

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: P837867

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-4STD-30-120-EDD**

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: P837867
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-LD4-4STD-30-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

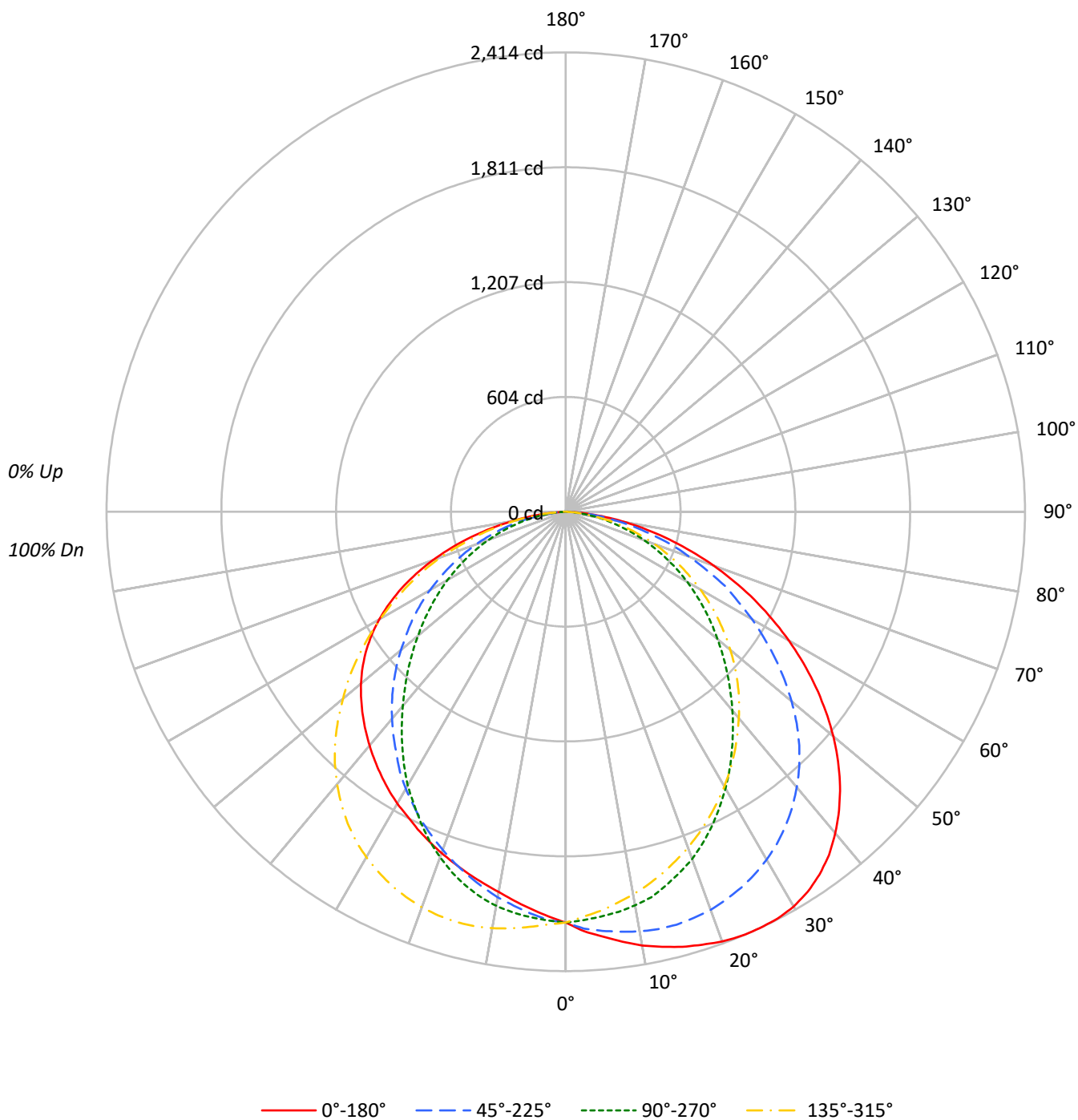
Lumens per Lamp: N/A
Luminaire Lumens: 6333.6 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	5809	5809	5809	5809
5°	6055	5767	5659	5777
10°	6324	5738	5544	5746
15°	6595	5665	5490	5666
20°	6883	5562	5465	5530
25°	7168	5407	5465	5351
30°	7445	5218	5502	5161
35°	7643	5004	5557	4925
40°	7744	4789	5634	4680
45°	7760	4571	5743	4456
50°	7686	4362	5884	4246
55°	7527	4168	6015	4052
60°	7290	3965	6095	3862
65°	6965	3733	6064	3646
70°	6506	3459	5848	3396
75°	5854	3084	5367	3068
80°	4964	2583	4511	2622
85°	3452	1711	2862	1757

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.0	3.2
10°-20°	593.5	9.4
20°-30°	909.6	14.4
30°-40°	1106.0	17.5
40°-50°	1149.8	18.2
50°-60°	1038.6	16.4
60°-70°	789.6	12.5
70°-80°	440.2	7.0
80°-90°	101.3	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°	1708.1	27.0
0°-40°	2814.1	44.4
0°-60°	5002.5	79.0
0°-90°	6333.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6333.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2159	2159	2159	2159	2159	
5°	2241	2135	2095	2139	2241	216
15°	2367	2033	1970	2034	2367	671
25°	2414	1821	1841	1802	2414	1115
35°	2326	1523	1692	1499	2326	1453
45°	2039	1201	1509	1171	2039	1570
55°	1604	888	1282	864	1604	1432
65°	1094	586	952	573	1094	1081
75°	563	297	516	295	563	598
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°	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8
2.5°	2206.6	2174.4	2174.9	2203.1	2181.5	2192.0	2161.8	2173.4	2169.9	2172.4	2147.7
5°	2241.4	2206.6	2206.1	2230.3	2206.1	2210.7	2172.4	2180.0	2168.9	2161.8	2135.1
7.5°	2278.2	2243.4	2239.9	2261.0	2229.3	2225.8	2183.5	2183.5	2163.3	2145.7	2120.5
10°	2314.4	2278.7	2274.1	2290.2	2251.0	2239.4	2188.0	2180.0	2153.3	2127.1	2099.9
12.5°	2341.6	2305.3	2301.8	2311.9	2267.6	2246.4	2188.0	2172.4	2133.1	2096.4	2075.2
15°	2367.3	2330.0	2320.5	2325.5	2274.6	2246.4	2181.0	2156.8	2106.4	2058.1	2033.4
17.5°	2385.4	2349.7	2340.1	2339.6	2278.2	2237.9	2165.9	2132.6	2072.2	2013.8	1989.1
20°	2403.5	2367.8	2355.7	2346.6	2277.1	2226.3	2143.7	2098.9	2028.4	1962.9	1942.3
22.5°	2412.6	2375.8	2362.8	2349.2	2270.6	2205.1	2116.5	2059.6	1979.0	1901.0	1883.9
25°	2414.1	2376.3	2362.2	2342.6	2257.5	2180.0	2081.3	2012.3	1922.1	1835.5	1820.9
27.5°	2410.1	2368.8	2354.7	2331.0	2237.9	2149.2	2039.5	1958.4	1861.7	1766.0	1750.4
30°	2396.0	2354.2	2340.6	2309.9	2210.2	2111.5	1993.6	1898.5	1794.7	1693.0	1679.4
32.5°	2367.8	2327.0	2315.9	2285.2	2180.0	2067.7	1940.3	1834.0	1720.7	1623.5	1603.4
35°	2326.5	2285.7	2278.7	2246.4	2137.7	2015.3	1881.8	1763.5	1642.1	1542.9	1523.3
37.5°	2272.6	2238.4	2227.8	2196.1	2087.8	1955.9	1814.9	1687.0	1562.1	1455.3	1443.2
40°	2204.6	2172.4	2164.3	2136.1	2029.9	1889.9	1742.4	1607.9	1479.5	1380.3	1363.2
42.5°	2127.1	2096.9	2092.3	2063.1	1958.4	1816.9	1663.8	1525.8	1393.4	1297.7	1280.6
45°	2039.0	2009.8	2008.7	1981.0	1880.3	1735.8	1581.2	1442.7	1309.3	1210.1	1201.0
47.5°	1941.8	1915.6	1915.6	1889.9	1793.2	1646.7	1496.1	1356.1	1224.7	1137.1	1120.9
50°	1836.0	1811.3	1803.8	1791.2	1697.0	1549.5	1406.5	1271.5	1141.1	1057.5	1041.9
52.5°	1723.2	1702.1	1707.1	1683.9	1592.8	1448.3	1315.8	1176.3	1057.0	981.0	965.3
55°	1604.4	1574.2	1578.7	1570.1	1484.0	1344.0	1214.1	1097.8	974.4	902.9	888.3
57.5°	1481.0	1441.7	1457.8	1452.8	1368.2	1237.3	1120.9	1008.7	892.3	826.4	812.3
60°	1354.6	1316.8	1333.5	1328.9	1249.4	1130.5	1024.8	920.5	810.7	750.8	736.7
62.5°	1224.7	1189.9	1205.0	1201.5	1128.5	1021.2	929.1	833.4	728.7	674.8	661.7
65°	1093.8	1060.5	1074.1	1071.6	1004.1	922.5	830.9	743.3	646.1	599.2	586.2
67.5°	959.8	929.1	941.7	941.7	879.7	801.7	732.2	652.1	565.0	524.7	512.6
70°	826.9	798.2	809.2	808.2	755.9	692.4	632.5	561.0	482.9	449.7	439.6
72.5°	692.9	667.7	677.8	676.8	633.0	592.2	532.8	470.8	402.9	376.2	367.1
75°	563.0	539.3	548.9	547.9	512.1	473.9	434.1	382.7	324.3	305.7	296.6
77.5°	439.1	414.9	423.0	423.0	396.8	369.1	337.4	297.6	256.3	236.2	229.6
80°	320.3	308.7	304.7	305.2	287.5	269.4	253.3	215.0	184.8	171.2	166.7
82.5°	210.5	200.9	196.9	197.9	187.8	176.8	166.7	140.0	119.8	111.8	109.3
85°	111.8	104.7	101.2	103.7	101.7	95.7	90.6	72.5	59.9	56.9	55.4
87.5°	35.2	30.7	28.2	37.3	31.7	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°	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8
2.5°	2155.8	2155.8	2136.1	2131.6	2129.6	2132.1	2112.5	2109.0	2137.2	2127.6	2105.9
5°	2138.7	2137.7	2110.0	2104.9	2104.9	2101.9	2079.7	2074.7	2102.9	2094.9	2071.2
7.5°	2117.5	2114.5	2081.8	2078.2	2073.2	2071.2	2046.5	2043.0	2067.2	2062.1	2040.0
10°	2091.8	2088.8	2050.0	2047.5	2042.0	2038.0	2014.8	2012.3	2036.9	2028.9	2011.3
12.5°	2058.1	2052.6	2012.8	2010.3	2005.7	2004.2	1981.6	1980.5	2007.7	1999.7	1981.0
15°	2013.8	2009.2	1964.9	1965.9	1966.4	1966.4	1948.3	1947.3	1974.0	1970.5	1950.3
17.5°	1964.9	1958.9	1916.6	1919.6	1923.1	1927.2	1913.1	1915.6	1943.8	1939.3	1921.1
20°	1909.5	1903.5	1862.2	1870.8	1878.3	1886.4	1877.3	1884.4	1910.5	1908.5	1894.9
22.5°	1847.6	1841.6	1803.3	1816.4	1829.0	1844.1	1840.0	1848.1	1875.8	1875.3	1863.2
25°	1772.1	1773.6	1739.8	1756.0	1777.1	1798.3	1799.8	1812.9	1843.6	1840.6	1829.5
27.5°	1701.6	1703.6	1667.8	1695.0	1723.2	1750.4	1757.0	1775.1	1806.3	1803.8	1794.2
30°	1627.5	1630.1	1595.3	1632.6	1666.8	1700.1	1714.2	1738.8	1770.6	1770.6	1760.5
32.5°	1550.5	1555.0	1518.8	1568.6	1608.4	1647.2	1671.9	1697.5	1733.8	1732.8	1724.2
35°	1471.4	1476.5	1443.2	1506.7	1546.5	1593.8	1624.5	1658.8	1691.0	1691.5	1684.9
37.5°	1390.9	1396.9	1366.7	1436.2	1481.5	1537.4	1576.7	1610.9	1646.7	1648.7	1642.6
40°	1310.8	1317.3	1291.2	1358.1	1415.5	1478.0	1523.3	1563.6	1602.9	1603.9	1599.8
42.5°	1230.7	1237.8	1218.1	1283.6	1348.6	1415.5	1468.9	1514.7	1555.0	1557.5	1553.0
45°	1152.7	1158.7	1144.6	1216.1	1278.6	1351.6	1413.0	1464.9	1505.7	1509.2	1507.7
47.5°	1075.1	1080.7	1068.1	1133.5	1205.5	1283.1	1354.1	1411.5	1454.8	1458.8	1457.8
50°	999.1	1003.6	990.0	1058.5	1130.0	1212.6	1286.6	1353.1	1401.4	1405.5	1405.0
52.5°	923.5	928.1	916.5	988.5	1053.5	1140.6	1221.2	1293.2	1341.0	1347.1	1348.1
55°	850.5	852.5	843.5	912.5	975.4	1066.6	1159.2	1229.2	1277.1	1282.1	1285.1
57.5°	777.5	778.0	770.5	836.4	896.9	990.0	1087.2	1160.7	1206.1	1211.1	1215.6
60°	705.0	704.5	695.9	759.9	817.8	910.0	1011.2	1084.2	1128.0	1132.5	1138.6
62.5°	633.0	631.5	623.9	682.8	737.2	828.4	930.1	1000.6	1042.4	1045.4	1053.5
65°	561.5	560.0	552.9	607.3	656.7	743.8	843.5	910.5	948.2	952.3	950.7
67.5°	491.0	488.0	482.4	531.3	576.1	656.7	752.3	816.3	847.5	851.0	860.6
70°	420.5	417.0	404.4	456.2	495.5	567.5	656.7	713.6	739.7	743.3	741.8
72.5°	351.0	347.5	333.9	381.7	414.9	477.9	557.5	604.8	627.4	630.5	630.5
75°	283.5	281.5	272.9	309.2	336.9	388.3	455.7	495.0	512.6	516.2	515.2
77.5°	218.5	217.0	208.5	239.7	261.4	299.6	354.0	384.7	397.8	401.8	410.4
80°	156.6	156.1	142.5	173.2	182.8	215.0	254.8	278.5	285.5	291.1	297.1
82.5°	100.2	100.7	87.1	113.3	117.3	138.0	162.7	177.3	182.3	186.8	191.4
85°	48.8	50.9	43.3	59.9	60.4	71.0	81.6	87.1	89.1	92.7	96.7
87.5°	12.6	14.6	8.1	17.1	15.1	19.6	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°	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8
2.5°	2113.0	2129.1	2121.0	2147.2	2157.3	2141.2	2169.4	2169.9	2149.7	2173.4	2186.5
5°	2080.3	2096.9	2091.8	2119.0	2131.6	2117.5	2151.8	2158.3	2138.7	2165.4	2186.5
7.5°	2047.0	2066.7	2060.1	2087.8	2102.9	2091.8	2128.6	2139.2	2124.1	2153.3	2181.5
10°	2018.3	2034.9	2027.9	2057.1	2070.2	2061.1	2097.4	2117.0	2102.9	2138.7	2172.4
12.5°	1990.1	2003.7	1995.7	2019.8	2032.4	2020.8	2065.1	2083.3	2073.2	2110.5	2153.8
15°	1953.9	1969.0	1957.9	1979.5	1989.1	1979.0	2015.3	2046.5	2033.9	2074.7	2122.6
17.5°	1926.2	1934.7	1919.6	1936.7	1942.3	1928.7	1965.4	1996.2	1987.1	2031.4	2086.8
20°	1895.4	1902.5	1881.3	1890.9	1890.4	1873.3	1907.0	1937.2	1931.2	1980.0	2043.0
22.5°	1861.2	1864.7	1840.0	1842.1	1841.1	1812.9	1843.1	1873.8	1871.3	1920.6	1991.1
25°	1824.9	1825.4	1793.7	1792.7	1781.6	1748.4	1775.1	1809.8	1802.3	1855.7	1929.7
27.5°	1789.2	1784.2	1745.9	1736.8	1719.2	1679.4	1703.1	1734.3	1729.8	1782.1	1864.2
30°	1750.9	1744.4	1697.5	1680.9	1655.2	1609.4	1629.1	1658.3	1660.8	1706.6	1792.7
32.5°	1714.7	1698.0	1646.2	1622.0	1589.8	1536.4	1547.0	1576.7	1580.7	1627.0	1715.7
35°	1667.8	1656.7	1592.8	1551.5	1519.8	1461.4	1472.4	1493.1	1499.1	1544.5	1634.6
37.5°	1623.5	1605.9	1537.9	1487.5	1446.8	1385.3	1388.3	1409.5	1415.5	1461.4	1550.5
40°	1577.7	1552.5	1479.5	1420.6	1373.7	1309.3	1305.8	1327.9	1332.4	1377.3	1457.8
42.5°	1528.8	1498.6	1416.5	1352.1	1298.2	1232.7	1225.7	1244.8	1249.9	1293.7	1372.7
45°	1479.5	1443.2	1352.1	1281.6	1222.7	1155.7	1148.6	1163.2	1170.8	1212.1	1288.1
47.5°	1427.1	1384.8	1285.6	1207.1	1146.1	1079.2	1070.6	1085.2	1091.2	1132.0	1204.0
50°	1372.2	1320.9	1217.1	1130.5	1070.1	1004.1	991.5	1008.7	1014.2	1052.5	1123.0
52.5°	1311.8	1254.9	1144.1	1053.5	993.0	930.1	915.0	931.6	938.2	975.4	1040.4
55°	1247.8	1186.4	1070.6	982.5	917.0	855.6	843.0	849.5	863.6	898.9	959.3
57.5°	1175.8	1114.9	993.0	903.4	840.5	781.5	771.0	777.0	790.1	824.3	878.7
60°	1099.3	1034.8	914.0	824.3	763.4	707.5	697.9	703.5	717.6	748.8	799.2
62.5°	1023.8	951.2	832.4	743.3	687.9	636.0	633.5	631.5	644.6	674.8	719.1
65°	932.1	862.6	747.3	662.7	612.3	565.5	555.4	560.0	572.6	600.3	646.6
67.5°	833.9	771.0	660.2	582.1	537.3	495.5	487.0	489.0	502.1	526.2	566.5
70°	729.7	674.3	571.0	501.1	463.3	424.0	418.5	419.0	431.6	452.7	488.0
72.5°	620.4	570.5	480.9	421.0	389.8	361.6	356.5	350.5	362.1	380.2	410.4
75°	509.1	465.3	391.3	342.4	317.8	294.1	289.6	283.5	295.1	310.7	334.4
77.5°	396.8	361.6	304.2	266.4	247.3	229.6	225.6	219.1	230.6	242.2	260.8
80°	287.0	261.4	227.1	187.3	180.8	169.2	165.2	158.1	169.2	176.8	190.9
82.5°	185.3	168.2	148.6	120.9	119.8	111.3	109.3	101.2	111.3	115.8	126.4
85°	93.7	85.6	80.6	61.4	63.4	57.9	57.4	48.8	56.9	58.9	65.0
87.5°	26.7	28.2	25.2	15.1	19.1	18.1	18.1	13.1	18.1	18.1	20.6
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: P837867

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-4STD-30-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8	2158.8
2.5°	2160.8	2169.4	2171.4	2170.9	2176.4	2206.6	2196.6	2206.6
5°	2165.9	2185.0	2190.0	2197.1	2206.1	2240.4	2229.3	2241.4
7.5°	2168.9	2197.6	2208.7	2222.3	2236.9	2275.1	2266.1	2278.2
10°	2168.9	2206.1	2222.3	2244.9	2264.6	2308.9	2300.3	2314.4
12.5°	2159.8	2207.7	2230.3	2262.0	2287.2	2335.1	2331.5	2341.6
15°	2141.2	2200.1	2231.3	2272.1	2303.3	2356.7	2355.2	2367.3
17.5°	2116.0	2187.0	2224.8	2276.1	2315.4	2375.3	2378.9	2385.4
20°	2084.3	2162.3	2211.7	2274.6	2324.0	2389.9	2394.5	2403.5
22.5°	2042.5	2132.6	2192.0	2268.1	2325.0	2396.0	2404.0	2412.6
25°	1993.1	2096.9	2166.4	2255.5	2319.9	2395.5	2406.6	2414.1
27.5°	1936.7	2050.5	2133.6	2235.3	2305.8	2387.4	2401.0	2410.1
30°	1871.3	2001.2	2096.4	2209.2	2286.7	2372.3	2386.9	2396.0
32.5°	1803.8	1946.8	2052.1	2175.4	2259.0	2348.1	2360.7	2367.8
35°	1730.3	1880.8	1998.7	2132.1	2223.3	2309.4	2318.9	2326.5
37.5°	1650.2	1809.3	1937.7	2083.3	2172.9	2255.5	2264.1	2272.6
40°	1567.6	1734.3	1869.3	2023.3	2113.0	2189.5	2198.6	2204.6
42.5°	1484.5	1651.2	1796.2	1952.8	2042.0	2115.5	2121.0	2127.1
45°	1400.4	1565.1	1714.2	1874.8	1962.9	2031.9	2033.9	2039.0
47.5°	1314.8	1476.0	1624.0	1785.7	1872.8	1935.7	1937.7	1941.8
50°	1228.7	1386.8	1527.8	1689.5	1774.6	1841.1	1832.0	1836.0
52.5°	1144.1	1293.2	1437.2	1585.7	1669.8	1728.8	1731.3	1723.2
55°	1061.0	1201.5	1334.0	1477.0	1557.0	1602.9	1601.4	1604.4
57.5°	976.9	1108.9	1230.2	1361.2	1439.2	1482.5	1491.6	1481.0
60°	891.3	1015.2	1124.0	1242.3	1317.8	1354.1	1364.7	1354.6
62.5°	806.2	920.0	1018.7	1122.0	1192.0	1236.8	1235.8	1224.7
65°	721.1	824.3	912.5	1000.1	1061.0	1105.8	1103.8	1093.8
67.5°	642.6	727.7	806.7	877.7	930.6	961.3	971.9	959.8
70°	555.9	629.5	699.0	755.9	799.7	827.4	837.4	826.9
72.5°	469.3	531.8	580.6	635.5	669.2	692.4	703.0	692.9
75°	383.7	435.1	474.9	517.7	541.3	561.0	573.1	563.0
77.5°	300.6	340.4	372.1	403.4	430.6	435.1	445.7	439.1
80°	221.6	250.3	273.4	294.1	313.7	315.7	324.3	320.3
82.5°	147.5	166.7	172.7	194.4	207.0	205.0	213.5	210.5
85°	78.1	89.6	100.2	106.8	113.8	107.3	114.8	111.8
87.5°	26.2	27.7	24.2	34.2	37.8	32.2	36.8	35.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)