

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: P838094

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-2LO-35-120-EDD**

Issue Date: 5/21/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P838094
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-2LO-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

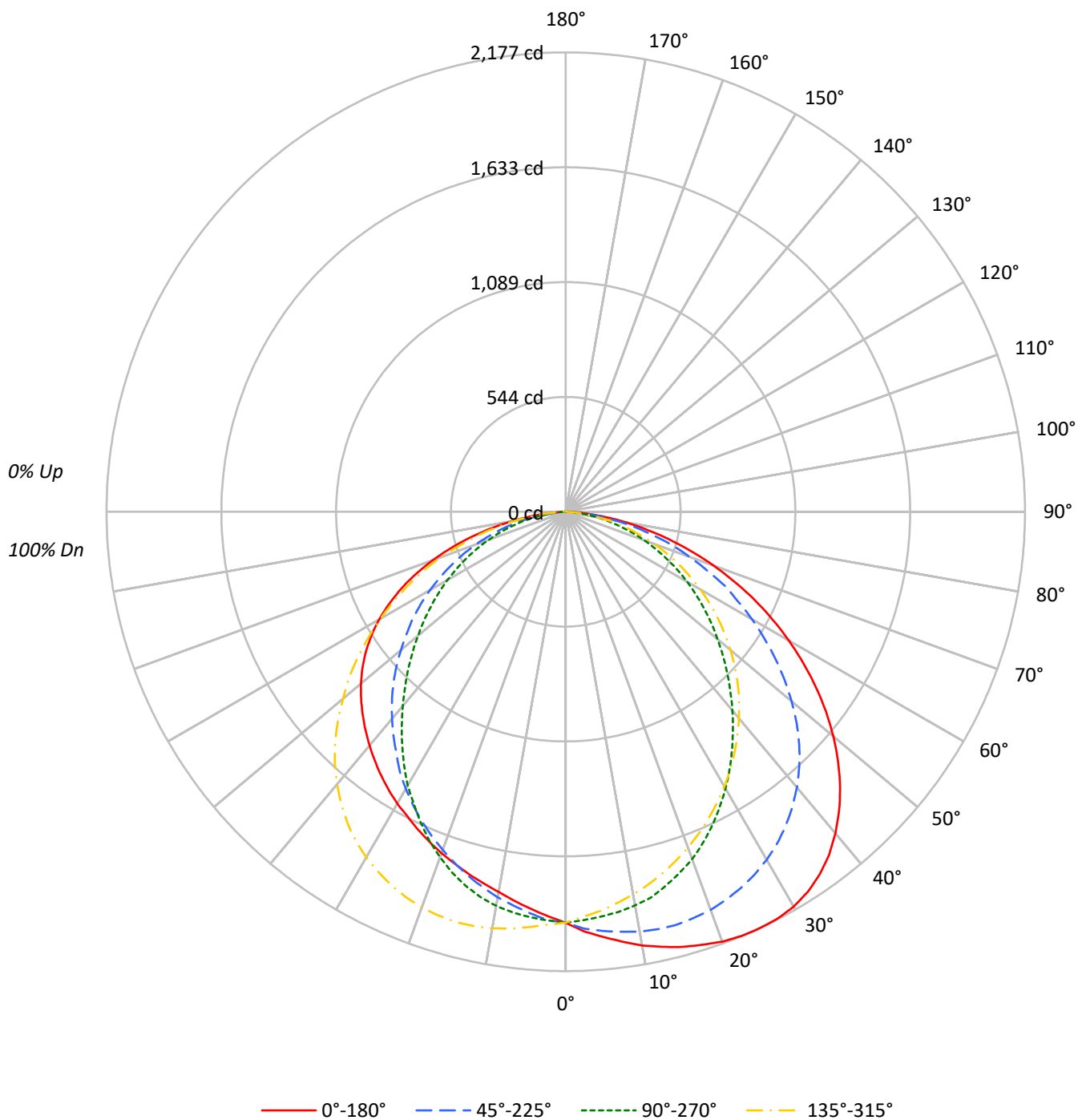
Lumens per Lamp: N/A
Luminaire Lumens: 5712.6 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: 25 FT

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Luminous Intensity Polar Plot



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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	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	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°	270°
0°	2620	2620	2620	2620
5°	2730	2601	2552	2605
10°	2852	2588	2500	2591
15°	2974	2555	2476	2555
20°	3104	2508	2465	2494
25°	3233	2438	2465	2413
30°	3357	2353	2481	2327
35°	3447	2257	2506	2221
40°	3492	2160	2541	2111
45°	3499	2061	2590	2009
50°	3466	1967	2653	1915
55°	3395	1879	2713	1827
60°	3288	1788	2749	1742
65°	3141	1683	2734	1644
70°	2934	1560	2637	1531
75°	2640	1391	2420	1384
80°	2239	1165	2034	1182
85°	1556	772	1291	792

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.9	3.2
10°-20°	535.3	9.4
20°-30°	820.4	14.4
30°-40°	997.6	17.5
40°-50°	1037.0	18.2
50°-60°	936.7	16.4
60°-70°	712.2	12.5
70°-80°	397.0	7.0
80°-90°	91.4	1.6
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°	1540.6	27.0
0°-40°	2538.2	44.4
0°-60°	4512.0	79.0
0°-90°	5712.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5712.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1947	1947	1947	1947	1947	
5°	2022	1926	1889	1929	2022	195
15°	2135	1834	1777	1834	2135	605
25°	2177	1642	1660	1626	2177	1006
35°	2098	1374	1526	1352	2098	1311
45°	1839	1083	1361	1056	1839	1416
55°	1447	801	1156	779	1447	1292
65°	986	529	859	516	986	975
75°	508	268	466	266	508	539
85°	101	50	84	51	101	127
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1
2.5°	1990.3	1961.2	1961.7	1987.1	1967.6	1977.1	1949.8	1960.3	1957.1	1959.4	1937.1
5°	2021.6	1990.3	1989.8	2011.6	1989.8	1993.9	1959.4	1966.2	1956.2	1949.8	1925.8
7.5°	2054.8	2023.4	2020.2	2039.3	2010.7	2007.5	1969.4	1969.4	1951.2	1935.3	1912.6
10°	2087.5	2055.2	2051.1	2065.7	2030.2	2019.8	1973.5	1966.2	1942.1	1918.5	1894.0
12.5°	2112.0	2079.3	2076.1	2085.2	2045.2	2026.1	1973.5	1959.4	1924.0	1890.8	1871.7
15°	2135.2	2101.5	2092.9	2097.5	2051.6	2026.1	1967.1	1945.3	1899.9	1856.3	1834.0
17.5°	2151.5	2119.3	2110.6	2110.2	2054.8	2018.4	1953.5	1923.5	1869.0	1816.3	1794.1
20°	2167.9	2135.6	2124.7	2116.5	2053.9	2008.0	1933.5	1893.1	1829.5	1770.4	1751.8
22.5°	2176.0	2142.9	2131.1	2118.8	2047.9	1988.9	1909.0	1857.6	1785.0	1714.6	1699.1
25°	2177.4	2143.3	2130.6	2112.9	2036.1	1966.2	1877.2	1814.9	1733.6	1655.5	1642.4
27.5°	2173.8	2136.5	2123.8	2102.5	2018.4	1938.5	1839.5	1766.4	1679.1	1592.8	1578.8
30°	2161.0	2123.3	2111.1	2083.4	1993.4	1904.4	1798.1	1712.3	1618.7	1527.0	1514.7
32.5°	2135.6	2098.8	2088.8	2061.1	1966.2	1864.9	1750.0	1654.2	1552.0	1464.3	1446.1
35°	2098.4	2061.6	2055.2	2026.1	1928.0	1817.7	1697.3	1590.6	1481.1	1391.6	1373.9
37.5°	2049.8	2018.9	2009.3	1980.7	1883.1	1764.1	1636.9	1521.5	1408.9	1312.6	1301.7
40°	1988.4	1959.4	1952.1	1926.7	1830.8	1704.6	1571.5	1450.2	1334.4	1244.9	1229.5
42.5°	1918.5	1891.3	1887.2	1860.8	1766.4	1638.7	1500.6	1376.2	1256.7	1170.5	1155.0
45°	1839.0	1812.7	1811.8	1786.8	1696.0	1565.6	1426.2	1301.3	1180.9	1091.4	1083.2
47.5°	1751.4	1727.7	1727.7	1704.6	1617.4	1485.2	1349.4	1223.1	1104.6	1025.6	1011.0
50°	1656.0	1633.7	1626.9	1615.6	1530.6	1397.5	1268.6	1146.8	1029.2	953.8	939.7
52.5°	1554.2	1535.2	1539.7	1518.8	1436.6	1306.3	1186.8	1061.0	953.3	884.8	870.7
55°	1447.1	1419.8	1423.9	1416.2	1338.5	1212.2	1095.1	990.1	878.9	814.4	801.2
57.5°	1335.8	1300.3	1314.9	1310.3	1234.0	1115.9	1011.0	909.7	804.8	745.3	732.6
60°	1221.8	1187.7	1202.7	1198.6	1126.8	1019.7	924.3	830.3	731.2	677.2	664.5
62.5°	1104.6	1073.3	1086.9	1083.7	1017.8	921.1	838.0	751.7	657.2	608.6	596.8
65°	986.5	956.5	968.8	966.5	905.7	832.1	749.4	670.4	582.7	540.5	528.7
67.5°	865.7	838.0	849.3	849.3	793.5	723.1	660.4	588.2	509.6	473.3	462.4
70°	745.8	719.9	729.9	729.0	681.7	624.5	570.5	506.0	435.6	405.6	396.5
72.5°	625.0	602.3	611.3	610.4	570.9	534.1	480.5	424.7	363.4	339.3	331.1
75°	507.8	486.4	495.1	494.2	461.9	427.4	391.5	345.2	292.5	275.7	267.5
77.5°	396.1	374.3	381.5	381.5	357.9	332.9	304.3	268.4	231.2	213.0	207.1
80°	288.9	278.4	274.8	275.2	259.3	243.0	228.5	193.9	166.7	154.4	150.3
82.5°	189.9	181.2	177.6	178.5	169.4	159.4	150.3	126.3	108.1	100.8	98.6
85°	100.8	94.5	91.3	93.6	91.7	86.3	81.8	65.4	54.0	51.3	50.0
87.5°	31.8	27.7	25.4	33.6	28.6	25.4	24.5	19.5	15.0	15.0	14.5
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1
2.5°	1944.4	1944.4	1926.7	1922.6	1920.8	1923.0	1905.3	1902.2	1927.6	1919.0	1899.4
5°	1929.0	1928.0	1903.1	1898.5	1898.5	1895.8	1875.8	1871.3	1896.7	1889.4	1868.1
7.5°	1909.9	1907.1	1877.6	1874.4	1869.9	1868.1	1845.8	1842.7	1864.5	1859.9	1839.9
10°	1886.7	1884.0	1849.0	1846.7	1841.7	1838.1	1817.2	1814.9	1837.2	1829.9	1814.0
12.5°	1856.3	1851.3	1815.4	1813.1	1809.0	1807.7	1787.2	1786.3	1810.9	1803.6	1786.8
15°	1816.3	1812.2	1772.3	1773.2	1773.6	1773.6	1757.3	1756.4	1780.4	1777.3	1759.1
17.5°	1772.3	1766.8	1728.7	1731.4	1734.6	1738.2	1725.5	1727.7	1753.2	1749.1	1732.7
20°	1722.3	1716.8	1679.6	1687.3	1694.1	1701.4	1693.2	1699.6	1723.2	1721.4	1709.1
22.5°	1666.4	1661.0	1626.5	1638.3	1649.6	1663.2	1659.6	1666.9	1691.9	1691.4	1680.5
25°	1598.3	1599.7	1569.2	1583.8	1602.8	1621.9	1623.3	1635.1	1662.8	1660.1	1650.1
27.5°	1534.7	1536.5	1504.3	1528.8	1554.2	1578.8	1584.7	1601.0	1629.2	1626.9	1618.3
30°	1467.9	1470.2	1438.9	1472.5	1503.4	1533.3	1546.1	1568.3	1596.9	1596.9	1587.9
32.5°	1398.5	1402.5	1369.8	1414.8	1450.7	1485.7	1507.9	1531.1	1563.8	1562.9	1555.2
35°	1327.1	1331.7	1301.7	1358.9	1394.8	1437.5	1465.2	1496.1	1525.2	1525.6	1519.7
37.5°	1254.5	1259.9	1232.7	1295.4	1336.2	1386.6	1422.1	1453.0	1485.2	1487.0	1481.6
40°	1182.3	1188.2	1164.5	1225.0	1276.7	1333.1	1373.9	1410.3	1445.7	1446.6	1443.0
42.5°	1110.0	1116.4	1098.7	1157.7	1216.3	1276.7	1324.9	1366.2	1402.5	1404.8	1400.7
45°	1039.6	1045.1	1032.4	1096.9	1153.2	1219.0	1274.5	1321.2	1358.0	1361.2	1359.8
47.5°	969.7	974.7	963.3	1022.4	1087.3	1157.3	1221.3	1273.1	1312.2	1315.8	1314.9
50°	901.1	905.2	892.9	954.7	1019.2	1093.7	1160.5	1220.4	1264.0	1267.6	1267.2
52.5°	833.0	837.1	826.6	891.6	950.2	1028.7	1101.4	1166.4	1209.5	1215.0	1215.9
55°	767.1	768.9	760.8	823.0	879.8	962.0	1045.5	1108.7	1151.8	1156.4	1159.1
57.5°	701.3	701.7	694.9	754.4	808.9	892.9	980.6	1046.9	1087.8	1092.3	1096.4
60°	635.9	635.4	627.7	685.4	737.6	820.7	912.0	977.9	1017.4	1021.5	1026.9
62.5°	570.9	569.6	562.7	615.9	664.9	747.1	838.9	902.5	940.2	942.9	950.2
65°	506.4	505.1	498.7	547.8	592.3	670.8	760.8	821.2	855.2	858.9	857.5
67.5°	442.8	440.1	435.1	479.2	519.6	592.3	678.6	736.2	764.4	767.6	776.2
70°	379.2	376.1	364.7	411.5	446.9	511.9	592.3	643.6	667.2	670.4	669.0
72.5°	316.6	313.4	301.1	344.3	374.3	431.0	502.8	545.5	565.9	568.6	568.6
75°	255.7	253.9	246.2	278.9	303.9	350.2	411.0	446.5	462.4	465.5	464.6
77.5°	197.1	195.8	188.0	216.2	235.7	270.2	319.3	347.0	358.8	362.4	370.2
80°	141.3	140.8	128.5	156.2	164.9	193.9	229.8	251.2	257.5	262.5	268.0
82.5°	90.4	90.8	78.6	102.2	105.8	124.4	146.7	159.9	164.4	168.5	172.6
85°	44.1	45.9	39.1	54.0	54.5	64.0	73.6	78.6	80.4	83.6	87.2
87.5°	11.4	13.2	7.3	15.4	13.6	17.7	20.4	21.8	21.3	23.6	25.0
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1
2.5°	1905.8	1920.3	1913.1	1936.7	1945.8	1931.2	1956.7	1957.1	1938.9	1960.3	1972.1
5°	1876.3	1891.3	1886.7	1911.2	1922.6	1909.9	1940.8	1946.7	1929.0	1953.0	1972.1
7.5°	1846.3	1864.0	1858.1	1883.1	1896.7	1886.7	1919.9	1929.4	1915.8	1942.1	1967.6
10°	1820.4	1835.4	1829.0	1855.4	1867.2	1859.0	1891.7	1909.4	1896.7	1929.0	1959.4
12.5°	1795.0	1807.2	1800.0	1821.8	1833.1	1822.7	1862.6	1879.0	1869.9	1903.5	1942.6
15°	1762.3	1775.9	1765.9	1785.4	1794.1	1785.0	1817.7	1845.8	1834.5	1871.3	1914.4
17.5°	1737.3	1745.0	1731.4	1746.8	1751.8	1739.6	1772.7	1800.4	1792.2	1832.2	1882.2
20°	1709.6	1715.9	1696.9	1705.5	1705.0	1689.6	1720.0	1747.3	1741.8	1785.9	1842.7
22.5°	1678.7	1681.9	1659.6	1661.4	1660.5	1635.1	1662.3	1690.0	1687.8	1732.3	1795.9
25°	1646.0	1646.4	1617.8	1616.9	1606.9	1577.0	1601.0	1632.4	1625.6	1673.7	1740.5
27.5°	1613.7	1609.2	1574.7	1566.5	1550.6	1514.7	1536.1	1564.2	1560.1	1607.4	1681.4
30°	1579.2	1573.3	1531.1	1516.1	1492.9	1451.6	1469.3	1495.7	1497.9	1539.3	1616.9
32.5°	1546.5	1531.5	1484.8	1463.0	1433.9	1385.7	1395.3	1422.1	1425.7	1467.5	1547.4
35°	1504.3	1494.3	1436.6	1399.4	1370.7	1318.1	1328.1	1346.7	1352.1	1393.0	1474.3
37.5°	1464.3	1448.4	1387.1	1341.7	1304.9	1249.5	1252.2	1271.3	1276.7	1318.1	1398.5
40°	1423.0	1400.3	1334.4	1281.3	1239.0	1180.9	1177.7	1197.7	1201.8	1242.2	1314.9
42.5°	1378.9	1351.7	1277.6	1219.5	1170.9	1111.9	1105.5	1122.8	1127.3	1166.8	1238.1
45°	1334.4	1301.7	1219.5	1155.9	1102.8	1042.4	1036.0	1049.2	1056.0	1093.2	1161.8
47.5°	1287.2	1249.0	1159.6	1088.7	1033.7	973.3	965.6	978.8	984.2	1021.0	1086.0
50°	1237.7	1191.3	1097.8	1019.7	965.2	905.7	894.3	909.7	914.7	949.3	1012.8
52.5°	1183.2	1131.8	1031.9	950.2	895.7	838.9	825.3	840.3	846.2	879.8	938.4
55°	1125.5	1070.1	965.6	886.1	827.1	771.7	760.3	766.2	778.9	810.7	865.2
57.5°	1060.5	1005.6	895.7	814.8	758.0	704.9	695.4	700.8	712.6	743.5	792.6
60°	991.5	933.4	824.4	743.5	688.6	638.1	629.5	634.5	647.2	675.4	720.8
62.5°	923.4	858.0	750.8	670.4	620.4	573.6	571.4	569.6	581.4	608.6	648.6
65°	840.7	778.0	674.0	597.7	552.3	510.1	501.0	505.1	516.4	541.4	583.2
67.5°	752.1	695.4	595.4	525.0	484.6	446.9	439.2	441.0	452.8	474.6	511.0
70°	658.1	608.2	515.1	451.9	417.9	382.4	377.4	377.9	389.2	408.3	440.1
72.5°	559.6	514.6	433.8	379.7	351.5	326.1	321.6	316.1	326.6	342.9	370.2
75°	459.2	419.7	352.9	308.9	286.6	265.2	261.2	255.7	266.2	280.2	301.6
77.5°	357.9	326.1	274.3	240.3	223.0	207.1	203.5	197.6	208.0	218.5	235.3
80°	258.9	235.7	204.8	169.0	163.1	152.6	149.0	142.6	152.6	159.4	172.1
82.5°	167.1	151.7	134.0	109.0	108.1	100.4	98.6	91.3	100.4	104.5	114.0
85°	84.5	77.2	72.7	55.4	57.2	52.2	51.8	44.1	51.3	53.1	58.6
87.5°	24.1	25.4	22.7	13.6	17.3	16.4	16.4	11.8	16.4	16.4	18.6
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: P838094

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-2LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1	1947.1
2.5°	1948.9	1956.7	1958.5	1958.0	1963.0	1990.3	1981.2	1990.3
5°	1953.5	1970.7	1975.3	1981.6	1989.8	2020.7	2010.7	2021.6
7.5°	1956.2	1982.1	1992.1	2004.3	2017.5	2052.0	2043.9	2054.8
10°	1956.2	1989.8	2004.3	2024.8	2042.5	2082.5	2074.7	2087.5
12.5°	1948.0	1991.2	2011.6	2040.2	2062.9	2106.1	2102.9	2112.0
15°	1931.2	1984.4	2012.5	2049.3	2077.5	2125.6	2124.3	2135.2
17.5°	1908.5	1972.6	2006.6	2052.9	2088.4	2142.4	2145.6	2151.5
20°	1879.9	1950.3	1994.8	2051.6	2096.1	2155.6	2159.7	2167.9
22.5°	1842.2	1923.5	1977.1	2045.7	2097.0	2161.0	2168.3	2176.0
25°	1797.7	1891.3	1953.9	2034.3	2092.5	2160.6	2170.6	2177.4
27.5°	1746.8	1849.5	1924.4	2016.2	2079.7	2153.3	2165.6	2173.8
30°	1687.8	1805.0	1890.8	1992.5	2062.5	2139.7	2152.9	2161.0
32.5°	1626.9	1755.9	1850.8	1962.1	2037.5	2117.9	2129.2	2135.6
35°	1560.6	1696.4	1802.7	1923.0	2005.3	2082.9	2091.6	2098.4
37.5°	1488.4	1631.9	1747.7	1879.0	1959.8	2034.3	2042.0	2049.8
40°	1413.9	1564.2	1686.0	1824.9	1905.8	1974.8	1983.0	1988.4
42.5°	1339.0	1489.3	1620.1	1761.4	1841.7	1908.1	1913.1	1918.5
45°	1263.1	1411.6	1546.1	1691.0	1770.4	1832.7	1834.5	1839.0
47.5°	1185.9	1331.2	1464.8	1610.6	1689.1	1745.9	1747.7	1751.4
50°	1108.2	1250.8	1378.0	1523.8	1600.6	1660.5	1652.3	1656.0
52.5°	1031.9	1166.4	1296.3	1430.2	1506.1	1559.2	1561.5	1554.2
55°	957.0	1083.7	1203.2	1332.1	1404.4	1445.7	1444.3	1447.1
57.5°	881.1	1000.1	1109.6	1227.7	1298.1	1337.1	1345.3	1335.8
60°	803.9	915.6	1013.8	1120.5	1188.6	1221.3	1230.9	1221.8
62.5°	727.2	829.8	918.8	1011.9	1075.1	1115.5	1114.6	1104.6
65°	650.4	743.5	823.0	902.0	957.0	997.4	995.6	986.5
67.5°	579.5	656.3	727.6	791.7	839.3	867.1	876.6	865.7
70°	501.4	567.7	630.4	681.7	721.3	746.2	755.3	745.8
72.5°	423.3	479.6	523.7	573.2	603.6	624.5	634.1	625.0
75°	346.1	392.4	428.3	466.9	488.3	506.0	516.9	507.8
77.5°	271.2	307.0	335.6	363.8	388.3	392.4	402.0	396.1
80°	199.8	225.7	246.6	265.2	283.0	284.8	292.5	288.9
82.5°	133.1	150.3	155.8	175.3	186.7	184.9	192.6	189.9
85°	70.4	80.8	90.4	96.3	102.6	96.7	103.6	100.8
87.5°	23.6	25.0	21.8	30.9	34.1	29.1	33.2	31.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)