

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: P332382

Luminaire Tested: **S123RDIP-S1165D1025U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332382
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1165D1025U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7903.0 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

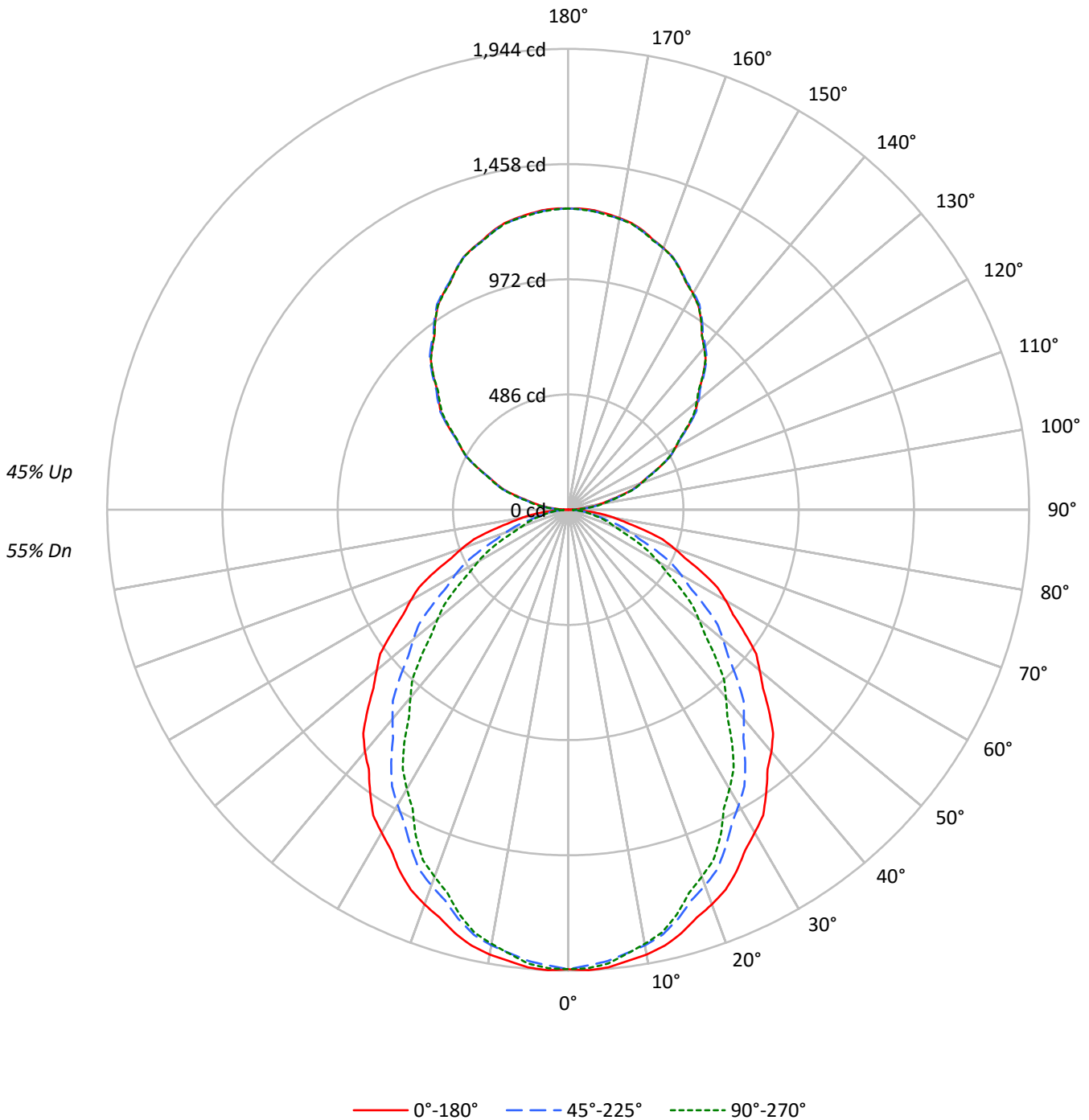
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	55	53	52	47
2	91	83	77	72	84	78	73	68	67	63	60	58	55	52	48	46	45	40
3	83	74	66	61	77	69	62	57	60	55	51	51	48	44	43	41	38	35
4	76	65	58	52	71	61	54	49	53	48	44	46	42	38	39	36	33	30
5	70	59	50	45	65	55	48	42	48	42	38	41	37	33	35	32	29	26
6	65	53	45	39	60	49	42	37	43	37	33	37	33	30	32	29	26	23
7	60	48	40	34	56	45	38	33	39	34	29	34	30	26	29	26	23	21
8	56	43	36	30	52	41	34	29	36	30	26	31	27	24	27	23	21	19
9	52	40	32	27	48	37	31	26	33	27	24	29	24	21	25	21	19	17
10	49	36	29	24	45	34	28	23	30	25	21	27	22	19	23	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20863	20863	20863
5°	20942	20653	20772
10°	20824	20394	20325
15°	20600	19917	19706
20°	20292	19321	18871
25°	19975	18650	18053
30°	19557	17877	16900
35°	19127	17102	15843
40°	18730	16190	14533
45°	18209	15289	13352
50°	17637	14267	12030
55°	17051	13097	10796
60°	16514	11845	9442
65°	15814	10488	8087
70°	14940	8806	6530
75°	13662	6929	6147
80°	12180	6137	5653
85°	10288	5434	5051



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.0	2.3
10°-20°	506.4	6.4
20°-30°	729.2	9.2
30°-40°	821.3	10.4
40°-50°	785.8	9.9
50°-60°	643.5	8.1
60°-70°	434.1	5.5
70°-80°	218.4	2.8
80°-90°	61.5	0.8
90°-100°	82.8	1.0
100°-110°	247.8	3.1
110°-120°	421.4	5.3
120°-130°	554.3	7.0
130°-140°	623.0	7.9
140°-150°	612.4	7.7
150°-160°	515.6	6.5
160°-170°	343.2	4.3
170°-180°	120.2	1.5
0°-30°	1417.6	17.9
0°-40°	2238.9	28.3
0°-60°	3668.1	46.4
0°-90°	4382.2	55.5
90°-120°	752.0	9.5
90°-150°	2541.8	32.2
90°-180°	3521.0	44.6
0°-180°	7903.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1938	1938	1938	1938	1938	
5°	1938	1930	1911	1925	1922	184
15°	1849	1830	1787	1779	1768	521
25°	1682	1641	1570	1538	1520	773
35°	1456	1397	1302	1236	1206	911
45°	1196	1123	1004	918	877	923
55°	909	828	698	610	575	814
65°	621	532	412	338	318	614
75°	328	252	167	152	148	350
85°	83	50	44	41	41	94
90°	1	11	24	28	30	8
95°	59	66	74	78	78	66
105°	225	227	236	236	238	241
115°	424	427	425	426	425	420
125°	621	624	622	618	614	553
135°	806	811	810	807	805	621
145°	977	979	982	981	977	610
155°	1119	1119	1120	1123	1117	515
165°	1219	1216	1216	1221	1215	344
175°	1268	1264	1264	1269	1263	120
180°	1271	1271	1271	1271	1271	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2
2.5°	1944.5	1943.3	1942.2	1941.1	1940.0	1937.7	1934.4	1931.0	1927.7	1924.3	1927.4
5°	1938.2	1936.4	1934.7	1932.9	1931.2	1928.2	1924.0	1919.8	1915.6	1911.4	1914.6
7.5°	1920.2	1918.4	1916.5	1914.6	1912.7	1909.0	1903.6	1898.1	1892.7	1887.2	1889.0
10°	1905.2	1902.7	1900.3	1897.8	1895.4	1891.0	1884.7	1878.4	1872.1	1865.9	1866.2
12.5°	1883.8	1881.1	1878.3	1875.6	1872.9	1867.7	1860.0	1852.3	1844.6	1836.9	1836.7
15°	1848.6	1844.7	1840.9	1837.0	1833.2	1826.4	1816.6	1806.8	1797.0	1787.3	1785.5
17.5°	1804.2	1799.8	1795.3	1790.8	1786.4	1777.9	1765.5	1753.0	1740.6	1728.2	1724.5
20°	1771.5	1766.0	1760.4	1754.8	1749.2	1739.8	1726.5	1713.2	1699.9	1686.7	1682.1
22.5°	1735.1	1728.6	1722.2	1715.8	1709.4	1699.1	1685.0	1670.9	1656.8	1642.6	1637.0
25°	1681.9	1673.2	1664.5	1655.7	1647.0	1634.6	1618.5	1602.5	1586.4	1570.3	1563.0
27.5°	1617.5	1607.9	1598.2	1588.6	1578.9	1565.2	1547.3	1529.4	1511.5	1493.6	1483.4
30°	1573.5	1563.0	1552.5	1542.0	1531.6	1516.5	1497.0	1477.4	1457.9	1438.3	1426.4
32.5°	1529.5	1517.6	1505.7	1493.8	1482.0	1465.7	1445.0	1424.3	1403.6	1383.0	1370.0
35°	1455.6	1443.0	1430.4	1417.9	1405.3	1388.2	1366.5	1344.9	1323.2	1301.5	1286.5
37.5°	1380.8	1366.8	1352.8	1338.8	1324.9	1306.3	1283.2	1260.1	1237.0	1213.8	1196.8
40°	1333.0	1317.6	1302.2	1286.9	1271.5	1251.4	1226.6	1201.8	1177.0	1152.2	1134.0
42.5°	1278.9	1263.5	1248.2	1232.8	1217.4	1196.9	1171.3	1145.6	1120.0	1094.4	1074.5
45°	1196.2	1180.5	1164.8	1149.1	1133.3	1112.0	1085.1	1058.2	1031.3	1004.4	984.5
47.5°	1113.5	1096.3	1079.0	1061.8	1044.5	1022.4	995.5	968.6	941.7	914.9	893.2
50°	1053.2	1036.8	1020.3	1003.9	987.5	965.2	936.9	908.6	880.3	852.0	830.3
52.5°	999.1	981.3	963.5	945.7	927.8	904.9	876.9	848.9	820.9	792.9	770.4
55°	908.6	891.4	874.3	857.2	840.1	816.7	787.0	757.3	727.6	697.9	677.7
57.5°	824.9	806.3	787.6	769.0	750.3	726.1	696.3	666.4	636.6	606.8	587.6
60°	767.1	747.9	728.7	709.5	690.2	666.1	637.1	608.2	579.2	550.2	531.3
62.5°	709.2	690.0	670.8	651.6	632.4	608.3	579.3	550.3	521.3	492.3	474.6
65°	620.9	601.7	582.5	563.3	544.1	520.8	493.6	466.3	439.1	411.8	394.7
67.5°	532.6	513.1	493.7	474.3	454.9	432.1	406.0	379.8	353.7	327.6	314.8
70°	474.7	455.9	437.0	418.1	399.3	377.6	353.2	328.7	304.3	279.8	267.6
72.5°	416.9	398.3	379.7	361.1	342.5	322.1	299.9	277.7	255.5	233.3	223.3
75°	328.5	311.8	295.0	278.2	261.5	243.5	224.3	205.0	185.8	166.6	163.1
77.5°	248.0	232.9	217.7	202.6	187.4	173.6	161.3	148.9	136.5	124.2	122.3
80°	196.5	182.2	167.8	153.5	139.2	128.4	121.0	113.7	106.4	99.0	98.0
82.5°	147.4	135.1	122.7	110.3	98.0	90.1	86.7	83.2	79.8	76.4	75.3
85°	83.3	75.6	67.9	60.3	52.6	48.2	47.2	46.1	45.1	44.0	43.3
87.5°	30.4	27.7	25.1	22.5	19.9	18.8	19.4	20.0	20.6	21.1	21.0
90°	1.0	3.2	5.4	7.7	9.9	12.4	15.3	18.2	21.1	24.0	24.8
92.5°	24.2	25.7	27.2	28.7	30.2	31.8	33.4	35.0	36.7	38.3	39.0
95°	58.9	60.4	62.0	63.6	65.1	66.8	68.5	70.3	72.1	73.9	74.8
97.5°	104.6	105.8	106.9	108.1	109.2	110.4	111.7	113.0	114.3	115.6	116.6
100°	135.8	137.1	138.4	139.7	141.1	142.3	143.4	144.5	145.6	146.7	147.4
102.5°	171.7	172.5	173.3	174.1	174.9	176.0	177.5	178.9	180.4	181.9	182.5
105°	224.6	225.0	225.5	225.9	226.4	227.6	229.6	231.6	233.6	235.6	235.6
107.5°	286.1	286.4	286.6	286.9	287.2	287.7	288.5	289.3	290.1	290.9	291.6
110°	324.4	324.9	325.3	325.7	326.2	326.6	327.1	327.5	328.0	328.4	329.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	364.3	364.6	364.9	365.1	365.4	365.6	365.7	365.8	365.9	365.9	367.0
115°	424.2	424.9	425.6	426.2	426.9	427.0	426.6	426.1	425.7	425.2	425.5
117.5°	484.5	485.0	485.4	485.9	486.3	486.2	485.7	485.1	484.5	483.9	483.9
120°	522.1	523.4	524.7	526.1	527.4	527.5	526.4	525.3	524.2	523.1	522.8
122.5°	561.2	562.2	563.1	564.1	565.1	565.3	564.7	564.1	563.6	563.0	562.4
125°	620.9	621.6	622.2	622.9	623.5	623.7	623.2	622.8	622.3	621.9	621.0
127.5°	676.0	677.4	678.8	680.2	681.7	682.1	681.6	681.2	680.7	680.2	678.9
130°	712.7	714.5	716.3	718.0	719.8	720.4	719.7	719.0	718.4	717.7	716.8
132.5°	749.5	751.2	753.0	754.8	756.6	757.2	756.7	756.2	755.7	755.2	754.2
135°	805.6	806.9	808.2	809.5	810.9	811.4	811.2	811.0	810.8	810.5	809.7
137.5°	857.5	858.6	859.7	860.8	861.9	862.7	863.3	863.9	864.5	865.0	864.1
140°	893.4	894.5	895.6	896.7	897.8	898.5	898.7	898.9	899.2	899.4	899.2
142.5°	926.1	927.2	928.4	929.5	930.6	931.3	931.7	932.1	932.5	932.9	932.7
145°	977.2	977.7	978.1	978.6	979.0	979.6	980.2	980.9	981.6	982.2	982.0
147.5°	1022.0	1022.8	1023.6	1024.4	1025.2	1025.9	1026.5	1027.1	1027.7	1028.4	1028.4
150°	1053.1	1053.6	1054.0	1054.4	1054.9	1055.3	1055.8	1056.2	1056.7	1057.1	1057.1
152.5°	1078.7	1079.3	1079.9	1080.5	1081.1	1081.6	1081.9	1082.1	1082.4	1082.7	1083.0
155°	1119.0	1119.0	1119.0	1119.0	1119.0	1119.1	1119.3	1119.5	1119.8	1120.0	1120.9
157.5°	1153.3	1153.1	1152.8	1152.5	1152.3	1152.2	1152.4	1152.6	1152.8	1152.9	1153.9
160°	1174.9	1174.4	1174.0	1173.6	1173.1	1172.9	1172.9	1172.9	1172.9	1172.9	1174.0
162.5°	1194.1	1193.4	1192.8	1192.2	1191.6	1191.4	1191.5	1191.7	1191.9	1192.1	1193.2
165°	1218.8	1218.1	1217.5	1216.8	1216.2	1215.8	1215.8	1215.8	1215.8	1215.8	1217.1
167.5°	1238.6	1237.7	1236.8	1235.9	1235.0	1234.7	1234.9	1235.0	1235.2	1235.4	1236.8
170°	1249.8	1248.9	1248.0	1247.1	1246.2	1245.8	1245.8	1245.8	1245.8	1245.8	1247.3
172.5°	1258.5	1257.7	1256.8	1255.9	1255.0	1254.5	1254.5	1254.5	1254.5	1254.5	1255.9
175°	1267.7	1266.8	1265.9	1265.1	1264.2	1263.7	1263.7	1263.7	1263.7	1263.7	1265.1
177.5°	1271.5	1270.8	1270.1	1269.4	1268.7	1268.3	1268.3	1268.3	1268.3	1268.3	1269.4
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2
2.5°	1930.5	1933.6	1936.6	1937.9	1937.3	1936.8	1936.2	1935.6
5°	1917.7	1920.9	1924.0	1925.2	1924.5	1923.8	1923.1	1922.4
7.5°	1890.7	1892.5	1894.2	1894.5	1893.3	1892.1	1890.9	1889.7
10°	1866.6	1866.9	1867.3	1866.6	1864.8	1863.1	1861.3	1859.6
12.5°	1836.5	1836.3	1836.1	1835.0	1833.0	1830.9	1828.9	1826.9
15°	1783.8	1782.0	1780.3	1778.2	1775.7	1773.3	1770.8	1768.4
17.5°	1720.8	1717.0	1713.3	1709.7	1706.0	1702.4	1698.8	1695.1
20°	1677.6	1673.0	1668.5	1664.1	1659.9	1655.7	1651.6	1647.4
22.5°	1631.3	1625.7	1620.0	1615.2	1611.3	1607.4	1603.5	1599.6
25°	1555.7	1548.3	1541.0	1535.4	1531.6	1527.7	1523.9	1520.0
27.5°	1473.2	1463.0	1452.8	1444.8	1438.9	1433.1	1427.2	1421.3
30°	1414.5	1402.7	1390.8	1382.1	1376.5	1370.9	1365.3	1359.7
32.5°	1357.0	1344.0	1331.0	1321.6	1315.7	1309.8	1304.0	1298.1
35°	1271.5	1256.5	1241.5	1230.8	1224.5	1218.2	1211.9	1205.7
37.5°	1179.7	1162.7	1145.6	1133.2	1125.5	1117.7	1110.0	1102.2
40°	1115.9	1097.7	1079.6	1066.5	1058.4	1050.4	1042.4	1034.3
42.5°	1054.7	1034.8	1015.0	1001.5	994.3	987.1	979.9	972.7
45°	964.6	944.7	924.8	910.7	902.3	893.9	885.5	877.1
47.5°	871.5	849.9	828.2	813.7	806.2	798.7	791.2	783.8
50°	808.7	787.0	765.3	750.5	742.5	734.4	726.4	718.4
52.5°	747.9	725.4	702.9	688.0	680.8	673.7	666.5	659.3
55°	657.4	637.1	616.9	603.3	596.3	589.3	582.3	575.3
57.5°	568.5	549.3	530.2	517.6	511.7	505.8	499.8	493.9
60°	512.4	493.6	474.7	462.3	456.4	450.4	444.5	438.6
62.5°	456.8	439.1	421.3	409.4	403.1	396.9	390.7	384.5
65°	377.6	360.5	343.4	332.9	329.1	325.2	321.4	317.5
67.5°	302.0	289.2	276.4	268.0	263.9	259.7	255.6	251.5
70°	255.3	243.1	230.9	222.9	219.0	215.2	211.3	207.5
72.5°	213.3	203.3	193.3	187.5	185.9	184.3	182.7	181.1
75°	159.6	156.1	152.6	150.6	149.9	149.2	148.5	147.8
77.5°	120.4	118.5	116.6	115.3	114.6	113.9	113.2	112.5
80°	96.9	95.9	94.8	94.0	93.3	92.6	91.9	91.2
82.5°	74.3	73.3	72.2	71.6	71.5	71.3	71.2	71.1
85°	42.6	41.9	41.2	40.9	40.9	40.9	40.9	40.9
87.5°	20.9	20.8	20.7	20.6	20.4	20.2	20.0	19.8
90°	25.7	26.6	27.5	28.2	28.6	29.1	29.5	29.9
92.5°	39.8	40.5	41.2	41.4	41.1	40.9	40.6	40.3
95°	75.6	76.5	77.4	77.9	77.9	77.9	77.9	77.9
97.5°	117.6	118.7	119.7	120.1	120.1	120.0	119.9	119.8
100°	148.1	148.7	149.4	150.0	150.4	150.8	151.3	151.7
102.5°	183.2	183.9	184.5	184.8	184.7	184.6	184.6	184.5
105°	235.6	235.6	235.6	235.8	236.2	236.7	237.1	237.6
107.5°	292.3	293.0	293.7	293.9	293.7	293.4	293.1	292.9
110°	330.2	331.1	332.0	332.2	331.7	331.3	330.9	330.4



TEST NUMBER: P332382

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.1	369.1	370.2	370.7	370.6	370.5	370.4	370.3
115°	425.7	425.9	426.1	426.1	425.9	425.7	425.5	425.2
117.5°	483.8	483.8	483.8	483.4	482.8	482.2	481.6	480.9
120°	522.6	522.4	522.2	521.8	521.4	521.0	520.5	520.1
122.5°	561.8	561.3	560.7	560.1	559.5	558.8	558.2	557.6
125°	620.1	619.2	618.3	617.4	616.6	615.7	614.8	613.9
127.5°	677.7	676.5	675.2	674.1	673.1	672.0	671.0	670.0
130°	715.9	715.0	714.2	712.9	711.4	709.8	708.3	706.7
132.5°	753.1	752.1	751.0	749.9	748.7	747.5	746.3	745.1
135°	808.8	807.9	807.0	806.3	805.9	805.4	805.0	804.6
137.5°	863.2	862.3	861.3	860.4	859.6	858.7	857.9	857.1
140°	898.9	898.7	898.5	897.6	896.1	894.5	893.0	891.4
142.5°	932.5	932.3	932.0	931.3	930.1	928.9	927.7	926.5
145°	981.8	981.6	981.3	980.8	979.9	979.0	978.1	977.2
147.5°	1028.4	1028.4	1028.4	1027.7	1026.4	1025.0	1023.7	1022.4
150°	1057.1	1057.1	1057.1	1056.4	1055.1	1053.8	1052.4	1051.1
152.5°	1083.4	1083.7	1084.1	1083.7	1082.5	1081.4	1080.2	1079.1
155°	1121.8	1122.7	1123.5	1123.2	1121.7	1120.1	1118.5	1117.0
157.5°	1154.8	1155.7	1156.7	1156.5	1155.3	1154.0	1152.8	1151.5
160°	1175.1	1176.2	1177.3	1177.4	1176.6	1175.7	1174.8	1173.9
162.5°	1194.3	1195.4	1196.5	1196.3	1194.9	1193.5	1192.1	1190.7
165°	1218.5	1219.8	1221.1	1221.0	1219.5	1217.9	1216.4	1214.8
167.5°	1238.1	1239.5	1240.9	1240.9	1239.5	1238.1	1236.8	1235.4
170°	1248.9	1250.4	1252.0	1252.0	1250.4	1248.9	1247.3	1245.8
172.5°	1257.3	1258.7	1260.0	1260.0	1258.4	1256.9	1255.3	1253.7
175°	1266.4	1267.7	1269.1	1268.9	1267.4	1265.8	1264.3	1262.7
177.5°	1270.5	1271.5	1272.6	1272.5	1271.3	1270.0	1268.8	1267.5
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7

(END OF REPORT)