

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: P331271-940

Luminaire Tested: **S122DIP-S290D925U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331271-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S290D925U940-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4019.1 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

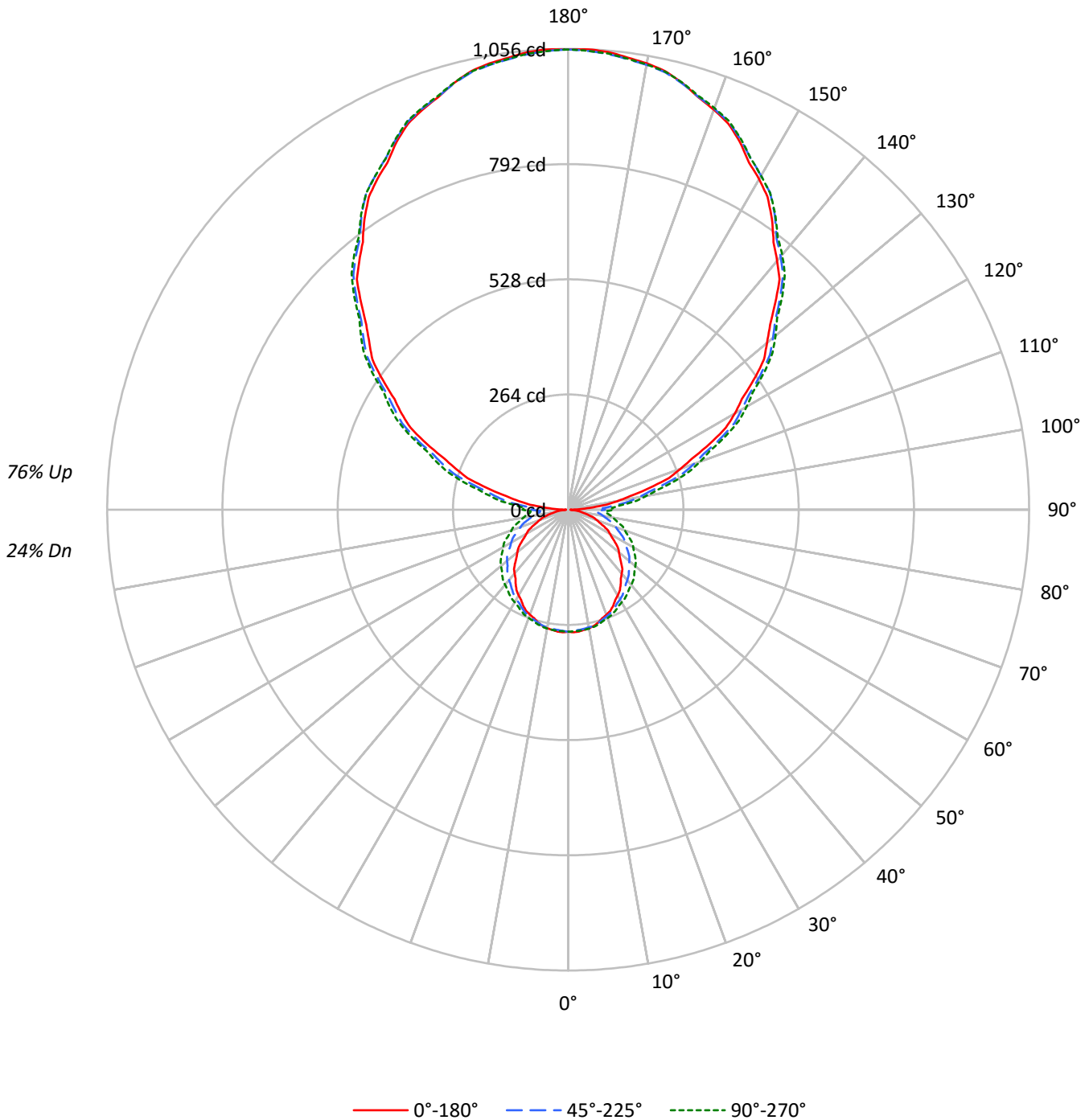
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	79	81	77	74	71	59	57	55	42	41	40	27	26	25	18
2	83	75	69	64	73	67	62	57	51	48	45	37	34	32	23	22	21	15
3	75	66	59	53	66	59	52	47	45	41	37	32	29	27	20	19	17	12
4	69	58	50	44	60	52	45	40	40	35	31	28	25	23	18	16	15	10
5	63	51	43	38	55	46	39	34	35	30	27	25	22	20	16	14	13	9
6	58	46	38	32	51	41	34	29	32	27	23	23	19	17	15	13	11	8
7	53	41	33	28	47	37	30	25	28	24	20	21	17	15	13	11	10	7
8	49	37	30	24	43	33	27	22	26	21	18	19	15	13	12	10	9	6
9	46	34	26	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	38	28	21	17	21	17	14	16	13	10	10	8	7	5

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	26.5	0.7
10°-20°	75.9	1.9
20°-30°	115.1	2.9
30°-40°	140.2	3.5
40°-50°	150.8	3.8
50°-60°	146.5	3.6
60°-70°	127.9	3.2
70°-80°	98.4	2.4
80°-90°	70.3	1.7
90°-100°	112.3	2.8
100°-110°	240.8	6.0
110°-120°	376.7	9.4
120°-130°	478.8	11.9
130°-140°	528.7	13.2
140°-150°	514.3	12.8
150°-160°	430.6	10.7
160°-170°	285.6	7.1
170°-180°	99.8	2.5
0°-30°	217.5	5.4
0°-40°	357.7	8.9
0°-60°	654.9	16.3
0°-90°	951.5	23.7
90°-120°	729.8	18.2
90°-150°	2251.6	56.0
90°-180°	3068.0	76.3
0°-180°	4019.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	5	40	85	99	105	5
95°	50	77	104	118	122	56
105°	193	208	231	246	251	204
115°	358	368	384	395	397	353
125°	519	527	537	545	548	463
135°	670	680	686	693	694	518
145°	813	820	825	828	827	508
155°	930	933	935	939	937	428
165°	1012	1011	1011	1017	1013	285
175°	1053	1050	1048	1054	1049	100
180°	1054	1054	1054	1054	1054	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.1	14.0	19.8	25.7	31.5	37.7	44.3	51.0	57.6	64.2	67.9
90°	4.9	12.6	20.2	27.7	35.3	44.1	54.3	64.4	74.5	84.6	87.8
92.5°	19.5	26.1	32.7	39.4	46.0	52.5	59.1	65.7	72.3	78.8	82.5
95°	49.5	55.7	62.0	68.1	74.4	80.3	86.1	91.9	97.7	103.5	106.9
97.5°	87.4	92.9	98.4	103.9	109.4	115.1	121.0	127.0	133.0	138.8	142.2
100°	115.8	120.7	125.6	130.5	135.5	140.8	146.4	152.0	157.7	163.3	166.7
102.5°	145.4	149.7	154.1	158.4	162.6	167.6	173.3	179.0	184.6	190.2	193.7
105°	193.3	196.5	199.7	203.0	206.2	210.3	215.3	220.4	225.5	230.6	234.2
107.5°	242.0	245.0	248.0	250.9	253.9	257.6	262.1	266.5	271.1	275.5	278.7
110°	273.0	276.0	279.0	282.0	285.0	288.6	293.1	297.5	301.9	306.3	309.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	307.2	309.9	312.6	315.3	318.0	321.4	325.4	329.5	333.5	337.5	339.9
115°	357.6	359.7	361.9	364.1	366.3	369.2	372.8	376.5	380.1	383.8	386.3
117.5°	407.3	409.6	411.8	414.0	416.3	418.7	421.3	424.0	426.6	429.3	431.4
120°	440.9	442.7	444.7	446.7	448.6	450.6	452.5	454.6	456.6	458.6	461.2
122.5°	471.4	473.5	475.5	477.6	479.6	481.8	484.0	486.3	488.6	490.9	492.8
125°	518.7	520.5	522.3	524.1	525.8	527.9	530.1	532.4	534.8	537.0	538.9
127.5°	565.2	567.3	569.5	571.7	573.8	575.7	577.3	578.9	580.6	582.2	583.7
130°	594.3	596.8	599.3	601.8	604.3	606.3	607.8	609.3	610.7	612.2	614.0
132.5°	627.1	629.1	631.2	633.1	635.2	636.9	638.5	640.0	641.5	643.0	644.3
135°	670.5	672.7	674.8	677.0	679.2	680.9	682.2	683.5	684.8	686.1	687.8
137.5°	716.6	718.4	720.1	721.8	723.6	725.0	725.9	726.7	727.7	728.6	730.1
140°	744.3	746.0	747.7	749.4	751.1	752.5	753.7	754.8	756.1	757.2	758.7
142.5°	772.8	774.5	776.2	777.9	779.6	780.8	781.5	782.2	782.9	783.6	784.9
145°	813.3	814.8	816.1	817.5	818.9	820.2	821.4	822.5	823.8	824.9	825.6
147.5°	849.8	851.5	853.2	854.8	856.5	857.7	858.5	859.3	860.1	860.9	861.4
150°	874.8	875.9	877.1	878.3	879.5	880.5	881.3	882.1	882.9	883.7	884.2
152.5°	896.8	898.0	899.2	900.4	901.6	902.7	903.6	904.6	905.4	906.4	907.2
155°	930.0	930.5	931.1	931.7	932.3	932.9	933.5	934.1	934.7	935.2	936.3
157.5°	958.2	958.6	959.0	959.4	959.8	960.2	960.6	960.9	961.3	961.6	963.0
160°	975.4	975.7	976.1	976.5	976.9	977.2	977.4	977.6	977.8	977.9	979.2
162.5°	991.0	991.0	991.1	991.2	991.3	991.4	991.7	991.8	992.0	992.2	993.5
165°	1011.8	1011.6	1011.4	1011.2	1011.0	1010.9	1010.9	1010.9	1010.9	1010.9	1012.3
167.5°	1029.2	1028.7	1028.1	1027.4	1026.9	1026.5	1026.5	1026.4	1026.4	1026.4	1027.8
170°	1038.5	1037.9	1037.3	1036.7	1036.1	1035.7	1035.5	1035.4	1035.1	1034.9	1036.3
172.5°	1044.9	1044.3	1043.7	1043.1	1042.5	1042.1	1042.0	1041.7	1041.5	1041.3	1042.8
175°	1052.8	1052.1	1051.5	1051.0	1050.3	1049.9	1049.5	1049.1	1048.7	1048.3	1049.6
177.5°	1056.0	1055.4	1055.0	1054.5	1054.0	1053.6	1053.3	1053.0	1052.7	1052.4	1053.3
180°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	71.4	75.0	78.6	81.0	82.2	83.4	84.6	85.8
90°	91.0	94.3	97.5	99.7	100.9	102.3	103.5	104.8
92.5°	86.1	89.7	93.3	95.7	96.8	97.9	99.0	100.1
95°	110.4	113.8	117.3	119.3	119.9	120.6	121.4	122.0
97.5°	145.5	148.8	152.2	154.4	155.3	156.4	157.4	158.5
100°	170.0	173.3	176.6	178.7	179.5	180.3	181.1	181.9
102.5°	197.1	200.5	203.9	206.0	206.8	207.6	208.4	209.2
105°	237.7	241.2	244.8	247.1	248.1	249.1	250.0	251.0
107.5°	281.9	285.1	288.3	289.9	290.0	290.1	290.2	290.2
110°	312.1	315.0	317.8	319.5	319.9	320.3	320.7	321.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	342.3	344.7	347.1	348.7	349.2	349.7	350.3	350.8
115°	388.8	391.3	393.9	395.3	395.7	396.1	396.5	396.9
117.5°	433.6	435.9	438.0	439.3	439.6	440.0	440.2	440.6
120°	463.7	466.2	468.7	470.2	470.6	471.0	471.4	471.8
122.5°	494.8	496.8	498.7	500.0	500.3	500.8	501.2	501.6
125°	540.7	542.5	544.4	545.6	546.2	546.8	547.4	548.0
127.5°	585.2	586.7	588.3	589.1	589.2	589.4	589.6	589.7
130°	615.8	617.5	619.3	620.2	620.1	620.0	619.9	619.9
132.5°	645.5	646.7	647.9	648.5	648.6	648.7	648.8	648.9
135°	689.5	691.2	692.9	693.8	693.9	694.0	694.2	694.3
137.5°	731.6	733.1	734.6	735.3	735.1	734.9	734.7	734.5
140°	760.1	761.5	762.9	763.6	763.3	763.0	762.9	762.6
142.5°	786.2	787.6	788.9	789.3	789.0	788.7	788.4	788.1
145°	826.4	827.2	827.9	828.0	827.8	827.4	827.1	826.7
147.5°	861.9	862.4	862.9	862.9	862.4	861.8	861.3	860.8
150°	884.8	885.5	886.0	886.0	885.5	884.8	884.2	883.7
152.5°	907.9	908.7	909.5	909.5	908.7	907.9	907.2	906.4
155°	937.3	938.3	939.2	939.4	938.8	938.3	937.6	937.0
157.5°	964.3	965.6	967.0	967.1	966.3	965.3	964.3	963.4
160°	980.3	981.5	982.8	982.9	982.1	981.3	980.5	979.7
162.5°	994.9	996.2	997.6	997.8	996.8	995.9	995.0	994.0
165°	1013.7	1015.0	1016.5	1016.6	1015.7	1014.7	1013.7	1012.7
167.5°	1029.1	1030.6	1031.9	1032.1	1031.1	1030.0	1029.0	1028.0
170°	1037.7	1039.1	1040.4	1040.5	1039.4	1038.2	1037.0	1035.8
172.5°	1044.1	1045.5	1046.9	1047.0	1045.8	1044.6	1043.4	1042.2
175°	1051.1	1052.4	1053.8	1053.9	1052.8	1051.5	1050.3	1049.2
177.5°	1054.3	1055.3	1056.1	1056.1	1055.3	1054.3	1053.3	1052.4
180°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5

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