

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: P332465-927

Luminaire Tested: **S123RDIW-S1000D1320U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332465-927  
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: S123RDIW-S1000D1320U927-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6631.0 lumens  
Efficiency: N/A  
Efficacy: 95.0 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

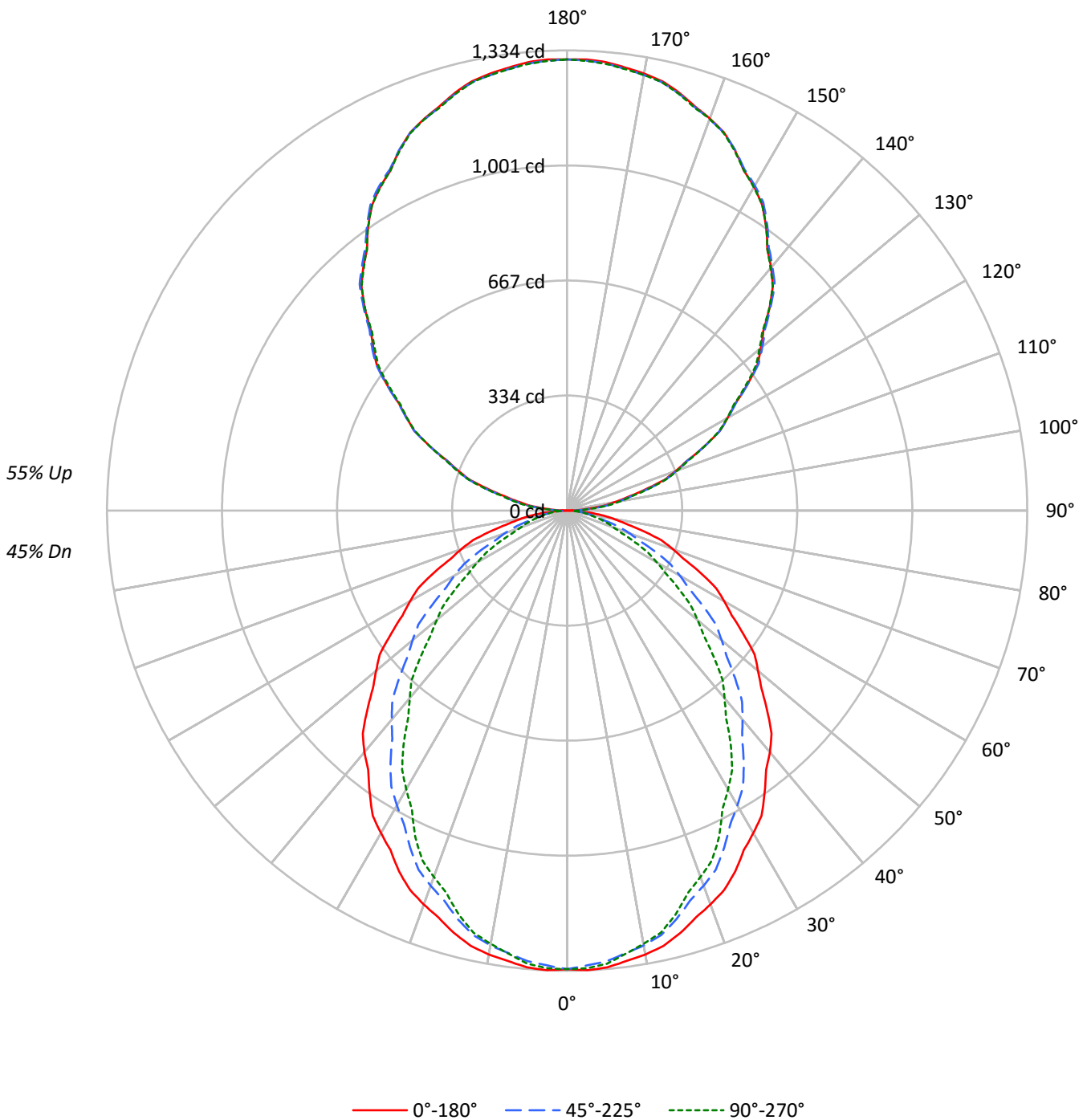
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39
2	89	81	75	70	81	75	70	65	63	59	56	51	49	47	41	39	38	33
3	81	72	65	59	74	66	60	55	56	51	47	46	42	40	37	34	32	28
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24
5	68	57	49	43	62	53	46	40	44	39	35	37	33	30	30	27	25	21
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	20	17
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	31	26	46	36	29	24	30	25	22	26	22	19	21	18	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	14	13

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14310	14310	14310
5°	14364	14166	14249
10°	14283	13988	13941
15°	14130	13661	13517
20°	13919	13252	12944
25°	13702	12792	12383
30°	13415	12263	11591
35°	13119	11730	10867
40°	12847	11105	9969
45°	12490	10488	9159
50°	12097	9786	8251
55°	11695	8983	7405
60°	11328	8125	6476
65°	10847	7195	5547
70°	10247	6039	4482
75°	9374	4754	4213
80°	8356	4209	3874
85°	7052	3730	3458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.8	1.9
10°-20°	347.3	5.2
20°-30°	500.2	7.5
30°-40°	563.4	8.5
40°-50°	539.0	8.1
50°-60°	441.4	6.7
60°-70°	297.8	4.5
70°-80°	149.8	2.3
80°-90°	43.5	0.7
90°-100°	85.2	1.3
100°-110°	255.0	3.8
110°-120°	433.8	6.5
120°-130°	570.5	8.6
130°-140°	641.3	9.7
140°-150°	630.4	9.5
150°-160°	530.7	8.0
160°-170°	353.3	5.3
170°-180°	123.7	1.9
0°-30°	972.3	14.7
0°-40°	1535.7	23.2
0°-60°	2516.0	37.9
0°-90°	3007.1	45.3
90°-120°	774.0	11.7
90°-150°	2616.2	39.5
90°-180°	3624.0	54.7
0°-180°	6631.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1329	1324	1311	1320	1319	126
15°	1268	1255	1226	1220	1213	357
25°	1154	1125	1077	1055	1043	530
35°	998	958	893	848	827	625
45°	820	770	689	629	602	633
55°	623	568	479	418	395	559
65°	426	365	282	232	218	421
75°	225	173	114	104	101	240
85°	57	34	30	28	28	64
90°	1	11	25	29	31	7
95°	61	68	76	80	80	68
105°	231	234	242	243	244	248
115°	437	439	438	439	438	432
125°	639	642	640	636	632	570
135°	829	835	834	830	828	639
145°	1006	1008	1011	1010	1006	628
155°	1152	1152	1153	1156	1150	530
165°	1254	1252	1251	1257	1250	354
175°	1305	1301	1301	1306	1300	124
180°	1308	1308	1308	1308	1308	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1333.7	1332.9	1332.2	1331.4	1330.6	1329.1	1326.8	1324.5	1322.2	1319.9	1322.0
5°	1329.4	1328.2	1327.0	1325.8	1324.6	1322.5	1319.7	1316.8	1314.0	1311.1	1313.2
7.5°	1317.1	1315.8	1314.5	1313.2	1311.9	1309.4	1305.7	1302.0	1298.2	1294.5	1295.7
10°	1306.8	1305.1	1303.4	1301.7	1300.1	1297.0	1292.8	1288.4	1284.1	1279.8	1280.1
12.5°	1292.1	1290.2	1288.4	1286.5	1284.6	1281.0	1275.8	1270.5	1265.3	1260.0	1259.8
15°	1268.0	1265.4	1262.7	1260.0	1257.4	1252.8	1246.0	1239.3	1232.6	1225.9	1224.7
17.5°	1237.5	1234.5	1231.4	1228.4	1225.3	1219.5	1210.9	1202.5	1193.9	1185.3	1182.8
20°	1215.1	1211.3	1207.4	1203.6	1199.8	1193.3	1184.2	1175.1	1166.0	1156.9	1153.8
22.5°	1190.1	1185.7	1181.3	1176.9	1172.5	1165.5	1155.7	1146.1	1136.4	1126.7	1122.8
25°	1153.7	1147.7	1141.7	1135.7	1129.7	1121.2	1110.2	1099.2	1088.1	1077.1	1072.1
27.5°	1109.5	1102.9	1096.2	1089.6	1083.0	1073.6	1061.3	1049.0	1036.7	1024.5	1017.5
30°	1079.3	1072.1	1064.9	1057.7	1050.5	1040.2	1026.8	1013.4	1000.0	986.6	978.4
32.5°	1049.1	1040.9	1032.8	1024.6	1016.5	1005.4	991.2	977.0	962.7	948.6	939.7
35°	998.4	989.8	981.1	972.6	963.9	952.1	937.3	922.4	907.6	892.7	882.4
37.5°	947.1	937.5	927.9	918.3	908.7	896.0	880.2	864.3	848.4	832.6	820.9
40°	914.3	903.8	893.2	882.6	872.1	858.3	841.4	824.3	807.3	790.3	777.8
42.5°	877.2	866.6	856.1	845.6	835.0	821.0	803.4	785.8	768.3	750.7	737.0
45°	820.5	809.7	798.9	788.1	777.4	762.8	744.3	725.9	707.4	689.0	675.3
47.5°	763.8	751.9	740.1	728.3	716.4	701.3	682.9	664.4	645.9	627.5	612.7
50°	722.4	711.1	699.9	688.6	677.3	662.0	642.6	623.2	603.8	584.4	569.5
52.5°	685.3	673.1	660.8	648.6	636.4	620.7	601.5	582.3	563.1	543.8	528.4
55°	623.2	611.5	599.7	588.0	576.2	560.2	539.8	519.4	499.1	478.7	464.9
57.5°	565.9	553.0	540.3	527.4	514.7	498.0	477.5	457.1	436.7	416.2	403.1
60°	526.2	513.0	499.8	486.6	473.4	456.9	437.0	417.2	397.3	377.4	364.4
62.5°	486.5	473.3	460.1	446.9	433.8	417.2	397.4	377.5	357.6	337.7	325.5
65°	425.9	412.7	399.5	386.3	373.2	357.3	338.6	319.9	301.2	282.5	270.8
67.5°	365.3	352.0	338.7	325.3	312.0	296.4	278.5	260.5	242.6	224.7	215.9
70°	325.6	312.7	299.8	286.8	273.9	259.0	242.2	225.5	208.7	191.9	183.5
72.5°	285.9	273.2	260.5	247.7	235.0	220.9	205.7	190.5	175.2	160.0	153.1
75°	225.4	213.8	202.3	190.8	179.4	167.0	153.8	140.6	127.5	114.3	111.9
77.5°	170.2	159.7	149.3	138.9	128.6	119.1	110.6	102.1	93.6	85.2	83.9
80°	134.8	124.9	115.1	105.3	95.5	88.1	83.0	78.0	73.0	67.9	67.2
82.5°	101.2	92.7	84.2	75.7	67.2	61.8	59.4	57.1	54.7	52.4	51.7
85°	57.1	51.9	46.6	41.4	36.0	33.0	32.3	31.6	30.9	30.2	29.7
87.5°	20.9	19.3	17.6	15.9	14.3	13.8	14.3	15.0	15.5	16.2	16.2
90°	1.0	3.3	5.6	7.8	10.1	12.8	15.8	18.7	21.7	24.6	25.6
92.5°	24.9	26.4	28.0	29.5	31.1	32.7	34.4	36.0	37.8	39.5	40.2
95°	60.6	62.2	63.8	65.4	67.0	68.8	70.6	72.4	74.2	76.0	76.9
97.5°	107.7	108.8	110.0	111.2	112.4	113.7	115.0	116.3	117.6	119.0	120.0
100°	139.7	141.1	142.4	143.9	145.2	146.5	147.6	148.8	149.9	151.1	151.7
102.5°	176.7	177.5	178.4	179.2	180.0	181.2	182.7	184.2	185.7	187.2	187.9
105°	231.2	231.6	232.1	232.5	233.0	234.2	236.3	238.4	240.4	242.5	242.5
107.5°	294.5	294.8	295.0	295.3	295.6	296.1	296.9	297.8	298.6	299.4	300.2
110°	333.9	334.4	334.9	335.3	335.7	336.2	336.7	337.2	337.5	338.0	339.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	375.0	375.3	375.6	375.8	376.1	376.3	376.4	376.4	376.6	376.7	377.8
115°	436.7	437.4	438.0	438.7	439.4	439.5	439.0	438.6	438.2	437.7	437.9
117.5°	498.8	499.2	499.6	500.1	500.6	500.5	499.9	499.3	498.7	498.1	498.0
120°	537.3	538.7	540.1	541.5	542.8	543.0	541.8	540.7	539.6	538.4	538.1
122.5°	577.7	578.6	579.6	580.7	581.6	581.9	581.2	580.7	580.0	579.5	578.8
125°	639.1	639.8	640.4	641.1	641.8	641.9	641.4	641.0	640.6	640.1	639.2
127.5°	695.8	697.3	698.7	700.1	701.6	702.1	701.6	701.1	700.6	700.1	698.8
130°	733.6	735.4	737.3	739.1	740.9	741.5	740.8	740.1	739.4	738.7	737.8
132.5°	771.4	773.2	775.1	776.9	778.7	779.3	778.9	778.4	777.8	777.4	776.3
135°	829.2	830.5	831.9	833.2	834.6	835.2	835.0	834.7	834.5	834.2	833.4
137.5°	882.6	883.7	884.9	886.0	887.2	888.0	888.6	889.2	889.8	890.4	889.4
140°	919.6	920.7	921.9	923.0	924.2	924.8	925.0	925.3	925.5	925.7	925.5
142.5°	953.2	954.4	955.5	956.7	957.8	958.6	959.0	959.4	959.8	960.3	960.0
145°	1005.8	1006.3	1006.8	1007.3	1007.7	1008.3	1008.9	1009.6	1010.3	1011.0	1010.7
147.5°	1051.9	1052.7	1053.5	1054.4	1055.2	1055.9	1056.5	1057.2	1057.8	1058.4	1058.4
150°	1083.9	1084.4	1084.9	1085.3	1085.8	1086.2	1086.7	1087.1	1087.6	1088.1	1088.1
152.5°	1110.2	1110.9	1111.5	1112.1	1112.8	1113.3	1113.6	1113.8	1114.1	1114.4	1114.8
155°	1151.8	1151.8	1151.8	1151.8	1151.8	1151.9	1152.1	1152.3	1152.5	1152.8	1153.7
157.5°	1187.1	1186.8	1186.5	1186.3	1186.0	1186.0	1186.1	1186.3	1186.5	1186.7	1187.6
160°	1209.3	1208.9	1208.4	1207.9	1207.4	1207.2	1207.2	1207.2	1207.2	1207.2	1208.4
162.5°	1229.0	1228.4	1227.7	1227.1	1226.5	1226.2	1226.5	1226.6	1226.8	1226.9	1228.1
165°	1254.5	1253.8	1253.2	1252.4	1251.8	1251.4	1251.4	1251.4	1251.4	1251.4	1252.8
167.5°	1274.9	1273.9	1273.0	1272.1	1271.2	1270.8	1271.0	1271.2	1271.4	1271.5	1273.0
170°	1286.3	1285.5	1284.5	1283.7	1282.7	1282.2	1282.2	1282.2	1282.2	1282.2	1283.8
172.5°	1295.4	1294.5	1293.6	1292.7	1291.7	1291.3	1291.3	1291.3	1291.3	1291.3	1292.7
175°	1304.9	1303.9	1303.1	1302.1	1301.2	1300.8	1300.8	1300.8	1300.8	1300.8	1302.1
177.5°	1308.8	1308.1	1307.3	1306.5	1305.8	1305.4	1305.4	1305.4	1305.4	1305.4	1306.5
180°	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1324.1	1326.3	1328.3	1329.2	1328.8	1328.5	1328.1	1327.7
5°	1315.4	1317.6	1319.7	1320.6	1320.1	1319.6	1319.1	1318.7
7.5°	1296.9	1298.1	1299.3	1299.5	1298.6	1297.8	1297.0	1296.2
10°	1280.3	1280.6	1280.8	1280.3	1279.1	1277.9	1276.7	1275.5
12.5°	1259.6	1259.6	1259.4	1258.6	1257.3	1255.8	1254.5	1253.1
15°	1223.5	1222.3	1221.1	1219.6	1218.0	1216.3	1214.7	1213.0
17.5°	1180.3	1177.7	1175.2	1172.7	1170.2	1167.7	1165.2	1162.7
20°	1150.6	1147.6	1144.5	1141.5	1138.6	1135.7	1132.8	1130.0
22.5°	1119.0	1115.1	1111.2	1107.9	1105.3	1102.6	1099.9	1097.2
25°	1067.1	1062.0	1057.0	1053.1	1050.5	1047.9	1045.3	1042.6
27.5°	1010.5	1003.5	996.5	991.0	987.0	982.9	978.9	974.9
30°	970.3	962.1	953.9	948.0	944.1	940.3	936.4	932.6
32.5°	930.7	921.9	912.9	906.5	902.5	898.4	894.4	890.3
35°	872.1	861.8	851.5	844.2	840.0	835.6	831.3	827.0
37.5°	809.2	797.5	785.8	777.3	772.0	766.7	761.4	756.1
40°	765.4	753.0	740.5	731.5	726.0	720.5	714.9	709.5
42.5°	723.4	709.8	696.2	686.9	682.0	677.1	672.1	667.2
45°	661.6	648.0	634.3	624.6	618.9	613.1	607.4	601.7
47.5°	597.8	583.0	568.1	558.1	552.9	547.9	542.7	537.6
50°	554.7	539.8	525.0	514.8	509.3	503.7	498.3	492.7
52.5°	513.0	497.6	482.1	471.9	467.0	462.1	457.2	452.2
55°	450.9	437.0	423.1	413.8	409.0	404.2	399.4	394.6
57.5°	389.9	376.8	363.7	355.1	351.0	346.9	342.9	338.7
60°	351.5	338.6	325.6	317.1	313.1	309.0	304.9	300.8
62.5°	313.3	301.2	289.0	280.7	276.6	272.3	268.0	263.7
65°	259.0	247.2	235.5	228.3	225.7	223.1	220.5	217.8
67.5°	207.2	198.4	189.6	183.8	181.0	178.2	175.3	172.5
70°	175.2	166.8	158.4	152.9	150.2	147.6	145.0	142.4
72.5°	146.3	139.4	132.6	128.7	127.5	126.4	125.3	124.2
75°	109.5	107.1	104.7	103.3	102.8	102.3	101.8	101.3
77.5°	82.6	81.3	80.0	79.1	78.7	78.2	77.7	77.2
80°	66.5	65.8	65.0	64.5	64.0	63.5	63.0	62.5
82.5°	50.9	50.2	49.5	49.1	49.0	49.0	48.8	48.7
85°	29.2	28.8	28.3	28.0	28.0	28.0	28.0	28.0
87.5°	16.2	16.1	16.1	16.1	15.9	15.8	15.8	15.7
90°	26.5	27.4	28.3	29.0	29.5	29.9	30.3	30.8
92.5°	40.9	41.7	42.4	42.6	42.3	42.1	41.7	41.5
95°	77.9	78.7	79.7	80.2	80.2	80.2	80.2	80.2
97.5°	121.0	122.2	123.2	123.7	123.6	123.5	123.4	123.3
100°	152.4	153.0	153.8	154.3	154.8	155.3	155.7	156.1
102.5°	188.5	189.3	190.0	190.2	190.1	190.0	190.0	189.9
105°	242.5	242.5	242.5	242.7	243.2	243.6	244.1	244.5
107.5°	300.9	301.6	302.3	302.5	302.3	302.0	301.7	301.4
110°	339.8	340.8	341.7	341.9	341.4	341.0	340.6	340.1





TEST NUMBER: P332465-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.8	379.9	381.0	381.5	381.4	381.4	381.3	381.2
115°	438.2	438.4	438.6	438.6	438.4	438.2	437.9	437.7
117.5°	498.0	498.0	497.9	497.6	496.9	496.3	495.7	495.0
120°	537.9	537.7	537.5	537.1	536.7	536.2	535.8	535.3
122.5°	578.3	577.7	577.1	576.5	575.8	575.2	574.6	573.9
125°	638.3	637.4	636.4	635.6	634.6	633.7	632.8	631.8
127.5°	697.5	696.2	695.0	693.8	692.8	691.7	690.7	689.6
130°	736.9	736.0	735.1	733.8	732.2	730.6	729.0	727.5
132.5°	775.2	774.0	773.0	771.8	770.6	769.4	768.1	766.9
135°	832.4	831.6	830.6	830.0	829.5	829.0	828.5	828.1
137.5°	888.4	887.5	886.5	885.7	884.8	883.9	883.0	882.2
140°	925.3	925.0	924.8	923.9	922.3	920.7	919.1	917.5
142.5°	959.8	959.6	959.3	958.6	957.4	956.2	954.9	953.7
145°	1010.5	1010.3	1010.1	1009.6	1008.6	1007.7	1006.8	1005.8
147.5°	1058.4	1058.4	1058.4	1057.8	1056.5	1055.0	1053.7	1052.3
150°	1088.1	1088.1	1088.1	1087.3	1086.0	1084.7	1083.2	1081.9
152.5°	1115.1	1115.5	1115.8	1115.4	1114.2	1113.0	1111.8	1110.6
155°	1154.6	1155.6	1156.4	1156.1	1154.5	1152.9	1151.3	1149.7
157.5°	1188.6	1189.5	1190.6	1190.3	1189.1	1187.8	1186.5	1185.3
160°	1209.5	1210.7	1211.8	1212.0	1211.0	1210.1	1209.2	1208.2
162.5°	1229.2	1230.4	1231.5	1231.4	1229.9	1228.4	1227.0	1225.5
165°	1254.2	1255.5	1256.9	1256.8	1255.2	1253.6	1252.0	1250.4
167.5°	1274.4	1275.8	1277.2	1277.2	1275.8	1274.4	1273.0	1271.5
170°	1285.5	1287.1	1288.6	1288.6	1287.1	1285.5	1283.8	1282.2
172.5°	1294.1	1295.5	1297.0	1296.9	1295.3	1293.6	1292.0	1290.5
175°	1303.5	1304.9	1306.2	1306.1	1304.5	1302.9	1301.3	1299.7
177.5°	1307.7	1308.8	1309.9	1309.8	1308.4	1307.2	1305.9	1304.6
180°	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0	1308.0

(END OF REPORT)