

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: P331941-930

Luminaire Tested: **S123DIP-S560D1025U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331941-930
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: S123DIP-S560D1025U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4800.1 lumens
Efficiency: N/A
Efficacy: 107.9 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-Indirect

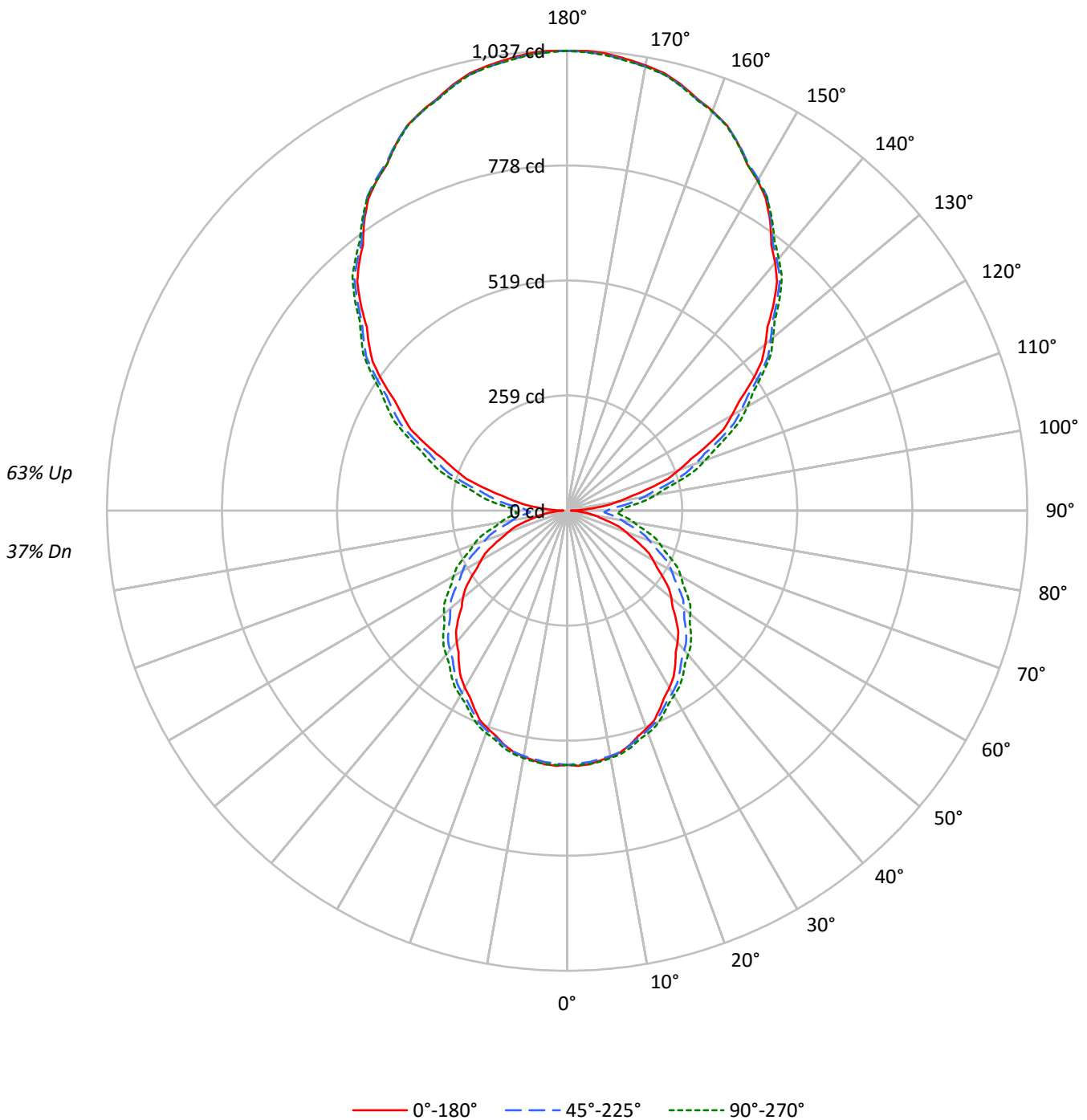
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	29
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6171	6171	6171
5°	6191	6015	6019
10°	6135	5878	5848
15°	6056	5720	5660
20°	5943	5540	5454
25°	5804	5333	5238
30°	5660	5147	5019
35°	5500	4950	4844
40°	5347	4771	4656
45°	5177	4599	4506
50°	5010	4430	4341
55°	4826	4256	4193
60°	4646	4080	4040
65°	4462	3891	3859
70°	4185	3680	3673
75°	3832	3437	3484
80°	3426	3199	3268
85°	3052	3034	3143



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.4	1.1
10°-20°	154.9	3.2
20°-30°	231.7	4.8
30°-40°	276.7	5.8
40°-50°	289.5	6.0
50°-60°	271.7	5.7
60°-70°	226.9	4.7
70°-80°	162.4	3.4
80°-90°	99.9	2.1
90°-100°	128.3	2.7
100°-110°	246.7	5.1
110°-120°	373.4	7.8
120°-130°	469.0	9.8
130°-140°	515.6	10.7
140°-150°	500.9	10.4
150°-160°	420.4	8.8
160°-170°	279.8	5.8
170°-180°	98.0	2.0
0°-30°	441.0	9.2
0°-40°	717.7	15.0
0°-60°	1279.0	26.6
0°-90°	1768.1	36.8
90°-120°	748.3	15.6
90°-150°	2233.8	46.5
90°-180°	3032.0	63.2
0°-180°	4800.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	573	573	573	573	573	
5°	574	573	569	574	573	54
15°	546	548	548	554	553	154
25°	493	499	502	509	510	227
35°	425	435	443	452	455	266
45°	347	362	378	389	395	268
55°	265	286	308	324	330	237
65°	183	208	235	253	260	181
75°	99	129	160	180	188	106
85°	31	62	95	115	122	32
90°	9	48	90	114	122	9
95°	55	85	122	144	151	59
105°	188	206	239	256	264	201
115°	349	360	380	395	400	345
125°	508	511	527	536	538	453
135°	658	662	668	676	678	507
145°	797	798	801	805	804	498
155°	912	912	913	916	911	420
165°	994	991	991	996	990	280
175°	1034	1030	1030	1035	1030	98
180°	1036	1036	1036	1036	1036	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3
2.5°	575.8	575.5	575.2	574.8	574.5	573.9	573.0	572.1	571.2	570.3	571.2
5°	574.0	573.6	573.4	573.2	572.8	572.3	571.4	570.6	569.8	568.9	570.1
7.5°	568.3	568.3	568.4	568.5	568.6	568.2	567.4	566.6	565.7	564.9	566.3
10°	563.4	563.6	563.9	564.2	564.4	564.3	563.5	562.9	562.1	561.5	562.9
12.5°	557.3	557.7	558.2	558.5	558.9	558.9	558.4	557.9	557.4	556.9	558.2
15°	546.5	546.9	547.3	547.7	548.1	548.3	548.1	548.0	547.9	547.7	549.1
17.5°	532.7	533.5	534.4	535.2	536.1	536.5	536.4	536.3	536.3	536.2	537.4
20°	522.8	523.6	524.4	525.2	526.0	526.6	526.9	527.2	527.4	527.7	529.0
22.5°	512.3	513.1	513.9	514.8	515.6	516.2	516.6	517.0	517.4	517.7	519.3
25°	493.4	494.8	496.2	497.6	499.0	499.9	500.3	500.7	501.1	501.5	503.3
27.5°	474.4	476.0	477.6	479.2	480.7	481.9	482.8	483.7	484.6	485.5	487.1
30°	460.9	462.7	464.5	466.4	468.1	469.6	470.7	471.8	472.9	474.0	475.7
32.5°	445.9	447.9	450.0	452.0	454.0	455.8	457.2	458.6	460.1	461.5	463.3
35°	424.7	426.9	429.1	431.4	433.6	435.6	437.4	439.2	441.0	442.8	444.9
37.5°	402.2	404.7	407.2	409.7	412.2	414.6	416.8	419.0	421.2	423.5	425.8
40°	387.2	389.7	392.2	394.7	397.2	399.8	402.6	405.4	408.1	410.9	413.3
42.5°	370.7	373.8	376.8	379.8	382.9	385.9	388.8	391.7	394.6	397.5	400.1
45°	347.2	350.6	353.9	357.3	360.5	363.9	367.5	370.9	374.4	377.8	380.5
47.5°	322.6	326.4	330.2	333.9	337.7	341.6	345.6	349.5	353.5	357.5	360.4
50°	306.6	310.5	314.4	318.3	322.2	326.3	330.6	334.9	339.2	343.5	346.7
52.5°	289.7	293.8	297.9	302.0	306.1	310.5	315.3	320.0	324.7	329.5	332.8
55°	264.8	269.4	273.9	278.5	283.2	287.9	292.9	297.9	302.9	307.9	311.6
57.5°	240.6	245.3	250.1	254.9	259.7	264.8	270.3	275.7	281.2	286.7	290.4
60°	223.6	228.6	233.6	238.6	243.5	248.9	254.6	260.3	266.0	271.7	275.6
62.5°	207.6	212.7	217.8	222.9	228.0	233.6	239.6	245.6	251.7	257.7	261.5
65°	183.0	188.4	193.8	199.3	204.6	210.4	216.5	222.6	228.7	234.8	239.0
67.5°	158.0	163.8	169.5	175.2	181.0	186.9	193.2	199.4	205.6	211.8	216.4
70°	140.6	146.5	152.5	158.4	164.4	170.7	177.3	184.0	190.7	197.4	201.8
72.5°	124.5	130.5	136.5	142.4	148.4	154.8	161.7	168.6	175.5	182.4	186.9
75°	99.3	105.8	112.3	118.9	125.4	132.2	139.1	146.0	153.0	159.9	164.4
77.5°	77.3	83.9	90.5	97.0	103.6	110.4	117.4	124.4	131.4	138.4	143.2
80°	61.8	68.6	75.4	82.3	89.0	96.0	103.2	110.5	117.7	124.9	129.6
82.5°	48.3	55.3	62.1	69.1	76.0	83.1	90.4	97.8	105.1	112.4	117.2
85°	30.6	37.5	44.5	51.4	58.4	65.5	72.9	80.2	87.6	94.9	99.6
87.5°	16.8	24.1	31.3	38.6	45.9	53.2	60.8	68.4	75.9	83.5	88.3
90°	9.0	17.5	26.2	34.7	43.4	52.4	61.8	71.3	80.7	90.1	95.6
92.5°	27.3	34.7	42.1	49.4	56.7	64.6	72.9	81.2	89.5	97.8	103.1
95°	54.9	61.6	68.2	74.9	81.6	89.0	97.3	105.6	113.8	122.1	127.1
97.5°	91.4	97.3	103.1	108.9	114.7	121.4	129.0	136.5	144.1	151.6	156.5
100°	116.3	121.8	127.3	132.9	138.4	144.8	152.1	159.4	166.6	174.0	178.6
102.5°	145.1	149.8	154.4	159.1	163.7	169.7	177.2	184.7	192.2	199.6	204.1
105°	188.1	191.8	195.5	199.2	202.8	208.6	216.1	223.7	231.3	238.9	242.8
107.5°	237.5	240.5	243.6	246.6	249.7	254.4	260.7	267.0	273.3	279.6	283.9
110°	268.2	271.1	273.9	276.8	279.6	284.1	290.0	295.9	301.8	307.7	312.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	300.8	303.0	305.3	307.6	309.9	313.7	319.1	324.5	330.0	335.3	339.7
115°	349.0	351.2	353.4	355.6	357.8	361.3	365.9	370.6	375.2	379.8	383.3
117.5°	398.0	399.4	400.8	402.2	403.6	406.4	410.6	414.8	419.1	423.3	426.6
120°	428.1	429.9	431.7	433.5	435.3	438.0	441.6	445.3	449.0	452.7	455.7
122.5°	460.1	461.2	462.4	463.5	464.6	467.2	471.1	475.0	478.8	482.7	485.3
125°	508.1	508.6	509.2	509.7	510.2	512.3	516.0	519.7	523.3	527.0	529.2
127.5°	553.0	554.0	555.1	556.0	557.1	559.1	562.0	564.9	567.9	570.8	572.5
130°	582.9	584.2	585.5	586.9	588.2	590.0	592.2	594.4	596.6	598.9	600.8
132.5°	612.4	613.8	615.2	616.7	618.1	619.7	621.5	623.4	625.2	627.0	628.7
135°	658.0	658.9	659.9	660.9	661.8	662.9	664.3	665.6	667.0	668.3	670.1
137.5°	700.2	701.0	701.8	702.6	703.4	704.4	705.8	707.1	708.4	709.8	711.2
140°	729.0	729.9	730.8	731.7	732.6	733.4	734.0	734.6	735.2	735.7	737.7
142.5°	755.7	756.5	757.2	758.1	758.9	759.5	759.9	760.3	760.7	761.1	762.8
145°	797.4	797.6	797.9	798.0	798.3	798.7	799.2	799.7	800.3	800.8	801.8
147.5°	833.2	833.9	834.5	835.2	835.8	836.4	836.9	837.4	837.9	838.5	838.8
150°	858.6	859.0	859.3	859.7	860.1	860.4	860.8	861.1	861.5	861.9	861.9
152.5°	879.5	880.0	880.4	880.9	881.4	881.8	882.1	882.2	882.5	882.7	883.0
155°	912.3	912.3	912.3	912.3	912.3	912.4	912.6	912.7	913.0	913.1	913.9
157.5°	940.3	940.1	939.9	939.6	939.5	939.4	939.6	939.7	939.9	940.0	940.8
160°	957.9	957.5	957.2	956.8	956.4	956.3	956.3	956.3	956.3	956.3	957.2
162.5°	973.5	973.0	972.5	972.0	971.5	971.3	971.4	971.6	971.8	971.9	972.8
165°	993.7	993.1	992.6	992.1	991.6	991.2	991.2	991.2	991.2	991.2	992.3
167.5°	1009.8	1009.1	1008.4	1007.6	1006.9	1006.7	1006.8	1006.9	1007.1	1007.2	1008.4
170°	1019.0	1018.2	1017.5	1016.8	1016.0	1015.7	1015.7	1015.7	1015.7	1015.7	1016.9
172.5°	1026.1	1025.4	1024.7	1023.9	1023.2	1022.8	1022.8	1022.8	1022.8	1022.8	1023.9
175°	1033.6	1032.8	1032.1	1031.4	1030.7	1030.3	1030.3	1030.3	1030.3	1030.3	1031.4
177.5°	1036.7	1036.1	1035.5	1034.9	1034.4	1034.0	1034.0	1034.0	1034.0	1034.0	1034.9
180°	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3
2.5°	572.1	573.0	573.9	574.3	574.1	574.1	574.0	573.8
5°	571.2	572.3	573.4	573.9	573.7	573.6	573.5	573.3
7.5°	567.7	569.1	570.5	571.1	571.0	570.8	570.6	570.5
10°	564.3	565.7	567.0	567.5	567.3	567.0	566.7	566.5
12.5°	559.5	560.8	562.1	562.6	562.3	562.0	561.7	561.5
15°	550.5	551.9	553.3	553.9	553.8	553.6	553.5	553.3
17.5°	538.7	540.0	541.2	541.8	541.5	541.4	541.2	541.0
20°	530.3	531.5	532.7	533.5	533.5	533.7	533.9	533.9
22.5°	520.9	522.5	524.1	524.8	524.7	524.6	524.6	524.5
25°	505.1	507.0	508.7	509.6	509.6	509.6	509.6	509.6
27.5°	488.6	490.2	491.7	492.6	492.7	492.8	492.9	493.0
30°	477.4	479.0	480.7	481.5	481.5	481.5	481.5	481.5
32.5°	465.0	466.8	468.6	469.7	470.0	470.3	470.7	471.0
35°	446.9	449.1	451.1	452.4	453.0	453.6	454.1	454.7
37.5°	428.1	430.5	432.8	434.3	434.7	435.1	435.6	436.0
40°	415.6	418.0	420.4	421.8	422.4	423.0	423.5	424.0
42.5°	402.6	405.2	407.8	409.4	410.3	411.0	411.8	412.5
45°	383.1	385.7	388.4	390.3	391.3	392.5	393.6	394.7
47.5°	363.5	366.4	369.3	371.3	372.1	373.0	373.9	374.7
50°	349.8	353.1	356.3	358.3	359.3	360.3	361.3	362.2
52.5°	336.1	339.4	342.8	345.0	346.2	347.3	348.5	349.8
55°	315.4	319.1	322.9	325.3	326.4	327.5	328.6	329.8
57.5°	294.2	298.0	301.7	304.3	305.6	306.9	308.2	309.5
60°	279.5	283.3	287.2	289.9	291.5	292.9	294.5	296.0
62.5°	265.5	269.4	273.2	275.9	277.3	278.7	280.1	281.5
65°	243.1	247.3	251.5	254.3	255.7	257.1	258.4	259.8
67.5°	220.9	225.5	230.1	232.9	234.1	235.2	236.4	237.6
70°	206.3	210.7	215.2	218.0	219.4	220.8	222.2	223.6
72.5°	191.4	196.0	200.6	203.6	205.0	206.4	207.7	209.1
75°	169.0	173.7	178.2	181.3	183.0	184.7	186.3	188.0
77.5°	148.1	152.9	157.7	160.8	162.1	163.3	164.6	165.9
80°	134.4	139.1	143.8	146.8	148.2	149.6	151.0	152.4
82.5°	121.9	126.5	131.3	134.4	135.7	137.1	138.5	139.9
85°	104.4	109.1	113.8	116.8	118.2	119.6	121.0	122.4
87.5°	93.2	98.1	102.9	106.1	107.5	109.0	110.5	111.9
90°	101.0	106.4	111.9	115.4	117.2	119.0	120.7	122.5
92.5°	108.2	113.4	118.5	121.7	122.8	123.8	124.9	126.0
95°	132.1	137.1	142.2	145.4	146.8	148.1	149.5	150.9
97.5°	161.5	166.5	171.5	174.6	175.9	177.2	178.6	179.9
100°	183.1	187.7	192.2	195.4	197.1	198.9	200.6	202.4
102.5°	208.6	213.0	217.4	220.3	221.7	223.0	224.3	225.6
105°	246.7	250.5	254.5	257.2	258.8	260.4	262.0	263.7
107.5°	288.2	292.5	296.9	299.5	300.4	301.5	302.5	303.5
110°	316.4	320.7	325.1	327.6	328.3	329.1	329.9	330.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	344.1	348.5	352.8	355.6	356.7	357.8	359.0	360.1
115°	386.9	390.4	393.9	396.1	397.0	397.9	398.8	399.7
117.5°	429.8	433.1	436.3	438.3	438.9	439.4	440.0	440.6
120°	458.7	461.7	464.7	466.5	467.2	467.7	468.4	469.0
122.5°	488.0	490.6	493.2	494.7	495.2	495.6	496.1	496.6
125°	531.4	533.6	535.7	537.0	537.2	537.5	537.8	538.0
127.5°	574.3	576.0	577.7	578.6	578.8	578.9	579.0	579.1
130°	602.8	604.6	606.6	607.3	606.8	606.4	606.0	605.5
132.5°	630.3	631.9	633.7	634.5	634.4	634.4	634.3	634.3
135°	671.9	673.7	675.4	676.5	676.8	677.2	677.5	677.8
137.5°	712.7	714.0	715.5	716.2	716.2	716.2	716.2	716.2
140°	739.6	741.4	743.4	744.0	743.5	742.9	742.3	741.8
142.5°	764.5	766.1	767.8	768.5	768.3	767.9	767.7	767.4
145°	802.7	803.6	804.5	804.9	804.8	804.6	804.4	804.2
147.5°	839.1	839.4	839.8	839.6	839.0	838.5	837.9	837.3
150°	861.9	861.9	861.9	861.4	860.6	859.8	859.0	858.2
152.5°	883.3	883.5	883.9	883.5	882.6	881.7	880.9	880.0
155°	914.6	915.3	916.0	915.7	914.5	913.2	911.9	910.7
157.5°	941.5	942.2	943.1	942.9	941.9	940.9	939.9	938.8
160°	958.1	959.0	959.9	959.9	959.3	958.5	957.8	957.1
162.5°	973.7	974.6	975.5	975.3	974.2	973.1	971.9	970.8
165°	993.4	994.5	995.6	995.5	994.3	993.0	991.7	990.4
167.5°	1009.4	1010.6	1011.7	1011.7	1010.6	1009.4	1008.4	1007.2
170°	1018.2	1019.5	1020.8	1020.8	1019.5	1018.2	1016.9	1015.7
172.5°	1025.1	1026.2	1027.3	1027.3	1026.0	1024.7	1023.4	1022.1
175°	1032.5	1033.6	1034.7	1034.5	1033.3	1032.0	1030.8	1029.5
177.5°	1035.8	1036.7	1037.5	1037.5	1036.5	1035.4	1034.5	1033.4
180°	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0	1036.0

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