

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: P834618

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2HI-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834618
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-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

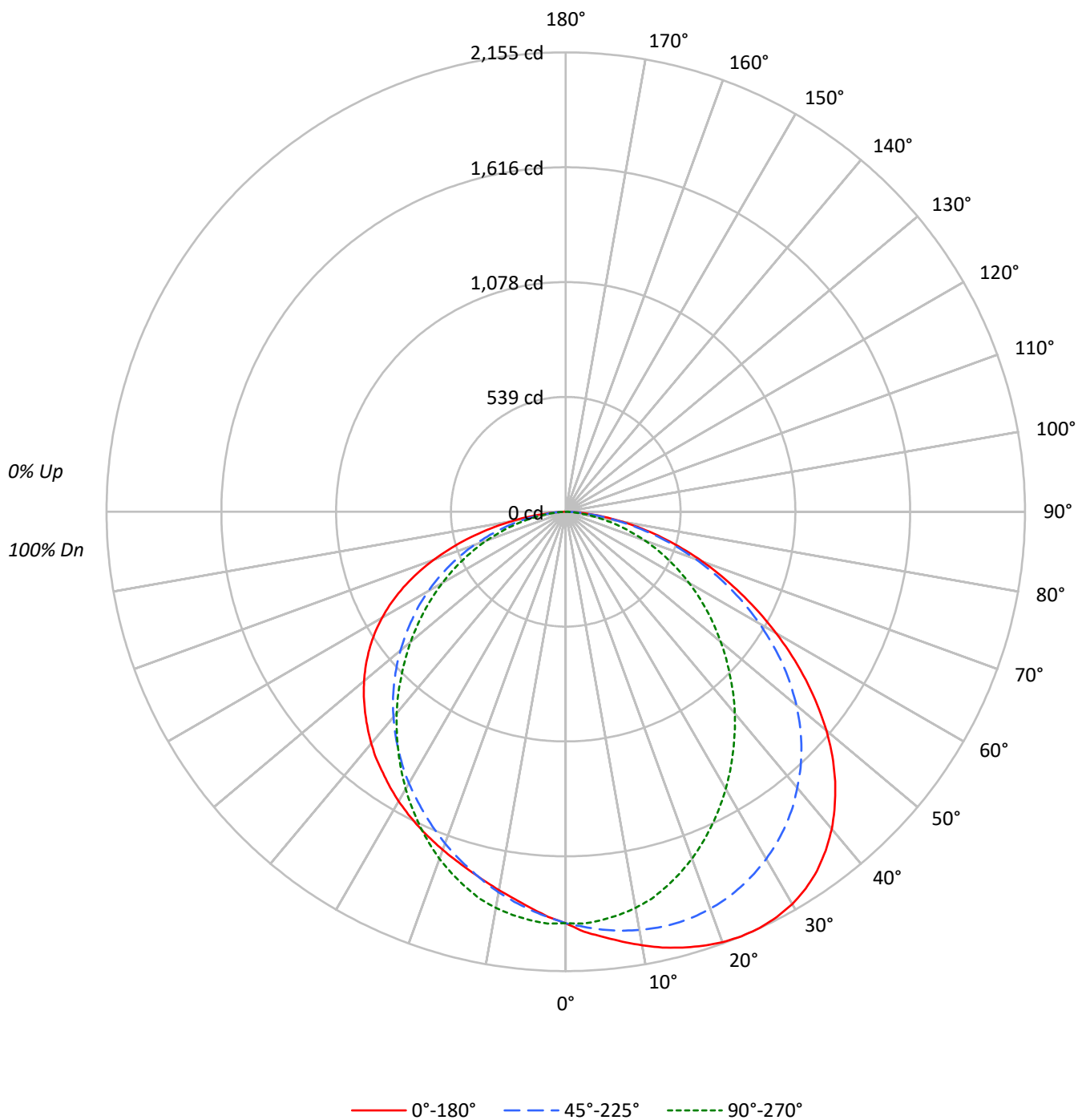
Lumens per Lamp: N/A
Luminaire Lumens: 5676.3 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P834618

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-20-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834618

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-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	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°	2596	2596	2596
5°	2703	2598	2521
10°	2821	2578	2462
15°	2948	2537	2427
20°	3077	2481	2417
25°	3198	2409	2421
30°	3302	2334	2436
35°	3378	2250	2457
40°	3412	2167	2493
45°	3402	2076	2534
50°	3342	1988	2586
55°	3228	1897	2640
60°	3070	1799	2680
65°	2883	1689	2676
70°	2683	1558	2597
75°	2436	1368	2394
80°	2091	1124	2020
85°	1595	769	1386

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834618

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-20-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.0	3.2
10°-20°	528.5	9.3
20°-30°	809.7	14.3
30°-40°	988.1	17.4
40°-50°	1033.4	18.2
50°-60°	935.3	16.5
60°-70°	708.3	12.5
70°-80°	394.7	7.0
80°-90°	95.2	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°	1521.2	26.8
0°-40°	2509.4	44.2
0°-60°	4478.0	78.9
0°-90°	5676.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5676.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1930	1930	1930	1930	1930	
5°	2001	1968	1923	1876	1866	193
15°	2117	1999	1821	1736	1742	600
25°	2154	1942	1623	1565	1631	994
35°	2056	1798	1370	1368	1496	1284
45°	1788	1564	1091	1139	1332	1376
55°	1376	1242	809	880	1125	1228
65°	906	852	531	603	841	898
75°	469	442	263	314	461	497
85°	103	91	50	67	90	124
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834618

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-20-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7
2.5°	1972.3	1963.0	1955.4	1958.4	1960.1	1954.2	1949.1	1950.0	1944.9	1954.6	1931.8
5°	2001.4	1993.0	1984.1	1987.5	1984.1	1975.3	1968.1	1966.0	1952.5	1958.0	1934.8
7.5°	2033.9	2024.6	2011.5	2015.3	2008.2	1991.7	1982.4	1977.0	1956.3	1956.7	1931.0
10°	2065.1	2057.1	2039.4	2041.9	2028.8	2006.9	1992.1	1984.5	1955.4	1951.2	1924.7
12.5°	2094.2	2083.2	2064.3	2065.5	2046.5	2017.4	1998.5	1987.5	1949.5	1936.9	1910.7
15°	2116.6	2106.0	2083.2	2082.8	2058.4	2020.4	1998.9	1983.7	1935.6	1915.8	1888.4
17.5°	2135.5	2125.8	2097.6	2096.7	2067.2	2019.1	1993.4	1974.4	1915.4	1890.9	1860.5
20°	2149.0	2139.3	2107.7	2104.8	2069.3	2012.8	1982.0	1958.0	1888.8	1859.7	1826.0
22.5°	2155.4	2145.7	2109.8	2105.6	2064.3	2000.2	1965.6	1937.3	1858.4	1820.5	1785.5
25°	2154.1	2144.8	2104.3	2100.1	2054.6	1981.2	1942.4	1909.9	1820.0	1775.3	1740.7
27.5°	2143.6	2136.4	2093.8	2088.3	2036.8	1955.4	1914.1	1878.3	1777.4	1727.7	1690.1
30°	2125.4	2119.9	2074.8	2069.7	2014.9	1927.2	1881.2	1839.9	1731.5	1675.4	1637.4
32.5°	2096.3	2091.3	2045.7	2041.1	1985.4	1890.9	1842.8	1800.2	1681.3	1619.3	1581.3
35°	2056.3	2053.3	2009.0	2003.9	1947.4	1849.6	1798.5	1751.7	1629.0	1559.0	1522.7
37.5°	2003.5	2003.5	1960.9	1955.4	1900.2	1799.0	1748.8	1699.0	1569.9	1495.7	1459.8
40°	1942.4	1947.8	1904.4	1898.9	1845.4	1744.5	1689.7	1637.4	1506.2	1429.0	1394.0
42.5°	1869.0	1874.0	1837.8	1832.7	1782.5	1681.7	1630.7	1573.7	1439.6	1361.1	1324.9
45°	1788.0	1794.7	1762.3	1758.5	1711.6	1612.9	1564.0	1506.2	1370.0	1290.3	1254.8
47.5°	1697.7	1706.6	1678.3	1676.2	1632.8	1542.5	1491.5	1432.8	1297.0	1216.5	1183.1
50°	1596.5	1609.1	1585.9	1585.9	1547.1	1457.3	1413.0	1354.4	1221.1	1140.5	1107.6
52.5°	1488.1	1504.1	1486.8	1487.2	1455.6	1375.1	1329.1	1271.7	1141.8	1062.5	1032.1
55°	1375.9	1391.5	1380.5	1382.2	1357.3	1283.9	1242.2	1185.2	1060.8	983.6	954.9
57.5°	1258.6	1275.5	1268.3	1271.7	1254.4	1188.6	1145.2	1095.4	977.3	901.0	876.5
60°	1141.0	1157.0	1153.2	1157.8	1146.9	1089.9	1050.3	998.8	893.4	820.0	798.5
62.5°	1022.0	1036.8	1035.9	1041.0	1035.1	987.8	952.4	908.5	806.5	739.0	719.2
65°	905.6	918.2	917.4	922.9	921.6	883.7	851.6	811.5	719.6	657.6	640.3
67.5°	792.6	803.1	800.1	806.5	808.2	777.8	750.0	714.1	636.9	576.6	561.8
70°	682.0	689.2	685.4	689.6	693.4	670.7	647.0	615.4	548.8	495.6	483.4
72.5°	573.6	578.7	572.8	577.0	580.4	563.9	544.5	517.1	461.9	415.9	405.8
75°	468.6	475.8	463.6	467.8	470.3	453.9	442.5	420.1	372.4	337.0	330.3
77.5°	367.0	371.2	364.4	362.7	364.4	352.6	343.8	326.5	290.6	261.5	257.3
80°	269.9	272.5	265.7	264.0	265.3	256.9	250.1	237.5	212.2	190.2	188.5
82.5°	181.0	182.2	176.3	174.6	175.5	172.9	164.9	156.1	144.3	125.7	125.3
85°	103.3	103.3	99.1	97.4	98.3	94.1	91.1	86.5	81.8	69.2	70.0
87.5°	38.0	38.0	35.9	35.4	39.6	35.0	33.7	31.6	32.9	26.2	27.8
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: P834618

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7	1929.7
2.5°	1938.1	1933.9	1930.1	1917.1	1922.5	1909.0	1908.2	1903.1	1899.3	1892.2	1901.5
5°	1931.8	1923.4	1912.4	1896.8	1901.5	1885.4	1882.0	1876.1	1871.1	1861.8	1869.0
7.5°	1921.7	1907.8	1890.5	1870.7	1877.0	1857.2	1852.1	1845.8	1841.6	1830.6	1836.9
10°	1906.9	1887.1	1866.9	1842.8	1847.5	1826.0	1819.6	1812.9	1809.1	1799.4	1805.7
12.5°	1884.2	1860.1	1832.7	1806.5	1811.6	1791.4	1782.9	1775.8	1774.5	1766.5	1774.1
15°	1854.6	1821.3	1793.1	1765.2	1771.1	1747.5	1743.7	1736.5	1738.6	1733.2	1742.4
17.5°	1817.1	1778.7	1747.9	1718.0	1723.9	1704.1	1701.1	1697.7	1699.8	1699.0	1709.1
20°	1774.9	1732.7	1697.3	1667.8	1671.2	1655.5	1656.8	1656.0	1660.2	1664.8	1678.7
22.5°	1727.3	1679.6	1642.5	1612.1	1617.2	1603.7	1609.6	1611.3	1618.4	1629.0	1646.7
25°	1673.7	1622.6	1583.8	1555.2	1559.8	1550.9	1561.1	1565.3	1576.7	1594.4	1612.5
27.5°	1617.6	1563.6	1522.3	1494.8	1503.7	1494.8	1510.0	1518.5	1535.8	1555.2	1577.5
30°	1558.1	1502.0	1459.4	1434.9	1443.4	1435.4	1459.8	1471.2	1488.5	1515.1	1541.7
32.5°	1495.7	1436.6	1394.9	1375.9	1381.8	1380.5	1408.0	1420.6	1443.8	1474.2	1502.4
35°	1431.6	1370.0	1327.8	1311.8	1319.0	1320.6	1353.5	1368.3	1393.6	1430.3	1460.7
37.5°	1365.4	1302.5	1261.2	1248.1	1254.4	1260.7	1299.1	1313.9	1342.6	1382.6	1416.0
40°	1296.6	1233.8	1193.3	1182.7	1189.0	1195.8	1237.5	1257.8	1289.0	1332.5	1368.7
42.5°	1227.0	1164.2	1124.9	1117.3	1123.7	1136.7	1181.0	1200.0	1232.9	1281.0	1321.1
45°	1156.1	1090.8	1056.6	1050.7	1057.4	1072.6	1116.1	1138.8	1173.9	1226.6	1269.6
47.5°	1084.4	1020.7	988.3	984.5	991.2	1008.1	1056.2	1076.8	1114.0	1170.1	1216.5
50°	1011.9	949.9	918.7	917.4	923.7	941.9	987.8	1012.3	1050.7	1113.5	1161.2
52.5°	938.5	879.0	850.8	850.8	856.7	875.2	921.6	946.9	986.6	1052.8	1105.5
55°	865.1	808.6	781.6	783.7	792.1	808.2	853.3	879.9	919.9	988.7	1044.4
57.5°	791.7	738.1	713.7	716.6	724.6	740.7	785.0	814.9	851.2	922.5	979.4
60°	719.2	668.5	647.0	650.4	657.6	673.6	719.6	745.3	781.6	854.1	911.1
62.5°	645.8	599.8	579.5	583.8	590.1	606.1	649.6	674.5	710.3	781.6	839.0
65°	573.2	530.6	513.3	517.5	523.4	538.2	579.1	603.2	637.3	706.9	761.8
67.5°	501.5	462.7	448.4	452.6	457.2	471.1	504.9	531.0	563.1	629.3	681.2
70°	430.7	396.1	383.4	387.6	391.8	404.5	434.0	458.1	487.6	548.3	596.4
72.5°	360.6	326.9	320.6	324.4	327.7	338.7	367.0	385.9	411.7	465.7	507.0
75°	292.3	263.2	259.0	262.8	265.7	274.2	297.8	314.2	335.7	382.6	416.3
77.5°	226.5	202.0	200.4	203.3	206.3	212.2	230.7	248.0	264.9	299.5	329.4
80°	164.9	145.1	145.1	148.1	147.2	154.4	167.5	181.4	193.6	218.5	240.4
82.5°	108.8	93.2	95.3	97.4	98.7	101.7	109.7	120.2	127.8	143.0	157.3
85°	60.3	49.8	51.9	53.6	52.7	56.1	60.3	66.6	70.4	77.6	85.2
87.5°	22.4	18.6	19.0	20.2	21.1	22.8	22.8	26.6	27.0	27.8	29.5
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: P834618

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2HI-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1929.7	1929.7	1929.7
2.5°	1883.7	1893.9	1901.5
5°	1851.3	1859.7	1866.4
7.5°	1819.6	1827.2	1833.1
10°	1789.7	1798.1	1802.3
12.5°	1758.9	1768.6	1772.0
15°	1728.5	1738.2	1742.4
17.5°	1697.3	1710.0	1714.6
20°	1668.2	1684.2	1688.0
22.5°	1638.7	1655.1	1659.8
25°	1606.6	1626.0	1630.7
27.5°	1572.5	1595.7	1600.3
30°	1538.3	1563.6	1568.2
32.5°	1501.6	1529.0	1533.2
35°	1463.2	1490.6	1495.7
37.5°	1420.6	1450.6	1460.7
40°	1376.3	1408.8	1419.3
42.5°	1329.9	1365.4	1376.3
45°	1280.1	1319.0	1331.6
47.5°	1230.0	1273.8	1284.8
50°	1175.5	1222.4	1235.4
52.5°	1118.6	1169.6	1182.7
55°	1059.5	1111.0	1125.3
57.5°	995.4	1048.6	1063.8
60°	928.4	981.5	995.9
62.5°	859.6	907.7	921.6
65°	782.9	828.0	840.6
67.5°	701.4	742.8	753.3
70°	615.0	650.8	660.1
72.5°	524.7	549.6	561.8
75°	431.5	451.3	460.6
77.5°	337.9	351.8	359.4
80°	246.3	254.3	260.7
82.5°	161.1	164.5	169.1
85°	86.9	86.9	89.8
87.5°	29.5	28.3	29.5
90°	0.0	0.0	0.0

(END OF REPORT)