

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: P331757

Luminaire Tested: **SA2XXRDIP-C1005D925U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331757  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C1005D925U835-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6794.4 lumens  
Efficiency: N/A  
Efficacy: 101.7 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

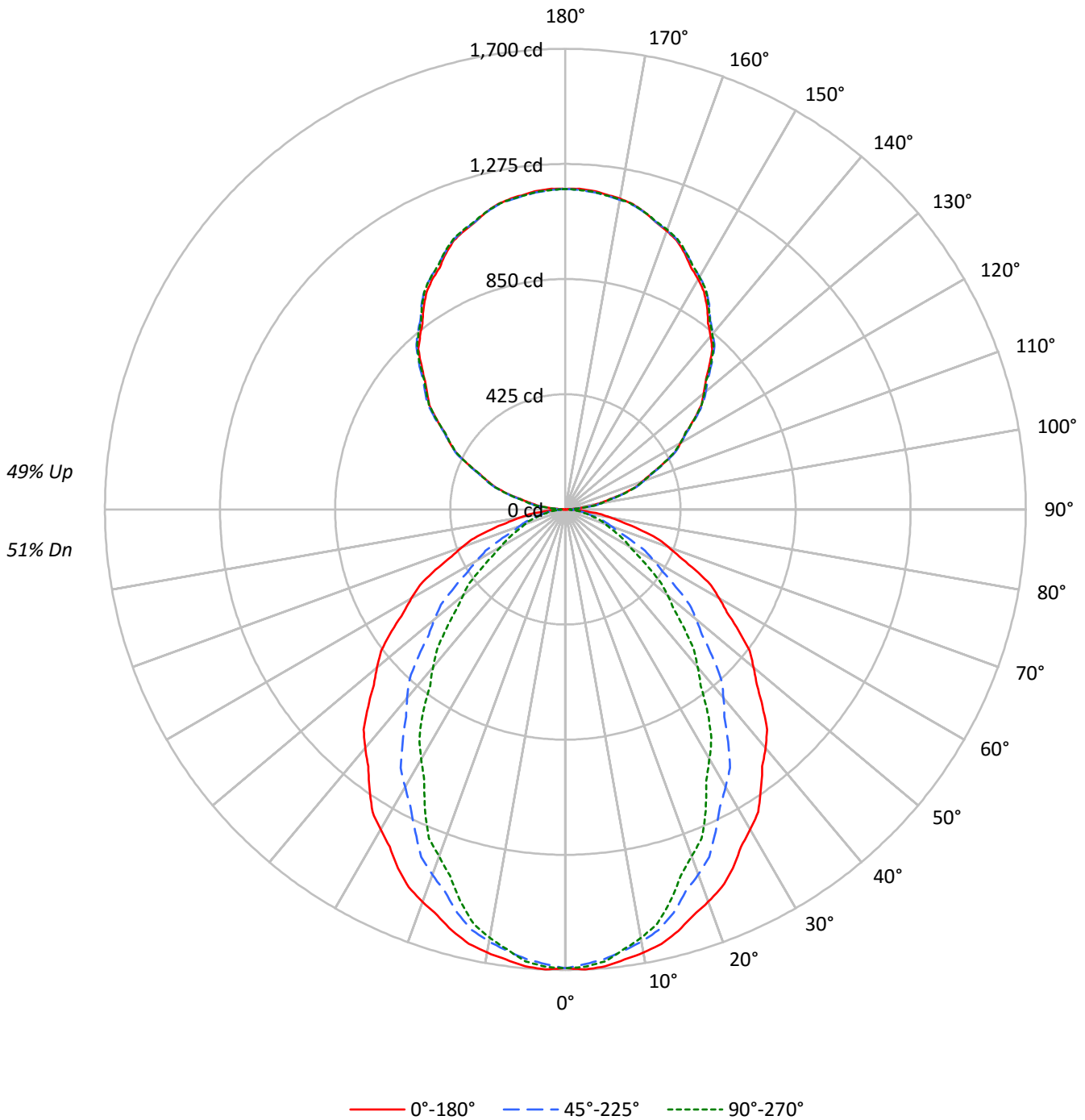
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	99	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	68	66	62	59	55	53	50	46	44	42	38
3	83	73	66	61	76	68	62	57	58	54	50	49	46	43	41	39	37	33
4	76	65	58	52	70	61	54	49	52	47	43	44	41	37	37	34	32	28
5	70	58	51	45	64	54	47	42	47	42	37	40	36	33	34	31	28	25
6	64	53	45	39	59	49	42	37	43	37	33	36	32	29	31	28	25	22
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22	20
8	55	43	36	31	51	41	34	29	35	30	26	31	26	23	26	23	20	18
9	52	40	32	27	48	37	31	26	33	27	24	28	24	21	24	21	18	16
10	48	37	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	27341	27341	27341
5°	27446	27000	27149
10°	27237	26558	26332
15°	26924	25770	25028
20°	26490	24646	23409
25°	26045	23370	21841
30°	25430	22057	19829
35°	24829	20631	18065
40°	24226	19155	16021
45°	23516	17497	14173
50°	22790	15822	12356
55°	22044	14021	10612
60°	21180	12126	8809
65°	20199	10189	8023
70°	19029	8393	7378
75°	17592	7648	6881
80°	15528	6843	6267
85°	12208	5391	5391



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.5	2.3
10°-20°	435.2	6.4
20°-30°	611.2	9.0
30°-40°	666.5	9.8
40°-50°	612.8	9.0
50°-60°	481.3	7.1
60°-70°	313.8	4.6
70°-80°	161.8	2.4
80°-90°	46.7	0.7
90°-100°	74.9	1.1
100°-110°	232.7	3.4
110°-120°	397.8	5.9
120°-130°	523.2	7.7
130°-140°	587.2	8.6
140°-150°	575.7	8.5
150°-160°	482.9	7.1
160°-170°	320.3	4.7
170°-180°	111.9	1.6
0°-30°	1204.9	17.7
0°-40°	1871.4	27.5
0°-60°	2965.4	43.6
0°-90°	3487.7	51.3
90°-120°	705.5	10.4
90°-150°	2391.6	35.2
90°-180°	3307.0	48.7
0°-180°	6794.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1693	1685	1666	1679	1675	160
15°	1611	1592	1542	1513	1497	454
25°	1462	1410	1312	1251	1226	672
35°	1260	1178	1047	954	916	788
45°	1030	924	766	661	621	795
55°	783	661	498	410	377	700
65°	529	404	267	217	210	524
75°	282	178	123	112	110	298
85°	66	35	29	29	29	78
90°	1	14	35	33	34	5
95°	52	61	64	64	62	60
105°	215	218	220	221	222	227
115°	399	405	403	402	399	395
125°	581	589	587	584	583	519
135°	752	762	764	763	760	580
145°	912	919	925	926	922	570
155°	1043	1046	1049	1053	1051	480
165°	1135	1134	1134	1140	1136	320
175°	1181	1178	1176	1182	1177	112
180°	1183	1183	1183	1183	1183	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1699.6	1698.2	1696.8	1695.5	1694.1	1691.9	1688.9	1686.0	1683.0	1680.0	1682.7
5°	1693.4	1691.7	1690.0	1688.3	1686.6	1683.6	1679.1	1674.7	1670.3	1665.9	1668.9
7.5°	1676.0	1673.9	1671.8	1669.6	1667.5	1663.9	1658.7	1653.5	1648.4	1643.2	1644.1
10°	1661.3	1658.9	1656.5	1654.1	1651.7	1647.1	1640.3	1633.5	1626.7	1619.9	1618.9
12.5°	1642.9	1639.9	1637.0	1634.1	1631.2	1625.3	1616.6	1607.9	1599.2	1590.5	1588.6
15°	1610.7	1606.9	1603.2	1599.4	1595.7	1588.0	1576.5	1564.9	1553.3	1541.7	1535.3
17.5°	1571.1	1565.4	1559.7	1554.0	1548.3	1538.0	1523.1	1508.3	1493.4	1478.6	1470.9
20°	1541.7	1534.9	1528.1	1521.3	1514.5	1502.6	1485.5	1468.5	1451.5	1434.4	1425.9
22.5°	1509.8	1502.2	1494.6	1487.0	1479.3	1465.9	1446.7	1427.5	1408.3	1389.1	1378.1
25°	1462.0	1451.1	1440.2	1429.3	1418.4	1401.8	1379.3	1356.8	1334.3	1311.8	1297.9
27.5°	1404.4	1392.6	1380.7	1368.9	1357.0	1338.4	1313.1	1287.7	1262.4	1237.1	1220.8
30°	1364.0	1351.0	1338.1	1325.1	1312.2	1292.1	1264.8	1237.6	1210.4	1183.1	1165.7
32.5°	1324.7	1309.6	1294.5	1279.4	1264.2	1242.8	1215.0	1187.2	1159.4	1131.6	1111.8
35°	1259.7	1242.4	1225.0	1207.6	1190.3	1166.6	1136.6	1106.7	1076.7	1046.7	1025.3
37.5°	1194.8	1175.7	1156.6	1137.5	1118.5	1093.0	1061.0	1029.1	997.1	965.2	941.6
40°	1149.4	1129.0	1108.5	1088.1	1067.7	1040.9	1007.9	974.9	941.8	908.8	884.6
42.5°	1102.8	1081.3	1059.8	1038.2	1016.7	988.9	954.8	920.6	886.5	852.4	827.4
45°	1029.9	1007.0	984.2	961.4	938.6	909.3	873.5	837.8	802.0	766.3	742.1
47.5°	958.7	934.6	910.4	886.2	862.0	831.5	794.6	757.6	720.7	683.8	659.8
50°	907.3	883.1	858.9	834.7	810.5	779.7	742.3	704.8	667.3	629.9	606.4
52.5°	857.0	831.7	806.5	781.2	755.9	725.0	688.3	651.7	615.0	578.4	555.7
55°	783.1	756.6	730.0	703.4	676.9	645.2	608.4	571.6	534.9	498.1	477.6
57.5°	707.4	680.2	652.9	625.7	598.4	567.1	531.8	496.4	461.1	425.7	407.0
60°	655.9	628.7	601.4	574.2	546.9	515.8	480.7	445.6	410.5	375.5	358.1
62.5°	605.7	578.4	551.2	523.9	496.7	466.3	432.9	399.4	366.0	332.6	316.0
65°	528.7	501.1	473.6	446.0	418.4	389.3	358.6	328.0	297.3	266.7	255.1
67.5°	454.5	427.2	399.8	372.4	345.0	317.5	290.0	262.4	234.8	207.2	201.9
70°	403.1	376.5	349.9	323.4	296.8	271.8	248.3	224.8	201.3	177.8	174.4
72.5°	354.0	328.5	303.1	277.6	252.1	229.9	211.1	192.2	173.3	154.5	151.6
75°	282.0	258.1	234.3	210.5	186.6	168.9	157.3	145.8	134.2	122.6	120.2
77.5°	211.2	190.3	169.4	148.5	127.5	114.3	108.7	103.1	97.5	92.0	90.6
80°	167.0	149.7	132.3	114.9	97.6	87.2	83.8	80.4	77.0	73.6	72.2
82.5°	126.6	113.0	99.5	85.9	72.4	64.4	62.1	59.8	57.5	55.2	54.4
85°	65.9	58.7	51.6	44.4	37.3	33.2	32.2	31.2	30.1	29.1	29.1
87.5°	19.8	18.2	16.5	14.9	13.2	12.9	13.9	14.8	15.8	16.8	16.4
90°	1.0	3.7	6.3	9.0	11.6	15.4	20.3	25.2	30.0	34.9	34.5
92.5°	17.8	19.7	21.7	23.6	25.6	27.1	28.3	29.4	30.6	31.7	31.8
95°	51.9	54.1	56.3	58.5	60.8	62.1	62.5	63.0	63.4	63.9	63.9
97.5°	94.8	96.8	98.7	100.7	102.6	104.0	104.9	105.7	106.5	107.4	107.4
100°	126.7	128.5	130.3	132.1	133.8	135.1	135.7	136.4	137.1	137.7	137.7
102.5°	160.3	161.7	163.1	164.5	165.9	167.1	167.9	168.8	169.6	170.5	170.6
105°	214.6	215.2	215.9	216.6	217.2	217.8	218.2	218.7	219.1	219.5	220.0
107.5°	269.2	270.2	271.2	272.2	273.2	273.6	273.6	273.6	273.6	273.6	273.8
110°	304.4	305.7	307.0	308.4	309.7	310.4	310.4	310.4	310.4	310.4	310.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	342.7	344.0	345.4	346.7	348.0	348.6	348.4	348.2	348.1	347.9	347.4
115°	399.2	400.5	401.8	403.2	404.5	404.9	404.5	404.1	403.6	403.2	403.0
117.5°	455.5	457.2	459.0	460.8	462.6	462.8	461.6	460.3	459.1	457.9	457.3
120°	493.0	494.8	496.5	498.3	500.1	500.1	498.3	496.5	494.8	493.0	493.0
122.5°	527.3	529.4	531.6	533.7	535.8	536.3	535.0	533.8	532.6	531.3	530.8
125°	580.8	582.8	584.8	586.8	588.8	589.5	588.8	588.1	587.5	586.8	586.1
127.5°	632.9	635.4	638.0	640.5	643.0	643.9	643.1	642.3	641.5	640.7	639.9
130°	665.6	668.5	671.4	674.3	677.2	678.4	677.9	677.5	677.1	676.6	676.2
132.5°	702.4	704.7	707.1	709.4	711.8	713.0	713.1	713.2	713.2	713.3	712.4
135°	751.5	753.9	756.3	758.8	761.2	762.7	763.1	763.5	764.0	764.4	764.2
137.5°	803.2	805.1	807.1	809.1	811.1	812.4	813.0	813.6	814.2	814.7	814.6
140°	834.3	836.3	838.3	840.3	842.3	843.8	844.9	846.0	847.2	848.3	848.3
142.5°	866.2	868.2	870.2	872.2	874.2	875.6	876.3	877.1	877.8	878.6	878.8
145°	912.1	913.7	915.2	916.8	918.3	919.8	921.1	922.4	923.8	925.1	925.3
147.5°	953.0	954.9	956.8	958.6	960.5	961.9	962.8	963.6	964.5	965.4	965.9
150°	981.0	982.3	983.6	985.0	986.3	987.4	988.3	989.2	990.1	991.0	991.6
152.5°	1005.7	1007.1	1008.4	1009.7	1011.1	1012.3	1013.3	1014.4	1015.4	1016.5	1017.4
155°	1042.9	1043.5	1044.2	1044.9	1045.5	1046.2	1046.9	1047.5	1048.2	1048.8	1050.0
157.5°	1074.6	1075.0	1075.5	1075.9	1076.4	1076.8	1077.2	1077.6	1078.0	1078.4	1079.9
160°	1093.8	1094.2	1094.6	1095.1	1095.5	1095.9	1096.1	1096.3	1096.5	1096.7	1098.1
162.5°	1111.3	1111.4	1111.5	1111.6	1111.7	1111.8	1112.1	1112.3	1112.5	1112.7	1114.2
165°	1134.7	1134.5	1134.2	1134.0	1133.8	1133.7	1133.7	1133.7	1133.7	1133.7	1135.2
167.5°	1154.2	1153.6	1152.9	1152.2	1151.6	1151.2	1151.2	1151.1	1151.1	1151.0	1152.6
170°	1164.6	1163.9	1163.3	1162.6	1161.9	1161.5	1161.3	1161.1	1160.8	1160.6	1162.2
172.5°	1171.8	1171.1	1170.5	1169.8	1169.1	1168.7	1168.5	1168.2	1168.0	1167.8	1169.4
175°	1180.6	1179.9	1179.2	1178.6	1177.9	1177.4	1176.9	1176.5	1176.0	1175.6	1177.1
177.5°	1184.2	1183.6	1183.1	1182.6	1182.0	1181.6	1181.2	1180.9	1180.5	1180.2	1181.2
180°	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1685.4	1688.1	1690.9	1691.9	1691.4	1690.9	1690.3	1689.8
5°	1672.0	1675.1	1678.1	1679.1	1678.1	1677.1	1676.1	1675.1
7.5°	1644.9	1645.8	1646.7	1646.3	1644.5	1642.7	1641.0	1639.2
10°	1617.8	1616.8	1615.8	1614.3	1612.2	1610.2	1608.1	1606.1
12.5°	1586.8	1584.9	1583.1	1580.5	1577.1	1573.7	1570.3	1566.9
15°	1528.8	1522.3	1515.8	1510.9	1507.5	1504.1	1500.7	1497.3
17.5°	1463.2	1455.5	1447.8	1441.0	1435.2	1429.3	1423.4	1417.6
20°	1417.4	1408.9	1400.4	1392.4	1384.9	1377.4	1369.9	1362.4
22.5°	1367.2	1356.2	1345.2	1336.9	1331.4	1325.8	1320.2	1314.6
25°	1283.9	1270.0	1256.0	1246.5	1241.3	1236.2	1231.1	1226.0
27.5°	1204.5	1188.2	1171.9	1159.7	1151.6	1143.5	1135.4	1127.3
30°	1148.4	1131.0	1113.6	1100.4	1091.2	1082.0	1072.8	1063.6
32.5°	1092.0	1072.2	1052.3	1038.1	1029.5	1020.8	1012.1	1003.5
35°	1003.8	982.4	960.9	946.4	938.9	931.4	923.9	916.5
37.5°	917.9	894.3	870.6	854.5	846.0	837.4	828.8	820.2
40°	860.4	836.2	812.1	795.6	786.7	777.8	769.0	760.1
42.5°	802.4	777.4	752.4	735.6	727.0	718.4	709.9	701.3
45°	717.9	693.7	669.5	653.4	645.2	637.0	628.8	620.7
47.5°	635.7	611.7	587.6	571.9	564.5	557.1	549.6	542.2
50°	582.9	559.4	535.9	520.5	513.4	506.2	499.1	491.9
52.5°	533.0	510.3	487.7	473.0	466.4	459.8	453.2	446.6
55°	457.2	436.8	416.3	402.9	396.4	389.9	383.5	377.0
57.5°	388.3	369.5	350.8	338.7	333.3	327.8	322.4	316.9
60°	340.7	323.4	306.0	294.6	289.1	283.7	278.2	272.8
62.5°	299.5	282.9	266.4	256.4	253.2	249.9	246.6	243.4
65°	243.5	231.9	220.3	214.0	213.0	212.0	211.0	210.0
67.5°	196.6	191.3	185.9	182.7	181.7	180.6	179.5	178.4
70°	171.0	167.6	164.2	161.8	160.4	159.0	157.7	156.3
72.5°	148.8	145.9	143.0	141.2	140.4	139.6	138.7	137.9
75°	117.8	115.5	113.1	111.7	111.4	111.0	110.7	110.3
77.5°	89.2	87.9	86.5	85.5	85.0	84.5	83.9	83.4
80°	70.8	69.5	68.1	67.4	67.4	67.4	67.4	67.4
82.5°	53.5	52.7	51.9	51.5	51.5	51.5	51.5	51.5
85°	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
87.5°	16.1	15.7	15.3	15.2	15.2	15.3	15.3	15.4
90°	34.0	33.6	33.2	33.0	33.3	33.5	33.7	33.9
92.5°	31.9	32.0	32.1	32.2	32.2	32.2	32.3	32.3
95°	63.9	63.9	63.9	63.6	63.2	62.8	62.3	61.9
97.5°	107.4	107.4	107.4	107.4	107.3	107.3	107.2	107.2
100°	137.7	137.7	137.7	137.6	137.4	137.2	136.9	136.7
102.5°	170.8	171.0	171.2	171.1	170.9	170.7	170.5	170.3
105°	220.4	220.9	221.3	221.5	221.5	221.5	221.5	221.5
107.5°	274.0	274.2	274.3	273.9	272.9	271.9	270.9	269.8
110°	310.4	310.4	310.4	310.0	309.4	308.7	308.0	307.4





TEST NUMBER: P331757

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.8	346.3	345.8	345.2	344.8	344.3	343.8	343.3
115°	402.7	402.5	402.3	401.8	401.2	400.5	399.8	399.2
117.5°	456.8	456.3	455.7	455.1	454.5	453.8	453.1	452.5
120°	493.0	493.0	493.0	492.7	492.0	491.3	490.7	490.0
122.5°	530.2	529.7	529.2	528.7	528.2	527.7	527.2	526.7
125°	585.5	584.8	584.1	583.7	583.5	583.2	583.0	582.8
127.5°	639.1	638.3	637.5	636.7	636.0	635.3	634.6	633.9
130°	675.7	675.3	674.8	674.2	673.3	672.4	671.5	670.6
132.5°	711.4	710.4	709.4	708.6	707.9	707.2	706.5	705.8
135°	764.0	763.8	763.5	763.1	762.4	761.8	761.1	760.4
137.5°	814.4	814.2	814.0	813.5	812.6	811.7	810.8	809.9
140°	848.3	848.3	848.3	847.8	846.9	846.0	845.2	844.3
142.5°	879.0	879.1	879.3	879.0	878.1	877.2	876.3	875.4
145°	925.5	925.8	926.0	925.7	924.8	923.9	923.0	922.1
147.5°	966.4	966.9	967.4	967.2	966.4	965.5	964.7	963.8
150°	992.3	993.0	993.6	993.6	993.0	992.3	991.6	991.0
152.5°	1018.2	1019.0	1019.9	1019.9	1019.0	1018.2	1017.4	1016.5
155°	1051.1	1052.2	1053.3	1053.5	1052.8	1052.2	1051.5	1050.8
157.5°	1081.4	1082.9	1084.4	1084.6	1083.6	1082.5	1081.4	1080.4
160°	1099.4	1100.7	1102.1	1102.3	1101.4	1100.5	1099.6	1098.7
162.5°	1115.7	1117.2	1118.7	1119.0	1117.9	1116.8	1115.8	1114.7
165°	1136.8	1138.3	1139.9	1140.1	1139.0	1137.9	1136.8	1135.7
167.5°	1154.1	1155.7	1157.2	1157.4	1156.3	1155.1	1154.0	1152.8
170°	1163.7	1165.3	1166.8	1166.9	1165.6	1164.3	1162.9	1161.6
172.5°	1170.9	1172.5	1174.0	1174.1	1172.8	1171.5	1170.1	1168.8
175°	1178.7	1180.2	1181.8	1181.9	1180.6	1179.2	1177.9	1176.6
177.5°	1182.3	1183.4	1184.4	1184.4	1183.4	1182.3	1181.2	1180.2
180°	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6

(END OF REPORT)