

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: P333061

Luminaire Tested: **S124RDIW-S795D770U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333061  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIW-S795D770U835-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 770 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6282.3 lumens  
Efficiency: N/A  
Efficacy: 139.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

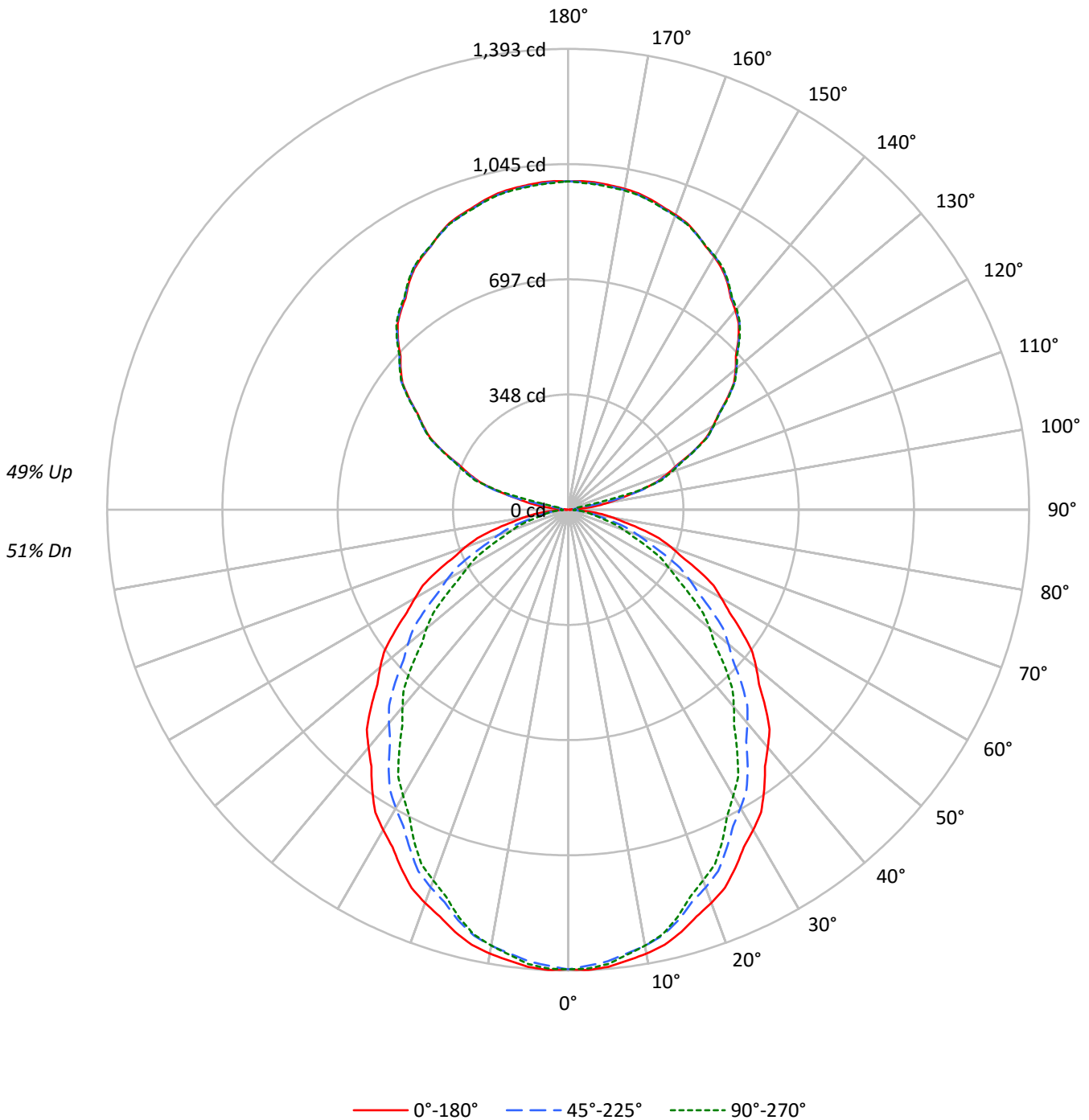
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70	62	60	59	51	50	49	44
2	90	82	76	71	83	76	71	67	65	61	58	55	52	50	45	43	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	45	42	40	38	36	32
4	75	65	57	51	69	60	53	48	51	46	42	43	40	36	36	33	31	27
5	69	58	50	44	64	54	47	41	46	41	36	39	35	32	33	30	27	24
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	30	26	24	21
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	28	35	29	25	30	25	22	25	22	19	17
9	51	39	31	26	47	36	30	25	32	26	23	27	23	20	23	20	17	15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14

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

	0°	45°	90°
0°	11215	11215	11215
5°	11240	11102	11171
10°	11170	10969	10969
15°	11041	10739	10659
20°	10865	10436	10244
25°	10640	10081	9825
30°	10421	9707	9300
35°	10178	9319	8774
40°	9887	8878	8205
45°	9618	8440	7626
50°	9311	7935	7013
55°	8983	7410	6348
60°	8622	6835	5667
65°	8290	6117	4999
70°	7808	5323	4244
75°	7199	4414	3450
80°	6281	3361	3166
85°	5317	3057	2853



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.5	2.1
10°-20°	363.9	5.8
20°-30°	525.5	8.4
30°-40°	595.6	9.5
40°-50°	575.2	9.2
50°-60°	478.3	7.6
60°-70°	330.3	5.3
70°-80°	167.4	2.7
80°-90°	45.8	0.7
90°-100°	33.9	0.5
100°-110°	216.4	3.4
110°-120°	414.0	6.6
120°-130°	525.6	8.4
130°-140°	562.3	9.0
140°-150°	525.8	8.4
150°-160°	424.0	6.7
160°-170°	273.5	4.4
170°-180°	94.3	1.5
0°-30°	1019.8	16.2
0°-40°	1615.5	25.7
0°-60°	2668.9	42.5
0°-90°	3212.4	51.1
90°-120°	664.4	10.6
90°-150°	2278.1	36.3
90°-180°	3070.0	48.9
0°-180°	6282.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1389	1389	1389	1389	1389	
5°	1387	1382	1370	1380	1378	132
15°	1321	1311	1285	1282	1275	372
25°	1194	1174	1132	1114	1103	550
35°	1033	998	946	910	890	645
45°	842	802	739	689	668	649
55°	638	594	526	473	451	571
65°	434	387	320	276	262	428
75°	231	191	142	118	111	244
85°	57	37	33	31	31	65
90°	2	10	16	21	22	5
95°	41	17	16	21	22	52
105°	223	228	232	236	212	234
115°	417	419	419	420	420	410
125°	586	589	588	590	591	523
135°	727	727	730	731	733	560
145°	839	841	841	842	843	524
155°	920	920	918	921	919	424
165°	970	967	966	972	966	274
175°	992	988	989	995	986	94
180°	992	992	992	992	992	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1392.6	1391.8	1391.0	1390.3	1389.5	1388.1	1386.0	1384.0	1381.9	1379.8	1381.9
5°	1387.0	1386.1	1385.1	1384.2	1383.2	1381.4	1378.5	1375.7	1372.8	1370.0	1372.4
7.5°	1374.5	1373.5	1372.5	1371.5	1370.5	1368.2	1364.5	1360.8	1357.1	1353.4	1354.9
10°	1362.6	1361.4	1360.2	1359.0	1357.8	1355.1	1350.9	1346.6	1342.4	1338.1	1339.0
12.5°	1347.2	1345.9	1344.5	1343.1	1341.8	1338.6	1333.6	1328.5	1323.5	1318.5	1319.1
15°	1321.1	1319.0	1316.8	1314.7	1312.6	1308.6	1302.6	1296.7	1290.8	1284.9	1284.4
17.5°	1289.4	1286.3	1283.2	1280.2	1277.1	1272.0	1264.9	1257.8	1250.7	1243.6	1242.3
20°	1264.7	1261.6	1258.6	1255.5	1252.4	1246.9	1238.8	1230.8	1222.7	1214.7	1212.8
22.5°	1237.5	1234.0	1230.6	1227.1	1223.7	1217.6	1209.0	1200.4	1191.8	1183.2	1180.4
25°	1194.5	1190.2	1186.0	1181.7	1177.5	1170.5	1160.8	1151.1	1141.4	1131.7	1127.7
27.5°	1149.4	1144.1	1138.7	1133.4	1128.0	1120.2	1109.8	1099.5	1089.1	1078.8	1073.8
30°	1117.9	1112.0	1106.1	1100.2	1094.3	1085.8	1074.7	1063.6	1052.4	1041.3	1035.4
32.5°	1084.7	1078.1	1071.4	1064.7	1058.1	1049.0	1037.5	1026.0	1014.5	1003.0	996.2
35°	1032.8	1025.3	1017.7	1010.1	1002.6	992.9	981.1	969.2	957.4	945.6	937.6
37.5°	977.3	969.5	961.7	953.9	946.1	935.7	922.6	909.5	896.4	883.3	874.3
40°	938.2	930.4	922.6	914.8	907.0	896.3	882.8	869.4	855.9	842.4	832.5
42.5°	900.7	892.5	884.4	876.2	868.0	856.9	842.9	828.8	814.8	800.7	790.6
45°	842.4	833.7	824.9	816.2	807.4	796.0	781.8	767.6	753.4	739.3	727.7
47.5°	782.2	773.2	764.2	755.1	746.1	734.2	719.5	704.7	690.0	675.2	663.2
50°	741.4	732.2	722.9	713.7	704.5	692.3	677.2	662.1	646.9	631.8	620.0
52.5°	699.7	690.7	681.6	672.6	663.6	651.3	635.8	620.3	604.8	589.3	577.3
55°	638.2	628.7	619.3	609.8	600.4	588.0	572.6	557.2	541.9	526.5	514.2
57.5°	577.4	567.5	557.7	547.9	538.0	525.5	510.4	495.3	480.2	465.0	452.6
60°	534.0	524.5	515.1	505.6	496.1	483.9	468.7	453.6	438.5	423.3	411.0
62.5°	494.8	485.0	475.2	465.3	455.5	442.8	427.3	411.8	396.3	380.8	369.4
65°	434.0	423.8	413.6	403.5	393.3	380.7	365.5	350.4	335.3	320.2	310.0
67.5°	370.8	361.1	351.3	341.6	331.8	320.0	305.9	291.9	277.8	263.8	255.0
70°	330.8	320.9	310.9	301.0	291.1	279.4	265.9	252.4	239.0	225.5	217.7
72.5°	288.3	279.3	270.3	261.3	252.3	241.5	228.8	216.0	203.3	190.6	183.9
75°	230.8	222.1	213.3	204.6	195.8	185.9	174.8	163.7	152.6	141.5	136.0
77.5°	172.5	165.1	157.7	150.3	142.8	134.6	125.7	116.7	107.7	98.7	95.5
80°	135.1	128.2	121.4	114.5	107.7	100.7	93.6	86.5	79.4	72.3	71.6
82.5°	102.8	96.5	90.2	83.9	77.6	72.4	68.4	64.3	60.2	56.2	55.6
85°	57.4	52.7	48.0	43.3	38.5	35.8	35.1	34.4	33.7	33.0	32.5
87.5°	20.0	18.9	17.7	16.6	15.4	14.9	15.0	15.0	15.1	15.2	15.2
90°	2.2	4.0	5.9	7.7	9.5	11.1	12.4	13.7	15.0	16.3	17.3
92.5°	9.4	9.5	9.6	9.6	9.7	10.5	11.8	13.1	14.4	15.7	16.7
95°	40.8	35.2	29.6	24.0	18.4	15.7	15.8	16.0	16.2	16.3	17.3
97.5°	86.7	90.2	93.7	97.2	100.7	93.2	74.8	56.4	38.0	19.6	19.7
100°	121.7	124.7	127.7	130.6	133.6	123.7	101.0	78.2	55.4	32.7	29.9
102.5°	160.9	163.1	165.3	167.5	169.6	169.2	166.3	163.3	160.3	157.4	127.1
105°	223.4	224.4	225.4	226.4	227.4	228.3	229.1	229.9	230.8	231.6	233.1
107.5°	281.5	282.0	282.5	283.0	283.5	284.3	285.4	286.5	287.6	288.7	289.5
110°	320.7	321.2	321.7	322.2	322.6	323.4	324.4	325.4	326.4	327.3	327.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	358.7	359.6	360.5	361.3	362.2	362.9	363.4	363.8	364.3	364.8	364.7
115°	417.2	417.7	418.2	418.6	419.1	419.3	419.1	419.0	418.8	418.6	419.0
117.5°	469.9	470.5	471.2	471.8	472.5	473.0	473.4	473.7	474.1	474.5	474.4
120°	505.5	506.2	506.8	507.5	508.1	508.4	508.2	508.1	507.9	507.7	508.1
122.5°	538.8	539.1	539.5	539.9	540.3	540.6	540.9	541.1	541.3	541.6	541.8
125°	586.4	587.1	587.7	588.4	589.0	589.2	588.9	588.6	588.2	587.9	588.4
127.5°	631.5	631.7	631.9	632.0	632.2	632.7	633.4	634.2	634.9	635.7	635.6
130°	660.6	660.8	661.0	661.1	661.3	661.6	662.1	662.6	663.1	663.6	663.8
132.5°	687.4	687.7	688.0	688.2	688.5	689.0	689.6	690.3	690.9	691.5	691.7
135°	727.4	727.3	727.1	726.9	726.8	727.0	727.7	728.3	729.0	729.7	730.0
137.5°	762.9	763.0	763.1	763.1	763.2	763.6	764.3	765.0	765.8	766.5	766.8
140°	786.1	786.4	786.7	787.1	787.4	787.7	788.1	788.4	788.7	789.1	789.5
142.5°	806.9	807.5	808.1	808.6	809.2	809.6	809.8	810.0	810.2	810.4	810.8
145°	838.8	839.3	839.8	840.3	840.8	841.0	841.0	841.0	841.0	841.0	841.2
147.5°	864.2	865.1	866.0	866.9	867.9	868.2	868.1	867.9	867.7	867.6	867.7
150°	882.6	883.2	883.9	884.6	885.2	885.5	885.3	885.1	885.0	884.8	884.8
152.5°	898.0	898.5	899.1	899.6	900.1	900.2	899.9	899.7	899.4	899.1	899.3
155°	919.7	919.9	920.0	920.2	920.4	920.2	919.7	919.2	918.7	918.2	918.9
157.5°	938.0	937.9	937.8	937.7	937.6	937.2	936.7	936.1	935.5	935.0	935.8
160°	948.6	948.1	947.7	947.2	946.7	946.3	946.2	946.0	945.8	945.7	946.7
162.5°	958.1	957.5	956.9	956.3	955.6	955.2	955.1	954.9	954.7	954.6	955.6
165°	970.2	969.3	968.5	967.7	966.9	966.5	966.5	966.5	966.5	966.5	967.8
167.5°	979.7	978.8	978.0	977.1	976.2	975.8	975.7	975.6	975.5	975.4	976.8
170°	985.0	984.0	983.0	982.0	981.1	980.6	980.8	981.0	981.1	981.3	982.6
172.5°	988.6	987.6	986.6	985.6	984.6	984.2	984.4	984.5	984.7	984.9	986.2
175°	992.4	991.4	990.5	989.5	988.5	988.1	988.2	988.4	988.6	988.7	990.2
177.5°	994.2	993.3	992.4	991.4	990.5	990.2	990.5	990.7	991.0	991.2	992.3
180°	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1384.0	1386.0	1388.1	1389.1	1388.9	1388.7	1388.5	1388.3
5°	1374.7	1377.1	1379.5	1380.4	1379.9	1379.5	1379.0	1378.5
7.5°	1356.4	1358.0	1359.5	1359.8	1359.1	1358.3	1357.6	1356.8
10°	1340.0	1340.9	1341.9	1341.9	1340.9	1340.0	1339.0	1338.1
12.5°	1319.7	1320.2	1320.8	1320.4	1319.1	1317.8	1316.4	1315.1
15°	1284.0	1283.5	1283.0	1282.0	1280.3	1278.6	1277.0	1275.3
17.5°	1241.0	1239.7	1238.3	1236.4	1233.9	1231.4	1228.9	1226.4
20°	1210.9	1209.0	1207.1	1204.7	1201.6	1198.5	1195.4	1192.4
22.5°	1177.6	1174.7	1171.9	1169.2	1166.7	1164.2	1161.7	1159.2
25°	1123.7	1119.7	1115.7	1112.5	1110.1	1107.8	1105.4	1103.0
27.5°	1068.8	1063.9	1058.9	1054.7	1051.3	1047.9	1044.5	1041.1
30°	1029.5	1023.6	1017.7	1012.8	1009.1	1005.3	1001.5	997.7
32.5°	989.3	982.5	975.6	970.4	966.8	963.2	959.6	956.0
35°	929.5	921.5	913.5	907.3	903.1	898.8	894.5	890.3
37.5°	865.3	856.3	847.3	840.7	836.5	832.2	828.0	823.7
40°	822.6	812.6	802.7	795.6	791.4	787.1	782.9	778.6
42.5°	780.5	770.4	760.3	753.0	748.5	744.1	739.7	735.2
45°	716.1	704.5	692.9	685.0	680.7	676.5	672.2	668.0
47.5°	651.2	639.2	627.2	618.8	614.2	609.5	604.8	600.1
50°	608.2	596.4	584.5	576.4	571.9	567.4	562.9	558.4
52.5°	565.3	553.3	541.2	532.9	528.2	523.5	518.9	514.2
55°	501.9	489.6	477.4	469.0	464.5	460.0	455.5	451.0
57.5°	440.1	427.6	415.1	407.2	403.8	400.4	397.0	393.6
60°	398.8	386.5	374.2	366.1	362.4	358.6	354.8	351.0
62.5°	358.1	346.8	335.4	328.2	325.2	322.2	319.1	316.1
65°	299.8	289.7	279.5	273.0	270.2	267.3	264.5	261.7
67.5°	246.3	237.6	228.8	222.9	219.8	216.6	213.5	210.4
70°	209.9	202.1	194.3	189.2	186.9	184.5	182.1	179.8
72.5°	177.3	170.6	163.9	159.5	157.4	155.2	153.0	150.8
75°	130.6	125.2	119.7	116.3	114.9	113.5	112.0	110.6
77.5°	92.4	89.2	86.0	84.2	83.8	83.4	83.0	82.5
80°	70.9	70.2	69.5	69.0	68.8	68.5	68.3	68.1
82.5°	55.1	54.6	54.1	53.7	53.5	53.2	53.0	52.8
85°	32.0	31.6	31.1	30.8	30.8	30.8	30.8	30.8
87.5°	15.2	15.2	15.2	15.3	15.6	15.9	16.1	16.4
90°	18.3	19.3	20.3	20.9	21.3	21.6	21.9	22.3
92.5°	17.7	18.7	19.7	20.2	20.3	20.4	20.4	20.5
95°	18.3	19.3	20.3	20.9	21.0	21.2	21.4	21.5
97.5°	19.8	19.9	20.0	20.1	20.3	20.5	20.6	20.8
100°	27.1	24.2	21.4	20.1	20.3	20.5	20.6	20.8
102.5°	96.9	66.6	36.4	21.2	21.3	21.3	21.3	21.4
105°	234.6	236.0	237.5	235.3	229.4	223.4	217.5	211.6
107.5°	290.2	290.9	291.7	292.3	293.0	293.6	294.2	294.8
110°	328.0	328.3	328.7	329.1	329.6	330.1	330.6	331.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	364.6	364.6	364.5	364.8	365.4	366.0	366.7	367.3
115°	419.3	419.6	420.0	420.1	420.1	420.1	420.1	420.1
117.5°	474.3	474.3	474.2	474.1	474.1	474.0	473.9	473.9
120°	508.4	508.7	509.0	509.0	508.7	508.4	508.1	507.7
122.5°	542.0	542.2	542.4	542.3	542.0	541.6	541.3	541.0
125°	588.9	589.4	589.9	590.2	590.4	590.5	590.7	590.9
127.5°	635.5	635.4	635.3	635.2	635.1	634.9	634.8	634.7
130°	663.9	664.1	664.3	664.3	664.3	664.3	664.3	664.3
132.5°	691.8	692.0	692.2	692.2	692.1	691.9	691.8	691.7
135°	730.3	730.7	731.0	731.3	731.6	732.0	732.3	732.6
137.5°	767.2	767.6	767.9	768.1	768.0	767.9	767.8	767.7
140°	790.0	790.5	791.0	791.4	791.5	791.7	791.9	792.0
142.5°	811.2	811.5	811.9	812.1	812.1	812.1	812.2	812.2
145°	841.3	841.5	841.7	841.9	842.2	842.6	842.9	843.2
147.5°	867.8	868.0	868.1	868.3	868.4	868.6	868.8	868.9
150°	884.8	884.8	884.8	884.9	885.1	885.2	885.4	885.5
152.5°	899.6	899.8	900.1	900.2	900.1	900.0	899.9	899.8
155°	919.5	920.2	920.8	920.9	920.4	919.9	919.4	919.0
157.5°	936.7	937.6	938.4	938.4	937.6	936.7	935.8	935.0
160°	947.7	948.6	949.6	949.6	948.6	947.7	946.7	945.7
162.5°	956.6	957.5	958.5	958.5	957.4	956.2	955.1	954.0
165°	969.1	970.4	971.7	971.7	970.2	968.7	967.2	965.7
167.5°	978.3	979.7	981.2	981.1	979.4	977.8	976.1	974.5
170°	983.9	985.3	986.6	986.4	984.8	983.1	981.5	979.8
172.5°	987.5	988.8	990.1	989.9	988.1	986.4	984.6	982.8
175°	991.7	993.2	994.7	994.4	992.4	990.5	988.5	986.5
177.5°	993.4	994.4	995.5	995.2	993.6	992.0	990.5	988.9
180°	992.4	992.4	992.4	992.4	992.4	992.4	992.4	992.4

(END OF REPORT)