

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: P332935

Luminaire Tested: **S124RDIP-S795D590U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332935
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: S124RDIP-S795D590U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5257.8 lumens
Efficiency: N/A
Efficacy: 130.5 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-Direct

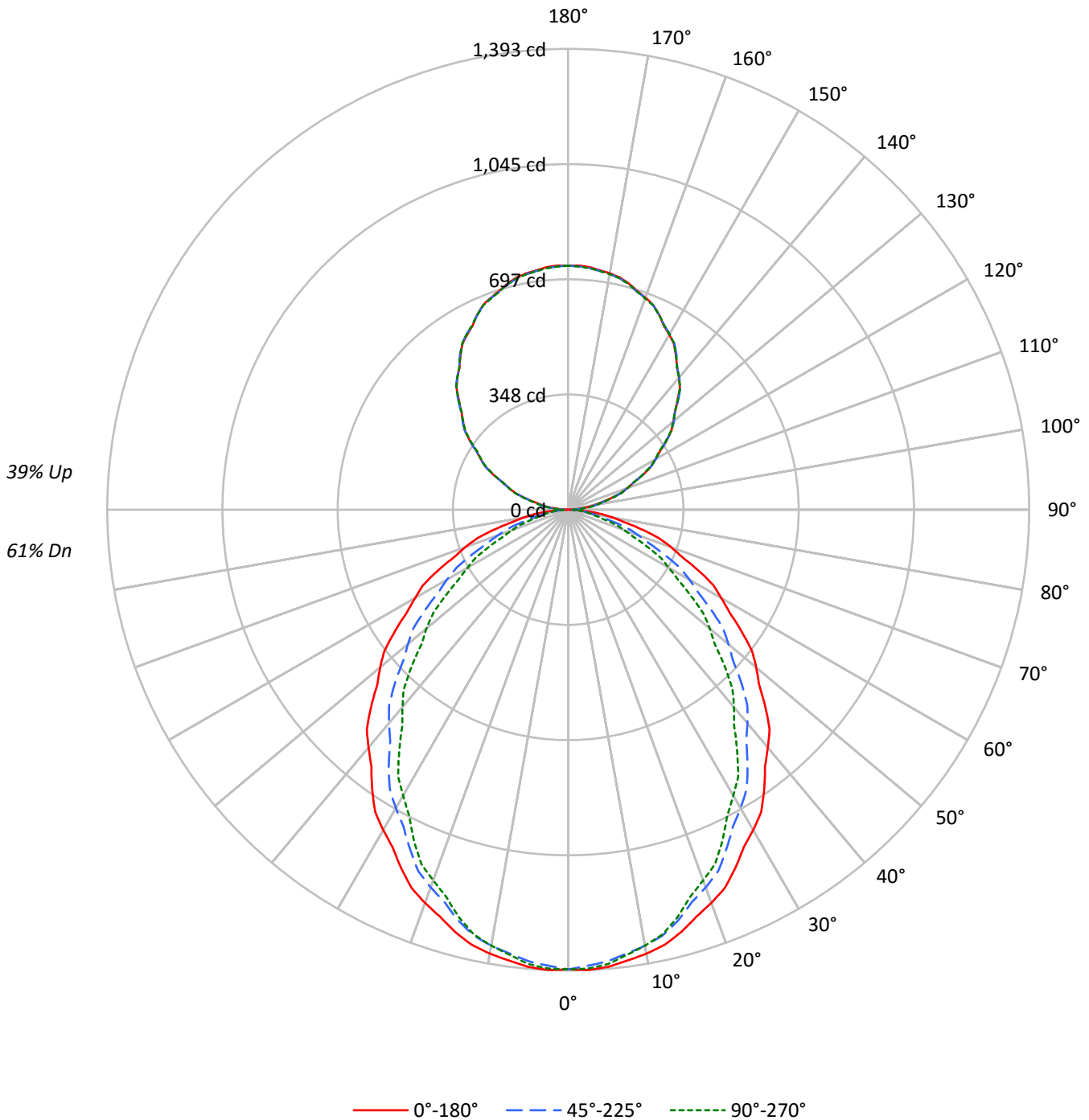
Input Watts (W): 40.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	101	96	93	89	94	90	87	84	79	77	74	69	67	65	59	58	57	52
2	92	85	78	73	86	79	74	69	70	66	62	61	58	55	52	50	48	44
3	84	75	67	61	78	70	64	58	62	57	53	54	50	47	47	44	41	38
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	39	36	33
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31	29
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	35	31	28	25
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	32	28	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	28	24	30	26	22	27	23	20	18
10	49	37	30	25	46	35	28	24	32	26	22	28	24	20	25	21	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11215	11215	11215
5°	11240	11102	11171
10°	11170	10969	10969
15°	11041	10739	10659
20°	10865	10436	10244
25°	10640	10081	9825
30°	10421	9707	9300
35°	10178	9319	8774
40°	9887	8878	8205
45°	9618	8440	7626
50°	9311	7935	7013
55°	8983	7410	6348
60°	8622	6835	5667
65°	8290	6117	4999
70°	7808	5323	4244
75°	7199	4414	3450
80°	6281	3361	3166
85°	5317	3057	2853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.5	2.5
10°-20°	363.9	6.9
20°-30°	525.5	10.0
30°-40°	595.6	11.3
40°-50°	575.2	10.9
50°-60°	478.3	9.1
60°-70°	330.3	6.3
70°-80°	167.4	3.2
80°-90°	45.2	0.9
90°-100°	48.6	0.9
100°-110°	144.1	2.7
110°-120°	244.6	4.7
120°-130°	322.5	6.1
130°-140°	362.2	6.9
140°-150°	355.9	6.8
150°-160°	299.3	5.7
160°-170°	199.1	3.8
170°-180°	69.7	1.3
0°-30°	1019.8	19.4
0°-40°	1615.5	30.7
0°-60°	2668.9	50.8
0°-90°	3211.7	61.1
90°-120°	437.3	8.3
90°-150°	1477.8	28.1
90°-180°	2046.0	38.9
0°-180°	5257.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1389	1389	1389	1389	1389	
5°	1387	1382	1370	1380	1378	132
15°	1321	1311	1285	1282	1275	372
25°	1194	1174	1132	1114	1103	550
35°	1033	998	946	910	890	645
45°	842	802	739	689	668	649
55°	638	594	526	473	451	571
65°	434	387	320	276	262	428
75°	231	191	142	118	111	244
85°	57	37	33	31	31	65
90°	2	8	12	16	17	5
95°	34	39	43	45	45	38
105°	133	134	136	137	139	141
115°	249	249	248	247	246	245
125°	362	362	362	360	359	323
135°	467	470	470	469	468	361
145°	568	570	570	570	568	355
155°	650	650	650	652	650	299
165°	708	706	705	708	706	199
175°	736	734	733	736	733	70
180°	738	738	738	738	738	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1392.6	1391.8	1391.0	1390.3	1389.5	1388.1	1386.0	1384.0	1381.9	1379.8	1381.9
5°	1387.0	1386.1	1385.1	1384.2	1383.2	1381.4	1378.5	1375.7	1372.8	1370.0	1372.4
7.5°	1374.5	1373.5	1372.5	1371.5	1370.5	1368.2	1364.5	1360.8	1357.1	1353.4	1354.9
10°	1362.6	1361.4	1360.2	1359.0	1357.8	1355.1	1350.9	1346.6	1342.4	1338.1	1339.0
12.5°	1347.2	1345.9	1344.5	1343.1	1341.8	1338.6	1333.6	1328.5	1323.5	1318.5	1319.1
15°	1321.1	1319.0	1316.8	1314.7	1312.6	1308.6	1302.6	1296.7	1290.8	1284.9	1284.4
17.5°	1289.4	1286.3	1283.2	1280.2	1277.1	1272.0	1264.9	1257.8	1250.7	1243.6	1242.3
20°	1264.7	1261.6	1258.6	1255.5	1252.4	1246.9	1238.8	1230.8	1222.7	1214.7	1212.8
22.5°	1237.5	1234.0	1230.6	1227.1	1223.7	1217.6	1209.0	1200.4	1191.8	1183.2	1180.4
25°	1194.5	1190.2	1186.0	1181.7	1177.5	1170.5	1160.8	1151.1	1141.4	1131.7	1127.7
27.5°	1149.4	1144.1	1138.7	1133.4	1128.0	1120.2	1109.8	1099.5	1089.1	1078.8	1073.8
30°	1117.9	1112.0	1106.1	1100.2	1094.3	1085.8	1074.7	1063.6	1052.4	1041.3	1035.4
32.5°	1084.7	1078.1	1071.4	1064.7	1058.1	1049.0	1037.5	1026.0	1014.5	1003.0	996.2
35°	1032.8	1025.3	1017.7	1010.1	1002.6	992.9	981.1	969.2	957.4	945.6	937.6
37.5°	977.3	969.5	961.7	953.9	946.1	935.7	922.6	909.5	896.4	883.3	874.3
40°	938.2	930.4	922.6	914.8	907.0	896.3	882.8	869.4	855.9	842.4	832.5
42.5°	900.7	892.5	884.4	876.2	868.0	856.9	842.9	828.8	814.8	800.7	790.6
45°	842.4	833.7	824.9	816.2	807.4	796.0	781.8	767.6	753.4	739.3	727.7
47.5°	782.2	773.2	764.2	755.1	746.1	734.2	719.5	704.7	690.0	675.2	663.2
50°	741.4	732.2	722.9	713.7	704.5	692.3	677.2	662.1	646.9	631.8	620.0
52.5°	699.7	690.7	681.6	672.6	663.6	651.3	635.8	620.3	604.8	589.3	577.3
55°	638.2	628.7	619.3	609.8	600.4	588.0	572.6	557.2	541.9	526.5	514.2
57.5°	577.4	567.5	557.7	547.9	538.0	525.5	510.4	495.3	480.2	465.0	452.6
60°	534.0	524.5	515.1	505.6	496.1	483.9	468.7	453.6	438.5	423.3	411.0
62.5°	494.8	485.0	475.2	465.3	455.5	442.8	427.3	411.8	396.3	380.8	369.4
65°	434.0	423.8	413.6	403.5	393.3	380.7	365.5	350.4	335.3	320.2	310.0
67.5°	370.8	361.1	351.3	341.6	331.8	320.0	305.9	291.9	277.8	263.8	255.0
70°	330.8	320.9	310.9	301.0	291.1	279.4	265.9	252.4	239.0	225.5	217.7
72.5°	288.3	279.3	270.3	261.3	252.3	241.5	228.8	216.0	203.3	190.6	183.9
75°	230.8	222.1	213.3	204.6	195.8	185.9	174.8	163.7	152.6	141.5	136.0
77.5°	172.5	165.1	157.7	150.3	142.8	134.6	125.7	116.7	107.7	98.7	95.5
80°	135.1	128.2	121.4	114.5	107.7	100.7	93.6	86.5	79.4	72.3	71.6
82.5°	102.8	96.5	90.2	83.9	77.6	72.4	68.4	64.3	60.2	56.2	55.6
85°	57.4	52.7	48.0	43.3	38.5	35.8	35.1	34.4	33.7	33.0	32.5
87.5°	19.9	18.7	17.4	16.2	15.0	14.4	14.4	14.4	14.4	14.4	14.4
90°	1.7	3.1	4.5	5.9	7.3	8.5	9.5	10.5	11.5	12.5	13.3
92.5°	12.2	13.8	15.4	17.0	18.6	19.7	20.5	21.2	21.9	22.6	23.0
95°	34.2	35.4	36.5	37.6	38.8	39.8	40.7	41.6	42.5	43.3	43.7
97.5°	59.8	60.7	61.6	62.5	63.4	64.4	65.4	66.5	67.5	68.6	69.0
100°	79.8	80.4	80.9	81.4	81.9	82.7	83.8	85.0	86.1	87.3	87.5
102.5°	100.8	101.0	101.2	101.4	101.6	102.3	103.3	104.3	105.4	106.4	106.8
105°	132.9	133.0	133.1	133.3	133.4	133.7	134.2	134.7	135.2	135.7	136.1
107.5°	166.5	166.7	166.8	167.0	167.2	167.3	167.3	167.4	167.5	167.6	167.9
110°	189.4	189.6	189.9	190.1	190.4	190.4	190.3	190.2	190.1	189.9	189.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.1	213.1	213.2	213.2	213.3	213.2	213.0	212.7	212.5	212.3	212.2
115°	248.7	248.7	248.7	248.7	248.7	248.5	248.3	248.0	247.8	247.5	247.4
117.5°	282.2	282.3	282.4	282.5	282.6	282.6	282.4	282.2	282.0	281.9	281.4
120°	304.6	305.1	305.6	306.1	306.6	306.7	306.3	305.9	305.5	305.1	304.5
122.5°	327.8	328.0	328.2	328.4	328.6	328.7	328.5	328.3	328.1	328.0	327.5
125°	362.2	362.2	362.2	362.2	362.2	362.1	362.0	361.9	361.7	361.6	361.3
127.5°	393.3	393.7	394.1	394.5	394.8	394.9	394.7	394.5	394.3	394.1	393.9
130°	415.2	415.6	416.0	416.4	416.7	416.9	416.9	416.9	416.9	416.9	416.7
132.5°	437.6	437.9	438.1	438.4	438.7	438.8	438.7	438.6	438.5	438.4	438.1
135°	467.1	467.9	468.6	469.4	470.2	470.5	470.5	470.5	470.5	470.5	470.3
137.5°	499.3	499.6	500.0	500.3	500.7	501.0	501.2	501.4	501.6	501.8	501.5
140°	520.7	521.0	521.2	521.5	521.7	521.9	521.9	521.9	521.9	521.9	521.7
142.5°	540.3	540.6	540.9	541.1	541.4	541.4	541.3	541.2	541.1	541.0	541.0
145°	567.5	568.0	568.5	569.0	569.5	569.8	570.0	570.1	570.2	570.3	570.2
147.5°	594.4	595.0	595.6	596.2	596.9	597.1	597.0	596.9	596.8	596.7	596.6
150°	610.8	611.4	611.9	612.4	612.9	613.1	613.1	613.1	613.1	613.1	613.1
152.5°	626.4	626.7	627.0	627.3	627.6	627.8	627.9	628.0	628.1	628.2	628.5
155°	650.2	650.2	650.2	650.2	650.2	650.1	650.0	649.9	649.8	649.6	650.1
157.5°	670.3	670.0	669.8	669.6	669.4	669.2	669.2	669.2	669.2	669.1	669.5
160°	682.1	682.0	681.9	681.8	681.6	681.5	681.4	681.3	681.1	681.0	681.4
162.5°	693.1	692.8	692.4	692.1	691.8	691.5	691.4	691.3	691.2	691.0	691.7
165°	707.8	707.4	707.0	706.7	706.3	706.0	705.7	705.5	705.2	705.0	705.7
167.5°	719.1	718.6	718.0	717.5	717.0	716.7	716.7	716.8	716.8	716.8	717.6
170°	725.5	724.9	724.2	723.6	722.9	722.7	722.8	722.9	723.1	723.2	724.0
172.5°	730.0	729.5	729.0	728.5	727.9	727.7	727.7	727.7	727.7	727.8	728.6
175°	736.3	735.7	735.1	734.4	733.8	733.4	733.3	733.2	733.0	732.9	733.8
177.5°	738.4	737.9	737.4	736.9	736.3	736.1	736.1	736.1	736.1	736.1	736.8
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1384.0	1386.0	1388.1	1389.1	1388.9	1388.7	1388.5	1388.3
5°	1374.7	1377.1	1379.5	1380.4	1379.9	1379.5	1379.0	1378.5
7.5°	1356.4	1358.0	1359.5	1359.8	1359.1	1358.3	1357.6	1356.8
10°	1340.0	1340.9	1341.9	1341.9	1340.9	1340.0	1339.0	1338.1
12.5°	1319.7	1320.2	1320.8	1320.4	1319.1	1317.8	1316.4	1315.1
15°	1284.0	1283.5	1283.0	1282.0	1280.3	1278.6	1277.0	1275.3
17.5°	1241.0	1239.7	1238.3	1236.4	1233.9	1231.4	1228.9	1226.4
20°	1210.9	1209.0	1207.1	1204.7	1201.6	1198.5	1195.4	1192.4
22.5°	1177.6	1174.7	1171.9	1169.2	1166.7	1164.2	1161.7	1159.2
25°	1123.7	1119.7	1115.7	1112.5	1110.1	1107.8	1105.4	1103.0
27.5°	1068.8	1063.9	1058.9	1054.7	1051.3	1047.9	1044.5	1041.1
30°	1029.5	1023.6	1017.7	1012.8	1009.1	1005.3	1001.5	997.7
32.5°	989.3	982.5	975.6	970.4	966.8	963.2	959.6	956.0
35°	929.5	921.5	913.5	907.3	903.1	898.8	894.5	890.3
37.5°	865.3	856.3	847.3	840.7	836.5	832.2	828.0	823.7
40°	822.6	812.6	802.7	795.6	791.4	787.1	782.9	778.6
42.5°	780.5	770.4	760.3	753.0	748.5	744.1	739.7	735.2
45°	716.1	704.5	692.9	685.0	680.7	676.5	672.2	668.0
47.5°	651.2	639.2	627.2	618.8	614.2	609.5	604.8	600.1
50°	608.2	596.4	584.5	576.4	571.9	567.4	562.9	558.4
52.5°	565.3	553.3	541.2	532.9	528.2	523.5	518.9	514.2
55°	501.9	489.6	477.4	469.0	464.5	460.0	455.5	451.0
57.5°	440.1	427.6	415.1	407.2	403.8	400.4	397.0	393.6
60°	398.8	386.5	374.2	366.1	362.4	358.6	354.8	351.0
62.5°	358.1	346.8	335.4	328.2	325.2	322.2	319.1	316.1
65°	299.8	289.7	279.5	273.0	270.2	267.3	264.5	261.7
67.5°	246.3	237.6	228.8	222.9	219.8	216.6	213.5	210.4
70°	209.9	202.1	194.3	189.2	186.9	184.5	182.1	179.8
72.5°	177.3	170.6	163.9	159.5	157.4	155.2	153.0	150.8
75°	130.6	125.2	119.7	116.3	114.9	113.5	112.0	110.6
77.5°	92.4	89.2	86.0	84.2	83.8	83.4	83.0	82.5
80°	70.9	70.2	69.5	69.0	68.8	68.5	68.3	68.1
82.5°	55.1	54.6	54.1	53.7	53.5	53.2	53.0	52.8
85°	32.0	31.6	31.1	30.8	30.8	30.8	30.8	30.8
87.5°	14.3	14.3	14.3	14.4	14.6	14.9	15.1	15.3
90°	14.1	14.8	15.6	16.1	16.4	16.6	16.9	17.1
92.5°	23.5	24.0	24.4	24.7	24.9	25.0	25.2	25.3
95°	44.1	44.5	44.9	45.1	45.1	45.1	45.1	45.1
97.5°	69.5	69.9	70.4	70.6	70.6	70.6	70.6	70.6
100°	87.8	88.0	88.3	88.4	88.4	88.4	88.4	88.4
102.5°	107.1	107.5	107.8	108.1	108.2	108.3	108.4	108.5
105°	136.5	136.9	137.3	137.6	138.0	138.4	138.8	139.2
107.5°	168.3	168.6	169.0	169.2	169.1	169.1	169.1	169.1
110°	189.4	189.2	188.9	189.0	189.4	189.7	190.1	190.5



TEST NUMBER: P332935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.2	212.1	212.1	212.1	212.2	212.2	212.3	212.4
115°	247.3	247.2	247.0	246.9	246.8	246.6	246.5	246.4
117.5°	281.0	280.6	280.1	279.8	279.5	279.3	279.0	278.8
120°	303.9	303.2	302.6	302.4	302.7	302.9	303.2	303.4
122.5°	327.1	326.7	326.2	325.8	325.3	324.9	324.4	324.0
125°	361.1	360.8	360.6	360.3	360.1	359.8	359.6	359.3
127.5°	393.6	393.4	393.1	392.9	392.7	392.5	392.3	392.1
130°	416.4	416.2	415.9	415.5	415.0	414.5	414.0	413.5
132.5°	437.9	437.6	437.4	437.1	436.9	436.7	436.5	436.3
135°	470.0	469.8	469.5	469.2	468.8	468.4	468.1	467.7
137.5°	501.1	500.8	500.5	500.3	500.4	500.5	500.6	500.7
140°	521.6	521.5	521.4	521.2	521.1	521.0	520.9	520.7
142.5°	541.0	541.0	540.9	540.9	540.9	540.9	540.8	540.8
145°	570.1	570.0	569.8	569.6	569.2	568.8	568.4	568.1
147.5°	596.5	596.4	596.3	596.2	596.1	595.9	595.8	595.7
150°	613.1	613.1	613.1	613.1	612.9	612.8	612.7	612.6
152.5°	628.8	629.1	629.4	629.4	629.1	628.7	628.4	628.1
155°	650.6	651.1	651.7	651.7	651.1	650.6	650.1	649.6
157.5°	669.9	670.3	670.7	670.6	670.2	669.8	669.3	668.9
160°	681.8	682.1	682.5	682.4	681.8	681.1	680.5	679.9
162.5°	692.4	693.1	693.8	693.8	693.2	692.5	691.9	691.3
165°	706.5	707.2	708.0	708.1	707.6	707.1	706.6	706.1
167.5°	718.3	719.1	719.9	719.8	719.1	718.3	717.5	716.7
170°	724.7	725.5	726.2	726.2	725.3	724.4	723.5	722.6
172.5°	729.5	730.4	731.2	731.2	730.3	729.4	728.5	727.7
175°	734.7	735.6	736.4	736.4	735.6	734.7	733.8	732.9
177.5°	737.5	738.2	738.9	738.9	738.1	737.3	736.4	735.6
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5

(END OF REPORT)