

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: P331510-935

Luminaire Tested: **S122DIW-S485D970U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331510-935
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: S122DIW-S485D970U935-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4586.4 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

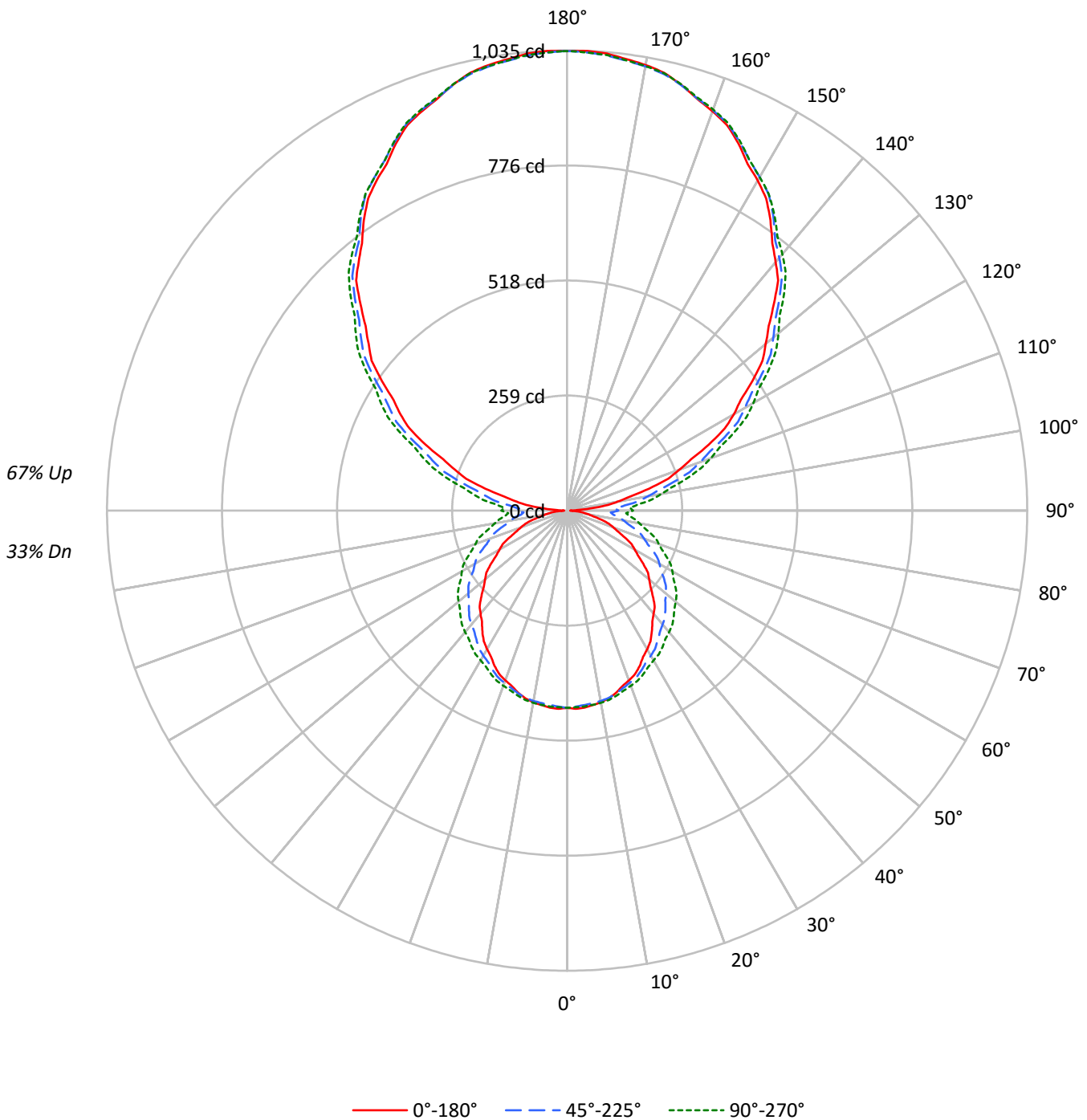
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	88	84	80	83	80	76	73	63	61	58	48	46	45	34	33	32	26
2	84	76	70	65	75	69	63	59	55	51	47	42	39	37	29	28	26	21
3	77	67	59	53	68	60	54	49	48	43	39	36	33	30	26	24	22	17
4	70	59	51	45	62	53	46	41	42	37	33	32	29	26	23	20	19	14
5	64	52	44	38	57	47	40	35	38	32	28	29	25	22	20	18	16	12
6	59	47	38	33	52	42	35	30	34	28	24	26	22	19	18	16	14	11
7	54	42	34	28	48	38	31	26	30	25	21	23	20	17	17	14	12	9
8	50	38	30	25	45	34	28	23	28	22	19	21	18	15	15	13	11	8
9	47	34	27	22	42	31	25	20	25	20	17	19	16	13	14	12	10	7
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7164	7164	7164
5°	7199	6896	6870
10°	7153	6692	6617
15°	7055	6477	6350
20°	6930	6245	6094
25°	6807	6022	5862
30°	6634	5793	5628
35°	6458	5572	5464
40°	6275	5384	5299
45°	6100	5215	5159
50°	5912	5062	5019
55°	5713	4898	4878
60°	5473	4730	4729
65°	5222	4530	4552
70°	4938	4315	4361
75°	4578	4106	4186
80°	4008	3889	4005
85°	3471	3705	3868



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	0.9
10°-20°	120.6	2.6
20°-30°	182.7	4.0
30°-40°	222.5	4.9
40°-50°	239.4	5.2
50°-60°	232.5	5.1
60°-70°	203.0	4.4
70°-80°	156.3	3.4
80°-90°	109.0	2.4
90°-100°	137.7	3.0
100°-110°	256.1	5.6
110°-120°	382.5	8.3
120°-130°	476.6	10.4
130°-140°	521.3	11.4
140°-150°	504.5	11.0
150°-160°	422.0	9.2
160°-170°	279.9	6.1
170°-180°	97.8	2.1
0°-30°	345.3	7.5
0°-40°	567.8	12.4
0°-60°	1039.7	22.7
0°-90°	1507.9	32.9
90°-120°	776.3	16.9
90°-150°	2278.8	49.7
90°-180°	3078.0	67.1
0°-180°	4586.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	445	443	439	443	442	42
15°	424	426	426	431	431	119
25°	386	390	396	404	406	177
35°	332	343	356	369	374	208
45°	273	290	312	332	339	210
55°	209	233	266	288	297	187
65°	143	175	212	238	247	142
75°	79	115	156	183	192	84
85°	23	63	104	130	140	25
90°	7	56	115	138	148	7
95°	50	90	130	153	160	56
105°	191	213	247	270	278	202
115°	351	364	391	409	414	347
125°	509	517	535	549	554	455
135°	657	667	675	687	690	508
145°	797	803	808	813	813	498
155°	911	914	916	920	918	419
165°	992	991	991	996	992	280
175°	1032	1029	1027	1033	1028	98
180°	1033	1033	1033	1033	1033	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	446.3	445.9	445.6	445.2	444.9	444.3	443.5	442.7	442.0	441.1	441.7
5°	445.0	444.5	444.1	443.7	443.2	442.6	441.8	440.9	440.1	439.2	440.1
7.5°	441.0	440.7	440.4	440.1	439.9	439.4	438.7	438.1	437.4	436.7	437.7
10°	437.9	437.6	437.3	437.0	436.8	436.4	436.0	435.6	435.1	434.7	435.8
12.5°	432.7	432.8	432.9	432.9	433.0	432.8	432.6	432.2	431.9	431.6	432.7
15°	424.4	424.6	425.0	425.2	425.5	425.7	425.7	425.7	425.7	425.7	427.0
17.5°	413.6	414.2	414.8	415.4	416.0	416.6	417.0	417.4	417.9	418.4	419.7
20°	406.4	407.1	407.9	408.5	409.2	409.9	410.4	411.0	411.6	412.2	413.7
22.5°	398.6	399.5	400.4	401.1	402.0	402.8	403.6	404.4	405.2	406.0	407.6
25°	385.8	386.8	387.8	388.8	389.8	391.0	392.3	393.6	394.9	396.1	397.8
27.5°	370.4	372.0	373.7	375.3	376.9	378.5	380.0	381.5	383.0	384.5	386.7
30°	360.1	362.0	363.8	365.7	367.6	369.4	371.3	373.1	375.0	376.8	379.1
32.5°	348.8	350.9	352.9	355.1	357.1	359.3	361.4	363.7	365.8	368.1	370.7
35°	332.4	334.8	337.3	339.8	342.2	344.7	347.4	350.2	352.8	355.6	358.7
37.5°	314.7	317.5	320.3	323.1	325.9	329.1	332.6	336.0	339.6	343.1	346.6
40°	302.9	306.0	309.2	312.3	315.5	318.9	322.8	326.7	330.5	334.4	338.1
42.5°	291.5	294.7	297.8	301.0	304.1	307.9	312.4	316.8	321.2	325.6	329.7
45°	272.7	276.5	280.3	284.2	288.1	292.5	297.5	302.5	307.5	312.5	316.9
47.5°	254.0	258.2	262.4	266.6	270.8	275.9	281.7	287.6	293.4	299.3	303.9
50°	241.2	245.6	250.0	254.4	258.8	264.2	270.7	277.2	283.6	290.0	294.9
52.5°	228.8	233.4	238.1	242.8	247.5	253.1	259.9	266.7	273.5	280.3	285.2
55°	209.0	214.1	219.3	224.4	229.5	235.8	243.3	250.7	258.1	265.5	270.7
57.5°	189.4	195.3	201.0	206.8	212.7	219.3	226.9	234.5	242.0	249.6	255.2
60°	175.6	181.7	187.9	194.0	200.1	207.2	215.4	223.5	231.7	239.9	245.3
62.5°	163.2	169.5	176.0	182.4	188.7	196.0	204.1	212.2	220.4	228.5	234.3
65°	142.8	149.7	156.8	163.8	170.7	178.5	186.9	195.4	203.8	212.2	218.1
67.5°	124.0	131.3	138.6	145.9	153.3	161.2	169.9	178.5	187.1	195.7	201.6
70°	110.6	118.0	125.4	132.9	140.3	148.4	157.3	166.2	175.0	183.9	190.0
72.5°	98.2	105.9	113.6	121.2	128.9	137.2	146.2	155.2	164.1	173.1	179.2
75°	79.1	87.1	95.1	103.1	111.1	119.7	128.8	137.9	147.1	156.3	162.4
77.5°	60.6	69.0	77.3	85.7	94.1	102.9	112.2	121.5	130.8	140.1	146.2
80°	48.2	56.9	65.7	74.4	83.1	92.1	101.4	110.6	119.9	129.2	135.3
82.5°	38.0	46.6	55.1	63.7	72.3	81.4	90.7	100.1	109.5	119.0	124.9
85°	23.2	32.0	40.9	49.8	58.5	67.6	76.7	85.8	95.1	104.2	110.2
87.5°	12.7	21.8	30.7	39.7	48.7	58.2	68.2	78.2	88.2	98.2	103.9
90°	7.3	17.9	28.5	39.2	49.8	61.7	75.2	88.6	102.0	115.4	120.7
92.5°	21.4	30.8	40.3	49.7	59.2	68.7	78.5	88.3	98.2	108.0	113.7
95°	50.5	59.2	67.8	76.5	85.1	93.9	102.9	111.8	120.8	129.8	135.2
97.5°	87.3	95.1	102.7	110.4	118.0	126.4	135.3	144.3	153.3	162.2	167.6
100°	115.3	122.1	128.9	135.8	142.6	150.3	158.9	167.5	176.1	184.7	189.9
102.5°	144.0	150.1	156.2	162.2	168.3	175.6	184.1	192.6	201.1	209.7	215.0
105°	190.7	195.4	200.2	204.9	209.7	215.9	223.7	231.5	239.4	247.2	252.5
107.5°	238.4	242.5	246.7	250.9	255.0	260.7	267.8	274.9	282.1	289.1	294.1
110°	268.5	272.6	276.6	280.6	284.6	290.2	297.1	304.2	311.2	318.1	322.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	302.0	305.6	309.2	312.7	316.3	321.3	327.9	334.3	340.9	347.3	351.5
115°	351.4	354.1	356.9	359.6	362.3	366.7	372.7	378.8	384.9	390.9	395.0
117.5°	399.9	402.5	405.1	407.7	410.3	414.0	418.9	423.7	428.5	433.4	437.2
120°	432.7	434.9	437.0	439.1	441.2	444.4	448.5	452.7	456.8	461.1	465.0
122.5°	462.7	464.9	466.9	469.0	471.1	474.2	478.5	482.8	487.2	491.5	494.8
125°	508.9	510.6	512.3	514.1	515.8	518.7	522.6	526.7	530.6	534.7	538.0
127.5°	554.3	556.4	558.4	560.5	562.6	565.2	568.2	571.1	574.1	577.1	580.0
130°	583.0	585.3	587.7	590.0	592.5	595.0	597.5	600.2	602.8	605.4	608.5
132.5°	615.0	617.0	618.9	620.8	622.7	624.8	627.2	629.6	632.1	634.4	636.9
135°	657.3	659.4	661.6	663.7	665.8	667.8	669.6	671.4	673.3	675.1	677.9
137.5°	702.5	704.2	705.9	707.7	709.4	710.8	711.9	713.0	714.2	715.3	717.8
140°	729.7	731.3	732.9	734.5	736.1	737.5	738.7	740.0	741.3	742.5	744.9
142.5°	757.6	759.2	760.8	762.4	764.0	765.2	765.9	766.6	767.3	768.0	770.0
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	809.4
147.5°	832.8	834.5	836.1	837.7	839.3	840.5	841.3	842.1	842.8	843.6	844.2
150°	857.2	858.4	859.5	860.7	861.9	862.9	863.7	864.4	865.2	866.0	866.5
152.5°	878.9	880.0	881.2	882.4	883.6	884.6	885.5	886.4	887.3	888.3	889.0
155°	911.3	911.9	912.5	913.1	913.6	914.2	914.8	915.4	915.9	916.5	917.5
157.5°	939.0	939.4	939.8	940.2	940.6	941.0	941.3	941.7	942.0	942.4	943.7
160°	955.8	956.1	956.6	956.9	957.3	957.6	957.9	958.0	958.2	958.4	959.6
162.5°	971.1	971.2	971.3	971.4	971.5	971.6	971.8	972.0	972.2	972.3	973.7
165°	991.5	991.4	991.2	990.9	990.8	990.7	990.7	990.7	990.7	990.7	992.0
167.5°	1008.7	1008.1	1007.5	1006.9	1006.3	1006.0	1006.0	1005.9	1005.9	1005.8	1007.2
170°	1017.7	1017.1	1016.6	1016.0	1015.4	1015.0	1014.8	1014.6	1014.4	1014.3	1015.5
172.5°	1024.0	1023.4	1022.8	1022.3	1021.7	1021.2	1021.1	1020.9	1020.7	1020.5	1021.8
175°	1031.7	1031.0	1030.5	1029.9	1029.3	1028.8	1028.5	1028.0	1027.7	1027.3	1028.6
177.5°	1034.8	1034.3	1033.9	1033.4	1032.9	1032.5	1032.3	1031.9	1031.7	1031.3	1032.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	442.3	442.8	443.4	443.6	443.3	443.2	442.9	442.6
5°	440.9	441.8	442.6	443.0	442.8	442.7	442.6	442.4
7.5°	438.8	439.8	440.8	441.3	441.2	441.0	440.8	440.7
10°	437.0	438.1	439.3	439.8	439.6	439.5	439.4	439.2
12.5°	433.9	435.1	436.2	436.7	436.5	436.4	436.3	436.1
15°	428.3	429.6	430.8	431.4	431.3	431.1	430.9	430.8
17.5°	421.0	422.4	423.7	424.4	424.4	424.4	424.4	424.4
20°	415.3	416.9	418.4	419.2	419.2	419.2	419.2	419.2
22.5°	409.1	410.7	412.3	413.2	413.5	413.6	413.9	414.1
25°	399.5	401.2	402.9	404.1	404.5	404.9	405.4	405.8
27.5°	388.9	391.1	393.2	394.4	394.8	395.1	395.4	395.7
30°	381.4	383.7	386.0	387.3	387.7	388.1	388.6	389.0
32.5°	373.3	375.9	378.6	380.3	381.1	381.9	382.6	383.4
35°	361.9	365.1	368.2	370.2	371.3	372.2	373.2	374.3
37.5°	350.1	353.6	357.1	359.3	360.4	361.4	362.5	363.6
40°	341.8	345.5	349.2	351.7	353.0	354.3	355.6	356.9
42.5°	333.7	337.8	341.8	344.6	345.8	347.1	348.4	349.7
45°	321.4	325.8	330.2	333.1	334.6	336.0	337.4	338.9
47.5°	308.5	313.1	317.8	320.9	322.4	324.0	325.6	327.2
50°	299.7	304.5	309.4	312.6	314.3	315.8	317.4	318.9
52.5°	290.2	295.2	300.1	303.4	305.1	306.9	308.5	310.2
55°	275.9	281.0	286.1	289.6	291.5	293.3	295.2	297.0
57.5°	260.7	266.2	271.8	275.5	277.4	279.3	281.2	283.1
60°	250.7	256.1	261.6	265.3	267.3	269.3	271.3	273.3
62.5°	240.0	245.8	251.6	255.5	257.4	259.2	261.1	263.0
65°	223.9	229.8	235.7	239.5	241.3	243.2	245.0	246.9
67.5°	207.6	213.4	219.4	223.3	225.2	227.2	229.2	231.1
70°	196.2	202.3	208.4	212.4	214.1	215.9	217.6	219.3
72.5°	185.2	191.2	197.3	201.3	203.3	205.3	207.4	209.5
75°	168.6	174.7	180.8	184.9	186.7	188.6	190.4	192.3
77.5°	152.3	158.4	164.5	168.6	170.6	172.5	174.6	176.6
80°	141.3	147.2	153.3	157.2	159.3	161.3	163.2	165.2
82.5°	131.0	137.0	142.9	146.9	148.8	150.7	152.6	154.5
85°	116.1	122.2	128.2	132.2	134.1	136.2	138.2	140.2
87.5°	109.7	115.5	121.2	125.0	126.9	128.7	130.6	132.5
90°	126.1	131.4	136.7	140.3	142.2	144.1	146.0	148.0
92.5°	119.3	125.0	130.7	134.4	136.1	137.9	139.7	141.5
95°	140.6	146.0	151.4	154.9	156.2	157.5	158.9	160.1
97.5°	172.8	178.1	183.4	186.8	188.5	190.2	191.8	193.5
100°	195.2	200.5	205.8	209.1	210.5	211.9	213.3	214.6
102.5°	220.3	225.7	230.9	234.3	235.7	237.0	238.4	239.8
105°	258.0	263.3	268.7	272.2	273.8	275.3	276.9	278.4
107.5°	299.0	304.0	309.0	311.8	312.5	313.1	313.8	314.5
110°	327.3	331.8	336.5	339.2	340.2	341.2	342.2	343.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	355.6	359.6	363.8	366.4	367.6	368.7	369.8	371.0
115°	399.1	403.2	407.3	409.8	410.8	411.8	412.8	413.8
117.5°	440.9	444.7	448.5	450.8	451.7	452.5	453.4	454.3
120°	469.0	473.0	477.0	479.5	480.5	481.5	482.5	483.5
122.5°	498.3	501.7	505.1	507.3	508.2	509.1	510.1	510.9
125°	541.2	544.5	547.8	549.9	551.0	552.1	553.2	554.3
127.5°	582.8	585.7	588.5	590.2	590.9	591.5	592.1	592.8
130°	611.5	614.5	617.6	619.3	619.7	620.0	620.4	620.8
132.5°	639.4	641.8	644.3	645.8	646.3	646.8	647.3	647.8
135°	680.7	683.5	686.3	688.0	688.5	689.1	689.7	690.3
137.5°	720.2	722.7	725.2	726.5	726.8	726.9	727.1	727.3
140°	747.1	749.4	751.7	752.9	752.9	753.0	753.1	753.2
142.5°	772.0	774.0	775.9	777.0	776.9	776.9	776.9	776.8
145°	810.5	811.6	812.6	813.1	813.0	813.0	813.0	812.9
147.5°	844.7	845.2	845.8	845.8	845.5	845.1	844.7	844.3
150°	867.1	867.7	868.3	868.3	867.7	867.1	866.5	866.0
152.5°	889.8	890.5	891.2	891.2	890.5	889.8	889.0	888.3
155°	918.5	919.5	920.4	920.6	920.1	919.5	918.9	918.3
157.5°	945.0	946.3	947.6	947.8	946.9	946.0	945.0	944.1
160°	960.7	961.9	963.0	963.3	962.5	961.7	961.0	960.2
162.5°	975.0	976.3	977.7	977.8	976.9	975.9	975.0	974.1
165°	993.4	994.7	996.1	996.3	995.3	994.4	993.4	992.4
167.5°	1008.6	1010.0	1011.2	1011.4	1010.5	1009.4	1008.4	1007.5
170°	1016.9	1018.3	1019.7	1019.8	1018.6	1017.4	1016.2	1015.1
172.5°	1023.2	1024.6	1025.9	1026.1	1024.8	1023.7	1022.5	1021.4
175°	1030.0	1031.4	1032.7	1032.9	1031.7	1030.5	1029.3	1028.2
177.5°	1033.2	1034.1	1035.0	1035.0	1034.1	1033.2	1032.3	1031.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4

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