

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: P332088-830

Luminaire Tested: **S123DIP-S1165D1195U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332088-830
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-S1165D1195U830-4F0-1E-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: 8350.3 lumens
Efficiency: N/A
Efficacy: 116.5 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

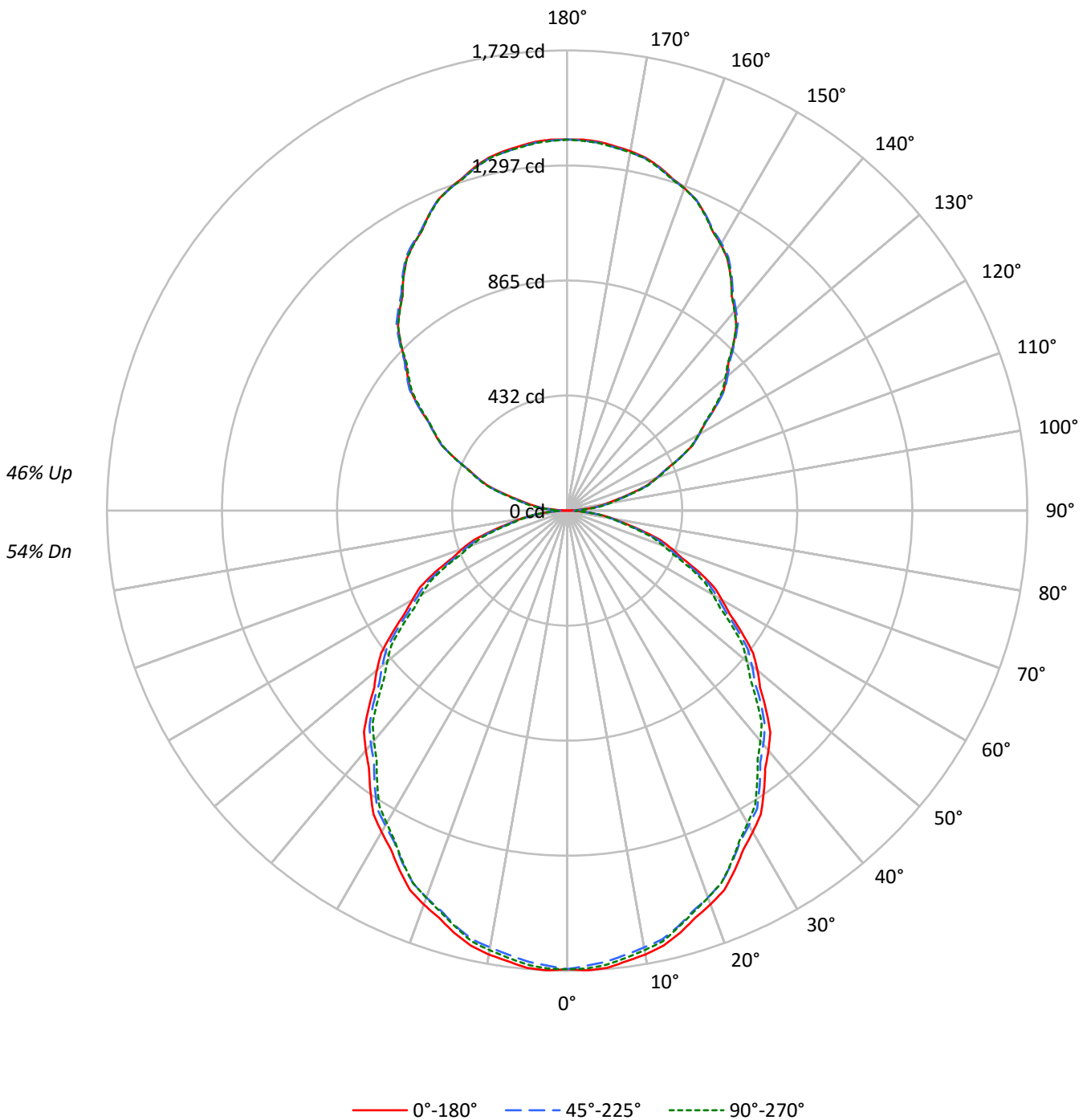
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	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°	18547	18547	18547
5°	18634	18377	18506
10°	18510	18218	18332
15°	18293	18013	18046
20°	18040	17718	17734
25°	17701	17368	17332
30°	17329	16978	16850
35°	16938	16567	16353
40°	16530	16114	15864
45°	16081	15696	15314
50°	15630	15183	14763
55°	15041	14653	14208
60°	14449	14034	13586
65°	13924	13359	12944
70°	13149	12589	12032
75°	12015	11582	11088
80°	10835	10377	10290
85°	9510	9152	8793



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	1.9
10°-20°	458.3	5.5
20°-30°	677.0	8.1
30°-40°	790.8	9.5
40°-50°	795.1	9.5
50°-60°	698.4	8.4
60°-70°	520.3	6.2
70°-80°	296.4	3.5
80°-90°	89.2	1.1
90°-100°	90.8	1.1
100°-110°	271.8	3.3
110°-120°	462.3	5.5
120°-130°	608.1	7.3
130°-140°	683.5	8.2
140°-150°	671.9	8.0
150°-160°	565.6	6.8
160°-170°	376.5	4.5
170°-180°	131.8	1.6
0°-30°	1297.6	15.5
0°-40°	2088.4	25.0
0°-60°	3581.8	42.9
0°-90°	4487.8	53.7
90°-120°	825.0	9.9
90°-150°	2788.5	33.4
90°-180°	3863.0	46.3
0°-180°	8350.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1725	1717	1701	1715	1713	163
15°	1642	1635	1616	1627	1619	463
25°	1490	1481	1462	1464	1459	686
35°	1289	1280	1261	1252	1244	806
45°	1056	1050	1031	1014	1006	815
55°	802	799	781	765	757	718
65°	547	539	524	513	508	539
75°	289	283	278	271	267	309
85°	77	74	74	71	71	85
90°	1	12	26	31	33	8
95°	65	72	81	85	85	73
105°	246	249	258	259	261	264
115°	465	468	467	468	467	460
125°	681	684	682	678	674	607
135°	884	890	889	885	883	681
145°	1072	1074	1078	1076	1072	669
155°	1228	1228	1229	1232	1225	565
165°	1337	1334	1334	1340	1333	377
175°	1391	1387	1386	1392	1385	132
180°	1394	1394	1394	1394	1394	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1729.0	1728.0	1726.9	1725.9	1724.8	1722.8	1720.0	1717.0	1714.1	1711.2	1713.8
5°	1724.6	1723.0	1721.3	1719.7	1718.0	1715.3	1711.8	1708.1	1704.5	1700.8	1704.1
7.5°	1707.7	1706.0	1704.4	1702.7	1701.1	1698.4	1694.6	1690.9	1687.2	1683.4	1686.3
10°	1693.5	1691.8	1690.2	1688.5	1686.9	1683.9	1679.6	1675.4	1671.0	1666.8	1669.7
12.5°	1674.5	1673.1	1671.7	1670.4	1669.0	1666.2	1662.3	1658.2	1654.2	1650.2	1652.4
15°	1641.6	1640.3	1639.0	1637.7	1636.3	1633.5	1629.3	1624.9	1620.7	1616.4	1619.0
17.5°	1603.4	1601.7	1600.0	1598.3	1596.5	1593.6	1589.2	1585.0	1580.6	1576.4	1578.3
20°	1574.9	1572.9	1570.9	1569.0	1567.1	1563.9	1559.6	1555.4	1551.0	1546.8	1548.1
22.5°	1542.9	1541.0	1539.0	1537.0	1535.0	1531.9	1527.6	1523.3	1519.1	1514.8	1515.8
25°	1490.4	1488.5	1486.5	1484.5	1482.6	1479.4	1475.2	1470.9	1466.6	1462.4	1462.6
27.5°	1434.5	1432.6	1430.7	1428.7	1426.8	1423.6	1419.0	1414.4	1409.8	1405.1	1405.4
30°	1394.2	1392.5	1390.9	1389.2	1387.6	1384.5	1379.9	1375.3	1370.6	1366.0	1366.0
32.5°	1353.9	1351.7	1349.5	1347.4	1345.2	1342.3	1338.8	1335.2	1331.6	1328.1	1326.3
35°	1289.0	1287.0	1285.1	1283.1	1281.1	1278.0	1273.7	1269.4	1265.1	1260.8	1258.9
37.5°	1222.6	1220.1	1217.6	1215.1	1212.6	1209.2	1204.9	1200.5	1196.2	1191.8	1189.4
40°	1176.4	1174.4	1172.4	1170.4	1168.5	1165.2	1160.6	1155.9	1151.3	1146.8	1144.2
42.5°	1130.1	1127.9	1125.7	1123.4	1121.2	1117.8	1113.1	1108.5	1103.9	1099.4	1096.7
45°	1056.4	1055.1	1053.8	1052.4	1051.1	1048.3	1044.1	1039.7	1035.5	1031.1	1027.3
47.5°	983.2	981.3	979.4	977.4	975.5	972.6	968.6	964.5	960.5	956.5	952.6
50°	933.4	931.8	930.1	928.5	926.8	923.9	919.5	915.3	911.0	906.7	903.1
52.5°	881.3	880.1	879.0	877.9	876.8	873.9	869.4	864.9	860.4	855.7	852.6
55°	801.5	801.3	800.9	800.6	800.2	798.0	793.6	789.4	785.0	780.8	777.2
57.5°	725.7	724.5	723.4	722.4	721.2	719.0	715.5	712.1	708.7	705.2	702.0
60°	671.2	670.8	670.5	670.1	669.9	667.7	663.7	659.8	655.8	651.9	648.9
62.5°	622.5	621.7	620.9	620.0	619.2	616.7	612.7	608.8	604.9	601.0	597.9
65°	546.7	545.1	543.4	541.8	540.1	537.6	534.3	531.0	527.7	524.5	521.9
67.5°	466.4	465.0	463.5	462.0	460.6	458.6	456.1	453.6	451.1	448.7	446.3
70°	417.8	415.8	413.9	411.9	409.9	407.9	406.0	404.0	402.0	400.0	397.8
72.5°	366.8	365.4	363.9	362.5	361.1	359.2	356.9	354.7	352.5	350.2	348.2
75°	288.9	287.6	286.3	284.9	283.6	282.5	281.5	280.5	279.6	278.5	276.9
77.5°	219.9	219.1	218.4	217.7	217.0	216.0	214.8	213.7	212.4	211.3	210.2
80°	174.8	173.8	172.9	171.8	170.9	170.0	169.4	168.7	168.1	167.4	167.1
82.5°	131.0	130.7	130.5	130.4	130.2	130.0	129.9	129.8	129.6	129.5	128.9
85°	77.0	76.3	75.7	75.0	74.4	74.1	74.1	74.1	74.1	74.1	73.4
87.5°	31.0	30.7	30.4	30.2	29.8	29.9	30.3	30.6	31.0	31.3	31.3
90°	1.1	3.5	5.9	8.4	10.8	13.7	16.8	20.0	23.1	26.3	27.2
92.5°	26.5	28.2	29.8	31.5	33.1	34.9	36.7	38.5	40.2	42.0	42.8
95°	64.7	66.4	68.1	69.7	71.4	73.2	75.2	77.1	79.1	81.1	82.0
97.5°	114.8	116.0	117.3	118.6	119.8	121.2	122.6	124.0	125.4	126.8	127.9
100°	148.9	150.4	151.8	153.4	154.8	156.1	157.3	158.5	159.8	161.0	161.7
102.5°	188.3	189.3	190.1	191.0	191.9	193.1	194.7	196.3	197.9	199.5	200.3
105°	246.4	246.9	247.4	247.9	248.4	249.7	251.8	254.1	256.3	258.4	258.4
107.5°	313.9	314.1	314.4	314.7	315.0	315.7	316.5	317.4	318.2	319.1	319.9
110°	355.9	356.4	356.8	357.4	357.9	358.4	358.8	359.3	359.8	360.3	361.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	399.7	400.0	400.3	400.6	400.9	401.1	401.1	401.2	401.3	401.4	402.7
115°	465.4	466.2	466.8	467.6	468.3	468.4	468.0	467.5	467.0	466.6	466.7
117.5°	531.6	532.1	532.5	533.0	533.5	533.5	532.8	532.2	531.6	530.9	530.8
120°	572.8	574.2	575.7	577.1	578.6	578.7	577.5	576.3	575.0	573.8	573.6
122.5°	615.7	616.7	617.8	618.9	620.0	620.2	619.5	618.9	618.3	617.6	617.0
125°	681.2	681.9	682.6	683.3	684.1	684.2	683.7	683.2	682.8	682.3	681.3
127.5°	741.6	743.2	744.7	746.3	747.8	748.4	747.8	747.2	746.8	746.2	744.9
130°	781.9	783.8	785.8	787.8	789.7	790.3	789.6	788.8	788.2	787.4	786.5
132.5°	822.2	824.2	826.1	828.0	830.0	830.8	830.2	829.6	829.1	828.6	827.4
135°	883.7	885.2	886.6	888.2	889.6	890.2	889.9	889.8	889.5	889.2	888.3
137.5°	940.8	941.9	943.1	944.3	945.6	946.5	947.2	947.7	948.4	949.0	948.0
140°	980.1	981.4	982.6	983.8	985.0	985.7	986.0	986.2	986.5	986.7	986.5
142.5°	1016.1	1017.3	1018.5	1019.7	1021.0	1021.7	1022.2	1022.7	1023.0	1023.5	1023.2
145°	1072.1	1072.6	1073.1	1073.6	1074.0	1074.7	1075.4	1076.1	1076.9	1077.6	1077.3
147.5°	1121.2	1122.1	1122.9	1123.8	1124.7	1125.5	1126.1	1126.8	1127.5	1128.2	1128.2
150°	1155.4	1155.8	1156.3	1156.8	1157.3	1157.8	1158.3	1158.8	1159.2	1159.7	1159.7
152.5°	1183.4	1184.1	1184.8	1185.4	1186.1	1186.6	1186.8	1187.2	1187.5	1187.8	1188.2
155°	1227.7	1227.7	1227.7	1227.7	1227.7	1227.8	1228.0	1228.2	1228.5	1228.7	1229.7
157.5°	1265.3	1265.0	1264.7	1264.4	1264.1	1264.0	1264.3	1264.5	1264.7	1264.9	1265.9
160°	1288.9	1288.5	1288.0	1287.5	1287.0	1286.8	1286.8	1286.8	1286.8	1286.8	1288.0
162.5°	1309.9	1309.3	1308.6	1308.0	1307.3	1307.0	1307.2	1307.4	1307.6	1307.8	1309.0
165°	1337.2	1336.4	1335.7	1334.9	1334.3	1333.9	1333.9	1333.9	1333.9	1333.9	1335.3
167.5°	1358.9	1357.8	1356.9	1355.9	1354.9	1354.5	1354.7	1354.9	1355.1	1355.3	1356.8
170°	1371.1	1370.1	1369.1	1368.2	1367.2	1366.7	1366.7	1366.7	1366.7	1366.7	1368.4
172.5°	1380.7	1379.8	1378.8	1377.8	1376.9	1376.4	1376.4	1376.4	1376.4	1376.4	1377.9
175°	1390.8	1389.9	1388.8	1387.9	1387.0	1386.4	1386.4	1386.4	1386.4	1386.4	1387.9
177.5°	1395.0	1394.2	1393.5	1392.6	1391.9	1391.5	1391.5	1391.5	1391.5	1391.5	1392.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1	1723.1
2.5°	1716.5	1719.1	1721.7	1723.0	1722.7	1722.4	1722.1	1721.9
5°	1707.4	1710.7	1714.0	1715.3	1714.7	1714.0	1713.4	1712.7
7.5°	1689.3	1692.2	1695.3	1696.5	1696.1	1695.7	1695.4	1695.0
10°	1672.7	1675.7	1678.7	1679.8	1679.1	1678.5	1677.8	1677.2
12.5°	1654.5	1656.7	1658.9	1659.8	1659.3	1659.0	1658.6	1658.2
15°	1621.6	1624.3	1626.9	1627.3	1625.3	1623.3	1621.4	1619.4
17.5°	1580.1	1582.0	1583.8	1584.3	1583.7	1582.9	1582.2	1581.5
20°	1549.4	1550.8	1552.1	1552.2	1551.2	1550.2	1549.3	1548.2
22.5°	1516.9	1518.0	1519.0	1518.9	1517.7	1516.4	1515.1	1513.9
25°	1463.0	1463.3	1463.7	1463.3	1462.4	1461.3	1460.4	1459.3
27.5°	1405.7	1405.9	1406.2	1405.7	1404.5	1403.2	1401.9	1400.7
30°	1366.0	1366.0	1366.0	1364.9	1362.5	1360.3	1357.9	1355.7
32.5°	1324.4	1322.6	1320.7	1319.2	1318.0	1316.6	1315.4	1314.2
35°	1256.9	1254.9	1252.9	1251.1	1249.4	1247.8	1246.1	1244.5
37.5°	1187.0	1184.7	1182.3	1180.6	1179.5	1178.5	1177.4	1176.4
40°	1141.5	1138.9	1136.2	1134.3	1132.9	1131.6	1130.3	1129.0
42.5°	1094.1	1091.5	1088.8	1086.8	1085.5	1084.2	1082.9	1081.6
45°	1023.3	1019.4	1015.4	1012.6	1011.0	1009.3	1007.7	1006.0
47.5°	948.8	944.9	940.9	938.3	936.9	935.4	934.0	932.6
50°	899.5	895.9	892.2	889.5	887.5	885.5	883.5	881.6
52.5°	849.6	846.5	843.4	840.8	838.9	836.9	834.9	832.9
55°	773.5	770.0	766.3	763.6	762.0	760.3	758.7	757.1
57.5°	698.8	695.6	692.3	689.8	687.9	686.0	684.0	682.1
60°	646.0	643.0	640.1	637.7	636.1	634.4	632.8	631.1
62.5°	595.0	592.0	589.1	587.0	585.9	584.8	583.7	582.6
65°	519.2	516.6	514.0	512.2	511.1	510.2	509.2	508.2
67.5°	444.0	441.7	439.4	437.5	436.2	434.8	433.4	432.1
70°	395.4	393.1	390.8	388.8	387.2	385.5	383.9	382.3
72.5°	346.2	344.1	342.0	340.6	339.8	338.9	338.1	337.2
75°	275.2	273.6	271.9	270.6	269.7	268.6	267.7	266.6
77.5°	209.1	207.9	206.8	206.2	206.2	206.2	206.2	206.2
80°	166.7	166.5	166.1	166.0	166.0	166.0	166.0	166.0
82.5°	128.3	127.7	127.1	126.7	126.4	126.2	125.9	125.6
85°	72.8	72.1	71.4	71.2	71.2	71.2	71.2	71.2
87.5°	31.2	31.1	31.1	31.1	31.2	31.3	31.4	31.5
90°	28.3	29.2	30.2	30.9	31.4	31.9	32.3	32.9
92.5°	43.6	44.4	45.1	45.4	45.1	44.9	44.5	44.2
95°	82.9	84.0	84.9	85.4	85.4	85.4	85.4	85.4
97.5°	129.0	130.2	131.3	131.8	131.7	131.6	131.5	131.4
100°	162.4	163.2	163.9	164.5	165.0	165.5	166.0	166.5
102.5°	201.0	201.7	202.5	202.7	202.6	202.6	202.5	202.4
105°	258.4	258.4	258.4	258.7	259.2	259.7	260.1	260.6
107.5°	320.7	321.5	322.3	322.4	322.2	321.9	321.6	321.3
110°	362.2	363.3	364.2	364.4	363.9	363.4	363.0	362.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	403.8	405.0	406.1	406.7	406.6	406.5	406.4	406.3
115°	467.0	467.2	467.5	467.5	467.2	467.0	466.7	466.6
117.5°	530.8	530.7	530.7	530.4	529.7	529.0	528.3	527.6
120°	573.3	573.2	572.9	572.5	572.0	571.6	571.1	570.5
122.5°	616.4	615.8	615.1	614.4	613.8	613.1	612.4	611.7
125°	680.3	679.4	678.3	677.4	676.5	675.4	674.5	673.5
127.5°	743.5	742.2	740.7	739.5	738.4	737.3	736.1	735.1
130°	785.4	784.5	783.5	782.1	780.4	778.7	777.0	775.3
132.5°	826.2	825.1	823.9	822.7	821.3	820.0	818.7	817.4
135°	887.3	886.3	885.3	884.6	884.1	883.6	883.2	882.7
137.5°	947.0	945.9	944.9	944.0	943.0	942.2	941.2	940.3
140°	986.2	986.0	985.7	984.8	983.1	981.4	979.7	978.0
142.5°	1023.0	1022.8	1022.6	1021.7	1020.4	1019.1	1017.9	1016.5
145°	1077.1	1076.9	1076.7	1076.0	1075.1	1074.0	1073.1	1072.1
147.5°	1128.2	1128.2	1128.2	1127.5	1126.0	1124.5	1123.0	1121.6
150°	1159.7	1159.7	1159.7	1159.0	1157.5	1156.1	1154.6	1153.2
152.5°	1188.5	1188.9	1189.3	1188.9	1187.6	1186.4	1185.1	1183.8
155°	1230.7	1231.6	1232.7	1232.3	1230.6	1228.9	1227.2	1225.4
157.5°	1266.9	1267.9	1268.9	1268.8	1267.4	1266.0	1264.7	1263.3
160°	1289.2	1290.4	1291.7	1291.8	1290.8	1289.8	1288.8	1287.9
162.5°	1310.2	1311.5	1312.7	1312.5	1310.9	1309.4	1307.8	1306.3
165°	1336.8	1338.2	1339.7	1339.5	1337.8	1336.1	1334.5	1332.8
167.5°	1358.3	1359.8	1361.3	1361.3	1359.8	1358.3	1356.8	1355.3
170°	1370.1	1371.9	1373.6	1373.6	1371.9	1370.1	1368.4	1366.7
172.5°	1379.4	1380.9	1382.4	1382.3	1380.5	1378.8	1377.1	1375.5
175°	1389.3	1390.8	1392.2	1392.1	1390.4	1388.7	1387.0	1385.3
177.5°	1393.8	1395.0	1396.1	1396.0	1394.7	1393.3	1391.9	1390.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1

(END OF REPORT)