

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: P333106-927

Luminaire Tested: **S124RDIW-S1195D1050U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333106-927  
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-S1195D1050U927-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6698.9 lumens  
Efficiency: N/A  
Efficacy: 99.4 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

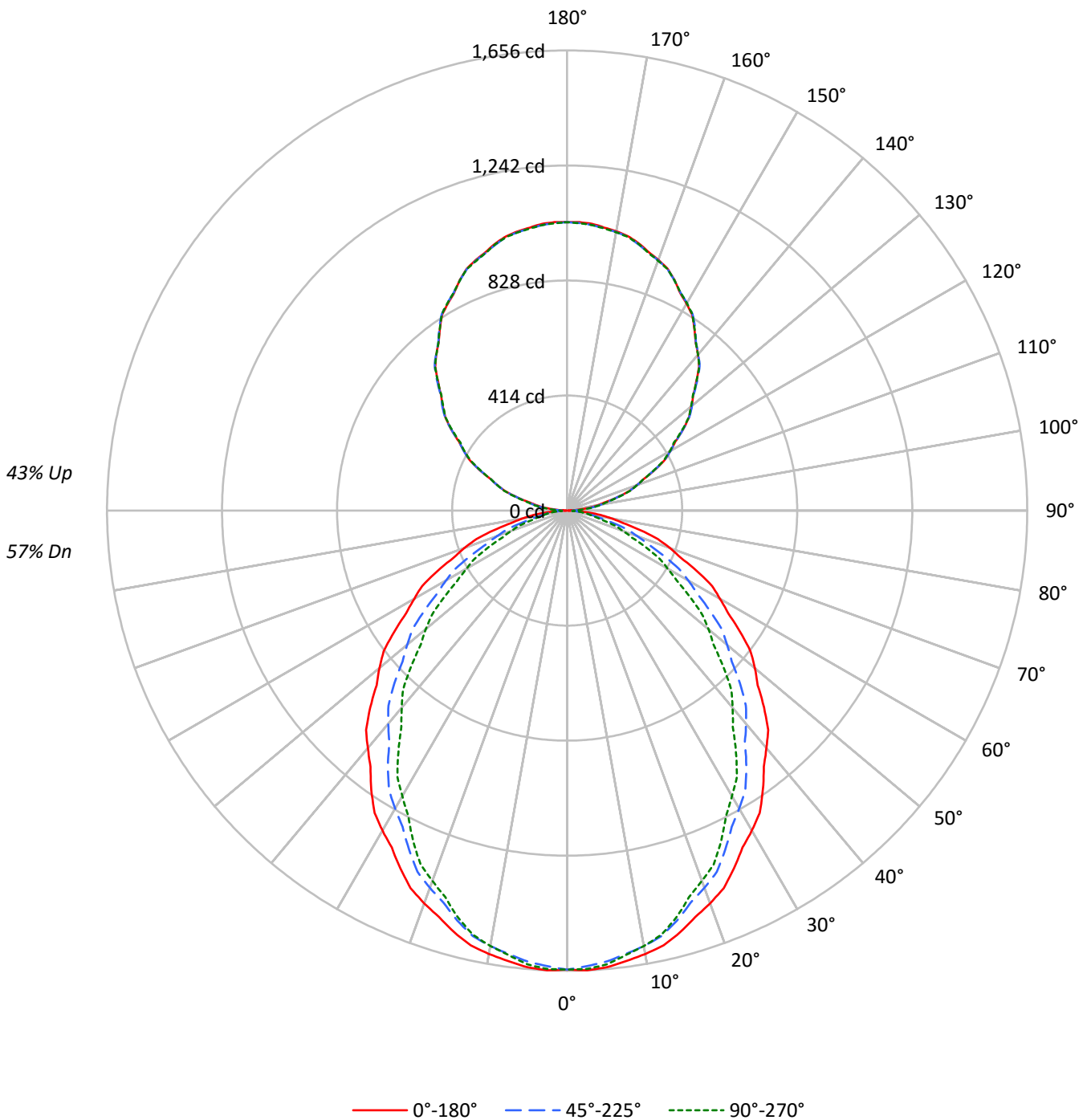
Input Watts (W): 67.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87		74	74	74		63	63	63	57
1	100	95	92	88	93	89	86	83	77	75	72		66	64	63		56	55	53	49
2	91	84	78	73	85	78	73	68	68	64	60		58	55	53		49	47	45	41
3	83	74	67	61	77	69	63	57	60	55	51		52	48	45		44	41	39	35
4	76	66	58	52	71	61	54	49	54	48	44		46	42	39		40	36	34	30
5	70	59	50	44	65	55	48	42	48	42	38		42	37	34		36	32	30	27
6	65	53	45	39	60	49	42	37	43	38	33		38	33	30		33	29	26	24
7	60	48	40	34	56	45	38	33	40	34	29		35	30	26		30	26	23	21
8	56	43	36	30	52	41	34	29	36	30	26		32	27	24		27	24	21	19
9	52	40	32	27	48	37	31	26	33	28	24		29	25	21		25	22	19	17
10	49	36	29	24	45	34	28	23	31	25	21		27	23	19		24	20	17	16

**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	2.3
10°-20°	432.8	6.5
20°-30°	624.9	9.3
30°-40°	708.3	10.6
40°-50°	684.0	10.2
50°-60°	568.8	8.5
60°-70°	392.8	5.9
70°-80°	199.1	3.0
80°-90°	54.2	0.8
90°-100°	68.4	1.0
100°-110°	202.7	3.0
110°-120°	344.1	5.1
120°-130°	453.7	6.8
130°-140°	509.6	7.6
140°-150°	500.8	7.5
150°-160°	421.2	6.3
160°-170°	280.2	4.2
170°-180°	98.1	1.5
0°-30°	1212.9	18.1
0°-40°	1921.2	28.7
0°-60°	3174.0	47.4
0°-90°	3820.0	57.0
90°-120°	615.3	9.2
90°-150°	2079.4	31.0
90°-180°	2879.0	43.0
0°-180°	6698.9	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°	2	11	18	22	24	6
95°	48	55	61	63	63	54
105°	187	188	191	193	196	198
115°	350	350	348	348	347	345
125°	510	510	509	507	506	454
135°	657	662	662	660	658	508
145°	798	802	802	802	799	500
155°	915	915	914	917	914	421
165°	996	994	992	996	994	281
175°	1036	1032	1031	1036	1031	98
180°	1038	1038	1038	1038	1038	



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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°	23.8	22.3	20.9	19.6	18.1	17.4	17.5	17.6	17.7	17.7	17.7
90°	2.4	4.4	6.3	8.3	10.2	12.0	13.4	14.8	16.2	17.7	18.7
92.5°	17.2	19.4	21.7	23.9	26.1	27.8	28.8	29.8	30.8	31.8	32.4
95°	48.2	49.7	51.3	53.0	54.6	56.0	57.3	58.5	59.7	61.0	61.6
97.5°	84.1	85.4	86.7	87.9	89.3	90.6	92.1	93.6	95.0	96.5	97.1
100°	112.3	113.0	113.8	114.5	115.2	116.4	118.0	119.5	121.2	122.8	123.1
102.5°	141.9	142.2	142.4	142.8	143.0	143.9	145.4	146.8	148.3	149.7	150.3
105°	187.0	187.2	187.4	187.5	187.7	188.1	188.9	189.6	190.3	191.0	191.5
107.5°	234.3	234.6	234.7	235.0	235.2	235.4	235.4	235.6	235.7	235.8	236.3
110°	266.4	266.8	267.1	267.5	267.8	267.9	267.8	267.6	267.4	267.2	266.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.8	299.9	300.0	300.0	300.1	300.0	299.7	299.4	299.0	298.7	298.7
115°	349.9	349.9	349.9	349.9	349.9	349.7	349.4	349.0	348.6	348.3	348.1
117.5°	397.1	397.2	397.4	397.5	397.7	397.6	397.4	397.1	396.9	396.6	396.0
120°	428.6	429.3	430.0	430.7	431.4	431.5	430.9	430.4	429.9	429.4	428.5
122.5°	461.3	461.6	461.8	462.2	462.4	462.5	462.2	461.9	461.7	461.4	460.8
125°	509.6	509.6	509.6	509.6	509.6	509.5	509.3	509.1	509.0	508.8	508.4
127.5°	553.4	554.0	554.4	555.0	555.6	555.7	555.4	555.1	554.8	554.5	554.2
130°	584.2	584.8	585.3	585.8	586.4	586.6	586.6	586.6	586.6	586.6	586.3
132.5°	615.7	616.1	616.5	616.9	617.3	617.3	617.3	617.1	617.0	616.8	616.5
135°	657.3	658.3	659.4	660.4	661.6	662.1	662.1	662.1	662.1	662.1	661.7
137.5°	702.5	703.0	703.5	704.0	704.5	704.9	705.2	705.5	705.8	706.1	705.6
140°	732.7	733.1	733.4	733.8	734.1	734.3	734.3	734.3	734.3	734.3	734.1
142.5°	760.3	760.7	761.0	761.4	761.8	761.8	761.7	761.5	761.4	761.3	761.2
145°	798.5	799.2	799.9	800.7	801.4	801.8	802.0	802.2	802.3	802.5	802.3
147.5°	836.4	837.3	838.1	838.9	839.8	840.2	840.0	839.9	839.7	839.6	839.5
150°	859.5	860.2	860.9	861.7	862.4	862.7	862.7	862.7	862.7	862.7	862.7
152.5°	881.3	881.8	882.2	882.6	883.0	883.3	883.4	883.6	883.8	883.9	884.3
155°	914.9	914.9	914.9	914.9	914.9	914.8	914.6	914.4	914.3	914.1	914.8
157.5°	943.1	942.8	942.5	942.1	941.8	941.7	941.6	941.6	941.5	941.5	942.1
160°	959.8	959.6	959.4	959.3	959.1	958.9	958.7	958.5	958.4	958.2	958.7
162.5°	975.2	974.8	974.3	973.8	973.4	973.0	972.9	972.7	972.5	972.3	973.3
165°	995.9	995.4	994.8	994.3	993.8	993.3	993.0	992.6	992.3	991.9	993.0
167.5°	1011.8	1011.1	1010.3	1009.6	1008.8	1008.4	1008.5	1008.5	1008.5	1008.6	1009.6
170°	1020.8	1019.9	1019.0	1018.1	1017.2	1016.8	1017.1	1017.2	1017.4	1017.6	1018.7
172.5°	1027.2	1026.4	1025.7	1025.0	1024.2	1023.9	1023.9	1024.0	1024.0	1024.0	1025.2
175°	1036.0	1035.1	1034.3	1033.4	1032.5	1032.0	1031.7	1031.6	1031.4	1031.3	1032.5
177.5°	1038.9	1038.2	1037.5	1036.8	1036.1	1035.7	1035.7	1035.7	1035.7	1035.7	1036.7
180°	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7



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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°	17.7	17.7	17.7	17.8	18.1	18.4	18.7	19.0
90°	19.8	20.8	21.9	22.7	23.0	23.4	23.7	24.1
92.5°	33.0	33.7	34.4	34.8	35.0	35.2	35.4	35.6
95°	62.0	62.6	63.1	63.4	63.4	63.4	63.4	63.4
97.5°	97.8	98.4	99.0	99.3	99.3	99.3	99.3	99.3
100°	123.5	123.8	124.2	124.4	124.4	124.4	124.4	124.4
102.5°	150.8	151.2	151.8	152.1	152.2	152.3	152.5	152.7
105°	192.1	192.6	193.1	193.7	194.2	194.7	195.3	195.8
107.5°	236.8	237.3	237.8	238.0	238.0	238.0	237.9	237.9
110°	266.5	266.2	265.8	265.9	266.4	267.0	267.5	268.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	298.6	298.5	298.4	298.4	298.6	298.7	298.7	298.9
115°	347.9	347.8	347.6	347.4	347.2	347.1	346.9	346.7
117.5°	395.4	394.7	394.2	393.7	393.3	393.0	392.6	392.3
120°	427.5	426.7	425.8	425.5	425.9	426.2	426.6	426.9
122.5°	460.3	459.6	459.0	458.4	457.7	457.1	456.5	455.8
125°	508.1	507.7	507.4	507.0	506.7	506.3	506.0	505.6
127.5°	553.8	553.5	553.1	552.8	552.5	552.2	551.9	551.7
130°	585.9	585.6	585.2	584.7	584.0	583.3	582.6	581.9
132.5°	616.1	615.8	615.4	615.1	614.8	614.5	614.2	613.9
135°	661.4	661.0	660.7	660.2	659.7	659.1	658.6	658.1
137.5°	705.1	704.6	704.2	704.0	704.1	704.3	704.3	704.4
140°	734.0	733.8	733.6	733.4	733.2	733.1	732.8	732.7
142.5°	761.2	761.1	761.1	761.0	761.0	761.0	761.0	761.0
145°	802.2	802.0	801.8	801.5	800.9	800.3	799.9	799.3
147.5°	839.3	839.2	839.0	838.8	838.7	838.5	838.3	838.1
150°	862.7	862.7	862.7	862.6	862.4	862.3	862.1	861.9
152.5°	884.7	885.2	885.6	885.6	885.1	884.6	884.2	883.8
155°	915.5	916.2	917.0	917.0	916.2	915.5	914.8	914.1
157.5°	942.6	943.1	943.6	943.6	943.0	942.4	941.8	941.2
160°	959.3	959.8	960.4	960.1	959.3	958.4	957.5	956.6
162.5°	974.2	975.2	976.2	976.2	975.3	974.5	973.5	972.6
165°	994.0	995.1	996.2	996.3	995.6	994.9	994.2	993.5
167.5°	1010.7	1011.8	1012.9	1012.9	1011.8	1010.7	1009.6	1008.4
170°	1019.7	1020.8	1021.8	1021.8	1020.6	1019.3	1018.0	1016.8
172.5°	1026.4	1027.6	1028.9	1028.8	1027.6	1026.4	1025.1	1023.8
175°	1033.7	1035.0	1036.3	1036.3	1035.0	1033.7	1032.5	1031.3
177.5°	1037.8	1038.7	1039.7	1039.7	1038.5	1037.4	1036.3	1035.1
180°	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7	1037.7

(END OF REPORT)