

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: P332656

Luminaire Tested: **SA4XXDIP-C1020D1035U835-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332656
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1020D1035U835-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7793.3 lumens
Efficiency: N/A
Efficacy: 128.8 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

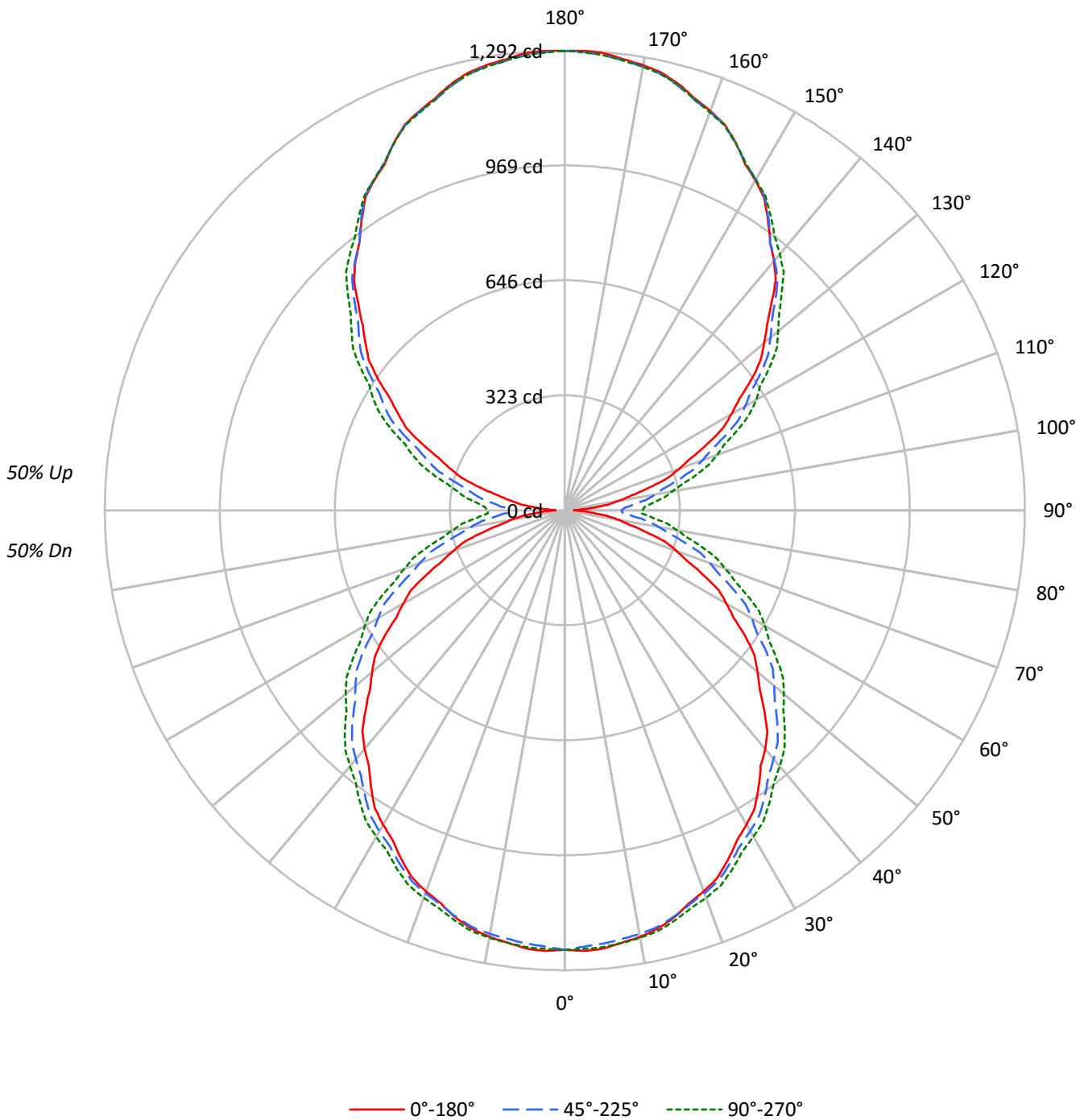
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									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	50	30	10	50	30	10	0																
RCR																																														
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50																												
1	97	92	88	84	89	85	81	78	72	69	66	59	57	56	48	47	45	40																												
2	88	80	73	68	80	74	68	63	62	58	54	51	48	46	42	39	37	33																												
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	37	34	31	27																												
4	73	61	53	47	67	57	50	44	48	42	38	40	36	32	32	29	27	23																												
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20																												
6	61	49	40	34	56	45	38	32	39	33	28	32	28	24	26	23	20	17																												
7	57	44	36	30	52	41	33	28	35	29	25	29	25	21	24	20	18	15																												
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13																												
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12																												
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9968	9968	9968
5°	9998	9741	9769
10°	9937	9582	9575
15°	9848	9397	9346
20°	9714	9194	9123
25°	9563	8966	8879
30°	9399	8739	8627
35°	9213	8507	8407
40°	9065	8285	8178
45°	8844	8081	7981
50°	8658	7846	7773
55°	8466	7625	7529
60°	8166	7342	7306
65°	7837	7040	7032
70°	7439	6694	6714
75°	6882	6312	6425
80°	6266	5946	6141
85°	5484	5623	5977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.9	1.5
10°-20°	335.0	4.3
20°-30°	506.5	6.5
30°-40°	612.9	7.9
40°-50°	647.9	8.3
50°-60°	609.8	7.8
60°-70°	505.9	6.5
70°-80°	355.4	4.6
80°-90°	204.8	2.6
90°-100°	204.4	2.6
100°-110°	340.5	4.4
110°-120°	487.3	6.3
120°-130°	597.8	7.7
130°-140°	648.3	8.3
140°-150°	625.7	8.0
150°-160°	523.8	6.7
160°-170°	348.5	4.5
170°-180°	122.0	1.6
0°-30°	958.4	12.3
0°-40°	1571.3	20.2
0°-60°	2829.0	36.3
0°-90°	3895.0	50.0
90°-120°	1032.1	13.2
90°-150°	2903.9	37.3
90°-180°	3898.0	50.0
0°-180°	7793.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1235	1235	1235	1235	1235	
5°	1236	1232	1222	1233	1232	117
15°	1185	1186	1182	1194	1193	334
25°	1084	1092	1096	1111	1113	499
35°	948	965	979	997	1002	594
45°	791	817	843	866	874	611
55°	619	649	690	716	726	552
65°	429	473	520	553	566	425
75°	238	289	347	384	398	253
85°	73	132	194	234	249	78
90°	25	91	159	203	218	18
95°	78	133	196	235	249	81
105°	245	275	329	365	380	261
115°	444	458	498	526	536	438
125°	639	640	672	695	702	570
135°	820	826	836	855	861	635
145°	994	997	998	1005	1008	622
155°	1138	1138	1137	1140	1137	523
165°	1239	1236	1234	1239	1236	349
175°	1289	1284	1283	1289	1283	122
180°	1291	1291	1291	1291	1291	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1239.1	1238.4	1237.6	1236.9	1236.1	1234.8	1232.8	1230.9	1228.9	1226.9	1228.6
5°	1236.0	1235.1	1234.2	1233.3	1232.4	1230.8	1228.7	1226.5	1224.4	1222.2	1224.7
7.5°	1225.5	1225.0	1224.4	1223.9	1223.3	1222.2	1220.4	1218.6	1216.8	1215.0	1217.8
10°	1216.7	1216.4	1216.1	1215.8	1215.5	1214.5	1213.0	1211.5	1209.9	1208.4	1211.2
12.5°	1204.5	1204.5	1204.4	1204.3	1204.3	1203.7	1202.7	1201.6	1200.6	1199.5	1202.1
15°	1184.9	1185.2	1185.5	1185.8	1186.1	1185.8	1184.9	1184.0	1183.0	1182.1	1184.9
17.5°	1158.1	1159.0	1159.9	1160.8	1161.8	1162.1	1161.9	1161.8	1161.6	1161.4	1164.2
20°	1139.3	1140.2	1141.1	1142.0	1143.0	1143.6	1143.9	1144.2	1144.5	1144.8	1147.9
22.5°	1118.2	1119.4	1120.6	1121.8	1122.9	1123.8	1124.3	1124.9	1125.4	1126.0	1129.1
25°	1084.0	1085.8	1087.6	1089.5	1091.3	1092.7	1093.6	1094.6	1095.5	1096.4	1099.8
27.5°	1045.8	1048.5	1051.2	1053.9	1056.6	1058.7	1060.1	1061.5	1062.9	1064.3	1067.5
30°	1020.4	1022.8	1025.3	1027.7	1030.2	1032.5	1034.6	1036.8	1038.9	1041.1	1044.5
32.5°	992.7	995.7	998.6	1001.6	1004.5	1007.2	1009.6	1012.0	1014.4	1016.8	1020.6
35°	948.5	952.2	955.8	959.5	963.2	966.6	969.7	972.7	975.8	978.9	983.2
37.5°	903.9	908.2	912.4	916.7	920.9	924.9	928.7	932.5	936.4	940.2	944.5
40°	875.2	879.2	883.2	887.2	891.2	895.3	899.6	903.9	908.2	912.5	917.1
42.5°	842.0	846.5	851.0	855.5	859.9	864.7	869.7	874.8	879.8	884.9	890.0
45°	790.8	796.7	802.5	808.4	814.2	820.0	825.9	831.7	837.5	843.4	848.6
47.5°	741.9	747.9	753.9	760.0	766.0	772.4	779.1	785.9	792.7	799.4	804.8
50°	706.5	713.3	720.0	726.8	733.5	740.3	747.1	753.8	760.6	767.3	773.5
52.5°	671.1	677.9	684.6	691.4	698.2	705.4	713.1	720.9	728.6	736.4	742.5
55°	619.4	625.9	632.3	638.8	645.2	653.0	662.3	671.5	680.7	689.9	696.1
57.5°	561.6	569.6	577.6	585.6	593.6	602.1	611.3	620.5	629.6	638.8	646.1
60°	524.0	532.0	540.0	548.0	556.0	565.0	575.2	585.3	595.4	605.6	612.6
62.5°	487.5	496.2	505.0	513.7	522.4	531.8	542.0	552.1	562.3	572.4	579.5
65°	428.6	438.4	448.3	458.1	467.9	478.1	488.5	499.0	509.4	519.9	527.5
67.5°	371.9	382.4	392.8	403.3	413.7	424.5	435.7	446.9	458.1	469.3	477.1
70°	333.2	343.7	354.1	364.5	375.0	386.1	397.7	409.4	421.1	432.8	441.1
72.5°	295.6	306.3	317.0	327.7	338.4	349.9	362.3	374.7	387.2	399.6	407.6
75°	237.8	249.2	260.5	271.9	283.3	295.4	308.3	321.2	334.1	347.0	355.6
77.5°	183.9	195.9	208.0	220.0	232.1	244.8	258.4	271.9	285.4	298.9	307.6
80°	150.7	163.0	175.3	187.6	199.9	212.8	226.3	239.8	253.3	266.8	276.1
82.5°	117.5	130.3	143.1	155.9	168.6	181.8	195.3	208.8	222.4	235.9	245.3
85°	73.3	86.2	99.1	112.0	124.9	138.3	152.1	165.9	179.7	193.6	202.8
87.5°	41.5	54.5	67.6	80.6	93.6	107.0	120.8	134.7	148.5	162.3	171.5
90°	25.1	39.8	54.6	69.3	84.0	98.9	113.9	128.9	143.9	158.8	169.1
92.5°	42.4	56.2	70.1	83.9	97.8	112.0	126.4	140.9	155.3	169.8	179.2
95°	77.9	90.0	102.1	114.3	126.4	139.5	153.7	167.8	182.0	196.1	205.1
97.5°	120.9	131.2	141.6	151.9	162.2	174.5	188.8	203.1	217.4	231.7	240.5
100°	154.9	163.8	172.7	181.6	190.5	201.9	215.9	229.8	243.8	257.8	266.5
102.5°	191.7	199.0	206.4	213.8	221.1	231.6	245.1	258.7	272.2	285.8	294.5
105°	245.0	251.4	257.7	264.1	270.5	279.8	292.0	304.3	316.6	328.8	337.2
107.5°	303.6	308.9	314.2	319.5	324.8	332.9	343.8	354.7	365.6	376.5	384.7
110°	342.4	347.2	351.9	356.7	361.4	369.1	379.6	390.1	400.7	411.2	417.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	382.9	386.8	390.7	394.6	398.5	405.3	415.2	425.1	434.9	444.8	451.5
115°	443.5	446.2	449.0	451.8	454.5	460.6	470.0	479.4	488.8	498.2	504.7
117.5°	501.9	503.7	505.6	507.4	509.2	514.6	523.4	532.3	541.1	550.0	555.6
120°	539.9	541.7	543.5	545.3	547.2	552.2	560.4	568.7	576.9	585.2	590.2
122.5°	580.6	581.2	581.7	582.3	582.8	587.1	595.2	603.3	611.4	619.6	624.9
125°	639.3	639.0	638.7	638.4	638.1	641.7	649.2	656.6	664.1	671.5	676.9
127.5°	693.6	693.9	694.3	694.6	695.0	698.0	703.5	709.0	714.6	720.1	725.2
130°	730.8	731.1	731.5	731.9	732.2	734.9	739.8	744.7	749.6	754.5	759.6
132.5°	769.9	770.1	770.3	770.5	770.6	772.6	776.4	780.1	783.9	787.6	792.5
135°	820.2	821.6	822.9	824.2	825.6	827.3	829.5	831.6	833.8	835.9	840.4
137.5°	876.5	876.8	877.2	877.5	877.8	878.6	880.0	881.4	882.8	884.2	888.2
140°	914.1	914.2	914.3	914.5	914.6	914.8	915.1	915.4	915.8	916.1	919.8
142.5°	947.3	947.7	948.1	948.4	948.8	948.8	948.5	948.1	947.7	947.4	950.8
145°	994.5	995.1	995.7	996.3	996.8	997.2	997.5	997.7	997.9	998.1	999.8
147.5°	1041.6	1042.4	1043.2	1043.9	1044.7	1045.0	1044.8	1044.6	1044.4	1044.3	1044.3
150°	1070.4	1071.0	1071.5	1072.1	1072.7	1073.0	1073.0	1073.0	1073.0	1073.0	1073.0
152.5°	1096.4	1096.9	1097.4	1097.8	1098.3	1098.6	1098.8	1099.0	1099.2	1099.3	1099.9
155°	1137.9	1137.9	1137.9	1137.9	1137.9	1137.8	1137.5	1137.3	1137.1	1136.9	1137.8
157.5°	1173.0	1172.6	1172.2	1171.8	1171.4	1171.2	1171.1	1171.1	1171.1	1171.0	1171.7
160°	1193.8	1193.5	1193.3	1193.1	1192.9	1192.7	1192.4	1192.2	1192.0	1191.8	1192.4
162.5°	1212.9	1212.4	1211.8	1211.2	1210.6	1210.2	1210.0	1209.8	1209.6	1209.3	1210.5
165°	1238.7	1238.0	1237.4	1236.7	1236.0	1235.5	1235.0	1234.6	1234.1	1233.7	1235.0
167.5°	1258.5	1257.5	1256.6	1255.7	1254.7	1254.3	1254.3	1254.4	1254.4	1254.5	1255.8
170°	1269.6	1268.5	1267.4	1266.3	1265.2	1264.7	1265.0	1265.2	1265.4	1265.6	1267.0
172.5°	1277.6	1276.7	1275.8	1274.8	1273.9	1273.4	1273.5	1273.5	1273.6	1273.6	1275.1
175°	1288.6	1287.5	1286.4	1285.3	1284.2	1283.5	1283.3	1283.0	1282.8	1282.6	1284.2
177.5°	1292.2	1291.3	1290.4	1289.5	1288.6	1288.2	1288.2	1288.2	1288.2	1288.2	1289.4
180°	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7	1234.7
2.5°	1230.4	1232.1	1233.8	1234.5	1234.3	1234.0	1233.8	1233.6
5°	1227.1	1229.6	1232.1	1233.1	1232.8	1232.5	1232.2	1231.9
7.5°	1220.6	1223.3	1226.1	1227.3	1227.0	1226.7	1226.4	1226.1
10°	1213.9	1216.7	1219.5	1220.7	1220.4	1220.1	1219.8	1219.5
12.5°	1204.6	1207.1	1209.6	1210.9	1210.8	1210.7	1210.7	1210.6
15°	1187.7	1190.4	1193.2	1194.4	1194.1	1193.8	1193.5	1193.2
17.5°	1167.0	1169.9	1172.7	1174.0	1173.7	1173.5	1173.2	1173.0
20°	1150.9	1154.0	1157.1	1158.6	1158.6	1158.6	1158.6	1158.6
22.5°	1132.1	1135.2	1138.3	1140.1	1140.6	1141.0	1141.5	1142.0
25°	1103.2	1106.5	1109.9	1111.8	1112.1	1112.4	1112.7	1113.0
27.5°	1070.6	1073.7	1076.9	1078.6	1079.0	1079.4	1079.7	1080.1
30°	1047.9	1051.2	1054.6	1056.6	1057.2	1057.8	1058.5	1059.1
32.5°	1024.5	1028.4	1032.3	1034.5	1035.1	1035.7	1036.3	1037.0
35°	987.5	991.8	996.1	998.7	999.6	1000.5	1001.5	1002.4
37.5°	948.9	953.3	957.6	960.3	961.3	962.3	963.2	964.2
40°	921.7	926.3	931.0	933.9	935.1	936.3	937.6	938.8
42.5°	895.1	900.2	905.3	908.3	909.3	910.3	911.3	912.2
45°	853.8	859.1	864.3	867.7	869.2	870.7	872.3	873.8
47.5°	810.2	815.6	821.1	824.7	826.5	828.4	830.2	832.1
50°	779.6	785.8	791.9	795.9	797.8	799.6	801.4	803.3
52.5°	748.7	754.8	761.0	764.9	766.8	768.6	770.5	772.3
55°	702.2	708.4	714.5	718.5	720.3	722.2	724.0	725.9
57.5°	653.4	660.7	668.0	672.5	674.2	676.0	677.7	679.4
60°	619.7	626.8	633.8	638.6	641.1	643.5	646.0	648.4
62.5°	586.5	593.6	600.7	605.4	607.9	610.3	612.8	615.3
65°	535.2	542.9	550.6	555.7	558.1	560.6	563.0	565.5
67.5°	484.9	492.7	500.5	505.6	508.0	510.4	512.8	515.2
70°	449.3	457.6	465.9	471.2	473.3	475.5	477.6	479.8
72.5°	415.7	423.7	431.8	437.0	439.4	441.8	444.2	446.6
75°	364.2	372.8	381.4	387.1	389.9	392.7	395.4	398.2
77.5°	316.4	325.1	333.8	339.7	342.6	345.6	348.5	351.5
80°	285.3	294.5	303.7	309.5	312.0	314.5	316.9	319.4
82.5°	254.8	264.3	273.7	279.8	282.5	285.2	287.9	290.6
85°	212.0	221.2	230.4	236.6	239.7	242.7	245.8	248.9
87.5°	180.6	189.8	199.0	205.0	207.8	210.6	213.4	216.1
90°	179.3	189.6	199.8	206.4	209.3	212.2	215.1	218.0
92.5°	188.7	198.2	207.6	213.7	216.4	219.2	221.9	224.6
95°	214.1	223.0	232.0	237.9	240.6	243.4	246.1	248.9
97.5°	249.4	258.2	267.1	272.8	275.5	278.1	280.8	283.4
100°	275.3	284.0	292.7	298.2	300.3	302.5	304.6	306.8
102.5°	303.1	311.8	320.5	326.1	328.7	331.3	333.8	336.4
105°	345.5	353.8	362.2	367.9	371.1	374.2	377.3	380.4
107.5°	392.8	401.0	409.2	414.4	416.5	418.7	420.9	423.0
110°	424.4	431.1	437.7	442.6	445.7	448.8	451.9	455.0



TEST NUMBER: P332656

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	458.2	465.0	471.7	476.4	479.0	481.6	484.1	486.7
115°	511.2	517.8	524.3	528.6	530.5	532.4	534.3	536.3
117.5°	561.2	566.9	572.5	576.3	578.4	580.4	582.4	584.4
120°	595.2	600.3	605.3	609.3	612.2	615.1	618.0	620.9
122.5°	630.3	635.7	641.1	644.5	645.9	647.3	648.8	650.2
125°	682.3	687.7	693.1	696.5	697.9	699.3	700.7	702.1
127.5°	730.3	735.4	740.5	743.9	745.6	747.4	749.1	750.8
130°	764.7	769.8	774.9	777.9	778.8	779.8	780.8	781.7
132.5°	797.3	802.2	807.0	810.2	811.6	813.1	814.6	816.1
135°	844.9	849.3	853.8	856.6	857.8	859.0	860.2	861.3
137.5°	892.1	896.0	899.9	902.7	904.3	906.0	907.7	909.3
140°	923.6	927.4	931.1	933.7	935.0	936.3	937.6	939.0
142.5°	954.3	957.8	961.2	963.6	964.8	966.1	967.3	968.6
145°	1001.4	1003.0	1004.6	1005.7	1006.3	1006.8	1007.4	1008.0
147.5°	1044.4	1044.5	1044.5	1044.9	1045.7	1046.5	1047.2	1048.0
150°	1073.0	1073.0	1073.0	1072.9	1072.7	1072.4	1072.2	1072.0
152.5°	1100.4	1100.9	1101.5	1101.5	1100.9	1100.3	1099.7	1099.1
155°	1138.7	1139.5	1140.4	1140.4	1139.5	1138.7	1137.8	1136.9
157.5°	1172.3	1173.0	1173.7	1173.6	1172.9	1172.1	1171.4	1170.6
160°	1193.1	1193.8	1194.4	1194.2	1193.1	1192.0	1190.9	1189.8
162.5°	1211.7	1212.9	1214.1	1214.2	1213.1	1212.0	1210.9	1209.7
165°	1236.4	1237.7	1239.0	1239.2	1238.4	1237.5	1236.6	1235.7
167.5°	1257.1	1258.5	1259.8	1259.8	1258.4	1257.0	1255.6	1254.3
170°	1268.3	1269.6	1271.0	1270.8	1269.3	1267.7	1266.2	1264.6
172.5°	1276.6	1278.1	1279.7	1279.6	1278.1	1276.5	1275.0	1273.4
175°	1285.7	1287.3	1288.8	1288.8	1287.3	1285.7	1284.2	1282.6
177.5°	1290.7	1291.9	1293.2	1293.1	1291.7	1290.2	1288.8	1287.4
180°	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6	1290.6

(END OF REPORT)