

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: P837728

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-3LO-27-120-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: P837728
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-LD4-3LO-27-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

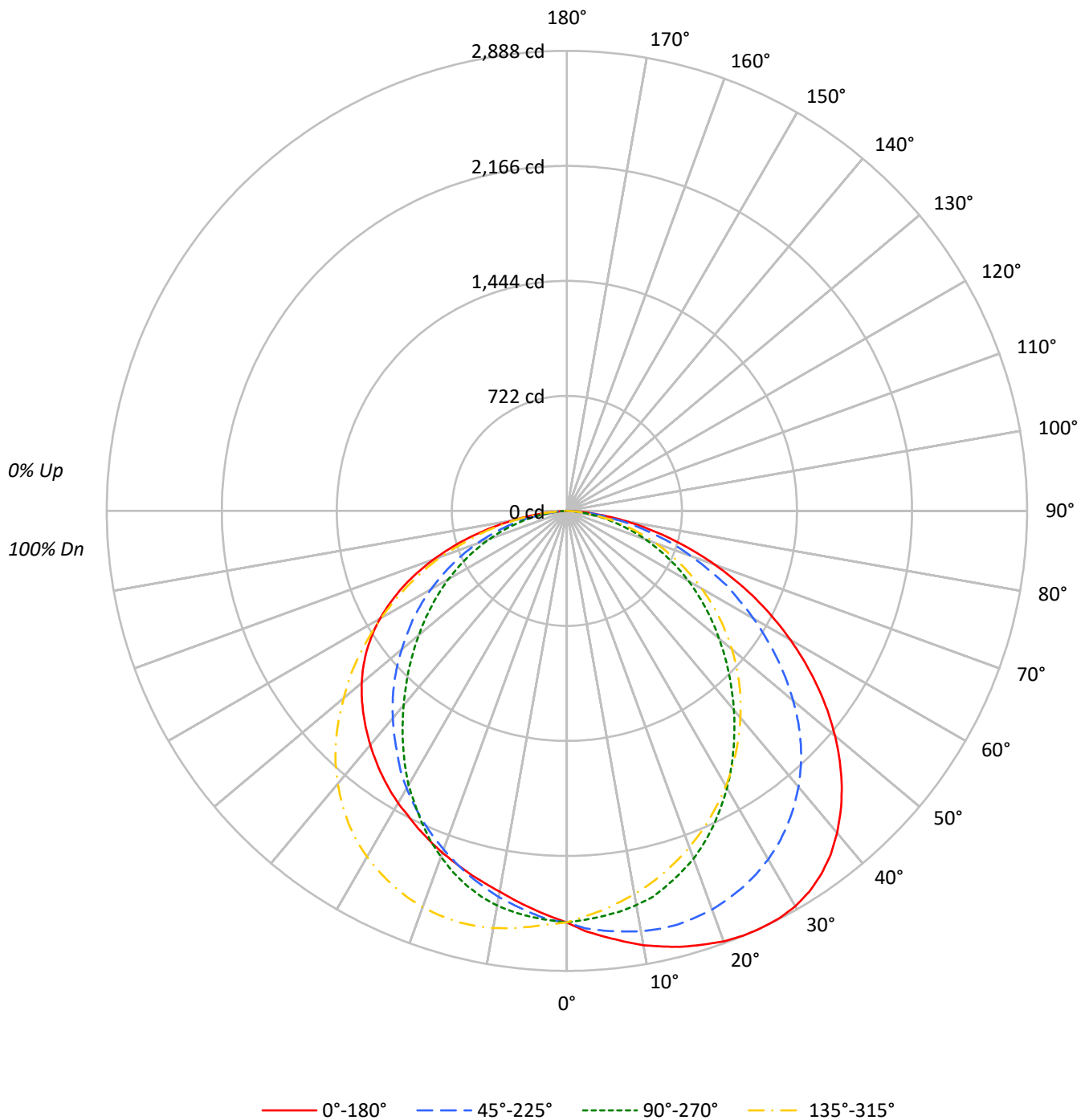
Lumens per Lamp: N/A
Luminaire Lumens: 7578.2 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	6951	6951	6951	6951
5°	7244	6901	6771	6912
10°	7567	6865	6633	6875
15°	7891	6778	6568	6780
20°	8235	6655	6539	6617
25°	8576	6469	6539	6403
30°	8908	6244	6583	6174
35°	9144	5987	6649	5892
40°	9266	5729	6741	5600
45°	9284	5469	6872	5331
50°	9197	5219	7040	5080
55°	9006	4986	7197	4848
60°	8723	4744	7293	4621
65°	8333	4465	7255	4362
70°	7784	4139	6997	4063
75°	7004	3690	6421	3671
80°	5938	3090	5398	3137
85°	4131	2047	3424	2103

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.2	3.2
10°-20°	710.2	9.4
20°-30°	1088.3	14.4
30°-40°	1323.4	17.5
40°-50°	1375.7	18.2
50°-60°	1242.7	16.4
60°-70°	944.8	12.5
70°-80°	526.7	7.0
80°-90°	121.3	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°	2043.7	27.0
0°-40°	3367.1	44.4
0°-60°	5985.5	79.0
0°-90°	7578.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7578.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2583	2583	2583	2583	2583	
5°	2682	2555	2506	2559	2682	259
15°	2832	2433	2358	2434	2832	803
25°	2888	2179	2202	2156	2888	1334
35°	2784	1823	2024	1794	2784	1739
45°	2440	1437	1806	1401	2440	1878
55°	1920	1063	1534	1033	1920	1714
65°	1309	701	1139	685	1309	1293
75°	674	355	618	353	674	716
85°	134	66	111	68	134	168
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°	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0
2.5°	2640.2	2601.7	2602.3	2636.0	2610.1	2622.8	2586.6	2600.5	2596.3	2599.3	2569.7
5°	2681.8	2640.2	2639.6	2668.6	2639.6	2645.1	2599.3	2608.3	2595.0	2586.6	2554.7
7.5°	2725.8	2684.2	2680.0	2705.3	2667.3	2663.1	2612.5	2612.5	2588.4	2567.3	2537.2
10°	2769.2	2726.4	2721.0	2740.3	2693.3	2679.4	2617.9	2608.3	2576.4	2545.0	2512.5
12.5°	2801.7	2758.3	2754.1	2766.2	2713.1	2687.8	2617.9	2599.3	2552.3	2508.3	2483.0
15°	2832.4	2787.9	2776.4	2782.4	2721.6	2687.8	2609.5	2580.6	2520.3	2462.5	2433.0
17.5°	2854.1	2811.3	2799.9	2799.3	2725.8	2677.6	2591.4	2551.7	2479.4	2409.5	2379.9
20°	2875.8	2833.0	2818.6	2807.7	2724.6	2663.7	2564.9	2511.3	2426.9	2348.6	2323.9
22.5°	2886.7	2842.7	2827.0	2810.7	2716.8	2638.4	2532.4	2464.3	2367.9	2274.5	2254.0
25°	2888.5	2843.3	2826.4	2802.9	2701.1	2608.3	2490.2	2407.7	2299.8	2196.2	2178.7
27.5°	2883.7	2834.2	2817.4	2789.1	2677.6	2571.5	2440.2	2343.2	2227.5	2113.0	2094.4
30°	2866.8	2816.8	2800.5	2763.8	2644.5	2526.4	2385.4	2271.5	2147.4	2025.7	2009.4
32.5°	2833.0	2784.2	2771.0	2734.2	2608.3	2473.9	2321.5	2194.4	2058.8	1942.5	1918.4
35°	2783.6	2734.8	2726.4	2687.8	2557.7	2411.3	2251.6	2110.0	1964.8	1846.1	1822.6
37.5°	2719.2	2678.2	2665.5	2627.6	2498.0	2340.2	2171.5	2018.4	1869.0	1741.3	1726.8
40°	2637.8	2599.3	2589.6	2555.9	2428.8	2261.3	2084.7	1923.8	1770.2	1651.5	1631.0
42.5°	2545.0	2508.9	2503.5	2468.5	2343.2	2173.9	1990.7	1825.6	1667.2	1552.7	1532.2
45°	2439.6	2404.6	2403.4	2370.3	2249.8	2076.9	1891.9	1726.2	1566.5	1447.9	1437.0
47.5°	2323.3	2292.0	2292.0	2261.3	2145.6	1970.2	1790.1	1622.6	1465.3	1360.5	1341.2
50°	2196.8	2167.3	2158.2	2143.2	2030.5	1853.9	1682.8	1521.4	1365.3	1265.3	1246.6
52.5°	2061.8	2036.5	2042.5	2014.8	1905.8	1732.8	1574.4	1407.5	1264.7	1173.7	1155.0
55°	1919.6	1883.5	1888.9	1878.7	1775.6	1608.1	1452.7	1313.5	1165.9	1080.3	1062.8
57.5°	1772.0	1725.0	1744.3	1738.3	1637.0	1480.4	1341.2	1206.8	1067.7	988.7	971.9
60°	1620.8	1575.6	1595.5	1590.0	1494.8	1352.7	1226.1	1101.4	970.1	898.4	881.5
62.5°	1465.3	1423.8	1441.8	1437.6	1350.2	1221.9	1111.6	997.2	871.8	807.4	791.7
65°	1308.7	1268.9	1285.2	1282.2	1201.4	1103.8	994.2	889.3	773.0	717.0	701.3
67.5°	1148.4	1111.6	1126.7	1126.7	1052.6	959.2	876.1	780.3	676.0	627.8	613.4
70°	989.3	955.0	968.2	967.0	904.4	828.5	756.8	671.2	577.8	538.0	526.0
72.5°	829.1	798.9	811.0	809.8	757.4	708.6	637.5	563.4	482.0	450.1	439.2
75°	673.6	645.3	656.7	655.5	612.8	567.0	519.4	457.9	388.0	365.7	354.9
77.5°	525.4	496.5	506.1	506.1	474.8	441.6	403.7	356.1	306.7	282.6	274.7
80°	383.2	369.3	364.5	365.1	344.0	322.3	303.1	257.3	221.1	204.9	199.4
82.5°	251.9	240.4	235.6	236.8	224.7	211.5	199.4	167.5	143.4	133.8	130.7
85°	133.8	125.3	121.1	124.1	121.7	114.5	108.5	86.8	71.7	68.1	66.3
87.5°	42.2	36.8	33.7	44.6	38.0	33.7	32.5	25.9	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°	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0
2.5°	2579.4	2579.4	2555.9	2550.5	2548.0	2551.1	2527.6	2523.3	2557.1	2545.6	2519.7
5°	2558.9	2557.7	2524.6	2518.5	2518.5	2514.9	2488.4	2482.4	2516.1	2506.5	2478.2
7.5°	2533.6	2530.0	2490.8	2486.6	2480.6	2478.2	2448.6	2444.4	2473.3	2467.3	2440.8
10°	2502.9	2499.2	2452.9	2449.8	2443.2	2438.4	2410.7	2407.7	2437.2	2427.5	2406.5
12.5°	2462.5	2455.9	2408.3	2405.3	2399.8	2398.0	2370.9	2369.7	2402.2	2392.6	2370.3
15°	2409.5	2404.0	2351.0	2352.2	2352.8	2352.8	2331.1	2329.9	2361.9	2357.7	2333.6
17.5°	2351.0	2343.8	2293.2	2296.8	2301.0	2305.8	2289.0	2292.0	2325.7	2320.3	2298.6
20°	2284.7	2277.5	2228.1	2238.4	2247.4	2257.0	2246.2	2254.6	2286.0	2283.5	2267.3
22.5°	2210.6	2203.4	2157.6	2173.3	2188.3	2206.4	2201.6	2211.2	2244.4	2243.8	2229.3
25°	2120.3	2122.1	2081.7	2101.0	2126.3	2151.6	2153.4	2169.1	2205.8	2202.2	2188.9
27.5°	2035.9	2038.3	1995.5	2028.1	2061.8	2094.4	2102.2	2123.9	2161.2	2158.2	2146.8
30°	1947.3	1950.4	1908.8	1953.4	1994.3	2034.1	2051.0	2080.5	2118.5	2118.5	2106.4
32.5°	1855.2	1860.6	1817.2	1876.8	1924.4	1970.8	2000.4	2031.1	2074.5	2073.3	2063.0
35°	1760.6	1766.6	1726.8	1802.7	1850.3	1907.0	1943.7	1984.7	2023.3	2023.9	2016.0
37.5°	1664.2	1671.4	1635.2	1718.4	1772.6	1839.5	1886.5	1927.5	1970.2	1972.6	1965.4
40°	1568.4	1576.2	1544.9	1625.0	1693.7	1768.4	1822.6	1870.8	1917.8	1919.0	1914.2
42.5°	1472.6	1481.0	1457.5	1535.8	1613.5	1693.7	1757.5	1812.4	1860.6	1863.6	1858.2
45°	1379.2	1386.4	1369.5	1455.1	1529.8	1617.2	1690.7	1752.7	1801.5	1805.7	1803.9
47.5°	1286.4	1293.0	1277.9	1356.3	1442.4	1535.2	1620.2	1688.9	1740.7	1745.5	1744.3
50°	1195.4	1200.8	1184.6	1266.5	1352.1	1450.9	1539.4	1619.0	1676.8	1681.6	1681.0
52.5°	1105.0	1110.4	1096.6	1182.7	1260.5	1364.7	1461.1	1547.3	1604.5	1611.7	1612.9
55°	1017.7	1020.1	1009.2	1091.8	1167.1	1276.1	1387.0	1470.7	1528.0	1534.0	1537.6
57.5°	930.3	930.9	921.9	1000.8	1073.1	1184.6	1300.8	1388.8	1443.0	1449.1	1454.5
60°	843.5	842.9	832.7	909.2	978.5	1088.8	1209.9	1297.2	1349.6	1355.1	1362.3
62.5°	757.4	755.6	746.5	817.0	882.1	991.1	1112.9	1197.2	1247.2	1250.8	1260.5
65°	671.8	670.0	661.6	726.6	785.7	889.9	1009.2	1089.4	1134.5	1139.4	1137.6
67.5°	587.5	583.8	577.2	635.7	689.3	785.7	900.2	976.7	1014.0	1018.3	1029.7
70°	503.1	498.9	483.8	545.9	592.9	679.0	785.7	853.8	885.1	889.3	887.5
72.5°	420.0	415.7	399.5	456.7	496.5	571.8	667.0	723.6	750.7	754.4	754.4
75°	339.2	336.8	326.6	369.9	403.1	464.5	545.3	592.3	613.4	617.6	616.4
77.5°	261.5	259.7	249.4	286.8	312.7	358.5	423.6	460.3	476.0	480.8	491.1
80°	187.4	186.8	170.5	207.3	218.7	257.3	304.9	333.2	341.6	348.3	355.5
82.5°	119.9	120.5	104.2	135.6	140.4	165.1	194.6	212.1	218.1	223.5	229.0
85°	58.4	60.9	51.8	71.7	72.3	85.0	97.6	104.2	106.6	110.9	115.7
87.5°	15.1	17.5	9.6	20.5	18.1	23.5	27.1	28.9	28.3	31.3	33.1
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0
2.5°	2528.2	2547.4	2537.8	2569.1	2581.2	2561.9	2595.6	2596.3	2572.1	2600.5	2616.1
5°	2489.0	2508.9	2502.9	2535.4	2550.5	2533.6	2574.6	2582.4	2558.9	2590.8	2616.1
7.5°	2449.2	2472.7	2464.9	2498.0	2516.1	2502.9	2546.8	2559.5	2541.4	2576.4	2610.1
10°	2414.9	2434.8	2426.3	2461.3	2477.0	2466.1	2509.5	2533.0	2516.1	2558.9	2599.3
12.5°	2381.2	2397.4	2387.8	2416.7	2431.8	2417.9	2470.9	2492.6	2480.6	2525.2	2577.0
15°	2337.8	2355.8	2342.6	2368.5	2379.9	2367.9	2411.3	2448.6	2433.6	2482.4	2539.6
17.5°	2304.6	2314.9	2296.8	2317.3	2323.9	2307.6	2351.6	2388.4	2377.5	2430.6	2496.8
20°	2267.9	2276.3	2251.0	2262.5	2261.9	2241.4	2281.7	2317.9	2310.7	2369.1	2444.4
22.5°	2226.9	2231.1	2201.6	2204.0	2202.8	2169.1	2205.2	2242.0	2239.0	2298.0	2382.4
25°	2183.5	2184.1	2146.2	2145.0	2131.7	2091.9	2123.9	2165.5	2156.4	2220.3	2308.8
27.5°	2140.7	2134.7	2088.9	2078.1	2057.0	2009.4	2037.7	2075.1	2069.6	2132.3	2230.5
30°	2095.0	2087.1	2031.1	2011.2	1980.5	1925.6	1949.1	1984.1	1987.1	2041.9	2145.0
32.5°	2051.6	2031.7	1969.6	1940.7	1902.1	1838.3	1850.9	1886.5	1891.3	1946.7	2052.8
35°	1995.5	1982.3	1905.8	1856.4	1818.4	1748.5	1761.8	1786.5	1793.7	1847.9	1955.8
37.5°	1942.5	1921.4	1840.1	1779.8	1731.0	1657.5	1661.1	1686.4	1693.7	1748.5	1855.2
40°	1887.7	1857.6	1770.2	1699.7	1643.7	1566.5	1562.3	1588.8	1594.3	1647.9	1744.3
42.5°	1829.2	1793.1	1694.9	1617.8	1553.3	1475.0	1466.5	1489.4	1495.4	1547.9	1642.5
45°	1770.2	1726.8	1617.8	1533.4	1462.9	1382.8	1374.3	1391.8	1400.9	1450.3	1541.2
47.5°	1707.5	1656.9	1538.2	1444.2	1371.3	1291.2	1281.0	1298.4	1305.7	1354.5	1440.6
50°	1641.9	1580.4	1456.3	1352.7	1280.4	1201.4	1186.4	1206.8	1213.5	1259.3	1343.6
52.5°	1569.6	1501.5	1368.9	1260.5	1188.2	1112.9	1094.8	1114.7	1122.5	1167.1	1244.8
55°	1493.0	1419.5	1281.0	1175.5	1097.2	1023.7	1008.6	1016.4	1033.3	1075.5	1147.8
57.5°	1406.9	1334.0	1188.2	1080.9	1005.6	935.1	922.5	929.7	945.4	986.3	1051.4
60°	1315.3	1238.2	1093.6	986.3	913.4	846.5	835.1	841.7	858.6	895.9	956.2
62.5°	1224.9	1138.2	996.0	889.3	823.0	761.0	758.0	755.6	771.2	807.4	860.4
65°	1115.3	1032.1	894.1	792.9	732.7	676.6	664.6	670.0	685.1	718.2	773.6
67.5°	997.8	922.5	789.9	696.5	642.9	592.9	582.6	585.0	600.7	629.6	677.8
70°	873.0	806.8	683.3	599.5	554.3	507.3	500.7	501.3	516.4	541.7	583.8
72.5°	742.3	682.7	575.4	503.7	466.3	432.6	426.6	419.4	433.2	454.9	491.1
75°	609.1	556.7	468.2	409.7	380.2	351.9	346.4	339.2	353.1	371.8	400.1
77.5°	474.8	432.6	363.9	318.7	295.8	274.7	269.9	262.1	276.0	289.8	312.1
80°	343.4	312.7	271.7	224.1	216.3	202.4	197.6	189.2	202.4	211.5	228.4
82.5°	221.7	201.2	177.7	144.6	143.4	133.2	130.7	121.1	133.2	138.6	151.2
85°	112.1	102.4	96.4	73.5	75.9	69.3	68.7	58.4	68.1	70.5	77.7
87.5°	31.9	33.7	30.1	18.1	22.9	21.7	21.7	15.7	21.7	21.7	24.7
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: P837728

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-3LO-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0	2583.0
2.5°	2585.4	2595.6	2598.1	2597.5	2604.1	2640.2	2628.2	2640.2
5°	2591.4	2614.3	2620.4	2628.8	2639.6	2680.6	2667.3	2681.8
7.5°	2595.0	2629.4	2642.6	2658.9	2676.4	2722.2	2711.3	2725.8
10°	2595.0	2639.6	2658.9	2686.0	2709.5	2762.5	2752.3	2769.2
12.5°	2584.2	2641.4	2668.6	2706.5	2736.6	2793.9	2789.7	2801.7
15°	2561.9	2632.4	2669.8	2718.6	2755.9	2819.8	2818.0	2832.4
17.5°	2531.8	2616.7	2661.9	2723.4	2770.4	2842.1	2846.3	2854.1
20°	2493.8	2587.2	2646.3	2721.6	2780.6	2859.6	2865.0	2875.8
22.5°	2443.8	2551.7	2622.8	2713.7	2781.8	2866.8	2876.4	2886.7
25°	2384.8	2508.9	2592.0	2698.7	2775.8	2866.2	2879.4	2888.5
27.5°	2317.3	2453.5	2552.9	2674.6	2758.9	2856.5	2872.8	2883.7
30°	2239.0	2394.4	2508.3	2643.2	2736.0	2838.5	2855.9	2866.8
32.5°	2158.2	2329.3	2455.3	2602.9	2702.9	2809.5	2824.6	2833.0
35°	2070.3	2250.4	2391.4	2551.1	2660.1	2763.1	2774.6	2783.6
37.5°	1974.5	2164.8	2318.5	2492.6	2599.9	2698.7	2708.9	2719.2
40°	1875.6	2075.1	2236.5	2420.9	2528.2	2619.7	2630.6	2637.8
42.5°	1776.2	1975.7	2149.2	2336.6	2443.2	2531.2	2537.8	2545.0
45°	1675.6	1872.6	2051.0	2243.2	2348.6	2431.2	2433.6	2439.6
47.5°	1573.2	1766.0	1943.1	2136.5	2240.8	2316.1	2318.5	2323.3
50°	1470.1	1659.3	1828.0	2021.4	2123.3	2202.8	2192.0	2196.8
52.5°	1368.9	1547.3	1719.6	1897.3	1998.0	2068.4	2071.5	2061.8
55°	1269.5	1437.6	1596.1	1767.2	1863.0	1917.8	1916.0	1919.6
57.5°	1168.9	1326.7	1472.0	1628.6	1722.0	1773.8	1784.7	1772.0
60°	1066.5	1214.7	1344.8	1486.4	1576.8	1620.2	1632.8	1620.8
62.5°	964.6	1100.8	1218.9	1342.4	1426.2	1479.8	1478.6	1465.3
65°	862.8	986.3	1091.8	1196.6	1269.5	1323.1	1320.7	1308.7
67.5°	768.8	870.6	965.2	1050.2	1113.5	1150.2	1162.9	1148.4
70°	665.2	753.1	836.3	904.4	956.8	989.9	1002.0	989.3
72.5°	561.5	636.3	694.7	760.4	800.7	828.5	841.1	829.1
75°	459.1	520.6	568.2	619.4	647.7	671.2	685.7	673.6
77.5°	359.7	407.3	445.3	482.6	515.2	520.6	533.2	525.4
80°	265.1	299.5	327.2	351.9	375.4	377.8	388.0	383.2
82.5°	176.5	199.4	206.7	232.6	247.6	245.2	255.5	251.9
85°	93.4	107.2	119.9	127.7	136.2	128.3	137.4	133.8
87.5°	31.3	33.1	28.9	41.0	45.2	38.6	44.0	42.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)