

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: P332135

Luminaire Tested: **S123DIW-S560D1030U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332135
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-S560D1030U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 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: 5940.2 lumens
Efficiency: N/A
Efficacy: 131.4 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

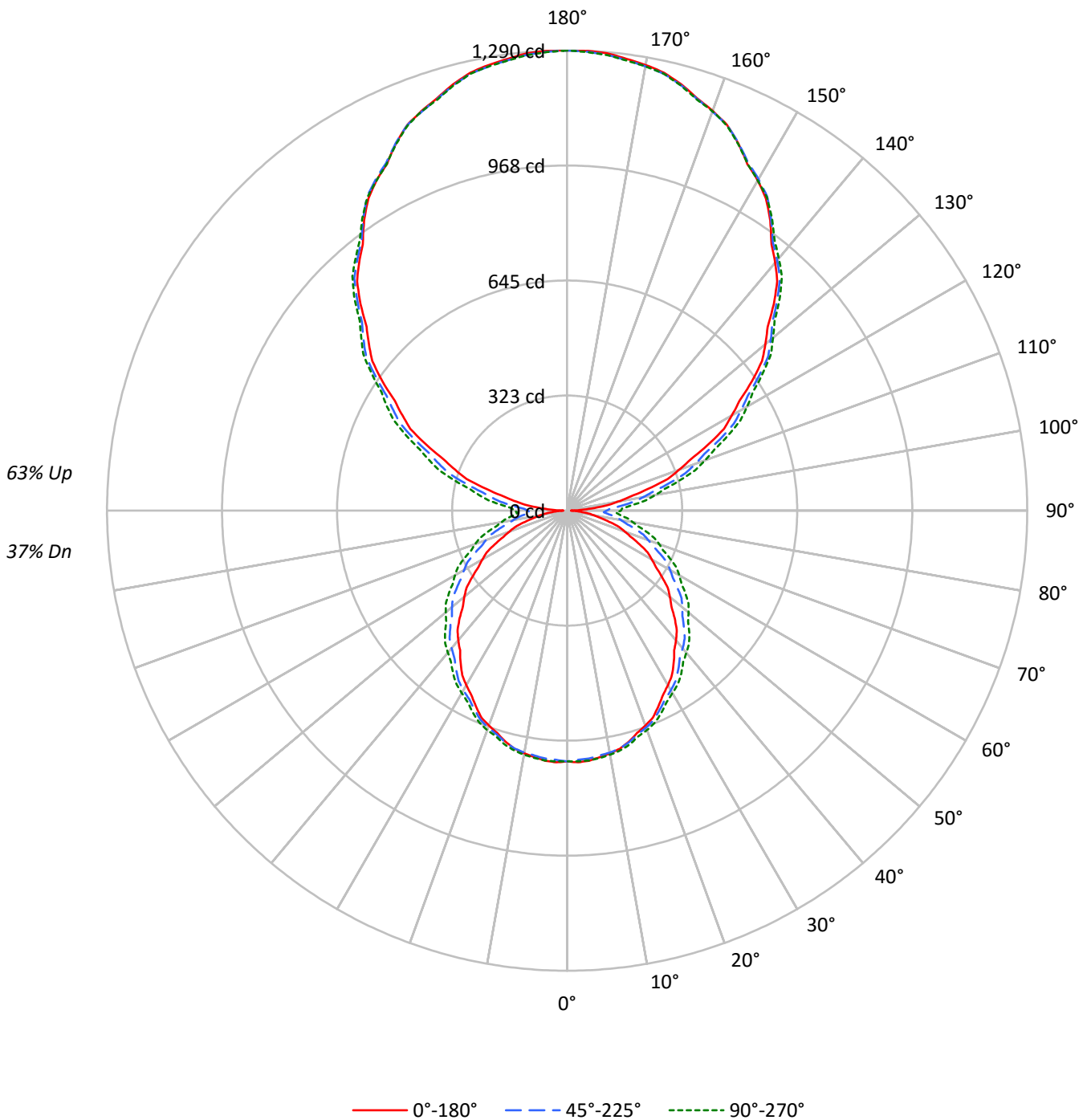
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	82	85	81	77	74	65	63	60	51	49	48	37	36	35	29
2	85	78	71	66	77	70	65	60	57	53	49	44	41	39	32	31	29	24
3	78	68	60	55	70	62	55	50	50	45	41	39	35	33	28	26	24	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	14
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	26	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	28	24	29	24	20	23	19	16	17	14	12	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	1.1
10°-20°	190.0	3.2
20°-30°	284.2	4.8
30°-40°	339.4	5.7
40°-50°	355.1	6.0
50°-60°	333.2	5.6
60°-70°	278.3	4.7
70°-80°	199.1	3.4
80°-90°	122.6	2.1
90°-100°	158.5	2.7
100°-110°	306.2	5.2
110°-120°	464.3	7.8
120°-130°	583.5	9.8
130°-140°	641.7	10.8
140°-150°	623.6	10.5
150°-160°	523.3	8.8
160°-170°	348.3	5.9
170°-180°	122.0	2.1
0°-30°	540.9	9.1
0°-40°	880.3	14.8
0°-60°	1568.7	26.4
0°-90°	2168.8	36.5
90°-120°	929.1	15.6
90°-150°	2777.8	46.8
90°-180°	3771.0	63.5
0°-180°	5940.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	11	59	111	140	151	10
95°	68	106	151	178	186	74
105°	234	256	296	317	327	250
115°	434	447	472	491	497	430
125°	632	636	656	667	669	564
135°	819	825	832	841	843	631
145°	993	994	997	1002	1001	620
155°	1136	1136	1137	1140	1134	523
165°	1237	1234	1234	1239	1233	349
175°	1287	1283	1283	1288	1282	122
180°	1290	1290	1290	1290	1290	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.6	29.5	38.4	47.4	56.3	65.4	74.7	83.9	93.2	102.5	108.4
90°	11.0	21.6	32.2	42.7	53.3	64.4	76.1	87.7	99.3	110.9	117.6
92.5°	33.9	42.9	52.0	61.0	70.1	79.7	89.9	100.1	110.4	120.6	126.9
95°	68.2	76.4	84.6	92.8	101.1	110.2	120.4	130.5	140.7	150.8	157.0
97.5°	113.7	120.8	128.0	135.2	142.3	150.5	159.8	169.1	178.4	187.6	193.7
100°	144.7	151.5	158.3	165.1	171.9	179.7	188.7	197.7	206.6	215.6	221.2
102.5°	180.5	186.3	192.0	197.7	203.4	210.8	220.0	229.2	238.4	247.6	253.0
105°	234.1	238.6	243.2	247.7	252.2	259.2	268.5	277.9	287.2	296.5	301.3
107.5°	295.6	299.3	303.1	306.8	310.5	316.3	324.0	331.8	339.6	347.3	352.6
110°	333.9	337.4	340.9	344.4	347.9	353.3	360.6	367.8	375.1	382.3	387.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	374.4	377.2	380.0	382.8	385.5	390.2	396.9	403.5	410.1	416.8	422.1
115°	434.4	437.1	439.8	442.6	445.3	449.5	455.2	460.8	466.5	472.2	476.5
117.5°	495.4	497.2	498.9	500.6	502.3	505.7	510.9	516.1	521.2	526.4	530.4
120°	532.9	535.1	537.3	539.5	541.7	545.1	549.6	554.1	558.6	563.0	566.7
122.5°	572.6	574.1	575.5	576.9	578.4	581.5	586.2	591.0	595.7	600.5	603.7
125°	632.5	633.1	633.8	634.5	635.2	637.7	642.2	646.7	651.2	655.7	658.4
127.5°	688.4	689.7	690.9	692.2	693.5	695.9	699.5	703.1	706.7	710.3	712.4
130°	725.7	727.3	728.9	730.6	732.2	734.4	737.1	739.8	742.6	745.3	747.6
132.5°	762.3	764.1	765.9	767.6	769.4	771.4	773.6	775.9	778.1	780.3	782.3
135°	819.1	820.3	821.5	822.7	823.8	825.3	826.9	828.5	830.2	831.8	834.0
137.5°	871.6	872.6	873.6	874.6	875.6	876.9	878.6	880.2	881.8	883.5	885.2
140°	907.5	908.6	909.8	910.9	912.0	912.9	913.7	914.4	915.1	915.9	918.2
142.5°	940.7	941.7	942.7	943.7	944.7	945.4	945.9	946.5	947.0	947.5	949.5
145°	992.6	992.9	993.2	993.4	993.7	994.2	994.9	995.6	996.2	996.9	998.0
147.5°	1037.2	1038.0	1038.8	1039.7	1040.5	1041.2	1041.8	1042.5	1043.1	1043.7	1044.1
150°	1068.8	1069.3	1069.7	1070.2	1070.6	1071.1	1071.5	1072.0	1072.4	1072.9	1072.9
152.5°	1094.8	1095.4	1096.0	1096.7	1097.3	1097.7	1098.0	1098.3	1098.6	1098.8	1099.2
155°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.8	1136.0	1136.3	1136.5	1136.7	1137.6
157.5°	1170.6	1170.3	1170.0	1169.7	1169.5	1169.4	1169.6	1169.8	1170.0	1170.1	1171.1
160°	1192.4	1192.0	1191.5	1191.1	1190.6	1190.4	1190.4	1190.4	1190.4	1190.4	1191.5
162.5°	1211.9	1211.3	1210.6	1210.0	1209.4	1209.1	1209.3	1209.5	1209.7	1209.9	1211.0
165°	1237.0	1236.3	1235.7	1235.0	1234.3	1234.0	1234.0	1234.0	1234.0	1234.0	1235.3
167.5°	1257.1	1256.2	1255.3	1254.4	1253.5	1253.1	1253.3	1253.5	1253.7	1253.8	1255.2
170°	1268.4	1267.5	1266.6	1265.7	1264.8	1264.4	1264.4	1264.4	1264.4	1264.4	1265.9
172.5°	1277.3	1276.4	1275.5	1274.6	1273.7	1273.3	1273.3	1273.3	1273.3	1273.3	1274.7
175°	1286.7	1285.8	1284.9	1284.0	1283.1	1282.6	1282.6	1282.6	1282.6	1282.6	1284.0
177.5°	1290.5	1289.8	1289.1	1288.3	1287.6	1287.3	1287.3	1287.3	1287.3	1287.3	1288.3
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	114.4	120.4	126.3	130.2	132.0	133.8	135.6	137.4
90°	124.3	130.9	137.6	142.0	144.2	146.4	148.5	150.7
92.5°	133.3	139.7	146.0	149.9	151.2	152.5	153.8	155.1
95°	163.2	169.3	175.5	179.5	181.2	182.9	184.6	186.3
97.5°	199.9	206.0	212.1	215.9	217.5	219.2	220.8	222.4
100°	226.8	232.4	238.0	241.9	244.1	246.2	248.4	250.5
102.5°	258.5	264.0	269.5	273.0	274.6	276.2	277.8	279.5
105°	306.1	310.8	315.6	319.0	321.0	323.0	324.9	326.9
107.5°	357.9	363.2	368.4	371.7	372.9	374.2	375.4	376.6
110°	393.0	398.3	403.6	406.8	407.7	408.6	409.5	410.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	427.5	432.9	438.2	441.6	443.0	444.4	445.9	447.3
115°	480.8	485.1	489.4	492.2	493.3	494.4	495.6	496.7
117.5°	534.4	538.4	542.4	544.8	545.5	546.2	546.9	547.6
120°	570.4	574.1	577.8	580.0	580.8	581.5	582.2	583.0
122.5°	606.9	610.1	613.3	615.2	615.7	616.3	616.8	617.4
125°	661.0	663.7	666.4	667.9	668.2	668.4	668.7	669.0
127.5°	714.5	716.6	718.7	719.8	719.9	720.1	720.2	720.3
130°	749.9	752.3	754.6	755.5	755.0	754.4	753.8	753.3
132.5°	784.3	786.4	788.4	789.4	789.3	789.2	789.2	789.1
135°	836.2	838.3	840.5	841.8	842.2	842.6	843.0	843.4
137.5°	887.0	888.7	890.5	891.3	891.3	891.3	891.3	891.3
140°	920.5	922.9	925.2	926.0	925.3	924.5	923.8	923.1
142.5°	951.6	953.6	955.7	956.5	956.2	955.8	955.4	955.1
145°	999.2	1000.3	1001.5	1001.9	1001.7	1001.5	1001.3	1001.0
147.5°	1044.5	1044.9	1045.3	1045.2	1044.4	1043.7	1043.0	1042.2
150°	1072.9	1072.9	1072.9	1072.4	1071.4	1070.4	1069.4	1068.3
152.5°	1099.5	1099.9	1100.3	1099.9	1098.8	1097.7	1096.6	1095.5
155°	1138.5	1139.4	1140.3	1140.0	1138.4	1136.8	1135.3	1133.7
157.5°	1172.0	1173.0	1173.9	1173.8	1172.5	1171.3	1170.0	1168.7
160°	1192.7	1193.8	1194.9	1195.0	1194.1	1193.2	1192.3	1191.4
162.5°	1212.1	1213.2	1214.4	1214.2	1212.8	1211.3	1209.9	1208.4
165°	1236.7	1238.0	1239.4	1239.3	1237.7	1236.1	1234.5	1233.0
167.5°	1256.6	1258.0	1259.4	1259.4	1258.0	1256.6	1255.2	1253.8
170°	1267.5	1269.1	1270.7	1270.7	1269.1	1267.5	1265.9	1264.4
172.5°	1276.1	1277.5	1278.9	1278.8	1277.2	1275.6	1274.0	1272.5
175°	1285.3	1286.7	1288.0	1287.9	1286.3	1284.7	1283.2	1281.6
177.5°	1289.4	1290.5	1291.6	1291.5	1290.2	1289.0	1287.7	1286.5
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7

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