

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: P332224-927

Luminaire Tested: **S123DIW-S1165D1030U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332224-927  
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-S1165D1030U927-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7110.4 lumens  
Efficiency: N/A  
Efficacy: 105.5 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

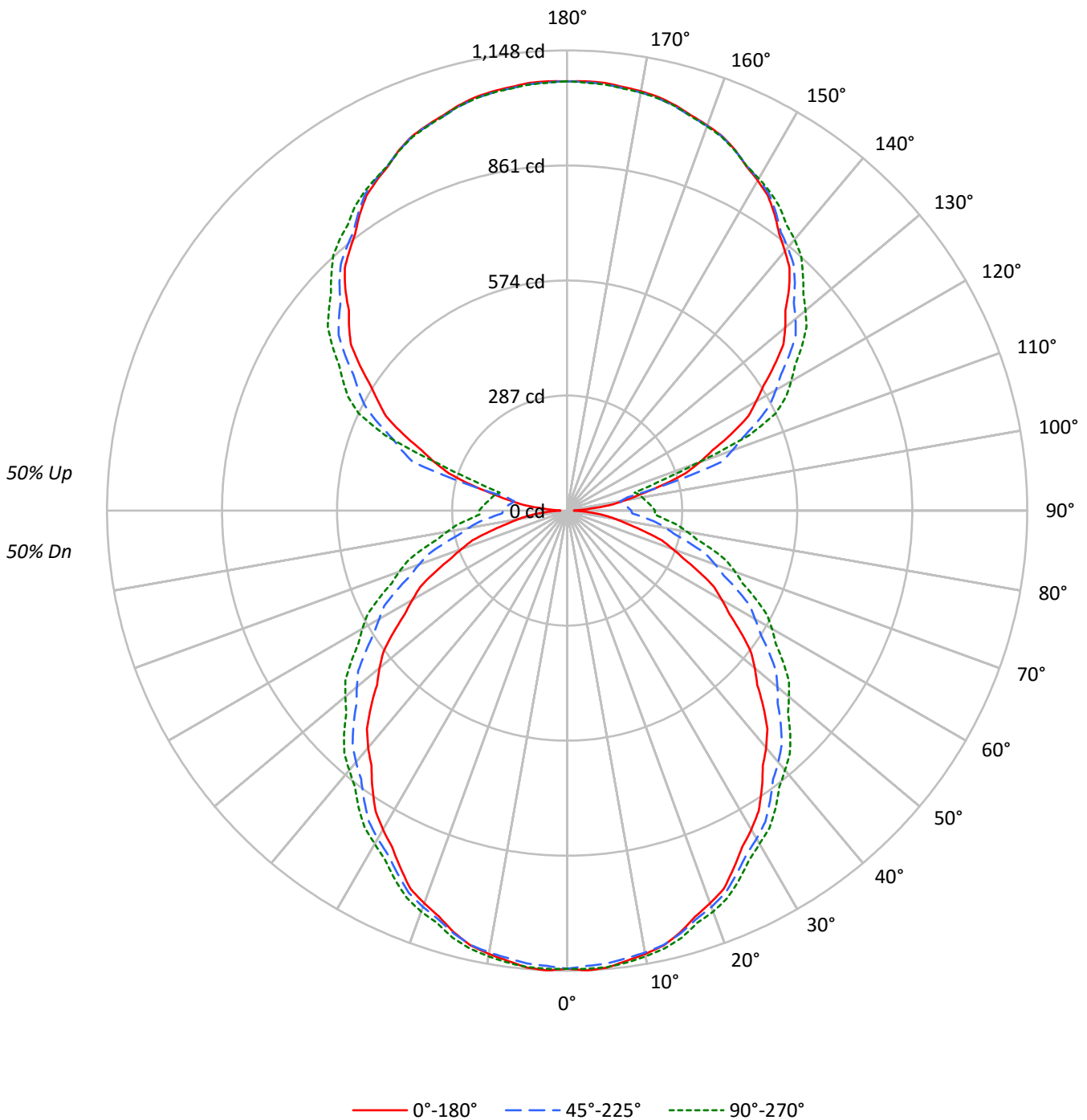
Input Watts (W): 67.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332224-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-D

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

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37
3	80	70	62	56	73	64	58	52	54	49	45	45	41	38	36	33	31
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	27
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13

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

	0°	45°	90°
0°	12304	12304	12304
5°	12343	11994	12001
10°	12232	11718	11659
15°	12075	11405	11287
20°	11849	11047	10876
25°	11571	10634	10444
30°	11287	10264	10006
35°	10967	9871	9658
40°	10663	9514	9284
45°	10325	9172	8985
50°	9990	8832	8655
55°	9622	8486	8359
60°	9263	8134	8056
65°	8896	7758	7694
70°	8341	7336	7323
75°	7640	6853	6946
80°	6835	6380	6515
85°	6085	6053	6268



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.4	1.5
10°-20°	308.9	4.3
20°-30°	462.0	6.5
30°-40°	551.8	7.8
40°-50°	577.3	8.1
50°-60°	541.7	7.6
60°-70°	452.5	6.4
70°-80°	323.7	4.6
80°-90°	196.1	2.8
90°-100°	160.1	2.3
100°-110°	274.6	3.9
110°-120°	505.2	7.1
120°-130°	601.6	8.5
130°-140°	621.7	8.7
140°-150°	570.4	8.0
150°-160°	457.5	6.4
160°-170°	295.2	4.2
170°-180°	101.8	1.4
0°-30°	879.3	12.4
0°-40°	1431.1	20.1
0°-60°	2550.1	35.9
0°-90°	3522.3	49.5
90°-120°	939.8	13.2
90°-150°	2733.6	38.4
90°-180°	3588.0	50.5
0°-180°	7110.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1144	1142	1134	1144	1143	108
15°	1090	1093	1092	1104	1103	307
25°	984	996	1000	1015	1016	453
35°	847	866	883	901	906	529
45°	692	722	753	776	787	534
55°	528	569	614	646	658	473
65°	365	414	468	504	518	360
75°	198	257	319	358	375	212
85°	61	124	189	230	244	64
90°	17	86	160	204	219	13
95°	62	81	148	190	204	71
105°	247	283	268	168	174	261
115°	451	472	523	559	574	445
125°	631	639	676	703	714	564
135°	783	787	803	827	832	603
145°	902	906	908	919	924	564
155°	992	991	991	995	991	457
165°	1046	1044	1043	1049	1044	295
175°	1071	1067	1068	1073	1067	102
180°	1071	1071	1071	1071	1071	



TEST NUMBER: P332224-927

CATALOG NUMBER: S123DIW-S1165D1030U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1148.1	1147.5	1146.8	1146.1	1145.4	1144.2	1142.5	1140.7	1138.9	1137.2	1138.9
5°	1144.4	1143.8	1143.3	1142.7	1142.2	1141.1	1139.4	1137.7	1136.1	1134.4	1136.6
7.5°	1133.1	1133.3	1133.4	1133.5	1133.6	1132.9	1131.2	1129.7	1128.1	1126.4	1129.2
10°	1123.2	1123.8	1124.3	1124.9	1125.5	1125.0	1123.6	1122.2	1120.9	1119.4	1122.2
12.5°	1111.3	1112.0	1112.8	1113.6	1114.4	1114.3	1113.3	1112.4	1111.4	1110.5	1113.0
15°	1089.6	1090.4	1091.2	1092.1	1092.9	1093.2	1092.9	1092.7	1092.3	1092.1	1094.9
17.5°	1062.2	1063.8	1065.5	1067.1	1068.8	1069.6	1069.5	1069.4	1069.3	1069.1	1071.7
20°	1042.3	1043.9	1045.6	1047.3	1048.9	1050.0	1050.6	1051.1	1051.7	1052.3	1054.7
22.5°	1021.4	1023.0	1024.7	1026.4	1028.0	1029.2	1030.0	1030.8	1031.5	1032.3	1035.5
25°	983.7	986.5	989.3	992.0	994.8	996.6	997.4	998.2	999.1	999.9	1003.5
27.5°	945.9	949.0	952.2	955.4	958.5	961.0	962.7	964.5	966.3	968.0	971.1
30°	919.0	922.6	926.1	929.8	933.3	936.3	938.5	940.7	942.9	945.2	948.5
32.5°	889.1	893.1	897.1	901.2	905.2	908.7	911.6	914.5	917.3	920.2	923.8
35°	846.8	851.2	855.6	860.1	864.5	868.5	872.1	875.7	879.2	882.9	887.0
37.5°	801.9	806.9	811.9	816.9	821.9	826.6	831.0	835.4	839.9	844.3	849.0
40°	772.1	777.1	782.0	787.0	791.9	797.3	802.8	808.3	813.8	819.4	824.1
42.5°	739.2	745.3	751.4	757.4	763.5	769.4	775.2	780.9	786.7	792.5	797.6
45°	692.4	699.0	705.6	712.3	718.9	725.7	732.6	739.5	746.5	753.4	758.6
47.5°	643.3	650.8	658.3	665.9	673.4	681.1	689.0	697.0	704.9	712.8	718.7
50°	611.4	619.2	626.9	634.6	642.4	650.5	659.2	667.7	676.3	684.8	691.3
52.5°	577.6	585.7	593.9	602.1	610.3	619.2	628.6	638.0	647.5	657.0	663.6
55°	528.0	537.1	546.2	555.4	564.5	574.0	584.0	594.0	604.0	613.9	621.4
57.5°	479.7	489.2	498.7	508.2	517.8	528.0	538.8	549.8	560.6	571.6	579.1
60°	445.8	455.7	465.7	475.7	485.6	496.3	507.6	519.0	530.4	541.7	549.5
62.5°	413.9	424.1	434.3	444.5	454.6	465.7	477.8	489.7	501.8	513.8	521.5
65°	364.9	375.7	386.4	397.2	408.1	419.5	431.7	443.9	456.1	468.2	476.5
67.5°	315.1	326.5	337.9	349.4	360.8	372.8	385.2	397.6	410.0	422.4	431.4
70°	280.2	292.1	304.0	315.8	327.8	340.4	353.6	366.9	380.2	393.5	402.3
72.5°	248.3	260.2	272.1	284.0	295.9	308.7	322.4	336.1	349.9	363.6	372.7
75°	198.0	211.0	224.0	237.0	250.0	263.4	277.3	291.1	304.9	318.8	327.9
77.5°	154.2	167.3	180.4	193.5	206.6	220.1	234.1	248.0	262.0	275.9	285.6
80°	123.3	136.8	150.4	164.0	177.5	191.5	205.9	220.3	234.6	249.1	258.5
82.5°	96.4	110.2	124.0	137.8	151.5	165.7	180.3	195.0	209.5	224.1	233.5
85°	61.0	74.9	88.7	102.5	116.4	130.6	145.3	159.9	174.6	189.3	198.7
87.5°	33.3	47.5	61.6	75.7	89.8	104.2	118.7	133.3	147.9	162.5	172.0
90°	17.0	32.3	47.6	63.0	78.3	94.2	110.6	127.0	143.4	159.8	169.9
92.5°	30.0	41.7	53.5	65.2	76.9	90.6	106.2	121.8	137.5	153.1	163.4
95°	62.3	65.8	69.3	72.9	76.4	86.0	101.4	116.9	132.5	148.0	157.7
97.5°	109.7	116.2	122.7	129.2	135.7	139.0	139.3	139.5	139.7	139.9	149.6
100°	145.7	158.0	170.5	182.8	195.3	194.0	179.2	164.3	149.5	134.6	144.0
102.5°	186.7	197.2	207.7	218.2	228.8	225.2	207.6	190.0	172.3	154.7	158.1
105°	247.1	255.6	264.3	272.8	281.4	283.7	279.7	275.7	271.6	267.7	244.1
107.5°	309.6	316.7	323.9	331.1	338.3	348.9	362.7	376.4	390.2	404.1	388.5
110°	351.2	357.6	364.0	370.4	376.8	386.5	399.5	412.5	425.6	438.6	439.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	392.0	397.3	402.7	408.1	413.4	422.4	435.0	447.5	460.1	472.7	479.7
115°	451.0	455.4	459.8	464.1	468.5	476.5	488.1	499.6	511.2	522.7	531.2
117.5°	509.1	512.5	515.9	519.2	522.6	529.3	539.5	549.7	559.8	570.0	578.0
120°	544.5	547.4	550.4	553.3	556.3	562.7	572.4	582.0	591.7	601.3	609.1
122.5°	581.4	583.4	585.4	587.5	589.5	595.2	604.5	613.9	623.3	632.6	639.8
125°	630.7	632.2	633.6	634.9	636.4	641.4	650.2	658.9	667.7	676.4	682.5
127.5°	679.8	680.9	682.0	683.2	684.3	688.6	696.1	703.6	711.1	718.6	724.6
130°	710.3	711.5	712.6	713.7	714.9	718.5	724.8	731.0	737.3	743.5	749.5
132.5°	738.6	739.9	741.3	742.7	744.0	747.2	752.2	757.2	762.2	767.1	772.9
135°	783.1	783.9	784.6	785.4	786.2	788.5	792.2	796.0	799.7	803.4	809.0
137.5°	821.0	822.1	823.2	824.3	825.5	827.1	829.2	831.3	833.4	835.5	840.7
140°	845.4	846.5	847.6	848.7	849.7	850.9	852.2	853.7	855.0	856.3	861.2
142.5°	869.0	869.8	870.7	871.6	872.4	873.1	873.9	874.5	875.2	875.9	880.2
145°	902.0	902.9	903.9	904.8	905.8	906.4	906.8	907.1	907.5	907.8	910.5
147.5°	931.8	932.6	933.3	934.1	935.0	935.6	935.9	936.3	936.6	937.0	938.0
150°	950.9	951.3	951.9	952.4	952.9	953.4	953.7	954.1	954.4	954.8	955.1
152.5°	968.0	968.3	968.5	968.8	969.0	969.2	969.5	969.6	969.9	970.1	970.7
155°	992.2	991.8	991.5	991.2	990.8	990.7	990.9	991.0	991.3	991.4	992.3
157.5°	1011.0	1011.0	1010.9	1010.9	1010.8	1010.7	1010.6	1010.3	1010.2	1010.0	1011.1
160°	1022.5	1022.2	1022.1	1021.9	1021.8	1021.5	1021.4	1021.2	1021.0	1020.9	1021.9
162.5°	1033.2	1032.8	1032.4	1031.9	1031.4	1031.1	1030.9	1030.8	1030.5	1030.4	1031.6
165°	1046.3	1045.8	1045.3	1044.7	1044.2	1043.9	1043.6	1043.5	1043.3	1043.1	1044.6
167.5°	1056.5	1055.8	1055.1	1054.4	1053.7	1053.3	1053.3	1053.3	1053.3	1053.3	1054.7
170°	1062.2	1061.5	1060.8	1060.1	1059.4	1059.1	1059.1	1059.1	1059.1	1059.1	1060.4
172.5°	1066.0	1065.2	1064.4	1063.5	1062.6	1062.3	1062.4	1062.6	1062.7	1062.9	1064.3
175°	1071.0	1070.1	1069.2	1068.3	1067.5	1067.1	1067.2	1067.5	1067.6	1067.8	1069.1
177.5°	1072.2	1071.5	1070.9	1070.2	1069.4	1069.1	1069.3	1069.4	1069.5	1069.7	1070.9
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1	1143.1
2.5°	1140.7	1142.5	1144.2	1145.0	1144.8	1144.5	1144.3	1144.1
5°	1138.8	1141.1	1143.3	1144.2	1144.0	1143.7	1143.4	1143.1
7.5°	1131.9	1134.7	1137.5	1138.8	1138.4	1138.0	1137.7	1137.4
10°	1125.0	1127.8	1130.5	1131.6	1131.1	1130.5	1130.0	1129.4
12.5°	1115.6	1118.2	1120.7	1121.7	1121.1	1120.5	1120.0	1119.4
15°	1097.6	1100.3	1103.1	1104.4	1104.1	1103.8	1103.6	1103.3
17.5°	1074.1	1076.7	1079.1	1080.1	1079.8	1079.4	1079.0	1078.6
20°	1057.2	1059.7	1062.2	1063.6	1063.8	1064.1	1064.4	1064.7
22.5°	1038.6	1041.8	1044.9	1046.4	1046.2	1046.1	1045.9	1045.8
25°	1007.1	1010.7	1014.3	1016.1	1016.1	1016.1	1016.1	1016.1
27.5°	974.2	977.3	980.4	982.1	982.3	982.5	982.8	983.0
30°	951.8	955.1	958.4	960.0	960.0	960.0	960.0	960.0
32.5°	927.3	930.9	934.4	936.5	937.2	937.9	938.5	939.1
35°	891.2	895.3	899.4	902.1	903.2	904.4	905.5	906.5
37.5°	853.7	858.4	863.1	865.9	866.8	867.7	868.5	869.4
40°	828.8	833.5	838.2	841.1	842.2	843.3	844.4	845.5
42.5°	802.8	807.9	813.1	816.4	817.9	819.5	821.0	822.6
45°	763.9	769.1	774.4	778.2	780.4	782.6	784.8	787.0
47.5°	724.6	730.6	736.5	740.3	742.0	743.7	745.4	747.1
50°	697.6	704.0	710.3	714.5	716.4	718.4	720.3	722.2
52.5°	670.2	676.8	683.3	687.9	690.2	692.6	695.0	697.4
55°	628.8	636.3	643.8	648.6	650.9	653.1	655.3	657.5
57.5°	586.6	594.1	601.7	606.7	609.3	612.0	614.6	617.1
60°	557.1	564.9	572.7	578.1	581.1	584.2	587.2	590.3
62.5°	529.3	537.0	544.8	550.1	552.9	555.7	558.6	561.3
65°	484.8	493.1	501.5	506.9	509.7	512.5	515.2	518.0
67.5°	440.5	449.6	458.7	464.4	466.8	469.1	471.3	473.7
70°	411.2	420.1	428.9	434.7	437.5	440.3	443.0	445.8
72.5°	381.8	390.9	399.9	405.8	408.6	411.4	414.2	416.9
75°	337.1	346.2	355.3	361.6	364.9	368.2	371.5	374.8
77.5°	295.2	304.8	314.5	320.5	323.1	325.7	328.2	330.7
80°	267.8	277.3	286.7	292.8	295.6	298.3	301.1	303.8
82.5°	243.0	252.4	261.7	267.8	270.6	273.4	276.2	278.9
85°	208.1	217.5	226.9	233.0	235.8	238.5	241.3	244.1
87.5°	181.6	191.1	200.7	206.8	209.7	212.5	215.4	218.2
90°	180.1	190.1	200.3	206.9	210.0	213.1	216.3	219.4
92.5°	173.7	184.1	194.4	200.9	203.7	206.4	209.2	212.0
95°	167.5	177.4	187.2	193.5	196.3	199.0	201.8	204.5
97.5°	159.2	168.9	178.6	184.9	187.8	190.8	193.7	196.6
100°	153.4	162.9	172.4	178.6	181.5	184.4	187.4	190.3
102.5°	161.5	164.9	168.4	171.7	174.8	177.8	180.9	183.9
105°	220.5	197.0	173.5	163.1	166.0	168.8	171.7	174.4
107.5°	373.0	357.4	341.9	323.6	302.5	281.3	260.2	239.0
110°	441.2	442.6	444.0	433.2	410.0	387.0	363.9	340.9





TEST NUMBER: P332224-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	486.8	493.9	501.0	503.0	500.2	497.3	494.3	491.5
115°	539.6	548.0	556.3	562.1	564.9	567.8	570.8	573.7
117.5°	586.0	594.0	602.0	607.1	609.4	611.8	614.1	616.4
120°	616.9	624.6	632.4	637.3	639.2	641.2	643.1	645.1
122.5°	646.9	654.0	661.2	665.7	667.8	669.9	672.0	674.1
125°	688.7	694.9	701.1	705.3	707.6	709.9	712.2	714.5
127.5°	730.6	736.7	742.8	746.6	748.1	749.6	751.1	752.7
130°	755.4	761.4	767.4	771.0	772.3	773.6	774.9	776.3
132.5°	778.6	784.4	790.1	793.7	795.1	796.5	797.9	799.2
135°	814.4	820.0	825.5	828.7	829.6	830.4	831.2	832.1
137.5°	846.0	851.2	856.4	859.5	860.5	861.6	862.6	863.6
140°	866.1	870.9	875.8	878.7	879.7	880.7	881.8	882.8
142.5°	884.5	888.7	893.0	895.6	896.5	897.4	898.3	899.1
145°	913.0	915.5	918.1	920.0	921.1	922.2	923.3	924.4
147.5°	939.1	940.0	941.0	941.7	941.8	942.0	942.2	942.4
150°	955.5	955.8	956.2	956.4	956.4	956.5	956.5	956.5
152.5°	971.4	972.0	972.6	972.6	971.9	971.2	970.5	969.8
155°	993.2	994.0	995.0	994.8	993.8	992.8	991.7	990.6
157.5°	1012.2	1013.2	1014.2	1014.1	1012.7	1011.4	1010.0	1008.6
160°	1022.9	1024.1	1025.1	1025.0	1023.7	1022.5	1021.3	1020.0
162.5°	1032.8	1034.0	1035.2	1035.2	1034.2	1033.1	1032.0	1030.9
165°	1045.9	1047.3	1048.8	1048.8	1047.7	1046.4	1045.1	1043.9
167.5°	1056.1	1057.6	1059.0	1059.0	1057.6	1056.1	1054.7	1053.3
170°	1061.8	1063.3	1064.7	1064.7	1063.3	1061.8	1060.4	1059.1
172.5°	1065.7	1067.1	1068.5	1068.4	1066.9	1065.3	1063.7	1062.2
175°	1070.2	1071.5	1072.8	1072.7	1071.3	1069.8	1068.4	1067.0
177.5°	1072.0	1073.1	1074.2	1074.1	1072.7	1071.3	1069.8	1068.4
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0

(END OF REPORT)