

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: P332448-840

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332448-840
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: S123RDIW-S775D1535U840-4F0-1E-UDD-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9148.0 lumens
Efficiency: N/A
Efficacy: 134.3 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

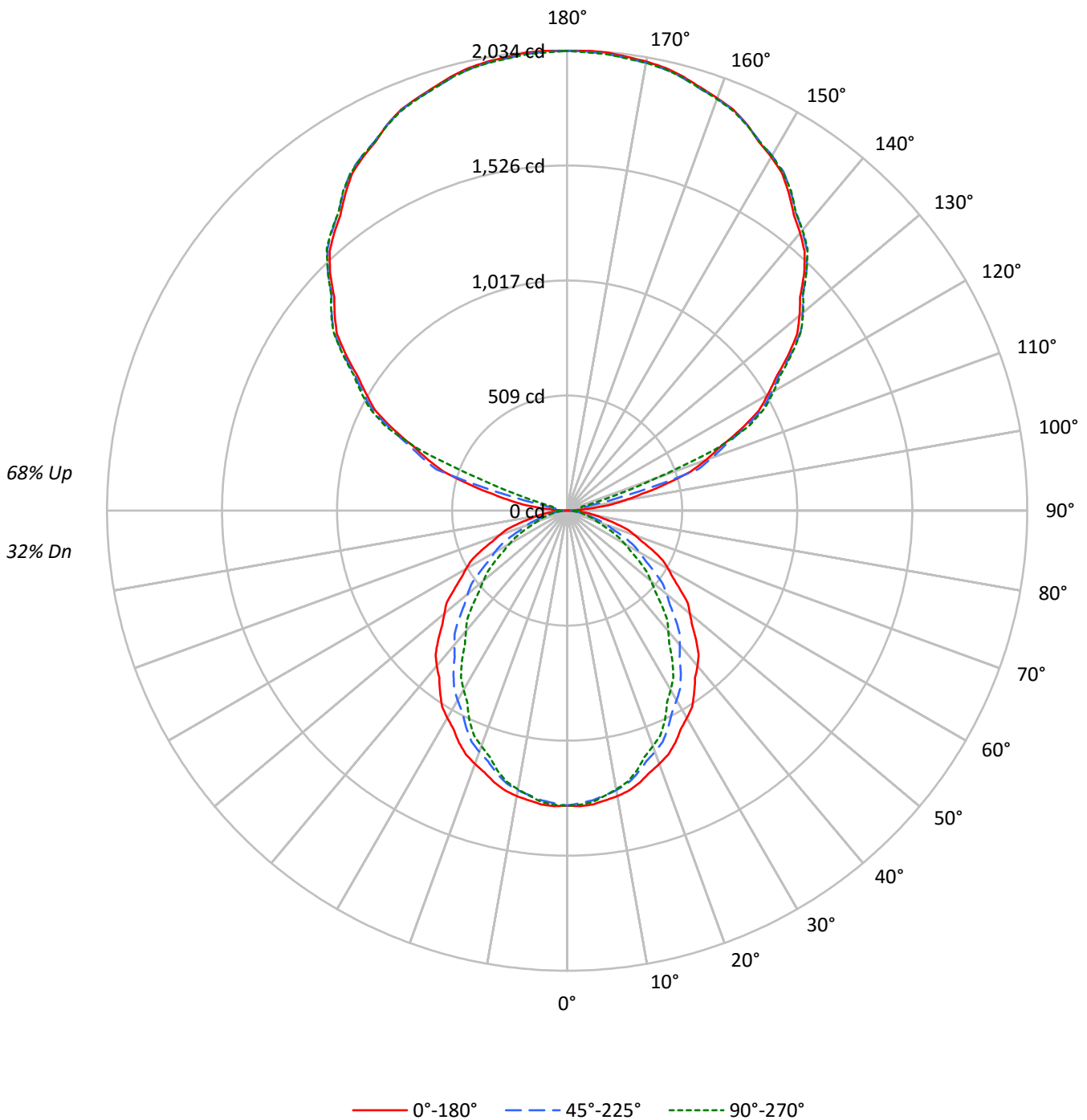
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32
1	94	90	86	83	85	81	78	75	65	62	61	49	48	47	35	35	34	28
2	86	79	73	68	77	71	66	62	57	53	50	44	41	39	31	30	29	23
3	78	69	62	57	70	63	57	52	50	46	43	39	36	34	28	26	25	20
4	72	61	54	48	64	56	49	44	45	40	36	35	31	29	25	23	22	17
5	66	55	47	41	59	50	43	38	40	35	31	31	28	25	23	21	19	15
6	61	49	41	36	54	44	38	33	36	31	27	28	25	22	21	18	17	13
7	56	44	36	31	50	40	33	29	33	28	24	26	22	19	19	17	15	12
8	52	40	33	27	47	36	30	25	30	25	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	16	14	12	10
10	45	33	26	22	41	30	24	20	25	20	17	20	16	14	15	13	11	9

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	1.3
10°-20°	340.6	3.7
20°-30°	490.5	5.4
30°-40°	552.5	6.0
40°-50°	528.6	5.8
50°-60°	432.9	4.7
60°-70°	292.0	3.2
70°-80°	146.9	1.6
80°-90°	44.6	0.5
90°-100°	73.9	0.8
100°-110°	352.1	3.8
110°-120°	845.8	9.2
120°-130°	1077.0	11.8
130°-140°	1150.8	12.6
140°-150°	1076.1	11.8
150°-160°	868.0	9.5
160°-170°	560.2	6.1
170°-180°	193.1	2.1
0°-30°	953.6	10.4
0°-40°	1506.1	16.5
0°-60°	2467.5	27.0
0°-90°	2951.1	32.3
90°-120°	1271.8	13.9
90°-150°	4575.6	50.0
90°-180°	6197.0	67.7
0°-180°	9148.0	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	36	42	45	7
95°	92	35	47	57	57	114
105°	450	458	331	78	66	477
115°	844	853	867	881	888	833
125°	1190	1201	1208	1211	1214	1062
135°	1481	1490	1496	1500	1496	1140
145°	1709	1719	1723	1726	1726	1069
155°	1883	1880	1881	1888	1880	867
165°	1985	1981	1979	1990	1981	561
175°	2032	2025	2026	2035	2025	193
180°	2032	2032	2032	2032	2032	



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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	17.8	16.5	15.0	14.7	15.7	16.5	17.4	18.3	18.3
90°	1.5	4.8	8.2	11.6	14.9	18.8	23.1	27.5	31.9	36.3	37.6
92.5°	28.1	27.2	26.2	25.2	24.3	25.4	28.8	32.1	35.3	38.7	40.8
95°	92.1	78.4	64.6	50.8	37.1	32.0	35.7	39.4	43.1	46.8	49.2
97.5°	185.1	178.9	172.8	166.5	160.4	145.2	121.1	96.9	72.8	48.6	51.3
100°	255.2	261.9	268.5	275.3	282.0	259.1	206.8	154.5	102.2	49.8	52.5
102.5°	334.9	339.7	344.6	349.3	354.2	328.0	270.8	213.7	156.5	99.4	91.0
105°	449.9	453.6	457.3	461.0	464.6	451.4	421.2	391.0	360.8	330.6	271.2
107.5°	571.3	574.2	577.1	580.2	583.1	586.9	591.7	596.5	601.3	606.0	562.5
110°	652.2	654.9	657.5	660.2	663.0	666.1	669.8	673.5	677.2	680.9	669.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	729.5	732.0	734.4	736.8	739.1	742.3	745.9	749.6	753.3	757.0	757.2
115°	843.9	846.0	848.0	850.0	852.0	854.5	857.6	860.5	863.5	866.6	869.9
117.5°	954.7	957.3	959.7	962.2	964.7	966.7	968.3	969.8	971.3	972.9	975.5
120°	1023.6	1026.6	1029.7	1032.7	1035.7	1037.7	1038.6	1039.7	1040.7	1041.7	1044.4
122.5°	1093.7	1096.1	1098.6	1101.1	1103.6	1105.5	1106.7	1108.0	1109.2	1110.5	1112.5
125°	1189.6	1192.3	1195.1	1197.7	1200.4	1202.4	1203.8	1205.1	1206.5	1207.8	1208.5
127.5°	1282.6	1285.4	1288.1	1290.7	1293.4	1295.6	1297.2	1298.8	1300.4	1302.0	1303.0
130°	1340.6	1343.3	1346.0	1348.7	1351.4	1353.4	1354.7	1356.0	1357.5	1358.8	1360.1
132.5°	1396.2	1398.9	1401.6	1404.2	1406.9	1408.9	1409.9	1411.0	1412.0	1413.1	1414.4
135°	1481.1	1483.1	1485.1	1487.1	1489.1	1490.8	1492.1	1493.5	1494.8	1496.1	1497.1
137.5°	1553.5	1556.1	1558.6	1561.2	1563.7	1565.4	1566.1	1566.8	1567.6	1568.3	1569.9
140°	1601.8	1603.9	1605.9	1607.9	1609.9	1611.3	1612.4	1613.4	1614.4	1615.4	1616.8
142.5°	1646.5	1648.5	1650.5	1652.5	1654.6	1656.1	1657.1	1658.1	1659.1	1660.1	1661.1
145°	1709.0	1711.3	1713.7	1716.1	1718.4	1719.9	1720.6	1721.2	1721.9	1722.6	1723.2
147.5°	1767.9	1769.5	1771.0	1772.5	1774.0	1775.1	1775.8	1776.6	1777.2	1777.9	1778.6
150°	1804.1	1805.1	1806.1	1807.2	1808.2	1809.0	1809.7	1810.4	1811.0	1811.7	1812.3
152.5°	1836.7	1837.2	1837.7	1838.2	1838.7	1839.1	1839.5	1839.9	1840.3	1840.7	1841.9
155°	1882.6	1882.0	1881.3	1880.7	1880.0	1879.8	1880.2	1880.5	1880.8	1881.1	1882.8
157.5°	1918.2	1918.2	1918.1	1918.0	1918.0	1917.8	1917.4	1917.1	1916.8	1916.4	1918.4
160°	1940.1	1939.6	1939.3	1939.0	1938.6	1938.3	1938.0	1937.6	1937.3	1937.0	1939.0
162.5°	1960.6	1959.6	1958.8	1957.9	1957.0	1956.4	1956.1	1955.8	1955.4	1955.1	1957.4
165°	1985.3	1984.3	1983.3	1982.3	1981.3	1980.6	1980.2	1979.9	1979.6	1979.2	1982.0
167.5°	2004.6	2003.3	2002.0	2000.6	1999.2	1998.6	1998.6	1998.6	1998.6	1998.6	2001.2
170°	2015.5	2014.2	2012.8	2011.4	2010.1	2009.4	2009.4	2009.4	2009.4	2009.4	2012.2
172.5°	2022.8	2021.1	2019.5	2017.9	2016.3	2015.6	2015.9	2016.2	2016.4	2016.7	2019.4
175°	2032.1	2030.4	2028.7	2027.1	2025.4	2024.7	2025.1	2025.4	2025.7	2026.1	2028.4
177.5°	2034.5	2033.2	2031.8	2030.5	2029.1	2028.6	2028.9	2029.1	2029.4	2029.7	2031.8
180°	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1



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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°	18.4	18.5	18.6	18.6	18.5	18.5	18.4	18.4
90°	38.9	40.3	41.6	42.6	43.3	43.9	44.6	45.2
92.5°	42.9	45.1	47.3	48.5	48.9	49.3	49.7	50.1
95°	51.5	53.8	56.1	57.4	57.4	57.4	57.4	57.4
97.5°	54.0	56.7	59.4	60.9	61.2	61.5	61.9	62.2
100°	55.1	57.9	60.6	62.1	62.4	62.7	63.1	63.4
102.5°	82.7	74.4	66.0	62.2	62.8	63.4	64.0	64.6
105°	211.9	152.5	93.1	63.7	64.4	65.1	65.7	66.4
107.5°	518.9	475.3	431.8	387.7	343.0	298.1	253.4	208.6
110°	658.7	647.6	636.6	607.0	559.1	511.1	463.1	415.2



TEST NUMBER: P332448-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	757.4	757.6	757.8	752.9	742.7	732.6	722.5	712.3
115°	873.3	876.7	880.0	882.3	883.7	885.0	886.4	887.8
117.5°	978.3	980.9	983.6	985.1	985.3	985.6	985.9	986.1
120°	1047.1	1049.8	1052.5	1053.8	1053.8	1053.8	1053.8	1053.8
122.5°	1114.3	1116.2	1118.1	1119.1	1119.4	1119.6	1119.9	1120.2
125°	1209.1	1209.8	1210.4	1211.1	1211.8	1212.4	1213.2	1213.9
127.5°	1304.1	1305.3	1306.3	1306.5	1305.9	1305.1	1304.4	1303.8
130°	1361.4	1362.8	1364.1	1364.4	1363.8	1363.1	1362.4	1361.8
132.5°	1415.8	1417.1	1418.5	1418.7	1417.7	1416.8	1415.8	1414.9
135°	1498.1	1499.1	1500.2	1500.2	1499.1	1498.1	1497.1	1496.1
137.5°	1571.6	1573.2	1574.8	1575.2	1574.6	1573.9	1573.2	1572.6
140°	1618.1	1619.4	1620.7	1621.1	1620.4	1619.8	1619.1	1618.4
142.5°	1662.2	1663.3	1664.4	1664.5	1663.6	1662.5	1661.6	1660.7
145°	1723.9	1724.6	1725.3	1725.7	1725.7	1725.7	1725.7	1725.7
147.5°	1779.2	1779.9	1780.6	1780.1	1778.6	1777.1	1775.4	1773.9
150°	1813.0	1813.7	1814.3	1814.2	1813.2	1812.2	1811.2	1810.2
152.5°	1843.1	1844.3	1845.5	1845.3	1843.8	1842.2	1840.7	1839.2
155°	1884.5	1886.1	1887.8	1887.6	1885.6	1883.6	1881.6	1879.7
157.5°	1920.5	1922.5	1924.5	1924.2	1921.6	1918.9	1916.3	1913.7
160°	1941.1	1943.0	1945.0	1944.9	1942.5	1940.2	1937.8	1935.5
162.5°	1959.6	1962.0	1964.2	1964.3	1962.3	1960.1	1958.1	1956.0
165°	1984.6	1987.3	1990.0	1990.1	1987.8	1985.5	1983.1	1980.7
167.5°	2004.0	2006.6	2009.3	2009.3	2006.6	2004.0	2001.2	1998.6
170°	2014.8	2017.5	2020.2	2020.2	2017.5	2014.8	2012.2	2009.4
172.5°	2022.1	2024.8	2027.4	2027.3	2024.4	2021.4	2018.4	2015.5
175°	2030.7	2033.1	2035.5	2035.3	2032.6	2029.9	2027.2	2024.6
177.5°	2034.0	2036.1	2038.3	2038.0	2035.3	2032.7	2029.9	2027.3
180°	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1	2032.1

(END OF REPORT)