

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: P837887

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-5LO-35-120-EDD**

Issue Date: 5/21/2024



Test Information

Test Method: LM-79-08
Report Number: P837887
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-LD4-5LO-35-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

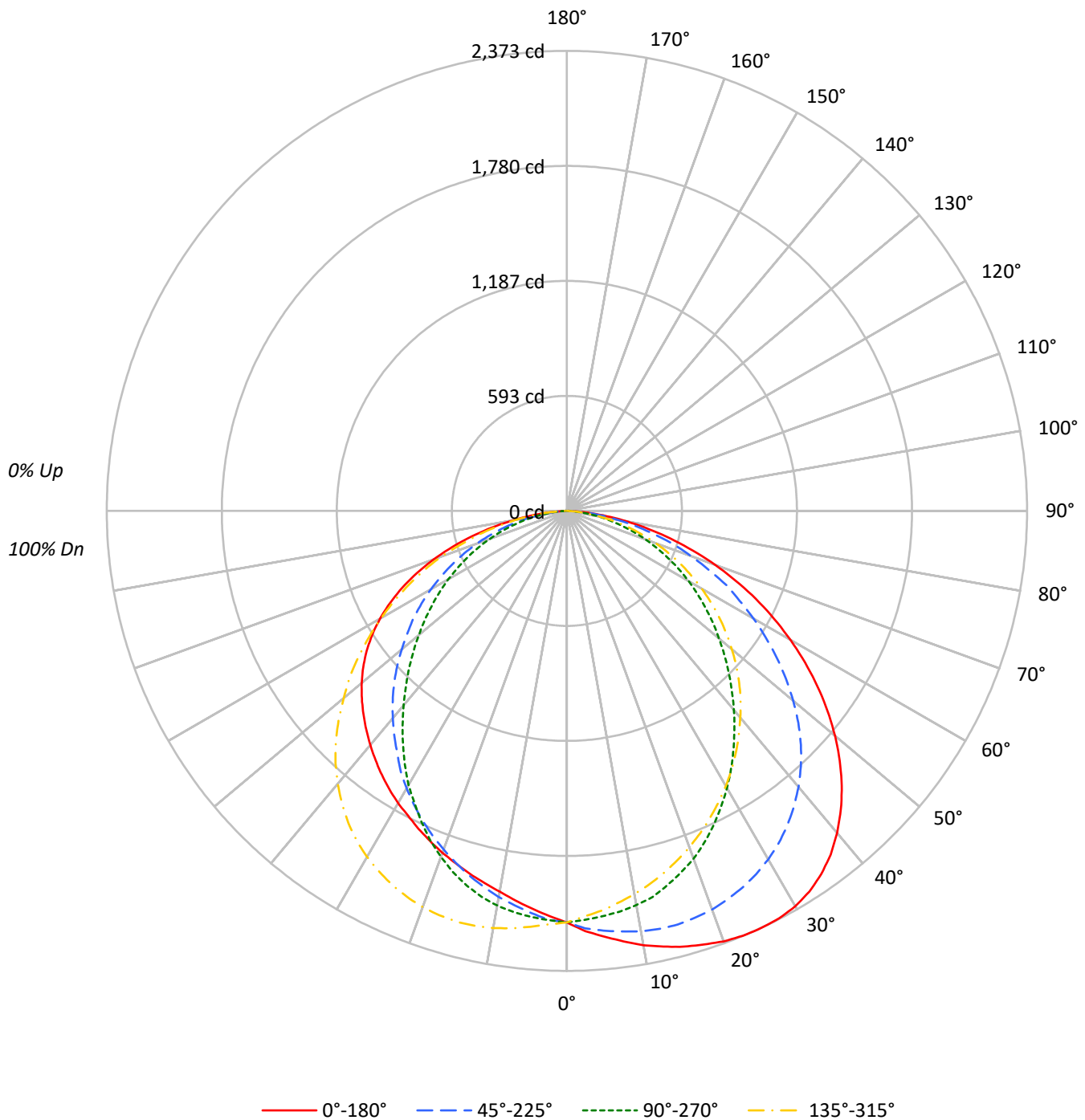
Lumens per Lamp: N/A
Luminaire Lumens: 6226.8 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 58.5
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
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°	5711	5711	5711	5711
5°	5952	5670	5563	5680
10°	6218	5641	5450	5649
15°	6484	5569	5397	5571
20°	6767	5468	5373	5437
25°	7047	5315	5373	5261
30°	7319	5130	5409	5073
35°	7514	4920	5463	4842
40°	7614	4708	5539	4602
45°	7628	4493	5646	4380
50°	7556	4288	5784	4174
55°	7400	4097	5914	3983
60°	7167	3898	5992	3797
65°	6847	3670	5961	3584
70°	6396	3401	5749	3338
75°	5755	3032	5276	3016
80°	4880	2540	4435	2577
85°	3393	1683	2813	1726



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.5	3.2
10°-20°	583.5	9.4
20°-30°	894.3	14.4
30°-40°	1087.4	17.5
40°-50°	1130.4	18.2
50°-60°	1021.1	16.4
60°-70°	776.3	12.5
70°-80°	432.8	7.0
80°-90°	99.6	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°	1679.3	27.0
0°-40°	2766.6	44.4
0°-60°	4918.1	79.0
0°-90°	6226.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6226.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2122	2122	2122	2122	2122	
5°	2204	2099	2060	2103	2204	212
15°	2327	1999	1937	2000	2327	660
25°	2373	1790	1810	1772	2373	1096
35°	2287	1498	1663	1474	2287	1429
45°	2004	1181	1484	1151	2004	1543
55°	1577	873	1260	849	1577	1408
65°	1075	576	936	563	1075	1063
75°	554	292	507	290	554	588
85°	110	54	91	56	110	138
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°	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4
2.5°	2169.4	2137.7	2138.2	2165.9	2144.7	2155.0	2125.3	2136.7	2133.3	2135.7	2111.5
5°	2203.6	2169.4	2168.9	2192.7	2168.9	2173.4	2135.7	2143.2	2132.3	2125.3	2099.1
7.5°	2239.7	2205.5	2202.1	2222.9	2191.7	2188.2	2146.6	2146.6	2126.8	2109.5	2084.7
10°	2275.4	2240.2	2235.7	2251.6	2213.0	2201.6	2151.1	2143.2	2116.9	2091.2	2064.5
12.5°	2302.1	2266.4	2263.0	2272.9	2229.3	2208.5	2151.1	2135.7	2097.1	2061.0	2040.2
15°	2327.3	2290.7	2281.3	2286.2	2236.2	2208.5	2144.2	2120.4	2070.9	2023.4	1999.1
17.5°	2345.2	2310.0	2300.6	2300.1	2239.7	2200.1	2129.3	2096.6	2037.2	1979.8	1955.5
20°	2363.0	2327.8	2315.9	2307.0	2238.7	2188.7	2107.5	2063.5	1994.2	1929.8	1909.5
22.5°	2371.9	2335.8	2322.9	2309.5	2232.3	2167.9	2080.8	2024.8	1945.6	1868.9	1852.1
25°	2373.4	2336.2	2322.4	2303.1	2219.4	2143.2	2046.1	1978.3	1889.7	1804.5	1790.2
27.5°	2369.4	2328.8	2315.0	2291.7	2200.1	2113.0	2005.0	1925.3	1830.3	1736.2	1720.9
30°	2355.6	2314.5	2301.1	2270.9	2172.9	2075.8	1960.0	1866.4	1764.4	1664.4	1651.1
32.5°	2327.8	2287.7	2276.8	2246.6	2143.2	2032.8	1907.5	1803.1	1691.7	1596.1	1576.3
35°	2287.2	2247.1	2240.2	2208.5	2101.6	1981.3	1850.1	1733.7	1614.4	1516.9	1497.6
37.5°	2234.3	2200.6	2190.2	2159.0	2052.6	1922.9	1784.2	1658.5	1535.7	1430.8	1418.9
40°	2167.4	2135.7	2127.8	2100.1	1995.6	1858.0	1712.9	1580.8	1454.5	1357.0	1340.2
42.5°	2091.2	2061.5	2057.0	2028.3	1925.3	1786.2	1635.7	1500.1	1369.9	1275.8	1259.0
45°	2004.5	1975.8	1974.8	1947.6	1848.6	1706.5	1554.5	1418.4	1287.2	1189.7	1180.7
47.5°	1909.0	1883.3	1883.3	1858.0	1763.0	1618.9	1470.9	1333.2	1204.0	1117.9	1102.0
50°	1805.0	1780.8	1773.3	1761.0	1668.4	1523.3	1382.7	1250.1	1121.8	1039.7	1024.3
52.5°	1694.1	1673.3	1678.3	1655.5	1565.9	1423.8	1293.6	1156.5	1039.2	964.4	949.1
55°	1577.3	1547.6	1552.1	1543.6	1459.0	1321.3	1193.6	1079.3	958.0	887.7	873.3
57.5°	1456.0	1417.4	1433.2	1428.3	1345.1	1216.4	1102.0	991.6	877.3	812.4	798.6
60°	1331.7	1294.6	1311.0	1306.5	1228.3	1111.4	1007.5	905.0	797.1	738.2	724.3
62.5°	1204.0	1169.9	1184.7	1181.2	1109.5	1004.0	913.4	819.3	716.4	663.4	650.5
65°	1075.3	1042.6	1056.0	1053.5	987.2	907.0	816.9	730.7	635.2	589.1	576.3
67.5°	943.6	913.4	925.8	925.8	864.9	788.2	719.8	641.1	555.5	515.9	504.0
70°	812.9	784.7	795.6	794.6	743.1	680.7	621.8	551.5	474.8	442.1	432.2
72.5°	681.2	656.5	666.4	665.4	622.3	582.2	523.8	462.9	396.1	369.8	360.9
75°	553.5	530.2	539.6	538.6	503.5	465.9	426.8	376.3	318.8	300.5	291.6
77.5°	431.7	407.9	415.9	415.9	390.1	362.9	331.7	292.6	252.0	232.2	225.8
80°	314.9	303.5	299.5	300.0	282.7	264.9	249.0	211.4	181.7	168.3	163.9
82.5°	206.9	197.5	193.6	194.6	184.7	173.8	163.9	137.6	117.8	109.9	107.4
85°	109.9	103.0	99.5	102.0	100.0	94.1	89.1	71.3	58.9	55.9	54.5
87.5°	34.7	30.2	27.7	36.6	31.2	27.7	26.7	21.3	16.3	16.3	15.8
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°	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4
2.5°	2119.4	2119.4	2100.1	2095.6	2093.7	2096.1	2076.8	2073.4	2101.1	2091.7	2070.4
5°	2102.6	2101.6	2074.4	2069.4	2069.4	2066.4	2044.6	2039.7	2067.4	2059.5	2036.2
7.5°	2081.8	2078.8	2046.6	2043.2	2038.2	2036.2	2012.0	2008.5	2032.3	2027.3	2005.5
10°	2056.5	2053.6	2015.4	2013.0	2007.5	2003.6	1980.8	1978.3	2002.6	1994.6	1977.3
12.5°	2023.4	2017.9	1978.8	1976.3	1971.9	1970.4	1948.1	1947.1	1973.9	1965.9	1947.6
15°	1979.8	1975.3	1931.8	1932.8	1933.3	1933.3	1915.4	1914.4	1940.7	1937.2	1917.4
17.5°	1931.8	1925.8	1884.2	1887.2	1890.7	1894.6	1880.8	1883.3	1911.0	1906.5	1888.7
20°	1877.3	1871.4	1830.8	1839.2	1846.6	1854.5	1845.6	1852.6	1878.3	1876.3	1863.0
22.5°	1816.4	1810.5	1772.9	1785.7	1798.1	1813.0	1809.0	1816.9	1844.1	1843.6	1831.8
25°	1742.2	1743.6	1710.5	1726.3	1747.1	1767.9	1769.4	1782.3	1812.5	1809.5	1798.6
27.5°	1672.8	1674.8	1639.7	1666.4	1694.1	1720.9	1727.3	1745.1	1775.8	1773.3	1763.9
30°	1600.1	1602.5	1568.4	1605.0	1638.7	1671.4	1685.2	1709.5	1740.7	1740.7	1730.8
32.5°	1524.3	1528.8	1493.1	1542.1	1581.3	1619.4	1643.6	1668.9	1704.5	1703.5	1695.1
35°	1446.6	1451.6	1418.9	1481.3	1520.4	1566.9	1597.1	1630.8	1662.5	1662.9	1656.5
37.5°	1367.4	1373.3	1343.6	1411.9	1456.5	1511.5	1550.1	1583.7	1618.9	1620.9	1614.9
40°	1288.7	1295.1	1269.4	1335.2	1391.6	1453.0	1497.6	1537.2	1575.8	1576.8	1572.8
42.5°	1210.0	1216.9	1197.6	1261.9	1325.8	1391.6	1444.1	1489.2	1528.8	1531.3	1526.8
45°	1133.2	1139.2	1125.3	1195.6	1257.0	1328.8	1389.2	1440.2	1480.3	1483.7	1482.2
47.5°	1057.0	1062.4	1050.0	1114.4	1185.2	1261.4	1331.2	1387.7	1430.3	1434.2	1433.2
50°	982.2	986.7	973.3	1040.6	1110.9	1192.1	1264.9	1330.3	1377.8	1381.7	1381.3
52.5°	908.0	912.4	901.0	971.8	1035.7	1121.3	1200.6	1271.3	1318.4	1324.3	1325.3
55°	836.2	838.2	829.2	897.1	959.0	1048.6	1139.7	1208.5	1255.5	1260.5	1263.4
57.5°	764.4	764.9	757.5	822.3	881.7	973.3	1068.9	1141.1	1185.7	1190.6	1195.1
60°	693.1	692.6	684.2	747.1	804.0	894.6	994.1	1065.9	1109.0	1113.4	1119.4
62.5°	622.3	620.8	613.4	671.3	724.8	814.4	914.4	983.7	1024.8	1027.8	1035.7
65°	552.0	550.5	543.6	597.1	645.6	731.2	829.2	895.1	932.2	936.2	934.7
67.5°	482.7	479.7	474.3	522.3	566.4	645.6	739.6	802.5	833.2	836.7	846.1
70°	413.4	409.9	397.5	448.5	487.2	557.9	645.6	701.5	727.3	730.7	729.2
72.5°	345.1	341.6	328.2	375.3	407.9	469.8	548.0	594.6	616.9	619.8	619.8
75°	278.7	276.7	268.3	304.0	331.2	381.7	448.0	486.7	504.0	507.4	506.5
77.5°	214.9	213.4	205.0	235.7	256.9	294.6	348.0	378.2	391.1	395.1	403.5
80°	154.0	153.5	140.1	170.3	179.7	211.4	250.5	273.8	280.7	286.2	292.1
82.5°	98.5	99.0	85.6	111.4	115.4	135.6	159.9	174.3	179.2	183.7	188.1
85°	48.0	50.0	42.6	58.9	59.4	69.8	80.2	85.6	87.6	91.1	95.1
87.5°	12.4	14.4	7.9	16.8	14.9	19.3	22.3	23.8	23.3	25.7	27.2
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4
2.5°	2077.3	2093.2	2085.2	2111.0	2120.9	2105.0	2132.8	2133.3	2113.5	2136.7	2149.6
5°	2045.1	2061.5	2056.5	2083.3	2095.6	2081.8	2115.4	2121.9	2102.6	2128.8	2149.6
7.5°	2012.5	2031.8	2025.3	2052.6	2067.4	2056.5	2092.7	2103.1	2088.2	2116.9	2144.7
10°	1984.2	2000.6	1993.7	2022.4	2035.2	2026.3	2062.0	2081.3	2067.4	2102.6	2135.7
12.5°	1956.5	1969.9	1962.0	1985.7	1998.1	1986.7	2030.3	2048.1	2038.2	2074.8	2117.4
15°	1920.9	1935.7	1924.8	1946.1	1955.5	1945.6	1981.3	2012.0	1999.6	2039.7	2086.7
17.5°	1893.7	1902.1	1887.2	1904.0	1909.5	1896.1	1932.3	1962.5	1953.6	1997.1	2051.6
20°	1863.5	1870.4	1849.6	1859.0	1858.5	1841.7	1874.8	1904.5	1898.6	1946.6	2008.5
22.5°	1829.8	1833.3	1809.0	1811.0	1810.0	1782.3	1812.0	1842.2	1839.7	1888.2	1957.5
25°	1794.1	1794.6	1763.4	1762.5	1751.6	1718.9	1745.1	1779.3	1771.9	1824.3	1897.1
27.5°	1759.0	1754.0	1716.4	1707.5	1690.2	1651.1	1674.3	1705.0	1700.6	1752.1	1832.8
30°	1721.4	1714.9	1668.9	1652.6	1627.3	1582.3	1601.6	1630.3	1632.7	1677.8	1762.5
32.5°	1685.7	1669.4	1618.4	1594.6	1562.9	1510.5	1520.9	1550.1	1554.0	1599.6	1686.7
35°	1639.7	1628.8	1565.9	1525.3	1494.1	1436.7	1447.6	1467.9	1473.8	1518.4	1607.0
37.5°	1596.1	1578.8	1512.0	1462.4	1422.3	1361.9	1364.9	1385.7	1391.6	1436.7	1524.3
40°	1551.1	1526.3	1454.5	1396.6	1350.6	1287.2	1283.7	1305.5	1310.0	1354.0	1433.2
42.5°	1503.0	1473.3	1392.6	1329.3	1276.3	1211.9	1205.0	1223.8	1228.8	1271.8	1349.6
45°	1454.5	1418.9	1329.3	1260.0	1202.0	1136.2	1129.3	1143.6	1151.0	1191.6	1266.4
47.5°	1403.0	1361.4	1263.9	1186.7	1126.8	1060.9	1052.5	1066.9	1072.8	1112.9	1183.7
50°	1349.1	1298.6	1196.6	1111.4	1052.0	987.2	974.8	991.6	997.1	1034.7	1104.0
52.5°	1289.7	1233.7	1124.8	1035.7	976.3	914.4	899.5	915.9	922.3	959.0	1022.8
55°	1226.8	1166.4	1052.5	965.9	901.5	841.1	828.8	835.2	849.0	883.7	943.1
57.5°	1156.0	1096.1	976.3	888.2	826.3	768.4	758.0	763.9	776.8	810.4	863.9
60°	1080.7	1017.4	898.6	810.4	750.5	695.6	686.2	691.6	705.5	736.2	785.7
62.5°	1006.5	935.2	818.4	730.7	676.3	625.3	622.8	620.8	633.7	663.4	707.0
65°	916.4	848.1	734.7	651.5	602.0	556.0	546.1	550.5	562.9	590.1	635.7
67.5°	819.8	758.0	649.0	572.3	528.2	487.2	478.7	480.7	493.6	517.4	557.0
70°	717.4	662.9	561.4	492.6	455.5	416.9	411.4	411.9	424.3	445.1	479.7
72.5°	609.9	560.9	472.8	413.9	383.2	355.5	350.5	344.6	356.0	373.8	403.5
75°	500.5	457.4	384.7	336.6	312.4	289.1	284.7	278.7	290.1	305.5	328.7
77.5°	390.1	355.5	299.0	261.9	243.1	225.8	221.8	215.4	226.7	238.1	256.4
80°	282.2	256.9	223.3	184.2	177.7	166.3	162.4	155.5	166.3	173.8	187.6
82.5°	182.2	165.4	146.0	118.8	117.8	109.4	107.4	99.5	109.4	113.9	124.3
85°	92.1	84.2	79.2	60.4	62.4	56.9	56.4	48.0	55.9	57.9	63.9
87.5°	26.2	27.7	24.8	14.9	18.8	17.8	17.8	12.9	17.8	17.8	20.3
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: P837887

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-5LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4	2122.4
2.5°	2124.4	2132.8	2134.8	2134.3	2139.7	2169.4	2159.5	2169.4
5°	2129.3	2148.1	2153.1	2160.0	2168.9	2202.6	2191.7	2203.6
7.5°	2132.3	2160.5	2171.4	2184.8	2199.1	2236.7	2227.8	2239.7
10°	2132.3	2168.9	2184.8	2207.0	2226.3	2269.9	2261.5	2275.4
12.5°	2123.4	2170.4	2192.7	2223.9	2248.6	2295.6	2292.2	2302.1
15°	2105.0	2163.0	2193.7	2233.8	2264.5	2316.9	2315.5	2327.3
17.5°	2080.3	2150.1	2187.2	2237.7	2276.3	2335.3	2338.7	2345.2
20°	2049.1	2125.8	2174.4	2236.2	2284.8	2349.6	2354.1	2363.0
22.5°	2008.0	2096.6	2155.0	2229.8	2285.7	2355.6	2363.5	2371.9
25°	1959.5	2061.5	2129.8	2217.4	2280.8	2355.1	2365.9	2373.4
27.5°	1904.0	2015.9	2097.6	2197.6	2266.9	2347.1	2360.5	2369.4
30°	1839.7	1967.4	2061.0	2171.9	2248.1	2332.3	2346.6	2355.6
32.5°	1773.3	1913.9	2017.4	2138.7	2220.9	2308.5	2320.9	2327.8
35°	1701.1	1849.1	1964.9	2096.1	2185.7	2270.4	2279.8	2287.2
37.5°	1622.4	1778.8	1905.0	2048.1	2136.2	2217.4	2225.8	2234.3
40°	1541.2	1705.0	1837.7	1989.2	2077.3	2152.6	2161.5	2167.4
42.5°	1459.5	1623.3	1765.9	1919.9	2007.5	2079.8	2085.2	2091.2
45°	1376.8	1538.7	1685.2	1843.2	1929.8	1997.6	1999.6	2004.5
47.5°	1292.6	1451.1	1596.6	1755.5	1841.2	1903.1	1905.0	1909.0
50°	1208.0	1363.4	1502.0	1661.0	1744.6	1810.0	1801.1	1805.0
52.5°	1124.8	1271.3	1412.9	1559.0	1641.7	1699.6	1702.1	1694.1
55°	1043.1	1181.2	1311.4	1452.0	1530.8	1575.8	1574.3	1577.3
57.5°	960.4	1090.1	1209.5	1338.2	1414.9	1457.5	1466.4	1456.0
60°	876.3	998.1	1105.0	1221.3	1295.6	1331.2	1341.6	1331.7
62.5°	792.6	904.5	1001.5	1103.0	1171.8	1215.9	1214.9	1204.0
65°	708.9	810.4	897.1	983.2	1043.1	1087.2	1085.2	1075.3
67.5°	631.7	715.4	793.1	862.9	914.9	945.1	955.5	943.6
70°	546.6	618.8	687.2	743.1	786.2	813.4	823.3	812.9
72.5°	461.4	522.8	570.8	624.8	658.0	680.7	691.1	681.2
75°	377.2	427.7	466.9	508.9	532.2	551.5	563.4	553.5
77.5°	295.6	334.7	365.9	396.6	423.3	427.7	438.1	431.7
80°	217.8	246.1	268.8	289.1	308.4	310.4	318.8	314.9
82.5°	145.1	163.9	169.8	191.1	203.5	201.5	209.9	206.9
85°	76.7	88.1	98.5	105.0	111.9	105.5	112.9	109.9
87.5°	25.7	27.2	23.8	33.7	37.1	31.7	36.1	34.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)