

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: P332087-935

Luminaire Tested: **S123DIP-S1165D1195U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332087-935
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-S1165D1195U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8205.5 lumens
Efficiency: N/A
Efficacy: 114.4 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

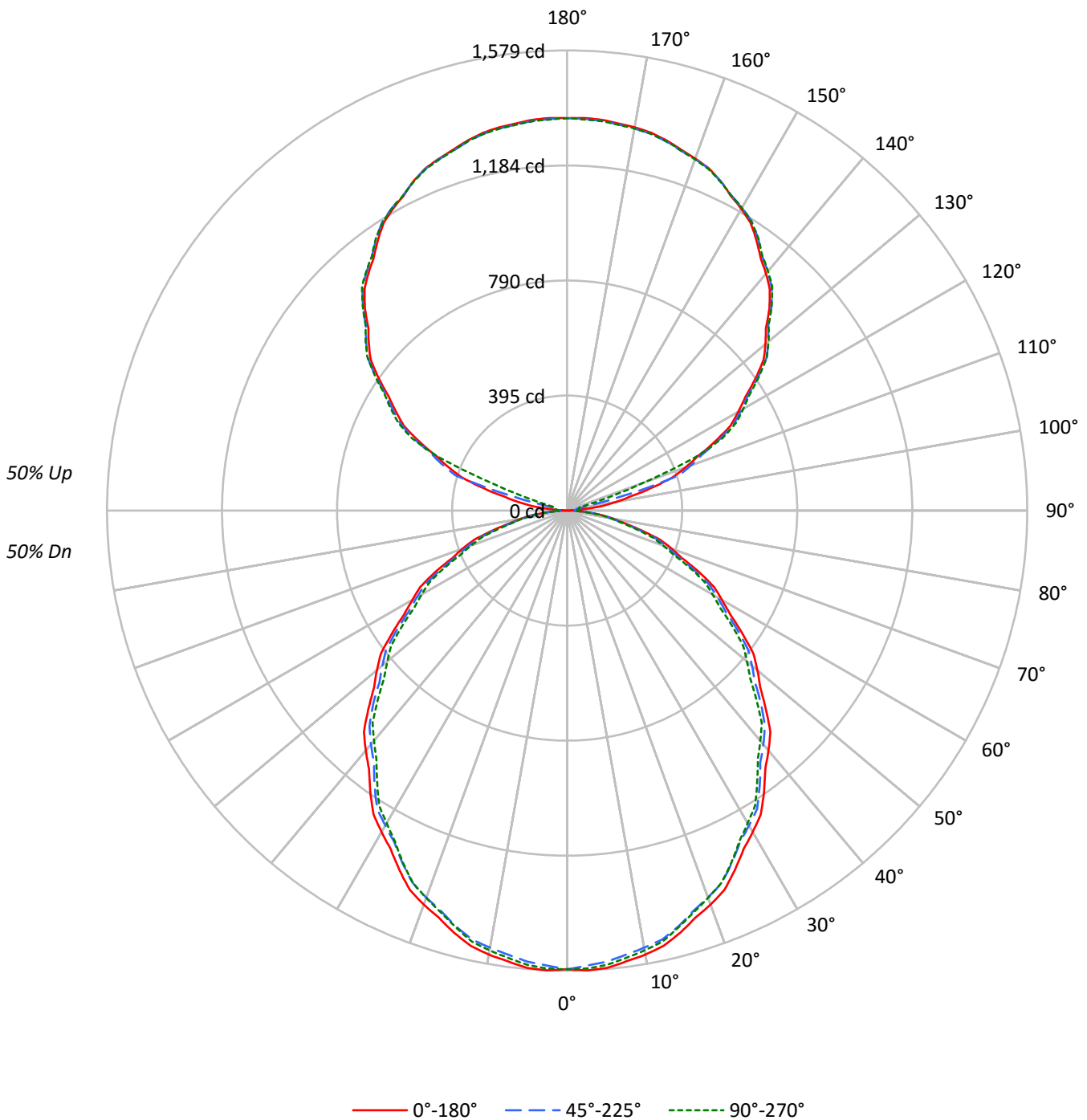
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	98	93	89	86	90	86	83	80	73	71	68	61	59	57	49	48	47	42				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	40	35				
3	81	72	64	58	75	66	60	55	56	51	47	47	43	40	39	36	34	30				
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25				
5	68	56	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22				
6	63	51	42	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19				
7	58	46	38	32	53	43	35	30	37	31	27	31	27	23	26	22	20	17				
8	54	41	34	28	50	39	32	27	33	28	24	28	24	21	24	20	18	15				
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16942	16942	16942
5°	17022	16788	16904
10°	16909	16642	16746
15°	16711	16454	16485
20°	16479	16186	16200
25°	16170	15865	15833
30°	15830	15509	15392
35°	15473	15135	14939
40°	15100	14720	14491
45°	14690	14338	13988
50°	14277	13870	13485
55°	13741	13386	12979
60°	13199	12820	12411
65°	12720	12202	11826
70°	12013	11500	10990
75°	10975	10580	10131
80°	9899	9478	9397
85°	8682	8361	8028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	1.8
10°-20°	418.7	5.1
20°-30°	618.4	7.5
30°-40°	722.4	8.8
40°-50°	726.3	8.9
50°-60°	638.0	7.8
60°-70°	475.3	5.8
70°-80°	270.8	3.3
80°-90°	81.5	1.0
90°-100°	48.9	0.6
100°-110°	233.3	2.8
110°-120°	560.4	6.8
120°-130°	713.6	8.7
130°-140°	762.5	9.3
140°-150°	713.0	8.7
150°-160°	575.1	7.0
160°-170°	371.2	4.5
170°-180°	127.9	1.6
0°-30°	1185.3	14.4
0°-40°	1907.7	23.2
0°-60°	3272.0	39.9
0°-90°	4099.5	50.0
90°-120°	842.6	10.3
90°-150°	3031.7	36.9
90°-180°	4106.0	50.0
0°-180°	8205.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1574	1574	1574	1574	1574	
5°	1575	1568	1554	1566	1564	149
15°	1500	1494	1476	1486	1479	423
25°	1362	1353	1336	1337	1333	627
35°	1178	1169	1152	1144	1137	736
45°	965	959	942	926	919	745
55°	732	730	713	699	692	656
65°	499	492	479	469	464	493
75°	264	259	254	248	244	282
85°	70	68	68	65	65	77
90°	1	11	24	28	30	7
95°	61	23	31	38	38	75
105°	298	304	219	52	44	316
115°	559	565	574	584	588	552
125°	788	796	800	802	804	704
135°	981	987	991	994	991	755
145°	1132	1139	1141	1143	1143	709
155°	1247	1246	1246	1251	1245	574
165°	1315	1313	1311	1319	1312	371
175°	1346	1342	1342	1349	1341	128
180°	1346	1346	1346	1346	1346	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1579.4	1578.5	1577.5	1576.6	1575.5	1573.7	1571.2	1568.5	1565.8	1563.1	1565.6
5°	1575.4	1573.9	1572.4	1570.9	1569.3	1566.9	1563.7	1560.3	1557.0	1553.7	1556.7
7.5°	1560.0	1558.4	1556.9	1555.4	1553.9	1551.4	1548.0	1544.6	1541.2	1537.7	1540.4
10°	1547.0	1545.4	1543.9	1542.4	1540.9	1538.3	1534.3	1530.4	1526.5	1522.6	1525.3
12.5°	1529.7	1528.4	1527.1	1525.9	1524.6	1522.1	1518.5	1514.8	1511.1	1507.4	1509.4
15°	1499.6	1498.4	1497.2	1496.0	1494.8	1492.2	1488.3	1484.4	1480.5	1476.5	1478.9
17.5°	1464.6	1463.1	1461.5	1460.0	1458.4	1455.7	1451.7	1447.9	1443.9	1440.0	1441.7
20°	1438.6	1436.8	1435.0	1433.2	1431.5	1428.6	1424.7	1420.8	1416.9	1413.0	1414.2
22.5°	1409.5	1407.6	1405.8	1404.0	1402.2	1399.4	1395.4	1391.5	1387.7	1383.7	1384.7
25°	1361.5	1359.7	1357.9	1356.1	1354.4	1351.4	1347.6	1343.7	1339.7	1335.8	1336.1
27.5°	1310.4	1308.6	1306.9	1305.1	1303.4	1300.5	1296.2	1292.0	1287.8	1283.6	1283.8
30°	1273.6	1272.0	1270.6	1269.0	1267.6	1264.7	1260.5	1256.3	1252.1	1247.8	1247.8
32.5°	1236.7	1234.8	1232.8	1230.8	1228.8	1226.2	1223.0	1219.7	1216.4	1213.2	1211.5
35°	1177.5	1175.7	1173.9	1172.1	1170.3	1167.4	1163.5	1159.6	1155.6	1151.8	1150.0
37.5°	1116.8	1114.6	1112.2	1110.0	1107.7	1104.6	1100.6	1096.7	1092.7	1088.6	1086.5
40°	1074.6	1072.8	1071.0	1069.2	1067.4	1064.4	1060.1	1055.9	1051.7	1047.6	1045.2
42.5°	1032.3	1030.4	1028.3	1026.2	1024.2	1021.1	1016.8	1012.6	1008.4	1004.3	1001.9
45°	965.0	963.8	962.6	961.4	960.2	957.6	953.7	949.8	945.9	941.9	938.4
47.5°	898.1	896.4	894.7	892.9	891.1	888.5	884.8	881.1	877.4	873.7	870.2
50°	852.6	851.2	849.6	848.2	846.6	844.0	840.0	836.1	832.2	828.3	825.0
52.5°	805.0	804.0	803.0	801.9	800.9	798.3	794.2	790.1	785.9	781.7	778.9
55°	732.2	731.9	731.6	731.3	731.0	728.9	725.0	721.1	717.1	713.3	710.0
57.5°	662.9	661.9	660.8	659.9	658.8	656.8	653.6	650.5	647.4	644.2	641.3
60°	613.1	612.8	612.5	612.2	611.9	609.9	606.3	602.7	599.1	595.5	592.8
62.5°	568.7	567.9	567.1	566.4	565.6	563.4	559.7	556.1	552.6	549.0	546.2
65°	499.4	497.9	496.4	494.9	493.4	491.1	488.1	485.1	482.1	479.1	476.7
67.5°	426.0	424.7	423.4	422.1	420.8	419.0	416.6	414.4	412.1	409.8	407.7
70°	381.7	379.9	378.1	376.3	374.4	372.6	370.8	369.0	367.2	365.4	363.3
72.5°	335.1	333.8	332.4	331.1	329.8	328.1	326.1	324.0	322.0	319.9	318.1
75°	263.9	262.7	261.5	260.3	259.1	258.0	257.2	256.2	255.4	254.4	253.0
77.5°	200.9	200.2	199.5	198.9	198.2	197.3	196.2	195.2	194.1	193.0	192.0
80°	159.7	158.8	157.9	157.0	156.1	155.3	154.7	154.1	153.5	152.9	152.7
82.5°	119.7	119.4	119.2	119.1	118.9	118.7	118.6	118.6	118.4	118.3	117.8
85°	70.3	69.7	69.1	68.5	67.9	67.7	67.7	67.7	67.7	67.7	67.1
87.5°	28.3	28.1	27.8	27.6	27.2	27.3	27.6	28.0	28.3	28.6	28.6
90°	1.0	3.2	5.4	7.7	9.9	12.5	15.3	18.3	21.1	24.0	24.9
92.5°	18.6	18.0	17.4	16.7	16.1	16.9	19.1	21.3	23.4	25.6	27.0
95°	61.0	51.9	42.8	33.7	24.5	21.3	23.7	26.1	28.6	31.0	32.5
97.5°	122.6	118.6	114.4	110.4	106.2	96.3	80.2	64.2	48.2	32.2	34.0
100°	169.0	173.5	178.0	182.4	186.8	171.7	137.1	102.4	67.7	33.0	34.8
102.5°	221.9	225.1	228.3	231.4	234.7	217.3	179.4	141.5	103.7	65.8	60.3
105°	298.1	300.6	303.0	305.4	307.9	299.1	279.1	259.1	239.1	219.0	179.7
107.5°	378.5	380.5	382.5	384.4	386.3	388.9	392.1	395.2	398.4	401.6	372.6
110°	432.1	433.9	435.7	437.5	439.3	441.3	443.8	446.3	448.7	451.2	443.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	483.4	484.9	486.6	488.2	489.7	491.8	494.2	496.7	499.1	501.5	501.7
115°	559.2	560.5	561.8	563.2	564.5	566.2	568.2	570.2	572.2	574.2	576.4
117.5°	632.6	634.2	635.8	637.6	639.2	640.5	641.5	642.6	643.6	644.6	646.4
120°	678.2	680.2	682.3	684.2	686.2	687.6	688.2	688.9	689.6	690.2	692.0
122.5°	724.6	726.3	727.9	729.5	731.2	732.5	733.3	734.2	734.9	735.8	737.1
125°	788.2	790.1	791.8	793.6	795.4	796.7	797.5	798.5	799.4	800.2	800.7
127.5°	849.9	851.6	853.4	855.2	857.0	858.4	859.5	860.6	861.6	862.6	863.4
130°	888.3	890.1	891.8	893.6	895.4	896.7	897.6	898.5	899.4	900.3	901.2
132.5°	925.1	926.9	928.7	930.4	932.2	933.4	934.2	934.9	935.6	936.3	937.2
135°	981.3	982.7	984.0	985.3	986.6	987.7	988.7	989.5	990.4	991.4	992.0
137.5°	1029.3	1031.0	1032.7	1034.4	1036.1	1037.2	1037.7	1038.2	1038.6	1039.1	1040.2
140°	1061.4	1062.6	1064.0	1065.3	1066.7	1067.6	1068.3	1069.0	1069.7	1070.3	1071.3
142.5°	1091.0	1092.3	1093.6	1094.9	1096.3	1097.3	1097.9	1098.6	1099.3	1099.9	1100.7
145°	1132.4	1133.9	1135.5	1137.0	1138.6	1139.6	1140.1	1140.5	1140.9	1141.3	1141.8
147.5°	1171.4	1172.4	1173.5	1174.4	1175.4	1176.2	1176.6	1177.1	1177.5	1177.9	1178.5
150°	1195.4	1196.0	1196.7	1197.4	1198.1	1198.6	1199.0	1199.5	1200.0	1200.4	1200.8
152.5°	1217.0	1217.3	1217.6	1217.9	1218.2	1218.5	1218.7	1219.1	1219.3	1219.6	1220.4
155°	1247.4	1247.0	1246.5	1246.0	1245.6	1245.5	1245.7	1246.0	1246.2	1246.4	1247.5
157.5°	1271.0	1270.9	1270.9	1270.8	1270.8	1270.7	1270.5	1270.2	1270.1	1269.8	1271.2
160°	1285.4	1285.2	1285.0	1284.8	1284.5	1284.3	1284.1	1283.8	1283.7	1283.4	1284.8
162.5°	1299.0	1298.5	1297.9	1297.3	1296.7	1296.3	1296.1	1295.9	1295.6	1295.4	1296.9
165°	1315.4	1314.7	1314.1	1313.5	1312.8	1312.3	1312.1	1311.8	1311.6	1311.4	1313.2
167.5°	1328.3	1327.3	1326.5	1325.6	1324.6	1324.2	1324.2	1324.2	1324.2	1324.2	1326.0
170°	1335.4	1334.6	1333.7	1332.7	1331.9	1331.5	1331.5	1331.5	1331.5	1331.5	1333.2
172.5°	1340.2	1339.2	1338.1	1337.0	1335.9	1335.5	1335.7	1335.8	1336.0	1336.2	1338.0
175°	1346.4	1345.3	1344.2	1343.1	1342.0	1341.5	1341.8	1342.0	1342.2	1342.4	1344.0
177.5°	1348.1	1347.1	1346.3	1345.4	1344.5	1344.1	1344.3	1344.5	1344.6	1344.8	1346.3
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0	1574.0
2.5°	1568.0	1570.4	1572.8	1573.9	1573.6	1573.4	1573.1	1573.0
5°	1559.7	1562.7	1565.7	1566.9	1566.3	1565.7	1565.1	1564.5
7.5°	1543.2	1545.8	1548.6	1549.7	1549.4	1549.0	1548.7	1548.3
10°	1528.0	1530.7	1533.4	1534.5	1533.9	1533.3	1532.7	1532.1
12.5°	1511.4	1513.4	1515.4	1516.2	1515.8	1515.4	1515.1	1514.8
15°	1481.4	1483.8	1486.2	1486.5	1484.7	1482.9	1481.1	1479.3
17.5°	1443.4	1445.1	1446.7	1447.3	1446.7	1446.0	1445.3	1444.7
20°	1415.4	1416.6	1417.8	1417.9	1417.0	1416.1	1415.2	1414.3
22.5°	1385.7	1386.6	1387.6	1387.5	1386.4	1385.2	1384.1	1382.9
25°	1336.4	1336.7	1337.0	1336.7	1335.8	1334.9	1334.0	1333.1
27.5°	1284.1	1284.3	1284.5	1284.1	1283.0	1281.8	1280.7	1279.5
30°	1247.8	1247.8	1247.8	1246.8	1244.7	1242.6	1240.4	1238.4
32.5°	1209.8	1208.2	1206.4	1205.1	1203.9	1202.7	1201.6	1200.5
35°	1148.1	1146.3	1144.5	1142.9	1141.3	1139.9	1138.3	1136.9
37.5°	1084.3	1082.2	1080.0	1078.5	1077.5	1076.5	1075.6	1074.6
40°	1042.8	1040.3	1037.9	1036.1	1034.9	1033.7	1032.5	1031.3
42.5°	999.4	997.0	994.6	992.8	991.6	990.4	989.2	988.0
45°	934.8	931.2	927.6	925.0	923.5	922.0	920.5	918.9
47.5°	866.7	863.2	859.5	857.1	855.8	854.5	853.2	851.9
50°	821.7	818.4	815.0	812.5	810.7	808.9	807.1	805.3
52.5°	776.1	773.3	770.4	768.1	766.3	764.5	762.7	760.9
55°	706.6	703.4	700.0	697.6	696.1	694.6	693.1	691.6
57.5°	638.3	635.4	632.4	630.1	628.4	626.6	624.8	623.1
60°	590.1	587.4	584.7	582.6	581.1	579.5	578.1	576.5
62.5°	543.5	540.8	538.1	536.2	535.2	534.2	533.2	532.2
65°	474.3	471.9	469.5	467.9	466.9	466.1	465.1	464.3
67.5°	405.6	403.5	401.4	399.7	398.5	397.2	395.9	394.7
70°	361.2	359.1	357.0	355.2	353.7	352.1	350.7	349.2
72.5°	316.2	314.4	312.5	311.2	310.4	309.6	308.8	308.1
75°	251.4	249.9	248.4	247.2	246.3	245.4	244.5	243.6
77.5°	191.0	189.9	188.9	188.4	188.4	188.4	188.4	188.4
80°	152.3	152.1	151.7	151.6	151.6	151.6	151.6	151.6
82.5°	117.2	116.7	116.1	115.7	115.5	115.3	115.0	114.8
85°	66.5	65.9	65.3	65.0	65.0	65.0	65.0	65.0
87.5°	28.5	28.4	28.4	28.4	28.5	28.6	28.7	28.8
90°	25.7	26.7	27.6	28.2	28.7	29.1	29.5	30.0
92.5°	28.4	29.9	31.3	32.1	32.4	32.7	33.0	33.2
95°	34.1	35.6	37.2	38.0	38.0	38.0	38.0	38.0
97.5°	35.7	37.5	39.3	40.3	40.6	40.8	41.0	41.2
100°	36.6	38.3	40.1	41.2	41.3	41.6	41.8	42.0
102.5°	54.8	49.2	43.7	41.2	41.6	42.0	42.4	42.8
105°	140.3	101.0	61.6	42.3	42.7	43.1	43.6	44.0
107.5°	343.8	315.0	286.1	256.8	227.2	197.5	167.9	138.3
110°	436.4	429.1	421.8	402.3	370.5	338.6	306.9	275.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	501.8	502.0	502.1	498.8	492.1	485.3	478.6	471.9
115°	578.6	580.8	583.1	584.6	585.5	586.4	587.3	588.1
117.5°	648.2	650.0	651.7	652.7	652.9	653.1	653.2	653.4
120°	693.8	695.5	697.3	698.2	698.2	698.2	698.2	698.2
122.5°	738.3	739.6	740.8	741.5	741.7	741.8	742.1	742.3
125°	801.2	801.6	802.0	802.5	802.9	803.4	803.8	804.3
127.5°	864.1	864.8	865.5	865.6	865.2	864.8	864.4	863.8
130°	902.1	902.9	903.9	904.0	903.6	903.2	902.8	902.3
132.5°	938.1	939.0	939.9	940.0	939.4	938.7	938.1	937.5
135°	992.6	993.3	994.0	994.0	993.3	992.6	992.0	991.4
137.5°	1041.3	1042.3	1043.4	1043.7	1043.3	1042.8	1042.4	1041.9
140°	1072.1	1073.0	1073.9	1074.1	1073.7	1073.2	1072.8	1072.4
142.5°	1101.4	1102.1	1102.8	1102.9	1102.3	1101.6	1101.0	1100.4
145°	1142.3	1142.7	1143.1	1143.3	1143.3	1143.3	1143.3	1143.3
147.5°	1178.9	1179.3	1179.7	1179.5	1178.5	1177.4	1176.4	1175.4
150°	1201.3	1201.7	1202.1	1202.0	1201.4	1200.8	1200.1	1199.4
152.5°	1221.2	1222.0	1222.8	1222.7	1221.7	1220.6	1219.6	1218.6
155°	1248.6	1249.7	1250.9	1250.7	1249.4	1248.1	1246.7	1245.4
157.5°	1272.5	1273.8	1275.1	1275.0	1273.2	1271.4	1269.7	1268.0
160°	1286.1	1287.4	1288.7	1288.7	1287.1	1285.6	1283.9	1282.4
162.5°	1298.5	1299.9	1301.5	1301.5	1300.1	1298.7	1297.4	1296.0
165°	1315.0	1316.7	1318.5	1318.6	1317.1	1315.5	1314.0	1312.4
167.5°	1327.7	1329.6	1331.4	1331.4	1329.6	1327.7	1326.0	1324.2
170°	1335.0	1336.8	1338.5	1338.5	1336.8	1335.0	1333.2	1331.5
172.5°	1339.8	1341.5	1343.3	1343.2	1341.3	1339.4	1337.4	1335.4
175°	1345.6	1347.1	1348.7	1348.5	1346.8	1345.0	1343.2	1341.4
177.5°	1347.6	1349.1	1350.5	1350.3	1348.6	1346.8	1345.0	1343.2
180°	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4	1346.4

(END OF REPORT)