

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: P837816

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2STD-50-120-EDD-90**

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: P837816
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-LD4-2STD-50-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

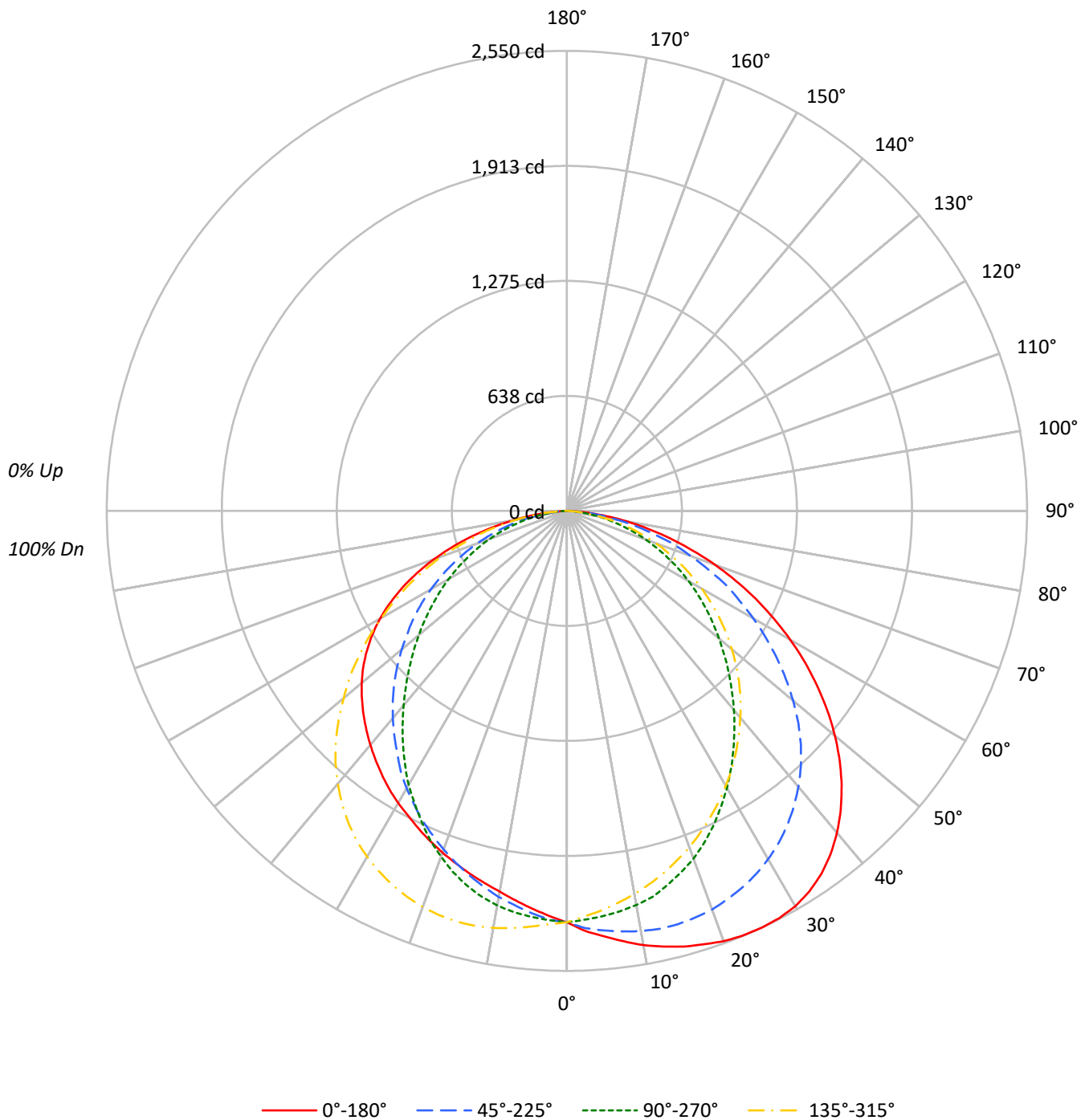
Lumens per Lamp: N/A
Luminaire Lumens: 6689.5 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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: 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°	6136	6136	6136	6136
5°	6395	6092	5977	6102
10°	6679	6060	5855	6069
15°	6966	5983	5798	5985
20°	7270	5875	5773	5841
25°	7570	5710	5772	5652
30°	7863	5512	5811	5450
35°	8072	5285	5869	5202
40°	8180	5057	5951	4944
45°	8195	4827	6066	4706
50°	8118	4607	6214	4484
55°	7950	4402	6353	4279
60°	7700	4188	6438	4079
65°	7356	3942	6404	3850
70°	6871	3653	6176	3586
75°	6182	3257	5669	3241
80°	5243	2727	4764	2769
85°	3646	1806	3023	1856

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	216.5	3.2
10°-20°	626.9	9.4
20°-30°	960.7	14.4
30°-40°	1168.2	17.5
40°-50°	1214.4	18.2
50°-60°	1096.9	16.4
60°-70°	834.0	12.5
70°-80°	464.9	7.0
80°-90°	107.0	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°	1804.1	27.0
0°-40°	2972.2	44.4
0°-60°	5283.5	79.0
0°-90°	6689.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6689.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2280	2280	2280	2280	2280	
5°	2367	2255	2212	2259	2367	228
15°	2500	2148	2081	2148	2500	709
25°	2550	1923	1944	1904	2550	1178
35°	2457	1609	1786	1583	2457	1535
45°	2154	1268	1594	1237	2154	1658
55°	1694	938	1354	912	1694	1513
65°	1155	619	1006	605	1155	1142
75°	595	313	545	312	595	632
85°	118	58	98	60	118	149
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°	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1
2.5°	2330.6	2296.6	2297.1	2326.9	2304.0	2315.2	2283.3	2295.5	2291.8	2294.4	2268.4
5°	2367.3	2330.6	2330.1	2355.6	2330.1	2334.9	2294.4	2302.4	2290.7	2283.3	2255.1
7.5°	2406.1	2369.4	2365.7	2388.1	2354.5	2350.8	2306.1	2306.1	2284.9	2266.3	2239.7
10°	2444.4	2406.7	2401.9	2418.9	2377.4	2365.2	2310.9	2302.4	2274.2	2246.6	2217.9
12.5°	2473.2	2434.9	2431.1	2441.8	2395.0	2372.6	2310.9	2294.4	2253.0	2214.1	2191.8
15°	2500.3	2460.9	2450.8	2456.1	2402.4	2372.6	2303.5	2278.0	2224.8	2173.7	2147.7
17.5°	2519.4	2481.7	2471.6	2471.0	2406.1	2363.6	2287.5	2252.4	2188.6	2126.9	2100.9
20°	2538.6	2500.8	2488.0	2478.5	2405.1	2351.4	2264.1	2216.8	2142.3	2073.2	2051.4
22.5°	2548.1	2509.3	2495.5	2481.1	2398.2	2329.0	2235.4	2175.3	2090.2	2007.8	1989.7
25°	2549.7	2509.9	2495.0	2474.2	2384.3	2302.4	2198.2	2125.3	2030.1	1938.6	1923.2
27.5°	2545.5	2501.9	2487.0	2462.0	2363.6	2270.0	2154.0	2068.4	1966.3	1865.2	1848.7
30°	2530.6	2486.5	2472.1	2439.6	2334.3	2230.1	2105.6	2005.1	1895.6	1788.1	1773.8
32.5°	2500.8	2457.7	2446.0	2413.6	2302.4	2183.8	2049.3	1937.0	1817.4	1714.7	1693.4
35°	2457.2	2414.1	2406.7	2372.6	2257.7	2128.5	1987.6	1862.6	1734.4	1629.6	1608.9
37.5°	2400.3	2364.1	2353.0	2319.4	2205.1	2065.7	1916.8	1781.7	1649.8	1537.1	1524.3
40°	2328.5	2294.4	2285.9	2256.2	2143.9	1996.1	1840.2	1698.2	1562.6	1457.8	1439.7
42.5°	2246.6	2214.7	2209.9	2179.0	2068.4	1919.0	1757.3	1611.5	1471.7	1370.6	1352.5
45°	2153.5	2122.7	2121.6	2092.3	1986.0	1833.3	1670.0	1523.8	1382.8	1278.1	1268.5
47.5°	2050.9	2023.2	2023.2	1996.1	1894.0	1739.2	1580.2	1432.3	1293.5	1200.9	1183.9
50°	1939.2	1913.1	1905.1	1891.8	1792.4	1636.5	1485.5	1342.9	1205.2	1116.9	1100.4
52.5°	1820.0	1797.7	1803.0	1778.5	1682.3	1529.6	1389.8	1242.4	1116.4	1036.1	1019.6
55°	1694.5	1662.6	1667.4	1658.3	1567.4	1419.5	1282.3	1159.5	1029.2	953.6	938.2
57.5°	1564.2	1522.7	1539.7	1534.4	1445.1	1306.8	1183.9	1065.3	942.5	872.8	857.9
60°	1430.7	1390.8	1408.4	1403.6	1319.5	1194.0	1082.3	972.2	856.3	793.0	778.1
62.5°	1293.5	1256.8	1272.7	1269.0	1191.9	1078.6	981.3	880.2	769.6	712.7	698.9
65°	1155.2	1120.1	1134.5	1131.8	1060.5	974.4	877.6	785.0	682.4	632.9	619.1
67.5°	1013.7	981.3	994.6	994.6	929.2	846.7	773.3	688.8	596.7	554.2	541.4
70°	873.3	843.0	854.7	853.6	798.3	731.3	668.0	592.5	510.1	475.0	464.3
72.5°	731.8	705.2	715.9	714.8	668.5	625.5	562.7	497.3	425.5	397.3	387.7
75°	594.6	569.6	579.7	578.7	540.9	500.5	458.5	404.2	342.5	322.8	313.3
77.5°	463.8	438.3	446.8	446.8	419.1	389.9	356.3	314.3	270.7	249.4	242.5
80°	338.3	326.0	321.8	322.3	303.7	284.5	267.5	227.1	195.2	180.8	176.0
82.5°	222.3	212.2	208.0	209.0	198.4	186.7	176.0	147.9	126.6	118.1	115.4
85°	118.1	110.6	106.9	109.6	107.4	101.1	95.7	76.6	63.3	60.1	58.5
87.5°	37.2	32.4	29.8	39.4	33.5	29.8	28.7	22.9	17.6	17.6	17.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1
2.5°	2276.9	2276.9	2256.2	2251.4	2249.2	2251.9	2231.2	2227.4	2257.2	2247.1	2224.2
5°	2258.8	2257.7	2228.5	2223.2	2223.2	2220.0	2196.6	2191.3	2221.1	2212.5	2187.5
7.5°	2236.5	2233.3	2198.7	2195.0	2189.7	2187.5	2161.5	2157.8	2183.3	2178.0	2154.6
10°	2209.4	2206.2	2165.2	2162.5	2156.7	2152.4	2128.0	2125.3	2151.4	2142.9	2124.3
12.5°	2173.7	2167.9	2125.8	2123.2	2118.4	2116.8	2092.9	2091.8	2120.5	2112.0	2092.3
15°	2126.9	2122.1	2075.3	2076.4	2076.9	2076.9	2057.8	2056.7	2084.9	2081.2	2059.9
17.5°	2075.3	2068.9	2024.3	2027.5	2031.2	2035.4	2020.5	2023.2	2053.0	2048.2	2029.0
20°	2016.8	2010.4	1966.8	1975.9	1983.8	1992.4	1982.8	1990.2	2017.9	2015.8	2001.4
22.5°	1951.4	1945.0	1904.6	1918.4	1931.7	1947.7	1943.4	1951.9	1981.2	1980.7	1967.9
25°	1871.6	1873.2	1837.6	1854.6	1876.9	1899.3	1900.9	1914.7	1947.1	1944.0	1932.3
27.5°	1797.2	1799.3	1761.5	1790.2	1820.0	1848.7	1855.7	1874.8	1907.8	1905.1	1895.0
30°	1719.0	1721.6	1684.9	1724.3	1760.5	1795.6	1810.5	1836.5	1870.0	1870.0	1859.4
32.5°	1637.6	1642.4	1604.1	1656.7	1698.8	1739.7	1765.8	1792.9	1831.2	1830.1	1821.1
35°	1554.1	1559.4	1524.3	1591.3	1633.3	1683.3	1715.8	1752.0	1786.0	1786.5	1779.6
37.5°	1469.0	1475.4	1443.5	1516.9	1564.7	1623.8	1665.3	1701.4	1739.2	1741.3	1734.9
40°	1384.4	1391.3	1363.7	1434.4	1495.1	1561.0	1608.9	1651.4	1692.9	1694.0	1689.7
42.5°	1299.9	1307.3	1286.6	1355.7	1424.3	1495.1	1551.4	1599.8	1642.4	1645.0	1640.3
45°	1217.4	1223.8	1208.9	1284.4	1350.4	1427.5	1492.4	1547.2	1590.3	1594.0	1592.4
47.5°	1135.5	1141.4	1128.1	1197.2	1273.3	1355.2	1430.2	1490.8	1536.5	1540.8	1539.7
50°	1055.2	1060.0	1045.6	1118.0	1193.5	1280.7	1358.9	1429.1	1480.2	1484.4	1483.9
52.5°	975.4	980.2	968.0	1044.0	1112.7	1204.7	1289.8	1365.8	1416.3	1422.7	1423.8
55°	898.3	900.4	890.9	963.7	1030.2	1126.5	1224.3	1298.3	1348.8	1354.1	1357.3
57.5°	821.2	821.7	813.7	883.4	947.2	1045.6	1148.3	1225.9	1273.8	1279.1	1283.9
60°	744.6	744.1	735.0	802.6	863.7	961.1	1068.0	1145.1	1191.4	1196.2	1202.5
62.5°	668.5	667.0	659.0	721.2	778.6	874.9	982.3	1056.8	1101.0	1104.1	1112.7
65°	593.0	591.4	584.0	641.4	693.5	785.6	890.9	961.6	1001.5	1005.7	1004.2
67.5°	518.6	515.4	509.5	561.1	608.4	693.5	794.6	862.1	895.1	898.8	909.0
70°	444.1	440.4	427.1	481.9	523.4	599.4	693.5	753.6	781.3	785.0	783.4
72.5°	370.7	367.0	352.6	403.2	438.3	504.7	588.8	638.8	662.7	665.9	665.9
75°	299.4	297.3	288.3	326.6	355.8	410.1	481.3	522.8	541.4	545.2	544.1
77.5°	230.8	229.2	220.2	253.2	276.0	316.5	373.9	406.3	420.2	424.4	433.5
80°	165.4	164.9	150.5	183.0	193.1	227.1	269.1	294.1	301.6	307.4	313.8
82.5°	105.8	106.4	92.0	119.7	123.9	145.7	171.8	187.2	192.5	197.3	202.1
85°	51.6	53.7	45.7	63.3	63.8	75.0	86.2	92.0	94.1	97.9	102.1
87.5°	13.3	15.4	8.5	18.1	16.0	20.7	23.9	25.5	25.0	27.7	29.3
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°	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1
2.5°	2231.7	2248.7	2240.2	2267.9	2278.5	2261.5	2291.3	2291.8	2270.5	2295.5	2309.3
5°	2197.1	2214.7	2209.4	2238.1	2251.4	2236.5	2272.6	2279.6	2258.8	2287.0	2309.3
7.5°	2162.0	2182.8	2175.8	2205.1	2221.1	2209.4	2248.2	2259.3	2243.4	2274.2	2304.0
10°	2131.7	2149.3	2141.8	2172.7	2186.5	2176.9	2215.2	2235.9	2221.1	2258.8	2294.4
12.5°	2101.9	2116.3	2107.8	2133.3	2146.6	2134.4	2181.2	2200.3	2189.7	2229.0	2274.8
15°	2063.6	2079.6	2067.9	2090.7	2100.9	2090.2	2128.5	2161.5	2148.2	2191.3	2241.8
17.5°	2034.4	2043.4	2027.5	2045.5	2051.4	2037.0	2075.9	2108.3	2098.7	2145.5	2204.0
20°	2001.9	2009.4	1987.0	1997.1	1996.6	1978.5	2014.2	2046.1	2039.7	2091.3	2157.8
22.5°	1965.8	1969.5	1943.4	1945.5	1944.5	1914.7	1946.6	1979.1	1976.4	2028.5	2103.0
25°	1927.5	1928.0	1894.5	1893.4	1881.7	1846.6	1874.8	1911.5	1903.5	1959.9	2038.1
27.5°	1889.7	1884.4	1844.0	1834.4	1815.8	1773.8	1798.8	1831.7	1826.9	1882.3	1968.9
30°	1849.3	1842.4	1792.9	1775.4	1748.2	1699.8	1720.6	1751.4	1754.1	1802.5	1893.4
32.5°	1811.0	1793.4	1738.7	1713.1	1679.1	1622.7	1633.9	1665.3	1669.5	1718.4	1812.1
35°	1761.5	1749.8	1682.3	1638.7	1605.2	1543.5	1555.2	1577.0	1583.4	1631.2	1726.4
37.5°	1714.7	1696.1	1624.3	1571.1	1528.0	1463.1	1466.3	1488.7	1495.1	1543.5	1637.6
40°	1666.3	1639.7	1562.6	1500.4	1450.9	1382.8	1379.1	1402.5	1407.3	1454.6	1539.7
42.5°	1614.7	1582.8	1496.1	1428.0	1371.1	1302.0	1294.5	1314.8	1320.1	1366.4	1449.9
45°	1562.6	1524.3	1428.0	1353.6	1291.4	1220.6	1213.2	1228.6	1236.6	1280.2	1360.5
47.5°	1507.3	1462.6	1357.8	1274.9	1210.5	1139.8	1130.7	1146.2	1152.5	1195.6	1271.7
50°	1449.3	1395.1	1285.5	1194.0	1130.2	1060.5	1047.2	1065.3	1071.2	1111.6	1186.1
52.5°	1385.5	1325.4	1208.4	1112.7	1048.8	982.3	966.4	983.9	990.9	1030.2	1098.8
55°	1318.0	1253.1	1130.7	1037.7	968.5	903.6	890.3	897.2	912.1	949.4	1013.2
57.5°	1241.9	1177.5	1048.8	954.2	887.7	825.4	814.3	820.7	834.5	870.7	928.1
60°	1161.1	1093.0	965.3	870.7	806.3	747.3	737.2	743.0	757.9	790.9	844.1
62.5°	1081.3	1004.7	879.2	785.0	726.5	671.7	669.1	667.0	680.8	712.7	759.5
65°	984.5	911.1	789.3	699.9	646.7	597.3	586.6	591.4	604.7	634.0	682.9
67.5°	880.8	814.3	697.3	614.8	567.5	523.4	514.3	516.4	530.3	555.8	598.3
70°	770.7	712.2	603.1	529.2	489.3	447.8	442.0	442.5	455.8	478.1	515.4
72.5°	655.3	602.6	507.9	444.6	411.7	381.9	376.6	370.2	382.4	401.6	433.5
75°	537.7	491.4	413.3	361.7	335.6	310.6	305.8	299.4	311.7	328.2	353.2
77.5°	419.1	381.9	321.2	281.4	261.1	242.5	238.3	231.4	243.6	255.8	275.5
80°	303.2	276.0	239.9	197.9	190.9	178.7	174.5	167.0	178.7	186.7	201.6
82.5°	195.7	177.6	156.9	127.6	126.6	117.5	115.4	106.9	117.5	122.3	133.5
85°	98.9	90.4	85.1	64.9	67.0	61.2	60.6	51.6	60.1	62.2	68.6
87.5°	28.2	29.8	26.6	16.0	20.2	19.1	19.1	13.8	19.1	19.1	21.8
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: P837816

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-2STD-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1	2280.1
2.5°	2282.2	2291.3	2293.4	2292.9	2298.7	2330.6	2320.0	2330.6
5°	2287.5	2307.7	2313.1	2320.5	2330.1	2366.2	2354.5	2367.3
7.5°	2290.7	2321.0	2332.7	2347.1	2362.5	2402.9	2393.4	2406.1
10°	2290.7	2330.1	2347.1	2371.0	2391.8	2438.6	2429.5	2444.4
12.5°	2281.2	2331.7	2355.6	2389.1	2415.7	2466.2	2462.5	2473.2
15°	2261.5	2323.7	2356.7	2399.8	2432.7	2489.1	2487.5	2500.3
17.5°	2234.9	2309.9	2349.8	2404.0	2445.5	2508.8	2512.5	2519.4
20°	2201.4	2283.8	2335.9	2402.4	2454.5	2524.2	2529.0	2538.6
22.5°	2157.2	2252.4	2315.2	2395.5	2455.6	2530.6	2539.1	2548.1
25°	2105.1	2214.7	2288.1	2382.2	2450.3	2530.1	2541.8	2549.7
27.5°	2045.5	2165.7	2253.5	2360.9	2435.4	2521.6	2535.9	2545.5
30°	1976.4	2113.6	2214.1	2333.3	2415.2	2505.6	2521.0	2530.6
32.5°	1905.1	2056.2	2167.3	2297.6	2385.9	2480.1	2493.4	2500.8
35°	1827.5	1986.5	2111.0	2251.9	2348.2	2439.1	2449.2	2457.2
37.5°	1742.9	1911.0	2046.6	2200.3	2295.0	2382.2	2391.2	2400.3
40°	1655.7	1831.7	1974.3	2137.0	2231.7	2312.5	2322.1	2328.5
42.5°	1567.9	1744.0	1897.1	2062.6	2156.7	2234.3	2240.2	2246.6
45°	1479.1	1653.0	1810.5	1980.1	2073.2	2146.1	2148.2	2153.5
47.5°	1388.7	1558.9	1715.3	1886.0	1978.0	2044.5	2046.6	2050.9
50°	1297.7	1464.7	1613.7	1784.4	1874.3	1944.5	1934.9	1939.2
52.5°	1208.4	1365.8	1517.9	1674.8	1763.7	1825.9	1828.5	1820.0
55°	1120.6	1269.0	1408.9	1559.9	1644.5	1692.9	1691.3	1694.5
57.5°	1031.8	1171.2	1299.3	1437.6	1520.1	1565.8	1575.4	1564.2
60°	941.4	1072.2	1187.1	1312.1	1391.9	1430.2	1441.3	1430.7
62.5°	851.5	971.7	1076.0	1185.0	1258.9	1306.3	1305.2	1293.5
65°	761.6	870.7	963.7	1056.3	1120.6	1168.0	1165.8	1155.2
67.5°	678.7	768.5	852.0	927.0	982.9	1015.3	1026.5	1013.7
70°	587.2	664.8	738.2	798.3	844.6	873.8	884.5	873.3
72.5°	495.7	561.6	613.2	671.2	706.8	731.3	742.5	731.8
75°	405.3	459.5	501.5	546.8	571.8	592.5	605.3	594.6
77.5°	317.5	359.5	393.0	426.0	454.7	459.5	470.7	463.8
80°	234.0	264.3	288.8	310.6	331.3	333.5	342.5	338.3
82.5°	155.8	176.0	182.4	205.3	218.6	216.5	225.5	222.3
85°	82.4	94.7	105.8	112.8	120.2	113.3	121.3	118.1
87.5°	27.7	29.3	25.5	36.2	39.9	34.0	38.8	37.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)