

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: P333110-927

Luminaire Tested: **S124RDIW-S1195D1340U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333110-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S1195D1340U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7506.4 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

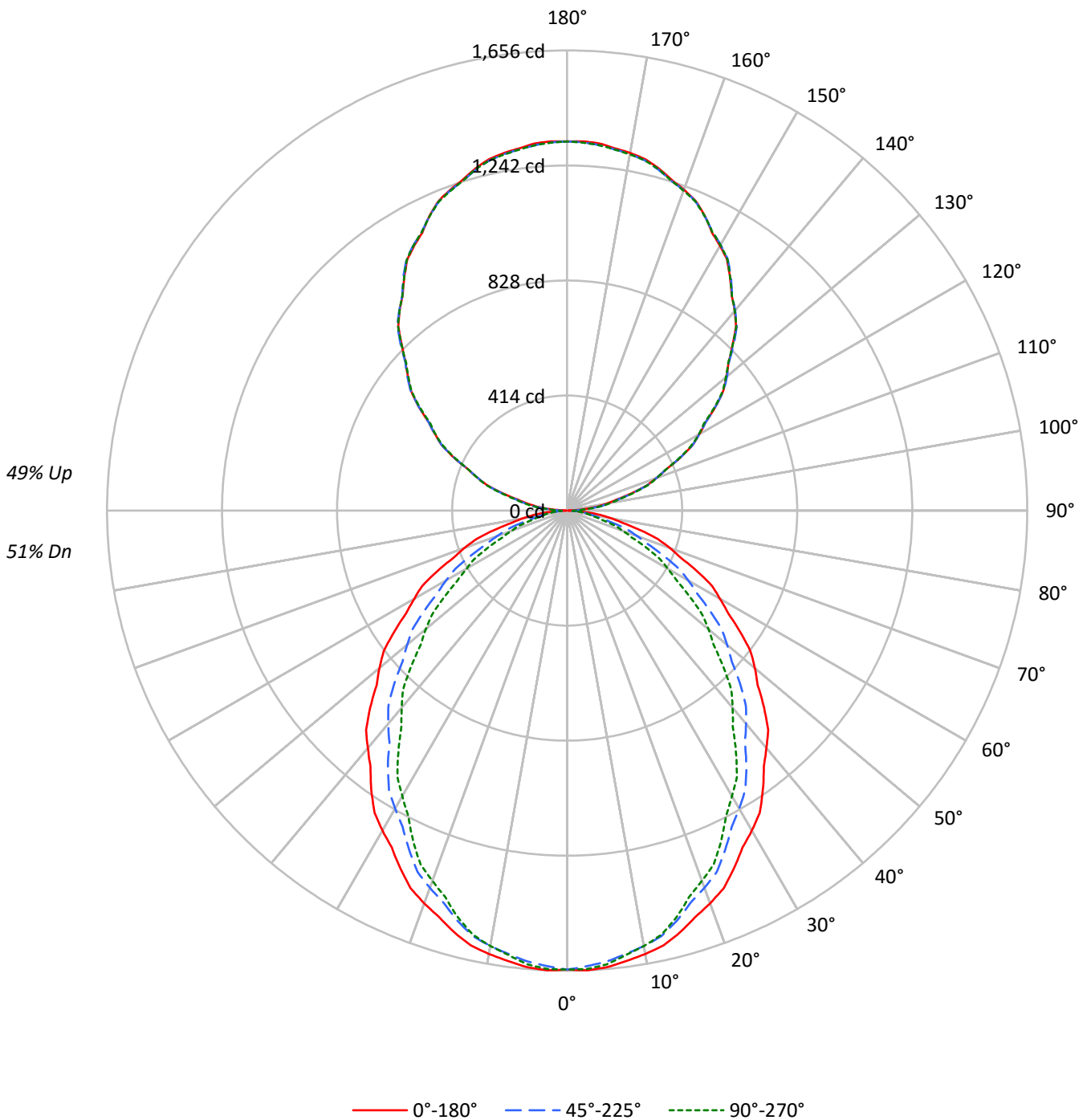
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	69	62	60	59	51	50	49	43
2	90	82	76	71	83	76	71	67	65	61	58	55	52	49	45	43	41	37
3	82	73	65	60	75	67	61	56	58	53	49	49	45	42	40	38	35	31
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	36	33	31	27
5	69	58	50	44	64	54	46	41	46	41	36	39	35	32	33	29	27	24
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	30	26	24	21
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	28	34	29	25	30	25	22	25	22	19	17
9	51	39	31	26	47	36	30	25	32	26	22	27	23	20	23	20	17	15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13337	13337	13337
5°	13367	13203	13285
10°	13283	13045	13045
15°	13131	12771	12676
20°	12921	12411	12182
25°	12653	11989	11685
30°	12393	11544	11060
35°	12105	11083	10435
40°	11758	10559	9759
45°	11439	10038	9070
50°	11074	9437	8341
55°	10683	8812	7548
60°	10253	8128	6739
65°	9859	7272	5945
70°	9286	6331	5046
75°	8562	5250	4105
80°	7471	3998	3766
85°	6326	3631	3399



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.2	2.1
10°-20°	432.8	5.8
20°-30°	624.9	8.3
30°-40°	708.3	9.4
40°-50°	684.0	9.1
50°-60°	568.8	7.6
60°-70°	392.8	5.2
70°-80°	199.1	2.7
80°-90°	55.0	0.7
90°-100°	87.6	1.2
100°-110°	259.5	3.5
110°-120°	440.5	5.9
120°-130°	580.9	7.7
130°-140°	652.4	8.7
140°-150°	641.1	8.5
150°-160°	539.2	7.2
160°-170°	358.7	4.8
170°-180°	125.6	1.7
0°-30°	1212.9	16.2
0°-40°	1921.2	25.6
0°-60°	3174.0	42.3
0°-90°	3820.9	50.9
90°-120°	787.7	10.5
90°-150°	2662.0	35.5
90°-180°	3686.0	49.1
0°-180°	7506.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1650	1644	1629	1641	1639	156
15°	1571	1559	1528	1525	1517	442
25°	1420	1396	1346	1325	1312	654
35°	1228	1186	1125	1083	1059	767
45°	1002	953	879	819	794	772
55°	759	707	626	563	536	679
65°	516	460	381	328	311	509
75°	274	227	168	140	132	290
85°	68	44	39	37	37	77
90°	3	14	23	28	31	7
95°	62	71	78	81	81	69
105°	239	241	244	248	251	254
115°	448	448	446	445	444	442
125°	652	652	651	649	647	581
135°	841	847	848	845	842	651
145°	1022	1026	1027	1026	1023	639
155°	1171	1171	1170	1174	1170	539
165°	1275	1272	1270	1275	1272	359
175°	1326	1321	1320	1327	1320	126
180°	1328	1328	1328	1328	1328	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1656.1	1655.2	1654.3	1653.4	1652.5	1650.8	1648.4	1645.8	1643.4	1640.9	1643.4
5°	1649.5	1648.4	1647.3	1646.2	1645.0	1642.7	1639.4	1636.0	1632.7	1629.3	1632.1
7.5°	1634.6	1633.4	1632.2	1631.0	1629.8	1627.1	1622.7	1618.3	1613.9	1609.6	1611.4
10°	1620.4	1619.0	1617.6	1616.2	1614.8	1611.5	1606.5	1601.5	1596.4	1591.3	1592.4
12.5°	1602.2	1600.6	1598.9	1597.3	1595.7	1591.9	1585.9	1580.0	1574.0	1568.0	1568.8
15°	1571.1	1568.5	1566.1	1563.5	1561.0	1556.2	1549.2	1542.1	1535.1	1528.0	1527.5
17.5°	1533.4	1529.7	1526.1	1522.4	1518.8	1512.8	1504.3	1495.9	1487.4	1479.0	1477.4
20°	1504.0	1500.4	1496.7	1493.1	1489.5	1482.8	1473.3	1463.7	1454.1	1444.6	1442.3
22.5°	1471.6	1467.6	1463.5	1459.4	1455.2	1448.1	1437.8	1427.6	1417.4	1407.2	1403.7
25°	1420.5	1415.5	1410.4	1405.4	1400.3	1392.0	1380.5	1369.0	1357.5	1345.9	1341.2
27.5°	1366.9	1360.6	1354.2	1347.9	1341.5	1332.2	1319.9	1307.6	1295.2	1282.9	1277.0
30°	1329.5	1322.5	1315.4	1308.4	1301.4	1291.3	1278.0	1264.8	1251.6	1238.4	1231.4
32.5°	1290.0	1282.1	1274.1	1266.2	1258.3	1247.5	1233.8	1220.2	1206.5	1192.9	1184.7
35°	1228.3	1219.2	1210.3	1201.3	1192.3	1180.7	1166.7	1152.7	1138.6	1124.6	1115.0
37.5°	1162.3	1152.9	1143.7	1134.4	1125.1	1112.7	1097.2	1081.6	1066.0	1050.4	1039.7
40°	1115.7	1106.4	1097.2	1087.9	1078.6	1066.0	1050.0	1033.9	1017.9	1001.9	990.1
42.5°	1071.2	1061.4	1051.7	1042.0	1032.3	1019.1	1002.3	985.6	969.0	952.3	940.2
45°	1001.9	991.4	981.0	970.7	960.3	946.6	929.8	912.9	896.0	879.2	865.4
47.5°	930.3	919.5	908.8	898.0	887.3	873.1	855.6	838.0	820.5	803.0	788.7
50°	881.7	870.7	859.8	848.8	837.8	823.3	805.3	787.3	769.4	751.4	737.4
52.5°	832.1	821.3	810.6	799.9	789.2	774.5	756.1	737.7	719.2	700.8	686.5
55°	759.0	747.7	736.5	725.2	714.0	699.3	681.0	662.7	644.4	626.1	611.6
57.5°	686.6	674.9	663.2	651.6	639.8	625.0	607.0	589.0	571.0	553.0	538.2
60°	635.0	623.8	612.5	601.3	590.0	575.4	557.5	539.5	521.4	503.4	488.9
62.5°	588.4	576.8	565.1	553.4	541.7	526.6	508.2	489.7	471.3	452.9	439.3
65°	516.1	504.0	491.9	479.8	467.8	452.7	434.7	416.8	398.8	380.7	368.7
67.5°	440.9	429.4	417.8	406.2	394.7	380.5	363.8	347.1	330.4	313.7	303.3
70°	393.4	381.6	369.8	358.0	346.2	332.2	316.2	300.2	284.2	268.2	258.9
72.5°	342.8	332.2	321.5	310.8	300.1	287.2	272.0	256.9	241.8	226.6	218.7
75°	274.5	264.1	253.7	243.3	232.9	221.1	207.9	194.6	181.5	168.3	161.8
77.5°	205.2	196.4	187.5	178.7	169.8	160.1	149.4	138.8	128.1	117.4	113.6
80°	160.7	152.5	144.3	136.2	128.0	119.8	111.3	102.9	94.4	86.0	85.2
82.5°	122.2	114.7	107.3	99.7	92.3	86.1	81.3	76.4	71.6	66.8	66.1
85°	68.3	62.7	57.0	51.4	45.8	42.6	41.7	40.9	40.1	39.2	38.7
87.5°	23.9	22.6	21.3	20.0	18.7	18.1	18.3	18.4	18.5	18.7	18.8
90°	3.1	5.6	8.1	10.6	13.2	15.3	17.1	18.9	20.8	22.6	24.0
92.5°	22.0	24.9	27.7	30.6	33.5	35.6	36.8	38.1	39.4	40.7	41.5
95°	61.6	63.7	65.8	67.8	69.9	71.7	73.3	74.9	76.4	78.1	78.7
97.5°	107.7	109.3	111.0	112.6	114.2	116.0	117.9	119.8	121.6	123.5	124.3
100°	143.9	144.7	145.7	146.6	147.5	148.9	151.0	153.0	155.1	157.2	157.6
102.5°	181.6	182.0	182.4	182.8	183.1	184.2	186.1	188.0	189.8	191.7	192.3
105°	239.4	239.6	239.9	240.0	240.3	240.8	241.8	242.7	243.6	244.5	245.2
107.5°	300.0	300.2	300.6	300.8	301.1	301.3	301.4	301.6	301.7	301.8	302.5
110°	341.1	341.5	342.0	342.5	342.9	343.0	342.8	342.5	342.4	342.1	341.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	383.8	383.9	384.0	384.1	384.2	384.0	383.7	383.2	382.8	382.4	382.3
115°	447.9	447.9	447.9	447.9	447.9	447.7	447.3	446.8	446.3	445.8	445.7
117.5°	508.3	508.5	508.7	508.9	509.1	509.0	508.7	508.3	508.0	507.7	506.9
120°	548.6	549.5	550.4	551.4	552.2	552.4	551.7	551.0	550.3	549.6	548.5
122.5°	590.5	590.9	591.3	591.6	592.0	592.0	591.7	591.4	591.0	590.7	589.9
125°	652.4	652.4	652.4	652.4	652.4	652.3	652.0	651.8	651.6	651.3	650.9
127.5°	708.4	709.2	709.9	710.5	711.2	711.4	711.0	710.7	710.3	709.9	709.5
130°	747.9	748.6	749.3	750.0	750.7	751.0	751.0	751.0	751.0	751.0	750.5
132.5°	788.2	788.7	789.2	789.7	790.2	790.4	790.2	790.0	789.8	789.6	789.2
135°	841.4	842.8	844.1	845.5	846.9	847.6	847.6	847.6	847.6	847.6	847.2
137.5°	899.4	900.0	900.6	901.3	901.9	902.5	902.8	903.2	903.5	903.9	903.2
140°	938.0	938.4	938.9	939.4	939.8	940.0	940.0	940.0	940.0	940.0	939.8
142.5°	973.4	973.8	974.2	974.7	975.2	975.3	975.1	974.9	974.8	974.5	974.5
145°	1022.2	1023.2	1024.1	1025.0	1025.9	1026.4	1026.7	1026.9	1027.1	1027.4	1027.1
147.5°	1070.7	1071.8	1072.9	1074.0	1075.1	1075.5	1075.4	1075.2	1075.0	1074.8	1074.7
150°	1100.3	1101.2	1102.2	1103.0	1104.0	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4
152.5°	1128.2	1128.8	1129.3	1129.9	1130.4	1130.8	1131.0	1131.2	1131.4	1131.6	1132.1
155°	1171.2	1171.2	1171.2	1171.2	1171.2	1171.1	1170.8	1170.6	1170.4	1170.2	1171.1
157.5°	1207.4	1207.0	1206.6	1206.1	1205.7	1205.5	1205.5	1205.4	1205.4	1205.3	1206.0
160°	1228.8	1228.5	1228.3	1228.0	1227.8	1227.6	1227.3	1227.2	1226.9	1226.7	1227.3
162.5°	1248.5	1247.8	1247.3	1246.7	1246.1	1245.7	1245.5	1245.2	1245.0	1244.8	1246.0
165°	1274.9	1274.3	1273.6	1272.9	1272.2	1271.7	1271.2	1270.7	1270.3	1269.8	1271.2
167.5°	1295.3	1294.3	1293.4	1292.4	1291.5	1291.0	1291.1	1291.1	1291.2	1291.2	1292.6
170°	1306.8	1305.7	1304.6	1303.4	1302.3	1301.8	1302.0	1302.3	1302.5	1302.7	1304.1
172.5°	1315.0	1314.1	1313.1	1312.2	1311.2	1310.7	1310.8	1310.8	1310.9	1310.9	1312.5
175°	1326.4	1325.2	1324.1	1322.9	1321.8	1321.0	1320.9	1320.6	1320.4	1320.2	1321.8
177.5°	1330.0	1329.1	1328.2	1327.3	1326.4	1326.0	1326.0	1326.0	1326.0	1326.0	1327.2
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1645.8	1648.4	1650.8	1651.9	1651.7	1651.5	1651.2	1651.1
5°	1634.9	1637.7	1640.5	1641.6	1641.1	1640.5	1640.0	1639.4
7.5°	1613.1	1614.9	1616.8	1617.2	1616.3	1615.4	1614.5	1613.6
10°	1593.6	1594.7	1595.9	1595.9	1594.7	1593.6	1592.4	1591.3
12.5°	1569.4	1570.1	1570.7	1570.3	1568.8	1567.2	1565.6	1564.0
15°	1526.9	1526.4	1525.8	1524.6	1522.6	1520.6	1518.7	1516.7
17.5°	1475.8	1474.3	1472.7	1470.4	1467.4	1464.4	1461.5	1458.5
20°	1440.1	1437.8	1435.6	1432.7	1429.0	1425.4	1421.7	1418.0
22.5°	1400.4	1397.0	1393.7	1390.5	1387.5	1384.5	1381.6	1378.6
25°	1336.3	1331.6	1326.8	1323.0	1320.2	1317.4	1314.5	1311.8
27.5°	1271.1	1265.2	1259.3	1254.3	1250.3	1246.3	1242.2	1238.2
30°	1224.3	1217.3	1210.3	1204.5	1200.0	1195.6	1191.0	1186.5
32.5°	1176.5	1168.4	1160.2	1154.1	1149.8	1145.5	1141.2	1136.9
35°	1105.4	1095.9	1086.3	1079.0	1074.0	1068.9	1063.8	1058.8
37.5°	1029.0	1018.4	1007.7	999.8	994.7	989.7	984.7	979.6
40°	978.3	966.5	954.7	946.2	941.1	936.0	931.1	926.0
42.5°	928.2	916.2	904.1	895.5	890.2	884.9	879.6	874.3
45°	851.6	837.8	824.0	814.6	809.6	804.5	799.5	794.4
47.5°	774.4	760.2	745.9	735.9	730.4	724.8	719.2	713.7
50°	723.3	709.2	695.1	685.5	680.2	674.8	669.5	664.1
52.5°	672.2	658.0	643.6	633.7	628.2	622.7	617.0	611.5
55°	596.9	582.3	567.7	557.7	552.4	547.0	541.7	536.3
57.5°	523.4	508.5	493.7	484.3	480.2	476.1	472.1	468.0
60°	474.2	459.6	445.0	435.5	430.9	426.4	421.9	417.4
62.5°	425.9	412.4	398.9	390.3	386.7	383.2	379.5	376.0
65°	356.6	344.5	332.4	324.6	321.3	317.9	314.6	311.2
67.5°	292.9	282.5	272.1	265.1	261.3	257.6	253.9	250.2
70°	249.6	240.3	231.1	225.1	222.2	219.4	216.6	213.8
72.5°	210.8	202.9	195.0	189.7	187.1	184.6	182.0	179.4
75°	155.3	148.9	142.4	138.3	136.7	134.9	133.2	131.6
77.5°	109.9	106.1	102.3	100.2	99.7	99.2	98.7	98.2
80°	84.4	83.5	82.6	82.1	81.8	81.5	81.3	81.0
82.5°	65.6	65.0	64.3	63.8	63.6	63.3	63.1	62.7
85°	38.1	37.5	37.0	36.7	36.7	36.7	36.7	36.7
87.5°	18.8	18.9	18.9	19.1	19.4	19.7	20.0	20.4
90°	25.3	26.7	28.0	29.0	29.5	29.9	30.3	30.8
92.5°	42.3	43.2	44.0	44.5	44.8	45.1	45.3	45.6
95°	79.5	80.2	80.8	81.2	81.2	81.2	81.2	81.2
97.5°	125.2	126.0	126.7	127.2	127.2	127.2	127.2	127.2
100°	158.1	158.6	159.0	159.2	159.2	159.2	159.2	159.2
102.5°	193.0	193.6	194.2	194.6	194.9	195.0	195.2	195.4
105°	245.9	246.6	247.2	248.0	248.6	249.3	250.0	250.6
107.5°	303.1	303.7	304.4	304.7	304.7	304.6	304.6	304.5
110°	341.2	340.7	340.3	340.4	341.1	341.7	342.5	343.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.2	382.1	382.0	382.1	382.1	382.3	382.5	382.6
115°	445.4	445.2	445.0	444.7	444.5	444.3	444.0	443.9
117.5°	506.2	505.4	504.6	504.0	503.5	503.1	502.6	502.2
120°	547.4	546.2	545.1	544.7	545.2	545.7	546.1	546.5
122.5°	589.1	588.4	587.6	586.8	586.0	585.2	584.4	583.5
125°	650.5	650.0	649.5	649.0	648.6	648.2	647.7	647.2
127.5°	709.0	708.5	708.1	707.7	707.3	706.9	706.5	706.2
130°	750.1	749.6	749.2	748.5	747.6	746.6	745.8	744.8
132.5°	788.7	788.3	787.8	787.4	787.0	786.6	786.3	785.9
135°	846.7	846.2	845.7	845.2	844.5	843.8	843.1	842.4
137.5°	902.7	902.1	901.5	901.3	901.4	901.6	901.7	901.8
140°	939.6	939.4	939.1	938.9	938.7	938.4	938.2	938.0
142.5°	974.5	974.5	974.4	974.3	974.3	974.2	974.2	974.1
145°	1026.9	1026.7	1026.4	1026.0	1025.3	1024.6	1024.0	1023.3
147.5°	1074.4	1074.3	1074.1	1073.9	1073.6	1073.4	1073.2	1073.0
150°	1104.4	1104.4	1104.4	1104.3	1104.1	1103.8	1103.6	1103.4
152.5°	1132.7	1133.2	1133.8	1133.7	1133.1	1132.5	1131.9	1131.3
155°	1172.0	1172.9	1173.9	1173.9	1172.9	1172.0	1171.1	1170.2
157.5°	1206.7	1207.4	1208.1	1208.0	1207.2	1206.4	1205.7	1204.9
160°	1228.0	1228.8	1229.4	1229.2	1228.0	1226.9	1225.7	1224.6
162.5°	1247.2	1248.5	1249.7	1249.7	1248.6	1247.4	1246.3	1245.2
165°	1272.6	1273.9	1275.3	1275.6	1274.6	1273.7	1272.8	1271.8
167.5°	1294.0	1295.3	1296.6	1296.6	1295.2	1293.8	1292.4	1291.0
170°	1305.4	1306.8	1308.2	1308.1	1306.5	1304.9	1303.3	1301.7
172.5°	1314.0	1315.6	1317.2	1317.1	1315.5	1313.9	1312.3	1310.7
175°	1323.3	1324.9	1326.6	1326.6	1324.9	1323.3	1321.8	1320.2
177.5°	1328.5	1329.8	1331.0	1330.9	1329.5	1328.0	1326.6	1325.1
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4

(END OF REPORT)