

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: P332340

Luminaire Tested: **S123RDIP-S1000D585U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332340  
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: S123RDIP-S1000D585U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5805.0 lumens  
Efficiency: N/A  
Efficacy: 119.0 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: Semi-Direct

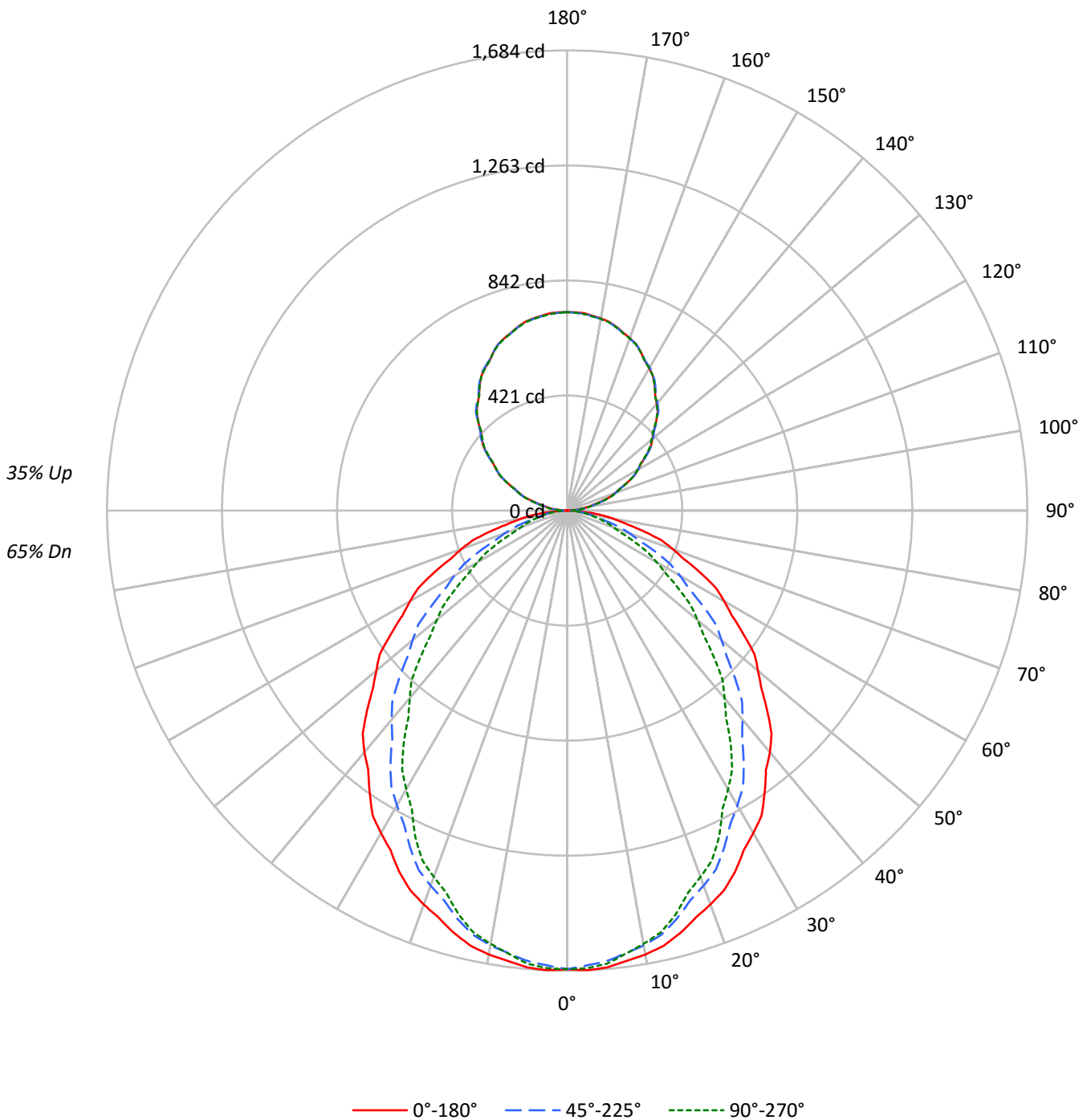
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	102	97	94	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	86	79	74	87	81	75	71	72	68	64	63	60	58	56	53	51	47
3	85	76	68	62	80	71	65	60	64	59	54	56	52	49	50	47	44	41
4	78	67	59	53	73	64	57	51	57	51	47	51	46	42	45	41	38	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	40	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	41	37	33	37	33	30	27
7	62	49	41	36	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	36	31	39	33	28	35	30	26	31	27	24	22
9	53	41	34	28	50	39	32	27	36	30	26	32	27	24	29	25	22	20
10	50	38	31	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

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

	0°	45°	90°
0°	18064	18064	18064
5°	18133	17882	17986
10°	18030	17658	17598
15°	17836	17245	17063
20°	17570	16728	16339
25°	17296	16149	15631
30°	16933	15479	14633
35°	16561	14808	13717
40°	16218	14018	12584
45°	15767	13239	11561
50°	15270	12353	10416
55°	14763	11340	9348
60°	14299	10256	8174
65°	13692	9082	7002
70°	12935	7626	5655
75°	11832	6001	5319
80°	10544	5312	4891
85°	8904	4705	4372



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.6	2.7
10°-20°	438.5	7.6
20°-30°	631.4	10.9
30°-40°	711.2	12.3
40°-50°	680.4	11.7
50°-60°	557.2	9.6
60°-70°	375.9	6.5
70°-80°	189.1	3.3
80°-90°	52.2	0.9
90°-100°	47.3	0.8
100°-110°	141.6	2.4
110°-120°	240.8	4.1
120°-130°	316.7	5.5
130°-140°	356.0	6.1
140°-150°	349.9	6.0
150°-160°	294.6	5.1
160°-170°	196.1	3.4
170°-180°	68.7	1.2
0°-30°	1227.4	21.1
0°-40°	1938.6	33.4
0°-60°	3176.1	54.7
0°-90°	3793.3	65.3
90°-120°	429.7	7.4
90°-150°	1452.4	25.0
90°-180°	2012.0	34.7
0°-180°	5805.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1678	1671	1655	1666	1665	159
15°	1601	1584	1548	1541	1531	451
25°	1456	1421	1360	1332	1316	669
35°	1260	1209	1127	1070	1044	788
45°	1036	972	870	795	760	799
55°	787	717	604	528	498	705
65°	538	461	357	293	275	532
75°	284	219	144	131	128	303
85°	72	44	38	36	35	81
90°	1	6	14	16	17	6
95°	34	38	42	44	44	38
105°	128	130	135	135	136	137
115°	242	244	243	244	243	240
125°	355	356	355	353	351	316
135°	460	464	463	461	460	355
145°	558	560	561	561	558	349
155°	639	639	640	642	638	294
165°	696	695	695	698	694	196
175°	724	722	722	725	722	69
180°	726	726	726	726	726	



TEST NUMBER: P332340

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1683.6	1682.6	1681.7	1680.7	1679.7	1677.8	1674.9	1672.0	1669.1	1666.2	1668.8
5°	1678.2	1676.6	1675.1	1673.6	1672.1	1669.5	1665.9	1662.3	1658.7	1655.0	1657.7
7.5°	1662.6	1661.0	1659.4	1657.7	1656.1	1652.9	1648.2	1643.5	1638.8	1634.1	1635.6
10°	1649.6	1647.5	1645.3	1643.2	1641.1	1637.3	1631.9	1626.4	1621.0	1615.6	1615.9
12.5°	1631.1	1628.7	1626.4	1624.0	1621.6	1617.1	1610.5	1603.8	1597.2	1590.5	1590.3
15°	1600.6	1597.3	1593.9	1590.6	1587.3	1581.4	1572.9	1564.4	1556.0	1547.5	1546.0
17.5°	1562.2	1558.3	1554.5	1550.6	1546.7	1539.4	1528.6	1517.9	1507.1	1496.3	1493.1
20°	1533.9	1529.1	1524.2	1519.4	1514.5	1506.4	1494.9	1483.4	1471.9	1460.4	1456.5
22.5°	1502.3	1496.8	1491.2	1485.6	1480.1	1471.2	1458.9	1446.7	1434.5	1422.3	1417.4
25°	1456.3	1448.8	1441.2	1433.6	1426.1	1415.3	1401.4	1387.5	1373.6	1359.7	1353.3
27.5°	1400.5	1392.2	1383.8	1375.5	1367.1	1355.2	1339.7	1324.2	1308.7	1293.3	1284.4
30°	1362.4	1353.3	1344.3	1335.2	1326.1	1313.1	1296.2	1279.2	1262.3	1245.4	1235.1
32.5°	1324.3	1314.0	1303.7	1293.4	1283.2	1269.1	1251.2	1233.3	1215.3	1197.4	1186.2
35°	1260.3	1249.4	1238.5	1227.7	1216.8	1201.9	1183.2	1164.4	1145.7	1126.9	1113.9
37.5°	1195.5	1183.4	1171.3	1159.2	1147.1	1131.1	1111.1	1091.0	1071.0	1051.0	1036.2
40°	1154.2	1140.9	1127.5	1114.2	1100.9	1083.5	1062.1	1040.6	1019.1	997.6	981.9
42.5°	1107.3	1094.0	1080.7	1067.4	1054.1	1036.4	1014.2	992.0	969.8	947.6	930.4
45°	1035.8	1022.1	1008.5	994.9	981.3	962.9	939.6	916.3	893.0	869.7	852.5
47.5°	964.2	949.2	934.3	919.3	904.4	885.3	862.0	838.7	815.4	792.1	773.4
50°	911.9	897.7	883.5	869.3	855.0	835.7	811.2	786.7	762.2	737.7	718.9
52.5°	865.1	849.7	834.2	818.8	803.4	783.5	759.3	735.0	710.8	686.5	667.0
55°	786.7	771.9	757.0	742.2	727.4	707.1	681.4	655.7	630.0	604.3	586.8
57.5°	714.3	698.1	682.0	665.8	649.7	628.7	602.8	577.0	551.2	525.4	508.8
60°	664.2	647.6	630.9	614.3	597.6	576.8	551.7	526.6	501.5	476.4	460.0
62.5°	614.1	597.5	580.8	564.2	547.6	526.7	501.6	476.5	451.4	426.3	410.9
65°	537.6	521.0	504.3	487.7	471.1	451.0	427.4	403.8	380.2	356.6	341.8
67.5°	461.1	444.3	427.5	410.7	393.9	374.1	351.5	328.9	306.3	283.6	272.6
70°	411.0	394.7	378.4	362.0	345.7	327.0	305.8	284.6	263.4	242.3	231.7
72.5°	360.9	344.9	328.8	312.7	296.6	278.9	259.7	240.5	221.2	202.0	193.3
75°	284.5	269.9	255.4	240.9	226.4	210.8	194.2	177.5	160.9	144.3	141.2
77.5°	214.8	201.6	188.5	175.4	162.3	150.3	139.6	128.9	118.2	107.5	105.9
80°	170.1	157.7	145.3	132.9	120.5	111.2	104.8	98.4	92.1	85.7	84.8
82.5°	127.7	117.0	106.3	95.5	84.8	78.0	75.0	72.1	69.1	66.1	65.2
85°	72.1	65.5	58.8	52.2	45.5	41.7	40.8	39.9	39.0	38.1	37.5
87.5°	26.2	23.8	21.4	19.0	16.6	15.6	15.9	16.2	16.6	16.9	16.8
90°	0.6	1.8	3.1	4.4	5.6	7.1	8.7	10.4	12.0	13.7	14.2
92.5°	13.8	14.7	15.5	16.4	17.3	18.2	19.1	20.0	21.0	21.9	22.3
95°	33.7	34.5	35.4	36.3	37.2	38.2	39.2	40.2	41.2	42.2	42.7
97.5°	59.8	60.4	61.1	61.8	62.4	63.1	63.8	64.6	65.3	66.1	66.6
100°	77.6	78.3	79.1	79.9	80.6	81.3	81.9	82.6	83.2	83.8	84.2
102.5°	98.1	98.6	99.0	99.5	99.9	100.6	101.4	102.3	103.1	103.9	104.3
105°	128.3	128.6	128.8	129.1	129.4	130.0	131.2	132.3	133.5	134.6	134.6
107.5°	163.5	163.6	163.8	163.9	164.1	164.4	164.8	165.3	165.8	166.2	166.6
110°	185.4	185.6	185.9	186.1	186.4	186.6	186.9	187.2	187.4	187.7	188.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	208.2	208.3	208.5	208.6	208.8	208.9	209.0	209.0	209.1	209.1	209.7
115°	242.4	242.8	243.2	243.6	243.9	244.0	243.7	243.5	243.2	243.0	243.1
117.5°	276.9	277.1	277.4	277.6	277.9	277.8	277.5	277.2	276.9	276.5	276.5
120°	298.3	299.1	299.8	300.6	301.4	301.4	300.8	300.2	299.5	298.9	298.8
122.5°	320.7	321.2	321.8	322.3	322.9	323.0	322.7	322.4	322.0	321.7	321.4
125°	354.8	355.2	355.5	355.9	356.3	356.4	356.1	355.9	355.6	355.4	354.8
127.5°	386.3	387.1	387.9	388.7	389.5	389.8	389.5	389.2	388.9	388.7	388.0
130°	407.3	408.3	409.3	410.3	411.3	411.6	411.3	410.9	410.5	410.1	409.6
132.5°	428.2	429.3	430.3	431.3	432.3	432.7	432.4	432.1	431.8	431.6	430.9
135°	460.3	461.1	461.8	462.6	463.3	463.7	463.5	463.4	463.3	463.2	462.7
137.5°	490.0	490.6	491.2	491.9	492.5	493.0	493.3	493.6	494.0	494.3	493.8
140°	510.5	511.1	511.8	512.4	513.0	513.4	513.5	513.7	513.8	513.9	513.8
142.5°	529.2	529.8	530.5	531.1	531.7	532.2	532.4	532.6	532.9	533.1	533.0
145°	558.4	558.7	558.9	559.2	559.4	559.7	560.1	560.5	560.9	561.3	561.1
147.5°	584.0	584.4	584.9	585.3	585.8	586.2	586.6	586.9	587.3	587.6	587.6
150°	601.8	602.0	602.3	602.5	602.8	603.0	603.3	603.5	603.8	604.0	604.0
152.5°	616.4	616.7	617.1	617.4	617.8	618.0	618.2	618.3	618.5	618.6	618.8
155°	639.4	639.4	639.4	639.4	639.4	639.5	639.6	639.7	639.9	640.0	640.5
157.5°	659.0	658.9	658.7	658.6	658.4	658.4	658.5	658.6	658.7	658.8	659.3
160°	671.3	671.1	670.8	670.6	670.3	670.2	670.2	670.2	670.2	670.2	670.8
162.5°	682.3	681.9	681.6	681.2	680.9	680.8	680.9	681.0	681.1	681.2	681.8
165°	696.4	696.1	695.7	695.3	694.9	694.7	694.7	694.7	694.7	694.7	695.5
167.5°	707.7	707.2	706.7	706.2	705.7	705.5	705.6	705.7	705.8	705.9	706.7
170°	714.1	713.6	713.1	712.6	712.1	711.8	711.8	711.8	711.8	711.8	712.7
172.5°	719.1	718.6	718.1	717.6	717.1	716.9	716.9	716.9	716.9	716.9	717.7
175°	724.4	723.9	723.4	722.9	722.4	722.1	722.1	722.1	722.1	722.1	722.9
177.5°	726.6	726.2	725.8	725.3	724.9	724.7	724.7	724.7	724.7	724.7	725.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1671.5	1674.2	1676.8	1677.9	1677.4	1677.0	1676.5	1676.0
5°	1660.5	1663.2	1665.9	1667.0	1666.4	1665.8	1665.2	1664.6
7.5°	1637.1	1638.6	1640.1	1640.4	1639.3	1638.3	1637.3	1636.2
10°	1616.2	1616.5	1616.8	1616.2	1614.6	1613.1	1611.6	1610.1
12.5°	1590.1	1590.0	1589.8	1588.8	1587.1	1585.3	1583.6	1581.8
15°	1544.5	1543.0	1541.5	1539.6	1537.5	1535.4	1533.3	1531.2
17.5°	1489.9	1486.7	1483.5	1480.3	1477.2	1474.0	1470.9	1467.7
20°	1452.5	1448.6	1444.7	1440.9	1437.3	1433.6	1430.0	1426.4
22.5°	1412.5	1407.6	1402.7	1398.5	1395.2	1391.8	1388.4	1385.0
25°	1347.0	1340.6	1334.3	1329.4	1326.1	1322.8	1319.5	1316.1
27.5°	1275.6	1266.8	1257.9	1251.0	1245.9	1240.8	1235.7	1230.7
30°	1224.8	1214.5	1204.2	1196.7	1191.8	1187.0	1182.1	1177.3
32.5°	1174.9	1163.7	1152.4	1144.3	1139.2	1134.1	1129.0	1123.9
35°	1100.9	1087.9	1074.9	1065.7	1060.3	1054.8	1049.4	1043.9
37.5°	1021.5	1006.7	992.0	981.2	974.5	967.8	961.1	954.4
40°	966.2	950.5	934.7	923.4	916.4	909.5	902.5	895.6
42.5°	913.2	896.0	878.8	867.1	860.9	854.7	848.4	842.2
45°	835.2	818.0	800.7	788.5	781.2	774.0	766.7	759.5
47.5°	754.6	735.9	717.1	704.5	698.0	691.6	685.1	678.6
50°	700.2	681.4	662.7	649.8	642.9	635.9	629.0	622.0
52.5°	647.6	628.1	608.6	595.7	589.5	583.3	577.1	570.8
55°	569.2	551.7	534.1	522.3	516.3	510.2	504.2	498.1
57.5°	492.2	475.6	459.1	448.2	443.1	437.9	432.8	427.6
60°	443.7	427.4	411.0	400.3	395.2	390.0	384.9	379.7
62.5°	395.5	380.2	364.8	354.4	349.1	343.7	338.3	332.9
65°	327.0	312.1	297.3	288.2	284.9	281.6	278.3	274.9
67.5°	261.5	250.4	239.4	232.0	228.5	224.9	221.3	217.8
70°	221.1	210.5	199.9	193.0	189.6	186.3	183.0	179.7
72.5°	184.7	176.0	167.4	162.4	161.0	159.6	158.2	156.8
75°	138.2	135.2	132.2	130.4	129.8	129.1	128.5	127.9
77.5°	104.3	102.6	101.0	99.9	99.3	98.7	98.1	97.5
80°	83.9	83.0	82.1	81.4	80.8	80.2	79.5	78.9
82.5°	64.3	63.4	62.5	62.0	61.9	61.8	61.6	61.5
85°	36.9	36.3	35.7	35.4	35.4	35.4	35.4	35.4
87.5°	16.6	16.5	16.3	16.2	16.0	15.8	15.6	15.4
90°	14.7	15.2	15.7	16.1	16.4	16.6	16.9	17.1
92.5°	22.7	23.1	23.5	23.7	23.5	23.3	23.2	23.0
95°	43.2	43.7	44.2	44.5	44.5	44.5	44.5	44.5
97.5°	67.2	67.8	68.4	68.6	68.6	68.5	68.5	68.4
100°	84.6	85.0	85.4	85.7	85.9	86.2	86.4	86.7
102.5°	104.7	105.1	105.4	105.6	105.6	105.5	105.5	105.4
105°	134.6	134.6	134.6	134.7	135.0	135.2	135.5	135.8
107.5°	167.0	167.4	167.8	168.0	167.8	167.7	167.5	167.4
110°	188.7	189.2	189.7	189.8	189.6	189.3	189.1	188.8





TEST NUMBER: P332340

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	210.3	210.9	211.5	211.8	211.8	211.7	211.7	211.6
115°	243.2	243.4	243.5	243.5	243.4	243.2	243.1	243.0
117.5°	276.5	276.4	276.4	276.2	275.9	275.5	275.2	274.8
120°	298.6	298.5	298.4	298.2	297.9	297.7	297.4	297.2
122.5°	321.0	320.7	320.4	320.0	319.7	319.3	319.0	318.6
125°	354.3	353.8	353.3	352.8	352.3	351.8	351.3	350.8
127.5°	387.2	386.5	385.8	385.2	384.6	384.0	383.4	382.8
130°	409.1	408.6	408.1	407.4	406.5	405.6	404.7	403.8
132.5°	430.3	429.7	429.1	428.5	427.8	427.1	426.4	425.7
135°	462.1	461.6	461.1	460.7	460.5	460.2	460.0	459.7
137.5°	493.2	492.7	492.2	491.7	491.2	490.7	490.2	489.7
140°	513.7	513.5	513.4	512.9	512.0	511.1	510.2	509.4
142.5°	532.8	532.7	532.6	532.2	531.5	530.8	530.1	529.4
145°	561.0	560.9	560.8	560.4	559.9	559.4	558.9	558.4
147.5°	587.6	587.6	587.6	587.2	586.5	585.7	585.0	584.2
150°	604.0	604.0	604.0	603.7	602.9	602.1	601.4	600.6
152.5°	619.1	619.3	619.5	619.2	618.6	617.9	617.3	616.6
155°	641.0	641.5	642.0	641.8	640.9	640.0	639.2	638.3
157.5°	659.9	660.4	660.9	660.8	660.1	659.4	658.7	658.0
160°	671.5	672.1	672.7	672.8	672.3	671.8	671.3	670.8
162.5°	682.4	683.1	683.7	683.6	682.8	682.0	681.2	680.4
165°	696.3	697.0	697.8	697.7	696.8	695.9	695.1	694.2
167.5°	707.5	708.3	709.1	709.1	708.3	707.5	706.7	705.9
170°	713.6	714.5	715.4	715.4	714.5	713.6	712.7	711.8
172.5°	718.4	719.2	720.0	720.0	719.1	718.2	717.3	716.4
175°	723.6	724.4	725.2	725.1	724.2	723.3	722.4	721.5
177.5°	726.0	726.6	727.2	727.1	726.4	725.7	725.0	724.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1

(END OF REPORT)