

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: P332449-840

Luminaire Tested: **S123RDIW-S775D1535U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332449-840
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: S123RDIW-S775D1535U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8322.2 lumens
Efficiency: N/A
Efficacy: 122.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

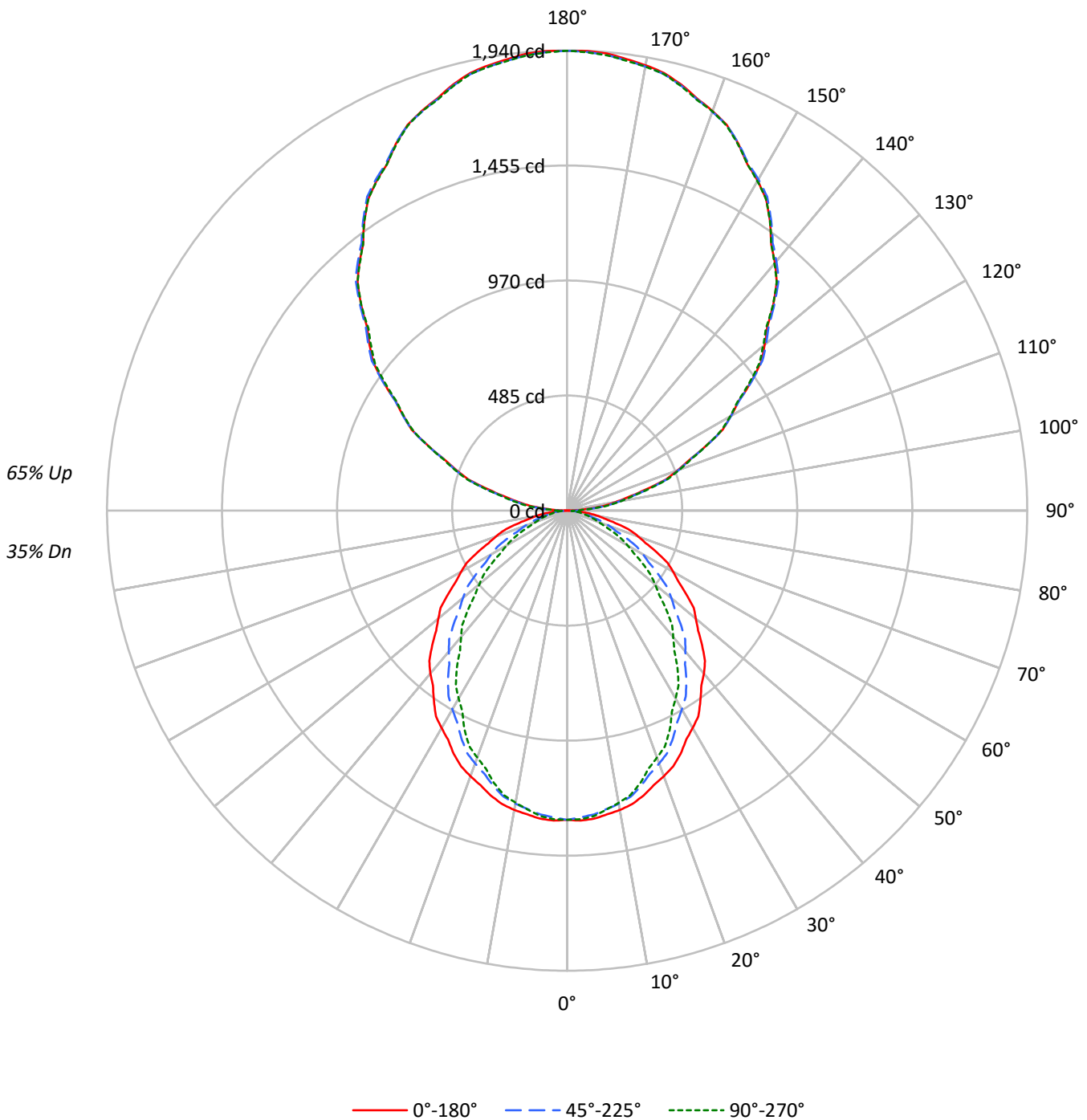
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75		58	58	58		43	43	43	35
1	95	91	87	84	86	82	79	76	66	64	62		52	50	49		38	37	37	30
2	86	79	73	69	78	72	67	63	58	55	52		46	43	41		34	32	31	26
3	79	70	63	57	71	64	58	53	52	47	44		40	37	35		30	28	27	22
4	72	62	54	49	65	56	50	45	46	41	37		36	33	30		27	25	23	19
5	66	55	47	42	60	50	43	38	41	36	32		32	29	26		24	22	20	17
6	61	49	42	36	55	45	38	33	37	32	28		29	26	23		22	20	18	15
7	56	45	37	32	51	41	34	29	34	28	25		27	23	20		20	18	16	13
8	52	40	33	28	47	37	30	26	31	26	22		24	21	18		19	16	14	12
9	49	37	30	25	44	34	27	23	28	23	20		22	19	16		17	15	13	11
10	45	34	27	22	41	31	25	21	26	21	18		21	17	15		16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14034	14034	14034
5°	14088	13894	13973
10°	14008	13719	13672
15°	13857	13397	13256
20°	13651	12997	12693
25°	13438	12545	12144
30°	13155	12026	11368
35°	12867	11506	10657
40°	12600	10891	9777
45°	12250	10286	8983
50°	11863	9597	8092
55°	11470	8811	7263
60°	11108	7967	6351
65°	10639	7055	5440
70°	10049	5923	4393
75°	9191	4662	4134
80°	8195	4135	3800
85°	6916	3656	3396



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	1.5
10°-20°	340.6	4.1
20°-30°	490.5	5.9
30°-40°	552.5	6.6
40°-50°	528.6	6.4
50°-60°	432.9	5.2
60°-70°	292.0	3.5
70°-80°	146.9	1.8
80°-90°	44.6	0.5
90°-100°	126.3	1.5
100°-110°	378.0	4.5
110°-120°	642.9	7.7
120°-130°	845.6	10.2
130°-140°	950.5	11.4
140°-150°	934.3	11.2
150°-160°	786.5	9.5
160°-170°	523.6	6.3
170°-180°	183.3	2.2
0°-30°	953.6	11.5
0°-40°	1506.1	18.1
0°-60°	2467.5	29.7
0°-90°	2951.1	35.5
90°-120°	1147.2	13.8
90°-150°	3877.6	46.6
90°-180°	5371.0	64.5
0°-180°	8322.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1304	1298	1286	1295	1293	124
15°	1244	1231	1202	1197	1190	350
25°	1132	1104	1056	1035	1022	520
35°	979	940	876	832	811	613
45°	805	755	676	617	590	621
55°	611	557	470	410	387	548
65°	418	358	277	227	214	413
75°	221	170	112	102	99	236
85°	56	34	30	28	28	63
90°	2	17	37	42	46	8
95°	90	101	113	118	119	101
105°	343	346	359	360	362	367
115°	647	651	649	650	649	640
125°	947	951	949	943	936	844
135°	1229	1238	1237	1231	1227	947
145°	1491	1494	1498	1497	1491	931
155°	1707	1707	1709	1714	1704	785
165°	1859	1855	1855	1863	1853	524
175°	1934	1928	1928	1936	1926	184
180°	1938	1938	1938	1938	1938	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1308.0	1307.3	1306.5	1305.8	1305.0	1303.5	1301.2	1299.0	1296.8	1294.4	1296.6
5°	1303.8	1302.6	1301.4	1300.3	1299.1	1297.1	1294.2	1291.4	1288.6	1285.9	1287.9
7.5°	1291.7	1290.5	1289.2	1287.9	1286.7	1284.1	1280.5	1276.9	1273.2	1269.5	1270.7
10°	1281.6	1279.9	1278.3	1276.7	1275.0	1272.0	1267.8	1263.6	1259.4	1255.2	1255.4
12.5°	1267.2	1265.4	1263.5	1261.7	1259.9	1256.4	1251.2	1246.1	1240.8	1235.7	1235.6
15°	1243.5	1240.9	1238.3	1235.8	1233.1	1228.6	1222.0	1215.5	1208.8	1202.2	1201.1
17.5°	1213.7	1210.7	1207.7	1204.7	1201.6	1196.0	1187.6	1179.2	1170.8	1162.6	1160.0
20°	1191.7	1187.9	1184.2	1180.4	1176.7	1170.3	1161.3	1152.5	1143.6	1134.6	1131.6
22.5°	1167.2	1162.9	1158.5	1154.2	1149.8	1143.0	1133.5	1124.0	1114.5	1105.0	1101.2
25°	1131.5	1125.6	1119.6	1113.8	1107.9	1099.5	1088.7	1077.9	1067.1	1056.3	1051.4
27.5°	1088.0	1081.6	1075.1	1068.6	1062.2	1052.9	1040.9	1028.9	1016.7	1004.7	997.8
30°	1058.4	1051.4	1044.4	1037.3	1030.3	1020.2	1007.0	993.8	980.7	967.6	959.6
32.5°	1028.9	1020.9	1012.9	1004.9	996.9	985.9	972.0	958.2	944.2	930.3	921.6
35°	979.2	970.7	962.2	953.8	945.3	933.8	919.3	904.6	890.1	875.6	865.5
37.5°	928.9	919.4	910.0	900.6	891.2	878.8	863.2	847.7	832.1	816.6	805.1
40°	896.7	886.4	876.0	865.7	855.4	841.8	825.2	808.5	791.7	775.1	762.9
42.5°	860.3	850.0	839.6	829.3	819.0	805.2	787.9	770.6	753.5	736.2	722.9
45°	804.7	794.2	783.6	773.0	762.3	748.1	729.9	711.9	693.8	675.7	662.3
47.5°	749.1	737.5	725.9	714.3	702.7	687.8	669.7	651.6	633.5	615.4	600.9
50°	708.4	697.4	686.4	675.3	664.3	649.2	630.3	611.2	592.2	573.1	558.6
52.5°	672.1	660.1	648.1	636.1	624.2	608.7	589.9	571.1	552.2	533.3	518.3
55°	611.2	599.7	588.1	576.6	565.1	549.4	529.4	509.5	489.5	469.5	455.9
57.5°	554.9	542.4	529.9	517.3	504.7	488.5	468.4	448.3	428.2	408.2	395.3
60°	516.0	503.1	490.2	477.3	464.3	448.1	428.6	409.1	389.6	370.1	357.4
62.5°	477.1	464.1	451.2	438.3	425.5	409.2	389.7	370.2	350.7	331.1	319.2
65°	417.7	404.8	391.8	378.9	366.0	350.3	332.0	313.7	295.4	277.0	265.5
67.5°	358.3	345.2	332.1	319.0	306.0	290.6	273.1	255.5	237.9	220.4	211.8
70°	319.3	306.7	294.0	281.2	268.6	254.0	237.5	221.2	204.7	188.2	180.0
72.5°	280.4	267.9	255.4	242.9	230.5	216.7	201.8	186.8	171.9	156.9	150.2
75°	221.0	209.7	198.4	187.1	175.9	163.8	150.9	137.9	125.0	112.1	109.8
77.5°	166.8	156.6	146.4	136.2	126.0	116.8	108.5	100.2	91.9	83.5	82.3
80°	132.2	122.5	112.9	103.3	93.6	86.3	81.4	76.4	71.6	66.7	65.9
82.5°	99.2	90.9	82.5	74.2	65.9	60.6	58.3	55.9	53.7	51.4	50.7
85°	56.0	50.9	45.7	40.5	35.3	32.4	31.7	31.0	30.3	29.6	29.2
87.5°	20.6	19.2	17.9	16.5	15.0	14.7	15.7	16.6	17.5	18.3	18.4
90°	1.5	4.9	8.3	11.7	15.0	19.0	23.3	27.8	32.1	36.6	37.9
92.5°	36.9	39.2	41.4	43.7	46.0	48.5	51.0	53.4	55.9	58.5	59.6
95°	89.9	92.2	94.6	96.9	99.4	101.9	104.5	107.2	110.0	112.7	114.0
97.5°	159.6	161.4	163.1	164.9	166.6	168.4	170.5	172.4	174.4	176.3	177.9
100°	207.1	209.1	211.2	213.2	215.2	217.1	218.7	220.5	222.2	223.9	224.9
102.5°	262.0	263.2	264.4	265.6	266.8	268.5	270.7	273.0	275.2	277.4	278.5
105°	342.6	343.4	344.0	344.7	345.4	347.2	350.2	353.3	356.4	359.4	359.4
107.5°	436.5	436.9	437.3	437.7	438.1	438.9	440.1	441.3	442.5	443.7	444.8
110°	494.9	495.6	496.2	497.0	497.7	498.3	499.0	499.7	500.3	501.0	502.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	555.8	556.2	556.6	557.0	557.4	557.7	557.8	558.0	558.2	558.3	559.9
115°	647.2	648.2	649.2	650.3	651.3	651.5	650.8	650.1	649.4	648.7	649.0
117.5°	739.2	739.8	740.5	741.2	741.8	741.7	740.9	740.0	739.1	738.3	738.2
120°	796.5	798.5	800.5	802.5	804.6	804.8	803.0	801.3	799.6	798.0	797.6
122.5°	856.2	857.6	859.1	860.6	862.1	862.4	861.5	860.6	859.8	858.9	858.0
125°	947.2	948.2	949.3	950.3	951.3	951.4	950.8	950.1	949.4	948.8	947.4
127.5°	1031.3	1033.4	1035.6	1037.7	1040.0	1040.7	1039.9	1039.2	1038.4	1037.6	1035.7
130°	1087.3	1090.0	1092.7	1095.4	1098.1	1098.9	1097.9	1096.9	1095.9	1094.9	1093.6
132.5°	1143.4	1146.0	1148.7	1151.4	1154.2	1155.2	1154.4	1153.7	1152.9	1152.2	1150.5
135°	1228.9	1230.9	1232.9	1235.0	1237.1	1237.9	1237.6	1237.2	1236.9	1236.6	1235.2
137.5°	1308.1	1309.8	1311.5	1313.2	1314.8	1316.2	1317.1	1317.9	1318.8	1319.7	1318.3
140°	1362.9	1364.6	1366.3	1368.0	1369.7	1370.7	1371.1	1371.4	1371.7	1372.1	1371.7
142.5°	1412.9	1414.5	1416.2	1418.0	1419.7	1420.8	1421.4	1422.0	1422.6	1423.2	1422.9
145°	1490.9	1491.6	1492.2	1492.9	1493.6	1494.4	1495.4	1496.4	1497.4	1498.4	1498.1
147.5°	1559.0	1560.2	1561.5	1562.8	1564.0	1565.0	1566.0	1566.9	1567.8	1568.8	1568.8
150°	1606.6	1607.3	1607.9	1608.6	1609.3	1609.9	1610.6	1611.3	1611.9	1612.7	1612.7
152.5°	1645.6	1646.5	1647.5	1648.4	1649.3	1650.0	1650.4	1650.8	1651.2	1651.6	1652.2
155°	1707.1	1707.1	1707.1	1707.1	1707.1	1707.3	1707.6	1707.9	1708.3	1708.6	1710.0
157.5°	1759.5	1759.1	1758.7	1758.3	1757.9	1757.8	1758.1	1758.3	1758.6	1758.9	1760.3
160°	1792.4	1791.7	1791.0	1790.3	1789.7	1789.3	1789.3	1789.3	1789.3	1789.3	1791.0
162.5°	1821.6	1820.7	1819.7	1818.8	1817.9	1817.5	1817.8	1818.1	1818.3	1818.6	1820.3
165°	1859.4	1858.4	1857.3	1856.3	1855.3	1854.8	1854.8	1854.8	1854.8	1854.8	1856.8
167.5°	1889.6	1888.1	1886.8	1885.4	1884.1	1883.6	1883.8	1884.1	1884.4	1884.6	1886.7
170°	1906.5	1905.2	1903.9	1902.5	1901.2	1900.5	1900.5	1900.5	1900.5	1900.5	1902.9
172.5°	1920.0	1918.6	1917.2	1915.9	1914.6	1913.9	1913.9	1913.9	1913.9	1913.9	1916.0
175°	1934.0	1932.7	1931.3	1930.0	1928.5	1927.9	1927.9	1927.9	1927.9	1927.9	1930.0
177.5°	1939.7	1938.7	1937.6	1936.5	1935.4	1934.9	1934.9	1934.9	1934.9	1934.9	1936.5
180°	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1298.6	1300.7	1302.7	1303.6	1303.2	1302.8	1302.4	1302.1
5°	1290.0	1292.1	1294.2	1295.1	1294.6	1294.1	1293.6	1293.2
7.5°	1271.9	1273.0	1274.2	1274.4	1273.6	1272.8	1272.0	1271.2
10°	1255.7	1255.9	1256.1	1255.7	1254.5	1253.2	1252.1	1250.9
12.5°	1235.4	1235.3	1235.2	1234.4	1233.0	1231.6	1230.3	1228.9
15°	1199.9	1198.7	1197.6	1196.2	1194.6	1192.9	1191.2	1189.6
17.5°	1157.5	1155.1	1152.6	1150.1	1147.6	1145.2	1142.8	1140.3
20°	1128.5	1125.4	1122.4	1119.4	1116.6	1113.8	1111.0	1108.1
22.5°	1097.4	1093.6	1089.7	1086.5	1083.9	1081.3	1078.6	1076.0
25°	1046.5	1041.6	1036.6	1032.9	1030.3	1027.6	1025.1	1022.5
27.5°	991.0	984.2	977.3	971.9	968.0	964.0	960.1	956.1
30°	951.6	943.5	935.5	929.7	925.9	922.2	918.4	914.6
32.5°	912.8	904.1	895.3	889.0	885.0	881.1	877.2	873.2
35°	855.4	845.3	835.2	828.0	823.7	819.5	815.3	811.0
37.5°	793.6	782.1	770.6	762.3	757.1	751.8	746.7	741.4
40°	750.6	738.4	726.2	717.4	712.0	706.6	701.1	695.8
42.5°	709.4	696.1	682.8	673.7	668.8	664.0	659.1	654.3
45°	648.9	635.5	622.1	612.6	606.9	601.3	595.7	590.1
47.5°	586.2	571.7	557.1	547.3	542.3	537.2	532.3	527.3
50°	544.0	529.4	514.8	504.8	499.5	494.0	488.7	483.2
52.5°	503.1	488.0	472.8	462.8	458.0	453.1	448.3	443.4
55°	442.2	428.6	415.0	405.8	401.1	396.4	391.7	387.0
57.5°	382.4	369.5	356.7	348.2	344.3	340.2	336.2	332.2
60°	344.7	332.0	319.3	311.0	307.0	303.0	299.0	295.0
62.5°	307.3	295.4	283.5	275.4	271.1	267.0	262.9	258.6
65°	254.0	242.5	231.0	223.9	221.4	218.7	216.2	213.6
67.5°	203.2	194.6	185.9	180.3	177.5	174.7	172.0	169.2
70°	171.8	163.5	155.3	150.0	147.3	144.7	142.2	139.6
72.5°	143.5	136.7	130.1	126.1	125.0	124.0	122.9	121.8
75°	107.3	105.0	102.7	101.3	100.8	100.4	99.9	99.4
77.5°	81.0	79.7	78.5	77.6	77.2	76.6	76.1	75.7
80°	65.2	64.5	63.8	63.2	62.7	62.3	61.8	61.3
82.5°	50.0	49.3	48.6	48.2	48.1	48.0	47.9	47.8
85°	28.7	28.2	27.8	27.5	27.5	27.5	27.5	27.5
87.5°	18.5	18.6	18.7	18.7	18.6	18.6	18.5	18.5
90°	39.3	40.6	42.0	43.0	43.6	44.3	45.0	45.6
92.5°	60.6	61.7	62.8	63.1	62.7	62.3	61.9	61.5
95°	115.4	116.7	118.1	118.8	118.8	118.8	118.8	118.8
97.5°	179.5	181.0	182.6	183.3	183.2	183.0	182.9	182.8
100°	225.9	226.9	227.9	228.7	229.4	230.1	230.8	231.5
102.5°	279.5	280.5	281.6	282.0	281.9	281.7	281.6	281.4
105°	359.4	359.4	359.4	359.7	360.4	361.1	361.7	362.4
107.5°	446.0	447.0	448.1	448.4	448.0	447.6	447.2	446.8
110°	503.7	505.0	506.4	506.8	506.0	505.4	504.7	504.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	561.5	563.1	564.7	565.5	565.4	565.2	565.1	564.9
115°	649.4	649.7	650.1	650.1	649.7	649.4	649.0	648.7
117.5°	738.1	738.1	738.0	737.5	736.5	735.6	734.7	733.7
120°	797.3	797.0	796.6	796.1	795.5	794.8	794.1	793.3
122.5°	857.1	856.3	855.4	854.4	853.5	852.5	851.6	850.6
125°	946.0	944.6	943.3	941.9	940.6	939.3	937.9	936.5
127.5°	1033.9	1032.0	1030.1	1028.3	1026.8	1025.2	1023.7	1022.1
130°	1092.2	1090.9	1089.5	1087.6	1085.3	1082.9	1080.6	1078.1
132.5°	1148.9	1147.3	1145.7	1144.0	1142.2	1140.3	1138.4	1136.6
135°	1233.9	1232.4	1231.1	1230.1	1229.4	1228.7	1228.1	1227.4
137.5°	1316.9	1315.5	1314.0	1312.6	1311.3	1310.1	1308.8	1307.5
140°	1371.4	1371.1	1370.7	1369.4	1367.0	1364.6	1362.2	1359.9
142.5°	1422.6	1422.2	1421.9	1420.8	1419.0	1417.1	1415.3	1413.5
145°	1497.7	1497.4	1497.1	1496.2	1494.9	1493.6	1492.2	1490.9
147.5°	1568.8	1568.8	1568.8	1567.8	1565.8	1563.8	1561.7	1559.6
150°	1612.7	1612.7	1612.7	1611.6	1609.6	1607.6	1605.6	1603.6
152.5°	1652.7	1653.3	1653.9	1653.3	1651.4	1649.7	1647.9	1646.2
155°	1711.3	1712.6	1714.0	1713.5	1711.1	1708.8	1706.4	1704.0
157.5°	1761.7	1763.1	1764.5	1764.3	1762.4	1760.5	1758.6	1756.8
160°	1792.7	1794.4	1796.0	1796.2	1794.9	1793.5	1792.2	1790.8
162.5°	1821.9	1823.6	1825.3	1825.1	1822.9	1820.8	1818.6	1816.4
165°	1858.9	1860.9	1862.9	1862.8	1860.4	1858.1	1855.6	1853.3
167.5°	1888.9	1891.0	1893.0	1893.0	1891.0	1888.9	1886.7	1884.6
170°	1905.2	1907.6	1910.0	1910.0	1907.6	1905.2	1902.9	1900.5
172.5°	1918.0	1920.2	1922.3	1922.2	1919.8	1917.4	1915.0	1912.7
175°	1932.0	1934.0	1936.0	1935.8	1933.5	1931.1	1928.7	1926.4
177.5°	1938.1	1939.7	1941.4	1941.3	1939.3	1937.4	1935.6	1933.7
180°	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5

(END OF REPORT)