

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: P332183-930

Luminaire Tested: **S123DIW-S1000D460U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332183-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D460U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4727.7 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

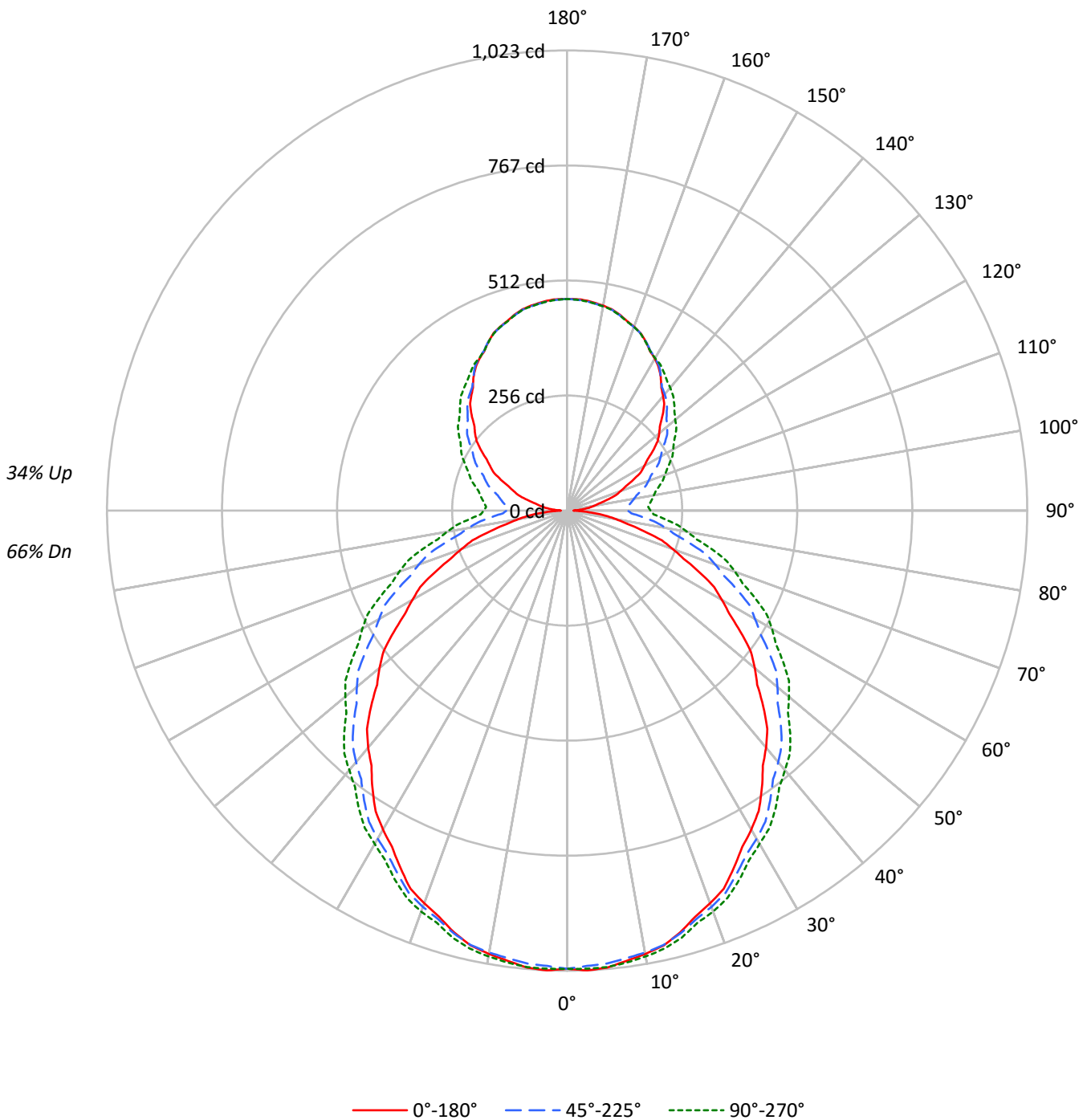
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66
1	100	95	90	86	94	89	85	82	79	76	73	69	67	65	61	59	57	53
2	91	82	75	69	85	77	71	66	68	64	60	60	57	53	53	50	47	43
3	82	72	64	57	77	68	60	55	60	54	49	53	48	44	46	43	40	36
4	75	63	55	48	70	60	52	46	53	47	42	47	42	38	41	37	34	31
5	69	56	48	41	64	53	45	39	47	41	36	42	37	33	37	33	29	26
6	63	51	42	36	59	48	40	34	43	36	31	38	33	28	33	29	26	23
7	59	46	37	31	55	43	35	30	39	32	28	34	29	25	30	26	23	20
8	55	41	33	28	51	39	32	27	35	29	24	32	26	22	28	24	20	18
9	51	38	30	25	48	36	29	24	32	26	22	29	24	20	26	21	18	16
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	24	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	2.0
10°-20°	275.3	5.8
20°-30°	411.7	8.7
30°-40°	491.7	10.4
40°-50°	514.4	10.9
50°-60°	482.8	10.2
60°-70°	403.2	8.5
70°-80°	288.5	6.1
80°-90°	173.4	3.7
90°-100°	138.6	2.9
100°-110°	171.0	3.6
110°-120°	208.9	4.4
120°-130°	235.4	5.0
130°-140°	244.2	5.2
140°-150°	229.6	4.9
150°-160°	190.9	4.0
160°-170°	127.0	2.7
170°-180°	44.5	0.9
0°-30°	783.6	16.6
0°-40°	1275.2	27.0
0°-60°	2272.4	48.1
0°-90°	3137.5	66.4
90°-120°	518.6	11.0
90°-150°	1227.8	26.0
90°-180°	1590.0	33.6
0°-180°	4727.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	15	73	134	172	185	11
95°	34	81	137	172	184	34
105°	92	121	170	200	212	98
115°	163	178	216	242	252	161
125°	233	236	266	287	294	208
135°	300	302	313	331	337	231
145°	363	363	364	372	375	226
155°	414	414	415	416	413	191
165°	451	450	450	452	450	127
175°	469	468	468	470	467	45
180°	470	470	470	470	470	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.6	42.1	54.5	66.9	79.3	92.0	104.8	117.6	130.4	143.2	151.6
90°	14.8	27.7	40.6	53.5	66.4	79.7	93.4	107.0	120.6	134.3	143.0
92.5°	22.5	33.9	45.4	56.8	68.3	80.6	93.5	106.5	119.5	132.5	141.0
95°	34.0	44.2	54.4	64.6	74.8	86.3	99.0	111.7	124.5	137.2	145.2
97.5°	49.6	58.7	67.8	76.9	86.0	96.6	108.6	120.6	132.6	144.6	152.4
100°	60.3	68.6	77.0	85.4	93.8	103.9	115.6	127.3	139.1	150.8	158.2
102.5°	72.6	80.1	87.5	94.8	102.2	111.8	123.4	135.2	146.8	158.5	165.8
105°	92.0	98.1	104.2	110.2	116.3	125.1	136.4	147.7	159.1	170.4	177.3
107.5°	113.4	118.5	123.7	128.8	134.0	141.7	152.1	162.4	172.8	183.1	190.0
110°	126.7	131.3	135.9	140.6	145.1	152.5	162.5	172.5	182.5	192.6	199.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.5	145.3	149.0	152.8	156.5	163.1	172.6	182.1	191.7	201.1	207.7
115°	162.6	165.8	169.0	172.2	175.4	181.3	190.0	198.8	207.5	216.2	222.2
117.5°	184.7	186.6	188.7	190.6	192.7	197.7	205.8	213.9	222.0	230.2	236.0
120°	197.7	199.4	201.1	202.8	204.6	209.3	217.0	224.8	232.4	240.2	245.8
122.5°	212.1	213.1	214.2	215.2	216.1	220.5	228.0	235.5	243.0	250.5	255.8
125°	233.2	233.4	233.7	233.9	234.2	237.7	244.8	251.7	258.7	265.7	270.5
127.5°	253.6	253.8	254.1	254.4	254.6	257.6	263.4	269.1	274.8	280.6	285.0
130°	267.1	267.6	268.0	268.4	268.8	271.3	276.0	280.7	285.4	290.1	294.4
132.5°	279.8	280.5	281.0	281.7	282.3	284.5	288.2	292.0	295.8	299.5	303.6
135°	300.4	300.6	300.8	301.1	301.3	302.8	305.4	308.1	310.7	313.3	317.5
137.5°	319.4	319.6	319.8	320.0	320.2	321.2	322.9	324.7	326.4	328.2	331.7
140°	331.8	332.2	332.6	333.0	333.5	334.0	334.8	335.7	336.5	337.4	341.0
142.5°	343.9	344.1	344.3	344.5	344.8	345.0	345.3	345.6	345.9	346.2	349.4
145°	362.8	362.7	362.6	362.6	362.5	362.6	362.8	363.1	363.3	363.5	365.4
147.5°	378.3	378.5	378.9	379.1	379.4	379.7	379.9	380.2	380.4	380.7	381.2
150°	389.8	390.0	390.1	390.3	390.4	390.6	390.8	390.9	391.1	391.3	391.3
152.5°	399.3	399.5	399.7	399.9	400.1	400.3	400.4	400.6	400.6	400.7	400.9
155°	414.2	414.2	414.2	414.2	414.2	414.3	414.3	414.4	414.5	414.6	414.9
157.5°	426.9	426.8	426.7	426.6	426.5	426.5	426.6	426.6	426.6	426.7	427.1
160°	434.9	434.7	434.6	434.4	434.2	434.1	434.1	434.1	434.1	434.1	434.6
162.5°	442.0	441.7	441.5	441.2	441.1	441.0	441.0	441.1	441.2	441.2	441.6
165°	451.1	450.9	450.6	450.4	450.1	450.0	450.0	450.0	450.0	450.0	450.5
167.5°	458.4	458.1	457.8	457.5	457.1	457.0	457.1	457.1	457.2	457.2	457.8
170°	462.6	462.3	461.9	461.6	461.3	461.1	461.1	461.1	461.1	461.1	461.7
172.5°	465.9	465.5	465.2	464.9	464.5	464.3	464.3	464.3	464.3	464.3	464.9
175°	469.2	468.9	468.6	468.2	467.9	467.7	467.7	467.7	467.7	467.7	468.2
177.5°	470.7	470.3	470.1	469.9	469.6	469.4	469.4	469.4	469.4	469.4	469.9
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	160.0	168.5	176.9	182.4	184.9	187.4	189.9	192.4
90°	151.6	160.4	169.1	174.8	177.4	180.0	182.7	185.3
92.5°	149.4	157.8	166.2	171.6	173.7	175.9	178.1	180.3
95°	153.1	161.1	169.1	174.3	176.8	179.2	181.7	184.2
97.5°	160.1	167.8	175.5	180.7	183.0	185.5	187.9	190.4
100°	165.7	173.0	180.4	185.5	188.1	190.7	193.3	196.0
102.5°	172.9	180.1	187.4	192.2	194.6	197.0	199.4	201.9
105°	184.3	191.1	198.0	202.7	205.0	207.4	209.9	212.2
107.5°	196.9	203.7	210.6	215.1	217.1	219.2	221.3	223.4
110°	206.0	212.8	219.6	223.8	225.6	227.4	229.3	231.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	214.3	220.9	227.6	232.0	234.1	236.2	238.4	240.5
115°	228.2	234.2	240.2	244.2	246.1	247.9	249.8	251.7
117.5°	241.9	247.7	253.6	257.3	259.0	260.7	262.4	264.2
120°	251.4	257.0	262.5	266.1	267.7	269.3	270.8	272.4
122.5°	261.1	266.4	271.6	275.0	276.5	277.9	279.5	281.0
125°	275.4	280.2	285.1	288.2	289.6	291.0	292.4	293.8
127.5°	289.4	293.9	298.3	301.2	302.5	303.8	305.1	306.4
130°	298.8	303.1	307.4	310.1	311.0	311.9	312.8	313.7
132.5°	307.7	311.8	315.9	318.5	319.8	321.0	322.3	323.5
135°	321.6	325.6	329.8	332.4	333.5	334.5	335.6	336.6
137.5°	335.3	338.8	342.3	344.6	345.5	346.4	347.4	348.3
140°	344.5	348.2	351.8	353.9	354.6	355.2	355.9	356.5
142.5°	352.6	355.9	359.1	361.1	361.9	362.6	363.5	364.3
145°	367.4	369.2	371.1	372.4	373.1	373.7	374.4	375.0
147.5°	381.8	382.4	383.0	383.5	383.9	384.3	384.7	385.1
150°	391.3	391.3	391.3	391.3	391.3	391.3	391.3	391.3
152.5°	401.0	401.1	401.3	401.1	400.8	400.5	400.1	399.8
155°	415.2	415.6	415.9	415.7	415.2	414.6	414.0	413.4
157.5°	427.5	427.8	428.1	428.0	427.6	427.1	426.6	426.2
160°	435.0	435.4	435.8	435.8	435.5	435.1	434.8	434.5
162.5°	442.1	442.5	442.9	442.8	442.3	441.7	441.2	440.7
165°	451.0	451.5	452.0	451.9	451.3	450.8	450.2	449.6
167.5°	458.3	458.8	459.3	459.3	458.8	458.3	457.8	457.2
170°	462.3	462.8	463.4	463.4	462.8	462.3	461.7	461.1
172.5°	465.4	465.9	466.4	466.4	465.8	465.2	464.6	464.1
175°	468.7	469.2	469.7	469.7	469.1	468.6	468.0	467.4
177.5°	470.3	470.7	471.0	471.0	470.5	470.1	469.6	469.1
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3

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