

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: P332521-930

Luminaire Tested: **S124DIP-S350D1035U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332521-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D1035U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4097.2 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: Semi-Indirect

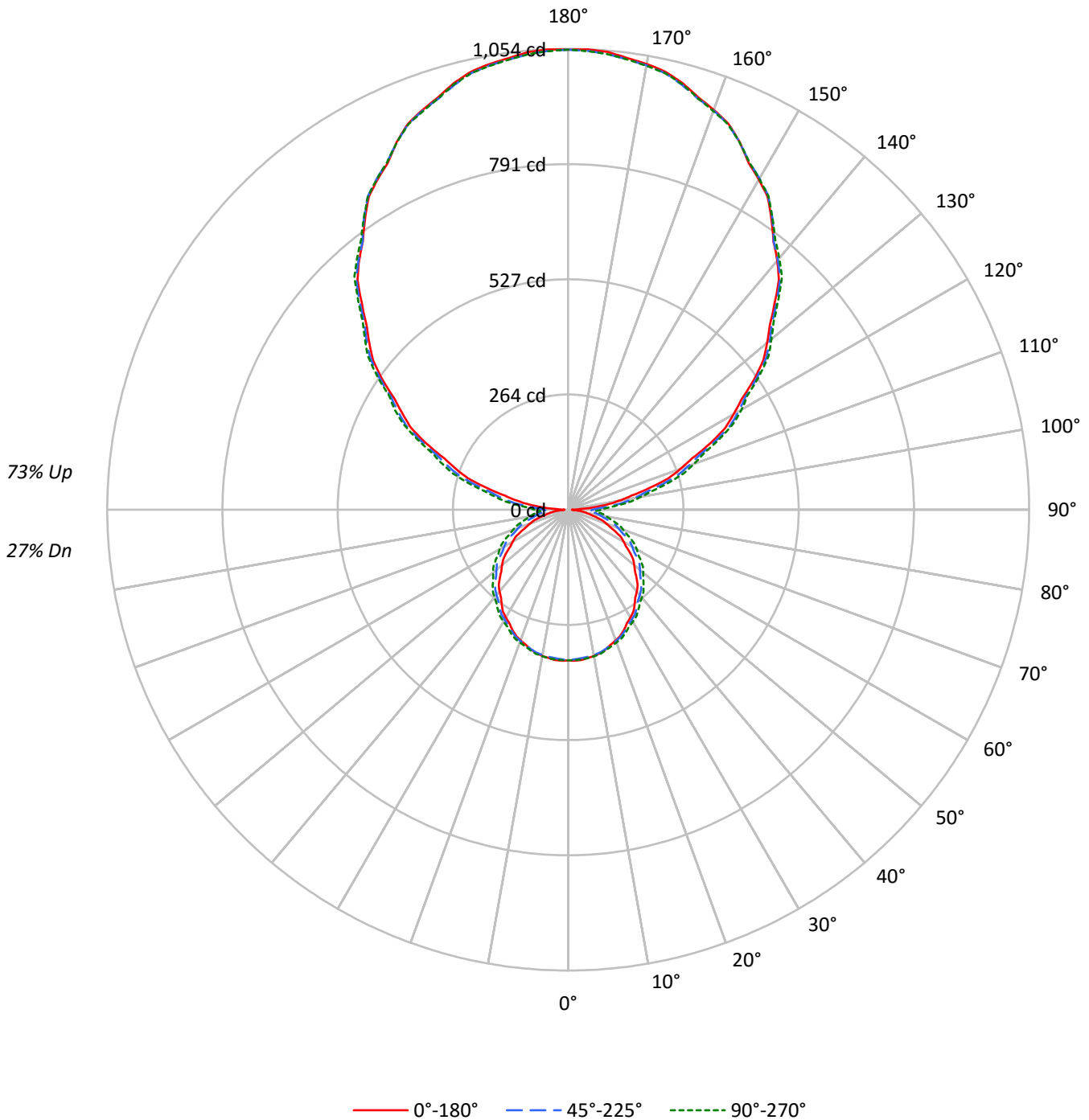
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	92	88	84	80	82	78	75	72	61	58	56	45	43	42	30	29	28	21
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	23	21	19	14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	47	40	35	36	32	28	27	24	21	18	16	14	10
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	38	31	26	29	24	21	22	18	16	15	13	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	15	17	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.8
10°-20°	93.5	2.3
20°-30°	141.4	3.5
30°-40°	171.1	4.2
40°-50°	180.8	4.4
50°-60°	170.2	4.2
60°-70°	141.2	3.4
70°-80°	99.2	2.4
80°-90°	59.2	1.4
90°-100°	102.7	2.5
100°-110°	230.2	5.6
110°-120°	365.5	8.9
120°-130°	469.5	11.5
130°-140°	520.8	12.7
140°-150°	508.6	12.4
150°-160°	427.1	10.4
160°-170°	284.1	6.9
170°-180°	99.5	2.4
0°-30°	267.5	6.5
0°-40°	438.6	10.7
0°-60°	789.6	19.3
0°-90°	1089.2	26.6
90°-120°	698.4	17.0
90°-150°	2197.2	53.6
90°-180°	3008.0	73.4
0°-180°	4097.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	9	33	56	72	77	7
95°	54	74	95	108	112	58
105°	193	202	219	231	237	205
115°	357	361	371	379	381	352
125°	518	518	527	532	533	462
135°	667	672	675	679	679	516
145°	810	813	814	815	814	507
155°	928	928	927	930	927	427
165°	1010	1008	1006	1010	1008	285
175°	1051	1047	1046	1051	1046	100
180°	1052	1052	1052	1052	1052	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.9	15.8	19.7	23.6	27.5	31.5	35.5	39.5	43.6	47.6	50.4
90°	8.6	14.0	19.5	24.9	30.3	35.5	40.7	45.8	51.0	56.1	59.7
92.5°	23.3	28.6	34.0	39.4	44.8	49.8	54.5	59.2	63.8	68.6	71.7
95°	53.8	58.3	62.8	67.2	71.7	76.3	81.0	85.9	90.7	95.4	98.2
97.5°	89.8	93.6	97.3	101.0	104.8	109.2	114.1	119.0	124.0	129.0	131.9
100°	118.1	121.2	124.1	127.0	130.0	134.0	138.9	143.9	148.9	153.8	156.5
102.5°	148.1	150.3	152.6	154.8	157.1	160.6	165.3	170.2	174.9	179.6	182.4
105°	193.1	195.0	196.9	198.8	200.6	203.6	207.5	211.3	215.2	219.2	221.8
107.5°	241.0	242.6	244.3	245.9	247.5	249.9	253.0	256.1	259.2	262.3	265.0
110°	273.3	274.8	276.4	277.9	279.5	281.7	284.5	287.3	290.2	293.0	294.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	306.8	307.9	309.1	310.2	311.4	313.2	315.8	318.3	320.8	323.3	325.1
115°	357.1	357.9	358.7	359.5	360.2	361.7	364.2	366.6	368.9	371.3	373.0
117.5°	404.9	405.5	406.1	406.8	407.3	408.8	411.1	413.4	415.7	418.0	419.1
120°	436.5	437.5	438.5	439.4	440.4	441.9	443.8	445.7	447.7	449.6	450.5
122.5°	469.7	470.0	470.3	470.7	471.1	472.3	474.3	476.5	478.6	480.6	481.8
125°	518.3	518.2	518.1	518.0	518.0	518.9	520.8	522.9	524.8	526.8	528.0
127.5°	562.6	563.1	563.5	564.0	564.5	565.4	566.7	568.1	569.5	570.8	572.0
130°	593.6	594.0	594.5	594.9	595.4	596.3	597.7	599.1	600.5	601.9	603.0
132.5°	625.5	625.8	626.1	626.4	626.7	627.4	628.4	629.2	630.2	631.2	632.3
135°	667.2	668.4	669.4	670.5	671.6	672.5	673.0	673.6	674.3	674.8	675.9
137.5°	713.1	713.5	714.0	714.4	714.9	715.3	715.9	716.5	717.1	717.6	718.4
140°	743.7	744.0	744.3	744.6	744.9	745.0	745.1	745.2	745.3	745.3	746.3
142.5°	771.4	771.8	772.1	772.5	772.8	772.9	772.7	772.5	772.3	772.1	773.1
145°	810.1	810.7	811.4	812.0	812.6	813.0	813.3	813.4	813.6	813.8	814.1
147.5°	848.5	849.3	850.1	850.8	851.7	852.0	851.8	851.7	851.5	851.4	851.3
150°	872.0	872.6	873.2	873.8	874.5	874.8	874.8	874.8	874.8	874.8	874.8
152.5°	893.7	894.2	894.6	895.0	895.4	895.7	895.9	896.0	896.2	896.3	896.7
155°	927.7	927.7	927.7	927.7	927.7	927.6	927.4	927.2	927.1	926.9	927.6
157.5°	956.3	956.0	955.7	955.4	955.0	954.9	954.8	954.8	954.8	954.7	955.3
160°	973.3	973.1	972.9	972.7	972.6	972.4	972.2	972.0	971.8	971.7	972.2
162.5°	988.9	988.5	988.0	987.5	987.0	986.7	986.5	986.3	986.2	985.9	986.9
165°	1009.9	1009.3	1008.9	1008.3	1007.7	1007.3	1006.9	1006.6	1006.2	1005.8	1006.9
167.5°	1026.1	1025.2	1024.5	1023.8	1023.0	1022.6	1022.6	1022.7	1022.7	1022.8	1023.9
170°	1035.1	1034.2	1033.3	1032.4	1031.5	1031.1	1031.4	1031.5	1031.7	1031.8	1033.0
172.5°	1041.6	1040.9	1040.2	1039.3	1038.6	1038.2	1038.3	1038.3	1038.4	1038.4	1039.6
175°	1050.6	1049.7	1048.8	1047.9	1047.0	1046.4	1046.3	1046.0	1045.9	1045.7	1047.0
177.5°	1053.5	1052.8	1052.1	1051.3	1050.6	1050.3	1050.3	1050.3	1050.3	1050.3	1051.2
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	53.1	55.8	58.5	60.3	61.1	61.9	62.7	63.5
90°	63.3	66.9	70.4	72.7	73.8	74.8	75.8	76.9
92.5°	74.7	77.8	80.9	82.8	83.7	84.6	85.5	86.4
95°	101.1	104.0	106.9	108.7	109.4	110.2	111.0	111.8
97.5°	134.8	137.7	140.6	142.4	143.2	143.9	144.6	145.4
100°	159.2	161.8	164.5	166.2	166.8	167.4	168.0	168.6
102.5°	185.2	187.9	190.6	192.4	193.2	194.0	194.9	195.7
105°	224.5	227.2	229.9	231.9	233.1	234.3	235.5	236.8
107.5°	267.6	270.2	272.8	274.3	275.0	275.6	276.1	276.7
110°	296.2	297.8	299.5	300.8	302.1	303.3	304.5	305.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	327.0	328.8	330.7	332.0	332.8	333.5	334.4	335.2
115°	374.7	376.4	378.1	379.2	379.6	380.0	380.5	380.9
117.5°	420.4	421.5	422.7	423.4	423.7	424.0	424.4	424.7
120°	451.3	452.1	452.9	453.8	454.9	455.9	457.0	458.0
122.5°	482.8	484.0	485.0	485.6	485.6	485.5	485.5	485.4
125°	529.3	530.5	531.8	532.6	532.7	532.8	533.0	533.1
127.5°	573.2	574.4	575.5	576.3	576.6	576.9	577.2	577.5
130°	604.2	605.4	606.6	607.1	606.8	606.6	606.4	606.2
132.5°	633.4	634.5	635.6	636.3	636.5	636.7	637.0	637.2
135°	676.9	677.8	678.9	679.4	679.3	679.3	679.3	679.2
137.5°	719.3	720.0	720.8	721.5	721.9	722.5	723.1	723.6
140°	747.2	748.2	749.1	749.7	750.0	750.2	750.5	750.7
142.5°	774.0	774.9	775.8	776.5	776.8	777.1	777.5	777.8
145°	814.5	814.8	815.1	815.2	815.0	814.8	814.6	814.4
147.5°	851.3	851.2	851.1	851.1	851.2	851.3	851.3	851.4
150°	874.8	874.8	874.8	874.7	874.6	874.3	874.2	874.0
152.5°	897.2	897.6	898.1	898.1	897.6	897.1	896.6	896.1
155°	928.4	929.0	929.8	929.8	929.0	928.4	927.6	926.9
157.5°	955.8	956.3	956.9	956.8	956.3	955.6	955.0	954.4
160°	972.7	973.3	973.8	973.6	972.7	971.8	970.9	970.0
162.5°	987.9	988.9	989.9	989.9	989.0	988.1	987.2	986.3
165°	1008.0	1009.1	1010.2	1010.3	1009.7	1008.9	1008.2	1007.5
167.5°	1024.9	1026.1	1027.1	1027.1	1026.0	1024.8	1023.7	1022.6
170°	1034.0	1035.1	1036.2	1036.1	1034.9	1033.6	1032.3	1031.0
172.5°	1040.8	1042.0	1043.3	1043.3	1042.0	1040.7	1039.5	1038.2
175°	1048.2	1049.5	1050.8	1050.8	1049.5	1048.2	1047.0	1045.7
177.5°	1052.3	1053.3	1054.3	1054.3	1053.1	1051.9	1050.8	1049.6
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2

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