

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: P331836-830

Luminaire Tested: **S122RDIW-S865D970U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331836-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D970U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6010.2 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

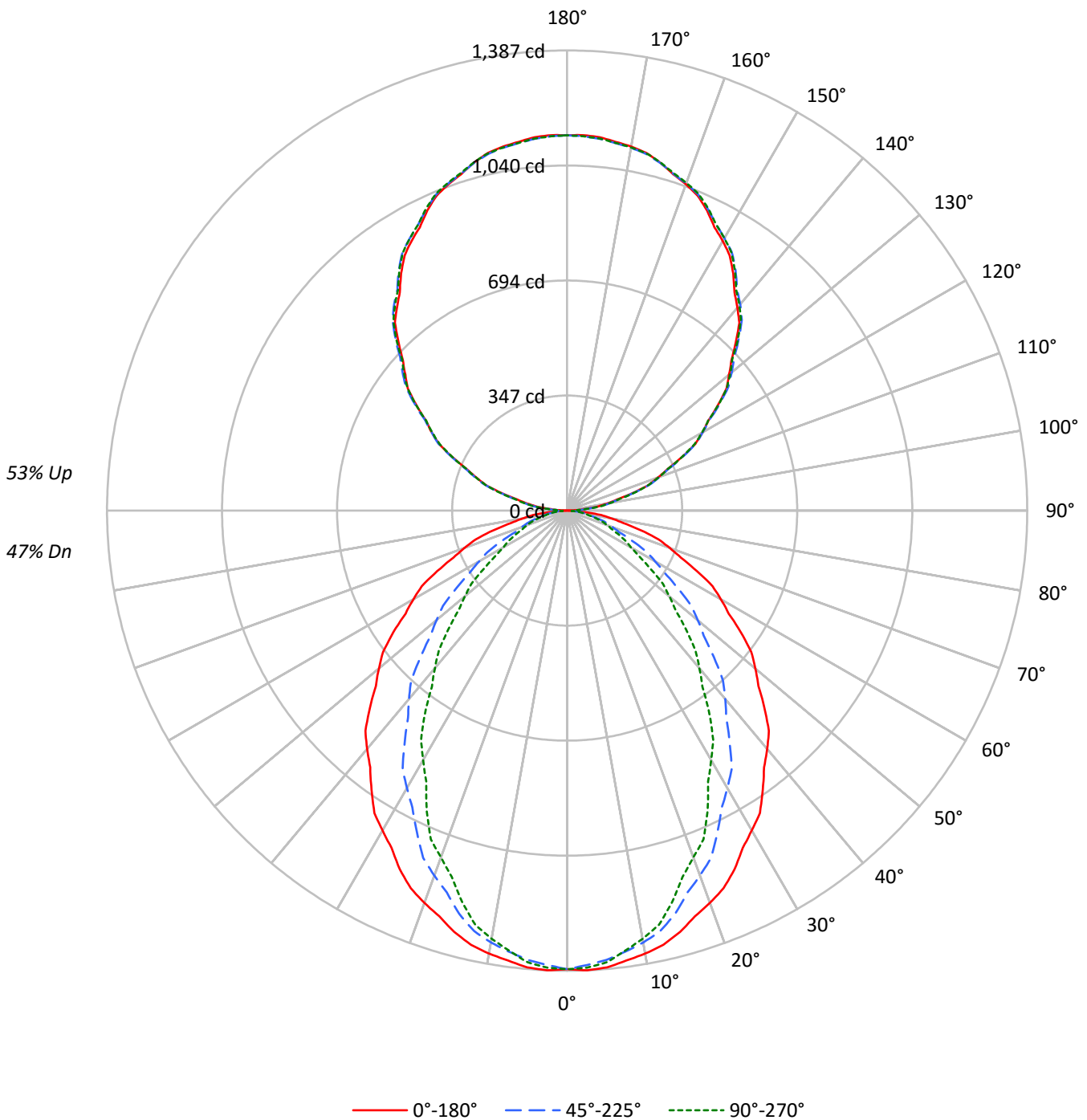
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34	30
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	20
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.2
10°-20°	355.2	5.9
20°-30°	498.8	8.3
30°-40°	543.9	9.0
40°-50°	500.1	8.3
50°-60°	392.8	6.5
60°-70°	256.1	4.3
70°-80°	132.0	2.2
80°-90°	38.8	0.6
90°-100°	71.7	1.2
100°-110°	222.6	3.7
110°-120°	380.6	6.3
120°-130°	500.5	8.3
130°-140°	561.7	9.3
140°-150°	550.8	9.2
150°-160°	462.0	7.7
160°-170°	306.4	5.1
170°-180°	107.1	1.8
0°-30°	983.3	16.4
0°-40°	1527.2	25.4
0°-60°	2420.1	40.3
0°-90°	2847.0	47.4
90°-120°	674.9	11.2
90°-150°	2287.8	38.1
90°-180°	3163.0	52.6
0°-180°	6010.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	13	33	32	32	5
95°	50	59	61	61	59	57
105°	205	208	210	212	212	217
115°	382	387	386	385	382	378
125°	556	564	561	559	558	496
135°	719	729	731	730	728	555
145°	872	879	885	886	882	545
155°	998	1000	1003	1008	1005	459
165°	1085	1085	1084	1090	1086	306
175°	1129	1126	1124	1131	1126	107
180°	1131	1131	1131	1131	1131	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.2	14.9	13.7	12.3	11.1	10.9	11.9	12.8	13.8	14.7	14.4
90°	0.9	3.5	6.0	8.6	11.1	14.7	19.4	24.0	28.7	33.4	33.0
92.5°	17.0	18.9	20.7	22.6	24.5	25.9	27.1	28.2	29.2	30.3	30.4
95°	49.7	51.7	53.9	56.0	58.2	59.4	59.9	60.2	60.7	61.1	61.1
97.5°	90.7	92.6	94.4	96.3	98.1	99.5	100.3	101.1	101.9	102.7	102.7
100°	121.2	122.9	124.6	126.3	128.0	129.2	129.8	130.4	131.1	131.8	131.8
102.5°	153.4	154.7	156.0	157.4	158.7	159.9	160.6	161.5	162.2	163.1	163.2
105°	205.3	205.9	206.5	207.2	207.8	208.3	208.8	209.2	209.6	210.0	210.5
107.5°	257.6	258.5	259.4	260.3	261.3	261.7	261.7	261.7	261.7	261.7	261.9
110°	291.2	292.5	293.7	295.0	296.2	296.9	296.9	296.9	296.9	296.9	296.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	327.8	329.1	330.4	331.7	332.9	333.5	333.3	333.1	333.0	332.8	332.2
115°	381.8	383.1	384.4	385.7	386.9	387.4	386.9	386.5	386.1	385.7	385.5
117.5°	435.7	437.4	439.1	440.8	442.5	442.7	441.6	440.4	439.2	438.0	437.5
120°	471.6	473.3	475.0	476.7	478.4	478.4	476.7	475.0	473.3	471.6	471.6
122.5°	504.4	506.5	508.5	510.6	512.6	513.0	511.8	510.7	509.4	508.2	507.7
125°	555.6	557.5	559.4	561.4	563.3	563.9	563.3	562.6	561.9	561.4	560.7
127.5°	605.5	607.8	610.3	612.7	615.1	616.0	615.2	614.4	613.7	612.9	612.1
130°	636.8	639.5	642.2	645.1	647.8	648.9	648.6	648.1	647.7	647.2	646.9
132.5°	671.8	674.1	676.4	678.6	680.9	682.0	682.1	682.2	682.3	682.4	681.5
135°	718.9	721.2	723.5	725.9	728.2	729.5	730.0	730.4	730.8	731.2	731.0
137.5°	768.3	770.2	772.1	774.0	775.9	777.2	777.7	778.3	778.8	779.4	779.2
140°	798.1	800.0	801.9	803.8	805.7	807.2	808.3	809.4	810.4	811.4	811.4
142.5°	828.7	830.6	832.5	834.3	836.3	837.6	838.3	839.1	839.8	840.5	840.7
145°	872.5	874.0	875.5	877.0	878.5	879.9	881.2	882.4	883.7	885.0	885.1
147.5°	911.7	913.5	915.3	917.0	918.8	920.1	921.0	921.8	922.7	923.5	924.0
150°	938.4	939.7	940.9	942.3	943.5	944.6	945.5	946.3	947.2	948.0	948.6
152.5°	962.1	963.4	964.7	965.9	967.2	968.4	969.4	970.3	971.4	972.4	973.2
155°	997.6	998.2	998.9	999.6	1000.1	1000.8	1001.5	1002.1	1002.7	1003.3	1004.4
157.5°	1027.9	1028.4	1028.8	1029.3	1029.6	1030.1	1030.5	1030.9	1031.2	1031.6	1033.0
160°	1046.3	1046.7	1047.2	1047.5	1048.0	1048.3	1048.6	1048.8	1049.0	1049.1	1050.5
162.5°	1063.1	1063.2	1063.3	1063.4	1063.5	1063.6	1063.8	1064.0	1064.2	1064.4	1065.9
165°	1085.4	1085.2	1085.1	1084.8	1084.6	1084.5	1084.5	1084.5	1084.5	1084.5	1086.0
167.5°	1104.2	1103.5	1102.9	1102.2	1101.6	1101.3	1101.3	1101.2	1101.2	1101.1	1102.6
170°	1114.1	1113.4	1112.9	1112.2	1111.5	1111.2	1110.9	1110.7	1110.5	1110.3	1111.7
172.5°	1121.0	1120.3	1119.6	1119.1	1118.4	1117.9	1117.8	1117.6	1117.4	1117.1	1118.6
175°	1129.4	1128.7	1128.1	1127.5	1126.8	1126.2	1125.9	1125.4	1125.0	1124.5	1126.1
177.5°	1132.8	1132.3	1131.8	1131.2	1130.8	1130.3	1130.0	1129.6	1129.4	1129.0	1130.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	14.0	13.8	13.5	13.3	13.4	13.4	13.5	13.5
90°	32.5	32.1	31.7	31.6	31.9	32.0	32.2	32.4
92.5°	30.5	30.6	30.7	30.7	30.8	30.8	30.9	30.9
95°	61.1	61.1	61.1	60.9	60.4	60.0	59.6	59.2
97.5°	102.7	102.7	102.7	102.7	102.6	102.6	102.5	102.5
100°	131.8	131.8	131.8	131.7	131.4	131.2	131.0	130.8
102.5°	163.4	163.5	163.7	163.7	163.5	163.2	163.1	162.9
105°	210.8	211.3	211.7	212.0	212.0	212.0	212.0	212.0
107.5°	262.1	262.3	262.4	262.0	261.1	260.0	259.1	258.2
110°	296.9	296.9	296.9	296.6	296.0	295.3	294.6	294.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.8	331.3	330.7	330.3	329.8	329.3	328.9	328.4
115°	385.2	385.0	384.8	384.4	383.8	383.1	382.5	381.8
117.5°	437.0	436.5	435.9	435.4	434.8	434.1	433.5	432.8
120°	471.6	471.6	471.6	471.3	470.6	470.0	469.4	468.7
122.5°	507.3	506.7	506.2	505.8	505.3	504.8	504.4	503.9
125°	560.1	559.4	558.8	558.4	558.2	558.0	557.7	557.5
127.5°	611.3	610.6	609.8	609.1	608.4	607.8	607.1	606.4
130°	646.4	646.0	645.5	644.9	644.0	643.2	642.3	641.5
132.5°	680.5	679.6	678.6	677.9	677.2	676.5	675.8	675.1
135°	730.8	730.7	730.4	730.0	729.3	728.7	728.1	727.5
137.5°	779.0	778.9	778.7	778.2	777.3	776.5	775.6	774.8
140°	811.4	811.4	811.4	811.1	810.2	809.4	808.5	807.7
142.5°	840.8	841.0	841.1	840.8	840.0	839.1	838.3	837.4
145°	885.4	885.6	885.8	885.5	884.7	883.8	883.0	882.1
147.5°	924.4	924.9	925.4	925.2	924.4	923.6	922.8	922.0
150°	949.2	949.9	950.6	950.6	949.9	949.2	948.6	948.0
152.5°	974.0	974.9	975.6	975.6	974.9	974.0	973.2	972.4
155°	1005.5	1006.5	1007.6	1007.8	1007.2	1006.5	1005.9	1005.2
157.5°	1034.5	1035.9	1037.4	1037.6	1036.6	1035.6	1034.5	1033.5
160°	1051.7	1053.0	1054.2	1054.5	1053.7	1052.8	1052.0	1051.1
162.5°	1067.3	1068.7	1070.3	1070.4	1069.4	1068.4	1067.3	1066.4
165°	1087.5	1088.9	1090.4	1090.6	1089.6	1088.5	1087.5	1086.4
167.5°	1104.1	1105.6	1107.0	1107.2	1106.2	1105.0	1103.9	1102.9
170°	1113.2	1114.7	1116.3	1116.3	1115.0	1113.8	1112.5	1111.3
172.5°	1120.1	1121.6	1123.0	1123.2	1121.9	1120.7	1119.4	1118.1
175°	1127.6	1129.1	1130.5	1130.7	1129.4	1128.1	1126.8	1125.6
177.5°	1131.1	1132.0	1133.0	1133.0	1132.0	1131.1	1130.0	1129.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2

(END OF REPORT)