

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: P332236-935

Luminaire Tested: **S123DIW-S1165D1535U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332236-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1165D1535U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9463.4 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

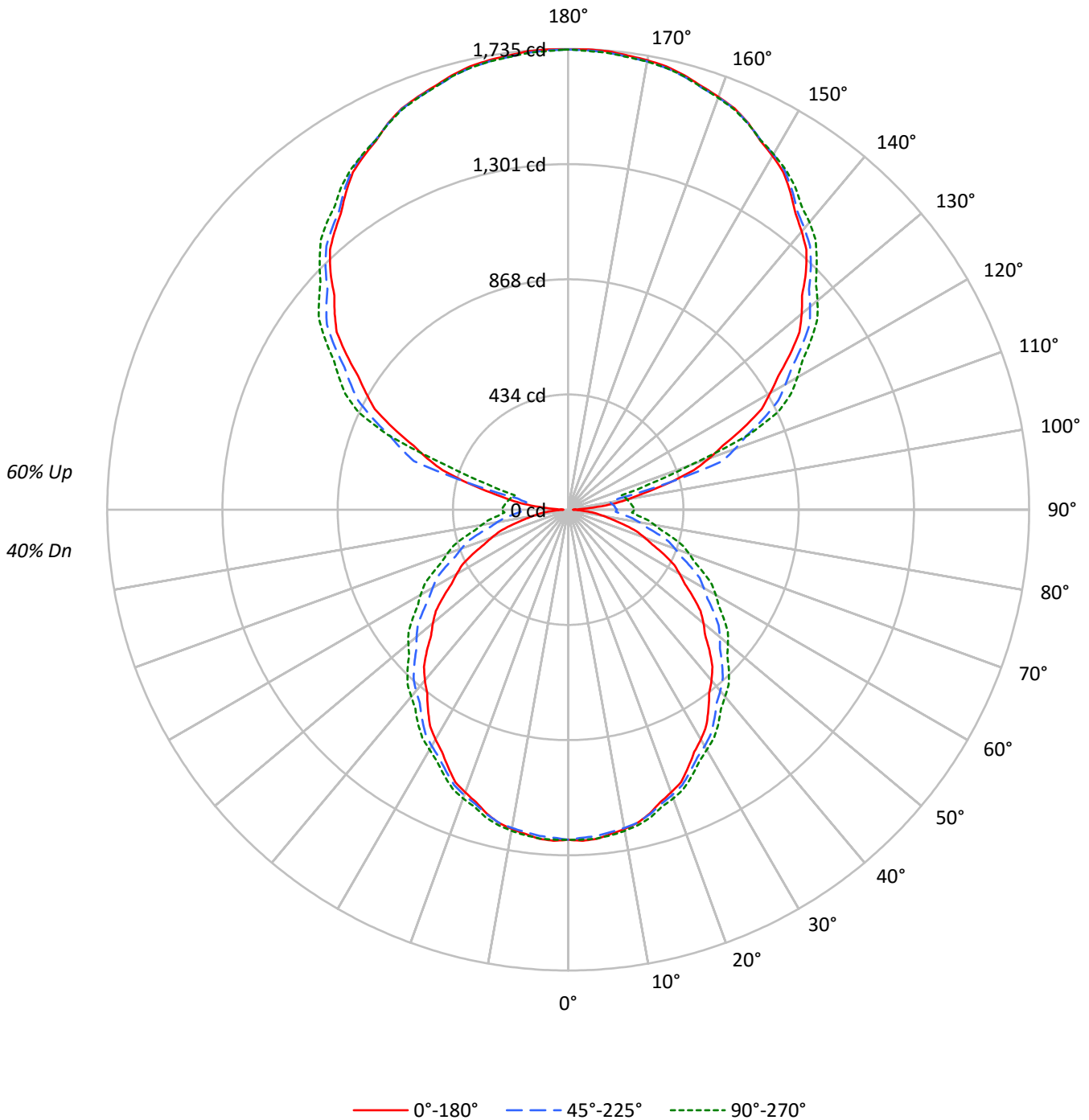
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332236-935

CATALOG NUMBER: S123DIW-S1165D1535U935-4F0-1E-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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	65	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	1.2
10°-20°	335.7	3.5
20°-30°	502.2	5.3
30°-40°	599.7	6.3
40°-50°	627.4	6.6
50°-60°	588.8	6.2
60°-70°	491.8	5.2
70°-80°	351.8	3.7
80°-90°	214.7	2.3
90°-100°	194.6	2.1
100°-110°	397.0	4.2
110°-120°	785.7	8.3
120°-130°	955.2	10.1
130°-140°	997.7	10.5
140°-150°	921.0	9.7
150°-160°	740.1	7.8
160°-170°	477.6	5.0
170°-180°	164.6	1.7
0°-30°	955.7	10.1
0°-40°	1555.4	16.4
0°-60°	2771.6	29.3
0°-90°	3829.9	40.5
90°-120°	1377.3	14.6
90°-150°	4251.2	44.9
90°-180°	5634.0	59.5
0°-180°	9463.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	19	98	184	233	251	16
95°	93	98	174	223	238	109
105°	394	435	383	205	208	418
115°	726	752	810	854	872	717
125°	1018	1031	1073	1103	1116	910
135°	1265	1273	1292	1319	1323	974
145°	1458	1466	1469	1482	1488	912
155°	1605	1603	1604	1610	1603	739
165°	1693	1689	1688	1697	1689	478
175°	1732	1726	1727	1735	1726	165
180°	1732	1732	1732	1732	1732	



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CATALOG NUMBER: S123DIW-S1165D1535U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.2	51.8	67.3	82.9	98.5	114.3	130.4	146.5	162.6	178.6	189.1
90°	18.9	36.5	54.1	71.6	89.3	107.6	126.7	145.7	164.8	183.8	195.2
92.5°	40.5	53.0	65.4	77.9	90.4	105.6	123.6	141.5	159.3	177.2	189.1
95°	93.4	93.4	93.4	93.4	93.4	102.4	120.3	138.1	156.0	173.9	185.2
97.5°	171.1	176.4	181.8	187.0	192.3	191.7	185.3	178.7	172.2	165.7	176.9
100°	229.7	245.0	260.4	275.8	291.1	283.4	252.6	221.8	191.0	160.2	171.3
102.5°	296.6	309.4	322.2	334.9	347.8	336.6	301.4	266.2	231.1	196.0	197.3
105°	394.4	404.8	415.2	425.5	435.8	434.6	421.8	409.1	396.2	383.4	341.2
107.5°	496.3	504.9	513.6	522.2	530.9	543.4	559.7	576.0	592.4	608.7	579.6
110°	564.2	571.9	579.6	587.3	595.0	606.4	621.6	636.8	651.9	667.1	665.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	630.1	636.6	643.1	649.6	656.2	666.8	681.4	696.1	710.8	725.5	733.2
115°	726.3	731.6	736.9	742.3	747.6	757.0	770.3	783.8	797.2	810.5	820.6
117.5°	820.5	824.8	829.2	833.5	837.8	845.8	857.3	868.7	880.2	891.7	901.1
120°	878.1	882.2	886.3	890.4	894.4	901.9	912.7	923.4	934.2	945.0	954.2
122.5°	937.9	940.7	943.7	946.6	949.4	956.1	966.6	977.2	987.7	998.2	1006.6
125°	1018.4	1020.6	1023.0	1025.2	1027.5	1033.6	1043.4	1053.3	1063.2	1073.1	1080.0
127.5°	1097.7	1099.7	1101.6	1103.6	1105.6	1110.9	1119.5	1128.1	1136.7	1145.2	1152.1
130°	1147.1	1149.1	1151.1	1153.1	1155.0	1159.6	1166.7	1173.9	1181.1	1188.3	1195.1
132.5°	1193.3	1195.6	1197.8	1200.1	1202.3	1206.3	1211.9	1217.7	1223.4	1229.2	1235.8
135°	1265.4	1266.9	1268.3	1269.7	1271.1	1274.0	1278.5	1282.9	1287.4	1291.8	1298.1
137.5°	1327.0	1328.9	1330.8	1332.7	1334.6	1336.9	1339.4	1341.9	1344.4	1346.9	1353.0
140°	1367.0	1368.7	1370.5	1372.2	1373.9	1375.6	1377.4	1379.1	1381.0	1382.7	1388.4
142.5°	1405.2	1406.6	1408.1	1409.5	1411.1	1412.3	1413.3	1414.4	1415.4	1416.4	1421.4
145°	1458.4	1460.2	1461.8	1463.5	1465.2	1466.4	1467.0	1467.5	1468.1	1468.7	1471.6
147.5°	1507.3	1508.6	1509.9	1511.2	1512.5	1513.5	1514.1	1514.7	1515.2	1515.8	1517.1
150°	1538.2	1539.0	1539.9	1540.8	1541.6	1542.3	1542.9	1543.5	1544.0	1544.6	1545.2
152.5°	1566.0	1566.4	1566.8	1567.2	1567.6	1568.0	1568.3	1568.7	1569.0	1569.3	1570.4
155°	1605.1	1604.6	1604.0	1603.4	1602.8	1602.7	1603.0	1603.3	1603.5	1603.8	1605.2
157.5°	1635.5	1635.5	1635.4	1635.3	1635.3	1635.1	1634.8	1634.5	1634.3	1633.9	1635.6
160°	1654.1	1653.7	1653.5	1653.2	1652.9	1652.6	1652.3	1652.0	1651.7	1651.5	1653.2
162.5°	1671.5	1670.8	1670.1	1669.3	1668.5	1668.0	1667.8	1667.5	1667.2	1666.9	1668.9
165°	1692.6	1691.8	1690.9	1690.1	1689.2	1688.7	1688.3	1688.1	1687.8	1687.5	1689.8
167.5°	1709.1	1708.0	1706.8	1705.7	1704.5	1704.0	1704.0	1704.0	1704.0	1704.0	1706.2
170°	1718.4	1717.3	1716.1	1714.9	1713.8	1713.2	1713.2	1713.2	1713.2	1713.2	1715.5
172.5°	1724.6	1723.2	1721.8	1720.5	1719.1	1718.5	1718.7	1719.0	1719.2	1719.4	1721.7
175°	1732.5	1731.1	1729.7	1728.3	1726.8	1726.2	1726.6	1726.8	1727.1	1727.4	1729.4
177.5°	1734.6	1733.5	1732.3	1731.2	1730.0	1729.6	1729.8	1730.0	1730.3	1730.5	1732.3
180°	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	199.5	210.0	220.4	227.2	230.3	233.4	236.6	239.7
90°	206.6	217.9	229.3	236.8	240.4	243.9	247.5	251.1
92.5°	200.9	212.7	224.5	232.0	235.1	238.2	241.3	244.4
95°	196.6	207.8	219.2	226.4	229.4	232.4	235.4	238.4
97.5°	188.2	199.4	210.7	218.0	221.3	224.5	227.8	231.2
100°	182.3	193.3	204.2	211.4	214.7	218.0	221.3	224.5
102.5°	198.7	200.1	201.5	204.0	207.5	211.0	214.6	218.0
105°	299.0	256.8	214.6	195.1	198.4	201.6	204.9	208.2
107.5°	550.6	521.5	492.4	460.1	424.6	389.1	353.6	318.1
110°	663.9	662.3	660.6	640.6	602.1	563.6	525.1	486.6



TEST NUMBER: P332236-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	741.0	748.7	756.5	757.4	751.4	745.5	739.4	733.4
115°	830.7	840.8	850.9	857.7	861.3	864.8	868.3	871.9
117.5°	910.6	920.1	929.5	935.5	938.1	940.6	943.2	945.8
120°	963.4	972.6	981.8	987.5	989.5	991.7	993.8	995.9
122.5°	1014.9	1023.1	1031.4	1036.7	1039.1	1041.4	1043.7	1046.0
125°	1086.8	1093.7	1100.6	1105.4	1108.1	1110.8	1113.4	1116.1
127.5°	1159.0	1165.9	1172.8	1176.9	1178.4	1179.8	1181.3	1182.8
130°	1202.0	1208.8	1215.6	1219.7	1221.0	1222.2	1223.4	1224.7
132.5°	1242.4	1249.1	1255.6	1259.6	1260.8	1262.1	1263.3	1264.6
135°	1304.4	1310.6	1316.9	1320.3	1321.0	1321.6	1322.3	1322.9
137.5°	1359.1	1365.2	1371.4	1374.9	1375.8	1376.7	1377.7	1378.6
140°	1394.0	1399.6	1405.3	1408.6	1409.5	1410.5	1411.4	1412.3
142.5°	1426.3	1431.3	1436.2	1439.1	1439.8	1440.5	1441.1	1441.9
145°	1474.6	1477.6	1480.6	1482.6	1483.8	1485.1	1486.3	1487.5
147.5°	1518.4	1519.7	1521.0	1521.5	1521.2	1521.0	1520.8	1520.5
150°	1545.8	1546.4	1546.9	1547.0	1546.8	1546.5	1546.3	1546.0
152.5°	1571.4	1572.4	1573.5	1573.4	1572.2	1571.0	1569.8	1568.6
155°	1606.7	1608.1	1609.6	1609.4	1607.7	1605.9	1604.2	1602.6
157.5°	1637.4	1639.1	1640.8	1640.5	1638.3	1636.1	1633.8	1631.6
160°	1654.9	1656.6	1658.3	1658.2	1656.1	1654.2	1652.2	1650.2
162.5°	1670.8	1672.8	1674.6	1674.7	1673.0	1671.2	1669.5	1667.7
165°	1692.0	1694.4	1696.7	1696.8	1694.8	1692.8	1690.7	1688.8
167.5°	1708.6	1710.8	1713.1	1713.1	1710.8	1708.6	1706.2	1704.0
170°	1717.8	1720.1	1722.4	1722.4	1720.1	1717.8	1715.5	1713.2
172.5°	1724.0	1726.3	1728.5	1728.5	1726.0	1723.5	1720.9	1718.4
175°	1731.4	1733.4	1735.4	1735.3	1732.9	1730.7	1728.4	1726.1
177.5°	1734.1	1735.9	1737.8	1737.6	1735.3	1733.0	1730.7	1728.5
180°	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5

(END OF REPORT)