

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: NEO-RAY

Report Number: P332228-830

Luminaire Tested: **S123DIW-S1165D1320U830-4F0-1E-UDD-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332228-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D1320U830-4F0-1E-UDD-A
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, ASYMMETRIC DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9593.8 lumens
Efficiency: N/A
Efficacy: 125.9 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.49
Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')
CIE Type: General Diffuse

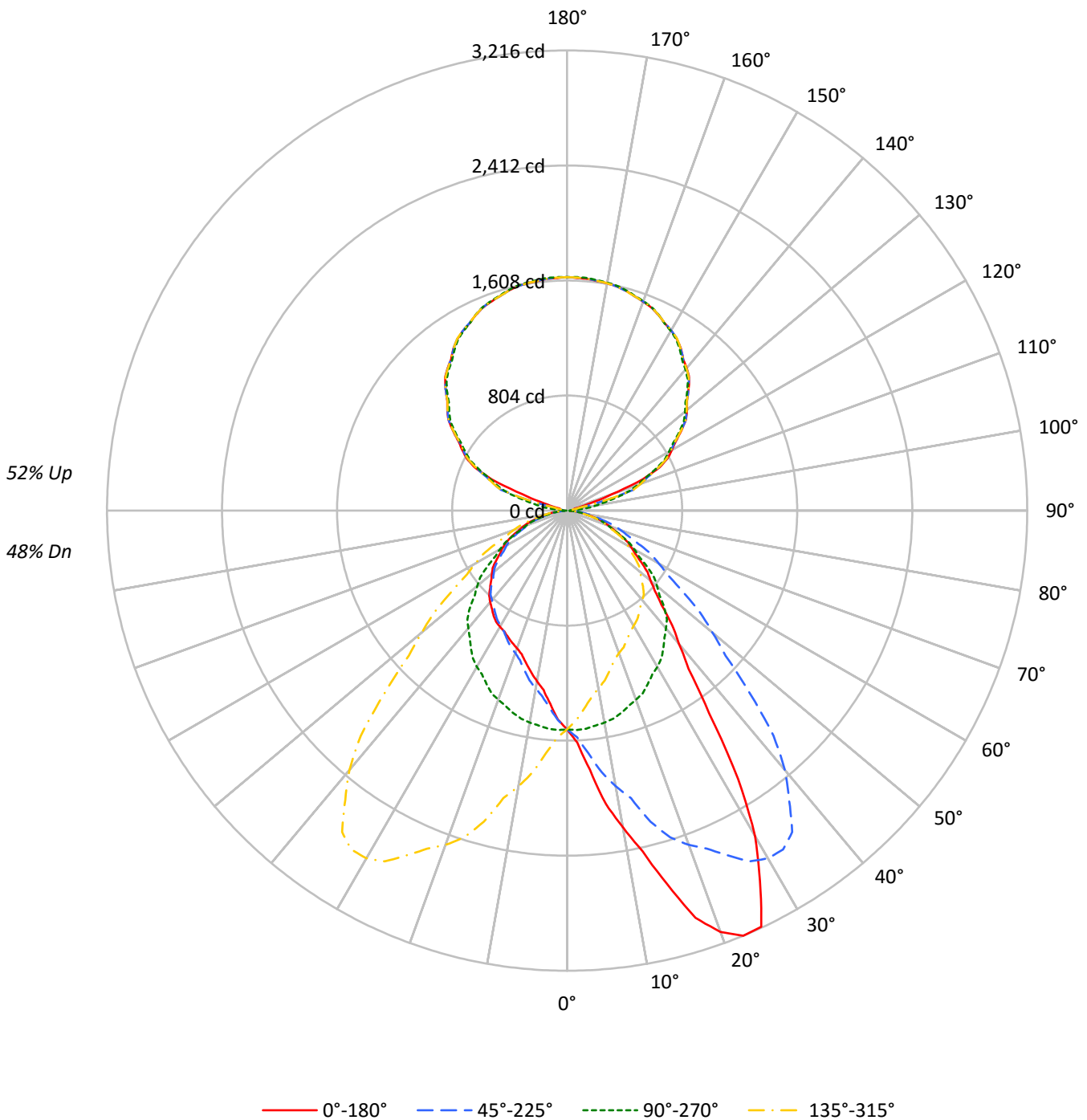
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48				48
1	98	93	90	86	90	86	83	80	73	70	68	60	58	57	49	47	46				41	
2	89	82	76	71	82	76	70	66	64	60	57	53	50	48	43	41	40				35	
3	81	72	65	59	75	67	60	55	56	52	48	47	44	41	38	36	34				30	
4	75	64	56	50	68	59	52	47	50	45	41	42	38	35	34	32	29				26	
5	68	57	49	43	63	53	46	41	45	40	35	38	34	31	31	28	26				22	
6	63	51	43	37	58	48	40	35	41	35	31	34	30	27	28	25	23				20	
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	26	23	20				18	
8	54	42	34	29	50	39	32	27	34	28	24	28	24	21	24	20	18				16	
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16				14	
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15				13	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	16457	16457	16457	16457
5°	19626	16528	14647	16528
10°	24565	16444	13230	16444
15°	30130	16312	12316	16312
20°	35892	16105	11726	16105
25°	38112	15853	11595	15853
30°	32666	15669	11656	15669
35°	22718	15408	11779	15408
40°	17113	15104	11741	15104
45°	14209	14647	11592	14647
50°	12728	13720	11488	13720
55°	11898	12720	11344	12720
60°	11162	11672	11227	11672
65°	10491	10641	10868	10641
70°	9838	9467	10351	9467
75°	8813	8289	9491	8289
80°	7711	6794	8176	6794
85°	6039	4940	5496	4940



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	1.6
10°-20°	482.9	5.0
20°-30°	810.5	8.4
30°-40°	917.8	9.6
40°-50°	823.0	8.6
50°-60°	664.2	6.9
60°-70°	462.8	4.8
70°-80°	243.3	2.5
80°-90°	64.1	0.7
90°-100°	59.3	0.6
100°-110°	282.7	2.9
110°-120°	679.0	7.1
120°-130°	864.6	9.0
130°-140°	923.8	9.6
140°-150°	863.8	9.0
150°-160°	696.8	7.3
160°-170°	449.7	4.7
170°-180°	155.0	1.6
0°-30°	1444.1	15.1
0°-40°	2361.9	24.6
0°-60°	3849.1	40.1
0°-90°	4619.2	48.1
90°-120°	1020.9	10.6
90°-150°	3673.1	38.3
90°-180°	4975.0	51.9
0°-180°	9593.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1529	1529	1529	1529	1529	
5°	1816	1530	1356	1530	1816	188
15°	2704	1464	1105	1464	2704	781
25°	3209	1335	976	1335	3209	1407
35°	1729	1173	896	1173	1729	1123
45°	933	962	762	962	933	739
55°	634	678	604	678	634	569
65°	412	418	427	418	412	410
75°	212	199	228	199	212	227
85°	49	40	44	40	49	59
90°	36	1	36	1	36	19
95°	46	74	46	74	46	39
105°	53	361	53	361	53	122
115°	713	678	713	678	713	658
125°	974	955	974	955	974	870
135°	1201	1189	1201	1189	1201	926
145°	1385	1372	1385	1372	1385	865
155°	1509	1511	1509	1511	1509	696
165°	1590	1594	1590	1594	1590	449
175°	1625	1631	1625	1631	1625	155
180°	1631	1631	1631	1631	1631	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1622.6	1621.4	1618.4	1620.8	1616.1	1609.5	1608.9	1603.0	1585.8	1584.6	1579.9
5°	1816.4	1810.4	1809.7	1808.9	1798.6	1784.5	1757.8	1755.6	1720.0	1702.2	1680.8
7.5°	2067.3	2070.4	2059.6	2050.1	2018.5	1997.5	1969.0	1932.4	1888.7	1844.4	1814.9
10°	2247.5	2271.9	2241.6	2220.8	2201.6	2165.2	2123.1	2070.4	2017.8	1956.3	1909.7
12.5°	2440.7	2452.7	2446.6	2427.0	2397.1	2341.8	2267.0	2209.1	2160.7	2058.3	2016.9
15°	2703.8	2749.0	2720.1	2653.4	2654.9	2602.3	2504.5	2397.1	2340.1	2250.4	2128.3
17.5°	2984.1	2989.7	2977.4	2921.9	2884.8	2812.5	2722.3	2619.3	2503.8	2395.4	2265.7
20°	3133.4	3129.0	3103.0	3074.2	3010.5	2954.2	2855.6	2740.8	2592.7	2486.1	2344.5
22.5°	3216.4	3209.0	3196.7	3172.5	3119.5	3059.0	2970.6	2845.2	2704.1	2557.1	2393.7
25°	3209.0	3218.6	3220.1	3213.4	3194.9	3158.6	3089.0	2989.0	2848.3	2659.4	2489.0
27.5°	2918.6	2932.2	2971.8	3006.9	3046.2	3086.2	3080.8	3031.2	2927.1	2763.9	2555.6
30°	2628.2	2598.6	2671.9	2764.6	2827.5	2938.6	3000.9	3004.5	2946.0	2806.0	2603.0
32.5°	2225.2	2257.9	2290.3	2404.2	2541.8	2666.6	2790.5	2890.2	2901.6	2808.4	2630.9
35°	1728.9	1769.7	1828.9	1888.2	2036.4	2163.8	2381.5	2571.2	2722.3	2742.3	2633.4
37.5°	1393.3	1413.3	1450.9	1510.2	1607.1	1758.3	1926.7	2166.4	2385.4	2548.3	2555.3
40°	1217.9	1223.7	1265.9	1311.2	1389.7	1514.1	1665.9	1877.8	2140.0	2367.5	2462.3
42.5°	1086.3	1099.3	1117.2	1160.6	1223.1	1316.8	1458.0	1633.0	1873.4	2135.1	2320.6
45°	933.4	948.2	959.3	988.2	1032.6	1095.6	1194.1	1354.2	1537.1	1807.4	2057.1
47.5°	832.4	833.5	841.8	863.6	893.8	941.0	1010.7	1113.5	1281.5	1500.8	1757.1
50°	760.1	771.8	774.9	791.8	815.6	850.4	908.1	995.6	1133.4	1326.0	1561.5
52.5°	709.1	712.7	721.0	733.2	753.9	781.1	831.1	899.6	1007.8	1171.9	1388.5
55°	634.0	634.0	642.2	651.9	663.7	688.2	721.5	771.8	854.1	981.5	1160.7
57.5°	564.8	568.4	574.2	577.2	587.3	603.4	631.3	669.5	730.8	828.9	971.5
60°	518.5	525.2	524.4	530.4	539.3	551.9	575.6	606.7	661.5	740.0	860.1
62.5°	478.2	477.8	477.7	484.7	493.6	505.7	521.0	548.0	594.6	664.2	766.4
65°	411.9	410.4	415.6	420.0	423.0	431.9	443.7	467.4	498.5	550.4	629.6
67.5°	352.9	348.6	351.4	352.9	358.0	364.9	376.0	390.7	415.4	457.0	516.8
70°	312.6	308.9	308.1	309.6	314.1	319.2	327.4	341.5	364.5	397.8	441.5
72.5°	271.1	268.6	268.4	271.7	273.8	277.2	283.0	295.9	314.1	339.1	379.8
75°	211.9	211.9	211.9	212.6	214.8	217.8	222.3	228.8	243.0	260.7	288.1
77.5°	158.8	158.6	157.8	157.6	160.9	162.2	163.2	169.5	177.3	189.4	209.3
80°	124.4	120.7	122.2	124.4	125.9	126.7	128.9	130.4	137.0	143.7	157.8
82.5°	92.5	89.4	89.6	93.0	93.3	94.1	96.3	98.4	100.9	107.0	114.5
85°	48.9	48.9	49.7	49.7	50.3	49.7	51.8	52.6	52.6	56.3	60.7
87.5°	25.1	23.8	24.2	24.7	24.0	24.4	24.8	25.2	25.5	25.9	25.8
90°	36.4	35.8	35.3	34.8	34.2	33.4	32.3	31.2	30.2	29.1	25.5
92.5°	40.2	39.9	39.6	39.3	38.9	37.9	36.2	34.5	32.7	31.0	28.4
95°	46.1	46.1	46.1	46.1	46.1	45.1	43.3	41.4	39.5	37.6	34.6
97.5°	50.0	49.7	49.4	49.1	48.8	47.6	45.5	43.4	41.2	39.0	58.4
100°	50.9	50.6	50.3	50.0	49.9	48.6	46.5	44.3	42.1	40.0	82.0
102.5°	51.8	51.4	50.9	50.4	50.0	53.1	59.7	66.4	73.0	79.7	125.6
105°	53.3	52.8	52.2	51.7	51.2	74.7	122.4	170.0	217.7	265.4	289.6
107.5°	167.5	203.4	239.3	275.3	311.2	346.7	381.6	416.6	451.5	486.4	482.7
110°	333.3	371.8	410.3	448.8	487.3	511.0	519.9	528.8	537.7	546.6	543.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	571.8	579.9	588.1	596.2	604.4	608.3	608.1	608.0	607.8	607.7	604.7
115°	712.7	711.5	710.5	709.4	708.3	706.4	703.7	701.1	698.3	695.7	693.2
117.5°	791.6	791.5	791.2	791.0	790.8	789.6	787.4	785.3	783.2	781.0	779.8
120°	845.9	845.9	845.9	845.9	845.9	844.9	842.7	840.6	838.4	836.2	835.5
122.5°	899.3	899.1	898.8	898.6	898.4	897.6	896.1	894.6	893.1	891.6	890.5
125°	974.4	973.8	973.4	972.8	972.2	971.7	971.2	970.6	970.1	969.6	968.5
127.5°	1046.6	1047.2	1047.7	1048.3	1048.8	1048.7	1047.7	1046.9	1046.0	1045.2	1043.9
130°	1093.2	1093.7	1094.3	1094.8	1095.3	1095.0	1094.0	1092.9	1091.8	1090.7	1089.7
132.5°	1135.9	1136.6	1137.4	1138.1	1138.9	1138.7	1137.6	1136.5	1135.5	1134.3	1133.5
135°	1201.1	1201.8	1202.7	1203.4	1204.3	1204.3	1203.4	1202.7	1201.8	1201.1	1200.0
137.5°	1262.3	1262.9	1263.5	1263.9	1264.5	1264.1	1262.8	1261.6	1260.3	1259.0	1258.4
140°	1299.2	1299.8	1300.2	1300.8	1301.4	1301.1	1300.0	1298.9	1297.9	1296.8	1296.0
142.5°	1333.1	1333.9	1334.6	1335.4	1336.1	1336.1	1335.2	1334.4	1333.5	1332.7	1331.8
145°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.0	1384.4	1383.9	1383.4	1382.8	1382.3
147.5°	1424.0	1425.3	1426.5	1427.8	1429.0	1429.4	1428.8	1428.2	1427.8	1427.2	1426.6
150°	1453.1	1454.0	1454.7	1455.6	1456.3	1456.5	1455.9	1455.4	1454.9	1454.3	1453.8
152.5°	1476.4	1477.6	1478.8	1480.1	1481.4	1481.5	1480.5	1479.5	1478.6	1477.6	1477.2
155°	1508.9	1510.5	1512.1	1513.7	1515.3	1515.5	1514.1	1512.8	1511.5	1510.0	1509.9
157.5°	1536.3	1538.3	1540.5	1542.6	1544.6	1544.9	1543.3	1541.7	1540.0	1538.4	1538.7
160°	1553.7	1555.6	1557.5	1559.3	1561.2	1561.4	1559.8	1558.1	1556.5	1554.9	1555.2
162.5°	1570.2	1571.9	1573.6	1575.2	1576.9	1576.8	1575.0	1573.1	1571.3	1569.4	1569.7
165°	1590.1	1592.0	1593.8	1595.7	1597.6	1597.5	1595.3	1593.2	1591.0	1588.8	1589.1
167.5°	1604.4	1606.6	1608.7	1610.8	1613.0	1613.0	1610.8	1608.7	1606.6	1604.4	1604.4
170°	1613.1	1615.2	1617.4	1619.6	1621.7	1621.7	1619.6	1617.4	1615.2	1613.1	1613.1
172.5°	1618.0	1620.3	1622.7	1625.0	1627.4	1627.6	1625.4	1623.2	1621.1	1618.9	1618.7
175°	1625.2	1627.4	1629.6	1631.7	1633.8	1634.0	1632.1	1630.2	1628.3	1626.5	1626.2
177.5°	1627.4	1629.6	1631.7	1633.9	1636.1	1636.3	1634.6	1632.8	1631.1	1629.4	1629.1
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1576.3	1571.6	1566.9	1558.6	1551.4	1541.3	1538.4	1534.8	1524.2	1514.8	1507.6
5°	1672.6	1654.8	1628.9	1605.2	1586.0	1560.1	1545.2	1529.7	1507.4	1487.4	1471.1
7.5°	1773.4	1738.4	1698.1	1654.5	1614.0	1574.9	1543.3	1515.1	1484.0	1454.5	1431.6
10°	1853.4	1803.0	1746.7	1686.0	1634.1	1583.8	1541.5	1504.5	1464.5	1429.6	1400.8
12.5°	1944.7	1870.0	1792.3	1718.5	1657.3	1587.3	1536.2	1489.1	1443.8	1401.8	1369.4
15°	2052.7	1957.8	1866.0	1764.5	1671.1	1583.8	1523.1	1463.8	1411.2	1368.2	1326.7
17.5°	2151.1	2043.6	1922.6	1799.1	1686.6	1582.9	1497.8	1430.9	1365.1	1312.5	1271.1
20°	2206.8	2084.5	1947.5	1819.3	1694.9	1579.3	1486.0	1406.0	1334.8	1279.3	1232.7
22.5°	2254.8	2111.8	1970.0	1833.0	1694.3	1569.8	1464.1	1381.7	1304.7	1250.3	1200.6
25°	2304.5	2133.4	1991.2	1830.4	1675.7	1546.7	1428.2	1334.8	1257.8	1194.1	1143.0
27.5°	2347.2	2131.9	1963.1	1790.3	1646.2	1517.1	1390.5	1290.4	1208.6	1139.4	1087.6
30°	2375.6	2134.9	1934.1	1763.0	1617.9	1484.5	1361.5	1260.7	1174.9	1104.5	1055.6
32.5°	2393.4	2133.1	1907.4	1725.1	1572.8	1454.8	1330.1	1225.8	1137.6	1068.4	1021.2
35°	2403.8	2120.1	1861.5	1646.7	1500.1	1385.3	1280.8	1172.6	1080.1	1015.6	962.2
37.5°	2383.0	2092.6	1808.2	1571.1	1410.6	1297.5	1209.7	1117.5	1028.9	958.0	912.0
40°	2350.4	2074.9	1766.7	1517.9	1349.0	1240.0	1165.3	1074.9	987.4	920.0	877.0
42.5°	2288.2	2038.7	1721.1	1458.6	1285.0	1176.0	1107.1	1031.6	949.0	885.6	842.7
45°	2136.4	1960.0	1652.7	1369.7	1190.4	1077.8	1017.1	962.2	887.4	826.0	788.9
47.5°	1925.7	1841.7	1553.7	1275.9	1091.7	983.4	920.3	876.2	821.5	771.8	736.3
50°	1779.3	1744.5	1486.7	1211.9	1026.0	920.0	859.3	819.3	780.0	730.4	697.8
52.5°	1610.4	1631.9	1408.5	1145.5	959.0	854.9	797.7	765.9	730.3	689.5	661.1
55°	1372.6	1450.4	1273.4	1034.1	859.3	760.1	706.0	677.8	657.0	626.7	602.3
57.5°	1150.0	1249.0	1127.3	919.3	761.4	675.7	623.9	593.2	579.9	564.0	544.8
60°	1017.9	1115.6	1023.0	842.3	695.6	614.1	568.2	542.2	528.9	517.8	501.5
62.5°	899.8	998.8	921.1	764.0	630.9	555.4	515.4	490.1	479.8	473.9	460.1
65°	737.8	823.0	771.1	642.2	538.6	471.8	435.5	417.8	408.1	406.0	397.1
67.5°	600.5	665.3	627.5	532.7	451.1	393.5	362.7	347.6	340.2	339.4	332.7
70°	510.4	571.1	542.2	456.3	386.0	340.7	314.1	300.8	296.3	295.6	291.9
72.5°	440.5	482.9	459.9	388.1	333.8	292.8	273.1	259.3	254.2	255.2	252.8
75°	325.9	357.8	344.5	294.8	251.1	224.4	208.1	199.3	194.8	197.1	194.1
77.5°	234.5	254.7	242.7	208.3	181.3	162.1	150.1	144.6	140.6	140.4	139.1
80°	177.0	188.9	182.2	161.5	139.3	123.0	113.3	109.6	107.4	106.7	105.9
82.5°	126.1	136.2	128.3	114.0	99.0	89.2	83.7	78.8	77.2	77.7	76.9
85°	63.7	67.4	64.5	55.5	49.7	45.1	42.2	40.0	38.5	39.3	37.8
87.5°	26.3	26.2	23.8	20.7	19.0	16.7	16.2	14.4	13.9	14.3	14.3
90°	22.1	18.6	15.1	12.0	9.3	6.6	3.9	1.2	3.9	6.6	9.3
92.5°	25.7	23.1	20.5	19.5	20.3	21.0	21.8	22.5	21.8	21.0	20.3
95°	31.7	28.7	25.7	29.8	40.8	51.8	62.9	73.9	62.9	51.8	40.8
97.5°	77.9	97.2	116.6	128.8	133.7	138.6	143.6	148.5	143.6	138.6	133.7
100°	124.0	166.1	208.0	226.4	220.9	215.6	210.2	204.8	210.2	215.6	220.9
102.5°	171.5	217.4	263.3	284.4	280.4	276.5	272.7	268.8	272.7	276.5	280.4
105°	313.9	338.1	362.4	373.0	370.0	367.1	364.1	361.2	364.1	367.1	370.0
107.5°	478.8	475.0	471.2	468.1	465.7	463.4	461.0	458.6	461.0	463.4	465.7
110°	540.6	537.7	534.7	532.2	530.0	527.8	525.8	523.6	525.8	527.8	530.0



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	601.7	598.8	595.8	593.3	591.4	589.5	587.6	585.6	587.6	589.5	591.4
115°	690.8	688.3	686.0	683.9	682.3	680.7	679.1	677.5	679.1	680.7	682.3
117.5°	778.5	777.2	776.0	774.4	772.4	770.4	768.5	766.5	768.5	770.4	772.4
120°	834.6	833.8	833.0	831.4	829.0	826.5	824.2	821.7	824.2	826.5	829.0
122.5°	889.5	888.4	887.4	885.9	883.9	881.9	880.0	878.0	880.0	881.9	883.9
125°	967.4	966.3	965.3	963.7	961.5	959.3	957.2	955.0	957.2	959.3	961.5
127.5°	1042.6	1041.3	1040.0	1038.3	1036.1	1034.0	1031.8	1029.6	1031.8	1034.0	1036.1
130°	1088.6	1087.5	1086.5	1084.9	1082.7	1080.5	1078.4	1076.2	1078.4	1080.5	1082.7
132.5°	1132.7	1131.8	1131.0	1129.4	1127.3	1125.1	1122.9	1120.8	1122.9	1125.1	1127.3
135°	1198.9	1197.8	1196.7	1195.4	1193.7	1192.1	1190.5	1188.9	1190.5	1192.1	1193.7
137.5°	1257.8	1257.2	1256.6	1255.3	1253.2	1251.2	1249.2	1247.1	1249.2	1251.2	1253.2
140°	1295.1	1294.4	1293.5	1292.3	1290.7	1289.1	1287.5	1285.9	1287.5	1289.1	1290.7
142.5°	1331.1	1330.2	1329.5	1328.2	1326.6	1325.0	1323.3	1321.7	1323.3	1325.0	1326.6
145°	1381.8	1381.2	1380.6	1379.5	1377.6	1375.7	1373.9	1372.0	1373.9	1375.7	1377.6
147.5°	1426.1	1425.6	1425.0	1424.2	1422.9	1421.6	1420.4	1419.2	1420.4	1421.6	1422.9
150°	1453.2	1452.7	1452.2	1451.5	1450.7	1449.9	1449.1	1448.3	1449.1	1449.9	1450.7
152.5°	1477.0	1476.7	1476.3	1475.9	1475.6	1475.2	1474.8	1474.4	1474.8	1475.2	1475.6
155°	1509.6	1509.3	1509.0	1509.1	1509.7	1510.2	1510.8	1511.3	1510.8	1510.2	1509.7
157.5°	1539.0	1539.3	1539.5	1539.6	1539.7	1539.8	1539.8	1539.9	1539.8	1539.8	1539.7
160°	1555.5	1555.8	1556.0	1556.2	1556.5	1556.8	1557.1	1557.4	1557.1	1556.8	1556.5
162.5°	1570.0	1570.3	1570.6	1571.0	1571.7	1572.4	1573.1	1573.9	1573.1	1572.4	1571.7
165°	1589.4	1589.7	1590.0	1590.4	1591.3	1592.0	1592.9	1593.7	1592.9	1592.0	1591.3
167.5°	1604.4	1604.4	1604.4	1604.9	1606.0	1607.0	1608.2	1609.2	1608.2	1607.0	1606.0
170°	1613.1	1613.1	1613.1	1613.6	1614.8	1615.8	1616.8	1618.0	1616.8	1615.8	1614.8
172.5°	1618.5	1618.3	1618.1	1618.6	1619.9	1621.2	1622.5	1623.8	1622.5	1621.2	1619.9
175°	1625.9	1625.6	1625.3	1625.9	1627.2	1628.6	1629.9	1631.3	1629.9	1628.6	1627.2
177.5°	1628.9	1628.7	1628.5	1628.9	1630.0	1631.1	1632.1	1633.2	1632.1	1631.1	1630.0
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1503.4	1499.3	1493.4	1484.5	1477.3	1466.1	1466.1	1467.9	1467.9	1467.4	1466.1
5°	1457.8	1446.7	1433.4	1417.9	1401.6	1385.3	1382.2	1376.3	1371.9	1368.9	1365.3
7.5°	1409.7	1390.0	1370.6	1348.8	1328.9	1312.5	1301.1	1291.6	1285.5	1279.0	1274.2
10°	1377.1	1352.6	1329.6	1306.7	1281.5	1261.5	1249.0	1240.0	1233.4	1227.5	1224.5
12.5°	1338.6	1310.6	1285.3	1263.5	1235.9	1215.3	1203.3	1199.1	1191.3	1178.8	1172.3
15°	1282.2	1256.3	1226.0	1192.6	1179.3	1154.1	1140.0	1133.4	1128.9	1119.3	1116.3
17.5°	1234.1	1200.1	1166.1	1141.2	1116.4	1096.0	1088.2	1079.9	1073.9	1066.1	1063.8
20°	1195.6	1165.3	1134.1	1107.5	1081.5	1059.3	1052.6	1046.7	1040.8	1037.1	1034.1
22.5°	1156.5	1126.1	1100.3	1075.4	1047.7	1033.2	1026.0	1019.5	1015.3	1012.8	1009.8
25°	1101.5	1074.9	1045.9	1023.7	1001.5	991.8	987.4	983.7	980.8	977.0	976.3
27.5°	1052.3	1023.3	999.8	979.1	963.2	955.2	950.8	949.0	949.7	951.0	951.9
30°	1015.6	988.9	969.7	951.9	937.1	929.6	928.9	928.9	931.9	932.6	934.1
32.5°	981.8	959.9	940.7	923.4	912.2	907.1	909.9	909.9	912.3	914.3	916.9
35°	932.6	913.3	898.5	883.7	874.1	876.3	877.8	879.3	883.0	887.4	890.4
37.5°	885.6	868.9	853.5	842.0	837.5	841.5	845.1	848.2	852.4	855.9	858.8
40°	851.9	839.2	824.4	814.1	815.6	817.8	820.8	824.4	828.2	830.4	833.4
42.5°	820.5	807.3	796.1	787.4	789.5	792.3	794.1	796.1	800.3	804.4	806.1
45°	772.6	762.2	751.9	746.7	748.2	749.7	751.1	753.4	757.1	760.1	760.7
47.5°	718.9	711.6	704.6	699.6	701.9	701.3	703.3	708.0	709.2	711.0	715.1
50°	684.5	677.8	669.7	668.2	668.2	668.2	668.9	674.9	674.9	677.8	680.8
52.5°	646.6	642.2	637.1	634.4	633.2	633.2	636.3	639.3	640.5	644.6	647.6
55°	590.4	586.0	581.5	579.3	577.8	579.3	585.2	586.6	590.4	592.6	594.8
57.5°	531.9	528.5	524.9	523.7	523.4	525.4	528.6	533.0	534.0	540.7	544.1
60°	493.3	488.1	485.2	485.2	483.7	490.4	488.9	496.3	497.8	502.3	507.5
62.5°	453.6	446.7	445.5	445.5	447.6	449.5	451.6	454.9	458.6	464.3	468.3
65°	389.6	386.0	391.2	390.4	388.9	393.3	393.3	397.1	401.5	406.7	414.8
67.5°	329.0	327.2	327.5	327.5	329.8	332.3	334.4	337.6	343.0	348.5	353.8
70°	288.1	290.4	286.7	289.6	291.9	292.6	294.1	298.5	304.4	308.1	314.1
72.5°	248.5	248.3	248.7	250.0	252.1	253.4	255.0	260.0	266.6	269.7	274.4
75°	191.1	190.4	192.6	192.6	196.3	197.7	199.3	201.5	207.5	211.9	215.6
77.5°	139.6	140.4	140.0	142.5	141.5	141.8	146.4	148.6	149.2	158.0	159.9
80°	105.2	106.7	107.4	108.1	108.9	107.4	112.6	114.8	114.8	120.0	123.7
82.5°	75.6	76.4	78.4	79.1	79.3	80.8	81.2	82.8	84.6	86.8	91.7
85°	37.8	40.0	40.7	40.0	40.7	39.3	41.5	42.2	43.0	43.0	43.0
87.5°	14.2	15.5	15.6	16.9	17.0	18.3	18.5	17.5	17.7	19.7	17.5
90°	12.0	15.1	18.6	22.1	25.5	29.1	30.2	31.2	32.3	33.4	34.2
92.5°	19.5	20.5	23.1	25.7	28.4	31.0	32.7	34.5	36.2	37.9	38.9
95°	29.8	25.7	28.7	31.7	34.6	37.6	39.5	41.4	43.3	45.1	46.1
97.5°	128.8	116.6	97.2	77.9	58.4	39.0	41.2	43.4	45.5	47.6	48.8
100°	226.4	208.0	166.1	124.0	82.0	40.0	42.1	44.3	46.5	48.6	49.9
102.5°	284.4	263.3	217.4	171.5	125.6	79.7	73.0	66.4	59.7	53.1	50.0
105°	373.0	362.4	338.1	313.9	289.6	265.4	217.7	170.0	122.4	74.7	51.2
107.5°	468.1	471.2	475.0	478.8	482.7	486.4	451.5	416.6	381.6	346.7	311.2
110°	532.2	534.7	537.7	540.6	543.7	546.6	537.7	528.8	519.9	511.0	487.3



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	593.3	595.8	598.8	601.7	604.7	607.7	607.8	608.0	608.1	608.3	604.4
115°	683.9	686.0	688.3	690.8	693.2	695.7	698.3	701.1	703.7	706.4	708.3
117.5°	774.4	776.0	777.2	778.5	779.8	781.0	783.2	785.3	787.4	789.6	790.8
120°	831.4	833.0	833.8	834.6	835.5	836.2	838.4	840.6	842.7	844.9	845.9
122.5°	885.9	887.4	888.4	889.5	890.5	891.6	893.1	894.6	896.1	897.6	898.4
125°	963.7	965.3	966.3	967.4	968.5	969.6	970.1	970.6	971.2	971.7	972.2
127.5°	1038.3	1040.0	1041.3	1042.6	1043.9	1045.2	1046.0	1046.9	1047.7	1048.7	1048.8
130°	1084.9	1086.5	1087.5	1088.6	1089.7	1090.7	1091.8	1092.9	1094.0	1095.0	1095.3
132.5°	1129.4	1131.0	1131.8	1132.7	1133.5	1134.3	1135.5	1136.5	1137.6	1138.7	1138.9
135°	1195.4	1196.7	1197.8	1198.9	1200.0	1201.1	1201.8	1202.7	1203.4	1204.3	1204.3
137.5°	1255.3	1256.6	1257.2	1257.8	1258.4	1259.0	1260.3	1261.6	1262.8	1264.1	1264.5
140°	1292.3	1293.5	1294.4	1295.1	1296.0	1296.8	1297.9	1298.9	1300.0	1301.1	1301.4
142.5°	1328.2	1329.5	1330.2	1331.1	1331.8	1332.7	1333.5	1334.4	1335.2	1336.1	1336.1
145°	1379.5	1380.6	1381.2	1381.8	1382.3	1382.8	1383.4	1383.9	1384.4	1385.0	1385.3
147.5°	1424.2	1425.0	1425.6	1426.1	1426.6	1427.2	1427.8	1428.2	1428.8	1429.4	1429.0
150°	1451.5	1452.2	1452.7	1453.2	1453.8	1454.3	1454.9	1455.4	1455.9	1456.5	1456.3
152.5°	1475.9	1476.3	1476.7	1477.0	1477.2	1477.6	1478.6	1479.5	1480.5	1481.5	1481.4
155°	1509.1	1509.0	1509.3	1509.6	1509.9	1510.0	1511.5	1512.8	1514.1	1515.5	1515.3
157.5°	1539.6	1539.5	1539.3	1539.0	1538.7	1538.4	1540.0	1541.7	1543.3	1544.9	1544.6
160°	1556.2	1556.0	1555.8	1555.5	1555.2	1554.9	1556.5	1558.1	1559.8	1561.4	1561.2
162.5°	1571.0	1570.6	1570.3	1570.0	1569.7	1569.4	1571.3	1573.1	1575.0	1576.8	1576.9
165°	1590.4	1590.0	1589.7	1589.4	1589.1	1588.8	1591.0	1593.2	1595.3	1597.5	1597.6
167.5°	1604.9	1604.4	1604.4	1604.4	1604.4	1604.4	1606.6	1608.7	1610.8	1613.0	1613.0
170°	1613.6	1613.1	1613.1	1613.1	1613.1	1613.1	1615.2	1617.4	1619.6	1621.7	1621.7
172.5°	1618.6	1618.1	1618.3	1618.5	1618.7	1618.9	1621.1	1623.2	1625.4	1627.6	1627.4
175°	1625.9	1625.3	1625.6	1625.9	1626.2	1626.5	1628.3	1630.2	1632.1	1634.0	1633.8
177.5°	1628.9	1628.5	1628.7	1628.9	1629.1	1629.4	1631.1	1632.8	1634.6	1636.3	1636.1
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1462.0	1461.4	1465.6	1462.5	1465.6	1461.4	1462.0	1466.1	1467.4	1467.9	1467.9
5°	1360.7	1363.0	1355.6	1355.6	1355.6	1363.0	1360.7	1365.3	1368.9	1371.9	1376.3
7.5°	1270.7	1267.4	1267.7	1263.8	1267.7	1267.4	1270.7	1274.2	1279.0	1285.5	1291.6
10°	1215.6	1211.2	1209.7	1210.4	1209.7	1211.2	1215.6	1224.5	1227.5	1233.4	1240.0
12.5°	1170.0	1169.0	1159.3	1159.4	1159.3	1169.0	1170.0	1172.3	1178.8	1191.3	1199.1
15°	1116.3	1102.3	1100.8	1105.2	1100.8	1102.3	1116.3	1116.3	1119.3	1128.9	1133.4
17.5°	1062.5	1055.2	1055.6	1053.4	1055.6	1055.2	1062.5	1063.8	1066.1	1073.9	1079.9
20°	1034.1	1029.6	1028.9	1023.7	1028.9	1029.6	1034.1	1034.1	1037.1	1040.8	1046.7
22.5°	1008.0	1006.5	1007.0	1001.3	1007.0	1006.5	1008.0	1009.8	1012.8	1015.3	1019.5
25°	975.6	979.3	976.3	976.3	976.3	979.3	975.6	976.3	977.0	980.8	983.7
27.5°	953.7	953.5	952.1	952.1	952.1	953.5	953.7	951.9	951.0	949.7	949.0
30°	937.1	936.3	937.8	937.8	937.8	936.3	937.1	934.1	932.6	931.9	928.9
32.5°	920.5	921.5	921.8	922.4	921.8	921.5	920.5	916.9	914.3	912.3	909.9
35°	894.8	895.6	897.8	896.4	897.8	895.6	894.8	890.4	887.4	883.0	879.3
37.5°	860.2	863.6	862.8	864.0	862.8	863.6	860.2	858.8	855.9	852.4	848.2
40°	834.1	836.3	835.6	835.6	835.6	836.3	834.1	833.4	830.4	828.2	824.4
42.5°	807.5	809.1	807.1	806.0	807.1	809.1	807.5	806.1	804.4	800.3	796.1
45°	763.7	762.2	764.5	761.5	764.5	762.2	763.7	760.7	760.1	757.1	753.4
47.5°	714.8	716.3	716.9	719.2	716.9	716.3	714.8	715.1	711.0	709.2	708.0
50°	682.2	686.6	686.6	686.0	686.6	686.6	682.2	680.8	677.8	674.9	674.9
52.5°	650.3	652.3	655.3	655.2	655.3	652.3	650.3	647.6	644.6	640.5	639.3
55°	600.8	602.3	603.7	604.5	603.7	602.3	600.8	594.8	592.6	590.4	586.6
57.5°	549.5	548.9	552.4	553.5	552.4	548.9	549.5	544.1	540.7	534.0	533.0
60°	513.3	513.3	519.2	521.5	519.2	513.3	513.3	507.5	502.3	497.8	496.3
62.5°	474.9	477.2	483.1	480.0	483.1	477.2	474.9	468.3	464.3	458.6	454.9
65°	418.5	424.4	423.7	426.7	423.7	424.4	418.5	414.8	406.7	401.5	397.1
67.5°	359.7	363.4	368.7	369.2	368.7	363.4	359.7	353.8	348.5	343.0	337.6
70°	320.0	323.7	326.7	328.9	326.7	323.7	320.0	314.1	308.1	304.4	298.5
72.5°	281.5	283.4	290.5	287.4	290.5	283.4	281.5	274.4	269.7	266.6	260.0
75°	220.7	225.9	230.4	228.2	230.4	225.9	220.7	215.6	211.9	207.5	201.5
77.5°	163.2	168.4	170.5	168.6	170.5	168.4	163.2	159.9	158.0	149.2	148.6
80°	128.9	128.2	132.6	131.9	132.6	128.2	128.9	123.7	120.0	114.8	114.8
82.5°	94.5	93.8	95.9	96.3	95.9	93.8	94.5	91.7	86.8	84.6	82.8
85°	45.9	48.2	45.1	44.5	45.1	48.2	45.9	43.0	43.0	43.0	42.2
87.5°	17.6	17.7	17.2	16.8	17.2	17.7	17.6	17.5	19.7	17.7	17.5
90°	34.8	35.3	35.8	36.4	35.8	35.3	34.8	34.2	33.4	32.3	31.2
92.5°	39.3	39.6	39.9	40.2	39.9	39.6	39.3	38.9	37.9	36.2	34.5
95°	46.1	46.1	46.1	46.1	46.1	46.1	46.1	46.1	45.1	43.3	41.4
97.5°	49.1	49.4	49.7	50.0	49.7	49.4	49.1	48.8	47.6	45.5	43.4
100°	50.0	50.3	50.6	50.9	50.6	50.3	50.0	49.9	48.6	46.5	44.3
102.5°	50.4	50.9	51.4	51.8	51.4	50.9	50.4	50.0	53.1	59.7	66.4
105°	51.7	52.2	52.8	53.3	52.8	52.2	51.7	51.2	74.7	122.4	170.0
107.5°	275.3	239.3	203.4	167.5	203.4	239.3	275.3	311.2	346.7	381.6	416.6
110°	448.8	410.3	371.8	333.3	371.8	410.3	448.8	487.3	511.0	519.9	528.8



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	596.2	588.1	579.9	571.8	579.9	588.1	596.2	604.4	608.3	608.1	608.0
115°	709.4	710.5	711.5	712.7	711.5	710.5	709.4	708.3	706.4	703.7	701.1
117.5°	791.0	791.2	791.5	791.6	791.5	791.2	791.0	790.8	789.6	787.4	785.3
120°	845.9	845.9	845.9	845.9	845.9	845.9	845.9	845.9	844.9	842.7	840.6
122.5°	898.6	898.8	899.1	899.3	899.1	898.8	898.6	898.4	897.6	896.1	894.6
125°	972.8	973.4	973.8	974.4	973.8	973.4	972.8	972.2	971.7	971.2	970.6
127.5°	1048.3	1047.7	1047.2	1046.6	1047.2	1047.7	1048.3	1048.8	1048.7	1047.7	1046.9
130°	1094.8	1094.3	1093.7	1093.2	1093.7	1094.3	1094.8	1095.3	1095.0	1094.0	1092.9
132.5°	1138.1	1137.4	1136.6	1135.9	1136.6	1137.4	1138.1	1138.9	1138.7	1137.6	1136.5
135°	1203.4	1202.7	1201.8	1201.1	1201.8	1202.7	1203.4	1204.3	1204.3	1203.4	1202.7
137.5°	1263.9	1263.5	1262.9	1262.3	1262.9	1263.5	1263.9	1264.5	1264.1	1262.8	1261.6
140°	1300.8	1300.2	1299.8	1299.2	1299.8	1300.2	1300.8	1301.4	1301.1	1300.0	1298.9
142.5°	1335.4	1334.6	1333.9	1333.1	1333.9	1334.6	1335.4	1336.1	1336.1	1335.2	1334.4
145°	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.3	1385.0	1384.4	1383.9
147.5°	1427.8	1426.5	1425.3	1424.0	1425.3	1426.5	1427.8	1429.0	1429.4	1428.8	1428.2
150°	1455.6	1454.7	1454.0	1453.1	1454.0	1454.7	1455.6	1456.3	1456.5	1455.9	1455.4
152.5°	1480.1	1478.8	1477.6	1476.4	1477.6	1478.8	1480.1	1481.4	1481.5	1480.5	1479.5
155°	1513.7	1512.1	1510.5	1508.9	1510.5	1512.1	1513.7	1515.3	1515.5	1514.1	1512.8
157.5°	1542.6	1540.5	1538.3	1536.3	1538.3	1540.5	1542.6	1544.6	1544.9	1543.3	1541.7
160°	1559.3	1557.5	1555.6	1553.7	1555.6	1557.5	1559.3	1561.2	1561.4	1559.8	1558.1
162.5°	1575.2	1573.6	1571.9	1570.2	1571.9	1573.6	1575.2	1576.9	1576.8	1575.0	1573.1
165°	1595.7	1593.8	1592.0	1590.1	1592.0	1593.8	1595.7	1597.6	1597.5	1595.3	1593.2
167.5°	1610.8	1608.7	1606.6	1604.4	1606.6	1608.7	1610.8	1613.0	1613.0	1610.8	1608.7
170°	1619.6	1617.4	1615.2	1613.1	1615.2	1617.4	1619.6	1621.7	1621.7	1619.6	1617.4
172.5°	1625.0	1622.7	1620.3	1618.0	1620.3	1622.7	1625.0	1627.4	1627.6	1625.4	1623.2
175°	1631.7	1629.6	1627.4	1625.2	1627.4	1629.6	1631.7	1633.8	1634.0	1632.1	1630.2
177.5°	1633.9	1631.7	1629.6	1627.4	1629.6	1631.7	1633.9	1636.1	1636.3	1634.6	1632.8
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1466.1	1466.1	1477.3	1484.5	1493.4	1499.3	1503.4	1507.6	1514.8	1524.2	1534.8
5°	1382.2	1385.3	1401.6	1417.9	1433.4	1446.7	1457.8	1471.1	1487.4	1507.4	1529.7
7.5°	1301.1	1312.5	1328.9	1348.8	1370.6	1390.0	1409.7	1431.6	1454.5	1484.0	1515.1
10°	1249.0	1261.5	1281.5	1306.7	1329.6	1352.6	1377.1	1400.8	1429.6	1464.5	1504.5
12.5°	1203.3	1215.3	1235.9	1263.5	1285.3	1310.6	1338.6	1369.4	1401.8	1443.8	1489.1
15°	1140.0	1154.1	1179.3	1192.6	1226.0	1256.3	1282.2	1326.7	1368.2	1411.2	1463.8
17.5°	1088.2	1096.0	1116.4	1141.2	1166.1	1200.1	1234.1	1271.1	1312.5	1365.1	1430.9
20°	1052.6	1059.3	1081.5	1107.5	1134.1	1165.3	1195.6	1232.7	1279.3	1334.8	1406.0
22.5°	1026.0	1033.2	1047.7	1075.4	1100.3	1126.1	1156.5	1200.6	1250.3	1304.7	1381.7
25°	987.4	991.8	1001.5	1023.7	1045.9	1074.9	1101.5	1143.0	1194.1	1257.8	1334.8
27.5°	950.8	955.2	963.2	979.1	999.8	1023.3	1052.3	1087.6	1139.4	1208.6	1290.4
30°	928.9	929.6	937.1	951.9	969.7	988.9	1015.6	1055.6	1104.5	1174.9	1260.7
32.5°	909.9	907.1	912.2	923.4	940.7	959.9	981.8	1021.2	1068.4	1137.6	1225.8
35°	877.8	876.3	874.1	883.7	898.5	913.3	932.6	962.2	1015.6	1080.1	1172.6
37.5°	845.1	841.5	837.5	842.0	853.5	868.9	885.6	912.0	958.0	1028.9	1117.5
40°	820.8	817.8	815.6	814.1	824.4	839.2	851.9	877.0	920.0	987.4	1074.9
42.5°	794.1	792.3	789.5	787.4	796.1	807.3	820.5	842.7	885.6	949.0	1031.6
45°	751.1	749.7	748.2	746.7	751.9	762.2	772.6	788.9	826.0	887.4	962.2
47.5°	703.3	701.3	701.9	699.6	704.6	711.6	718.9	736.3	771.8	821.5	876.2
50°	668.9	668.2	668.2	668.2	669.7	677.8	684.5	697.8	730.4	780.0	819.3
52.5°	636.3	633.2	633.2	634.4	637.1	642.2	646.6	661.1	689.5	730.3	765.9
55°	585.2	579.3	577.8	579.3	581.5	586.0	590.4	602.3	626.7	657.0	677.8
57.5°	528.6	525.4	523.4	523.7	524.9	528.5	531.9	544.8	564.0	579.9	593.2
60°	488.9	490.4	483.7	485.2	485.2	488.1	493.3	501.5	517.8	528.9	542.2
62.5°	451.6	449.5	447.6	445.5	445.5	446.7	453.6	460.1	473.9	479.8	490.1
65°	393.3	393.3	388.9	390.4	391.2	386.0	389.6	397.1	406.0	408.1	417.8
67.5°	334.4	332.3	329.8	327.5	327.5	327.2	329.0	332.7	339.4	340.2	347.6
70°	294.1	292.6	291.9	289.6	286.7	290.4	288.1	291.9	295.6	296.3	300.8
72.5°	255.0	253.4	252.1	250.0	248.7	248.3	248.5	252.8	255.2	254.2	259.3
75°	199.3	197.7	196.3	192.6	192.6	190.4	191.1	194.1	197.1	194.8	199.3
77.5°	146.4	141.8	141.5	142.5	140.0	140.4	139.6	139.1	140.4	140.6	144.6
80°	112.6	107.4	108.9	108.1	107.4	106.7	105.2	105.9	106.7	107.4	109.6
82.5°	81.2	80.8	79.3	79.1	78.4	76.4	75.6	76.9	77.7	77.2	78.8
85°	41.5	39.3	40.7	40.0	40.7	40.0	37.8	37.8	39.3	38.5	40.0
87.5°	18.5	18.3	17.0	16.9	15.6	15.5	14.2	14.3	14.3	13.9	14.4
90°	30.2	29.1	25.5	22.1	18.6	15.1	12.0	9.3	6.6	3.9	1.2
92.5°	32.7	31.0	28.4	25.7	23.1	20.5	19.5	20.3	21.0	21.8	22.5
95°	39.5	37.6	34.6	31.7	28.7	25.7	29.8	40.8	51.8	62.9	73.9
97.5°	41.2	39.0	58.4	77.9	97.2	116.6	128.8	133.7	138.6	143.6	148.5
100°	42.1	40.0	82.0	124.0	166.1	208.0	226.4	220.9	215.6	210.2	204.8
102.5°	73.0	79.7	125.6	171.5	217.4	263.3	284.4	280.4	276.5	272.7	268.8
105°	217.7	265.4	289.6	313.9	338.1	362.4	373.0	370.0	367.1	364.1	361.2
107.5°	451.5	486.4	482.7	478.8	475.0	471.2	468.1	465.7	463.4	461.0	458.6
110°	537.7	546.6	543.7	540.6	537.7	534.7	532.2	530.0	527.8	525.8	523.6



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	607.8	607.7	604.7	601.7	598.8	595.8	593.3	591.4	589.5	587.6	585.6
115°	698.3	695.7	693.2	690.8	688.3	686.0	683.9	682.3	680.7	679.1	677.5
117.5°	783.2	781.0	779.8	778.5	777.2	776.0	774.4	772.4	770.4	768.5	766.5
120°	838.4	836.2	835.5	834.6	833.8	833.0	831.4	829.0	826.5	824.2	821.7
122.5°	893.1	891.6	890.5	889.5	888.4	887.4	885.9	883.9	881.9	880.0	878.0
125°	970.1	969.6	968.5	967.4	966.3	965.3	963.7	961.5	959.3	957.2	955.0
127.5°	1046.0	1045.2	1043.9	1042.6	1041.3	1040.0	1038.3	1036.1	1034.0	1031.8	1029.6
130°	1091.8	1090.7	1089.7	1088.6	1087.5	1086.5	1084.9	1082.7	1080.5	1078.4	1076.2
132.5°	1135.5	1134.3	1133.5	1132.7	1131.8	1131.0	1129.4	1127.3	1125.1	1122.9	1120.8
135°	1201.8	1201.1	1200.0	1198.9	1197.8	1196.7	1195.4	1193.7	1192.1	1190.5	1188.9
137.5°	1260.3	1259.0	1258.4	1257.8	1257.2	1256.6	1255.3	1253.2	1251.2	1249.2	1247.1
140°	1297.9	1296.8	1296.0	1295.1	1294.4	1293.5	1292.3	1290.7	1289.1	1287.5	1285.9
142.5°	1333.5	1332.7	1331.8	1331.1	1330.2	1329.5	1328.2	1326.6	1325.0	1323.3	1321.7
145°	1383.4	1382.8	1382.3	1381.8	1381.2	1380.6	1379.5	1377.6	1375.7	1373.9	1372.0
147.5°	1427.8	1427.2	1426.6	1426.1	1425.6	1425.0	1424.2	1422.9	1421.6	1420.4	1419.2
150°	1454.9	1454.3	1453.8	1453.2	1452.7	1452.2	1451.5	1450.7	1449.9	1449.1	1448.3
152.5°	1478.6	1477.6	1477.2	1477.0	1476.7	1476.3	1475.9	1475.6	1475.2	1474.8	1474.4
155°	1511.5	1510.0	1509.9	1509.6	1509.3	1509.0	1509.1	1509.7	1510.2	1510.8	1511.3
157.5°	1540.0	1538.4	1538.7	1539.0	1539.3	1539.5	1539.6	1539.7	1539.8	1539.8	1539.9
160°	1556.5	1554.9	1555.2	1555.5	1555.8	1556.0	1556.2	1556.5	1556.8	1557.1	1557.4
162.5°	1571.3	1569.4	1569.7	1570.0	1570.3	1570.6	1571.0	1571.7	1572.4	1573.1	1573.9
165°	1591.0	1588.8	1589.1	1589.4	1589.7	1590.0	1590.4	1591.3	1592.0	1592.9	1593.7
167.5°	1606.6	1604.4	1604.4	1604.4	1604.4	1604.4	1604.9	1606.0	1607.0	1608.2	1609.2
170°	1615.2	1613.1	1613.1	1613.1	1613.1	1613.1	1613.6	1614.8	1615.8	1616.8	1618.0
172.5°	1621.1	1618.9	1618.7	1618.5	1618.3	1618.1	1618.6	1619.9	1621.2	1622.5	1623.8
175°	1628.3	1626.5	1626.2	1625.9	1625.6	1625.3	1625.9	1627.2	1628.6	1629.9	1631.3
177.5°	1631.1	1629.4	1629.1	1628.9	1628.7	1628.5	1628.9	1630.0	1631.1	1632.1	1633.2
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



TEST NUMBER: P332228-830

CATALOG NUMBER: S123DIW-S1165D1320U830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1538.4	1541.3	1551.4	1558.6	1566.9	1571.6	1576.3	1579.9	1584.6	1585.8	1603.0
5°	1545.2	1560.1	1586.0	1605.2	1628.9	1654.8	1672.6	1680.8	1702.2	1720.0	1755.6
7.5°	1543.3	1574.9	1614.0	1654.5	1698.1	1738.4	1773.4	1814.9	1844.4	1888.7	1932.4
10°	1541.5	1583.8	1634.1	1686.0	1746.7	1803.0	1853.4	1909.7	1956.3	2017.8	2070.4
12.5°	1536.2	1587.3	1657.3	1718.5	1792.3	1870.0	1944.7	2016.9	2058.3	2160.7	2209.1
15°	1523.1	1583.8	1671.1	1764.5	1866.0	1957.8	2052.7	2128.3	2250.4	2340.1	2397.1
17.5°	1497.8	1582.9	1686.6	1799.1	1922.6	2043.6	2151.1	2265.7	2395.4	2503.8	2619.3
20°	1486.0	1579.3	1694.9	1819.3	1947.5	2084.5	2206.8	2344.5	2486.1	2592.7	2740.8
22.5°	1464.1	1569.8	1694.3	1833.0	1970.0	2111.8	2254.8	2393.7	2557.1	2704.1	2845.2
25°	1428.2	1546.7	1675.7	1830.4	1991.2	2133.4	2304.5	2489.0	2659.4	2848.3	2989.0
27.5°	1390.5	1517.1	1646.2	1790.3	1963.1	2131.9	2347.2	2555.6	2763.9	2927.1	3031.2
30°	1361.5	1484.5	1617.9	1763.0	1934.1	2134.9	2375.6	2603.0	2806.0	2946.0	3004.5
32.5°	1330.1	1454.8	1572.8	1725.1	1907.4	2133.1	2393.4	2630.9	2808.4	2901.6	2890.2
35°	1280.8	1385.3	1500.1	1646.7	1861.5	2120.1	2403.8	2633.4	2742.3	2722.3	2571.2
37.5°	1209.7	1297.5	1410.6	1571.1	1808.2	2092.6	2383.0	2555.3	2548.3	2385.4	2166.4
40°	1165.3	1240.0	1349.0	1517.9	1766.7	2074.9	2350.4	2462.3	2367.5	2140.0	1877.8
42.5°	1107.1	1176.0	1285.0	1458.6	1721.1	2038.7	2288.2	2320.6	2135.1	1873.4	1633.0
45°	1017.1	1077.8	1190.4	1369.7	1652.7	1960.0	2136.4	2057.1	1807.4	1537.1	1354.2
47.5°	920.3	983.4	1091.7	1275.9	1553.7	1841.7	1925.7	1757.1	1500.8	1281.5	1113.5
50°	859.3	920.0	1026.0	1211.9	1486.7	1744.5	1779.3	1561.5	1326.0	1133.4	995.6
52.5°	797.7	854.9	959.0	1145.5	1408.5	1631.9	1610.4	1388.5	1171.9	1007.8	899.6
55°	706.0	760.1	859.3	1034.1	1273.4	1450.4	1372.6	1160.7	981.5	854.1	771.8
57.5°	623.9	675.7	761.4	919.3	1127.3	1249.0	1150.0	971.5	828.9	730.8	669.5
60°	568.2	614.1	695.6	842.3	1023.0	1115.6	1017.9	860.1	740.0	661.5	606.7
62.5°	515.4	555.4	630.9	764.0	921.1	998.8	899.8	766.4	664.2	594.6	548.0
65°	435.5	471.8	538.6	642.2	771.1	823.0	737.8	629.6	550.4	498.5	467.4
67.5°	362.7	393.5	451.1	532.7	627.5	665.3	600.5	516.8	457.0	415.4	390.7
70°	314.1	340.7	386.0	456.3	542.2	571.1	510.4	441.5	397.8	364.5	341.5
72.5°	273.1	292.8	333.8	388.1	459.9	482.9	440.5	379.8	339.1	314.1	295.9
75°	208.1	224.4	251.1	294.8	344.5	357.8	325.9	288.1	260.7	243.0	228.8
77.5°	150.1	162.1	181.3	208.3	242.7	254.7	234.5	209.3	189.4	177.3	169.5
80°	113.3	123.0	139.3	161.5	182.2	188.9	177.0	157.8	143.7	137.0	130.4
82.5°	83.7	89.2	99.0	114.0	128.3	136.2	126.1	114.5	107.0	100.9	98.4
85°	42.2	45.1	49.7	55.5	64.5	67.4	63.7	60.7	56.3	52.6	52.6
87.5°	16.2	16.7	19.0	20.7	23.8	26.2	26.3	25.8	25.9	25.5	25.2
90°	3.9	6.6	9.3	12.0	15.1	18.6	22.1	25.5	29.1	30.2	31.2
92.5°	21.8	21.0	20.3	19.5	20.5	23.1	25.7	28.4	31.0	32.7	34.5
95°	62.9	51.8	40.8	29.8	25.7	28.7	31.7	34.6	37.6	39.5	41.4
97.5°	143.6	138.6	133.7	128.8	116.6	97.2	77.9	58.4	39.0	41.2	43.4
100°	210.2	215.6	220.9	226.4	208.0	166.1	124.0	82.0	40.0	42.1	44.3
102.5°	272.7	276.5	280.4	284.4	263.3	217.4	171.5	125.6	79.7	73.0	66.4
105°	364.1	367.1	370.0	373.0	362.4	338.1	313.9	289.6	265.4	217.7	170.0
107.5°	461.0	463.4	465.7	468.1	471.2	475.0	478.8	482.7	486.4	451.5	416.6
110°	525.8	527.8	530.0	532.2	534.7	537.7	540.6	543.7	546.6	537.7	528.8



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CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	587.6	589.5	591.4	593.3	595.8	598.8	601.7	604.7	607.7	607.8	608.0
115°	679.1	680.7	682.3	683.9	686.0	688.3	690.8	693.2	695.7	698.3	701.1
117.5°	768.5	770.4	772.4	774.4	776.0	777.2	778.5	779.8	781.0	783.2	785.3
120°	824.2	826.5	829.0	831.4	833.0	833.8	834.6	835.5	836.2	838.4	840.6
122.5°	880.0	881.9	883.9	885.9	887.4	888.4	889.5	890.5	891.6	893.1	894.6
125°	957.2	959.3	961.5	963.7	965.3	966.3	967.4	968.5	969.6	970.1	970.6
127.5°	1031.8	1034.0	1036.1	1038.3	1040.0	1041.3	1042.6	1043.9	1045.2	1046.0	1046.9
130°	1078.4	1080.5	1082.7	1084.9	1086.5	1087.5	1088.6	1089.7	1090.7	1091.8	1092.9
132.5°	1122.9	1125.1	1127.3	1129.4	1131.0	1131.8	1132.7	1133.5	1134.3	1135.5	1136.5
135°	1190.5	1192.1	1193.7	1195.4	1196.7	1197.8	1198.9	1200.0	1201.1	1201.8	1202.7
137.5°	1249.2	1251.2	1253.2	1255.3	1256.6	1257.2	1257.8	1258.4	1259.0	1260.3	1261.6
140°	1287.5	1289.1	1290.7	1292.3	1293.5	1294.4	1295.1	1296.0	1296.8	1297.9	1298.9
142.5°	1323.3	1325.0	1326.6	1328.2	1329.5	1330.2	1331.1	1331.8	1332.7	1333.5	1334.4
145°	1373.9	1375.7	1377.6	1379.5	1380.6	1381.2	1381.8	1382.3	1382.8	1383.4	1383.9
147.5°	1420.4	1421.6	1422.9	1424.2	1425.0	1425.6	1426.1	1426.6	1427.2	1427.8	1428.2
150°	1449.1	1449.9	1450.7	1451.5	1452.2	1452.7	1453.2	1453.8	1454.3	1454.9	1455.4
152.5°	1474.8	1475.2	1475.6	1475.9	1476.3	1476.7	1477.0	1477.2	1477.6	1478.6	1479.5
155°	1510.8	1510.2	1509.7	1509.1	1509.0	1509.3	1509.6	1509.9	1510.0	1511.5	1512.8
157.5°	1539.8	1539.8	1539.7	1539.6	1539.5	1539.3	1539.0	1538.7	1538.4	1540.0	1541.7
160°	1557.1	1556.8	1556.5	1556.2	1556.0	1555.8	1555.5	1555.2	1554.9	1556.5	1558.1
162.5°	1573.1	1572.4	1571.7	1571.0	1570.6	1570.3	1570.0	1569.7	1569.4	1571.3	1573.1
165°	1592.9	1592.0	1591.3	1590.4	1590.0	1589.7	1589.4	1589.1	1588.8	1591.0	1593.2
167.5°	1608.2	1607.0	1606.0	1604.9	1604.4	1604.4	1604.4	1604.4	1604.4	1606.6	1608.7
170°	1616.8	1615.8	1614.8	1613.6	1613.1	1613.1	1613.1	1613.1	1613.1	1615.2	1617.4
172.5°	1622.5	1621.2	1619.9	1618.6	1618.1	1618.3	1618.5	1618.7	1618.9	1621.1	1623.2
175°	1629.9	1628.6	1627.2	1625.9	1625.3	1625.6	1625.9	1626.2	1626.5	1628.3	1630.2
177.5°	1632.1	1631.1	1630.0	1628.9	1628.5	1628.7	1628.9	1629.1	1629.4	1631.1	1632.8
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



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CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9	1528.9
2.5°	1608.9	1609.5	1616.1	1620.8	1618.4	1621.4	1622.6
5°	1757.8	1784.5	1798.6	1808.9	1809.7	1810.4	1816.4
7.5°	1969.0	1997.5	2018.5	2050.1	2059.6	2070.4	2067.3
10°	2123.1	2165.2	2201.6	2220.8	2241.6	2271.9	2247.5
12.5°	2267.0	2341.8	2397.1	2427.0	2446.6	2452.7	2440.7
15°	2504.5	2602.3	2654.9	2653.4	2720.1	2749.0	2703.8
17.5°	2722.3	2812.5	2884.8	2921.9	2977.4	2989.7	2984.1
20°	2855.6	2954.2	3010.5	3074.2	3103.0	3129.0	3133.4
22.5°	2970.6	3059.0	3119.5	3172.5	3196.7	3209.0	3216.4
25°	3089.0	3158.6	3194.9	3213.4	3220.1	3218.6	3209.0
27.5°	3080.8	3086.2	3046.2	3006.9	2971.8	2932.2	2918.6
30°	3000.9	2938.6	2827.5	2764.6	2671.9	2598.6	2628.2
32.5°	2790.5	2666.6	2541.8	2404.2	2290.3	2257.9	2225.2
35°	2381.5	2163.8	2036.4	1888.2	1828.9	1769.7	1728.9
37.5°	1926.7	1758.3	1607.1	1510.2	1450.9	1413.3	1393.3
40°	1665.9	1514.1	1389.7	1311.2	1265.9	1223.7	1217.9
42.5°	1458.0	1316.8	1223.1	1160.6	1117.2	1099.3	1086.3
45°	1194.1	1095.6	1032.6	988.2	959.3	948.2	933.4
47.5°	1010.7	941.0	893.8	863.6	841.8	833.5	832.4
50°	908.1	850.4	815.6	791.8	774.9	771.8	760.1
52.5°	831.1	781.1	753.9	733.2	721.0	712.7	709.1
55°	721.5	688.2	663.7	651.9	642.2	634.0	634.0
57.5°	631.3	603.4	587.3	577.2	574.2	568.4	564.8
60°	575.6	551.9	539.3	530.4	524.4	525.2	518.5
62.5°	521.0	505.7	493.6	484.7	477.7	477.8	478.2
65°	443.7	431.9	423.0	420.0	415.6	410.4	411.9
67.5°	376.0	364.9	358.0	352.9	351.4	348.6	352.9
70°	327.4	319.2	314.1	309.6	308.1	308.9	312.6
72.5°	283.0	277.2	273.8	271.7	268.4	268.6	271.1
75°	222.3	217.8	214.8	212.6	211.9	211.9	211.9
77.5°	163.2	162.2	160.9	157.6	157.8	158.6	158.8
80°	128.9	126.7	125.9	124.4	122.2	120.7	124.4
82.5°	96.3	94.1	93.3	93.0	89.6	89.4	92.5
85°	51.8	49.7	50.3	49.7	49.7	48.9	48.9
87.5°	24.8	24.4	24.0	24.7	24.2	23.8	25.1
90°	32.3	33.4	34.2	34.8	35.3	35.8	36.4
92.5°	36.2	37.9	38.9	39.3	39.6	39.9	40.2
95°	43.3	45.1	46.1	46.1	46.1	46.1	46.1
97.5°	45.5	47.6	48.8	49.1	49.4	49.7	50.0
100°	46.5	48.6	49.9	50.0	50.3	50.6	50.9
102.5°	59.7	53.1	50.0	50.4	50.9	51.4	51.8
105°	122.4	74.7	51.2	51.7	52.2	52.8	53.3
107.5°	381.6	346.7	311.2	275.3	239.3	203.4	167.5
110°	519.9	511.0	487.3	448.8	410.3	371.8	333.3



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CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	608.1	608.3	604.4	596.2	588.1	579.9	571.8
115°	703.7	706.4	708.3	709.4	710.5	711.5	712.7
117.5°	787.4	789.6	790.8	791.0	791.2	791.5	791.6
120°	842.7	844.9	845.9	845.9	845.9	845.9	845.9
122.5°	896.1	897.6	898.4	898.6	898.8	899.1	899.3
125°	971.2	971.7	972.2	972.8	973.4	973.8	974.4
127.5°	1047.7	1048.7	1048.8	1048.3	1047.7	1047.2	1046.6
130°	1094.0	1095.0	1095.3	1094.8	1094.3	1093.7	1093.2
132.5°	1137.6	1138.7	1138.9	1138.1	1137.4	1136.6	1135.9
135°	1203.4	1204.3	1204.3	1203.4	1202.7	1201.8	1201.1
137.5°	1262.8	1264.1	1264.5	1263.9	1263.5	1262.9	1262.3
140°	1300.0	1301.1	1301.4	1300.8	1300.2	1299.8	1299.2
142.5°	1335.2	1336.1	1336.1	1335.4	1334.6	1333.9	1333.1
145°	1384.4	1385.0	1385.3	1385.3	1385.3	1385.3	1385.3
147.5°	1428.8	1429.4	1429.0	1427.8	1426.5	1425.3	1424.0
150°	1455.9	1456.5	1456.3	1455.6	1454.7	1454.0	1453.1
152.5°	1480.5	1481.5	1481.4	1480.1	1478.8	1477.6	1476.4
155°	1514.1	1515.5	1515.3	1513.7	1512.1	1510.5	1508.9
157.5°	1543.3	1544.9	1544.6	1542.6	1540.5	1538.3	1536.3
160°	1559.8	1561.4	1561.2	1559.3	1557.5	1555.6	1553.7
162.5°	1575.0	1576.8	1576.9	1575.2	1573.6	1571.9	1570.2
165°	1595.3	1597.5	1597.6	1595.7	1593.8	1592.0	1590.1
167.5°	1610.8	1613.0	1613.0	1610.8	1608.7	1606.6	1604.4
170°	1619.6	1621.7	1621.7	1619.6	1617.4	1615.2	1613.1
172.5°	1625.4	1627.6	1627.4	1625.0	1622.7	1620.3	1618.0
175°	1632.1	1634.0	1633.8	1631.7	1629.6	1627.4	1625.2
177.5°	1634.6	1636.3	1636.1	1633.9	1631.7	1629.6	1627.4
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3

(END OF REPORT)