

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: P332659-930

Luminaire Tested: **SA4XXDIP-C1020D1035U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332659-930
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-C1020D1035U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH 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: 6532.5 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

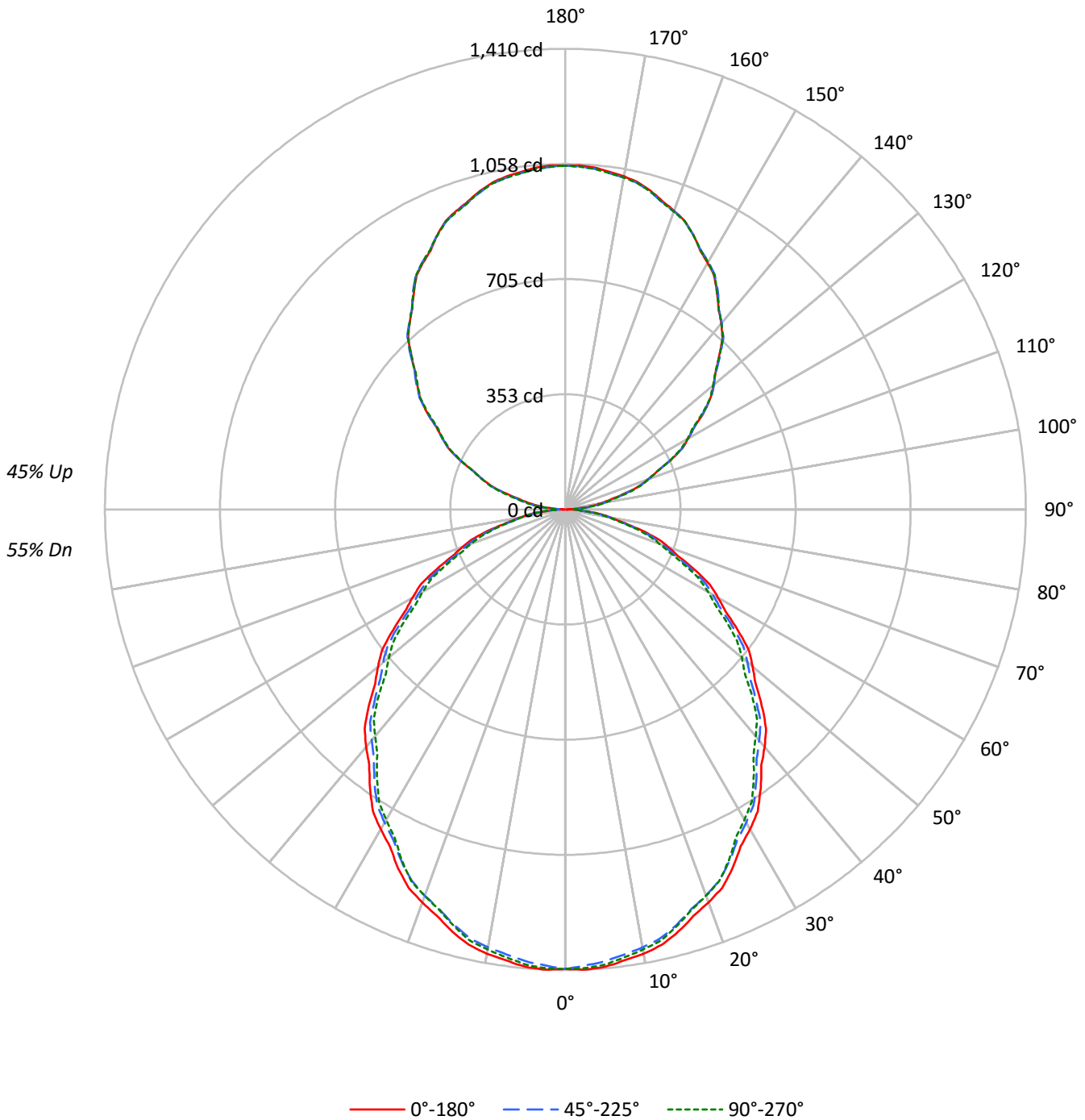
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
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	55				
1	99	95	91	87	92	88	85	81	76	73	71	64	62	61	54	53	51	46				
2	90	83	76	71	83	77	71	67	66	62	59	56	53	51	47	45	43	39				
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33				
4	75	64	56	50	70	60	53	47	52	46	42	44	40	37	38	34	32	28				
5	69	57	49	43	64	54	46	41	47	41	36	40	35	32	34	30	28	25				
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	24	22				
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	24	22	19				
8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19	17				
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	15				
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11357	11357	11357
5°	11391	11255	11336
10°	11320	11163	11218
15°	11183	11004	11032
20°	11001	10808	10817
25°	10794	10583	10553
30°	10540	10318	10224
35°	10276	10042	9909
40°	10003	9729	9551
45°	9717	9421	9240
50°	9401	9146	8862
55°	9060	8790	8504
60°	8719	8391	8136
65°	8334	8010	7687
70°	7903	7504	7211
75°	7243	6890	6716
80°	6448	6183	6025
85°	5641	5428	5326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.5	2.0
10°-20°	373.3	5.7
20°-30°	549.4	8.4
30°-40°	638.7	9.8
40°-50°	638.7	9.8
50°-60°	558.7	8.6
60°-70°	414.9	6.4
70°-80°	235.7	3.6
80°-90°	71.2	1.1
90°-100°	69.4	1.1
100°-110°	205.6	3.1
110°-120°	348.9	5.3
120°-130°	460.1	7.0
130°-140°	516.7	7.9
140°-150°	507.8	7.8
150°-160°	427.1	6.5
160°-170°	284.1	4.3
170°-180°	99.5	1.5
0°-30°	1055.2	16.2
0°-40°	1693.9	25.9
0°-60°	2891.3	44.3
0°-90°	3613.2	55.3
90°-120°	623.9	9.6
90°-150°	2108.6	32.3
90°-180°	2919.0	44.7
0°-180°	6532.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1406	1401	1389	1400	1399	133
15°	1338	1333	1317	1323	1320	377
25°	1212	1204	1188	1189	1185	557
35°	1043	1034	1019	1011	1006	652
45°	851	843	825	813	809	656
55°	644	640	624	611	604	576
65°	436	430	419	408	402	432
75°	232	227	221	217	215	247
85°	61	61	59	59	58	67
90°	2	11	18	23	24	6
95°	49	56	62	64	64	54
105°	190	191	194	196	198	201
115°	355	355	353	352	352	350
125°	517	517	516	514	513	460
135°	666	671	671	670	667	515
145°	810	813	814	813	810	507
155°	928	928	927	930	927	427
165°	1010	1008	1006	1010	1008	285
175°	1051	1047	1046	1051	1046	100
180°	1052	1052	1052	1052	1052	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8
2.5°	1410.4	1409.8	1409.2	1408.6	1408.0	1406.6	1404.4	1402.2	1400.0	1397.7	1399.8
5°	1405.7	1404.7	1403.7	1402.6	1401.7	1399.8	1397.0	1394.2	1391.6	1388.8	1391.6
7.5°	1392.6	1391.6	1390.6	1389.6	1388.6	1386.6	1383.5	1380.5	1377.4	1374.4	1376.6
10°	1380.9	1379.9	1378.8	1377.9	1376.9	1374.8	1371.5	1368.2	1365.0	1361.7	1363.7
12.5°	1365.5	1364.6	1363.5	1362.5	1361.5	1359.3	1355.8	1352.4	1348.9	1345.5	1347.7
15°	1338.1	1337.0	1336.0	1335.1	1334.0	1331.6	1327.9	1324.1	1320.4	1316.6	1318.1
17.5°	1304.9	1303.7	1302.4	1301.1	1299.9	1297.5	1293.9	1290.4	1286.8	1283.3	1284.2
20°	1280.5	1279.3	1278.1	1276.8	1275.5	1273.0	1269.3	1265.5	1261.8	1258.0	1258.7
22.5°	1254.4	1252.7	1251.1	1249.4	1247.8	1245.0	1241.3	1237.5	1233.8	1230.0	1231.4
25°	1211.8	1210.1	1208.3	1206.5	1204.8	1202.2	1198.7	1195.1	1191.6	1188.1	1188.4
27.5°	1163.1	1161.3	1159.4	1157.6	1155.8	1153.3	1150.1	1146.8	1143.5	1140.3	1139.7
30°	1130.7	1128.6	1126.6	1124.6	1122.6	1120.0	1116.7	1113.5	1110.2	1106.9	1106.0
32.5°	1096.3	1094.5	1092.7	1091.0	1089.2	1086.5	1083.0	1079.6	1076.1	1072.7	1071.5
35°	1042.7	1041.0	1039.2	1037.5	1035.7	1033.1	1029.6	1026.1	1022.5	1019.0	1017.2
37.5°	986.1	984.5	982.9	981.3	979.7	977.1	973.2	969.5	965.7	962.0	960.1
40°	949.2	947.1	945.1	943.1	941.1	938.2	934.5	930.7	927.0	923.2	920.7
42.5°	909.5	908.2	907.0	905.9	904.7	902.0	897.8	893.6	889.5	885.3	882.4
45°	851.1	849.3	847.6	845.8	844.1	841.1	837.1	833.2	829.2	825.2	822.4
47.5°	789.9	788.8	787.6	786.4	785.1	782.7	779.0	775.3	771.6	767.8	764.8
50°	748.5	747.5	746.5	745.5	744.4	742.2	738.7	735.2	731.7	728.2	724.7
52.5°	707.9	706.7	705.5	704.3	703.1	700.7	696.9	693.2	689.5	685.8	682.7
55°	643.7	642.9	642.1	641.4	640.7	638.5	635.0	631.5	628.0	624.5	621.5
57.5°	582.4	581.5	580.7	579.8	578.9	576.7	573.3	569.9	566.4	563.0	560.1
60°	540.0	538.7	537.4	536.2	534.9	532.7	529.5	526.2	522.9	519.7	517.4
62.5°	498.5	497.4	496.4	495.3	494.2	492.0	488.5	485.1	481.6	478.2	476.1
65°	436.3	435.0	433.7	432.5	431.2	429.3	426.8	424.4	421.8	419.3	416.9
67.5°	373.6	372.4	371.3	370.1	368.9	367.2	364.8	362.4	360.0	357.6	355.1
70°	334.8	333.0	331.3	329.5	327.8	325.9	323.9	321.9	319.9	317.9	315.8
72.5°	293.3	291.6	289.8	288.0	286.3	284.6	283.0	281.4	279.8	278.2	276.6
75°	232.2	231.0	229.7	228.4	227.2	225.9	224.7	223.5	222.2	220.9	220.0
77.5°	173.8	173.3	172.7	172.2	171.6	170.8	169.7	168.6	167.5	166.4	166.1
80°	138.7	137.9	137.1	136.4	135.7	135.0	134.5	134.0	133.5	133.0	132.5
82.5°	104.4	104.0	103.7	103.3	103.0	102.7	102.6	102.6	102.5	102.3	102.1
85°	60.9	60.9	60.9	60.9	60.9	60.7	60.1	59.6	59.1	58.6	58.6
87.5°	24.0	24.1	24.3	24.5	24.7	24.9	24.9	25.0	25.1	25.2	25.4
90°	2.4	4.4	6.4	8.4	10.4	12.1	13.5	15.0	16.5	17.9	19.0
92.5°	17.4	19.7	21.9	24.2	26.5	28.2	29.2	30.2	31.2	32.2	32.9
95°	48.8	50.5	52.1	53.7	55.4	56.7	58.0	59.4	60.6	61.9	62.4
97.5°	85.3	86.6	87.9	89.2	90.5	91.9	93.4	94.8	96.4	97.8	98.5
100°	113.9	114.6	115.4	116.1	116.8	118.0	119.6	121.2	122.9	124.5	124.9
102.5°	143.9	144.1	144.5	144.7	145.0	145.9	147.4	148.9	150.3	151.9	152.4
105°	189.6	189.8	190.0	190.1	190.4	190.8	191.5	192.2	193.0	193.7	194.2
107.5°	237.7	237.8	238.1	238.3	238.5	238.6	238.8	238.9	239.0	239.1	239.6
110°	270.2	270.5	270.9	271.3	271.7	271.7	271.5	271.3	271.2	271.0	270.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.0	304.1	304.2	304.3	304.4	304.2	303.9	303.5	303.2	302.9	302.8
115°	354.8	354.8	354.8	354.8	354.8	354.7	354.2	353.9	353.5	353.2	353.0
117.5°	402.7	402.8	402.9	403.1	403.2	403.2	402.9	402.7	402.4	402.2	401.5
120°	434.6	435.3	436.0	436.8	437.5	437.6	437.0	436.4	435.9	435.4	434.5
122.5°	467.7	468.1	468.3	468.6	468.9	469.0	468.7	468.4	468.1	467.9	467.3
125°	516.7	516.7	516.7	516.7	516.7	516.7	516.5	516.3	516.1	515.9	515.6
127.5°	561.2	561.7	562.2	562.8	563.4	563.5	563.2	562.9	562.6	562.3	562.0
130°	592.4	593.0	593.5	594.0	594.6	594.8	594.8	594.8	594.8	594.8	594.5
132.5°	624.4	624.8	625.1	625.5	625.9	626.1	625.9	625.7	625.6	625.5	625.1
135°	666.5	667.6	668.6	669.8	670.8	671.4	671.4	671.4	671.4	671.4	671.0
137.5°	712.4	712.9	713.4	713.9	714.4	714.8	715.1	715.4	715.7	716.0	715.5
140°	743.0	743.3	743.7	744.0	744.4	744.6	744.6	744.6	744.6	744.6	744.4
142.5°	770.9	771.4	771.7	772.1	772.4	772.5	772.4	772.3	772.1	771.9	771.9
145°	809.7	810.4	811.1	811.9	812.6	813.0	813.3	813.4	813.6	813.8	813.6
147.5°	848.2	849.0	849.9	850.8	851.6	852.0	851.8	851.7	851.5	851.4	851.3
150°	871.6	872.3	873.0	873.8	874.5	874.8	874.8	874.8	874.8	874.8	874.8
152.5°	893.7	894.1	894.5	895.0	895.4	895.7	895.9	896.0	896.2	896.3	896.7
155°	927.7	927.7	927.7	927.7	927.7	927.6	927.4	927.2	927.1	926.9	927.6
157.5°	956.3	956.0	955.7	955.4	955.0	954.9	954.8	954.8	954.8	954.7	955.3
160°	973.3	973.1	972.9	972.7	972.6	972.4	972.2	972.0	971.8	971.7	972.2
162.5°	988.9	988.5	988.0	987.5	987.0	986.7	986.5	986.3	986.2	985.9	986.9
165°	1009.9	1009.3	1008.9	1008.3	1007.7	1007.3	1006.9	1006.6	1006.2	1005.8	1006.9
167.5°	1026.1	1025.2	1024.5	1023.8	1023.0	1022.6	1022.6	1022.7	1022.7	1022.8	1023.9
170°	1035.1	1034.2	1033.3	1032.4	1031.5	1031.1	1031.4	1031.5	1031.7	1031.8	1033.0
172.5°	1041.6	1040.9	1040.2	1039.3	1038.6	1038.2	1038.3	1038.3	1038.4	1038.4	1039.6
175°	1050.6	1049.7	1048.8	1047.9	1047.0	1046.4	1046.3	1046.0	1045.9	1045.7	1047.0
177.5°	1053.5	1052.8	1052.1	1051.3	1050.6	1050.3	1050.3	1050.3	1050.3	1050.3	1051.2
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8	1406.8
2.5°	1401.7	1403.8	1405.8	1406.7	1406.5	1406.3	1406.1	1405.9
5°	1394.2	1397.0	1399.8	1400.9	1400.4	1399.9	1399.4	1398.9
7.5°	1378.8	1381.0	1383.2	1384.1	1383.8	1383.5	1383.2	1382.9
10°	1365.7	1367.7	1369.7	1370.4	1369.9	1369.5	1369.0	1368.5
12.5°	1349.9	1352.1	1354.3	1355.0	1354.4	1353.6	1352.9	1352.3
15°	1319.6	1321.1	1322.7	1323.0	1322.3	1321.5	1320.8	1320.0
17.5°	1285.2	1286.1	1287.0	1287.3	1286.8	1286.3	1285.8	1285.2
20°	1259.5	1260.3	1261.0	1261.1	1260.6	1260.1	1259.6	1259.1
22.5°	1232.7	1234.1	1235.4	1235.7	1234.8	1233.9	1233.0	1232.1
25°	1188.6	1188.9	1189.1	1188.7	1187.7	1186.7	1185.7	1184.7
27.5°	1139.1	1138.5	1137.9	1137.0	1135.7	1134.5	1133.2	1132.0
30°	1105.0	1103.9	1102.9	1101.8	1100.6	1099.3	1098.0	1096.8
32.5°	1070.2	1069.1	1067.9	1066.7	1065.4	1064.1	1062.9	1061.6
35°	1015.5	1013.7	1012.0	1010.5	1009.3	1008.0	1006.7	1005.5
37.5°	958.1	956.3	954.4	952.6	951.0	949.3	947.6	946.0
40°	918.2	915.7	913.2	911.3	910.0	908.8	907.6	906.3
42.5°	879.5	876.6	873.7	871.8	871.0	870.1	869.3	868.5
45°	819.6	816.8	814.1	812.4	811.6	810.9	810.1	809.3
47.5°	761.7	758.6	755.5	752.9	751.1	749.1	747.2	745.3
50°	721.2	717.7	714.2	711.7	710.1	708.7	707.2	705.6
52.5°	679.6	676.5	673.4	670.9	669.0	667.1	665.2	663.2
55°	618.5	615.5	612.5	610.3	608.7	607.2	605.7	604.2
57.5°	557.3	554.4	551.5	549.3	547.9	546.5	545.0	543.6
60°	515.2	512.9	510.6	508.9	507.6	506.4	505.2	503.9
62.5°	474.1	472.0	469.9	468.3	467.1	465.8	464.6	463.3
65°	414.3	411.8	409.3	407.4	406.2	405.0	403.7	402.4
67.5°	352.8	350.3	348.0	346.6	346.2	345.8	345.5	345.2
70°	313.9	311.9	309.9	308.5	307.8	307.0	306.2	305.5
72.5°	275.0	273.4	271.8	270.6	269.9	269.1	268.4	267.6
75°	218.9	217.9	217.0	216.3	216.1	215.8	215.6	215.3
77.5°	165.8	165.5	165.2	164.7	164.0	163.4	162.7	162.1
80°	132.0	131.5	131.0	130.6	130.4	130.1	129.9	129.6
82.5°	101.7	101.4	101.2	100.9	100.6	100.4	100.1	99.9
85°	58.6	58.6	58.6	58.5	58.2	58.0	57.7	57.5
87.5°	25.7	25.8	26.1	26.3	26.3	26.4	26.4	26.5
90°	20.1	21.2	22.3	23.0	23.3	23.7	24.1	24.4
92.5°	33.5	34.2	34.8	35.3	35.5	35.7	36.0	36.1
95°	62.9	63.5	64.0	64.3	64.3	64.3	64.3	64.3
97.5°	99.1	99.8	100.4	100.8	100.8	100.8	100.8	100.8
100°	125.2	125.6	126.0	126.1	126.1	126.1	126.1	126.1
102.5°	152.9	153.4	153.8	154.2	154.3	154.5	154.7	154.7
105°	194.8	195.3	195.8	196.4	196.9	197.5	198.0	198.5
107.5°	240.1	240.6	241.1	241.3	241.3	241.2	241.2	241.2
110°	270.3	269.9	269.5	269.6	270.2	270.7	271.3	271.8



TEST NUMBER: P332659-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	302.7	302.6	302.6	302.6	302.7	302.8	303.0	303.0
115°	352.8	352.6	352.5	352.3	352.1	351.9	351.7	351.6
117.5°	401.0	400.3	399.7	399.3	398.8	398.5	398.1	397.8
120°	433.6	432.7	431.8	431.5	431.9	432.2	432.6	432.9
122.5°	466.7	466.1	465.5	464.8	464.1	463.5	462.8	462.2
125°	515.2	514.9	514.5	514.1	513.8	513.4	513.1	512.7
127.5°	561.6	561.3	560.8	560.5	560.3	559.9	559.7	559.4
130°	594.2	593.8	593.5	592.9	592.2	591.4	590.7	590.0
132.5°	624.8	624.4	624.0	623.7	623.4	623.1	622.8	622.6
135°	670.7	670.3	669.9	669.4	669.0	668.4	667.8	667.3
137.5°	715.0	714.5	714.1	713.9	714.0	714.1	714.2	714.4
140°	744.3	744.0	743.9	743.7	743.6	743.3	743.1	743.0
142.5°	771.8	771.8	771.8	771.8	771.8	771.7	771.7	771.6
145°	813.4	813.3	813.0	812.7	812.1	811.6	811.1	810.5
147.5°	851.1	850.9	850.8	850.6	850.4	850.3	850.1	849.9
150°	874.8	874.8	874.8	874.7	874.6	874.3	874.2	874.0
152.5°	897.2	897.6	898.1	898.1	897.6	897.1	896.6	896.1
155°	928.4	929.0	929.8	929.8	929.0	928.4	927.6	926.9
157.5°	955.8	956.3	956.9	956.8	956.3	955.6	955.0	954.4
160°	972.7	973.3	973.8	973.6	972.7	971.8	970.9	970.0
162.5°	987.9	988.9	989.9	989.9	989.0	988.1	987.2	986.3
165°	1008.0	1009.1	1010.2	1010.3	1009.7	1008.9	1008.2	1007.5
167.5°	1024.9	1026.1	1027.1	1027.1	1026.0	1024.8	1023.7	1022.6
170°	1034.0	1035.1	1036.2	1036.1	1034.9	1033.6	1032.3	1031.0
172.5°	1040.8	1042.0	1043.3	1043.3	1042.0	1040.7	1039.5	1038.2
175°	1048.2	1049.5	1050.8	1050.8	1049.5	1048.2	1047.0	1045.7
177.5°	1052.3	1053.3	1054.3	1054.3	1053.1	1051.9	1050.8	1049.6
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2

(END OF REPORT)