

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: P332105-927

Luminaire Tested: **S123DIW-S340D1030U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332105-927
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-S340D1030U927-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3972.4 lumens
Efficiency: N/A
Efficacy: 104.5 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

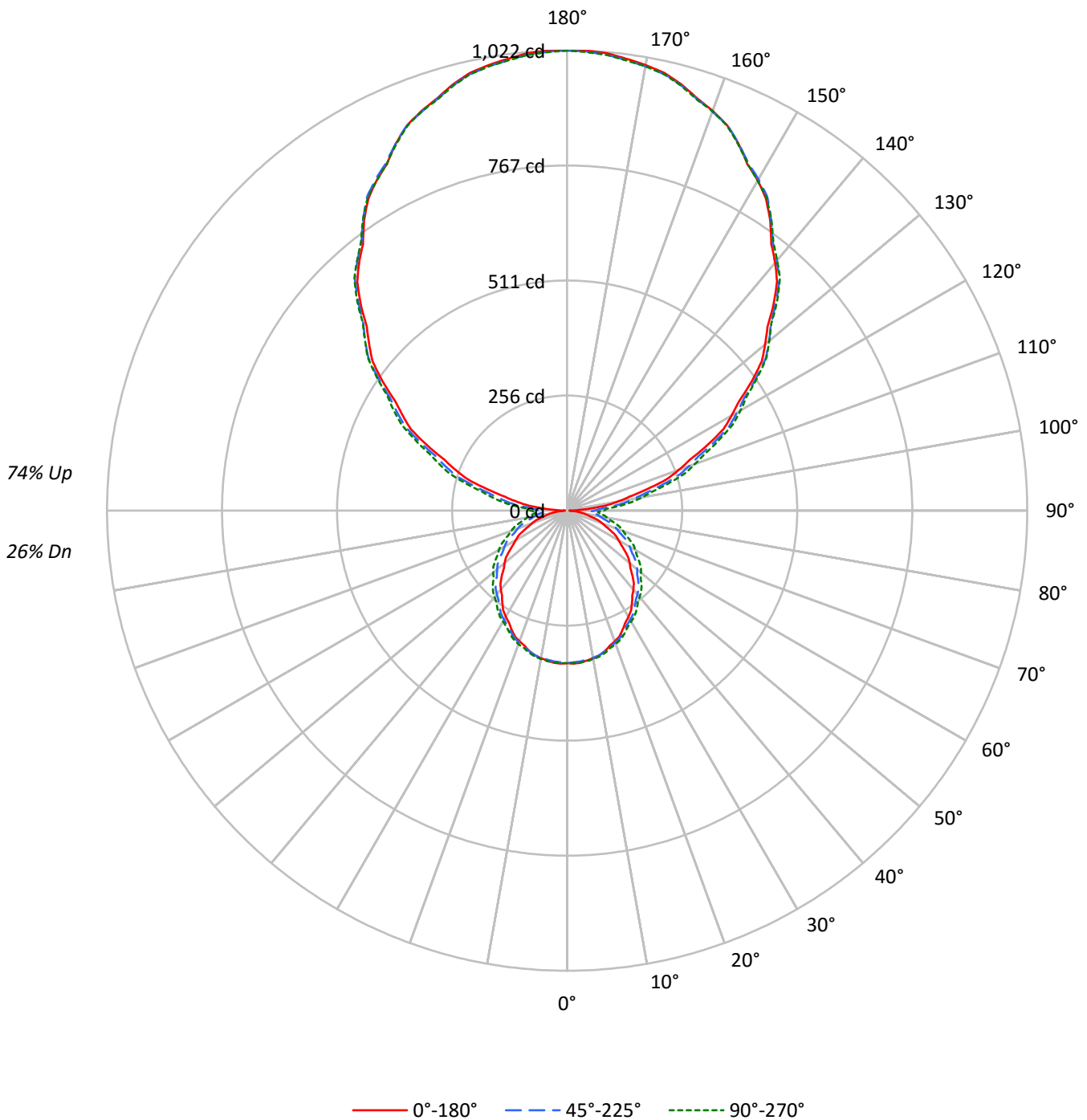
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	50	30	10	0
RCR																					
0	102	102	102	102	91	91	91	91	70	70	70	52	52	52	34	34	34	26			26
1	92	87	84	80	82	78	75	72	60	58	56	44	43	42	29	29	28	21			21
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17			17
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	22	21	19	14			14
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	16	12			12
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14	10			10
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	12	9			9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	15	13	11	8			8
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10	7			7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6			6
10	43	31	24	20	38	28	22	18	22	18	15	17	13	11	11	9	8	6			6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.1	0.8
10°-20°	91.6	2.3
20°-30°	137.0	3.4
30°-40°	163.6	4.1
40°-50°	171.1	4.3
50°-60°	160.6	4.0
60°-70°	134.1	3.4
70°-80°	96.0	2.4
80°-90°	60.2	1.5
90°-100°	102.5	2.6
100°-110°	225.6	5.7
110°-120°	356.4	9.0
120°-130°	455.7	11.5
130°-140°	505.5	12.7
140°-150°	493.4	12.4
150°-160°	414.5	10.4
160°-170°	275.9	6.9
170°-180°	96.6	2.4
0°-30°	260.6	6.6
0°-40°	424.2	10.7
0°-60°	755.9	19.0
0°-90°	1046.2	26.3
90°-120°	684.5	17.2
90°-150°	2139.1	53.8
90°-180°	2926.0	73.7
0°-180°	3972.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	6	32	61	76	82	6
95°	51	72	96	110	114	56
105°	184	195	217	227	232	196
115°	343	350	362	371	373	339
125°	500	503	512	516	516	446
135°	648	653	656	659	660	499
145°	786	787	790	792	790	491
155°	900	900	900	903	898	414
165°	980	978	978	982	977	276
175°	1019	1016	1016	1020	1015	97
180°	1022	1022	1022	1022	1022	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	10.0	14.4	18.9	23.3	27.7	32.3	36.9	41.6	46.3	50.9	53.8
90°	5.6	11.4	17.2	23.0	28.8	34.9	41.4	48.0	54.5	61.0	64.5
92.5°	23.9	28.8	33.6	38.4	43.3	48.4	53.9	59.3	64.7	70.2	73.4
95°	51.4	55.8	60.3	64.7	69.2	74.1	79.6	85.0	90.5	95.9	99.2
97.5°	87.7	91.6	95.4	99.2	103.0	107.3	112.2	117.1	121.9	126.8	130.1
100°	112.5	116.1	119.9	123.6	127.2	131.4	136.1	140.8	145.4	150.1	153.0
102.5°	141.1	144.1	147.1	150.1	153.0	157.0	161.9	166.8	171.7	176.6	179.4
105°	183.5	185.8	188.1	190.5	192.8	196.5	201.7	206.8	212.0	217.1	219.4
107.5°	232.5	234.4	236.3	238.2	240.1	243.0	247.0	251.0	255.0	259.0	261.7
110°	263.1	264.9	266.7	268.5	270.4	273.1	276.8	280.4	284.0	287.6	290.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	295.2	296.6	298.0	299.4	300.9	303.2	306.4	309.7	312.8	316.1	319.0
115°	342.9	344.4	345.9	347.5	349.0	351.1	353.7	356.2	358.9	361.5	363.6
117.5°	391.3	392.3	393.2	394.3	395.2	396.8	399.1	401.5	403.8	406.1	408.0
120°	421.2	422.7	424.2	425.6	427.1	428.8	430.6	432.5	434.3	436.0	437.8
122.5°	452.7	453.7	454.7	455.7	456.7	458.2	460.3	462.5	464.5	466.7	468.0
125°	500.3	500.8	501.4	501.9	502.5	503.7	505.7	507.8	509.8	511.8	512.9
127.5°	544.6	545.7	546.8	547.8	548.8	550.2	551.8	553.3	554.9	556.5	557.1
130°	574.2	575.5	576.9	578.2	579.6	580.7	581.9	583.0	584.1	585.2	586.0
132.5°	603.4	604.8	606.2	607.6	609.0	610.2	611.1	612.0	612.9	613.9	614.5
135°	648.4	649.4	650.4	651.4	652.4	653.2	653.9	654.7	655.4	656.1	656.9
137.5°	690.1	690.9	691.7	692.5	693.4	694.3	695.2	696.2	697.2	698.2	698.7
140°	718.7	719.5	720.5	721.4	722.2	722.9	723.3	723.7	724.1	724.6	725.6
142.5°	745.0	745.8	746.6	747.5	748.3	748.9	749.2	749.6	750.0	750.4	751.3
145°	786.1	786.4	786.6	786.9	787.2	787.6	788.1	788.7	789.2	789.7	790.2
147.5°	821.7	822.3	822.9	823.6	824.3	824.8	825.3	825.9	826.3	826.8	827.0
150°	846.7	847.1	847.4	847.8	848.1	848.5	848.8	849.2	849.5	849.9	849.9
152.5°	867.3	867.8	868.2	868.8	869.3	869.6	869.8	870.1	870.3	870.4	870.8
155°	899.7	899.7	899.7	899.7	899.7	899.8	899.9	900.2	900.3	900.5	901.2
157.5°	927.3	927.1	926.9	926.6	926.5	926.4	926.5	926.7	926.9	926.9	927.7
160°	944.6	944.3	943.9	943.6	943.2	943.0	943.0	943.0	943.0	943.0	943.9
162.5°	960.0	959.6	959.0	958.5	958.1	957.8	958.0	958.1	958.3	958.5	959.3
165°	979.9	979.4	978.9	978.3	977.8	977.6	977.6	977.6	977.6	977.6	978.6
167.5°	995.9	995.1	994.4	993.7	993.0	992.7	992.8	993.0	993.2	993.2	994.3
170°	1004.8	1004.1	1003.4	1002.7	1002.0	1001.6	1001.6	1001.6	1001.6	1001.6	1002.8
172.5°	1011.9	1011.1	1010.4	1009.7	1009.0	1008.7	1008.7	1008.7	1008.7	1008.7	1009.8
175°	1019.3	1018.6	1017.9	1017.2	1016.4	1016.1	1016.1	1016.1	1016.1	1016.1	1017.2
177.5°	1022.3	1021.8	1021.2	1020.6	1020.0	1019.8	1019.8	1019.8	1019.8	1019.8	1020.6
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	56.7	59.7	62.6	64.5	65.4	66.3	67.2	68.0
90°	68.0	71.5	75.0	77.3	78.5	79.7	80.9	82.0
92.5°	76.8	80.0	83.3	85.2	85.8	86.3	86.9	87.5
95°	102.4	105.7	108.9	111.0	111.8	112.6	113.4	114.3
97.5°	133.3	136.7	139.9	141.9	142.7	143.4	144.1	144.9
100°	155.9	158.8	161.8	163.8	164.9	166.1	167.3	168.5
102.5°	182.3	185.1	188.0	189.7	190.5	191.2	192.0	192.7
105°	221.7	223.9	226.2	228.0	229.1	230.1	231.2	232.3
107.5°	264.5	267.3	270.1	271.7	272.2	272.7	273.2	273.7
110°	293.3	296.2	299.0	300.6	301.0	301.2	301.5	301.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.9	324.9	327.8	329.5	330.2	330.8	331.5	332.2
115°	365.8	367.9	370.0	371.4	371.9	372.3	372.8	373.3
117.5°	409.9	411.8	413.8	414.8	414.9	415.0	415.2	415.3
120°	439.5	441.2	442.9	443.9	444.1	444.3	444.5	444.7
122.5°	469.4	470.7	472.1	472.9	472.9	472.9	473.0	473.1
125°	513.8	514.8	515.9	516.3	516.1	516.0	515.9	515.7
127.5°	557.7	558.3	559.0	559.1	558.9	558.6	558.3	558.1
130°	586.8	587.7	588.5	588.6	587.8	587.1	586.3	585.6
132.5°	615.1	615.8	616.4	616.6	616.2	615.7	615.3	614.9
135°	657.7	658.4	659.2	659.6	659.7	659.7	659.7	659.8
137.5°	699.3	699.8	700.4	700.5	700.2	700.0	699.7	699.4
140°	726.7	727.8	728.8	728.9	728.1	727.2	726.4	725.6
142.5°	752.3	753.1	754.1	754.2	753.7	753.1	752.6	752.0
145°	790.7	791.2	791.6	791.7	791.3	790.9	790.5	790.1
147.5°	827.2	827.4	827.6	827.3	826.6	825.8	825.0	824.2
150°	849.9	849.9	849.9	849.5	848.6	847.6	846.8	845.8
152.5°	871.0	871.3	871.6	871.3	870.4	869.5	868.6	867.8
155°	901.9	902.6	903.3	903.1	901.8	900.6	899.4	898.1
157.5°	928.4	929.2	929.9	929.9	928.8	927.9	926.9	925.8
160°	944.8	945.7	946.6	946.7	945.9	945.2	944.5	943.8
162.5°	960.2	961.1	962.0	961.9	960.8	959.6	958.5	957.3
165°	979.7	980.7	981.8	981.8	980.5	979.2	977.9	976.8
167.5°	995.5	996.6	997.7	997.7	996.6	995.5	994.3	993.2
170°	1004.1	1005.4	1006.6	1006.6	1005.4	1004.1	1002.8	1001.6
172.5°	1010.9	1012.0	1013.1	1013.0	1011.8	1010.5	1009.2	1008.1
175°	1018.2	1019.3	1020.3	1020.3	1019.0	1017.7	1016.5	1015.3
177.5°	1021.4	1022.3	1023.2	1023.1	1022.1	1021.1	1020.1	1019.1
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7

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