

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: P332188-840

Luminaire Tested: **S123DIW-S1000D755U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332188-840
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: S123DIW-S1000D755U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7293.1 lumens
Efficiency: N/A
Efficacy: 136.1 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

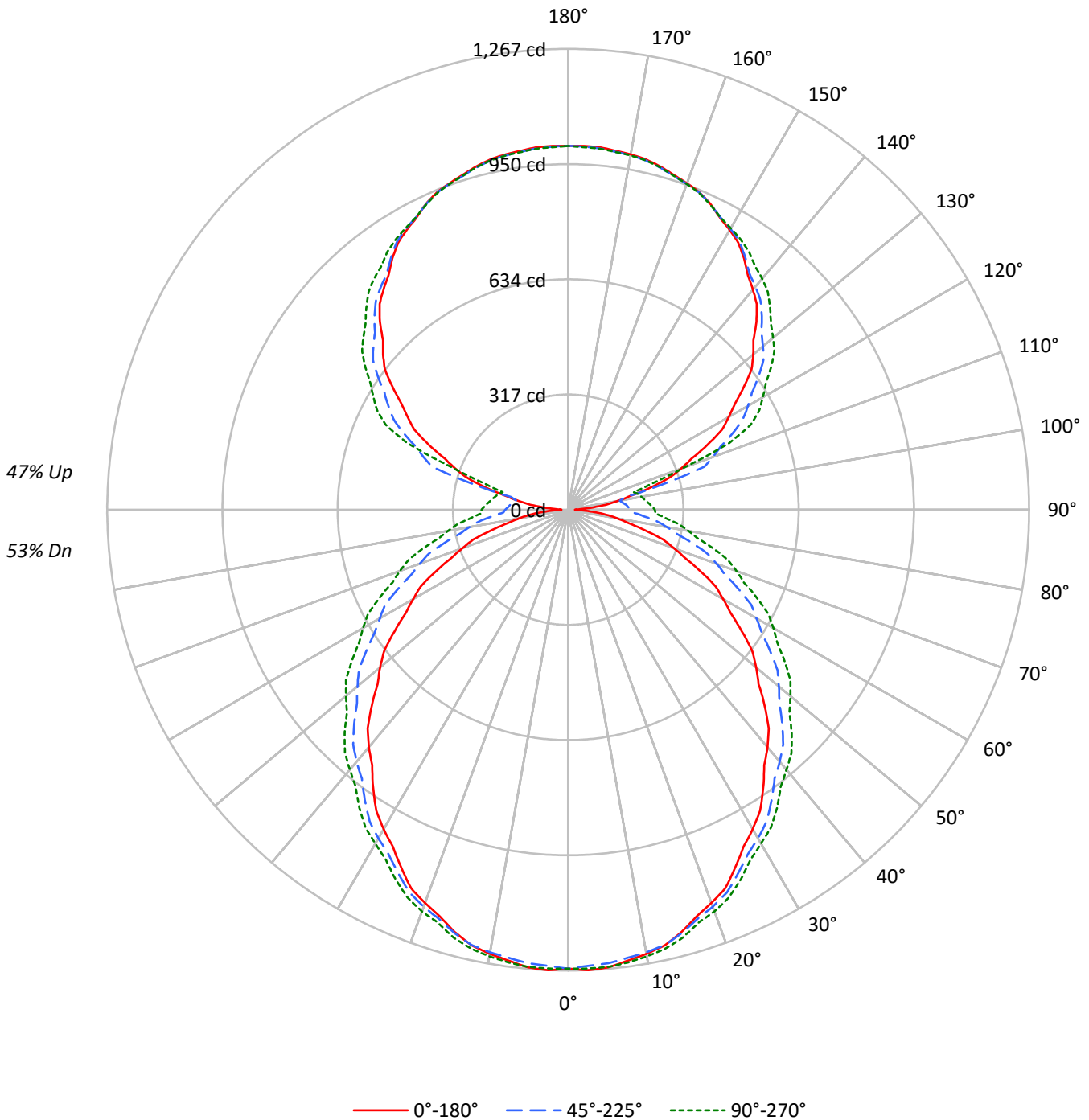
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	97	93	88	84	90	86	82	79	73	70	68	61	59	57	50	49	48	43
2	88	80	74	68	81	74	69	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	56	50	46	47	43	39	38	36	33	29
4	73	62	54	47	67	57	50	44	49	43	39	41	37	33	34	31	28	25
5	67	55	46	40	62	51	44	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	20	17	14
9	49	37	29	24	46	34	27	23	30	24	20	25	21	18	21	18	15	13
10	46	34	26	21	43	32	25	20	27	22	18	24	19	16	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13581	13581	13581
5°	13623	13239	13246
10°	13501	12935	12870
15°	13327	12588	12458
20°	13078	12192	12005
25°	12772	11738	11529
30°	12457	11328	11046
35°	12104	10895	10660
40°	11767	10501	10247
45°	11396	10122	9918
50°	11028	9750	9554
55°	10621	9366	9226
60°	10225	8977	8892
65°	9818	8564	8493
70°	9204	8097	8084
75°	8432	7563	7667
80°	7539	7041	7193
85°	6723	6680	6917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	1.6
10°-20°	341.0	4.7
20°-30°	510.0	7.0
30°-40°	609.0	8.4
40°-50°	637.2	8.7
50°-60°	598.0	8.2
60°-70°	499.4	6.8
70°-80°	357.3	4.9
80°-90°	215.9	3.0
90°-100°	170.1	2.3
100°-110°	271.6	3.7
110°-120°	481.9	6.6
120°-130°	567.6	7.8
130°-140°	583.3	8.0
140°-150°	533.3	7.3
150°-160°	427.3	5.9
160°-170°	275.7	3.8
170°-180°	95.0	1.3
0°-30°	970.6	13.3
0°-40°	1579.6	21.7
0°-60°	2814.7	38.6
0°-90°	3887.3	53.3
90°-120°	923.6	12.7
90°-150°	2607.7	35.8
90°-180°	3406.0	46.7
0°-180°	7293.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1263	1260	1252	1262	1262	120
15°	1203	1206	1205	1218	1218	339
25°	1086	1099	1104	1121	1122	500
35°	935	956	974	994	1001	584
45°	764	797	832	857	869	589
55°	583	628	678	713	726	522
65°	403	457	517	556	572	398
75°	218	283	352	396	414	233
85°	67	136	209	254	269	71
90°	19	94	173	221	238	14
95°	60	86	159	205	221	68
105°	232	271	266	179	187	246
115°	422	445	499	538	554	417
125°	590	598	638	668	680	527
135°	732	736	753	779	785	563
145°	843	846	848	860	866	527
155°	927	925	926	929	925	427
165°	977	975	974	980	975	276
175°	1000	997	997	1002	996	95
180°	1000	1000	1000	1000	1000	



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CATALOG NUMBER: S123DIW-S1000D755U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1267.3	1266.6	1265.8	1265.1	1264.4	1262.9	1261.0	1259.1	1257.1	1255.2	1257.1
5°	1263.1	1262.5	1261.9	1261.3	1260.7	1259.5	1257.7	1255.8	1253.9	1252.1	1254.6
7.5°	1250.7	1250.9	1251.0	1251.1	1251.2	1250.4	1248.7	1246.9	1245.1	1243.3	1246.4
10°	1239.8	1240.4	1241.0	1241.6	1242.2	1241.7	1240.2	1238.7	1237.2	1235.7	1238.7
12.5°	1226.6	1227.4	1228.3	1229.1	1230.0	1229.9	1228.9	1227.8	1226.8	1225.8	1228.6
15°	1202.6	1203.6	1204.5	1205.4	1206.3	1206.6	1206.3	1206.0	1205.7	1205.4	1208.5
17.5°	1172.5	1174.3	1176.1	1177.9	1179.7	1180.6	1180.5	1180.3	1180.2	1180.1	1182.9
20°	1150.4	1152.3	1154.1	1155.9	1157.7	1159.0	1159.6	1160.2	1160.8	1161.4	1164.2
22.5°	1127.3	1129.1	1131.0	1132.9	1134.7	1136.0	1136.9	1137.7	1138.6	1139.4	1142.9
25°	1085.8	1088.8	1092.0	1095.0	1098.0	1100.0	1101.0	1101.9	1102.8	1103.7	1107.6
27.5°	1044.0	1047.5	1051.0	1054.5	1057.9	1060.7	1062.7	1064.6	1066.5	1068.5	1072.0
30°	1014.3	1018.3	1022.3	1026.2	1030.3	1033.4	1035.9	1038.3	1040.8	1043.2	1046.9
32.5°	981.4	985.8	990.3	994.7	999.2	1003.0	1006.2	1009.4	1012.6	1015.7	1019.7
35°	934.6	939.5	944.4	949.3	954.2	958.6	962.6	966.5	970.5	974.5	979.1
37.5°	885.1	890.7	896.2	901.6	907.2	912.3	917.3	922.1	927.0	931.9	937.1
40°	852.1	857.7	863.1	868.7	874.1	880.0	886.1	892.2	898.3	904.4	909.6
42.5°	815.9	822.6	829.3	836.1	842.7	849.3	855.7	862.0	868.4	874.7	880.4
45°	764.2	771.5	778.9	786.2	793.6	801.0	808.6	816.3	823.9	831.5	837.4
47.5°	710.0	718.3	726.7	735.0	743.3	751.8	760.5	769.3	778.0	786.8	793.2
50°	674.9	683.4	692.0	700.5	709.0	718.1	727.5	737.0	746.5	756.0	763.0
52.5°	637.4	646.5	655.6	664.6	673.7	683.4	693.9	704.3	714.7	725.2	732.5
55°	582.8	592.9	602.9	613.0	623.1	633.6	644.6	655.6	666.6	677.6	685.9
57.5°	529.5	540.0	550.5	561.0	571.5	582.8	594.8	606.8	618.8	630.9	639.1
60°	492.1	503.0	514.0	525.0	536.0	547.8	560.3	572.9	585.4	597.9	606.4
62.5°	456.9	468.1	479.4	490.6	501.8	514.1	527.4	540.6	553.8	567.1	575.6
65°	402.7	414.7	426.6	438.5	450.4	463.0	476.5	489.9	503.3	516.8	525.9
67.5°	347.7	360.4	373.0	385.7	398.3	411.5	425.2	438.9	452.5	466.3	476.3
70°	309.2	322.3	335.5	348.7	361.8	375.7	390.3	405.1	419.7	434.3	444.1
72.5°	274.1	287.2	300.3	313.5	326.6	340.7	355.9	371.0	386.2	401.3	411.3
75°	218.5	232.9	247.2	261.7	276.0	290.7	306.1	321.3	336.6	351.8	361.9
77.5°	170.2	184.6	199.1	213.6	228.0	243.0	258.4	273.8	289.2	304.6	315.2
80°	136.0	151.1	166.0	181.0	195.9	211.4	227.2	243.2	259.0	274.9	285.3
82.5°	106.3	121.6	136.8	152.0	167.2	182.9	199.0	215.1	231.3	247.4	257.8
85°	67.4	82.6	97.9	113.2	128.5	144.2	160.4	176.5	192.7	208.9	219.3
87.5°	36.8	52.2	67.8	83.3	98.9	114.6	130.7	146.6	162.7	178.6	189.1
90°	18.6	35.2	51.8	68.5	85.1	102.3	120.0	137.7	155.4	173.2	184.2
92.5°	30.6	43.6	56.7	69.7	82.7	97.8	114.7	131.7	148.6	165.5	176.7
95°	60.5	65.6	70.7	75.8	81.0	92.0	108.8	125.5	142.3	159.2	169.8
97.5°	104.6	112.3	120.0	127.7	135.4	140.5	142.9	145.3	147.7	150.1	160.6
100°	137.9	151.1	164.1	177.2	190.3	191.0	179.3	167.5	155.8	144.1	154.3
102.5°	176.1	187.2	198.4	209.6	220.8	219.2	204.9	190.6	176.2	161.9	166.4
105°	232.5	241.6	250.7	259.8	269.0	272.8	271.0	269.3	267.5	265.8	245.2
107.5°	290.5	298.2	305.9	313.6	321.2	332.5	347.3	362.1	377.0	391.7	378.5
110°	329.3	336.1	343.0	349.7	356.6	367.0	381.0	395.1	409.1	423.1	425.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.3	373.0	378.7	384.5	390.1	399.8	413.3	426.9	440.4	453.9	461.8
115°	422.3	427.0	431.6	436.3	440.9	449.5	461.9	474.4	487.0	499.4	508.4
117.5°	476.6	480.0	483.5	487.0	490.5	497.8	508.9	519.9	531.0	542.1	550.7
120°	509.4	512.3	515.3	518.4	521.4	528.2	538.8	549.4	559.9	570.5	578.9
122.5°	543.8	545.8	547.9	549.9	551.9	558.0	568.3	578.5	588.7	598.8	606.5
125°	589.7	591.0	592.4	593.7	595.0	600.4	610.0	619.5	628.9	638.4	645.2
127.5°	635.5	636.5	637.5	638.5	639.5	644.1	652.3	660.4	668.4	676.6	683.2
130°	664.0	665.0	666.0	667.0	668.0	672.0	678.7	685.5	692.3	699.0	705.5
132.5°	690.2	691.6	692.8	694.1	695.3	698.6	704.1	709.4	714.9	720.3	726.5
135°	731.7	732.5	733.2	733.8	734.5	736.8	740.8	744.9	748.9	753.0	758.9
137.5°	767.1	768.2	769.2	770.2	771.2	772.8	775.1	777.3	779.6	781.8	787.5
140°	789.8	790.8	791.8	792.8	793.8	795.0	796.4	797.8	799.2	800.6	805.9
142.5°	811.8	812.5	813.3	814.1	814.8	815.6	816.2	816.9	817.6	818.2	822.8
145°	842.6	843.4	844.2	845.2	846.0	846.6	846.9	847.3	847.6	847.9	850.7
147.5°	870.2	870.9	871.7	872.4	873.2	873.7	874.1	874.4	874.7	875.0	876.2
150°	888.1	888.5	889.0	889.5	890.0	890.4	890.8	891.1	891.4	891.7	892.1
152.5°	904.0	904.3	904.5	904.7	905.0	905.2	905.4	905.6	905.8	906.1	906.6
155°	926.7	926.3	926.0	925.6	925.3	925.2	925.4	925.6	925.7	925.9	926.8
157.5°	944.2	944.2	944.1	944.1	944.1	944.0	943.8	943.6	943.5	943.3	944.3
160°	954.9	954.7	954.6	954.4	954.2	954.1	953.9	953.7	953.6	953.4	954.4
162.5°	965.0	964.6	964.1	963.7	963.3	963.0	962.8	962.7	962.5	962.3	963.5
165°	977.2	976.7	976.2	975.7	975.2	974.9	974.7	974.5	974.4	974.2	975.5
167.5°	986.7	986.0	985.4	984.7	984.1	983.7	983.7	983.7	983.7	983.7	985.0
170°	992.1	991.4	990.8	990.1	989.5	989.1	989.1	989.1	989.1	989.1	990.4
172.5°	995.6	994.8	994.0	993.3	992.5	992.1	992.3	992.4	992.5	992.7	994.0
175°	1000.3	999.4	998.6	997.7	996.9	996.6	996.7	996.9	997.1	997.2	998.5
177.5°	1001.4	1000.8	1000.1	999.5	998.8	998.6	998.7	998.8	999.0	999.1	1000.1
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1259.1	1261.0	1262.9	1263.8	1263.5	1263.3	1263.1	1262.8
5°	1257.0	1259.5	1261.9	1262.9	1262.6	1262.3	1262.0	1261.7
7.5°	1249.4	1252.5	1255.6	1256.9	1256.6	1256.2	1255.8	1255.5
10°	1241.7	1244.8	1247.9	1249.1	1248.5	1247.9	1247.3	1246.7
12.5°	1231.3	1234.2	1237.0	1238.1	1237.5	1236.9	1236.3	1235.7
15°	1211.5	1214.6	1217.6	1219.0	1218.7	1218.4	1218.1	1217.8
17.5°	1185.6	1188.4	1191.1	1192.2	1191.8	1191.4	1191.0	1190.5
20°	1166.9	1169.6	1172.5	1174.0	1174.3	1174.6	1174.9	1175.2
22.5°	1146.4	1149.8	1153.4	1155.0	1154.8	1154.7	1154.5	1154.3
25°	1111.7	1115.6	1119.5	1121.6	1121.6	1121.6	1121.6	1121.6
27.5°	1075.3	1078.7	1082.2	1084.0	1084.3	1084.5	1084.8	1085.0
30°	1050.6	1054.2	1057.8	1059.8	1059.8	1059.8	1059.8	1059.8
32.5°	1023.6	1027.4	1031.4	1033.7	1034.4	1035.1	1035.9	1036.6
35°	983.6	988.3	992.8	995.7	996.9	998.2	999.4	1000.6
37.5°	942.3	947.5	952.7	955.7	956.7	957.7	958.7	959.7
40°	914.7	920.0	925.1	928.4	929.6	930.8	932.0	933.2
42.5°	886.1	891.7	897.5	901.1	902.8	904.5	906.3	908.0
45°	843.1	849.0	854.7	858.9	861.3	863.7	866.3	868.7
47.5°	799.8	806.4	812.8	817.1	819.0	820.9	822.7	824.7
50°	770.0	777.0	784.1	788.6	790.8	792.9	795.1	797.2
52.5°	739.7	747.0	754.3	759.2	761.8	764.5	767.1	769.7
55°	694.1	702.4	710.6	715.9	718.4	720.8	723.3	725.7
57.5°	647.5	655.8	664.1	669.7	672.6	675.4	678.3	681.2
60°	615.0	623.6	632.1	638.0	641.5	644.8	648.1	651.5
62.5°	584.2	592.8	601.3	607.1	610.3	613.4	616.5	619.7
65°	535.1	544.3	553.4	559.6	562.6	565.6	568.8	571.8
67.5°	486.3	496.2	506.2	512.6	515.1	517.8	520.3	522.8
70°	453.8	463.6	473.4	479.9	482.9	485.9	489.0	492.1
72.5°	421.4	431.4	441.4	448.0	451.0	454.0	457.2	460.2
75°	372.0	382.1	392.1	399.1	402.7	406.4	410.0	413.7
77.5°	325.9	336.5	347.1	353.9	356.6	359.4	362.2	365.1
80°	295.7	306.1	316.4	323.2	326.2	329.2	332.3	335.4
82.5°	268.2	278.5	288.9	295.7	298.7	301.7	304.8	307.9
85°	229.6	240.0	250.4	257.2	260.2	263.3	266.3	269.4
87.5°	199.8	210.3	220.8	227.5	230.7	233.8	236.9	240.0
90°	195.2	206.3	217.3	224.6	227.9	231.4	234.7	238.1
92.5°	187.9	199.1	210.4	217.4	220.5	223.5	226.4	229.4
95°	180.4	191.0	201.6	208.4	211.5	214.6	217.6	220.7
97.5°	171.0	181.4	191.8	198.6	201.9	205.1	208.2	211.5
100°	164.5	174.6	184.8	191.5	194.7	197.9	201.2	204.4
102.5°	170.9	175.4	180.0	183.9	187.2	190.6	193.9	197.3
105°	224.5	203.8	183.1	174.3	177.4	180.5	183.6	186.6
107.5°	365.3	352.0	338.7	322.4	303.2	283.8	264.5	245.1
110°	428.1	430.6	433.0	423.7	402.5	381.4	360.2	339.0



TEST NUMBER: P332188-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	469.6	477.4	485.1	487.9	485.6	483.3	481.0	478.7
115°	517.4	526.3	535.3	541.4	544.5	547.5	550.7	553.8
117.5°	559.3	567.8	576.4	582.0	584.5	587.0	589.6	592.1
120°	587.1	595.5	603.9	609.2	611.3	613.4	615.5	617.6
122.5°	614.3	622.0	629.7	634.7	636.9	639.2	641.5	643.8
125°	652.0	658.7	665.5	670.0	672.6	675.0	677.4	679.9
127.5°	689.7	696.3	702.9	707.1	708.8	710.5	712.3	714.1
130°	712.0	718.4	724.9	728.9	730.4	731.8	733.4	734.9
132.5°	732.8	738.9	745.2	749.1	750.7	752.3	754.0	755.6
135°	764.9	770.9	776.9	780.4	781.4	782.4	783.6	784.6
137.5°	793.0	798.7	804.4	807.7	808.9	810.1	811.3	812.5
140°	811.1	816.4	821.6	824.9	826.1	827.2	828.4	829.6
142.5°	827.5	832.1	836.7	839.6	840.6	841.7	842.7	843.8
145°	853.4	856.3	859.0	861.0	862.2	863.4	864.6	865.9
147.5°	877.3	878.3	879.4	880.1	880.4	880.7	881.1	881.4
150°	892.4	892.7	893.0	893.3	893.4	893.5	893.6	893.7
152.5°	907.2	907.8	908.4	908.4	907.8	907.1	906.5	905.8
155°	927.6	928.4	929.3	929.2	928.2	927.2	926.1	925.1
157.5°	945.3	946.2	947.3	947.2	945.8	944.5	943.3	942.0
160°	955.4	956.4	957.4	957.4	956.1	955.0	953.8	952.7
162.5°	964.6	965.7	966.8	966.8	965.8	964.8	963.8	962.8
165°	976.8	978.2	979.5	979.6	978.5	977.2	976.1	974.9
167.5°	986.3	987.7	989.1	989.1	987.7	986.3	985.0	983.7
170°	991.7	993.1	994.4	994.4	993.1	991.7	990.4	989.1
172.5°	995.3	996.6	997.9	997.8	996.4	995.0	993.5	992.1
175°	999.6	1000.8	1001.9	1001.8	1000.5	999.2	997.8	996.5
177.5°	1001.2	1002.2	1003.3	1003.1	1001.8	1000.5	999.2	997.8
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3

(END OF REPORT)