

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: P331836-940

Luminaire Tested: **S122RDIW-S865D970U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331836-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D970U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5686.1 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

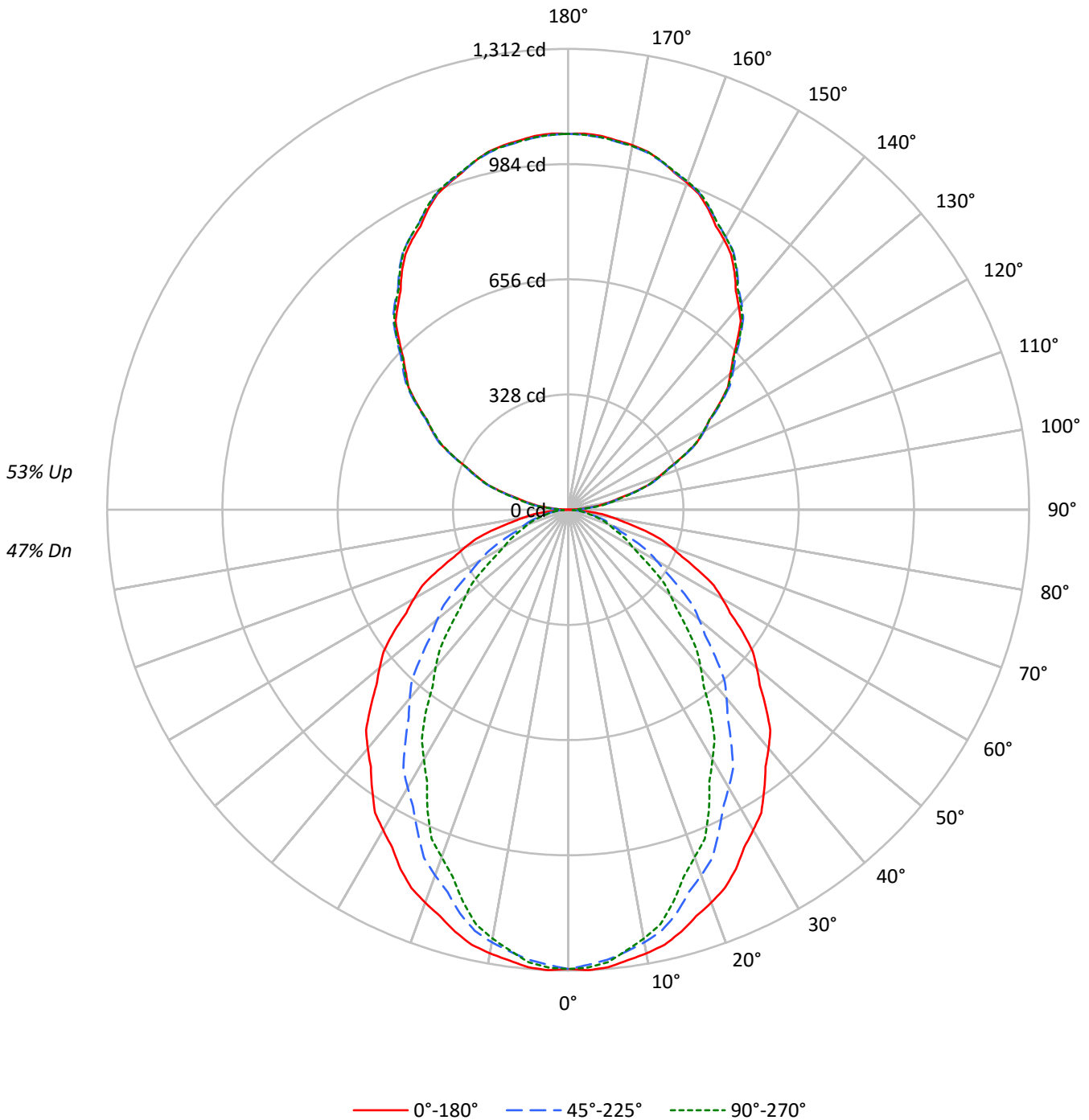
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	67	67	67	54	54	54	47
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34	30
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	20
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21111	21111	21111
5°	21191	20846	20960
10°	21028	20505	20330
15°	20787	19896	19323
20°	20452	19029	18076
25°	20110	18045	16864
30°	19634	17031	15310
35°	19170	15930	13947
40°	18704	14790	12370
45°	18155	13511	10942
50°	17595	12215	9540
55°	17022	10826	8194
60°	16353	9361	6801
65°	15595	7866	6193
70°	14691	6477	5693
75°	13587	5908	5315
80°	11985	5281	4844
85°	9429	4168	4168



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	2.2
10°-20°	336.0	5.9
20°-30°	471.9	8.3
30°-40°	514.6	9.0
40°-50°	473.1	8.3
50°-60°	371.6	6.5
60°-70°	242.3	4.3
70°-80°	124.9	2.2
80°-90°	36.7	0.6
90°-100°	67.8	1.2
100°-110°	210.6	3.7
110°-120°	360.0	6.3
120°-130°	473.5	8.3
130°-140°	531.4	9.3
140°-150°	521.1	9.2
150°-160°	437.0	7.7
160°-170°	289.9	5.1
170°-180°	101.3	1.8
0°-30°	930.3	16.4
0°-40°	1444.9	25.4
0°-60°	2289.6	40.3
0°-90°	2693.5	47.4
90°-120°	638.5	11.2
90°-150°	2164.4	38.1
90°-180°	2993.0	52.6
0°-180°	5686.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1308	1301	1286	1296	1293	124
15°	1244	1229	1190	1168	1156	350
25°	1129	1089	1013	966	947	519
35°	973	910	808	736	708	608
45°	795	713	592	511	479	614
55°	605	510	385	316	291	540
65°	408	312	206	168	162	405
75°	218	137	95	87	85	230
85°	51	27	22	22	22	60
90°	1	12	32	30	31	5
95°	47	56	58	58	56	54
105°	194	197	199	200	200	205
115°	361	366	365	364	361	357
125°	526	533	531	528	527	470
135°	680	690	692	691	688	525
145°	826	832	837	838	835	515
155°	944	946	949	953	951	434
165°	1027	1026	1026	1032	1028	289
175°	1068	1066	1064	1070	1065	101
180°	1070	1070	1070	1070	1070	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1312.2	1311.2	1310.1	1309.0	1308.1	1306.4	1304.0	1301.7	1299.4	1297.1	1299.2
5°	1307.5	1306.2	1304.8	1303.5	1302.3	1299.8	1296.5	1293.1	1289.6	1286.2	1288.5
7.5°	1294.0	1292.4	1290.8	1289.1	1287.5	1284.7	1280.7	1276.7	1272.6	1268.6	1269.4
10°	1282.6	1280.8	1279.0	1277.1	1275.2	1271.8	1266.5	1261.2	1256.0	1250.7	1249.9
12.5°	1268.5	1266.1	1263.9	1261.7	1259.4	1254.9	1248.1	1241.4	1234.7	1228.0	1226.5
15°	1243.6	1240.7	1237.8	1234.9	1232.0	1226.1	1217.2	1208.3	1199.3	1190.3	1185.4
17.5°	1213.1	1208.6	1204.3	1199.8	1195.4	1187.5	1176.0	1164.5	1153.1	1141.6	1135.7
20°	1190.3	1185.1	1179.8	1174.6	1169.3	1160.1	1146.9	1133.8	1120.7	1107.5	1100.9
22.5°	1165.7	1159.8	1154.0	1148.1	1142.2	1131.8	1117.0	1102.2	1087.4	1072.5	1064.0
25°	1128.8	1120.4	1112.0	1103.6	1095.2	1082.3	1064.9	1047.6	1030.2	1012.9	1002.1
27.5°	1084.3	1075.1	1066.0	1056.9	1047.8	1033.4	1013.8	994.3	974.6	955.1	942.5
30°	1053.1	1043.1	1033.1	1023.1	1013.2	997.6	976.6	955.6	934.5	913.5	900.1
32.5°	1022.8	1011.1	999.4	987.7	976.1	959.6	938.1	916.6	895.2	873.7	858.4
35°	972.6	959.2	945.8	932.4	919.0	900.7	877.5	854.4	831.3	808.2	791.6
37.5°	922.5	907.8	893.0	878.2	863.5	843.8	819.2	794.5	769.9	745.2	726.9
40°	887.4	871.6	855.9	840.1	824.3	803.7	778.2	752.7	727.2	701.7	683.0
42.5°	851.5	834.8	818.2	801.6	785.0	763.5	737.2	710.8	684.5	658.1	638.8
45°	795.1	777.5	759.9	742.3	724.7	702.0	674.5	646.8	619.2	591.7	572.9
47.5°	740.2	721.6	702.9	684.2	665.6	641.9	613.5	585.0	556.4	528.0	509.4
50°	700.5	681.8	663.2	644.4	625.8	602.0	573.1	544.1	515.2	486.3	468.1
52.5°	661.6	642.1	622.7	603.2	583.6	559.7	531.5	503.1	474.8	446.6	429.0
55°	604.7	584.2	563.7	543.1	522.6	498.1	469.8	441.3	413.0	384.6	368.8
57.5°	546.2	525.1	504.1	483.0	462.1	437.9	410.5	383.3	356.0	328.7	314.2
60°	506.4	485.4	464.4	443.4	422.3	398.2	371.1	344.0	317.0	289.9	276.5
62.5°	467.6	446.6	425.5	404.5	383.4	360.1	334.2	308.4	282.6	256.7	244.0
65°	408.2	386.9	365.6	344.3	323.1	300.5	276.9	253.2	229.5	205.9	197.0
67.5°	351.0	329.8	308.7	287.5	266.4	245.1	223.9	202.6	181.3	160.0	155.9
70°	311.2	290.7	270.2	249.7	229.2	209.8	191.7	173.5	155.4	137.2	134.6
72.5°	273.3	253.7	234.0	214.4	194.7	177.5	163.0	148.4	133.8	119.3	117.1
75°	217.8	199.3	180.9	162.5	144.1	130.5	121.5	112.5	103.6	94.7	92.8
77.5°	163.1	146.9	130.7	114.6	98.4	88.3	83.9	79.6	75.3	71.0	69.9
80°	128.9	115.6	102.2	88.7	75.3	67.3	64.6	62.1	59.4	56.8	55.7
82.5°	97.7	87.3	76.8	66.3	55.9	49.8	48.0	46.2	44.4	42.6	42.0
85°	50.9	45.4	39.9	34.3	28.8	25.7	24.9	24.1	23.3	22.5	22.5
87.5°	15.3	14.1	12.9	11.7	10.5	10.3	11.2	12.1	13.0	13.9	13.6
90°	0.9	3.3	5.7	8.1	10.5	13.9	18.4	22.7	27.2	31.6	31.2
92.5°	16.1	17.8	19.6	21.4	23.2	24.5	25.6	26.7	27.6	28.7	28.8
95°	47.0	49.0	51.0	53.0	55.0	56.2	56.6	57.0	57.4	57.8	57.8
97.5°	85.8	87.6	89.3	91.1	92.8	94.2	94.9	95.7	96.4	97.2	97.2
100°	114.7	116.3	117.9	119.5	121.1	122.3	122.8	123.4	124.0	124.7	124.7
102.5°	145.1	146.3	147.6	148.9	150.2	151.2	151.9	152.8	153.5	154.3	154.4
105°	194.2	194.7	195.4	196.0	196.6	197.1	197.5	197.9	198.3	198.7	199.1
107.5°	243.7	244.6	245.4	246.3	247.2	247.6	247.6	247.6	247.6	247.6	247.8
110°	275.4	276.7	277.9	279.1	280.3	280.9	280.9	280.9	280.9	280.9	280.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	310.1	311.4	312.5	313.8	315.0	315.5	315.3	315.1	315.0	314.9	314.3
115°	361.2	362.5	363.6	364.9	366.0	366.5	366.0	365.7	365.2	364.9	364.7
117.5°	412.2	413.8	415.4	417.1	418.7	418.8	417.8	416.6	415.5	414.4	413.9
120°	446.2	447.8	449.4	451.0	452.6	452.6	451.0	449.4	447.8	446.2	446.2
122.5°	477.2	479.2	481.1	483.0	484.9	485.4	484.2	483.1	482.0	480.8	480.4
125°	525.7	527.4	529.2	531.1	532.9	533.5	532.9	532.3	531.6	531.1	530.5
127.5°	572.8	575.1	577.4	579.7	581.9	582.7	582.0	581.3	580.6	579.9	579.1
130°	602.4	605.0	607.6	610.3	612.9	613.9	613.6	613.1	612.8	612.3	612.0
132.5°	635.6	637.8	639.9	642.0	644.2	645.2	645.3	645.4	645.5	645.6	644.7
135°	680.1	682.3	684.5	686.7	688.9	690.2	690.6	691.0	691.4	691.8	691.6
137.5°	726.8	728.7	730.5	732.3	734.1	735.3	735.8	736.3	736.8	737.4	737.2
140°	755.0	756.9	758.7	760.5	762.2	763.7	764.7	765.7	766.7	767.7	767.7
142.5°	784.0	785.8	787.6	789.3	791.2	792.5	793.1	793.8	794.5	795.1	795.3
145°	825.5	826.9	828.3	829.7	831.2	832.4	833.7	834.8	836.1	837.2	837.4
147.5°	862.6	864.2	865.9	867.5	869.2	870.5	871.3	872.1	872.9	873.7	874.1
150°	887.8	889.0	890.2	891.4	892.6	893.7	894.5	895.3	896.1	896.9	897.4
152.5°	910.3	911.4	912.7	913.8	915.1	916.1	917.1	918.0	919.0	920.0	920.7
155°	943.8	944.4	945.0	945.7	946.2	946.8	947.4	948.1	948.6	949.2	950.2
157.5°	972.5	972.9	973.3	973.7	974.1	974.6	974.9	975.3	975.6	976.0	977.3
160°	989.9	990.2	990.7	991.0	991.5	991.8	992.0	992.2	992.4	992.6	993.8
162.5°	1005.8	1005.8	1005.9	1006.0	1006.1	1006.2	1006.5	1006.7	1006.8	1007.0	1008.4
165°	1026.9	1026.7	1026.5	1026.3	1026.1	1026.0	1026.0	1026.0	1026.0	1026.0	1027.4
167.5°	1044.6	1044.0	1043.4	1042.8	1042.2	1041.9	1041.9	1041.8	1041.8	1041.7	1043.1
170°	1054.0	1053.4	1052.8	1052.2	1051.6	1051.2	1051.0	1050.8	1050.6	1050.4	1051.8
172.5°	1060.5	1059.9	1059.3	1058.7	1058.1	1057.7	1057.5	1057.3	1057.1	1056.9	1058.3
175°	1068.4	1067.8	1067.3	1066.7	1066.0	1065.5	1065.1	1064.7	1064.3	1063.9	1065.3
177.5°	1071.7	1071.2	1070.8	1070.2	1069.8	1069.3	1069.1	1068.7	1068.4	1068.1	1069.1
180°	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1301.3	1303.4	1305.5	1306.4	1305.9	1305.5	1305.1	1304.7
5°	1290.9	1293.2	1295.7	1296.5	1295.7	1294.9	1294.1	1293.2
7.5°	1270.1	1270.7	1271.4	1271.0	1269.7	1268.4	1266.9	1265.6
10°	1249.1	1248.3	1247.5	1246.3	1244.7	1243.2	1241.6	1240.0
12.5°	1225.1	1223.7	1222.3	1220.3	1217.6	1215.0	1212.4	1209.8
15°	1180.4	1175.4	1170.4	1166.5	1164.0	1161.3	1158.7	1156.0
17.5°	1129.7	1123.7	1117.8	1112.6	1108.0	1103.6	1099.0	1094.5
20°	1094.4	1087.8	1081.2	1075.0	1069.3	1063.5	1057.7	1052.0
22.5°	1055.6	1047.1	1038.7	1032.2	1028.0	1023.6	1019.3	1015.0
25°	991.3	980.5	969.7	962.3	958.4	954.5	950.6	946.6
27.5°	930.0	917.4	904.8	895.5	889.2	882.9	876.6	870.4
30°	886.6	873.3	859.8	849.5	842.5	835.4	828.3	821.2
32.5°	843.1	827.8	812.5	801.5	794.9	788.2	781.5	774.8
35°	775.0	758.5	741.9	730.8	725.0	719.2	713.4	707.6
37.5°	708.7	690.5	672.3	659.8	653.2	646.5	639.9	633.3
40°	664.3	645.7	627.0	614.2	607.4	600.6	593.7	586.9
42.5°	619.6	600.2	580.9	567.9	561.3	554.7	548.0	541.4
45°	554.3	535.7	516.9	504.4	498.1	491.9	485.5	479.2
47.5°	490.8	472.3	453.7	441.6	435.9	430.1	424.4	418.7
50°	450.0	431.9	413.8	401.9	396.4	390.8	385.3	379.8
52.5°	411.5	394.0	376.5	365.2	360.1	355.0	349.9	344.8
55°	353.0	337.2	321.5	311.0	306.0	301.0	296.0	291.1
57.5°	299.8	285.3	270.9	261.5	257.3	253.1	248.9	244.7
60°	263.1	249.7	236.2	227.5	223.2	219.0	214.8	210.6
62.5°	231.2	218.5	205.6	198.0	195.5	193.0	190.4	187.9
65°	188.0	179.1	170.1	165.2	164.4	163.7	162.9	162.1
67.5°	151.8	147.7	143.6	141.1	140.3	139.4	138.6	137.8
70°	132.0	129.4	126.7	124.9	123.9	122.8	121.7	120.6
72.5°	114.9	112.6	110.4	109.1	108.3	107.7	107.1	106.5
75°	91.0	89.2	87.3	86.2	86.0	85.7	85.4	85.2
77.5°	68.9	67.9	66.8	66.1	65.6	65.2	64.8	64.4
80°	54.7	53.7	52.6	52.1	52.1	52.1	52.1	52.1
82.5°	41.4	40.7	40.0	39.8	39.8	39.8	39.8	39.8
85°	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
87.5°	13.3	13.0	12.8	12.6	12.7	12.7	12.8	12.8
90°	30.8	30.4	30.0	29.9	30.1	30.3	30.5	30.7
92.5°	28.9	29.0	29.1	29.1	29.2	29.2	29.2	29.2
95°	57.8	57.8	57.8	57.6	57.2	56.8	56.4	56.0
97.5°	97.2	97.2	97.2	97.2	97.1	97.1	97.0	97.0
100°	124.7	124.7	124.7	124.6	124.3	124.1	123.9	123.8
102.5°	154.6	154.7	154.9	154.9	154.7	154.4	154.3	154.1
105°	199.5	199.9	200.3	200.5	200.5	200.5	200.5	200.5
107.5°	248.0	248.2	248.3	247.9	247.0	246.0	245.1	244.2
110°	280.9	280.9	280.9	280.6	280.0	279.4	278.7	278.2



TEST NUMBER: P331836-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.9	313.4	312.9	312.5	312.0	311.6	311.1	310.7
115°	364.4	364.3	364.1	363.6	363.1	362.5	361.9	361.2
117.5°	413.4	413.0	412.4	411.9	411.3	410.7	410.1	409.5
120°	446.2	446.2	446.2	445.9	445.2	444.7	444.1	443.4
122.5°	479.9	479.4	478.9	478.5	478.0	477.6	477.2	476.7
125°	529.9	529.2	528.7	528.2	528.1	527.9	527.6	527.4
127.5°	578.4	577.7	576.9	576.2	575.6	575.0	574.4	573.7
130°	611.5	611.2	610.7	610.1	609.3	608.5	607.7	606.9
132.5°	643.8	642.9	642.0	641.3	640.7	640.0	639.4	638.7
135°	691.4	691.3	691.0	690.6	690.0	689.4	688.8	688.2
137.5°	737.0	736.9	736.7	736.2	735.4	734.6	733.8	733.0
140°	767.7	767.7	767.7	767.3	766.5	765.7	764.9	764.1
142.5°	795.5	795.7	795.8	795.5	794.7	793.9	793.1	792.3
145°	837.7	837.9	838.0	837.8	837.0	836.2	835.4	834.6
147.5°	874.6	875.0	875.5	875.3	874.6	873.8	873.1	872.3
150°	898.0	898.7	899.3	899.3	898.7	898.0	897.4	896.9
152.5°	921.5	922.3	923.0	923.0	922.3	921.5	920.7	920.0
155°	951.3	952.3	953.2	953.4	952.9	952.3	951.6	951.0
157.5°	978.7	980.1	981.4	981.6	980.7	979.7	978.7	977.8
160°	995.0	996.2	997.4	997.6	996.8	996.0	995.2	994.4
162.5°	1009.8	1011.1	1012.5	1012.7	1011.7	1010.8	1009.8	1008.9
165°	1028.9	1030.2	1031.6	1031.8	1030.8	1029.8	1028.9	1027.8
167.5°	1044.6	1046.0	1047.3	1047.5	1046.5	1045.4	1044.4	1043.4
170°	1053.2	1054.6	1056.1	1056.1	1054.9	1053.7	1052.5	1051.3
172.5°	1059.7	1061.1	1062.5	1062.7	1061.4	1060.2	1059.0	1057.8
175°	1066.8	1068.2	1069.5	1069.7	1068.4	1067.3	1066.0	1064.9
177.5°	1070.1	1070.9	1071.9	1071.9	1070.9	1070.1	1069.1	1068.1
180°	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2

(END OF REPORT)