

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: P332316

Luminaire Tested: **S123RDIP-S775D805U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332316
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: S123RDIP-S775D805U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5677.1 lumens
Efficiency: N/A
Efficacy: 123.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

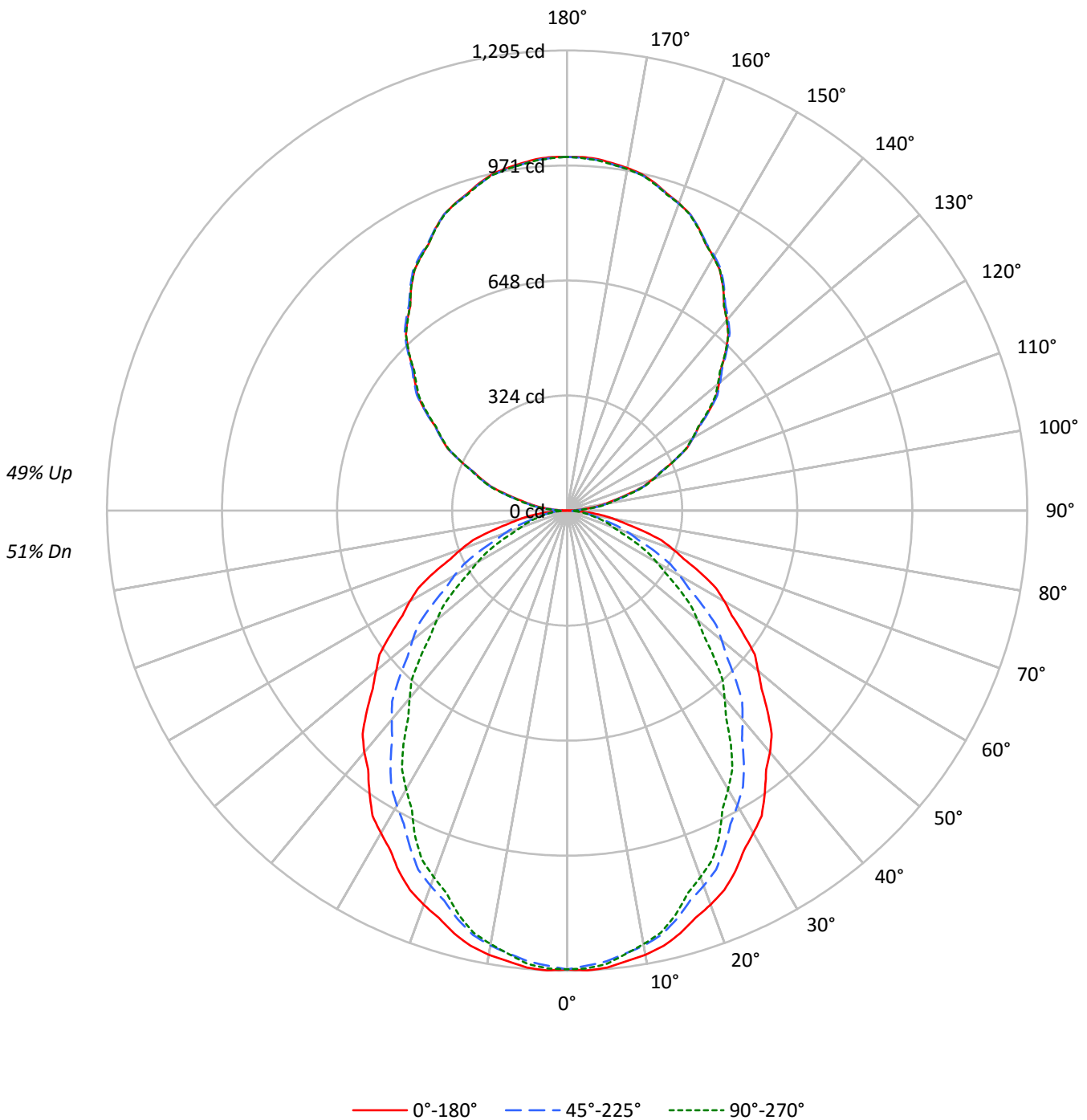
Input Watts (W): 45.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51				51
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44				44
2	90	83	77	72	83	77	71	67	65	62	58	55	52	50	46	44	42	37				37
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32				32
4	75	65	57	51	69	60	53	48	52	46	42	44	40	37	36	34	31	28				28
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	33	30	27	24				24
6	64	52	44	38	59	49	41	36	42	36	32	36	31	28	30	27	24	21				21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19				19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17				17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16				16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14				14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13897	13897	13897
5°	13950	13758	13837
10°	13871	13585	13539
15°	13722	13266	13127
20°	13518	12869	12569
25°	13307	12423	12025
30°	13027	11908	11257
35°	12741	11393	10553
40°	12476	10784	9681
45°	12129	10185	8894
50°	11747	9503	8013
55°	11357	8724	7191
60°	11001	7890	6288
65°	10534	6986	5387
70°	9951	5866	4349
75°	9100	4616	4092
80°	8114	4091	3763
85°	6854	3619	3359



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.2	2.1
10°-20°	337.3	5.9
20°-30°	485.7	8.6
30°-40°	547.1	9.6
40°-50°	523.4	9.2
50°-60°	428.6	7.6
60°-70°	289.2	5.1
70°-80°	145.5	2.6
80°-90°	41.4	0.7
90°-100°	64.8	1.1
100°-110°	194.1	3.4
110°-120°	330.1	5.8
120°-130°	434.2	7.6
130°-140°	488.0	8.6
140°-150°	479.7	8.4
150°-160°	403.8	7.1
160°-170°	268.8	4.7
170°-180°	94.1	1.7
0°-30°	944.3	16.6
0°-40°	1491.4	26.3
0°-60°	2443.4	43.0
0°-90°	2919.5	51.4
90°-120°	589.0	10.4
90°-150°	1990.8	35.1
90°-180°	2758.0	48.6
0°-180°	5677.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1291	1291	1291	1291	1291	
5°	1291	1285	1273	1282	1281	122
15°	1231	1219	1190	1185	1178	347
25°	1120	1093	1046	1025	1012	515
35°	970	930	867	823	803	607
45°	797	748	669	611	584	615
55°	605	552	465	406	383	542
65°	414	355	274	225	212	409
75°	219	168	111	101	98	233
85°	56	34	29	27	27	62
90°	1	9	19	22	24	6
95°	46	52	58	61	61	52
105°	176	178	184	185	186	188
115°	332	334	333	334	333	329
125°	486	488	487	484	481	434
135°	631	635	635	632	630	486
145°	765	767	769	768	765	478
155°	876	876	877	880	875	403
165°	955	952	952	956	952	269
175°	993	990	990	994	989	94
180°	995	995	995	995	995	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1295.2	1294.5	1293.7	1293.0	1292.3	1290.8	1288.5	1286.3	1284.1	1281.8	1283.9
5°	1291.1	1289.9	1288.7	1287.6	1286.4	1284.4	1281.6	1278.8	1276.0	1273.3	1275.3
7.5°	1279.1	1277.9	1276.6	1275.3	1274.1	1271.6	1268.0	1264.4	1260.8	1257.1	1258.3
10°	1269.1	1267.4	1265.8	1264.2	1262.5	1259.6	1255.4	1251.3	1247.1	1242.9	1243.1
12.5°	1254.8	1253.0	1251.2	1249.4	1247.6	1244.1	1239.0	1233.9	1228.7	1223.6	1223.5
15°	1231.4	1228.8	1226.2	1223.7	1221.1	1216.6	1210.1	1203.6	1197.0	1190.5	1189.4
17.5°	1201.8	1198.9	1195.9	1192.9	1189.9	1184.3	1176.0	1167.7	1159.4	1151.2	1148.7
20°	1180.1	1176.3	1172.6	1168.9	1165.2	1158.9	1150.0	1141.2	1132.4	1123.5	1120.5
22.5°	1155.8	1151.5	1147.2	1142.9	1138.6	1131.8	1122.4	1113.0	1103.6	1094.2	1090.4
25°	1120.4	1114.6	1108.7	1102.9	1097.1	1088.8	1078.1	1067.4	1056.7	1046.0	1041.1
27.5°	1077.4	1071.0	1064.6	1058.2	1051.8	1042.6	1030.7	1018.8	1006.8	994.9	988.1
30°	1048.1	1041.1	1034.2	1027.2	1020.2	1010.2	997.2	984.1	971.1	958.1	950.2
32.5°	1018.8	1010.9	1003.0	995.1	987.2	976.3	962.5	948.8	935.0	921.2	912.6
35°	969.6	961.2	952.8	944.5	936.1	924.7	910.3	895.8	881.4	867.0	857.0
37.5°	919.8	910.4	901.1	891.8	882.5	870.2	854.8	839.4	824.0	808.6	797.2
40°	887.9	877.7	867.4	857.2	847.0	833.6	817.1	800.6	784.0	767.5	755.4
42.5°	851.9	841.7	831.4	821.2	811.0	797.3	780.2	763.1	746.1	729.0	715.8
45°	796.8	786.4	775.9	765.4	754.9	740.8	722.8	704.9	687.0	669.1	655.8
47.5°	741.8	730.3	718.8	707.3	695.8	681.1	663.2	645.2	627.3	609.4	595.0
50°	701.5	690.6	679.7	668.7	657.8	642.9	624.1	605.2	586.4	567.5	553.1
52.5°	665.5	653.7	641.8	629.9	618.1	602.8	584.1	565.5	546.8	528.1	513.2
55°	605.2	593.8	582.4	571.0	559.6	544.0	524.2	504.5	484.7	464.9	451.4
57.5°	549.5	537.1	524.7	512.2	499.8	483.7	463.8	443.9	424.0	404.2	391.4
60°	511.0	498.2	485.4	472.6	459.8	443.7	424.4	405.1	385.8	366.5	353.9
62.5°	472.4	459.6	446.8	434.0	421.3	405.2	385.9	366.6	347.3	327.9	316.1
65°	413.6	400.8	388.0	375.2	362.4	346.9	328.8	310.6	292.5	274.3	262.9
67.5°	354.8	341.8	328.9	315.9	303.0	287.8	270.4	253.0	235.6	218.2	209.7
70°	316.2	303.7	291.1	278.5	266.0	251.5	235.2	219.0	202.7	186.4	178.2
72.5°	277.7	265.3	252.9	240.5	228.2	214.6	199.8	185.0	170.2	155.4	148.7
75°	218.8	207.7	196.5	185.3	174.2	162.2	149.4	136.6	123.8	111.0	108.7
77.5°	165.2	155.1	145.0	134.9	124.8	115.7	107.4	99.2	91.0	82.7	81.5
80°	130.9	121.3	111.8	102.3	92.7	85.5	80.6	75.7	70.9	66.0	65.3
82.5°	98.2	90.0	81.7	73.5	65.3	60.0	57.7	55.4	53.2	50.9	50.2
85°	55.5	50.4	45.3	40.1	35.0	32.1	31.4	30.7	30.0	29.3	28.9
87.5°	20.3	18.6	16.9	15.2	13.5	12.8	13.3	13.7	14.2	14.6	14.6
90°	0.8	2.5	4.3	6.0	7.7	9.7	12.0	14.2	16.5	18.8	19.5
92.5°	18.9	20.1	21.3	22.5	23.6	24.9	26.2	27.5	28.7	30.0	30.6
95°	46.1	47.3	48.6	49.8	51.0	52.3	53.7	55.1	56.5	57.9	58.6
97.5°	81.9	82.8	83.7	84.6	85.6	86.5	87.5	88.5	89.5	90.5	91.3
100°	106.3	107.4	108.4	109.5	110.5	111.5	112.3	113.2	114.1	114.9	115.5
102.5°	134.5	135.1	135.7	136.4	137.0	137.9	139.0	140.2	141.3	142.5	143.0
105°	175.9	176.3	176.6	177.0	177.3	178.3	179.8	181.4	183.0	184.5	184.5
107.5°	224.1	224.3	224.5	224.7	224.9	225.3	226.0	226.6	227.2	227.8	228.4
110°	254.1	254.4	254.8	255.1	255.5	255.8	256.2	256.5	256.9	257.2	257.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	285.4	285.6	285.8	286.0	286.2	286.3	286.4	286.5	286.6	286.6	287.5
115°	332.3	332.8	333.3	333.8	334.4	334.5	334.1	333.8	333.4	333.1	333.2
117.5°	379.5	379.9	380.2	380.5	380.9	380.8	380.4	379.9	379.5	379.0	379.0
120°	408.9	409.9	411.0	412.0	413.1	413.2	412.3	411.4	410.6	409.7	409.5
122.5°	439.6	440.3	441.1	441.8	442.6	442.8	442.3	441.9	441.4	441.0	440.5
125°	486.3	486.8	487.3	487.9	488.4	488.5	488.1	487.8	487.4	487.1	486.4
127.5°	529.5	530.6	531.7	532.8	533.9	534.3	533.9	533.5	533.1	532.7	531.8
130°	558.2	559.6	561.0	562.4	563.8	564.2	563.7	563.2	562.7	562.1	561.4
132.5°	587.0	588.4	589.8	591.2	592.6	593.1	592.7	592.3	591.9	591.5	590.7
135°	630.9	632.0	633.0	634.1	635.1	635.6	635.4	635.2	635.0	634.9	634.2
137.5°	671.6	672.5	673.3	674.2	675.1	675.7	676.2	676.6	677.1	677.5	676.8
140°	699.7	700.6	701.5	702.4	703.2	703.7	703.9	704.1	704.3	704.4	704.3
142.5°	725.4	726.3	727.1	728.0	728.9	729.5	729.8	730.1	730.4	730.7	730.5
145°	765.4	765.8	766.1	766.5	766.8	767.2	767.8	768.3	768.8	769.3	769.2
147.5°	800.5	801.1	801.7	802.3	803.0	803.5	804.0	804.5	805.0	805.5	805.5
150°	824.8	825.2	825.5	825.9	826.2	826.6	826.9	827.3	827.6	828.0	828.0
152.5°	844.9	845.3	845.8	846.3	846.8	847.2	847.4	847.6	847.8	848.0	848.3
155°	876.4	876.4	876.4	876.4	876.4	876.5	876.7	876.9	877.1	877.2	877.9
157.5°	903.3	903.1	902.9	902.7	902.5	902.5	902.6	902.8	902.9	903.0	903.8
160°	920.2	919.9	919.5	919.2	918.8	918.7	918.7	918.7	918.7	918.7	919.5
162.5°	935.2	934.8	934.3	933.8	933.3	933.1	933.3	933.4	933.5	933.7	934.5
165°	954.6	954.1	953.6	953.1	952.5	952.3	952.3	952.3	952.3	952.3	953.3
167.5°	970.1	969.4	968.7	968.0	967.3	967.1	967.2	967.3	967.5	967.6	968.7
170°	978.9	978.2	977.5	976.8	976.1	975.7	975.7	975.7	975.7	975.7	977.0
172.5°	985.7	985.1	984.4	983.7	983.0	982.6	982.6	982.6	982.6	982.6	983.7
175°	992.9	992.2	991.6	990.9	990.2	989.8	989.8	989.8	989.8	989.8	990.9
177.5°	995.9	995.4	994.8	994.2	993.7	993.4	993.4	993.4	993.4	993.4	994.2
180°	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1285.9	1288.0	1290.0	1290.9	1290.5	1290.1	1289.7	1289.4
5°	1277.4	1279.5	1281.6	1282.4	1282.0	1281.5	1281.0	1280.6
7.5°	1259.5	1260.6	1261.8	1262.0	1261.2	1260.4	1259.6	1258.8
10°	1243.4	1243.6	1243.8	1243.4	1242.2	1241.0	1239.9	1238.7
12.5°	1223.3	1223.2	1223.1	1222.3	1221.0	1219.6	1218.3	1216.9
15°	1188.2	1187.0	1185.9	1184.5	1182.9	1181.2	1179.6	1178.0
17.5°	1146.2	1143.8	1141.3	1138.9	1136.4	1134.0	1131.6	1129.2
20°	1117.5	1114.4	1111.4	1108.5	1105.7	1102.9	1100.1	1097.3
22.5°	1086.7	1082.9	1079.1	1075.9	1073.3	1070.7	1068.1	1065.5
25°	1036.3	1031.4	1026.5	1022.8	1020.2	1017.6	1015.1	1012.5
27.5°	981.3	974.6	967.8	962.4	958.5	954.6	950.7	946.8
30°	942.3	934.3	926.4	920.6	916.9	913.2	909.4	905.7
32.5°	903.9	895.3	886.6	880.3	876.4	872.5	868.6	864.7
35°	847.0	837.0	827.0	819.9	815.7	811.5	807.3	803.1
37.5°	785.8	774.5	763.1	754.9	749.7	744.5	739.4	734.2
40°	743.3	731.2	719.1	710.4	705.0	699.7	694.3	689.0
42.5°	702.5	689.3	676.1	667.1	662.3	657.5	652.7	647.9
45°	642.6	629.3	616.0	606.6	601.0	595.4	589.9	584.3
47.5°	580.5	566.1	551.7	542.0	537.0	532.0	527.1	522.1
50°	538.7	524.2	509.8	499.9	494.6	489.2	483.9	478.5
52.5°	498.2	483.2	468.2	458.3	453.5	448.7	443.9	439.1
55°	437.9	424.4	410.9	401.8	397.2	392.5	387.9	383.2
57.5°	378.7	365.9	353.2	344.8	340.9	336.9	332.9	329.0
60°	341.3	328.8	316.2	308.0	304.0	300.0	296.1	292.1
62.5°	304.3	292.5	280.7	272.7	268.5	264.4	260.3	256.1
65°	251.5	240.1	228.7	221.7	219.2	216.6	214.1	211.5
67.5°	201.2	192.7	184.1	178.5	175.8	173.0	170.3	167.5
70°	170.1	161.9	153.8	148.5	145.9	143.3	140.8	138.2
72.5°	142.1	135.4	128.8	124.9	123.8	122.8	121.7	120.6
75°	106.3	104.0	101.7	100.3	99.8	99.4	98.9	98.4
77.5°	80.2	78.9	77.7	76.8	76.4	75.9	75.4	75.0
80°	64.6	63.9	63.2	62.6	62.1	61.7	61.2	60.7
82.5°	49.5	48.8	48.1	47.7	47.6	47.5	47.4	47.3
85°	28.4	27.9	27.5	27.2	27.2	27.2	27.2	27.2
87.5°	14.5	14.5	14.5	14.4	14.3	14.1	14.0	13.9
90°	20.2	20.8	21.5	22.1	22.4	22.8	23.1	23.5
92.5°	31.1	31.7	32.2	32.4	32.2	32.0	31.8	31.6
95°	59.2	59.9	60.6	61.0	61.0	61.0	61.0	61.0
97.5°	92.1	92.9	93.7	94.1	94.0	94.0	93.9	93.8
100°	116.0	116.5	117.0	117.5	117.8	118.1	118.5	118.8
102.5°	143.5	144.0	144.5	144.8	144.7	144.6	144.6	144.5
105°	184.5	184.5	184.5	184.7	185.0	185.4	185.7	186.1
107.5°	228.9	229.5	230.1	230.2	230.0	229.8	229.6	229.4
110°	258.6	259.3	260.0	260.2	259.8	259.5	259.1	258.8



TEST NUMBER: P332316

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.3	289.1	290.0	290.3	290.3	290.2	290.1	290.1
115°	333.4	333.6	333.8	333.8	333.6	333.4	333.2	333.1
117.5°	379.0	378.9	378.9	378.6	378.2	377.7	377.2	376.7
120°	409.3	409.2	409.0	408.7	408.4	408.0	407.7	407.3
122.5°	440.1	439.6	439.2	438.7	438.2	437.7	437.2	436.7
125°	485.7	485.0	484.3	483.6	482.9	482.2	481.5	480.8
127.5°	530.8	529.8	528.9	528.0	527.2	526.4	525.6	524.8
130°	560.8	560.1	559.4	558.4	557.2	556.0	554.8	553.5
132.5°	589.9	589.0	588.2	587.3	586.4	585.4	584.5	583.6
135°	633.5	632.8	632.1	631.6	631.2	630.9	630.5	630.2
137.5°	676.1	675.4	674.6	673.9	673.3	672.6	672.0	671.3
140°	704.1	703.9	703.7	703.1	701.8	700.6	699.4	698.2
142.5°	730.4	730.2	730.0	729.5	728.5	727.6	726.6	725.7
145°	769.0	768.8	768.6	768.2	767.5	766.8	766.1	765.4
147.5°	805.5	805.5	805.5	804.9	803.9	802.8	801.8	800.8
150°	828.0	828.0	828.0	827.5	826.4	825.4	824.3	823.3
152.5°	848.5	848.8	849.1	848.8	847.9	847.0	846.1	845.2
155°	878.6	879.3	880.0	879.7	878.5	877.3	876.1	874.9
157.5°	904.5	905.2	905.9	905.8	904.9	903.9	902.9	901.9
160°	920.4	921.3	922.1	922.2	921.5	920.8	920.1	919.4
162.5°	935.4	936.3	937.2	937.0	935.9	934.8	933.7	932.6
165°	954.4	955.4	956.5	956.4	955.2	953.9	952.7	951.5
167.5°	969.8	970.8	971.9	971.9	970.8	969.8	968.7	967.6
170°	978.2	979.4	980.6	980.6	979.4	978.2	977.0	975.7
172.5°	984.8	985.9	986.9	986.9	985.6	984.4	983.2	982.0
175°	991.9	992.9	994.0	993.9	992.7	991.5	990.2	989.0
177.5°	995.1	995.9	996.7	996.7	995.7	994.7	993.8	992.8
180°	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3

(END OF REPORT)