

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: P332359-927

Luminaire Tested: **S123RDIP-S1000D1195U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332359-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D1195U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6427.5 lumens
Efficiency: N/A
Efficacy: 98.3 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

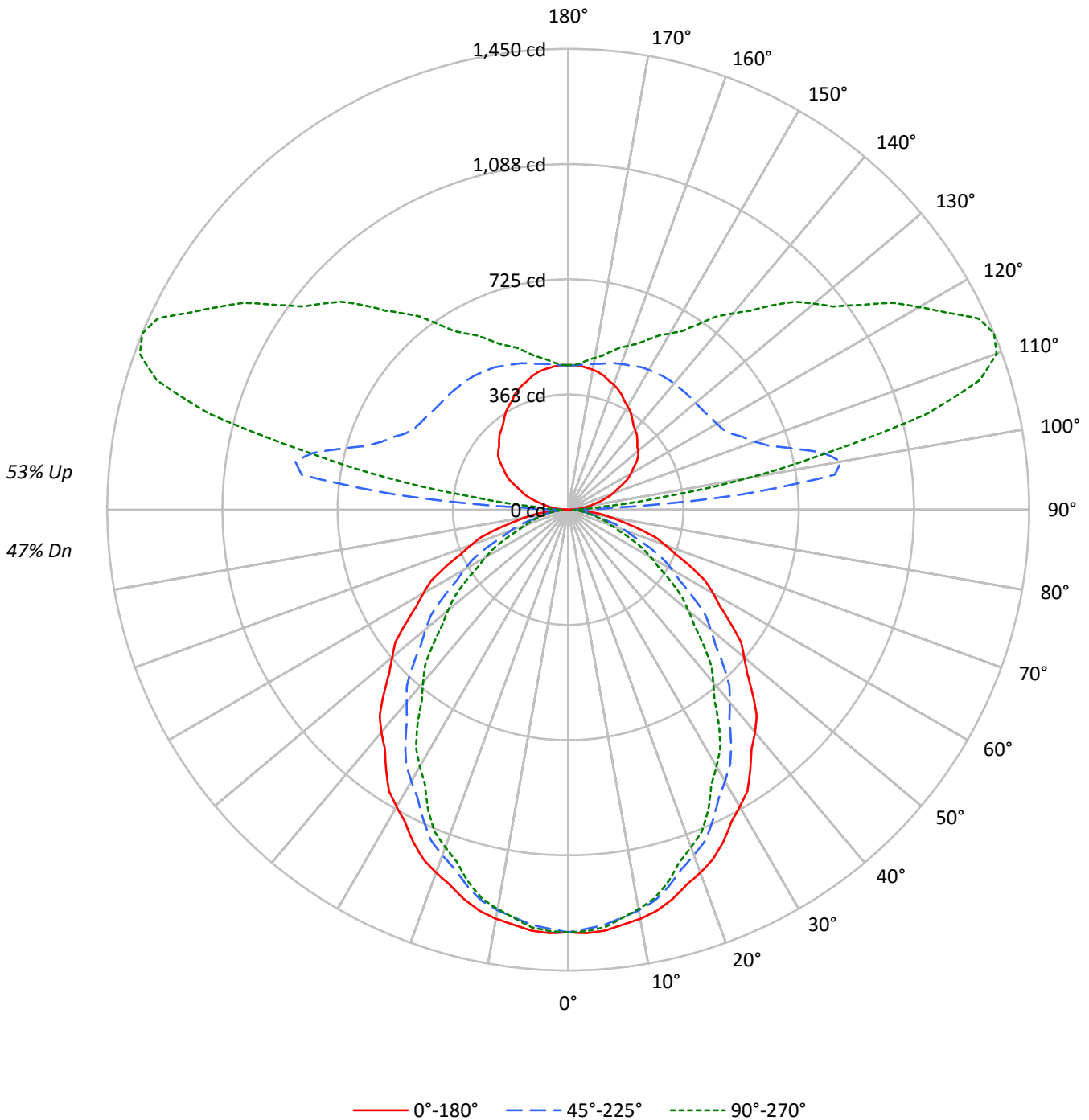
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	47	46	45	40
2	89	82	76	71	81	75	70	66	63	60	56	52	50	47	42	40	39	34
3	81	72	65	59	74	67	60	55	56	52	48	46	43	40	38	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25
5	68	57	49	43	63	53	46	41	45	40	35	37	33	30	31	28	25	22
6	63	51	43	38	58	48	41	35	41	35	31	34	30	27	28	25	22	20
7	58	46	39	33	54	43	36	31	37	31	27	31	27	24	25	22	20	17
8	54	42	34	29	50	39	32	28	34	28	24	28	24	21	23	20	18	16
9	50	38	31	26	46	36	29	25	31	26	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	27	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14310	14310	14310
5°	14364	14166	14249
10°	14283	13988	13941
15°	14130	13661	13517
20°	13919	13252	12944
25°	13702	12792	12383
30°	13415	12263	11591
35°	13119	11730	10867
40°	12847	11105	9969
45°	12490	10488	9159
50°	12097	9786	8251
55°	11695	8983	7405
60°	11328	8125	6476
65°	10847	7195	5547
70°	10247	6039	4482
75°	9374	4754	4213
80°	8356	4209	3874
85°	7052	3730	3458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.8	1.9
10°-20°	347.3	5.4
20°-30°	500.2	7.8
30°-40°	563.4	8.8
40°-50°	539.0	8.4
50°-60°	441.4	6.9
60°-70°	297.8	4.6
70°-80°	149.8	2.3
80°-90°	43.1	0.7
90°-100°	253.0	3.9
100°-110°	716.5	11.1
110°-120°	704.8	11.0
120°-130°	562.2	8.7
130°-140°	443.3	6.9
140°-150°	330.8	5.1
150°-160°	230.6	3.6
160°-170°	135.5	2.1
170°-180°	44.1	0.7
0°-30°	972.3	15.1
0°-40°	1535.7	23.9
0°-60°	2516.0	39.1
0°-90°	3006.8	46.8
90°-120°	1674.3	26.0
90°-150°	3010.6	46.8
90°-180°	3421.0	53.2
0°-180°	6427.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1329	1324	1311	1320	1319	126
15°	1268	1255	1226	1220	1213	357
25°	1154	1125	1077	1055	1043	530
35°	998	958	893	848	827	625
45°	820	770	689	629	602	633
55°	623	568	479	418	395	559
65°	426	365	282	232	218	421
75°	225	173	114	104	101	240
85°	57	34	30	28	28	64
90°	2	11	23	26	27	5
95°	31	102	546	159	107	34
105°	107	158	740	1294	1171	113
115°	189	235	566	1241	1424	187
125°	262	310	528	957	1123	233
135°	307	367	521	788	910	237
145°	351	402	514	647	712	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1333.7	1332.9	1332.2	1331.4	1330.6	1329.1	1326.8	1324.5	1322.2	1319.9	1322.0
5°	1329.4	1328.2	1327.0	1325.8	1324.6	1322.5	1319.7	1316.8	1314.0	1311.1	1313.2
7.5°	1317.1	1315.8	1314.5	1313.2	1311.9	1309.4	1305.7	1302.0	1298.2	1294.5	1295.7
10°	1306.8	1305.1	1303.4	1301.7	1300.1	1297.0	1292.8	1288.4	1284.1	1279.8	1280.1
12.5°	1292.1	1290.2	1288.4	1286.5	1284.6	1281.0	1275.8	1270.5	1265.3	1260.0	1259.8
15°	1268.0	1265.4	1262.7	1260.0	1257.4	1252.8	1246.0	1239.3	1232.6	1225.9	1224.7
17.5°	1237.5	1234.5	1231.4	1228.4	1225.3	1219.5	1210.9	1202.5	1193.9	1185.3	1182.8
20°	1215.1	1211.3	1207.4	1203.6	1199.8	1193.3	1184.2	1175.1	1166.0	1156.9	1153.8
22.5°	1190.1	1185.7	1181.3	1176.9	1172.5	1165.5	1155.7	1146.1	1136.4	1126.7	1122.8
25°	1153.7	1147.7	1141.7	1135.7	1129.7	1121.2	1110.2	1099.2	1088.1	1077.1	1072.1
27.5°	1109.5	1102.9	1096.2	1089.6	1083.0	1073.6	1061.3	1049.0	1036.7	1024.5	1017.5
30°	1079.3	1072.1	1064.9	1057.7	1050.5	1040.2	1026.8	1013.4	1000.0	986.6	978.4
32.5°	1049.1	1040.9	1032.8	1024.6	1016.5	1005.4	991.2	977.0	962.7	948.6	939.7
35°	998.4	989.8	981.1	972.6	963.9	952.1	937.3	922.4	907.6	892.7	882.4
37.5°	947.1	937.5	927.9	918.3	908.7	896.0	880.2	864.3	848.4	832.6	820.9
40°	914.3	903.8	893.2	882.6	872.1	858.3	841.4	824.3	807.3	790.3	777.8
42.5°	877.2	866.6	856.1	845.6	835.0	821.0	803.4	785.8	768.3	750.7	737.0
45°	820.5	809.7	798.9	788.1	777.4	762.8	744.3	725.9	707.4	689.0	675.3
47.5°	763.8	751.9	740.1	728.3	716.4	701.3	682.9	664.4	645.9	627.5	612.7
50°	722.4	711.1	699.9	688.6	677.3	662.0	642.6	623.2	603.8	584.4	569.5
52.5°	685.3	673.1	660.8	648.6	636.4	620.7	601.5	582.3	563.1	543.8	528.4
55°	623.2	611.5	599.7	588.0	576.2	560.2	539.8	519.4	499.1	478.7	464.9
57.5°	565.9	553.0	540.3	527.4	514.7	498.0	477.5	457.1	436.7	416.2	403.1
60°	526.2	513.0	499.8	486.6	473.4	456.9	437.0	417.2	397.3	377.4	364.4
62.5°	486.5	473.3	460.1	446.9	433.8	417.2	397.4	377.5	357.6	337.7	325.5
65°	425.9	412.7	399.5	386.3	373.2	357.3	338.6	319.9	301.2	282.5	270.8
67.5°	365.3	352.0	338.7	325.3	312.0	296.4	278.5	260.5	242.6	224.7	215.9
70°	325.6	312.7	299.8	286.8	273.9	259.0	242.2	225.5	208.7	191.9	183.5
72.5°	285.9	273.2	260.5	247.7	235.0	220.9	205.7	190.5	175.2	160.0	153.1
75°	225.4	213.8	202.3	190.8	179.4	167.0	153.8	140.6	127.5	114.3	111.9
77.5°	170.2	159.7	149.3	138.9	128.6	119.1	110.6	102.1	93.6	85.2	83.9
80°	134.8	124.9	115.1	105.3	95.5	88.1	83.0	78.0	73.0	67.9	67.2
82.5°	101.2	92.7	84.2	75.7	67.2	61.8	59.4	57.1	54.7	52.4	51.7
85°	57.1	51.9	46.6	41.4	36.0	33.0	32.3	31.6	30.9	30.2	29.7
87.5°	21.1	19.3	17.6	16.0	14.3	13.6	14.2	14.7	15.3	15.8	15.4
90°	1.8	3.6	5.5	8.3	10.1	12.0	14.7	17.5	20.3	23.0	22.1
92.5°	11.4	17.0	24.6	31.8	39.6	53.2	77.3	116.9	155.7	141.6	106.8
95°	31.3	34.1	44.2	59.8	83.7	119.6	197.9	335.0	486.0	545.8	442.7
97.5°	53.4	54.3	62.2	75.8	99.4	138.2	213.0	367.6	619.2	845.8	904.9
100°	68.1	69.0	75.5	88.3	110.4	146.3	210.8	347.0	589.1	871.6	1053.0
102.5°	83.6	85.2	90.9	103.1	122.9	155.9	213.7	329.3	544.9	823.8	1060.3
105°	106.8	109.6	115.0	126.1	143.5	172.1	221.8	316.6	490.6	740.0	1004.2
107.5°	131.4	134.2	139.5	150.4	166.8	193.3	236.9	315.7	456.0	666.0	905.9
110°	149.1	151.9	156.5	166.6	182.2	208.0	249.5	319.4	442.7	624.0	844.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.3	168.1	172.7	182.8	198.4	223.5	262.0	326.8	435.4	596.0	790.3
115°	188.7	192.3	197.9	207.1	222.8	247.6	282.6	338.7	432.6	566.0	725.2
117.5°	212.1	216.3	220.9	229.3	246.8	269.9	304.4	354.5	434.3	548.3	686.0
120°	228.2	231.0	235.6	244.9	262.3	285.3	318.5	366.3	437.2	540.3	665.4
122.5°	242.2	245.0	249.6	259.5	276.3	300.8	333.2	377.4	442.4	535.1	648.5
125°	262.3	264.2	269.7	279.8	297.3	322.1	354.3	394.8	450.0	528.3	626.8
127.5°	277.6	280.4	287.2	297.5	316.8	341.7	372.7	409.2	458.9	525.0	607.7
130°	287.2	289.9	298.2	309.3	328.6	353.4	383.8	418.7	464.8	522.8	597.3
132.5°	294.5	298.0	307.0	320.3	339.6	363.8	393.4	427.6	469.2	522.0	587.8
135°	307.4	311.1	321.2	335.0	354.3	379.2	407.7	439.0	475.9	520.9	575.3
137.5°	319.6	323.4	333.4	348.1	367.3	390.2	417.6	447.5	480.3	518.9	564.4
140°	327.6	332.2	341.4	356.2	374.6	397.6	424.3	451.9	483.2	518.2	557.8
142.5°	336.5	340.4	350.3	363.5	382.0	403.5	429.4	456.3	485.4	516.7	551.8
145°	350.7	353.4	361.7	375.5	391.2	412.3	436.3	461.1	486.9	514.5	544.0
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.2
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1324.1	1326.3	1328.3	1329.2	1328.8	1328.5	1328.1	1327.7
5°	1315.4	1317.6	1319.7	1320.6	1320.1	1319.6	1319.1	1318.7
7.5°	1296.9	1298.1	1299.3	1299.5	1298.6	1297.8	1297.0	1296.2
10°	1280.3	1280.6	1280.8	1280.3	1279.1	1277.9	1276.7	1275.5
12.5°	1259.6	1259.6	1259.4	1258.6	1257.3	1255.8	1254.5	1253.1
15°	1223.5	1222.3	1221.1	1219.6	1218.0	1216.3	1214.7	1213.0
17.5°	1180.3	1177.7	1175.2	1172.7	1170.2	1167.7	1165.2	1162.7
20°	1150.6	1147.6	1144.5	1141.5	1138.6	1135.7	1132.8	1130.0
22.5°	1119.0	1115.1	1111.2	1107.9	1105.3	1102.6	1099.9	1097.2
25°	1067.1	1062.0	1057.0	1053.1	1050.5	1047.9	1045.3	1042.6
27.5°	1010.5	1003.5	996.5	991.0	987.0	982.9	978.9	974.9
30°	970.3	962.1	953.9	948.0	944.1	940.3	936.4	932.6
32.5°	930.7	921.9	912.9	906.5	902.5	898.4	894.4	890.3
35°	872.1	861.8	851.5	844.2	840.0	835.6	831.3	827.0
37.5°	809.2	797.5	785.8	777.3	772.0	766.7	761.4	756.1
40°	765.4	753.0	740.5	731.5	726.0	720.5	714.9	709.5
42.5°	723.4	709.8	696.2	686.9	682.0	677.1	672.1	667.2
45°	661.6	648.0	634.3	624.6	618.9	613.1	607.4	601.7
47.5°	597.8	583.0	568.1	558.1	552.9	547.9	542.7	537.6
50°	554.7	539.8	525.0	514.8	509.3	503.7	498.3	492.7
52.5°	513.0	497.6	482.1	471.9	467.0	462.1	457.2	452.2
55°	450.9	437.0	423.1	413.8	409.0	404.2	399.4	394.6
57.5°	389.9	376.8	363.7	355.1	351.0	346.9	342.9	338.7
60°	351.5	338.6	325.6	317.1	313.1	309.0	304.9	300.8
62.5°	313.3	301.2	289.0	280.7	276.6	272.3	268.0	263.7
65°	259.0	247.2	235.5	228.3	225.7	223.1	220.5	217.8
67.5°	207.2	198.4	189.6	183.8	181.0	178.2	175.3	172.5
70°	175.2	166.8	158.4	152.9	150.2	147.6	145.0	142.4
72.5°	146.3	139.4	132.6	128.7	127.5	126.4	125.3	124.2
75°	109.5	107.1	104.7	103.3	102.8	102.3	101.8	101.3
77.5°	82.6	81.3	80.0	79.1	78.7	78.2	77.7	77.2
80°	66.5	65.8	65.0	64.5	64.0	63.5	63.0	62.5
82.5°	50.9	50.2	49.5	49.1	49.0	49.0	48.8	48.7
85°	29.2	28.8	28.3	28.0	28.0	28.0	28.0	28.0
87.5°	15.4	15.4	15.4	15.6	15.2	15.2	15.2	14.8
90°	23.0	23.9	24.9	26.7	25.7	26.7	27.6	26.7
92.5°	77.5	61.5	54.3	49.5	47.8	45.1	46.0	44.4
95°	331.4	224.6	175.8	142.7	125.2	116.9	110.4	106.8
97.5°	825.9	661.6	542.9	432.8	364.9	323.4	298.6	290.7
100°	1085.1	1010.6	902.9	772.2	679.2	612.0	576.2	577.1
102.5°	1171.3	1168.9	1106.1	1023.3	950.9	897.8	867.8	846.6
105°	1196.5	1288.6	1306.1	1282.1	1239.8	1204.8	1175.4	1170.8
107.5°	1123.9	1273.4	1354.1	1386.9	1387.6	1375.8	1365.9	1357.4
110°	1054.8	1224.2	1340.1	1404.5	1430.3	1437.7	1435.8	1434.0



TEST NUMBER: P332359-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	986.3	1159.4	1289.3	1372.1	1419.3	1442.1	1449.1	1449.5
115°	895.6	1055.7	1191.0	1291.3	1360.3	1400.8	1419.3	1423.9
117.5°	829.8	968.0	1089.6	1191.4	1263.4	1309.7	1336.3	1342.5
120°	795.2	919.5	1029.9	1122.9	1195.6	1247.1	1269.2	1274.8
122.5°	767.9	880.4	982.8	1069.1	1133.8	1180.1	1204.4	1211.4
125°	731.7	832.0	920.4	994.0	1053.0	1093.4	1116.4	1122.9
127.5°	700.1	789.5	869.2	936.2	988.7	1023.3	1044.1	1050.0
130°	680.2	763.0	837.6	900.2	949.0	982.1	1001.4	1008.8
132.5°	661.8	738.0	807.4	867.0	912.8	945.9	963.1	968.3
135°	636.9	702.3	762.1	814.5	859.7	887.2	903.8	910.3
137.5°	614.3	667.8	719.4	764.9	802.8	830.8	844.7	849.0
140°	601.0	647.9	692.1	731.7	766.7	792.5	807.2	806.3
142.5°	588.5	628.8	667.1	701.6	731.3	754.2	767.4	766.5
145°	573.4	603.8	633.3	659.9	682.9	702.3	709.6	711.5
147.5°	561.1	585.2	609.0	627.9	645.4	658.5	665.4	666.1
150°	552.2	573.4	592.7	610.2	624.0	634.1	639.7	639.7
152.5°	544.2	562.4	579.5	594.1	604.9	614.3	617.6	617.6
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

(END OF REPORT)