

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: P332886-930

Luminaire Tested: **S124RDIP-S350D1035U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332886-930  
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: S124RDIP-S350D1035U930-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1035 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4533.6 lumens  
Efficiency: N/A  
Efficacy: 121.5 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: Semi-Indirect

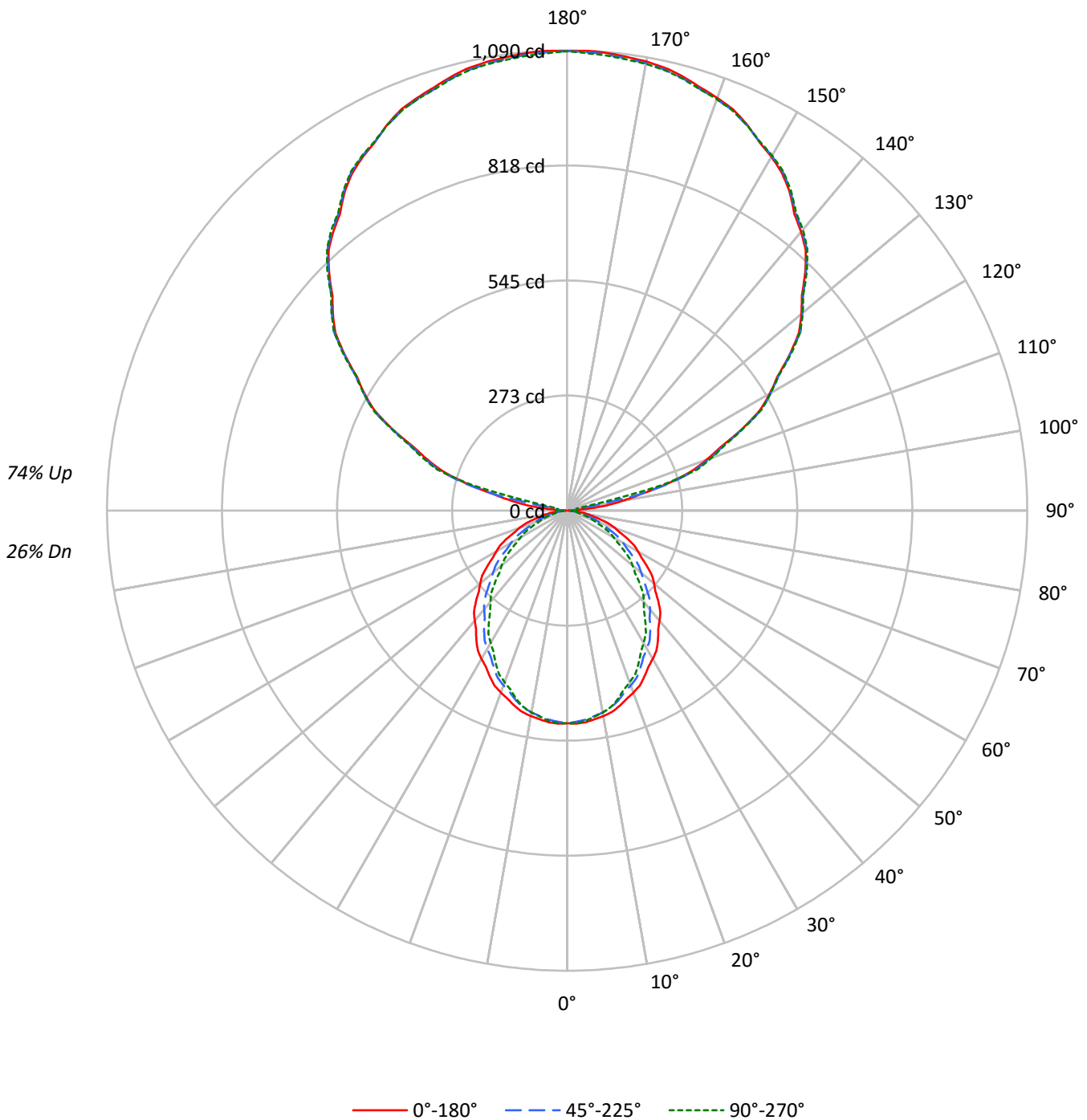
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	85	81	82	79	76	73	61	59	57	45	44	43	30	29	29	22
2	84	77	71	67	75	69	64	60	54	50	48	40	38	36	27	25	24	19
3	77	68	61	55	68	61	55	50	47	43	40	35	33	30	24	22	21	16
4	70	60	53	47	62	54	48	43	42	38	34	31	28	26	21	19	18	14
5	64	53	46	40	57	48	41	36	38	33	29	28	25	23	19	17	16	12
6	59	48	40	35	53	43	36	32	34	29	26	25	22	20	17	15	14	11
7	55	43	35	30	49	39	32	28	31	26	22	23	20	17	16	14	12	9
8	51	39	32	26	45	35	29	24	28	23	20	21	18	15	15	13	11	8
9	47	35	28	23	42	32	26	21	25	21	18	19	16	14	13	11	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	12	10	9	7

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

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.3	1.0
10°-20°	132.0	2.9
20°-30°	190.6	4.2
30°-40°	216.1	4.8
40°-50°	208.7	4.6
50°-60°	173.5	3.8
60°-70°	119.8	2.6
70°-80°	60.7	1.3
80°-90°	18.7	0.4
90°-100°	37.2	0.8
100°-110°	237.3	5.2
110°-120°	453.9	10.0
120°-130°	576.3	12.7
130°-140°	616.6	13.6
140°-150°	576.6	12.7
150°-160°	464.9	10.3
160°-170°	299.9	6.6
170°-180°	103.4	2.3
0°-30°	370.0	8.2
0°-40°	586.1	12.9
0°-60°	968.3	21.4
0°-90°	1167.6	25.8
90°-120°	728.5	16.1
90°-150°	2497.9	55.1
90°-180°	3366.0	74.2
0°-180°	4533.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	24
90°	2	11	18	23	24	3
95°	45	19	18	23	24	58
105°	245	250	254	259	232	256
115°	457	460	459	461	461	450
125°	643	646	645	647	648	574
135°	798	797	800	802	803	614
145°	920	922	922	923	924	574
155°	1008	1009	1007	1010	1008	465
165°	1064	1060	1060	1065	1059	300
175°	1088	1084	1084	1090	1082	104
180°	1088	1088	1088	1088	1088	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.6	7.4	7.3	7.2	7.0	7.0	7.3	7.5	7.7	7.9	8.1
90°	2.4	4.4	6.4	8.4	10.4	12.1	13.5	15.0	16.5	17.9	19.0
92.5°	10.3	10.4	10.4	10.6	10.7	11.5	12.9	14.3	15.8	17.3	18.3
95°	44.8	38.6	32.4	26.3	20.1	17.2	17.4	17.5	17.7	17.9	19.0
97.5°	95.1	98.9	102.7	106.6	110.4	102.2	82.0	61.9	41.7	21.5	21.6
100°	133.5	136.7	140.0	143.2	146.5	135.7	110.7	85.8	60.7	35.8	32.8
102.5°	176.4	178.9	181.2	183.6	186.0	185.6	182.3	179.0	175.8	172.5	139.3
105°	245.0	246.1	247.1	248.3	249.3	250.3	251.2	252.1	253.1	254.0	255.6
107.5°	308.6	309.2	309.7	310.2	310.8	311.7	312.9	314.1	315.4	316.6	317.4
110°	351.6	352.1	352.7	353.2	353.8	354.6	355.6	356.8	357.8	358.9	359.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	393.3	394.3	395.3	396.2	397.2	397.9	398.4	398.9	399.4	399.9	399.9
115°	457.4	458.0	458.5	459.0	459.6	459.7	459.6	459.4	459.2	459.0	459.4
117.5°	515.2	515.9	516.7	517.4	518.1	518.6	519.0	519.4	519.8	520.2	520.2
120°	554.2	555.0	555.7	556.4	557.2	557.4	557.3	557.1	556.8	556.7	557.1
122.5°	590.7	591.2	591.6	592.0	592.5	592.8	593.0	593.3	593.5	593.8	594.0
125°	642.9	643.7	644.4	645.1	645.9	646.0	645.7	645.3	645.0	644.6	645.1
127.5°	692.4	692.6	692.8	693.0	693.2	693.7	694.6	695.4	696.2	697.0	696.9
130°	724.4	724.6	724.7	724.9	725.0	725.5	726.0	726.5	727.1	727.7	727.8
132.5°	753.7	754.0	754.3	754.6	755.0	755.5	756.2	756.8	757.5	758.2	758.4
135°	797.6	797.4	797.3	797.0	796.9	797.1	797.9	798.6	799.3	800.1	800.4
137.5°	836.5	836.6	836.7	836.7	836.8	837.2	838.0	838.9	839.6	840.4	840.8
140°	861.9	862.3	862.7	863.0	863.3	863.7	864.1	864.5	864.8	865.2	865.7
142.5°	884.7	885.3	886.0	886.6	887.3	887.7	887.9	888.2	888.4	888.6	889.0
145°	919.7	920.2	920.8	921.3	921.9	922.1	922.1	922.1	922.1	922.1	922.3
147.5°	947.5	948.5	949.6	950.6	951.6	952.0	951.8	951.6	951.5	951.3	951.5
150°	967.7	968.4	969.1	969.9	970.6	970.9	970.7	970.5	970.4	970.1	970.1
152.5°	984.6	985.2	985.8	986.3	986.9	987.1	986.8	986.4	986.1	985.8	986.1
155°	1008.4	1008.6	1008.8	1008.9	1009.1	1008.9	1008.4	1007.9	1007.3	1006.8	1007.5
157.5°	1028.4	1028.3	1028.2	1028.1	1028.0	1027.6	1027.0	1026.4	1025.8	1025.2	1026.1
160°	1040.2	1039.6	1039.1	1038.5	1038.0	1037.6	1037.5	1037.2	1037.1	1036.9	1038.0
162.5°	1050.6	1049.9	1049.2	1048.5	1047.8	1047.4	1047.2	1047.0	1046.8	1046.7	1047.7
165°	1063.7	1062.8	1061.9	1061.0	1060.1	1059.6	1059.6	1059.6	1059.6	1059.6	1061.1
167.5°	1074.2	1073.3	1072.3	1071.4	1070.4	1069.9	1069.8	1069.7	1069.6	1069.4	1071.1
170°	1080.0	1079.0	1077.8	1076.8	1075.7	1075.2	1075.4	1075.6	1075.8	1076.0	1077.4
172.5°	1083.9	1082.9	1081.7	1080.7	1079.6	1079.1	1079.3	1079.5	1079.7	1079.9	1081.3
175°	1088.2	1087.1	1086.0	1084.9	1083.9	1083.4	1083.5	1083.8	1083.9	1084.1	1085.7
177.5°	1090.1	1089.1	1088.1	1087.1	1086.1	1085.7	1086.0	1086.3	1086.5	1086.9	1088.0
180°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	8.2	8.3	8.5	8.6	8.8	8.9	9.0	9.2
90°	20.1	21.2	22.3	23.0	23.3	23.7	24.1	24.4
92.5°	19.4	20.5	21.6	22.2	22.3	22.3	22.4	22.5
95°	20.1	21.2	22.3	22.9	23.1	23.2	23.4	23.6
97.5°	21.7	21.9	21.9	22.1	22.3	22.4	22.6	22.8
100°	29.7	26.6	23.5	22.1	22.3	22.4	22.6	22.8
102.5°	106.2	73.1	39.9	23.3	23.3	23.4	23.4	23.5
105°	257.2	258.8	260.4	258.0	251.5	245.0	238.5	232.0
107.5°	318.2	319.0	319.8	320.5	321.2	321.9	322.6	323.3
110°	359.6	360.0	360.4	360.9	361.3	361.9	362.5	363.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	399.8	399.7	399.7	400.0	400.6	401.4	402.0	402.7
115°	459.7	460.2	460.5	460.6	460.6	460.6	460.6	460.6
117.5°	520.1	520.0	519.9	519.9	519.8	519.8	519.7	519.6
120°	557.4	557.7	558.2	558.2	557.7	557.4	557.1	556.7
122.5°	594.3	594.4	594.7	594.6	594.3	593.9	593.5	593.1
125°	645.7	646.2	646.8	647.1	647.3	647.5	647.7	647.8
127.5°	696.8	696.7	696.6	696.4	696.3	696.2	696.0	695.9
130°	728.0	728.1	728.3	728.5	728.5	728.5	728.5	728.5
132.5°	758.6	758.8	759.0	759.0	758.8	758.6	758.6	758.4
135°	800.8	801.1	801.5	801.8	802.3	802.6	802.9	803.3
137.5°	841.2	841.6	842.0	842.1	842.0	842.0	841.8	841.7
140°	866.3	866.8	867.3	867.7	867.9	868.0	868.2	868.5
142.5°	889.4	889.8	890.2	890.4	890.5	890.5	890.6	890.6
145°	922.5	922.7	922.8	923.2	923.5	923.8	924.2	924.5
147.5°	951.5	951.7	951.9	952.0	952.2	952.4	952.6	952.8
150°	970.1	970.1	970.1	970.2	970.5	970.6	970.8	970.9
152.5°	986.3	986.7	986.9	987.0	986.9	986.8	986.7	986.6
155°	1008.2	1008.9	1009.7	1009.7	1009.3	1008.7	1008.1	1007.6
157.5°	1027.0	1028.0	1028.9	1028.9	1028.0	1027.0	1026.1	1025.2
160°	1039.1	1040.2	1041.2	1041.2	1040.2	1039.1	1038.0	1036.9
162.5°	1048.8	1049.9	1051.0	1050.9	1049.7	1048.5	1047.3	1046.0
165°	1062.6	1064.0	1065.4	1065.4	1063.7	1062.1	1060.5	1058.8
167.5°	1072.6	1074.2	1075.8	1075.7	1073.9	1072.1	1070.2	1068.4
170°	1078.9	1080.3	1081.7	1081.6	1079.8	1078.0	1076.1	1074.3
172.5°	1082.8	1084.2	1085.7	1085.4	1083.5	1081.5	1079.5	1077.6
175°	1087.4	1089.0	1090.6	1090.3	1088.2	1086.0	1083.9	1081.7
177.5°	1089.2	1090.3	1091.5	1091.2	1089.5	1087.8	1086.0	1084.3
180°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2

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