

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: P332209-930

Luminaire Tested: **S123DIW-S1000D1535U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332209-930  
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: S123DIW-S1000D1535U930-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7698.9 lumens  
Efficiency: N/A  
Efficacy: 100.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

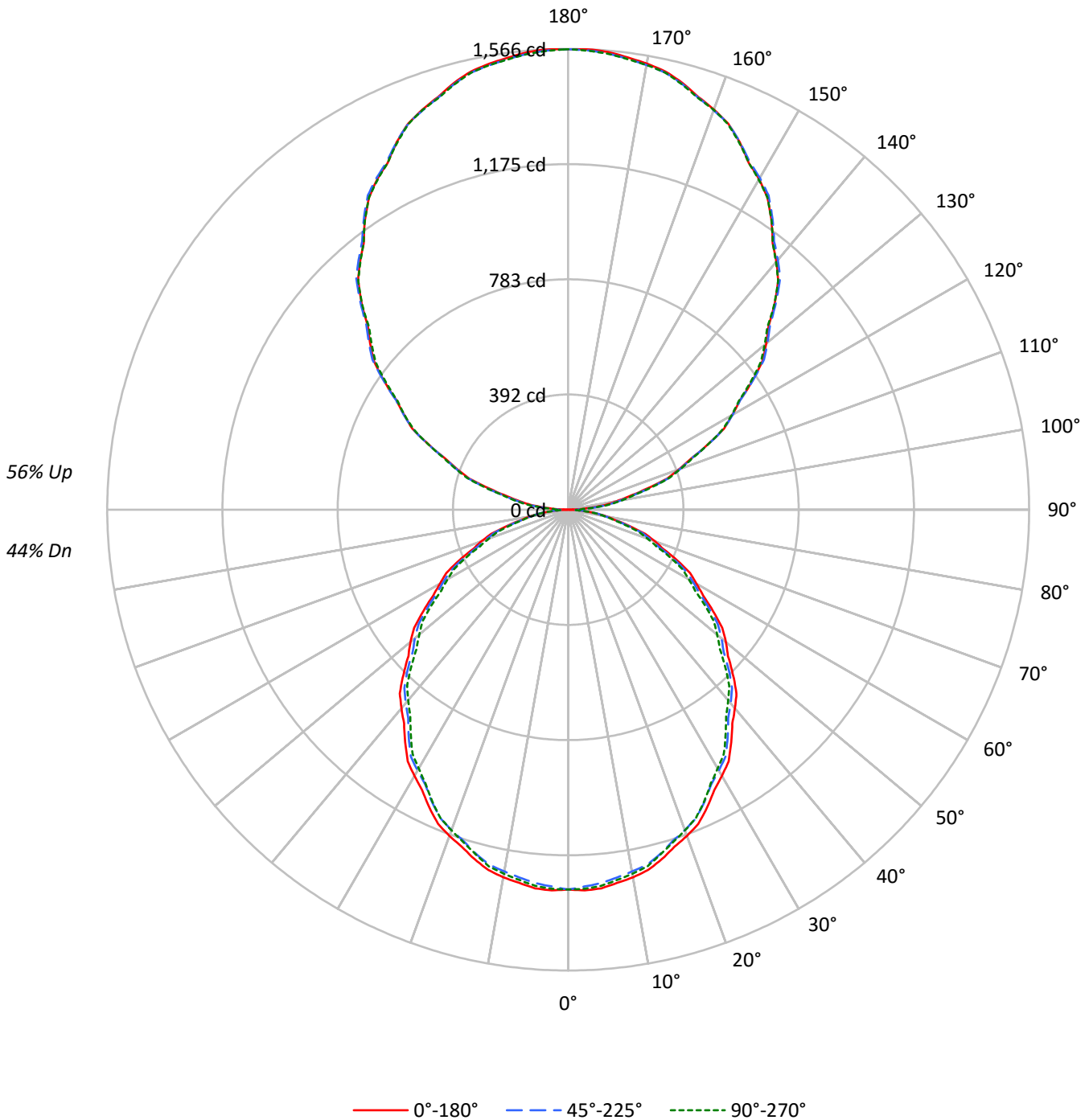
Input Watts (W): 76.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	50	30	10	50	30	10	0		
RCR																										
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44					44			
1	96	92	88	85	88	84	81	78	70	67	65	57	55	53	44	43	42					37				
2	88	80	74	69	80	74	68	64	61	57	54	50	47	45	39	37	36					31				
3	80	71	63	57	73	65	58	53	54	49	45	44	41	38	35	32	30					26				
4	73	62	55	49	67	57	50	45	48	43	39	39	35	32	31	28	26					22				
5	67	55	47	41	61	51	44	39	43	37	33	35	31	28	28	25	23					19				
6	62	50	42	36	56	46	39	34	38	33	29	32	28	24	25	22	20					17				
7	57	45	37	31	52	41	34	29	35	29	25	29	25	22	23	20	18					15				
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16					13				
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14					12				
10	46	34	27	22	42	31	25	21	27	22	18	22	18	16	18	15	13					11				

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

	0°	45°	90°
0°	13891	13891	13891
5°	13956	13765	13861
10°	13864	13645	13729
15°	13701	13490	13515
20°	13512	13270	13283
25°	13258	13007	12981
30°	12978	12716	12619
35°	12686	12408	12248
40°	12381	12067	11880
45°	12044	11756	11469
50°	11707	11372	11055
55°	11265	10975	10640
60°	10820	10512	10176
65°	10427	10004	9694
70°	9847	9429	9010
75°	9000	8675	8305
80°	8114	7773	7705
85°	7126	6854	6570



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.6	1.6
10°-20°	343.3	4.5
20°-30°	507.0	6.6
30°-40°	592.3	7.7
40°-50°	595.5	7.7
50°-60°	523.1	6.8
60°-70°	389.7	5.1
70°-80°	222.0	2.9
80°-90°	68.4	0.9
90°-100°	102.0	1.3
100°-110°	305.2	4.0
110°-120°	519.0	6.7
120°-130°	682.7	8.9
130°-140°	767.4	10.0
140°-150°	754.3	9.8
150°-160°	635.0	8.2
160°-170°	422.7	5.5
170°-180°	148.0	1.9
0°-30°	971.9	12.6
0°-40°	1564.1	20.3
0°-60°	2682.6	34.8
0°-90°	3362.7	43.7
90°-120°	926.2	12.0
90°-150°	3130.5	40.7
90°-180°	4336.0	56.3
0°-180°	7698.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1292	1286	1274	1284	1283	122
15°	1230	1224	1211	1219	1213	346
25°	1116	1109	1095	1096	1093	514
35°	965	958	944	938	932	604
45°	791	786	772	759	753	611
55°	600	598	585	573	567	538
65°	409	404	393	384	381	404
75°	216	212	209	203	200	231
85°	58	56	56	53	53	63
90°	1	14	30	34	37	8
95°	73	81	91	96	96	82
105°	277	280	290	290	293	296
115°	522	526	524	525	524	517
125°	765	768	766	761	756	682
135°	992	999	998	994	991	764
145°	1204	1206	1210	1208	1204	752
155°	1378	1378	1379	1384	1376	634
165°	1501	1498	1498	1504	1496	423
175°	1561	1557	1556	1563	1555	148
180°	1565	1565	1565	1565	1565	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5
2.5°	1294.9	1294.2	1293.4	1292.6	1291.8	1290.3	1288.2	1286.0	1283.9	1281.7	1283.6
5°	1291.6	1290.4	1289.2	1287.9	1286.7	1284.7	1282.1	1279.3	1276.6	1273.9	1276.4
7.5°	1279.0	1277.7	1276.5	1275.3	1274.1	1272.0	1269.3	1266.4	1263.6	1260.8	1263.0
10°	1268.4	1267.1	1265.8	1264.6	1263.4	1261.2	1258.0	1254.7	1251.6	1248.4	1250.6
12.5°	1254.1	1253.1	1252.1	1251.0	1250.0	1248.0	1245.0	1241.9	1238.9	1235.9	1237.5
15°	1229.5	1228.5	1227.5	1226.5	1225.6	1223.4	1220.3	1217.1	1213.8	1210.6	1212.6
17.5°	1200.9	1199.5	1198.3	1197.0	1195.7	1193.5	1190.3	1187.1	1183.9	1180.6	1182.0
20°	1179.6	1178.1	1176.6	1175.1	1173.6	1171.3	1168.1	1164.9	1161.7	1158.5	1159.4
22.5°	1155.6	1154.1	1152.7	1151.1	1149.7	1147.4	1144.1	1140.9	1137.8	1134.5	1135.3
25°	1116.3	1114.8	1113.4	1111.9	1110.4	1108.1	1104.8	1101.6	1098.5	1095.2	1095.4
27.5°	1074.4	1072.9	1071.5	1070.1	1068.6	1066.2	1062.7	1059.3	1055.8	1052.4	1052.6
30°	1044.2	1042.9	1041.7	1040.5	1039.3	1036.9	1033.5	1030.0	1026.5	1023.1	1023.1
32.5°	1014.0	1012.4	1010.7	1009.1	1007.5	1005.3	1002.7	1000.0	997.4	994.7	993.3
35°	965.4	963.9	962.5	961.0	959.4	957.2	953.9	950.7	947.5	944.3	942.8
37.5°	915.7	913.8	911.9	910.0	908.2	905.6	902.4	899.1	895.9	892.6	890.8
40°	881.1	879.5	878.1	876.6	875.1	872.7	869.2	865.8	862.3	858.8	856.9
42.5°	846.4	844.7	843.1	841.4	839.8	837.1	833.7	830.3	826.8	823.4	821.4
45°	791.2	790.2	789.2	788.2	787.3	785.1	782.0	778.7	775.5	772.3	769.4
47.5°	736.4	734.9	733.5	732.1	730.7	728.4	725.5	722.4	719.4	716.4	713.5
50°	699.1	697.8	696.6	695.4	694.1	691.9	688.7	685.5	682.3	679.1	676.4
52.5°	660.0	659.2	658.4	657.5	656.6	654.5	651.2	647.8	644.3	640.9	638.6
55°	600.3	600.1	599.8	599.6	599.3	597.6	594.4	591.2	588.0	584.8	582.0
57.5°	543.5	542.7	541.8	541.0	540.1	538.4	535.9	533.3	530.8	528.2	525.8
60°	502.6	502.4	502.1	501.9	501.7	500.1	497.1	494.2	491.2	488.3	486.0
62.5°	466.3	465.6	465.0	464.3	463.7	461.9	458.9	456.0	453.1	450.0	447.8
65°	409.4	408.2	407.0	405.8	404.6	402.7	400.2	397.8	395.3	392.8	390.9
67.5°	349.4	348.2	347.2	346.1	345.0	343.5	341.6	339.7	337.9	336.0	334.3
70°	312.9	311.4	310.0	308.5	307.0	305.5	304.0	302.6	301.1	299.6	297.9
72.5°	274.8	273.7	272.6	271.5	270.4	269.0	267.3	265.7	264.0	262.3	260.8
75°	216.4	215.4	214.4	213.4	212.5	211.6	210.8	210.1	209.4	208.6	207.4
77.5°	164.7	164.1	163.5	163.1	162.5	161.8	160.9	160.0	159.1	158.2	157.4
80°	130.9	130.2	129.5	128.7	128.0	127.3	126.9	126.4	125.9	125.4	125.1
82.5°	98.1	97.9	97.8	97.7	97.5	97.3	97.3	97.2	97.1	97.0	96.5
85°	57.7	57.2	56.7	56.3	55.8	55.5	55.5	55.5	55.5	55.5	55.0
87.5°	23.3	23.3	23.2	23.2	23.2	23.4	23.9	24.4	24.9	25.4	25.4
90°	1.2	4.0	6.7	9.5	12.1	15.3	18.8	22.4	25.9	29.5	30.6
92.5°	29.8	31.6	33.4	35.3	37.2	39.1	41.2	43.1	45.2	47.2	48.1
95°	72.6	74.4	76.4	78.3	80.2	82.3	84.4	86.6	88.8	91.0	92.0
97.5°	128.8	130.3	131.7	133.1	134.5	136.0	137.6	139.2	140.8	142.4	143.7
100°	167.2	168.8	170.5	172.1	173.7	175.3	176.6	178.0	179.4	180.8	181.6
102.5°	211.5	212.5	213.4	214.4	215.4	216.8	218.6	220.4	222.2	224.0	224.9
105°	276.6	277.2	277.7	278.3	278.8	280.3	282.7	285.2	287.7	290.2	290.2
107.5°	352.4	352.7	353.0	353.4	353.7	354.3	355.3	356.3	357.3	358.2	359.1
110°	399.6	400.1	400.6	401.2	401.8	402.3	402.8	403.4	403.9	404.5	405.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.7	449.1	449.4	449.7	450.0	450.3	450.4	450.5	450.6	450.7	452.0
115°	522.5	523.3	524.2	525.0	525.8	525.9	525.4	524.8	524.3	523.7	524.0
117.5°	596.8	597.3	597.9	598.4	598.9	598.8	598.2	597.5	596.7	596.1	596.0
120°	643.0	644.7	646.3	647.9	649.5	649.7	648.3	646.9	645.6	644.2	643.9
122.5°	691.2	692.4	693.6	694.8	696.0	696.3	695.5	694.8	694.1	693.4	692.7
125°	764.7	765.5	766.4	767.2	768.0	768.1	767.6	767.0	766.5	766.0	764.8
127.5°	832.6	834.3	836.1	837.8	839.6	840.2	839.5	838.9	838.4	837.7	836.2
130°	877.8	880.0	882.2	884.4	886.6	887.2	886.4	885.6	884.8	883.9	882.9
132.5°	923.1	925.2	927.4	929.6	931.8	932.6	932.0	931.4	930.7	930.2	928.9
135°	992.1	993.8	995.4	997.0	998.7	999.4	999.1	998.8	998.6	998.3	997.2
137.5°	1056.1	1057.4	1058.8	1060.2	1061.5	1062.6	1063.3	1064.0	1064.7	1065.4	1064.3
140°	1100.3	1101.7	1103.1	1104.4	1105.8	1106.6	1106.9	1107.2	1107.4	1107.7	1107.4
142.5°	1140.7	1142.0	1143.4	1144.8	1146.1	1147.0	1147.5	1148.0	1148.5	1149.0	1148.8
145°	1203.6	1204.2	1204.7	1205.3	1205.8	1206.5	1207.3	1208.1	1208.9	1209.7	1209.5
147.5°	1258.7	1259.6	1260.6	1261.7	1262.7	1263.5	1264.3	1265.0	1265.8	1266.6	1266.6
150°	1297.1	1297.6	1298.1	1298.7	1299.3	1299.8	1300.3	1300.9	1301.4	1302.0	1302.0
152.5°	1328.5	1329.3	1330.1	1330.8	1331.5	1332.1	1332.4	1332.8	1333.1	1333.4	1333.9
155°	1378.2	1378.2	1378.2	1378.2	1378.2	1378.3	1378.6	1378.8	1379.2	1379.4	1380.5
157.5°	1420.5	1420.2	1419.8	1419.5	1419.2	1419.1	1419.4	1419.5	1419.8	1420.0	1421.1
160°	1447.1	1446.5	1445.9	1445.4	1444.9	1444.5	1444.5	1444.5	1444.5	1444.5	1445.9
162.5°	1470.6	1469.9	1469.1	1468.4	1467.6	1467.3	1467.5	1467.8	1467.9	1468.2	1469.6
165°	1501.1	1500.3	1499.5	1498.7	1497.9	1497.5	1497.5	1497.5	1497.5	1497.5	1499.1
167.5°	1525.5	1524.4	1523.3	1522.2	1521.1	1520.7	1520.9	1521.1	1521.3	1521.5	1523.2
170°	1539.2	1538.1	1537.1	1535.9	1534.9	1534.3	1534.3	1534.3	1534.3	1534.3	1536.3
172.5°	1550.0	1549.0	1547.8	1546.8	1545.7	1545.2	1545.2	1545.2	1545.2	1545.2	1546.9
175°	1561.4	1560.3	1559.2	1558.1	1557.0	1556.5	1556.5	1556.5	1556.5	1556.5	1558.1
177.5°	1566.0	1565.2	1564.3	1563.4	1562.5	1562.1	1562.1	1562.1	1562.1	1562.1	1563.4
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5	1290.5
2.5°	1285.6	1287.6	1289.6	1290.5	1290.2	1290.0	1289.8	1289.6
5°	1278.8	1281.2	1283.8	1284.7	1284.3	1283.8	1283.3	1282.8
7.5°	1265.3	1267.5	1269.7	1270.6	1270.3	1270.1	1269.7	1269.4
10°	1252.8	1255.0	1257.3	1258.1	1257.6	1257.1	1256.6	1256.1
12.5°	1239.2	1240.8	1242.4	1243.1	1242.8	1242.5	1242.2	1241.9
15°	1214.6	1216.5	1218.5	1218.8	1217.3	1215.8	1214.3	1212.8
17.5°	1183.4	1184.8	1186.2	1186.6	1186.1	1185.5	1185.0	1184.5
20°	1160.4	1161.5	1162.5	1162.5	1161.8	1161.1	1160.3	1159.6
22.5°	1136.1	1136.9	1137.7	1137.6	1136.7	1135.7	1134.8	1133.8
25°	1095.7	1096.0	1096.3	1096.0	1095.2	1094.5	1093.7	1093.0
27.5°	1052.8	1053.0	1053.2	1052.8	1051.9	1050.9	1050.0	1049.0
30°	1023.1	1023.1	1023.1	1022.2	1020.5	1018.8	1017.1	1015.3
32.5°	991.9	990.6	989.2	988.0	987.1	986.1	985.2	984.2
35°	941.3	939.9	938.4	937.0	935.8	934.6	933.4	932.1
37.5°	889.1	887.3	885.5	884.2	883.5	882.6	881.8	881.1
40°	854.9	853.0	851.0	849.5	848.5	847.5	846.5	845.5
42.5°	819.4	817.4	815.5	814.0	813.0	812.0	811.1	810.1
45°	766.4	763.4	760.5	758.4	757.2	755.9	754.7	753.4
47.5°	710.5	707.7	704.7	702.8	701.6	700.6	699.5	698.4
50°	673.7	671.0	668.2	666.2	664.7	663.2	661.7	660.2
52.5°	636.3	634.0	631.7	629.7	628.3	626.8	625.3	623.9
55°	579.4	576.7	574.0	571.9	570.7	569.5	568.3	567.0
57.5°	523.3	521.0	518.5	516.6	515.2	513.7	512.3	510.9
60°	483.8	481.6	479.4	477.7	476.4	475.2	473.9	472.7
62.5°	445.6	443.4	441.2	439.7	438.8	438.0	437.2	436.3
65°	388.9	386.9	384.9	383.6	382.9	382.1	381.3	380.6
67.5°	332.6	330.8	329.1	327.8	326.7	325.6	324.6	323.6
70°	296.1	294.4	292.7	291.2	290.0	288.8	287.6	286.3
72.5°	259.3	257.7	256.2	255.1	254.5	253.8	253.2	252.6
75°	206.2	204.9	203.7	202.7	201.9	201.2	200.5	199.7
77.5°	156.5	155.7	154.9	154.5	154.5	154.5	154.5	154.5
80°	124.9	124.7	124.4	124.3	124.3	124.3	124.3	124.3
82.5°	96.1	95.6	95.2	94.9	94.7	94.5	94.3	94.1
85°	54.5	54.0	53.5	53.2	53.2	53.2	53.2	53.2
87.5°	25.4	25.5	25.5	25.6	25.7	25.8	25.9	26.0
90°	31.7	32.8	33.9	34.7	35.2	35.8	36.4	36.9
92.5°	48.9	49.8	50.7	51.0	50.6	50.3	50.0	49.7
95°	93.2	94.2	95.3	95.9	95.9	95.9	95.9	95.9
97.5°	144.9	146.1	147.4	148.0	147.9	147.7	147.7	147.6
100°	182.4	183.2	184.0	184.7	185.2	185.8	186.3	186.9
102.5°	225.7	226.5	227.3	227.6	227.6	227.4	227.3	227.2
105°	290.2	290.2	290.2	290.4	291.0	291.6	292.0	292.6
107.5°	360.0	360.9	361.7	362.0	361.7	361.3	361.0	360.7
110°	406.7	407.7	408.9	409.1	408.5	408.1	407.5	406.9





TEST NUMBER: P332209-930

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	453.3	454.6	455.9	456.6	456.5	456.3	456.2	456.1
115°	524.3	524.6	524.8	524.8	524.6	524.3	524.0	523.7
117.5°	595.9	595.9	595.8	595.4	594.6	593.9	593.1	592.3
120°	643.7	643.4	643.1	642.7	642.2	641.6	641.1	640.5
122.5°	691.9	691.3	690.6	689.8	689.1	688.3	687.5	686.7
125°	763.8	762.6	761.6	760.4	759.4	758.3	757.2	756.1
127.5°	834.7	833.2	831.6	830.2	829.0	827.7	826.5	825.2
130°	881.7	880.7	879.6	878.1	876.2	874.2	872.4	870.4
132.5°	927.6	926.3	925.0	923.6	922.1	920.6	919.1	917.6
135°	996.1	995.0	993.9	993.1	992.5	992.0	991.5	990.9
137.5°	1063.2	1062.0	1060.9	1059.7	1058.7	1057.7	1056.6	1055.6
140°	1107.2	1106.9	1106.6	1105.5	1103.6	1101.7	1099.8	1097.9
142.5°	1148.5	1148.2	1147.9	1147.0	1145.6	1144.1	1142.6	1141.2
145°	1209.2	1208.9	1208.7	1207.9	1206.9	1205.8	1204.7	1203.6
147.5°	1266.6	1266.6	1266.6	1265.8	1264.1	1262.5	1260.8	1259.1
150°	1302.0	1302.0	1302.0	1301.1	1299.5	1297.9	1296.2	1294.6
152.5°	1334.3	1334.7	1335.2	1334.7	1333.3	1331.9	1330.4	1329.0
155°	1381.6	1382.7	1383.8	1383.4	1381.4	1379.6	1377.6	1375.7
157.5°	1422.3	1423.4	1424.6	1424.4	1422.9	1421.3	1419.8	1418.3
160°	1447.3	1448.7	1450.0	1450.2	1449.1	1448.0	1446.9	1445.8
162.5°	1470.9	1472.3	1473.7	1473.5	1471.7	1470.0	1468.2	1466.5
165°	1500.7	1502.4	1504.0	1503.9	1501.9	1500.1	1498.1	1496.2
167.5°	1524.9	1526.6	1528.3	1528.3	1526.6	1524.9	1523.2	1521.5
170°	1538.1	1540.1	1542.0	1542.0	1540.1	1538.1	1536.3	1534.3
172.5°	1548.5	1550.2	1551.9	1551.8	1549.9	1548.0	1546.1	1544.2
175°	1559.7	1561.4	1563.0	1562.8	1561.0	1559.0	1557.1	1555.3
177.5°	1564.7	1566.0	1567.3	1567.2	1565.7	1564.2	1562.7	1561.1
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0

(END OF REPORT)