

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: P332358-935

Luminaire Tested: **S123RDIP-S1000D1195U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332358-935
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-S1000D1195U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6796.3 lumens
Efficiency: N/A
Efficacy: 103.9 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

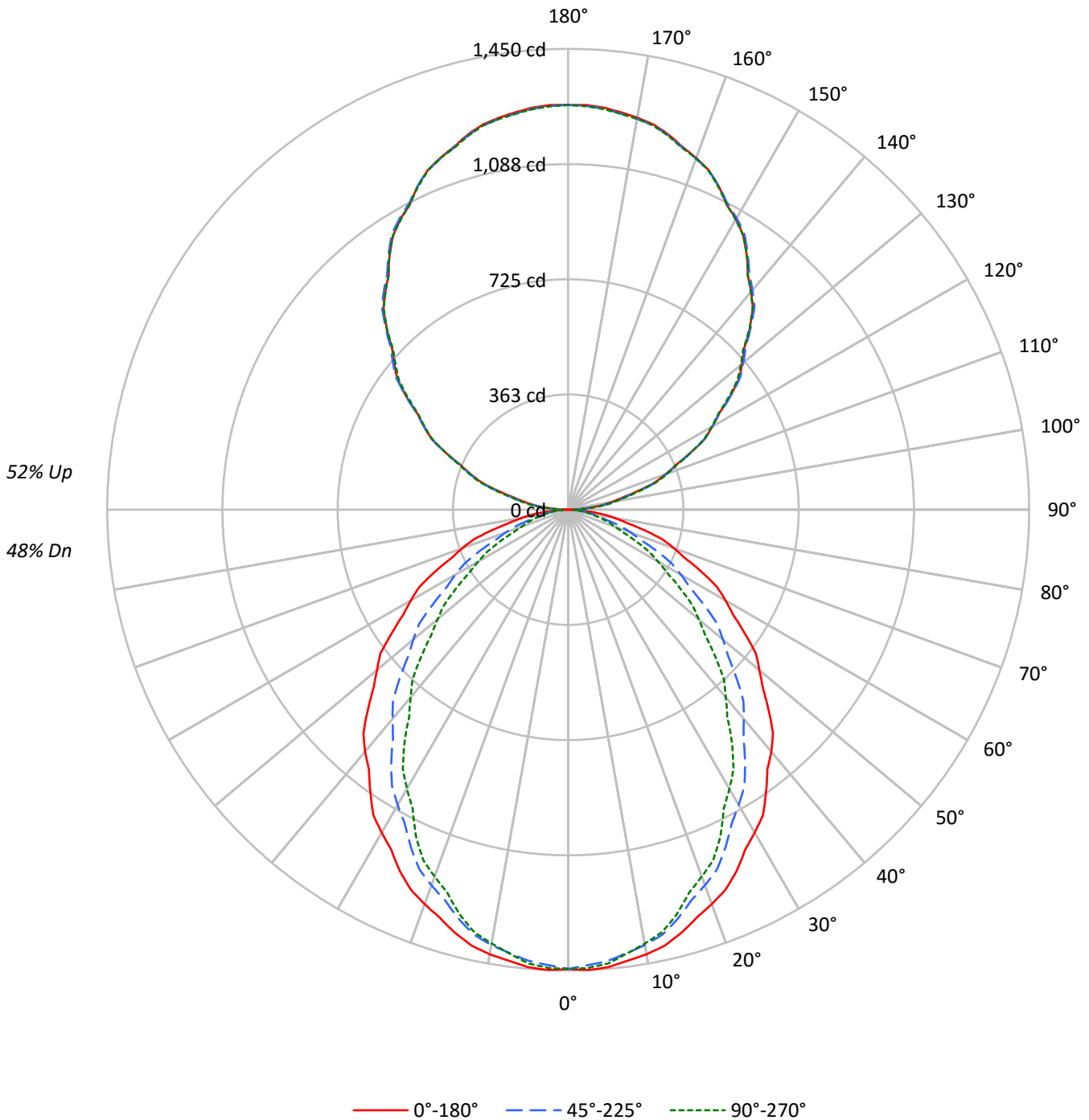
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	98	93	90	86	90	86	83	80	73	70	68	60	58	57	49	47	47	41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35
3	82	72	65	59	75	67	61	56	57	52	48	47	44	41	38	36	34	30
4	75	64	56	51	69	59	53	47	51	45	41	42	38	35	35	32	30	26
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23
6	63	51	44	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20
7	59	47	39	33	54	43	36	31	37	32	28	31	27	24	26	23	21	18
8	54	42	35	29	50	39	33	28	34	29	25	29	25	22	24	21	18	16
9	51	39	31	26	47	36	29	25	31	26	22	27	22	19	22	19	17	15
10	47	35	28	24	44	33	27	22	29	24	20	25	20	18	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15553	15553	15553
5°	15612	15397	15486
10°	15524	15204	15152
15°	15357	14848	14692
20°	15128	14403	14068
25°	14892	13904	13459
30°	14579	13328	12599
35°	14259	12750	11811
40°	13964	12069	10835
45°	13575	11399	9954
50°	13147	10637	8967
55°	12710	9764	8049
60°	12312	8831	7037
65°	11790	7819	6029
70°	11138	6565	4869
75°	10189	5165	4579
80°	9081	4575	4209
85°	7669	4051	3767



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.7	2.0
10°-20°	377.5	5.6
20°-30°	543.6	8.0
30°-40°	612.3	9.0
40°-50°	585.8	8.6
50°-60°	479.7	7.1
60°-70°	323.7	4.8
70°-80°	162.8	2.4
80°-90°	46.8	0.7
90°-100°	83.0	1.2
100°-110°	248.3	3.7
110°-120°	422.3	6.2
120°-130°	555.5	8.2
130°-140°	624.4	9.2
140°-150°	613.8	9.0
150°-160°	516.7	7.6
160°-170°	343.9	5.1
170°-180°	120.4	1.8
0°-30°	1056.8	15.5
0°-40°	1669.1	24.6
0°-60°	2734.6	40.2
0°-90°	3267.9	48.1
90°-120°	753.6	11.1
90°-150°	2547.3	37.5
90°-180°	3528.0	51.9
0°-180°	6796.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1445	1445	1445	1445	1445	
5°	1445	1439	1425	1435	1433	137
15°	1378	1364	1332	1326	1318	388
25°	1254	1223	1171	1147	1133	576
35°	1085	1041	970	922	899	679
45°	892	837	749	684	654	688
55°	677	618	520	455	429	607
65°	463	397	307	252	237	458
75°	245	188	124	113	110	261
85°	62	38	33	31	30	70
90°	1	11	24	28	30	7
95°	59	66	74	78	78	66
105°	225	228	236	236	238	241
115°	425	428	426	427	426	421
125°	622	625	623	619	615	555
135°	807	813	812	808	806	622
145°	979	981	984	983	979	612
155°	1122	1122	1122	1126	1119	516
165°	1222	1219	1218	1224	1218	344
175°	1270	1267	1266	1272	1266	121
180°	1274	1274	1274	1274	1274	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9
2.5°	1449.6	1448.7	1447.9	1447.1	1446.2	1444.6	1442.1	1439.6	1437.1	1434.6	1436.8
5°	1444.9	1443.6	1442.3	1441.0	1439.7	1437.4	1434.3	1431.2	1428.1	1425.0	1427.3
7.5°	1431.5	1430.1	1428.7	1427.3	1425.9	1423.1	1419.1	1415.1	1411.0	1407.0	1408.3
10°	1420.3	1418.5	1416.6	1414.8	1413.0	1409.7	1405.1	1400.3	1395.7	1391.0	1391.3
12.5°	1404.4	1402.3	1400.3	1398.3	1396.2	1392.3	1386.6	1380.9	1375.2	1369.4	1369.2
15°	1378.1	1375.3	1372.3	1369.5	1366.7	1361.6	1354.3	1346.9	1339.7	1332.4	1331.1
17.5°	1345.1	1341.7	1338.4	1335.1	1331.7	1325.4	1316.1	1306.9	1297.6	1288.3	1285.6
20°	1320.7	1316.6	1312.3	1308.2	1304.0	1297.0	1287.1	1277.2	1267.3	1257.4	1254.0
22.5°	1293.5	1288.7	1283.9	1279.1	1274.4	1266.7	1256.1	1245.6	1235.1	1224.6	1220.4
25°	1253.9	1247.4	1240.9	1234.3	1227.9	1218.6	1206.6	1194.6	1182.7	1170.7	1165.2
27.5°	1205.8	1198.7	1191.5	1184.3	1177.1	1166.8	1153.5	1140.1	1126.8	1113.5	1105.9
30°	1173.0	1165.2	1157.4	1149.6	1141.8	1130.6	1116.0	1101.4	1086.8	1072.3	1063.4
32.5°	1140.2	1131.4	1122.5	1113.6	1104.8	1092.7	1077.3	1061.9	1046.4	1031.0	1021.3
35°	1085.1	1075.7	1066.3	1057.0	1047.7	1034.8	1018.7	1002.5	986.4	970.3	959.1
37.5°	1029.3	1018.9	1008.5	998.1	987.7	973.9	956.7	939.4	922.1	904.9	892.2
40°	993.8	982.3	970.8	959.3	947.9	932.9	914.5	896.0	877.4	858.9	845.4
42.5°	953.4	941.9	930.5	919.0	907.6	892.3	873.2	854.1	835.0	815.9	801.1
45°	891.8	880.0	868.3	856.6	844.9	829.1	809.0	788.9	768.9	748.8	734.0
47.5°	830.2	817.3	804.4	791.5	778.7	762.2	742.2	722.1	702.1	682.0	665.9
50°	785.1	772.9	760.7	748.5	736.2	719.5	698.4	677.3	656.3	635.2	619.0
52.5°	744.9	731.6	718.2	705.0	691.7	674.6	653.8	632.8	612.0	591.1	574.3
55°	677.3	664.6	651.8	639.0	626.3	608.8	586.7	564.6	542.4	520.3	505.2
57.5°	615.0	601.1	587.2	573.3	559.4	541.3	519.0	496.8	474.6	452.4	438.1
60°	571.9	557.6	543.2	528.9	514.5	496.6	475.0	453.4	431.8	410.2	396.1
62.5°	528.7	514.4	500.1	485.8	471.5	453.5	431.9	410.3	388.7	367.0	353.8
65°	462.9	448.6	434.2	419.9	405.6	388.3	368.0	347.7	327.4	307.0	294.3
67.5°	397.0	382.5	368.1	353.6	339.1	322.1	302.6	283.2	263.7	244.2	234.7
70°	353.9	339.8	325.8	311.7	297.6	281.5	263.3	245.0	226.8	208.6	199.5
72.5°	310.7	297.0	283.1	269.2	255.4	240.1	223.6	207.1	190.5	173.9	166.4
75°	245.0	232.4	219.9	207.4	194.9	181.5	167.2	152.8	138.5	124.2	121.6
77.5°	184.9	173.6	162.3	151.0	139.7	129.4	120.2	111.0	101.8	92.6	91.2
80°	146.5	135.8	125.1	114.4	103.8	95.7	90.2	84.7	79.3	73.8	73.0
82.5°	109.9	100.7	91.5	82.2	73.0	67.2	64.6	62.1	59.5	56.9	56.1
85°	62.1	56.4	50.6	44.9	39.2	35.9	35.1	34.4	33.6	32.8	32.3
87.5°	22.7	20.8	19.0	17.1	15.3	14.6	15.2	15.8	16.4	17.0	17.0
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	24.2	25.7	27.2	28.8	30.2	31.9	33.5	35.1	36.8	38.4	39.1
95°	59.1	60.6	62.2	63.7	65.3	66.9	68.7	70.4	72.2	74.0	74.9
97.5°	104.9	106.0	107.2	108.3	109.4	110.7	112.0	113.3	114.5	115.8	116.8
100°	136.0	137.4	138.7	140.1	141.4	142.6	143.7	144.8	145.9	147.1	147.7
102.5°	172.0	172.9	173.7	174.4	175.3	176.4	177.9	179.3	180.8	182.3	183.0
105°	225.1	225.5	226.0	226.4	226.9	228.1	230.1	232.1	234.1	236.1	236.1
107.5°	286.7	287.0	287.2	287.5	287.7	288.3	289.1	289.9	290.7	291.5	292.2
110°	325.1	325.5	326.0	326.5	326.9	327.4	327.8	328.2	328.6	329.2	330.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	365.2	365.4	365.7	365.9	366.2	366.4	366.4	366.5	366.6	366.7	367.8
115°	425.2	425.9	426.5	427.1	427.8	427.9	427.5	427.1	426.6	426.2	426.4
117.5°	485.6	486.0	486.5	486.9	487.3	487.3	486.7	486.1	485.6	485.0	484.9
120°	523.2	524.5	525.9	527.2	528.6	528.7	527.5	526.4	525.3	524.2	524.0
122.5°	562.4	563.4	564.4	565.3	566.4	566.5	565.9	565.3	564.8	564.2	563.6
125°	622.2	622.9	623.5	624.2	624.9	625.0	624.6	624.1	623.7	623.3	622.3
127.5°	677.4	678.9	680.3	681.7	683.1	683.6	683.1	682.6	682.2	681.7	680.4
130°	714.3	716.0	717.8	719.6	721.3	721.9	721.3	720.6	720.0	719.3	718.4
132.5°	751.1	752.9	754.7	756.4	758.2	758.9	758.4	757.9	757.3	756.9	755.8
135°	807.3	808.7	809.9	811.3	812.6	813.2	813.0	812.8	812.5	812.3	811.4
137.5°	859.4	860.4	861.5	862.6	863.8	864.6	865.2	865.7	866.3	866.9	866.0
140°	895.4	896.5	897.6	898.7	899.7	900.4	900.7	900.9	901.1	901.4	901.1
142.5°	928.2	929.3	930.4	931.5	932.6	933.3	933.8	934.2	934.5	935.0	934.7
145°	979.4	979.8	980.2	980.7	981.1	981.7	982.4	983.0	983.7	984.4	984.1
147.5°	1024.2	1025.0	1025.8	1026.6	1027.4	1028.1	1028.7	1029.3	1029.9	1030.6	1030.6
150°	1055.4	1055.8	1056.3	1056.7	1057.2	1057.7	1058.1	1058.5	1058.9	1059.4	1059.4
152.5°	1081.0	1081.7	1082.3	1082.9	1083.5	1083.9	1084.2	1084.5	1084.8	1085.0	1085.4
155°	1121.5	1121.5	1121.5	1121.5	1121.5	1121.5	1121.8	1122.0	1122.2	1122.4	1123.3
157.5°	1155.8	1155.5	1155.3	1155.0	1154.8	1154.7	1154.9	1155.1	1155.3	1155.5	1156.4
160°	1177.4	1177.0	1176.6	1176.1	1175.7	1175.4	1175.4	1175.4	1175.4	1175.4	1176.6
162.5°	1196.6	1196.0	1195.4	1194.8	1194.2	1193.9	1194.1	1194.3	1194.5	1194.6	1195.8
165°	1221.5	1220.8	1220.1	1219.4	1218.8	1218.5	1218.5	1218.5	1218.5	1218.5	1219.8
167.5°	1241.3	1240.4	1239.5	1238.6	1237.7	1237.3	1237.5	1237.7	1237.9	1238.0	1239.4
170°	1252.5	1251.5	1250.7	1249.8	1248.9	1248.4	1248.4	1248.4	1248.4	1248.4	1250.0
172.5°	1261.3	1260.4	1259.5	1258.6	1257.7	1257.3	1257.3	1257.3	1257.3	1257.3	1258.7
175°	1270.5	1269.6	1268.7	1267.8	1267.0	1266.4	1266.4	1266.4	1266.4	1266.4	1267.8
177.5°	1274.3	1273.6	1272.9	1272.1	1271.4	1271.1	1271.1	1271.1	1271.1	1271.1	1272.1
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9
2.5°	1439.2	1441.5	1443.7	1444.7	1444.2	1443.9	1443.5	1443.0
5°	1429.7	1432.0	1434.3	1435.3	1434.8	1434.3	1433.7	1433.2
7.5°	1409.5	1410.8	1412.1	1412.4	1411.4	1410.6	1409.7	1408.8
10°	1391.5	1391.8	1392.1	1391.5	1390.2	1388.9	1387.6	1386.3
12.5°	1369.1	1369.0	1368.8	1368.0	1366.5	1364.9	1363.5	1361.9
15°	1329.8	1328.5	1327.2	1325.6	1323.8	1322.0	1320.2	1318.4
17.5°	1282.8	1280.0	1277.3	1274.5	1271.9	1269.1	1266.4	1263.7
20°	1250.6	1247.2	1243.9	1240.6	1237.5	1234.3	1231.2	1228.1
22.5°	1216.2	1211.9	1207.7	1204.1	1201.3	1198.3	1195.4	1192.5
25°	1159.8	1154.3	1148.8	1144.6	1141.8	1138.9	1136.1	1133.2
27.5°	1098.3	1090.7	1083.1	1077.1	1072.7	1068.3	1063.9	1059.6
30°	1054.6	1045.7	1036.8	1030.4	1026.1	1022.0	1017.8	1013.7
32.5°	1011.6	1001.9	992.2	985.2	980.9	976.5	972.1	967.7
35°	947.9	936.7	925.5	917.6	912.9	908.2	903.5	898.8
37.5°	879.5	866.8	854.1	844.8	839.0	833.3	827.5	821.7
40°	831.9	818.4	804.8	795.0	789.0	783.1	777.1	771.1
42.5°	786.3	771.5	756.6	746.6	741.2	735.9	730.5	725.1
45°	719.1	704.3	689.4	678.9	672.6	666.4	660.1	653.9
47.5°	649.7	633.6	617.4	606.6	601.0	595.5	589.9	584.3
50°	602.9	586.7	570.6	559.5	553.5	547.5	541.6	535.5
52.5°	557.6	540.8	524.0	512.9	507.6	502.2	496.9	491.5
55°	490.1	475.0	459.9	449.7	444.5	439.3	434.1	428.9
57.5°	423.8	409.5	395.3	385.9	381.5	377.0	372.6	368.2
60°	382.0	368.0	353.9	344.7	340.3	335.8	331.4	326.9
62.5°	340.5	327.4	314.1	305.1	300.6	295.9	291.3	286.6
65°	281.5	268.7	256.0	248.1	245.3	242.5	239.6	236.7
67.5°	225.2	215.6	206.1	199.8	196.7	193.6	190.5	187.5
70°	190.4	181.2	172.1	166.2	163.2	160.4	157.6	154.7
72.5°	159.0	151.5	144.1	139.8	138.6	137.4	136.2	135.0
75°	119.0	116.4	113.8	112.3	111.8	111.2	110.6	110.1
77.5°	89.8	88.3	87.0	86.0	85.5	85.0	84.5	83.9
80°	72.2	71.5	70.7	70.1	69.6	69.1	68.4	67.9
82.5°	55.4	54.6	53.8	53.4	53.3	53.2	53.0	53.0
85°	31.8	31.3	30.7	30.5	30.5	30.5	30.5	30.5
87.5°	17.0	16.9	16.9	16.8	16.7	16.5	16.4	16.3
90°	25.8	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	39.9	40.6	41.2	41.5	41.2	41.0	40.6	40.4
95°	75.8	76.7	77.6	78.0	78.0	78.0	78.0	78.0
97.5°	117.9	118.9	119.9	120.4	120.3	120.2	120.1	120.0
100°	148.4	149.0	149.7	150.2	150.8	151.2	151.6	152.1
102.5°	183.6	184.3	184.9	185.2	185.1	185.0	184.9	184.9
105°	236.1	236.1	236.1	236.3	236.8	237.2	237.6	238.1
107.5°	292.9	293.7	294.4	294.5	294.3	294.0	293.8	293.5
110°	330.9	331.8	332.7	332.9	332.4	332.0	331.6	331.1



TEST NUMBER: P332358-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.9	370.0	371.0	371.5	371.4	371.3	371.3	371.2
115°	426.6	426.8	427.1	427.1	426.8	426.6	426.4	426.2
117.5°	484.9	484.8	484.8	484.5	483.9	483.2	482.6	482.0
120°	523.7	523.6	523.3	523.0	522.5	522.1	521.7	521.2
122.5°	563.1	562.5	561.9	561.3	560.7	560.1	559.4	558.8
125°	621.5	620.6	619.7	618.8	617.9	617.0	616.1	615.3
127.5°	679.2	678.0	676.7	675.5	674.5	673.5	672.4	671.5
130°	717.5	716.6	715.7	714.5	712.9	711.4	709.8	708.3
132.5°	754.8	753.7	752.6	751.5	750.3	749.1	747.9	746.7
135°	810.5	809.6	808.7	808.0	807.6	807.2	806.8	806.3
137.5°	865.0	864.1	863.2	862.3	861.4	860.7	859.8	858.9
140°	900.9	900.7	900.4	899.6	898.0	896.5	894.9	893.4
142.5°	934.5	934.3	934.1	933.3	932.1	930.9	929.8	928.6
145°	984.0	983.7	983.5	982.9	982.1	981.1	980.2	979.4
147.5°	1030.6	1030.6	1030.6	1029.9	1028.6	1027.3	1025.9	1024.6
150°	1059.4	1059.4	1059.4	1058.8	1057.4	1056.1	1054.7	1053.4
152.5°	1085.7	1086.1	1086.4	1086.1	1084.9	1083.7	1082.5	1081.4
155°	1124.2	1125.1	1126.0	1125.7	1124.1	1122.6	1121.0	1119.4
157.5°	1157.3	1158.2	1159.2	1159.0	1157.8	1156.5	1155.3	1154.0
160°	1177.7	1178.8	1179.9	1180.0	1179.1	1178.2	1177.3	1176.5
162.5°	1196.9	1198.0	1199.1	1198.9	1197.5	1196.1	1194.6	1193.3
165°	1221.2	1222.4	1223.8	1223.7	1222.1	1220.6	1219.0	1217.5
167.5°	1240.8	1242.2	1243.5	1243.5	1242.2	1240.8	1239.4	1238.0
170°	1251.5	1253.2	1254.7	1254.7	1253.2	1251.5	1250.0	1248.4
172.5°	1260.1	1261.5	1262.8	1262.7	1261.1	1259.6	1258.0	1256.5
175°	1269.1	1270.5	1271.8	1271.7	1270.1	1268.6	1267.0	1265.5
177.5°	1273.2	1274.3	1275.3	1275.2	1274.0	1272.7	1271.5	1270.3
180°	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5	1273.5

(END OF REPORT)