

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: P332340-935

Luminaire Tested: **S123RDIP-S1000D585U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332340-935
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-S1000D585U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4998.1 lumens
Efficiency: N/A
Efficacy: 102.4 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: Semi-Direct

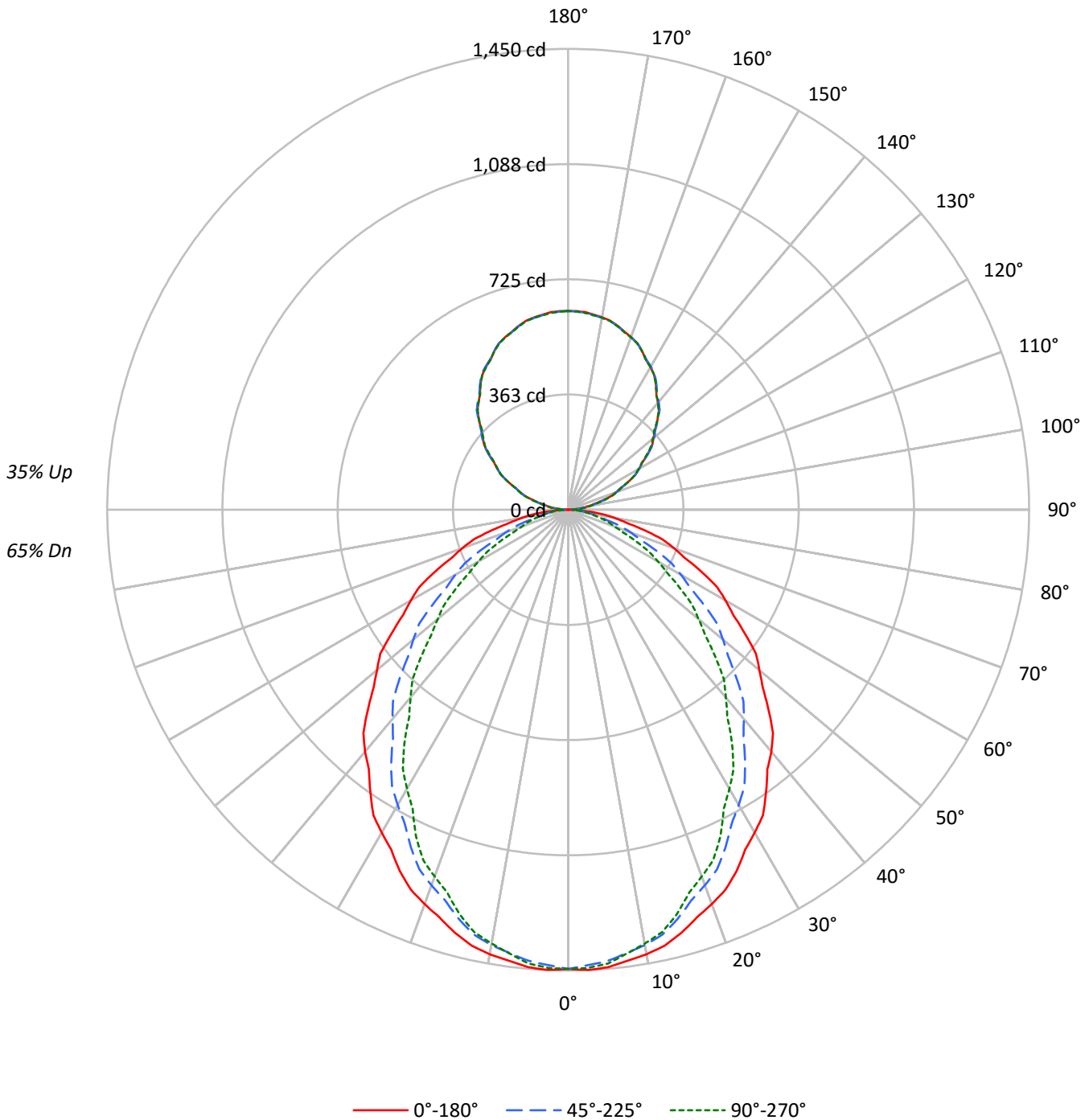
Input Watts (W): 48.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	102	97	94	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	86	79	74	87	81	75	71	72	68	64	63	60	58	56	53	51	47
3	85	76	68	62	80	71	65	60	64	59	54	56	52	49	50	47	44	41
4	78	67	59	53	73	64	57	51	57	51	47	51	46	42	45	41	38	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	40	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	41	37	33	37	33	30	27
7	62	49	41	36	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	36	31	39	33	28	35	30	26	31	27	24	22
9	53	41	34	28	50	39	32	27	36	30	26	32	27	24	29	25	22	20
10	50	38	31	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

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	2.7
10°-20°	377.5	7.6
20°-30°	543.6	10.9
30°-40°	612.3	12.3
40°-50°	585.8	11.7
50°-60°	479.7	9.6
60°-70°	323.7	6.5
70°-80°	162.8	3.3
80°-90°	44.9	0.9
90°-100°	40.7	0.8
100°-110°	121.9	2.4
110°-120°	207.3	4.1
120°-130°	272.7	5.5
130°-140°	306.5	6.1
140°-150°	301.3	6.0
150°-160°	253.7	5.1
160°-170°	168.9	3.4
170°-180°	59.1	1.2
0°-30°	1056.8	21.1
0°-40°	1669.1	33.4
0°-60°	2734.6	54.7
0°-90°	3266.0	65.3
90°-120°	370.0	7.4
90°-150°	1250.5	25.0
90°-180°	1732.0	34.7
0°-180°	4998.1	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°	0	5	12	14	15	5
95°	29	32	36	38	38	33
105°	110	112	116	116	117	118
115°	209	210	209	210	209	206
125°	306	307	306	304	302	272
135°	396	399	399	397	396	305
145°	481	482	483	483	481	300
155°	550	551	551	553	550	253
165°	600	598	598	601	598	169
175°	624	622	622	624	621	59
180°	625	625	625	625	625	



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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°	22.6	20.5	18.4	16.4	14.3	13.4	13.7	13.9	14.3	14.6	14.5
90°	0.5	1.5	2.7	3.8	4.8	6.1	7.5	9.0	10.3	11.8	12.2
92.5°	11.9	12.7	13.3	14.1	14.9	15.7	16.4	17.2	18.1	18.9	19.2
95°	29.0	29.7	30.5	31.3	32.0	32.9	33.8	34.6	35.5	36.3	36.8
97.5°	51.5	52.0	52.6	53.2	53.7	54.3	54.9	55.6	56.2	56.9	57.3
100°	66.8	67.4	68.1	68.8	69.4	70.0	70.5	71.1	71.6	72.2	72.5
102.5°	84.5	84.9	85.2	85.7	86.0	86.6	87.3	88.1	88.8	89.5	89.8
105°	110.5	110.7	110.9	111.2	111.4	111.9	113.0	113.9	114.9	115.9	115.9
107.5°	140.8	140.9	141.0	141.1	141.3	141.5	141.9	142.3	142.8	143.1	143.4
110°	159.6	159.8	160.1	160.2	160.5	160.7	160.9	161.2	161.4	161.6	162.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.3	179.3	179.5	179.6	179.8	179.9	179.9	179.9	180.0	180.0	180.6
115°	208.7	209.1	209.4	209.7	210.0	210.1	209.8	209.7	209.4	209.2	209.3
117.5°	238.4	238.6	238.8	239.0	239.3	239.2	238.9	238.7	238.4	238.1	238.1
120°	256.8	257.5	258.1	258.8	259.5	259.5	259.0	258.5	257.9	257.4	257.3
122.5°	276.1	276.6	277.1	277.5	278.0	278.1	277.8	277.6	277.2	277.0	276.7
125°	305.5	305.8	306.1	306.4	306.8	306.9	306.6	306.4	306.2	306.0	305.5
127.5°	332.6	333.3	334.0	334.7	335.4	335.6	335.4	335.1	334.8	334.7	334.1
130°	350.7	351.5	352.4	353.3	354.1	354.4	354.1	353.8	353.4	353.1	352.7
132.5°	368.7	369.6	370.5	371.3	372.2	372.6	372.3	372.0	371.8	371.6	371.0
135°	396.3	397.0	397.6	398.3	398.9	399.2	399.1	399.0	398.9	398.8	398.4
137.5°	421.9	422.4	422.9	423.5	424.0	424.5	424.7	425.0	425.3	425.6	425.2
140°	439.5	440.1	440.7	441.2	441.7	442.0	442.1	442.3	442.4	442.5	442.4
142.5°	455.6	456.2	456.8	457.3	457.8	458.2	458.4	458.6	458.8	459.0	458.9
145°	480.8	481.0	481.2	481.5	481.6	481.9	482.2	482.6	482.9	483.3	483.1
147.5°	502.8	503.2	503.6	503.9	504.4	504.7	505.1	505.3	505.7	505.9	505.9
150°	518.1	518.3	518.6	518.8	519.0	519.2	519.4	519.6	519.9	520.0	520.0
152.5°	530.7	531.0	531.3	531.6	531.9	532.1	532.3	532.4	532.5	532.6	532.8
155°	550.5	550.5	550.5	550.5	550.5	550.6	550.7	550.8	551.0	551.0	551.5
157.5°	567.4	567.3	567.1	567.1	566.9	566.9	567.0	567.1	567.1	567.2	567.7
160°	578.0	577.8	577.6	577.4	577.1	577.0	577.0	577.0	577.0	577.0	577.6
162.5°	587.5	587.1	586.9	586.5	586.3	586.2	586.3	586.3	586.4	586.5	587.0
165°	599.6	599.3	599.0	598.7	598.3	598.1	598.1	598.1	598.1	598.1	598.8
167.5°	609.3	608.9	608.5	608.0	607.6	607.4	607.5	607.6	607.7	607.8	608.5
170°	614.8	614.4	614.0	613.5	613.1	612.9	612.9	612.9	612.9	612.9	613.6
172.5°	619.1	618.7	618.3	617.9	617.4	617.3	617.3	617.3	617.3	617.3	617.9
175°	623.7	623.3	622.8	622.4	622.0	621.7	621.7	621.7	621.7	621.7	622.4
177.5°	625.6	625.3	624.9	624.5	624.1	624.0	624.0	624.0	624.0	624.0	624.5
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2



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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°	14.3	14.2	14.0	13.9	13.8	13.6	13.4	13.3
90°	12.7	13.1	13.5	13.9	14.1	14.3	14.6	14.7
92.5°	19.5	19.9	20.2	20.4	20.2	20.1	20.0	19.8
95°	37.2	37.6	38.1	38.3	38.3	38.3	38.3	38.3
97.5°	57.9	58.4	58.9	59.1	59.1	59.0	59.0	58.9
100°	72.8	73.2	73.5	73.8	74.0	74.2	74.4	74.6
102.5°	90.1	90.5	90.7	90.9	90.9	90.8	90.8	90.7
105°	115.9	115.9	115.9	116.0	116.2	116.4	116.7	116.9
107.5°	143.8	144.1	144.5	144.6	144.5	144.4	144.2	144.1
110°	162.5	162.9	163.3	163.4	163.2	163.0	162.8	162.6



TEST NUMBER: P332340-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	181.1	181.6	182.1	182.4	182.4	182.3	182.3	182.2
115°	209.4	209.6	209.7	209.7	209.6	209.4	209.3	209.2
117.5°	238.1	238.0	238.0	237.8	237.5	237.2	236.9	236.6
120°	257.1	257.0	256.9	256.8	256.5	256.3	256.1	255.9
122.5°	276.4	276.1	275.9	275.5	275.3	274.9	274.7	274.3
125°	305.1	304.6	304.2	303.8	303.3	302.9	302.5	302.0
127.5°	333.4	332.8	332.2	331.7	331.1	330.6	330.1	329.6
130°	352.2	351.8	351.4	350.8	350.0	349.2	348.4	347.7
132.5°	370.5	370.0	369.5	368.9	368.3	367.7	367.1	366.5
135°	397.9	397.4	397.0	396.7	396.5	396.2	396.1	395.8
137.5°	424.6	424.2	423.8	423.4	422.9	422.5	422.1	421.6
140°	442.3	442.1	442.0	441.6	440.8	440.1	439.3	438.6
142.5°	458.7	458.7	458.6	458.2	457.6	457.0	456.4	455.8
145°	483.0	482.9	482.8	482.5	482.1	481.6	481.2	480.8
147.5°	505.9	505.9	505.9	505.6	505.0	504.3	503.7	503.0
150°	520.0	520.0	520.0	519.8	519.1	518.4	517.8	517.1
152.5°	533.0	533.2	533.4	533.1	532.6	532.0	531.5	530.9
155°	551.9	552.3	552.8	552.6	551.8	551.0	550.4	549.6
157.5°	568.2	568.6	569.0	568.9	568.3	567.7	567.1	566.5
160°	578.2	578.7	579.2	579.3	578.9	578.4	578.0	577.6
162.5°	587.5	588.1	588.7	588.6	587.9	587.2	586.5	585.8
165°	599.5	600.1	600.8	600.7	599.9	599.2	598.5	597.7
167.5°	609.2	609.8	610.5	610.5	609.8	609.2	608.5	607.8
170°	614.4	615.2	616.0	616.0	615.2	614.4	613.6	612.9
172.5°	618.5	619.2	619.9	619.9	619.1	618.4	617.6	616.8
175°	623.0	623.7	624.4	624.3	623.5	622.8	622.0	621.2
177.5°	625.1	625.6	626.1	626.0	625.4	624.8	624.2	623.6
180°	625.2	625.2	625.2	625.2	625.2	625.2	625.2	625.2

(END OF REPORT)