

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: P332849-935

Luminaire Tested: **S124DIW-S1195D1050U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332849-935
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: S124DIW-S1195D1050U935-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7796.4 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

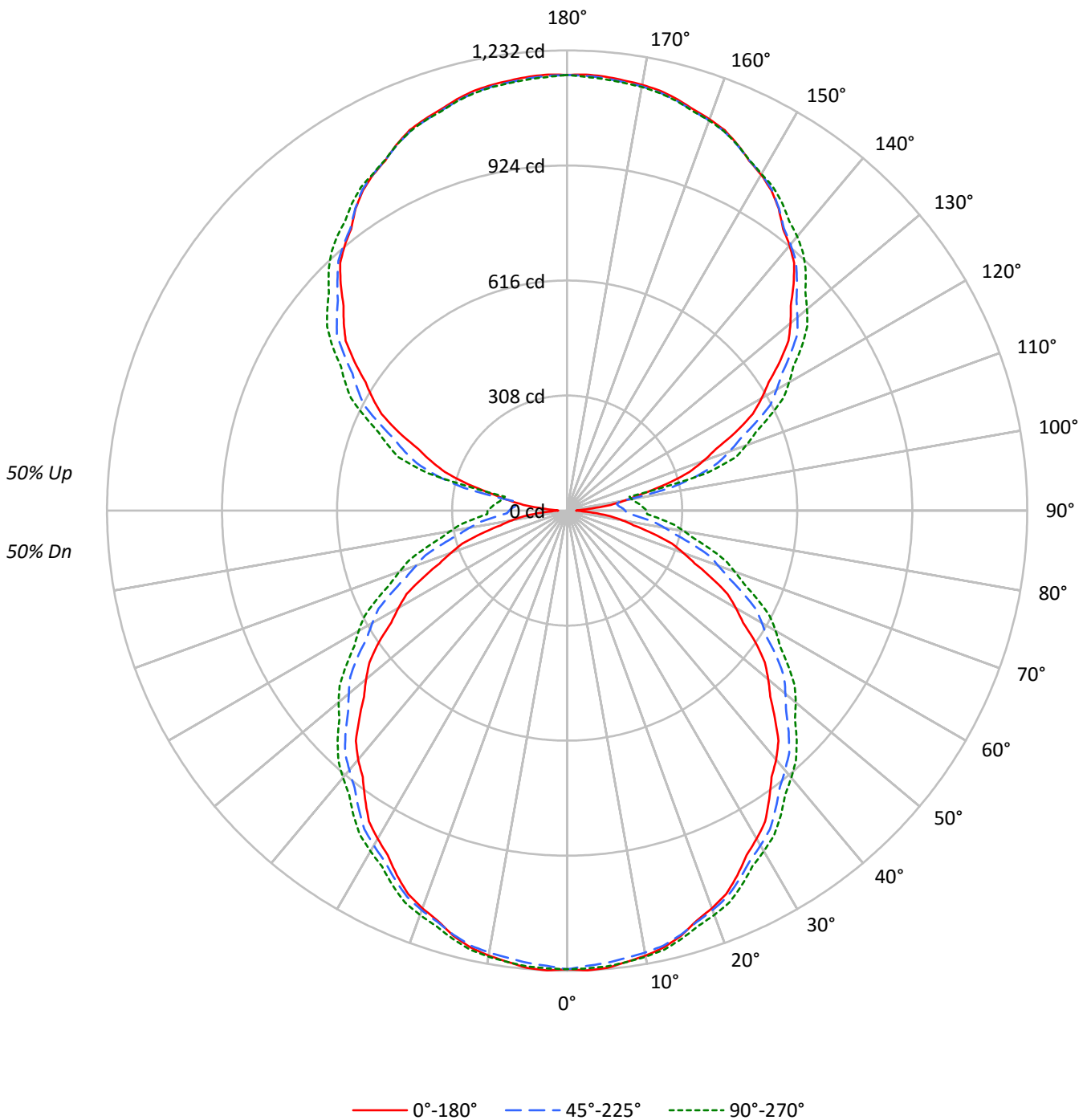
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332849-935

CATALOG NUMBER: S124DIW-S1195D1050U935-4F0-1E-UDD-D

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	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	74	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9912	9912	9912
5°	9942	9687	9715
10°	9882	9528	9521
15°	9793	9345	9294
20°	9660	9143	9072
25°	9509	8916	8829
30°	9346	8690	8579
35°	9161	8459	8360
40°	9014	8239	8132
45°	8795	8036	7936
50°	8610	7802	7728
55°	8420	7582	7486
60°	8121	7301	7265
65°	7793	6999	6992
70°	7397	6655	6676
75°	6845	6278	6390
80°	6233	5915	6107
85°	5446	5591	5943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.3	1.5
10°-20°	333.1	4.3
20°-30°	503.7	6.5
30°-40°	609.4	7.8
40°-50°	644.3	8.3
50°-60°	606.4	7.8
60°-70°	503.1	6.5
70°-80°	353.4	4.5
80°-90°	203.1	2.6
90°-100°	158.5	2.0
100°-110°	342.1	4.4
110°-120°	545.5	7.0
120°-130°	650.9	8.3
130°-140°	675.2	8.7
140°-150°	620.9	8.0
150°-160°	498.4	6.4
160°-170°	321.4	4.1
170°-180°	110.8	1.4
0°-30°	953.1	12.2
0°-40°	1562.5	20.0
0°-60°	2813.1	36.1
0°-90°	3872.7	49.7
90°-120°	1046.2	13.4
90°-150°	2993.1	38.4
90°-180°	3924.0	50.3
0°-180°	7796.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1229	1225	1215	1226	1225	117
15°	1178	1179	1176	1187	1186	332
25°	1078	1086	1090	1105	1107	496
35°	943	959	973	992	997	590
45°	786	813	839	861	869	608
55°	616	646	686	712	722	549
65°	426	470	517	550	562	422
75°	236	288	345	382	396	252
85°	73	131	192	232	248	78
90°	25	89	155	199	213	17
95°	66	84	139	180	194	76
105°	275	309	363	402	385	289
115°	498	515	557	587	598	491
125°	695	698	729	757	767	620
135°	858	858	870	893	904	661
145°	987	988	988	997	1005	617
155°	1081	1082	1079	1082	1080	498
165°	1140	1136	1136	1142	1135	322
175°	1166	1161	1162	1169	1159	111
180°	1166	1166	1166	1166	1166	



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CATALOG NUMBER: S124DIW-S1195D1050U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1232.2	1231.4	1230.7	1229.9	1229.2	1227.9	1225.9	1224.0	1222.0	1220.0	1221.8
5°	1229.1	1228.2	1227.3	1226.4	1225.5	1223.9	1221.8	1219.6	1217.5	1215.4	1217.8
7.5°	1218.7	1218.1	1217.5	1217.0	1216.5	1215.3	1213.6	1211.8	1210.0	1208.2	1211.0
10°	1209.9	1209.5	1209.3	1208.9	1208.7	1207.7	1206.2	1204.7	1203.2	1201.6	1204.4
12.5°	1197.7	1197.7	1197.7	1197.6	1197.6	1197.0	1195.9	1194.9	1193.9	1192.8	1195.3
15°	1178.3	1178.5	1178.9	1179.1	1179.5	1179.1	1178.3	1177.3	1176.4	1175.5	1178.3
17.5°	1151.6	1152.5	1153.4	1154.3	1155.2	1155.6	1155.5	1155.2	1155.0	1154.9	1157.7
20°	1132.9	1133.8	1134.7	1135.7	1136.5	1137.1	1137.5	1137.8	1138.1	1138.4	1141.4
22.5°	1112.0	1113.1	1114.3	1115.4	1116.6	1117.5	1118.0	1118.6	1119.1	1119.6	1122.7
25°	1077.9	1079.7	1081.6	1083.4	1085.2	1086.6	1087.5	1088.4	1089.3	1090.3	1093.6
27.5°	1039.9	1042.7	1045.3	1048.0	1050.7	1052.7	1054.1	1055.6	1057.0	1058.3	1061.4
30°	1014.6	1017.1	1019.5	1022.0	1024.4	1026.7	1028.8	1031.0	1033.1	1035.3	1038.6
32.5°	987.1	990.1	993.0	995.9	998.8	1001.5	1003.9	1006.3	1008.7	1011.1	1014.9
35°	943.1	946.8	950.5	954.2	957.8	961.1	964.2	967.2	970.3	973.4	977.7
37.5°	898.9	903.1	907.3	911.5	915.8	919.7	923.5	927.3	931.1	934.9	939.3
40°	870.3	874.3	878.2	882.2	886.1	890.3	894.6	898.9	903.1	907.4	912.0
42.5°	837.3	841.7	846.2	850.7	855.1	859.9	864.9	869.9	874.9	879.9	885.0
45°	786.4	792.2	798.1	803.8	809.6	815.5	821.2	827.1	832.8	838.7	843.9
47.5°	737.7	743.7	749.8	755.7	761.7	768.1	774.8	781.5	788.2	795.0	800.3
50°	702.6	709.3	716.0	722.7	729.4	736.2	742.9	749.6	756.3	763.0	769.1
52.5°	667.4	674.1	680.8	687.5	694.2	701.5	709.1	716.9	724.5	732.3	738.4
55°	616.0	622.3	628.8	635.2	641.6	649.4	658.6	667.7	676.9	686.0	692.2
57.5°	558.4	566.5	574.4	582.3	590.2	598.7	607.9	617.0	626.1	635.2	642.5
60°	521.1	529.0	536.9	544.9	552.8	561.9	572.0	582.0	592.1	602.2	609.2
62.5°	484.7	493.4	502.1	510.8	519.4	528.8	539.0	549.1	559.1	569.2	576.2
65°	426.2	436.0	445.7	455.6	465.3	475.4	485.8	496.2	506.5	516.9	524.6
67.5°	369.8	380.2	390.6	401.0	411.4	422.1	433.3	444.4	455.5	466.7	474.4
70°	331.3	341.7	352.1	362.5	372.9	383.9	395.5	407.1	418.7	430.3	438.6
72.5°	293.9	304.5	315.2	325.8	336.5	347.9	360.3	372.6	385.0	397.4	405.4
75°	236.5	247.8	259.1	270.4	281.7	293.8	306.6	319.4	332.3	345.1	353.6
77.5°	182.9	194.8	206.8	218.8	230.7	243.5	256.9	270.4	283.8	297.2	305.9
80°	149.9	162.0	174.3	186.5	198.7	211.5	225.0	238.5	251.9	265.4	274.5
82.5°	116.8	129.6	142.3	155.0	167.7	180.8	194.2	207.7	221.1	234.5	243.9
85°	72.8	85.7	98.5	111.3	124.2	137.5	151.2	165.0	178.7	192.5	201.6
87.5°	41.2	54.1	67.0	79.9	92.8	106.1	119.8	133.5	147.1	160.8	170.0
90°	24.6	39.0	53.3	67.7	82.1	96.5	111.2	126.0	140.6	155.3	165.3
92.5°	31.9	43.0	54.2	65.3	76.4	89.3	103.9	118.6	133.3	148.0	157.8
95°	65.9	69.3	72.8	76.3	79.8	87.9	100.7	113.4	126.1	138.8	148.2
97.5°	118.1	130.9	143.7	156.4	169.3	171.1	161.8	152.6	143.4	134.1	142.2
100°	158.2	169.6	181.1	192.5	203.9	202.2	187.4	172.5	157.7	142.8	147.8
102.5°	204.2	213.8	223.3	232.8	242.4	251.2	259.4	267.6	275.8	284.0	256.4
105°	274.9	282.2	289.5	296.8	304.0	313.8	326.1	338.4	350.6	362.9	372.3
107.5°	342.9	348.4	354.0	359.6	365.2	374.1	386.1	398.1	410.1	422.1	430.5
110°	387.9	392.7	397.6	402.4	407.3	415.6	427.5	439.4	451.3	463.0	470.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	431.4	436.3	441.1	445.9	450.7	458.6	469.3	480.0	490.8	501.5	508.2
115°	498.5	501.9	505.1	508.5	511.9	518.3	527.9	537.4	547.1	556.6	563.7
117.5°	560.2	562.6	565.0	567.5	569.9	575.8	585.4	595.0	604.4	614.0	620.3
120°	601.0	602.6	604.3	606.1	607.7	612.9	621.6	630.3	638.9	647.6	654.0
122.5°	640.0	640.7	641.4	642.0	642.7	647.3	655.9	664.5	673.2	681.8	688.2
125°	694.7	695.1	695.6	696.0	696.5	700.4	707.7	714.9	722.1	729.4	735.8
127.5°	747.4	747.3	747.2	747.1	747.0	750.3	757.1	763.8	770.6	777.3	782.7
130°	780.5	780.4	780.3	780.2	780.1	782.7	788.2	793.7	799.2	804.6	810.3
132.5°	811.9	811.9	812.0	812.0	812.1	814.4	819.1	823.7	828.4	833.0	838.4
135°	857.6	857.5	857.3	857.0	856.9	858.2	861.2	864.1	866.9	869.9	875.2
137.5°	899.3	899.1	898.9	898.6	898.5	899.2	901.1	903.0	904.9	906.8	911.7
140°	926.5	926.6	926.7	926.8	926.9	927.3	928.0	928.7	929.4	930.1	934.6
142.5°	949.9	950.5	951.1	951.8	952.4	952.8	952.9	952.9	953.0	953.0	956.9
145°	987.1	987.4	987.7	987.9	988.3	988.3	988.3	988.3	988.3	988.3	990.4
147.5°	1016.9	1017.7	1018.5	1019.3	1020.1	1020.4	1020.2	1020.0	1019.8	1019.6	1020.0
150°	1038.6	1039.1	1039.6	1040.0	1040.4	1040.6	1040.4	1040.3	1040.0	1039.8	1039.8
152.5°	1055.7	1056.2	1056.8	1057.3	1057.9	1058.0	1057.7	1057.3	1057.0	1056.6	1056.9
155°	1080.8	1081.1	1081.2	1081.4	1081.6	1081.4	1080.8	1080.3	1079.7	1079.1	1079.9
157.5°	1102.3	1102.2	1102.1	1101.9	1101.8	1101.5	1100.8	1100.1	1099.5	1098.8	1099.8
160°	1114.8	1114.3	1113.7	1113.1	1112.5	1112.2	1112.0	1111.7	1111.6	1111.4	1112.5
162.5°	1126.0	1125.3	1124.6	1123.8	1123.1	1122.6	1122.4	1122.2	1122.1	1121.8	1123.0
165°	1140.1	1139.2	1138.2	1137.2	1136.3	1135.8	1135.8	1135.8	1135.8	1135.8	1137.4
167.5°	1151.3	1150.3	1149.3	1148.3	1147.3	1146.8	1146.6	1146.5	1146.4	1146.2	1148.0
170°	1157.6	1156.4	1155.3	1154.1	1153.0	1152.4	1152.6	1152.9	1153.1	1153.2	1154.8
172.5°	1161.7	1160.6	1159.4	1158.3	1157.1	1156.7	1156.8	1157.0	1157.3	1157.4	1159.0
175°	1166.3	1165.2	1164.0	1162.9	1161.7	1161.2	1161.4	1161.6	1161.7	1162.0	1163.7
177.5°	1168.4	1167.3	1166.2	1165.2	1164.1	1163.7	1164.0	1164.3	1164.6	1164.9	1166.1
180°	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8	1227.8
2.5°	1223.5	1225.2	1226.9	1227.6	1227.4	1227.1	1226.9	1226.7
5°	1220.3	1222.7	1225.1	1226.2	1225.9	1225.6	1225.3	1225.0
7.5°	1213.8	1216.5	1219.3	1220.5	1220.1	1219.9	1219.5	1219.3
10°	1207.1	1209.9	1212.6	1213.8	1213.6	1213.2	1212.9	1212.6
12.5°	1197.8	1200.3	1202.8	1204.1	1204.0	1203.9	1203.9	1203.9
15°	1181.0	1183.8	1186.5	1187.7	1187.4	1187.1	1186.8	1186.5
17.5°	1160.5	1163.3	1166.1	1167.4	1167.2	1166.9	1166.7	1166.4
20°	1144.5	1147.5	1150.6	1152.1	1152.1	1152.1	1152.1	1152.1
22.5°	1125.8	1128.9	1131.9	1133.7	1134.2	1134.6	1135.1	1135.7
25°	1097.0	1100.4	1103.7	1105.5	1105.9	1106.1	1106.5	1106.7
27.5°	1064.6	1067.7	1070.8	1072.5	1073.0	1073.3	1073.7	1074.0
30°	1042.0	1045.3	1048.7	1050.7	1051.3	1051.9	1052.5	1053.2
32.5°	1018.7	1022.6	1026.5	1028.7	1029.3	1029.9	1030.5	1031.1
35°	982.0	986.2	990.5	993.1	994.0	995.0	995.8	996.8
37.5°	943.6	947.9	952.3	954.9	955.9	956.8	957.9	958.8
40°	916.5	921.2	925.7	928.7	929.9	931.1	932.3	933.5
42.5°	890.0	895.1	900.2	903.2	904.2	905.2	906.1	907.1
45°	849.0	854.3	859.5	862.8	864.4	865.8	867.4	868.9
47.5°	805.7	811.1	816.5	820.0	821.9	823.7	825.5	827.4
50°	775.2	781.4	787.5	791.4	793.3	795.1	796.9	798.7
52.5°	744.5	750.6	756.6	760.7	762.5	764.3	766.1	768.0
55°	698.3	704.4	710.5	714.5	716.3	718.2	720.0	721.8
57.5°	649.7	657.0	664.3	668.7	670.5	672.2	673.9	675.6
60°	616.2	623.3	630.3	635.0	637.5	639.9	642.4	644.8
62.5°	583.2	590.3	597.3	602.0	604.5	606.9	609.3	611.8
65°	532.2	539.8	547.5	552.5	555.0	557.4	559.9	562.3
67.5°	482.2	489.9	497.7	502.7	505.1	507.5	509.9	512.3
70°	446.9	455.0	463.3	468.6	470.6	472.8	474.9	477.1
72.5°	413.4	421.4	429.4	434.5	437.0	439.3	441.7	444.1
75°	362.2	370.7	379.3	385.0	387.7	390.5	393.2	396.0
77.5°	314.6	323.3	331.9	337.8	340.7	343.6	346.6	349.5
80°	283.7	292.8	302.0	307.8	310.2	312.7	315.1	317.6
82.5°	253.4	262.8	272.2	278.3	280.9	283.6	286.3	289.0
85°	210.8	220.0	229.1	235.2	238.3	241.3	244.4	247.5
87.5°	179.0	188.1	197.3	203.1	206.0	208.7	211.5	214.2
90°	175.4	185.4	195.4	201.8	204.7	207.5	210.3	213.2
92.5°	167.6	177.4	187.1	193.3	195.8	198.3	200.9	203.4
95°	157.6	167.0	176.4	182.6	185.5	188.6	191.5	194.4
97.5°	150.3	158.5	166.6	172.1	174.9	177.7	180.6	183.4
100°	152.7	157.7	162.7	166.3	168.7	171.0	173.3	175.6
102.5°	228.9	201.3	173.7	161.2	163.6	166.0	168.4	170.8
105°	381.7	391.1	400.5	402.9	398.3	393.8	389.3	384.7
107.5°	438.9	447.2	455.6	461.2	464.2	467.1	470.0	472.9
110°	477.9	485.3	492.8	497.9	501.0	504.0	507.0	510.1



TEST NUMBER: P332849-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	515.0	521.7	528.4	533.3	536.5	539.7	542.9	546.0
115°	570.8	578.0	585.0	589.7	591.9	593.9	596.1	598.2
117.5°	626.5	632.8	639.1	643.4	645.8	648.2	650.5	652.9
120°	660.6	667.0	673.6	677.9	679.8	681.9	684.0	686.0
122.5°	694.5	700.9	707.2	711.3	713.1	714.9	716.7	718.5
125°	742.2	748.6	754.9	759.1	761.2	763.2	765.3	767.2
127.5°	788.1	793.5	798.8	802.5	804.4	806.3	808.3	810.2
130°	816.0	821.7	827.4	831.1	833.0	834.8	836.6	838.5
132.5°	844.0	849.4	854.8	858.4	860.1	861.8	863.4	865.1
135°	880.5	885.7	891.0	894.8	897.0	899.1	901.4	903.6
137.5°	916.6	921.5	926.3	929.5	930.9	932.4	933.8	935.2
140°	939.2	943.7	948.3	951.4	953.1	954.8	956.6	958.3
142.5°	960.8	964.7	968.6	971.2	972.6	973.9	975.2	976.5
145°	992.4	994.5	996.4	998.3	999.9	1001.5	1003.2	1004.7
147.5°	1020.4	1020.8	1021.2	1022.0	1023.1	1024.3	1025.5	1026.7
150°	1039.8	1039.8	1039.8	1039.9	1040.1	1040.3	1040.5	1040.7
152.5°	1057.2	1057.5	1057.8	1057.9	1057.8	1057.7	1057.6	1057.5
155°	1080.6	1081.4	1082.2	1082.3	1081.7	1081.2	1080.6	1080.0
157.5°	1100.8	1101.8	1102.9	1102.9	1101.8	1100.8	1099.8	1098.8
160°	1113.7	1114.8	1116.0	1116.0	1114.8	1113.7	1112.5	1111.4
162.5°	1124.1	1125.3	1126.4	1126.4	1125.1	1123.8	1122.5	1121.1
165°	1138.9	1140.5	1142.0	1141.9	1140.1	1138.4	1136.7	1134.9
167.5°	1149.7	1151.4	1153.1	1153.0	1151.1	1149.1	1147.2	1145.2
170°	1156.3	1157.9	1159.4	1159.3	1157.3	1155.4	1153.4	1151.5
172.5°	1160.5	1162.1	1163.6	1163.4	1161.2	1159.2	1157.1	1154.9
175°	1165.4	1167.2	1169.0	1168.6	1166.3	1164.0	1161.7	1159.3
177.5°	1167.4	1168.6	1169.9	1169.6	1167.7	1165.9	1164.0	1162.2
180°	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3	1166.3

(END OF REPORT)