389.5	393.9	406.4	441.4	465.7	497.6	567.0	617.0
77.5°	335.7	299.5	297.0	301.3	305.7	314.5	342.0	367.6	392.6	443.9	488.3
80°	244.4	215.1	215.1	219.4	218.2	228.8	248.2	268.8	286.9	323.8	356.3
82.5°	161.3	138.2	141.3	144.4	146.3	150.7	162.5	178.2	189.4	211.9	233.2
85°	89.4	73.8	76.9	79.4	78.1	83.1	89.4	98.8	104.4	115.0	126.3
87.5°	33.1	27.5	28.1	30.0	31.3	33.8	33.8	39.4	40.0	41.3	43.8
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°	2860.1	2860.1	2860.1
2.5°	2792.0	2807.0	2818.2
5°	2743.8	2756.3	2766.3
7.5°	2696.9	2708.2	2716.9
10°	2652.6	2665.1	2671.3
12.5°	2606.9	2621.3	2626.3
15°	2561.9	2576.3	2582.5
17.5°	2515.6	2534.4	2541.3
20°	2472.5	2496.3	2501.9
22.5°	2428.7	2453.1	2460.0
25°	2381.2	2410.0	2416.9
27.5°	2330.6	2365.0	2371.9
30°	2280.0	2317.5	2324.3
32.5°	2225.6	2266.2	2272.5
35°	2168.7	2209.3	2216.8
37.5°	2105.5	2149.9	2164.9
40°	2039.9	2088.0	2103.7
42.5°	1971.1	2023.6	2039.9
45°	1897.4	1954.9	1973.6
47.5°	1823.0	1888.0	1904.2
50°	1742.3	1811.7	1831.1
52.5°	1657.9	1733.6	1752.9
55°	1570.4	1646.7	1667.9
57.5°	1475.4	1554.1	1576.7
60°	1376.0	1454.7	1476.0
62.5°	1274.1	1345.3	1366.0
65°	1160.3	1227.2	1245.9
67.5°	1039.6	1100.9	1116.5
70°	911.5	964.6	978.4
72.5°	777.7	814.6	832.7
75°	639.5	668.9	682.7
77.5°	500.8	521.4	532.6
80°	365.1	377.0	386.3
82.5°	238.8	243.8	250.7
85°	128.8	128.8	133.2
87.5°	43.8	41.9	43.8
90°	0.0	0.0	0.0

(END OF REPORT)