

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: P331758-935

Luminaire Tested: **SA2XXRDIP-C1005D925U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331758-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C1005D925U935-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6112.3 lumens  
Efficiency: N/A  
Efficacy: 91.5 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

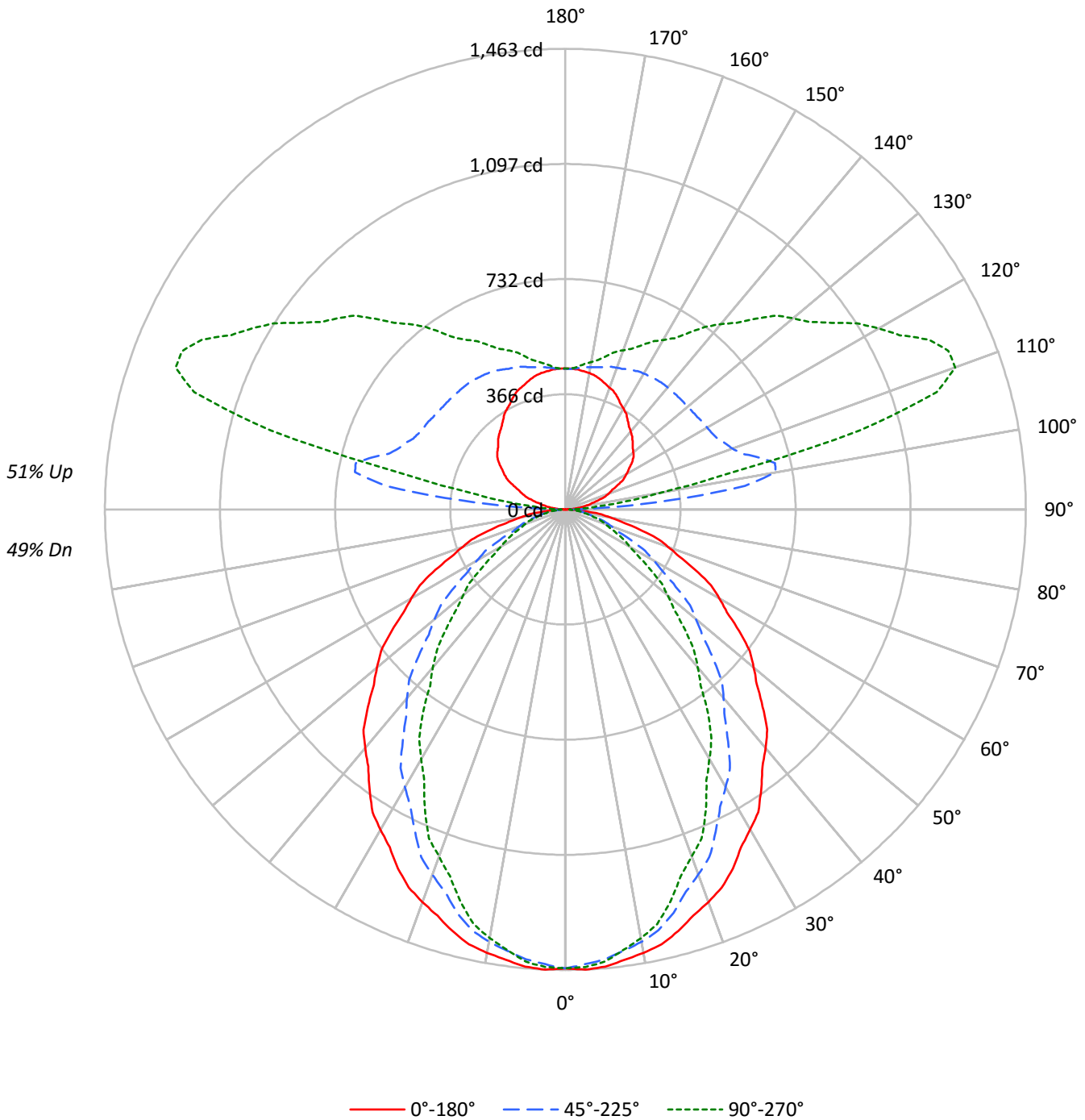
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48	42
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41	36
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35	31
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31	27
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24
6	64	52	44	39	59	49	42	37	42	36	32	36	31	28	30	27	24	21
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22	19
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20	17
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	16
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16	14

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

	0°	45°	90°
0°	23541	23541	23541
5°	23631	23246	23376
10°	23451	22866	22673
15°	23181	22188	21549
20°	22807	21220	20155
25°	22425	20122	18805
30°	21895	18990	17074
35°	21378	17763	15554
40°	20858	16493	13793
45°	20247	15066	12202
50°	19623	13622	10638
55°	18978	12073	9137
60°	18235	10440	7585
65°	17391	8772	6907
70°	16386	7227	6354
75°	15147	6588	5926
80°	13371	5895	5393
85°	10504	4650	4650



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.5	2.2
10°-20°	374.7	6.1
20°-30°	526.2	8.6
30°-40°	573.8	9.4
40°-50°	527.6	8.6
50°-60°	414.4	6.8
60°-70°	270.2	4.4
70°-80°	139.3	2.3
80°-90°	40.2	0.7
90°-100°	178.7	2.9
100°-110°	606.3	9.9
110°-120°	644.1	10.5
120°-130°	530.2	8.7
130°-140°	425.8	7.0
140°-150°	321.8	5.3
150°-160°	226.1	3.7
160°-170°	133.1	2.2
170°-180°	43.3	0.7
0°-30°	1037.4	17.0
0°-40°	1611.3	26.4
0°-60°	2553.2	41.8
0°-90°	3002.9	49.1
90°-120°	1429.1	23.4
90°-150°	2706.8	44.3
90°-180°	3109.0	50.9
0°-180°	6112.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1458	1458	1458	1458	1458	
5°	1458	1451	1434	1445	1442	138
15°	1387	1371	1327	1303	1289	390
25°	1259	1214	1130	1077	1056	579
35°	1085	1015	901	821	789	678
45°	887	796	660	570	534	684
55°	674	569	429	353	325	602
65°	455	348	230	187	181	451
75°	243	153	106	97	95	257
85°	57	30	25	25	25	67
90°	1	12	29	28	28	4
95°	30	74	337	127	98	32
105°	105	158	637	1138	968	111
115°	185	233	533	1100	1274	183
125°	258	305	512	891	1034	229
135°	302	361	506	748	857	234
145°	345	397	504	625	684	217
155°	393	424	489	553	575	181
165°	428	441	468	497	504	121
175°	446	446	450	456	455	42
180°	447	447	447	447	447	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0
2.5°	1463.4	1462.2	1460.9	1459.8	1458.6	1456.7	1454.1	1451.6	1449.1	1446.5	1448.8
5°	1458.0	1456.6	1455.1	1453.6	1452.2	1449.6	1445.7	1441.9	1438.1	1434.3	1436.9
7.5°	1443.0	1441.2	1439.4	1437.5	1435.7	1432.6	1428.1	1423.7	1419.3	1414.8	1415.6
10°	1430.4	1428.3	1426.2	1424.2	1422.1	1418.2	1412.3	1406.4	1400.6	1394.7	1393.9
12.5°	1414.5	1412.0	1409.5	1407.0	1404.5	1399.4	1391.9	1384.4	1376.9	1369.4	1367.8
15°	1386.8	1383.5	1380.4	1377.1	1373.9	1367.3	1357.4	1347.4	1337.4	1327.4	1321.9
17.5°	1352.7	1347.8	1342.9	1338.0	1333.1	1324.2	1311.4	1298.6	1285.8	1273.1	1266.4
20°	1327.4	1321.5	1315.7	1309.8	1304.0	1293.7	1279.0	1264.4	1249.7	1235.0	1227.7
22.5°	1299.9	1293.4	1286.9	1280.3	1273.7	1262.1	1245.6	1229.1	1212.5	1196.0	1186.5
25°	1258.8	1249.4	1240.0	1230.6	1221.2	1206.9	1187.6	1168.2	1148.8	1129.5	1117.5
27.5°	1209.2	1199.0	1188.8	1178.6	1168.4	1152.4	1130.6	1108.7	1086.9	1065.1	1051.1
30°	1174.4	1163.2	1152.1	1140.9	1129.8	1112.5	1089.0	1065.6	1042.2	1018.6	1003.7
32.5°	1140.6	1127.6	1114.6	1101.6	1088.5	1070.1	1046.1	1022.2	998.2	974.3	957.3
35°	1084.6	1069.7	1054.7	1039.7	1024.8	1004.4	978.6	952.9	927.0	901.2	882.8
37.5°	1028.7	1012.3	995.8	979.4	963.0	941.1	913.5	886.1	858.5	831.0	810.7
40°	989.6	972.1	954.4	936.9	919.3	896.2	867.8	839.4	810.9	782.5	761.6
42.5°	949.5	931.0	912.5	893.9	875.4	851.4	822.1	792.6	763.3	733.9	712.4
45°	886.7	867.0	847.4	827.8	808.1	782.9	752.1	721.3	690.5	659.8	638.9
47.5°	825.4	804.7	783.9	763.0	742.2	715.9	684.2	652.3	620.5	588.8	568.1
50°	781.2	760.3	739.5	718.7	697.8	671.3	639.1	606.8	574.5	542.3	522.1
52.5°	737.9	716.1	694.4	672.6	650.8	624.2	592.6	561.1	529.5	498.0	478.5
55°	674.2	651.4	628.5	605.6	582.8	555.5	523.8	492.1	460.5	428.9	411.2
57.5°	609.1	585.7	562.1	538.7	515.2	488.3	457.9	427.4	397.0	366.5	350.4
60°	564.7	541.3	517.8	494.4	470.9	444.1	413.9	383.7	353.4	323.3	308.3
62.5°	521.5	498.0	474.6	451.1	427.7	401.5	372.7	343.9	315.1	286.4	272.1
65°	455.2	431.4	407.8	384.0	360.2	335.2	308.8	282.4	256.0	229.6	219.6
67.5°	391.3	367.8	344.2	320.6	297.0	273.4	249.7	225.9	202.2	178.4	173.8
70°	347.1	324.2	301.3	278.4	255.5	234.0	213.8	193.6	173.3	153.1	150.2
72.5°	304.8	282.8	261.0	239.0	217.1	197.9	181.8	165.5	149.2	133.0	130.5
75°	242.8	222.2	201.7	181.2	160.7	145.4	135.4	125.5	115.5	105.6	103.5
77.5°	181.8	163.8	145.9	127.9	109.8	98.4	93.6	88.8	83.9	79.2	78.0
80°	143.8	128.9	113.9	98.9	84.0	75.1	72.2	69.2	66.3	63.4	62.2
82.5°	109.0	97.3	85.7	74.0	62.3	55.4	53.5	51.5	49.5	47.5	46.8
85°	56.7	50.5	44.4	38.2	32.1	28.6	27.7	26.9	25.9	25.1	25.1
87.5°	17.0	15.7	14.6	13.0	11.5	11.0	11.9	13.1	14.1	14.3	13.9
90°	0.9	3.4	6.9	8.6	10.3	12.9	17.2	23.2	28.3	29.2	28.3
92.5°	10.5	15.2	21.4	25.1	30.9	39.0	58.5	85.8	110.1	111.7	94.4
95°	30.0	33.5	42.1	49.9	63.6	84.2	123.7	198.5	298.2	336.8	294.7
97.5°	49.0	53.6	62.8	74.4	90.2	113.6	163.2	267.4	433.1	575.1	603.2
100°	66.1	68.7	76.5	90.2	107.5	131.5	177.0	281.9	467.4	678.8	802.6
102.5°	82.0	83.9	91.6	105.4	123.2	147.3	189.4	282.6	454.4	682.3	876.8
105°	104.9	108.3	114.3	127.2	146.1	170.1	210.5	287.0	428.8	636.7	865.3
107.5°	129.6	132.3	138.2	150.1	168.8	193.0	232.2	298.9	416.0	588.0	789.9
110°	146.1	149.6	154.6	165.8	183.9	208.8	246.6	308.5	413.4	564.6	742.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	161.2	164.6	170.5	181.0	198.3	223.9	260.4	318.8	414.0	549.4	709.5
115°	184.8	189.1	194.2	204.5	221.7	244.9	281.9	334.2	417.6	532.8	668.6
117.5°	209.1	212.6	217.7	226.9	243.3	267.4	301.6	350.8	423.8	524.7	642.7
120°	224.3	227.7	232.9	240.6	257.8	281.9	315.4	361.8	427.9	519.9	629.0
122.5°	238.8	241.4	246.6	255.0	272.2	297.0	328.4	371.3	432.7	517.1	617.3
125°	257.8	260.4	265.5	275.9	293.0	317.1	348.0	386.7	440.0	512.1	600.6
127.5°	272.9	276.4	283.5	294.9	311.4	336.1	366.3	401.0	447.4	509.2	585.2
130°	281.9	285.2	293.9	305.9	323.1	347.2	377.2	409.9	452.9	507.8	574.9
132.5°	290.1	294.2	303.5	316.2	334.1	358.2	386.8	418.8	458.3	507.1	566.6
135°	302.5	305.9	316.2	329.1	348.9	372.9	400.5	430.5	464.9	506.1	555.1
137.5°	314.2	318.3	328.6	342.3	362.0	384.3	411.5	439.5	470.7	505.9	547.0
140°	323.1	326.6	336.8	350.6	369.5	391.8	417.6	444.3	473.5	505.2	542.3
142.5°	332.0	334.8	344.4	358.2	376.3	397.4	422.4	448.4	475.5	505.2	537.4
145°	345.4	348.9	357.5	370.4	387.5	406.5	429.6	453.7	477.8	503.5	531.1
147.5°	359.9	362.5	370.7	382.5	396.8	413.7	435.5	456.7	478.5	500.5	524.5
150°	369.5	372.0	378.9	390.1	403.0	418.4	438.2	458.0	477.8	498.4	519.0
152.5°	379.1	380.3	387.2	397.0	409.2	423.3	441.0	458.7	476.4	495.0	514.2
155°	392.7	393.6	398.7	408.2	417.6	430.5	445.1	459.7	474.3	489.0	505.2
157.5°	404.1	404.9	409.1	417.2	424.8	435.7	448.1	459.7	470.4	482.8	496.9
160°	411.6	412.5	415.9	422.8	429.6	439.1	449.4	459.7	468.3	478.6	490.7
162.5°	419.1	418.6	422.1	427.6	433.8	441.2	450.1	459.0	466.2	475.2	485.2
165°	427.9	427.1	428.8	433.9	438.2	443.4	451.2	457.2	462.3	468.3	476.0
167.5°	435.1	434.1	435.7	438.9	442.0	445.3	451.0	456.0	458.3	462.3	467.1
170°	440.0	438.2	439.1	441.7	443.4	446.0	450.3	454.6	456.3	458.8	462.3
172.5°	442.7	441.7	441.2	443.8	444.8	446.7	449.6	452.5	453.6	454.8	457.5
175°	446.0	445.1	444.3	446.0	446.0	446.9	448.6	450.3	449.4	450.3	451.2
177.5°	447.5	446.2	445.5	446.9	446.9	446.9	447.5	448.9	447.5	446.9	447.5
180°	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0
2.5°	1451.1	1453.5	1455.9	1456.7	1456.3	1455.9	1455.3	1454.9
5°	1439.6	1442.3	1444.8	1445.7	1444.8	1444.0	1443.1	1442.3
7.5°	1416.3	1417.0	1417.8	1417.5	1415.9	1414.4	1412.9	1411.4
10°	1392.9	1392.1	1391.2	1389.9	1388.1	1386.4	1384.6	1382.9
12.5°	1366.2	1364.6	1363.0	1360.8	1357.9	1355.0	1352.0	1349.1
15°	1316.3	1310.7	1305.1	1300.9	1298.0	1295.0	1292.1	1289.2
17.5°	1259.8	1253.2	1246.6	1240.7	1235.7	1230.6	1225.5	1220.6
20°	1220.4	1213.1	1205.7	1198.9	1192.4	1185.9	1179.5	1173.0
22.5°	1177.2	1167.7	1158.2	1151.1	1146.3	1141.5	1136.7	1131.9
25°	1105.4	1093.5	1081.4	1073.2	1068.8	1064.4	1060.0	1055.6
27.5°	1037.1	1023.0	1009.0	998.5	991.5	984.6	977.6	970.6
30°	988.8	973.8	958.8	947.4	939.5	931.6	923.7	915.8
32.5°	940.2	923.2	906.0	893.8	886.4	878.9	871.4	864.0
35°	864.3	845.8	827.3	814.9	808.4	801.9	795.5	789.1
37.5°	790.3	770.0	749.6	735.7	728.4	721.0	713.6	706.2
40°	740.8	720.0	699.2	685.0	677.3	669.7	662.1	654.4
42.5°	690.9	669.3	647.8	633.4	625.9	618.5	611.2	603.8
45°	618.1	597.3	576.4	562.6	555.5	548.5	541.4	534.4
47.5°	547.3	526.7	505.9	492.4	486.0	479.7	473.2	466.8
50°	501.9	481.6	461.4	448.2	442.0	435.8	429.7	423.5
52.5°	458.9	439.4	419.9	407.3	401.6	395.9	390.2	384.5
55°	393.6	376.1	358.4	346.9	341.3	335.7	330.2	324.6
57.5°	334.3	318.1	302.0	291.6	287.0	282.2	277.6	272.9
60°	293.3	278.4	263.5	253.7	248.9	244.3	239.5	234.9
62.5°	257.9	243.6	229.4	220.8	218.0	215.2	212.3	209.6
65°	209.7	199.7	189.7	184.3	183.4	182.5	181.7	180.8
67.5°	169.3	164.7	160.1	157.3	156.4	155.5	154.5	153.6
70°	147.2	144.3	141.4	139.3	138.1	136.9	135.8	134.6
72.5°	128.1	125.6	123.1	121.6	120.9	120.2	119.4	118.7
75°	101.4	99.4	97.4	96.2	95.9	95.6	95.3	95.0
77.5°	76.8	75.7	74.5	73.6	73.2	72.8	72.2	71.8
80°	61.0	59.8	58.6	58.0	58.0	58.0	58.0	58.0
82.5°	46.1	45.4	44.7	44.3	44.3	44.3	44.3	44.3
85°	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
87.5°	13.5	12.9	13.0	13.1	13.1	13.1	13.1	13.1
90°	27.5	25.7	27.5	28.3	28.3	28.3	28.3	28.3
92.5°	74.9	64.3	57.1	51.7	51.1	48.3	49.0	47.6
95°	225.2	172.7	136.6	117.7	106.6	99.7	97.1	98.0
97.5°	525.4	429.8	336.8	274.8	233.8	212.6	200.0	192.9
100°	784.5	678.0	560.3	456.3	385.0	348.0	323.1	307.6
102.5°	954.3	930.3	844.2	734.0	656.5	593.4	562.3	541.4
105°	1044.0	1141.2	1152.4	1123.9	1070.7	1017.4	980.4	968.5
107.5°	979.5	1125.7	1215.0	1256.6	1263.3	1260.4	1253.0	1237.1
110°	923.8	1077.5	1187.6	1258.0	1294.9	1311.3	1319.1	1318.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	872.9	1020.5	1138.1	1218.8	1270.2	1297.5	1312.2	1316.8
115°	810.3	942.6	1055.2	1143.8	1204.7	1244.2	1266.6	1274.4
117.5°	763.2	879.4	981.5	1064.5	1126.7	1168.5	1192.1	1198.5
120°	739.9	846.4	937.5	1015.7	1075.8	1116.2	1141.2	1149.8
122.5°	721.3	818.9	905.2	975.9	1029.8	1069.4	1091.7	1098.9
125°	694.3	782.8	858.4	922.9	972.8	1005.4	1026.8	1033.7
127.5°	667.7	747.8	819.1	878.6	922.0	952.6	971.2	976.7
130°	650.5	724.4	792.3	849.0	891.1	920.3	937.5	944.3
132.5°	634.0	702.4	764.7	818.0	859.5	888.7	904.5	910.7
135°	611.0	667.7	724.4	772.5	809.4	837.8	853.3	856.7
137.5°	592.5	640.0	685.0	726.9	760.7	785.1	798.7	803.8
140°	580.9	622.2	661.7	699.5	726.9	749.3	762.2	767.3
142.5°	571.3	606.3	640.3	672.0	698.1	718.4	729.9	730.9
145°	557.7	586.1	612.7	637.6	658.2	672.9	681.4	684.0
147.5°	547.2	569.6	590.3	608.6	625.6	637.2	643.1	644.6
150°	539.7	558.5	576.6	592.0	604.9	615.3	620.4	621.3
152.5°	532.1	549.6	564.9	578.3	588.4	597.4	601.2	601.3
155°	521.6	535.4	548.2	557.7	567.1	573.2	576.6	574.9
157.5°	509.4	520.9	531.8	539.2	545.8	550.8	552.3	552.3
160°	501.8	511.3	520.7	526.8	532.8	537.1	538.0	538.0
162.5°	494.3	502.3	510.4	515.1	521.1	524.0	524.9	524.2
165°	482.9	489.0	495.0	498.4	501.8	505.2	505.2	504.4
167.5°	472.1	476.7	480.9	484.0	485.5	487.4	487.2	486.2
170°	466.6	469.2	472.6	474.3	475.2	477.8	476.9	475.2
172.5°	460.4	462.3	465.0	466.1	466.9	468.1	467.3	466.2
175°	453.7	454.6	455.5	456.3	456.3	457.2	456.3	454.6
177.5°	448.9	448.9	449.6	449.6	449.6	449.6	448.9	447.5
180°	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9

(END OF REPORT)