

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: P332218-830

Luminaire Tested: **S123DIW-S1165D755U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332218-830
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-S1165D755U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 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: 7420.1 lumens
Efficiency: N/A
Efficacy: 124.1 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

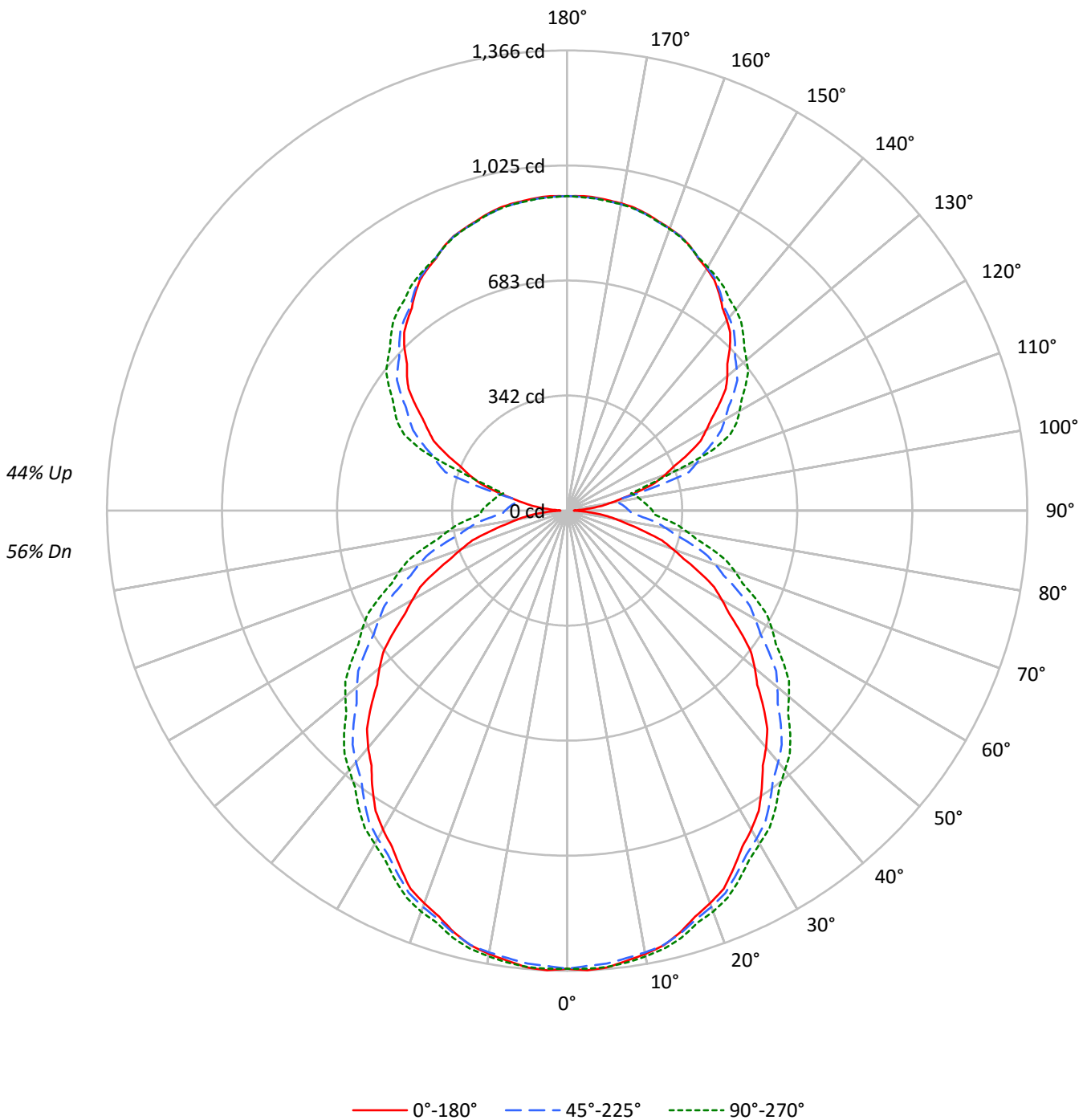
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332218-830

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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	52	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	30	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	58	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°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.7
10°-20°	367.5	5.0
20°-30°	549.7	7.4
30°-40°	656.5	8.8
40°-50°	686.9	9.3
50°-60°	644.6	8.7
60°-70°	538.3	7.3
70°-80°	385.2	5.2
80°-90°	232.3	3.1
90°-100°	178.1	2.4
100°-110°	267.7	3.6
110°-120°	459.3	6.2
120°-130°	535.2	7.2
130°-140°	546.8	7.4
140°-150°	498.2	6.7
150°-160°	398.8	5.4
160°-170°	257.4	3.5
170°-180°	88.7	1.2
0°-30°	1046.2	14.1
0°-40°	1702.7	22.9
0°-60°	3034.1	40.9
0°-90°	4189.9	56.5
90°-120°	905.0	12.2
90°-150°	2485.2	33.5
90°-180°	3230.0	43.5
0°-180°	7420.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	100	184	235	253	15
95°	59	91	168	217	234	65
105°	219	259	263	187	196	231
115°	395	419	477	518	534	390
125°	551	559	602	634	646	492
135°	683	687	705	733	739	526
145°	787	790	791	804	811	492
155°	865	864	864	867	864	398
165°	912	910	909	914	910	258
175°	934	930	931	935	930	89
180°	934	934	934	934	934	



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CATALOG NUMBER: S123DIW-S1165D755U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.6	56.3	73.0	89.6	106.4	123.3	140.5	157.7	174.9	192.1	203.4
90°	20.0	37.6	55.3	73.0	90.7	108.9	127.7	146.5	165.2	184.1	195.9
92.5°	31.0	45.1	59.2	73.3	87.5	103.6	121.6	139.6	157.7	175.7	187.6
95°	58.6	65.1	71.6	78.1	84.7	96.9	114.7	132.5	150.3	168.1	179.5
97.5°	99.5	108.3	117.1	125.8	134.6	141.1	145.4	149.7	154.0	158.3	169.4
100°	130.5	144.2	157.8	171.4	185.0	187.4	178.5	169.6	160.7	151.7	162.6
102.5°	166.0	177.7	189.4	201.0	212.8	212.9	201.6	190.2	178.8	167.4	172.9
105°	218.6	228.1	237.7	247.3	256.9	261.8	262.1	262.4	262.7	263.0	245.0
107.5°	272.5	280.6	288.7	296.7	304.8	316.7	332.2	347.9	363.5	379.2	368.0
110°	308.5	315.7	322.8	330.0	337.1	348.2	363.1	377.9	392.8	407.6	411.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	344.0	350.0	356.0	361.9	368.0	378.1	392.5	406.8	421.1	435.5	443.8
115°	395.1	400.0	404.9	409.7	414.6	423.7	437.0	450.2	463.4	476.6	486.1
117.5°	445.7	449.3	452.9	456.5	460.1	467.8	479.6	491.4	503.2	515.1	524.1
120°	476.2	479.2	482.2	485.3	488.3	495.5	506.8	518.1	529.4	540.8	549.6
122.5°	508.3	510.4	512.4	514.3	516.3	522.8	533.8	544.7	555.5	566.5	574.7
125°	551.0	552.2	553.5	554.7	555.9	561.7	571.7	581.9	592.1	602.3	609.5
127.5°	593.7	594.7	595.5	596.4	597.3	602.1	610.8	619.3	628.0	636.7	643.7
130°	620.4	621.2	622.2	623.0	624.0	628.0	635.2	642.4	649.6	656.9	663.6
132.5°	644.7	645.8	647.1	648.2	649.3	652.8	658.6	664.3	670.1	675.9	682.5
135°	683.3	684.0	684.6	685.1	685.7	688.2	692.4	696.6	700.9	705.1	711.5
137.5°	716.3	717.3	718.2	719.1	720.0	721.6	724.1	726.4	728.8	731.1	737.1
140°	737.4	738.3	739.2	740.2	741.0	742.3	743.7	745.2	746.6	748.1	753.7
142.5°	757.9	758.6	759.2	759.9	760.5	761.2	761.9	762.5	763.2	763.8	768.7
145°	786.6	787.4	788.2	788.9	789.6	790.1	790.4	790.8	791.1	791.4	794.3
147.5°	812.2	812.8	813.6	814.3	815.0	815.5	815.9	816.1	816.4	816.7	817.8
150°	828.9	829.2	829.7	830.2	830.7	831.0	831.4	831.7	832.0	832.3	832.6
152.5°	843.8	844.0	844.2	844.4	844.7	844.9	845.1	845.3	845.5	845.6	846.1
155°	864.9	864.6	864.3	863.9	863.7	863.6	863.7	863.9	864.0	864.2	865.0
157.5°	881.3	881.3	881.2	881.2	881.2	881.1	880.9	880.7	880.6	880.4	881.4
160°	891.3	891.1	891.0	890.8	890.6	890.5	890.3	890.1	890.0	889.9	890.8
162.5°	900.7	900.3	899.8	899.5	899.1	898.8	898.6	898.5	898.3	898.1	899.3
165°	912.1	911.6	911.2	910.7	910.2	909.9	909.7	909.6	909.5	909.3	910.5
167.5°	921.0	920.3	919.7	919.1	918.5	918.1	918.1	918.1	918.1	918.1	919.4
170°	926.0	925.3	924.7	924.1	923.5	923.1	923.1	923.1	923.1	923.1	924.4
172.5°	929.3	928.5	927.7	927.1	926.3	926.0	926.1	926.2	926.3	926.5	927.7
175°	933.6	932.7	932.0	931.2	930.5	930.2	930.3	930.5	930.7	930.8	931.9
177.5°	934.6	934.1	933.4	932.8	932.2	932.0	932.1	932.2	932.4	932.5	933.4
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	214.7	226.0	237.3	244.7	248.1	251.4	254.8	258.1
90°	207.6	219.5	231.3	239.0	242.6	246.2	249.8	253.4
92.5°	199.5	211.4	223.4	230.9	234.1	237.3	240.5	243.7
95°	190.8	202.1	213.3	220.6	223.9	227.2	230.5	233.8
97.5°	180.4	191.4	202.6	209.8	213.2	216.7	220.1	223.6
100°	173.3	184.2	194.9	202.0	205.5	209.0	212.4	215.8
102.5°	178.3	183.8	189.3	193.8	197.4	201.0	204.5	208.1
105°	226.9	208.9	190.8	183.3	186.6	189.9	193.2	196.4
107.5°	356.8	345.6	334.4	320.0	302.4	284.6	267.0	249.3
110°	414.5	418.0	421.5	413.6	394.2	374.8	355.3	335.9



TEST NUMBER: P332218-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	452.2	460.6	469.0	472.3	470.6	468.8	467.0	465.3
115°	495.5	505.0	514.4	520.8	524.1	527.3	530.5	533.8
117.5°	533.2	542.3	551.4	557.2	560.0	562.6	565.3	568.0
120°	558.4	567.2	576.0	581.5	583.9	586.2	588.5	590.8
122.5°	582.9	591.0	599.2	604.5	606.9	609.4	611.8	614.2
125°	616.7	624.0	631.1	636.1	638.7	641.3	643.9	646.5
127.5°	650.7	657.7	664.7	669.2	671.1	673.1	675.0	676.9
130°	670.5	677.4	684.3	688.6	690.2	691.9	693.6	695.2
132.5°	689.1	695.7	702.3	706.5	708.3	710.1	711.9	713.7
135°	717.9	724.2	730.7	734.4	735.7	736.8	738.0	739.2
137.5°	743.0	748.9	754.9	758.6	759.9	761.2	762.6	763.9
140°	759.1	764.7	770.2	773.7	775.1	776.4	777.7	779.1
142.5°	773.6	778.5	783.4	786.6	787.8	788.9	790.1	791.4
145°	797.3	800.2	803.1	805.3	806.6	807.9	809.3	810.6
147.5°	819.0	820.0	821.1	821.9	822.5	822.9	823.4	823.9
150°	832.9	833.2	833.5	833.8	834.0	834.2	834.3	834.5
152.5°	846.7	847.3	847.8	847.8	847.3	846.7	846.1	845.6
155°	865.7	866.5	867.3	867.2	866.3	865.3	864.4	863.5
157.5°	882.3	883.2	884.1	884.0	882.8	881.6	880.4	879.2
160°	891.7	892.7	893.5	893.5	892.4	891.4	890.2	889.2
162.5°	900.3	901.4	902.4	902.4	901.4	900.5	899.6	898.6
165°	911.7	912.9	914.2	914.3	913.2	912.1	911.1	909.9
167.5°	920.6	921.9	923.1	923.1	921.9	920.6	919.4	918.1
170°	925.6	926.9	928.1	928.1	926.9	925.6	924.4	923.1
172.5°	929.0	930.2	931.4	931.3	930.0	928.7	927.3	926.0
175°	932.9	934.1	935.1	935.0	933.8	932.6	931.3	930.1
177.5°	934.4	935.4	936.4	936.2	935.0	933.8	932.6	931.3
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6

(END OF REPORT)