

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: P332461-927

Luminaire Tested: **S123RDIW-S1000D1030U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332461-927  
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: S123RDIW-S1000D1030U927-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5837.0 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

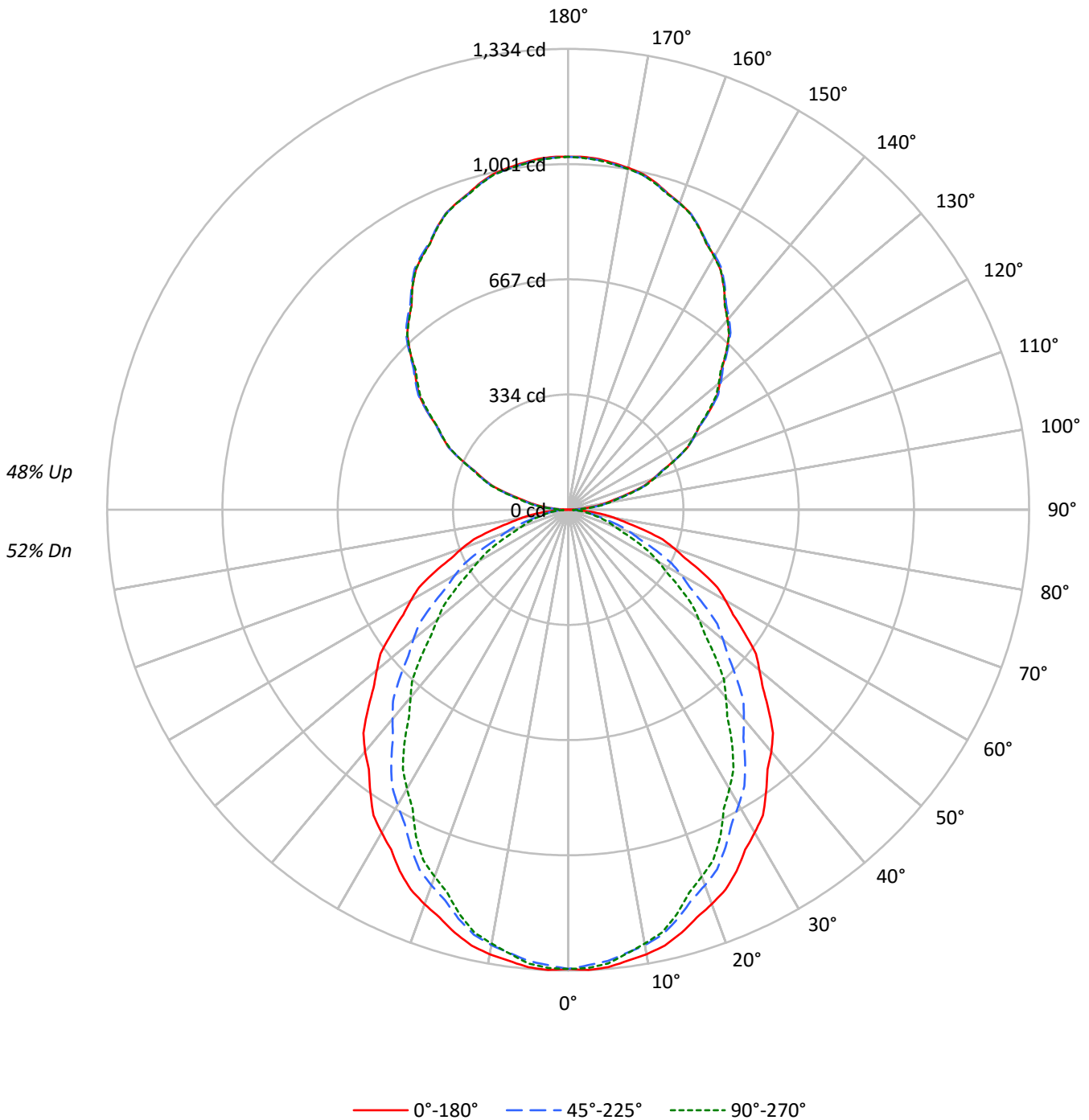
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	46	44	42	37
3	82	73	66	60	76	68	62	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37	40	35	32	33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

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

	0°	45°	90°
0°	14310	14310	14310
5°	14364	14166	14249
10°	14283	13988	13941
15°	14130	13661	13517
20°	13919	13252	12944
25°	13702	12792	12383
30°	13415	12263	11591
35°	13119	11730	10867
40°	12847	11105	9969
45°	12490	10488	9159
50°	12097	9786	8251
55°	11695	8983	7405
60°	11328	8125	6476
65°	10847	7195	5547
70°	10247	6039	4482
75°	9374	4754	4213
80°	8356	4209	3874
85°	7052	3730	3458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.8	2.1
10°-20°	347.3	6.0
20°-30°	500.2	8.6
30°-40°	563.4	9.7
40°-50°	539.0	9.2
50°-60°	441.4	7.6
60°-70°	297.8	5.1
70°-80°	149.8	2.6
80°-90°	42.7	0.7
90°-100°	66.6	1.1
100°-110°	199.2	3.4
110°-120°	338.8	5.8
120°-130°	445.7	7.6
130°-140°	500.9	8.6
140°-150°	492.4	8.4
150°-160°	414.5	7.1
160°-170°	275.9	4.7
170°-180°	96.6	1.7
0°-30°	972.3	16.7
0°-40°	1535.7	26.3
0°-60°	2516.0	43.1
0°-90°	3006.3	51.5
90°-120°	604.6	10.4
90°-150°	2043.6	35.0
90°-180°	2831.0	48.5
0°-180°	5837.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1329	1324	1311	1320	1319	126
15°	1268	1255	1226	1220	1213	357
25°	1154	1125	1077	1055	1043	530
35°	998	958	893	848	827	625
45°	820	770	689	629	602	633
55°	623	568	479	418	395	559
65°	426	365	282	232	218	421
75°	225	173	114	104	101	240
85°	57	34	30	28	28	64
90°	1	9	19	22	24	6
95°	47	53	59	62	63	53
105°	181	182	189	190	191	193
115°	341	343	342	343	342	337
125°	499	501	500	497	494	445
135°	648	652	652	649	647	499
145°	786	787	790	789	786	491
155°	900	900	900	903	898	414
165°	980	978	978	982	977	276
175°	1019	1016	1016	1020	1015	97
180°	1022	1022	1022	1022	1022	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1333.7	1332.9	1332.2	1331.4	1330.6	1329.1	1326.8	1324.5	1322.2	1319.9	1322.0
5°	1329.4	1328.2	1327.0	1325.8	1324.6	1322.5	1319.7	1316.8	1314.0	1311.1	1313.2
7.5°	1317.1	1315.8	1314.5	1313.2	1311.9	1309.4	1305.7	1302.0	1298.2	1294.5	1295.7
10°	1306.8	1305.1	1303.4	1301.7	1300.1	1297.0	1292.8	1288.4	1284.1	1279.8	1280.1
12.5°	1292.1	1290.2	1288.4	1286.5	1284.6	1281.0	1275.8	1270.5	1265.3	1260.0	1259.8
15°	1268.0	1265.4	1262.7	1260.0	1257.4	1252.8	1246.0	1239.3	1232.6	1225.9	1224.7
17.5°	1237.5	1234.5	1231.4	1228.4	1225.3	1219.5	1210.9	1202.5	1193.9	1185.3	1182.8
20°	1215.1	1211.3	1207.4	1203.6	1199.8	1193.3	1184.2	1175.1	1166.0	1156.9	1153.8
22.5°	1190.1	1185.7	1181.3	1176.9	1172.5	1165.5	1155.7	1146.1	1136.4	1126.7	1122.8
25°	1153.7	1147.7	1141.7	1135.7	1129.7	1121.2	1110.2	1099.2	1088.1	1077.1	1072.1
27.5°	1109.5	1102.9	1096.2	1089.6	1083.0	1073.6	1061.3	1049.0	1036.7	1024.5	1017.5
30°	1079.3	1072.1	1064.9	1057.7	1050.5	1040.2	1026.8	1013.4	1000.0	986.6	978.4
32.5°	1049.1	1040.9	1032.8	1024.6	1016.5	1005.4	991.2	977.0	962.7	948.6	939.7
35°	998.4	989.8	981.1	972.6	963.9	952.1	937.3	922.4	907.6	892.7	882.4
37.5°	947.1	937.5	927.9	918.3	908.7	896.0	880.2	864.3	848.4	832.6	820.9
40°	914.3	903.8	893.2	882.6	872.1	858.3	841.4	824.3	807.3	790.3	777.8
42.5°	877.2	866.6	856.1	845.6	835.0	821.0	803.4	785.8	768.3	750.7	737.0
45°	820.5	809.7	798.9	788.1	777.4	762.8	744.3	725.9	707.4	689.0	675.3
47.5°	763.8	751.9	740.1	728.3	716.4	701.3	682.9	664.4	645.9	627.5	612.7
50°	722.4	711.1	699.9	688.6	677.3	662.0	642.6	623.2	603.8	584.4	569.5
52.5°	685.3	673.1	660.8	648.6	636.4	620.7	601.5	582.3	563.1	543.8	528.4
55°	623.2	611.5	599.7	588.0	576.2	560.2	539.8	519.4	499.1	478.7	464.9
57.5°	565.9	553.0	540.3	527.4	514.7	498.0	477.5	457.1	436.7	416.2	403.1
60°	526.2	513.0	499.8	486.6	473.4	456.9	437.0	417.2	397.3	377.4	364.4
62.5°	486.5	473.3	460.1	446.9	433.8	417.2	397.4	377.5	357.6	337.7	325.5
65°	425.9	412.7	399.5	386.3	373.2	357.3	338.6	319.9	301.2	282.5	270.8
67.5°	365.3	352.0	338.7	325.3	312.0	296.4	278.5	260.5	242.6	224.7	215.9
70°	325.6	312.7	299.8	286.8	273.9	259.0	242.2	225.5	208.7	191.9	183.5
72.5°	285.9	273.2	260.5	247.7	235.0	220.9	205.7	190.5	175.2	160.0	153.1
75°	225.4	213.8	202.3	190.8	179.4	167.0	153.8	140.6	127.5	114.3	111.9
77.5°	170.2	159.7	149.3	138.9	128.6	119.1	110.6	102.1	93.6	85.2	83.9
80°	134.8	124.9	115.1	105.3	95.5	88.1	83.0	78.0	73.0	67.9	67.2
82.5°	101.2	92.7	84.2	75.7	67.2	61.8	59.4	57.1	54.7	52.4	51.7
85°	57.1	51.9	46.6	41.4	36.0	33.0	32.3	31.6	30.9	30.2	29.7
87.5°	20.8	19.1	17.3	15.6	13.9	13.2	13.7	14.1	14.6	15.1	15.1
90°	0.8	2.6	4.4	6.2	7.9	10.0	12.3	14.7	17.0	19.3	20.0
92.5°	19.4	20.6	21.9	23.1	24.2	25.5	26.9	28.2	29.5	30.8	31.4
95°	47.4	48.6	49.8	51.1	52.4	53.7	55.1	56.6	58.0	59.4	60.1
97.5°	84.1	85.0	86.0	86.9	87.9	88.8	89.8	90.9	91.9	92.9	93.8
100°	109.2	110.2	111.3	112.3	113.4	114.4	115.3	116.2	117.1	118.0	118.5
102.5°	138.1	138.7	139.3	140.0	140.6	141.5	142.7	143.9	145.0	146.2	146.8
105°	180.6	180.9	181.3	181.6	182.0	183.0	184.6	186.2	187.8	189.4	189.4
107.5°	230.0	230.2	230.4	230.7	230.8	231.3	232.0	232.6	233.2	233.9	234.4
110°	260.9	261.2	261.6	261.9	262.3	262.6	263.0	263.3	263.7	264.0	264.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.9	293.2	293.3	293.6	293.8	293.9	294.0	294.1	294.1	294.2	295.1
115°	341.1	341.6	342.1	342.7	343.3	343.3	342.9	342.6	342.2	341.9	342.1
117.5°	389.6	389.9	390.3	390.6	391.0	390.9	390.5	390.0	389.5	389.1	389.0
120°	419.8	420.8	421.9	422.9	424.1	424.1	423.2	422.3	421.4	420.6	420.3
122.5°	451.2	452.0	452.8	453.5	454.3	454.5	454.1	453.6	453.1	452.7	452.2
125°	499.2	499.7	500.3	500.8	501.4	501.5	501.1	500.7	500.3	500.0	499.3
127.5°	543.5	544.6	545.8	546.9	548.0	548.4	548.0	547.6	547.2	546.8	545.9
130°	573.1	574.5	575.9	577.3	578.8	579.2	578.7	578.1	577.6	577.0	576.3
132.5°	602.5	604.0	605.4	606.9	608.3	608.8	608.4	608.0	607.6	607.2	606.3
135°	647.7	648.7	649.8	650.9	652.0	652.4	652.2	652.0	651.9	651.6	650.9
137.5°	689.4	690.3	691.2	692.1	693.0	693.6	694.1	694.6	695.1	695.5	694.7
140°	718.3	719.2	720.1	721.0	721.8	722.4	722.5	722.8	722.9	723.1	722.9
142.5°	744.7	745.5	746.4	747.3	748.2	748.8	749.1	749.4	749.8	750.1	749.9
145°	785.7	786.1	786.4	786.8	787.1	787.6	788.1	788.7	789.2	789.7	789.6
147.5°	821.7	822.3	822.9	823.6	824.3	824.8	825.3	825.9	826.3	826.8	826.8
150°	846.7	847.1	847.4	847.8	848.1	848.5	848.8	849.2	849.5	849.9	849.9
152.5°	867.3	867.8	868.2	868.8	869.3	869.6	869.8	870.1	870.3	870.4	870.8
155°	899.7	899.7	899.7	899.7	899.7	899.8	899.9	900.2	900.3	900.5	901.2
157.5°	927.3	927.1	926.9	926.6	926.5	926.4	926.5	926.7	926.9	926.9	927.7
160°	944.6	944.3	943.9	943.6	943.2	943.0	943.0	943.0	943.0	943.0	943.9
162.5°	960.0	959.6	959.0	958.5	958.1	957.8	958.0	958.1	958.3	958.5	959.3
165°	979.9	979.4	978.9	978.3	977.8	977.6	977.6	977.6	977.6	977.6	978.6
167.5°	995.9	995.1	994.4	993.7	993.0	992.7	992.8	993.0	993.2	993.2	994.3
170°	1004.8	1004.1	1003.4	1002.7	1002.0	1001.6	1001.6	1001.6	1001.6	1001.6	1002.8
172.5°	1011.9	1011.1	1010.4	1009.7	1009.0	1008.7	1008.7	1008.7	1008.7	1008.7	1009.8
175°	1019.3	1018.6	1017.9	1017.2	1016.4	1016.1	1016.1	1016.1	1016.1	1016.1	1017.2
177.5°	1022.3	1021.8	1021.2	1020.6	1020.0	1019.8	1019.8	1019.8	1019.8	1019.8	1020.6
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1324.1	1326.3	1328.3	1329.2	1328.8	1328.5	1328.1	1327.7
5°	1315.4	1317.6	1319.7	1320.6	1320.1	1319.6	1319.1	1318.7
7.5°	1296.9	1298.1	1299.3	1299.5	1298.6	1297.8	1297.0	1296.2
10°	1280.3	1280.6	1280.8	1280.3	1279.1	1277.9	1276.7	1275.5
12.5°	1259.6	1259.6	1259.4	1258.6	1257.3	1255.8	1254.5	1253.1
15°	1223.5	1222.3	1221.1	1219.6	1218.0	1216.3	1214.7	1213.0
17.5°	1180.3	1177.7	1175.2	1172.7	1170.2	1167.7	1165.2	1162.7
20°	1150.6	1147.6	1144.5	1141.5	1138.6	1135.7	1132.8	1130.0
22.5°	1119.0	1115.1	1111.2	1107.9	1105.3	1102.6	1099.9	1097.2
25°	1067.1	1062.0	1057.0	1053.1	1050.5	1047.9	1045.3	1042.6
27.5°	1010.5	1003.5	996.5	991.0	987.0	982.9	978.9	974.9
30°	970.3	962.1	953.9	948.0	944.1	940.3	936.4	932.6
32.5°	930.7	921.9	912.9	906.5	902.5	898.4	894.4	890.3
35°	872.1	861.8	851.5	844.2	840.0	835.6	831.3	827.0
37.5°	809.2	797.5	785.8	777.3	772.0	766.7	761.4	756.1
40°	765.4	753.0	740.5	731.5	726.0	720.5	714.9	709.5
42.5°	723.4	709.8	696.2	686.9	682.0	677.1	672.1	667.2
45°	661.6	648.0	634.3	624.6	618.9	613.1	607.4	601.7
47.5°	597.8	583.0	568.1	558.1	552.9	547.9	542.7	537.6
50°	554.7	539.8	525.0	514.8	509.3	503.7	498.3	492.7
52.5°	513.0	497.6	482.1	471.9	467.0	462.1	457.2	452.2
55°	450.9	437.0	423.1	413.8	409.0	404.2	399.4	394.6
57.5°	389.9	376.8	363.7	355.1	351.0	346.9	342.9	338.7
60°	351.5	338.6	325.6	317.1	313.1	309.0	304.9	300.8
62.5°	313.3	301.2	289.0	280.7	276.6	272.3	268.0	263.7
65°	259.0	247.2	235.5	228.3	225.7	223.1	220.5	217.8
67.5°	207.2	198.4	189.6	183.8	181.0	178.2	175.3	172.5
70°	175.2	166.8	158.4	152.9	150.2	147.6	145.0	142.4
72.5°	146.3	139.4	132.6	128.7	127.5	126.4	125.3	124.2
75°	109.5	107.1	104.7	103.3	102.8	102.3	101.8	101.3
77.5°	82.6	81.3	80.0	79.1	78.7	78.2	77.7	77.2
80°	66.5	65.8	65.0	64.5	64.0	63.5	63.0	62.5
82.5°	50.9	50.2	49.5	49.1	49.0	49.0	48.8	48.7
85°	29.2	28.8	28.3	28.0	28.0	28.0	28.0	28.0
87.5°	15.0	14.9	14.9	14.8	14.7	14.6	14.4	14.3
90°	20.7	21.4	22.1	22.7	23.0	23.4	23.7	24.1
92.5°	31.9	32.6	33.1	33.3	33.0	32.9	32.6	32.4
95°	60.8	61.6	62.3	62.6	62.6	62.6	62.6	62.6
97.5°	94.6	95.4	96.3	96.6	96.5	96.5	96.4	96.3
100°	119.1	119.6	120.1	120.6	120.9	121.3	121.6	122.0
102.5°	147.3	147.8	148.4	148.6	148.5	148.5	148.4	148.3
105°	189.4	189.4	189.4	189.6	190.0	190.3	190.7	191.0
107.5°	235.0	235.6	236.1	236.3	236.1	235.9	235.7	235.4
110°	265.5	266.2	266.9	267.0	266.7	266.3	266.0	265.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	296.0	296.8	297.6	298.0	297.9	297.9	297.9	297.8
115°	342.2	342.5	342.6	342.6	342.5	342.2	342.1	341.9
117.5°	389.0	389.0	389.0	388.6	388.2	387.7	387.1	386.7
120°	420.2	420.0	419.9	419.5	419.2	418.8	418.5	418.1
122.5°	451.7	451.2	450.8	450.3	449.8	449.3	448.9	448.3
125°	498.6	497.9	497.2	496.5	495.7	495.0	494.3	493.6
127.5°	544.9	543.9	542.9	541.9	541.1	540.3	539.5	538.7
130°	575.6	574.9	574.2	573.2	572.0	570.7	569.5	568.2
132.5°	605.5	604.7	603.8	602.9	601.9	600.9	600.0	599.0
135°	650.2	649.5	648.8	648.3	647.9	647.6	647.2	646.9
137.5°	694.0	693.2	692.5	691.8	691.1	690.5	689.8	689.1
140°	722.8	722.5	722.4	721.7	720.4	719.2	718.0	716.7
142.5°	749.7	749.6	749.4	748.8	747.8	746.9	745.9	745.0
145°	789.4	789.2	789.0	788.5	787.8	787.1	786.4	785.7
147.5°	826.8	826.8	826.8	826.2	825.2	824.1	823.1	822.0
150°	849.9	849.9	849.9	849.4	848.3	847.2	846.2	845.1
152.5°	871.0	871.3	871.6	871.3	870.4	869.4	868.5	867.6
155°	901.9	902.6	903.3	903.1	901.8	900.6	899.4	898.1
157.5°	928.4	929.2	929.9	929.9	928.8	927.9	926.9	925.8
160°	944.8	945.7	946.6	946.7	945.9	945.2	944.5	943.8
162.5°	960.2	961.1	962.0	961.9	960.8	959.6	958.5	957.3
165°	979.7	980.7	981.8	981.8	980.5	979.2	977.9	976.8
167.5°	995.5	996.6	997.7	997.7	996.6	995.5	994.3	993.2
170°	1004.1	1005.4	1006.6	1006.6	1005.4	1004.1	1002.8	1001.6
172.5°	1010.9	1012.0	1013.1	1013.0	1011.8	1010.5	1009.2	1008.1
175°	1018.2	1019.3	1020.3	1020.3	1019.0	1017.7	1016.5	1015.3
177.5°	1021.4	1022.3	1023.2	1023.1	1022.1	1021.1	1020.1	1019.1
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7

(END OF REPORT)