

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: P331511-940

Luminaire Tested: **S122DIW-S485D970U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331511-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D970U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5215.8 lumens
Efficiency: N/A
Efficacy: 115.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

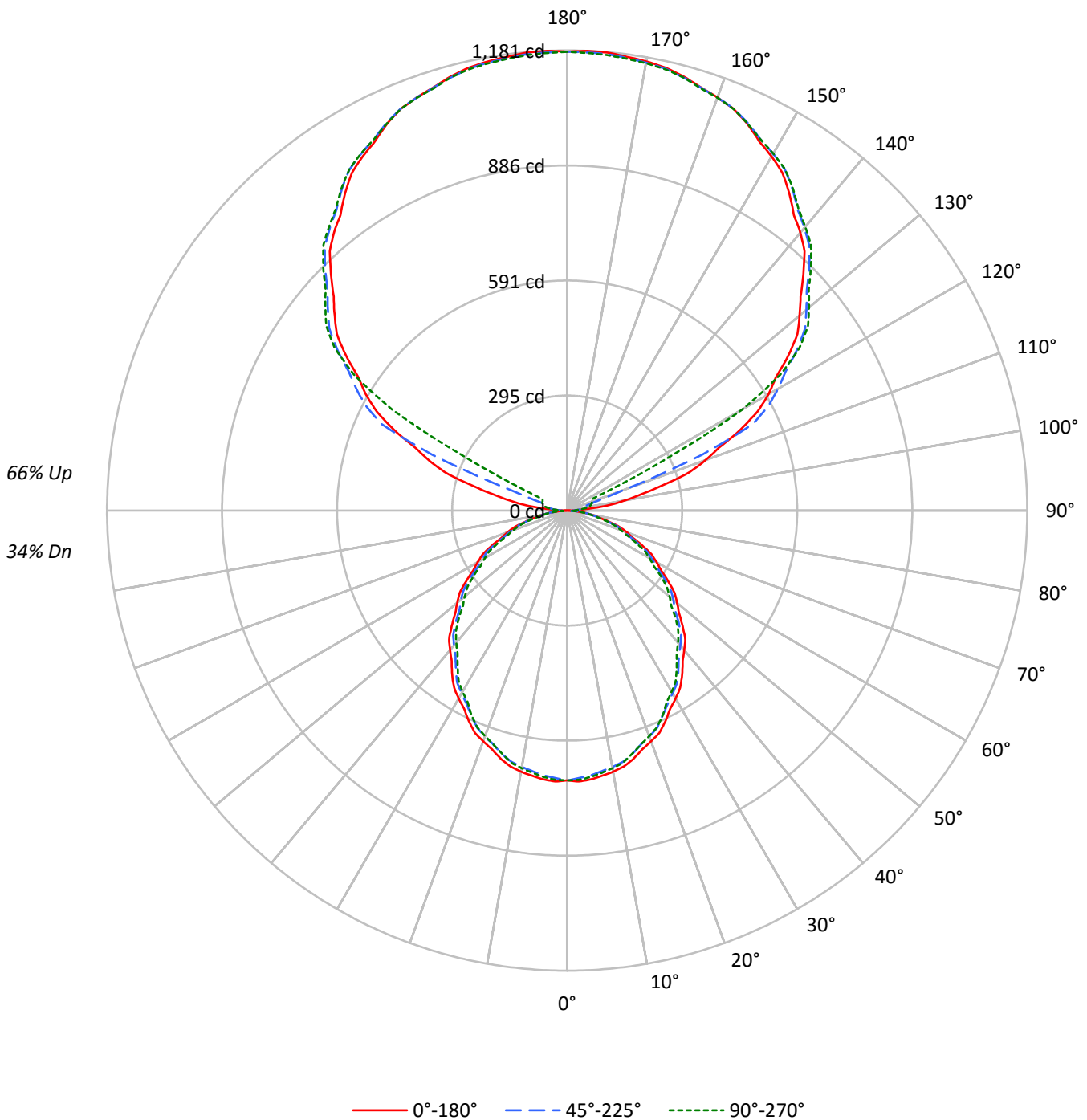
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	36	35	28
2	86	78	73	67	77	71	66	62	57	53	50	44	42	40	32	31	29	24
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	27	25	20
4	71	61	53	47	64	55	49	44	45	40	36	35	31	29	25	23	21	17
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	21	19	15
6	60	48	41	35	54	44	37	32	36	31	27	28	24	22	21	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	29	25	29	24	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	14	12	9
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11183	11183	11183
5°	11225	11063	11128
10°	11158	10952	11006
15°	11020	10810	10798
20°	10825	10596	10584
25°	10630	10334	10334
30°	10381	10094	10006
35°	10147	9806	9662
40°	9853	9518	9333
45°	9565	9229	9001
50°	9251	8932	8616
55°	8923	8586	8267
60°	8557	8173	7869
65°	8164	7759	7404
70°	7671	7260	6916
75°	6981	6687	6525
80°	6192	6007	5700
85°	5057	4798	4316



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.1	1.2
10°-20°	183.3	3.5
20°-30°	269.4	5.2
30°-40°	312.9	6.0
40°-50°	312.5	6.0
50°-60°	272.6	5.2
60°-70°	201.5	3.9
70°-80°	114.1	2.2
80°-90°	33.6	0.6
90°-100°	39.3	0.8
100°-110°	144.0	2.8
110°-120°	385.0	7.4
120°-130°	635.6	12.2
130°-140°	675.9	13.0
140°-150°	628.3	12.0
150°-160°	505.1	9.7
160°-170°	325.5	6.2
170°-180°	112.0	2.1
0°-30°	517.7	9.9
0°-40°	830.6	15.9
0°-60°	1415.7	27.1
0°-90°	1765.0	33.8
90°-120°	568.4	10.9
90°-150°	2508.2	48.1
90°-180°	3451.0	66.2
0°-180°	5215.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	693	693	693	693	693	
5°	693	690	683	688	687	66
15°	659	655	647	649	646	186
25°	597	591	580	581	580	274
35°	515	508	498	494	490	321
45°	419	414	404	397	394	323
55°	317	313	305	297	294	283
65°	214	210	203	197	194	211
75°	112	110	107	104	105	120
85°	27	27	26	24	23	31
90°	1	10	17	21	23	4
95°	55	29	33	37	37	68
105°	259	270	52	61	65	277
115°	490	505	526	150	70	482
125°	693	704	720	726	728	617
135°	857	870	878	886	885	662
145°	994	994	1008	1013	1010	622
155°	1095	1088	1097	1102	1096	504
165°	1154	1149	1151	1156	1151	326
175°	1180	1175	1176	1181	1173	112
180°	1178	1178	1178	1178	1178	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6
2.5°	695.8	695.2	694.6	694.0	693.4	692.5	691.2	689.9	688.6	687.2	688.5
5°	692.6	692.0	691.4	690.8	690.3	689.1	687.5	685.9	684.2	682.6	683.8
7.5°	686.4	685.5	684.7	683.7	682.8	681.5	679.8	678.2	676.5	674.8	676.1
10°	680.6	679.6	678.5	677.5	676.5	675.0	673.2	671.5	669.8	668.0	669.1
12.5°	672.6	671.7	670.7	669.9	669.0	667.6	665.8	664.1	662.3	660.5	661.3
15°	659.3	658.4	657.5	656.7	655.8	654.3	652.4	650.5	648.5	646.7	647.2
17.5°	642.2	641.4	640.5	639.6	638.7	637.3	635.3	633.4	631.4	629.5	630.2
20°	630.0	629.1	628.2	627.3	626.4	625.0	622.9	620.8	618.8	616.7	617.2
22.5°	617.8	616.5	615.3	614.0	612.8	611.2	609.2	607.3	605.3	603.3	603.4
25°	596.7	595.5	594.3	593.2	592.0	590.1	587.6	585.1	582.6	580.1	580.3
27.5°	572.7	571.7	570.6	569.5	568.5	566.9	565.0	562.9	561.0	559.0	558.6
30°	556.8	555.5	554.4	553.2	552.0	550.3	548.0	545.9	543.7	541.4	541.0
32.5°	539.7	538.8	537.8	536.8	535.9	534.2	531.9	529.6	527.3	525.0	524.1
35°	514.8	513.3	511.8	510.3	508.9	506.9	504.6	502.2	499.8	497.5	496.6
37.5°	486.7	485.4	484.1	482.8	481.4	479.7	477.2	474.9	472.5	470.2	469.0
40°	467.5	466.3	465.1	464.0	462.8	461.0	458.6	456.3	453.9	451.6	450.2
42.5°	448.9	447.6	446.5	445.3	444.2	442.4	440.0	437.7	435.2	432.8	431.4
45°	418.9	417.9	416.8	415.8	414.7	413.1	410.9	408.7	406.4	404.2	402.6
47.5°	389.1	388.1	387.1	386.1	385.1	383.5	381.2	378.9	376.6	374.3	372.6
50°	368.3	367.6	366.8	366.0	365.3	363.9	361.9	359.8	357.7	355.6	353.6
52.5°	348.0	347.1	346.1	345.1	344.1	342.7	340.7	338.8	336.8	334.8	333.1
55°	317.0	316.1	315.2	314.3	313.4	312.1	310.3	308.5	306.7	305.0	303.3
57.5°	285.8	285.1	284.4	283.7	283.0	281.7	279.7	277.8	275.8	273.8	272.1
60°	265.0	264.5	263.9	263.2	262.7	261.4	259.3	257.2	255.1	253.1	251.5
62.5°	244.8	243.9	242.9	241.9	241.0	239.8	238.2	236.6	235.0	233.4	231.8
65°	213.7	212.9	212.0	211.1	210.3	209.0	207.6	206.1	204.6	203.1	201.8
67.5°	182.2	181.5	180.7	180.0	179.3	178.3	177.0	175.7	174.3	173.0	172.0
70°	162.5	161.9	161.3	160.7	160.2	159.2	157.8	156.5	155.2	153.8	152.8
72.5°	142.2	141.7	141.1	140.4	139.9	139.2	138.3	137.4	136.6	135.7	134.6
75°	111.9	111.6	111.3	111.0	110.7	110.2	109.4	108.7	108.0	107.2	106.3
77.5°	84.7	84.2	83.7	83.2	82.7	82.3	82.0	81.7	81.4	81.1	80.7
80°	66.6	66.4	66.3	66.2	66.0	65.8	65.5	65.2	64.9	64.6	64.1
82.5°	49.6	49.5	49.5	49.5	49.4	49.3	49.1	49.0	48.8	48.6	48.1
85°	27.3	27.2	27.0	26.8	26.8	26.6	26.4	26.3	26.1	25.9	25.5
87.5°	9.7	9.9	10.1	10.3	10.5	10.6	10.7	10.7	10.8	10.9	10.7
90°	0.9	2.9	5.0	7.1	9.2	11.0	12.5	14.0	15.5	17.0	18.0
92.5°	17.2	17.0	16.9	16.7	16.5	16.8	17.5	18.3	19.0	19.8	20.2
95°	55.4	49.1	42.9	36.6	30.4	27.9	29.2	30.6	31.9	33.3	34.2
97.5°	109.9	92.3	74.7	57.1	39.5	32.2	35.3	38.3	41.4	44.5	45.2
100°	150.8	124.8	98.9	73.0	47.1	35.7	38.9	42.1	45.4	48.6	50.1
102.5°	195.8	190.3	184.9	179.3	173.8	157.7	130.7	103.8	76.9	49.9	51.9
105°	259.0	264.7	270.4	276.1	281.8	258.8	207.1	155.3	103.7	52.0	54.0
107.5°	331.1	335.7	340.3	344.8	349.5	320.7	258.8	196.7	134.7	72.8	70.6
110°	377.5	381.5	385.4	389.4	393.3	368.0	313.3	258.6	203.8	149.1	130.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.1	424.6	428.1	431.7	435.2	430.2	416.7	403.1	389.6	376.1	307.0
115°	489.9	493.1	496.4	499.6	502.8	506.8	511.5	516.2	521.0	525.8	438.0
117.5°	551.4	555.1	558.7	562.2	565.9	569.3	572.6	575.8	579.1	582.3	561.1
120°	596.5	599.3	602.1	604.9	607.8	610.9	614.3	617.8	621.2	624.6	626.9
122.5°	634.6	637.6	640.6	643.5	646.6	650.0	653.6	657.4	661.0	664.8	666.1
125°	692.7	695.2	697.7	700.1	702.6	705.6	709.2	712.8	716.4	720.0	721.3
127.5°	745.4	748.1	750.8	753.6	756.3	759.0	761.7	764.4	767.0	769.7	771.7
130°	778.8	781.9	784.9	787.8	790.9	793.4	795.5	797.6	799.7	801.8	803.9
132.5°	812.9	815.5	818.1	820.6	823.1	825.5	827.6	829.6	831.7	833.8	835.6
135°	857.2	860.2	863.3	866.3	869.3	871.6	873.3	875.0	876.7	878.5	880.4
137.5°	902.0	904.1	906.2	908.4	910.4	912.5	914.4	916.3	918.3	920.2	922.1
140°	931.3	932.8	934.3	935.9	937.4	939.1	941.2	943.3	945.4	947.5	949.2
142.5°	955.8	957.2	958.6	959.9	961.3	963.1	965.5	968.0	970.4	972.7	974.3
145°	994.3	994.2	994.0	993.8	993.6	995.1	998.4	1001.6	1004.8	1008.0	1009.3
147.5°	1028.0	1027.2	1026.4	1025.7	1025.0	1026.3	1029.5	1032.6	1035.8	1039.0	1040.0
150°	1049.7	1048.4	1047.0	1045.8	1044.5	1045.3	1048.3	1051.3	1054.4	1057.4	1058.5
152.5°	1068.2	1066.7	1065.1	1063.7	1062.2	1062.9	1065.8	1068.7	1071.6	1074.4	1075.6
155°	1094.9	1093.1	1091.5	1089.8	1088.1	1088.3	1090.7	1092.9	1095.2	1097.4	1098.6
157.5°	1115.9	1114.5	1112.9	1111.5	1110.1	1110.2	1111.8	1113.4	1114.9	1116.5	1117.8
160°	1128.1	1127.0	1125.9	1124.7	1123.6	1123.6	1124.7	1125.9	1127.0	1128.1	1129.3
162.5°	1139.1	1137.9	1136.8	1135.6	1134.5	1134.4	1135.4	1136.4	1137.4	1138.4	1139.6
165°	1153.7	1152.5	1151.4	1150.3	1149.1	1148.9	1149.4	1150.0	1150.6	1151.1	1152.4
167.5°	1164.6	1163.4	1162.3	1161.2	1160.0	1159.8	1160.3	1160.8	1161.4	1161.9	1163.1
170°	1170.7	1169.6	1168.5	1167.3	1166.2	1165.8	1166.2	1166.5	1167.0	1167.3	1168.7
172.5°	1174.8	1173.7	1172.5	1171.4	1170.3	1169.9	1170.3	1170.6	1171.0	1171.4	1172.8
175°	1180.1	1178.8	1177.4	1176.2	1174.8	1174.3	1174.7	1175.1	1175.5	1175.8	1177.1
177.5°	1181.0	1179.9	1178.8	1177.8	1176.7	1176.3	1176.4	1176.5	1176.7	1176.9	1177.9
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6
2.5°	689.6	690.8	692.0	692.5	692.2	692.0	691.8	691.5
5°	685.0	686.2	687.3	687.8	687.5	687.2	686.9	686.6
7.5°	677.3	678.4	679.7	680.0	679.8	679.4	679.0	678.8
10°	670.3	671.5	672.7	673.1	672.6	672.2	671.7	671.3
12.5°	662.2	663.0	663.8	664.1	663.7	663.4	663.1	662.7
15°	647.8	648.5	649.0	648.9	648.2	647.5	646.8	646.0
17.5°	630.8	631.5	632.2	632.1	631.4	630.8	630.1	629.4
20°	617.6	618.0	618.5	618.4	617.8	617.2	616.6	616.0
22.5°	603.5	603.6	603.7	603.6	603.2	602.9	602.5	602.2
25°	580.7	580.9	581.2	581.2	580.9	580.7	580.3	580.1
27.5°	558.1	557.7	557.2	556.7	556.0	555.3	554.6	553.8
30°	540.6	540.1	539.7	539.1	538.5	538.0	537.3	536.7
32.5°	523.3	522.5	521.7	521.0	520.4	519.9	519.2	518.6
35°	495.7	494.8	493.9	493.1	492.4	491.6	490.9	490.2
37.5°	468.0	466.9	465.8	464.8	464.1	463.4	462.7	462.1
40°	448.9	447.5	446.2	445.2	444.6	444.1	443.4	442.8
42.5°	430.0	428.6	427.0	426.0	425.1	424.3	423.5	422.6
45°	401.0	399.4	397.7	396.6	396.0	395.5	394.8	394.2
47.5°	370.9	369.1	367.4	366.1	365.2	364.4	363.6	362.7
50°	351.5	349.4	347.3	345.9	345.2	344.5	343.7	343.0
52.5°	331.4	329.7	328.0	326.6	325.7	324.7	323.7	322.7
55°	301.5	299.7	297.9	296.7	295.9	295.2	294.4	293.7
57.5°	270.4	268.6	266.9	265.7	265.1	264.6	264.0	263.4
60°	249.8	248.2	246.6	245.5	245.0	244.6	244.2	243.7
62.5°	230.3	228.8	227.3	226.3	225.7	225.2	224.6	224.0
65°	200.5	199.1	197.8	196.7	196.0	195.3	194.6	193.8
67.5°	170.9	169.9	168.9	168.1	167.5	166.8	166.3	165.7
70°	151.8	150.7	149.7	148.9	148.3	147.7	147.1	146.5
72.5°	133.7	132.6	131.6	130.8	130.4	129.8	129.4	128.9
75°	105.4	104.6	103.7	103.3	103.7	104.0	104.2	104.6
77.5°	80.3	79.8	79.4	78.9	78.5	78.1	77.7	77.2
80°	63.7	63.2	62.9	62.4	62.2	61.9	61.5	61.3
82.5°	47.5	46.9	46.4	46.0	46.0	45.9	45.8	45.8
85°	25.1	24.6	24.2	23.9	23.7	23.6	23.5	23.3
87.5°	10.5	10.3	10.2	10.1	10.1	10.0	10.0	9.9
90°	18.9	19.9	20.9	21.5	21.8	22.2	22.6	23.0
92.5°	20.8	21.2	21.8	22.1	22.3	22.6	22.7	23.0
95°	35.1	36.1	37.0	37.4	37.2	37.0	36.8	36.6
97.5°	46.0	46.7	47.5	48.0	48.2	48.4	48.7	48.9
100°	51.6	53.1	54.7	55.6	55.9	56.4	56.7	57.1
102.5°	53.9	55.8	57.8	59.0	59.6	60.1	60.6	61.2
105°	56.2	58.2	60.3	61.7	62.5	63.2	64.0	64.7
107.5°	68.5	66.4	64.3	63.6	64.4	65.1	65.9	66.6
110°	111.2	92.3	73.4	64.3	65.0	65.8	66.5	67.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.9	168.9	99.8	65.5	66.2	66.8	67.4	68.0
115°	350.4	262.7	175.0	124.4	110.8	97.1	83.5	69.9
117.5°	539.8	518.7	497.5	464.5	419.6	374.9	330.1	285.3
120°	629.1	631.3	633.6	622.0	596.5	570.9	545.3	519.8
122.5°	667.5	668.9	670.2	668.4	663.4	658.5	653.5	648.6
125°	722.6	724.0	725.3	726.2	726.8	727.4	727.9	728.5
127.5°	773.6	775.5	777.5	778.5	778.6	778.7	778.8	778.9
130°	805.9	808.1	810.1	811.1	810.8	810.7	810.5	810.3
132.5°	837.4	839.2	841.0	841.8	841.5	841.3	841.2	841.0
135°	882.3	884.1	886.0	886.8	886.4	886.0	885.6	885.3
137.5°	923.9	925.8	927.6	928.3	927.6	926.9	926.3	925.7
140°	950.9	952.6	954.3	954.7	953.8	952.8	951.8	950.9
142.5°	975.8	977.4	978.9	979.2	978.3	977.3	976.4	975.4
145°	1010.7	1012.0	1013.3	1013.5	1012.5	1011.6	1010.7	1009.7
147.5°	1041.0	1042.0	1042.9	1043.0	1042.2	1041.4	1040.6	1039.8
150°	1059.7	1060.8	1061.9	1062.0	1061.1	1060.2	1059.2	1058.3
152.5°	1076.7	1077.8	1079.0	1079.0	1077.7	1076.5	1075.2	1074.0
155°	1099.7	1100.8	1102.0	1101.8	1100.3	1098.8	1097.3	1095.7
157.5°	1119.1	1120.4	1121.7	1121.6	1120.1	1118.7	1117.1	1115.7
160°	1130.4	1131.5	1132.7	1132.6	1131.2	1129.9	1128.6	1127.3
162.5°	1140.9	1142.2	1143.5	1143.4	1141.7	1140.1	1138.4	1136.8
165°	1153.8	1155.1	1156.5	1156.5	1155.1	1153.8	1152.4	1151.1
167.5°	1164.5	1165.8	1167.2	1167.0	1165.3	1163.6	1161.9	1160.2
170°	1170.0	1171.3	1172.6	1172.4	1170.7	1169.0	1167.3	1165.6
172.5°	1174.0	1175.4	1176.7	1176.5	1174.8	1173.1	1171.4	1169.7
175°	1178.5	1179.8	1181.2	1180.9	1178.9	1177.1	1175.2	1173.3
177.5°	1179.0	1180.0	1181.1	1181.0	1179.6	1178.2	1176.9	1175.5
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5

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