

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: P332200-935

Luminaire Tested: **S123DIW-S1000D1320U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332200-935
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-S1000D1320U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8163.5 lumens
Efficiency: N/A
Efficacy: 117.0 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

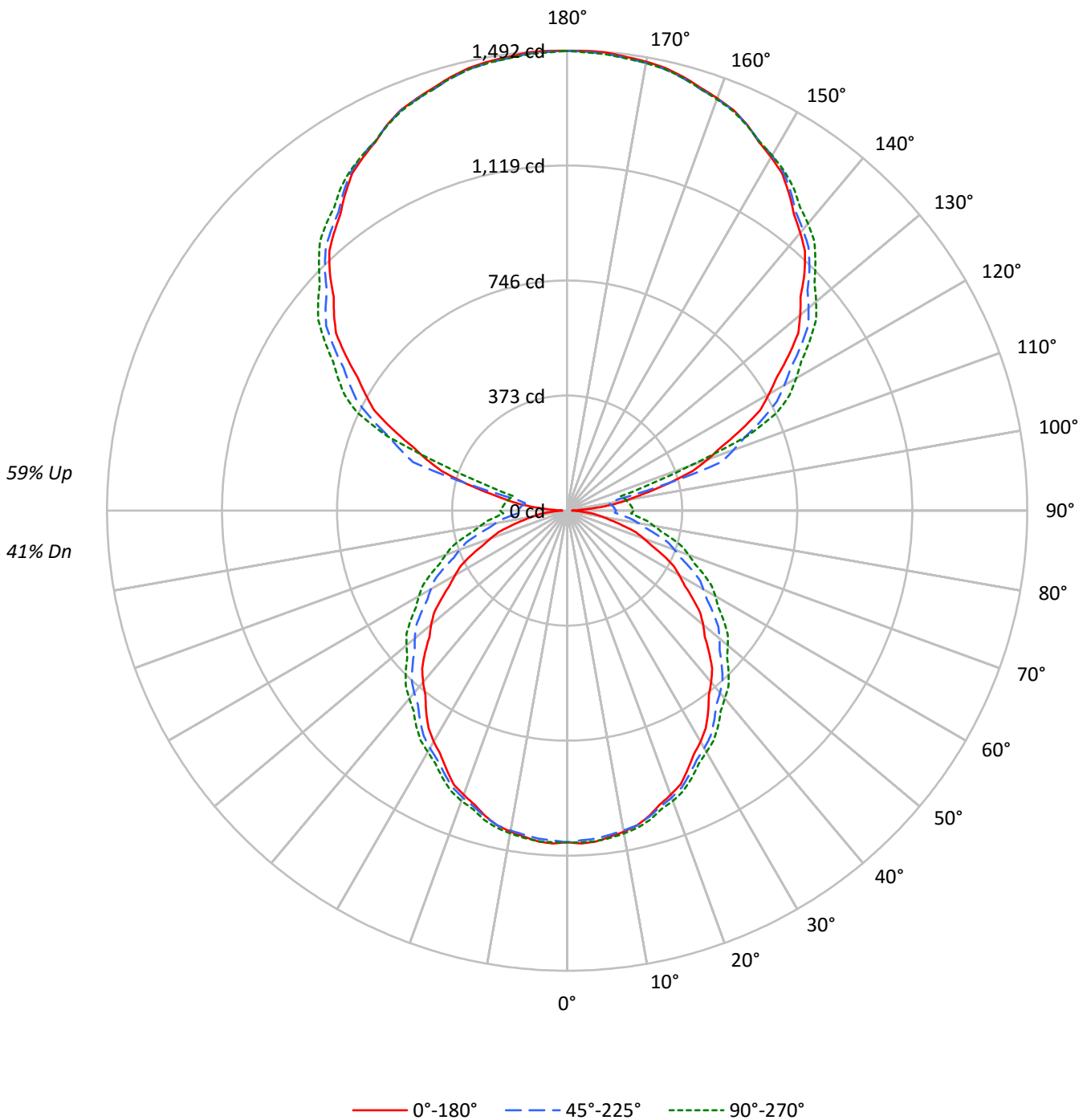
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332200-935

CATALOG NUMBER: S123DIW-S1000D1320U935-4F0-1E-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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41				
1	95	90	86	82	86	82	79	75	67	65	62	53	52	50	41	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	29	27	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	56	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°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	1.2
10°-20°	290.7	3.6
20°-30°	434.8	5.3
30°-40°	519.2	6.4
40°-50°	543.3	6.7
50°-60°	509.8	6.2
60°-70°	425.8	5.2
70°-80°	304.6	3.7
80°-90°	185.8	2.3
90°-100°	168.2	2.1
100°-110°	342.0	4.2
110°-120°	676.2	8.3
120°-130°	821.7	10.1
130°-140°	858.2	10.5
140°-150°	792.2	9.7
150°-160°	636.5	7.8
160°-170°	410.8	5.0
170°-180°	141.6	1.7
0°-30°	827.5	10.1
0°-40°	1346.7	16.5
0°-60°	2399.8	29.4
0°-90°	3316.1	40.6
90°-120°	1186.3	14.5
90°-150°	3658.4	44.8
90°-180°	4847.0	59.4
0°-180°	8163.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	16	85	159	202	217	14
95°	80	85	150	193	206	94
105°	339	375	330	177	180	359
115°	625	647	698	735	751	617
125°	876	886	923	949	960	782
135°	1088	1095	1111	1134	1138	838
145°	1254	1261	1263	1274	1279	785
155°	1380	1378	1379	1384	1378	636
165°	1456	1453	1451	1459	1452	411
175°	1490	1485	1486	1493	1485	142
180°	1490	1490	1490	1490	1490	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.4	44.9	58.3	71.8	85.2	98.9	112.9	126.7	140.7	154.6	163.7
90°	16.4	31.6	46.8	62.0	77.2	93.1	109.5	126.1	142.5	159.0	168.8
92.5°	34.9	45.7	56.6	67.3	78.2	91.4	106.9	122.3	137.8	153.3	163.5
95°	80.4	80.5	80.6	80.6	80.7	88.5	103.9	119.4	134.8	150.3	160.1
97.5°	147.2	151.9	156.5	161.1	165.7	165.3	159.8	154.3	148.8	143.2	152.9
100°	197.7	210.9	224.1	237.4	250.6	244.1	217.7	191.3	164.9	138.4	148.0
102.5°	255.2	266.2	277.2	288.3	299.4	289.8	259.6	229.5	199.3	169.2	170.4
105°	339.3	348.3	357.2	366.2	375.1	374.1	363.2	352.2	341.3	330.4	294.1
107.5°	426.9	434.4	441.9	449.4	456.8	467.6	481.7	495.8	510.0	524.1	499.1
110°	485.3	492.0	498.6	505.2	512.0	521.8	534.9	548.0	561.2	574.3	572.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	542.0	547.6	553.2	558.9	564.5	573.7	586.3	599.1	611.7	624.5	631.2
115°	624.7	629.3	634.0	638.5	643.2	651.3	662.8	674.4	686.0	697.6	706.3
117.5°	705.8	709.5	713.3	717.0	720.7	727.5	737.5	747.4	757.4	767.3	775.5
120°	755.3	758.8	762.3	765.9	769.4	775.8	785.1	794.4	803.7	813.1	821.0
122.5°	806.7	809.2	811.7	814.2	816.7	822.4	831.6	840.7	849.8	858.9	866.1
125°	875.9	877.9	879.9	881.8	883.8	889.1	897.6	906.1	914.6	923.2	929.1
127.5°	944.1	945.8	947.5	949.3	951.0	955.5	962.9	970.3	977.8	985.2	991.2
130°	986.6	988.3	990.1	991.7	993.4	997.4	1003.6	1009.8	1016.0	1022.2	1028.1
132.5°	1026.4	1028.4	1030.3	1032.2	1034.1	1037.5	1042.5	1047.4	1052.4	1057.3	1063.1
135°	1088.4	1089.6	1090.8	1092.1	1093.3	1095.8	1099.7	1103.5	1107.3	1111.2	1116.6
137.5°	1141.3	1143.0	1144.6	1146.3	1148.0	1149.9	1152.0	1154.2	1156.3	1158.5	1163.8
140°	1175.8	1177.2	1178.8	1180.3	1181.7	1183.2	1184.7	1186.3	1187.7	1189.3	1194.2
142.5°	1208.6	1209.9	1211.1	1212.4	1213.7	1214.7	1215.6	1216.5	1217.4	1218.3	1222.6
145°	1254.4	1255.9	1257.3	1258.8	1260.2	1261.2	1261.7	1262.2	1262.7	1263.2	1265.8
147.5°	1296.4	1297.5	1298.6	1299.8	1301.0	1301.7	1302.3	1302.7	1303.2	1303.7	1304.8
150°	1323.0	1323.7	1324.5	1325.2	1325.9	1326.5	1327.1	1327.5	1328.0	1328.5	1329.0
152.5°	1346.9	1347.2	1347.6	1347.9	1348.2	1348.6	1348.9	1349.2	1349.4	1349.8	1350.7
155°	1380.5	1380.1	1379.6	1379.1	1378.5	1378.5	1378.7	1379.0	1379.2	1379.4	1380.7
157.5°	1406.7	1406.6	1406.6	1406.5	1406.4	1406.4	1406.1	1405.8	1405.6	1405.3	1406.8
160°	1422.6	1422.4	1422.1	1421.9	1421.6	1421.4	1421.2	1420.9	1420.6	1420.4	1421.9
162.5°	1437.7	1437.0	1436.4	1435.7	1435.1	1434.7	1434.4	1434.2	1433.9	1433.7	1435.4
165°	1455.9	1455.1	1454.3	1453.6	1452.9	1452.4	1452.2	1451.9	1451.6	1451.4	1453.4
167.5°	1470.0	1469.0	1468.0	1467.1	1466.0	1465.6	1465.6	1465.6	1465.6	1465.6	1467.6
170°	1478.0	1477.0	1476.0	1475.1	1474.0	1473.5	1473.5	1473.5	1473.5	1473.5	1475.5
172.5°	1483.3	1482.1	1480.9	1479.7	1478.6	1478.1	1478.3	1478.5	1478.7	1478.9	1480.8
175°	1490.1	1488.9	1487.7	1486.4	1485.2	1484.7	1485.0	1485.2	1485.5	1485.7	1487.5
177.5°	1491.9	1490.9	1490.0	1489.0	1488.0	1487.6	1487.8	1488.0	1488.2	1488.4	1490.0
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	172.7	181.8	190.8	196.7	199.4	202.1	204.8	207.5
90°	178.7	188.5	198.4	204.8	207.9	211.0	214.1	217.2
92.5°	173.7	183.9	194.2	200.6	203.3	206.0	208.7	211.4
95°	170.0	179.7	189.5	195.7	198.3	201.0	203.5	206.1
97.5°	162.6	172.4	182.1	188.4	191.3	194.2	197.0	199.8
100°	157.6	167.0	176.6	182.8	185.6	188.5	191.3	194.2
102.5°	171.7	172.9	174.2	176.2	179.3	182.4	185.5	188.5
105°	257.9	221.6	185.3	168.6	171.4	174.3	177.1	179.9
107.5°	474.2	449.2	424.2	396.5	366.0	335.4	305.0	274.4
110°	571.6	570.2	568.9	551.6	518.6	485.5	452.4	419.3



TEST NUMBER: P332200-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	637.9	644.6	651.3	652.1	647.0	641.8	636.7	631.5
115°	715.0	723.7	732.5	738.3	741.4	744.4	747.5	750.6
117.5°	783.7	791.8	800.0	805.2	807.4	809.6	811.8	814.1
120°	829.1	837.0	845.0	849.8	851.7	853.5	855.3	857.1
122.5°	873.2	880.4	887.5	892.2	894.1	896.2	898.2	900.2
125°	935.1	941.1	947.0	951.1	953.5	955.8	958.1	960.4
127.5°	997.1	1003.1	1009.0	1012.6	1013.9	1015.2	1016.4	1017.7
130°	1034.1	1040.0	1045.9	1049.4	1050.5	1051.5	1052.6	1053.7
132.5°	1068.8	1074.5	1080.2	1083.7	1084.7	1085.8	1086.8	1088.0
135°	1122.1	1127.5	1132.9	1135.9	1136.4	1137.0	1137.6	1138.2
137.5°	1169.1	1174.4	1179.7	1182.8	1183.5	1184.3	1185.2	1185.9
140°	1199.0	1203.9	1208.8	1211.7	1212.5	1213.3	1214.1	1215.0
142.5°	1226.8	1231.1	1235.4	1237.9	1238.5	1239.1	1239.7	1240.3
145°	1268.3	1270.9	1273.5	1275.3	1276.3	1277.4	1278.4	1279.4
147.5°	1306.0	1307.1	1308.2	1308.6	1308.5	1308.3	1308.0	1307.9
150°	1329.5	1330.0	1330.5	1330.6	1330.4	1330.2	1330.0	1329.7
152.5°	1351.5	1352.5	1353.3	1353.2	1352.2	1351.2	1350.1	1349.1
155°	1381.9	1383.1	1384.4	1384.2	1382.8	1381.3	1379.8	1378.4
157.5°	1408.3	1409.8	1411.3	1411.0	1409.1	1407.2	1405.2	1403.3
160°	1423.3	1424.9	1426.3	1426.2	1424.4	1422.7	1421.0	1419.3
162.5°	1437.0	1438.7	1440.4	1440.5	1438.9	1437.4	1435.9	1434.3
165°	1455.3	1457.3	1459.3	1459.4	1457.7	1456.0	1454.2	1452.5
167.5°	1469.6	1471.4	1473.4	1473.4	1471.4	1469.6	1467.6	1465.6
170°	1477.5	1479.5	1481.4	1481.4	1479.5	1477.5	1475.5	1473.5
172.5°	1482.8	1484.8	1486.8	1486.6	1484.5	1482.3	1480.1	1478.0
175°	1489.2	1490.9	1492.6	1492.5	1490.6	1488.6	1486.6	1484.6
177.5°	1491.5	1493.1	1494.7	1494.5	1492.5	1490.6	1488.6	1486.6
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1

(END OF REPORT)