

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: P838097

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-3LO-35-120-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: P838097
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-LD4-3LO-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

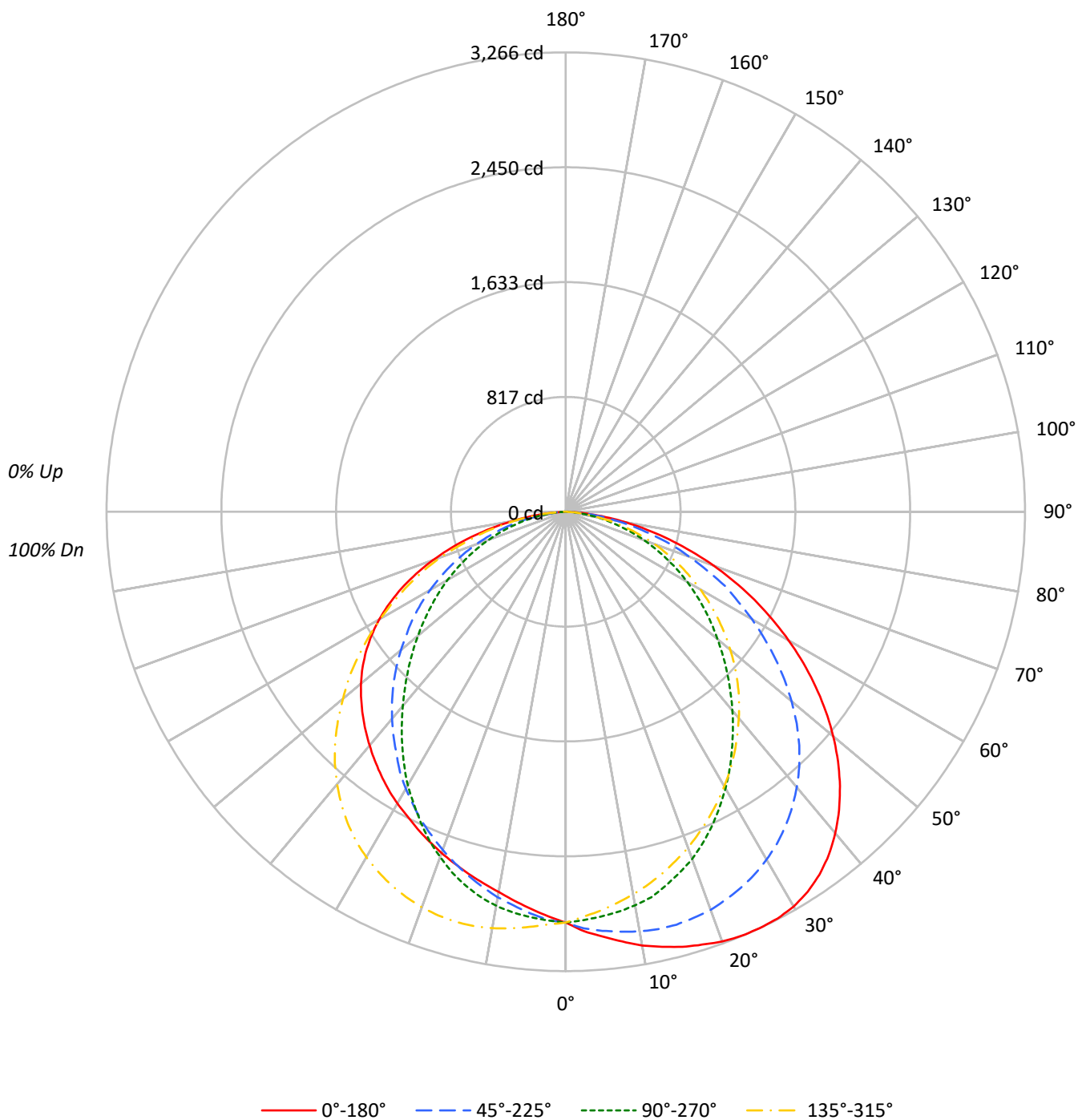
Lumens per Lamp: N/A
Luminaire Lumens: 8568.4 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	3930	3930	3930	3930
5°	4095	3901	3828	3908
10°	4278	3881	3750	3887
15°	4461	3832	3713	3833
20°	4656	3762	3697	3741
25°	4849	3657	3697	3620
30°	5036	3530	3721	3491
35°	5170	3385	3759	3331
40°	5238	3239	3811	3166
45°	5249	3092	3885	3014
50°	5199	2950	3980	2872
55°	5092	2819	4069	2741
60°	4931	2682	4123	2612
65°	4711	2525	4101	2466
70°	4401	2340	3956	2297
75°	3959	2086	3630	2075
80°	3357	1747	3051	1774
85°	2334	1156	1936	1189

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.3	3.2
10°-20°	803.0	9.4
20°-30°	1230.6	14.4
30°-40°	1496.3	17.5
40°-50°	1555.5	18.2
50°-60°	1405.1	16.4
60°-70°	1068.2	12.5
70°-80°	595.5	7.0
80°-90°	137.1	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°	2310.8	27.0
0°-40°	3807.1	44.4
0°-60°	6767.6	79.0
0°-90°	8568.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8568.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2920	2920	2920	2920	2920	
5°	3032	2888	2834	2893	3032	292
15°	3203	2751	2666	2752	3203	908
25°	3266	2463	2490	2438	3266	1508
35°	3147	2061	2288	2028	3147	1966
45°	2758	1625	2042	1584	2758	2124
55°	2170	1202	1734	1168	2170	1938
65°	1480	793	1288	775	1480	1462
75°	762	401	698	399	762	809
85°	151	75	125	77	151	190
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°	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5
2.5°	2985.2	2941.6	2942.3	2980.5	2951.2	2965.5	2924.6	2940.3	2935.5	2938.9	2905.5
5°	3032.2	2985.2	2984.6	3017.3	2984.6	2990.7	2938.9	2949.1	2934.1	2924.6	2888.5
7.5°	3082.0	3035.0	3030.2	3058.8	3015.9	3011.1	2953.9	2953.9	2926.7	2902.8	2868.7
10°	3131.0	3082.7	3076.5	3098.3	3045.2	3029.5	2960.0	2949.1	2913.0	2877.6	2840.8
12.5°	3167.8	3118.8	3114.0	3127.6	3067.7	3039.1	2960.0	2938.9	2885.8	2836.0	2807.4
15°	3202.6	3152.1	3139.2	3146.0	3077.2	3039.1	2950.5	2917.8	2849.7	2784.3	2750.9
17.5°	3227.1	3178.7	3165.8	3165.1	3082.0	3027.5	2930.1	2885.1	2803.3	2724.3	2690.9
20°	3251.6	3203.2	3186.9	3174.6	3080.6	3011.8	2900.1	2839.5	2744.1	2655.5	2627.6
22.5°	3263.9	3214.1	3196.4	3178.0	3071.8	2983.2	2863.3	2786.3	2677.3	2571.7	2548.6
25°	3265.9	3214.8	3195.7	3169.2	3054.0	2949.1	2815.6	2722.3	2600.3	2483.2	2463.4
27.5°	3260.5	3204.6	3185.5	3153.5	3027.5	2907.6	2759.1	2649.4	2518.6	2389.1	2368.0
30°	3241.4	3184.8	3166.5	3124.9	2990.0	2856.5	2697.1	2568.3	2428.0	2290.4	2272.0
32.5°	3203.2	3148.1	3133.1	3091.5	2949.1	2797.2	2624.9	2481.1	2327.8	2196.4	2169.1
35°	3147.4	3092.2	3082.7	3039.1	2891.9	2726.4	2545.8	2385.7	2221.6	2087.4	2060.8
37.5°	3074.5	3028.2	3013.9	2970.9	2824.5	2646.0	2455.2	2282.2	2113.2	1968.8	1952.5
40°	2982.5	2938.9	2928.0	2889.9	2746.1	2556.7	2357.1	2175.2	2001.5	1867.3	1844.1
42.5°	2877.6	2836.7	2830.6	2791.1	2649.4	2458.0	2250.9	2064.2	1885.0	1755.6	1732.4
45°	2758.4	2718.9	2717.5	2680.0	2543.8	2348.3	2139.1	1951.8	1771.3	1637.0	1624.8
47.5°	2626.9	2591.5	2591.5	2556.7	2425.9	2227.7	2024.0	1834.6	1656.8	1538.3	1516.5
50°	2483.8	2450.5	2440.2	2423.2	2295.8	2096.2	1902.7	1720.2	1543.7	1430.6	1409.5
52.5°	2331.2	2302.6	2309.4	2278.1	2154.8	1959.3	1780.1	1591.4	1429.9	1327.1	1306.0
55°	2170.5	2129.6	2135.7	2124.1	2007.6	1818.3	1642.5	1485.1	1318.2	1221.5	1201.7
57.5°	2003.6	1950.4	1972.2	1965.4	1851.0	1673.8	1516.5	1364.5	1207.2	1117.9	1098.9
60°	1832.6	1781.5	1804.0	1797.8	1690.2	1529.4	1386.3	1245.3	1096.8	1015.7	996.7
62.5°	1656.8	1609.8	1630.2	1625.5	1526.7	1381.6	1256.9	1127.5	985.8	912.9	895.2
65°	1479.7	1434.7	1453.1	1449.7	1358.4	1248.1	1124.1	1005.5	874.0	810.7	793.0
67.5°	1298.5	1256.9	1273.9	1273.9	1190.1	1084.6	990.5	882.2	764.4	709.9	693.5
70°	1118.6	1079.8	1094.8	1093.4	1022.6	936.7	855.7	758.9	653.3	608.4	594.7
72.5°	937.4	903.3	917.0	915.6	856.3	801.2	720.8	637.0	545.0	508.9	496.6
75°	761.6	729.6	742.6	741.2	692.8	641.1	587.2	517.8	438.7	413.5	401.3
77.5°	594.1	561.4	572.3	572.3	536.8	499.4	456.4	402.6	346.8	319.5	310.7
80°	433.3	417.6	412.2	412.8	389.0	364.5	342.7	290.9	250.0	231.6	225.5
82.5°	284.8	271.8	266.4	267.7	254.1	239.1	225.5	189.4	162.1	151.2	147.8
85°	151.2	141.7	136.9	140.3	137.6	129.4	122.6	98.1	81.1	77.0	74.9
87.5°	47.7	41.6	38.2	50.4	42.9	38.2	36.8	29.3	22.5	22.5	21.8
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°	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5
2.5°	2916.4	2916.4	2889.9	2883.7	2881.0	2884.4	2857.8	2853.1	2891.2	2878.3	2849.0
5°	2893.3	2891.9	2854.4	2847.6	2847.6	2843.5	2813.6	2806.8	2844.9	2834.0	2802.0
7.5°	2864.7	2860.6	2816.3	2811.5	2804.7	2802.0	2768.6	2763.8	2796.5	2789.7	2759.7
10°	2829.9	2825.8	2773.4	2770.0	2762.5	2757.0	2725.7	2722.3	2755.7	2744.8	2720.9
12.5°	2784.3	2776.8	2723.0	2719.6	2713.4	2711.4	2680.7	2679.4	2716.1	2705.2	2680.0
15°	2724.3	2718.2	2658.2	2659.6	2660.3	2660.3	2635.8	2634.4	2670.5	2665.7	2638.5
17.5°	2658.2	2650.1	2592.8	2596.9	2601.7	2607.1	2588.1	2591.5	2629.6	2623.5	2599.0
20°	2583.3	2575.1	2519.3	2530.8	2541.1	2552.0	2539.7	2549.2	2584.7	2581.9	2563.5
22.5°	2499.5	2491.3	2439.6	2457.3	2474.3	2494.7	2489.3	2500.2	2537.7	2537.0	2520.6
25°	2397.3	2399.4	2353.7	2375.5	2404.1	2432.7	2434.8	2452.5	2494.1	2490.0	2475.0
27.5°	2301.9	2304.7	2256.3	2293.1	2331.2	2368.0	2376.9	2401.4	2443.6	2440.2	2427.3
30°	2201.8	2205.2	2158.2	2208.6	2254.9	2299.9	2319.0	2352.4	2395.3	2395.3	2381.7
32.5°	2097.6	2103.7	2054.7	2122.1	2175.9	2228.4	2261.8	2296.5	2345.5	2344.2	2332.6
35°	1990.6	1997.4	1952.5	2038.3	2092.1	2156.2	2197.7	2244.0	2287.6	2288.3	2279.5
37.5°	1881.6	1889.8	1848.9	1942.9	2004.2	2079.9	2133.0	2179.3	2227.7	2230.4	2222.2
40°	1773.3	1782.2	1746.7	1837.3	1915.0	1999.5	2060.8	2115.3	2168.4	2169.8	2164.3
42.5°	1665.0	1674.5	1647.9	1736.5	1824.4	1915.0	1987.2	2049.2	2103.7	2107.1	2101.0
45°	1559.4	1567.6	1548.5	1645.2	1729.7	1828.5	1911.6	1981.8	2036.9	2041.7	2039.7
47.5°	1454.5	1462.0	1444.9	1533.5	1630.9	1735.8	1831.9	1909.5	1968.1	1973.6	1972.2
50°	1351.6	1357.7	1339.3	1432.0	1528.7	1640.5	1740.6	1830.5	1895.9	1901.4	1900.7
52.5°	1249.4	1255.5	1239.9	1337.3	1425.2	1543.0	1652.0	1749.5	1814.2	1822.3	1823.7
55°	1150.6	1153.4	1141.1	1234.4	1319.6	1442.9	1568.2	1662.9	1727.7	1734.5	1738.6
57.5°	1051.9	1052.5	1042.3	1131.6	1213.3	1339.3	1470.8	1570.3	1631.6	1638.4	1644.5
60°	953.8	953.1	941.5	1028.0	1106.4	1231.0	1368.0	1466.7	1526.0	1532.1	1540.3
62.5°	856.3	854.3	844.1	923.8	997.4	1120.7	1258.3	1353.6	1410.2	1414.3	1425.2
65°	759.6	757.6	748.0	821.6	888.4	1006.2	1141.1	1231.7	1282.8	1288.2	1286.2
67.5°	664.2	660.1	652.6	718.7	779.4	888.4	1017.8	1104.3	1146.5	1151.3	1164.3
70°	568.8	564.1	547.0	617.2	670.4	767.8	888.4	965.3	1000.8	1005.5	1003.5
72.5°	474.8	470.1	451.7	516.4	561.4	646.5	754.1	818.2	848.8	852.9	852.9
75°	383.5	380.8	369.2	418.3	455.8	525.2	616.5	669.7	693.5	698.3	696.9
77.5°	295.7	293.6	282.0	324.3	353.6	405.3	478.9	520.5	538.2	543.6	555.2
80°	211.9	211.2	192.8	234.4	247.3	290.9	344.7	376.7	386.3	393.8	401.9
82.5°	135.6	136.3	117.9	153.3	158.7	186.7	220.0	239.8	246.6	252.7	258.9
85°	66.1	68.8	58.6	81.1	81.8	96.1	110.4	117.9	120.6	125.4	130.8
87.5°	17.0	19.8	10.9	23.2	20.4	26.6	30.7	32.7	32.0	35.4	37.5
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5
2.5°	2858.5	2880.3	2869.4	2904.9	2918.5	2896.7	2934.8	2935.5	2908.3	2940.3	2958.0
5°	2814.2	2836.7	2829.9	2866.7	2883.7	2864.7	2911.0	2919.8	2893.3	2929.4	2958.0
7.5°	2769.3	2795.9	2787.0	2824.5	2844.9	2829.9	2879.6	2894.0	2873.5	2913.0	2951.2
10°	2730.5	2752.9	2743.4	2782.9	2800.6	2788.4	2837.4	2864.0	2844.9	2893.3	2938.9
12.5°	2692.3	2710.7	2699.8	2732.5	2749.5	2733.9	2793.8	2818.3	2804.7	2855.1	2913.7
15°	2643.3	2663.7	2648.7	2678.0	2690.9	2677.3	2726.4	2768.6	2751.6	2806.8	2871.5
17.5°	2605.8	2617.4	2596.9	2620.1	2627.6	2609.2	2658.9	2700.5	2688.2	2748.2	2823.1
20°	2564.2	2573.8	2545.2	2558.1	2557.4	2534.3	2579.9	2620.8	2612.6	2678.7	2763.8
22.5°	2517.9	2522.7	2489.3	2492.0	2490.7	2452.5	2493.4	2534.9	2531.5	2598.3	2693.7
25°	2468.9	2469.5	2426.6	2425.3	2410.3	2365.3	2401.4	2448.4	2438.2	2510.4	2610.6
27.5°	2420.5	2413.7	2361.9	2349.6	2325.8	2272.0	2304.0	2346.2	2340.1	2410.9	2522.0
30°	2368.7	2359.9	2296.5	2274.0	2239.3	2177.3	2203.8	2243.4	2246.8	2308.8	2425.3
32.5°	2319.7	2297.2	2227.0	2194.3	2150.7	2078.5	2092.8	2133.0	2138.4	2201.1	2321.0
35°	2256.3	2241.3	2154.8	2098.9	2056.0	1977.0	1992.0	2019.9	2028.1	2089.4	2211.3
37.5°	2196.4	2172.5	2080.5	2012.4	1957.2	1874.1	1878.2	1906.8	1915.0	1977.0	2097.6
40°	2134.4	2100.3	2001.5	1921.8	1858.5	1771.3	1766.5	1796.5	1802.6	1863.2	1972.2
42.5°	2068.3	2027.4	1916.4	1829.2	1756.3	1667.7	1658.2	1684.1	1690.9	1750.1	1857.1
45°	2001.5	1952.5	1829.2	1733.8	1654.1	1563.5	1553.9	1573.7	1583.9	1639.8	1742.6
47.5°	1930.7	1873.4	1739.2	1633.0	1550.5	1459.9	1448.3	1468.1	1476.3	1531.5	1628.9
50°	1856.4	1786.9	1646.6	1529.4	1447.7	1358.4	1341.4	1364.5	1372.0	1423.8	1519.2
52.5°	1774.7	1697.7	1547.8	1425.2	1343.4	1258.3	1237.8	1260.3	1269.2	1319.6	1407.5
55°	1688.1	1605.0	1448.3	1329.1	1240.6	1157.4	1140.4	1149.3	1168.3	1216.0	1297.8
57.5°	1590.7	1508.3	1343.4	1222.2	1137.0	1057.3	1043.0	1051.2	1068.9	1115.2	1188.8
60°	1487.2	1400.0	1236.5	1115.2	1032.8	957.2	944.2	951.7	970.8	1013.0	1081.1
62.5°	1385.0	1286.9	1126.1	1005.5	930.6	860.4	857.0	854.3	872.0	912.9	972.8
65°	1261.0	1167.0	1011.0	896.5	828.4	765.0	751.4	757.6	774.6	812.1	874.7
67.5°	1128.2	1043.0	893.1	787.5	726.9	670.4	658.8	661.5	679.2	711.9	766.4
70°	987.1	912.2	772.5	677.8	626.8	573.6	566.1	566.8	583.8	612.4	660.1
72.5°	839.3	771.9	650.6	569.5	527.3	489.1	482.3	474.2	489.8	514.3	555.2
75°	688.7	629.5	529.3	463.3	429.9	397.9	391.7	383.5	399.2	420.3	452.4
77.5°	536.8	489.1	411.5	360.4	334.5	310.7	305.2	296.3	312.0	327.7	352.9
80°	388.3	353.6	307.2	253.4	244.6	228.9	223.5	213.9	228.9	239.1	258.2
82.5°	250.7	227.5	201.0	163.5	162.1	150.6	147.8	136.9	150.6	156.7	171.0
85°	126.7	115.8	109.0	83.1	85.8	78.3	77.7	66.1	77.0	79.7	87.9
87.5°	36.1	38.2	34.1	20.4	25.9	24.5	24.5	17.7	24.5	24.5	27.9
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: P838097

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-3LO-35-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5	2920.5
2.5°	2923.2	2934.8	2937.6	2936.9	2944.4	2985.2	2971.6	2985.2
5°	2930.1	2955.9	2962.8	2972.3	2984.6	3030.9	3015.9	3032.2
7.5°	2934.1	2973.0	2988.0	3006.4	3026.1	3077.9	3065.6	3082.0
10°	2934.1	2984.6	3006.4	3037.0	3063.6	3123.5	3112.0	3131.0
12.5°	2921.9	2986.6	3017.3	3060.2	3094.2	3159.0	3154.2	3167.8
15°	2896.7	2976.4	3018.6	3073.8	3116.0	3188.3	3186.2	3202.6
17.5°	2862.6	2958.7	3009.8	3079.3	3132.4	3213.5	3218.2	3227.1
20°	2819.7	2925.3	2992.1	3077.2	3144.0	3233.2	3239.3	3251.6
22.5°	2763.2	2885.1	2965.5	3068.4	3145.3	3241.4	3252.3	3263.9
25°	2696.4	2836.7	2930.7	3051.3	3138.5	3240.7	3255.7	3265.9
27.5°	2620.1	2774.1	2886.5	3024.1	3119.4	3229.8	3248.2	3260.5
30°	2531.5	2707.3	2836.0	2988.6	3093.6	3209.4	3229.1	3241.4
32.5°	2440.2	2633.7	2776.1	2943.0	3056.1	3176.7	3193.7	3203.2
35°	2340.8	2544.5	2703.9	2884.4	3007.7	3124.2	3137.2	3147.4
37.5°	2232.5	2447.7	2621.5	2818.3	2939.6	3051.3	3062.9	3074.5
40°	2120.7	2346.2	2528.8	2737.3	2858.5	2962.1	2974.3	2982.5
42.5°	2008.3	2233.8	2430.0	2641.9	2762.5	2861.9	2869.4	2877.6
45°	1894.6	2117.3	2319.0	2536.3	2655.5	2748.8	2751.6	2758.4
47.5°	1778.7	1996.7	2197.0	2415.7	2533.6	2618.7	2621.5	2626.9
50°	1662.3	1876.2	2066.9	2285.6	2400.7	2490.7	2478.4	2483.8
52.5°	1547.8	1749.5	1944.3	2145.3	2259.0	2338.7	2342.1	2331.2
55°	1435.4	1625.5	1804.6	1998.1	2106.4	2168.4	2166.4	2170.5
57.5°	1321.6	1500.1	1664.3	1841.4	1947.0	2005.6	2017.9	2003.6
60°	1205.8	1373.4	1520.6	1680.6	1782.8	1831.9	1846.2	1832.6
62.5°	1090.7	1244.6	1378.2	1517.8	1612.5	1673.2	1671.8	1656.8
65°	975.6	1115.2	1234.4	1353.0	1435.4	1496.0	1493.3	1479.7
67.5°	869.3	984.4	1091.4	1187.4	1259.0	1300.5	1314.8	1298.5
70°	752.1	851.6	945.6	1022.6	1081.8	1119.3	1132.9	1118.6
72.5°	634.9	719.4	785.5	859.7	905.4	936.7	951.0	937.4
75°	519.1	588.6	642.4	700.3	732.3	758.9	775.3	761.6
77.5°	406.7	460.5	503.4	545.7	582.5	588.6	602.9	594.1
80°	299.8	338.6	369.9	397.9	424.4	427.1	438.7	433.3
82.5°	199.6	225.5	233.7	263.0	280.0	277.3	288.9	284.8
85°	105.6	121.3	135.6	144.4	154.0	145.1	155.3	151.2
87.5°	35.4	37.5	32.7	46.3	51.1	43.6	49.7	47.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)