

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: P333074-840

Luminaire Tested: **S124RDIW-S795D1560U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333074-840
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-S795D1560U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8709.6 lumens
Efficiency: N/A
Efficacy: 127.9 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: Semi-Indirect

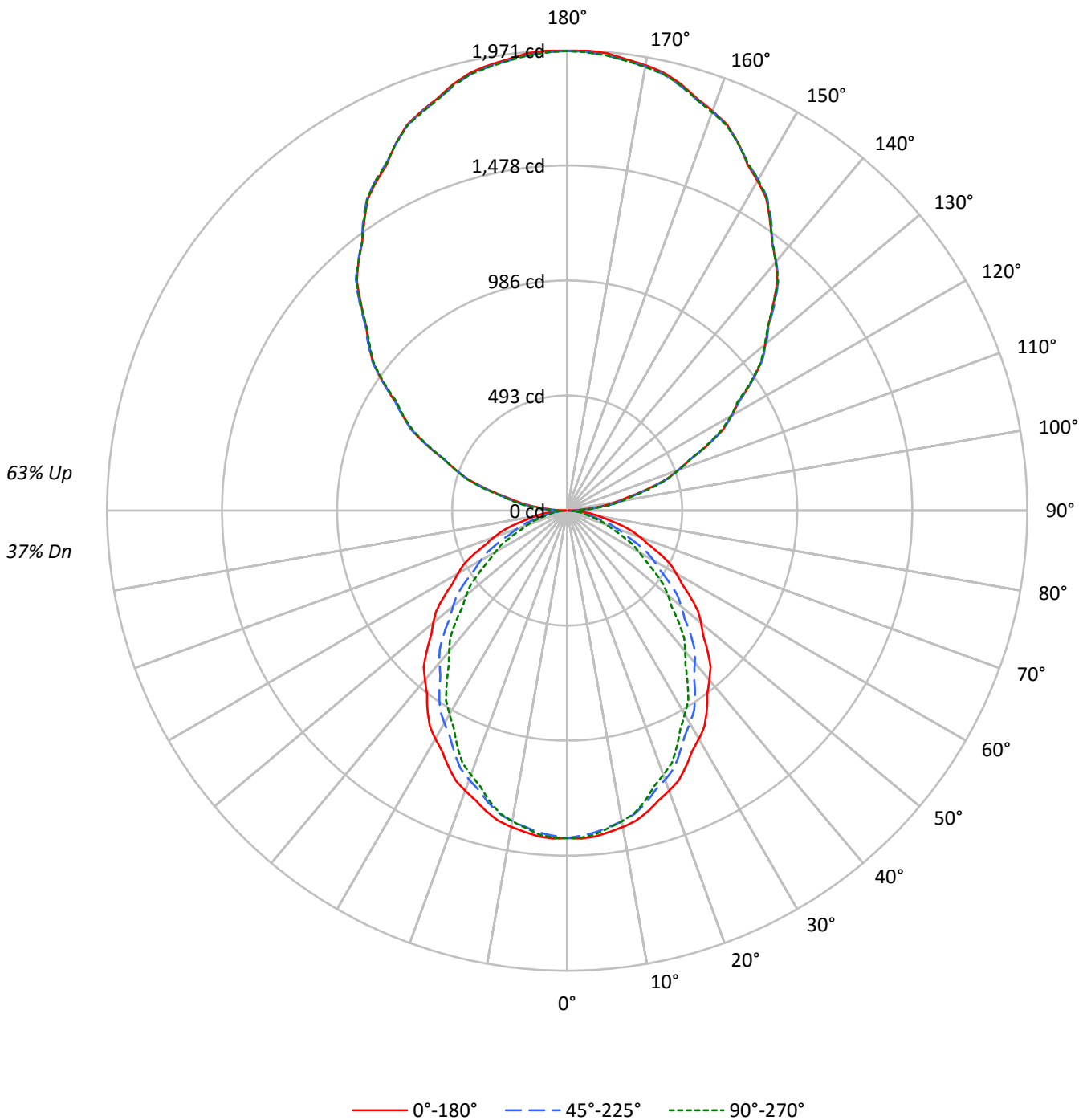
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	94	94	94	94	76	76	76	60	60	60	44	44	44
1	95	91	87	84	86	83	79	77	67	65	63	53	51	50	40	39	38
2	87	80	74	69	78	72	67	63	59	55	52	47	44	42	35	34	32
3	79	70	63	57	72	64	58	53	52	48	44	41	38	36	31	29	28
4	73	62	54	49	66	57	50	45	46	42	38	37	33	31	28	26	24
5	67	55	47	42	60	51	44	39	42	36	33	33	29	27	25	23	21
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13
10	46	34	27	22	41	31	25	21	26	21	18	21	18	15	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11326	11326	11326
5°	11351	11212	11281
10°	11280	11077	11077
15°	11150	10845	10764
20°	10972	10539	10345
25°	10745	10180	9922
30°	10523	9803	9392
35°	10279	9411	8861
40°	9985	8965	8286
45°	9712	8524	7702
50°	9403	8013	7082
55°	9071	7484	6410
60°	8707	6902	5724
65°	8373	6178	5049
70°	7886	5375	4286
75°	7271	4457	3484
80°	6341	3394	3199
85°	5372	3084	2881



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.8	1.5
10°-20°	367.5	4.2
20°-30°	530.6	6.1
30°-40°	601.5	6.9
40°-50°	580.8	6.7
50°-60°	483.0	5.5
60°-70°	333.5	3.8
70°-80°	169.1	1.9
80°-90°	49.2	0.6
90°-100°	129.9	1.5
100°-110°	384.7	4.4
110°-120°	652.9	7.5
120°-130°	861.0	9.9
130°-140°	966.9	11.1
140°-150°	950.1	10.9
150°-160°	799.1	9.2
160°-170°	531.7	6.1
170°-180°	186.2	2.1
0°-30°	1029.9	11.8
0°-40°	1631.4	18.7
0°-60°	2695.2	30.9
0°-90°	3247.1	37.3
90°-120°	1167.5	13.4
90°-150°	3945.5	45.3
90°-180°	5463.0	62.7
0°-180°	8709.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1403	1403	1403	1403	1403	
5°	1401	1396	1384	1394	1392	133
15°	1334	1324	1298	1295	1288	376
25°	1206	1186	1143	1125	1114	556
35°	1043	1008	955	919	899	651
45°	851	810	747	696	675	656
55°	644	600	532	478	455	576
65°	438	391	323	279	264	433
75°	233	193	143	119	112	246
85°	58	38	33	31	31	65
90°	4	21	34	42	46	9
95°	91	105	116	120	120	102
105°	355	357	362	367	372	376
115°	664	664	661	659	658	654
125°	967	967	965	962	959	861
135°	1247	1256	1256	1253	1249	964
145°	1515	1521	1523	1521	1517	948
155°	1736	1736	1734	1740	1734	798
165°	1890	1885	1882	1890	1885	532
175°	1966	1958	1957	1966	1957	187
180°	1969	1969	1969	1969	1969	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1406.3	1405.5	1404.7	1404.0	1403.2	1401.8	1399.7	1397.7	1395.5	1393.4	1395.5
5°	1400.7	1399.8	1398.8	1397.9	1396.8	1395.0	1392.1	1389.3	1386.3	1383.5	1385.9
7.5°	1388.1	1387.0	1386.0	1385.0	1384.0	1381.7	1378.0	1374.2	1370.5	1366.8	1368.3
10°	1376.0	1374.8	1373.6	1372.4	1371.2	1368.5	1364.2	1359.9	1355.6	1351.3	1352.2
12.5°	1360.5	1359.2	1357.8	1356.3	1355.0	1351.8	1346.8	1341.6	1336.6	1331.5	1332.1
15°	1334.1	1332.0	1329.8	1327.7	1325.5	1321.5	1315.5	1309.5	1303.5	1297.6	1297.1
17.5°	1302.1	1299.0	1295.9	1292.8	1289.7	1284.5	1277.4	1270.2	1263.0	1255.9	1254.6
20°	1277.2	1274.0	1271.0	1267.9	1264.8	1259.2	1251.0	1242.9	1234.8	1226.7	1224.8
22.5°	1249.7	1246.2	1242.7	1239.2	1235.8	1229.6	1220.9	1212.2	1203.6	1194.9	1192.0
25°	1206.3	1201.9	1197.7	1193.4	1189.1	1182.0	1172.3	1162.5	1152.7	1142.9	1138.8
27.5°	1160.7	1155.4	1149.9	1144.6	1139.1	1131.3	1120.7	1110.3	1099.8	1089.4	1084.4
30°	1128.9	1123.0	1117.0	1111.1	1105.1	1096.5	1085.3	1074.1	1062.8	1051.6	1045.6
32.5°	1095.4	1088.7	1082.0	1075.2	1068.5	1059.3	1047.7	1036.1	1024.5	1012.9	1006.0
35°	1043.0	1035.4	1027.7	1020.1	1012.5	1002.7	990.8	978.8	966.8	954.9	946.8
37.5°	986.9	979.1	971.2	963.3	955.4	944.9	931.7	918.5	905.2	892.0	882.9
40°	947.5	939.6	931.7	923.8	915.9	905.1	891.5	878.0	864.3	850.7	840.7
42.5°	909.6	901.3	893.1	884.8	876.6	865.4	851.2	837.0	822.8	808.6	798.4
45°	850.7	841.9	833.0	824.3	815.4	803.9	789.5	775.2	760.8	746.6	734.9
47.5°	789.9	780.8	771.7	762.5	753.5	741.4	726.6	711.7	696.8	681.9	669.7
50°	748.7	739.4	730.0	720.7	711.4	699.1	683.9	668.6	653.3	638.0	626.1
52.5°	706.6	697.5	688.3	679.2	670.1	657.7	642.1	626.4	610.8	595.1	583.0
55°	644.5	634.9	625.4	615.8	606.3	593.8	578.2	562.7	547.2	531.7	519.3
57.5°	583.1	573.1	563.2	553.3	543.3	530.7	515.4	500.2	484.9	469.6	457.1
60°	539.3	529.7	520.2	510.6	501.0	488.7	473.3	458.1	442.8	427.5	415.1
62.5°	499.7	489.8	479.9	469.9	460.0	447.2	431.5	415.9	400.2	384.6	373.0
65°	438.3	428.0	417.7	407.5	397.2	384.5	369.1	353.9	338.6	323.4	313.1
67.5°	374.5	364.7	354.8	345.0	335.1	323.2	308.9	294.8	280.5	266.4	257.5
70°	334.1	324.1	314.0	304.0	294.0	282.2	268.5	254.9	241.4	227.7	219.8
72.5°	291.1	282.1	273.0	263.9	254.8	243.9	231.1	218.1	205.3	192.5	185.7
75°	233.1	224.3	215.4	206.6	197.7	187.7	176.5	165.3	154.1	142.9	137.3
77.5°	174.2	166.7	159.3	151.8	144.2	135.9	126.9	117.9	108.8	99.7	96.4
80°	136.4	129.5	122.6	115.6	108.8	101.7	94.5	87.4	80.2	73.0	72.3
82.5°	103.8	97.5	91.1	84.7	78.4	73.1	69.1	64.9	60.8	56.8	56.1
85°	58.0	53.2	48.5	43.7	38.9	36.2	35.4	34.7	34.0	33.3	32.8
87.5°	20.7	19.9	19.1	18.3	17.6	17.4	17.7	18.1	18.4	18.7	19.0
90°	4.5	8.3	12.0	15.8	19.5	22.7	25.3	28.1	30.8	33.5	35.5
92.5°	32.6	36.9	41.1	45.3	49.7	52.7	54.6	56.6	58.4	60.3	61.5
95°	91.4	94.4	97.5	100.5	103.5	106.2	108.7	111.0	113.4	115.7	116.7
97.5°	159.6	162.0	164.4	166.9	169.4	172.0	174.7	177.4	180.3	183.0	184.2
100°	213.2	214.5	215.9	217.2	218.6	220.8	223.9	226.9	229.9	233.0	233.7
102.5°	269.2	269.7	270.3	270.8	271.4	273.1	275.8	278.6	281.3	284.2	285.1
105°	354.8	355.2	355.5	355.8	356.2	357.0	358.3	359.7	361.0	362.4	363.5
107.5°	444.6	445.0	445.5	445.9	446.3	446.6	446.8	447.0	447.2	447.4	448.3
110°	505.5	506.2	506.9	507.6	508.3	508.5	508.1	507.8	507.4	507.1	506.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	568.9	569.1	569.2	569.3	569.5	569.2	568.6	567.9	567.3	566.7	566.6
115°	663.9	663.9	663.9	663.9	663.9	663.6	662.9	662.2	661.6	660.9	660.6
117.5°	753.5	753.7	754.0	754.3	754.6	754.5	754.0	753.5	753.0	752.6	751.3
120°	813.1	814.5	815.9	817.2	818.5	818.7	817.7	816.7	815.7	814.7	812.9
122.5°	875.3	875.8	876.4	876.9	877.4	877.5	877.0	876.5	876.1	875.6	874.4
125°	966.9	966.9	966.9	966.9	966.9	966.7	966.4	966.0	965.7	965.4	964.7
127.5°	1050.1	1051.1	1052.1	1053.1	1054.1	1054.4	1053.8	1053.3	1052.8	1052.2	1051.5
130°	1108.5	1109.5	1110.5	1111.6	1112.6	1113.1	1113.1	1113.1	1113.1	1113.1	1112.5
132.5°	1168.2	1169.0	1169.7	1170.4	1171.2	1171.4	1171.1	1170.9	1170.6	1170.3	1169.7
135°	1247.1	1249.1	1251.1	1253.2	1255.3	1256.3	1256.3	1256.3	1256.3	1256.3	1255.6
137.5°	1333.0	1333.9	1334.8	1335.8	1336.8	1337.6	1338.1	1338.6	1339.2	1339.7	1338.8
140°	1390.3	1390.9	1391.6	1392.3	1392.9	1393.3	1393.3	1393.3	1393.3	1393.3	1392.9
142.5°	1442.6	1443.3	1444.0	1444.6	1445.3	1445.5	1445.2	1445.0	1444.7	1444.4	1444.4
145°	1515.1	1516.4	1517.8	1519.1	1520.6	1521.4	1521.7	1522.1	1522.4	1522.7	1522.4
147.5°	1587.0	1588.6	1590.2	1591.9	1593.5	1594.2	1593.9	1593.6	1593.4	1593.1	1592.8
150°	1630.8	1632.1	1633.6	1634.9	1636.3	1636.9	1636.9	1636.9	1636.9	1636.9	1636.9
152.5°	1672.2	1673.0	1673.9	1674.7	1675.5	1676.1	1676.3	1676.6	1676.9	1677.1	1677.9
155°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.8	1735.4	1735.0	1734.7	1734.3	1735.8
157.5°	1789.5	1788.9	1788.3	1787.7	1787.1	1786.8	1786.7	1786.6	1786.6	1786.5	1787.5
160°	1821.2	1820.8	1820.5	1820.2	1819.8	1819.5	1819.2	1818.8	1818.5	1818.2	1819.2
162.5°	1850.4	1849.6	1848.7	1847.8	1846.8	1846.2	1845.9	1845.6	1845.2	1844.9	1846.7
165°	1889.7	1888.6	1887.6	1886.6	1885.6	1884.8	1884.1	1883.4	1882.8	1882.1	1884.1
167.5°	1919.9	1918.4	1917.0	1915.6	1914.2	1913.5	1913.6	1913.6	1913.7	1913.8	1915.8
170°	1936.9	1935.2	1933.5	1931.8	1930.2	1929.4	1929.8	1930.2	1930.5	1930.8	1932.8
172.5°	1949.0	1947.6	1946.2	1944.8	1943.4	1942.7	1942.8	1942.9	1942.9	1943.0	1945.3
175°	1965.8	1964.1	1962.5	1960.8	1959.0	1958.0	1957.7	1957.3	1957.0	1956.7	1959.0
177.5°	1971.3	1969.9	1968.6	1967.2	1965.9	1965.2	1965.2	1965.2	1965.2	1965.2	1967.1
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1397.7	1399.7	1401.8	1402.8	1402.6	1402.4	1402.2	1402.0
5°	1388.3	1390.7	1393.1	1394.0	1393.5	1393.1	1392.6	1392.1
7.5°	1369.8	1371.4	1372.9	1373.2	1372.5	1371.7	1371.0	1370.2
10°	1353.2	1354.1	1355.1	1355.1	1354.1	1353.2	1352.2	1351.3
12.5°	1332.7	1333.2	1333.8	1333.4	1332.1	1330.8	1329.4	1328.1
15°	1296.7	1296.2	1295.7	1294.6	1292.9	1291.2	1289.6	1287.9
17.5°	1253.2	1251.9	1250.5	1248.6	1246.1	1243.5	1241.0	1238.5
20°	1222.8	1220.9	1219.0	1216.6	1213.5	1210.3	1207.2	1204.2
22.5°	1189.2	1186.3	1183.5	1180.7	1178.2	1175.7	1173.2	1170.6
25°	1134.8	1130.7	1126.7	1123.5	1121.1	1118.7	1116.3	1113.9
27.5°	1079.3	1074.4	1069.3	1065.1	1061.7	1058.2	1054.8	1051.4
30°	1039.7	1033.7	1027.7	1022.8	1019.1	1015.2	1011.4	1007.5
32.5°	999.1	992.2	985.2	980.0	976.3	972.7	969.1	965.4
35°	938.7	930.6	922.5	916.3	912.0	907.7	903.3	899.1
37.5°	873.8	864.7	855.7	849.0	844.8	840.4	836.2	831.8
40°	830.7	820.6	810.6	803.4	799.2	794.9	790.6	786.3
42.5°	788.2	778.0	767.8	760.4	755.9	751.4	747.0	742.5
45°	723.2	711.4	699.7	691.8	687.4	683.2	678.8	674.6
47.5°	657.6	645.5	633.4	624.9	620.3	615.5	610.8	606.0
50°	614.2	602.3	590.3	582.1	577.5	573.0	568.5	563.9
52.5°	570.9	558.8	546.5	538.2	533.4	528.7	524.0	519.3
55°	506.9	494.4	482.1	473.6	469.1	464.5	460.0	455.4
57.5°	444.4	431.8	419.2	411.2	407.8	404.3	400.9	397.5
60°	402.7	390.3	377.9	369.7	366.0	362.1	358.3	354.5
62.5°	361.6	350.2	338.7	331.4	328.4	325.4	322.2	319.2
65°	302.8	292.6	282.3	275.7	272.9	269.9	267.1	264.3
67.5°	248.7	239.9	231.1	225.1	222.0	218.7	215.6	212.5
70°	212.0	204.1	196.2	191.1	188.7	186.3	183.9	181.6
72.5°	179.0	172.3	165.5	161.1	159.0	156.7	154.5	152.3
75°	131.9	126.4	120.9	117.4	116.0	114.6	113.1	111.7
77.5°	93.3	90.1	86.8	85.0	84.6	84.2	83.8	83.3
80°	71.6	70.9	70.2	69.7	69.5	69.2	69.0	68.8
82.5°	55.6	55.1	54.6	54.2	54.0	53.7	53.5	53.3
85°	32.3	31.9	31.4	31.1	31.1	31.1	31.1	31.1
87.5°	19.2	19.4	19.6	19.9	20.2	20.5	20.8	21.2
90°	37.6	39.6	41.6	43.0	43.6	44.3	45.0	45.6
92.5°	62.7	63.9	65.1	65.9	66.3	66.8	67.2	67.6
95°	117.8	118.8	119.8	120.3	120.3	120.3	120.3	120.3
97.5°	185.5	186.7	187.9	188.5	188.5	188.5	188.5	188.5
100°	234.3	235.0	235.7	236.0	236.0	236.0	236.0	236.0
102.5°	286.0	287.0	287.9	288.5	288.8	289.1	289.3	289.6
105°	364.5	365.5	366.5	367.5	368.5	369.5	370.5	371.5
107.5°	449.3	450.2	451.2	451.6	451.5	451.5	451.4	451.3
110°	505.7	505.0	504.3	504.5	505.5	506.5	507.6	508.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	566.4	566.3	566.2	566.2	566.4	566.6	566.8	567.0
115°	660.1	659.8	659.5	659.1	658.8	658.5	658.1	657.8
117.5°	750.2	749.1	747.9	747.0	746.3	745.7	745.0	744.3
120°	811.2	809.6	807.9	807.4	808.1	808.7	809.4	810.1
122.5°	873.2	872.1	871.0	869.8	868.6	867.4	866.2	864.9
125°	964.0	963.4	962.7	962.0	961.3	960.7	960.0	959.3
127.5°	1050.9	1050.2	1049.5	1048.8	1048.3	1047.8	1047.2	1046.7
130°	1111.8	1111.1	1110.3	1109.3	1108.0	1106.7	1105.3	1104.0
132.5°	1169.0	1168.3	1167.6	1167.0	1166.5	1166.0	1165.4	1164.9
135°	1254.9	1254.3	1253.5	1252.6	1251.6	1250.6	1249.6	1248.6
137.5°	1338.0	1337.1	1336.2	1335.8	1336.1	1336.3	1336.5	1336.7
140°	1392.6	1392.3	1391.9	1391.6	1391.3	1390.9	1390.6	1390.3
142.5°	1444.3	1444.2	1444.2	1444.1	1444.0	1444.0	1443.9	1443.8
145°	1522.1	1521.7	1521.4	1520.7	1519.6	1518.6	1517.6	1516.6
147.5°	1592.6	1592.3	1592.0	1591.6	1591.3	1591.0	1590.6	1590.3
150°	1636.9	1636.9	1636.9	1636.8	1636.4	1636.1	1635.8	1635.4
152.5°	1678.7	1679.5	1680.3	1680.3	1679.4	1678.6	1677.7	1676.8
155°	1737.1	1738.4	1739.8	1739.8	1738.4	1737.1	1735.8	1734.3
157.5°	1788.5	1789.5	1790.5	1790.4	1789.3	1788.2	1787.0	1785.8
160°	1820.2	1821.2	1822.2	1821.8	1820.2	1818.5	1816.7	1815.0
162.5°	1848.6	1850.4	1852.2	1852.3	1850.6	1849.0	1847.2	1845.5
165°	1886.1	1888.1	1890.2	1890.6	1889.2	1887.8	1886.4	1885.1
167.5°	1917.8	1919.9	1921.9	1921.9	1919.8	1917.6	1915.5	1913.4
170°	1934.9	1936.9	1938.9	1938.7	1936.4	1934.0	1931.7	1929.2
172.5°	1947.6	1949.8	1952.2	1952.2	1949.7	1947.4	1945.0	1942.7
175°	1961.5	1963.8	1966.2	1966.2	1963.8	1961.5	1959.0	1956.7
177.5°	1969.0	1970.9	1972.8	1972.7	1970.4	1968.3	1966.2	1964.0
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8

(END OF REPORT)