

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: P332637-930

Luminaire Tested: **SA4XXDIP-C1020D590U930-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332637-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1020D590U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

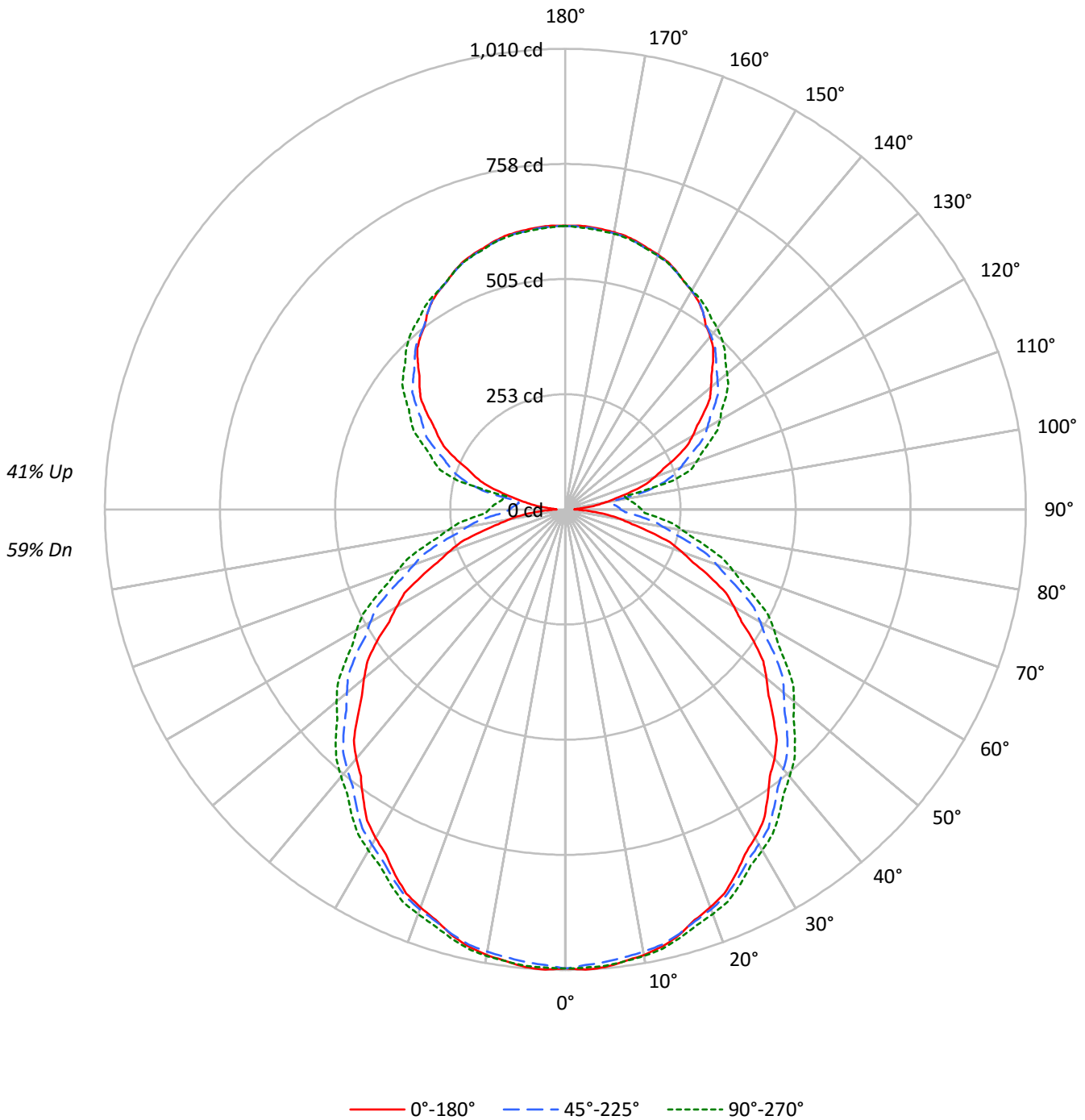
Lumens per Lamp: N/A
Luminaire Lumens: 5356.7 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 48.8
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									
RC	80									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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65	59																			
1	99	94	89	85	92	88	84	80	76	73	70	65	63	61	55	54	52	47																			
2	89	81	74	69	83	76	70	65	66	61	57	56	53	50	48	45	43	39																			
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32																			
4	74	63	54	48	69	59	51	45	51	45	40	44	39	35	37	34	31	27																			
5	68	56	47	41	63	52	44	39	45	39	34	39	34	30	33	30	27	23																			
6	63	50	41	35	58	47	39	33	41	35	30	35	30	27	30	26	23	20																			
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18																			
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14																			
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	22	18	15	13																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	1.8
10°-20°	273.1	5.1
20°-30°	413.0	7.7
30°-40°	499.7	9.3
40°-50°	528.2	9.9
50°-60°	497.1	9.3
60°-70°	412.5	7.7
70°-80°	289.7	5.4
80°-90°	165.6	3.1
90°-100°	118.5	2.2
100°-110°	207.6	3.9
110°-120°	307.7	5.7
120°-130°	356.5	6.7
130°-140°	364.1	6.8
140°-150°	331.8	6.2
150°-160°	265.7	5.0
160°-170°	171.4	3.2
170°-180°	59.1	1.1
0°-30°	781.4	14.6
0°-40°	1281.1	23.9
0°-60°	2306.5	43.1
0°-90°	3174.3	59.3
90°-120°	633.8	11.8
90°-150°	1686.3	31.5
90°-180°	2182.0	40.7
0°-180°	5356.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	19	70	122	156	167	13
95°	40	63	108	140	152	45
105°	150	176	220	250	244	158
115°	268	281	315	340	349	264
125°	372	374	400	422	430	332
135°	458	458	467	486	494	353
145°	527	527	527	534	540	329
155°	576	577	575	577	576	266
165°	608	606	606	609	605	172
175°	622	619	620	623	618	59
180°	622	622	622	622	622	



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CATALOG NUMBER: SA4XXDIP-C1020D590U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.7	44.1	54.5	65.0	75.4	86.3	97.3	108.5	119.6	130.8	138.2
90°	19.4	30.6	41.7	52.9	64.1	75.4	87.1	98.7	110.2	121.8	129.7
92.5°	23.0	32.0	41.2	50.2	59.4	69.6	81.3	92.9	104.4	116.0	123.8
95°	40.2	45.0	49.7	54.5	59.3	66.8	77.2	87.6	97.9	108.3	115.7
97.5°	67.6	77.0	86.3	95.6	104.8	108.8	107.5	106.1	104.7	103.4	110.0
100°	88.7	97.0	105.4	113.8	122.1	124.1	119.6	115.1	110.6	106.2	111.1
102.5°	113.2	120.3	127.3	134.4	141.5	149.0	156.6	164.4	172.0	179.8	167.4
105°	150.1	155.7	161.4	167.1	172.7	180.3	190.1	199.9	209.7	219.5	226.7
107.5°	186.3	190.7	195.1	199.5	203.9	210.9	220.4	229.8	239.3	248.7	255.4
110°	209.9	213.8	217.5	221.4	225.2	231.8	241.2	250.5	260.0	269.4	275.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	232.8	236.5	240.2	243.9	247.5	253.6	262.3	271.0	279.6	288.3	293.8
115°	268.2	270.7	273.3	275.8	278.4	283.6	291.6	299.5	307.4	315.3	321.0
117.5°	300.9	302.7	304.4	306.2	308.0	312.7	320.4	328.1	335.8	343.5	348.6
120°	322.4	323.5	324.7	325.9	327.0	331.2	338.3	345.5	352.6	359.8	365.0
122.5°	343.2	343.6	344.0	344.4	344.8	348.5	355.5	362.5	369.5	376.5	381.6
125°	371.9	372.1	372.3	372.4	372.6	375.7	381.7	387.8	393.9	399.9	405.0
127.5°	400.0	399.8	399.7	399.5	399.4	401.9	407.2	412.5	417.8	423.1	427.5
130°	417.3	417.1	417.0	416.9	416.7	418.8	423.1	427.5	431.8	436.0	440.7
132.5°	434.1	434.0	433.9	433.8	433.7	435.5	439.1	442.7	446.4	450.0	454.4
135°	458.0	458.0	457.8	457.7	457.6	458.6	460.8	463.0	465.1	467.3	471.5
137.5°	480.2	480.0	479.8	479.6	479.4	480.0	481.3	482.6	483.9	485.2	489.1
140°	494.7	494.7	494.6	494.6	494.6	494.8	495.2	495.7	496.2	496.6	500.2
142.5°	506.9	507.2	507.5	507.8	508.2	508.3	508.3	508.3	508.3	508.2	511.3
145°	526.7	526.7	526.8	526.8	526.9	526.9	526.9	526.9	526.9	526.9	528.6
147.5°	542.6	542.9	543.2	543.6	543.9	544.0	543.9	543.8	543.6	543.6	543.9
150°	554.1	554.2	554.4	554.6	554.7	554.8	554.6	554.6	554.5	554.3	554.3
152.5°	562.9	563.1	563.5	563.7	564.0	564.0	563.9	563.7	563.5	563.3	563.5
155°	576.3	576.3	576.4	576.5	576.7	576.5	576.3	575.9	575.6	575.3	575.7
157.5°	587.7	587.6	587.5	587.5	587.4	587.2	586.9	586.5	586.1	585.8	586.4
160°	594.4	594.0	593.7	593.5	593.1	592.9	592.8	592.7	592.6	592.5	593.1
162.5°	600.3	599.9	599.5	599.2	598.8	598.5	598.3	598.3	598.2	598.1	598.7
165°	607.8	607.3	606.8	606.3	605.8	605.5	605.5	605.5	605.5	605.5	606.3
167.5°	613.8	613.3	612.7	612.2	611.6	611.3	611.3	611.2	611.1	611.1	612.0
170°	617.2	616.5	615.9	615.3	614.7	614.4	614.5	614.6	614.7	614.8	615.6
172.5°	619.4	618.7	618.2	617.5	616.9	616.6	616.8	616.9	616.9	617.0	617.9
175°	621.8	621.2	620.5	620.0	619.3	619.1	619.1	619.3	619.4	619.5	620.4
177.5°	622.9	622.3	621.7	621.2	620.6	620.4	620.5	620.7	620.9	621.0	621.7
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	145.5	153.0	160.4	165.2	167.4	169.7	171.9	174.1
90°	137.6	145.4	153.4	158.4	160.6	162.8	165.0	167.2
92.5°	131.4	139.1	146.8	151.6	153.7	155.7	157.8	159.8
95°	123.0	130.4	137.9	142.7	145.0	147.4	149.8	152.1
97.5°	116.6	123.3	129.9	134.3	136.6	138.8	141.0	143.3
100°	116.2	121.2	126.1	129.6	131.4	133.3	135.2	137.1
102.5°	155.0	142.6	130.2	125.0	126.9	128.9	130.9	132.9
105°	233.9	241.1	248.3	251.0	249.3	247.6	245.9	244.1
107.5°	262.0	268.6	275.2	279.6	281.8	284.1	286.3	288.5
110°	281.3	287.2	293.2	297.3	299.7	302.0	304.3	306.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	299.3	304.8	310.4	314.3	316.7	319.1	321.5	323.9
115°	326.7	332.4	338.2	341.9	343.6	345.4	347.2	348.9
117.5°	353.8	359.0	364.2	367.7	369.7	371.7	373.7	375.6
120°	370.2	375.4	380.7	384.2	386.0	387.8	389.6	391.3
122.5°	386.8	391.9	397.1	400.4	402.0	403.6	405.2	406.8
125°	410.0	415.1	420.2	423.5	425.1	426.7	428.4	429.9
127.5°	431.9	436.4	440.8	443.9	445.6	447.1	448.7	450.4
130°	445.3	449.9	454.5	457.5	459.1	460.6	462.1	463.6
132.5°	458.8	463.2	467.6	470.5	471.9	473.4	474.7	476.2
135°	475.7	480.0	484.1	487.1	488.9	490.6	492.3	494.0
137.5°	492.9	496.8	500.8	503.3	504.4	505.6	506.9	508.0
140°	503.8	507.4	510.9	513.3	514.7	516.1	517.4	518.8
142.5°	514.4	517.5	520.6	522.6	523.7	524.8	525.9	526.9
145°	530.1	531.7	533.4	534.8	536.0	537.2	538.3	539.6
147.5°	544.1	544.5	544.7	545.3	546.2	547.1	548.0	548.9
150°	554.3	554.3	554.3	554.4	554.5	554.6	554.7	554.8
152.5°	563.6	563.8	563.9	564.0	563.9	563.9	563.8	563.8
155°	576.1	576.5	576.9	577.0	576.7	576.3	576.1	575.8
157.5°	586.9	587.4	587.9	587.9	587.4	586.9	586.4	585.8
160°	593.7	594.4	595.0	595.0	594.4	593.7	593.1	592.5
162.5°	599.3	599.9	600.5	600.5	599.8	599.1	598.4	597.7
165°	607.2	608.0	608.9	608.8	607.8	606.9	606.0	605.0
167.5°	612.9	613.8	614.7	614.7	613.7	612.6	611.6	610.6
170°	616.4	617.3	618.2	618.0	617.0	616.0	614.9	613.9
172.5°	618.7	619.5	620.4	620.2	619.1	618.0	616.9	615.7
175°	621.3	622.2	623.2	623.1	621.8	620.5	619.3	618.1
177.5°	622.4	623.1	623.7	623.5	622.6	621.6	620.5	619.5
180°	621.8	621.8	621.8	621.8	621.8	621.8	621.8	621.8

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