

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: P332076-930

Luminaire Tested: **S123DIP-S1165D1025U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332076-930  
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: S123DIP-S1165D1025U930-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

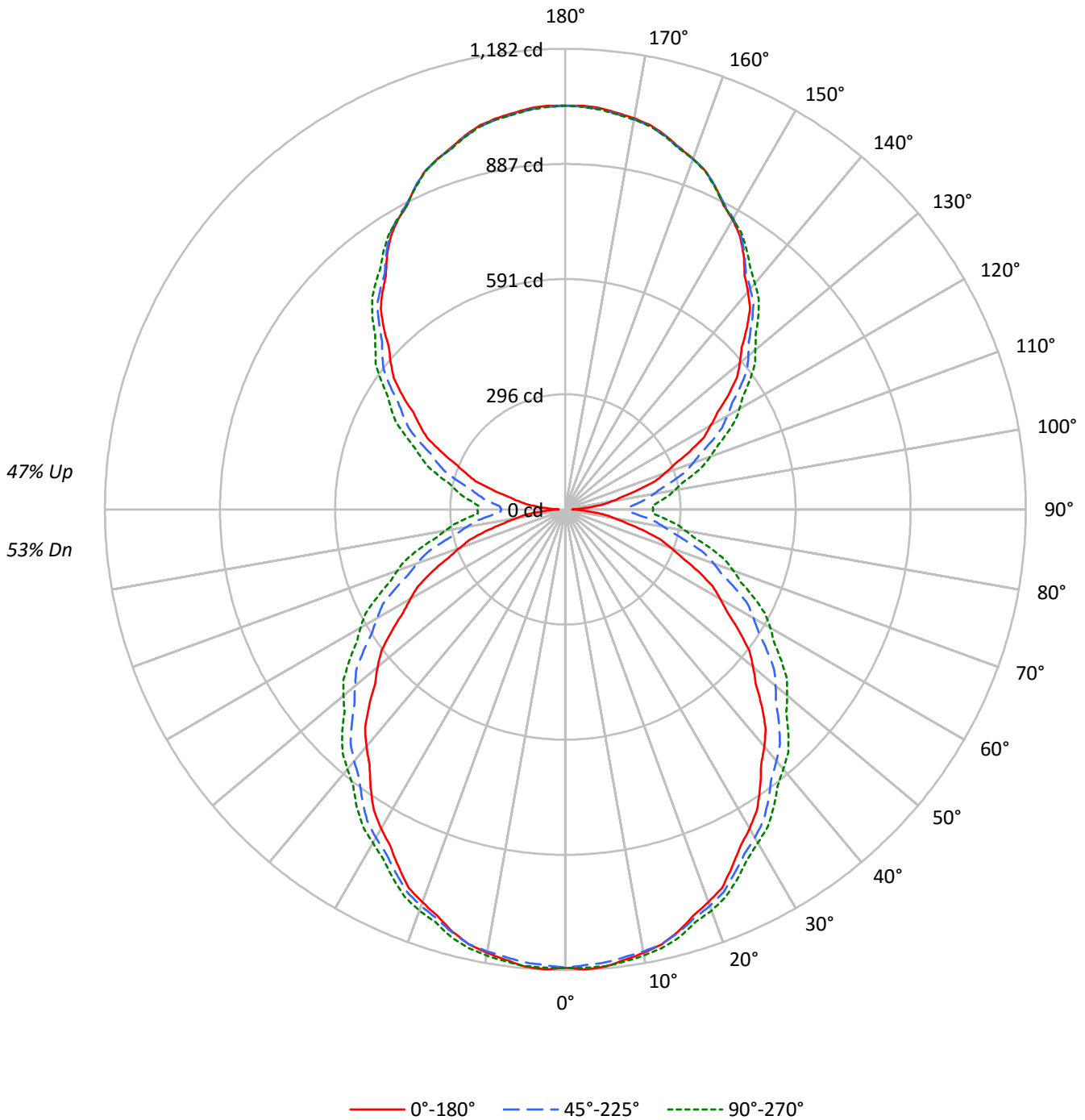
Lumens per Lamp: N/A  
Luminaire Lumens: 6827.0 lumens  
Efficiency: N/A  
Efficacy: 102.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): 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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	97	93	88	84	90	86	82	78	73	70	68	61	59	57	50	49	48	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	55	50	46	47	43	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	44	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	18	21	18	15	13
10	46	34	26	21	43	31	25	20	27	22	18	23	19	16	20	16	14	12

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

	0°	45°	90°
0°	12664	12664	12664
5°	12703	12344	12352
10°	12589	12060	12000
15°	12427	11738	11616
20°	12195	11369	11194
25°	11908	10944	10750
30°	11616	10563	10299
35°	11287	10159	9939
40°	10973	9792	9555
45°	10626	9438	9247
50°	10281	9090	8908
55°	9903	8734	8603
60°	9533	8371	8291
65°	9155	7984	7918
70°	8585	7551	7537
75°	7860	7053	7148
80°	7035	6564	6706
85°	6264	6229	6450



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.5	1.6
10°-20°	317.9	4.7
20°-30°	475.5	7.0
30°-40°	567.9	8.3
40°-50°	594.1	8.7
50°-60°	557.5	8.2
60°-70°	465.7	6.8
70°-80°	333.2	4.9
80°-90°	201.8	3.0
90°-100°	192.2	2.8
100°-110°	293.6	4.3
110°-120°	404.8	5.9
120°-130°	486.9	7.1
130°-140°	523.6	7.7
140°-150°	502.7	7.4
150°-160°	420.4	6.2
160°-170°	279.8	4.1
170°-180°	98.0	1.4
0°-30°	905.0	13.3
0°-40°	1472.8	21.6
0°-60°	2624.5	38.4
0°-90°	3625.1	53.1
90°-120°	890.5	13.0
90°-150°	2403.7	35.2
90°-180°	3202.0	46.9
0°-180°	6827.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1178	1175	1168	1177	1176	112
15°	1121	1125	1124	1136	1136	316
25°	1012	1025	1029	1045	1046	466
35°	872	892	909	927	933	545
45°	713	743	775	799	810	549
55°	543	586	632	665	677	486
65°	376	426	482	519	533	371
75°	204	264	328	369	386	218
85°	63	127	195	237	251	66
90°	17	89	164	209	226	14
95°	62	119	187	228	243	65
105°	193	227	288	323	337	206
115°	352	372	415	445	456	349
125°	510	514	548	571	577	455
135°	659	663	676	695	701	508
145°	798	798	801	810	812	498
155°	912	912	913	916	911	420
165°	994	991	991	996	990	280
175°	1034	1030	1030	1035	1030	98
180°	1036	1036	1036	1036	1036	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1181.6	1181.0	1180.2	1179.6	1178.8	1177.6	1175.8	1173.9	1172.2	1170.4	1172.2
5°	1177.8	1177.2	1176.6	1176.1	1175.5	1174.4	1172.6	1170.9	1169.2	1167.5	1169.8
7.5°	1166.2	1166.4	1166.4	1166.6	1166.7	1166.0	1164.2	1162.6	1161.0	1159.3	1162.1
10°	1156.0	1156.6	1157.2	1157.7	1158.3	1157.8	1156.4	1155.0	1153.6	1152.1	1155.0
12.5°	1143.7	1144.4	1145.3	1146.1	1146.9	1146.8	1145.8	1144.8	1143.9	1142.9	1145.5
15°	1121.4	1122.3	1123.1	1124.0	1124.8	1125.1	1124.8	1124.5	1124.2	1124.0	1126.8
17.5°	1093.2	1094.9	1096.6	1098.3	1100.0	1100.8	1100.7	1100.6	1100.5	1100.3	1102.9
20°	1072.7	1074.4	1076.1	1077.8	1079.5	1080.7	1081.2	1081.8	1082.4	1083.0	1085.5
22.5°	1051.2	1052.9	1054.6	1056.3	1058.0	1059.2	1060.1	1060.9	1061.6	1062.4	1065.7
25°	1012.4	1015.3	1018.1	1021.0	1023.9	1025.6	1026.5	1027.4	1028.3	1029.1	1032.8
27.5°	973.5	976.7	980.0	983.3	986.4	989.0	990.8	992.6	994.5	996.3	999.5
30°	945.8	949.5	953.2	956.9	960.6	963.6	965.9	968.2	970.5	972.7	976.2
32.5°	915.0	919.2	923.3	927.5	931.6	935.2	938.2	941.2	944.1	947.1	950.7
35°	871.5	876.0	880.6	885.2	889.7	893.8	897.6	901.2	904.9	908.7	912.9
37.5°	825.3	830.5	835.6	840.7	845.9	850.7	855.2	859.8	864.4	868.9	873.8
40°	794.6	799.7	804.9	809.9	815.1	820.5	826.2	831.8	837.6	843.3	848.2
42.5°	760.8	767.0	773.3	779.5	785.8	791.9	797.9	803.7	809.7	815.6	820.9
45°	712.6	719.4	726.2	733.0	739.9	746.9	754.0	761.1	768.3	775.3	780.7
47.5°	662.0	669.8	677.5	685.3	693.1	701.0	709.1	717.3	725.5	733.6	739.6
50°	629.2	637.2	645.2	653.1	661.1	669.5	678.4	687.2	696.0	704.8	711.4
52.5°	594.4	602.8	611.2	619.7	628.1	637.2	646.9	656.6	666.4	676.1	683.0
55°	543.4	552.8	562.1	571.6	581.0	590.8	601.0	611.3	621.6	631.9	639.5
57.5°	493.7	503.4	513.2	523.0	532.9	543.4	554.6	565.8	577.0	588.2	596.0
60°	458.8	469.0	479.3	489.6	499.8	510.8	522.4	534.1	545.8	557.5	565.5
62.5°	426.0	436.5	446.9	457.5	467.9	479.3	491.7	504.0	516.4	528.8	536.7
65°	375.5	386.6	397.7	408.8	420.0	431.8	444.3	456.8	469.4	481.8	490.4
67.5°	324.2	336.1	347.8	359.6	371.4	383.7	396.4	409.2	421.9	434.7	444.0
70°	288.4	300.6	312.8	325.1	337.4	350.3	363.9	377.6	391.3	405.0	414.1
72.5°	255.5	267.8	280.1	292.3	304.5	317.7	331.8	345.9	360.1	374.2	383.6
75°	203.7	217.2	230.6	243.9	257.3	271.1	285.4	299.6	313.8	328.1	337.5
77.5°	158.7	172.2	185.6	199.2	212.6	226.6	240.9	255.3	269.6	284.0	293.9
80°	126.9	140.8	154.8	168.8	182.7	197.1	211.9	226.7	241.5	256.3	266.0
82.5°	99.2	113.4	127.6	141.8	155.9	170.6	185.6	200.6	215.6	230.6	240.4
85°	62.8	77.0	91.3	105.5	119.8	134.4	149.5	164.6	179.7	194.8	204.5
87.5°	34.2	48.8	63.3	77.9	92.5	107.2	122.2	137.2	152.2	167.2	177.0
90°	17.4	33.3	49.0	64.7	80.6	96.9	113.7	130.6	147.5	164.4	174.7
92.5°	35.3	49.2	62.9	76.8	90.6	105.3	121.0	136.6	152.2	167.9	177.9
95°	62.1	74.5	86.8	99.2	111.6	125.5	140.9	156.3	171.7	187.1	196.7
97.5°	97.8	108.8	119.8	130.8	141.7	154.4	168.8	183.1	197.5	211.9	221.2
100°	122.2	132.4	142.6	152.8	163.0	175.1	189.1	203.1	217.1	231.1	239.9
102.5°	150.5	159.3	168.2	177.1	185.9	197.4	211.4	225.5	239.5	253.6	262.2
105°	193.4	200.6	207.7	215.0	222.2	232.7	246.5	260.4	274.3	288.2	296.2
107.5°	242.0	248.0	254.0	260.1	266.0	275.2	287.5	299.8	312.0	324.3	332.5
110°	272.1	277.7	283.2	288.6	294.2	302.7	314.5	326.3	338.0	349.8	357.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.8	309.2	313.6	318.0	322.5	330.2	341.2	352.2	363.2	374.2	382.3
115°	352.3	356.3	360.2	364.2	368.1	375.0	385.0	394.8	404.7	414.6	421.7
117.5°	401.2	403.7	406.1	408.6	411.1	416.9	426.0	435.2	444.3	453.5	460.2
120°	430.8	433.3	435.8	438.3	440.8	446.3	454.8	463.3	471.8	480.3	486.7
122.5°	462.7	464.2	465.7	467.2	468.8	473.9	482.2	490.7	499.2	507.7	513.6
125°	510.1	510.6	511.1	511.7	512.3	516.4	524.3	532.2	540.1	548.0	553.3
127.5°	555.0	555.9	556.7	557.6	558.5	562.1	568.6	575.0	581.5	587.8	592.5
130°	584.9	586.1	587.3	588.4	589.5	592.7	597.9	603.1	608.2	613.3	618.0
132.5°	613.8	615.2	616.6	618.0	619.4	622.2	626.3	630.5	634.6	638.8	643.1
135°	659.3	660.1	661.0	661.7	662.5	664.4	667.3	670.3	673.3	676.2	680.6
137.5°	701.4	702.1	702.7	703.4	704.1	705.6	707.8	710.0	712.2	714.5	718.3
140°	729.7	730.6	731.5	732.4	733.3	734.3	735.3	736.3	737.4	738.4	742.5
142.5°	756.4	757.0	757.7	758.4	759.0	759.6	760.2	760.7	761.2	761.7	765.2
145°	798.0	798.1	798.2	798.3	798.3	798.7	799.2	799.7	800.3	800.8	802.9
147.5°	833.2	833.9	834.5	835.2	835.8	836.4	836.9	837.4	837.9	838.5	839.1
150°	858.6	859.0	859.3	859.7	860.1	860.4	860.8	861.1	861.5	861.9	861.9
152.5°	879.5	880.0	880.4	880.9	881.4	881.8	882.1	882.2	882.5	882.7	883.0
155°	912.3	912.3	912.3	912.3	912.3	912.4	912.6	912.7	913.0	913.1	913.9
157.5°	940.3	940.1	939.9	939.6	939.5	939.4	939.6	939.7	939.9	940.0	940.8
160°	957.9	957.5	957.2	956.8	956.4	956.3	956.3	956.3	956.3	956.3	957.2
162.5°	973.5	973.0	972.5	972.0	971.5	971.3	971.4	971.6	971.8	971.9	972.8
165°	993.7	993.1	992.6	992.1	991.6	991.2	991.2	991.2	991.2	991.2	992.3
167.5°	1009.8	1009.1	1008.4	1007.6	1006.9	1006.7	1006.8	1006.9	1007.1	1007.2	1008.4
170°	1019.0	1018.2	1017.5	1016.8	1016.0	1015.7	1015.7	1015.7	1015.7	1015.7	1016.9
172.5°	1026.1	1025.4	1024.7	1023.9	1023.2	1022.8	1022.8	1022.8	1022.8	1022.8	1023.9
175°	1033.6	1032.8	1032.1	1031.4	1030.7	1030.3	1030.3	1030.3	1030.3	1030.3	1031.4
177.5°	1036.7	1036.1	1035.5	1034.9	1034.4	1034.0	1034.0	1034.0	1034.0	1034.0	1034.9
180°	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1173.9	1175.8	1177.6	1178.4	1178.2	1177.9	1177.7	1177.5
5°	1172.1	1174.4	1176.6	1177.6	1177.4	1177.0	1176.8	1176.5
7.5°	1165.0	1167.8	1170.7	1172.0	1171.6	1171.3	1170.9	1170.6
10°	1157.8	1160.7	1163.5	1164.7	1164.1	1163.5	1162.9	1162.4
12.5°	1148.2	1150.8	1153.4	1154.4	1153.8	1153.2	1152.7	1152.1
15°	1129.6	1132.5	1135.3	1136.6	1136.4	1136.0	1135.8	1135.5
17.5°	1105.5	1108.1	1110.6	1111.7	1111.3	1110.9	1110.5	1110.1
20°	1088.0	1090.6	1093.2	1094.6	1094.9	1095.2	1095.4	1095.8
22.5°	1068.9	1072.2	1075.4	1076.9	1076.8	1076.6	1076.4	1076.3
25°	1036.5	1040.2	1043.9	1045.8	1045.8	1045.8	1045.8	1045.8
27.5°	1002.7	1005.8	1009.0	1010.7	1011.0	1011.2	1011.5	1011.7
30°	979.6	983.0	986.3	988.1	988.1	988.1	988.1	988.1
32.5°	954.4	958.1	961.6	963.8	964.5	965.2	965.9	966.5
35°	917.2	921.5	925.7	928.5	929.6	930.7	931.9	932.9
37.5°	878.6	883.5	888.3	891.1	892.1	893.0	893.9	894.8
40°	853.0	857.8	862.7	865.6	866.7	867.9	869.0	870.2
42.5°	826.2	831.5	836.8	840.2	841.8	843.4	845.0	846.6
45°	786.2	791.6	797.0	800.9	803.2	805.4	807.7	809.9
47.5°	745.8	751.9	758.0	761.9	763.6	765.4	767.2	768.9
50°	718.0	724.6	731.1	735.3	737.4	739.3	741.4	743.3
52.5°	689.7	696.5	703.3	707.9	710.4	712.8	715.3	717.7
55°	647.2	654.8	662.6	667.6	669.8	672.1	674.4	676.7
57.5°	603.7	611.5	619.2	624.4	627.1	629.8	632.5	635.1
60°	573.4	581.4	589.4	594.9	598.1	601.2	604.3	607.5
62.5°	544.7	552.7	560.7	566.1	569.0	571.9	574.9	577.7
65°	499.0	507.5	516.1	521.7	524.6	527.4	530.3	533.1
67.5°	453.4	462.8	472.1	477.9	480.4	482.7	485.1	487.5
70°	423.2	432.4	441.4	447.4	450.3	453.1	455.9	458.8
72.5°	392.9	402.3	411.6	417.7	420.5	423.4	426.2	429.1
75°	346.9	356.3	365.7	372.1	375.5	379.0	382.4	385.7
77.5°	303.8	313.7	323.7	329.9	332.6	335.2	337.8	340.4
80°	275.7	285.4	295.1	301.3	304.2	307.0	309.9	312.7
82.5°	250.1	259.8	269.4	275.7	278.5	281.4	284.2	287.1
85°	214.2	223.9	233.5	239.8	242.6	245.5	248.3	251.2
87.5°	186.9	196.7	206.5	212.9	215.8	218.7	221.6	224.5
90°	185.2	195.6	205.9	212.8	216.0	219.2	222.4	225.6
92.5°	187.9	198.0	208.0	214.3	216.6	219.0	221.4	223.8
95°	206.2	215.7	225.3	231.5	234.3	237.2	240.0	242.9
97.5°	230.6	239.9	249.2	255.2	258.0	260.7	263.5	266.3
100°	248.7	257.6	266.4	272.3	275.6	278.8	282.0	285.2
102.5°	270.8	279.3	287.9	293.6	296.4	299.1	301.9	304.7
105°	304.1	312.1	320.1	325.5	328.5	331.4	334.3	337.2
107.5°	340.7	348.9	357.2	362.4	364.7	367.0	369.2	371.5
110°	366.1	374.1	382.3	387.3	389.2	391.2	393.1	395.0





TEST NUMBER: P332076-930

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	390.3	398.4	406.4	411.6	414.1	416.5	419.0	421.3
115°	428.7	435.7	442.7	447.3	449.3	451.4	453.6	455.6
117.5°	467.0	473.7	480.5	484.7	486.4	488.1	489.8	491.5
120°	493.0	499.4	505.7	509.7	511.4	513.0	514.6	516.2
122.5°	519.4	525.3	531.1	534.8	536.3	537.8	539.2	540.7
125°	558.6	563.8	569.1	572.3	573.6	574.9	576.2	577.4
127.5°	597.1	601.8	606.3	609.3	610.3	611.5	612.5	613.7
130°	622.7	627.4	632.1	634.6	635.1	635.5	636.0	636.4
132.5°	647.4	651.8	656.1	658.7	659.7	660.6	661.6	662.6
135°	685.0	689.4	693.8	696.6	697.7	698.7	699.8	700.8
137.5°	721.9	725.7	729.4	731.7	732.5	733.2	733.9	734.7
140°	746.6	750.6	754.7	756.9	757.0	757.2	757.3	757.5
142.5°	768.9	772.6	776.2	778.2	778.7	779.1	779.6	780.0
145°	805.0	807.1	809.2	810.5	810.9	811.3	811.7	812.1
147.5°	839.8	840.5	841.1	841.5	841.4	841.3	841.3	841.2
150°	861.9	861.9	861.9	861.6	861.1	860.5	860.1	859.6
152.5°	883.3	883.5	883.9	883.5	882.7	881.9	881.1	880.3
155°	914.6	915.3	916.0	915.7	914.5	913.2	911.9	910.7
157.5°	941.5	942.2	943.1	942.9	941.9	940.9	939.9	938.8
160°	958.1	959.0	959.9	959.9	959.3	958.5	957.8	957.1
162.5°	973.7	974.6	975.5	975.3	974.2	973.1	971.9	970.8
165°	993.4	994.5	995.6	995.5	994.3	993.0	991.7	990.4
167.5°	1009.4	1010.6	1011.7	1011.7	1010.6	1009.4	1008.4	1007.2
170°	1018.2	1019.5	1020.8	1020.8	1019.5	1018.2	1016.9	1015.7
172.5°	1025.1	1026.2	1027.3	1027.3	1026.0	1024.7	1023.4	1022.1
175°	1032.5	1033.6	1034.7	1034.5	1033.3	1032.0	1030.8	1029.5
177.5°	1035.8	1036.7	1037.5	1037.5	1036.5	1035.4	1034.5	1033.4
180°	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0

(END OF REPORT)