

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: P332881-840

Luminaire Tested: **SA4XXRDIP-C350D810U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332881-840
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-C350D810U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

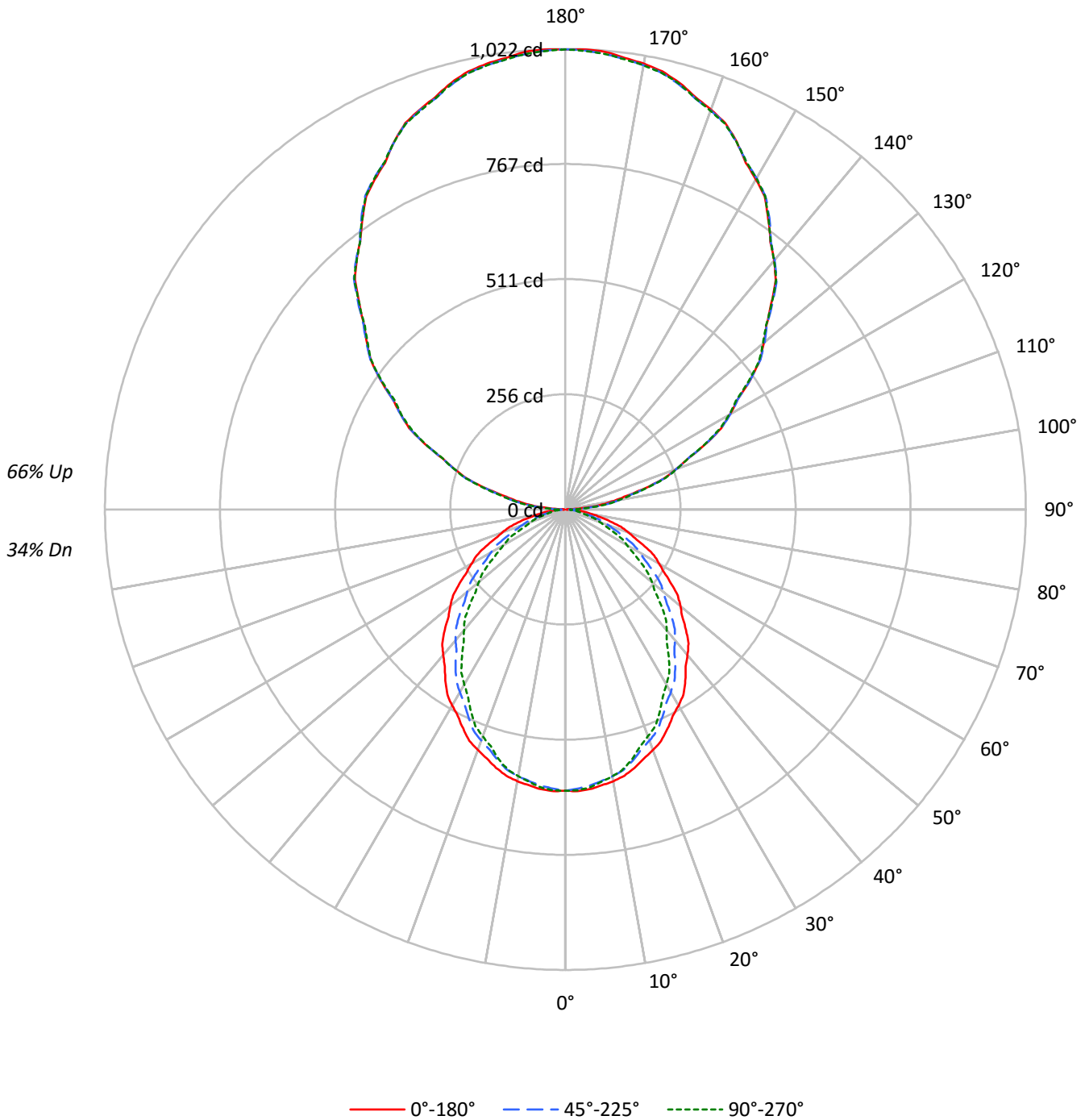
Lumens per Lamp: N/A
Luminaire Lumens: 4277.6 lumens
Efficiency: N/A
Efficacy: 137.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34				34
1	94	90	86	83	85	82	78	76	65	63	61	50	49	48	37	36	35	29				29
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30	24				24
3	79	69	62	57	71	63	57	52	51	46	43	39	37	34	29	27	26	21				21
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18				18
5	66	55	47	41	59	50	43	38	40	35	32	32	28	25	23	21	19	16				16
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17	14				14
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12				12
8	52	40	33	27	47	37	30	25	30	25	21	24	20	18	18	15	14	11				11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10				10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9				9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5040	5040	5040
5°	5051	4989	5020
10°	5019	4930	4930
15°	4962	4826	4790
20°	4883	4689	4603
25°	4782	4530	4415
30°	4683	4363	4180
35°	4574	4188	3943
40°	4443	3990	3687
45°	4322	3793	3427
50°	4185	3567	3152
55°	4037	3330	2853
60°	3873	3073	2546
65°	3725	2749	2245
70°	3510	2391	1907
75°	3235	1984	1550
80°	2822	1511	1423
85°	2399	1371	1278



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.6	1.4
10°-20°	163.5	3.8
20°-30°	236.1	5.5
30°-40°	267.7	6.3
40°-50°	258.5	6.0
50°-60°	214.9	5.0
60°-70°	148.4	3.5
70°-80°	75.2	1.8
80°-90°	22.3	0.5
90°-100°	67.3	1.6
100°-110°	199.5	4.7
110°-120°	338.5	7.9
120°-130°	446.4	10.4
130°-140°	501.3	11.7
140°-150°	492.6	11.5
150°-160°	414.3	9.7
160°-170°	275.7	6.4
170°-180°	96.5	2.3
0°-30°	458.3	10.7
0°-40°	726.0	17.0
0°-60°	1199.4	28.0
0°-90°	1445.4	33.8
90°-120°	605.4	14.2
90°-150°	2045.7	47.8
90°-180°	2832.0	66.2
0°-180°	4277.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	623	621	616	620	620	59
15°	594	589	577	576	573	167
25°	537	528	509	501	496	247
35°	464	448	425	409	400	290
45°	379	360	332	310	300	292
55°	287	267	237	213	203	256
65°	195	174	144	124	118	193
75°	104	86	64	53	50	110
85°	26	17	15	14	14	29
90°	2	11	17	22	24	4
95°	47	54	60	62	62	53
105°	184	185	188	190	193	195
115°	344	344	343	342	341	339
125°	501	501	501	499	497	447
135°	647	651	651	650	647	500
145°	786	789	790	789	786	491
155°	900	900	899	902	899	414
165°	980	977	976	980	977	276
175°	1019	1015	1014	1020	1014	97
180°	1021	1021	1021	1021	1021	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3
2.5°	625.8	625.4	625.1	624.8	624.4	623.8	622.9	622.0	621.0	620.1	621.0
5°	623.3	622.9	622.5	622.1	621.6	620.8	619.5	618.2	616.9	615.7	616.7
7.5°	617.6	617.2	616.8	616.3	615.9	614.8	613.2	611.5	609.9	608.2	608.8
10°	612.3	611.8	611.3	610.8	610.2	608.9	607.0	605.1	603.2	601.4	601.8
12.5°	605.4	604.8	604.2	603.6	603.0	601.6	599.3	597.0	594.8	592.5	592.8
15°	593.7	592.7	591.8	590.8	589.9	588.0	585.4	582.7	580.1	577.4	577.2
17.5°	579.5	578.0	576.6	575.3	573.9	571.6	568.5	565.2	562.1	558.9	558.3
20°	568.4	566.9	565.6	564.2	562.8	560.4	556.7	553.1	549.5	545.8	545.0
22.5°	556.1	554.5	553.0	551.5	549.9	547.1	543.3	539.5	535.6	531.7	530.5
25°	536.8	534.9	533.0	531.1	529.2	526.0	521.7	517.4	512.9	508.6	506.8
27.5°	516.5	514.1	511.7	509.4	507.0	503.4	498.8	494.1	489.5	484.8	482.5
30°	502.4	499.7	497.1	494.4	491.8	488.0	482.9	478.0	472.9	468.0	465.3
32.5°	487.5	484.4	481.5	478.5	475.4	471.4	466.3	461.1	456.0	450.8	447.7
35°	464.1	460.7	457.4	453.9	450.5	446.2	440.9	435.6	430.3	425.0	421.3
37.5°	439.2	435.7	432.2	428.7	425.2	420.5	414.5	408.7	402.8	397.0	392.9
40°	421.6	418.1	414.5	411.1	407.6	402.8	396.8	390.7	384.7	378.6	374.2
42.5°	404.8	401.1	397.4	393.7	390.1	385.1	378.8	372.4	366.2	359.8	355.3
45°	378.6	374.7	370.7	366.8	362.8	357.7	351.3	345.0	338.6	332.2	327.0
47.5°	351.5	347.5	343.5	339.3	335.3	329.9	323.4	316.7	310.0	303.5	298.0
50°	333.2	329.0	324.9	320.7	316.6	311.1	304.4	297.5	290.7	284.0	278.6
52.5°	314.5	310.3	306.3	302.3	298.2	292.7	285.7	278.7	271.8	264.8	259.4
55°	286.8	282.6	278.3	274.1	269.8	264.2	257.3	250.4	243.5	236.6	231.1
57.5°	259.4	255.0	250.6	246.2	241.8	236.2	229.3	222.6	215.8	208.9	203.4
60°	239.9	235.7	231.5	227.2	223.0	217.4	210.7	203.8	197.0	190.3	184.7
62.5°	222.4	217.9	213.5	209.1	204.7	199.0	192.1	185.1	178.1	171.2	166.0
65°	195.0	190.5	185.9	181.4	176.7	171.1	164.3	157.4	150.7	143.9	139.4
67.5°	166.6	162.3	157.8	153.5	149.2	143.8	137.4	131.2	124.8	118.6	114.6
70°	148.7	144.2	139.8	135.3	130.8	125.5	119.5	113.4	107.3	101.3	97.9
72.5°	129.6	125.5	121.5	117.4	113.4	108.6	102.8	97.0	91.4	85.6	82.7
75°	103.7	99.8	95.8	91.9	88.0	83.5	78.6	73.5	68.6	63.6	61.1
77.5°	77.6	74.2	70.9	67.6	64.2	60.5	56.5	52.4	48.4	44.3	42.9
80°	60.7	57.7	54.5	51.5	48.4	45.2	42.1	38.9	35.6	32.5	32.2
82.5°	46.2	43.3	40.5	37.7	34.8	32.5	30.7	28.9	27.1	25.2	25.0
85°	25.9	23.7	21.6	19.4	17.3	16.1	15.8	15.5	15.1	14.8	14.6
87.5°	9.3	9.0	8.7	8.4	8.1	8.1	8.3	8.5	8.6	8.8	9.0
90°	2.3	4.3	6.3	8.2	10.1	11.7	13.1	14.5	16.0	17.4	18.4
92.5°	16.9	19.1	21.3	23.5	25.8	27.4	28.3	29.3	30.3	31.3	31.9
95°	47.4	49.0	50.5	52.1	53.7	55.1	56.4	57.6	58.8	60.0	60.5
97.5°	82.7	84.0	85.2	86.5	87.8	89.2	90.6	92.0	93.4	94.9	95.5
100°	110.6	111.2	111.9	112.6	113.3	114.5	116.0	117.6	119.2	120.8	121.2
102.5°	139.6	139.9	140.2	140.5	140.7	141.6	143.0	144.4	145.9	147.3	147.8
105°	184.0	184.1	184.3	184.5	184.7	185.1	185.8	186.5	187.2	187.9	188.4
107.5°	230.6	230.8	231.0	231.2	231.4	231.6	231.7	231.8	231.9	232.0	232.5
110°	262.2	262.5	262.8	263.2	263.5	263.6	263.5	263.3	263.1	262.9	262.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	295.0	295.0	295.1	295.2	295.3	295.1	294.8	294.5	294.2	293.9	293.8
115°	344.3	344.3	344.3	344.3	344.3	344.1	343.7	343.4	343.0	342.6	342.4
117.5°	390.6	390.8	390.9	391.0	391.2	391.1	390.9	390.6	390.4	390.2	389.6
120°	421.6	422.3	423.0	423.7	424.4	424.4	423.9	423.4	422.9	422.4	421.5
122.5°	453.8	454.0	454.3	454.6	454.9	454.9	454.7	454.4	454.2	453.9	453.3
125°	501.3	501.3	501.3	501.3	501.3	501.2	501.1	500.9	500.7	500.6	500.2
127.5°	544.4	544.9	545.5	546.0	546.5	546.6	546.3	546.1	545.8	545.5	545.2
130°	574.7	575.3	575.8	576.3	576.8	577.1	577.1	577.1	577.1	577.1	576.7
132.5°	605.7	606.1	606.5	606.8	607.2	607.3	607.2	607.1	606.9	606.8	606.4
135°	646.6	647.6	648.7	649.7	650.9	651.4	651.4	651.4	651.4	651.4	651.0
137.5°	691.2	691.7	692.1	692.6	693.1	693.5	693.8	694.1	694.3	694.6	694.2
140°	720.8	721.1	721.5	721.9	722.3	722.4	722.4	722.4	722.4	722.4	722.3
142.5°	748.0	748.3	748.7	749.0	749.4	749.5	749.3	749.2	749.0	748.9	748.9
145°	785.6	786.3	787.0	787.7	788.4	788.8	789.0	789.1	789.3	789.5	789.3
147.5°	822.8	823.6	824.5	825.4	826.2	826.6	826.4	826.3	826.1	826.0	825.9
150°	845.6	846.3	847.0	847.7	848.4	848.7	848.7	848.7	848.7	848.7	848.7
152.5°	867.1	867.5	867.9	868.3	868.7	869.0	869.1	869.3	869.4	869.6	870.0
155°	900.0	900.0	900.0	900.0	900.0	899.9	899.8	899.6	899.4	899.3	899.9
157.5°	927.9	927.5	927.2	926.9	926.6	926.3	926.3	926.3	926.2	926.2	926.8
160°	944.2	944.0	943.9	943.7	943.5	943.3	943.2	943.0	942.8	942.7	943.2
162.5°	959.4	959.0	958.5	958.1	957.6	957.3	957.0	956.9	956.7	956.5	957.6
165°	979.8	979.3	978.8	978.2	977.7	977.2	976.8	976.5	976.1	975.8	976.8
167.5°	995.4	994.6	993.9	993.2	992.5	992.1	992.1	992.2	992.2	992.2	993.3
170°	1004.2	1003.4	1002.5	1001.6	1000.8	1000.4	1000.6	1000.8	1000.9	1001.1	1002.1
172.5°	1010.6	1009.9	1009.1	1008.4	1007.6	1007.2	1007.3	1007.3	1007.3	1007.4	1008.6
175°	1019.3	1018.3	1017.4	1016.6	1015.7	1015.2	1015.0	1014.8	1014.7	1014.5	1015.7
177.5°	1022.1	1021.4	1020.7	1020.0	1019.3	1019.0	1019.0	1019.0	1019.0	1019.0	1019.9
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3
2.5°	622.0	622.9	623.8	624.2	624.1	624.1	624.0	623.9
5°	617.8	618.8	620.0	620.4	620.2	620.0	619.7	619.5
7.5°	609.6	610.3	611.0	611.1	610.8	610.5	610.1	609.8
10°	602.2	602.6	603.0	603.0	602.6	602.2	601.8	601.4
12.5°	593.0	593.3	593.6	593.4	592.8	592.2	591.6	591.0
15°	577.0	576.8	576.5	576.1	575.3	574.6	573.9	573.1
17.5°	557.6	557.1	556.5	555.6	554.5	553.4	552.3	551.2
20°	544.2	543.3	542.5	541.4	540.0	538.6	537.2	535.8
22.5°	529.2	527.9	526.6	525.4	524.3	523.2	522.1	520.9
25°	504.9	503.2	501.4	500.0	498.9	497.8	496.8	495.6
27.5°	480.3	478.1	475.8	474.0	472.4	470.9	469.4	467.9
30°	462.6	460.0	457.4	455.1	453.4	451.8	450.1	448.4
32.5°	444.6	441.5	438.5	436.1	434.4	432.8	431.2	429.6
35°	417.7	414.1	410.5	407.8	405.9	403.9	402.0	400.1
37.5°	388.9	384.9	380.8	377.8	375.9	374.0	372.0	370.1
40°	369.6	365.2	360.7	357.6	355.7	353.8	351.8	349.9
42.5°	350.7	346.2	341.6	338.4	336.4	334.4	332.3	330.4
45°	321.8	316.6	311.3	307.8	305.9	304.0	302.1	300.2
47.5°	292.7	287.2	281.9	278.1	276.0	273.9	271.8	269.7
50°	273.3	268.0	262.7	259.0	257.0	255.0	253.0	251.0
52.5°	254.0	248.6	243.3	239.4	237.4	235.3	233.2	231.1
55°	225.6	220.0	214.5	210.8	208.7	206.7	204.7	202.7
57.5°	197.7	192.2	186.5	183.0	181.5	180.0	178.3	176.8
60°	179.2	173.7	168.1	164.5	162.8	161.2	159.5	157.7
62.5°	161.0	155.8	150.8	147.5	146.1	144.8	143.4	142.1
65°	134.7	130.2	125.6	122.7	121.4	120.2	118.9	117.5
67.5°	110.7	106.7	102.8	100.2	98.8	97.4	95.9	94.5
70°	94.3	90.8	87.4	85.0	83.9	82.9	81.8	80.8
72.5°	79.7	76.6	73.7	71.7	70.7	69.8	68.8	67.8
75°	58.7	56.2	53.8	52.3	51.6	51.0	50.4	49.7
77.5°	41.5	40.1	38.7	37.9	37.7	37.5	37.3	37.1
80°	31.9	31.5	31.2	31.0	30.9	30.8	30.7	30.6
82.5°	24.7	24.5	24.3	24.1	24.0	23.9	23.8	23.7
85°	14.4	14.1	13.9	13.8	13.8	13.8	13.8	13.8
87.5°	9.1	9.2	9.3	9.5	9.6	9.8	9.9	10.1
90°	19.5	20.5	21.6	22.3	22.6	23.0	23.3	23.7
92.5°	32.5	33.1	33.8	34.2	34.4	34.6	34.8	35.0
95°	61.1	61.6	62.1	62.4	62.4	62.4	62.4	62.4
97.5°	96.1	96.7	97.5	97.8	97.8	97.8	97.8	97.8
100°	121.5	121.9	122.2	122.4	122.4	122.4	122.4	122.4
102.5°	148.3	148.8	149.3	149.6	149.8	149.9	150.1	150.2
105°	188.9	189.5	190.0	190.6	191.1	191.6	192.1	192.7
107.5°	233.0	233.4	233.9	234.2	234.1	234.1	234.1	234.0
110°	262.2	261.9	261.5	261.6	262.2	262.7	263.2	263.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	293.7	293.7	293.6	293.6	293.7	293.8	293.9	294.0
115°	342.2	342.1	341.9	341.7	341.6	341.4	341.2	341.0
117.5°	389.0	388.4	387.8	387.3	387.0	386.6	386.3	385.9
120°	420.6	419.7	418.9	418.6	419.0	419.3	419.7	420.0
122.5°	452.7	452.2	451.6	451.0	450.3	449.7	449.1	448.5
125°	499.9	499.5	499.2	498.8	498.5	498.1	497.8	497.4
127.5°	544.8	544.5	544.1	543.8	543.5	543.3	543.0	542.7
130°	576.4	576.0	575.7	575.2	574.5	573.8	573.1	572.4
132.5°	606.1	605.7	605.4	605.1	604.8	604.5	604.2	604.0
135°	650.7	650.3	649.9	649.4	648.9	648.4	647.9	647.4
137.5°	693.7	693.3	692.8	692.6	692.7	692.8	692.9	693.1
140°	722.1	721.9	721.6	721.5	721.3	721.1	720.9	720.8
142.5°	748.8	748.8	748.8	748.7	748.7	748.7	748.6	748.6
145°	789.1	789.0	788.8	788.4	787.9	787.4	786.9	786.4
147.5°	825.7	825.6	825.4	825.3	825.1	824.9	824.8	824.6
150°	848.7	848.7	848.7	848.6	848.5	848.3	848.1	847.9
152.5°	870.4	870.8	871.2	871.2	870.8	870.3	869.9	869.4
155°	900.6	901.3	902.0	902.0	901.3	900.6	899.9	899.3
157.5°	927.3	927.9	928.4	928.3	927.8	927.2	926.6	925.9
160°	943.7	944.2	944.7	944.6	943.7	942.8	942.0	941.1
162.5°	958.5	959.4	960.4	960.4	959.5	958.7	957.8	956.8
165°	978.0	979.0	980.1	980.2	979.5	978.8	978.1	977.4
167.5°	994.3	995.4	996.4	996.4	995.3	994.2	993.2	992.1
170°	1003.2	1004.2	1005.3	1005.2	1004.0	1002.8	1001.5	1000.3
172.5°	1009.8	1011.0	1012.2	1012.2	1011.0	1009.7	1008.5	1007.2
175°	1016.9	1018.1	1019.5	1019.5	1018.1	1016.9	1015.7	1014.5
177.5°	1020.9	1021.9	1022.9	1022.8	1021.7	1020.6	1019.5	1018.2
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8

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