

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: P834654

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834654
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

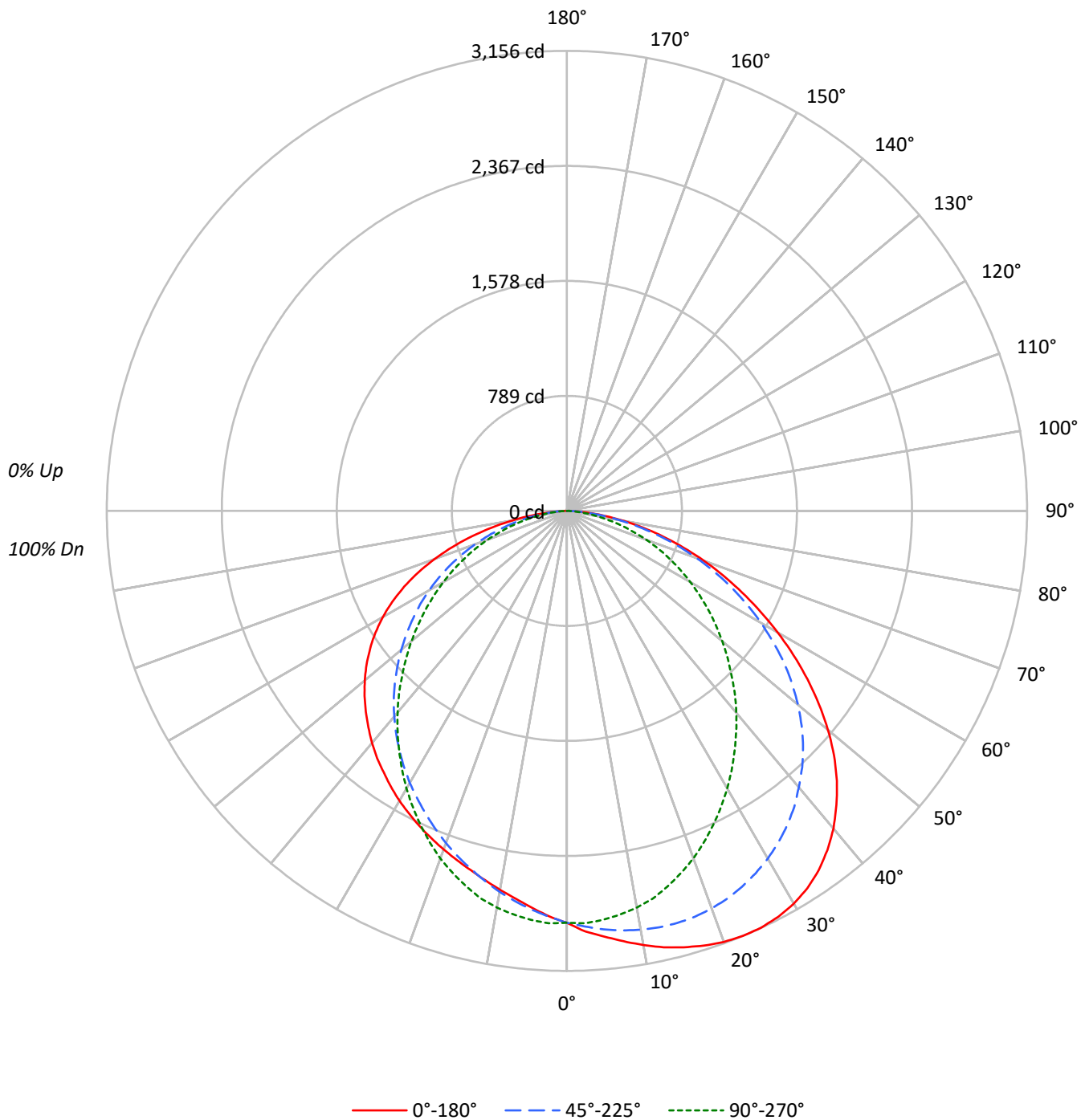
Lumens per Lamp: N/A
Luminaire Lumens: 8311.7 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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°	3802	3802	3802
5°	3958	3804	3691
10°	4131	3775	3606
15°	4317	3715	3554
20°	4506	3633	3539
25°	4683	3527	3545
30°	4835	3417	3568
35°	4946	3295	3597
40°	4996	3173	3650
45°	4982	3039	3710
50°	4893	2911	3787
55°	4726	2777	3865
60°	4496	2634	3924
65°	4222	2474	3919
70°	3929	2282	3803
75°	3567	2004	3506
80°	3063	1647	2958
85°	2336	1125	2032

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.0	3.2
10°-20°	773.9	9.3
20°-30°	1185.6	14.3
30°-40°	1446.9	17.4
40°-50°	1513.2	18.2
50°-60°	1369.5	16.5
60°-70°	1037.2	12.5
70°-80°	578.0	7.0
80°-90°	139.4	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°	2227.5	26.8
0°-40°	3674.4	44.2
0°-60°	6557.1	78.9
0°-90°	8311.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8311.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2826	2826	2826	2826	2826	
5°	2931	2882	2816	2747	2733	283
15°	3099	2927	2667	2543	2551	879
25°	3154	2844	2376	2292	2388	1455
35°	3011	2634	2006	2004	2190	1880
45°	2618	2290	1597	1668	1950	2014
55°	2015	1819	1184	1288	1648	1798
65°	1326	1247	777	883	1231	1315
75°	686	648	385	460	674	728
85°	151	133	73	98	132	182
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°	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6
2.5°	2888.0	2874.4	2863.3	2867.6	2870.1	2861.5	2854.1	2855.3	2847.9	2862.1	2828.7
5°	2930.6	2918.3	2905.3	2910.3	2905.3	2892.4	2881.9	2878.8	2859.0	2867.0	2833.1
7.5°	2978.2	2964.6	2945.5	2951.0	2940.5	2916.4	2902.9	2894.8	2864.6	2865.2	2827.5
10°	3023.9	3012.2	2986.2	2989.9	2970.8	2938.7	2917.1	2905.9	2863.3	2857.1	2818.2
12.5°	3066.5	3050.5	3022.7	3024.5	2996.7	2954.1	2926.3	2910.3	2854.7	2836.1	2797.9
15°	3099.3	3083.8	3050.5	3049.8	3014.0	2958.4	2926.9	2904.7	2834.3	2805.3	2765.1
17.5°	3127.1	3112.8	3071.5	3070.2	3027.0	2956.6	2918.9	2891.1	2804.6	2768.8	2724.4
20°	3146.8	3132.6	3086.3	3082.0	3030.1	2947.3	2902.2	2867.0	2765.7	2723.1	2673.7
22.5°	3156.1	3141.9	3089.4	3083.2	3022.7	2928.8	2878.1	2836.8	2721.3	2665.7	2614.4
25°	3154.2	3140.6	3081.3	3075.2	3008.5	2901.0	2844.2	2796.6	2665.1	2599.6	2549.0
27.5°	3138.8	3128.3	3065.9	3057.9	2982.5	2863.3	2802.8	2750.3	2602.7	2529.8	2474.8
30°	3112.2	3104.2	3038.1	3030.7	2950.4	2821.9	2754.6	2694.1	2535.4	2453.2	2397.6
32.5°	3069.6	3062.2	2995.5	2988.7	2907.2	2768.8	2698.4	2636.0	2461.9	2371.1	2315.5
35°	3010.9	3006.6	2941.8	2934.4	2851.6	2708.3	2633.6	2565.0	2385.3	2282.8	2229.6
37.5°	2933.7	2933.7	2871.4	2863.3	2782.4	2634.2	2560.7	2487.8	2298.8	2190.1	2137.6
40°	2844.2	2852.2	2788.6	2780.6	2702.1	2554.5	2474.2	2397.6	2205.6	2092.5	2041.3
42.5°	2736.7	2744.1	2691.0	2683.6	2610.1	2462.5	2387.8	2304.4	2108.0	1993.1	1940.0
45°	2618.1	2628.0	2580.5	2574.9	2506.3	2361.8	2290.2	2205.6	2006.1	1889.3	1837.4
47.5°	2486.0	2498.9	2457.5	2454.5	2390.8	2258.7	2183.9	2098.1	1899.2	1781.2	1732.4
50°	2337.7	2356.3	2322.3	2322.3	2265.5	2133.9	2069.1	1983.2	1788.0	1670.1	1621.9
52.5°	2179.0	2202.5	2177.1	2177.8	2131.4	2013.5	1946.1	1862.1	1671.9	1555.8	1511.3
55°	2014.7	2037.6	2021.5	2024.0	1987.5	1880.1	1818.9	1735.5	1553.3	1440.3	1398.3
57.5°	1843.0	1867.7	1857.2	1862.1	1836.8	1740.5	1676.9	1604.0	1431.0	1319.3	1283.4
60°	1670.7	1694.2	1688.6	1695.4	1679.3	1596.0	1537.9	1462.5	1308.1	1200.7	1169.2
62.5°	1496.5	1518.1	1516.9	1524.3	1515.7	1446.5	1394.6	1330.4	1180.9	1082.1	1053.1
65°	1326.0	1344.6	1343.3	1351.4	1349.5	1293.9	1247.0	1188.3	1053.7	962.9	937.6
67.5°	1160.5	1176.0	1171.6	1180.9	1183.4	1138.9	1098.1	1045.6	932.6	844.3	822.7
70°	998.7	1009.2	1003.6	1009.8	1015.4	982.0	947.4	901.1	803.5	725.7	707.8
72.5°	840.0	847.4	838.7	844.9	849.9	825.8	797.4	757.2	676.3	609.0	594.2
75°	686.2	696.7	678.8	684.9	688.7	664.6	647.9	615.2	545.4	493.5	483.6
77.5°	537.3	543.5	533.6	531.2	533.6	516.3	503.4	478.0	425.5	382.9	376.8
80°	395.3	399.0	389.1	386.6	388.5	376.1	366.3	347.7	310.7	278.6	276.1
82.5°	265.0	266.8	258.2	255.7	256.9	253.2	241.5	228.5	211.2	184.1	183.4
85°	151.3	151.3	145.1	142.7	143.9	137.7	133.4	126.6	119.8	101.3	102.5
87.5°	55.6	55.6	52.5	51.9	58.1	51.3	49.4	46.3	48.2	38.3	40.8
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6	2825.6
2.5°	2838.0	2831.8	2826.3	2807.1	2815.1	2795.4	2794.2	2786.7	2781.2	2770.7	2784.3
5°	2828.7	2816.4	2800.3	2777.5	2784.3	2760.8	2755.9	2747.2	2739.8	2726.2	2736.7
7.5°	2813.9	2793.5	2768.2	2739.2	2748.4	2719.4	2712.0	2702.7	2696.6	2680.5	2689.8
10°	2792.3	2763.3	2733.6	2698.4	2705.2	2673.7	2664.4	2654.6	2649.0	2634.8	2644.1
12.5°	2758.9	2723.7	2683.6	2645.3	2652.7	2623.1	2610.7	2600.2	2598.4	2586.6	2597.7
15°	2715.7	2666.9	2625.5	2584.8	2593.4	2558.8	2553.3	2542.8	2545.9	2537.8	2551.4
17.5°	2660.7	2604.5	2559.5	2515.6	2524.2	2495.2	2490.9	2486.0	2489.0	2487.8	2502.6
20°	2599.0	2537.2	2485.3	2442.1	2447.0	2424.2	2426.0	2424.8	2431.0	2437.8	2458.2
22.5°	2529.2	2459.4	2405.0	2360.6	2368.0	2348.2	2356.9	2359.3	2369.8	2385.3	2411.2
25°	2450.7	2376.0	2319.2	2277.2	2284.0	2271.0	2285.8	2292.0	2308.7	2334.6	2361.2
27.5°	2368.6	2289.5	2229.0	2188.9	2201.8	2188.9	2211.1	2223.5	2248.8	2277.2	2309.9
30°	2281.5	2199.4	2137.0	2101.2	2113.5	2101.8	2137.6	2154.3	2179.6	2218.5	2257.4
32.5°	2190.1	2103.6	2042.5	2014.7	2023.4	2021.5	2061.6	2080.2	2114.1	2158.6	2200.0
35°	2096.2	2006.1	1944.3	1920.8	1931.3	1933.8	1982.0	2003.6	2040.6	2094.4	2138.8
37.5°	1999.3	1907.2	1846.7	1827.6	1836.8	1846.1	1902.3	1923.9	1965.9	2024.6	2073.4
40°	1898.6	1806.6	1747.3	1731.8	1741.1	1751.0	1812.1	1841.8	1887.5	1951.1	2004.2
42.5°	1796.7	1704.7	1647.2	1636.1	1645.4	1664.5	1729.4	1757.2	1805.3	1875.7	1934.4
45°	1692.9	1597.2	1547.2	1538.5	1548.4	1570.6	1634.2	1667.6	1718.9	1796.1	1859.1
47.5°	1587.9	1494.7	1447.1	1441.5	1451.4	1476.1	1546.5	1576.8	1631.2	1713.3	1781.2
50°	1481.7	1390.9	1345.2	1343.3	1352.6	1379.2	1446.5	1482.3	1538.5	1630.5	1700.3
52.5°	1374.2	1287.1	1245.8	1245.8	1254.4	1281.6	1349.5	1386.6	1444.6	1541.6	1618.8
55°	1266.8	1184.0	1144.5	1147.6	1159.9	1183.4	1249.5	1288.4	1347.0	1447.7	1529.2
57.5°	1159.3	1080.8	1045.0	1049.4	1061.1	1084.6	1149.4	1193.3	1246.4	1350.8	1434.1
60°	1053.1	978.9	947.4	952.4	962.9	986.4	1053.7	1091.3	1144.5	1250.7	1334.1
62.5°	945.6	878.3	848.6	854.8	864.1	887.5	951.1	987.6	1040.1	1144.5	1228.5
65°	839.4	777.0	751.7	757.8	766.5	788.1	848.0	883.2	933.2	1035.1	1115.4
67.5°	734.4	677.5	656.5	662.7	669.5	689.9	739.3	777.6	824.5	921.5	997.5
70°	630.6	580.0	561.4	567.6	573.8	592.3	635.5	670.7	714.0	802.9	873.3
72.5°	528.1	478.7	469.4	475.0	479.9	496.0	537.3	565.1	602.8	681.9	742.4
75°	428.0	385.4	379.2	384.8	389.1	401.5	436.0	460.1	491.6	560.2	609.6
77.5°	331.7	295.8	293.4	297.7	302.0	310.7	337.8	363.2	387.9	438.5	482.4
80°	241.5	212.5	212.5	216.8	215.6	226.1	245.2	265.6	283.5	319.9	352.0
82.5°	159.3	136.5	139.6	142.7	144.5	148.8	160.6	176.0	187.1	209.4	230.4
85°	88.3	72.9	76.0	78.4	77.2	82.1	88.3	97.6	103.1	113.6	124.8
87.5°	32.7	27.2	27.8	29.6	30.9	33.4	33.4	38.9	39.5	40.8	43.2
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°	2825.6	2825.6	2825.6
2.5°	2758.3	2773.2	2784.3
5°	2710.8	2723.1	2733.0
7.5°	2664.4	2675.6	2684.2
10°	2620.6	2632.9	2639.1
12.5°	2575.5	2589.7	2594.7
15°	2531.0	2545.2	2551.4
17.5°	2485.3	2503.9	2510.7
20°	2442.7	2466.2	2471.7
22.5°	2399.5	2423.6	2430.4
25°	2352.5	2381.0	2387.8
27.5°	2302.5	2336.5	2343.3
30°	2252.5	2289.5	2296.3
32.5°	2198.8	2238.9	2245.1
35°	2142.6	2182.7	2190.1
37.5°	2080.2	2124.0	2138.8
40°	2015.3	2062.9	2078.3
42.5°	1947.4	1999.3	2015.3
45°	1874.5	1931.3	1949.9
47.5°	1801.0	1865.2	1881.3
50°	1721.3	1789.9	1809.0
52.5°	1638.0	1712.7	1731.8
55°	1551.5	1626.8	1647.8
57.5°	1457.6	1535.4	1557.7
60°	1359.4	1437.2	1458.2
62.5°	1258.7	1329.1	1349.5
65°	1146.3	1212.4	1230.9
67.5°	1027.1	1087.6	1103.1
70°	900.5	953.0	966.6
72.5°	768.3	804.8	822.7
75°	631.8	660.9	674.5
77.5°	494.7	515.1	526.2
80°	360.7	372.4	381.7
82.5°	235.9	240.9	247.7
85°	127.2	127.2	131.6
87.5°	43.2	41.4	43.2
90°	0.0	0.0	0.0

(END OF REPORT)