

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: P332691-830

Luminaire Tested: **SA4XXDIP-C1195D810U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332691-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1195D810U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

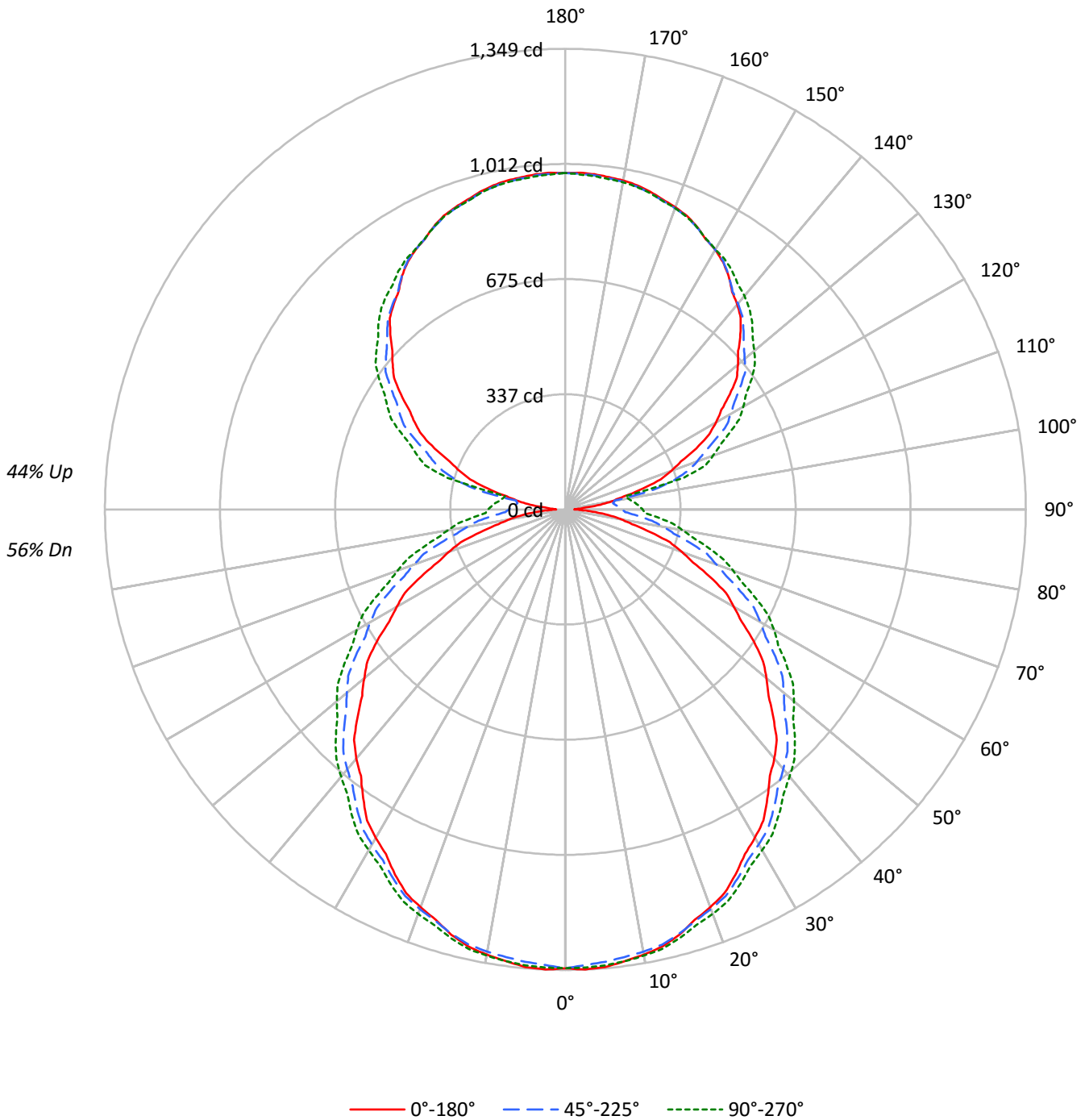
Lumens per Lamp: N/A  
Luminaire Lumens: 7632.3 lumens  
Efficiency: N/A  
Efficacy: 125.7 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 60.7  
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	50	30	10	0	
RCR																						
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	56				
1	98	93	89	85	91	86	83	79	74	71	69	63	61	59	52	51	49	44				
2	89	81	74	68	82	75	69	64	64	60	56	54	51	48	45	43	41	36				
3	81	70	63	56	74	66	59	53	56	51	46	48	44	40	40	37	34	30				
4	74	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	26				
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	32	28	25	22				
6	62	49	41	35	57	46	38	33	40	34	29	34	29	26	29	25	22	19				
7	57	45	36	30	53	42	34	29	36	30	26	31	26	23	26	22	19	17				
8	53	40	32	27	49	38	31	25	33	27	23	28	23	20	24	20	17	15				
9	49	37	29	24	46	35	27	23	30	24	20	26	21	18	22	18	16	13				
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12				

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

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	1.7
10°-20°	364.7	4.8
20°-30°	551.4	7.2
30°-40°	667.1	8.7
40°-50°	705.3	9.2
50°-60°	663.8	8.7
60°-70°	550.7	7.2
70°-80°	386.8	5.1
80°-90°	221.5	2.9
90°-100°	163.6	2.1
100°-110°	311.0	4.1
110°-120°	475.6	6.2
120°-130°	558.2	7.3
130°-140°	574.0	7.5
140°-150°	525.2	6.9
150°-160°	421.0	5.5
160°-170°	271.5	3.6
170°-180°	93.6	1.2
0°-30°	1043.3	13.7
0°-40°	1710.5	22.4
0°-60°	3079.5	40.3
0°-90°	4238.6	55.5
90°-120°	950.1	12.4
90°-150°	2607.6	34.2
90°-180°	3394.0	44.5
0°-180°	7632.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	26	95	165	211	227	18
95°	60	87	147	190	206	68
105°	235	271	329	370	359	247
115°	423	441	486	520	532	417
125°	588	592	626	655	666	525
135°	725	725	738	763	774	559
145°	834	835	835	845	852	521
155°	913	914	912	914	912	421
165°	963	960	960	965	959	272
175°	985	981	982	987	979	94
180°	985	985	985	985	985	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	45.0	59.0	73.0	87.0	101.0	115.5	130.4	145.3	160.2	175.1	185.0
90°	26.3	41.5	56.6	71.8	87.0	102.5	118.1	133.8	149.5	165.2	175.9
92.5°	32.1	44.3	56.5	68.6	80.7	94.6	110.4	126.0	141.7	157.4	167.8
95°	60.1	65.6	71.1	76.5	82.0	91.6	105.6	119.4	133.3	147.1	157.1
97.5°	103.9	116.8	129.8	142.8	155.7	159.9	155.1	150.4	145.7	141.1	150.0
100°	137.4	149.0	160.7	172.4	184.0	185.0	175.5	165.9	156.4	146.8	153.1
102.5°	176.3	186.2	195.9	205.7	215.5	225.3	235.1	245.0	254.8	264.6	243.4
105°	235.4	243.1	250.7	258.4	266.1	276.4	289.6	302.8	316.0	329.2	339.1
107.5°	292.7	298.7	304.6	310.7	316.6	326.0	338.8	351.7	364.5	377.3	386.3
110°	330.5	335.5	340.7	345.9	351.1	360.1	372.7	385.4	398.1	410.8	418.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	366.9	371.9	377.0	382.0	387.1	395.4	407.0	418.7	430.3	442.0	449.3
115°	423.2	426.7	430.2	433.7	437.2	444.2	454.8	465.3	475.9	486.4	494.1
117.5°	475.2	477.7	480.1	482.6	485.0	491.4	501.8	512.1	522.5	532.8	539.7
120°	509.4	511.0	512.7	514.3	516.0	521.6	531.1	540.7	550.3	559.8	566.8
122.5°	542.4	543.0	543.6	544.2	544.8	549.8	559.2	568.5	578.0	587.4	594.3
125°	588.2	588.5	588.9	589.2	589.5	593.7	601.7	609.7	617.7	625.8	632.6
127.5°	632.7	632.5	632.4	632.3	632.1	635.6	642.7	649.9	657.0	664.2	670.1
130°	660.4	660.3	660.1	659.9	659.7	662.6	668.5	674.3	680.1	686.0	692.1
132.5°	686.9	686.9	686.8	686.8	686.8	689.2	694.1	699.0	703.9	708.8	714.7
135°	725.2	725.1	724.9	724.7	724.6	726.0	729.0	732.0	735.0	738.0	743.7
137.5°	760.4	760.2	760.0	759.7	759.4	760.2	762.0	763.9	765.7	767.6	772.9
140°	783.4	783.4	783.4	783.4	783.4	783.7	784.4	785.0	785.7	786.4	791.3
142.5°	802.9	803.4	803.9	804.5	804.9	805.2	805.2	805.2	805.2	805.2	809.4
145°	834.2	834.4	834.6	834.7	834.9	835.0	835.0	835.0	835.0	835.0	837.2
147.5°	859.5	860.1	860.6	861.2	861.8	862.0	861.9	861.7	861.5	861.4	861.8
150°	877.8	878.1	878.4	878.7	879.0	879.1	878.9	878.8	878.6	878.4	878.4
152.5°	891.9	892.3	892.8	893.2	893.7	893.8	893.5	893.2	892.9	892.6	892.9
155°	913.1	913.2	913.4	913.6	913.8	913.6	913.1	912.6	912.1	911.6	912.3
157.5°	931.2	931.1	931.0	930.9	930.9	930.5	929.9	929.4	928.9	928.3	929.2
160°	941.9	941.3	940.8	940.4	939.9	939.5	939.4	939.2	939.1	938.9	939.9
162.5°	951.3	950.6	950.0	949.4	948.8	948.4	948.2	948.1	947.9	947.7	948.8
165°	963.2	962.4	961.6	960.7	960.0	959.5	959.5	959.5	959.5	959.5	960.8
167.5°	972.6	971.8	970.9	970.1	969.2	968.7	968.7	968.6	968.5	968.4	969.8
170°	978.0	976.9	976.0	975.0	974.0	973.6	973.7	973.9	974.1	974.3	975.5
172.5°	981.5	980.5	979.5	978.5	977.6	977.1	977.3	977.5	977.6	977.8	979.1
175°	985.3	984.3	983.4	982.4	981.4	981.0	981.2	981.3	981.5	981.7	983.1
177.5°	987.1	986.2	985.2	984.3	983.4	983.1	983.4	983.6	983.9	984.1	985.1
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	194.9	204.8	214.7	221.1	224.1	227.2	230.2	233.2
90°	186.6	197.3	207.9	214.8	217.8	220.8	223.8	226.8
92.5°	178.2	188.6	199.1	205.7	208.4	211.1	213.9	216.6
95°	167.2	177.2	187.2	193.8	197.0	200.1	203.3	206.5
97.5°	158.8	167.7	176.5	182.5	185.5	188.5	191.6	194.6
100°	159.3	165.5	171.8	176.2	178.7	181.2	183.7	186.2
102.5°	222.1	200.8	179.6	170.2	172.9	175.5	178.1	180.8
105°	348.9	358.7	368.6	371.9	368.7	365.5	362.2	359.0
107.5°	395.2	404.2	413.1	419.1	422.1	425.1	428.2	431.2
110°	426.9	434.9	442.9	448.5	451.7	454.8	458.0	461.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	456.7	464.0	471.4	476.6	479.9	483.2	486.5	489.8
115°	501.7	509.4	517.2	522.2	524.5	526.8	529.1	531.5
117.5°	546.6	553.5	560.3	565.1	567.7	570.3	572.9	575.5
120°	573.8	580.8	587.9	592.5	594.8	597.2	599.6	601.9
122.5°	601.2	608.0	614.9	619.3	621.4	623.6	625.7	627.7
125°	639.5	646.4	653.2	657.7	659.9	662.0	664.2	666.4
127.5°	676.1	682.0	688.0	692.0	694.1	696.3	698.4	700.5
130°	698.3	704.5	710.7	714.7	716.8	718.8	720.8	722.8
132.5°	720.7	726.6	732.5	736.4	738.3	740.2	742.1	743.9
135°	749.3	755.0	760.7	764.7	767.0	769.4	771.8	774.0
137.5°	778.1	783.3	788.6	792.0	793.5	795.1	796.7	798.3
140°	796.1	800.9	805.8	809.1	811.0	812.8	814.6	816.4
142.5°	813.6	817.7	821.9	824.7	826.1	827.6	829.1	830.5
145°	839.3	841.5	843.7	845.6	847.3	848.9	850.6	852.2
147.5°	862.1	862.5	863.0	863.7	865.0	866.3	867.5	868.7
150°	878.4	878.4	878.4	878.5	878.7	878.8	879.0	879.2
152.5°	893.2	893.4	893.6	893.7	893.6	893.5	893.4	893.3
155°	912.9	913.6	914.3	914.4	913.8	913.3	912.9	912.4
157.5°	930.0	930.9	931.7	931.7	930.9	930.0	929.2	928.3
160°	940.8	941.9	942.8	942.8	941.9	940.8	939.9	938.9
162.5°	949.7	950.6	951.7	951.6	950.5	949.3	948.3	947.2
165°	962.1	963.5	964.8	964.7	963.2	961.8	960.3	958.8
167.5°	971.3	972.7	974.1	974.0	972.4	970.7	969.1	967.5
170°	976.9	978.2	979.5	979.3	977.7	976.1	974.4	972.8
172.5°	980.4	981.8	983.1	982.8	981.1	979.3	977.5	975.7
175°	984.6	986.1	987.5	987.3	985.3	983.4	981.4	979.4
177.5°	986.3	987.3	988.4	988.1	986.5	985.0	983.4	981.8
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3

(END OF REPORT)