

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: P332469-930

Luminaire Tested: **S123RDIW-S1000D1535U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332469-930
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: S123RDIW-S1000D1535U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7431.8 lumens
Efficiency: N/A
Efficacy: 97.0 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

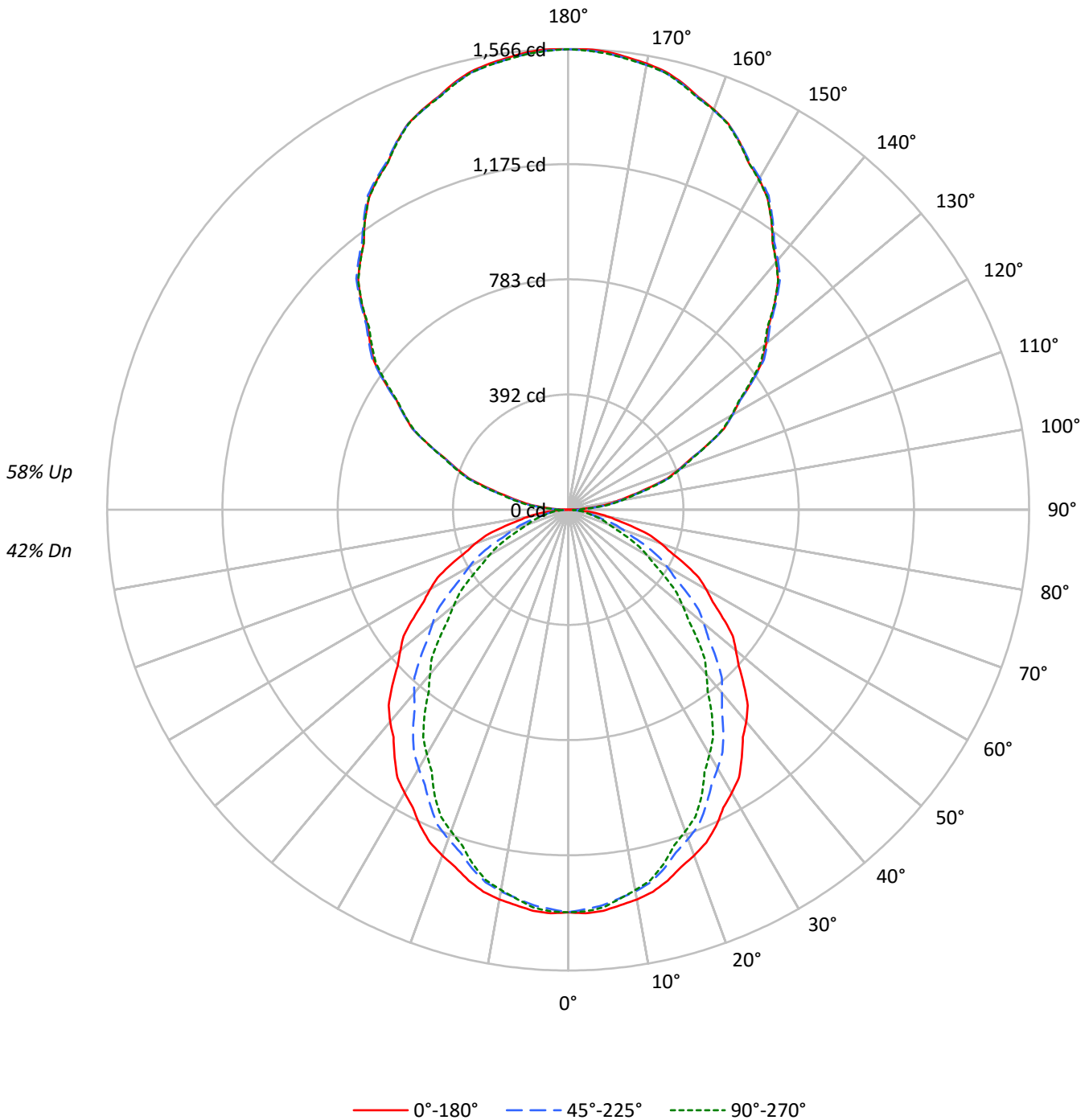
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	42
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	88	81	75	70	80	74	69	64	61	57	54	49	47	45	38	37	35	30
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	34	32	30	26
4	73	63	55	50	67	58	51	46	48	43	39	39	36	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	40	34	39	34	30	32	28	25	25	23	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	27	23	20	21	18	16	14
9	50	38	30	26	45	35	28	24	30	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	22	27	22	19	23	19	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14727	14727	14727
5°	14783	14579	14664
10°	14700	14397	14348
15°	14542	14060	13912
20°	14325	13639	13321
25°	14101	13166	12744
30°	13806	12621	11931
35°	13502	12073	11184
40°	13222	11428	10260
45°	12855	10794	9426
50°	12450	10071	8492
55°	12037	9246	7621
60°	11657	8361	6665
65°	11163	7404	5708
70°	10546	6216	4611
75°	9649	4891	4338
80°	8598	4333	3986
85°	7262	3841	3569



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	1.7
10°-20°	357.5	4.8
20°-30°	514.7	6.9
30°-40°	579.8	7.8
40°-50°	554.7	7.5
50°-60°	454.2	6.1
60°-70°	306.5	4.1
70°-80°	154.2	2.1
80°-90°	45.4	0.6
90°-100°	102.0	1.4
100°-110°	305.2	4.1
110°-120°	519.0	7.0
120°-130°	682.7	9.2
130°-140°	767.4	10.3
140°-150°	754.3	10.1
150°-160°	635.0	8.5
160°-170°	422.7	5.7
170°-180°	148.0	2.0
0°-30°	1000.7	13.5
0°-40°	1580.5	21.3
0°-60°	2589.5	34.8
0°-90°	3095.5	41.7
90°-120°	926.2	12.5
90°-150°	3130.5	42.1
90°-180°	4336.0	58.3
0°-180°	7431.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1368	1368	1368	1368	1368	
5°	1368	1362	1349	1359	1357	130
15°	1305	1292	1262	1256	1248	367
25°	1187	1158	1109	1086	1073	546
35°	1028	986	919	873	851	643
45°	844	793	709	648	619	651
55°	641	585	493	431	406	575
65°	438	376	291	239	224	434
75°	232	178	118	107	104	247
85°	59	36	31	29	29	66
90°	1	14	30	34	37	7
95°	73	81	91	96	96	82
105°	277	280	290	290	293	296
115°	522	526	524	525	524	517
125°	765	768	766	761	756	682
135°	992	999	998	994	991	764
145°	1204	1206	1210	1208	1204	752
155°	1378	1378	1379	1384	1376	634
165°	1501	1498	1498	1504	1496	423
175°	1561	1557	1556	1563	1555	148
180°	1565	1565	1565	1565	1565	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1372.6	1371.8	1371.1	1370.3	1369.5	1367.9	1365.5	1363.2	1360.8	1358.5	1360.6
5°	1368.2	1366.9	1365.7	1364.5	1363.3	1361.1	1358.2	1355.3	1352.3	1349.3	1351.5
7.5°	1355.5	1354.2	1352.9	1351.5	1350.2	1347.6	1343.8	1339.9	1336.1	1332.3	1333.5
10°	1344.9	1343.2	1341.4	1339.7	1338.0	1334.9	1330.5	1326.0	1321.6	1317.2	1317.4
12.5°	1329.8	1327.9	1326.0	1324.0	1322.1	1318.4	1313.0	1307.6	1302.2	1296.7	1296.6
15°	1305.0	1302.3	1299.5	1296.8	1294.1	1289.3	1282.4	1275.5	1268.6	1261.7	1260.5
17.5°	1273.7	1270.5	1267.4	1264.2	1261.0	1255.1	1246.3	1237.5	1228.7	1219.9	1217.3
20°	1250.6	1246.7	1242.7	1238.8	1234.8	1228.2	1218.8	1209.4	1200.0	1190.7	1187.5
22.5°	1224.8	1220.3	1215.8	1211.2	1206.7	1199.5	1189.4	1179.5	1169.5	1159.6	1155.6
25°	1187.3	1181.2	1175.0	1168.8	1162.7	1153.9	1142.6	1131.2	1119.9	1108.6	1103.3
27.5°	1141.8	1135.1	1128.2	1121.4	1114.6	1104.9	1092.3	1079.6	1067.0	1054.4	1047.2
30°	1110.8	1103.3	1096.0	1088.6	1081.2	1070.6	1056.8	1042.9	1029.2	1015.4	1007.0
32.5°	1079.7	1071.3	1062.9	1054.5	1046.2	1034.7	1020.1	1005.5	990.8	976.2	967.1
35°	1027.5	1018.6	1009.7	1000.9	992.1	979.9	964.7	949.3	934.1	918.8	908.2
37.5°	974.7	964.8	955.0	945.1	935.2	922.2	905.9	889.5	873.2	856.9	844.8
40°	941.0	930.2	919.2	908.4	897.6	883.4	865.9	848.4	830.9	813.3	800.5
42.5°	902.8	891.9	881.1	870.3	859.4	845.0	826.9	808.8	790.7	772.6	758.6
45°	844.5	833.3	822.2	811.1	800.1	785.1	766.1	747.1	728.1	709.1	695.0
47.5°	786.1	773.9	761.7	749.5	737.4	721.8	702.8	683.8	664.8	645.8	630.6
50°	743.5	731.9	720.3	708.7	697.1	681.3	661.4	641.4	621.4	601.4	586.1
52.5°	705.3	692.8	680.1	667.6	655.0	638.8	619.1	599.2	579.5	559.7	543.8
55°	641.4	629.3	617.2	605.1	593.0	576.5	555.5	534.6	513.6	492.7	478.4
57.5°	582.4	569.2	556.0	542.8	529.7	512.6	491.5	470.4	449.4	428.4	414.8
60°	541.5	528.0	514.4	500.8	487.2	470.3	449.8	429.3	408.9	388.4	375.0
62.5°	500.7	487.1	473.5	460.0	446.5	429.4	409.0	388.5	368.0	347.6	335.0
65°	438.3	424.8	411.2	397.6	384.1	367.7	348.5	329.2	310.0	290.7	278.7
67.5°	375.9	362.2	348.5	334.8	321.1	305.0	286.6	268.2	249.7	231.2	222.3
70°	335.1	321.8	308.5	295.1	281.8	266.6	249.3	232.0	214.7	197.5	188.9
72.5°	294.2	281.2	268.1	254.9	241.8	227.4	211.7	196.1	180.3	164.7	157.6
75°	232.0	220.0	208.2	196.4	184.6	171.9	158.3	144.7	131.2	117.6	115.1
77.5°	175.1	164.4	153.7	143.0	132.3	122.5	113.8	105.1	96.4	87.6	86.3
80°	138.7	128.6	118.5	108.4	98.2	90.7	85.4	80.2	75.1	69.9	69.1
82.5°	104.1	95.4	86.7	77.9	69.1	63.6	61.1	58.8	56.3	53.9	53.2
85°	58.8	53.4	47.9	42.6	37.1	34.0	33.3	32.5	31.8	31.1	30.6
87.5°	21.5	19.9	18.3	16.7	15.1	14.6	15.3	16.1	16.7	17.4	17.4
90°	1.2	4.0	6.7	9.5	12.1	15.3	18.8	22.4	25.9	29.5	30.6
92.5°	29.8	31.6	33.4	35.3	37.2	39.1	41.2	43.1	45.2	47.2	48.1
95°	72.6	74.4	76.4	78.3	80.2	82.3	84.4	86.6	88.8	91.0	92.0
97.5°	128.8	130.3	131.7	133.1	134.5	136.0	137.6	139.2	140.8	142.4	143.7
100°	167.2	168.8	170.5	172.1	173.7	175.3	176.6	178.0	179.4	180.8	181.6
102.5°	211.5	212.5	213.4	214.4	215.4	216.8	218.6	220.4	222.2	224.0	224.9
105°	276.6	277.2	277.7	278.3	278.8	280.3	282.7	285.2	287.7	290.2	290.2
107.5°	352.4	352.7	353.0	353.4	353.7	354.3	355.3	356.3	357.3	358.2	359.1
110°	399.6	400.1	400.6	401.2	401.8	402.3	402.8	403.4	403.9	404.5	405.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.7	449.1	449.4	449.7	450.0	450.3	450.4	450.5	450.6	450.7	452.0
115°	522.5	523.3	524.2	525.0	525.8	525.9	525.4	524.8	524.3	523.7	524.0
117.5°	596.8	597.3	597.9	598.4	598.9	598.8	598.2	597.5	596.7	596.1	596.0
120°	643.0	644.7	646.3	647.9	649.5	649.7	648.3	646.9	645.6	644.2	643.9
122.5°	691.2	692.4	693.6	694.8	696.0	696.3	695.5	694.8	694.1	693.4	692.7
125°	764.7	765.5	766.4	767.2	768.0	768.1	767.6	767.0	766.5	766.0	764.8
127.5°	832.6	834.3	836.1	837.8	839.6	840.2	839.5	838.9	838.4	837.7	836.2
130°	877.8	880.0	882.2	884.4	886.6	887.2	886.4	885.6	884.8	883.9	882.9
132.5°	923.1	925.2	927.4	929.6	931.8	932.6	932.0	931.4	930.7	930.2	928.9
135°	992.1	993.8	995.4	997.0	998.7	999.4	999.1	998.8	998.6	998.3	997.2
137.5°	1056.1	1057.4	1058.8	1060.2	1061.5	1062.6	1063.3	1064.0	1064.7	1065.4	1064.3
140°	1100.3	1101.7	1103.1	1104.4	1105.8	1106.6	1106.9	1107.2	1107.4	1107.7	1107.4
142.5°	1140.7	1142.0	1143.4	1144.8	1146.1	1147.0	1147.5	1148.0	1148.5	1149.0	1148.8
145°	1203.6	1204.2	1204.7	1205.3	1205.8	1206.5	1207.3	1208.1	1208.9	1209.7	1209.5
147.5°	1258.7	1259.6	1260.6	1261.7	1262.7	1263.5	1264.3	1265.0	1265.8	1266.6	1266.6
150°	1297.1	1297.6	1298.1	1298.7	1299.3	1299.8	1300.3	1300.9	1301.4	1302.0	1302.0
152.5°	1328.5	1329.3	1330.1	1330.8	1331.5	1332.1	1332.4	1332.8	1333.1	1333.4	1333.9
155°	1378.2	1378.2	1378.2	1378.2	1378.2	1378.3	1378.6	1378.8	1379.2	1379.4	1380.5
157.5°	1420.5	1420.2	1419.8	1419.5	1419.2	1419.1	1419.4	1419.5	1419.8	1420.0	1421.1
160°	1447.1	1446.5	1445.9	1445.4	1444.9	1444.5	1444.5	1444.5	1444.5	1444.5	1445.9
162.5°	1470.6	1469.9	1469.1	1468.4	1467.6	1467.3	1467.5	1467.8	1467.9	1468.2	1469.6
165°	1501.1	1500.3	1499.5	1498.7	1497.9	1497.5	1497.5	1497.5	1497.5	1497.5	1499.1
167.5°	1525.5	1524.4	1523.3	1522.2	1521.1	1520.7	1520.9	1521.1	1521.3	1521.5	1523.2
170°	1539.2	1538.1	1537.1	1535.9	1534.9	1534.3	1534.3	1534.3	1534.3	1534.3	1536.3
172.5°	1550.0	1549.0	1547.8	1546.8	1545.7	1545.2	1545.2	1545.2	1545.2	1545.2	1546.9
175°	1561.4	1560.3	1559.2	1558.1	1557.0	1556.5	1556.5	1556.5	1556.5	1556.5	1558.1
177.5°	1566.0	1565.2	1564.3	1563.4	1562.5	1562.1	1562.1	1562.1	1562.1	1562.1	1563.4
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1362.8	1365.0	1367.1	1368.0	1367.6	1367.3	1366.8	1366.4
5°	1353.8	1356.0	1358.2	1359.1	1358.6	1358.1	1357.6	1357.1
7.5°	1334.7	1335.9	1337.2	1337.4	1336.5	1335.7	1334.9	1334.0
10°	1317.7	1317.9	1318.2	1317.7	1316.4	1315.2	1313.9	1312.7
12.5°	1296.4	1296.3	1296.2	1295.3	1294.0	1292.5	1291.1	1289.6
15°	1259.2	1258.0	1256.8	1255.2	1253.5	1251.8	1250.1	1248.4
17.5°	1214.7	1212.1	1209.5	1206.9	1204.4	1201.8	1199.2	1196.6
20°	1184.2	1181.0	1177.9	1174.8	1171.8	1168.8	1165.9	1162.9
22.5°	1151.6	1147.6	1143.6	1140.2	1137.5	1134.7	1132.0	1129.2
25°	1098.2	1093.0	1087.9	1083.9	1081.2	1078.5	1075.8	1073.0
27.5°	1040.0	1032.8	1025.6	1019.9	1015.8	1011.6	1007.5	1003.4
30°	998.6	990.2	981.8	975.7	971.7	967.8	963.8	959.9
32.5°	957.9	948.8	939.6	932.9	928.8	924.6	920.5	916.3
35°	897.6	887.0	876.4	868.9	864.5	860.0	855.6	851.1
37.5°	832.8	820.8	808.8	800.0	794.5	789.0	783.6	778.1
40°	787.7	774.9	762.1	752.8	747.1	741.5	735.8	730.2
42.5°	744.5	730.5	716.5	706.9	701.9	696.8	691.7	686.6
45°	680.9	666.9	652.8	642.9	636.9	631.0	625.1	619.2
47.5°	615.2	600.0	584.7	574.4	569.1	563.9	558.6	553.3
50°	570.9	555.5	540.3	529.8	524.2	518.4	512.8	507.1
52.5°	528.0	512.1	496.2	485.7	480.6	475.6	470.5	465.4
55°	464.1	449.8	435.5	425.8	420.9	416.0	411.1	406.1
57.5°	401.3	387.8	374.3	365.4	361.3	357.0	352.9	348.6
60°	361.7	348.5	335.1	326.4	322.2	318.0	313.8	309.6
62.5°	322.5	310.0	297.4	288.9	284.6	280.2	275.8	271.4
65°	266.6	254.5	242.4	235.0	232.3	229.6	226.9	224.1
67.5°	213.2	204.2	195.2	189.1	186.3	183.4	180.4	177.6
70°	180.3	171.6	163.0	157.4	154.6	151.9	149.2	146.5
72.5°	150.6	143.5	136.5	132.4	131.3	130.1	129.0	127.8
75°	112.7	110.2	107.8	106.3	105.8	105.3	104.8	104.3
77.5°	85.0	83.6	82.3	81.4	81.0	80.5	80.0	79.5
80°	68.4	67.7	66.9	66.4	65.9	65.4	64.8	64.3
82.5°	52.4	51.7	51.0	50.5	50.5	50.4	50.2	50.1
85°	30.1	29.6	29.1	28.9	28.9	28.9	28.9	28.9
87.5°	17.4	17.5	17.5	17.5	17.4	17.3	17.2	17.1
90°	31.7	32.8	33.9	34.7	35.2	35.8	36.4	36.9
92.5°	48.9	49.8	50.7	51.0	50.6	50.3	50.0	49.7
95°	93.2	94.2	95.3	95.9	95.9	95.9	95.9	95.9
97.5°	144.9	146.1	147.4	148.0	147.9	147.7	147.7	147.6
100°	182.4	183.2	184.0	184.7	185.2	185.8	186.3	186.9
102.5°	225.7	226.5	227.3	227.6	227.6	227.4	227.3	227.2
105°	290.2	290.2	290.2	290.4	291.0	291.6	292.0	292.6
107.5°	360.0	360.9	361.7	362.0	361.7	361.3	361.0	360.7
110°	406.7	407.7	408.9	409.1	408.5	408.1	407.5	406.9



TEST NUMBER: P332469-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	453.3	454.6	455.9	456.6	456.5	456.3	456.2	456.1
115°	524.3	524.6	524.8	524.8	524.6	524.3	524.0	523.7
117.5°	595.9	595.9	595.8	595.4	594.6	593.9	593.1	592.3
120°	643.7	643.4	643.1	642.7	642.2	641.6	641.1	640.5
122.5°	691.9	691.3	690.6	689.8	689.1	688.3	687.5	686.7
125°	763.8	762.6	761.6	760.4	759.4	758.3	757.2	756.1
127.5°	834.7	833.2	831.6	830.2	829.0	827.7	826.5	825.2
130°	881.7	880.7	879.6	878.1	876.2	874.2	872.4	870.4
132.5°	927.6	926.3	925.0	923.6	922.1	920.6	919.1	917.6
135°	996.1	995.0	993.9	993.1	992.5	992.0	991.5	990.9
137.5°	1063.2	1062.0	1060.9	1059.7	1058.7	1057.7	1056.6	1055.6
140°	1107.2	1106.9	1106.6	1105.5	1103.6	1101.7	1099.8	1097.9
142.5°	1148.5	1148.2	1147.9	1147.0	1145.6	1144.1	1142.6	1141.2
145°	1209.2	1208.9	1208.7	1207.9	1206.9	1205.8	1204.7	1203.6
147.5°	1266.6	1266.6	1266.6	1265.8	1264.1	1262.5	1260.8	1259.1
150°	1302.0	1302.0	1302.0	1301.1	1299.5	1297.9	1296.2	1294.6
152.5°	1334.3	1334.7	1335.2	1334.7	1333.3	1331.9	1330.4	1329.0
155°	1381.6	1382.7	1383.8	1383.4	1381.4	1379.6	1377.6	1375.7
157.5°	1422.3	1423.4	1424.6	1424.4	1422.9	1421.3	1419.8	1418.3
160°	1447.3	1448.7	1450.0	1450.2	1449.1	1448.0	1446.9	1445.8
162.5°	1470.9	1472.3	1473.7	1473.5	1471.7	1470.0	1468.2	1466.5
165°	1500.7	1502.4	1504.0	1503.9	1501.9	1500.1	1498.1	1496.2
167.5°	1524.9	1526.6	1528.3	1528.3	1526.6	1524.9	1523.2	1521.5
170°	1538.1	1540.1	1542.0	1542.0	1540.1	1538.1	1536.3	1534.3
172.5°	1548.5	1550.2	1551.9	1551.8	1549.9	1548.0	1546.1	1544.2
175°	1559.7	1561.4	1563.0	1562.8	1561.0	1559.0	1557.1	1555.3
177.5°	1564.7	1566.0	1567.3	1567.2	1565.7	1564.2	1562.7	1561.1
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0

(END OF REPORT)