

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: P332078-935

Luminaire Tested: **S123DIP-S1165D1025U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332078-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7626.5 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

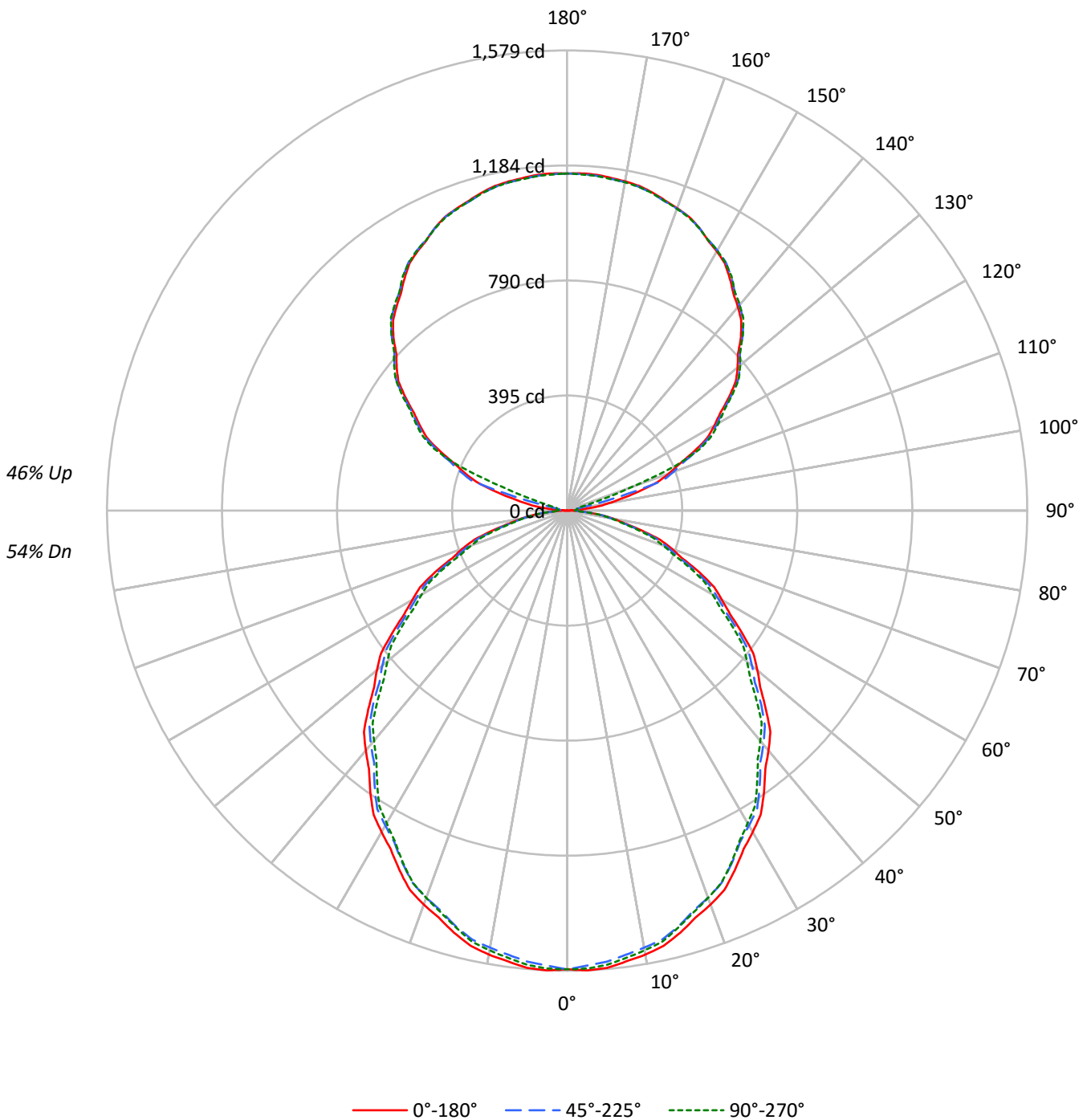
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	53	51	50	45
2	90	82	76	71	83	76	71	66	66	61	58	55	53	50	46	44	42	38
3	82	72	65	59	76	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	37	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	32	54	43	36	31	38	32	28	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	22	19	17
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16942	16942	16942
5°	17022	16788	16904
10°	16909	16642	16746
15°	16711	16454	16485
20°	16479	16186	16200
25°	16170	15865	15833
30°	15830	15509	15392
35°	15473	15135	14939
40°	15100	14720	14491
45°	14690	14338	13988
50°	14277	13870	13485
55°	13741	13386	12979
60°	13199	12820	12411
65°	12720	12202	11826
70°	12013	11500	10990
75°	10975	10580	10131
80°	9899	9478	9397
85°	8682	8361	8028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	1.9
10°-20°	418.7	5.5
20°-30°	618.4	8.1
30°-40°	722.4	9.5
40°-50°	726.3	9.5
50°-60°	638.0	8.4
60°-70°	475.3	6.2
70°-80°	270.8	3.6
80°-90°	81.0	1.1
90°-100°	42.1	0.6
100°-110°	200.4	2.6
110°-120°	481.5	6.3
120°-130°	613.1	8.0
130°-140°	655.1	8.6
140°-150°	612.6	8.0
150°-160°	494.1	6.5
160°-170°	318.9	4.2
170°-180°	109.9	1.4
0°-30°	1185.3	15.5
0°-40°	1907.7	25.0
0°-60°	3272.0	42.9
0°-90°	4099.0	53.7
90°-120°	724.0	9.5
90°-150°	2604.6	34.2
90°-180°	3528.0	46.3
0°-180°	7626.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1574	1574	1574	1574	1574	
5°	1575	1568	1554	1566	1564	149
15°	1500	1494	1476	1486	1479	423
25°	1362	1353	1336	1337	1333	627
35°	1178	1169	1152	1144	1137	736
45°	965	959	942	926	919	745
55°	732	730	713	699	692	656
65°	499	492	479	469	464	493
75°	264	259	254	248	244	282
85°	70	68	68	65	65	77
90°	1	10	21	24	26	6
95°	52	20	27	32	33	65
105°	256	261	188	45	38	272
115°	480	486	493	502	505	474
125°	677	684	688	689	691	605
135°	843	848	852	854	852	649
145°	973	979	981	982	982	609
155°	1072	1070	1071	1075	1070	494
165°	1130	1128	1127	1133	1128	319
175°	1157	1153	1153	1159	1152	110
180°	1157	1157	1157	1157	1157	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1579.4	1578.5	1577.5	1576.6	1575.5	1573.7	1571.2	1568.5	1565.8	1563.1	1565.6
5°	1575.4	1573.9	1572.4	1570.9	1569.3	1566.9	1563.7	1560.3	1557.0	1553.7	1556.7
7.5°	1560.0	1558.4	1556.9	1555.4	1553.9	1551.4	1548.0	1544.6	1541.2	1537.7	1540.4
10°	1547.0	1545.4	1543.9	1542.4	1540.9	1538.3	1534.3	1530.4	1526.5	1522.6	1525.3
12.5°	1529.7	1528.4	1527.1	1525.9	1524.6	1522.1	1518.5	1514.8	1511.1	1507.4	1509.4
15°	1499.6	1498.4	1497.2	1496.0	1494.8	1492.2	1488.3	1484.4	1480.5	1476.5	1478.9
17.5°	1464.6	1463.1	1461.5	1460.0	1458.4	1455.7	1451.7	1447.9	1443.9	1440.0	1441.7
20°	1438.6	1436.8	1435.0	1433.2	1431.5	1428.6	1424.7	1420.8	1416.9	1413.0	1414.2
22.5°	1409.5	1407.6	1405.8	1404.0	1402.2	1399.4	1395.4	1391.5	1387.7	1383.7	1384.7
25°	1361.5	1359.7	1357.9	1356.1	1354.4	1351.4	1347.6	1343.7	1339.7	1335.8	1336.1
27.5°	1310.4	1308.6	1306.9	1305.1	1303.4	1300.5	1296.2	1292.0	1287.8	1283.6	1283.8
30°	1273.6	1272.0	1270.6	1269.0	1267.6	1264.7	1260.5	1256.3	1252.1	1247.8	1247.8
32.5°	1236.7	1234.8	1232.8	1230.8	1228.8	1226.2	1223.0	1219.7	1216.4	1213.2	1211.5
35°	1177.5	1175.7	1173.9	1172.1	1170.3	1167.4	1163.5	1159.6	1155.6	1151.8	1150.0
37.5°	1116.8	1114.6	1112.2	1110.0	1107.7	1104.6	1100.6	1096.7	1092.7	1088.6	1086.5
40°	1074.6	1072.8	1071.0	1069.2	1067.4	1064.4	1060.1	1055.9	1051.7	1047.6	1045.2
42.5°	1032.3	1030.4	1028.3	1026.2	1024.2	1021.1	1016.8	1012.6	1008.4	1004.3	1001.9
45°	965.0	963.8	962.6	961.4	960.2	957.6	953.7	949.8	945.9	941.9	938.4
47.5°	898.1	896.4	894.7	892.9	891.1	888.5	884.8	881.1	877.4	873.7	870.2
50°	852.6	851.2	849.6	848.2	846.6	844.0	840.0	836.1	832.2	828.3	825.0
52.5°	805.0	804.0	803.0	801.9	800.9	798.3	794.2	790.1	785.9	781.7	778.9
55°	732.2	731.9	731.6	731.3	731.0	728.9	725.0	721.1	717.1	713.3	710.0
57.5°	662.9	661.9	660.8	659.9	658.8	656.8	653.6	650.5	647.4	644.2	641.3
60°	613.1	612.8	612.5	612.2	611.9	609.9	606.3	602.7	599.1	595.5	592.8
62.5°	568.7	567.9	567.1	566.4	565.6	563.4	559.7	556.1	552.6	549.0	546.2
65°	499.4	497.9	496.4	494.9	493.4	491.1	488.1	485.1	482.1	479.1	476.7
67.5°	426.0	424.7	423.4	422.1	420.8	419.0	416.6	414.4	412.1	409.8	407.7
70°	381.7	379.9	378.1	376.3	374.4	372.6	370.8	369.0	367.2	365.4	363.3
72.5°	335.1	333.8	332.4	331.1	329.8	328.1	326.1	324.0	322.0	319.9	318.1
75°	263.9	262.7	261.5	260.3	259.1	258.0	257.2	256.2	255.4	254.4	253.0
77.5°	200.9	200.2	199.5	198.9	198.2	197.3	196.2	195.2	194.1	193.0	192.0
80°	159.7	158.8	157.9	157.0	156.1	155.3	154.7	154.1	153.5	152.9	152.7
82.5°	119.7	119.4	119.2	119.1	118.9	118.7	118.6	118.6	118.4	118.3	117.8
85°	70.3	69.7	69.1	68.5	67.9	67.7	67.7	67.7	67.7	67.7	67.1
87.5°	28.3	28.0	27.6	27.3	26.9	26.9	27.2	27.5	27.7	28.0	27.9
90°	0.9	2.8	4.6	6.6	8.5	10.7	13.2	15.7	18.2	20.7	21.4
92.5°	16.0	15.4	14.9	14.4	13.9	14.6	16.4	18.3	20.1	22.0	23.2
95°	52.4	44.6	36.8	28.9	21.1	18.3	20.3	22.5	24.5	26.6	28.0
97.5°	105.4	101.9	98.3	94.8	91.3	82.7	69.0	55.2	41.4	27.6	29.2
100°	145.3	149.0	152.9	156.7	160.5	147.5	117.7	87.9	58.1	28.3	29.9
102.5°	190.6	193.4	196.1	198.9	201.6	186.8	154.2	121.7	89.1	56.6	51.8
105°	256.1	258.2	260.3	262.4	264.5	256.9	239.8	222.6	205.4	188.2	154.4
107.5°	325.2	326.9	328.6	330.3	331.9	334.2	336.8	339.6	342.2	345.0	320.2
110°	371.3	372.8	374.3	375.8	377.4	379.2	381.3	383.4	385.5	387.6	381.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	415.3	416.6	418.0	419.4	420.8	422.5	424.6	426.7	428.8	430.9	431.0
115°	480.4	481.6	482.7	483.9	485.0	486.5	488.1	489.8	491.5	493.3	495.2
117.5°	543.5	544.9	546.3	547.8	549.1	550.3	551.1	552.1	552.9	553.8	555.3
120°	582.6	584.4	586.1	587.8	589.5	590.7	591.2	591.9	592.5	593.0	594.5
122.5°	622.6	624.0	625.3	626.8	628.2	629.3	630.0	630.8	631.5	632.1	633.3
125°	677.2	678.7	680.3	681.8	683.3	684.5	685.3	686.0	686.7	687.5	687.9
127.5°	730.1	731.7	733.2	734.7	736.2	737.4	738.4	739.3	740.2	741.1	741.8
130°	763.2	764.7	766.2	767.8	769.3	770.4	771.2	772.0	772.7	773.4	774.2
132.5°	794.8	796.3	797.8	799.4	800.9	801.9	802.5	803.1	803.8	804.4	805.2
135°	843.1	844.2	845.3	846.5	847.7	848.6	849.4	850.2	850.9	851.7	852.2
137.5°	884.3	885.8	887.3	888.7	890.1	891.0	891.5	891.9	892.3	892.8	893.6
140°	911.8	913.0	914.1	915.2	916.4	917.3	917.8	918.4	919.0	919.5	920.3
142.5°	937.3	938.4	939.5	940.7	941.8	942.7	943.3	943.8	944.4	945.0	945.6
145°	972.8	974.2	975.5	976.9	978.2	979.0	979.5	979.8	980.2	980.6	980.9
147.5°	1006.3	1007.3	1008.1	1009.0	1009.9	1010.5	1010.9	1011.2	1011.7	1012.0	1012.4
150°	1027.0	1027.6	1028.1	1028.7	1029.2	1029.8	1030.1	1030.5	1030.9	1031.3	1031.7
152.5°	1045.5	1045.9	1046.1	1046.4	1046.6	1046.9	1047.1	1047.3	1047.6	1047.8	1048.4
155°	1071.7	1071.3	1070.9	1070.6	1070.1	1070.1	1070.2	1070.4	1070.7	1070.8	1071.8
157.5°	1091.9	1091.9	1091.9	1091.8	1091.8	1091.7	1091.5	1091.3	1091.1	1090.9	1092.1
160°	1104.3	1104.1	1104.0	1103.8	1103.5	1103.4	1103.2	1103.0	1102.8	1102.6	1103.8
162.5°	1116.0	1115.5	1115.0	1114.6	1114.0	1113.7	1113.5	1113.3	1113.1	1112.9	1114.2
165°	1130.1	1129.5	1128.9	1128.4	1127.8	1127.5	1127.2	1127.0	1126.9	1126.7	1128.2
167.5°	1141.1	1140.4	1139.6	1138.8	1138.1	1137.6	1137.6	1137.6	1137.6	1137.6	1139.2
170°	1147.3	1146.5	1145.8	1145.0	1144.3	1143.8	1143.8	1143.8	1143.8	1143.8	1145.4
172.5°	1151.4	1150.6	1149.6	1148.7	1147.8	1147.4	1147.5	1147.7	1147.8	1148.0	1149.5
175°	1156.8	1155.8	1154.9	1153.9	1153.0	1152.5	1152.7	1153.0	1153.1	1153.3	1154.7
177.5°	1158.1	1157.4	1156.6	1155.8	1155.1	1154.8	1154.9	1155.1	1155.2	1155.4	1156.6
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1568.0	1570.4	1572.8	1573.9	1573.6	1573.4	1573.1	1573.0
5°	1559.7	1562.7	1565.7	1566.9	1566.3	1565.7	1565.1	1564.5
7.5°	1543.2	1545.8	1548.6	1549.7	1549.4	1549.0	1548.7	1548.3
10°	1528.0	1530.7	1533.4	1534.5	1533.9	1533.3	1532.7	1532.1
12.5°	1511.4	1513.4	1515.4	1516.2	1515.8	1515.4	1515.1	1514.8
15°	1481.4	1483.8	1486.2	1486.5	1484.7	1482.9	1481.1	1479.3
17.5°	1443.4	1445.1	1446.7	1447.3	1446.7	1446.0	1445.3	1444.7
20°	1415.4	1416.6	1417.8	1417.9	1417.0	1416.1	1415.2	1414.3
22.5°	1385.7	1386.6	1387.6	1387.5	1386.4	1385.2	1384.1	1382.9
25°	1336.4	1336.7	1337.0	1336.7	1335.8	1334.9	1334.0	1333.1
27.5°	1284.1	1284.3	1284.5	1284.1	1283.0	1281.8	1280.7	1279.5
30°	1247.8	1247.8	1247.8	1246.8	1244.7	1242.6	1240.4	1238.4
32.5°	1209.8	1208.2	1206.4	1205.1	1203.9	1202.7	1201.6	1200.5
35°	1148.1	1146.3	1144.5	1142.9	1141.3	1139.9	1138.3	1136.9
37.5°	1084.3	1082.2	1080.0	1078.5	1077.5	1076.5	1075.6	1074.6
40°	1042.8	1040.3	1037.9	1036.1	1034.9	1033.7	1032.5	1031.3
42.5°	999.4	997.0	994.6	992.8	991.6	990.4	989.2	988.0
45°	934.8	931.2	927.6	925.0	923.5	922.0	920.5	918.9
47.5°	866.7	863.2	859.5	857.1	855.8	854.5	853.2	851.9
50°	821.7	818.4	815.0	812.5	810.7	808.9	807.1	805.3
52.5°	776.1	773.3	770.4	768.1	766.3	764.5	762.7	760.9
55°	706.6	703.4	700.0	697.6	696.1	694.6	693.1	691.6
57.5°	638.3	635.4	632.4	630.1	628.4	626.6	624.8	623.1
60°	590.1	587.4	584.7	582.6	581.1	579.5	578.1	576.5
62.5°	543.5	540.8	538.1	536.2	535.2	534.2	533.2	532.2
65°	474.3	471.9	469.5	467.9	466.9	466.1	465.1	464.3
67.5°	405.6	403.5	401.4	399.7	398.5	397.2	395.9	394.7
70°	361.2	359.1	357.0	355.2	353.7	352.1	350.7	349.2
72.5°	316.2	314.4	312.5	311.2	310.4	309.6	308.8	308.1
75°	251.4	249.9	248.4	247.2	246.3	245.4	244.5	243.6
77.5°	191.0	189.9	188.9	188.4	188.4	188.4	188.4	188.4
80°	152.3	152.1	151.7	151.6	151.6	151.6	151.6	151.6
82.5°	117.2	116.7	116.1	115.7	115.5	115.3	115.0	114.8
85°	66.5	65.9	65.3	65.0	65.0	65.0	65.0	65.0
87.5°	27.8	27.7	27.6	27.6	27.6	27.7	27.8	27.9
90°	22.1	22.9	23.7	24.3	24.6	25.1	25.4	25.7
92.5°	24.5	25.7	26.9	27.6	27.8	28.1	28.3	28.5
95°	29.3	30.7	32.0	32.6	32.6	32.6	32.6	32.6
97.5°	30.7	32.3	33.8	34.6	34.9	35.0	35.2	35.4
100°	31.4	33.0	34.4	35.3	35.6	35.7	35.9	36.1
102.5°	47.1	42.4	37.6	35.4	35.7	36.1	36.4	36.8
105°	120.6	86.8	53.0	36.2	36.7	37.0	37.5	37.8
107.5°	295.4	270.6	245.8	220.7	195.2	169.7	144.2	118.7
110°	375.0	368.7	362.4	345.6	318.2	290.9	263.6	236.3



TEST NUMBER: P332078-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	431.1	431.3	431.4	428.5	422.8	417.0	411.2	405.4
115°	497.1	499.0	500.9	502.3	503.0	503.8	504.5	505.3
117.5°	556.9	558.4	559.9	560.8	560.9	561.0	561.2	561.4
120°	596.1	597.5	599.1	599.9	599.9	599.9	599.9	599.9
122.5°	634.3	635.4	636.5	637.1	637.2	637.4	637.5	637.7
125°	688.3	688.6	689.1	689.4	689.8	690.2	690.6	691.0
127.5°	742.4	743.0	743.6	743.7	743.3	743.0	742.5	742.2
130°	775.0	775.8	776.5	776.7	776.4	775.9	775.6	775.2
132.5°	805.9	806.7	807.4	807.5	807.0	806.5	806.0	805.5
135°	852.8	853.4	853.9	853.9	853.4	852.8	852.2	851.7
137.5°	894.6	895.5	896.4	896.6	896.3	896.0	895.5	895.2
140°	921.1	921.9	922.6	922.8	922.4	922.0	921.7	921.3
142.5°	946.2	946.8	947.4	947.4	946.9	946.4	945.9	945.4
145°	981.4	981.7	982.1	982.3	982.3	982.3	982.3	982.3
147.5°	1012.8	1013.1	1013.6	1013.3	1012.4	1011.6	1010.6	1009.8
150°	1032.1	1032.4	1032.9	1032.7	1032.2	1031.6	1031.0	1030.4
152.5°	1049.1	1049.8	1050.5	1050.4	1049.6	1048.7	1047.8	1046.9
155°	1072.7	1073.7	1074.6	1074.5	1073.4	1072.3	1071.1	1070.0
157.5°	1093.2	1094.3	1095.5	1095.4	1093.8	1092.4	1090.9	1089.4
160°	1104.9	1106.0	1107.2	1107.1	1105.8	1104.4	1103.1	1101.7
162.5°	1115.5	1116.8	1118.1	1118.2	1117.0	1115.8	1114.7	1113.4
165°	1129.7	1131.3	1132.8	1132.9	1131.5	1130.2	1128.9	1127.6
167.5°	1140.7	1142.3	1143.8	1143.8	1142.3	1140.7	1139.2	1137.6
170°	1146.9	1148.5	1150.0	1150.0	1148.5	1146.9	1145.4	1143.8
172.5°	1151.1	1152.5	1154.1	1154.0	1152.4	1150.6	1149.0	1147.3
175°	1156.0	1157.4	1158.6	1158.6	1157.0	1155.5	1154.0	1152.4
177.5°	1157.8	1159.1	1160.3	1160.1	1158.6	1157.1	1155.5	1154.0
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8

(END OF REPORT)