

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: P332060

Luminaire Tested: **S123DIP-S1165D585U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332060
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-S1165D585U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7100.2 lumens
Efficiency: N/A
Efficacy: 128.9 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

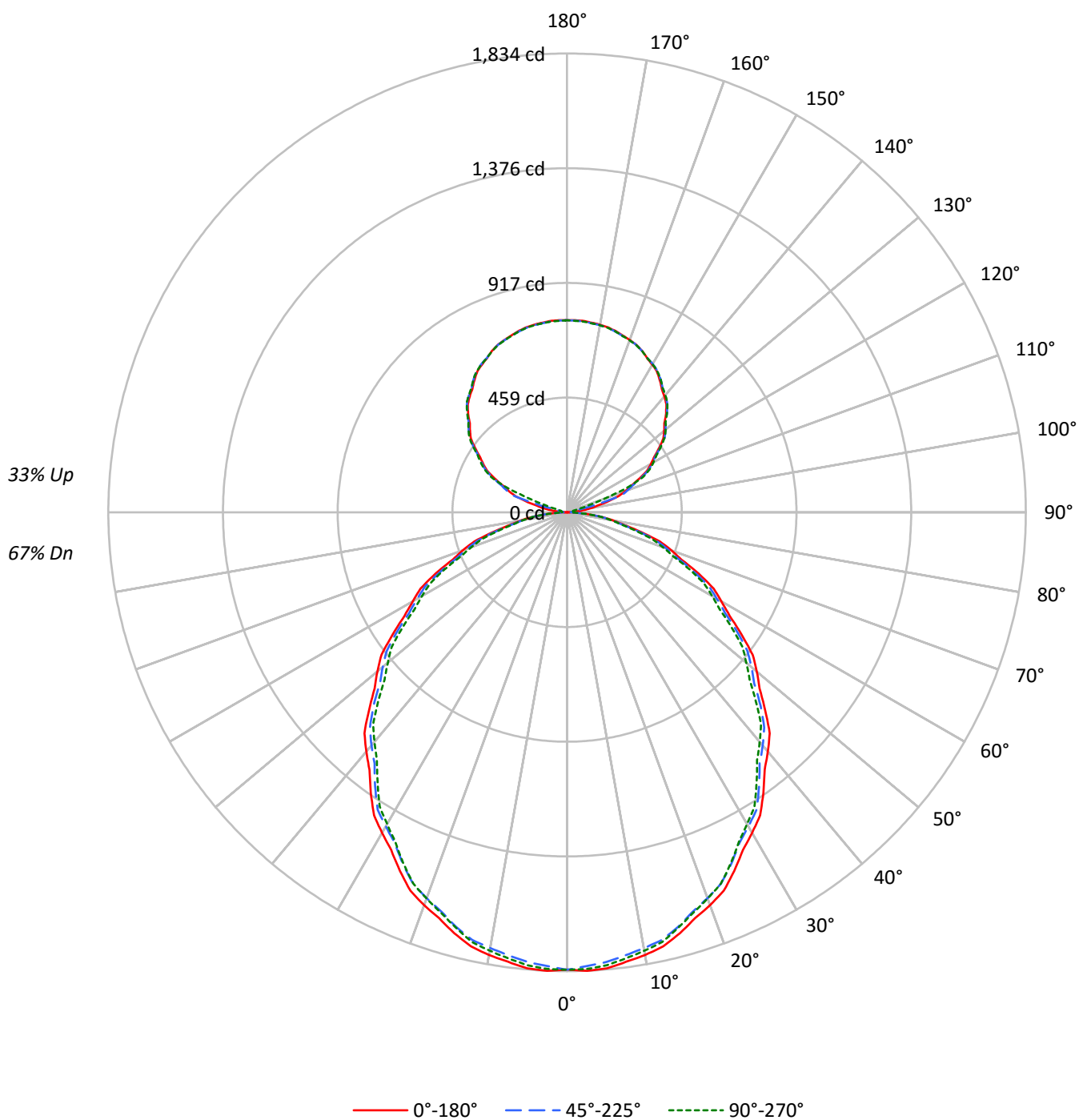
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72
1	102	97	93	89	95	92	88	85	81	79	76	72	70	68	63	62	60
2	92	85	78	73	87	80	74	70	71	67	63	63	60	57	56	53	51
3	84	74	67	61	79	70	64	58	63	57	53	56	52	48	49	46	43
4	77	66	58	52	72	62	55	49	56	50	45	50	45	41	44	40	37
5	71	59	50	44	67	56	48	43	50	44	39	45	40	36	40	36	32
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	29
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25
8	56	44	36	30	53	41	34	29	38	31	27	34	29	25	30	26	23
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	28	24	21
10	49	37	29	24	46	35	28	23	32	26	22	29	24	20	26	22	19

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	2.4
10°-20°	486.2	6.8
20°-30°	718.3	10.1
30°-40°	839.0	11.8
40°-50°	843.5	11.9
50°-60°	740.9	10.4
60°-70°	552.0	7.8
70°-80°	314.5	4.4
80°-90°	92.4	1.3
90°-100°	27.9	0.4
100°-110°	133.0	1.9
110°-120°	319.5	4.5
120°-130°	406.9	5.7
130°-140°	434.7	6.1
140°-150°	406.5	5.7
150°-160°	327.9	4.6
160°-170°	211.6	3.0
170°-180°	72.9	1.0
0°-30°	1376.7	19.4
0°-40°	2215.7	31.2
0°-60°	3800.2	53.5
0°-90°	4759.1	67.0
90°-120°	480.5	6.8
90°-150°	1728.6	24.3
90°-180°	2341.0	33.0
0°-180°	7100.2	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	6	14	16	17	6
95°	35	13	18	21	22	43
105°	170	173	125	30	25	180
115°	319	322	327	333	335	315
125°	449	454	456	457	459	401
135°	560	563	565	567	565	431
145°	646	650	651	652	652	404
155°	711	710	711	713	710	328
165°	750	748	748	752	748	212
175°	768	765	765	769	765	73
180°	768	768	768	768	768	

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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°	32.8	32.2	31.6	31.1	30.5	30.2	30.3	30.3	30.4	30.4	30.2
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°	10.6	10.3	9.9	9.5	9.2	9.6	10.9	12.1	13.4	14.6	15.4
95°	34.8	29.6	24.4	19.2	14.0	12.1	13.5	14.9	16.3	17.7	18.6
97.5°	69.9	67.6	65.3	62.9	60.6	54.9	45.7	36.6	27.5	18.4	19.4
100°	96.4	98.9	101.5	104.0	106.5	97.9	78.1	58.4	38.6	18.8	19.8
102.5°	126.5	128.3	130.2	132.0	133.8	123.9	102.3	80.7	59.1	37.5	34.4
105°	170.0	171.4	172.8	174.1	175.5	170.5	159.1	147.7	136.3	124.9	102.5
107.5°	215.8	216.9	218.1	219.2	220.3	221.7	223.5	225.3	227.1	228.9	212.5
110°	246.4	247.4	248.4	249.4	250.4	251.7	253.0	254.4	255.8	257.2	253.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.6	276.5	277.4	278.3	279.2	280.4	281.8	283.2	284.6	286.0	286.1
115°	318.8	319.6	320.3	321.1	321.9	322.8	324.0	325.1	326.2	327.4	328.7
117.5°	360.7	361.6	362.6	363.5	364.4	365.2	365.8	366.4	367.0	367.5	368.6
120°	386.7	387.8	389.0	390.1	391.3	392.0	392.4	392.8	393.2	393.5	394.6
122.5°	413.2	414.1	415.0	416.0	416.9	417.6	418.1	418.6	419.1	419.6	420.3
125°	449.4	450.5	451.5	452.5	453.5	454.3	454.8	455.3	455.8	456.3	456.5
127.5°	484.6	485.6	486.6	487.6	488.6	489.4	490.0	490.7	491.3	491.9	492.3
130°	506.5	507.5	508.5	509.5	510.5	511.3	511.8	512.3	512.8	513.3	513.8
132.5°	527.5	528.5	529.5	530.5	531.5	532.2	532.6	533.0	533.4	533.9	534.4
135°	559.5	560.3	561.0	561.8	562.6	563.2	563.7	564.2	564.7	565.2	565.6
137.5°	586.9	587.9	588.8	589.8	590.7	591.4	591.6	591.9	592.2	592.5	593.1
140°	605.1	605.9	606.7	607.4	608.2	608.8	609.1	609.5	609.9	610.3	610.8
142.5°	622.0	622.8	623.6	624.3	625.1	625.6	626.0	626.4	626.8	627.2	627.6
145°	645.6	646.5	647.4	648.3	649.2	649.8	650.0	650.3	650.5	650.8	651.0
147.5°	667.9	668.5	669.1	669.6	670.2	670.6	670.9	671.1	671.4	671.7	671.9
150°	681.6	682.0	682.3	682.7	683.1	683.4	683.7	683.9	684.2	684.4	684.7
152.5°	693.9	694.1	694.2	694.4	694.6	694.8	694.9	695.1	695.2	695.4	695.8
155°	711.2	711.0	710.7	710.5	710.2	710.2	710.3	710.4	710.5	710.7	711.3
157.5°	724.7	724.7	724.6	724.6	724.6	724.5	724.4	724.3	724.1	724.0	724.8
160°	732.9	732.8	732.7	732.5	732.4	732.3	732.1	732.0	731.9	731.8	732.5
162.5°	740.7	740.3	740.0	739.7	739.3	739.1	739.0	738.9	738.7	738.6	739.5
165°	750.0	749.6	749.3	748.9	748.5	748.2	748.1	748.0	747.9	747.7	748.8
167.5°	757.3	756.8	756.3	755.8	755.3	755.0	755.0	755.0	755.0	755.0	756.1
170°	761.4	760.9	760.4	759.9	759.4	759.1	759.1	759.1	759.1	759.1	760.2
172.5°	764.2	763.6	762.9	762.3	761.7	761.5	761.6	761.7	761.8	761.9	762.9
175°	767.7	767.1	766.4	765.8	765.2	764.9	765.0	765.2	765.3	765.4	766.3
177.5°	768.6	768.1	767.6	767.1	766.6	766.4	766.5	766.6	766.7	766.8	767.6
180°	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7

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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°	30.0	29.9	29.7	29.6	29.7	29.7	29.8	29.8
90°	14.7	15.2	15.7	16.1	16.4	16.6	16.9	17.1
92.5°	16.2	17.0	17.8	18.3	18.5	18.6	18.8	18.9
95°	19.5	20.3	21.2	21.7	21.7	21.7	21.7	21.7
97.5°	20.4	21.4	22.4	23.0	23.1	23.2	23.4	23.5
100°	20.8	21.9	22.9	23.4	23.6	23.7	23.8	24.0
102.5°	31.2	28.1	25.0	23.5	23.7	24.0	24.2	24.4
105°	80.0	57.6	35.2	24.1	24.3	24.6	24.8	25.1
107.5°	196.0	179.6	163.1	146.5	129.5	112.6	95.7	78.8
110°	248.9	244.7	240.5	229.3	211.2	193.1	175.0	156.8

TEST NUMBER: P332060

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	286.1	286.2	286.3	284.4	280.6	276.7	272.9	269.1
115°	329.9	331.2	332.5	333.3	333.8	334.4	334.9	335.4
117.5°	369.6	370.6	371.6	372.2	372.3	372.4	372.5	372.6
120°	395.6	396.6	397.6	398.1	398.1	398.1	398.1	398.1
122.5°	421.0	421.7	422.4	422.8	422.9	423.0	423.1	423.2
125°	456.8	457.0	457.3	457.6	457.8	458.1	458.3	458.6
127.5°	492.7	493.1	493.5	493.6	493.3	493.1	492.8	492.6
130°	514.3	514.8	515.3	515.5	515.2	515.0	514.7	514.5
132.5°	534.9	535.4	535.9	536.0	535.6	535.2	534.9	534.5
135°	566.0	566.4	566.7	566.7	566.4	566.0	565.6	565.2
137.5°	593.7	594.3	594.9	595.1	594.8	594.6	594.3	594.1
140°	611.3	611.8	612.3	612.4	612.2	611.9	611.7	611.4
142.5°	628.0	628.4	628.8	628.8	628.5	628.1	627.7	627.4
145°	651.3	651.5	651.8	651.9	651.9	651.9	651.9	651.9
147.5°	672.2	672.4	672.7	672.5	671.9	671.3	670.8	670.2
150°	684.9	685.2	685.4	685.4	685.0	684.6	684.2	683.9
152.5°	696.3	696.7	697.2	697.1	696.6	696.0	695.4	694.8
155°	711.9	712.6	713.2	713.1	712.4	711.6	710.9	710.1
157.5°	725.5	726.3	727.1	726.9	725.9	725.0	724.0	723.0
160°	733.3	734.0	734.8	734.7	733.9	733.0	732.1	731.2
162.5°	740.3	741.2	742.1	742.1	741.3	740.5	739.7	739.0
165°	749.8	750.8	751.8	751.9	751.0	750.1	749.2	748.3
167.5°	757.1	758.1	759.1	759.1	758.1	757.1	756.1	755.0
170°	761.2	762.2	763.2	763.2	762.2	761.2	760.2	759.1
172.5°	763.9	764.9	765.9	765.9	764.8	763.7	762.5	761.4
175°	767.2	768.1	769.0	768.9	767.9	766.9	765.9	764.8
177.5°	768.4	769.2	770.0	769.9	768.9	767.9	766.9	765.9
180°	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7

(END OF REPORT)