

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: P332712-830

Luminaire Tested: **SA4XXDIP-C1195D1205U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332712-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D1205U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

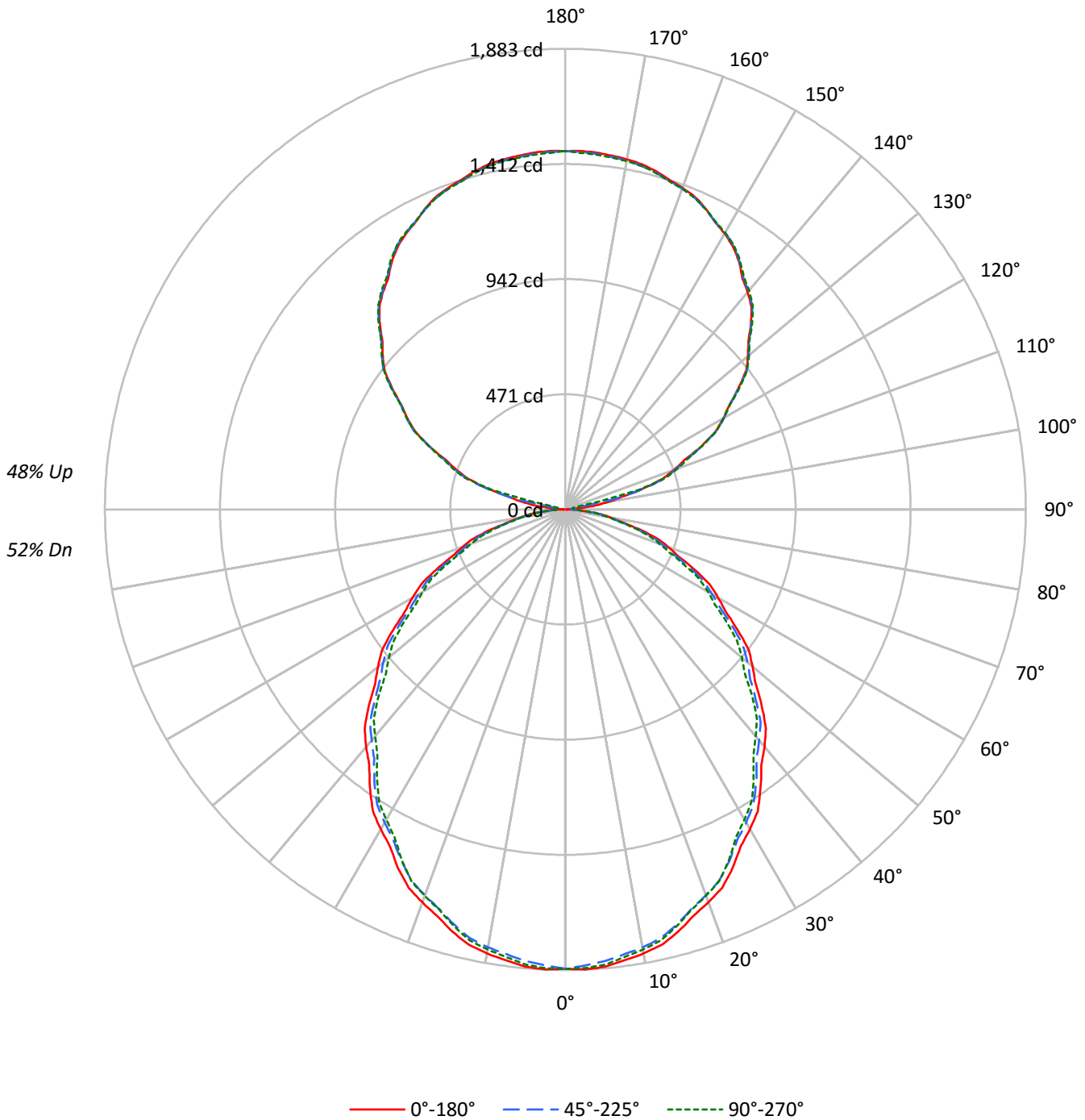
Lumens per Lamp: N/A
Luminaire Lumens: 9353.7 lumens
Efficiency: N/A
Efficacy: 130.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 71.7
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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52				
1	98	94	90	86	91	87	83	80	74	71	69	62	60	58	51	50	49	43				
2	89	82	76	70	82	76	70	66	65	61	57	54	51	49	45	43	41	36				
3	81	72	65	59	75	67	60	55	57	52	48	48	44	41	40	37	35	31				
4	75	64	56	50	69	59	52	47	51	45	41	43	39	35	35	32	30	26				
5	68	57	49	43	63	53	46	40	45	40	35	38	34	31	32	29	26	23				
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20				
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	26	23	20	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16				
9	50	38	31	26	47	36	29	24	31	25	22	27	22	19	22	19	17	14				
10	47	35	28	23	44	33	26	22	29	23	19	25	20	17	21	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15163	15163	15163
5°	15209	15027	15135
10°	15114	14905	14978
15°	14931	14692	14730
20°	14689	14430	14442
25°	14412	14130	14091
30°	14072	13778	13651
35°	13720	13409	13232
40°	13354	12991	12752
45°	12973	12578	12337
50°	12552	12210	11833
55°	12096	11736	11354
60°	11641	11202	10863
65°	11127	10695	10264
70°	10551	10017	9626
75°	9669	9201	8968
80°	8605	8257	8047
85°	7521	7243	7104



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.9	1.9
10°-20°	498.4	5.3
20°-30°	733.6	7.8
30°-40°	852.8	9.1
40°-50°	852.8	9.1
50°-60°	746.0	8.0
60°-70°	554.0	5.9
70°-80°	314.7	3.4
80°-90°	95.1	1.0
90°-100°	50.1	0.5
100°-110°	319.3	3.4
110°-120°	610.8	6.5
120°-130°	775.4	8.3
130°-140°	829.7	8.9
140°-150°	775.8	8.3
150°-160°	625.7	6.7
160°-170°	403.5	4.3
170°-180°	139.1	1.5
0°-30°	1408.8	15.1
0°-40°	2261.6	24.2
0°-60°	3860.5	41.3
0°-90°	4824.3	51.6
90°-120°	980.2	10.5
90°-150°	3361.2	35.9
90°-180°	4529.0	48.4
0°-180°	9353.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1877	1870	1854	1870	1868	178
15°	1786	1780	1758	1766	1762	503
25°	1618	1607	1586	1587	1582	744
35°	1392	1381	1361	1350	1343	870
45°	1136	1125	1102	1086	1081	876
55°	859	854	834	816	807	769
65°	582	575	560	545	537	577
75°	310	302	295	289	288	329
85°	81	81	78	78	77	90
90°	3	15	24	30	33	7
95°	60	25	24	30	32	77
105°	330	336	342	349	312	345
115°	616	619	618	620	620	605
125°	865	869	867	871	872	772
135°	1073	1072	1077	1079	1081	827
145°	1238	1241	1241	1242	1244	773
155°	1357	1358	1355	1359	1356	625
165°	1431	1426	1426	1434	1425	404
175°	1464	1458	1459	1467	1456	139
180°	1464	1464	1464	1464	1464	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1883.1	1882.4	1881.5	1880.7	1879.9	1878.0	1875.1	1872.2	1869.3	1866.3	1869.0
5°	1876.8	1875.5	1874.2	1872.8	1871.5	1869.0	1865.3	1861.6	1857.9	1854.3	1857.9
7.5°	1859.4	1858.0	1856.7	1855.3	1854.0	1851.3	1847.2	1843.1	1839.1	1834.9	1838.0
10°	1843.7	1842.4	1841.1	1839.7	1838.3	1835.5	1831.2	1826.8	1822.5	1818.2	1820.8
12.5°	1823.3	1821.9	1820.5	1819.2	1817.9	1814.9	1810.3	1805.7	1801.1	1796.5	1799.4
15°	1786.5	1785.2	1783.9	1782.5	1781.1	1778.0	1772.9	1767.9	1762.9	1757.9	1759.9
17.5°	1742.3	1740.6	1738.9	1737.3	1735.6	1732.4	1727.6	1722.9	1718.2	1713.4	1714.7
20°	1709.8	1708.1	1706.4	1704.8	1703.1	1699.7	1694.7	1689.7	1684.7	1679.6	1680.6
22.5°	1674.8	1672.6	1670.5	1668.2	1666.0	1662.4	1657.4	1652.4	1647.4	1642.3	1644.2
25°	1618.0	1615.6	1613.3	1610.9	1608.5	1605.1	1600.3	1595.7	1591.0	1586.3	1586.7
27.5°	1552.9	1550.5	1548.1	1545.7	1543.3	1539.9	1535.6	1531.3	1526.9	1522.5	1521.7
30°	1509.6	1506.9	1504.2	1501.6	1498.9	1495.3	1491.0	1486.7	1482.3	1478.0	1476.7
32.5°	1463.9	1461.4	1459.1	1456.6	1454.2	1450.7	1446.0	1441.4	1436.8	1432.2	1430.6
35°	1392.2	1389.9	1387.5	1385.2	1382.8	1379.3	1374.6	1370.0	1365.3	1360.6	1358.2
37.5°	1316.6	1314.5	1312.4	1310.2	1308.1	1304.5	1299.5	1294.5	1289.4	1284.4	1281.9
40°	1267.2	1264.6	1261.9	1259.2	1256.6	1252.7	1247.7	1242.6	1237.7	1232.7	1229.3
42.5°	1214.3	1212.7	1211.1	1209.5	1207.9	1204.3	1198.7	1193.2	1187.6	1182.0	1178.2
45°	1136.3	1134.0	1131.6	1129.3	1127.0	1123.1	1117.8	1112.4	1107.0	1101.7	1098.1
47.5°	1054.7	1053.1	1051.5	1049.9	1048.3	1045.1	1040.1	1035.2	1030.2	1025.3	1021.2
50°	999.4	998.1	996.6	995.3	994.0	991.0	986.3	981.7	976.9	972.2	967.6
52.5°	945.2	943.6	942.0	940.4	938.8	935.5	930.6	925.6	920.7	915.7	911.5
55°	859.4	858.4	857.4	856.4	855.4	852.5	847.8	843.2	838.5	833.8	829.8
57.5°	777.5	776.4	775.2	774.1	773.0	770.1	765.4	760.8	756.2	751.6	747.8
60°	721.0	719.3	717.6	716.0	714.3	711.2	706.9	702.6	698.1	693.8	690.8
62.5°	665.5	664.1	662.7	661.3	660.0	657.0	652.3	647.7	643.1	638.5	635.7
65°	582.5	580.8	579.1	577.4	575.8	573.3	570.0	566.6	563.3	559.9	556.6
67.5°	498.8	497.3	495.7	494.2	492.7	490.2	487.0	483.8	480.6	477.4	474.2
70°	447.0	444.7	442.3	440.0	437.6	435.2	432.4	429.8	427.1	424.4	421.8
72.5°	391.6	389.3	386.9	384.6	382.3	380.0	377.9	375.7	373.6	371.5	369.3
75°	310.0	308.4	306.7	305.0	303.3	301.7	300.0	298.3	296.7	295.0	293.7
77.5°	232.1	231.3	230.6	229.9	229.1	228.0	226.6	225.1	223.7	222.2	221.8
80°	185.1	184.1	183.1	182.1	181.2	180.3	179.6	178.9	178.2	177.6	176.9
82.5°	139.4	138.9	138.5	138.0	137.5	137.2	137.0	137.0	136.8	136.7	136.3
85°	81.2	81.2	81.2	81.2	81.2	81.0	80.3	79.6	78.9	78.2	78.2
87.5°	32.0	32.2	32.5	32.8	33.0	33.3	33.4	33.5	33.6	33.7	34.0
90°	3.3	5.9	8.7	11.3	13.9	16.3	18.3	20.2	22.1	24.1	25.5
92.5°	13.8	13.9	14.1	14.2	14.4	15.5	17.3	19.3	21.3	23.2	24.7
95°	60.2	51.9	43.6	35.4	27.1	23.1	23.4	23.6	23.8	24.1	25.5
97.5°	127.9	133.1	138.3	143.4	148.5	137.5	110.4	83.2	56.1	28.9	29.0
100°	179.6	184.0	188.4	192.7	197.2	182.6	148.9	115.4	81.8	48.2	44.0
102.5°	237.4	240.6	243.8	247.0	250.2	249.7	245.3	240.9	236.6	232.1	187.6
105°	329.6	331.1	332.5	334.0	335.5	336.9	338.1	339.2	340.4	341.7	343.9
107.5°	415.3	416.0	416.8	417.5	418.2	419.4	421.0	422.7	424.3	426.0	427.1
110°	473.2	473.8	474.6	475.3	476.1	477.1	478.6	480.0	481.5	483.0	483.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.2	530.6	531.8	533.1	534.4	535.5	536.1	536.8	537.5	538.2	538.1
115°	615.5	616.2	617.0	617.6	618.4	618.7	618.4	618.2	617.9	617.6	618.2
117.5°	693.2	694.2	695.2	696.2	697.1	697.9	698.4	699.0	699.6	700.0	699.9
120°	745.8	746.8	747.8	748.8	749.7	750.1	749.9	749.6	749.3	749.1	749.6
122.5°	794.8	795.5	796.1	796.6	797.2	797.7	798.1	798.3	798.7	799.1	799.4
125°	865.2	866.2	867.1	868.1	869.1	869.3	868.8	868.4	867.9	867.4	868.1
127.5°	931.8	932.0	932.3	932.6	932.7	933.4	934.5	935.7	936.8	937.9	937.7
130°	974.7	975.0	975.2	975.4	975.7	976.2	976.9	977.6	978.4	979.1	979.3
132.5°	1014.2	1014.6	1015.0	1015.5	1015.9	1016.6	1017.5	1018.4	1019.4	1020.3	1020.5
135°	1073.3	1073.1	1072.8	1072.5	1072.3	1072.7	1073.7	1074.6	1075.6	1076.6	1077.0
137.5°	1125.7	1125.8	1125.9	1126.0	1126.1	1126.6	1127.7	1128.8	1129.8	1130.9	1131.4
140°	1159.8	1160.3	1160.7	1161.3	1161.8	1162.2	1162.7	1163.2	1163.7	1164.2	1164.9
142.5°	1190.4	1191.4	1192.2	1193.1	1194.0	1194.6	1194.9	1195.1	1195.4	1195.7	1196.3
145°	1237.6	1238.3	1239.1	1239.7	1240.5	1240.9	1240.9	1240.9	1240.9	1240.9	1241.1
147.5°	1275.0	1276.4	1277.7	1279.1	1280.4	1281.0	1280.8	1280.5	1280.3	1280.1	1280.3
150°	1302.2	1303.2	1304.1	1305.1	1306.1	1306.5	1306.2	1306.0	1305.7	1305.4	1305.4
152.5°	1324.9	1325.8	1326.5	1327.3	1328.0	1328.2	1327.9	1327.4	1326.9	1326.5	1326.9
155°	1357.0	1357.2	1357.4	1357.6	1357.9	1357.6	1357.0	1356.2	1355.5	1354.7	1355.8
157.5°	1383.8	1383.7	1383.6	1383.5	1383.3	1382.8	1382.0	1381.2	1380.4	1379.5	1380.7
160°	1399.7	1398.9	1398.2	1397.5	1396.8	1396.3	1396.0	1395.7	1395.5	1395.2	1396.8
162.5°	1413.6	1412.8	1411.8	1410.9	1409.9	1409.4	1409.1	1408.9	1408.6	1408.4	1409.9
165°	1431.4	1430.2	1429.0	1427.8	1426.5	1426.0	1426.0	1426.0	1426.0	1426.0	1427.9
167.5°	1445.4	1444.2	1442.9	1441.6	1440.4	1439.6	1439.5	1439.4	1439.3	1439.1	1441.2
170°	1453.3	1451.9	1450.4	1449.0	1447.5	1446.9	1447.1	1447.4	1447.6	1447.8	1449.8
172.5°	1458.6	1457.1	1455.7	1454.2	1452.7	1452.1	1452.4	1452.6	1452.8	1453.1	1455.0
175°	1464.2	1462.8	1461.3	1459.9	1458.4	1457.8	1458.0	1458.3	1458.6	1458.8	1460.9
177.5°	1466.9	1465.6	1464.1	1462.8	1461.4	1460.9	1461.3	1461.7	1462.2	1462.5	1464.1
180°	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1871.6	1874.3	1877.0	1878.2	1877.9	1877.6	1877.4	1877.1
5°	1861.6	1865.3	1869.0	1870.5	1869.8	1869.2	1868.5	1867.7
7.5°	1840.9	1843.8	1846.7	1848.0	1847.7	1847.2	1846.8	1846.4
10°	1823.4	1826.2	1828.8	1829.9	1829.2	1828.5	1827.8	1827.1
12.5°	1802.3	1805.3	1808.3	1809.2	1808.3	1807.3	1806.4	1805.4
15°	1761.9	1764.0	1765.9	1766.4	1765.5	1764.4	1763.4	1762.5
17.5°	1715.9	1717.2	1718.4	1718.7	1718.1	1717.4	1716.7	1716.1
20°	1681.7	1682.6	1683.7	1683.9	1683.2	1682.5	1681.9	1681.1
22.5°	1646.0	1647.8	1649.5	1649.8	1648.7	1647.5	1646.2	1645.0
25°	1587.1	1587.3	1587.7	1587.1	1585.8	1584.5	1583.2	1581.9
27.5°	1520.9	1520.1	1519.3	1518.1	1516.4	1514.8	1513.1	1511.4
30°	1475.3	1473.9	1472.6	1471.1	1469.4	1467.8	1466.1	1464.4
32.5°	1429.0	1427.4	1425.8	1424.2	1422.5	1420.8	1419.2	1417.5
35°	1355.9	1353.6	1351.2	1349.2	1347.6	1345.9	1344.2	1342.6
37.5°	1279.3	1276.8	1274.2	1271.9	1269.7	1267.4	1265.3	1263.0
40°	1226.0	1222.6	1219.3	1216.7	1215.1	1213.4	1211.7	1210.0
42.5°	1174.3	1170.4	1166.6	1164.0	1162.9	1161.8	1160.6	1159.5
45°	1094.4	1090.7	1087.0	1084.7	1083.6	1082.6	1081.7	1080.6
47.5°	1017.0	1012.9	1008.7	1005.3	1002.8	1000.2	997.7	995.1
50°	962.9	958.2	953.6	950.2	948.2	946.2	944.1	942.2
52.5°	907.4	903.2	899.1	895.8	893.2	890.7	888.2	885.6
55°	825.8	821.8	817.7	814.7	812.8	810.8	808.7	806.7
57.5°	744.0	740.2	736.4	733.5	731.6	729.6	727.6	725.8
60°	687.8	684.9	681.8	679.5	677.8	676.1	674.5	672.8
62.5°	632.9	630.2	627.5	625.3	623.6	621.9	620.3	618.6
65°	553.2	549.9	546.5	544.0	542.3	540.6	538.9	537.3
67.5°	471.0	467.8	464.6	462.7	462.2	461.8	461.3	460.8
70°	419.1	416.4	413.7	411.9	410.9	409.9	408.9	407.8
72.5°	367.2	365.0	362.9	361.3	360.3	359.3	358.3	357.3
75°	292.3	291.0	289.6	288.8	288.5	288.1	287.8	287.5
77.5°	221.3	220.9	220.6	219.9	219.0	218.2	217.3	216.4
80°	176.3	175.6	174.9	174.5	174.1	173.7	173.4	173.1
82.5°	135.8	135.4	135.1	134.7	134.3	134.0	133.7	133.4
85°	78.2	78.2	78.2	78.1	77.8	77.4	77.1	76.7
87.5°	34.3	34.6	34.9	35.1	35.2	35.3	35.3	35.4
90°	27.1	28.5	30.0	30.9	31.4	31.9	32.3	32.9
92.5°	26.1	27.6	29.0	29.9	30.0	30.1	30.2	30.3
95°	27.1	28.5	30.0	30.8	31.0	31.3	31.5	31.8
97.5°	29.2	29.3	29.5	29.7	30.0	30.2	30.4	30.6
100°	39.9	35.8	31.7	29.7	30.0	30.2	30.4	30.6
102.5°	142.9	98.3	53.6	31.4	31.4	31.5	31.5	31.6
105°	346.1	348.3	350.4	347.1	338.4	329.6	320.9	312.2
107.5°	428.2	429.2	430.3	431.3	432.3	433.2	434.0	435.0
110°	484.0	484.5	484.9	485.5	486.3	487.0	487.8	488.4



TEST NUMBER: P332712-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	538.0	537.9	537.8	538.2	539.1	540.1	541.0	541.9
115°	618.7	619.2	619.6	619.9	619.9	619.9	619.9	619.9
117.5°	699.8	699.7	699.6	699.6	699.5	699.4	699.3	699.2
120°	750.1	750.5	751.0	751.0	750.5	750.1	749.6	749.1
122.5°	799.7	799.9	800.2	800.1	799.7	799.2	798.6	798.1
125°	868.8	869.6	870.3	870.8	871.0	871.3	871.6	871.8
127.5°	937.6	937.5	937.4	937.2	937.0	936.8	936.6	936.4
130°	979.6	979.9	980.1	980.1	980.1	980.1	980.1	980.1
132.5°	1020.8	1021.1	1021.2	1021.2	1021.1	1020.9	1020.7	1020.5
135°	1077.5	1078.0	1078.6	1079.0	1079.5	1080.0	1080.4	1080.9
137.5°	1132.0	1132.5	1133.0	1133.2	1133.1	1132.9	1132.7	1132.7
140°	1165.6	1166.4	1167.2	1167.6	1167.8	1168.1	1168.3	1168.6
142.5°	1196.8	1197.3	1197.9	1198.2	1198.3	1198.3	1198.3	1198.3
145°	1241.3	1241.6	1241.8	1242.2	1242.6	1243.1	1243.7	1244.2
147.5°	1280.4	1280.6	1280.8	1281.0	1281.3	1281.6	1281.8	1282.0
150°	1305.4	1305.4	1305.4	1305.6	1305.8	1306.1	1306.4	1306.6
152.5°	1327.3	1327.7	1328.0	1328.1	1328.0	1327.9	1327.8	1327.6
155°	1356.7	1357.6	1358.7	1358.8	1358.0	1357.3	1356.6	1355.8
157.5°	1382.1	1383.3	1384.6	1384.6	1383.3	1382.1	1380.7	1379.5
160°	1398.2	1399.7	1401.1	1401.1	1399.7	1398.2	1396.8	1395.2
162.5°	1411.4	1412.8	1414.3	1414.2	1412.5	1410.9	1409.2	1407.5
165°	1429.8	1431.8	1433.7	1433.6	1431.4	1429.2	1427.0	1424.8
167.5°	1443.4	1445.5	1447.7	1447.5	1445.1	1442.7	1440.2	1437.8
170°	1451.7	1453.7	1455.7	1455.4	1452.9	1450.5	1448.1	1445.7
172.5°	1457.0	1459.0	1460.8	1460.6	1457.9	1455.3	1452.6	1450.0
175°	1463.2	1465.4	1467.5	1467.2	1464.2	1461.3	1458.4	1455.5
177.5°	1465.7	1467.2	1468.8	1468.4	1466.0	1463.7	1461.3	1459.1
180°	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2

(END OF REPORT)