

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: P834544

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834544
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-LD4-2LO-30-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

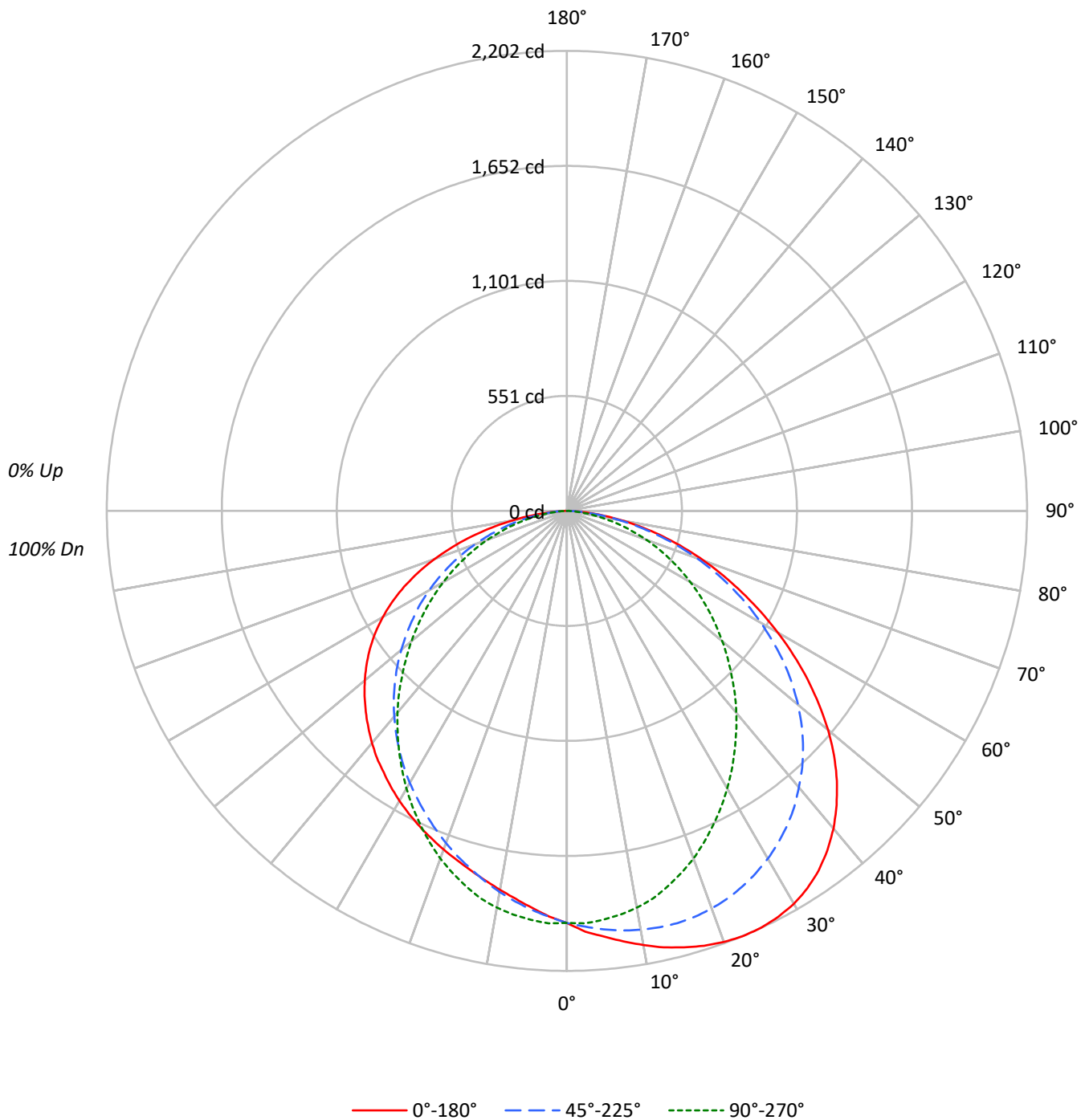
Lumens per Lamp: N/A
Luminaire Lumens: 5800.5 lumens
Efficiency: N/A
Efficacy: 123.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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: P834544

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-30-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834544

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-30-120-EDD

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2653	2653	2653
5°	2762	2655	2576
10°	2883	2635	2516
15°	3013	2593	2480
20°	3144	2535	2470
25°	3268	2462	2474
30°	3374	2385	2490
35°	3451	2300	2510
40°	3486	2214	2547
45°	3477	2121	2589
50°	3415	2032	2643
55°	3298	1938	2698
60°	3137	1838	2739
65°	2946	1726	2735
70°	2742	1592	2654
75°	2490	1398	2447
80°	2138	1149	2064
85°	1630	786	1417

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834544

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-30-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.0	3.2
10°-20°	540.1	9.3
20°-30°	827.4	14.3
30°-40°	1009.8	17.4
40°-50°	1056.0	18.2
50°-60°	955.7	16.5
60°-70°	723.8	12.5
70°-80°	403.4	7.0
80°-90°	97.3	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°	1554.5	26.8
0°-40°	2564.3	44.2
0°-60°	4576.0	78.9
0°-90°	5800.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5800.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1972	1972	1972	1972	1972	
5°	2045	2011	1966	1917	1907	197
15°	2163	2043	1861	1774	1781	613
25°	2201	1985	1658	1600	1666	1015
35°	2101	1838	1400	1398	1528	1312
45°	1827	1598	1115	1164	1361	1406
55°	1406	1269	826	899	1150	1255
65°	925	870	542	616	859	918
75°	479	452	269	321	471	508
85°	106	93	51	68	92	127
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834544

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-30-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9
2.5°	2015.5	2006.0	1998.2	2001.3	2003.0	1996.9	1991.8	1992.6	1987.5	1997.4	1974.1
5°	2045.2	2036.6	2027.6	2031.0	2027.6	2018.5	2011.2	2009.0	1995.2	2000.8	1977.1
7.5°	2078.4	2068.9	2055.6	2059.4	2052.1	2035.3	2025.8	2020.2	1999.1	1999.5	1973.2
10°	2110.3	2102.1	2084.0	2086.6	2073.2	2050.8	2035.7	2028.0	1998.2	1993.9	1966.8
12.5°	2140.0	2128.8	2109.4	2110.7	2091.3	2061.6	2042.2	2031.0	1992.2	1979.3	1952.6
15°	2162.9	2152.1	2128.8	2128.4	2103.4	2064.6	2042.6	2027.1	1978.0	1957.7	1929.7
17.5°	2182.3	2172.4	2143.5	2142.6	2112.5	2063.3	2037.0	2017.6	1957.3	1932.3	1901.3
20°	2196.1	2186.2	2153.8	2150.8	2114.6	2056.9	2025.4	2000.8	1930.1	1900.4	1865.9
22.5°	2202.5	2192.6	2156.0	2151.7	2109.4	2043.9	2008.6	1979.7	1899.1	1860.3	1824.5
25°	2201.3	2191.8	2150.4	2146.1	2099.5	2024.5	1984.9	1951.7	1859.9	1814.2	1778.8
27.5°	2190.5	2183.2	2139.6	2134.0	2081.4	1998.2	1956.0	1919.4	1816.3	1765.5	1727.1
30°	2171.9	2166.3	2120.2	2115.1	2059.0	1969.4	1922.4	1880.1	1769.4	1712.0	1673.2
32.5°	2142.2	2137.0	2090.5	2085.7	2028.8	1932.3	1883.2	1839.6	1718.1	1654.7	1615.9
35°	2101.3	2098.2	2053.0	2047.8	1990.1	1890.1	1837.9	1790.1	1664.6	1593.1	1556.0
37.5°	2047.4	2047.4	2003.8	1998.2	1941.8	1838.3	1787.0	1736.2	1604.3	1528.4	1491.8
40°	1984.9	1990.5	1946.1	1940.5	1885.7	1782.7	1726.7	1673.2	1539.2	1460.3	1424.5
42.5°	1909.9	1915.1	1878.0	1872.8	1821.5	1718.5	1666.4	1608.2	1471.1	1390.9	1353.9
45°	1827.1	1834.0	1800.8	1797.0	1749.1	1648.2	1598.2	1539.2	1400.0	1318.5	1282.3
47.5°	1734.9	1743.9	1715.1	1712.9	1668.5	1576.3	1524.1	1464.2	1325.4	1243.1	1209.0
50°	1631.4	1644.4	1620.7	1620.7	1581.0	1489.2	1443.9	1384.0	1247.8	1165.5	1131.9
52.5°	1520.7	1537.0	1519.4	1519.8	1487.5	1405.1	1358.2	1299.5	1166.8	1085.8	1054.7
55°	1406.0	1422.0	1410.8	1412.5	1387.0	1312.0	1269.4	1211.2	1084.0	1005.2	975.8
57.5°	1286.2	1303.4	1296.1	1299.5	1281.9	1214.6	1170.2	1119.4	998.7	920.7	895.7
60°	1165.9	1182.3	1178.4	1183.2	1172.0	1113.8	1073.3	1020.7	912.9	837.9	815.9
62.5°	1044.4	1059.5	1058.6	1063.8	1057.7	1009.5	973.3	928.4	824.1	755.2	734.9
65°	925.4	938.3	937.5	943.1	941.8	903.0	870.2	829.3	735.3	672.0	654.3
67.5°	809.9	820.7	817.7	824.1	825.8	794.8	766.4	729.7	650.9	589.2	574.1
70°	697.0	704.3	700.4	704.7	708.6	685.3	661.2	628.9	560.8	506.5	494.0
72.5°	586.2	591.4	585.3	589.6	593.1	576.3	556.5	528.4	472.0	425.0	414.6
75°	478.9	486.2	473.7	478.0	480.6	463.8	452.1	429.3	380.6	344.4	337.5
77.5°	375.0	379.3	372.4	370.7	372.4	360.3	351.3	333.6	297.0	267.2	262.9
80°	275.9	278.4	271.5	269.8	271.1	262.5	255.6	242.7	216.8	194.4	192.7
82.5°	184.9	186.2	180.2	178.4	179.3	176.7	168.5	159.5	147.4	128.4	128.0
85°	105.6	105.6	101.3	99.6	100.4	96.1	93.1	88.4	83.6	70.7	71.6
87.5°	38.8	38.8	36.6	36.2	40.5	35.8	34.5	32.3	33.6	26.7	28.4
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: P834544

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-30-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9	1971.9
2.5°	1980.6	1976.3	1972.4	1959.0	1964.6	1950.8	1950.0	1944.8	1940.9	1933.6	1943.1
5°	1974.1	1965.5	1954.3	1938.3	1943.1	1926.7	1923.2	1917.2	1912.0	1902.6	1909.9
7.5°	1963.8	1949.5	1931.9	1911.6	1918.1	1897.8	1892.6	1886.2	1881.9	1870.7	1877.1
10°	1948.7	1928.4	1907.7	1883.2	1887.9	1865.9	1859.5	1852.6	1848.7	1838.8	1845.2
12.5°	1925.4	1900.8	1872.8	1846.1	1851.3	1830.6	1822.0	1814.6	1813.3	1805.1	1812.9
15°	1895.2	1861.2	1832.3	1803.8	1809.9	1785.7	1781.9	1774.5	1776.7	1771.1	1780.6
17.5°	1856.9	1817.6	1786.2	1755.6	1761.6	1741.3	1738.3	1734.9	1737.0	1736.2	1746.5
20°	1813.8	1770.7	1734.5	1704.3	1707.7	1691.8	1693.1	1692.2	1696.5	1701.3	1715.5
22.5°	1765.1	1716.4	1678.4	1647.4	1652.6	1638.8	1644.8	1646.5	1653.9	1664.6	1682.7
25°	1710.3	1658.2	1618.5	1589.2	1593.9	1584.9	1595.2	1599.5	1611.2	1629.3	1647.8
27.5°	1653.0	1597.8	1555.6	1527.6	1536.6	1527.6	1543.1	1551.7	1569.4	1589.2	1612.0
30°	1592.2	1534.9	1491.4	1466.4	1475.0	1466.8	1491.8	1503.4	1521.1	1548.2	1575.4
32.5°	1528.4	1468.1	1425.4	1406.0	1412.0	1410.8	1438.8	1451.7	1475.4	1506.4	1535.3
35°	1462.9	1400.0	1356.9	1340.5	1347.8	1349.5	1383.2	1398.3	1424.1	1461.6	1492.6
37.5°	1395.2	1331.0	1288.8	1275.4	1281.9	1288.3	1327.6	1342.6	1372.0	1412.9	1447.0
40°	1325.0	1260.8	1219.4	1208.6	1215.1	1222.0	1264.6	1285.3	1317.2	1361.6	1398.7
42.5°	1253.9	1189.6	1149.5	1141.8	1148.3	1161.6	1206.9	1226.3	1259.9	1309.0	1350.0
45°	1181.4	1114.6	1079.7	1073.7	1080.6	1096.1	1140.5	1163.8	1199.5	1253.4	1297.4
47.5°	1108.2	1043.1	1009.9	1006.0	1012.9	1030.2	1079.3	1100.4	1138.3	1195.7	1243.1
50°	1034.0	970.7	938.8	937.5	943.9	962.5	1009.5	1034.5	1073.7	1137.9	1186.6
52.5°	959.0	898.3	869.4	869.4	875.4	894.4	941.8	967.7	1008.2	1075.8	1129.7
55°	884.0	826.3	798.7	800.8	809.5	825.8	872.0	899.1	940.1	1010.3	1067.2
57.5°	809.0	754.3	729.3	732.3	740.5	756.9	802.1	832.7	869.8	942.7	1000.8
60°	734.9	683.2	661.2	664.6	672.0	688.4	735.3	761.6	798.7	872.8	931.0
62.5°	659.9	612.9	592.2	596.5	603.0	619.4	663.8	689.2	725.8	798.7	857.3
65°	585.8	542.2	524.6	528.9	534.9	550.0	591.8	616.4	651.3	722.4	778.4
67.5°	512.5	472.8	458.2	462.5	467.2	481.5	515.9	542.7	575.4	643.1	696.1
70°	440.1	404.7	391.8	396.1	400.4	413.4	443.5	468.1	498.3	560.3	609.5
72.5°	368.5	334.0	327.6	331.5	334.9	346.1	375.0	394.4	420.7	475.9	518.1
75°	298.7	269.0	264.7	268.5	271.5	280.2	304.3	321.1	343.1	390.9	425.4
77.5°	231.5	206.5	204.7	207.8	210.8	216.8	235.8	253.4	270.7	306.0	336.6
80°	168.5	148.3	148.3	151.3	150.4	157.8	171.1	185.3	197.8	223.3	245.7
82.5°	111.2	95.3	97.4	99.6	100.9	103.9	112.1	122.8	130.6	146.1	160.8
85°	61.6	50.9	53.0	54.7	53.9	57.3	61.6	68.1	72.0	79.3	87.1
87.5°	22.8	19.0	19.4	20.7	21.6	23.3	23.3	27.2	27.6	28.4	30.2
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: P834544

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-30-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1971.9	1971.9	1971.9
2.5°	1925.0	1935.3	1943.1
5°	1891.8	1900.4	1907.3
7.5°	1859.5	1867.2	1873.2
10°	1828.8	1837.5	1841.8
12.5°	1797.4	1807.3	1810.7
15°	1766.3	1776.3	1780.6
17.5°	1734.5	1747.4	1752.1
20°	1704.7	1721.1	1725.0
22.5°	1674.5	1691.4	1696.1
25°	1641.8	1661.6	1666.4
27.5°	1606.9	1630.6	1635.3
30°	1572.0	1597.8	1602.6
32.5°	1534.5	1562.5	1566.8
35°	1495.2	1523.2	1528.4
37.5°	1451.7	1482.3	1492.6
40°	1406.4	1439.6	1450.4
42.5°	1359.0	1395.2	1406.4
45°	1308.2	1347.8	1360.8
47.5°	1256.9	1301.7	1312.9
50°	1201.3	1249.1	1262.5
52.5°	1143.1	1195.2	1208.6
55°	1082.7	1135.3	1150.0
57.5°	1017.2	1071.5	1087.1
60°	948.7	1003.0	1017.7
62.5°	878.4	927.6	941.8
65°	800.0	846.1	859.0
67.5°	716.8	759.0	769.8
70°	628.4	665.1	674.6
72.5°	536.2	561.6	574.1
75°	440.9	461.2	470.7
77.5°	345.3	359.5	367.2
80°	251.7	259.9	266.4
82.5°	164.7	168.1	172.8
85°	88.8	88.8	91.8
87.5°	30.2	28.9	30.2
90°	0.0	0.0	0.0

(END OF REPORT)