

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: P837718

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2HI-20-120-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: P837718
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-2HI-20-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

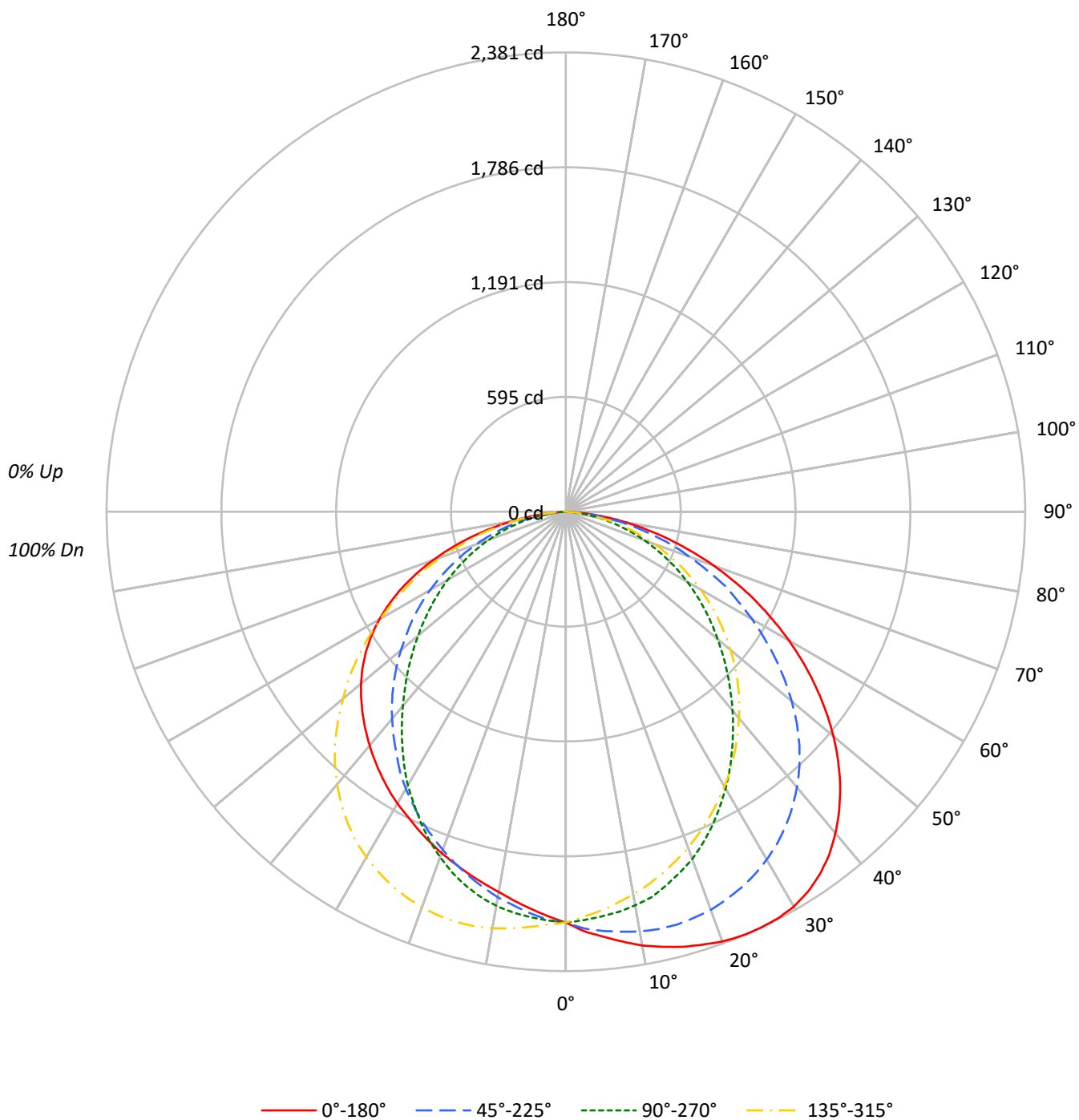
Lumens per Lamp: N/A
Luminaire Lumens: 6247.0 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: 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
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	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	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	74	62	53	47	59	52	46		57	51	46		56
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	47	38	32	59	46	38	32	45	37	32		43	37	32		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°	270°
0°	5730	5730	5730	5730
5°	5972	5689	5581	5698
10°	6237	5659	5468	5667
15°	6505	5587	5414	5589
20°	6789	5486	5391	5455
25°	7070	5333	5390	5278
30°	7343	5147	5426	5090
35°	7538	4936	5480	4857
40°	7639	4723	5557	4617
45°	7653	4508	5665	4395
50°	7581	4302	5803	4188
55°	7424	4110	5933	3996
60°	7191	3911	6012	3809
65°	6869	3681	5980	3596
70°	6416	3412	5768	3349
75°	5774	3041	5293	3027
80°	4895	2548	4449	2586
85°	3406	1686	2822	1732

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.2	3.2
10°-20°	585.4	9.4
20°-30°	897.2	14.4
30°-40°	1090.9	17.5
40°-50°	1134.0	18.2
50°-60°	1024.4	16.4
60°-70°	778.8	12.5
70°-80°	434.2	7.0
80°-90°	100.0	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°	1684.7	27.0
0°-40°	2775.6	44.4
0°-60°	4934.0	79.0
0°-90°	6247.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6247.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2129	2129	2129	2129	2129	
5°	2211	2106	2066	2109	2211	213
15°	2335	2006	1944	2006	2335	662
25°	2381	1796	1815	1778	2381	1100
35°	2295	1502	1668	1479	2295	1433
45°	2011	1185	1488	1155	2011	1548
55°	1582	876	1264	852	1582	1413
65°	1079	578	939	565	1079	1066
75°	555	292	509	291	555	590
85°	110	55	91	56	110	139
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°	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3
2.5°	2176.4	2144.7	2145.2	2173.0	2151.6	2162.0	2132.2	2143.7	2140.2	2142.7	2118.3
5°	2210.7	2176.4	2175.9	2199.8	2175.9	2180.4	2142.7	2150.1	2139.2	2132.2	2105.9
7.5°	2247.0	2212.7	2209.2	2230.1	2198.8	2195.3	2153.6	2153.6	2133.7	2116.3	2091.5
10°	2282.7	2247.5	2243.0	2258.9	2220.2	2208.7	2158.1	2150.1	2123.8	2098.0	2071.1
12.5°	2309.6	2273.8	2270.3	2280.3	2236.5	2215.7	2158.1	2142.7	2103.9	2067.7	2046.8
15°	2334.9	2298.1	2288.7	2293.7	2243.5	2215.7	2151.1	2127.3	2077.6	2029.9	2005.6
17.5°	2352.8	2317.5	2308.1	2307.6	2247.0	2207.2	2136.2	2103.4	2043.8	1986.2	1961.9
20°	2370.6	2335.4	2323.5	2314.5	2246.0	2195.8	2114.4	2070.2	2000.6	1936.1	1915.7
22.5°	2379.6	2343.3	2330.4	2317.0	2239.5	2175.0	2087.5	2031.4	1951.9	1875.0	1858.1
25°	2381.1	2343.8	2329.9	2310.5	2226.6	2150.1	2052.8	1984.7	1895.8	1810.4	1796.0
27.5°	2377.1	2336.4	2322.5	2299.1	2207.2	2119.8	2011.5	1931.6	1836.2	1741.9	1726.5
30°	2363.2	2322.0	2308.6	2278.3	2179.9	2082.6	1966.3	1872.5	1770.2	1669.8	1656.4
32.5°	2335.4	2295.2	2284.2	2253.9	2150.1	2039.4	1913.7	1808.9	1697.1	1601.3	1581.4
35°	2294.7	2254.4	2247.5	2215.7	2108.4	1987.7	1856.1	1739.4	1619.7	1521.8	1502.5
37.5°	2241.5	2207.7	2197.3	2166.0	2059.2	1929.1	1790.0	1663.9	1540.7	1435.4	1423.5
40°	2174.5	2142.7	2134.7	2106.9	2002.1	1864.0	1718.5	1585.9	1459.2	1361.4	1344.5
42.5°	2098.0	2068.2	2063.7	2034.9	1931.6	1792.0	1641.0	1504.9	1374.3	1279.9	1263.1
45°	2011.1	1982.2	1981.2	1953.9	1854.6	1712.1	1559.6	1423.0	1291.4	1193.5	1184.6
47.5°	1915.2	1889.4	1889.4	1864.0	1768.7	1624.1	1475.6	1337.6	1207.9	1121.5	1105.6
50°	1810.9	1786.6	1779.1	1766.7	1673.8	1528.3	1387.2	1254.1	1125.5	1043.0	1027.6
52.5°	1699.6	1678.8	1683.7	1660.9	1571.0	1428.4	1297.8	1160.2	1042.5	967.5	952.1
55°	1582.4	1552.6	1557.1	1548.6	1463.7	1325.6	1197.5	1082.8	961.1	890.5	876.1
57.5°	1460.7	1422.0	1437.9	1432.9	1349.5	1220.3	1105.6	994.8	880.1	815.0	801.1
60°	1336.1	1298.8	1315.2	1310.7	1232.3	1115.0	1010.7	907.9	799.7	740.5	726.6
62.5°	1207.9	1173.7	1188.6	1185.1	1113.1	1007.3	916.4	822.0	718.7	665.5	652.6
65°	1078.8	1046.0	1059.4	1056.9	990.4	909.9	819.5	733.1	637.2	591.0	578.1
67.5°	946.7	916.4	928.8	928.8	867.7	790.7	722.2	643.2	557.3	517.5	505.6
70°	815.5	787.2	798.2	797.2	745.5	682.9	623.8	553.3	476.3	443.5	433.6
72.5°	683.4	658.6	668.5	667.5	624.3	584.1	525.5	464.4	397.3	371.0	362.1
75°	555.3	531.9	541.4	540.4	505.1	467.4	428.1	377.5	319.9	301.5	292.5
77.5°	433.1	409.3	417.2	417.2	391.4	364.1	332.8	293.5	252.8	232.9	226.5
80°	315.9	304.5	300.5	301.0	283.6	265.7	249.8	212.1	182.3	168.9	164.4
82.5°	207.6	198.2	194.2	195.2	185.3	174.3	164.4	138.1	118.2	110.3	107.8
85°	110.3	103.3	99.8	102.3	100.3	94.4	89.4	71.5	59.1	56.1	54.6
87.5°	34.8	30.3	27.8	36.8	31.3	27.8	26.8	21.4	16.4	16.4	15.9
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°	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3
2.5°	2126.3	2126.3	2106.9	2102.4	2100.5	2102.9	2083.6	2080.1	2107.9	2098.5	2077.1
5°	2109.4	2108.4	2081.1	2076.1	2076.1	2073.1	2051.3	2046.3	2074.1	2066.2	2042.8
7.5°	2088.5	2085.6	2053.3	2049.8	2044.8	2042.8	2018.5	2015.0	2038.9	2033.9	2012.0
10°	2063.2	2060.2	2022.0	2019.5	2014.0	2010.1	1987.2	1984.7	2009.1	2001.1	1983.7
12.5°	2029.9	2024.5	1985.2	1982.7	1978.3	1976.8	1954.4	1953.4	1980.3	1972.3	1953.9
15°	1986.2	1981.7	1938.0	1939.0	1939.5	1939.5	1921.6	1920.7	1947.0	1943.5	1923.6
17.5°	1938.0	1932.1	1890.4	1893.3	1896.8	1900.8	1886.9	1889.4	1917.2	1912.7	1894.8
20°	1883.4	1877.4	1836.7	1845.2	1852.6	1860.6	1851.6	1858.6	1884.4	1882.4	1869.0
22.5°	1822.3	1816.4	1778.6	1791.5	1803.9	1818.8	1814.9	1822.8	1850.1	1849.6	1837.7
25°	1747.8	1749.3	1716.0	1731.9	1752.8	1773.6	1775.1	1788.0	1818.3	1815.4	1804.4
27.5°	1678.3	1680.3	1645.0	1671.8	1699.6	1726.5	1732.9	1750.8	1781.6	1779.1	1769.7
30°	1605.3	1607.7	1573.5	1610.2	1644.0	1676.8	1690.7	1715.0	1746.3	1746.3	1736.4
32.5°	1529.3	1533.7	1498.0	1547.2	1586.4	1624.6	1649.0	1674.3	1710.1	1709.1	1700.6
35°	1451.3	1456.3	1423.5	1486.1	1525.3	1572.0	1602.3	1636.1	1667.8	1668.3	1661.9
37.5°	1371.8	1377.8	1348.0	1416.5	1461.2	1516.4	1555.1	1588.9	1624.1	1626.1	1620.2
40°	1292.9	1299.3	1273.5	1339.5	1396.2	1457.8	1502.5	1542.2	1580.9	1581.9	1577.9
42.5°	1213.9	1220.8	1201.5	1266.0	1330.1	1396.2	1448.8	1494.0	1533.7	1536.2	1531.8
45°	1136.9	1142.9	1128.9	1199.5	1261.1	1333.1	1393.7	1444.8	1485.1	1488.5	1487.1
47.5°	1060.4	1065.9	1053.5	1118.0	1189.0	1265.5	1335.6	1392.2	1434.9	1438.9	1437.9
50°	985.4	989.9	976.5	1044.0	1114.5	1196.0	1269.0	1334.6	1382.3	1386.2	1385.7
52.5°	910.9	915.4	904.0	975.0	1039.1	1125.0	1204.4	1275.5	1322.7	1328.6	1329.6
55°	838.9	840.9	831.9	900.0	962.1	1052.0	1143.4	1212.4	1259.6	1264.5	1267.5
57.5°	766.9	767.4	759.9	825.0	884.6	976.5	1072.3	1144.8	1189.5	1194.5	1199.0
60°	695.3	694.9	686.4	749.5	806.6	897.5	997.3	1069.3	1112.6	1117.0	1123.0
62.5°	624.3	622.8	615.4	673.5	727.1	817.0	917.4	986.9	1028.1	1031.1	1039.1
65°	553.8	552.3	545.4	599.0	647.7	733.6	831.9	898.0	935.2	939.2	937.7
67.5°	484.3	481.3	475.8	524.0	568.2	647.7	742.0	805.1	835.9	839.4	848.8
70°	414.7	411.2	398.8	450.0	488.7	559.8	647.7	703.8	729.6	733.1	731.6
72.5°	346.2	342.7	329.3	376.5	409.3	471.3	549.8	596.5	618.9	621.8	621.8
75°	279.6	277.6	269.2	305.0	332.3	382.9	449.5	488.2	505.6	509.1	508.1
77.5°	215.6	214.1	205.6	236.4	257.8	295.5	349.2	379.5	392.4	396.3	404.8
80°	154.5	154.0	140.6	170.9	180.3	212.1	251.3	274.7	281.6	287.1	293.0
82.5°	98.8	99.3	85.9	111.8	115.7	136.1	160.4	174.8	179.8	184.3	188.7
85°	48.2	50.2	42.7	59.1	59.6	70.0	80.5	85.9	87.9	91.4	95.4
87.5°	12.4	14.4	7.9	16.9	14.9	19.4	22.4	23.8	23.3	25.8	27.3
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°	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3
2.5°	2084.1	2100.0	2092.0	2117.8	2127.8	2111.9	2139.7	2140.2	2120.3	2143.7	2156.6
5°	2051.8	2068.2	2063.2	2090.0	2102.4	2088.5	2122.3	2128.8	2109.4	2135.7	2156.6
7.5°	2019.0	2038.4	2031.9	2059.2	2074.1	2063.2	2099.5	2109.9	2095.0	2123.8	2151.6
10°	1990.7	2007.1	2000.1	2028.9	2041.8	2032.9	2068.7	2088.0	2074.1	2109.4	2142.7
12.5°	1962.9	1976.3	1968.3	1992.2	2004.6	1993.2	2036.9	2054.8	2044.8	2081.6	2124.3
15°	1927.1	1942.0	1931.1	1952.4	1961.9	1951.9	1987.7	2018.5	2006.1	2046.3	2093.5
17.5°	1899.8	1908.2	1893.3	1910.2	1915.7	1902.3	1938.5	1968.8	1959.9	2003.6	2058.2
20°	1869.5	1876.5	1855.6	1865.0	1864.5	1847.6	1880.9	1910.7	1904.8	1952.9	2015.0
22.5°	1835.7	1839.2	1814.9	1816.8	1815.9	1788.0	1817.8	1848.1	1845.7	1894.3	1963.9
25°	1800.0	1800.5	1769.2	1768.2	1757.2	1724.5	1750.8	1785.1	1777.6	1830.3	1903.3
27.5°	1764.7	1759.7	1722.0	1713.0	1695.7	1656.4	1679.8	1710.6	1706.1	1757.7	1838.7
30°	1727.0	1720.5	1674.3	1657.9	1632.6	1587.4	1606.8	1635.6	1638.0	1683.2	1768.2
32.5°	1691.2	1674.8	1623.6	1599.8	1568.0	1515.4	1525.8	1555.1	1559.1	1604.8	1692.2
35°	1645.0	1634.1	1571.0	1530.3	1499.0	1441.4	1452.3	1472.7	1478.6	1523.3	1612.2
37.5°	1601.3	1583.9	1516.9	1467.2	1427.0	1366.4	1369.3	1390.2	1396.2	1441.4	1529.3
40°	1556.1	1531.3	1459.2	1401.1	1354.9	1291.4	1287.9	1309.7	1314.2	1358.4	1437.9
42.5°	1507.9	1478.1	1397.2	1333.6	1280.4	1215.9	1208.9	1227.8	1232.8	1276.0	1353.9
45°	1459.2	1423.5	1333.6	1264.0	1205.9	1139.9	1132.9	1147.3	1154.8	1195.5	1270.5
47.5°	1407.6	1365.9	1268.0	1190.5	1130.4	1064.4	1055.9	1070.3	1076.3	1116.5	1187.6
50°	1353.4	1302.8	1200.5	1115.0	1055.4	990.4	978.0	994.8	1000.3	1038.1	1107.6
52.5°	1293.8	1237.7	1128.5	1039.1	979.4	917.4	902.5	918.9	925.3	962.1	1026.1
55°	1230.8	1170.2	1055.9	969.0	904.5	843.9	831.4	837.9	851.8	886.6	946.2
57.5°	1159.7	1099.6	979.4	891.0	829.0	770.8	760.4	766.4	779.3	813.1	866.7
60°	1084.2	1020.7	901.5	813.1	753.0	697.8	688.4	693.9	707.8	738.6	788.2
62.5°	1009.7	938.2	821.0	733.1	678.5	627.3	624.8	622.8	635.7	665.5	709.3
65°	919.4	850.8	737.1	653.6	604.0	557.8	547.8	552.3	564.7	592.0	637.7
67.5°	822.5	760.4	651.1	574.2	530.0	488.7	480.3	482.3	495.2	519.0	558.8
70°	719.7	665.1	563.2	494.2	456.9	418.2	412.7	413.2	425.7	446.5	481.3
72.5°	611.9	562.7	474.3	415.2	384.4	356.6	351.6	345.7	357.1	375.0	404.8
75°	502.1	458.9	385.9	337.7	313.4	290.1	285.6	279.6	291.1	306.5	329.8
77.5°	391.4	356.6	300.0	262.7	243.9	226.5	222.5	216.1	227.5	238.9	257.3
80°	283.1	257.8	224.0	184.8	178.3	166.9	162.9	156.0	166.9	174.3	188.2
82.5°	182.8	165.9	146.5	119.2	118.2	109.8	107.8	99.8	109.8	114.2	124.7
85°	92.4	84.4	79.5	60.6	62.6	57.1	56.6	48.2	56.1	58.1	64.1
87.5°	26.3	27.8	24.8	14.9	18.9	17.9	17.9	12.9	17.9	17.9	20.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P837718

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-2HI-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3	2129.3
2.5°	2131.2	2139.7	2141.7	2141.2	2146.6	2176.4	2166.5	2176.4
5°	2136.2	2155.1	2160.1	2167.0	2175.9	2209.7	2198.8	2210.7
7.5°	2139.2	2167.5	2178.4	2191.8	2206.2	2244.0	2235.1	2247.0
10°	2139.2	2175.9	2191.8	2214.2	2233.6	2277.3	2268.8	2282.7
12.5°	2130.3	2177.4	2199.8	2231.1	2255.9	2303.1	2299.6	2309.6
15°	2111.9	2170.0	2200.8	2241.0	2271.8	2324.5	2323.0	2334.9
17.5°	2087.0	2157.1	2194.3	2245.0	2283.7	2342.8	2346.3	2352.8
20°	2055.8	2132.7	2181.4	2243.5	2292.2	2357.2	2361.7	2370.6
22.5°	2014.5	2103.4	2162.0	2237.0	2293.2	2363.2	2371.1	2379.6
25°	1965.9	2068.2	2136.7	2224.6	2288.2	2362.7	2373.6	2381.1
27.5°	1910.2	2022.5	2104.4	2204.8	2274.3	2354.8	2368.2	2377.1
30°	1845.7	1973.8	2067.7	2178.9	2255.4	2339.9	2354.3	2363.2
32.5°	1779.1	1920.2	2024.0	2145.7	2228.1	2316.0	2328.4	2335.4
35°	1706.6	1855.1	1971.3	2102.9	2192.8	2277.8	2287.2	2294.7
37.5°	1627.6	1784.6	1911.2	2054.8	2143.2	2224.6	2233.1	2241.5
40°	1546.2	1710.6	1843.7	1995.7	2084.1	2159.6	2168.5	2174.5
42.5°	1464.2	1628.6	1771.7	1926.1	2014.0	2086.5	2092.0	2098.0
45°	1381.3	1543.7	1690.7	1849.1	1936.1	2004.1	2006.1	2011.1
47.5°	1296.8	1455.8	1601.8	1761.2	1847.1	1909.2	1911.2	1915.2
50°	1211.9	1367.9	1506.9	1666.4	1750.3	1815.9	1806.9	1810.9
52.5°	1128.5	1275.5	1417.5	1564.0	1647.0	1705.1	1707.6	1699.6
55°	1046.5	1185.1	1315.7	1456.8	1535.7	1580.9	1579.4	1582.4
57.5°	963.6	1093.7	1213.4	1342.5	1419.5	1462.2	1471.2	1460.7
60°	879.1	1001.3	1108.6	1225.3	1299.8	1335.6	1346.0	1336.1
62.5°	795.2	907.4	1004.8	1106.6	1175.6	1219.8	1218.8	1207.9
65°	711.2	813.1	900.0	986.4	1046.5	1090.7	1088.7	1078.8
67.5°	633.8	717.7	795.7	865.7	917.9	948.2	958.6	946.7
70°	548.3	620.8	689.4	745.5	788.7	816.0	826.0	815.5
72.5°	462.9	524.5	572.7	626.8	660.1	682.9	693.4	683.4
75°	378.5	429.1	468.4	510.6	533.9	553.3	565.2	555.3
77.5°	296.5	335.8	367.0	397.8	424.7	429.1	439.6	433.1
80°	218.5	246.8	269.7	290.1	309.4	311.4	319.9	315.9
82.5°	145.5	164.4	170.4	191.7	204.1	202.1	210.6	207.6
85°	77.0	88.4	98.8	105.3	112.2	105.8	113.2	110.3
87.5°	25.8	27.3	23.8	33.8	37.3	31.8	36.3	34.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)