

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: P838016

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-6LO-40-120-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: P838016
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-6LO-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

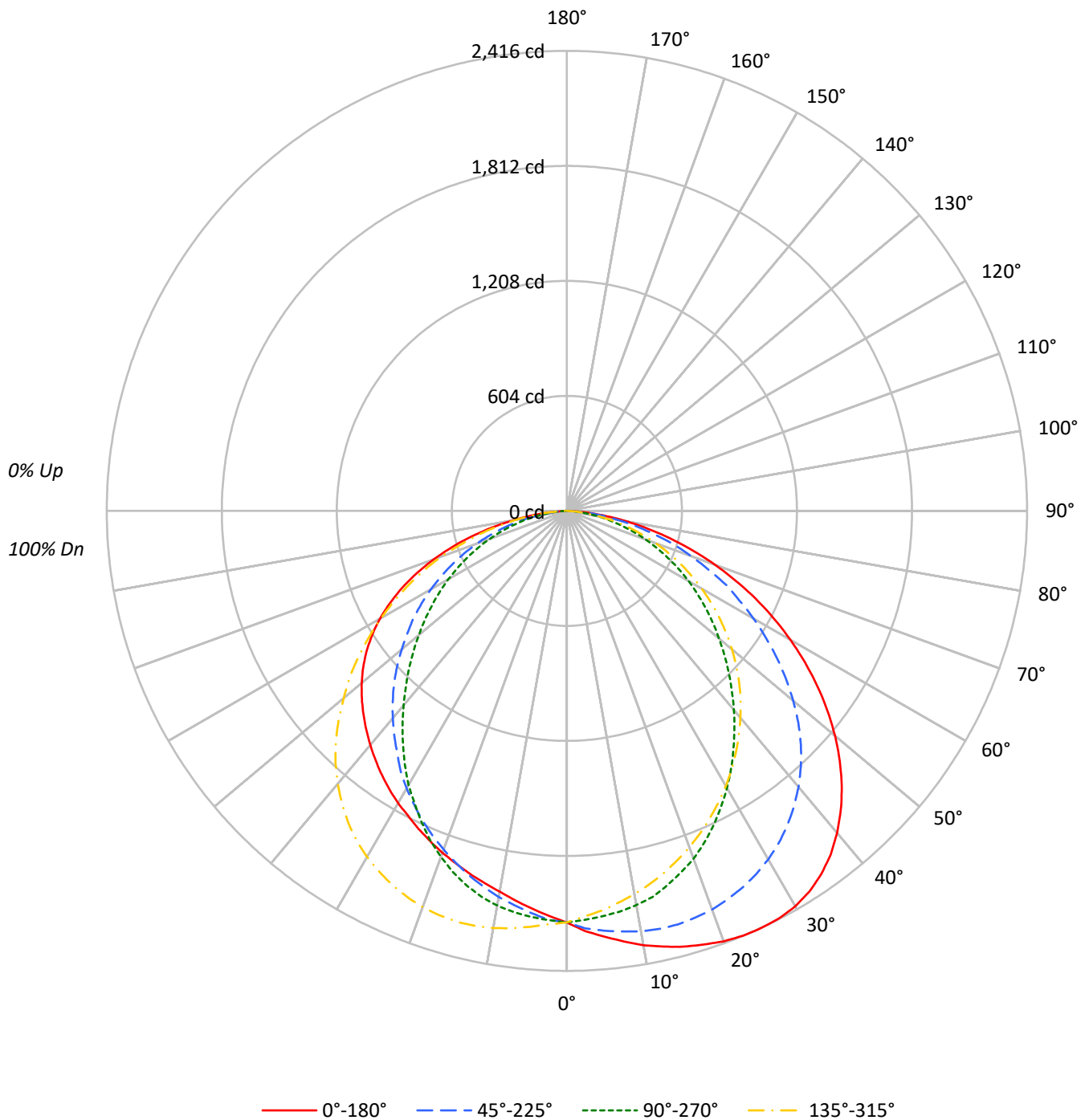
Lumens per Lamp: N/A
Luminaire Lumens: 6339.5 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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°	5815	5815	5815	5815
5°	6060	5773	5664	5782
10°	6330	5743	5549	5752
15°	6601	5670	5495	5672
20°	6889	5567	5470	5535
25°	7175	5412	5470	5356
30°	7452	5223	5507	5165
35°	7650	5009	5562	4929
40°	7752	4793	5639	4685
45°	7767	4575	5749	4460
50°	7693	4366	5889	4250
55°	7534	4171	6021	4055
60°	7297	3969	6101	3866
65°	6971	3736	6069	3649
70°	6511	3462	5854	3399
75°	5859	3087	5371	3071
80°	4968	2585	4514	2625
85°	3455	1711	2862	1760

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.2	3.2
10°-20°	594.1	9.4
20°-30°	910.5	14.4
30°-40°	1107.1	17.5
40°-50°	1150.8	18.2
50°-60°	1039.6	16.4
60°-70°	790.3	12.5
70°-80°	440.6	7.0
80°-90°	101.4	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°	1709.7	27.0
0°-40°	2816.7	44.4
0°-60°	5007.1	79.0
0°-90°	6339.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6339.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2161	2161	2161	2161	2161	
5°	2244	2137	2097	2141	2244	216
15°	2370	2035	1972	2036	2370	672
25°	2416	1823	1842	1804	2416	1116
35°	2329	1525	1693	1500	2329	1454
45°	2041	1202	1511	1172	2041	1571
55°	1606	889	1283	864	1606	1434
65°	1095	587	953	573	1095	1082
75°	564	297	517	295	564	599
85°	112	55	93	57	112	141
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°	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8
2.5°	2208.7	2176.4	2176.9	2205.2	2183.5	2194.1	2163.8	2175.4	2171.9	2174.4	2149.7
5°	2243.5	2208.7	2208.2	2232.4	2208.2	2212.7	2174.4	2182.0	2170.9	2163.8	2137.1
7.5°	2280.3	2245.5	2242.0	2263.1	2231.4	2227.8	2185.5	2185.5	2165.3	2147.7	2122.5
10°	2316.6	2280.8	2276.2	2292.4	2253.0	2241.5	2190.0	2182.0	2155.3	2129.1	2101.8
12.5°	2343.8	2307.5	2304.0	2314.0	2269.7	2248.5	2190.0	2174.4	2135.1	2098.3	2077.1
15°	2369.5	2332.2	2322.6	2327.6	2276.7	2248.5	2183.0	2158.8	2108.4	2060.0	2035.3
17.5°	2387.6	2351.8	2342.3	2341.8	2280.3	2239.9	2167.9	2134.6	2074.1	2015.6	1990.9
20°	2405.8	2370.0	2357.9	2348.8	2279.3	2228.4	2145.7	2100.8	2030.3	1964.7	1944.1
22.5°	2414.8	2378.1	2364.9	2351.3	2272.7	2207.2	2118.5	2061.5	1980.9	1902.7	1885.6
25°	2416.4	2378.6	2364.4	2344.8	2259.6	2182.0	2083.2	2014.1	1923.9	1837.2	1822.6
27.5°	2412.3	2371.0	2356.9	2333.2	2239.9	2151.2	2041.4	1960.2	1863.4	1767.7	1752.0
30°	2398.2	2356.4	2342.8	2312.0	2212.2	2113.4	1995.5	1900.2	1796.4	1694.6	1681.0
32.5°	2370.0	2329.2	2318.1	2287.3	2182.0	2069.6	1942.1	1835.7	1722.3	1625.0	1604.9
35°	2328.7	2287.8	2280.8	2248.5	2139.6	2017.2	1883.6	1765.1	1643.7	1544.4	1524.7
37.5°	2274.7	2240.4	2229.9	2198.1	2089.7	1957.7	1816.6	1688.5	1563.5	1456.7	1444.6
40°	2206.7	2174.4	2166.4	2138.1	2031.8	1891.7	1744.0	1609.4	1480.9	1381.6	1364.4
42.5°	2129.1	2098.8	2094.3	2065.0	1960.2	1818.6	1665.3	1527.2	1394.7	1298.9	1281.8
45°	2040.8	2011.6	2010.6	1982.9	1882.1	1737.4	1582.7	1444.1	1310.5	1211.2	1202.1
47.5°	1943.6	1917.4	1917.4	1891.7	1794.9	1648.2	1497.5	1357.4	1225.8	1138.1	1122.0
50°	1837.7	1813.0	1805.5	1792.9	1698.6	1550.9	1407.8	1272.7	1142.1	1058.5	1042.9
52.5°	1724.8	1703.6	1708.7	1685.5	1594.3	1449.6	1317.1	1177.4	1058.0	981.9	966.2
55°	1605.9	1575.6	1580.2	1571.6	1485.4	1345.3	1215.2	1098.8	975.3	903.7	889.1
57.5°	1482.4	1443.1	1459.2	1454.1	1369.5	1238.4	1122.0	1009.6	893.2	827.1	813.0
60°	1355.9	1318.1	1334.7	1330.2	1250.5	1131.6	1025.7	921.4	811.5	751.5	737.4
62.5°	1225.8	1191.0	1206.2	1202.6	1129.5	1022.2	929.9	834.2	729.3	675.4	662.3
65°	1094.8	1061.5	1075.1	1072.6	1005.1	923.4	831.7	744.0	646.7	599.8	586.7
67.5°	960.7	929.9	942.6	942.6	880.6	802.4	732.9	652.7	565.5	525.2	513.1
70°	827.6	798.9	810.0	809.0	756.6	693.1	633.1	561.5	483.4	450.1	440.0
72.5°	693.6	668.4	678.4	677.4	633.6	592.7	533.3	471.3	403.2	376.5	367.4
75°	563.5	539.8	549.4	548.4	512.6	474.3	434.5	383.1	324.6	306.0	296.9
77.5°	439.5	415.3	423.4	423.4	397.2	369.5	337.7	297.9	256.6	236.4	229.8
80°	320.6	309.0	304.9	305.4	287.8	269.7	253.5	215.2	185.0	171.4	166.8
82.5°	210.7	201.1	197.1	198.1	188.0	176.9	166.8	140.1	120.0	111.9	109.4
85°	111.9	104.8	101.3	103.8	101.8	95.8	90.7	72.6	60.0	57.0	55.4
87.5°	35.3	30.7	28.2	37.3	31.8	28.2	27.2	21.7	16.6	16.6	16.1
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°	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8
2.5°	2157.8	2157.8	2138.1	2133.6	2131.6	2134.1	2114.4	2110.9	2139.1	2129.6	2107.9
5°	2140.6	2139.6	2111.9	2106.9	2106.9	2103.9	2081.7	2076.6	2104.9	2096.8	2073.1
7.5°	2119.5	2116.5	2083.7	2080.2	2075.1	2073.1	2048.4	2044.9	2069.1	2064.0	2041.9
10°	2093.8	2090.7	2051.9	2049.4	2043.9	2039.8	2016.7	2014.1	2038.8	2030.8	2013.1
12.5°	2060.0	2054.5	2014.6	2012.1	2007.6	2006.1	1983.4	1982.4	2009.6	2001.5	1982.9
15°	2015.6	2011.1	1966.8	1967.8	1968.3	1968.3	1950.1	1949.1	1975.8	1972.3	1952.1
17.5°	1966.8	1960.7	1918.4	1921.4	1924.9	1929.0	1914.8	1917.4	1945.6	1941.0	1922.9
20°	1911.3	1905.3	1863.9	1872.5	1880.1	1888.1	1879.1	1886.1	1912.3	1910.3	1896.7
22.5°	1849.3	1843.3	1805.0	1818.1	1830.7	1845.8	1841.8	1849.8	1877.5	1877.0	1864.9
25°	1773.7	1775.2	1741.5	1757.6	1778.7	1799.9	1801.4	1814.5	1845.3	1842.3	1831.2
27.5°	1703.1	1705.2	1669.4	1696.6	1724.8	1752.0	1758.6	1776.7	1808.0	1805.5	1795.9
30°	1629.1	1631.6	1596.8	1634.1	1668.4	1701.6	1715.7	1740.4	1772.2	1772.2	1762.1
32.5°	1551.9	1556.5	1520.2	1570.1	1609.9	1648.7	1673.4	1699.1	1735.4	1734.4	1725.8
35°	1472.8	1477.8	1444.6	1508.1	1547.9	1595.3	1626.0	1660.3	1692.6	1693.1	1686.5
37.5°	1392.2	1398.2	1368.0	1437.5	1482.9	1538.8	1578.1	1612.4	1648.2	1650.2	1644.2
40°	1312.0	1318.6	1292.4	1359.4	1416.9	1479.4	1524.7	1565.0	1604.4	1605.4	1601.3
42.5°	1231.9	1238.9	1219.3	1284.8	1349.8	1416.9	1470.3	1516.1	1556.5	1559.0	1554.5
45°	1153.7	1159.8	1145.7	1217.3	1279.8	1352.8	1414.3	1466.2	1507.1	1510.6	1509.1
47.5°	1076.1	1081.7	1069.1	1134.6	1206.7	1284.3	1355.4	1412.8	1456.2	1460.2	1459.2
50°	1000.0	1004.5	990.9	1059.5	1131.1	1213.7	1287.8	1354.3	1402.7	1406.8	1406.3
52.5°	924.4	928.9	917.3	989.4	1054.4	1141.6	1222.3	1294.4	1342.3	1348.3	1349.3
55°	851.3	853.3	844.3	913.3	976.3	1067.6	1160.3	1230.4	1278.2	1283.3	1286.3
57.5°	778.2	778.7	771.2	837.2	897.7	990.9	1088.2	1161.8	1207.2	1212.2	1216.7
60°	705.7	705.1	696.6	760.6	818.6	910.8	1012.1	1085.2	1129.0	1133.6	1139.6
62.5°	633.6	632.1	624.5	683.5	737.9	829.1	931.0	1001.5	1043.4	1046.4	1054.4
65°	562.0	560.5	553.4	607.9	657.3	744.5	844.3	911.3	949.1	953.1	951.6
67.5°	491.4	488.4	482.9	531.8	576.6	657.3	753.0	817.0	848.3	851.8	861.4
70°	420.9	417.3	404.7	456.7	496.0	568.1	657.3	714.2	740.4	744.0	742.4
72.5°	351.3	347.8	334.2	382.1	415.3	478.3	558.0	605.3	628.0	631.1	631.1
75°	283.8	281.8	273.2	309.5	337.2	388.6	456.2	495.5	513.1	516.6	515.6
77.5°	218.8	217.2	208.7	239.9	261.6	299.9	354.3	385.1	398.2	402.2	410.8
80°	156.8	156.3	142.6	173.4	183.0	215.2	255.0	278.7	285.8	291.3	297.4
82.5°	100.3	100.8	87.2	113.4	117.4	138.1	162.8	177.4	182.5	187.0	191.5
85°	48.9	50.9	43.3	60.0	60.5	71.1	81.7	87.2	89.2	92.7	96.8
87.5°	12.6	14.6	8.1	17.1	15.1	19.7	22.7	24.2	23.7	26.2	27.7
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°	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8
2.5°	2114.9	2131.1	2123.0	2149.2	2159.3	2143.2	2171.4	2171.9	2151.7	2175.4	2188.5
5°	2082.2	2098.8	2093.8	2121.0	2133.6	2119.5	2153.8	2160.3	2140.6	2167.4	2188.5
7.5°	2048.9	2068.6	2062.0	2089.7	2104.9	2093.8	2130.6	2141.2	2126.0	2155.3	2183.5
10°	2020.2	2036.8	2029.8	2059.0	2072.1	2063.0	2099.3	2119.0	2104.9	2140.6	2174.4
12.5°	1992.0	2005.6	1997.5	2021.7	2034.3	2022.7	2067.1	2085.2	2075.1	2112.4	2155.8
15°	1955.7	1970.8	1959.7	1981.4	1990.9	1980.9	2017.2	2048.4	2035.8	2076.6	2124.5
17.5°	1927.9	1936.5	1921.4	1938.5	1944.1	1930.5	1967.3	1998.0	1988.9	2033.3	2088.7
20°	1897.2	1904.3	1883.1	1892.7	1892.2	1875.0	1908.8	1939.0	1933.0	1981.9	2044.9
22.5°	1862.9	1866.5	1841.8	1843.8	1842.8	1814.5	1844.8	1875.5	1873.0	1922.4	1993.0
25°	1826.6	1827.1	1795.4	1794.4	1783.3	1750.0	1776.7	1811.5	1804.0	1857.4	1931.5
27.5°	1790.8	1785.8	1747.5	1738.4	1720.8	1681.0	1704.7	1735.9	1731.4	1783.8	1865.9
30°	1752.5	1746.0	1699.1	1682.5	1656.8	1610.9	1630.6	1659.8	1662.3	1708.2	1794.4
32.5°	1716.2	1699.6	1647.7	1623.5	1591.2	1537.8	1548.4	1578.1	1582.2	1628.5	1717.3
35°	1669.4	1658.3	1594.3	1552.9	1521.2	1462.7	1473.8	1494.5	1500.5	1545.9	1636.1
37.5°	1625.0	1607.4	1539.3	1488.9	1448.1	1386.6	1389.6	1410.8	1416.9	1462.7	1551.9
40°	1579.2	1553.9	1480.9	1421.9	1375.0	1310.5	1307.0	1329.1	1333.7	1378.5	1459.2
42.5°	1530.3	1500.0	1417.9	1353.3	1299.4	1233.9	1226.8	1246.0	1251.0	1294.9	1374.0
45°	1480.9	1444.6	1353.3	1282.8	1223.8	1156.8	1149.7	1164.3	1171.9	1213.2	1289.3
47.5°	1428.4	1386.1	1286.8	1208.2	1147.2	1080.2	1071.6	1086.2	1092.2	1133.1	1205.2
50°	1373.5	1322.1	1218.3	1131.6	1071.1	1005.1	992.5	1009.6	1015.1	1053.4	1124.0
52.5°	1313.0	1256.1	1145.2	1054.4	994.0	931.0	915.8	932.5	939.0	976.3	1041.3
55°	1249.0	1187.5	1071.6	983.4	917.9	856.4	843.8	850.3	864.4	899.7	960.2
57.5°	1176.9	1115.9	994.0	904.2	841.2	782.3	771.7	777.7	790.8	825.1	879.5
60°	1100.3	1035.8	914.8	825.1	764.1	708.2	698.6	704.1	718.3	749.5	799.9
62.5°	1024.7	952.1	833.2	744.0	688.5	636.6	634.1	632.1	645.2	675.4	719.8
65°	933.0	863.4	748.0	663.3	612.9	566.0	556.0	560.5	573.1	600.8	647.2
67.5°	834.7	771.7	660.8	582.7	537.8	496.0	487.4	489.4	502.5	526.7	567.0
70°	730.4	674.9	571.6	501.5	463.7	424.4	418.9	419.4	432.0	453.1	488.4
72.5°	621.0	571.1	481.4	421.4	390.1	361.9	356.9	350.8	362.4	380.5	410.8
75°	509.6	465.7	391.6	342.7	318.0	294.4	289.8	283.8	295.4	311.0	334.7
77.5°	397.2	361.9	304.4	266.6	247.5	229.8	225.8	219.3	230.8	242.4	261.1
80°	287.3	261.6	227.3	187.5	180.9	169.4	165.3	158.3	169.4	176.9	191.0
82.5°	185.5	168.3	148.7	121.0	120.0	111.4	109.4	101.3	111.4	115.9	126.5
85°	93.8	85.7	80.6	61.5	63.5	58.0	57.5	48.9	57.0	59.0	65.0
87.5°	26.7	28.2	25.2	15.1	19.2	18.1	18.1	13.1	18.1	18.1	20.7
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: P838016

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-6LO-40-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8	2160.8
2.5°	2162.8	2171.4	2173.4	2172.9	2178.5	2208.7	2198.6	2208.7
5°	2167.9	2187.0	2192.1	2199.1	2208.2	2242.5	2231.4	2243.5
7.5°	2170.9	2199.6	2210.7	2224.3	2238.9	2277.2	2268.2	2280.3
10°	2170.9	2208.2	2224.3	2247.0	2266.7	2311.0	2302.4	2316.6
12.5°	2161.8	2209.7	2232.4	2264.1	2289.3	2337.2	2333.7	2343.8
15°	2143.2	2202.1	2233.4	2274.2	2305.5	2358.9	2357.4	2369.5
17.5°	2118.0	2189.0	2226.8	2278.3	2317.6	2377.5	2381.1	2387.6
20°	2086.2	2164.3	2213.7	2276.7	2326.1	2392.2	2396.7	2405.8
22.5°	2044.4	2134.6	2194.1	2270.2	2327.1	2398.2	2406.3	2414.8
25°	1995.0	2098.8	2168.4	2257.6	2322.1	2397.7	2408.8	2416.4
27.5°	1938.5	2052.4	2135.6	2237.4	2308.0	2389.6	2403.3	2412.3
30°	1873.0	2003.0	2098.3	2211.2	2288.8	2374.5	2389.1	2398.2
32.5°	1805.5	1948.6	2054.0	2177.4	2261.1	2350.3	2362.9	2370.0
35°	1731.9	1882.6	2000.5	2134.1	2225.3	2311.5	2321.1	2328.7
37.5°	1651.7	1811.0	1939.5	2085.2	2174.9	2257.6	2266.2	2274.7
40°	1569.1	1735.9	1871.0	2025.2	2114.9	2191.6	2200.6	2206.7
42.5°	1485.9	1652.7	1797.9	1954.7	2043.9	2117.5	2123.0	2129.1
45°	1401.7	1566.5	1715.7	1876.5	1964.7	2033.8	2035.8	2040.8
47.5°	1316.0	1477.3	1625.5	1787.3	1874.5	1937.5	1939.5	1943.6
50°	1229.9	1388.1	1529.3	1691.0	1776.2	1842.8	1833.7	1837.7
52.5°	1145.2	1294.4	1438.5	1587.2	1671.4	1730.4	1732.9	1724.8
55°	1062.0	1202.6	1335.2	1478.3	1558.5	1604.4	1602.8	1605.9
57.5°	977.8	1109.9	1231.4	1362.4	1440.5	1483.9	1493.0	1482.4
60°	892.1	1016.1	1125.0	1243.5	1319.1	1355.4	1365.9	1355.9
62.5°	807.0	920.9	1019.7	1123.0	1193.1	1237.9	1236.9	1225.8
65°	721.8	825.1	913.3	1001.0	1062.0	1106.9	1104.9	1094.8
67.5°	643.2	728.3	807.5	878.5	931.5	962.2	972.8	960.7
70°	556.5	630.0	699.6	756.6	800.4	828.1	838.2	827.6
72.5°	469.8	532.3	581.2	636.1	669.9	693.1	703.6	693.6
75°	384.1	435.5	475.3	518.2	541.8	561.5	573.6	563.5
77.5°	300.9	340.7	372.5	403.7	431.0	435.5	446.1	439.5
80°	221.8	250.5	273.7	294.4	314.0	316.0	324.6	320.6
82.5°	147.7	166.8	172.9	194.6	207.2	205.1	213.7	210.7
85°	78.1	89.7	100.3	106.9	113.9	107.4	114.9	111.9
87.5°	26.2	27.7	24.2	34.3	37.8	32.3	36.8	35.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)