

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: P332070

Luminaire Tested: **S123DIP-S1165D805U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332070  
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: S123DIP-S1165D805U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7517.5 lumens  
Efficiency: N/A  
Efficacy: 123.8 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: Semi-Direct

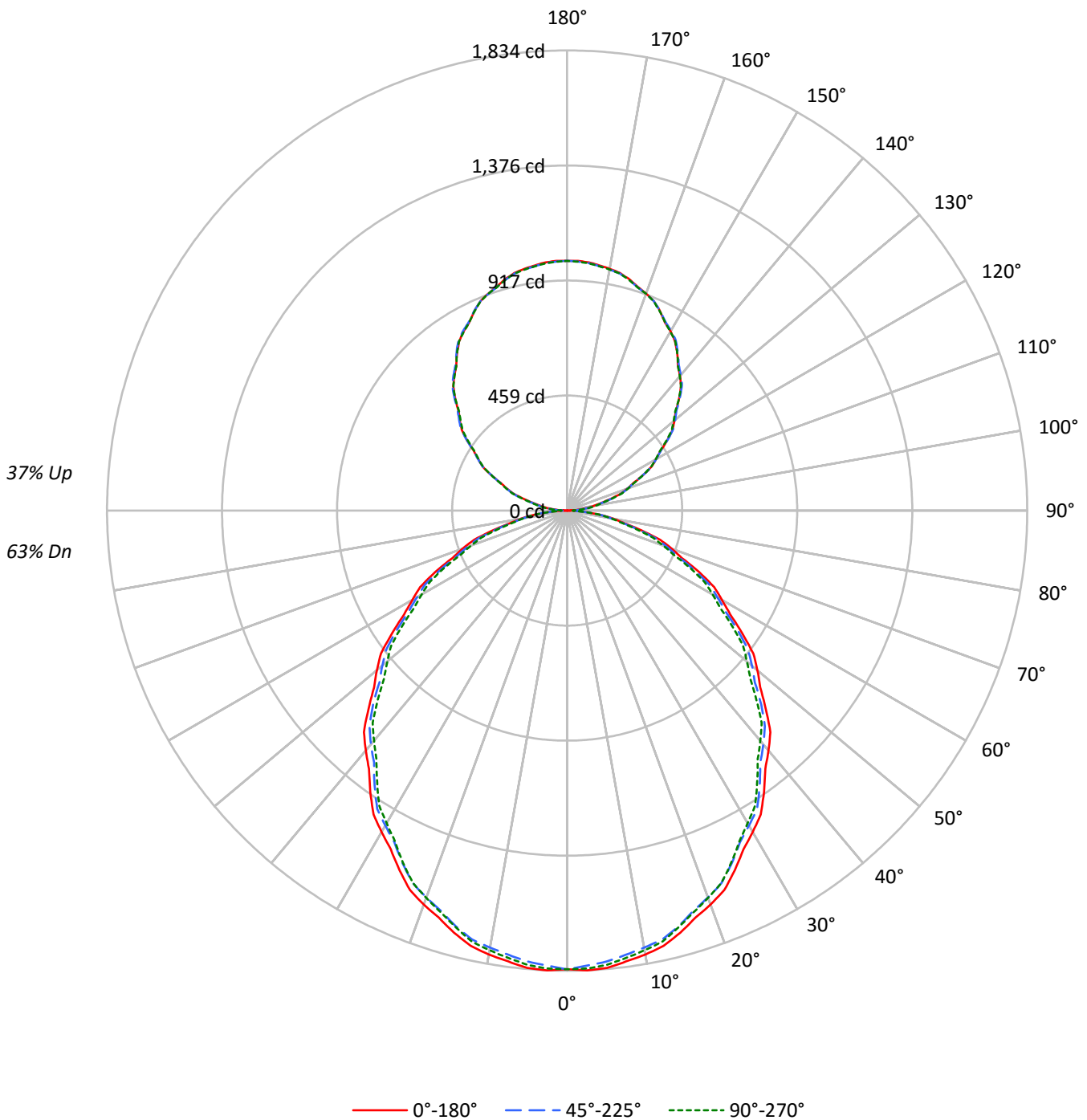
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	96	92	89	94	90	87	84	80	77	74	70	68	66	60	59	58	53
2	92	84	78	72	86	79	73	69	70	65	62	61	58	55	53	51	48	44
3	84	74	66	60	78	70	63	57	61	56	52	54	50	46	47	44	41	38
4	77	65	57	51	71	62	54	49	55	49	44	48	43	40	42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38	43	38	35	38	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33	39	34	30	34	30	27	25
7	60	47	39	33	56	45	37	32	40	34	29	36	31	27	31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	34	28	23	31	25	21	28	23	20	25	21	18	16

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

	0°	45°	90°
0°	19678	19678	19678
5°	19770	19498	19634
10°	19638	19329	19449
15°	19409	19110	19146
20°	19140	18798	18816
25°	18781	18427	18389
30°	18385	18013	17877
35°	17971	17578	17350
40°	17537	17096	16831
45°	17061	16653	16247
50°	16583	16109	15662
55°	15959	15546	15073
60°	15330	14889	14415
65°	14772	14174	13733
70°	13951	13357	12765
75°	12747	12289	11765
80°	11499	11009	10916
85°	10090	9707	9324



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.2	2.3
10°-20°	486.2	6.5
20°-30°	718.3	9.6
30°-40°	839.0	11.2
40°-50°	843.5	11.2
50°-60°	740.9	9.9
60°-70°	552.0	7.3
70°-80°	314.5	4.2
80°-90°	93.2	1.2
90°-100°	64.8	0.9
100°-110°	194.1	2.6
110°-120°	330.1	4.4
120°-130°	434.2	5.8
130°-140°	488.0	6.5
140°-150°	479.7	6.4
150°-160°	403.8	5.4
160°-170°	268.8	3.6
170°-180°	94.1	1.3
0°-30°	1376.7	18.3
0°-40°	2215.7	29.5
0°-60°	3800.2	50.6
0°-90°	4759.9	63.3
90°-120°	589.0	7.8
90°-150°	1990.8	26.5
90°-180°	2758.0	36.7
0°-180°	7517.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1828	1828	1828	1828	1828	
5°	1830	1821	1804	1819	1817	173
15°	1742	1735	1715	1726	1718	491
25°	1581	1571	1552	1553	1548	728
35°	1368	1358	1338	1328	1320	855
45°	1121	1114	1094	1076	1067	865
55°	850	848	828	812	803	761
65°	580	572	556	544	539	572
75°	306	300	296	288	283	328
85°	82	79	79	76	76	90
90°	1	9	19	22	24	7
95°	46	52	58	61	61	52
105°	176	178	184	185	186	188
115°	332	334	333	334	333	329
125°	486	488	487	484	481	434
135°	631	635	635	632	630	486
145°	765	767	769	768	765	478
155°	876	876	877	880	875	403
165°	955	952	952	956	952	269
175°	993	990	990	994	989	94
180°	995	995	995	995	995	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1
2.5°	1834.4	1833.3	1832.2	1831.1	1829.9	1827.8	1824.8	1821.7	1818.6	1815.5	1818.3
5°	1829.7	1828.0	1826.2	1824.5	1822.7	1819.9	1816.1	1812.2	1808.4	1804.5	1808.0
7.5°	1811.8	1810.0	1808.3	1806.5	1804.8	1801.9	1797.9	1794.0	1790.0	1786.0	1789.1
10°	1796.7	1794.9	1793.2	1791.4	1789.7	1786.6	1782.0	1777.5	1772.9	1768.4	1771.5
12.5°	1776.6	1775.1	1773.6	1772.2	1770.7	1767.8	1763.6	1759.3	1755.0	1750.8	1753.1
15°	1741.7	1740.3	1738.9	1737.5	1736.1	1733.1	1728.6	1724.0	1719.5	1714.9	1717.7
17.5°	1701.1	1699.3	1697.5	1695.7	1693.8	1690.7	1686.1	1681.6	1677.0	1672.5	1674.5
20°	1670.9	1668.8	1666.7	1664.6	1662.6	1659.2	1654.7	1650.2	1645.6	1641.1	1642.5
22.5°	1637.0	1634.9	1632.8	1630.7	1628.6	1625.3	1620.7	1616.2	1611.7	1607.1	1608.2
25°	1581.3	1579.2	1577.1	1575.0	1573.0	1569.6	1565.1	1560.6	1556.0	1551.5	1551.8
27.5°	1521.9	1519.9	1517.9	1515.8	1513.8	1510.4	1505.5	1500.6	1495.7	1490.8	1491.1
30°	1479.2	1477.4	1475.7	1473.9	1472.2	1468.9	1464.0	1459.1	1454.2	1449.3	1449.3
32.5°	1436.4	1434.1	1431.8	1429.5	1427.2	1424.1	1420.4	1416.6	1412.8	1409.1	1407.1
35°	1367.6	1365.5	1363.4	1361.3	1359.2	1355.9	1351.3	1346.8	1342.2	1337.7	1335.6
37.5°	1297.1	1294.5	1291.8	1289.2	1286.5	1282.9	1278.3	1273.7	1269.1	1264.4	1261.9
40°	1248.1	1246.0	1243.9	1241.8	1239.7	1236.2	1231.3	1226.4	1221.5	1216.7	1213.9
42.5°	1199.0	1196.7	1194.3	1191.9	1189.5	1185.9	1181.0	1176.1	1171.2	1166.4	1163.6
45°	1120.8	1119.4	1118.0	1116.6	1115.2	1112.2	1107.7	1103.1	1098.6	1094.0	1089.9
47.5°	1043.1	1041.1	1039.1	1037.0	1035.0	1031.9	1027.6	1023.3	1019.1	1014.8	1010.7
50°	990.3	988.6	986.8	985.1	983.3	980.2	975.6	971.1	966.5	962.0	958.2
52.5°	935.0	933.8	932.6	931.4	930.2	927.2	922.4	917.6	912.8	907.9	904.6
55°	850.4	850.1	849.7	849.4	849.0	846.6	842.0	837.5	832.9	828.4	824.6
57.5°	769.9	768.7	767.5	766.4	765.2	762.8	759.1	755.5	751.9	748.2	744.8
60°	712.1	711.7	711.4	711.0	710.7	708.4	704.2	700.0	695.8	691.6	688.5
62.5°	660.5	659.6	658.7	657.8	656.9	654.3	650.1	645.9	641.8	637.6	634.4
65°	580.0	578.3	576.5	574.8	573.0	570.4	566.9	563.4	559.9	556.5	553.7
67.5°	494.8	493.3	491.8	490.2	488.7	486.6	483.9	481.3	478.6	476.0	473.5
70°	443.3	441.2	439.1	437.0	434.9	432.8	430.7	428.6	426.5	424.4	422.0
72.5°	389.2	387.7	386.1	384.6	383.1	381.1	378.7	376.3	374.0	371.6	369.4
75°	306.5	305.1	303.7	302.3	300.9	299.7	298.7	297.6	296.6	295.5	293.8
77.5°	233.3	232.5	231.7	231.0	230.2	229.2	227.9	226.7	225.4	224.2	223.0
80°	185.5	184.4	183.4	182.3	181.3	180.4	179.7	179.0	178.3	177.6	177.3
82.5°	139.0	138.7	138.5	138.3	138.1	137.9	137.8	137.7	137.5	137.4	136.8
85°	81.7	81.0	80.3	79.6	78.9	78.6	78.6	78.6	78.6	78.6	77.9
87.5°	32.9	32.4	31.9	31.4	30.9	30.7	30.9	31.1	31.2	31.4	31.3
90°	0.8	2.5	4.3	6.0	7.7	9.7	12.0	14.2	16.5	18.8	19.5
92.5°	18.9	20.1	21.3	22.5	23.6	24.9	26.2	27.5	28.7	30.0	30.6
95°	46.1	47.3	48.6	49.8	51.0	52.3	53.7	55.1	56.5	57.9	58.6
97.5°	81.9	82.8	83.7	84.6	85.6	86.5	87.5	88.5	89.5	90.5	91.3
100°	106.3	107.4	108.4	109.5	110.5	111.5	112.3	113.2	114.1	114.9	115.5
102.5°	134.5	135.1	135.7	136.4	137.0	137.9	139.0	140.2	141.3	142.5	143.0
105°	175.9	176.3	176.6	177.0	177.3	178.3	179.8	181.4	183.0	184.5	184.5
107.5°	224.1	224.3	224.5	224.7	224.9	225.3	226.0	226.6	227.2	227.8	228.4
110°	254.1	254.4	254.8	255.1	255.5	255.8	256.2	256.5	256.9	257.2	257.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	285.4	285.6	285.8	286.0	286.2	286.3	286.4	286.5	286.6	286.6	287.5
115°	332.3	332.8	333.3	333.8	334.4	334.5	334.1	333.8	333.4	333.1	333.2
117.5°	379.5	379.9	380.2	380.5	380.9	380.8	380.4	379.9	379.5	379.0	379.0
120°	408.9	409.9	411.0	412.0	413.1	413.2	412.3	411.4	410.6	409.7	409.5
122.5°	439.6	440.3	441.1	441.8	442.6	442.8	442.3	441.9	441.4	441.0	440.5
125°	486.3	486.8	487.3	487.9	488.4	488.5	488.1	487.8	487.4	487.1	486.4
127.5°	529.5	530.6	531.7	532.8	533.9	534.3	533.9	533.5	533.1	532.7	531.8
130°	558.2	559.6	561.0	562.4	563.8	564.2	563.7	563.2	562.7	562.1	561.4
132.5°	587.0	588.4	589.8	591.2	592.6	593.1	592.7	592.3	591.9	591.5	590.7
135°	630.9	632.0	633.0	634.1	635.1	635.6	635.4	635.2	635.0	634.9	634.2
137.5°	671.6	672.5	673.3	674.2	675.1	675.7	676.2	676.6	677.1	677.5	676.8
140°	699.7	700.6	701.5	702.4	703.2	703.7	703.9	704.1	704.3	704.4	704.3
142.5°	725.4	726.3	727.1	728.0	728.9	729.5	729.8	730.1	730.4	730.7	730.5
145°	765.4	765.8	766.1	766.5	766.8	767.2	767.8	768.3	768.8	769.3	769.2
147.5°	800.5	801.1	801.7	802.3	803.0	803.5	804.0	804.5	805.0	805.5	805.5
150°	824.8	825.2	825.5	825.9	826.2	826.6	826.9	827.3	827.6	828.0	828.0
152.5°	844.9	845.3	845.8	846.3	846.8	847.2	847.4	847.6	847.8	848.0	848.3
155°	876.4	876.4	876.4	876.4	876.4	876.5	876.7	876.9	877.1	877.2	877.9
157.5°	903.3	903.1	902.9	902.7	902.5	902.5	902.6	902.8	902.9	903.0	903.8
160°	920.2	919.9	919.5	919.2	918.8	918.7	918.7	918.7	918.7	918.7	919.5
162.5°	935.2	934.8	934.3	933.8	933.3	933.1	933.3	933.4	933.5	933.7	934.5
165°	954.6	954.1	953.6	953.1	952.5	952.3	952.3	952.3	952.3	952.3	953.3
167.5°	970.1	969.4	968.7	968.0	967.3	967.1	967.2	967.3	967.5	967.6	968.7
170°	978.9	978.2	977.5	976.8	976.1	975.7	975.7	975.7	975.7	975.7	977.0
172.5°	985.7	985.1	984.4	983.7	983.0	982.6	982.6	982.6	982.6	982.6	983.7
175°	992.9	992.2	991.6	990.9	990.2	989.8	989.8	989.8	989.8	989.8	990.9
177.5°	995.9	995.4	994.8	994.2	993.7	993.4	993.4	993.4	993.4	993.4	994.2
180°	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1
2.5°	1821.1	1823.9	1826.7	1828.0	1827.7	1827.4	1827.1	1826.9
5°	1811.5	1815.0	1818.5	1819.9	1819.2	1818.5	1817.8	1817.1
7.5°	1792.3	1795.4	1798.6	1799.9	1799.5	1799.1	1798.7	1798.3
10°	1774.7	1777.8	1781.0	1782.2	1781.5	1780.8	1780.1	1779.4
12.5°	1755.4	1757.7	1760.0	1761.0	1760.5	1760.1	1759.7	1759.3
15°	1720.5	1723.3	1726.1	1726.5	1724.4	1722.3	1720.2	1718.1
17.5°	1676.4	1678.4	1680.3	1680.9	1680.2	1679.4	1678.6	1677.9
20°	1643.9	1645.3	1646.7	1646.8	1645.8	1644.7	1643.7	1642.6
22.5°	1609.4	1610.5	1611.6	1611.5	1610.2	1608.8	1607.5	1606.2
25°	1552.2	1552.5	1552.9	1552.5	1551.5	1550.4	1549.4	1548.3
27.5°	1491.4	1491.6	1491.9	1491.4	1490.1	1488.7	1487.4	1486.1
30°	1449.3	1449.3	1449.3	1448.1	1445.6	1443.2	1440.7	1438.3
32.5°	1405.1	1403.2	1401.2	1399.6	1398.3	1396.9	1395.6	1394.3
35°	1333.5	1331.4	1329.3	1327.4	1325.6	1323.9	1322.1	1320.4
37.5°	1259.4	1256.9	1254.4	1252.6	1251.4	1250.3	1249.2	1248.1
40°	1211.1	1208.3	1205.5	1203.4	1202.0	1200.6	1199.2	1197.8
42.5°	1160.8	1158.0	1155.2	1153.1	1151.7	1150.3	1148.9	1147.5
45°	1085.7	1081.5	1077.3	1074.3	1072.6	1070.8	1069.1	1067.3
47.5°	1006.6	1002.5	998.3	995.5	994.0	992.4	990.9	989.4
50°	954.3	950.5	946.6	943.7	941.6	939.5	937.4	935.3
52.5°	901.4	898.1	894.8	892.1	890.0	887.9	885.8	883.7
55°	820.7	816.9	813.0	810.2	808.5	806.7	805.0	803.2
57.5°	741.4	738.0	734.5	731.8	729.8	727.8	725.7	723.7
60°	685.4	682.2	679.1	676.6	674.9	673.1	671.4	669.6
62.5°	631.3	628.1	625.0	622.8	621.6	620.4	619.3	618.1
65°	550.9	548.1	545.3	543.4	542.3	541.3	540.2	539.2
67.5°	471.1	468.6	466.2	464.2	462.8	461.3	459.8	458.4
70°	419.5	417.1	414.6	412.5	410.8	409.0	407.3	405.6
72.5°	367.3	365.1	362.9	361.4	360.5	359.6	358.7	357.8
75°	292.0	290.3	288.5	287.1	286.1	285.0	284.0	282.9
77.5°	221.8	220.6	219.4	218.8	218.8	218.8	218.8	218.8
80°	176.9	176.6	176.2	176.1	176.1	176.1	176.1	176.1
82.5°	136.1	135.5	134.9	134.4	134.1	133.9	133.6	133.3
85°	77.2	76.5	75.8	75.5	75.5	75.5	75.5	75.5
87.5°	31.1	31.0	30.9	30.8	30.9	31.0	31.0	31.1
90°	20.2	20.8	21.5	22.1	22.4	22.8	23.1	23.5
92.5°	31.1	31.7	32.2	32.4	32.2	32.0	31.8	31.6
95°	59.2	59.9	60.6	61.0	61.0	61.0	61.0	61.0
97.5°	92.1	92.9	93.7	94.1	94.0	94.0	93.9	93.8
100°	116.0	116.5	117.0	117.5	117.8	118.1	118.5	118.8
102.5°	143.5	144.0	144.5	144.8	144.7	144.6	144.6	144.5
105°	184.5	184.5	184.5	184.7	185.0	185.4	185.7	186.1
107.5°	228.9	229.5	230.1	230.2	230.0	229.8	229.6	229.4
110°	258.6	259.3	260.0	260.2	259.8	259.5	259.1	258.8





TEST NUMBER: P332070

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.3	289.1	290.0	290.3	290.3	290.2	290.1	290.1
115°	333.4	333.6	333.8	333.8	333.6	333.4	333.2	333.1
117.5°	379.0	378.9	378.9	378.6	378.2	377.7	377.2	376.7
120°	409.3	409.2	409.0	408.7	408.4	408.0	407.7	407.3
122.5°	440.1	439.6	439.2	438.7	438.2	437.7	437.2	436.7
125°	485.7	485.0	484.3	483.6	482.9	482.2	481.5	480.8
127.5°	530.8	529.8	528.9	528.0	527.2	526.4	525.6	524.8
130°	560.8	560.1	559.4	558.4	557.2	556.0	554.8	553.5
132.5°	589.9	589.0	588.2	587.3	586.4	585.4	584.5	583.6
135°	633.5	632.8	632.1	631.6	631.2	630.9	630.5	630.2
137.5°	676.1	675.4	674.6	673.9	673.3	672.6	672.0	671.3
140°	704.1	703.9	703.7	703.1	701.8	700.6	699.4	698.2
142.5°	730.4	730.2	730.0	729.5	728.5	727.6	726.6	725.7
145°	769.0	768.8	768.6	768.2	767.5	766.8	766.1	765.4
147.5°	805.5	805.5	805.5	804.9	803.9	802.8	801.8	800.8
150°	828.0	828.0	828.0	827.5	826.4	825.4	824.3	823.3
152.5°	848.5	848.8	849.1	848.8	847.9	847.0	846.1	845.2
155°	878.6	879.3	880.0	879.7	878.5	877.3	876.1	874.9
157.5°	904.5	905.2	905.9	905.8	904.9	903.9	902.9	901.9
160°	920.4	921.3	922.1	922.2	921.5	920.8	920.1	919.4
162.5°	935.4	936.3	937.2	937.0	935.9	934.8	933.7	932.6
165°	954.4	955.4	956.5	956.4	955.2	953.9	952.7	951.5
167.5°	969.8	970.8	971.9	971.9	970.8	969.8	968.7	967.6
170°	978.2	979.4	980.6	980.6	979.4	978.2	977.0	975.7
172.5°	984.8	985.9	986.9	986.9	985.6	984.4	983.2	982.0
175°	991.9	992.9	994.0	993.9	992.7	991.5	990.2	989.0
177.5°	995.1	995.9	996.7	996.7	995.7	994.7	993.8	992.8
180°	995.3	995.3	995.3	995.3	995.3	995.3	995.3	995.3

(END OF REPORT)