

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: P837807

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2STD-40-120-EDD-90**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837807
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-40-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

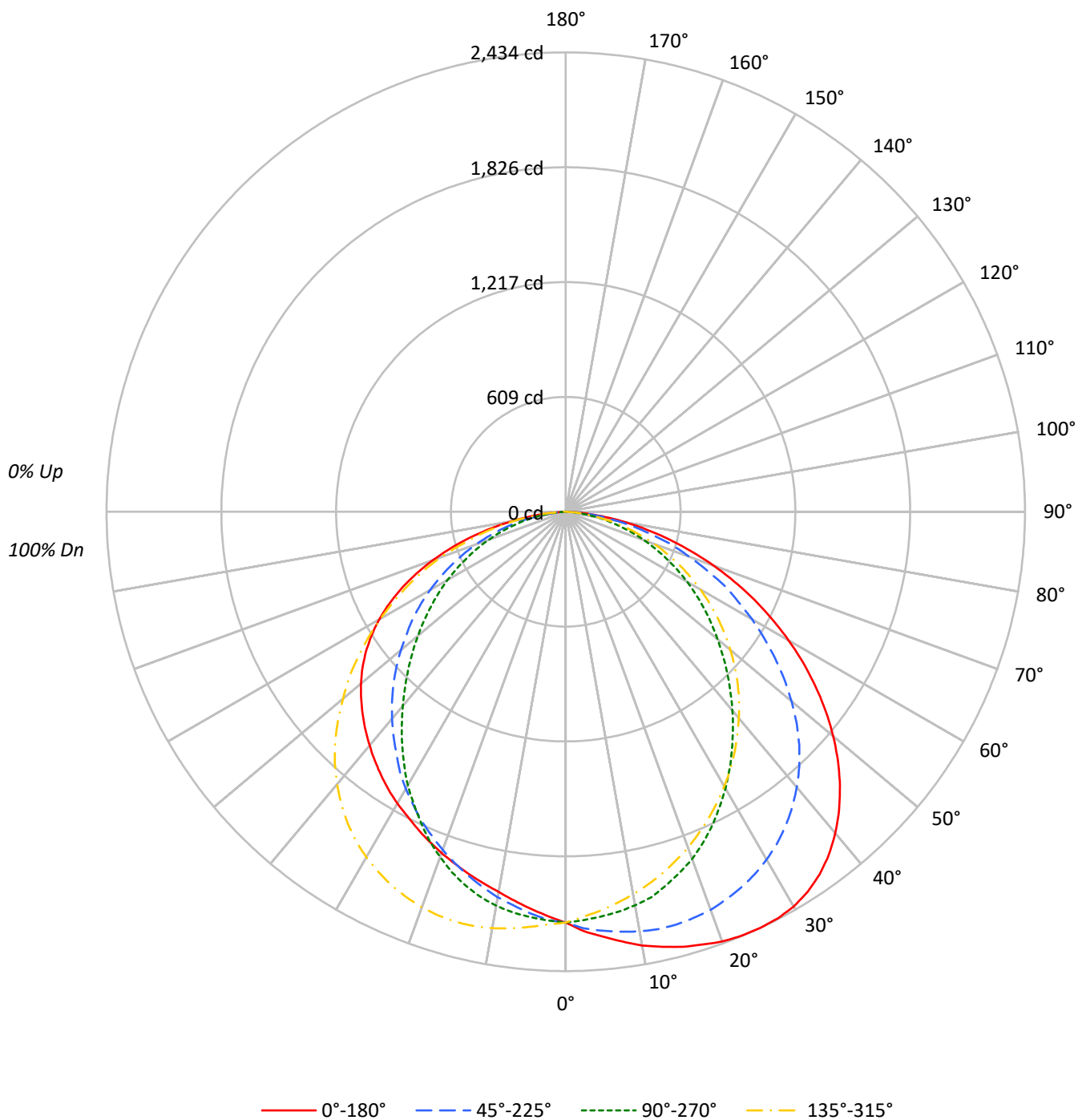
Lumens per Lamp: N/A
Luminaire Lumens: 6385.4 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

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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	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	86	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	61	61	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5857	5857	5857	5857
5°	6104	5815	5705	5824
10°	6376	5785	5589	5793
15°	6649	5711	5534	5713
20°	6939	5607	5510	5576
25°	7226	5451	5510	5395
30°	7506	5261	5546	5203
35°	7705	5045	5602	4965
40°	7808	4828	5680	4719
45°	7823	4608	5790	4492
50°	7749	4397	5932	4281
55°	7589	4202	6064	4085
60°	7350	3997	6145	3894
65°	7021	3762	6113	3675
70°	6559	3487	5895	3423
75°	5901	3109	5411	3093
80°	5004	2603	4547	2644
85°	3480	1723	2884	1772

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.6	3.2
10°-20°	598.4	9.4
20°-30°	917.0	14.4
30°-40°	1115.1	17.5
40°-50°	1159.2	18.2
50°-60°	1047.1	16.4
60°-70°	796.1	12.5
70°-80°	443.8	7.0
80°-90°	102.2	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°	1722.1	27.0
0°-40°	2837.1	44.4
0°-60°	5043.4	79.0
0°-90°	6385.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6385.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2176	2176	2176	2176	2176	
5°	2260	2153	2112	2156	2260	218
15°	2387	2050	1987	2050	2387	677
25°	2434	1836	1856	1817	2434	1124
35°	2346	1536	1705	1511	2346	1465
45°	2056	1211	1522	1180	2056	1583
55°	1618	896	1293	871	1618	1444
65°	1103	591	960	577	1103	1090
75°	568	299	520	298	568	603
85°	113	56	93	57	113	142
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°	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4
2.5°	2224.7	2192.2	2192.7	2221.1	2199.3	2210.0	2179.5	2191.2	2187.6	2190.2	2165.3
5°	2259.7	2224.7	2224.2	2248.5	2224.2	2228.7	2190.2	2197.8	2186.6	2179.5	2152.6
7.5°	2296.8	2261.7	2258.2	2279.5	2247.5	2244.0	2201.3	2201.3	2181.0	2163.2	2137.9
10°	2333.3	2297.3	2292.7	2309.0	2269.4	2257.7	2205.9	2197.8	2170.9	2144.5	2117.0
12.5°	2360.7	2324.2	2320.6	2330.8	2286.1	2264.8	2205.9	2190.2	2150.6	2113.5	2092.2
15°	2386.6	2349.1	2339.4	2344.5	2293.2	2264.8	2198.8	2174.4	2123.6	2074.9	2050.0
17.5°	2404.9	2368.9	2359.2	2358.7	2296.8	2256.2	2183.6	2150.0	2089.1	2030.2	2005.4
20°	2423.2	2387.1	2375.0	2365.8	2295.8	2244.5	2161.2	2116.0	2045.0	1979.0	1958.1
22.5°	2432.3	2395.3	2382.1	2368.4	2289.2	2223.2	2133.8	2076.4	1995.2	1916.5	1899.3
25°	2433.8	2395.8	2381.6	2361.8	2276.0	2197.8	2098.3	2028.7	1937.8	1850.5	1835.8
27.5°	2429.8	2388.2	2373.9	2350.1	2256.2	2166.8	2056.1	1974.4	1876.9	1780.5	1764.7
30°	2415.6	2373.4	2359.7	2328.8	2228.2	2128.7	2009.9	1914.0	1809.4	1706.8	1693.1
32.5°	2387.1	2346.0	2334.8	2303.9	2197.8	2084.6	1956.1	1849.0	1734.8	1636.8	1616.5
35°	2345.5	2304.4	2297.3	2264.8	2155.1	2031.8	1897.2	1777.9	1655.6	1555.5	1535.7
37.5°	2291.2	2256.7	2246.0	2214.0	2104.9	1971.9	1829.7	1700.7	1574.8	1467.2	1455.0
40°	2222.6	2190.2	2182.0	2153.6	2046.5	1905.3	1756.6	1621.0	1491.6	1391.6	1374.3
42.5°	2144.5	2114.0	2109.4	2080.0	1974.4	1831.7	1677.4	1538.3	1404.8	1308.3	1291.0
45°	2055.6	2026.2	2025.2	1997.2	1895.7	1750.0	1594.1	1454.5	1320.0	1220.0	1210.8
47.5°	1957.6	1931.2	1931.2	1905.3	1807.9	1660.1	1508.3	1367.2	1234.7	1146.4	1130.1
50°	1851.0	1826.1	1818.5	1805.8	1710.9	1562.1	1418.0	1281.9	1150.4	1066.1	1050.4
52.5°	1737.3	1716.0	1721.1	1697.7	1605.8	1460.1	1326.6	1186.0	1065.6	989.0	973.2
55°	1617.5	1587.0	1591.6	1583.0	1496.1	1355.0	1224.0	1106.8	982.4	910.3	895.6
57.5°	1493.1	1453.5	1469.7	1464.7	1379.4	1247.4	1130.1	1016.9	899.6	833.1	818.9
60°	1365.7	1327.6	1344.4	1339.8	1259.6	1139.8	1033.1	928.0	817.4	757.0	742.7
62.5°	1234.7	1199.7	1214.9	1211.3	1137.7	1029.6	936.7	840.2	734.6	680.3	667.1
65°	1102.7	1069.2	1082.9	1080.4	1012.3	930.1	837.7	749.3	651.4	604.1	590.9
67.5°	967.6	936.7	949.4	949.4	886.9	808.2	738.2	657.5	569.6	529.0	516.8
70°	833.6	804.7	815.9	814.8	762.0	698.1	637.7	565.6	486.9	453.4	443.2
72.5°	698.6	673.2	683.3	682.3	638.2	597.0	537.1	474.7	406.1	379.2	370.1
75°	567.6	543.7	553.4	552.4	516.3	477.7	437.6	385.8	326.9	308.2	299.0
77.5°	442.7	418.3	426.5	426.5	400.1	372.1	340.1	300.0	258.4	238.1	231.5
80°	322.9	311.2	307.1	307.7	289.9	271.6	255.4	216.8	186.3	172.6	168.0
82.5°	212.2	202.6	198.5	199.5	189.4	178.2	168.0	141.1	120.8	112.7	110.2
85°	112.7	105.6	102.0	104.6	102.6	96.5	91.4	73.1	60.4	57.4	55.8
87.5°	35.5	31.0	28.4	37.6	32.0	28.4	27.4	21.8	16.8	16.8	16.2
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°	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4
2.5°	2173.4	2173.4	2153.6	2149.0	2147.0	2149.5	2129.7	2126.2	2154.6	2145.0	2123.1
5°	2156.1	2155.1	2127.2	2122.1	2122.1	2119.1	2096.7	2091.7	2120.1	2112.0	2088.1
7.5°	2134.8	2131.8	2098.8	2095.2	2090.1	2088.1	2063.2	2059.7	2084.0	2079.0	2056.6
10°	2108.9	2105.9	2066.8	2064.2	2058.7	2054.6	2031.2	2028.7	2053.6	2045.5	2027.7
12.5°	2074.9	2069.3	2029.2	2026.7	2022.1	2020.6	1997.7	1996.7	2024.1	2016.0	1997.2
15°	2030.2	2025.7	1981.0	1982.0	1982.5	1982.5	1964.2	1963.2	1990.1	1986.6	1966.3
17.5°	1981.0	1974.9	1932.3	1935.3	1938.9	1942.9	1928.7	1931.2	1959.7	1955.1	1936.8
20°	1925.1	1919.1	1877.4	1886.1	1893.7	1901.8	1892.7	1899.8	1926.2	1924.1	1910.4
22.5°	1862.7	1856.6	1818.0	1831.2	1843.9	1859.1	1855.1	1863.2	1891.1	1890.6	1878.4
25°	1786.5	1788.1	1754.1	1770.3	1791.6	1812.9	1814.5	1827.7	1858.6	1855.6	1844.4
27.5°	1715.5	1717.5	1681.5	1708.9	1737.3	1764.7	1771.3	1789.6	1821.1	1818.5	1808.9
30°	1640.8	1643.4	1608.3	1645.9	1680.4	1713.9	1728.2	1753.0	1785.0	1785.0	1774.9
32.5°	1563.2	1567.7	1531.2	1581.4	1621.5	1660.6	1685.5	1711.4	1748.0	1746.9	1738.3
35°	1483.5	1488.5	1455.0	1519.0	1559.1	1606.8	1637.8	1672.3	1704.8	1705.3	1698.7
37.5°	1402.2	1408.3	1377.9	1447.9	1493.6	1550.0	1589.6	1624.1	1660.1	1662.2	1656.1
40°	1321.5	1328.1	1301.7	1369.2	1427.1	1490.1	1535.7	1576.4	1616.0	1617.0	1612.9
42.5°	1240.8	1247.9	1228.1	1294.1	1359.6	1427.1	1480.9	1527.1	1567.7	1570.3	1565.7
45°	1162.1	1168.2	1154.0	1226.1	1289.0	1362.6	1424.6	1476.9	1518.0	1521.5	1520.0
47.5°	1083.9	1089.5	1076.8	1142.8	1215.4	1293.6	1365.2	1423.0	1466.7	1470.8	1469.7
50°	1007.2	1011.8	998.1	1067.2	1139.2	1222.5	1297.1	1364.2	1412.9	1417.0	1416.4
52.5°	931.1	935.7	924.0	996.6	1062.1	1149.9	1231.1	1303.7	1352.0	1358.1	1359.1
55°	857.5	859.5	850.4	919.9	983.4	1075.3	1168.7	1239.3	1287.5	1292.6	1295.6
57.5°	783.9	784.4	776.8	843.3	904.2	998.1	1096.1	1170.2	1215.9	1221.0	1225.6
60°	710.8	710.3	701.6	766.1	824.5	917.4	1019.4	1093.0	1137.2	1141.8	1147.9
62.5°	638.2	636.6	629.0	688.4	743.3	835.1	937.7	1008.8	1050.9	1054.0	1062.1
65°	566.1	564.5	557.4	612.3	662.0	749.9	850.4	917.9	956.0	960.0	958.5
67.5°	495.0	491.9	486.4	535.6	580.8	662.0	758.5	823.0	854.4	858.0	867.6
70°	423.9	420.4	407.7	460.0	499.6	572.2	662.0	719.4	745.8	749.3	747.8
72.5°	353.9	350.3	336.6	384.8	418.3	481.8	562.0	609.7	632.6	635.6	635.6
75°	285.8	283.8	275.2	311.7	339.6	391.4	459.5	499.1	516.8	520.4	519.4
77.5°	220.3	218.8	210.2	241.7	263.5	302.1	356.9	387.9	401.1	405.1	413.8
80°	157.9	157.4	143.7	174.6	184.3	216.8	256.9	280.8	287.9	293.4	299.5
82.5°	101.0	101.5	87.8	114.2	118.3	139.1	164.0	178.7	183.8	188.4	192.9
85°	49.2	51.3	43.7	60.4	60.9	71.6	82.2	87.8	89.9	93.4	97.5
87.5°	12.7	14.7	8.1	17.3	15.2	19.8	22.8	24.4	23.9	26.4	27.9
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4
2.5°	2130.2	2146.5	2138.4	2164.8	2174.9	2158.7	2187.1	2187.6	2167.3	2191.2	2204.4
5°	2097.2	2114.0	2108.9	2136.3	2149.0	2134.8	2169.3	2175.9	2156.1	2183.0	2204.4
7.5°	2063.7	2083.5	2076.9	2104.9	2120.1	2108.9	2146.0	2156.6	2141.4	2170.9	2199.3
10°	2034.8	2051.6	2044.4	2073.9	2087.1	2078.0	2114.5	2134.3	2120.1	2156.1	2190.2
12.5°	2006.4	2020.1	2012.0	2036.3	2049.0	2037.3	2082.0	2100.3	2090.1	2127.7	2171.4
15°	1969.8	1985.1	1973.9	1995.7	2005.4	1995.2	2031.8	2063.2	2050.5	2091.7	2139.9
17.5°	1941.9	1950.5	1935.3	1952.6	1958.1	1944.4	1981.5	2012.5	2003.3	2048.0	2103.8
20°	1910.9	1918.0	1896.7	1906.4	1905.9	1888.6	1922.6	1953.1	1947.0	1996.2	2059.7
22.5°	1876.4	1880.0	1855.1	1857.1	1856.1	1827.7	1858.1	1889.1	1886.6	1936.3	2007.4
25°	1839.9	1840.4	1808.4	1807.4	1796.2	1762.7	1789.6	1824.6	1817.0	1870.8	1945.5
27.5°	1803.8	1798.7	1760.1	1751.0	1733.2	1693.1	1717.0	1748.5	1743.9	1796.7	1879.5
30°	1765.2	1758.6	1711.4	1694.7	1668.8	1622.6	1642.4	1671.8	1674.3	1720.5	1807.4
32.5°	1728.7	1711.9	1659.6	1635.3	1602.8	1548.9	1559.6	1589.6	1593.6	1640.3	1729.7
35°	1681.5	1670.3	1605.8	1564.2	1532.2	1473.3	1484.5	1505.3	1511.4	1557.1	1647.9
37.5°	1636.8	1619.0	1550.5	1499.7	1458.6	1396.6	1399.7	1421.0	1427.1	1473.3	1563.2
40°	1590.6	1565.2	1491.6	1432.2	1385.0	1320.0	1316.4	1338.8	1343.3	1388.5	1469.7
42.5°	1541.3	1510.9	1428.1	1363.1	1308.8	1242.8	1235.7	1255.0	1260.1	1304.2	1384.0
45°	1491.6	1455.0	1363.1	1292.1	1232.7	1165.1	1158.0	1172.8	1180.4	1222.0	1298.7
47.5°	1438.8	1396.1	1296.1	1216.9	1155.5	1088.0	1079.3	1094.1	1100.2	1141.3	1213.9
50°	1383.4	1331.7	1227.1	1139.8	1078.8	1012.3	999.6	1016.9	1022.5	1061.1	1132.1
52.5°	1322.5	1265.2	1153.5	1062.1	1001.2	937.7	922.5	939.2	945.8	983.4	1048.9
55°	1258.0	1196.1	1079.3	990.5	924.5	862.6	849.9	856.5	870.7	906.2	967.1
57.5°	1185.4	1124.0	1001.2	910.8	847.3	787.9	777.3	783.4	796.6	831.1	885.9
60°	1108.3	1043.3	921.4	831.1	769.7	713.3	703.7	709.2	723.5	754.9	805.7
62.5°	1032.1	959.0	839.2	749.3	693.5	641.2	638.7	636.6	649.8	680.3	725.0
65°	939.7	869.7	753.4	668.1	617.3	570.1	560.0	564.5	577.2	605.2	651.9
67.5°	840.7	777.3	665.6	586.9	541.7	499.6	490.9	493.0	506.2	530.5	571.1
70°	735.6	679.8	575.7	505.1	467.1	427.5	421.9	422.4	435.1	456.4	491.9
72.5°	625.5	575.2	484.8	424.4	392.9	364.5	359.4	353.3	365.0	383.3	413.8
75°	513.3	469.1	394.5	345.2	320.3	296.5	291.9	285.8	297.5	313.2	337.1
77.5°	400.1	364.5	306.6	268.6	249.3	231.5	227.4	220.8	232.5	244.2	263.0
80°	289.4	263.5	229.0	188.9	182.3	170.6	166.5	159.4	170.6	178.2	192.4
82.5°	186.8	169.6	149.8	121.8	120.8	112.2	110.2	102.0	112.2	116.8	127.4
85°	94.4	86.3	81.2	61.9	64.0	58.4	57.9	49.2	57.4	59.4	65.5
87.5°	26.9	28.4	25.4	15.2	19.3	18.3	18.3	13.2	18.3	18.3	20.8
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: P837807

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-2STD-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4	2176.4
2.5°	2178.5	2187.1	2189.1	2188.6	2194.2	2224.7	2214.5	2224.7
5°	2183.6	2202.8	2207.9	2215.0	2224.2	2258.7	2247.5	2259.7
7.5°	2186.6	2215.5	2226.7	2240.4	2255.1	2293.7	2284.6	2296.8
10°	2186.6	2224.2	2240.4	2263.3	2283.1	2327.7	2319.1	2333.3
12.5°	2177.5	2225.7	2248.5	2280.5	2305.9	2354.1	2350.6	2360.7
15°	2158.7	2218.1	2249.6	2290.7	2322.2	2376.0	2374.4	2386.6
17.5°	2133.3	2204.9	2243.0	2294.7	2334.3	2394.8	2398.3	2404.9
20°	2101.3	2180.0	2229.8	2293.2	2343.0	2409.5	2414.0	2423.2
22.5°	2059.2	2150.0	2210.0	2286.6	2344.0	2415.6	2423.7	2432.3
25°	2009.4	2114.0	2184.1	2273.9	2338.9	2415.1	2426.2	2433.8
27.5°	1952.6	2067.3	2151.1	2253.6	2324.7	2406.9	2420.6	2429.8
30°	1886.6	2017.5	2113.5	2227.2	2305.4	2391.7	2406.4	2415.6
32.5°	1818.5	1962.7	2068.8	2193.2	2277.5	2367.3	2380.0	2387.1
35°	1744.4	1896.2	2015.0	2149.5	2241.4	2328.2	2337.9	2345.5
37.5°	1663.7	1824.1	1953.6	2100.3	2190.7	2273.9	2282.6	2291.2
40°	1580.4	1748.5	1884.5	2039.9	2130.2	2207.4	2216.6	2222.6
42.5°	1496.7	1664.7	1810.9	1968.8	2058.7	2132.8	2138.4	2144.5
45°	1411.9	1577.9	1728.2	1890.1	1979.0	2048.5	2050.5	2055.6
47.5°	1325.6	1488.0	1637.3	1800.3	1888.1	1951.5	1953.6	1957.6
50°	1238.8	1398.2	1540.3	1703.3	1789.1	1856.1	1847.0	1851.0
52.5°	1153.5	1303.7	1448.9	1598.7	1683.5	1742.9	1745.4	1737.3
55°	1069.7	1211.3	1344.9	1489.0	1569.8	1616.0	1614.4	1617.5
57.5°	984.9	1117.9	1240.3	1372.3	1451.0	1494.6	1503.8	1493.1
60°	898.6	1023.5	1133.2	1252.5	1328.6	1365.2	1375.8	1365.7
62.5°	812.8	927.5	1027.0	1131.1	1201.7	1246.9	1245.9	1234.7
65°	727.0	831.1	919.9	1008.3	1069.7	1114.9	1112.8	1102.7
67.5°	647.8	733.6	813.3	884.9	938.2	969.2	979.8	967.6
70°	560.5	634.6	704.7	762.0	806.2	834.1	844.3	833.6
72.5°	473.2	536.1	585.4	640.7	674.7	698.1	708.7	698.6
75°	386.9	438.6	478.7	521.9	545.8	565.6	577.7	567.6
77.5°	303.1	343.2	375.2	406.7	434.1	438.6	449.3	442.7
80°	223.4	252.3	275.7	296.5	316.3	318.3	326.9	322.9
82.5°	148.8	168.0	174.1	196.0	208.7	206.6	215.3	212.2
85°	78.7	90.4	101.0	107.6	114.7	108.1	115.8	112.7
87.5°	26.4	27.9	24.4	34.5	38.1	32.5	37.1	35.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)