

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: P331756-927

Luminaire Tested: **SA2XXRDIP-C1005D925U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331756-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D925U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5691.8 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

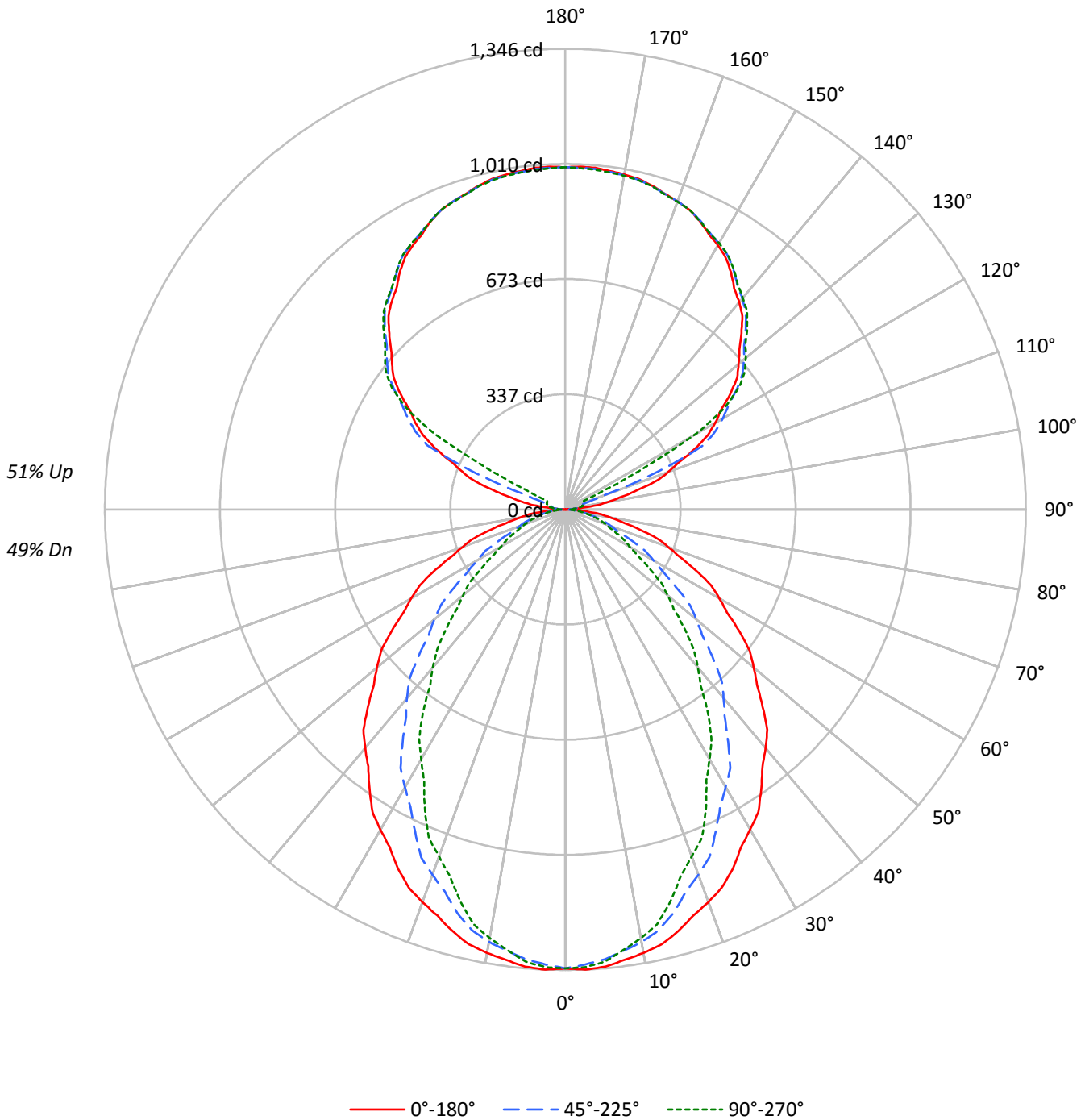
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	0
RCR																		
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	49	48	47	42
2	90	82	77	72	82	76	71	67	65	61	58	54	51	49	44	42	40	36
3	82	73	66	60	75	67	61	56	57	53	49	48	45	42	39	37	35	31
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24
6	64	52	44	39	59	49	42	36	42	36	32	35	31	28	29	26	24	21
7	59	47	39	34	54	44	37	32	38	32	29	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	29	35	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21660	21660	21660
5°	21742	21389	21507
10°	21577	21040	20859
15°	21329	20415	19826
20°	20984	19524	18545
25°	20633	18513	17302
30°	20144	17473	15709
35°	19669	16344	14310
40°	19191	15173	12690
45°	18630	13860	11227
50°	18053	12534	9789
55°	17464	11108	8408
60°	16779	9607	6978
65°	16000	8073	6357
70°	15073	6652	5844
75°	13936	6057	5452
80°	12301	5421	4965
85°	9670	4279	4279



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.6	2.2
10°-20°	344.8	6.1
20°-30°	484.2	8.5
30°-40°	528.0	9.3
40°-50°	485.4	8.5
50°-60°	381.3	6.7
60°-70°	248.6	4.4
70°-80°	128.2	2.3
80°-90°	35.7	0.6
90°-100°	33.4	0.6
100°-110°	122.3	2.1
110°-120°	326.9	5.7
120°-130°	539.7	9.5
130°-140°	574.0	10.1
140°-150°	533.5	9.4
150°-160°	428.9	7.5
160°-170°	276.4	4.9
170°-180°	95.1	1.7
0°-30°	954.5	16.8
0°-40°	1482.5	26.0
0°-60°	2349.2	41.3
0°-90°	2761.6	48.5
90°-120°	482.6	8.5
90°-150°	2129.7	37.4
90°-180°	2930.0	51.5
0°-180°	5691.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1342	1342	1342	1342	1342	
5°	1342	1335	1320	1330	1327	127
15°	1276	1261	1221	1199	1186	359
25°	1158	1117	1039	991	971	532
35°	998	934	829	755	726	624
45°	816	732	607	524	492	630
55°	620	524	395	324	299	554
65°	419	320	211	172	166	415
75°	223	141	97	89	87	236
85°	52	28	23	23	23	62
90°	1	9	14	18	20	4
95°	47	25	28	32	31	58
105°	220	229	44	52	55	235
115°	416	429	446	127	59	409
125°	588	598	611	616	619	524
135°	728	739	746	753	752	562
145°	844	844	856	860	857	528
155°	930	924	932	936	930	428
165°	980	976	978	982	978	277
175°	1002	997	998	1003	996	95
180°	1000	1000	1000	1000	1000	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5
2.5°	1346.4	1345.3	1344.2	1343.1	1342.0	1340.3	1337.9	1335.6	1333.2	1330.9	1333.0
5°	1341.5	1340.1	1338.8	1337.4	1336.1	1333.7	1330.2	1326.7	1323.2	1319.7	1322.1
7.5°	1327.7	1326.0	1324.4	1322.6	1321.0	1318.1	1314.0	1309.9	1305.8	1301.7	1302.4
10°	1316.1	1314.2	1312.2	1310.3	1308.4	1304.8	1299.4	1294.0	1288.6	1283.3	1282.5
12.5°	1301.5	1299.1	1296.8	1294.5	1292.2	1287.5	1280.6	1273.7	1266.9	1260.0	1258.5
15°	1276.0	1273.0	1270.0	1267.0	1264.1	1258.0	1248.9	1239.7	1230.5	1221.3	1216.2
17.5°	1244.6	1240.1	1235.6	1231.1	1226.5	1218.4	1206.6	1194.8	1183.0	1171.3	1165.2
20°	1221.3	1215.9	1210.5	1205.1	1199.8	1190.3	1176.8	1163.3	1149.9	1136.3	1129.6
22.5°	1196.0	1190.0	1184.0	1178.0	1171.9	1161.3	1146.1	1130.8	1115.6	1100.4	1091.7
25°	1158.2	1149.5	1140.9	1132.3	1123.6	1110.5	1092.7	1074.8	1057.0	1039.2	1028.2
27.5°	1112.5	1103.2	1093.8	1084.4	1075.0	1060.3	1040.2	1020.1	1000.1	980.0	967.1
30°	1080.5	1070.2	1060.0	1049.7	1039.5	1023.6	1002.0	980.4	958.9	937.2	923.4
32.5°	1049.4	1037.4	1025.5	1013.5	1001.5	984.5	962.5	940.5	918.5	896.4	880.7
35°	997.9	984.2	970.4	956.6	942.9	924.2	900.4	876.7	852.9	829.2	812.2
37.5°	946.5	931.4	916.2	901.1	886.1	865.9	840.5	815.2	789.9	764.6	745.9
40°	910.5	894.4	878.1	862.0	845.8	824.6	798.4	772.3	746.1	719.9	700.8
42.5°	873.6	856.6	839.6	822.4	805.4	783.4	756.4	729.3	702.3	675.3	655.5
45°	815.9	797.7	779.7	761.6	743.5	720.3	692.0	663.7	635.3	607.0	587.9
47.5°	759.5	740.4	721.2	702.0	682.9	658.7	629.5	600.2	570.9	541.7	522.7
50°	718.7	699.6	680.4	661.2	642.1	617.7	588.0	558.3	528.6	499.0	480.4
52.5°	678.9	658.9	638.9	618.9	598.8	574.3	545.3	516.3	487.2	458.2	440.2
55°	620.4	599.4	578.3	557.2	536.2	511.1	482.0	452.8	423.7	394.6	378.3
57.5°	560.4	538.8	517.2	495.7	474.0	449.2	421.3	393.2	365.3	337.2	322.4
60°	519.6	498.0	476.4	454.9	433.2	408.6	380.8	353.0	325.2	297.5	283.7
62.5°	479.8	458.2	436.7	415.0	393.5	369.4	342.9	316.4	289.9	263.5	250.3
65°	418.8	397.0	375.2	353.3	331.4	308.4	284.1	259.8	235.5	211.3	202.1
67.5°	360.0	338.4	316.7	295.0	273.3	251.5	229.7	207.9	186.0	164.1	159.9
70°	319.3	298.3	277.2	256.2	235.1	215.3	196.7	178.1	159.5	140.9	138.2
72.5°	280.4	260.2	240.1	219.9	199.7	182.1	167.2	152.3	137.3	122.4	120.1
75°	223.4	204.5	185.6	166.8	147.8	133.8	124.6	115.5	106.3	97.1	95.2
77.5°	167.3	150.8	134.2	117.6	101.0	90.5	86.1	81.7	77.2	72.9	71.8
80°	132.3	118.6	104.8	91.0	77.3	69.1	66.4	63.7	61.0	58.3	57.2
82.5°	100.3	89.5	78.8	68.0	57.4	51.0	49.2	47.4	45.6	43.7	43.1
85°	52.2	46.5	40.9	35.2	29.5	26.3	25.5	24.7	23.8	23.1	23.1
87.5°	15.7	14.3	12.9	11.6	10.2	9.7	9.9	10.1	10.4	10.7	10.6
90°	0.7	2.5	4.3	6.0	7.8	9.3	10.6	11.9	13.2	14.5	15.3
92.5°	14.6	14.4	14.3	14.1	13.9	14.2	14.9	15.5	16.2	16.8	17.2
95°	47.1	41.7	36.4	31.1	25.8	23.7	24.9	26.0	27.1	28.2	29.0
97.5°	93.3	78.3	63.5	48.5	33.5	27.3	29.9	32.6	35.2	37.8	38.4
100°	128.1	106.0	84.0	61.9	39.9	30.3	33.0	35.8	38.5	41.3	42.5
102.5°	166.3	161.6	156.9	152.3	147.6	133.9	111.0	88.1	65.3	42.4	44.0
105°	219.9	224.7	229.6	234.4	239.2	219.7	175.8	131.9	88.0	44.1	45.9
107.5°	281.1	285.0	288.9	292.8	296.8	272.4	219.7	167.1	114.4	61.8	60.0
110°	320.5	323.9	327.3	330.7	334.0	312.4	266.0	219.5	173.1	126.6	110.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	357.5	360.5	363.5	366.5	369.5	365.3	353.8	342.3	330.8	319.3	260.7
115°	416.0	418.7	421.4	424.2	426.9	430.3	434.4	438.4	442.4	446.4	371.9
117.5°	468.3	471.3	474.4	477.4	480.5	483.4	486.2	488.9	491.7	494.4	476.4
120°	506.4	508.8	511.3	513.7	516.1	518.7	521.7	524.5	527.4	530.3	532.3
122.5°	538.8	541.4	543.9	546.4	549.0	551.8	555.0	558.2	561.3	564.5	565.6
125°	588.2	590.3	592.4	594.5	596.6	599.1	602.2	605.2	608.3	611.3	612.5
127.5°	632.9	635.3	637.5	639.8	642.1	644.4	646.7	649.0	651.3	653.6	655.2
130°	661.3	663.8	666.4	669.0	671.5	673.8	675.5	677.2	679.1	680.8	682.5
132.5°	690.2	692.4	694.6	696.8	698.9	700.9	702.7	704.5	706.2	708.0	709.6
135°	727.9	730.4	733.0	735.5	738.2	740.1	741.6	743.1	744.5	745.9	747.5
137.5°	765.9	767.7	769.5	771.3	773.1	774.8	776.4	778.1	779.7	781.4	782.9
140°	790.8	792.1	793.4	794.6	795.9	797.5	799.2	801.0	802.8	804.5	806.0
142.5°	811.6	812.8	814.0	815.1	816.3	817.8	819.8	821.9	823.9	825.9	827.3
145°	844.3	844.1	844.0	843.8	843.7	844.9	847.7	850.4	853.2	855.9	857.0
147.5°	872.8	872.2	871.6	871.0	870.4	871.4	874.1	876.9	879.6	882.3	883.0
150°	891.4	890.3	889.1	888.0	886.8	887.6	890.2	892.7	895.3	897.9	898.8
152.5°	907.0	905.7	904.4	903.2	902.0	902.5	905.0	907.4	909.9	912.4	913.3
155°	929.7	928.3	926.8	925.3	923.9	924.2	926.1	928.0	929.9	931.8	932.8
157.5°	947.5	946.3	945.1	943.8	942.6	942.7	944.0	945.4	946.7	948.1	949.2
160°	957.9	957.0	956.0	955.0	954.0	954.0	955.0	956.0	957.0	957.9	958.9
162.5°	967.2	966.2	965.3	964.2	963.3	963.2	964.1	964.9	965.7	966.6	967.7
165°	979.6	978.7	977.7	976.7	975.7	975.5	976.0	976.4	977.0	977.5	978.6
167.5°	988.9	987.9	987.0	986.0	985.0	984.8	985.2	985.6	986.1	986.6	987.7
170°	994.1	993.1	992.1	991.2	990.2	989.9	990.2	990.5	990.9	991.2	992.3
172.5°	997.5	996.6	995.6	994.7	993.7	993.4	993.7	994.0	994.3	994.7	995.8
175°	1002.0	1000.9	999.8	998.6	997.5	997.1	997.4	997.8	998.1	998.4	999.6
177.5°	1002.7	1001.9	1001.0	1000.1	999.2	998.8	998.9	999.0	999.2	999.3	1000.2
180°	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5	1341.5
2.5°	1335.1	1337.3	1339.5	1340.3	1339.9	1339.5	1339.0	1338.6
5°	1324.5	1327.0	1329.4	1330.2	1329.4	1328.6	1327.8	1327.0
7.5°	1303.1	1303.8	1304.5	1304.2	1302.7	1301.3	1300.0	1298.5
10°	1281.6	1280.8	1280.0	1278.8	1277.2	1275.6	1273.9	1272.3
12.5°	1257.0	1255.5	1254.1	1252.0	1249.4	1246.7	1244.0	1241.3
15°	1211.1	1205.9	1200.8	1196.9	1194.2	1191.5	1188.8	1186.1
17.5°	1159.1	1153.0	1146.9	1141.5	1136.9	1132.3	1127.6	1123.0
20°	1122.8	1116.1	1109.4	1103.0	1097.1	1091.2	1085.2	1079.3
22.5°	1083.1	1074.4	1065.6	1059.1	1054.7	1050.3	1045.8	1041.4
25°	1017.1	1006.1	995.0	987.5	983.3	979.3	975.3	971.2
27.5°	954.2	941.3	928.4	918.7	912.3	905.9	899.4	893.0
30°	909.7	896.0	882.2	871.7	864.4	857.1	849.9	842.6
32.5°	865.1	849.4	833.6	822.4	815.6	808.7	801.8	795.0
35°	795.2	778.2	761.2	749.7	743.8	737.8	731.9	726.0
37.5°	727.1	708.4	689.7	676.9	670.2	663.4	656.6	649.7
40°	681.6	662.4	643.3	630.3	623.2	616.2	609.2	602.1
42.5°	635.6	615.8	596.0	582.7	575.9	569.1	562.4	555.6
45°	568.7	549.5	530.4	517.6	511.1	504.6	498.1	491.7
47.5°	503.6	484.6	465.5	453.0	447.2	441.3	435.4	429.5
50°	461.8	443.1	424.5	412.3	406.7	401.0	395.4	389.7
52.5°	422.2	404.3	386.3	374.7	369.5	364.2	359.0	353.8
55°	362.2	346.0	329.8	319.2	314.0	308.9	303.8	298.7
57.5°	307.6	292.7	277.9	268.3	264.0	259.7	255.4	251.0
60°	269.9	256.2	242.4	233.4	229.0	224.7	220.4	216.1
62.5°	237.3	224.1	211.0	203.1	200.6	198.0	195.4	192.8
65°	192.9	183.7	174.5	169.5	168.7	167.9	167.2	166.4
67.5°	155.7	151.5	147.3	144.7	143.9	143.1	142.2	141.3
70°	135.5	132.8	130.1	128.2	127.1	126.0	124.9	123.8
72.5°	117.9	115.6	113.3	111.9	111.2	110.6	109.9	109.2
75°	93.3	91.5	89.6	88.5	88.2	87.9	87.7	87.4
77.5°	70.7	69.6	68.5	67.7	67.3	66.9	66.5	66.1
80°	56.1	55.1	53.9	53.4	53.4	53.4	53.4	53.4
82.5°	42.4	41.7	41.1	40.8	40.8	40.8	40.8	40.8
85°	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
87.5°	10.5	10.5	10.5	10.5	10.5	10.6	10.6	10.7
90°	16.1	16.9	17.7	18.2	18.5	18.9	19.3	19.6
92.5°	17.6	18.1	18.5	18.8	18.9	19.2	19.3	19.6
95°	29.8	30.7	31.4	31.8	31.6	31.4	31.3	31.1
97.5°	39.1	39.7	40.3	40.7	41.0	41.1	41.4	41.5
100°	43.8	45.1	46.4	47.2	47.5	47.8	48.2	48.5
102.5°	45.7	47.5	49.1	50.1	50.6	51.0	51.5	52.0
105°	47.7	49.4	51.2	52.4	53.1	53.7	54.3	55.0
107.5°	58.1	56.4	54.6	54.0	54.7	55.3	55.9	56.6
110°	94.4	78.3	62.3	54.6	55.2	55.8	56.5	57.2



TEST NUMBER: P331756-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	202.1	143.4	84.8	55.7	56.2	56.7	57.2	57.8
115°	297.5	223.1	148.6	105.6	94.0	82.5	70.9	59.3
117.5°	458.4	440.5	422.4	394.3	356.3	318.3	280.3	242.2
120°	534.2	536.1	538.1	528.1	506.4	484.7	463.0	441.3
122.5°	566.8	567.9	569.1	567.6	563.4	559.1	554.9	550.7
125°	613.6	614.7	615.8	616.6	617.1	617.6	618.1	618.6
127.5°	656.9	658.5	660.2	661.0	661.2	661.2	661.3	661.4
130°	684.4	686.1	687.9	688.7	688.6	688.3	688.2	688.0
132.5°	711.1	712.6	714.1	714.7	714.5	714.4	714.2	714.1
135°	749.2	750.8	752.3	753.0	752.7	752.3	752.0	751.7
137.5°	784.5	786.1	787.7	788.2	787.7	787.1	786.6	786.0
140°	807.4	808.9	810.3	810.6	809.8	809.1	808.3	807.4
142.5°	828.5	829.9	831.2	831.5	830.7	829.9	829.1	828.2
145°	858.2	859.3	860.4	860.5	859.8	859.0	858.2	857.4
147.5°	883.9	884.7	885.6	885.7	884.9	884.3	883.6	883.0
150°	899.8	900.8	901.7	901.8	901.0	900.2	899.4	898.6
152.5°	914.3	915.2	916.2	916.2	915.0	914.0	913.0	911.9
155°	933.8	934.8	935.7	935.6	934.3	933.0	931.7	930.4
157.5°	950.2	951.3	952.4	952.4	951.1	949.8	948.6	947.4
160°	959.8	960.8	961.8	961.7	960.5	959.4	958.3	957.2
162.5°	968.8	969.9	971.0	970.8	969.5	968.0	966.7	965.3
165°	979.7	980.8	981.9	981.9	980.8	979.7	978.6	977.5
167.5°	988.8	989.9	991.1	990.9	989.4	988.0	986.6	985.1
170°	993.5	994.6	995.7	995.5	994.1	992.6	991.2	989.8
172.5°	996.9	998.1	999.2	999.0	997.5	996.1	994.7	993.2
175°	1000.7	1001.8	1002.9	1002.7	1001.1	999.5	997.8	996.2
177.5°	1001.1	1002.0	1002.9	1002.7	1001.6	1000.4	999.3	998.1
180°	999.9	999.9	999.9	999.9	999.9	999.9	999.9	999.9

(END OF REPORT)