

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: P332167-935

Luminaire Tested: **S123DIW-S775D1030U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332167-935  
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-S775D1030U935-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5808.2 lumens  
Efficiency: N/A  
Efficacy: 110.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

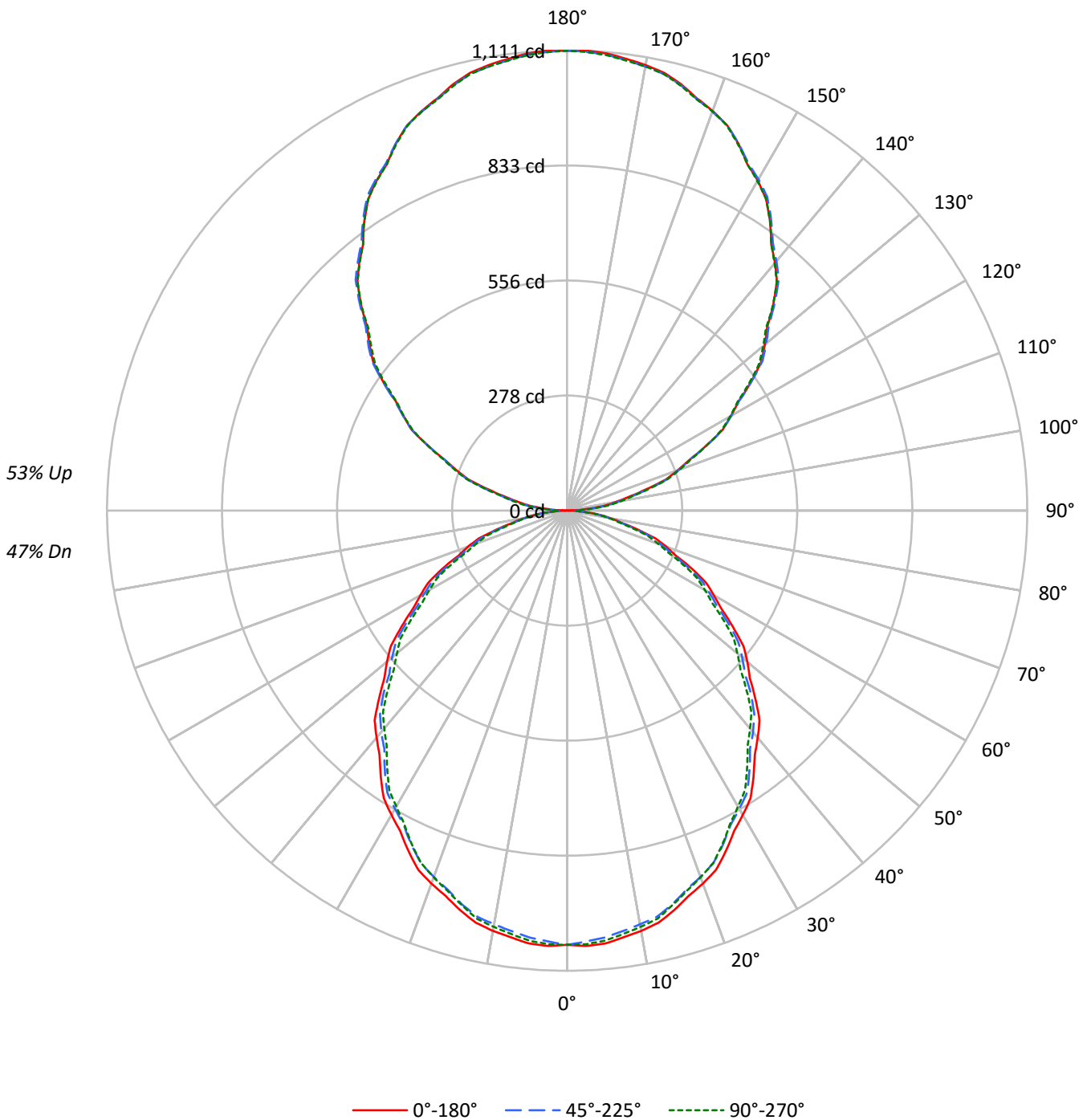
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47						47														
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45	39						39														
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38	33						33														
3	81	71	64	58	74	66	59	54	55	50	46	46	42	39	37	34	32	28						28														
4	74	63	55	49	67	58	51	46	49	44	40	41	37	34	33	30	28	24						24														
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21						21														
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	27	24	21	18						18														
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19	16						16														
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17	14						14														
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	21	18	15	13						13														
10	46	34	27	22	43	32	26	21	27	22	19	23	19	16	19	16	14	12						12														

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

	0°	45°	90°
0°	11286	11286	11286
5°	11339	11182	11261
10°	11262	11086	11154
15°	11131	10961	10981
20°	10977	10781	10791
25°	10772	10568	10546
30°	10544	10331	10253
35°	10307	10081	9950
40°	10058	9805	9653
45°	9785	9552	9319
50°	9512	9239	8982
55°	9154	8916	8646
60°	8792	8540	8269
65°	8474	8130	7875
70°	8003	7660	7320
75°	7311	7049	6750
80°	6595	6316	6261
85°	5780	5570	5348



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.8	1.7
10°-20°	278.9	4.8
20°-30°	411.9	7.1
30°-40°	481.2	8.3
40°-50°	483.8	8.3
50°-60°	425.0	7.3
60°-70°	316.6	5.5
70°-80°	180.4	3.1
80°-90°	55.1	0.9
90°-100°	72.4	1.2
100°-110°	216.5	3.7
110°-120°	368.3	6.3
120°-130°	484.4	8.3
130°-140°	544.4	9.4
140°-150°	535.2	9.2
150°-160°	450.5	7.8
160°-170°	299.9	5.2
170°-180°	105.0	1.8
0°-30°	789.6	13.6
0°-40°	1270.8	21.9
0°-60°	2179.5	37.5
0°-90°	2731.6	47.0
90°-120°	657.1	11.3
90°-150°	2221.1	38.2
90°-180°	3077.0	53.0
0°-180°	5808.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1048	1048	1048	1048	1048	
5°	1049	1045	1035	1043	1042	99
15°	999	995	984	990	985	281
25°	907	901	890	890	888	418
35°	784	779	767	762	757	490
45°	643	639	628	617	612	496
55°	488	486	475	466	461	437
65°	333	328	319	312	309	328
75°	176	172	170	165	162	188
85°	47	45	45	43	43	51
90°	1	10	21	24	26	6
95°	52	58	65	68	68	58
105°	196	198	206	206	208	210
115°	371	373	372	372	372	367
125°	543	545	544	540	536	484
135°	704	709	708	705	703	542
145°	854	856	858	857	854	533
155°	978	978	979	982	976	450
165°	1065	1063	1062	1067	1062	300
175°	1108	1104	1104	1109	1104	105
180°	1110	1110	1110	1110	1110	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1052.1	1051.5	1050.9	1050.2	1049.6	1048.4	1046.5	1044.8	1043.0	1041.3	1042.8
5°	1049.4	1048.4	1047.4	1046.4	1045.3	1043.8	1041.6	1039.4	1037.2	1034.9	1037.0
7.5°	1039.1	1038.1	1037.1	1036.1	1035.1	1033.5	1031.1	1028.9	1026.6	1024.3	1026.1
10°	1030.4	1029.4	1028.5	1027.4	1026.5	1024.7	1022.0	1019.4	1016.8	1014.3	1016.1
12.5°	1018.9	1018.0	1017.3	1016.4	1015.5	1013.9	1011.5	1009.0	1006.6	1004.1	1005.5
15°	998.9	998.1	997.3	996.5	995.7	994.0	991.4	988.8	986.2	983.6	985.2
17.5°	975.6	974.6	973.5	972.5	971.5	969.7	967.1	964.4	961.8	959.2	960.4
20°	958.3	957.1	956.0	954.8	953.6	951.6	949.0	946.4	943.8	941.2	942.0
22.5°	938.8	937.6	936.4	935.2	934.0	932.1	929.5	927.0	924.4	921.7	922.4
25°	907.0	905.8	904.6	903.4	902.2	900.3	897.6	895.0	892.4	889.8	890.0
27.5°	872.9	871.7	870.6	869.4	868.2	866.3	863.4	860.7	857.8	855.0	855.1
30°	848.3	847.3	846.4	845.3	844.3	842.4	839.6	836.8	834.1	831.2	831.2
32.5°	823.8	822.5	821.1	819.8	818.6	816.8	814.6	812.4	810.3	808.1	807.0
35°	784.4	783.2	782.0	780.8	779.5	777.7	775.0	772.4	769.8	767.2	766.0
37.5°	743.9	742.4	740.9	739.3	737.9	735.8	733.1	730.5	727.8	725.2	723.8
40°	715.8	714.6	713.4	712.2	711.0	709.0	706.2	703.4	700.6	697.8	696.2
42.5°	687.7	686.3	684.9	683.6	682.3	680.2	677.3	674.5	671.8	668.9	667.4
45°	642.8	642.0	641.2	640.4	639.6	637.9	635.2	632.7	630.1	627.5	625.1
47.5°	598.2	597.1	595.9	594.8	593.6	591.8	589.4	586.9	584.4	582.0	579.6
50°	568.0	567.0	565.9	565.0	564.0	562.1	559.6	557.0	554.3	551.7	549.6
52.5°	536.2	535.5	534.9	534.2	533.5	531.8	529.0	526.2	523.5	520.7	518.8
55°	487.8	487.5	487.3	487.2	486.9	485.5	482.9	480.4	477.7	475.1	472.9
57.5°	441.6	440.9	440.2	439.5	438.9	437.5	435.4	433.3	431.2	429.1	427.1
60°	408.4	408.2	408.0	407.8	407.6	406.3	403.9	401.5	399.1	396.7	394.9
62.5°	378.8	378.3	377.8	377.3	376.8	375.3	372.9	370.5	368.1	365.7	363.9
65°	332.7	331.7	330.6	329.7	328.6	327.2	325.1	323.1	321.2	319.2	317.5
67.5°	283.8	282.9	282.1	281.1	280.3	279.1	277.6	276.0	274.5	273.0	271.6
70°	254.3	253.0	251.8	250.6	249.4	248.2	247.0	245.8	244.6	243.4	242.0
72.5°	223.3	222.3	221.4	220.6	219.7	218.6	217.2	215.9	214.5	213.1	211.9
75°	175.8	175.0	174.2	173.4	172.6	171.9	171.3	170.7	170.0	169.5	168.5
77.5°	133.8	133.4	132.9	132.5	132.0	131.5	130.7	130.0	129.3	128.5	127.9
80°	106.4	105.8	105.2	104.6	104.0	103.5	103.1	102.7	102.3	101.9	101.7
82.5°	79.7	79.6	79.5	79.3	79.2	79.1	79.0	79.0	78.9	78.8	78.4
85°	46.8	46.5	46.1	45.7	45.3	45.1	45.1	45.1	45.1	45.1	44.7
87.5°	18.9	18.9	18.8	18.7	18.5	18.7	19.0	19.4	19.7	20.1	20.1
90°	0.9	2.8	4.7	6.7	8.6	10.8	13.3	15.9	18.4	20.9	21.7
92.5°	21.1	22.4	23.8	25.1	26.3	27.7	29.2	30.7	32.0	33.5	34.1
95°	51.5	52.8	54.2	55.5	56.9	58.4	59.9	61.5	63.0	64.6	65.3
97.5°	91.4	92.4	93.4	94.5	95.5	96.5	97.6	98.8	99.9	101.0	101.9
100°	118.6	119.8	121.0	122.1	123.3	124.3	125.4	126.3	127.3	128.2	128.8
102.5°	150.1	150.8	151.4	152.1	152.8	153.8	155.1	156.4	157.6	158.9	159.5
105°	196.3	196.7	197.1	197.4	197.9	198.9	200.6	202.3	204.1	205.9	205.9
107.5°	250.0	250.2	250.5	250.7	250.9	251.4	252.1	252.8	253.5	254.2	254.8
110°	283.5	283.9	284.3	284.6	285.1	285.4	285.9	286.2	286.6	287.0	287.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	318.4	318.7	318.8	319.1	319.3	319.4	319.5	319.6	319.7	319.8	320.7
115°	370.7	371.3	371.9	372.5	373.1	373.2	372.7	372.4	372.0	371.6	371.8
117.5°	423.4	423.8	424.2	424.6	425.0	424.9	424.4	423.9	423.4	422.9	422.8
120°	456.2	457.4	458.6	459.7	460.9	461.0	459.9	459.0	458.1	457.1	456.8
122.5°	490.4	491.3	492.1	492.9	493.8	494.0	493.5	493.0	492.5	492.0	491.5
125°	542.6	543.1	543.7	544.3	544.9	545.0	544.6	544.2	543.8	543.5	542.7
127.5°	590.7	591.9	593.2	594.4	595.6	596.1	595.6	595.2	594.8	594.3	593.3
130°	622.8	624.4	625.9	627.5	629.0	629.5	629.0	628.4	627.8	627.2	626.4
132.5°	654.9	656.4	658.0	659.6	661.2	661.7	661.2	660.8	660.4	660.0	659.0
135°	704.0	705.1	706.3	707.4	708.6	709.0	708.9	708.7	708.5	708.3	707.5
137.5°	749.3	750.3	751.2	752.2	753.2	753.9	754.4	754.9	755.4	756.0	755.1
140°	780.7	781.7	782.6	783.6	784.5	785.1	785.3	785.6	785.7	785.9	785.7
142.5°	809.3	810.3	811.2	812.2	813.2	813.8	814.2	814.5	814.9	815.3	815.0
145°	853.9	854.4	854.7	855.1	855.5	856.0	856.6	857.2	857.7	858.3	858.2
147.5°	893.0	893.7	894.4	895.2	895.9	896.5	897.0	897.6	898.1	898.6	898.6
150°	920.2	920.7	921.0	921.4	921.8	922.2	922.6	923.0	923.3	923.8	923.8
152.5°	942.6	943.1	943.7	944.3	944.8	945.1	945.4	945.6	945.9	946.1	946.4
155°	977.8	977.8	977.8	977.8	977.8	977.9	978.1	978.4	978.5	978.7	979.5
157.5°	1007.9	1007.6	1007.4	1007.1	1006.9	1006.9	1007.0	1007.2	1007.4	1007.5	1008.3
160°	1026.7	1026.3	1025.9	1025.5	1025.1	1024.9	1024.9	1024.9	1024.9	1024.9	1025.9
162.5°	1043.4	1042.9	1042.3	1041.8	1041.3	1041.0	1041.2	1041.4	1041.6	1041.7	1042.7
165°	1065.1	1064.5	1063.9	1063.3	1062.7	1062.5	1062.5	1062.5	1062.5	1062.5	1063.6
167.5°	1082.4	1081.6	1080.8	1080.0	1079.3	1078.9	1079.1	1079.3	1079.4	1079.5	1080.7
170°	1092.1	1091.3	1090.5	1089.8	1089.0	1088.6	1088.6	1088.6	1088.6	1088.6	1089.9
172.5°	1099.8	1099.0	1098.2	1097.4	1096.7	1096.3	1096.3	1096.3	1096.3	1096.3	1097.5
175°	1107.8	1107.1	1106.3	1105.5	1104.7	1104.3	1104.3	1104.3	1104.3	1104.3	1105.5
177.5°	1111.1	1110.5	1109.9	1109.2	1108.6	1108.4	1108.4	1108.4	1108.4	1108.4	1109.2
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5	1048.5
2.5°	1044.5	1046.1	1047.7	1048.4	1048.3	1048.1	1047.9	1047.8
5°	1039.0	1040.9	1043.0	1043.8	1043.4	1043.0	1042.6	1042.2
7.5°	1027.9	1029.8	1031.6	1032.3	1032.1	1031.8	1031.6	1031.4
10°	1017.9	1019.6	1021.4	1022.2	1021.7	1021.3	1021.0	1020.5
12.5°	1006.8	1008.1	1009.4	1010.0	1009.7	1009.4	1009.3	1009.0
15°	986.8	988.3	990.0	990.2	988.9	987.7	986.6	985.4
17.5°	961.5	962.6	963.7	964.1	963.6	963.2	962.8	962.3
20°	942.8	943.6	944.4	944.5	943.9	943.3	942.7	942.1
22.5°	923.0	923.7	924.3	924.2	923.5	922.7	922.0	921.2
25°	890.2	890.4	890.6	890.4	889.8	889.2	888.6	888.0
27.5°	855.3	855.5	855.7	855.3	854.6	853.9	853.1	852.3
30°	831.2	831.2	831.2	830.5	829.1	827.7	826.3	824.9
32.5°	805.9	804.8	803.7	802.7	801.9	801.2	800.4	799.7
35°	764.8	763.6	762.4	761.3	760.3	759.3	758.3	757.2
37.5°	722.3	720.8	719.5	718.4	717.7	717.1	716.4	715.8
40°	694.6	693.0	691.4	690.2	689.4	688.5	687.8	687.0
42.5°	665.7	664.1	662.5	661.3	660.6	659.7	658.9	658.1
45°	622.7	620.3	617.9	616.1	615.2	614.2	613.1	612.2
47.5°	577.3	575.0	572.6	570.9	570.1	569.2	568.3	567.4
50°	547.3	545.1	542.9	541.2	540.0	538.8	537.6	536.4
52.5°	516.9	515.1	513.2	511.7	510.5	509.3	508.1	506.9
55°	470.7	468.5	466.3	464.7	463.6	462.7	461.7	460.7
57.5°	425.2	423.3	421.3	419.7	418.5	417.4	416.2	415.1
60°	393.0	391.2	389.4	388.1	387.0	386.1	385.0	384.1
62.5°	362.1	360.2	358.4	357.2	356.5	355.9	355.2	354.5
65°	315.9	314.4	312.7	311.6	311.0	310.4	309.8	309.2
67.5°	270.2	268.8	267.3	266.2	265.4	264.6	263.7	262.9
70°	240.6	239.2	237.8	236.6	235.6	234.6	233.6	232.6
72.5°	210.6	209.4	208.2	207.2	206.7	206.2	205.7	205.2
75°	167.5	166.5	165.5	164.7	164.1	163.5	162.9	162.3
77.5°	127.2	126.5	125.8	125.5	125.5	125.5	125.5	125.5
80°	101.5	101.3	101.1	101.0	101.0	101.0	101.0	101.0
82.5°	78.1	77.7	77.3	77.1	77.0	76.8	76.6	76.5
85°	44.3	43.9	43.5	43.3	43.3	43.3	43.3	43.3
87.5°	20.1	20.1	20.1	20.1	20.1	20.2	20.3	20.4
90°	22.5	23.2	24.0	24.6	25.0	25.4	25.7	26.2
92.5°	34.7	35.4	36.0	36.2	35.9	35.7	35.5	35.2
95°	66.1	66.9	67.7	68.0	68.0	68.0	68.0	68.0
97.5°	102.8	103.7	104.6	105.0	104.9	104.9	104.8	104.7
100°	129.4	130.0	130.5	131.0	131.4	131.8	132.2	132.6
102.5°	160.1	160.7	161.3	161.5	161.4	161.4	161.3	161.2
105°	205.9	205.9	205.9	206.0	206.5	206.8	207.2	207.6
107.5°	255.5	256.1	256.7	256.8	256.7	256.4	256.1	255.9
110°	288.5	289.3	290.1	290.2	289.9	289.5	289.1	288.7





TEST NUMBER: P332167-935

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.7	322.5	323.5	323.9	323.8	323.7	323.7	323.6
115°	372.0	372.2	372.4	372.4	372.2	372.0	371.8	371.6
117.5°	422.8	422.8	422.8	422.4	421.9	421.4	420.8	420.3
120°	456.7	456.5	456.3	456.0	455.6	455.2	454.9	454.4
122.5°	490.9	490.4	490.0	489.4	488.9	488.4	487.8	487.2
125°	541.9	541.1	540.4	539.6	538.8	538.0	537.3	536.5
127.5°	592.2	591.2	590.0	589.0	588.1	587.3	586.3	585.5
130°	625.6	624.8	624.1	623.0	621.6	620.3	619.0	617.6
132.5°	658.1	657.2	656.3	655.3	654.2	653.2	652.1	651.1
135°	706.7	705.9	705.2	704.6	704.2	703.9	703.4	703.1
137.5°	754.3	753.5	752.7	751.9	751.1	750.4	749.7	749.0
140°	785.6	785.3	785.1	784.4	783.0	781.7	780.3	778.9
142.5°	814.9	814.7	814.5	813.8	812.8	811.8	810.7	809.7
145°	858.0	857.7	857.6	857.0	856.3	855.5	854.7	853.9
147.5°	898.6	898.6	898.6	898.0	896.9	895.7	894.6	893.4
150°	923.8	923.8	923.8	923.2	922.0	920.8	919.7	918.5
152.5°	946.7	947.0	947.4	947.0	946.0	944.9	943.9	943.0
155°	980.2	981.0	981.8	981.5	980.2	978.8	977.5	976.1
157.5°	1009.1	1010.0	1010.7	1010.6	1009.5	1008.5	1007.4	1006.3
160°	1026.9	1027.9	1028.8	1028.9	1028.1	1027.3	1026.6	1025.8
162.5°	1043.6	1044.6	1045.6	1045.4	1044.2	1042.9	1041.7	1040.4
165°	1064.8	1065.9	1067.1	1067.0	1065.7	1064.3	1062.9	1061.6
167.5°	1081.9	1083.1	1084.3	1084.3	1083.1	1081.9	1080.7	1079.5
170°	1091.3	1092.7	1094.1	1094.1	1092.7	1091.3	1089.9	1088.6
172.5°	1098.7	1099.9	1101.1	1101.0	1099.7	1098.3	1096.9	1095.6
175°	1106.6	1107.8	1109.0	1108.9	1107.5	1106.1	1104.8	1103.5
177.5°	1110.2	1111.1	1112.1	1112.0	1110.9	1109.8	1108.7	1107.7
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4

(END OF REPORT)