

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: P332946-840

Luminaire Tested: **SA4XXRDIP-C795D1035U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332946-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C795D1035U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

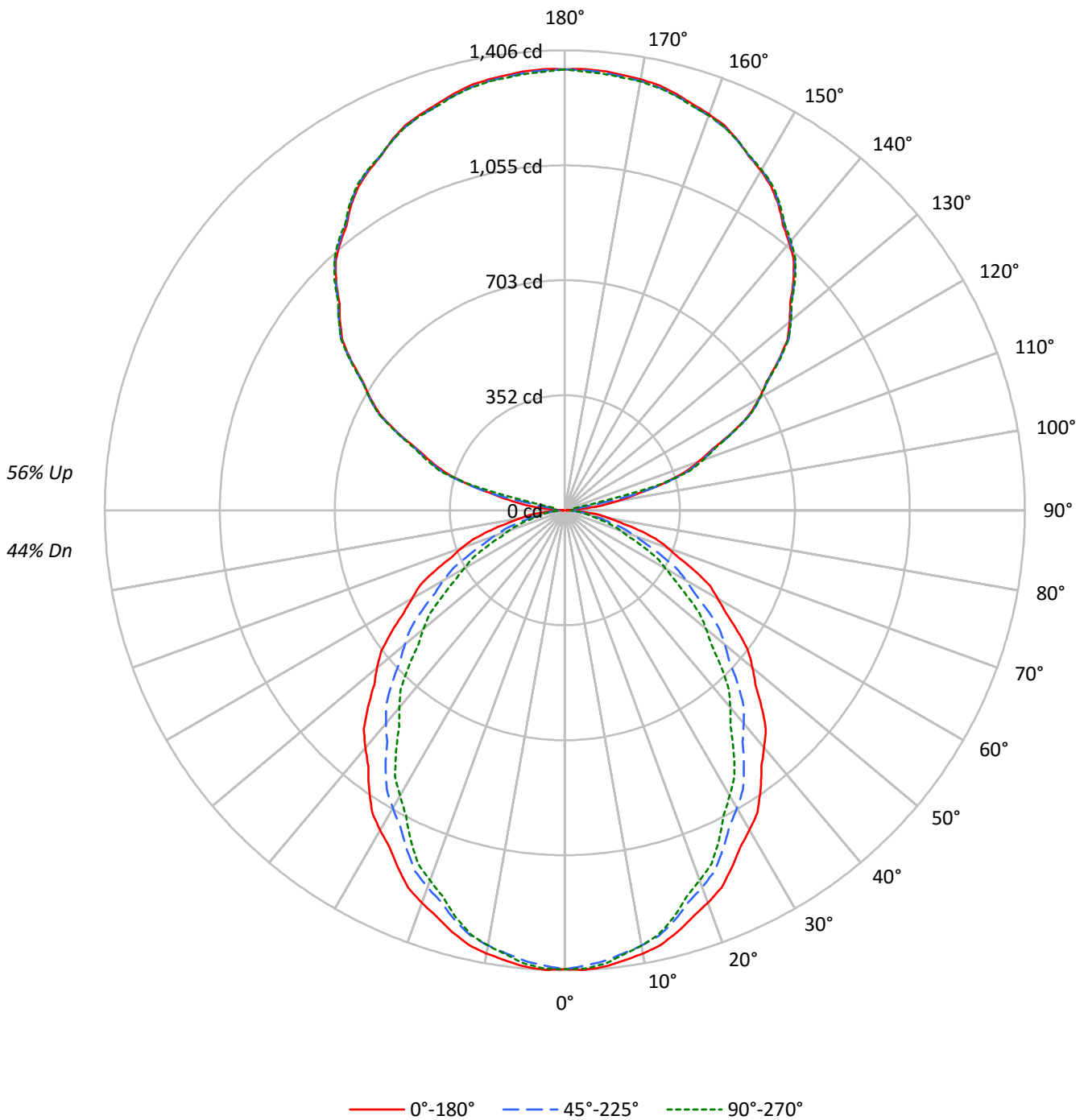
Lumens per Lamp: N/A
Luminaire Lumens: 7414.4 lumens
Efficiency: N/A
Efficacy: 142.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 52
Input Voltage (V): 120
Input Current (Ain): 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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44				
1	97	92	89	85	88	85	82	79	70	68	66	57	56	54	45	44	43	37				
2	88	81	75	70	80	74	69	65	62	58	55	50	48	46	40	38	37	32				
3	81	71	64	59	73	66	59	54	55	50	46	45	41	39	35	33	31	27				
4	74	63	56	50	67	58	51	46	49	44	40	40	36	33	32	29	27	23				
5	68	56	48	43	62	52	45	40	44	38	34	36	32	29	29	26	24	20				
6	62	51	43	37	57	47	40	35	39	34	30	33	29	25	26	23	21	18				
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16				
8	54	41	34	29	49	38	32	27	33	27	24	27	23	20	22	19	17	14				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	22	19	23	19	16	19	16	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	1.8
10°-20°	367.5	5.0
20°-30°	530.6	7.2
30°-40°	601.5	8.1
40°-50°	580.8	7.8
50°-60°	483.0	6.5
60°-70°	333.5	4.5
70°-80°	169.1	2.3
80°-90°	47.3	0.6
90°-100°	46.1	0.6
100°-110°	293.9	4.0
110°-120°	562.3	7.6
120°-130°	713.8	9.6
130°-140°	763.7	10.3
140°-150°	714.1	9.6
150°-160°	575.9	7.8
160°-170°	371.4	5.0
170°-180°	128.0	1.7
0°-30°	1029.9	13.9
0°-40°	1631.4	22.0
0°-60°	2695.2	36.4
0°-90°	3245.1	43.8
90°-120°	902.3	12.2
90°-150°	3094.0	41.7
90°-180°	4169.0	56.2
0°-180°	7414.4	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°	3	14	22	28	30	5
95°	55	23	22	28	29	71
105°	304	309	315	321	287	317
115°	566	569	569	570	571	557
125°	796	800	798	801	802	711
135°	988	987	991	993	995	761
145°	1139	1142	1142	1143	1145	712
155°	1249	1250	1247	1251	1248	576
165°	1318	1313	1312	1320	1312	372
175°	1348	1342	1343	1351	1340	128
180°	1348	1348	1348	1348	1348	



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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°	20.4	19.3	18.3	17.3	16.3	15.8	16.0	16.2	16.3	16.5	16.6
90°	3.0	5.5	8.0	10.4	12.9	15.0	16.8	18.6	20.4	22.2	23.5
92.5°	12.7	12.8	12.9	13.1	13.2	14.2	16.0	17.8	19.6	21.4	22.7
95°	55.4	47.9	40.2	32.6	24.9	21.3	21.5	21.7	21.9	22.2	23.5
97.5°	117.8	122.5	127.2	132.0	136.7	126.6	101.6	76.6	51.6	26.7	26.8
100°	165.3	169.4	173.4	177.4	181.5	168.0	137.1	106.2	75.2	44.3	40.6
102.5°	218.5	221.6	224.5	227.4	230.4	229.8	225.8	221.8	217.7	213.7	172.6
105°	303.5	304.8	306.1	307.5	308.8	310.0	311.1	312.3	313.5	314.6	316.6
107.5°	382.2	382.9	383.6	384.3	385.0	386.1	387.6	389.1	390.6	392.1	393.1
110°	435.6	436.2	436.9	437.5	438.2	439.2	440.5	441.9	443.2	444.5	445.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	487.2	488.4	489.6	490.8	492.0	492.9	493.5	494.1	494.7	495.3	495.3
115°	566.5	567.2	567.9	568.6	569.3	569.5	569.3	569.1	568.8	568.6	569.1
117.5°	638.1	639.0	640.0	640.9	641.8	642.4	642.9	643.4	643.9	644.4	644.3
120°	686.5	687.4	688.3	689.2	690.1	690.4	690.2	690.0	689.7	689.5	690.0
122.5°	731.6	732.3	732.8	733.3	733.9	734.3	734.6	734.9	735.2	735.5	735.8
125°	796.4	797.3	798.2	799.1	800.0	800.2	799.8	799.3	798.9	798.4	799.1
127.5°	857.7	857.9	858.2	858.4	858.6	859.2	860.3	861.3	862.3	863.3	863.2
130°	897.3	897.5	897.7	897.9	898.1	898.6	899.3	899.9	900.6	901.3	901.5
132.5°	933.5	933.9	934.3	934.7	935.1	935.7	936.6	937.5	938.3	939.2	939.4
135°	988.0	987.7	987.5	987.2	987.0	987.3	988.3	989.2	990.1	991.0	991.4
137.5°	1036.1	1036.2	1036.3	1036.4	1036.5	1037.0	1038.0	1039.1	1040.0	1041.0	1041.5
140°	1067.6	1068.0	1068.5	1068.9	1069.3	1069.9	1070.3	1070.8	1071.2	1071.7	1072.3
142.5°	1095.8	1096.6	1097.4	1098.2	1099.0	1099.5	1099.8	1100.1	1100.3	1100.7	1101.2
145°	1139.1	1139.8	1140.5	1141.1	1141.9	1142.2	1142.2	1142.2	1142.2	1142.2	1142.5
147.5°	1173.7	1174.9	1176.2	1177.4	1178.7	1179.2	1178.9	1178.7	1178.5	1178.3	1178.5
150°	1198.6	1199.5	1200.4	1201.3	1202.2	1202.5	1202.3	1202.1	1201.9	1201.6	1201.6
152.5°	1219.6	1220.3	1221.0	1221.7	1222.4	1222.6	1222.2	1221.8	1221.4	1221.0	1221.4
155°	1249.1	1249.3	1249.5	1249.7	1249.9	1249.7	1249.1	1248.4	1247.7	1247.1	1247.9
157.5°	1273.8	1273.7	1273.5	1273.4	1273.3	1272.8	1272.1	1271.3	1270.6	1269.8	1271.0
160°	1288.4	1287.7	1287.1	1286.4	1285.7	1285.3	1285.1	1284.8	1284.5	1284.3	1285.7
162.5°	1301.3	1300.4	1299.6	1298.7	1297.9	1297.4	1297.1	1296.9	1296.7	1296.5	1297.8
165°	1317.6	1316.5	1315.3	1314.2	1313.1	1312.5	1312.5	1312.5	1312.5	1312.5	1314.3
167.5°	1330.5	1329.4	1328.2	1327.1	1325.9	1325.2	1325.0	1324.9	1324.8	1324.6	1326.7
170°	1337.8	1336.5	1335.0	1333.7	1332.4	1331.8	1332.0	1332.3	1332.5	1332.7	1334.5
172.5°	1342.6	1341.3	1339.9	1338.6	1337.3	1336.7	1336.9	1337.2	1337.4	1337.6	1339.4
175°	1347.9	1346.6	1345.1	1343.8	1342.5	1341.9	1342.1	1342.4	1342.6	1342.8	1344.8
177.5°	1350.3	1349.0	1347.8	1346.6	1345.2	1344.8	1345.1	1345.5	1345.8	1346.3	1347.7
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9



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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°	16.7	16.7	16.8	17.0	17.3	17.5	17.8	18.1
90°	24.8	26.3	27.6	28.5	28.9	29.4	29.8	30.2
92.5°	24.0	25.4	26.8	27.5	27.6	27.7	27.8	27.9
95°	24.8	26.3	27.6	28.4	28.6	28.8	29.0	29.2
97.5°	26.9	27.1	27.2	27.4	27.6	27.8	28.0	28.3
100°	36.8	32.9	29.1	27.4	27.6	27.8	28.0	28.3
102.5°	131.6	90.5	49.4	28.9	28.9	29.0	29.0	29.1
105°	318.6	320.5	322.6	319.6	311.5	303.5	295.4	287.3
107.5°	394.2	395.2	396.1	397.0	397.9	398.7	399.6	400.4
110°	445.5	446.0	446.4	447.0	447.6	448.3	449.0	449.6



TEST NUMBER: P332946-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	495.2	495.1	495.0	495.4	496.2	497.2	498.0	498.8
115°	569.5	570.0	570.4	570.6	570.6	570.6	570.6	570.6
117.5°	644.2	644.1	644.0	644.0	643.9	643.8	643.7	643.6
120°	690.4	690.8	691.4	691.4	690.8	690.4	690.0	689.5
122.5°	736.1	736.3	736.6	736.5	736.1	735.6	735.2	734.7
125°	799.8	800.4	801.1	801.5	801.8	802.0	802.2	802.4
127.5°	863.1	862.9	862.8	862.6	862.5	862.3	862.1	861.9
130°	901.7	901.9	902.1	902.3	902.3	902.3	902.3	902.3
132.5°	939.6	939.9	940.1	940.1	939.9	939.7	939.6	939.4
135°	991.9	992.3	992.8	993.2	993.7	994.1	994.5	995.0
137.5°	1042.0	1042.5	1043.0	1043.1	1043.0	1042.9	1042.7	1042.6
140°	1073.0	1073.7	1074.3	1074.8	1075.0	1075.2	1075.4	1075.7
142.5°	1101.7	1102.2	1102.7	1102.9	1103.0	1103.0	1103.1	1103.1
145°	1142.7	1142.9	1143.1	1143.5	1143.9	1144.3	1144.8	1145.2
147.5°	1178.6	1178.8	1179.0	1179.2	1179.4	1179.6	1179.9	1180.1
150°	1201.6	1201.6	1201.6	1201.7	1202.0	1202.2	1202.4	1202.6
152.5°	1221.7	1222.1	1222.4	1222.5	1222.4	1222.3	1222.1	1222.0
155°	1248.8	1249.7	1250.6	1250.7	1250.1	1249.4	1248.7	1248.1
157.5°	1272.1	1273.3	1274.4	1274.4	1273.3	1272.1	1271.0	1269.8
160°	1287.1	1288.4	1289.7	1289.7	1288.4	1287.1	1285.7	1284.3
162.5°	1299.1	1300.5	1301.8	1301.7	1300.2	1298.7	1297.2	1295.7
165°	1316.2	1318.0	1319.7	1319.6	1317.6	1315.6	1313.5	1311.5
167.5°	1328.6	1330.6	1332.5	1332.4	1330.2	1328.0	1325.6	1323.4
170°	1336.4	1338.1	1339.9	1339.7	1337.5	1335.2	1332.9	1330.7
172.5°	1341.2	1342.9	1344.7	1344.4	1342.0	1339.6	1337.2	1334.7
175°	1346.9	1348.9	1350.9	1350.5	1347.9	1345.1	1342.5	1339.8
177.5°	1349.1	1350.5	1352.0	1351.6	1349.5	1347.4	1345.1	1343.0
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9

(END OF REPORT)