

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: P331643-935

Luminaire Tested: **S122RDIP-S290D1080U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331643-935
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: S122RDIP-S290D1080U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4207.5 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

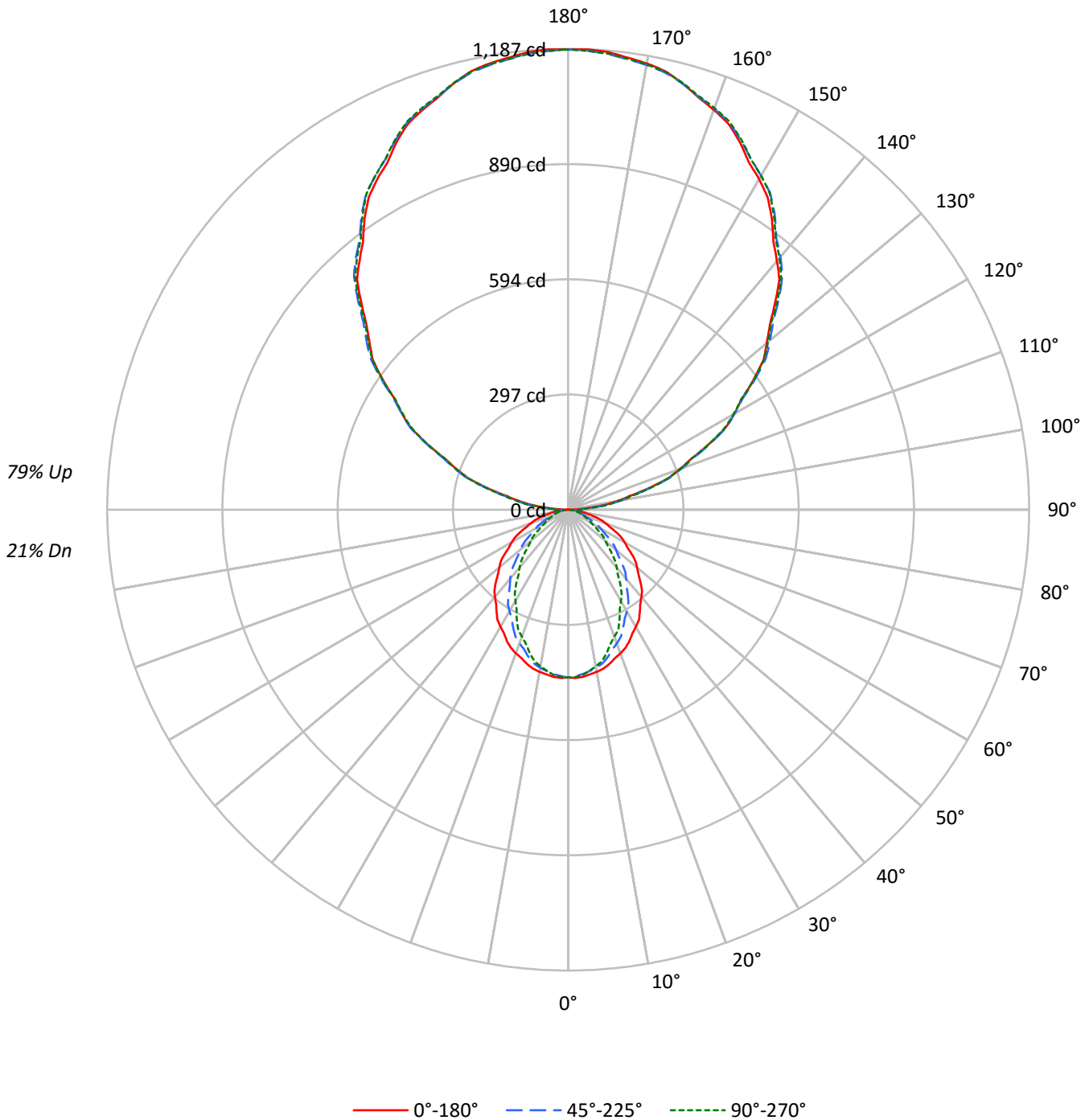
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	100	100	100	100	89	89	89	89	67	67	67	48	48	48	30	30	30	21
1	92	87	84	80	81	78	75	72	59	57	55	42	41	40	26	26	25	18
2	83	77	71	66	74	68	63	59	52	49	46	37	35	34	24	23	22	16
3	76	67	61	55	67	60	54	50	46	42	39	33	31	29	21	20	19	13
4	70	60	52	47	61	53	47	42	41	37	33	29	27	25	19	17	16	12
5	64	53	45	40	56	47	41	36	36	32	29	26	24	21	17	15	14	10
6	59	47	40	34	52	42	36	31	33	28	25	24	21	19	16	14	13	9
7	54	43	35	30	48	38	32	27	30	25	22	22	19	16	14	12	11	8
8	50	39	31	26	44	35	28	24	27	22	19	20	17	15	13	11	10	7
9	47	35	28	23	41	32	25	21	25	20	17	18	15	13	12	10	9	7
10	43	32	25	21	39	29	23	19	23	18	15	17	14	12	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6978	6978	6978
5°	7005	6891	6929
10°	6951	6779	6720
15°	6870	6578	6387
20°	6761	6290	5976
25°	6649	5964	5574
30°	6490	5630	5062
35°	6337	5267	4610
40°	6182	4890	4089
45°	6003	4464	3617
50°	5815	4037	3152
55°	5624	3578	2711
60°	5406	3094	2251
65°	5154	2598	2048
70°	4858	2143	1884
75°	4492	1953	1759
80°	3961	1748	1599
85°	3112	1371	1371



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	1.0
10°-20°	111.1	2.6
20°-30°	156.0	3.7
30°-40°	170.1	4.0
40°-50°	156.4	3.7
50°-60°	122.8	2.9
60°-70°	80.1	1.9
70°-80°	41.3	1.0
80°-90°	15.4	0.4
90°-100°	75.1	1.8
100°-110°	233.2	5.5
110°-120°	398.7	9.5
120°-130°	524.3	12.5
130°-140°	588.5	14.0
140°-150°	577.0	13.7
150°-160°	484.0	11.5
160°-170°	321.0	7.6
170°-180°	112.2	2.7
0°-30°	307.5	7.3
0°-40°	477.6	11.4
0°-60°	756.8	18.0
0°-90°	893.6	21.2
90°-120°	707.0	16.8
90°-150°	2396.8	57.0
90°-180°	3314.0	78.8
0°-180°	4207.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	430	425	428	428	41
15°	411	406	394	386	382	116
25°	373	360	335	319	313	172
35°	322	301	267	243	234	201
45°	263	236	196	169	158	203
55°	200	169	127	104	96	179
65°	135	103	68	55	54	134
75°	72	45	31	29	28	76
85°	17	9	7	7	7	20
90°	1	14	35	33	34	3
95°	52	62	64	64	62	60
105°	215	218	220	222	222	227
115°	400	406	404	403	400	396
125°	582	590	588	585	584	520
135°	753	764	766	765	762	582
145°	914	921	927	928	924	571
155°	1045	1048	1051	1056	1053	481
165°	1137	1136	1136	1142	1138	321
175°	1183	1180	1178	1184	1179	112
180°	1185	1185	1185	1185	1185	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	433.8	433.4	433.1	432.7	432.4	431.8	431.0	430.3	429.6	428.8	429.5
5°	432.2	431.8	431.4	430.9	430.5	429.6	428.5	427.4	426.3	425.2	425.9
7.5°	427.7	427.2	426.6	426.1	425.6	424.6	423.4	422.0	420.7	419.4	419.6
10°	424.0	423.4	422.8	422.1	421.5	420.3	418.6	416.9	415.2	413.5	413.2
12.5°	419.3	418.5	417.8	417.1	416.3	414.8	412.6	410.4	408.1	405.9	405.4
15°	411.0	410.1	409.1	408.2	407.3	405.3	402.3	399.4	396.4	393.5	391.8
17.5°	401.0	399.5	398.0	396.6	395.1	392.5	388.7	385.0	381.2	377.4	375.4
20°	393.5	391.8	390.0	388.2	386.5	383.5	379.1	374.8	370.5	366.1	363.9
22.5°	385.4	383.4	381.4	379.5	377.5	374.1	369.2	364.3	359.5	354.6	351.7
25°	373.2	370.3	367.6	364.8	362.1	357.7	352.0	346.3	340.5	334.8	331.2
27.5°	358.4	355.4	352.4	349.4	346.3	341.6	335.1	328.6	322.2	315.7	311.6
30°	348.1	344.8	341.5	338.2	334.9	329.8	322.8	315.9	308.9	302.0	297.6
32.5°	338.1	334.2	330.4	326.5	322.6	317.2	310.1	303.0	295.9	288.8	283.8
35°	321.5	317.1	312.6	308.2	303.8	297.7	290.1	282.4	274.8	267.2	261.7
37.5°	305.0	300.1	295.2	290.3	285.4	279.0	270.8	262.6	254.5	246.3	240.3
40°	293.3	288.2	282.9	277.7	272.5	265.7	257.3	248.8	240.4	232.0	225.8
42.5°	281.5	276.0	270.4	265.0	259.5	252.4	243.7	235.0	226.3	217.6	211.2
45°	262.9	257.0	251.2	245.4	239.5	232.0	222.9	213.8	204.7	195.5	189.4
47.5°	244.7	238.5	232.4	226.2	220.0	212.2	202.8	193.4	183.9	174.5	168.4
50°	231.5	225.4	219.2	213.0	206.9	199.0	189.4	179.9	170.3	160.7	154.7
52.5°	218.7	212.2	205.9	199.4	193.0	185.0	175.6	166.3	157.0	147.6	141.8
55°	199.8	193.1	186.3	179.5	172.7	164.7	155.2	145.9	136.5	127.1	121.9
57.5°	180.6	173.6	166.6	159.7	152.7	144.7	135.7	126.7	117.7	108.7	103.8
60°	167.4	160.5	153.5	146.5	139.6	131.6	122.7	113.7	104.8	95.8	91.4
62.5°	154.5	147.7	140.7	133.7	126.7	119.0	110.5	101.9	93.4	84.9	80.7
65°	134.9	127.9	120.9	113.8	106.8	99.4	91.5	83.7	75.9	68.0	65.1
67.5°	116.0	109.0	102.0	95.1	88.1	81.0	74.0	67.0	59.9	52.9	51.5
70°	102.9	96.1	89.3	82.6	75.8	69.4	63.4	57.3	51.4	45.4	44.5
72.5°	90.3	83.9	77.3	70.9	64.3	58.7	53.9	49.1	44.3	39.4	38.7
75°	72.0	65.9	59.8	53.7	47.6	43.1	40.1	37.2	34.3	31.3	30.7
77.5°	53.9	48.6	43.2	37.9	32.5	29.2	27.7	26.3	24.9	23.5	23.2
80°	42.6	38.2	33.8	29.4	24.9	22.2	21.4	20.5	19.6	18.8	18.4
82.5°	32.3	28.8	25.4	22.0	18.5	16.4	15.8	15.2	14.6	14.1	13.9
85°	16.8	15.0	13.2	11.4	9.6	8.4	8.2	7.9	7.7	7.4	7.4
87.5°	5.2	5.2	5.2	5.2	5.1	5.6	6.5	7.6	8.5	9.5	9.4
90°	1.0	3.7	6.4	9.0	11.7	15.4	20.3	25.2	30.1	35.0	34.5
92.5°	17.8	19.7	21.7	23.7	25.7	27.2	28.3	29.5	30.7	31.8	31.9
95°	52.0	54.2	56.5	58.6	60.9	62.3	62.7	63.1	63.5	64.0	64.0
97.5°	95.1	96.9	98.9	100.9	102.8	104.3	105.0	105.9	106.8	107.6	107.6
100°	127.0	128.8	130.6	132.3	134.1	135.3	136.0	136.6	137.3	138.0	138.0
102.5°	160.7	162.0	163.5	164.9	166.3	167.5	168.3	169.1	170.0	170.8	171.0
105°	215.0	215.7	216.4	217.1	217.7	218.3	218.7	219.1	219.6	220.0	220.5
107.5°	269.8	270.8	271.8	272.8	273.7	274.2	274.2	274.2	274.2	274.2	274.4
110°	305.1	306.3	307.7	309.0	310.4	311.1	311.1	311.1	311.1	311.1	311.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	343.5	344.7	346.1	347.4	348.8	349.4	349.1	349.0	348.8	348.6	348.1
115°	400.0	401.4	402.7	404.1	405.4	405.8	405.4	404.9	404.5	404.1	403.8
117.5°	456.4	458.2	460.0	461.8	463.6	463.8	462.6	461.3	460.1	458.8	458.3
120°	494.0	495.8	497.7	499.4	501.2	501.2	499.4	497.7	495.8	494.0	494.0
122.5°	528.5	530.6	532.7	534.9	537.0	537.4	536.2	534.9	533.7	532.4	531.9
125°	582.0	584.1	586.1	588.1	590.0	590.7	590.0	589.4	588.8	588.1	587.4
127.5°	634.3	636.8	639.4	641.9	644.4	645.3	644.5	643.7	642.9	642.0	641.3
130°	667.1	669.9	672.9	675.7	678.6	679.8	679.4	679.0	678.6	678.1	677.6
132.5°	703.9	706.3	708.6	710.9	713.3	714.5	714.6	714.7	714.8	714.9	713.9
135°	753.1	755.5	758.0	760.4	762.8	764.3	764.7	765.2	765.7	766.1	765.9
137.5°	804.9	806.9	808.9	810.9	812.9	814.2	814.8	815.4	815.9	816.5	816.3
140°	836.1	838.1	840.1	842.1	844.1	845.7	846.8	847.9	849.0	850.1	850.1
142.5°	868.1	870.1	872.1	874.1	876.1	877.4	878.2	879.0	879.8	880.5	880.7
145°	914.1	915.7	917.2	918.8	920.3	921.8	923.1	924.5	925.7	927.1	927.3
147.5°	955.1	957.0	958.8	960.7	962.6	964.0	964.8	965.8	966.6	967.5	968.0
150°	983.1	984.5	985.8	987.1	988.4	989.5	990.5	991.4	992.2	993.2	993.8
152.5°	1007.9	1009.3	1010.6	1011.9	1013.2	1014.4	1015.5	1016.6	1017.7	1018.7	1019.6
155°	1045.2	1045.8	1046.5	1047.1	1047.8	1048.4	1049.1	1049.8	1050.5	1051.1	1052.2
157.5°	1076.9	1077.4	1077.8	1078.2	1078.7	1079.1	1079.5	1080.0	1080.3	1080.7	1082.3
160°	1096.1	1096.6	1097.0	1097.4	1097.9	1098.2	1098.5	1098.7	1098.9	1099.2	1100.4
162.5°	1113.7	1113.8	1113.9	1114.0	1114.1	1114.2	1114.5	1114.7	1114.9	1115.2	1116.6
165°	1137.1	1137.0	1136.7	1136.4	1136.3	1136.2	1136.2	1136.2	1136.2	1136.2	1137.7
167.5°	1156.8	1156.1	1155.4	1154.8	1154.1	1153.7	1153.7	1153.7	1153.6	1153.6	1155.1
170°	1167.2	1166.5	1165.8	1165.1	1164.5	1164.1	1163.8	1163.6	1163.4	1163.1	1164.7
172.5°	1174.3	1173.7	1173.0	1172.3	1171.6	1171.2	1171.0	1170.8	1170.5	1170.4	1171.9
175°	1183.2	1182.5	1181.8	1181.1	1180.5	1179.9	1179.5	1179.1	1178.6	1178.1	1179.7
177.5°	1186.7	1186.2	1185.7	1185.2	1184.6	1184.1	1183.8	1183.4	1183.1	1182.8	1183.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	430.2	430.8	431.5	431.8	431.7	431.5	431.4	431.3
5°	426.7	427.5	428.3	428.5	428.3	428.0	427.7	427.5
7.5°	419.8	420.1	420.3	420.2	419.7	419.2	418.8	418.4
10°	412.9	412.7	412.4	412.0	411.5	411.0	410.4	409.9
12.5°	405.0	404.5	404.1	403.4	402.5	401.7	400.8	399.9
15°	390.2	388.5	386.8	385.6	384.8	383.8	383.0	382.1
17.5°	373.4	371.4	369.5	367.8	366.3	364.8	363.3	361.8
20°	361.8	359.6	357.4	355.3	353.4	351.5	349.7	347.8
22.5°	349.0	346.1	343.4	341.2	339.8	338.4	336.9	335.5
25°	327.7	324.1	320.6	318.1	316.8	315.5	314.2	312.9
27.5°	307.4	303.2	299.1	296.0	293.9	291.9	289.8	287.7
30°	293.1	288.7	284.2	280.9	278.4	276.1	273.8	271.5
32.5°	278.7	273.6	268.5	264.9	262.8	260.5	258.3	256.1
35°	256.2	250.7	245.2	241.5	239.6	237.7	235.8	233.9
37.5°	234.3	228.3	222.2	218.1	215.9	213.7	211.5	209.3
40°	219.6	213.4	207.2	203.0	200.8	198.5	196.2	194.0
42.5°	204.7	198.4	192.0	187.8	185.5	183.4	181.2	179.0
45°	183.2	177.0	170.9	166.8	164.7	162.6	160.5	158.4
47.5°	162.2	156.1	150.0	145.9	144.0	142.2	140.3	138.4
50°	148.8	142.8	136.7	132.9	131.0	129.2	127.3	125.5
52.5°	136.0	130.3	124.5	120.7	119.1	117.4	115.6	114.0
55°	116.7	111.5	106.2	102.8	101.2	99.5	97.9	96.3
57.5°	99.1	94.3	89.5	86.4	85.1	83.7	82.3	80.8
60°	87.0	82.6	78.1	75.2	73.8	72.4	71.0	69.7
62.5°	76.5	72.2	68.0	65.4	64.6	63.8	62.9	62.1
65°	62.2	59.2	56.2	54.6	54.3	54.1	53.8	53.6
67.5°	50.2	48.8	47.4	46.7	46.3	46.1	45.8	45.5
70°	43.7	42.8	41.9	41.3	40.9	40.6	40.2	39.9
72.5°	38.0	37.2	36.5	36.1	35.8	35.6	35.4	35.2
75°	30.0	29.4	28.8	28.5	28.4	28.3	28.2	28.2
77.5°	22.7	22.4	22.0	21.9	21.7	21.5	21.4	21.3
80°	18.1	17.7	17.4	17.2	17.2	17.2	17.2	17.2
82.5°	13.7	13.4	13.3	13.2	13.2	13.2	13.2	13.2
85°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
87.5°	9.2	9.0	8.9	8.8	8.9	8.9	9.0	9.0
90°	34.1	33.7	33.2	33.1	33.3	33.6	33.8	34.0
92.5°	31.9	32.0	32.2	32.2	32.3	32.3	32.4	32.4
95°	64.0	64.0	64.0	63.8	63.4	62.9	62.4	62.0
97.5°	107.6	107.6	107.6	107.6	107.5	107.5	107.5	107.5
100°	138.0	138.0	138.0	137.9	137.7	137.5	137.2	137.0
102.5°	171.2	171.3	171.5	171.5	171.3	171.1	170.8	170.7
105°	220.9	221.4	221.8	222.1	222.1	222.1	222.1	222.1
107.5°	274.6	274.7	274.9	274.5	273.5	272.5	271.5	270.4
110°	311.1	311.1	311.1	310.7	310.0	309.4	308.7	308.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	347.6	347.1	346.6	346.0	345.5	345.0	344.6	344.1
115°	403.6	403.4	403.1	402.7	402.1	401.4	400.7	400.0
117.5°	457.8	457.3	456.8	456.2	455.5	454.8	454.1	453.5
120°	494.0	494.0	494.0	493.7	493.1	492.4	491.7	491.0
122.5°	531.4	530.9	530.3	529.9	529.3	528.8	528.4	527.9
125°	586.8	586.1	585.4	585.0	584.7	584.5	584.3	584.1
127.5°	640.5	639.6	638.9	638.1	637.4	636.7	636.0	635.2
130°	677.2	676.7	676.3	675.6	674.8	673.8	673.0	672.1
132.5°	712.9	712.0	711.0	710.2	709.5	708.7	708.0	707.3
135°	765.7	765.4	765.2	764.7	764.1	763.4	762.8	762.1
137.5°	816.1	816.0	815.8	815.3	814.3	813.5	812.6	811.7
140°	850.1	850.1	850.1	849.6	848.8	847.9	847.0	846.1
142.5°	880.9	881.1	881.2	880.9	879.9	879.1	878.2	877.3
145°	927.6	927.8	928.0	927.6	926.8	925.9	925.0	924.1
147.5°	968.5	969.0	969.5	969.3	968.5	967.6	966.7	966.0
150°	994.5	995.1	995.8	995.8	995.1	994.5	993.8	993.2
152.5°	1020.5	1021.2	1022.1	1022.1	1021.2	1020.5	1019.6	1018.7
155°	1053.3	1054.5	1055.6	1055.8	1055.2	1054.5	1053.8	1053.1
157.5°	1083.7	1085.3	1086.8	1087.0	1085.9	1084.9	1083.8	1082.7
160°	1101.8	1103.1	1104.5	1104.7	1103.8	1102.9	1102.0	1101.1
162.5°	1118.2	1119.6	1121.2	1121.4	1120.3	1119.3	1118.2	1117.1
165°	1139.3	1140.8	1142.4	1142.5	1141.5	1140.4	1139.3	1138.2
167.5°	1156.7	1158.2	1159.8	1159.9	1158.8	1157.6	1156.5	1155.4
170°	1166.2	1167.8	1169.3	1169.5	1168.1	1166.8	1165.4	1164.2
172.5°	1173.5	1175.0	1176.6	1176.6	1175.4	1174.0	1172.7	1171.3
175°	1181.3	1182.8	1184.4	1184.5	1183.2	1181.8	1180.5	1179.1
177.5°	1184.9	1185.9	1187.0	1187.0	1185.9	1184.9	1183.8	1182.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2

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