

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: P332088

Luminaire Tested: **S123DIP-S1165D1195U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332088
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-S1165D1195U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8859.3 lumens
Efficiency: N/A
Efficacy: 123.6 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

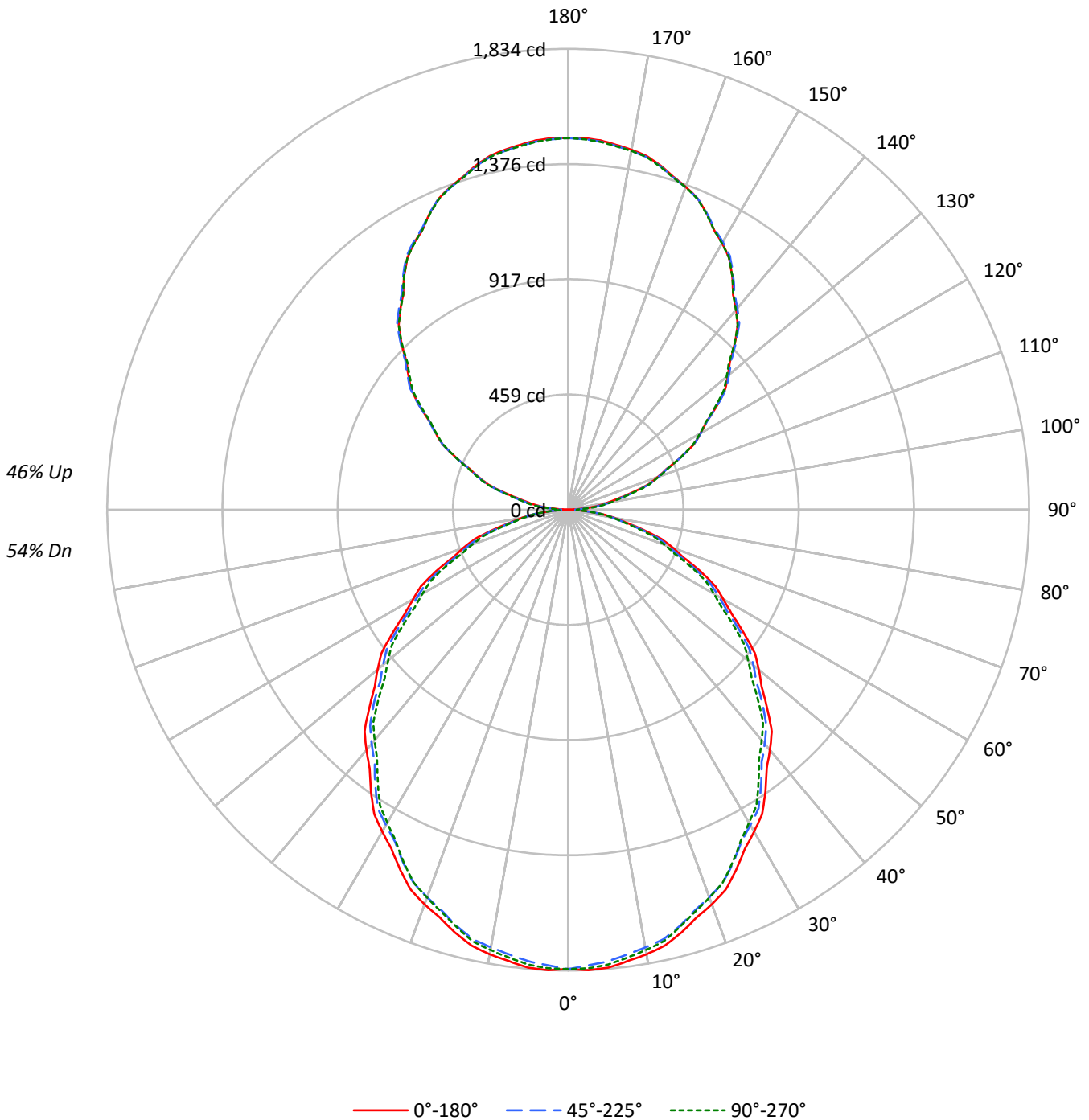
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	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	52	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°	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	1.9
10°-20°	486.2	5.5
20°-30°	718.3	8.1
30°-40°	839.0	9.5
40°-50°	843.5	9.5
50°-60°	740.9	8.4
60°-70°	552.0	6.2
70°-80°	314.5	3.5
80°-90°	94.7	1.1
90°-100°	96.4	1.1
100°-110°	288.4	3.3
110°-120°	490.5	5.5
120°-130°	645.2	7.3
130°-140°	725.2	8.2
140°-150°	712.8	8.0
150°-160°	600.1	6.8
160°-170°	399.5	4.5
170°-180°	139.9	1.6
0°-30°	1376.7	15.5
0°-40°	2215.7	25.0
0°-60°	3800.2	42.9
0°-90°	4761.3	53.7
90°-120°	875.3	9.9
90°-150°	2958.5	33.4
90°-180°	4098.0	46.3
0°-180°	8859.3	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	13	28	32	35	9
95°	69	77	86	90	91	77
105°	261	264	274	274	276	280
115°	494	497	495	496	495	488
125°	723	726	724	719	715	644
135°	938	944	943	939	936	722
145°	1138	1140	1143	1142	1138	710
155°	1302	1303	1304	1308	1300	599
165°	1419	1415	1415	1421	1414	400
175°	1476	1471	1471	1477	1470	140
180°	1479	1479	1479	1479	1479	



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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	32.6	32.3	32.0	31.6	31.7	32.1	32.5	32.9	33.2	33.2
90°	1.2	3.7	6.3	8.9	11.5	14.5	17.8	21.2	24.5	27.9	28.9
92.5°	28.1	29.9	31.6	33.4	35.1	37.0	38.9	40.8	42.7	44.6	45.4
95°	68.6	70.4	72.2	74.0	75.8	77.7	79.8	81.8	83.9	86.0	87.0
97.5°	121.8	123.1	124.5	125.8	127.1	128.6	130.1	131.6	133.0	134.5	135.7
100°	158.0	159.6	161.1	162.7	164.2	165.6	166.9	168.2	169.5	170.8	171.6
102.5°	199.8	200.8	201.7	202.6	203.6	204.9	206.6	208.3	210.0	211.7	212.5
105°	261.4	261.9	262.5	263.0	263.5	264.9	267.2	269.6	271.9	274.2	274.2
107.5°	333.0	333.3	333.6	333.9	334.2	334.9	335.8	336.7	337.6	338.6	339.4
110°	377.6	378.1	378.6	379.2	379.7	380.2	380.7	381.2	381.7	382.3	383.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	424.1	424.4	424.7	425.0	425.3	425.5	425.6	425.7	425.8	425.9	427.2
115°	493.8	494.6	495.3	496.1	496.9	497.0	496.5	496.0	495.5	495.0	495.2
117.5°	564.0	564.5	565.0	565.5	566.0	566.0	565.3	564.6	564.0	563.3	563.2
120°	607.7	609.2	610.8	612.3	613.9	614.0	612.7	611.4	610.1	608.8	608.6
122.5°	653.2	654.3	655.5	656.6	657.8	658.0	657.3	656.6	656.0	655.3	654.6
125°	722.7	723.5	724.2	725.0	725.8	725.9	725.4	724.9	724.4	723.9	722.8
127.5°	786.8	788.5	790.1	791.8	793.4	794.0	793.4	792.8	792.3	791.7	790.3
130°	829.6	831.6	833.7	835.8	837.8	838.5	837.7	836.9	836.2	835.4	834.4
132.5°	872.3	874.4	876.5	878.5	880.6	881.4	880.8	880.2	879.6	879.1	877.8
135°	937.6	939.2	940.7	942.3	943.8	944.5	944.2	944.0	943.7	943.4	942.4
137.5°	998.1	999.3	1000.6	1001.9	1003.2	1004.2	1004.9	1005.5	1006.2	1006.9	1005.8
140°	1039.9	1041.2	1042.5	1043.8	1045.0	1045.8	1046.1	1046.3	1046.6	1046.9	1046.6
142.5°	1078.0	1079.3	1080.6	1081.9	1083.2	1084.0	1084.5	1085.0	1085.4	1085.9	1085.6
145°	1137.5	1138.0	1138.5	1139.0	1139.5	1140.2	1141.0	1141.7	1142.5	1143.3	1143.0
147.5°	1189.5	1190.5	1191.4	1192.3	1193.3	1194.1	1194.8	1195.5	1196.2	1197.0	1197.0
150°	1225.8	1226.3	1226.8	1227.3	1227.9	1228.4	1228.9	1229.4	1229.9	1230.4	1230.4
152.5°	1255.5	1256.3	1257.0	1257.7	1258.4	1258.9	1259.2	1259.6	1259.9	1260.2	1260.6
155°	1302.5	1302.5	1302.5	1302.5	1302.5	1302.6	1302.9	1303.1	1303.4	1303.6	1304.7
157.5°	1342.4	1342.1	1341.8	1341.5	1341.2	1341.1	1341.4	1341.6	1341.8	1342.0	1343.1
160°	1367.5	1367.0	1366.5	1366.0	1365.5	1365.2	1365.2	1365.2	1365.2	1365.2	1366.5
162.5°	1389.8	1389.1	1388.4	1387.7	1387.0	1386.7	1386.9	1387.1	1387.3	1387.5	1388.8
165°	1418.7	1417.9	1417.1	1416.3	1415.6	1415.2	1415.2	1415.2	1415.2	1415.2	1416.7
167.5°	1441.7	1440.6	1439.6	1438.6	1437.5	1437.1	1437.3	1437.5	1437.7	1437.9	1439.5
170°	1454.7	1453.6	1452.6	1451.6	1450.5	1450.0	1450.0	1450.0	1450.0	1450.0	1451.8
172.5°	1464.9	1463.9	1462.8	1461.8	1460.8	1460.3	1460.3	1460.3	1460.3	1460.3	1461.9
175°	1475.6	1474.6	1473.5	1472.5	1471.5	1470.9	1470.9	1470.9	1470.9	1470.9	1472.5
177.5°	1480.0	1479.2	1478.4	1477.5	1476.7	1476.3	1476.3	1476.3	1476.3	1476.3	1477.5
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



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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°	33.1	33.0	33.0	33.0	33.1	33.2	33.3	33.4
90°	30.0	31.0	32.0	32.8	33.3	33.8	34.3	34.9
92.5°	46.3	47.1	47.9	48.2	47.9	47.6	47.2	46.9
95°	88.0	89.1	90.1	90.6	90.6	90.6	90.6	90.6
97.5°	136.9	138.1	139.3	139.8	139.7	139.6	139.5	139.4
100°	172.3	173.1	173.9	174.5	175.1	175.6	176.1	176.6
102.5°	213.2	214.0	214.8	215.1	215.0	214.9	214.8	214.7
105°	274.2	274.2	274.2	274.5	275.0	275.5	276.0	276.5
107.5°	340.2	341.1	341.9	342.1	341.8	341.5	341.2	340.9
110°	384.3	385.4	386.4	386.6	386.1	385.6	385.1	384.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	428.4	429.7	430.9	431.5	431.4	431.3	431.2	431.1
115°	495.5	495.7	496.0	496.0	495.7	495.5	495.2	495.0
117.5°	563.2	563.1	563.1	562.7	562.0	561.2	560.5	559.8
120°	608.3	608.1	607.8	607.4	606.9	606.4	605.9	605.3
122.5°	654.0	653.3	652.6	651.9	651.2	650.5	649.7	649.0
125°	721.8	720.8	719.7	718.7	717.7	716.6	715.6	714.6
127.5°	788.8	787.4	785.9	784.6	783.4	782.2	781.0	779.9
130°	833.3	832.3	831.3	829.8	828.0	826.2	824.4	822.6
132.5°	876.6	875.4	874.1	872.8	871.4	870.0	868.6	867.2
135°	941.4	940.3	939.3	938.5	938.0	937.5	937.0	936.5
137.5°	1004.7	1003.6	1002.5	1001.5	1000.5	999.6	998.6	997.6
140°	1046.3	1046.1	1045.8	1044.8	1043.0	1041.2	1039.4	1037.6
142.5°	1085.4	1085.1	1084.9	1084.0	1082.6	1081.2	1079.9	1078.5
145°	1142.8	1142.5	1142.3	1141.6	1140.6	1139.5	1138.5	1137.5
147.5°	1197.0	1197.0	1197.0	1196.2	1194.6	1193.1	1191.5	1190.0
150°	1230.4	1230.4	1230.4	1229.7	1228.1	1226.6	1225.0	1223.5
152.5°	1261.0	1261.4	1261.8	1261.4	1260.0	1258.7	1257.3	1256.0
155°	1305.7	1306.7	1307.8	1307.4	1305.6	1303.8	1302.0	1300.1
157.5°	1344.1	1345.2	1346.3	1346.1	1344.7	1343.2	1341.8	1340.3
160°	1367.8	1369.1	1370.4	1370.5	1369.5	1368.4	1367.4	1366.4
162.5°	1390.1	1391.4	1392.7	1392.5	1390.8	1389.2	1387.5	1385.9
165°	1418.3	1419.8	1421.4	1421.2	1419.4	1417.6	1415.8	1414.0
167.5°	1441.1	1442.7	1444.3	1444.3	1442.7	1441.1	1439.5	1437.9
170°	1453.6	1455.5	1457.3	1457.3	1455.5	1453.6	1451.8	1450.0
172.5°	1463.5	1465.1	1466.7	1466.6	1464.7	1462.9	1461.1	1459.3
175°	1474.0	1475.6	1477.1	1477.0	1475.2	1473.4	1471.6	1469.8
177.5°	1478.8	1480.0	1481.2	1481.1	1479.7	1478.2	1476.8	1475.4
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1

(END OF REPORT)