

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: P332202-935

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332202-935
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-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8094.7 lumens
Efficiency: N/A
Efficacy: 116.0 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

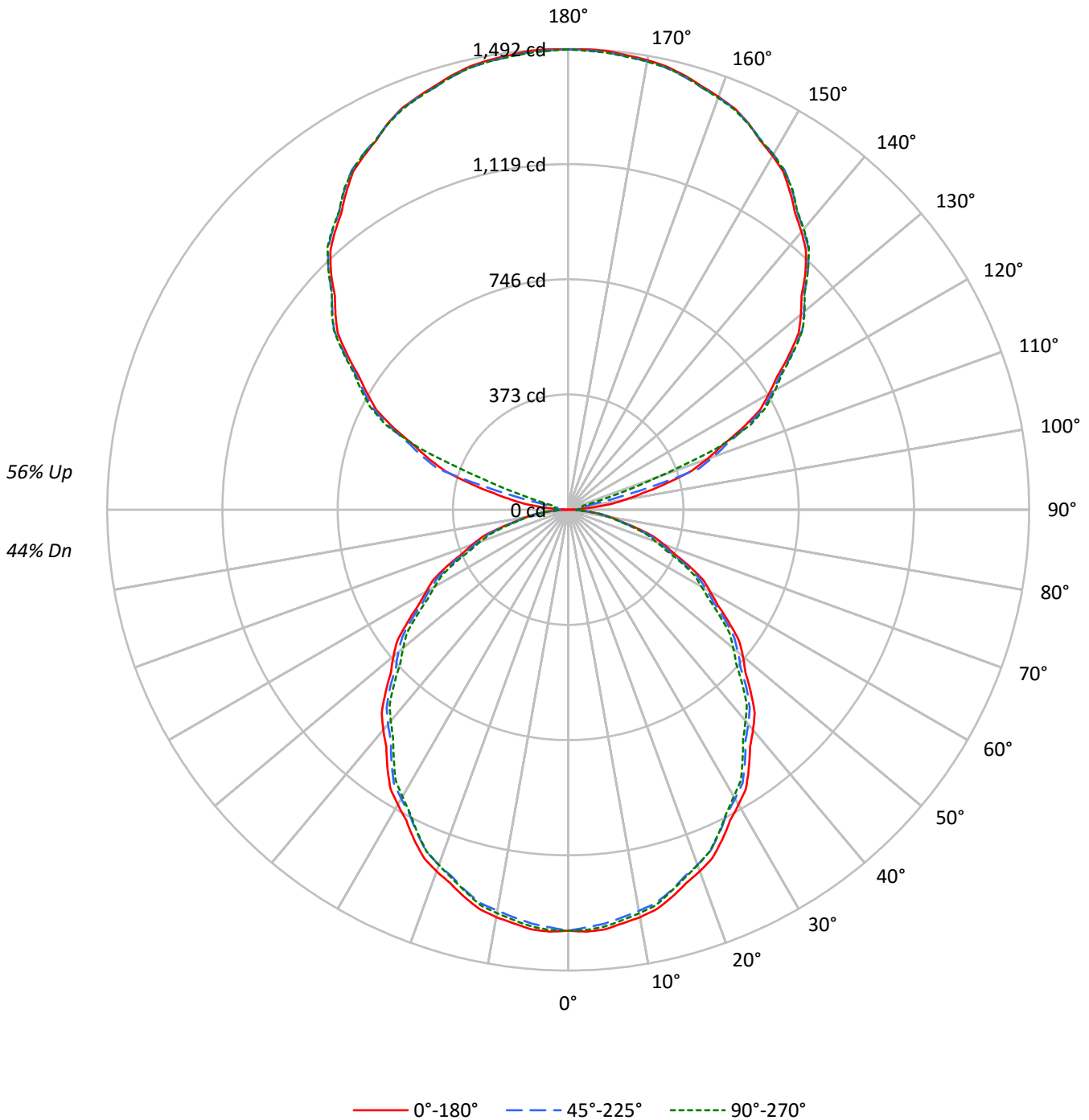
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44
1	96	92	88	85	88	84	81	78	70	68	65	57	55	54	45	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	51	45	48	43	39	39	35	32	31	28	26	22
5	67	56	47	42	61	51	44	39	43	37	33	35	31	28	28	25	23	19
6	62	50	42	36	56	46	39	34	39	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	20	17	14	12
10	46	34	27	22	42	32	25	21	27	22	18	22	18	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14670	14670	14670
5°	14738	14536	14638
10°	14641	14410	14499
15°	14469	14247	14273
20°	14269	14014	14027
25°	14001	13737	13709
30°	13706	13430	13326
35°	13397	13104	12935
40°	13075	12745	12546
45°	12718	12415	12113
50°	12363	12010	11675
55°	11898	11590	11237
60°	11427	11102	10747
65°	11013	10565	10236
70°	10401	9958	9514
75°	9503	9162	8771
80°	8573	8207	8133
85°	7534	7237	6941



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.4	1.6
10°-20°	362.5	4.5
20°-30°	535.5	6.6
30°-40°	625.5	7.7
40°-50°	628.8	7.8
50°-60°	552.4	6.8
60°-70°	411.5	5.1
70°-80°	234.5	2.9
80°-90°	71.5	0.9
90°-100°	54.2	0.7
100°-110°	258.2	3.2
110°-120°	620.2	7.7
120°-130°	789.8	9.8
130°-140°	843.9	10.4
140°-150°	789.1	9.7
150°-160°	636.5	7.9
160°-170°	410.8	5.1
170°-180°	141.6	1.7
0°-30°	1026.3	12.7
0°-40°	1651.8	20.4
0°-60°	2833.0	35.0
0°-90°	3550.5	43.9
90°-120°	932.6	11.5
90°-150°	3355.4	41.5
90°-180°	4544.0	56.1
0°-180°	8094.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1363	1363	1363	1363	1363	
5°	1364	1358	1345	1356	1355	129
15°	1298	1293	1278	1287	1281	366
25°	1179	1171	1157	1158	1154	543
35°	1020	1012	997	990	984	638
45°	836	830	816	802	796	645
55°	634	632	618	605	599	568
65°	432	426	415	406	402	427
75°	228	224	220	215	211	244
85°	61	59	59	56	56	67
90°	1	12	27	31	33	6
95°	68	25	34	42	42	83
105°	330	336	242	58	49	350
115°	619	626	636	646	651	611
125°	872	881	886	888	890	779
135°	1086	1093	1097	1100	1097	836
145°	1253	1261	1263	1265	1265	784
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°	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9
2.5°	1367.5	1366.8	1365.9	1365.0	1364.3	1362.6	1360.4	1358.1	1355.8	1353.5	1355.6
5°	1364.0	1362.7	1361.4	1360.1	1358.8	1356.8	1353.9	1351.0	1348.2	1345.3	1347.9
7.5°	1350.7	1349.4	1348.1	1346.8	1345.5	1343.3	1340.4	1337.4	1334.5	1331.5	1333.8
10°	1339.5	1338.2	1336.8	1335.5	1334.2	1331.9	1328.5	1325.1	1321.7	1318.4	1320.7
12.5°	1324.4	1323.4	1322.2	1321.1	1320.1	1317.9	1314.7	1311.6	1308.4	1305.2	1306.9
15°	1298.4	1297.4	1296.3	1295.3	1294.3	1292.0	1288.7	1285.3	1281.9	1278.5	1280.6
17.5°	1268.2	1266.8	1265.5	1264.1	1262.7	1260.4	1257.0	1253.6	1250.3	1246.8	1248.3
20°	1245.7	1244.1	1242.6	1241.0	1239.4	1236.9	1233.6	1230.2	1226.8	1223.4	1224.4
22.5°	1220.4	1218.8	1217.3	1215.6	1214.1	1211.7	1208.2	1204.9	1201.5	1198.1	1198.9
25°	1178.9	1177.3	1175.8	1174.2	1172.6	1170.2	1166.7	1163.4	1160.0	1156.6	1156.8
27.5°	1134.6	1133.1	1131.5	1130.1	1128.5	1125.9	1122.3	1118.7	1115.0	1111.4	1111.6
30°	1102.7	1101.4	1100.1	1098.8	1097.5	1095.0	1091.4	1087.7	1084.1	1080.5	1080.5
32.5°	1070.8	1069.1	1067.4	1065.7	1063.9	1061.7	1058.9	1056.1	1053.3	1050.4	1049.0
35°	1019.5	1018.0	1016.4	1014.9	1013.2	1010.8	1007.4	1004.0	1000.7	997.2	995.7
37.5°	967.0	965.0	963.0	961.0	959.1	956.4	953.0	949.5	946.1	942.6	940.7
40°	930.5	928.8	927.3	925.7	924.2	921.6	917.9	914.3	910.7	907.0	904.9
42.5°	893.9	892.1	890.4	888.6	886.8	884.1	880.5	876.8	873.1	869.5	867.5
45°	835.5	834.5	833.4	832.4	831.4	829.1	825.8	822.3	819.0	815.6	812.5
47.5°	777.7	776.1	774.6	773.1	771.6	769.2	766.1	762.9	759.7	756.6	753.5
50°	738.3	736.9	735.6	734.3	733.1	730.7	727.3	723.9	720.6	717.2	714.3
52.5°	697.0	696.1	695.3	694.4	693.4	691.2	687.7	684.1	680.4	676.8	674.4
55°	634.0	633.7	633.4	633.2	632.9	631.1	627.8	624.3	621.0	617.6	614.7
57.5°	573.9	573.1	572.2	571.4	570.4	568.6	565.9	563.2	560.5	557.8	555.3
60°	530.8	530.5	530.3	530.0	529.8	528.1	525.0	521.9	518.8	515.7	513.2
62.5°	492.4	491.7	491.0	490.3	489.7	487.8	484.7	481.6	478.5	475.3	472.9
65°	432.4	431.1	429.8	428.5	427.2	425.2	422.7	420.1	417.4	414.8	412.8
67.5°	368.9	367.7	366.6	365.5	364.3	362.7	360.8	358.8	356.8	354.8	353.0
70°	330.5	328.9	327.4	325.8	324.3	322.6	321.1	319.5	318.0	316.4	314.6
72.5°	290.2	289.0	287.8	286.7	285.6	284.1	282.3	280.6	278.8	277.0	275.4
75°	228.5	227.5	226.4	225.4	224.4	223.4	222.7	221.9	221.1	220.3	219.0
77.5°	173.9	173.3	172.7	172.2	171.6	170.8	170.0	169.0	168.1	167.1	166.3
80°	138.3	137.5	136.7	136.0	135.2	134.5	134.0	133.5	132.9	132.4	132.2
82.5°	103.6	103.4	103.3	103.1	103.0	102.8	102.7	102.6	102.5	102.5	101.9
85°	61.0	60.4	59.9	59.4	58.9	58.6	58.6	58.6	58.6	58.6	58.0
87.5°	24.6	24.5	24.4	24.2	24.0	24.2	24.6	25.1	25.5	25.9	25.9
90°	1.1	3.5	6.0	8.5	10.9	13.8	17.0	20.1	23.3	26.6	27.6
92.5°	20.6	19.9	19.2	18.5	17.8	18.7	21.1	23.5	25.9	28.3	29.9
95°	67.5	57.4	47.4	37.3	27.2	23.5	26.2	28.9	31.6	34.4	36.1
97.5°	135.7	131.2	126.7	122.2	117.6	106.5	88.8	71.1	53.4	35.6	37.6
100°	187.1	192.0	196.9	201.8	206.8	190.0	151.7	113.3	74.9	36.5	38.5
102.5°	245.6	249.1	252.6	256.1	259.8	240.6	198.6	156.7	114.8	72.8	66.7
105°	329.9	332.6	335.4	338.0	340.7	331.1	308.8	286.7	264.6	242.5	198.9
107.5°	419.0	421.1	423.3	425.4	427.6	430.4	433.9	437.4	440.9	444.4	412.4
110°	478.3	480.3	482.2	484.1	486.1	488.4	491.2	493.9	496.6	499.3	491.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	534.9	536.7	538.5	540.3	542.0	544.2	547.0	549.7	552.4	555.1	555.3
115°	618.9	620.4	621.8	623.3	624.7	626.6	628.8	631.0	633.3	635.5	637.9
117.5°	700.2	702.0	703.8	705.6	707.4	708.9	710.0	711.2	712.3	713.4	715.4
120°	750.6	752.9	755.0	757.2	759.5	761.0	761.6	762.4	763.2	763.9	765.9
122.5°	802.0	803.8	805.6	807.4	809.3	810.6	811.6	812.5	813.5	814.4	815.8
125°	872.4	874.3	876.3	878.3	880.3	881.8	882.7	883.7	884.7	885.7	886.1
127.5°	940.6	942.5	944.5	946.5	948.5	950.0	951.2	952.4	953.6	954.8	955.5
130°	983.1	985.1	987.1	989.0	991.0	992.5	993.4	994.5	995.4	996.3	997.4
132.5°	1023.8	1025.8	1027.8	1029.8	1031.7	1033.1	1033.9	1034.7	1035.4	1036.2	1037.2
135°	1086.1	1087.5	1089.0	1090.5	1092.0	1093.2	1094.2	1095.2	1096.1	1097.2	1097.9
137.5°	1139.2	1141.1	1143.0	1144.8	1146.7	1147.9	1148.4	1149.0	1149.5	1150.0	1151.2
140°	1174.7	1176.1	1177.6	1179.1	1180.5	1181.6	1182.4	1183.1	1183.9	1184.6	1185.6
142.5°	1207.4	1208.8	1210.4	1211.9	1213.3	1214.4	1215.1	1215.9	1216.6	1217.4	1218.1
145°	1253.3	1255.0	1256.7	1258.4	1260.2	1261.2	1261.7	1262.2	1262.7	1263.2	1263.7
147.5°	1296.4	1297.5	1298.6	1299.8	1301.0	1301.7	1302.3	1302.7	1303.2	1303.7	1304.2
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°	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9	1362.9
2.5°	1357.6	1359.8	1361.8	1362.8	1362.5	1362.4	1362.1	1361.9
5°	1350.5	1353.1	1355.7	1356.8	1356.2	1355.7	1355.2	1354.7
7.5°	1336.2	1338.5	1340.8	1341.9	1341.5	1341.3	1340.9	1340.6
10°	1323.0	1325.3	1327.7	1328.6	1328.1	1327.6	1327.1	1326.5
12.5°	1308.6	1310.4	1312.1	1312.8	1312.5	1312.2	1311.8	1311.6
15°	1282.6	1284.7	1286.9	1287.1	1285.6	1283.9	1282.4	1280.8
17.5°	1249.7	1251.2	1252.7	1253.1	1252.6	1252.0	1251.4	1250.9
20°	1225.5	1226.6	1227.6	1227.7	1226.9	1226.2	1225.4	1224.6
22.5°	1199.8	1200.6	1201.4	1201.4	1200.4	1199.4	1198.4	1197.4
25°	1157.1	1157.4	1157.7	1157.4	1156.6	1155.8	1155.0	1154.3
27.5°	1111.8	1112.0	1112.2	1111.8	1110.9	1109.8	1108.9	1107.8
30°	1080.5	1080.5	1080.5	1079.5	1077.7	1075.9	1074.1	1072.2
32.5°	1047.5	1046.1	1044.7	1043.4	1042.4	1041.4	1040.4	1039.4
35°	994.1	992.6	991.0	989.5	988.3	987.0	985.7	984.4
37.5°	938.9	937.0	935.1	933.8	933.0	932.1	931.3	930.5
40°	902.8	900.8	898.7	897.1	896.0	895.0	894.0	892.9
42.5°	865.3	863.2	861.2	859.6	858.6	857.6	856.5	855.5
45°	809.3	806.2	803.1	800.9	799.6	798.3	797.0	795.7
47.5°	750.4	747.3	744.2	742.2	741.0	739.9	738.7	737.5
50°	711.4	708.6	705.7	703.5	702.0	700.3	698.8	697.2
52.5°	671.9	669.5	667.1	665.0	663.5	661.9	660.4	658.8
55°	611.8	609.0	606.1	604.0	602.7	601.4	600.1	598.8
57.5°	552.7	550.2	547.6	545.5	544.1	542.5	541.1	539.5
60°	510.9	508.6	506.3	504.5	503.1	501.8	500.5	499.2
62.5°	470.6	468.3	465.9	464.3	463.4	462.5	461.7	460.8
65°	410.7	408.5	406.5	405.1	404.3	403.6	402.7	401.9
67.5°	351.2	349.4	347.6	346.1	345.0	343.9	342.8	341.7
70°	312.7	310.9	309.1	307.5	306.3	305.0	303.7	302.3
72.5°	273.8	272.2	270.5	269.4	268.7	268.0	267.4	266.7
75°	217.7	216.4	215.1	214.0	213.3	212.5	211.7	210.9
77.5°	165.3	164.5	163.6	163.2	163.2	163.2	163.2	163.2
80°	131.9	131.6	131.4	131.2	131.2	131.2	131.2	131.2
82.5°	101.5	101.0	100.6	100.2	100.0	99.8	99.6	99.4
85°	57.5	57.0	56.5	56.2	56.2	56.2	56.2	56.2
87.5°	25.9	25.9	25.9	25.9	26.0	26.2	26.3	26.3
90°	28.5	29.5	30.5	31.3	31.8	32.2	32.7	33.2
92.5°	31.5	33.1	34.6	35.6	35.9	36.2	36.4	36.8
95°	37.8	39.5	41.2	42.1	42.1	42.1	42.1	42.1
97.5°	39.6	41.6	43.5	44.6	44.9	45.1	45.4	45.6
100°	40.5	42.4	44.4	45.5	45.7	46.0	46.2	46.5
102.5°	60.6	54.5	48.5	45.6	46.1	46.5	46.9	47.4
105°	155.3	111.8	68.3	46.8	47.3	47.7	48.2	48.7
107.5°	380.6	348.6	316.7	284.3	251.5	218.6	185.8	153.0
110°	483.0	474.9	466.8	445.1	410.0	374.8	339.7	304.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	555.4	555.5	555.7	552.1	544.6	537.2	529.8	522.4
115°	640.4	642.8	645.3	647.0	648.0	649.0	650.0	651.0
117.5°	717.4	719.3	721.3	722.4	722.6	722.7	723.0	723.2
120°	767.8	769.8	771.8	772.7	772.7	772.7	772.7	772.7
122.5°	817.2	818.6	819.9	820.7	820.9	821.0	821.3	821.5
125°	886.7	887.2	887.6	888.1	888.6	889.2	889.6	890.1
127.5°	956.3	957.1	957.9	958.0	957.6	957.1	956.6	956.1
130°	998.3	999.4	1000.3	1000.6	1000.1	999.6	999.1	998.6
132.5°	1038.2	1039.2	1040.2	1040.3	1039.7	1039.0	1038.3	1037.6
135°	1098.6	1099.3	1100.1	1100.1	1099.3	1098.6	1097.9	1097.2
137.5°	1152.4	1153.6	1154.8	1155.1	1154.6	1154.2	1153.7	1153.1
140°	1186.5	1187.6	1188.5	1188.8	1188.3	1187.7	1187.3	1186.8
142.5°	1218.9	1219.7	1220.6	1220.6	1219.9	1219.2	1218.5	1217.8
145°	1264.2	1264.6	1265.2	1265.4	1265.4	1265.4	1265.4	1265.4
147.5°	1304.7	1305.2	1305.7	1305.4	1304.2	1303.1	1302.0	1300.8
150°	1329.5	1330.0	1330.5	1330.3	1329.6	1328.9	1328.2	1327.4
152.5°	1351.5	1352.5	1353.3	1353.2	1352.0	1350.9	1349.8	1348.7
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)