

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: P333061-830

Luminaire Tested: **S124RDIW-S795D770U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333061-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIW-S795D770U830-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 770 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5921.3 lumens  
Efficiency: N/A  
Efficacy: 131.6 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: General Diffuse

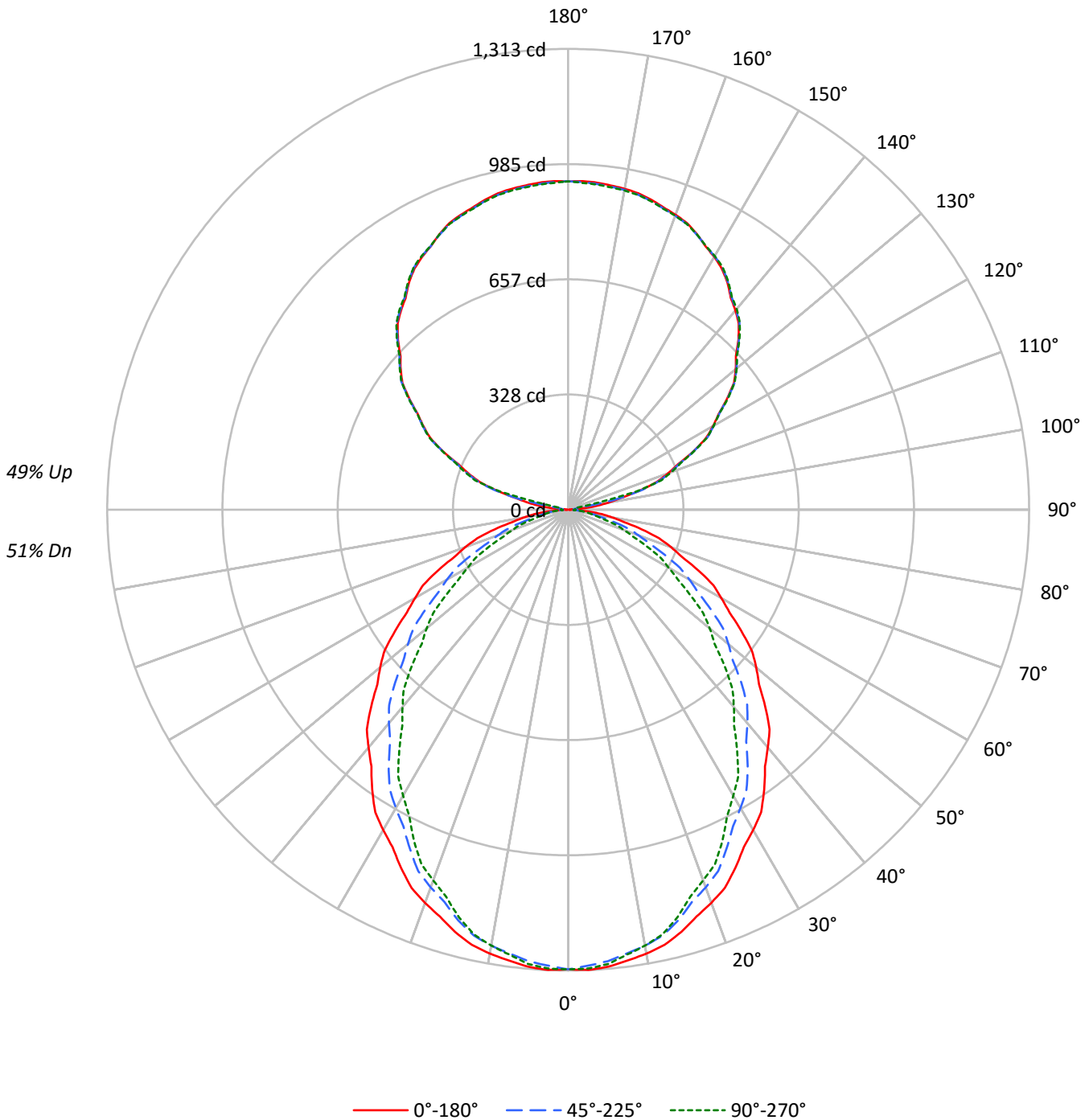
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	50	30	10	0														
RCR																																						
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51						51														
1	98	94	90	87	91	87	84	81	74	72	70	62	60	59	51	50	49	44						44														
2	90	82	76	71	83	76	71	67	65	61	58	55	52	50	45	43	42	37						37														
3	82	73	66	60	76	68	61	56	58	53	49	49	45	42	40	38	36	32						32														
4	75	65	57	51	69	60	53	48	51	46	42	43	40	36	36	33	31	27						27														
5	69	58	50	44	64	54	47	41	46	41	36	39	35	32	33	30	27	24						24														
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	30	26	24	21						21														
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19						19														
8	55	43	35	30	51	40	33	28	35	29	25	30	25	22	25	22	19	17						17														
9	51	39	31	26	47	36	30	25	32	26	23	27	23	20	23	20	17	15						15														
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14						14														

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10571	10571	10571
5°	10594	10464	10529
10°	10528	10339	10339
15°	10407	10122	10046
20°	10241	9836	9655
25°	10029	9502	9260
30°	9822	9149	8766
35°	9594	8784	8270
40°	9319	8368	7734
45°	9065	7955	7188
50°	8776	7479	6610
55°	8466	6984	5983
60°	8126	6442	5341
65°	7815	5765	4713
70°	7360	5016	4001
75°	6784	4161	3250
80°	5918	3166	2985
85°	5011	2881	2686



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.0	2.1
10°-20°	343.0	5.8
20°-30°	495.3	8.4
30°-40°	561.4	9.5
40°-50°	542.1	9.2
50°-60°	450.8	7.6
60°-70°	311.3	5.3
70°-80°	157.8	2.7
80°-90°	43.2	0.7
90°-100°	32.0	0.5
100°-110°	204.0	3.4
110°-120°	390.2	6.6
120°-130°	495.4	8.4
130°-140°	530.0	9.0
140°-150°	495.6	8.4
150°-160°	399.7	6.7
160°-170°	257.8	4.4
170°-180°	88.8	1.5
0°-30°	961.2	16.2
0°-40°	1522.6	25.7
0°-60°	2515.6	42.5
0°-90°	3027.8	51.1
90°-120°	626.2	10.6
90°-150°	2147.2	36.3
90°-180°	2894.0	48.9
0°-180°	5921.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1307	1303	1291	1301	1299	124
15°	1245	1235	1211	1209	1202	351
25°	1126	1106	1067	1050	1040	519
35°	974	940	891	858	839	608
45°	794	756	697	649	630	612
55°	602	560	496	446	425	538
65°	409	365	302	260	247	404
75°	218	180	133	111	104	230
85°	54	35	31	29	29	61
90°	2	10	15	19	21	4
95°	38	16	15	19	20	49
105°	211	215	218	223	199	220
115°	393	395	394	396	396	387
125°	553	555	554	556	557	493
135°	686	685	688	689	690	528
145°	791	793	793	793	795	494
155°	867	867	865	868	866	400
165°	914	911	911	916	910	258
175°	935	932	932	937	930	89
180°	935	935	935	935	935	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1312.6	1311.8	1311.1	1310.4	1309.7	1308.3	1306.4	1304.5	1302.5	1300.5	1302.5
5°	1307.3	1306.5	1305.5	1304.7	1303.7	1302.0	1299.3	1296.7	1293.9	1291.3	1293.5
7.5°	1295.5	1294.6	1293.6	1292.7	1291.8	1289.6	1286.1	1282.6	1279.1	1275.6	1277.1
10°	1284.3	1283.2	1282.0	1280.9	1279.8	1277.2	1273.3	1269.2	1265.3	1261.2	1262.1
12.5°	1269.8	1268.6	1267.2	1265.9	1264.7	1261.7	1257.0	1252.2	1247.5	1242.7	1243.3
15°	1245.2	1243.2	1241.1	1239.2	1237.2	1233.4	1227.8	1222.2	1216.6	1211.1	1210.6
17.5°	1215.3	1212.4	1209.5	1206.6	1203.7	1198.9	1192.2	1185.5	1178.8	1172.1	1170.9
20°	1192.0	1189.1	1186.3	1183.4	1180.4	1175.3	1167.6	1160.1	1152.4	1144.9	1143.1
22.5°	1166.4	1163.1	1159.9	1156.6	1153.4	1147.6	1139.5	1131.4	1123.3	1115.2	1112.6
25°	1125.9	1121.8	1117.9	1113.8	1109.8	1103.2	1094.1	1085.0	1075.8	1066.7	1062.9
27.5°	1083.4	1078.4	1073.3	1068.3	1063.2	1055.8	1046.0	1036.3	1026.5	1016.8	1012.1
30°	1053.7	1048.1	1042.5	1037.0	1031.4	1023.4	1013.0	1002.5	991.9	981.5	975.9
32.5°	1022.4	1016.2	1009.8	1003.5	997.3	988.7	977.9	967.0	956.2	945.4	939.0
35°	973.5	966.4	959.2	952.1	945.0	935.9	924.7	913.5	902.4	891.3	883.7
37.5°	921.1	913.8	906.4	899.1	891.7	881.9	869.6	857.2	844.9	832.5	824.1
40°	884.3	876.9	869.6	862.2	854.9	844.8	832.1	819.4	806.7	794.0	784.7
42.5°	848.9	841.2	833.6	825.9	818.1	807.7	794.5	781.2	768.0	754.7	745.2
45°	794.0	785.8	777.5	769.3	761.0	750.3	736.9	723.5	710.1	696.8	685.9
47.5°	737.3	728.8	720.3	711.7	703.2	692.0	678.2	664.2	650.4	636.4	625.1
50°	698.8	690.1	681.4	672.7	664.0	652.5	638.3	624.1	609.7	595.5	584.4
52.5°	659.5	651.0	642.4	634.0	625.5	613.9	599.3	584.7	570.0	555.4	544.1
55°	601.5	592.6	583.7	574.8	565.9	554.2	539.7	525.2	510.8	496.2	484.7
57.5°	544.2	534.9	525.7	516.4	507.1	495.3	481.1	466.8	452.6	438.3	426.6
60°	503.3	494.4	485.5	476.5	467.6	456.1	441.8	427.5	413.3	399.0	387.4
62.5°	466.4	457.1	447.9	438.6	429.3	417.4	402.7	388.1	373.5	358.9	348.2
65°	409.1	399.4	389.8	380.3	370.7	358.8	344.5	330.3	316.0	301.8	292.2
67.5°	349.5	340.4	331.1	322.0	312.7	301.6	288.3	275.1	261.8	248.6	240.3
70°	311.8	302.5	293.0	283.7	274.4	263.3	250.6	237.9	225.3	212.5	205.2
72.5°	271.7	263.3	254.8	246.3	237.8	227.6	215.7	203.6	191.6	179.6	173.3
75°	217.5	209.3	201.0	192.8	184.5	175.2	164.8	154.3	143.8	133.4	128.2
77.5°	162.6	155.6	148.6	141.7	134.6	126.9	118.5	110.0	101.5	93.0	90.0
80°	127.3	120.8	114.4	107.9	101.5	94.9	88.2	81.5	74.8	68.1	67.5
82.5°	96.9	91.0	85.0	79.1	73.1	68.2	64.5	60.6	56.7	53.0	52.4
85°	54.1	49.7	45.2	40.8	36.3	33.7	33.1	32.4	31.8	31.1	30.6
87.5°	18.9	17.8	16.7	15.6	14.5	14.0	14.1	14.1	14.2	14.3	14.3
90°	2.1	3.8	5.6	7.3	9.0	10.5	11.7	12.9	14.1	15.4	16.3
92.5°	8.9	9.0	9.0	9.0	9.1	9.9	11.1	12.3	13.6	14.8	15.7
95°	38.5	33.2	27.9	22.6	17.3	14.8	14.9	15.1	15.3	15.4	16.3
97.5°	81.7	85.0	88.3	91.6	94.9	87.8	70.5	53.2	35.8	18.5	18.6
100°	114.7	117.5	120.4	123.1	125.9	116.6	95.2	73.7	52.2	30.8	28.2
102.5°	151.7	153.7	155.8	157.9	159.9	159.5	156.7	153.9	151.1	148.4	119.8
105°	210.6	211.5	212.4	213.4	214.3	215.2	215.9	216.7	217.5	218.3	219.7
107.5°	265.3	265.8	266.3	266.7	267.2	268.0	269.0	270.0	271.1	272.1	272.9
110°	302.3	302.7	303.2	303.7	304.1	304.8	305.8	306.7	307.6	308.5	308.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	338.1	338.9	339.8	340.5	341.4	342.0	342.5	342.9	343.4	343.8	343.7
115°	393.2	393.7	394.2	394.5	395.0	395.2	395.0	394.9	394.7	394.5	394.9
117.5°	442.9	443.5	444.1	444.7	445.4	445.8	446.2	446.5	446.9	447.2	447.1
120°	476.5	477.1	477.7	478.3	478.9	479.2	479.0	478.9	478.7	478.5	478.9
122.5°	507.8	508.1	508.5	508.9	509.3	509.5	509.8	510.0	510.2	510.5	510.7
125°	552.7	553.4	553.9	554.6	555.2	555.3	555.1	554.8	554.4	554.1	554.6
127.5°	595.2	595.4	595.6	595.7	595.9	596.3	597.0	597.8	598.4	599.2	599.1
130°	622.6	622.8	623.0	623.1	623.3	623.6	624.1	624.5	625.0	625.5	625.7
132.5°	647.9	648.2	648.5	648.7	648.9	649.4	650.0	650.6	651.2	651.8	652.0
135°	685.6	685.5	685.3	685.1	685.0	685.2	685.9	686.5	687.1	687.8	688.1
137.5°	719.1	719.2	719.3	719.3	719.3	719.7	720.4	721.0	721.8	722.5	722.7
140°	740.9	741.2	741.5	741.9	742.2	742.4	742.8	743.1	743.4	743.8	744.1
142.5°	760.5	761.1	761.7	762.1	762.7	763.1	763.3	763.5	763.6	763.8	764.2
145°	790.6	791.1	791.5	792.0	792.5	792.7	792.7	792.7	792.7	792.7	792.9
147.5°	814.5	815.4	816.2	817.1	818.0	818.3	818.2	818.0	817.8	817.7	817.8
150°	831.9	832.5	833.1	833.8	834.3	834.6	834.4	834.2	834.2	834.0	834.0
152.5°	846.4	846.9	847.4	847.9	848.4	848.5	848.2	848.0	847.7	847.4	847.6
155°	866.9	867.0	867.1	867.3	867.5	867.3	866.9	866.4	865.9	865.4	866.1
157.5°	884.1	884.0	883.9	883.8	883.7	883.4	882.9	882.3	881.7	881.3	882.0
160°	894.1	893.6	893.2	892.8	892.3	891.9	891.8	891.6	891.5	891.4	892.3
162.5°	903.1	902.5	901.9	901.4	900.7	900.3	900.2	900.0	899.8	899.8	900.7
165°	914.5	913.6	912.9	912.1	911.3	911.0	911.0	911.0	911.0	911.0	912.2
167.5°	923.4	922.6	921.8	921.0	920.1	919.7	919.6	919.5	919.5	919.4	920.7
170°	928.4	927.5	926.5	925.6	924.7	924.3	924.4	924.6	924.7	924.9	926.1
172.5°	931.8	930.9	929.9	929.0	928.0	927.7	927.8	927.9	928.1	928.3	929.5
175°	935.4	934.4	933.6	932.6	931.7	931.3	931.4	931.6	931.8	931.9	933.3
177.5°	937.1	936.2	935.4	934.4	933.6	933.3	933.6	933.8	934.1	934.2	935.3
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4	1309.4
2.5°	1304.5	1306.4	1308.3	1309.3	1309.1	1308.9	1308.7	1308.5
5°	1295.7	1298.0	1300.2	1301.1	1300.6	1300.2	1299.8	1299.3
7.5°	1278.5	1280.0	1281.4	1281.7	1281.0	1280.3	1279.6	1278.8
10°	1263.0	1263.9	1264.8	1264.8	1263.9	1263.0	1262.1	1261.2
12.5°	1243.9	1244.3	1244.9	1244.5	1243.3	1242.1	1240.8	1239.5
15°	1210.2	1209.8	1209.3	1208.3	1206.7	1205.1	1203.6	1202.0
17.5°	1169.7	1168.5	1167.2	1165.4	1163.0	1160.6	1158.3	1155.9
20°	1141.3	1139.5	1137.7	1135.5	1132.6	1129.6	1126.7	1123.9
22.5°	1109.9	1107.2	1104.6	1102.0	1099.7	1097.3	1095.0	1092.6
25°	1059.1	1055.4	1051.6	1048.6	1046.3	1044.1	1041.9	1039.6
27.5°	1007.4	1002.8	998.1	994.1	990.9	987.7	984.5	981.3
30°	970.3	964.8	959.2	954.6	951.1	947.5	944.0	940.4
32.5°	932.5	926.0	919.5	914.6	911.3	907.9	904.5	901.1
35°	876.1	868.6	861.0	855.2	851.2	847.2	843.1	839.1
37.5°	815.6	807.1	798.6	792.4	788.4	784.4	780.4	776.4
40°	775.3	765.9	756.6	749.9	745.9	741.9	737.9	733.9
42.5°	735.7	726.1	716.6	709.7	705.5	701.3	697.2	693.0
45°	675.0	664.0	653.1	645.6	641.6	637.6	633.6	629.6
47.5°	613.8	602.5	591.2	583.2	578.9	574.5	570.0	565.6
50°	573.3	562.1	550.9	543.3	539.0	534.8	530.6	526.3
52.5°	532.8	521.5	510.1	502.3	497.9	493.4	489.1	484.7
55°	473.1	461.5	450.0	442.1	437.8	433.6	429.3	425.1
57.5°	414.8	403.0	391.2	383.8	380.6	377.4	374.2	371.0
60°	375.9	364.3	352.7	345.1	341.6	338.0	334.4	330.8
62.5°	337.5	326.9	316.1	309.3	306.5	303.7	300.8	297.9
65°	282.6	273.1	263.4	257.3	254.7	251.9	249.3	246.7
67.5°	232.1	223.9	215.7	210.1	207.2	204.2	201.2	198.3
70°	197.8	190.5	183.1	178.3	176.2	173.9	171.6	169.5
72.5°	167.1	160.8	154.5	150.3	148.4	146.3	144.2	142.1
75°	123.1	118.0	112.8	109.6	108.3	107.0	105.6	104.2
77.5°	87.1	84.1	81.1	79.4	79.0	78.6	78.2	77.8
80°	66.8	66.2	65.5	65.0	64.8	64.6	64.4	64.2
82.5°	51.9	51.5	51.0	50.6	50.4	50.1	50.0	49.8
85°	30.2	29.8	29.3	29.0	29.0	29.0	29.0	29.0
87.5°	14.3	14.3	14.3	14.4	14.7	15.0	15.2	15.5
90°	17.2	18.2	19.1	19.7	20.1	20.4	20.6	21.0
92.5°	16.7	17.6	18.6	19.0	19.1	19.2	19.2	19.3
95°	17.2	18.2	19.1	19.7	19.8	20.0	20.2	20.3
97.5°	18.7	18.8	18.9	18.9	19.1	19.3	19.4	19.6
100°	25.5	22.8	20.2	18.9	19.1	19.3	19.4	19.6
102.5°	91.3	62.8	34.3	20.0	20.1	20.1	20.1	20.2
105°	221.1	222.4	223.9	221.8	216.2	210.6	205.0	199.4
107.5°	273.5	274.2	274.9	275.5	276.2	276.7	277.3	277.9
110°	309.2	309.4	309.8	310.2	310.7	311.1	311.6	312.1





TEST NUMBER: P333061-830

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	343.7	343.7	343.6	343.8	344.4	345.0	345.6	346.2
115°	395.2	395.5	395.9	396.0	396.0	396.0	396.0	396.0
117.5°	447.0	447.0	447.0	446.9	446.9	446.8	446.7	446.7
120°	479.2	479.5	479.8	479.8	479.5	479.2	478.9	478.5
122.5°	510.9	511.0	511.2	511.1	510.9	510.5	510.2	509.9
125°	555.1	555.5	556.0	556.3	556.5	556.6	556.8	556.9
127.5°	599.0	598.9	598.8	598.7	598.6	598.4	598.3	598.2
130°	625.8	625.9	626.1	626.1	626.1	626.1	626.1	626.1
132.5°	652.1	652.2	652.4	652.4	652.3	652.1	652.1	652.0
135°	688.3	688.7	689.0	689.3	689.6	689.9	690.2	690.5
137.5°	723.1	723.5	723.8	724.0	723.9	723.8	723.7	723.6
140°	744.6	745.1	745.6	745.9	746.0	746.2	746.4	746.5
142.5°	764.6	764.9	765.3	765.4	765.4	765.4	765.5	765.5
145°	793.0	793.1	793.3	793.5	793.8	794.2	794.5	794.8
147.5°	817.9	818.1	818.2	818.4	818.5	818.7	818.9	819.0
150°	834.0	834.0	834.0	834.1	834.2	834.3	834.5	834.6
152.5°	847.9	848.1	848.4	848.5	848.4	848.3	848.2	848.1
155°	866.7	867.3	867.9	868.0	867.5	867.0	866.6	866.2
157.5°	882.9	883.7	884.5	884.5	883.7	882.9	882.0	881.3
160°	893.2	894.1	895.0	895.0	894.1	893.2	892.3	891.4
162.5°	901.6	902.5	903.4	903.4	902.4	901.3	900.2	899.2
165°	913.4	914.6	915.9	915.9	914.5	913.0	911.6	910.2
167.5°	922.1	923.4	924.8	924.7	923.1	921.6	920.0	918.5
170°	927.4	928.7	929.9	929.7	928.2	926.6	925.1	923.5
172.5°	930.8	932.0	933.2	933.0	931.3	929.7	928.0	926.3
175°	934.7	936.1	937.5	937.3	935.4	933.6	931.7	929.8
177.5°	936.3	937.3	938.3	938.0	936.5	935.0	933.6	932.1
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4

(END OF REPORT)