

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: P837753

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2STD-40-120-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: P837753
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
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

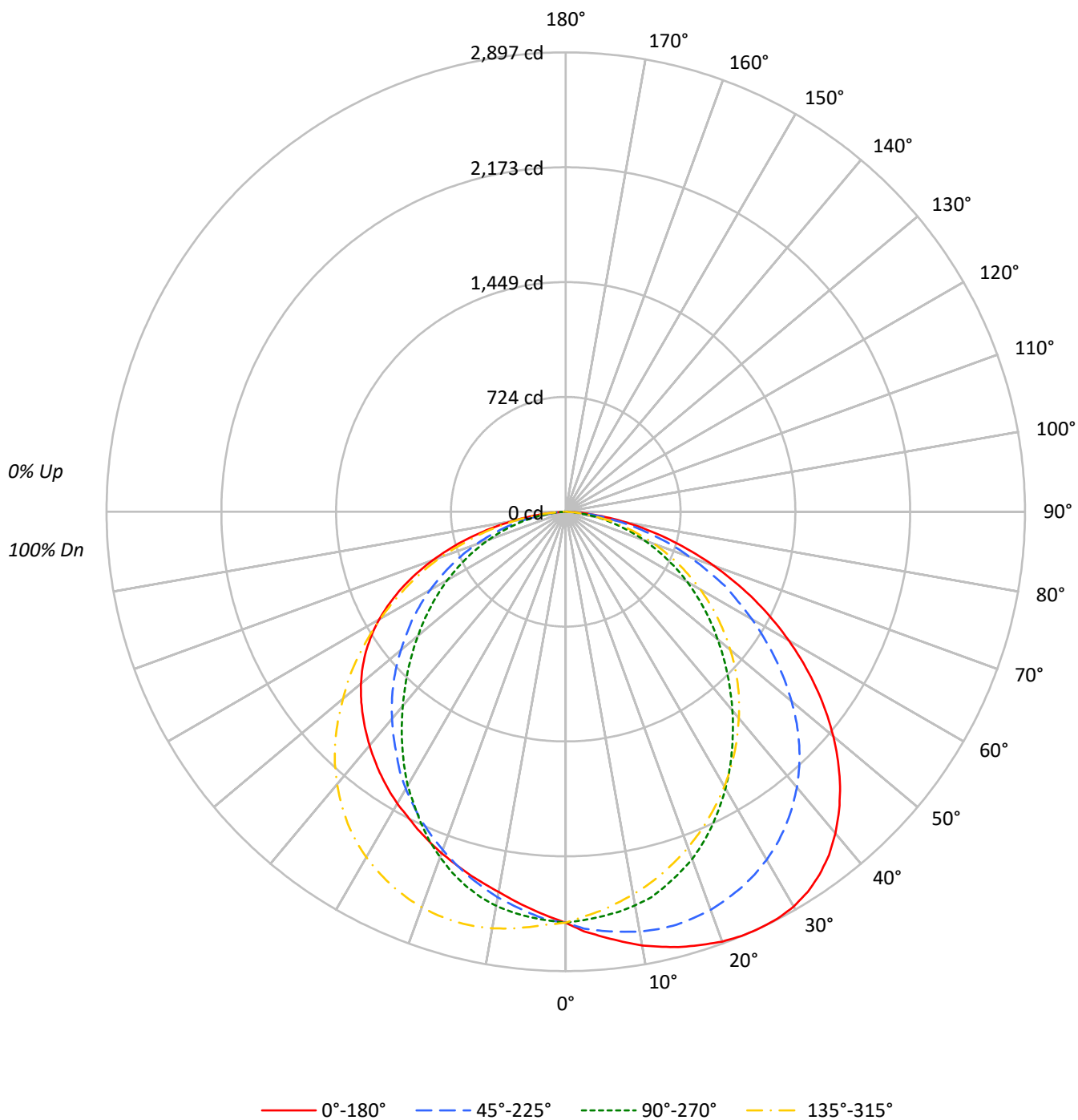
Lumens per Lamp: N/A
Luminaire Lumens: 7601.7 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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



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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°	6972	6972	6972	6972
5°	7267	6922	6792	6934
10°	7590	6887	6654	6897
15°	7915	6799	6589	6801
20°	8261	6676	6560	6637
25°	8603	6489	6559	6423
30°	8936	6263	6603	6194
35°	9173	6006	6669	5911
40°	9295	5747	6762	5618
45°	9313	5486	6893	5348
50°	9225	5235	7062	5096
55°	9034	5002	7219	4863
60°	8750	4759	7316	4635
65°	8358	4479	7277	4376
70°	7808	4151	7019	4076
75°	7025	3701	6441	3683
80°	5957	3101	5413	3147
85°	4143	2053	3433	2109

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.0	3.2
10°-20°	712.4	9.4
20°-30°	1091.7	14.4
30°-40°	1327.5	17.5
40°-50°	1380.0	18.2
50°-60°	1246.5	16.4
60°-70°	947.7	12.5
70°-80°	528.3	7.0
80°-90°	121.6	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°	2050.1	27.0
0°-40°	3377.5	44.4
0°-60°	6004.0	79.0
0°-90°	7601.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7601.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2591	2591	2591	2591	2591	
5°	2690	2563	2514	2567	2690	259
15°	2841	2440	2365	2441	2841	806
25°	2897	2186	2209	2163	2897	1338
35°	2792	1828	2030	1799	2792	1744
45°	2447	1442	1811	1405	2447	1884
55°	1926	1066	1539	1036	1926	1719
65°	1313	704	1143	687	1313	1297
75°	676	356	620	354	676	718
85°	134	66	111	68	134	169
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°	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0
2.5°	2648.4	2609.7	2610.3	2644.2	2618.2	2630.9	2594.6	2608.5	2604.3	2607.3	2577.7
5°	2690.1	2648.4	2647.8	2676.8	2647.8	2653.3	2607.3	2616.4	2603.1	2594.6	2562.6
7.5°	2734.2	2692.5	2688.3	2713.7	2675.6	2671.4	2620.6	2620.6	2596.4	2575.3	2545.1
10°	2777.8	2734.9	2729.4	2748.8	2701.6	2687.7	2626.1	2616.4	2584.4	2552.9	2520.3
12.5°	2810.4	2766.9	2762.7	2774.7	2721.6	2696.2	2626.1	2607.3	2560.2	2516.1	2490.7
15°	2841.2	2796.5	2785.0	2791.1	2730.0	2696.2	2617.6	2588.6	2528.2	2470.1	2440.5
17.5°	2863.0	2820.1	2808.6	2808.0	2734.2	2685.9	2599.5	2559.6	2487.1	2416.9	2387.3
20°	2884.7	2841.8	2827.3	2816.4	2733.0	2672.0	2572.9	2519.1	2434.5	2355.9	2331.1
22.5°	2895.6	2851.5	2835.8	2819.5	2725.2	2646.6	2540.2	2471.9	2375.2	2281.6	2261.0
25°	2897.4	2852.1	2835.2	2811.6	2709.5	2616.4	2497.9	2415.1	2306.9	2203.0	2185.5
27.5°	2892.6	2843.0	2826.1	2797.7	2685.9	2579.5	2447.8	2350.5	2234.4	2119.6	2100.9
30°	2875.7	2825.5	2809.2	2772.3	2652.7	2534.2	2392.8	2278.5	2154.0	2032.0	2015.6
32.5°	2841.8	2792.9	2779.6	2742.7	2616.4	2481.6	2328.7	2201.2	2065.2	1948.5	1924.4
35°	2792.3	2743.3	2734.9	2696.2	2565.6	2418.8	2258.6	2116.6	1970.9	1851.8	1828.3
37.5°	2727.6	2686.5	2673.8	2635.7	2505.8	2347.4	2178.2	2024.7	1874.8	1746.7	1732.2
40°	2646.0	2607.3	2597.7	2563.8	2436.3	2268.3	2091.2	1929.8	1775.7	1656.6	1636.1
42.5°	2552.9	2516.7	2511.2	2476.2	2350.5	2180.6	1996.9	1831.3	1672.3	1557.5	1537.0
45°	2447.2	2412.1	2410.9	2377.7	2256.8	2083.3	1897.8	1731.6	1571.4	1452.3	1441.5
47.5°	2330.5	2299.1	2299.1	2268.3	2152.2	1976.3	1795.6	1627.6	1469.9	1364.7	1345.4
50°	2203.6	2174.0	2164.9	2149.8	2036.8	1859.7	1688.1	1526.1	1369.5	1269.2	1250.5
52.5°	2068.2	2042.8	2048.9	2021.1	1911.7	1738.2	1579.3	1411.8	1268.6	1177.3	1158.6
55°	1925.6	1889.3	1894.8	1884.5	1781.1	1613.1	1457.2	1317.6	1169.5	1083.7	1066.1
57.5°	1777.5	1730.4	1749.7	1743.7	1642.1	1485.0	1345.4	1210.6	1071.0	991.8	974.9
60°	1625.8	1580.5	1600.4	1595.0	1499.5	1356.8	1229.9	1104.8	973.1	901.1	884.2
62.5°	1469.9	1428.2	1446.3	1442.1	1354.4	1225.7	1115.1	1000.3	874.5	809.9	794.2
65°	1312.7	1272.8	1289.2	1286.1	1205.1	1107.2	997.2	892.1	775.4	719.2	703.5
67.5°	1152.0	1115.1	1130.2	1130.2	1055.9	962.2	878.8	782.7	678.1	629.8	615.3
70°	992.4	958.0	971.3	970.0	907.2	831.0	759.1	673.3	579.6	539.7	527.6
72.5°	831.6	801.4	813.5	812.3	759.7	710.8	639.4	565.1	483.5	451.5	440.6
75°	675.7	647.3	658.8	657.6	614.7	568.7	521.0	459.3	389.2	366.9	356.0
77.5°	527.0	498.0	507.7	507.7	476.3	443.0	404.9	357.2	307.6	283.5	275.6
80°	384.4	370.5	365.7	366.3	345.1	323.3	304.0	258.1	221.8	205.5	200.1
82.5°	252.6	241.2	236.3	237.5	225.4	212.1	200.1	168.0	143.8	134.2	131.2
85°	134.2	125.7	121.5	124.5	122.1	114.8	108.8	87.0	71.9	68.3	66.5
87.5°	42.3	36.9	33.8	44.7	38.1	33.8	32.6	26.0	19.9	19.9	19.3
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°	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0
2.5°	2587.4	2587.4	2563.8	2558.4	2556.0	2559.0	2535.4	2531.2	2565.0	2553.5	2527.5
5°	2566.8	2565.6	2532.4	2526.3	2526.3	2522.7	2496.1	2490.1	2523.9	2514.3	2485.8
7.5°	2541.4	2537.8	2498.5	2494.3	2488.3	2485.8	2456.2	2452.0	2481.0	2475.0	2448.4
10°	2510.6	2507.0	2460.5	2457.4	2450.8	2446.0	2418.2	2415.1	2444.7	2435.1	2413.9
12.5°	2470.1	2463.5	2415.7	2412.7	2407.3	2405.5	2378.3	2377.1	2409.7	2400.0	2377.7
15°	2416.9	2411.5	2358.3	2359.5	2360.1	2360.1	2338.4	2337.2	2369.2	2365.0	2340.8
17.5°	2358.3	2351.1	2300.3	2303.9	2308.2	2313.0	2296.1	2299.1	2332.9	2327.5	2305.7
20°	2291.8	2284.6	2235.0	2245.3	2254.4	2264.0	2253.2	2261.6	2293.0	2290.6	2274.3
22.5°	2217.5	2210.2	2164.3	2180.0	2195.1	2213.3	2208.4	2218.1	2251.3	2250.7	2236.2
25°	2126.8	2128.7	2088.2	2107.5	2132.9	2158.3	2160.1	2175.8	2212.7	2209.0	2195.7
27.5°	2042.2	2044.6	2001.7	2034.4	2068.2	2100.9	2108.7	2130.5	2167.9	2164.9	2153.4
30°	1953.4	1956.4	1914.7	1959.4	2000.5	2040.4	2057.3	2086.9	2125.0	2125.0	2112.9
32.5°	1860.9	1866.3	1822.8	1882.7	1930.4	1977.0	2006.6	2037.4	2080.9	2079.7	2069.4
35°	1766.0	1772.1	1732.2	1808.3	1856.1	1912.9	1949.8	1990.9	2029.5	2030.1	2022.3
37.5°	1669.3	1676.6	1640.3	1723.7	1778.1	1845.2	1892.3	1933.4	1976.3	1978.8	1971.5
40°	1573.2	1581.1	1549.6	1630.0	1698.9	1773.9	1828.3	1876.6	1923.8	1925.0	1920.1
42.5°	1477.1	1485.6	1462.0	1540.6	1618.5	1698.9	1763.0	1818.0	1866.3	1869.4	1863.9
45°	1383.4	1390.7	1373.8	1459.6	1534.5	1622.2	1695.9	1758.2	1807.1	1811.3	1809.5
47.5°	1290.4	1297.0	1281.9	1360.5	1446.9	1540.0	1625.2	1694.1	1746.1	1750.9	1749.7
50°	1199.1	1204.5	1188.2	1270.4	1356.2	1455.4	1544.2	1624.0	1682.0	1686.8	1686.2
52.5°	1108.4	1113.9	1100.0	1186.4	1264.4	1368.9	1465.6	1552.1	1609.5	1616.7	1617.9
55°	1020.8	1023.2	1012.3	1095.2	1170.7	1280.1	1391.3	1475.3	1532.7	1538.8	1542.4
57.5°	933.2	933.8	924.7	1003.9	1076.4	1188.2	1304.9	1393.1	1447.5	1453.6	1459.0
60°	846.1	845.5	835.3	912.0	981.5	1092.1	1213.6	1301.2	1353.8	1359.3	1366.5
62.5°	759.7	757.9	748.8	819.5	884.8	994.2	1116.3	1200.9	1251.1	1254.7	1264.4
65°	673.9	672.1	663.6	728.9	788.1	892.7	1012.3	1092.7	1138.1	1142.9	1141.1
67.5°	589.3	585.7	579.0	637.6	691.4	788.1	903.0	979.7	1017.2	1021.4	1032.9
70°	504.7	500.4	485.3	547.6	594.7	681.1	788.1	856.4	887.8	892.1	890.3
72.5°	421.3	417.0	400.7	458.1	498.0	573.6	669.1	725.9	753.1	756.7	756.7
75°	340.3	337.9	327.6	371.1	404.3	466.0	547.0	594.1	615.3	619.5	618.3
77.5°	262.3	260.5	250.2	287.7	313.7	359.6	424.9	461.8	477.5	482.3	492.6
80°	188.0	187.4	171.0	207.9	219.4	258.1	305.8	334.2	342.7	349.3	356.6
82.5°	120.3	120.9	104.6	136.0	140.8	165.6	195.2	212.7	218.8	224.2	229.7
85°	58.6	61.0	52.0	71.9	72.5	85.2	97.9	104.6	107.0	111.2	116.0
87.5°	15.1	17.5	9.7	20.5	18.1	23.6	27.2	29.0	28.4	31.4	33.2
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°	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0
2.5°	2536.0	2555.4	2545.7	2577.1	2589.2	2569.9	2603.7	2604.3	2580.1	2608.5	2624.3
5°	2496.7	2516.7	2510.6	2543.3	2558.4	2541.4	2582.5	2590.4	2566.8	2598.9	2624.3
7.5°	2456.8	2480.4	2472.5	2505.8	2523.9	2510.6	2554.7	2567.4	2549.3	2584.4	2618.2
10°	2422.4	2442.3	2433.9	2468.9	2484.6	2473.8	2517.3	2540.8	2523.9	2566.8	2607.3
12.5°	2388.5	2404.9	2395.2	2424.2	2439.3	2425.4	2478.6	2500.4	2488.3	2533.0	2585.0
15°	2345.0	2363.2	2349.9	2375.8	2387.3	2375.2	2418.8	2456.2	2441.1	2490.1	2547.5
17.5°	2311.8	2322.1	2303.9	2324.5	2331.1	2314.8	2358.9	2395.8	2384.9	2438.1	2504.6
20°	2274.9	2283.4	2258.0	2269.5	2268.9	2248.3	2288.8	2325.1	2317.8	2376.5	2452.0
22.5°	2233.8	2238.0	2208.4	2210.8	2209.6	2175.8	2212.1	2248.9	2245.9	2305.1	2389.7
25°	2190.3	2190.9	2152.8	2151.6	2138.3	2098.4	2130.5	2172.2	2163.1	2227.2	2316.0
27.5°	2147.4	2141.3	2095.4	2084.5	2063.4	2015.6	2044.0	2081.5	2076.1	2138.9	2237.4
30°	2101.5	2093.6	2037.4	2017.4	1986.6	1931.6	1955.2	1990.2	1993.3	2048.3	2151.6
32.5°	2057.9	2038.0	1975.7	1946.7	1908.1	1844.0	1856.7	1892.3	1897.2	1952.8	2059.1
35°	2001.7	1988.4	1911.7	1862.1	1824.0	1753.9	1767.2	1792.0	1799.3	1853.7	1961.8
37.5°	1948.5	1927.4	1845.8	1785.4	1736.4	1662.7	1666.3	1691.7	1698.9	1753.9	1860.9
40°	1893.5	1863.3	1775.7	1705.0	1648.8	1571.4	1567.2	1593.8	1599.2	1653.0	1749.7
42.5°	1834.9	1798.7	1700.1	1622.8	1558.1	1479.5	1471.1	1494.0	1500.1	1552.7	1647.6
45°	1775.7	1732.2	1622.8	1538.2	1467.5	1387.1	1378.6	1396.1	1405.2	1454.8	1546.0
47.5°	1712.8	1662.1	1543.0	1448.7	1375.6	1295.2	1284.9	1302.5	1309.7	1358.7	1445.1
50°	1647.0	1585.3	1460.8	1356.8	1284.3	1205.1	1190.0	1210.6	1217.2	1263.2	1347.8
52.5°	1574.4	1506.1	1373.2	1264.4	1191.9	1116.3	1098.2	1118.1	1126.0	1170.7	1248.7
55°	1497.7	1423.9	1284.9	1179.2	1100.6	1026.9	1011.7	1019.6	1036.5	1078.8	1151.4
57.5°	1411.2	1338.1	1191.9	1084.3	1008.7	938.0	925.3	932.6	948.3	989.4	1054.7
60°	1319.4	1242.0	1097.0	989.4	916.3	849.2	837.7	844.3	861.3	898.7	959.2
62.5°	1228.7	1141.7	999.1	892.1	825.6	763.3	760.3	757.9	773.6	809.9	863.1
65°	1118.7	1035.3	896.9	795.4	734.9	678.7	666.6	672.1	687.2	720.4	776.0
67.5°	1000.9	925.3	792.4	698.7	644.9	594.7	584.4	586.9	602.6	631.6	679.9
70°	875.8	809.3	685.4	601.4	556.0	508.9	502.2	502.9	518.0	543.3	585.7
72.5°	744.6	684.8	577.2	505.3	467.8	434.0	427.9	420.7	434.6	456.3	492.6
75°	611.0	558.5	469.6	411.0	381.4	353.0	347.5	340.3	354.2	372.9	401.3
77.5°	476.3	434.0	365.1	319.7	296.8	275.6	270.8	262.9	276.8	290.7	313.1
80°	344.5	313.7	272.6	224.8	217.0	203.1	198.2	189.8	203.1	212.1	229.1
82.5°	222.4	201.9	178.3	145.1	143.8	133.6	131.2	121.5	133.6	139.0	151.7
85°	112.4	102.7	96.7	73.7	76.2	69.5	68.9	58.6	68.3	70.7	78.0
87.5°	32.0	33.8	30.2	18.1	23.0	21.8	21.8	15.7	21.8	21.8	24.8
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: P837753

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

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0
2.5°	2593.4	2603.7	2606.1	2605.5	2612.2	2648.4	2636.3	2648.4
5°	2599.5	2622.4	2628.5	2636.9	2647.8	2688.9	2675.6	2690.1
7.5°	2603.1	2637.5	2650.8	2667.2	2684.7	2730.6	2719.7	2734.2
10°	2603.1	2647.8	2667.2	2694.4	2717.9	2771.1	2760.8	2777.8
12.5°	2592.2	2649.6	2676.8	2714.9	2745.1	2802.5	2798.3	2810.4
15°	2569.9	2640.6	2678.0	2727.0	2764.5	2828.5	2826.7	2841.2
17.5°	2539.6	2624.9	2670.2	2731.8	2779.0	2850.9	2855.1	2863.0
20°	2501.6	2595.2	2654.5	2730.0	2789.2	2868.4	2873.9	2884.7
22.5°	2451.4	2559.6	2630.9	2722.2	2790.5	2875.7	2885.3	2895.6
25°	2392.2	2516.7	2600.1	2707.1	2784.4	2875.1	2888.4	2897.4
27.5°	2324.5	2461.1	2560.8	2682.9	2767.5	2865.4	2881.7	2892.6
30°	2245.9	2401.8	2516.1	2651.4	2744.5	2847.3	2864.8	2875.7
32.5°	2164.9	2336.6	2462.9	2611.0	2711.3	2818.3	2833.4	2841.8
35°	2076.7	2257.4	2398.8	2559.0	2668.4	2771.7	2783.2	2792.3
37.5°	1980.6	2171.6	2325.7	2500.4	2607.9	2707.1	2717.3	2727.6
40°	1881.5	2081.5	2243.5	2428.4	2536.0	2627.9	2638.8	2646.0
42.5°	1781.7	1981.8	2155.9	2343.8	2450.8	2539.0	2545.7	2552.9
45°	1680.8	1878.4	2057.3	2250.1	2355.9	2438.7	2441.1	2447.2
47.5°	1578.1	1771.5	1949.1	2143.2	2247.7	2323.3	2325.7	2330.5
50°	1474.7	1664.5	1833.7	2027.7	2129.9	2209.6	2198.8	2203.6
52.5°	1373.2	1552.1	1724.9	1903.2	2004.1	2074.9	2077.9	2068.2
55°	1273.4	1442.1	1601.0	1772.7	1868.8	1923.8	1922.0	1925.6
57.5°	1172.5	1330.9	1476.5	1633.7	1727.3	1779.3	1790.2	1777.5
60°	1069.8	1218.4	1349.0	1491.0	1581.7	1625.2	1637.9	1625.8
62.5°	967.6	1104.2	1222.7	1346.6	1430.6	1484.4	1483.2	1469.9
65°	865.5	989.4	1095.2	1200.3	1273.4	1327.2	1324.8	1312.7
67.5°	771.2	873.3	968.2	1053.4	1116.9	1153.8	1166.5	1152.0
70°	667.2	755.5	838.9	907.2	959.8	993.0	1005.1	992.4
72.5°	563.3	638.2	696.9	762.7	803.2	831.0	843.7	831.6
75°	460.5	522.2	569.9	621.3	649.7	673.3	687.8	675.7
77.5°	360.8	408.6	446.6	484.1	516.8	522.2	534.9	527.0
80°	265.9	300.4	328.2	353.0	376.5	379.0	389.2	384.4
82.5°	177.1	200.1	207.3	233.3	248.4	246.0	256.3	252.6
85°	93.7	107.6	120.3	128.1	136.6	128.7	137.8	134.2
87.5°	31.4	33.2	29.0	41.1	45.3	38.7	44.1	42.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)