

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: P331510-830

Luminaire Tested: **S122DIW-S485D970U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331510-830
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-S485D970U830-4F0-1E-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: 5020.8 lumens
Efficiency: N/A
Efficacy: 111.1 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

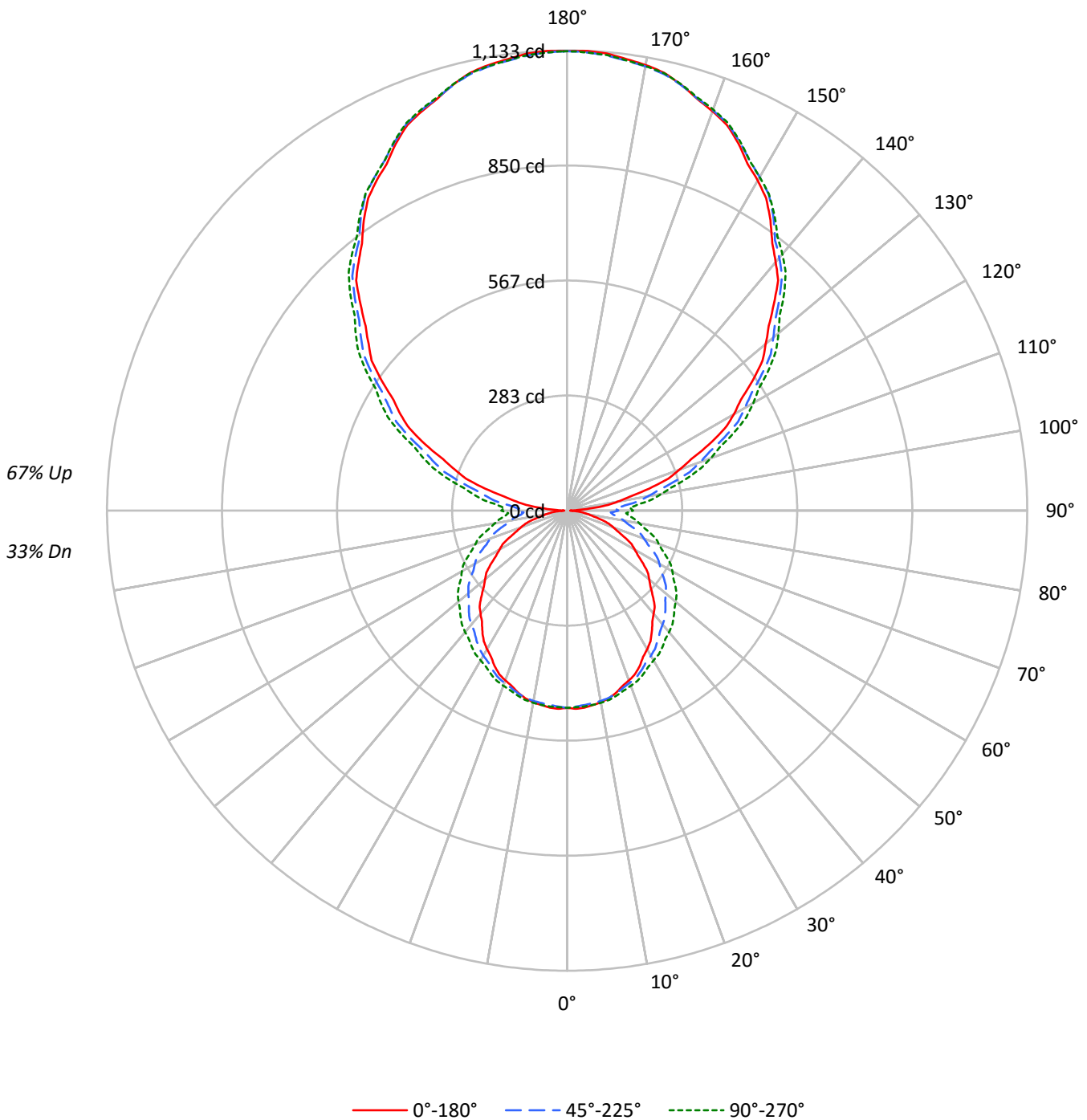
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7842	7842	7842
5°	7880	7549	7520
10°	7831	7327	7244
15°	7723	7090	6952
20°	7587	6836	6671
25°	7453	6592	6417
30°	7262	6342	6160
35°	7069	6100	5981
40°	6869	5895	5801
45°	6677	5709	5648
50°	6471	5541	5495
55°	6254	5363	5341
60°	5990	5177	5178
65°	5716	4959	4983
70°	5407	4723	4775
75°	5013	4495	4582
80°	4391	4260	4385
85°	3800	4054	4232



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	0.9
10°-20°	132.0	2.6
20°-30°	200.0	4.0
30°-40°	243.6	4.9
40°-50°	262.1	5.2
50°-60°	254.5	5.1
60°-70°	222.2	4.4
70°-80°	171.1	3.4
80°-90°	119.3	2.4
90°-100°	150.8	3.0
100°-110°	280.4	5.6
110°-120°	418.7	8.3
120°-130°	521.8	10.4
130°-140°	570.6	11.4
140°-150°	552.3	11.0
150°-160°	462.0	9.2
160°-170°	306.4	6.1
170°-180°	107.1	2.1
0°-30°	378.0	7.5
0°-40°	621.6	12.4
0°-60°	1138.1	22.7
0°-90°	1650.7	32.9
90°-120°	849.9	16.9
90°-150°	2494.6	49.7
90°-180°	3370.0	67.1
0°-180°	5020.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	487	485	481	485	484	46
15°	465	466	466	472	472	131
25°	422	427	434	442	444	194
35°	364	376	389	404	410	227
45°	298	318	342	363	371	230
55°	229	255	291	315	325	204
65°	156	191	232	260	270	155
75°	87	126	171	200	210	92
85°	25	69	114	142	153	27
90°	8	61	126	152	162	7
95°	55	98	142	168	175	61
105°	209	233	271	296	305	221
115°	385	399	428	447	453	380
125°	557	566	585	601	607	498
135°	720	730	739	752	756	556
145°	872	879	885	890	890	545
155°	998	1000	1003	1008	1005	459
165°	1085	1085	1084	1090	1086	306
175°	1129	1126	1124	1131	1126	107
180°	1131	1131	1131	1131	1131	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	488.5	488.1	487.8	487.4	487.0	486.4	485.5	484.7	483.8	482.9	483.5
5°	487.1	486.6	486.2	485.7	485.2	484.6	483.6	482.7	481.7	480.8	481.7
7.5°	482.8	482.4	482.1	481.8	481.5	481.0	480.2	479.6	478.8	478.1	479.2
10°	479.4	479.1	478.7	478.4	478.2	477.8	477.3	476.8	476.4	475.9	477.1
12.5°	473.7	473.8	473.9	473.9	474.0	473.8	473.5	473.2	472.8	472.5	473.7
15°	464.6	464.9	465.2	465.5	465.8	466.0	466.0	466.0	466.0	466.0	467.4
17.5°	452.8	453.5	454.1	454.8	455.4	456.0	456.5	456.9	457.5	458.0	459.4
20°	444.9	445.6	446.5	447.2	448.0	448.7	449.3	450.0	450.6	451.2	452.9
22.5°	436.4	437.3	438.3	439.1	440.1	440.9	441.9	442.7	443.6	444.5	446.2
25°	422.4	423.5	424.5	425.7	426.7	428.0	429.4	430.8	432.3	433.6	435.5
27.5°	405.5	407.3	409.1	410.9	412.6	414.3	415.9	417.6	419.2	420.9	423.3
30°	394.2	396.2	398.2	400.3	402.4	404.4	406.4	408.4	410.5	412.5	415.0
32.5°	381.8	384.1	386.3	388.7	391.0	393.3	395.7	398.1	400.5	402.9	405.8
35°	363.9	366.6	369.3	371.9	374.6	377.4	380.3	383.3	386.3	389.3	392.7
37.5°	344.5	347.6	350.6	353.7	356.8	360.2	364.1	367.9	371.7	375.6	379.5
40°	331.6	335.0	338.5	341.9	345.3	349.1	353.4	357.6	361.8	366.1	370.1
42.5°	319.1	322.6	326.0	329.5	332.9	337.1	342.0	346.8	351.7	356.5	360.9
45°	298.5	302.7	306.9	311.1	315.4	320.2	325.6	331.1	336.7	342.1	346.9
47.5°	278.1	282.7	287.3	291.8	296.4	302.0	308.4	314.8	321.2	327.6	332.7
50°	264.0	268.8	273.7	278.5	283.3	289.3	296.3	303.4	310.5	317.4	322.8
52.5°	250.4	255.5	260.6	265.8	270.9	277.1	284.6	291.9	299.4	306.8	312.2
55°	228.8	234.4	240.1	245.6	251.3	258.2	266.4	274.5	282.6	290.7	296.3
57.5°	207.4	213.8	220.1	226.4	232.8	240.1	248.4	256.7	264.9	273.2	279.4
60°	192.2	198.9	205.7	212.4	219.0	226.9	235.8	244.7	253.6	262.6	268.5
62.5°	178.6	185.6	192.7	199.6	206.6	214.5	223.4	232.3	241.3	250.2	256.5
65°	156.3	163.9	171.6	179.3	186.9	195.4	204.6	213.9	223.1	232.3	238.7
67.5°	135.7	143.7	151.7	159.8	167.8	176.4	186.0	195.4	204.8	214.2	220.7
70°	121.1	129.2	137.3	145.4	153.6	162.5	172.2	181.9	191.6	201.3	208.0
72.5°	107.5	115.9	124.3	132.7	141.1	150.2	160.0	169.8	179.6	189.5	196.1
75°	86.6	95.4	104.1	112.8	121.6	131.0	141.0	151.0	161.1	171.1	177.8
77.5°	66.4	75.5	84.6	93.8	103.0	112.6	122.8	133.0	143.2	153.4	160.0
80°	52.8	62.3	71.9	81.4	91.0	100.9	111.0	121.1	131.3	141.5	148.1
82.5°	41.6	51.0	60.3	69.7	79.2	89.1	99.3	109.6	119.9	130.3	136.8
85°	25.4	35.1	44.8	54.5	64.1	74.0	84.0	94.0	104.1	114.0	120.6
87.5°	13.9	23.8	33.6	43.5	53.3	63.7	74.6	85.6	96.5	107.4	113.8
90°	8.0	19.6	31.2	42.9	54.5	67.6	82.3	97.0	111.7	126.3	132.1
92.5°	23.5	33.7	44.1	54.4	64.8	75.2	86.0	96.7	107.4	118.2	124.4
95°	55.2	64.8	74.2	83.7	93.1	102.8	112.6	122.4	132.2	142.0	148.0
97.5°	95.6	104.1	112.4	120.8	129.2	138.4	148.2	158.0	167.8	177.6	183.4
100°	126.2	133.7	141.1	148.6	156.1	164.6	173.9	183.3	192.7	202.2	207.9
102.5°	157.7	164.3	171.0	177.6	184.3	192.3	201.5	210.8	220.2	229.5	235.4
105°	208.8	214.0	219.1	224.3	229.5	236.3	244.9	253.4	262.0	270.6	276.4
107.5°	261.0	265.5	270.0	274.7	279.2	285.4	293.1	301.0	308.8	316.5	322.0
110°	294.0	298.4	302.7	307.2	311.6	317.6	325.3	333.0	340.6	348.3	353.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	330.6	334.5	338.5	342.3	346.3	351.8	358.9	366.0	373.2	380.2	384.7
115°	384.7	387.7	390.7	393.7	396.6	401.4	408.0	414.7	421.3	427.9	432.4
117.5°	437.8	440.6	443.5	446.3	449.1	453.2	458.5	463.8	469.1	474.5	478.6
120°	473.7	476.1	478.3	480.7	483.0	486.4	491.0	495.6	500.1	504.7	509.1
122.5°	506.5	508.9	511.1	513.4	515.7	519.2	523.9	528.6	533.3	538.0	541.7
125°	557.0	558.9	560.8	562.8	564.7	567.8	572.1	576.6	580.9	585.3	588.9
127.5°	606.8	609.1	611.3	613.6	615.9	618.7	622.0	625.2	628.5	631.8	634.9
130°	638.2	640.7	643.4	645.9	648.6	651.3	654.1	657.0	659.9	662.7	666.1
132.5°	673.3	675.4	677.5	679.6	681.6	684.0	686.6	689.3	691.9	694.5	697.2
135°	719.5	721.9	724.2	726.6	728.9	731.0	733.0	735.0	737.1	739.0	742.1
137.5°	769.0	770.9	772.8	774.7	776.6	778.1	779.3	780.5	781.8	783.1	785.8
140°	798.8	800.6	802.3	804.1	805.8	807.4	808.7	810.1	811.5	812.8	815.4
142.5°	829.3	831.1	832.8	834.6	836.3	837.6	838.4	839.2	840.0	840.7	842.9
145°	872.5	874.0	875.5	877.0	878.5	879.9	881.2	882.4	883.7	885.0	886.1
147.5°	911.7	913.5	915.3	917.0	918.8	920.1	921.0	921.8	922.7	923.5	924.2
150°	938.4	939.7	940.9	942.3	943.5	944.6	945.5	946.3	947.2	948.0	948.6
152.5°	962.1	963.4	964.7	965.9	967.2	968.4	969.4	970.3	971.4	972.4	973.2
155°	997.6	998.2	998.9	999.6	1000.1	1000.8	1001.5	1002.1	1002.7	1003.3	1004.4
157.5°	1027.9	1028.4	1028.8	1029.3	1029.6	1030.1	1030.5	1030.9	1031.2	1031.6	1033.0
160°	1046.3	1046.7	1047.2	1047.5	1048.0	1048.3	1048.6	1048.8	1049.0	1049.1	1050.5
162.5°	1063.1	1063.2	1063.3	1063.4	1063.5	1063.6	1063.8	1064.0	1064.2	1064.4	1065.9
165°	1085.4	1085.2	1085.1	1084.8	1084.6	1084.5	1084.5	1084.5	1084.5	1084.5	1086.0
167.5°	1104.2	1103.5	1102.9	1102.2	1101.6	1101.3	1101.3	1101.2	1101.2	1101.1	1102.6
170°	1114.1	1113.4	1112.9	1112.2	1111.5	1111.2	1110.9	1110.7	1110.5	1110.3	1111.7
172.5°	1121.0	1120.3	1119.6	1119.1	1118.4	1117.9	1117.8	1117.6	1117.4	1117.1	1118.6
175°	1129.4	1128.7	1128.1	1127.5	1126.8	1126.2	1125.9	1125.4	1125.0	1124.5	1126.1
177.5°	1132.8	1132.3	1131.8	1131.2	1130.8	1130.3	1130.0	1129.6	1129.4	1129.0	1130.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	484.2	484.7	485.4	485.6	485.3	485.1	484.8	484.6
5°	482.7	483.6	484.6	484.9	484.7	484.7	484.5	484.3
7.5°	480.3	481.5	482.6	483.1	483.0	482.8	482.6	482.5
10°	478.3	479.6	480.9	481.5	481.3	481.1	481.0	480.8
12.5°	474.9	476.3	477.5	478.1	477.9	477.7	477.6	477.4
15°	468.8	470.2	471.6	472.2	472.1	471.9	471.7	471.6
17.5°	460.9	462.4	463.8	464.6	464.6	464.6	464.6	464.6
20°	454.7	456.4	458.1	458.9	458.9	458.9	458.9	458.9
22.5°	447.9	449.6	451.4	452.3	452.6	452.8	453.1	453.4
25°	437.3	439.2	441.1	442.3	442.8	443.3	443.7	444.2
27.5°	425.7	428.1	430.5	431.8	432.2	432.5	432.8	433.2
30°	417.5	420.0	422.5	424.0	424.4	424.9	425.4	425.8
32.5°	408.7	411.5	414.4	416.3	417.2	418.0	418.9	419.7
35°	396.2	399.6	403.0	405.3	406.4	407.5	408.6	409.7
37.5°	383.2	387.1	390.9	393.3	394.5	395.7	396.8	398.0
40°	374.2	378.2	382.3	385.0	386.4	387.9	389.3	390.7
42.5°	365.3	369.8	374.2	377.2	378.5	379.9	381.4	382.8
45°	351.9	356.7	361.5	364.7	366.3	367.9	369.4	371.0
47.5°	337.7	342.8	347.9	351.3	353.0	354.7	356.5	358.2
50°	328.1	333.4	338.7	342.2	344.0	345.7	347.4	349.1
52.5°	317.6	323.1	328.6	332.2	334.0	335.9	337.7	339.6
55°	302.0	307.6	313.2	317.1	319.1	321.1	323.2	325.2
57.5°	285.4	291.4	297.6	301.6	303.7	305.8	307.8	309.9
60°	274.5	280.4	286.3	290.4	292.6	294.8	297.0	299.2
62.5°	262.8	269.1	275.4	279.7	281.7	283.8	285.9	287.9
65°	245.2	251.6	258.0	262.2	264.2	266.3	268.2	270.3
67.5°	227.2	233.7	240.2	244.5	246.6	248.7	250.9	253.0
70°	214.8	221.5	228.2	232.5	234.4	236.3	238.2	240.1
72.5°	202.7	209.3	215.9	220.4	222.5	224.8	227.1	229.3
75°	184.5	191.2	197.9	202.4	204.3	206.4	208.4	210.5
77.5°	166.7	173.4	180.1	184.5	186.7	188.9	191.1	193.3
80°	154.7	161.2	167.8	172.1	174.4	176.5	178.7	180.9
82.5°	143.4	150.0	156.5	160.8	162.9	164.9	167.0	169.1
85°	127.1	133.7	140.3	144.7	146.8	149.1	151.3	153.4
87.5°	120.1	126.4	132.7	136.9	138.9	140.9	143.0	145.1
90°	138.0	143.8	149.7	153.6	155.7	157.8	159.9	162.0
92.5°	130.6	136.9	143.1	147.1	149.0	151.0	152.9	154.9
95°	153.9	159.9	165.8	169.6	171.0	172.4	173.9	175.3
97.5°	189.2	195.0	200.8	204.5	206.3	208.2	210.0	211.8
100°	213.7	219.5	225.3	228.9	230.5	232.0	233.5	235.0
102.5°	241.2	247.0	252.8	256.5	258.0	259.5	261.0	262.5
105°	282.4	288.2	294.2	297.9	299.7	301.4	303.1	304.8
107.5°	327.3	332.8	338.3	341.3	342.0	342.8	343.6	344.3
110°	358.3	363.3	368.3	371.4	372.4	373.5	374.6	375.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	389.3	393.7	398.2	401.1	402.4	403.6	404.8	406.1
115°	436.9	441.4	445.8	448.7	449.7	450.8	451.9	453.0
117.5°	482.7	486.8	491.0	493.5	494.5	495.4	496.3	497.3
120°	513.4	517.8	522.2	524.9	526.0	527.1	528.2	529.2
122.5°	545.4	549.2	553.0	555.3	556.3	557.3	558.4	559.3
125°	592.5	596.1	599.6	602.0	603.2	604.4	605.6	606.8
127.5°	638.0	641.1	644.2	646.1	646.9	647.5	648.2	648.9
130°	669.4	672.7	676.1	678.0	678.3	678.7	679.1	679.6
132.5°	699.9	702.6	705.3	706.9	707.5	708.0	708.6	709.2
135°	745.2	748.2	751.3	753.2	753.8	754.4	755.0	755.6
137.5°	788.4	791.2	793.9	795.3	795.6	795.8	796.0	796.2
140°	817.8	820.4	822.8	824.2	824.3	824.3	824.4	824.5
142.5°	845.1	847.3	849.4	850.6	850.5	850.5	850.5	850.4
145°	887.3	888.4	889.6	890.1	890.0	889.9	889.9	889.9
147.5°	924.7	925.3	925.9	926.0	925.6	925.1	924.7	924.3
150°	949.2	949.9	950.6	950.6	949.9	949.2	948.6	948.0
152.5°	974.0	974.9	975.6	975.6	974.9	974.0	973.2	972.4
155°	1005.5	1006.5	1007.6	1007.8	1007.2	1006.5	1005.9	1005.2
157.5°	1034.5	1035.9	1037.4	1037.6	1036.6	1035.6	1034.5	1033.5
160°	1051.7	1053.0	1054.2	1054.5	1053.7	1052.8	1052.0	1051.1
162.5°	1067.3	1068.7	1070.3	1070.4	1069.4	1068.4	1067.3	1066.4
165°	1087.5	1088.9	1090.4	1090.6	1089.6	1088.5	1087.5	1086.4
167.5°	1104.1	1105.6	1107.0	1107.2	1106.2	1105.0	1103.9	1102.9
170°	1113.2	1114.7	1116.3	1116.3	1115.0	1113.8	1112.5	1111.3
172.5°	1120.1	1121.6	1123.0	1123.2	1121.9	1120.7	1119.4	1118.1
175°	1127.6	1129.1	1130.5	1130.7	1129.4	1128.1	1126.8	1125.6
177.5°	1131.1	1132.0	1133.0	1133.0	1132.0	1131.1	1130.0	1129.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2

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