

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: P834622

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834622
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

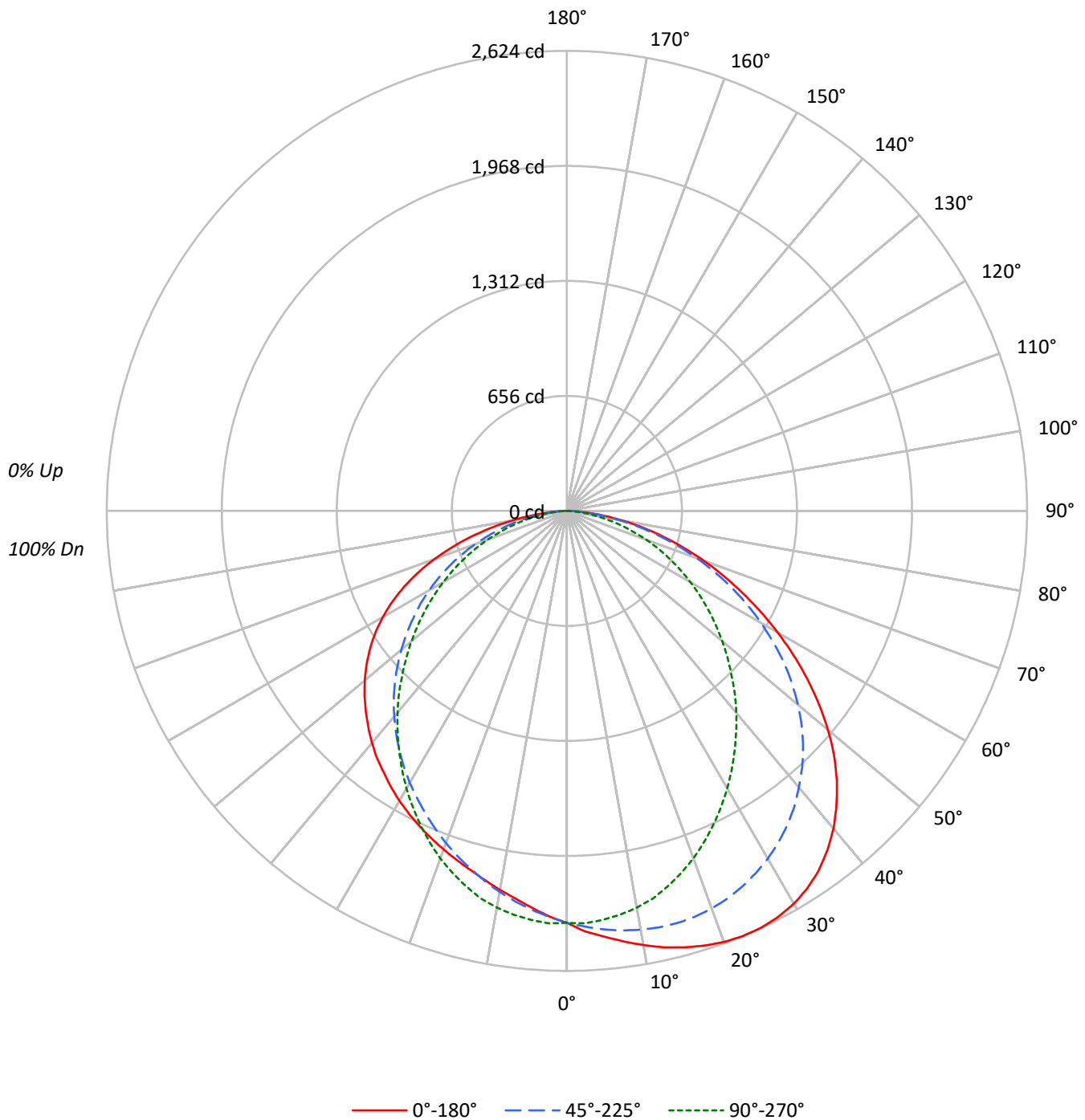
Lumens per Lamp: N/A
Luminaire Lumens: 6911.3 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P834622

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834622

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90

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°	3161	3161	3161
5°	3291	3163	3069
10°	3435	3139	2998
15°	3590	3089	2955
20°	3747	3021	2943
25°	3894	2933	2947
30°	4021	2841	2967
35°	4112	2740	2991
40°	4154	2638	3035
45°	4142	2527	3085
50°	4069	2421	3149
55°	3930	2309	3214
60°	3738	2190	3263
65°	3510	2057	3259
70°	3267	1897	3162
75°	2966	1666	2915
80°	2547	1369	2459
85°	1942	936	1689

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834622

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.8	3.2
10°-20°	643.5	9.3
20°-30°	985.9	14.3
30°-40°	1203.1	17.4
40°-50°	1258.2	18.2
50°-60°	1138.8	16.5
60°-70°	862.4	12.5
70°-80°	480.6	7.0
80°-90°	115.9	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°	1852.2	26.8
0°-40°	3055.3	44.2
0°-60°	5452.3	78.9
0°-90°	6911.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6911.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2350	2350	2350	2350	2350	
5°	2437	2396	2342	2284	2272	235
15°	2577	2434	2218	2114	2122	731
25°	2623	2365	1976	1906	1985	1210
35°	2504	2190	1668	1666	1821	1563
45°	2177	1904	1328	1387	1621	1675
55°	1675	1512	984	1071	1370	1495
65°	1103	1037	646	734	1024	1094
75°	571	539	320	383	561	605
85°	126	111	61	81	109	151
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834622

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6
2.5°	2401.4	2390.1	2380.9	2384.5	2386.5	2379.3	2373.2	2374.2	2368.0	2379.9	2352.1
5°	2436.9	2426.6	2415.8	2419.9	2415.8	2405.0	2396.3	2393.7	2377.3	2384.0	2355.7
7.5°	2476.4	2465.1	2449.2	2453.8	2445.1	2425.1	2413.8	2407.1	2381.9	2382.4	2351.1
10°	2514.4	2504.7	2483.1	2486.2	2470.2	2443.5	2425.6	2416.3	2380.9	2375.7	2343.4
12.5°	2549.8	2536.5	2513.4	2514.9	2491.8	2456.4	2433.3	2419.9	2373.7	2358.3	2326.4
15°	2577.1	2564.2	2536.5	2536.0	2506.2	2460.0	2433.8	2415.3	2356.7	2332.6	2299.2
17.5°	2600.2	2588.4	2554.0	2552.9	2517.0	2458.4	2427.1	2404.0	2332.1	2302.3	2265.3
20°	2616.6	2604.8	2566.3	2562.7	2519.5	2450.7	2413.2	2384.0	2299.7	2264.3	2223.2
22.5°	2624.3	2612.5	2568.8	2563.7	2513.4	2435.3	2393.2	2358.8	2262.8	2216.5	2173.9
25°	2622.8	2611.5	2562.2	2557.0	2501.6	2412.2	2365.0	2325.4	2216.0	2161.6	2119.5
27.5°	2609.9	2601.2	2549.3	2542.7	2480.0	2380.9	2330.6	2286.9	2164.2	2103.6	2057.9
30°	2587.9	2581.2	2526.2	2520.1	2453.3	2346.5	2290.5	2240.2	2108.2	2039.9	1993.7
32.5°	2552.4	2546.3	2490.8	2485.1	2417.3	2302.3	2243.8	2191.9	2047.1	1971.6	1925.4
35°	2503.6	2500.0	2446.1	2439.9	2371.1	2252.0	2189.8	2132.8	1983.4	1898.1	1854.0
37.5°	2439.4	2439.4	2387.6	2380.9	2313.6	2190.4	2129.2	2068.6	1911.5	1821.1	1777.4
40°	2365.0	2371.6	2318.7	2312.1	2246.8	2124.1	2057.3	1993.7	1833.9	1740.0	1697.3
42.5°	2275.6	2281.8	2237.6	2231.4	2170.3	2047.6	1985.4	1916.1	1752.8	1657.3	1613.1
45°	2177.0	2185.2	2145.7	2141.0	2084.0	1963.9	1904.3	1833.9	1668.1	1571.0	1527.9
47.5°	2067.1	2077.9	2043.5	2040.9	1988.0	1878.1	1816.0	1744.6	1579.2	1481.1	1440.5
50°	1943.8	1959.2	1931.0	1931.0	1883.8	1774.4	1720.4	1649.1	1486.8	1388.7	1348.6
52.5°	1811.9	1831.4	1810.3	1810.8	1772.3	1674.2	1618.2	1548.4	1390.2	1293.7	1256.7
55°	1675.2	1694.2	1680.9	1683.0	1652.6	1563.3	1512.4	1443.1	1291.6	1197.6	1162.7
57.5°	1532.5	1553.0	1544.3	1548.4	1527.3	1447.2	1394.3	1333.7	1189.9	1097.0	1067.2
60°	1389.2	1408.7	1404.1	1409.7	1396.4	1327.1	1278.8	1216.1	1087.7	998.4	972.2
62.5°	1244.4	1262.3	1261.3	1267.5	1260.3	1202.8	1159.6	1106.2	981.9	899.8	875.6
65°	1102.6	1118.0	1117.0	1123.7	1122.1	1075.9	1036.9	988.1	876.1	800.6	779.6
67.5°	965.0	977.8	974.2	981.9	984.0	947.0	913.1	869.5	775.5	702.0	684.1
70°	830.4	839.2	834.5	839.7	844.3	816.6	787.8	749.3	668.1	603.4	588.5
72.5°	698.4	704.6	697.4	702.6	706.7	686.6	663.0	629.6	562.4	506.4	494.0
75°	570.6	579.3	564.4	569.5	572.6	552.6	538.7	511.5	453.5	410.3	402.1
77.5°	446.8	451.9	443.7	441.7	443.7	429.3	418.6	397.5	353.8	318.4	313.3
80°	328.7	331.8	323.5	321.5	323.0	312.8	304.5	289.1	258.3	231.6	229.6
82.5°	220.3	221.9	214.7	212.6	213.6	210.6	200.8	190.0	175.6	153.0	152.5
85°	125.8	125.8	120.7	118.6	119.7	114.5	110.9	105.3	99.6	84.2	85.3
87.5°	46.2	46.2	43.7	43.1	48.3	42.6	41.1	38.5	40.1	31.8	33.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834622

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6	2349.6
2.5°	2359.8	2354.7	2350.1	2334.1	2340.8	2324.4	2323.4	2317.2	2312.6	2303.8	2315.1
5°	2352.1	2341.9	2328.5	2309.5	2315.1	2295.6	2291.5	2284.3	2278.2	2266.9	2275.6
7.5°	2339.8	2322.9	2301.8	2277.7	2285.4	2261.2	2255.1	2247.4	2242.2	2228.9	2236.6
10°	2321.8	2297.7	2273.0	2243.8	2249.4	2223.2	2215.5	2207.3	2202.7	2190.9	2198.6
12.5°	2294.1	2264.8	2231.4	2199.6	2205.8	2181.1	2170.8	2162.1	2160.6	2150.8	2160.1
15°	2258.1	2217.6	2183.2	2149.3	2156.5	2127.7	2123.1	2114.3	2116.9	2110.2	2121.5
17.5°	2212.4	2165.7	2128.2	2091.7	2098.9	2074.8	2071.2	2067.1	2069.7	2068.6	2081.0
20°	2161.1	2109.7	2066.6	2030.6	2034.7	2015.7	2017.3	2016.3	2021.4	2027.0	2044.0
22.5°	2103.0	2045.0	1999.8	1962.8	1969.0	1952.6	1959.8	1961.8	1970.5	1983.4	2005.0
25°	2037.8	1975.7	1928.4	1893.5	1899.2	1888.4	1900.7	1905.8	1919.7	1941.3	1963.4
27.5°	1969.5	1903.8	1853.5	1820.1	1830.9	1820.1	1838.6	1848.8	1869.9	1893.5	1920.7
30°	1897.1	1828.8	1776.9	1747.1	1757.4	1747.7	1777.4	1791.3	1812.4	1844.7	1877.1
32.5°	1821.1	1749.2	1698.4	1675.2	1682.4	1680.9	1714.3	1729.7	1757.9	1794.9	1829.3
35°	1743.0	1668.1	1616.7	1597.2	1605.9	1608.0	1648.0	1666.0	1696.8	1741.5	1778.5
37.5°	1662.4	1585.9	1535.6	1519.6	1527.3	1535.0	1581.8	1599.8	1634.7	1683.5	1724.0
40°	1578.7	1502.2	1452.9	1440.0	1447.7	1456.0	1506.8	1531.4	1569.5	1622.3	1666.5
42.5°	1494.0	1417.4	1369.7	1360.4	1368.1	1384.1	1438.0	1461.1	1501.1	1559.7	1608.5
45°	1407.7	1328.1	1286.5	1279.3	1287.5	1306.0	1358.9	1386.6	1429.2	1493.4	1545.8
47.5°	1320.4	1242.8	1203.3	1198.7	1206.9	1227.4	1286.0	1311.1	1356.3	1424.6	1481.1
50°	1232.0	1156.5	1118.5	1117.0	1124.7	1146.8	1202.8	1232.6	1279.3	1355.8	1413.8
52.5°	1142.7	1070.3	1035.9	1035.9	1043.0	1065.6	1122.1	1153.0	1201.2	1281.9	1346.1
55°	1053.3	984.5	951.6	954.2	964.5	984.0	1038.9	1071.3	1120.1	1203.8	1271.6
57.5°	964.0	898.7	869.0	872.5	882.3	901.8	955.7	992.2	1036.4	1123.2	1192.5
60°	875.6	814.0	787.8	791.9	800.6	820.2	876.1	907.5	951.6	1040.0	1109.3
62.5°	786.3	730.3	705.6	710.8	718.5	738.0	790.9	821.2	864.8	951.6	1021.5
65°	697.9	646.1	625.0	630.1	637.3	655.3	705.1	734.4	776.0	860.7	927.5
67.5°	610.6	563.4	545.9	551.1	556.7	573.7	614.7	646.6	685.6	766.2	829.4
70°	524.3	482.2	466.8	472.0	477.1	492.5	528.5	557.7	593.7	667.6	726.2
72.5°	439.1	398.0	390.3	394.9	399.0	412.4	446.8	469.9	501.2	567.0	617.3
75°	355.9	320.5	315.3	320.0	323.5	333.8	362.6	382.6	408.8	465.8	506.9
77.5°	275.8	246.0	243.9	247.5	251.1	258.3	280.9	302.0	322.5	364.6	401.1
80°	200.8	176.7	176.7	180.3	179.2	188.0	203.9	220.8	235.7	266.0	292.7
82.5°	132.5	113.5	116.1	118.6	120.2	123.8	133.5	146.4	155.6	174.1	191.6
85°	73.4	60.6	63.2	65.2	64.2	68.3	73.4	81.1	85.8	94.5	103.7
87.5°	27.2	22.6	23.1	24.7	25.7	27.7	27.7	32.4	32.9	33.9	35.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834622

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-4LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2349.6	2349.6	2349.6
2.5°	2293.6	2305.9	2315.1
5°	2254.0	2264.3	2272.5
7.5°	2215.5	2224.8	2232.0
10°	2179.1	2189.3	2194.5
12.5°	2141.6	2153.4	2157.5
15°	2104.6	2116.4	2121.5
17.5°	2066.6	2082.0	2087.6
20°	2031.1	2050.7	2055.3
22.5°	1995.2	2015.2	2020.9
25°	1956.2	1979.8	1985.4
27.5°	1914.6	1942.8	1948.5
30°	1873.0	1903.8	1909.4
32.5°	1828.3	1861.7	1866.8
35°	1781.6	1814.9	1821.1
37.5°	1729.7	1766.1	1778.5
40°	1675.8	1715.3	1728.1
42.5°	1619.3	1662.4	1675.8
45°	1558.7	1605.9	1621.3
47.5°	1497.6	1551.0	1564.3
50°	1431.3	1488.3	1504.2
52.5°	1362.0	1424.1	1440.0
55°	1290.1	1352.7	1370.2
57.5°	1212.0	1276.7	1295.2
60°	1130.4	1195.1	1212.5
62.5°	1046.6	1105.2	1122.1
65°	953.2	1008.1	1023.5
67.5°	854.1	904.4	917.2
70°	748.8	792.4	803.7
72.5°	638.9	669.2	684.1
75°	525.4	549.5	560.8
77.5°	411.4	428.3	437.6
80°	299.9	309.7	317.4
82.5°	196.2	200.3	205.9
85°	105.8	105.8	109.4
87.5°	35.9	34.4	35.9
90°	0.0	0.0	0.0

(END OF REPORT)