

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: P332703-935

Luminaire Tested: **S124DIP-S1195D1035U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332703-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1195D1035U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7961.1 lumens
Efficiency: N/A
Efficacy: 119.2 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

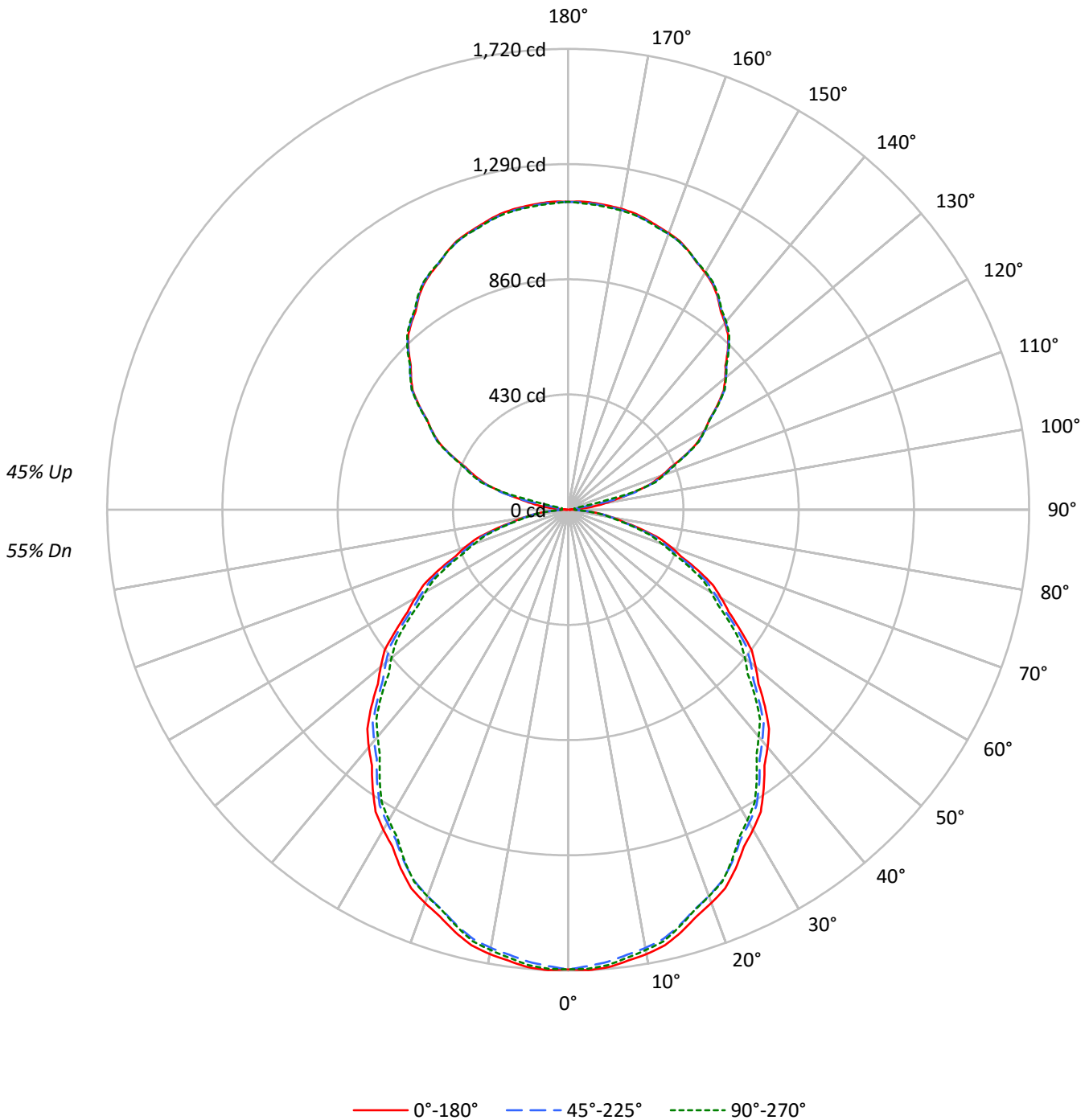
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	87	92	88	85	81	76	73	71	64	63	61	54	53	51	47
2	90	83	76	71	83	77	71	67	66	62	59	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	47	52	46	42	44	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	36	40	35	32	34	30	28	25
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	24	22
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13852	13852	13852
5°	13893	13726	13827
10°	13806	13615	13682
15°	13639	13422	13456
20°	13418	13181	13193
25°	13165	12908	12871
30°	12855	12585	12470
35°	12534	12249	12086
40°	12199	11866	11649
45°	11851	11490	11270
50°	11465	11154	10810
55°	11050	10719	10372
60°	10634	10233	9923
65°	10164	9769	9377
70°	9640	9151	8795
75°	8833	8406	8191
80°	7861	7541	7350
85°	6873	6623	6493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	2.0
10°-20°	455.3	5.7
20°-30°	670.1	8.4
30°-40°	779.0	9.8
40°-50°	779.1	9.8
50°-60°	681.5	8.6
60°-70°	506.1	6.4
70°-80°	287.5	3.6
80°-90°	86.3	1.1
90°-100°	39.3	0.5
100°-110°	250.6	3.1
110°-120°	479.4	6.0
120°-130°	608.6	7.6
130°-140°	651.1	8.2
140°-150°	608.9	7.6
150°-160°	491.0	6.2
160°-170°	316.7	4.0
170°-180°	109.2	1.4
0°-30°	1287.0	16.2
0°-40°	2066.0	26.0
0°-60°	3526.5	44.3
0°-90°	4406.4	55.3
90°-120°	769.3	9.7
90°-150°	2637.9	33.1
90°-180°	3555.0	44.7
0°-180°	7961.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1714	1708	1694	1708	1706	163
15°	1632	1626	1606	1613	1610	460
25°	1478	1468	1449	1450	1445	680
35°	1272	1262	1243	1233	1226	795
45°	1038	1028	1006	992	987	800
55°	785	780	762	746	737	703
65°	532	525	511	498	491	527
75°	283	276	270	264	263	301
85°	74	74	72	71	70	82
90°	3	12	19	24	26	6
95°	47	20	19	24	25	61
105°	259	264	268	274	245	271
115°	483	485	485	486	486	475
125°	679	682	681	683	684	606
135°	842	842	845	847	848	649
145°	971	974	974	975	976	607
155°	1065	1066	1063	1066	1064	491
165°	1123	1119	1119	1125	1118	317
175°	1149	1144	1145	1152	1142	109
180°	1149	1149	1149	1149	1149	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1720.2	1719.5	1718.7	1718.0	1717.3	1715.5	1712.9	1710.2	1707.5	1704.9	1707.3
5°	1714.4	1713.2	1712.0	1710.8	1709.6	1707.3	1703.9	1700.6	1697.2	1693.8	1697.2
7.5°	1698.5	1697.3	1696.1	1694.8	1693.6	1691.2	1687.4	1683.7	1680.0	1676.2	1679.0
10°	1684.2	1683.0	1681.8	1680.5	1679.3	1676.7	1672.8	1668.8	1664.8	1660.9	1663.3
12.5°	1665.5	1664.3	1663.0	1661.8	1660.6	1657.9	1653.7	1649.5	1645.3	1641.1	1643.7
15°	1631.9	1630.7	1629.5	1628.3	1627.0	1624.2	1619.5	1615.0	1610.4	1605.9	1607.7
17.5°	1591.6	1590.0	1588.5	1587.0	1585.4	1582.5	1578.1	1573.8	1569.5	1565.1	1566.3
20°	1561.9	1560.3	1558.8	1557.3	1555.7	1552.6	1548.1	1543.5	1539.0	1534.3	1535.2
22.5°	1529.9	1527.9	1526.0	1523.9	1521.9	1518.5	1514.0	1509.4	1504.9	1500.2	1501.9
25°	1478.0	1475.8	1473.7	1471.5	1469.4	1466.2	1461.9	1457.7	1453.4	1449.1	1449.4
27.5°	1418.6	1416.3	1414.2	1412.0	1409.8	1406.7	1402.7	1398.8	1394.8	1390.8	1390.1
30°	1379.0	1376.6	1374.1	1371.7	1369.2	1366.0	1362.0	1358.1	1354.1	1350.1	1348.9
32.5°	1337.2	1335.0	1332.8	1330.6	1328.4	1325.2	1320.9	1316.7	1312.5	1308.3	1306.8
35°	1271.8	1269.6	1267.5	1265.3	1263.2	1260.0	1255.7	1251.5	1247.2	1242.9	1240.7
37.5°	1202.7	1200.8	1198.9	1196.9	1194.9	1191.6	1187.1	1182.5	1177.8	1173.3	1171.0
40°	1157.6	1155.2	1152.7	1150.3	1147.9	1144.4	1139.8	1135.1	1130.6	1126.0	1122.9
42.5°	1109.2	1107.8	1106.3	1104.8	1103.4	1100.1	1095.0	1089.9	1084.9	1079.8	1076.2
45°	1038.0	1035.9	1033.7	1031.6	1029.5	1026.0	1021.1	1016.2	1011.2	1006.4	1003.1
47.5°	963.5	962.0	960.5	959.1	957.6	954.7	950.1	945.6	941.1	936.6	932.8
50°	912.9	911.7	910.4	909.2	908.0	905.3	901.0	896.7	892.4	888.1	883.9
52.5°	863.4	861.9	860.5	859.0	857.6	854.5	850.1	845.5	841.0	836.5	832.7
55°	785.1	784.1	783.3	782.3	781.4	778.8	774.5	770.3	765.9	761.6	758.0
57.5°	710.2	709.2	708.2	707.1	706.1	703.4	699.2	695.0	690.8	686.6	683.1
60°	658.6	657.0	655.5	654.0	652.5	649.7	645.8	641.8	637.7	633.8	631.0
62.5°	608.0	606.7	605.4	604.1	602.9	600.1	595.9	591.7	587.5	583.2	580.7
65°	532.1	530.5	529.0	527.4	526.0	523.7	520.6	517.5	514.5	511.4	508.4
67.5°	455.6	454.3	452.8	451.4	450.0	447.8	444.9	442.0	439.0	436.1	433.2
70°	408.4	406.2	404.1	401.9	399.8	397.5	395.0	392.6	390.1	387.7	385.3
72.5°	357.7	355.6	353.4	351.3	349.2	347.2	345.2	343.2	341.3	339.3	337.3
75°	283.2	281.7	280.2	278.6	277.1	275.6	274.1	272.5	271.0	269.5	268.3
77.5°	212.0	211.3	210.7	210.0	209.3	208.3	207.0	205.6	204.3	202.9	202.6
80°	169.1	168.2	167.3	166.3	165.5	164.7	164.1	163.4	162.8	162.2	161.6
82.5°	127.3	126.9	126.5	126.1	125.6	125.4	125.2	125.1	124.9	124.8	124.5
85°	74.2	74.2	74.2	74.2	74.2	74.0	73.4	72.8	72.1	71.5	71.5
87.5°	29.1	29.3	29.4	29.6	29.8	30.0	30.0	30.0	30.1	30.2	30.4
90°	2.6	4.6	6.8	8.9	11.0	12.8	14.3	15.8	17.4	18.9	20.1
92.5°	10.8	10.9	11.0	11.2	11.3	12.1	13.6	15.2	16.7	18.3	19.4
95°	47.3	40.8	34.3	27.8	21.3	18.2	18.3	18.5	18.7	18.9	20.1
97.5°	100.4	104.4	108.5	112.5	116.6	108.0	86.6	65.3	44.0	22.7	22.8
100°	140.9	144.4	147.8	151.3	154.7	143.3	116.9	90.6	64.1	37.8	34.6
102.5°	186.3	188.9	191.4	193.9	196.4	196.0	192.5	189.1	185.6	182.2	147.1
105°	258.7	259.8	261.0	262.2	263.3	264.3	265.3	266.2	267.3	268.2	269.9
107.5°	325.9	326.5	327.1	327.6	328.2	329.2	330.5	331.7	333.0	334.3	335.2
110°	371.3	371.9	372.5	373.0	373.6	374.4	375.6	376.8	377.9	379.0	379.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	415.3	416.4	417.4	418.4	419.5	420.3	420.8	421.3	421.8	422.3	422.3
115°	483.0	483.6	484.2	484.7	485.3	485.5	485.3	485.2	484.9	484.7	485.2
117.5°	544.1	544.8	545.6	546.4	547.2	547.7	548.1	548.5	549.0	549.4	549.3
120°	585.3	586.1	586.9	587.6	588.4	588.7	588.5	588.3	588.1	587.9	588.3
122.5°	623.8	624.3	624.7	625.2	625.7	626.0	626.3	626.5	626.8	627.1	627.3
125°	679.0	679.8	680.5	681.3	682.1	682.3	681.9	681.5	681.1	680.7	681.3
127.5°	731.2	731.4	731.7	731.8	732.0	732.5	733.5	734.3	735.2	736.1	736.0
130°	765.0	765.2	765.3	765.5	765.7	766.1	766.7	767.2	767.8	768.4	768.6
132.5°	795.9	796.3	796.6	796.9	797.3	797.8	798.6	799.3	800.0	800.7	800.9
135°	842.3	842.1	842.0	841.7	841.5	841.8	842.6	843.3	844.1	844.9	845.2
137.5°	883.4	883.5	883.6	883.6	883.7	884.2	885.0	885.9	886.7	887.5	887.9
140°	910.2	910.6	911.0	911.4	911.7	912.1	912.5	912.9	913.3	913.7	914.2
142.5°	934.3	935.0	935.6	936.3	937.0	937.5	937.7	938.0	938.1	938.4	938.8
145°	971.2	971.8	972.4	972.9	973.5	973.8	973.8	973.8	973.8	973.8	974.0
147.5°	1000.7	1001.7	1002.8	1003.8	1005.0	1005.4	1005.1	1005.0	1004.8	1004.6	1004.8
150°	1021.9	1022.7	1023.5	1024.2	1025.0	1025.3	1025.1	1024.9	1024.8	1024.5	1024.5
152.5°	1039.8	1040.4	1041.0	1041.6	1042.2	1042.4	1042.1	1041.7	1041.4	1041.0	1041.4
155°	1065.0	1065.1	1065.3	1065.5	1065.7	1065.5	1065.0	1064.4	1063.8	1063.2	1063.9
157.5°	1086.1	1086.0	1085.8	1085.7	1085.6	1085.2	1084.6	1083.9	1083.3	1082.6	1083.7
160°	1098.5	1097.9	1097.3	1096.7	1096.1	1095.8	1095.6	1095.4	1095.2	1095.0	1096.1
162.5°	1109.5	1108.7	1108.0	1107.2	1106.6	1106.1	1105.9	1105.7	1105.5	1105.4	1106.5
165°	1123.3	1122.4	1121.5	1120.5	1119.6	1119.0	1119.0	1119.0	1119.0	1119.0	1120.6
167.5°	1134.4	1133.4	1132.4	1131.4	1130.4	1129.9	1129.7	1129.6	1129.5	1129.4	1131.1
170°	1140.6	1139.4	1138.2	1137.1	1136.0	1135.5	1135.7	1135.9	1136.1	1136.3	1137.8
172.5°	1144.7	1143.6	1142.4	1141.3	1140.1	1139.6	1139.8	1140.1	1140.2	1140.4	1141.9
175°	1149.2	1148.1	1146.9	1145.7	1144.6	1144.1	1144.3	1144.5	1144.7	1144.9	1146.6
177.5°	1151.2	1150.1	1149.1	1148.1	1146.9	1146.6	1146.9	1147.2	1147.5	1147.8	1149.0
180°	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1709.7	1712.2	1714.6	1715.7	1715.5	1715.2	1714.9	1714.7
5°	1700.6	1703.9	1707.3	1708.7	1708.1	1707.4	1706.8	1706.2
7.5°	1681.6	1684.3	1687.0	1688.2	1687.8	1687.4	1687.0	1686.7
10°	1665.7	1668.2	1670.6	1671.5	1670.9	1670.3	1669.7	1669.0
12.5°	1646.4	1649.1	1651.8	1652.7	1651.8	1651.0	1650.1	1649.2
15°	1609.5	1611.4	1613.2	1613.6	1612.7	1611.8	1610.8	1610.0
17.5°	1567.5	1568.7	1569.8	1570.0	1569.4	1568.8	1568.2	1567.6
20°	1536.2	1537.1	1538.0	1538.2	1537.6	1537.0	1536.4	1535.7
22.5°	1503.6	1505.2	1506.8	1507.1	1506.1	1504.9	1503.8	1502.7
25°	1449.8	1450.0	1450.4	1449.8	1448.6	1447.4	1446.2	1445.0
27.5°	1389.3	1388.6	1387.8	1386.7	1385.2	1383.7	1382.2	1380.6
30°	1347.6	1346.4	1345.2	1343.8	1342.3	1340.8	1339.3	1337.7
32.5°	1305.4	1303.9	1302.4	1301.0	1299.4	1297.9	1296.4	1294.9
35°	1238.6	1236.5	1234.3	1232.5	1231.0	1229.4	1227.9	1226.4
37.5°	1168.6	1166.3	1164.0	1161.8	1159.9	1157.8	1155.8	1153.7
40°	1119.9	1116.8	1113.8	1111.5	1110.0	1108.5	1106.9	1105.4
42.5°	1072.7	1069.2	1065.7	1063.3	1062.3	1061.3	1060.2	1059.2
45°	999.7	996.3	993.0	990.8	989.9	988.9	988.1	987.1
47.5°	929.0	925.2	921.4	918.3	916.0	913.7	911.4	909.0
50°	879.6	875.3	871.1	868.0	866.2	864.4	862.5	860.7
52.5°	828.9	825.1	821.3	818.3	816.0	813.6	811.3	809.0
55°	754.3	750.7	747.0	744.2	742.4	740.6	738.7	736.9
57.5°	679.7	676.1	672.7	670.0	668.3	666.5	664.7	663.0
60°	628.3	625.6	622.8	620.7	619.1	617.6	616.1	614.6
62.5°	578.2	575.7	573.2	571.2	569.6	568.1	566.6	565.1
65°	505.3	502.3	499.2	497.0	495.4	493.9	492.3	490.9
67.5°	430.2	427.3	424.4	422.7	422.2	421.8	421.4	420.9
70°	382.8	380.4	377.9	376.3	375.3	374.4	373.5	372.6
72.5°	335.4	333.5	331.5	330.0	329.2	328.2	327.3	326.4
75°	267.0	265.8	264.6	263.8	263.6	263.2	262.9	262.6
77.5°	202.2	201.8	201.5	200.9	200.1	199.3	198.5	197.7
80°	161.0	160.4	159.8	159.4	159.0	158.7	158.4	158.1
82.5°	124.1	123.7	123.4	123.0	122.7	122.4	122.1	121.8
85°	71.5	71.5	71.5	71.4	71.0	70.7	70.4	70.1
87.5°	30.7	30.8	31.1	31.3	31.3	31.4	31.5	31.5
90°	21.2	22.4	23.5	24.3	24.6	25.1	25.4	25.7
92.5°	20.5	21.7	22.8	23.4	23.5	23.6	23.7	23.8
95°	21.2	22.4	23.5	24.2	24.4	24.5	24.7	24.9
97.5°	22.9	23.1	23.2	23.3	23.5	23.7	23.8	24.1
100°	31.3	28.1	24.8	23.3	23.5	23.7	23.8	24.1
102.5°	112.2	77.1	42.1	24.6	24.6	24.7	24.7	24.8
105°	271.6	273.3	275.0	272.5	265.6	258.7	251.8	245.0
107.5°	336.0	336.9	337.7	338.5	339.2	339.9	340.7	341.4
110°	379.8	380.2	380.6	381.1	381.6	382.2	382.8	383.3



TEST NUMBER: P332703-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	422.2	422.1	422.1	422.4	423.1	423.9	424.6	425.2
115°	485.5	485.9	486.3	486.5	486.5	486.5	486.5	486.5
117.5°	549.2	549.1	549.1	549.1	549.0	548.9	548.8	548.7
120°	588.7	589.0	589.4	589.4	589.0	588.7	588.3	587.9
122.5°	627.6	627.8	628.0	627.9	627.6	627.2	626.8	626.4
125°	681.9	682.4	683.0	683.4	683.6	683.8	684.0	684.2
127.5°	735.9	735.7	735.6	735.5	735.4	735.2	735.0	734.9
130°	768.8	769.0	769.1	769.3	769.3	769.3	769.3	769.3
132.5°	801.1	801.3	801.5	801.5	801.3	801.2	801.1	800.9
135°	845.7	846.0	846.4	846.8	847.2	847.6	847.9	848.3
137.5°	888.4	888.8	889.2	889.3	889.2	889.2	889.0	888.9
140°	914.8	915.4	915.9	916.4	916.5	916.7	916.9	917.1
142.5°	939.3	939.7	940.1	940.3	940.4	940.4	940.5	940.5
145°	974.2	974.4	974.6	974.9	975.3	975.6	976.0	976.4
147.5°	1004.9	1005.0	1005.2	1005.4	1005.6	1005.7	1006.0	1006.2
150°	1024.5	1024.5	1024.5	1024.6	1024.8	1025.0	1025.2	1025.4
152.5°	1041.6	1042.0	1042.2	1042.3	1042.2	1042.2	1042.0	1041.9
155°	1064.7	1065.5	1066.3	1066.3	1065.8	1065.2	1064.6	1064.1
157.5°	1084.6	1085.6	1086.6	1086.6	1085.6	1084.6	1083.7	1082.6
160°	1097.3	1098.5	1099.6	1099.6	1098.5	1097.3	1096.1	1095.0
162.5°	1107.6	1108.8	1109.9	1109.8	1108.5	1107.2	1106.0	1104.7
165°	1122.1	1123.7	1125.2	1125.1	1123.3	1121.6	1119.9	1118.2
167.5°	1132.7	1134.5	1136.1	1136.0	1134.1	1132.2	1130.2	1128.3
170°	1139.4	1140.8	1142.4	1142.2	1140.3	1138.4	1136.4	1134.5
172.5°	1143.5	1145.0	1146.5	1146.2	1144.2	1142.1	1140.1	1138.0
175°	1148.3	1150.0	1151.8	1151.4	1149.2	1146.9	1144.6	1142.3
177.5°	1150.2	1151.4	1152.7	1152.4	1150.6	1148.7	1146.9	1145.0
180°	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2	1149.2

(END OF REPORT)