

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: P838077

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-2STD-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: P838077
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-2STD-30-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

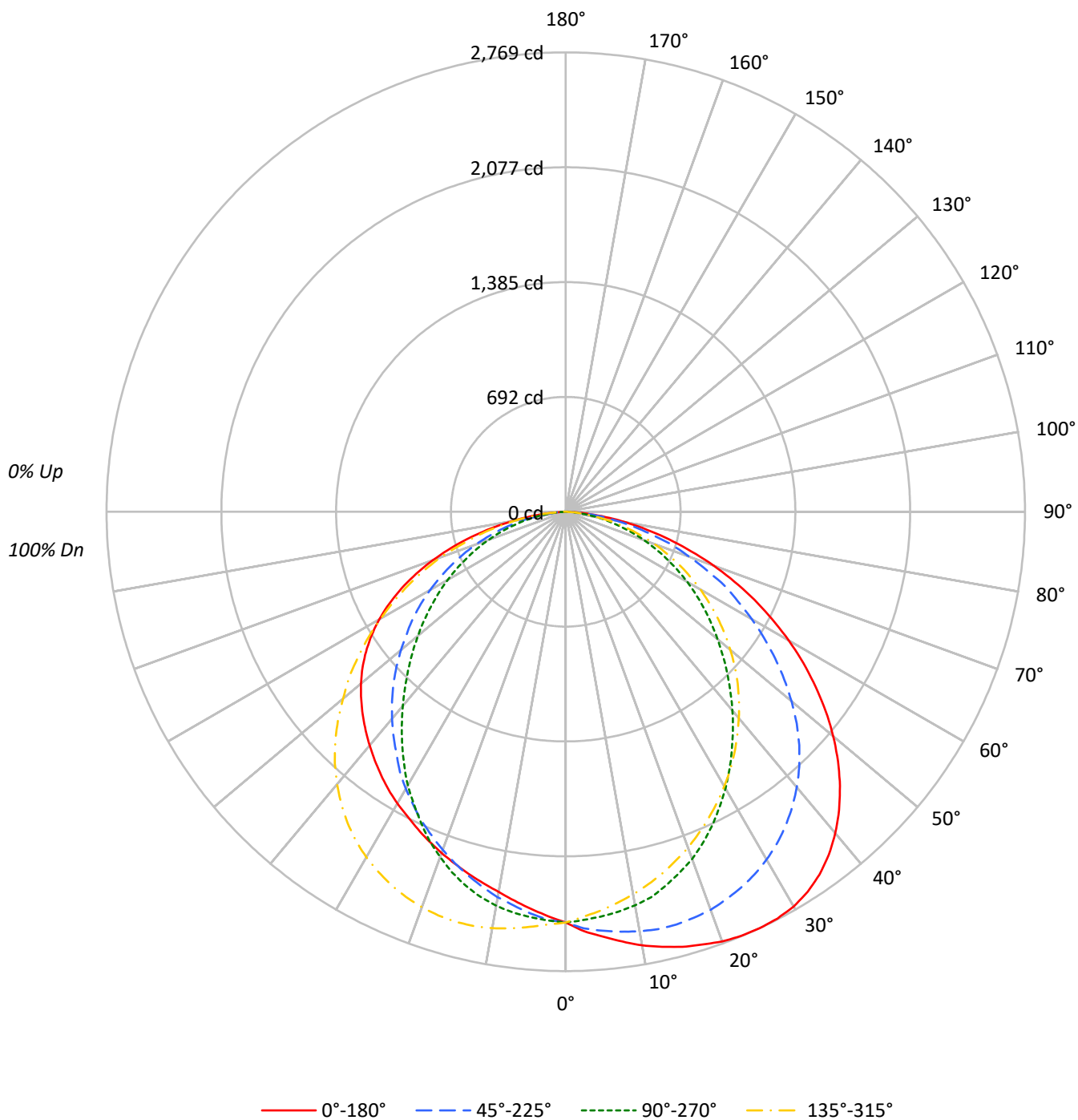
Lumens per Lamp: N/A
Luminaire Lumens: 7263.8 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	3331	3331	3331	3331
5°	3472	3307	3245	3313
10°	3626	3290	3179	3295
15°	3782	3249	3148	3249
20°	3947	3189	3134	3171
25°	4110	3100	3134	3069
30°	4269	2992	3155	2959
35°	4383	2870	3186	2824
40°	4441	2746	3231	2684
45°	4450	2621	3293	2555
50°	4408	2501	3374	2435
55°	4316	2390	3449	2324
60°	4180	2274	3495	2215
65°	3994	2140	3477	2090
70°	3731	1983	3353	1947
75°	3357	1769	3078	1759
80°	2846	1481	2586	1503
85°	1979	980	1641	1008

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.1	3.2
10°-20°	680.7	9.4
20°-30°	1043.2	14.4
30°-40°	1268.5	17.5
40°-50°	1318.6	18.2
50°-60°	1191.1	16.4
60°-70°	905.6	12.5
70°-80°	504.8	7.0
80°-90°	116.2	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°	1959.0	27.0
0°-40°	3227.4	44.4
0°-60°	5737.2	79.0
0°-90°	7263.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7263.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2476	2476	2476	2476	2476	
5°	2571	2449	2402	2453	2571	248
15°	2715	2332	2260	2333	2715	770
25°	2769	2088	2111	2067	2769	1279
35°	2668	1747	1940	1719	2668	1666
45°	2338	1377	1731	1343	2338	1800
55°	1840	1019	1470	990	1840	1643
65°	1254	672	1092	657	1254	1240
75°	646	340	592	338	646	686
85°	128	64	106	65	128	161
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°	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9
2.5°	2530.7	2493.8	2494.3	2526.7	2501.8	2514.0	2479.3	2492.6	2488.6	2491.5	2463.2
5°	2570.6	2530.7	2530.1	2557.9	2530.1	2535.3	2491.5	2500.1	2487.4	2479.3	2448.7
7.5°	2612.7	2572.9	2568.8	2593.1	2556.7	2552.7	2504.2	2504.2	2481.1	2460.8	2432.0
10°	2654.3	2613.3	2608.1	2626.6	2581.5	2568.3	2509.4	2500.1	2469.5	2439.5	2408.3
12.5°	2685.5	2643.9	2639.9	2651.4	2600.6	2576.3	2509.4	2491.5	2446.4	2404.2	2380.0
15°	2715.0	2672.2	2661.2	2667.0	2608.7	2576.3	2501.3	2473.5	2415.8	2360.4	2332.1
17.5°	2735.7	2694.7	2683.8	2683.2	2612.7	2566.5	2483.9	2445.8	2376.5	2309.5	2281.2
20°	2756.5	2715.5	2701.7	2691.3	2611.6	2553.2	2458.5	2407.1	2326.3	2251.2	2227.5
22.5°	2766.9	2724.8	2709.8	2694.2	2604.1	2529.0	2427.3	2362.1	2269.7	2180.2	2160.5
25°	2768.7	2725.4	2709.2	2686.7	2589.1	2500.1	2386.9	2307.8	2204.4	2105.1	2088.3
27.5°	2764.0	2716.7	2700.5	2673.4	2566.5	2464.9	2339.0	2246.0	2135.1	2025.4	2007.5
30°	2747.9	2699.9	2684.3	2649.1	2534.8	2421.6	2286.4	2177.3	2058.3	1941.6	1926.1
32.5°	2715.5	2668.8	2656.0	2620.8	2500.1	2371.3	2225.2	2103.4	1973.4	1861.9	1838.8
35°	2668.2	2621.4	2613.3	2576.3	2451.6	2311.3	2158.2	2022.5	1883.3	1769.5	1747.0
37.5°	2606.4	2567.1	2555.0	2518.6	2394.4	2243.1	2081.4	1934.7	1791.5	1669.1	1655.2
40°	2528.4	2491.5	2482.2	2449.9	2328.0	2167.5	1998.2	1844.0	1696.8	1583.0	1563.4
42.5°	2439.5	2404.8	2399.6	2366.1	2246.0	2083.7	1908.1	1749.9	1598.0	1488.3	1468.7
45°	2338.4	2304.9	2303.8	2272.0	2156.5	1990.7	1813.4	1654.6	1501.6	1387.8	1377.4
47.5°	2226.9	2196.9	2196.9	2167.5	2056.6	1888.5	1715.8	1555.3	1404.5	1304.1	1285.6
50°	2105.7	2077.4	2068.7	2054.3	1946.3	1777.1	1613.0	1458.3	1308.7	1212.8	1194.9
52.5°	1976.3	1952.0	1957.8	1931.3	1826.7	1661.0	1509.1	1349.1	1212.2	1125.0	1107.1
55°	1840.0	1805.3	1810.5	1800.7	1702.0	1541.4	1392.4	1259.0	1117.5	1035.5	1018.8
57.5°	1698.5	1653.5	1671.9	1666.2	1569.1	1419.0	1285.6	1156.8	1023.4	947.7	931.6
60°	1553.5	1510.2	1529.3	1524.1	1432.8	1296.5	1175.3	1055.7	929.8	861.1	844.9
62.5°	1404.5	1364.7	1382.0	1378.0	1294.2	1171.2	1065.5	955.8	835.7	773.9	758.9
65°	1254.4	1216.3	1231.9	1229.0	1151.6	1058.0	952.9	852.4	741.0	687.3	672.2
67.5°	1100.8	1065.5	1080.0	1080.0	1008.9	919.4	839.7	747.9	648.0	601.8	587.9
70°	948.3	915.4	928.1	926.9	866.9	794.1	725.4	643.4	553.8	515.7	504.2
72.5°	794.7	765.8	777.4	776.2	726.0	679.2	611.0	540.0	462.0	431.4	421.0
75°	645.7	618.5	629.5	628.3	587.3	543.5	497.8	438.9	371.9	350.6	340.2
77.5°	503.6	475.9	485.1	485.1	455.1	423.3	386.9	341.3	294.0	270.9	263.4
80°	367.3	354.0	349.4	350.0	329.8	309.0	290.5	246.6	212.0	196.4	191.2
82.5°	241.4	230.4	225.8	227.0	215.4	202.7	191.2	160.6	137.5	128.2	125.3
85°	128.2	120.1	116.1	119.0	116.7	109.7	104.0	83.2	68.7	65.3	63.5
87.5°	40.4	35.2	32.3	42.7	36.4	32.3	31.2	24.8	19.1	19.1	18.5
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°	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9
2.5°	2472.4	2472.4	2449.9	2444.7	2442.4	2445.2	2422.7	2418.7	2451.0	2440.1	2415.2
5°	2452.8	2451.6	2419.8	2414.1	2414.1	2410.6	2385.2	2379.4	2411.8	2402.5	2375.4
7.5°	2428.5	2425.0	2387.5	2383.5	2377.7	2375.4	2347.1	2343.0	2370.7	2365.0	2339.6
10°	2399.0	2395.6	2351.1	2348.2	2341.9	2337.3	2310.7	2307.8	2336.1	2326.9	2306.6
12.5°	2360.4	2354.0	2308.4	2305.5	2300.3	2298.6	2272.6	2271.4	2302.6	2293.4	2272.0
15°	2309.5	2304.3	2253.5	2254.7	2255.2	2255.2	2234.5	2233.3	2263.9	2259.9	2236.8
17.5°	2253.5	2246.6	2198.1	2201.5	2205.6	2210.2	2194.0	2196.9	2229.3	2224.1	2203.3
20°	2190.0	2183.1	2135.7	2145.5	2154.2	2163.4	2153.0	2161.1	2191.1	2188.8	2173.2
22.5°	2118.9	2112.0	2068.1	2083.1	2097.6	2114.9	2110.3	2119.5	2151.3	2150.7	2136.9
25°	2032.3	2034.1	1995.4	2013.8	2038.1	2062.3	2064.1	2079.1	2114.3	2110.9	2098.2
27.5°	1951.5	1953.8	1912.8	1944.0	1976.3	2007.5	2015.0	2035.8	2071.6	2068.7	2057.7
30°	1866.6	1869.5	1829.6	1872.3	1911.6	1949.7	1965.9	1994.2	2030.6	2030.6	2019.0
32.5°	1778.2	1783.4	1741.8	1799.0	1844.6	1889.1	1917.4	1946.8	1988.4	1987.3	1977.5
35°	1687.5	1693.3	1655.2	1728.0	1773.6	1827.9	1863.1	1902.4	1939.3	1939.9	1932.4
37.5°	1595.1	1602.1	1567.4	1647.1	1699.1	1763.2	1808.2	1847.5	1888.5	1890.8	1883.9
40°	1503.3	1510.8	1480.8	1557.6	1623.4	1695.0	1747.0	1793.2	1838.3	1839.4	1834.8
42.5°	1411.5	1419.6	1397.0	1472.1	1546.6	1623.4	1684.6	1737.2	1783.4	1786.3	1781.1
45°	1322.0	1328.9	1312.7	1394.7	1466.3	1550.1	1620.5	1680.0	1726.8	1730.8	1729.1
47.5°	1233.0	1239.4	1224.9	1300.0	1382.6	1471.5	1553.0	1618.8	1668.5	1673.1	1671.9
50°	1145.8	1151.0	1135.4	1214.0	1296.0	1390.7	1475.6	1551.8	1607.3	1611.9	1611.3
52.5°	1059.2	1064.4	1051.1	1133.7	1208.2	1308.1	1400.5	1483.1	1538.0	1544.9	1546.0
55°	975.4	977.8	967.4	1046.5	1118.7	1223.2	1329.5	1409.7	1464.6	1470.4	1473.8
57.5°	891.7	892.3	883.6	959.3	1028.6	1135.4	1246.9	1331.2	1383.2	1389.0	1394.2
60°	808.5	808.0	798.1	871.5	937.9	1043.6	1159.7	1243.4	1293.7	1298.9	1305.8
62.5°	726.0	724.2	715.6	783.1	845.5	950.0	1066.7	1147.5	1195.5	1198.9	1208.2
65°	643.9	642.2	634.1	696.5	753.1	853.0	967.4	1044.2	1087.5	1092.1	1090.4
67.5°	563.1	559.6	553.3	609.3	660.7	753.1	862.8	936.2	972.0	976.0	987.0
70°	482.2	478.2	463.8	523.2	568.3	650.9	753.1	818.4	848.4	852.4	850.7
72.5°	402.5	398.5	382.9	437.8	475.9	548.1	639.3	693.6	719.6	723.1	723.1
75°	325.1	322.8	313.0	354.6	386.4	445.3	522.7	567.7	587.9	592.0	590.8
77.5°	250.6	248.9	239.1	274.9	299.7	343.6	406.0	441.2	456.2	460.9	470.7
80°	179.6	179.0	163.4	198.7	209.6	246.6	292.2	319.4	327.5	333.8	340.7
82.5°	114.9	115.5	99.9	129.9	134.6	158.2	186.5	203.3	209.1	214.3	219.5
85°	56.0	58.3	49.7	68.7	69.3	81.4	93.6	99.9	102.2	106.3	110.9
87.5°	14.4	16.7	9.2	19.6	17.3	22.5	26.0	27.7	27.1	30.0	31.8
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9
2.5°	2423.3	2441.8	2432.5	2462.6	2474.1	2455.6	2488.0	2488.6	2465.5	2492.6	2507.6
5°	2385.8	2404.8	2399.0	2430.2	2444.7	2428.5	2467.8	2475.3	2452.8	2483.4	2507.6
7.5°	2347.6	2370.2	2362.7	2394.4	2411.8	2399.0	2441.2	2453.3	2436.0	2469.5	2501.8
10°	2314.7	2333.8	2325.7	2359.2	2374.2	2363.8	2405.4	2427.9	2411.8	2452.8	2491.5
12.5°	2282.4	2298.0	2288.7	2316.5	2330.9	2317.6	2368.4	2389.2	2377.7	2420.4	2470.1
15°	2240.8	2258.1	2245.4	2270.3	2281.2	2269.7	2311.3	2347.1	2332.6	2379.4	2434.3
17.5°	2209.0	2218.9	2201.5	2221.2	2227.5	2211.9	2254.1	2289.3	2278.9	2329.7	2393.3
20°	2173.8	2181.9	2157.6	2168.6	2168.0	2148.4	2187.1	2221.7	2214.8	2270.8	2343.0
22.5°	2134.5	2138.6	2110.3	2112.6	2111.4	2079.1	2113.7	2149.0	2146.1	2202.7	2283.5
25°	2093.0	2093.5	2057.2	2056.0	2043.3	2005.2	2035.8	2075.6	2067.0	2128.2	2213.1
27.5°	2052.0	2046.2	2002.3	1991.9	1971.7	1926.1	1953.2	1989.0	1983.8	2043.9	2138.0
30°	2008.1	2000.6	1946.8	1927.8	1898.3	1845.8	1868.3	1901.8	1904.7	1957.2	2056.0
32.5°	1966.5	1947.4	1887.9	1860.2	1823.3	1762.0	1774.2	1808.2	1812.9	1866.0	1967.6
35°	1912.8	1900.1	1826.7	1779.4	1743.0	1676.0	1688.7	1712.4	1719.3	1771.3	1874.7
37.5°	1861.9	1841.7	1763.8	1706.0	1659.2	1588.8	1592.2	1616.5	1623.4	1676.0	1778.2
40°	1809.4	1780.5	1696.8	1629.2	1575.5	1501.6	1497.5	1522.9	1528.1	1579.5	1671.9
42.5°	1753.4	1718.7	1624.6	1550.7	1488.9	1413.8	1405.7	1427.6	1433.4	1483.7	1574.3
45°	1696.8	1655.2	1550.7	1469.8	1402.2	1325.4	1317.3	1334.1	1342.8	1390.1	1477.3
47.5°	1636.7	1588.2	1474.4	1384.3	1314.5	1237.6	1227.8	1244.6	1251.5	1298.3	1380.9
50°	1573.8	1514.9	1395.9	1296.5	1227.2	1151.6	1137.2	1156.8	1163.1	1207.0	1287.9
52.5°	1504.5	1439.2	1312.1	1208.2	1138.9	1066.7	1049.4	1068.4	1075.9	1118.7	1193.2
55°	1431.1	1360.7	1227.8	1126.8	1051.7	981.2	966.8	974.3	990.5	1030.9	1100.2
57.5°	1348.5	1278.6	1138.9	1036.1	963.9	896.3	884.2	891.1	906.1	945.4	1007.8
60°	1260.7	1186.8	1048.2	945.4	875.5	811.4	800.5	806.8	823.0	858.8	916.5
62.5°	1174.1	1090.9	954.7	852.4	788.9	729.4	726.5	724.2	739.2	773.9	824.7
65°	1069.0	989.3	857.1	760.0	702.3	648.6	637.0	642.2	656.6	688.4	741.5
67.5°	956.4	884.2	757.1	667.6	616.2	568.3	558.5	560.8	575.8	603.5	649.7
70°	836.8	773.3	654.9	574.6	531.3	486.3	479.9	480.5	494.9	519.2	559.6
72.5°	711.5	654.3	551.5	482.8	447.0	414.7	408.9	402.0	415.2	436.0	470.7
75°	583.9	533.6	448.7	392.7	364.4	337.3	332.1	325.1	338.4	356.3	383.5
77.5°	455.1	414.7	348.8	305.5	283.6	263.4	258.7	251.2	264.5	277.8	299.2
80°	329.2	299.7	260.5	214.8	207.3	194.0	189.4	181.3	194.0	202.7	218.9
82.5°	212.5	192.9	170.4	138.6	137.5	127.6	125.3	116.1	127.6	132.8	145.0
85°	107.4	98.2	92.4	70.5	72.8	66.4	65.8	56.0	65.3	67.6	74.5
87.5°	30.6	32.3	28.9	17.3	21.9	20.8	20.8	15.0	20.8	20.8	23.7
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: P838077

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

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9	2475.9
2.5°	2478.2	2488.0	2490.3	2489.7	2496.1	2530.7	2519.2	2530.7
5°	2483.9	2505.9	2511.7	2519.8	2530.1	2569.4	2556.7	2570.6
7.5°	2487.4	2520.3	2533.0	2548.6	2565.4	2609.3	2598.9	2612.7
10°	2487.4	2530.1	2548.6	2574.6	2597.1	2648.0	2638.1	2654.3
12.5°	2477.0	2531.9	2557.9	2594.3	2623.1	2678.0	2674.0	2685.5
15°	2455.6	2523.2	2559.0	2605.8	2641.6	2702.8	2701.1	2715.0
17.5°	2426.8	2508.2	2551.5	2610.4	2655.5	2724.2	2728.2	2735.7
20°	2390.4	2479.9	2536.5	2608.7	2665.3	2740.9	2746.1	2756.5
22.5°	2342.5	2445.8	2514.0	2601.2	2666.4	2747.9	2757.1	2766.9
25°	2285.9	2404.8	2484.5	2586.7	2660.7	2747.3	2760.0	2768.7
27.5°	2221.2	2351.7	2447.0	2563.6	2644.5	2738.1	2753.6	2764.0
30°	2146.1	2295.1	2404.2	2533.6	2622.6	2720.7	2737.5	2747.9
32.5°	2068.7	2232.7	2353.4	2494.9	2590.8	2693.0	2707.4	2715.5
35°	1984.4	2157.1	2292.2	2445.2	2549.8	2648.5	2659.5	2668.2
37.5°	1892.6	2075.1	2222.3	2389.2	2492.0	2586.7	2596.6	2606.4
40°	1797.8	1989.0	2143.8	2320.5	2423.3	2511.1	2521.5	2528.4
42.5°	1702.5	1893.7	2060.0	2239.7	2341.9	2426.2	2432.5	2439.5
45°	1606.1	1795.0	1965.9	2150.1	2251.2	2330.3	2332.6	2338.4
47.5°	1507.9	1692.7	1862.5	2047.9	2147.8	2220.0	2222.3	2226.9
50°	1409.2	1590.5	1752.2	1937.6	2035.2	2111.4	2101.0	2105.7
52.5°	1312.1	1483.1	1648.3	1818.6	1915.1	1982.7	1985.5	1976.3
55°	1216.8	1378.0	1529.9	1693.9	1785.7	1838.3	1836.5	1840.0
57.5°	1120.4	1271.7	1410.9	1561.1	1650.6	1700.2	1710.6	1698.5
60°	1022.2	1164.3	1289.0	1424.8	1511.4	1553.0	1565.1	1553.5
62.5°	924.6	1055.1	1168.3	1286.7	1367.0	1418.4	1417.3	1404.5
65°	827.0	945.4	1046.5	1147.0	1216.8	1268.2	1265.9	1254.4
67.5°	736.9	834.5	925.2	1006.6	1067.3	1102.5	1114.6	1100.8
70°	637.6	721.9	801.6	866.9	917.1	948.9	960.4	948.3
72.5°	538.3	609.9	665.9	728.8	767.5	794.1	806.2	794.7
75°	440.1	499.0	544.6	593.7	620.8	643.4	657.2	645.7
77.5°	344.8	390.4	426.8	462.6	493.8	499.0	511.1	503.6
80°	254.1	287.0	313.6	337.3	359.8	362.1	371.9	367.3
82.5°	169.2	191.2	198.1	222.9	237.4	235.1	244.9	241.4
85°	89.5	102.8	114.9	122.4	130.5	123.0	131.7	128.2
87.5°	30.0	31.8	27.7	39.3	43.3	37.0	42.2	40.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)