

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: P332893-930

Luminaire Tested: **SA4XXRDIP-C350D1205U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332893-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D1205U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4566.1 lumens
Efficiency: N/A
Efficacy: 108.2 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

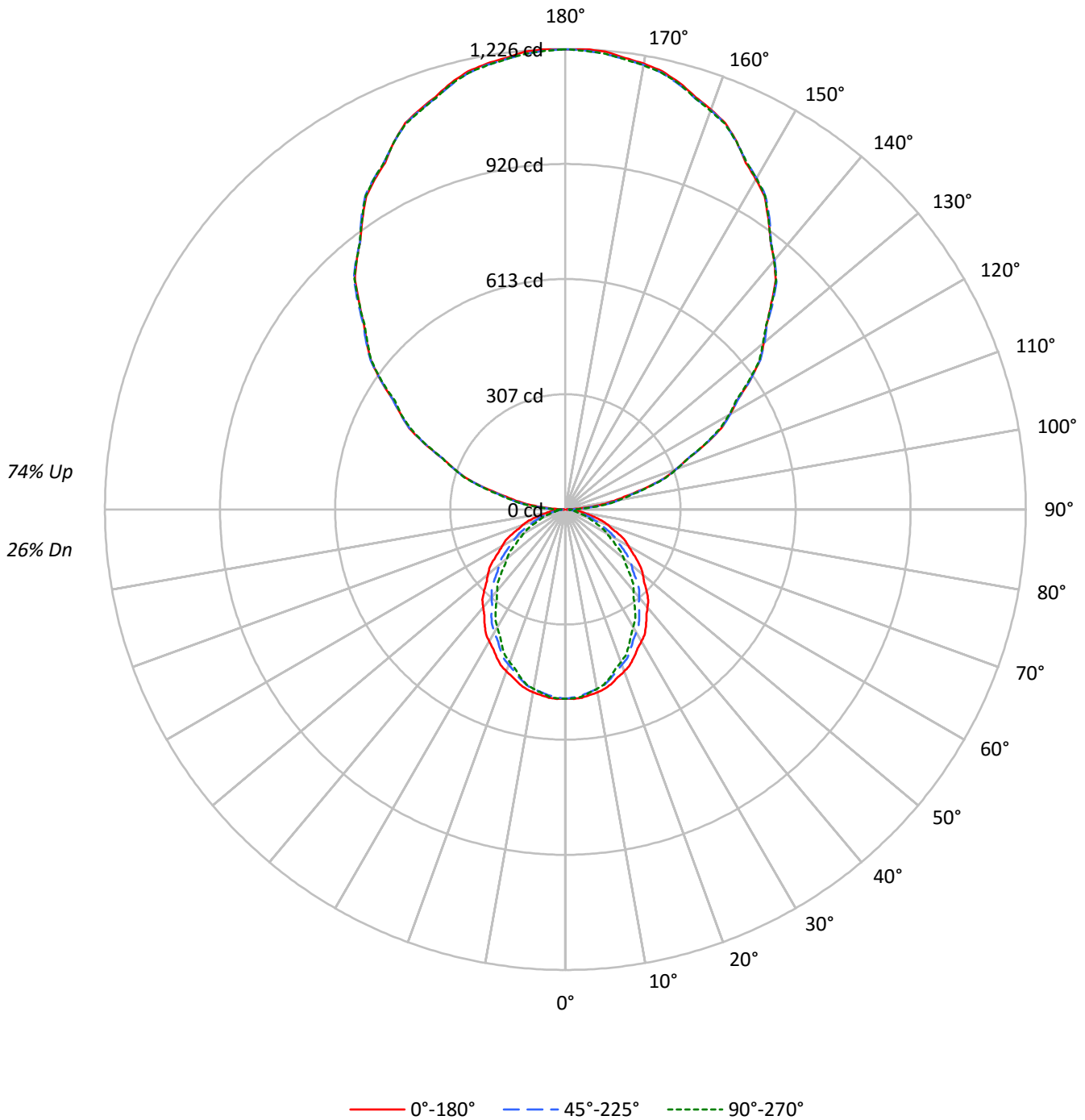
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	37	36	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	24	22	21	16
4	70	60	53	47	62	54	47	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	22	19	17	16	12
6	59	48	40	35	53	43	36	31	34	29	25	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	14	12	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	4.7
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°	19.2	0.4
90°-100°	80.8	1.8
100°-110°	239.3	5.2
110°-120°	406.2	8.9
120°-130°	535.6	11.7
130°-140°	601.5	13.2
140°-150°	591.0	12.9
150°-160°	497.1	10.9
160°-170°	330.7	7.2
170°-180°	115.8	2.5
0°-30°	370.0	8.1
0°-40°	586.1	12.8
0°-60°	968.3	21.2
0°-90°	1168.1	25.6
90°-120°	726.2	15.9
90°-150°	2454.3	53.8
90°-180°	3398.0	74.4
0°-180°	4566.1	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°	3	13	21	26	28	5
95°	57	65	72	75	75	63
105°	221	222	225	228	231	234
115°	413	413	411	410	409	407
125°	601	601	600	599	597	536
135°	776	781	782	780	777	600
145°	942	946	947	946	944	590
155°	1080	1080	1079	1082	1079	497
165°	1176	1173	1171	1176	1173	331
175°	1223	1218	1217	1223	1217	116
180°	1225	1225	1225	1225	1225	



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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°	7.7	7.6	7.5	7.4	7.3	7.4	7.7	8.0	8.2	8.5	8.6
90°	2.9	5.1	7.5	9.8	12.1	14.1	15.8	17.4	19.2	20.9	22.1
92.5°	20.3	22.9	25.6	28.2	30.9	32.8	34.0	35.1	36.4	37.5	38.2
95°	56.8	58.7	60.7	62.5	64.4	66.1	67.6	69.1	70.5	72.0	72.6
97.5°	99.3	100.8	102.3	103.8	105.3	107.0	108.7	110.4	112.1	113.8	114.6
100°	132.6	133.5	134.3	135.1	136.0	137.4	139.3	141.1	143.0	145.0	145.4
102.5°	167.5	167.8	168.1	168.4	168.8	169.8	171.5	173.3	175.0	176.8	177.3
105°	220.7	220.9	221.1	221.4	221.5	222.1	222.9	223.7	224.6	225.4	226.1
107.5°	276.5	276.9	277.1	277.4	277.6	277.8	277.9	278.0	278.2	278.3	278.9
110°	314.5	314.9	315.3	315.8	316.2	316.3	316.1	315.8	315.6	315.4	315.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	353.8	354.0	354.1	354.2	354.2	354.1	353.7	353.4	352.9	352.5	352.5
115°	412.9	412.9	412.9	412.9	412.9	412.8	412.4	412.0	411.5	411.1	410.9
117.5°	468.7	468.9	469.0	469.2	469.4	469.3	469.0	468.7	468.4	468.1	467.4
120°	505.8	506.6	507.5	508.3	509.2	509.3	508.7	508.0	507.4	506.8	505.7
122.5°	544.5	544.8	545.1	545.4	545.8	545.8	545.5	545.3	544.9	544.6	544.0
125°	601.4	601.4	601.4	601.4	601.4	601.4	601.2	601.0	600.7	600.5	600.1
127.5°	653.2	653.9	654.4	655.1	655.7	655.9	655.5	655.2	654.8	654.5	654.1
130°	689.6	690.2	690.8	691.5	692.1	692.4	692.4	692.4	692.4	692.4	692.0
132.5°	726.7	727.2	727.7	728.1	728.6	728.7	728.6	728.4	728.2	728.1	727.6
135°	775.8	777.1	778.3	779.6	780.8	781.5	781.5	781.5	781.5	781.5	781.1
137.5°	829.2	829.8	830.4	831.0	831.5	832.0	832.3	832.7	833.0	833.3	832.8
140°	864.8	865.2	865.7	866.1	866.5	866.7	866.7	866.7	866.7	866.7	866.5
142.5°	897.4	897.8	898.2	898.6	899.1	899.2	899.0	898.9	898.7	898.5	898.5
145°	942.5	943.3	944.2	945.0	945.8	946.4	946.6	946.8	947.0	947.2	947.0
147.5°	987.2	988.2	989.2	990.2	991.2	991.6	991.5	991.3	991.2	991.0	990.8
150°	1014.5	1015.3	1016.2	1017.0	1017.8	1018.2	1018.2	1018.2	1018.2	1018.2	1018.2
152.5°	1040.2	1040.7	1041.2	1041.7	1042.3	1042.6	1042.8	1042.9	1043.1	1043.3	1043.7
155°	1079.8	1079.8	1079.8	1079.8	1079.8	1079.7	1079.5	1079.3	1079.0	1078.9	1079.7
157.5°	1113.1	1112.8	1112.4	1112.1	1111.7	1111.4	1111.4	1111.3	1111.3	1111.3	1111.9
160°	1132.9	1132.7	1132.5	1132.2	1132.0	1131.8	1131.6	1131.4	1131.1	1131.0	1131.6
162.5°	1151.0	1150.5	1150.0	1149.4	1148.8	1148.5	1148.3	1148.1	1147.9	1147.6	1148.8
165°	1175.5	1174.8	1174.2	1173.6	1173.0	1172.4	1172.0	1171.6	1171.2	1170.8	1172.0
167.5°	1194.3	1193.4	1192.5	1191.6	1190.7	1190.3	1190.3	1190.3	1190.4	1190.4	1191.7
170°	1204.8	1203.8	1202.7	1201.7	1200.6	1200.2	1200.4	1200.6	1200.9	1201.1	1202.3
172.5°	1212.4	1211.5	1210.6	1209.7	1208.9	1208.4	1208.5	1208.6	1208.6	1208.7	1210.1
175°	1222.9	1221.8	1220.7	1219.7	1218.6	1218.0	1217.8	1217.6	1217.4	1217.2	1218.6
177.5°	1226.3	1225.4	1224.6	1223.8	1222.9	1222.5	1222.5	1222.5	1222.5	1222.5	1223.7
180°	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7



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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°	8.9	9.0	9.2	9.4	9.5	9.7	9.9	10.0
90°	23.4	24.6	25.9	26.7	27.1	27.6	28.0	28.5
92.5°	39.1	39.8	40.5	41.0	41.3	41.6	41.8	42.1
95°	73.2	73.9	74.5	74.8	74.8	74.8	74.8	74.8
97.5°	115.4	116.1	116.9	117.2	117.2	117.2	117.2	117.2
100°	145.8	146.2	146.6	146.8	146.8	146.8	146.8	146.8
102.5°	177.9	178.6	179.1	179.4	179.7	179.9	180.0	180.2
105°	226.7	227.3	228.0	228.6	229.3	229.8	230.5	231.1
107.5°	279.5	280.1	280.6	281.0	280.9	280.9	280.8	280.8
110°	314.5	314.1	313.7	313.8	314.5	315.1	315.8	316.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	352.4	352.3	352.2	352.2	352.4	352.5	352.6	352.8
115°	410.7	410.4	410.3	410.0	409.9	409.6	409.4	409.2
117.5°	466.7	465.9	465.2	464.7	464.2	463.8	463.4	463.0
120°	504.7	503.6	502.6	502.2	502.6	503.0	503.5	503.9
122.5°	543.2	542.5	541.8	541.0	540.3	539.6	538.7	538.0
125°	599.7	599.2	598.8	598.4	598.0	597.6	597.1	596.7
127.5°	653.7	653.3	652.8	652.5	652.2	651.8	651.4	651.1
130°	691.5	691.1	690.7	690.1	689.3	688.4	687.5	686.7
132.5°	727.2	726.8	726.4	725.9	725.6	725.3	725.0	724.6
135°	780.6	780.2	779.8	779.3	778.6	778.0	777.3	776.7
137.5°	832.3	831.7	831.2	831.0	831.1	831.2	831.4	831.4
140°	866.3	866.1	865.8	865.7	865.4	865.2	865.0	864.8
142.5°	898.5	898.4	898.4	898.3	898.3	898.2	898.2	898.1
145°	946.8	946.6	946.4	945.9	945.3	944.7	944.0	943.5
147.5°	990.7	990.5	990.3	990.1	989.9	989.7	989.4	989.3
150°	1018.2	1018.2	1018.2	1018.1	1017.9	1017.7	1017.5	1017.3
152.5°	1044.2	1044.8	1045.3	1045.3	1044.7	1044.2	1043.6	1043.1
155°	1080.6	1081.4	1082.2	1082.2	1081.4	1080.6	1079.7	1078.9
157.5°	1112.6	1113.1	1113.8	1113.8	1113.0	1112.3	1111.6	1110.9
160°	1132.2	1132.9	1133.5	1133.3	1132.2	1131.1	1130.2	1129.1
162.5°	1149.9	1151.0	1152.2	1152.3	1151.2	1150.1	1149.1	1148.0
165°	1173.3	1174.5	1175.8	1176.0	1175.2	1174.4	1173.5	1172.6
167.5°	1192.9	1194.3	1195.5	1195.5	1194.2	1192.9	1191.6	1190.3
170°	1203.6	1204.8	1206.2	1206.0	1204.5	1203.1	1201.6	1200.1
172.5°	1211.5	1212.9	1214.4	1214.4	1212.8	1211.4	1209.9	1208.4
175°	1220.1	1221.6	1223.0	1223.0	1221.6	1220.1	1218.6	1217.2
177.5°	1224.8	1226.0	1227.2	1227.1	1225.7	1224.4	1223.0	1221.7
180°	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7	1224.7

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