

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: P332076

Luminaire Tested: **S123DIP-S1165D1025U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332076  
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: S123DIP-S1165D1025U835-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8373.6 lumens  
Efficiency: N/A  
Efficacy: 125.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

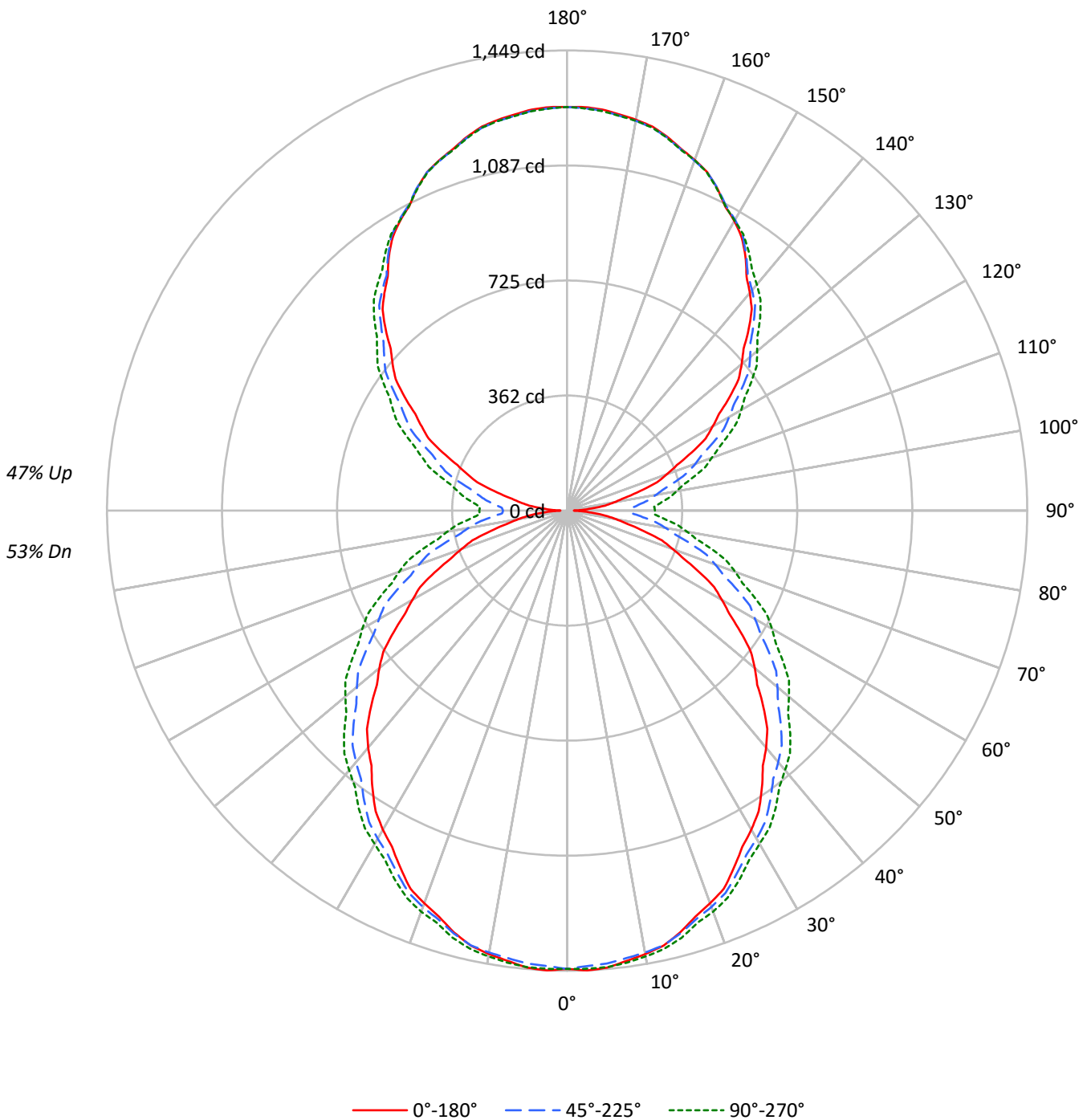
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	50	30	10	0														
RCR																																						
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53																				
1	97	93	88	84	90	86	82	78	73	70	68	61	59	57	50	49	48	42																				
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	44	41	39	35																				
3	80	70	62	56	74	65	58	53	55	50	46	47	43	39	38	35	33	29																				
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24																				
5	67	55	46	40	62	51	44	38	44	38	33	37	32	29	31	27	24	21																				
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18																				
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16																				
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14																				
9	49	37	29	24	45	34	27	23	30	24	20	25	21	18	21	18	15	13																				
10	46	34	26	21	43	31	25	20	27	22	18	23	19	16	20	16	14	12																				

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

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.8	1.6
10°-20°	390.0	4.7
20°-30°	583.2	7.0
30°-40°	696.5	8.3
40°-50°	728.7	8.7
50°-60°	683.9	8.2
60°-70°	571.2	6.8
70°-80°	408.7	4.9
80°-90°	247.5	3.0
90°-100°	235.7	2.8
100°-110°	360.1	4.3
110°-120°	496.5	5.9
120°-130°	597.2	7.1
130°-140°	642.3	7.7
140°-150°	616.5	7.4
150°-160°	515.6	6.2
160°-170°	343.2	4.1
170°-180°	120.2	1.4
0°-30°	1110.0	13.3
0°-40°	1806.5	21.6
0°-60°	3219.1	38.4
0°-90°	4446.3	53.1
90°-120°	1092.3	13.0
90°-150°	2948.3	35.2
90°-180°	3927.0	46.9
0°-180°	8373.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	21	109	202	257	277	18
95°	76	145	230	280	298	80
105°	237	279	354	396	414	253
115°	432	456	508	546	559	428
125°	626	631	672	700	708	558
135°	809	814	829	853	860	623
145°	979	979	982	993	996	611
155°	1119	1119	1120	1123	1117	515
165°	1219	1216	1216	1221	1215	344
175°	1268	1264	1264	1269	1263	120
180°	1271	1271	1271	1271	1271	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	42.0	59.9	77.7	95.5	113.4	131.5	149.9	168.3	186.7	205.1	217.1
90°	21.4	40.8	60.1	79.4	98.8	118.8	139.5	160.2	180.9	201.6	214.3
92.5°	43.3	60.3	77.2	94.2	111.1	129.2	148.4	167.5	186.7	205.9	218.2
95°	76.2	91.4	106.5	121.7	136.9	153.9	172.8	191.7	210.6	229.5	241.2
97.5°	120.0	133.5	146.9	160.4	173.8	189.4	207.0	224.6	242.3	259.9	271.3
100°	149.9	162.4	174.9	187.4	199.9	214.8	232.0	249.1	266.3	283.5	294.3
102.5°	184.6	195.4	206.3	217.2	228.0	242.1	259.3	276.6	293.8	311.1	321.6
105°	237.2	246.0	254.8	263.7	272.5	285.4	302.4	319.4	336.5	353.5	363.3
107.5°	296.8	304.2	311.6	319.0	326.3	337.6	352.6	367.7	382.7	397.8	407.8
110°	333.8	340.6	347.3	354.0	360.8	371.3	385.8	400.2	414.6	429.0	439.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	373.8	379.2	384.6	390.1	395.5	405.0	418.5	432.0	445.5	459.0	468.9
115°	432.1	437.0	441.8	446.7	451.5	460.0	472.2	484.3	496.4	508.5	517.2
117.5°	492.1	495.1	498.1	501.2	504.2	511.3	522.5	533.8	545.0	556.2	564.5
120°	528.4	531.4	534.5	537.6	540.7	547.4	557.8	568.2	578.7	589.1	596.9
122.5°	567.5	569.4	571.2	573.1	575.0	581.2	591.5	601.9	612.3	622.7	629.9
125°	625.6	626.3	626.9	627.6	628.3	633.4	643.1	652.8	662.5	672.2	678.6
127.5°	680.7	681.8	682.8	683.9	685.0	689.5	697.4	705.3	713.2	721.0	726.7
130°	717.4	718.9	720.3	721.7	723.1	727.0	733.3	739.7	746.0	752.3	758.0
132.5°	752.9	754.6	756.3	758.0	759.7	763.1	768.2	773.3	778.4	783.5	788.8
135°	808.7	809.7	810.7	811.6	812.6	814.9	818.5	822.2	825.8	829.4	834.8
137.5°	860.3	861.1	861.9	862.8	863.6	865.4	868.1	870.9	873.6	876.4	881.0
140°	895.0	896.1	897.2	898.3	899.4	900.6	901.9	903.1	904.4	905.7	910.7
142.5°	927.7	928.5	929.4	930.2	931.0	931.7	932.4	933.0	933.6	934.2	938.6
145°	978.8	978.9	979.0	979.1	979.2	979.6	980.2	980.9	981.6	982.2	984.8
147.5°	1022.0	1022.8	1023.6	1024.4	1025.2	1025.9	1026.5	1027.1	1027.7	1028.4	1029.2
150°	1053.1	1053.6	1054.0	1054.4	1054.9	1055.3	1055.8	1056.2	1056.7	1057.1	1057.1
152.5°	1078.7	1079.3	1079.9	1080.5	1081.1	1081.6	1081.9	1082.1	1082.4	1082.7	1083.0
155°	1119.0	1119.0	1119.0	1119.0	1119.0	1119.1	1119.3	1119.5	1119.8	1120.0	1120.9
157.5°	1153.3	1153.1	1152.8	1152.5	1152.3	1152.2	1152.4	1152.6	1152.8	1152.9	1153.9
160°	1174.9	1174.4	1174.0	1173.6	1173.1	1172.9	1172.9	1172.9	1172.9	1172.9	1174.0
162.5°	1194.1	1193.4	1192.8	1192.2	1191.6	1191.4	1191.5	1191.7	1191.9	1192.1	1193.2
165°	1218.8	1218.1	1217.5	1216.8	1216.2	1215.8	1215.8	1215.8	1215.8	1215.8	1217.1
167.5°	1238.6	1237.7	1236.8	1235.9	1235.0	1234.7	1234.9	1235.0	1235.2	1235.4	1236.8
170°	1249.8	1248.9	1248.0	1247.1	1246.2	1245.8	1245.8	1245.8	1245.8	1245.8	1247.3
172.5°	1258.5	1257.7	1256.8	1255.9	1255.0	1254.5	1254.5	1254.5	1254.5	1254.5	1255.9
175°	1267.7	1266.8	1265.9	1265.1	1264.2	1263.7	1263.7	1263.7	1263.7	1263.7	1265.1
177.5°	1271.5	1270.8	1270.1	1269.4	1268.7	1268.3	1268.3	1268.3	1268.3	1268.3	1269.4
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	229.2	241.2	253.3	261.1	264.7	268.3	271.8	275.4
90°	227.1	239.9	252.6	261.0	264.9	268.9	272.8	276.7
92.5°	230.5	242.8	255.1	262.8	265.7	268.6	271.6	274.5
95°	252.9	264.6	276.4	284.0	287.4	290.9	294.4	297.9
97.5°	282.8	294.2	305.6	313.0	316.4	319.8	323.2	326.6
100°	305.1	315.9	326.7	334.0	338.0	341.9	345.9	349.8
102.5°	332.1	342.6	353.1	360.1	363.5	366.9	370.3	373.7
105°	373.0	382.8	392.6	399.3	402.9	406.5	410.0	413.6
107.5°	417.9	428.0	438.1	444.5	447.3	450.1	452.9	455.7
110°	449.0	458.9	468.9	475.1	477.4	479.8	482.1	484.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	478.7	488.6	498.5	504.9	507.9	510.9	513.9	516.8
115°	525.8	534.4	543.0	548.6	551.1	553.7	556.3	558.8
117.5°	572.8	581.0	589.3	594.5	596.6	598.7	600.8	602.9
120°	604.7	612.5	620.3	625.2	627.2	629.2	631.2	633.2
122.5°	637.1	644.3	651.4	655.9	657.8	659.6	661.4	663.2
125°	685.1	691.5	698.0	702.0	703.5	705.1	706.7	708.2
127.5°	732.4	738.1	743.7	747.3	748.6	750.0	751.3	752.7
130°	763.8	769.5	775.3	778.4	779.0	779.5	780.1	780.6
132.5°	794.1	799.4	804.7	807.9	809.1	810.3	811.5	812.7
135°	840.2	845.6	851.0	854.4	855.7	857.0	858.3	859.6
137.5°	885.5	890.1	894.7	897.5	898.4	899.3	900.2	901.1
140°	915.7	920.7	925.7	928.4	928.5	928.7	928.9	929.1
142.5°	943.1	947.6	952.0	954.5	955.1	955.6	956.2	956.7
145°	987.4	990.0	992.5	994.1	994.6	995.1	995.6	996.1
147.5°	1030.0	1030.9	1031.7	1032.1	1032.0	1031.9	1031.9	1031.8
150°	1057.1	1057.1	1057.1	1056.8	1056.2	1055.5	1054.9	1054.3
152.5°	1083.4	1083.7	1084.1	1083.7	1082.7	1081.7	1080.7	1079.7
155°	1121.8	1122.7	1123.5	1123.2	1121.7	1120.1	1118.5	1117.0
157.5°	1154.8	1155.7	1156.7	1156.5	1155.3	1154.0	1152.8	1151.5
160°	1175.1	1176.2	1177.3	1177.4	1176.6	1175.7	1174.8	1173.9
162.5°	1194.3	1195.4	1196.5	1196.3	1194.9	1193.5	1192.1	1190.7
165°	1218.5	1219.8	1221.1	1221.0	1219.5	1217.9	1216.4	1214.8
167.5°	1238.1	1239.5	1240.9	1240.9	1239.5	1238.1	1236.8	1235.4
170°	1248.9	1250.4	1252.0	1252.0	1250.4	1248.9	1247.3	1245.8
172.5°	1257.3	1258.7	1260.0	1260.0	1258.4	1256.9	1255.3	1253.7
175°	1266.4	1267.7	1269.1	1268.9	1267.4	1265.8	1264.3	1262.7
177.5°	1270.5	1271.5	1272.6	1272.5	1271.3	1270.0	1268.8	1267.5
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7

(END OF REPORT)