

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: P332136-927

Luminaire Tested: **S123DIW-S560D1030U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332136-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D1030U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5105.4 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

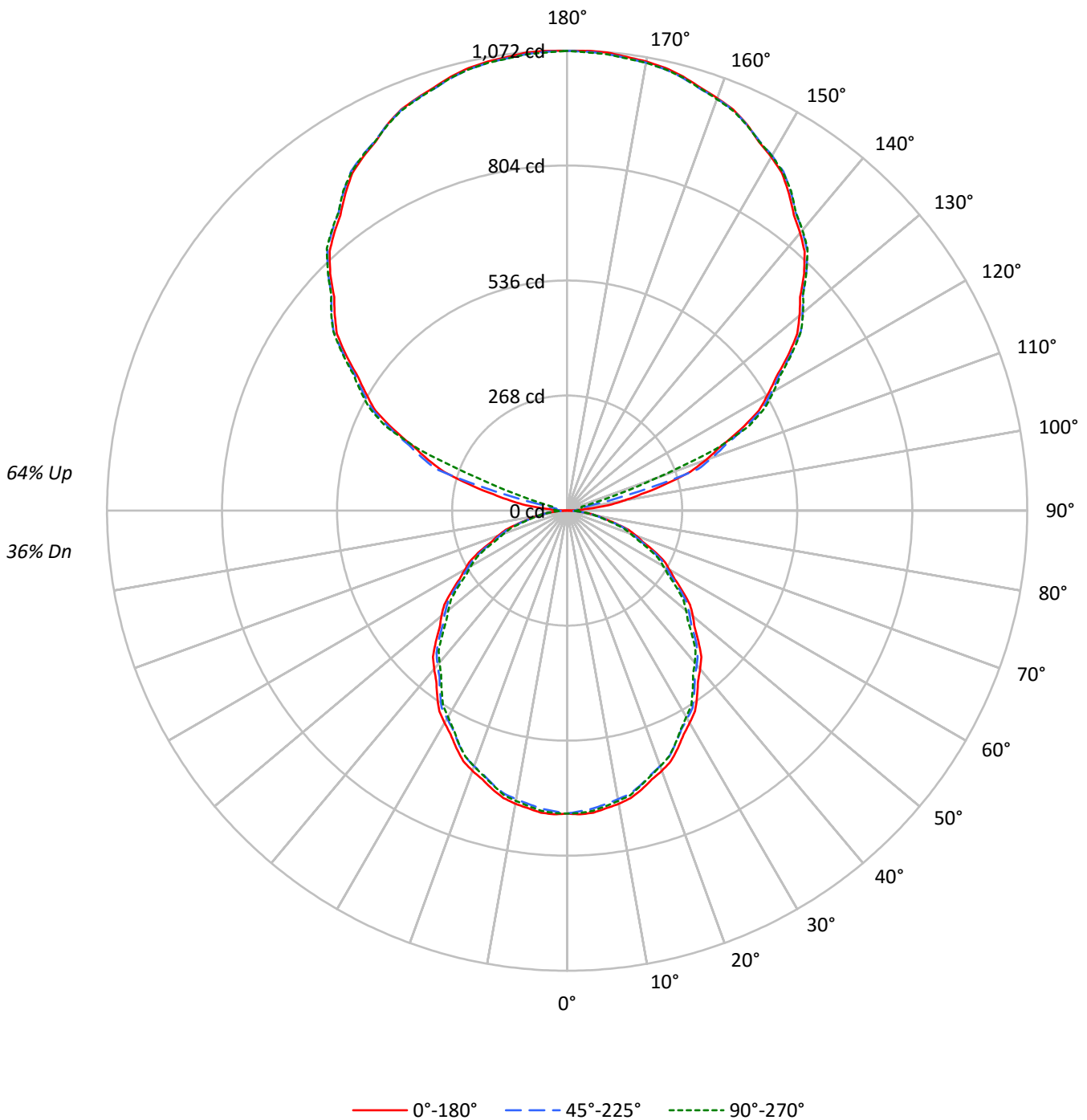
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	43	43	43	36
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	78	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	19	16
6	60	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.3
10°-20°	187.7	3.7
20°-30°	277.3	5.4
30°-40°	323.9	6.3
40°-50°	325.6	6.4
50°-60°	286.0	5.6
60°-70°	213.1	4.2
70°-80°	121.4	2.4
80°-90°	37.8	0.7
90°-100°	38.9	0.8
100°-110°	185.6	3.6
110°-120°	445.8	8.7
120°-130°	567.6	11.1
130°-140°	606.5	11.9
140°-150°	567.1	11.1
150°-160°	457.5	9.0
160°-170°	295.2	5.8
170°-180°	101.8	2.0
0°-30°	531.5	10.4
0°-40°	855.4	16.8
0°-60°	1467.0	28.7
0°-90°	1839.4	36.0
90°-120°	670.3	13.1
90°-150°	2411.5	47.2
90°-180°	3266.0	64.0
0°-180°	5105.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	1	9	19	22	24	4
95°	49	18	25	30	30	60
105°	237	241	174	41	35	251
115°	445	450	457	464	468	439
125°	627	633	636	638	640	560
135°	780	785	788	791	788	601
145°	901	906	908	909	909	564
155°	992	991	991	995	991	457
165°	1046	1044	1043	1049	1044	295
175°	1071	1067	1068	1073	1067	102
180°	1071	1071	1071	1071	1071	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.8	12.8	12.8	12.8	12.9	13.1	13.5	13.8	14.2	14.5	14.5
90°	0.8	2.5	4.4	6.1	7.8	9.9	12.2	14.5	16.8	19.1	19.8
92.5°	14.8	14.3	13.8	13.3	12.8	13.5	15.2	16.9	18.6	20.4	21.5
95°	48.6	41.3	34.1	26.8	19.6	16.9	18.9	20.8	22.7	24.6	25.9
97.5°	97.5	94.3	91.0	87.8	84.5	76.5	63.8	51.1	38.3	25.6	27.0
100°	134.4	138.0	141.6	145.0	148.6	136.6	109.0	81.4	53.9	26.2	27.6
102.5°	176.5	179.0	181.6	184.1	186.6	172.9	142.8	112.6	82.5	52.4	48.0
105°	237.1	239.1	241.0	243.0	244.9	237.9	222.0	206.0	190.2	174.3	143.0
107.5°	301.1	302.6	304.2	305.8	307.3	309.3	311.9	314.3	316.9	319.4	296.4
110°	343.7	345.2	346.6	348.0	349.4	351.1	353.0	355.0	356.9	358.9	353.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	384.4	385.7	387.0	388.3	389.6	391.2	393.1	395.1	397.0	398.9	399.0
115°	444.8	445.8	446.9	448.0	449.0	450.4	451.9	453.5	455.1	456.7	458.5
117.5°	503.2	504.5	505.8	507.1	508.4	509.5	510.3	511.1	511.9	512.7	514.1
120°	539.5	541.1	542.6	544.2	545.8	546.9	547.4	548.0	548.5	549.0	550.4
122.5°	576.4	577.7	579.0	580.3	581.6	582.6	583.3	583.9	584.6	585.3	586.3
125°	627.0	628.4	629.8	631.2	632.6	633.7	634.4	635.1	635.8	636.5	636.9
127.5°	676.0	677.4	678.8	680.2	681.7	682.8	683.7	684.5	685.3	686.2	686.7
130°	706.5	708.0	709.4	710.8	712.3	713.3	714.0	714.7	715.4	716.1	716.8
132.5°	735.9	737.3	738.6	740.1	741.5	742.5	743.1	743.6	744.2	744.7	745.4
135°	780.5	781.6	782.7	783.7	784.8	785.7	786.4	787.1	787.8	788.5	789.0
137.5°	818.7	820.1	821.4	822.8	824.1	825.0	825.4	825.8	826.2	826.6	827.4
140°	844.2	845.3	846.4	847.4	848.4	849.2	849.8	850.3	850.8	851.4	852.1
142.5°	867.8	868.8	869.9	870.9	872.0	872.8	873.3	873.9	874.4	874.9	875.5
145°	900.7	901.9	903.2	904.4	905.6	906.4	906.8	907.1	907.5	907.8	908.2
147.5°	931.8	932.6	933.3	934.1	935.0	935.6	935.9	936.3	936.6	937.0	937.3
150°	950.9	951.3	951.9	952.4	952.9	953.4	953.7	954.1	954.4	954.8	955.1
152.5°	968.0	968.3	968.5	968.8	969.0	969.2	969.5	969.6	969.9	970.1	970.7
155°	992.2	991.8	991.5	991.2	990.8	990.7	990.9	991.0	991.3	991.4	992.3
157.5°	1011.0	1011.0	1010.9	1010.9	1010.8	1010.7	1010.6	1010.3	1010.2	1010.0	1011.1
160°	1022.5	1022.2	1022.1	1021.9	1021.8	1021.5	1021.4	1021.2	1021.0	1020.9	1021.9
162.5°	1033.2	1032.8	1032.4	1031.9	1031.4	1031.1	1030.9	1030.8	1030.5	1030.4	1031.6
165°	1046.3	1045.8	1045.3	1044.7	1044.2	1043.9	1043.6	1043.5	1043.3	1043.1	1044.6
167.5°	1056.5	1055.8	1055.1	1054.4	1053.7	1053.3	1053.3	1053.3	1053.3	1053.3	1054.7
170°	1062.2	1061.5	1060.8	1060.1	1059.4	1059.1	1059.1	1059.1	1059.1	1059.1	1060.4
172.5°	1066.0	1065.2	1064.4	1063.5	1062.6	1062.3	1062.4	1062.6	1062.7	1062.9	1064.3
175°	1071.0	1070.1	1069.2	1068.3	1067.5	1067.1	1067.2	1067.5	1067.6	1067.8	1069.1
177.5°	1072.2	1071.5	1070.9	1070.2	1069.4	1069.1	1069.3	1069.4	1069.5	1069.7	1070.9
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	14.6	14.6	14.7	14.7	14.7	14.8	14.9	15.0
90°	20.5	21.2	21.9	22.4	22.8	23.1	23.5	23.8
92.5°	22.7	23.8	24.9	25.6	25.7	26.0	26.2	26.4
95°	27.2	28.4	29.6	30.3	30.3	30.3	30.3	30.3
97.5°	28.4	29.9	31.3	32.1	32.2	32.4	32.6	32.8
100°	29.1	30.5	31.9	32.7	32.9	33.0	33.3	33.4
102.5°	43.6	39.2	34.8	32.8	33.1	33.4	33.7	34.1
105°	111.7	80.3	49.0	33.6	34.0	34.3	34.6	35.0
107.5°	273.5	250.6	227.6	204.3	180.7	157.2	133.6	110.0
110°	347.2	341.4	335.5	320.0	294.7	269.3	244.1	218.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	399.2	399.3	399.3	396.7	391.4	386.1	380.7	375.4
115°	460.3	462.0	463.8	465.0	465.7	466.4	467.1	467.9
117.5°	515.6	517.0	518.4	519.2	519.3	519.4	519.6	519.8
120°	551.8	553.3	554.7	555.4	555.4	555.4	555.4	555.4
122.5°	587.2	588.3	589.2	589.9	589.9	590.1	590.3	590.4
125°	637.2	637.6	637.9	638.3	638.7	639.0	639.4	639.7
127.5°	687.3	687.9	688.5	688.6	688.2	687.9	687.5	687.1
130°	717.6	718.2	718.9	719.1	718.7	718.4	718.0	717.7
132.5°	746.2	746.9	747.6	747.7	747.2	746.7	746.2	745.7
135°	789.6	790.1	790.6	790.6	790.1	789.6	789.0	788.5
137.5°	828.2	829.1	830.0	830.2	829.8	829.5	829.1	828.8
140°	852.8	853.5	854.2	854.4	854.1	853.7	853.3	852.9
142.5°	876.1	876.6	877.2	877.2	876.7	876.2	875.8	875.2
145°	908.6	908.9	909.3	909.4	909.4	909.4	909.4	909.4
147.5°	937.7	938.0	938.4	938.2	937.4	936.5	935.7	934.9
150°	955.5	955.8	956.2	956.2	955.6	955.1	954.6	954.0
152.5°	971.4	972.0	972.6	972.6	971.7	970.9	970.1	969.3
155°	993.2	994.0	995.0	994.8	993.8	992.8	991.7	990.6
157.5°	1012.2	1013.2	1014.2	1014.1	1012.7	1011.4	1010.0	1008.6
160°	1022.9	1024.1	1025.1	1025.0	1023.7	1022.5	1021.3	1020.0
162.5°	1032.8	1034.0	1035.2	1035.2	1034.2	1033.1	1032.0	1030.9
165°	1045.9	1047.3	1048.8	1048.8	1047.7	1046.4	1045.1	1043.9
167.5°	1056.1	1057.6	1059.0	1059.0	1057.6	1056.1	1054.7	1053.3
170°	1061.8	1063.3	1064.7	1064.7	1063.3	1061.8	1060.4	1059.1
172.5°	1065.7	1067.1	1068.5	1068.4	1066.9	1065.3	1063.7	1062.2
175°	1070.2	1071.5	1072.8	1072.7	1071.3	1069.8	1068.4	1067.0
177.5°	1072.0	1073.1	1074.2	1074.1	1072.7	1071.3	1069.8	1068.4
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0

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