

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: P332085

Luminaire Tested: **S123DIP-S1165D1195U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332085
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: S123DIP-S1165D1195U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8951.5 lumens
Efficiency: N/A
Efficacy: 124.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

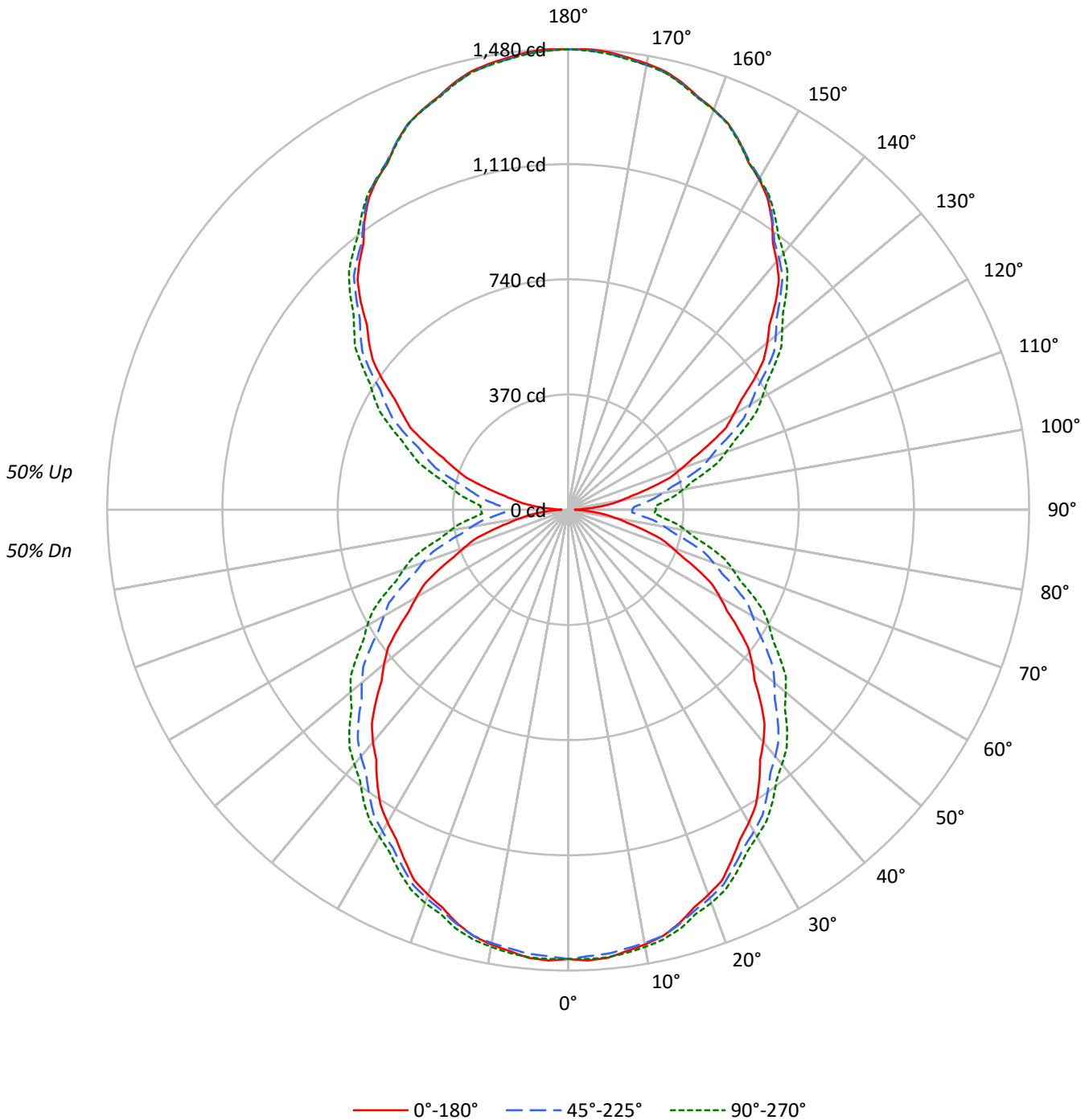
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	34	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27	23
5	67	55	46	40	61	51	43	37	43	37	33	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	53	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.8	1.5
10°-20°	390.0	4.4
20°-30°	583.2	6.5
30°-40°	696.5	7.8
40°-50°	728.7	8.1
50°-60°	683.9	7.6
60°-70°	571.2	6.4
70°-80°	408.7	4.6
80°-90°	248.1	2.8
90°-100°	249.3	2.8
100°-110°	400.8	4.5
110°-120°	565.6	6.3
120°-130°	688.1	7.7
130°-140°	744.4	8.3
140°-150°	717.0	8.0
150°-160°	600.1	6.7
160°-170°	399.5	4.5
170°-180°	139.9	1.6
0°-30°	1110.0	12.4
0°-40°	1806.5	20.2
0°-60°	3219.1	36.0
0°-90°	4447.0	49.7
90°-120°	1215.6	13.6
90°-150°	3365.1	37.6
90°-180°	4505.0	50.3
0°-180°	8951.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	22	111	206	261	282	18
95°	86	156	242	293	311	91
105°	274	316	392	435	453	293
115°	502	526	578	616	629	497
125°	727	733	774	801	809	649
135°	941	947	962	985	992	725
145°	1139	1140	1143	1154	1156	711
155°	1302	1303	1304	1308	1300	599
165°	1419	1415	1415	1421	1414	400
175°	1476	1471	1471	1477	1470	140
180°	1479	1479	1479	1479	1479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	42.0	60.0	77.9	95.8	113.7	131.9	150.4	168.9	187.4	205.8	217.9
90°	21.6	41.3	61.0	80.7	100.4	120.8	142.0	163.2	184.3	205.5	218.4
92.5°	47.3	64.5	81.7	98.9	116.1	134.4	153.8	173.3	192.7	212.2	224.6
95°	85.8	101.3	116.7	132.1	147.6	164.9	184.1	203.2	222.4	241.6	253.5
97.5°	137.2	150.8	164.4	178.1	191.7	207.5	225.3	243.2	261.0	278.8	290.4
100°	172.2	184.9	197.6	210.3	223.1	238.1	255.5	272.8	290.2	307.6	318.5
102.5°	212.7	223.7	234.7	245.7	256.7	270.9	288.4	305.9	323.4	340.9	351.5
105°	274.0	282.9	291.8	300.7	309.6	322.7	340.1	357.4	374.8	392.1	401.9
107.5°	343.7	351.1	358.6	366.0	373.4	384.7	399.9	415.1	430.3	445.5	455.6
110°	387.0	393.8	400.7	407.5	414.3	424.9	439.4	453.9	468.4	482.9	493.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	433.5	439.0	444.5	450.0	455.4	464.9	478.5	492.0	505.5	519.0	529.0
115°	501.7	506.6	511.6	516.6	521.5	530.0	542.1	554.2	566.2	578.3	586.9
117.5°	571.5	574.6	577.7	580.8	583.9	591.0	602.2	613.3	624.5	635.6	643.8
120°	614.0	617.2	620.5	623.8	627.1	633.9	644.1	654.4	664.6	674.8	682.6
122.5°	659.5	661.5	663.6	665.6	667.7	673.8	684.1	694.4	704.7	715.0	722.1
125°	727.4	728.2	729.0	729.7	730.5	735.7	745.3	754.9	764.5	774.2	780.5
127.5°	791.5	792.8	794.1	795.5	796.8	801.3	809.1	816.9	824.8	832.6	838.0
130°	834.3	836.0	837.7	839.4	841.2	845.1	851.3	857.6	863.8	870.0	875.6
132.5°	875.8	877.8	879.8	881.8	883.8	887.3	892.3	897.3	902.4	907.4	912.5
135°	940.8	942.0	943.2	944.4	945.6	948.0	951.6	955.1	958.7	962.3	967.6
137.5°	1000.9	1001.9	1002.9	1003.9	1004.9	1006.9	1009.7	1012.5	1015.4	1018.2	1022.6
140°	1041.5	1042.7	1044.0	1045.3	1046.6	1047.9	1049.2	1050.5	1051.8	1053.1	1058.1
142.5°	1079.6	1080.6	1081.6	1082.6	1083.6	1084.5	1085.1	1085.8	1086.5	1087.2	1091.6
145°	1139.1	1139.2	1139.4	1139.6	1139.7	1140.2	1141.0	1141.7	1142.5	1143.3	1145.8
147.5°	1189.5	1190.5	1191.4	1192.3	1193.3	1194.1	1194.8	1195.5	1196.2	1197.0	1197.8
150°	1225.8	1226.3	1226.8	1227.3	1227.9	1228.4	1228.9	1229.4	1229.9	1230.4	1230.4
152.5°	1255.5	1256.3	1257.0	1257.7	1258.4	1258.9	1259.2	1259.6	1259.9	1260.2	1260.6
155°	1302.5	1302.5	1302.5	1302.5	1302.5	1302.6	1302.9	1303.1	1303.4	1303.6	1304.7
157.5°	1342.4	1342.1	1341.8	1341.5	1341.2	1341.1	1341.4	1341.6	1341.8	1342.0	1343.1
160°	1367.5	1367.0	1366.5	1366.0	1365.5	1365.2	1365.2	1365.2	1365.2	1365.2	1366.5
162.5°	1389.8	1389.1	1388.4	1387.7	1387.0	1386.7	1386.9	1387.1	1387.3	1387.5	1388.8
165°	1418.7	1417.9	1417.1	1416.3	1415.6	1415.2	1415.2	1415.2	1415.2	1415.2	1416.7
167.5°	1441.7	1440.6	1439.6	1438.6	1437.5	1437.1	1437.3	1437.5	1437.7	1437.9	1439.5
170°	1454.7	1453.6	1452.6	1451.6	1450.5	1450.0	1450.0	1450.0	1450.0	1450.0	1451.8
172.5°	1464.9	1463.9	1462.8	1461.8	1460.8	1460.3	1460.3	1460.3	1460.3	1460.3	1461.9
175°	1475.6	1474.6	1473.5	1472.5	1471.5	1470.9	1470.9	1470.9	1470.9	1470.9	1472.5
177.5°	1480.0	1479.2	1478.4	1477.5	1476.7	1476.3	1476.3	1476.3	1476.3	1476.3	1477.5
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	230.0	242.1	254.2	262.0	265.6	269.2	272.8	276.4
90°	231.3	244.2	257.1	265.6	269.6	273.6	277.6	281.6
92.5°	237.0	249.5	261.9	269.5	272.4	275.3	278.3	281.2
95°	265.3	277.2	289.0	296.7	300.2	303.7	307.2	310.7
97.5°	302.0	313.6	325.2	332.7	336.1	339.5	342.9	346.3
100°	329.4	340.3	351.2	358.6	362.6	366.6	370.7	374.7
102.5°	362.2	372.8	383.4	390.4	393.8	397.2	400.6	404.0
105°	411.7	421.4	431.2	437.9	441.6	445.3	448.9	452.6
107.5°	465.8	476.0	486.2	492.7	495.5	498.2	501.0	503.7
110°	503.1	513.2	523.3	529.5	531.8	534.1	536.4	538.6



TEST NUMBER: P332085

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	539.1	549.1	559.2	565.7	568.6	571.6	574.6	577.6
115°	595.6	604.2	612.8	618.4	621.0	623.5	626.0	628.6
117.5°	652.1	660.4	668.6	673.8	675.8	677.8	679.8	681.8
120°	690.4	698.2	705.9	710.8	712.7	714.7	716.6	718.5
122.5°	729.2	736.3	743.4	747.8	749.5	751.2	752.9	754.7
125°	786.8	793.1	799.4	803.2	804.6	806.0	807.5	808.9
127.5°	843.5	849.0	854.5	857.8	859.0	860.2	861.3	862.5
130°	881.2	886.8	892.4	895.3	895.6	895.9	896.2	896.5
132.5°	917.6	922.7	927.8	930.9	931.9	932.9	933.8	934.8
135°	972.8	978.1	983.3	986.6	987.8	989.0	990.3	991.5
137.5°	1027.1	1031.5	1035.9	1038.5	1039.3	1040.1	1040.8	1041.6
140°	1063.1	1068.1	1073.1	1075.5	1075.5	1075.4	1075.3	1075.3
142.5°	1096.0	1100.4	1104.8	1107.2	1107.6	1107.9	1108.3	1108.6
145°	1148.4	1150.9	1153.4	1154.9	1155.3	1155.6	1156.0	1156.3
147.5°	1198.6	1199.5	1200.3	1200.6	1200.3	1200.0	1199.7	1199.4
150°	1230.4	1230.4	1230.4	1230.0	1229.2	1228.3	1227.5	1226.6
152.5°	1261.0	1261.4	1261.8	1261.4	1260.2	1259.0	1257.8	1256.6
155°	1305.7	1306.7	1307.8	1307.4	1305.6	1303.8	1302.0	1300.1
157.5°	1344.1	1345.2	1346.3	1346.1	1344.7	1343.2	1341.8	1340.3
160°	1367.8	1369.1	1370.4	1370.5	1369.5	1368.4	1367.4	1366.4
162.5°	1390.1	1391.4	1392.7	1392.5	1390.8	1389.2	1387.5	1385.9
165°	1418.3	1419.8	1421.4	1421.2	1419.4	1417.6	1415.8	1414.0
167.5°	1441.1	1442.7	1444.3	1444.3	1442.7	1441.1	1439.5	1437.9
170°	1453.6	1455.5	1457.3	1457.3	1455.5	1453.6	1451.8	1450.0
172.5°	1463.5	1465.1	1466.7	1466.6	1464.7	1462.9	1461.1	1459.3
175°	1474.0	1475.6	1477.1	1477.0	1475.2	1473.4	1471.6	1469.8
177.5°	1478.8	1480.0	1481.2	1481.1	1479.7	1478.2	1476.8	1475.4
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1

(END OF REPORT)