

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: P835293

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5HI-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835293
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-5HI-27-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

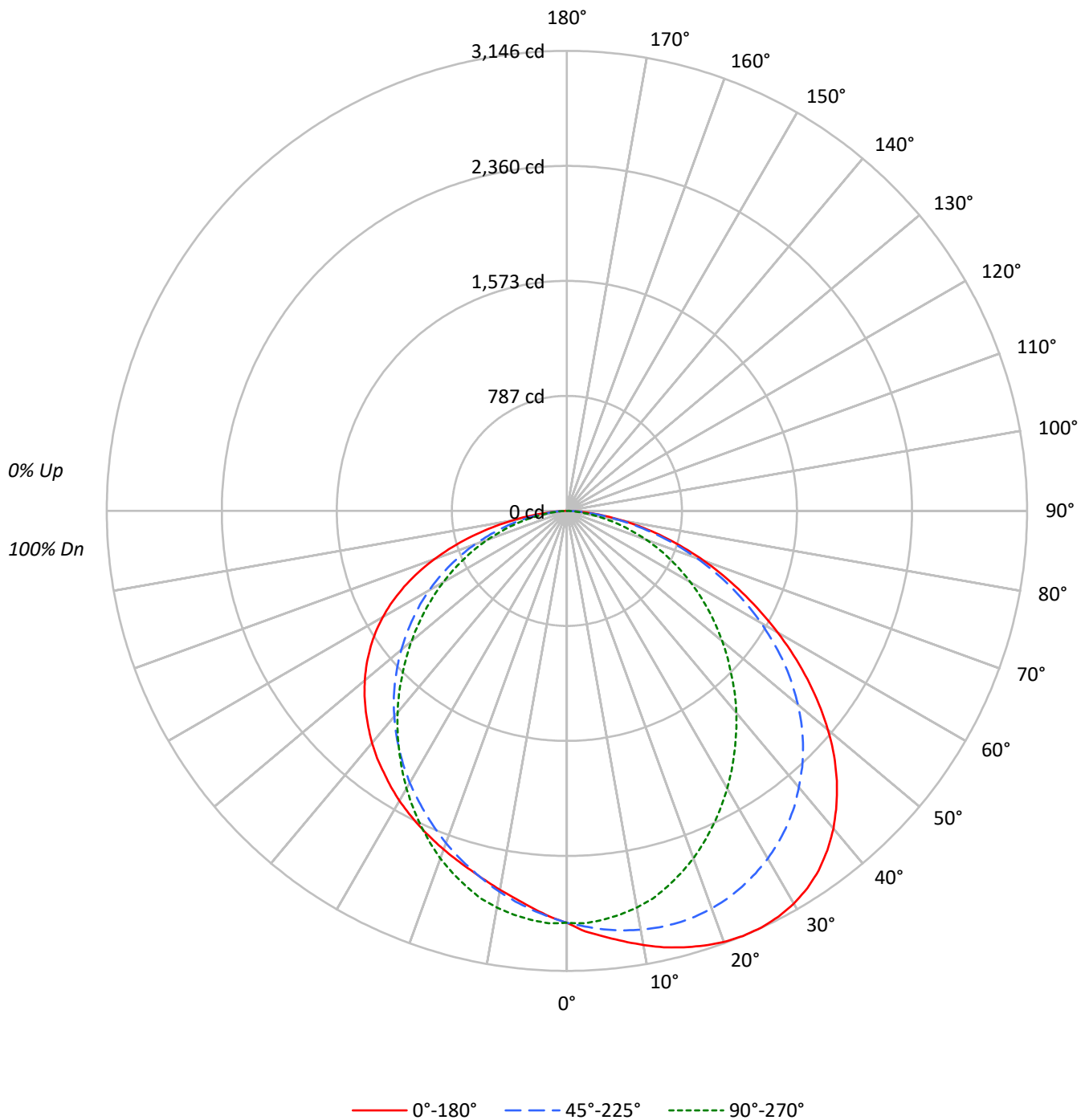
Lumens per Lamp: N/A
Luminaire Lumens: 8285.7 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 110
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°	7580	7580	7580
5°	7892	7584	7360
10°	8237	7527	7189
15°	8607	7407	7086
20°	8983	7243	7056
25°	9336	7033	7068
30°	9640	6813	7113
35°	9860	6569	7172
40°	9960	6326	7278
45°	9932	6059	7397
50°	9756	5804	7550
55°	9423	5537	7707
60°	8964	5252	7824
65°	8417	4932	7813
70°	7833	4548	7582
75°	7112	3995	6990
80°	6106	3282	5897
85°	4656	2245	4048

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.2	3.2
10°-20°	771.5	9.3
20°-30°	1181.9	14.3
30°-40°	1442.4	17.4
40°-50°	1508.4	18.2
50°-60°	1365.2	16.5
60°-70°	1033.9	12.5
70°-80°	576.2	7.0
80°-90°	139.0	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°	2220.6	26.8
0°-40°	3663.0	44.2
0°-60°	6536.6	78.9
0°-90°	8285.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8285.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2817	2817	2817	2817	2817	
5°	2922	2873	2808	2739	2724	282
15°	3090	2918	2659	2535	2543	876
25°	3144	2835	2369	2285	2380	1451
35°	3002	2625	2000	1997	2183	1874
45°	2610	2283	1592	1662	1944	2008
55°	2008	1813	1180	1284	1643	1792
65°	1322	1243	774	880	1227	1311
75°	684	646	384	459	672	725
85°	151	133	73	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°	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8
2.5°	2879.0	2865.5	2854.4	2858.7	2861.1	2852.5	2845.1	2846.4	2839.0	2853.1	2819.9
5°	2921.5	2909.2	2896.2	2901.2	2896.2	2883.3	2872.8	2869.8	2850.1	2858.1	2824.2
7.5°	2968.9	2955.3	2936.3	2941.8	2931.3	2907.3	2893.8	2885.8	2855.6	2856.2	2818.7
10°	3014.4	3002.8	2976.9	2980.6	2961.5	2929.5	2907.9	2896.9	2854.4	2848.2	2809.4
12.5°	3056.9	3040.9	3013.2	3015.1	2987.4	2944.9	2917.2	2901.2	2845.7	2827.3	2789.1
15°	3089.6	3074.2	3040.9	3040.3	3004.6	2949.2	2917.8	2895.6	2825.4	2796.5	2756.5
17.5°	3117.3	3103.1	3061.9	3060.6	3017.5	2947.3	2909.8	2882.1	2795.9	2760.2	2715.8
20°	3137.0	3122.8	3076.6	3072.3	3020.6	2938.1	2893.2	2858.1	2757.1	2714.6	2665.3
22.5°	3146.2	3132.0	3079.7	3073.6	3013.2	2919.6	2869.1	2827.9	2712.8	2657.3	2606.2
25°	3144.4	3130.8	3071.7	3065.6	2999.1	2891.9	2835.3	2787.9	2656.7	2591.5	2541.0
27.5°	3129.0	3118.5	3056.3	3048.3	2973.2	2854.4	2794.0	2741.7	2594.5	2521.9	2467.1
30°	3102.5	3094.5	3028.6	3021.2	2941.2	2813.1	2746.0	2685.7	2527.4	2445.5	2390.1
32.5°	3060.0	3052.6	2986.1	2979.4	2898.1	2760.2	2690.0	2627.8	2454.2	2363.7	2308.2
35°	3001.5	2997.2	2932.6	2925.2	2842.7	2699.8	2625.3	2557.0	2377.8	2275.6	2222.7
37.5°	2924.6	2924.6	2862.4	2854.4	2773.7	2625.9	2552.7	2480.0	2291.6	2183.3	2130.9
40°	2835.3	2843.3	2779.9	2771.9	2693.7	2546.5	2466.5	2390.1	2198.7	2086.0	2034.9
42.5°	2728.2	2735.5	2682.6	2675.2	2601.9	2454.8	2380.3	2297.2	2101.4	1986.9	1933.9
45°	2609.9	2619.8	2572.4	2566.8	2498.5	2354.4	2283.0	2198.7	1999.8	1883.4	1831.7
47.5°	2478.2	2491.1	2449.9	2446.8	2383.4	2251.6	2177.1	2091.5	1893.3	1775.7	1727.0
50°	2330.4	2348.9	2315.0	2315.0	2258.4	2127.2	2062.6	1977.0	1782.4	1664.8	1616.8
52.5°	2172.2	2195.6	2170.3	2170.9	2124.8	2007.2	1940.1	1856.3	1666.7	1550.9	1506.6
55°	2008.4	2031.2	2015.2	2017.6	1981.3	1874.2	1813.2	1730.1	1548.5	1435.8	1393.9
57.5°	1837.2	1861.9	1851.4	1856.3	1831.1	1735.0	1671.6	1599.0	1426.6	1315.1	1279.4
60°	1665.5	1688.9	1683.3	1690.1	1674.1	1591.0	1533.1	1458.0	1304.0	1196.9	1165.5
62.5°	1491.8	1513.4	1512.2	1519.5	1510.9	1442.0	1390.2	1326.2	1177.2	1078.7	1049.8
65°	1321.9	1340.4	1339.1	1347.1	1345.3	1289.9	1243.1	1184.6	1050.4	959.9	934.6
67.5°	1156.9	1172.3	1168.0	1177.2	1179.7	1135.3	1094.7	1042.4	929.7	841.7	820.1
70°	995.6	1006.0	1000.5	1006.7	1012.2	979.0	944.5	898.3	801.0	723.4	705.6
72.5°	837.3	844.7	836.1	842.3	847.2	823.2	794.9	754.8	674.2	607.1	592.3
75°	684.0	694.5	676.7	682.8	686.5	662.5	645.9	613.2	543.7	491.9	482.1
77.5°	535.7	541.8	532.0	529.5	532.0	514.7	501.8	476.5	424.2	381.7	375.6
80°	394.0	397.7	387.9	385.4	387.3	375.0	365.1	346.6	309.7	277.7	275.2
82.5°	264.1	266.0	257.4	254.9	256.1	252.4	240.7	227.8	210.6	183.5	182.9
85°	150.8	150.8	144.7	142.2	143.5	137.3	133.0	126.2	119.4	101.0	102.2
87.5°	55.4	55.4	52.3	51.7	57.9	51.1	49.3	46.2	48.0	38.2	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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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8	2816.8
2.5°	2829.1	2823.0	2817.4	2798.3	2806.3	2786.6	2785.4	2778.0	2772.5	2762.0	2775.6
5°	2819.9	2807.6	2791.6	2768.8	2775.6	2752.2	2747.2	2738.6	2731.2	2717.7	2728.2
7.5°	2805.1	2784.8	2759.6	2730.6	2739.8	2710.9	2703.5	2694.3	2688.1	2672.1	2681.4
10°	2783.6	2754.6	2725.1	2690.0	2696.8	2665.3	2656.1	2646.3	2640.7	2626.6	2635.8
12.5°	2750.3	2715.2	2675.2	2637.0	2644.4	2614.9	2602.5	2592.1	2590.2	2578.5	2589.6
15°	2707.2	2658.6	2617.3	2576.7	2585.3	2550.8	2545.3	2534.8	2537.9	2529.9	2543.4
17.5°	2652.4	2596.4	2551.4	2507.7	2516.4	2487.4	2483.1	2478.2	2481.3	2480.0	2494.8
20°	2590.9	2529.3	2477.6	2434.5	2439.4	2416.6	2418.5	2417.2	2423.4	2430.2	2450.5
22.5°	2521.3	2451.7	2397.5	2353.2	2360.6	2340.9	2349.5	2352.0	2362.4	2377.8	2403.7
25°	2443.1	2368.6	2311.9	2270.1	2276.8	2263.9	2278.7	2284.8	2301.5	2327.3	2353.8
27.5°	2361.2	2282.4	2222.0	2182.0	2195.0	2182.0	2204.2	2216.5	2241.8	2270.1	2302.7
30°	2274.4	2192.5	2130.3	2094.6	2106.9	2095.2	2130.9	2147.5	2172.8	2211.6	2250.4
32.5°	2183.3	2097.1	2036.1	2008.4	2017.0	2015.2	2055.2	2073.7	2107.5	2151.9	2193.1
35°	2089.7	1999.8	1938.2	1914.8	1925.3	1927.7	1975.8	1997.3	2034.3	2087.8	2132.2
37.5°	1993.0	1901.3	1840.9	1821.8	1831.1	1840.3	1896.3	1917.9	1959.8	2018.3	2066.9
40°	1892.7	1800.9	1741.8	1726.4	1735.6	1745.5	1806.5	1836.0	1881.6	1945.0	1997.9
42.5°	1791.1	1699.3	1642.1	1631.0	1640.2	1659.3	1723.9	1751.7	1799.7	1869.9	1928.4
45°	1687.6	1592.2	1542.3	1533.7	1543.6	1565.7	1629.1	1662.4	1713.5	1790.4	1853.2
47.5°	1583.0	1490.0	1442.6	1437.0	1446.9	1471.5	1541.7	1571.9	1626.1	1707.9	1775.7
50°	1477.1	1386.5	1341.0	1339.1	1348.4	1374.8	1442.0	1477.7	1533.7	1625.4	1695.0
52.5°	1369.9	1283.1	1241.9	1241.9	1250.5	1277.6	1345.3	1382.2	1440.1	1536.8	1613.7
55°	1262.8	1180.3	1140.9	1144.0	1156.3	1179.7	1245.6	1284.3	1342.8	1443.2	1524.5
57.5°	1155.7	1077.5	1041.8	1046.1	1057.8	1081.2	1145.8	1189.5	1242.5	1346.5	1429.6
60°	1049.8	975.9	944.5	949.4	959.9	983.3	1050.4	1087.9	1140.9	1246.8	1329.9
62.5°	942.6	875.5	846.0	852.1	861.4	884.8	948.2	984.5	1036.8	1140.9	1224.6
65°	836.7	774.5	749.3	755.5	764.1	785.6	845.4	880.4	930.3	1031.9	1111.9
67.5°	732.1	675.4	654.5	660.6	667.4	687.7	737.0	775.2	822.0	918.6	994.3
70°	628.6	578.1	559.7	565.8	572.0	590.5	633.6	668.6	711.7	800.4	870.6
72.5°	526.4	477.2	467.9	473.5	478.4	494.4	535.7	563.4	600.9	679.7	740.1
75°	426.7	384.2	378.0	383.6	387.9	400.2	434.7	458.7	490.1	558.4	607.7
77.5°	330.6	294.9	292.5	296.8	301.1	309.7	336.8	362.0	386.7	437.1	480.9
80°	240.7	211.8	211.8	216.1	214.9	225.3	244.4	264.7	282.6	318.9	350.9
82.5°	158.8	136.1	139.1	142.2	144.1	148.4	160.1	175.5	186.6	208.7	229.7
85°	88.0	72.7	75.7	78.2	77.0	81.9	88.0	97.3	102.8	113.3	124.4
87.5°	32.6	27.1	27.7	29.6	30.8	33.2	33.2	38.8	39.4	40.6	43.1
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°	2816.8	2816.8	2816.8
2.5°	2749.7	2764.5	2775.6
5°	2702.3	2714.6	2724.5
7.5°	2656.1	2667.2	2675.8
10°	2612.4	2624.7	2630.9
12.5°	2567.5	2581.6	2586.5
15°	2523.1	2537.3	2543.4
17.5°	2477.6	2496.0	2502.8
20°	2435.1	2458.5	2464.0
22.5°	2392.0	2416.0	2422.8
25°	2345.2	2373.5	2380.3
27.5°	2295.3	2329.2	2336.0
30°	2245.4	2282.4	2289.2
32.5°	2191.9	2231.9	2238.1
35°	2135.9	2175.9	2183.3
37.5°	2073.7	2117.4	2132.2
40°	2009.0	2056.4	2071.8
42.5°	1941.3	1993.0	2009.0
45°	1868.6	1925.3	1943.8
47.5°	1795.4	1859.4	1875.4
50°	1715.9	1784.3	1803.4
52.5°	1632.8	1707.3	1726.4
55°	1546.6	1621.7	1642.7
57.5°	1453.0	1530.6	1552.8
60°	1355.1	1432.7	1453.7
62.5°	1254.8	1325.0	1345.3
65°	1142.7	1208.6	1227.1
67.5°	1023.9	1084.2	1099.6
70°	897.7	950.0	963.6
72.5°	765.9	802.3	820.1
75°	629.9	658.8	672.3
77.5°	493.2	513.5	524.6
80°	359.6	371.3	380.5
82.5°	235.2	240.1	246.9
85°	126.8	126.8	131.1
87.5°	43.1	41.3	43.1
90°	0.0	0.0	0.0

(END OF REPORT)