

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: P838034

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-6LO-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: P838034
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-50-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

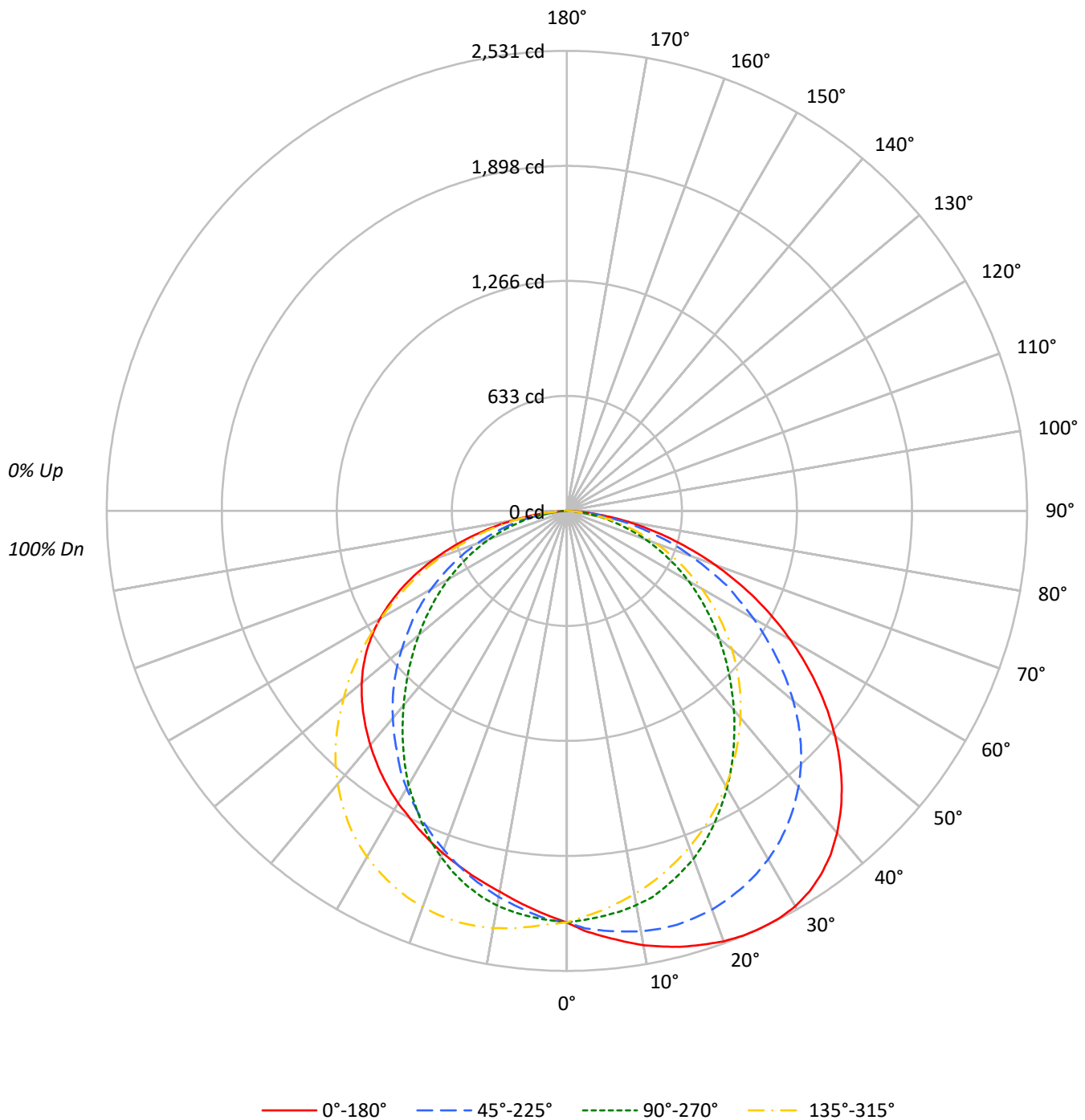
Lumens per Lamp: N/A
Luminaire Lumens: 6641.4 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	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°	6092	6092	6092	6092
5°	6349	6048	5934	6058
10°	6631	6017	5813	6025
15°	6915	5940	5756	5942
20°	7217	5832	5731	5799
25°	7516	5669	5730	5611
30°	7807	5472	5769	5411
35°	8014	5247	5827	5164
40°	8121	5021	5908	4908
45°	8136	4793	6022	4672
50°	8060	4574	6170	4452
55°	7893	4370	6307	4249
60°	7645	4158	6392	4050
65°	7303	3913	6358	3823
70°	6821	3627	6132	3560
75°	6137	3234	5627	3217
80°	5204	2709	4730	2749
85°	3619	1794	3001	1843

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.9	3.2
10°-20°	622.4	9.4
20°-30°	953.8	14.4
30°-40°	1159.8	17.5
40°-50°	1205.6	18.2
50°-60°	1089.1	16.4
60°-70°	828.0	12.5
70°-80°	461.6	7.0
80°-90°	106.3	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°	1791.1	27.0
0°-40°	2950.9	44.4
0°-60°	5245.6	79.0
0°-90°	6641.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6641.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2264	2264	2264	2264	2264	
5°	2350	2239	2197	2243	2350	227
15°	2482	2132	2066	2133	2482	704
25°	2531	1909	1930	1890	2531	1169
35°	2440	1597	1774	1572	2440	1524
45°	2138	1259	1582	1228	2138	1646
55°	1682	932	1344	906	1682	1502
65°	1147	615	998	600	1147	1133
75°	590	311	541	309	590	627
85°	117	58	97	60	117	148
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°	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7
2.5°	2313.9	2280.1	2280.6	2310.2	2287.5	2298.6	2266.9	2279.0	2275.3	2278.0	2252.1
5°	2350.3	2313.9	2313.3	2338.7	2313.3	2318.1	2278.0	2285.9	2274.3	2266.9	2238.9
7.5°	2388.9	2352.4	2348.7	2370.9	2337.6	2333.9	2289.6	2289.6	2268.5	2250.0	2223.6
10°	2426.9	2389.4	2384.6	2401.5	2360.3	2348.2	2294.3	2285.9	2257.9	2230.4	2201.9
12.5°	2455.4	2417.4	2413.7	2424.2	2377.8	2355.6	2294.3	2278.0	2236.8	2198.2	2176.1
15°	2482.3	2443.2	2433.2	2438.5	2385.2	2355.6	2286.9	2261.6	2208.8	2158.1	2132.2
17.5°	2501.3	2463.8	2453.8	2453.3	2388.9	2346.6	2271.1	2236.2	2172.9	2111.6	2085.8
20°	2520.3	2482.8	2470.2	2460.7	2387.8	2334.5	2247.9	2200.9	2126.9	2058.3	2036.6
22.5°	2529.8	2491.3	2477.6	2463.3	2380.9	2312.3	2219.4	2159.7	2075.2	1993.3	1975.4
25°	2531.4	2491.8	2477.0	2456.4	2367.2	2285.9	2182.4	2110.0	2015.5	1924.7	1909.4
27.5°	2527.2	2483.9	2469.1	2444.3	2346.6	2253.7	2138.6	2053.5	1952.2	1851.8	1835.5
30°	2512.4	2468.6	2454.3	2422.1	2317.6	2214.1	2090.5	1990.7	1881.9	1775.3	1761.0
32.5°	2482.8	2440.1	2428.5	2396.2	2285.9	2168.1	2034.5	1923.1	1804.3	1702.4	1681.3
35°	2439.5	2396.8	2389.4	2355.6	2241.5	2113.2	1973.3	1849.2	1721.9	1617.9	1597.3
37.5°	2383.0	2347.1	2336.0	2302.8	2189.3	2050.9	1903.1	1768.9	1638.0	1526.0	1513.4
40°	2311.8	2278.0	2269.5	2239.9	2128.5	1981.7	1827.0	1686.0	1551.4	1447.4	1429.4
42.5°	2230.4	2198.8	2194.0	2163.4	2053.5	1905.2	1744.6	1600.0	1461.1	1360.8	1342.8
45°	2138.0	2107.4	2106.4	2077.3	1971.7	1820.2	1658.0	1512.8	1372.9	1268.9	1259.4
47.5°	2036.1	2008.7	2008.7	1981.7	1880.3	1726.7	1568.8	1422.0	1284.2	1192.3	1175.4
50°	1925.2	1899.4	1891.4	1878.2	1779.5	1624.8	1474.8	1333.3	1196.5	1108.9	1092.5
52.5°	1807.0	1784.8	1790.1	1765.8	1670.2	1518.6	1379.8	1233.5	1108.4	1028.6	1012.3
55°	1682.3	1650.7	1655.4	1646.4	1556.1	1409.3	1273.1	1151.1	1021.8	946.8	931.5
57.5°	1553.0	1511.8	1528.7	1523.4	1434.7	1297.4	1175.4	1057.7	935.7	866.5	851.7
60°	1420.4	1380.8	1398.2	1393.5	1310.1	1185.4	1074.6	965.3	850.1	787.3	772.5
62.5°	1284.2	1247.8	1263.6	1259.9	1183.3	1070.9	974.2	873.9	764.1	707.6	693.8
65°	1146.9	1112.1	1126.3	1123.7	1052.9	967.4	871.3	779.4	677.5	628.4	614.6
67.5°	1006.4	974.2	987.4	987.4	922.5	840.6	767.8	683.8	592.5	550.2	537.5
70°	867.0	836.9	848.6	847.5	792.6	726.1	663.2	588.2	506.4	471.5	461.0
72.5°	726.6	700.2	710.7	709.7	663.7	621.0	558.7	493.7	422.4	394.4	384.9
75°	590.3	565.5	575.6	574.5	537.0	496.9	455.2	401.3	340.1	320.5	311.0
77.5°	460.5	435.1	443.6	443.6	416.1	387.1	353.8	312.1	268.8	247.7	240.8
80°	335.8	323.7	319.5	320.0	301.5	282.5	265.6	225.5	193.8	179.5	174.8
82.5°	220.7	210.7	206.5	207.5	197.0	185.3	174.8	146.8	125.7	117.2	114.6
85°	117.2	109.8	106.1	108.8	106.7	100.3	95.0	76.0	62.8	59.7	58.1
87.5°	37.0	32.2	29.6	39.1	33.3	29.6	28.5	22.7	17.4	17.4	16.9
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°	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7
2.5°	2260.5	2260.5	2239.9	2235.2	2233.1	2235.7	2215.1	2211.4	2241.0	2231.0	2208.3
5°	2242.6	2241.5	2212.5	2207.2	2207.2	2204.0	2180.8	2175.5	2205.1	2196.6	2171.8
7.5°	2220.4	2217.2	2182.9	2179.2	2173.9	2171.8	2146.0	2142.3	2167.6	2162.3	2139.1
10°	2193.5	2190.3	2149.6	2147.0	2141.2	2137.0	2112.7	2110.0	2135.9	2127.5	2109.0
12.5°	2158.1	2152.3	2110.6	2107.9	2103.2	2101.6	2077.8	2076.8	2105.3	2096.8	2077.3
15°	2111.6	2106.9	2060.4	2061.5	2062.0	2062.0	2043.0	2041.9	2069.9	2066.2	2045.1
17.5°	2060.4	2054.1	2009.7	2012.9	2016.6	2020.8	2006.0	2008.7	2038.2	2033.5	2014.5
20°	2002.3	1996.0	1952.7	1961.7	1969.6	1978.0	1968.5	1975.9	2003.4	2001.3	1987.0
22.5°	1937.4	1931.0	1890.9	1904.6	1917.8	1933.7	1929.5	1937.9	1966.9	1966.4	1953.7
25°	1858.2	1859.8	1824.4	1841.3	1863.5	1885.6	1887.2	1900.9	1933.2	1930.0	1918.4
27.5°	1784.2	1786.4	1748.9	1777.4	1807.0	1835.5	1842.3	1861.3	1894.1	1891.4	1881.4
30°	1706.6	1709.3	1672.8	1711.9	1747.8	1782.7	1797.4	1823.3	1856.6	1856.6	1846.0
32.5°	1625.8	1630.6	1592.6	1644.8	1686.6	1727.2	1753.1	1780.0	1818.0	1817.0	1808.0
35°	1542.9	1548.2	1513.4	1579.9	1621.6	1671.2	1703.5	1739.4	1773.2	1773.7	1766.8
37.5°	1458.4	1464.8	1433.1	1506.0	1553.5	1612.1	1653.3	1689.2	1726.7	1728.8	1722.5
40°	1374.5	1381.4	1353.9	1424.1	1484.3	1549.8	1597.3	1639.6	1680.8	1681.8	1677.6
42.5°	1290.5	1297.9	1277.3	1346.0	1414.1	1484.3	1540.3	1588.3	1630.6	1633.2	1628.5
45°	1208.7	1215.0	1200.2	1275.2	1340.7	1417.3	1481.7	1536.1	1578.8	1582.5	1581.0
47.5°	1127.4	1133.2	1120.0	1188.6	1264.1	1345.4	1419.9	1480.1	1525.5	1529.7	1528.7
50°	1047.6	1052.4	1038.1	1109.9	1184.9	1271.5	1349.1	1418.8	1469.5	1473.8	1473.2
52.5°	968.4	973.2	961.0	1036.5	1104.7	1196.0	1280.5	1356.0	1406.2	1412.5	1413.6
55°	891.9	894.0	884.5	956.8	1022.8	1118.4	1215.5	1288.9	1339.1	1344.4	1347.6
57.5°	815.3	815.8	807.9	877.1	940.4	1038.1	1140.0	1217.1	1264.7	1269.9	1274.7
60°	739.3	738.7	729.8	796.8	857.5	954.2	1060.3	1136.9	1182.8	1187.6	1193.9
62.5°	663.7	662.2	654.2	716.0	773.0	868.6	975.3	1049.2	1093.0	1096.2	1104.7
65°	588.8	587.2	579.8	636.8	688.6	779.9	884.5	954.7	994.3	998.5	996.9
67.5°	514.8	511.7	505.9	557.1	604.1	688.6	788.9	856.0	888.7	892.4	902.4
70°	440.9	437.2	424.0	478.4	519.6	595.1	688.6	748.2	775.7	779.4	777.8
72.5°	368.0	364.3	350.1	400.3	435.1	501.1	584.5	634.2	657.9	661.1	661.1
75°	297.3	295.2	286.2	324.2	353.3	407.1	477.9	519.1	537.5	541.2	540.2
77.5°	229.2	227.6	218.6	251.3	274.1	314.2	371.2	403.4	417.2	421.4	430.4
80°	164.2	163.7	149.4	181.6	191.7	225.5	267.2	292.0	299.4	305.2	311.5
82.5°	105.1	105.6	91.4	118.8	123.0	144.7	170.6	185.9	191.2	195.9	200.7
85°	51.2	53.3	45.4	62.8	63.4	74.5	85.5	91.4	93.5	97.2	101.4
87.5°	13.2	15.3	8.4	18.0	15.8	20.6	23.8	25.3	24.8	27.5	29.0
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°	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7
2.5°	2215.7	2232.6	2224.1	2251.6	2262.1	2245.2	2274.8	2275.3	2254.2	2279.0	2292.7
5°	2181.3	2198.8	2193.5	2222.0	2235.2	2220.4	2256.3	2263.2	2242.6	2270.6	2292.7
7.5°	2146.5	2167.1	2160.2	2189.3	2205.1	2193.5	2232.0	2243.1	2227.3	2257.9	2287.5
10°	2116.4	2133.8	2126.4	2157.0	2170.8	2161.3	2199.3	2219.9	2205.1	2242.6	2278.0
12.5°	2086.8	2101.1	2092.6	2118.0	2131.2	2119.0	2165.5	2184.5	2173.9	2213.0	2258.4
15°	2048.8	2064.6	2053.0	2075.7	2085.8	2075.2	2113.2	2146.0	2132.8	2175.5	2225.7
17.5°	2019.8	2028.7	2012.9	2030.8	2036.6	2022.4	2060.9	2093.1	2083.6	2130.1	2188.2
20°	1987.5	1994.9	1972.8	1982.8	1982.3	1964.3	1999.7	2031.4	2025.0	2076.3	2142.3
22.5°	1951.6	1955.3	1929.5	1931.6	1930.5	1900.9	1932.6	1964.8	1962.2	2013.9	2087.9
25°	1913.6	1914.1	1880.9	1879.8	1868.2	1833.4	1861.3	1897.8	1889.9	1945.8	2023.4
27.5°	1876.1	1870.8	1830.7	1821.2	1802.7	1761.0	1785.8	1818.6	1813.8	1868.7	1954.8
30°	1836.0	1829.1	1780.0	1762.6	1735.7	1687.6	1708.2	1738.8	1741.5	1789.5	1879.8
32.5°	1798.0	1780.5	1726.2	1700.8	1667.0	1611.0	1622.1	1653.3	1657.5	1706.1	1799.0
35°	1748.9	1737.3	1670.2	1626.9	1593.6	1532.4	1544.0	1565.6	1572.0	1619.5	1714.0
37.5°	1702.4	1683.9	1612.6	1559.8	1517.1	1452.6	1455.8	1478.0	1484.3	1532.4	1625.8
40°	1654.3	1627.9	1551.4	1489.6	1440.5	1372.9	1369.2	1392.4	1397.2	1444.2	1528.7
42.5°	1603.1	1571.4	1485.4	1417.8	1361.3	1292.6	1285.2	1305.3	1310.6	1356.5	1439.4
45°	1551.4	1513.4	1417.8	1343.9	1282.1	1211.9	1204.5	1219.8	1227.7	1271.0	1350.7
47.5°	1496.5	1452.1	1348.1	1265.7	1201.8	1131.6	1122.6	1137.9	1144.3	1187.0	1262.5
50°	1438.9	1385.0	1276.3	1185.4	1122.1	1052.9	1039.7	1057.7	1063.5	1103.6	1177.5
52.5°	1375.5	1315.9	1199.7	1104.7	1041.3	975.3	959.4	976.9	983.7	1022.8	1090.9
55°	1308.5	1244.1	1122.6	1030.2	961.6	897.1	883.9	890.8	905.6	942.6	1005.9
57.5°	1233.0	1169.1	1041.3	947.3	881.3	819.5	808.4	814.8	828.5	864.4	921.4
60°	1152.7	1085.1	958.4	864.4	800.5	741.9	731.9	737.7	752.5	785.2	838.0
62.5°	1073.5	997.5	872.8	779.4	721.3	666.9	664.3	662.2	675.9	707.6	754.0
65°	977.4	904.5	783.6	694.9	642.1	593.0	582.4	587.2	600.4	629.4	678.0
67.5°	874.4	808.4	692.3	610.4	563.4	519.6	510.6	512.7	526.5	551.8	594.0
70°	765.1	707.0	598.8	525.4	485.8	444.6	438.8	439.3	452.5	474.7	511.7
72.5°	650.5	598.3	504.3	441.4	408.7	379.1	373.9	367.5	379.7	398.7	430.4
75°	533.8	487.9	410.3	359.1	333.2	308.4	303.6	297.3	309.4	325.8	350.6
77.5°	416.1	379.1	318.9	279.3	259.3	240.8	236.6	229.7	241.8	254.0	273.5
80°	301.0	274.1	238.1	196.4	189.6	177.4	173.2	165.8	177.4	185.3	200.1
82.5°	194.3	176.4	155.8	126.7	125.7	116.7	114.6	106.1	116.7	121.4	132.5
85°	98.2	89.8	84.5	64.4	66.5	60.7	60.2	51.2	59.7	61.8	68.1
87.5°	28.0	29.6	26.4	15.8	20.1	19.0	19.0	13.7	19.0	19.0	21.6
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: P838034

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-6LO-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7	2263.7
2.5°	2265.8	2274.8	2276.9	2276.4	2282.2	2313.9	2303.3	2313.9
5°	2271.1	2291.2	2296.4	2303.8	2313.3	2349.2	2337.6	2350.3
7.5°	2274.3	2304.4	2316.0	2330.2	2345.6	2385.7	2376.2	2388.9
10°	2274.3	2313.3	2330.2	2354.0	2374.6	2421.1	2412.1	2426.9
12.5°	2264.8	2314.9	2338.7	2372.0	2398.4	2448.5	2444.8	2455.4
15°	2245.2	2307.0	2339.7	2382.5	2415.3	2471.2	2469.6	2482.3
17.5°	2218.8	2293.3	2332.9	2386.7	2427.9	2490.8	2494.5	2501.3
20°	2185.6	2267.4	2319.1	2385.2	2436.9	2506.1	2510.8	2520.3
22.5°	2141.7	2236.2	2298.6	2378.3	2438.0	2512.4	2520.9	2529.8
25°	2090.0	2198.8	2271.6	2365.1	2432.7	2511.9	2523.5	2531.4
27.5°	2030.8	2150.2	2237.3	2344.0	2417.9	2503.4	2517.7	2527.2
30°	1962.2	2098.4	2198.2	2316.5	2397.8	2487.6	2502.9	2512.4
32.5°	1891.4	2041.4	2151.8	2281.1	2368.8	2462.2	2475.4	2482.8
35°	1814.3	1972.2	2095.8	2235.7	2331.3	2421.6	2431.6	2439.5
37.5°	1730.4	1897.2	2031.9	2184.5	2278.5	2365.1	2374.1	2383.0
40°	1643.8	1818.6	1960.1	2121.7	2215.7	2295.9	2305.4	2311.8
42.5°	1556.7	1731.4	1883.5	2047.7	2141.2	2218.3	2224.1	2230.4
45°	1468.5	1641.1	1797.4	1965.9	2058.3	2130.6	2132.8	2138.0
47.5°	1378.7	1547.7	1702.9	1872.4	1963.8	2029.8	2031.9	2036.1
50°	1288.4	1454.2	1602.1	1771.6	1860.8	1930.5	1921.0	1925.2
52.5°	1199.7	1356.0	1507.0	1662.8	1751.0	1812.8	1815.4	1807.0
55°	1112.6	1259.9	1398.8	1548.7	1632.7	1680.8	1679.2	1682.3
57.5°	1024.4	1162.7	1290.0	1427.3	1509.1	1554.5	1564.1	1553.0
60°	934.6	1064.5	1178.6	1302.7	1381.9	1419.9	1431.0	1420.4
62.5°	845.4	964.7	1068.2	1176.5	1249.9	1296.9	1295.8	1284.2
65°	756.2	864.4	956.8	1048.7	1112.6	1159.6	1157.5	1146.9
67.5°	673.8	763.0	845.9	920.4	975.8	1008.0	1019.1	1006.4
70°	583.0	660.0	732.9	792.6	838.5	867.6	878.1	867.0
72.5°	492.1	557.6	608.8	666.4	701.8	726.1	737.1	726.6
75°	402.4	456.2	497.9	542.8	567.6	588.2	600.9	590.3
77.5°	315.2	357.0	390.2	423.0	451.5	456.2	467.3	460.5
80°	232.3	262.4	286.7	308.4	329.0	331.1	340.1	335.8
82.5°	154.7	174.8	181.1	203.8	217.0	214.9	223.9	220.7
85°	81.8	94.0	105.1	111.9	119.3	112.5	120.4	117.2
87.5°	27.5	29.0	25.3	35.9	39.6	33.8	38.5	37.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)