

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: P332189-840

Luminaire Tested: **S123DIW-S1000D755U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332189-840
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: S123DIW-S1000D755U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6886.6 lumens
Efficiency: N/A
Efficacy: 128.5 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

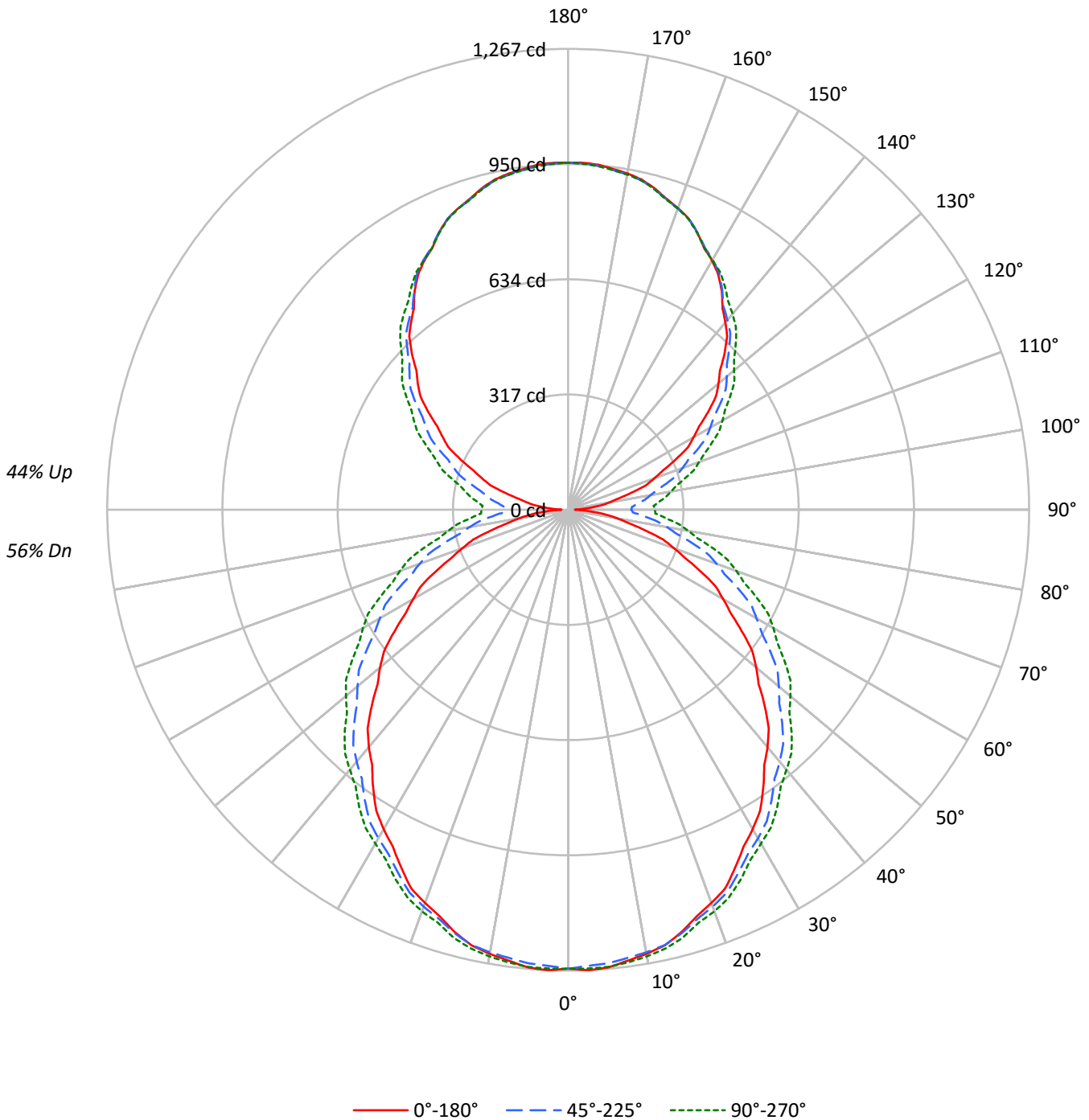
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	98	93	89	85	91	87	83	79	74	72	69	63	61	59	53	51	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	51	49	46	43	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	34	36	32	29	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	28	26	22
6	62	50	41	35	57	46	39	33	40	34	29	34	30	26	29	25	22	19
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	41	33	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	22	43	32	25	20	28	22	18	24	20	16	21	17	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	1.7
10°-20°	341.0	5.0
20°-30°	510.0	7.4
30°-40°	609.0	8.8
40°-50°	637.2	9.3
50°-60°	598.0	8.7
60°-70°	499.4	7.3
70°-80°	357.3	5.2
80°-90°	215.9	3.1
90°-100°	195.9	2.8
100°-110°	284.3	4.1
110°-120°	382.1	5.5
120°-130°	453.7	6.6
130°-140°	484.7	7.0
140°-150°	463.5	6.7
150°-160°	387.2	5.6
160°-170°	257.7	3.7
170°-180°	90.2	1.3
0°-30°	970.6	14.1
0°-40°	1579.6	22.9
0°-60°	2814.7	40.9
0°-90°	3887.4	56.4
90°-120°	862.2	12.5
90°-150°	2264.1	32.9
90°-180°	2999.0	43.5
0°-180°	6886.6	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	15
95°	59	119	192	235	251	61
105°	180	216	280	317	332	192
115°	326	346	392	425	436	322
125°	470	475	511	536	543	420
135°	608	611	625	646	652	468
145°	735	735	738	747	750	459
155°	840	840	841	844	839	387
165°	915	913	913	917	912	258
175°	952	949	949	953	948	90
180°	954	954	954	954	954	



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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	146.7	162.7	178.7	189.2
90°	18.6	35.2	51.9	68.5	85.1	102.3	120.1	137.8	155.5	173.3	184.4
92.5°	34.9	49.6	64.1	78.8	93.4	109.1	125.6	142.2	158.8	175.3	186.0
95°	59.4	72.4	85.5	98.6	111.7	126.3	142.6	159.0	175.2	191.6	201.7
97.5°	92.0	103.6	115.2	126.8	138.5	151.9	167.2	182.5	197.7	213.0	222.9
100°	114.3	125.1	135.8	146.6	157.4	170.3	185.1	200.0	214.9	229.7	239.1
102.5°	140.2	149.6	159.0	168.3	177.7	190.0	204.8	219.7	234.7	249.5	258.6
105°	179.7	187.3	195.0	202.7	210.3	221.5	236.1	250.7	265.4	279.9	288.5
107.5°	224.2	230.6	237.0	243.5	249.9	259.6	272.7	285.8	298.8	311.8	320.6
110°	251.9	257.7	263.5	269.3	275.2	284.4	296.9	309.4	322.0	334.6	343.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	281.9	286.6	291.2	296.0	300.7	309.0	320.7	332.5	344.4	356.2	364.7
115°	325.5	329.6	333.8	337.9	342.1	349.5	360.2	370.8	381.5	392.1	399.7
117.5°	370.4	373.0	375.7	378.2	380.8	387.1	397.0	406.9	416.8	426.6	433.8
120°	397.5	400.0	402.5	405.1	407.6	413.5	422.7	432.0	441.2	450.5	457.4
122.5°	426.9	428.4	430.0	431.5	433.0	438.4	447.5	456.7	465.9	474.9	481.3
125°	470.4	470.9	471.3	471.8	472.3	476.9	485.3	493.9	502.4	511.0	516.7
127.5°	511.7	512.5	513.2	514.0	514.7	518.7	525.6	532.6	539.6	546.4	551.6
130°	539.3	540.4	541.4	542.4	543.4	546.7	552.4	558.0	563.6	569.2	574.3
132.5°	565.8	567.0	568.4	569.6	570.9	573.8	578.2	582.8	587.3	591.9	596.6
135°	607.6	608.3	609.0	609.8	610.5	612.4	615.5	618.7	622.0	625.1	630.0
137.5°	646.3	646.9	647.5	648.1	648.7	650.2	652.5	654.8	657.1	659.4	663.6
140°	672.3	673.1	673.9	674.7	675.6	676.5	677.6	678.7	679.7	680.9	685.3
142.5°	696.8	697.4	698.0	698.6	699.1	699.7	700.2	700.6	701.1	701.7	705.6
145°	735.2	735.2	735.3	735.3	735.3	735.6	736.1	736.6	737.1	737.6	739.8
147.5°	767.4	768.0	768.6	769.2	769.8	770.3	770.8	771.2	771.7	772.2	773.0
150°	790.8	791.1	791.4	791.8	792.1	792.4	792.7	793.1	793.5	793.8	793.8
152.5°	810.0	810.4	810.9	811.4	811.8	812.1	812.3	812.5	812.7	812.9	813.2
155°	840.3	840.3	840.3	840.3	840.3	840.3	840.5	840.7	840.8	841.0	841.7
157.5°	866.1	865.9	865.7	865.5	865.3	865.3	865.4	865.5	865.7	865.8	866.5
160°	882.2	881.9	881.6	881.2	880.9	880.7	880.7	880.7	880.7	880.7	881.6
162.5°	896.7	896.2	895.6	895.2	894.7	894.6	894.7	894.8	895.0	895.1	896.0
165°	915.2	914.7	914.2	913.7	913.2	912.9	912.9	912.9	912.9	912.9	913.9
167.5°	930.1	929.4	928.8	928.1	927.4	927.2	927.3	927.4	927.6	927.7	928.7
170°	938.5	937.8	937.2	936.4	935.7	935.4	935.4	935.4	935.4	935.4	936.6
172.5°	945.0	944.4	943.7	943.0	942.4	942.0	942.0	942.0	942.0	942.0	943.1
175°	951.9	951.3	950.6	950.0	949.3	949.0	949.0	949.0	949.0	949.0	950.0
177.5°	954.8	954.2	953.7	953.2	952.7	952.4	952.4	952.4	952.4	952.4	953.2
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2



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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	227.6	230.8	233.9	236.9	240.0
90°	195.4	206.4	217.5	224.7	228.1	231.5	234.9	238.3
92.5°	196.6	207.3	218.0	224.6	227.2	229.8	232.5	235.1
95°	211.8	222.0	232.1	238.6	241.8	244.8	247.8	250.9
97.5°	232.7	242.6	252.5	258.8	261.9	264.9	267.8	270.8
100°	248.5	257.8	267.2	273.6	276.9	280.3	283.8	287.1
102.5°	267.8	276.9	286.0	292.1	295.1	298.0	301.0	304.0
105°	297.1	305.7	314.2	320.0	323.1	326.2	329.2	332.3
107.5°	329.3	338.0	346.8	352.3	354.9	357.3	359.8	362.3
110°	351.8	360.4	369.0	374.4	376.5	378.6	380.7	382.8



TEST NUMBER: P332189-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.1	381.6	390.1	395.7	398.3	400.9	403.5	406.2
115°	407.2	414.7	422.1	427.1	429.3	431.6	433.8	436.2
117.5°	441.1	448.3	455.6	460.1	462.0	463.9	465.9	467.8
120°	464.2	471.1	478.0	482.3	484.0	485.8	487.7	489.5
122.5°	487.7	494.0	500.4	504.4	506.0	507.8	509.4	511.1
125°	522.5	528.2	533.9	537.6	539.1	540.5	542.0	543.4
127.5°	556.7	561.8	566.9	570.2	571.5	572.8	574.1	575.4
130°	579.5	584.6	589.8	592.6	593.3	594.0	594.6	595.3
132.5°	601.4	606.1	610.9	613.9	615.0	616.2	617.4	618.5
135°	634.8	639.6	644.5	647.5	648.6	649.8	651.1	652.3
137.5°	667.7	671.9	676.0	678.5	679.3	680.2	681.2	682.1
140°	689.6	694.1	698.5	700.9	701.3	701.7	702.0	702.4
142.5°	709.5	713.5	717.3	719.6	720.2	720.8	721.5	722.2
145°	742.1	744.4	746.7	748.1	748.6	749.2	749.7	750.3
147.5°	773.7	774.4	775.2	775.6	775.7	775.8	775.9	776.0
150°	793.8	793.8	793.8	793.6	793.2	792.8	792.4	792.0
152.5°	813.5	813.7	814.1	813.9	813.0	812.3	811.5	810.8
155°	842.3	843.0	843.6	843.4	842.2	841.1	839.9	838.8
157.5°	867.2	867.9	868.6	868.4	867.5	866.6	865.7	864.6
160°	882.4	883.2	884.0	884.1	883.5	882.8	882.1	881.5
162.5°	896.8	897.7	898.5	898.4	897.3	896.3	895.1	894.0
165°	914.9	915.9	917.0	916.9	915.7	914.5	913.4	912.2
167.5°	929.7	930.8	931.8	931.8	930.8	929.7	928.7	927.7
170°	937.8	939.0	940.1	940.1	939.0	937.8	936.6	935.4
172.5°	944.1	945.1	946.1	946.1	944.9	943.8	942.6	941.5
175°	951.0	951.9	952.9	952.9	951.7	950.5	949.4	948.2
177.5°	954.0	954.8	955.6	955.5	954.6	953.6	952.7	951.8
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2

(END OF REPORT)