

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: P331898-927

Luminaire Tested: **S123DIP-S340D1025U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331898-927
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: S123DIP-S340D1025U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4365.6 lumens
Efficiency: N/A
Efficacy: 117.0 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

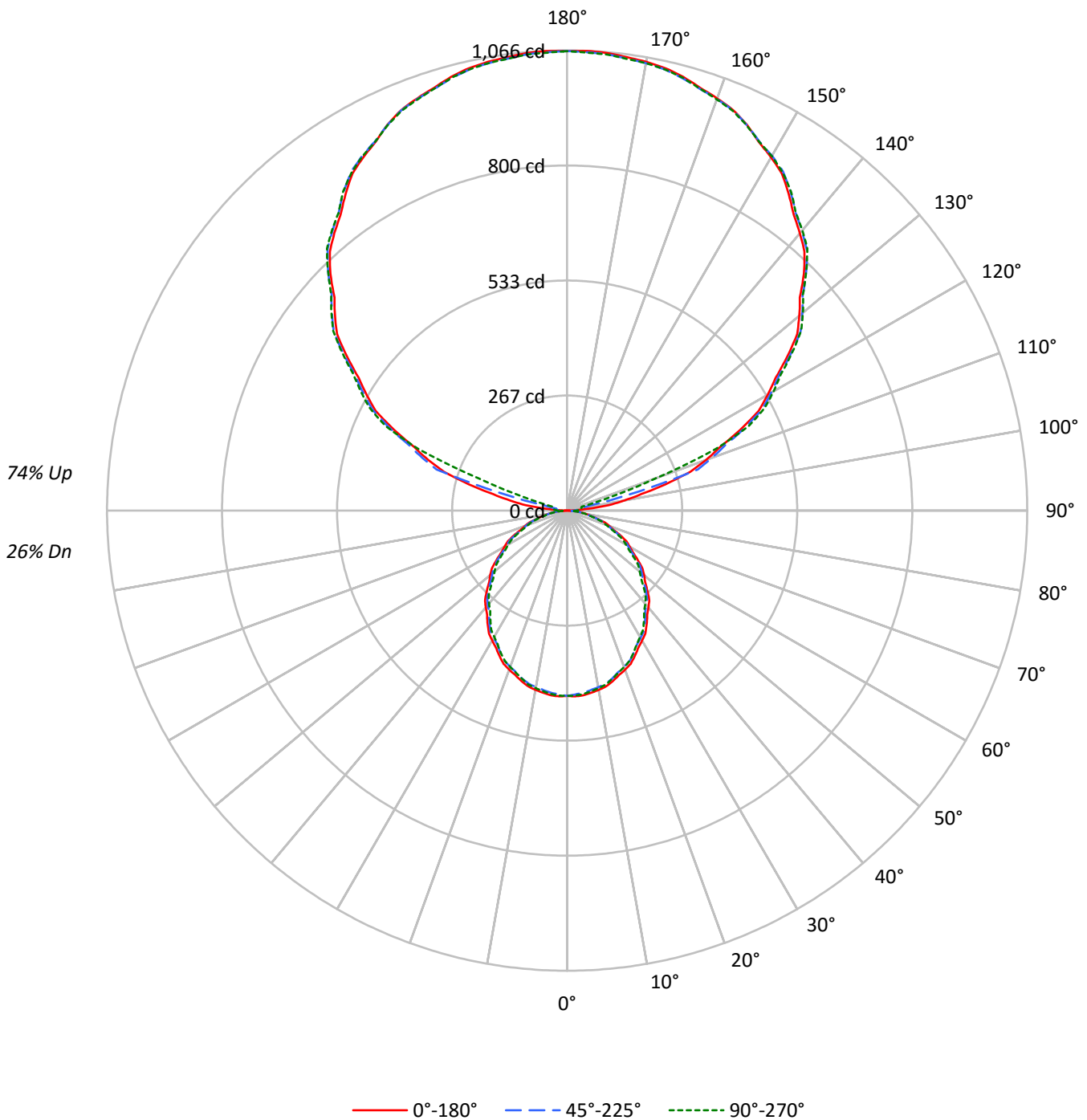
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	76	73	61	59	57	45	43	42	30	29	28	22
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	67	60	55	68	60	54	50	47	43	39	35	32	30	23	22	20	15
4	70	60	52	46	62	53	47	42	42	37	34	31	28	25	21	19	17	13
5	64	53	45	39	57	47	41	36	37	32	29	28	24	22	19	17	15	11
6	59	47	39	34	52	42	36	31	33	28	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8
9	47	35	28	23	42	31	25	21	25	20	17	19	16	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4621	4621	4621
5°	4643	4578	4611
10°	4611	4539	4568
15°	4558	4488	4496
20°	4495	4415	4418
25°	4410	4327	4318
30°	4318	4230	4197
35°	4221	4127	4075
40°	4118	4014	3953
45°	4007	3911	3815
50°	3893	3783	3677
55°	3748	3652	3539
60°	3599	3496	3384
65°	3469	3326	3224
70°	3276	3138	2996
75°	2994	2886	2766
80°	2703	2585	2566
85°	2371	2285	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.9
10°-20°	114.2	2.6
20°-30°	168.7	3.9
30°-40°	197.0	4.5
40°-50°	198.1	4.5
50°-60°	174.0	4.0
60°-70°	129.6	3.0
70°-80°	73.8	1.7
80°-90°	24.2	0.6
90°-100°	38.7	0.9
100°-110°	184.4	4.2
110°-120°	443.0	10.1
120°-130°	564.1	12.9
130°-140°	602.7	13.8
140°-150°	563.6	12.9
150°-160°	454.6	10.4
160°-170°	293.4	6.7
170°-180°	101.1	2.3
0°-30°	323.3	7.4
0°-40°	520.3	11.9
0°-60°	892.4	20.4
0°-90°	1120.0	25.7
90°-120°	666.1	15.3
90°-150°	2396.5	54.9
90°-180°	3246.0	74.4
0°-180°	4365.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	430	428	424	427	427	41
15°	409	407	403	405	404	115
25°	371	369	364	365	364	171
35°	321	319	314	312	310	201
45°	263	262	257	253	251	203
55°	200	199	195	191	189	179
65°	136	134	131	128	127	134
75°	72	70	69	68	66	77
85°	19	18	18	18	18	21
90°	1	9	19	22	24	3
95°	48	18	24	30	30	60
105°	236	240	173	41	35	250
115°	442	447	454	462	465	436
125°	623	629	633	634	636	556
135°	776	780	784	786	784	597
145°	895	900	902	904	904	560
155°	986	985	985	989	984	454
165°	1040	1038	1037	1042	1037	294
175°	1064	1061	1061	1066	1060	101
180°	1064	1064	1064	1064	1064	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	430.8	430.5	430.2	430.0	429.7	429.2	428.5	427.8	427.1	426.4	427.0
5°	429.7	429.2	428.8	428.4	428.0	427.4	426.4	425.6	424.6	423.7	424.5
7.5°	425.5	425.0	424.6	424.2	423.8	423.1	422.2	421.3	420.3	419.4	420.1
10°	421.9	421.5	421.0	420.6	420.3	419.5	418.4	417.4	416.3	415.3	416.0
12.5°	417.2	416.8	416.5	416.1	415.8	415.1	414.2	413.1	412.1	411.1	411.7
15°	409.0	408.7	408.3	408.0	407.7	406.9	405.9	404.8	403.8	402.7	403.4
17.5°	399.4	399.0	398.6	398.2	397.8	397.0	395.9	394.9	393.8	392.8	393.2
20°	392.4	391.9	391.4	390.9	390.4	389.6	388.6	387.5	386.4	385.4	385.7
22.5°	384.4	383.9	383.4	382.9	382.5	381.7	380.6	379.5	378.4	377.4	377.6
25°	371.3	370.8	370.3	369.9	369.4	368.6	367.5	366.5	365.4	364.3	364.4
27.5°	357.4	356.9	356.4	355.9	355.5	354.7	353.6	352.4	351.3	350.1	350.1
30°	347.4	346.9	346.5	346.1	345.7	344.9	343.8	342.6	341.5	340.3	340.3
32.5°	337.3	336.8	336.2	335.6	335.2	334.4	333.5	332.6	331.8	330.9	330.4
35°	321.2	320.7	320.1	319.6	319.2	318.4	317.3	316.2	315.2	314.1	313.6
37.5°	304.6	304.0	303.3	302.7	302.1	301.3	300.2	299.0	298.0	296.9	296.4
40°	293.1	292.6	292.1	291.6	291.1	290.3	289.1	288.0	286.8	285.7	285.0
42.5°	281.5	281.0	280.4	279.9	279.3	278.5	277.3	276.2	275.0	273.9	273.2
45°	263.2	262.8	262.5	262.2	261.9	261.2	260.1	259.0	257.9	256.9	256.0
47.5°	244.9	244.5	244.0	243.5	243.0	242.3	241.3	240.3	239.3	238.3	237.3
50°	232.5	232.1	231.7	231.3	230.9	230.1	229.1	228.1	227.0	225.9	225.0
52.5°	219.5	219.3	219.0	218.7	218.4	217.7	216.6	215.5	214.4	213.2	212.5
55°	199.7	199.6	199.6	199.5	199.4	198.8	197.7	196.6	195.6	194.6	193.6
57.5°	180.8	180.5	180.2	180.0	179.7	179.1	178.2	177.4	176.6	175.7	174.9
60°	167.2	167.2	167.1	167.0	166.9	166.4	165.3	164.4	163.4	162.4	161.7
62.5°	155.1	154.9	154.7	154.5	154.2	153.7	152.7	151.7	150.7	149.7	149.0
65°	136.2	135.8	135.4	135.0	134.6	134.0	133.2	132.3	131.5	130.6	130.0
67.5°	116.2	115.8	115.5	115.1	114.8	114.2	113.7	113.0	112.4	111.8	111.2
70°	104.1	103.6	103.1	102.6	102.1	101.6	101.2	100.6	100.1	99.7	99.1
72.5°	91.4	91.0	90.7	90.3	89.9	89.5	89.0	88.4	87.9	87.3	86.7
75°	72.0	71.6	71.3	71.0	70.7	70.3	70.1	69.9	69.6	69.4	69.0
77.5°	54.7	54.6	54.4	54.3	54.0	53.8	53.6	53.2	52.9	52.6	52.4
80°	43.6	43.3	43.1	42.9	42.5	42.4	42.2	42.1	41.9	41.7	41.6
82.5°	32.6	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.2	32.1
85°	19.2	19.0	18.9	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.3
87.5°	7.8	8.0	8.2	8.3	8.5	8.7	9.1	9.5	9.9	10.3	10.4
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.4	16.7	19.0	19.6
92.5°	14.7	14.2	13.7	13.2	12.8	13.4	15.1	16.8	18.5	20.3	21.4
95°	48.2	41.0	33.8	26.6	19.4	16.8	18.7	20.7	22.6	24.5	25.7
97.5°	97.0	93.7	90.5	87.2	84.0	76.0	63.5	50.8	38.1	25.4	26.9
100°	133.6	137.1	140.7	144.2	147.7	135.7	108.3	80.9	53.5	26.1	27.5
102.5°	175.4	177.9	180.5	183.0	185.5	171.8	141.9	111.9	82.0	52.0	47.7
105°	235.6	237.6	239.5	241.5	243.4	236.4	220.6	204.8	189.0	173.2	142.0
107.5°	299.2	300.8	302.3	303.9	305.4	307.4	309.9	312.4	314.9	317.4	294.6
110°	341.6	343.0	344.4	345.8	347.2	348.9	350.8	352.8	354.7	356.6	350.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	382.1	383.3	384.6	385.9	387.1	388.7	390.7	392.6	394.5	396.5	396.6
115°	442.0	443.1	444.1	445.2	446.2	447.6	449.1	450.7	452.3	453.8	455.7
117.5°	500.0	501.4	502.6	504.0	505.3	506.3	507.1	507.9	508.7	509.5	511.0
120°	536.1	537.7	539.2	540.8	542.4	543.5	544.0	544.5	545.1	545.6	547.0
122.5°	572.8	574.1	575.4	576.7	578.0	579.0	579.6	580.4	581.0	581.6	582.7
125°	623.1	624.5	625.9	627.3	628.7	629.8	630.5	631.1	631.8	632.6	633.0
127.5°	671.8	673.2	674.6	676.0	677.4	678.5	679.4	680.2	681.0	681.9	682.5
130°	702.2	703.5	705.0	706.4	707.8	708.8	709.6	710.3	710.9	711.6	712.3
132.5°	731.3	732.7	734.0	735.5	736.9	737.8	738.4	738.9	739.6	740.1	740.8
135°	775.7	776.7	777.8	778.9	779.9	780.8	781.5	782.2	782.9	783.6	784.1
137.5°	813.7	815.0	816.3	817.7	819.0	819.8	820.2	820.6	821.0	821.4	822.2
140°	838.9	840.0	841.1	842.1	843.2	844.0	844.5	845.0	845.6	846.1	846.8
142.5°	862.4	863.4	864.4	865.5	866.6	867.4	867.9	868.4	868.9	869.5	870.1
145°	895.1	896.4	897.5	898.8	900.0	900.8	901.2	901.5	901.8	902.2	902.5
147.5°	925.9	926.8	927.6	928.4	929.2	929.7	930.1	930.4	930.8	931.1	931.5
150°	944.9	945.5	945.9	946.5	947.0	947.5	947.8	948.2	948.5	948.9	949.2
152.5°	961.9	962.3	962.5	962.7	963.0	963.2	963.4	963.6	963.8	964.0	964.6
155°	986.0	985.6	985.3	985.0	984.6	984.5	984.7	984.8	985.1	985.2	986.1
157.5°	1004.6	1004.6	1004.6	1004.6	1004.6	1004.4	1004.2	1004.1	1003.9	1003.7	1004.8
160°	1016.1	1015.9	1015.7	1015.6	1015.3	1015.2	1015.0	1014.9	1014.6	1014.5	1015.6
162.5°	1026.8	1026.4	1025.9	1025.5	1025.0	1024.7	1024.5	1024.3	1024.1	1024.0	1025.2
165°	1039.8	1039.3	1038.7	1038.2	1037.7	1037.4	1037.1	1037.0	1036.8	1036.6	1038.0
167.5°	1049.9	1049.2	1048.5	1047.8	1047.1	1046.7	1046.7	1046.7	1046.7	1046.7	1048.1
170°	1055.6	1054.9	1054.2	1053.5	1052.8	1052.4	1052.4	1052.4	1052.4	1052.4	1053.8
172.5°	1059.4	1058.6	1057.7	1056.9	1056.1	1055.7	1055.8	1056.0	1056.1	1056.2	1057.6
175°	1064.3	1063.4	1062.6	1061.7	1060.8	1060.4	1060.6	1060.8	1061.0	1061.1	1062.4
177.5°	1065.6	1064.9	1064.1	1063.4	1062.8	1062.5	1062.6	1062.8	1062.9	1063.0	1064.1
180°	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	427.6	428.3	429.0	429.3	429.2	429.1	429.0	429.0
5°	425.4	426.2	427.1	427.4	427.2	427.1	426.8	426.7
7.5°	420.9	421.6	422.3	422.6	422.6	422.5	422.4	422.2
10°	416.8	417.5	418.2	418.5	418.4	418.2	418.0	417.9
12.5°	412.2	412.7	413.3	413.5	413.4	413.3	413.2	413.1
15°	404.0	404.6	405.4	405.4	404.9	404.4	403.9	403.5
17.5°	393.6	394.1	394.6	394.7	394.5	394.3	394.2	394.0
20°	386.0	386.3	386.7	386.7	386.4	386.2	386.0	385.7
22.5°	377.9	378.2	378.4	378.4	378.1	377.8	377.5	377.2
25°	364.5	364.6	364.6	364.6	364.3	364.1	363.8	363.6
27.5°	350.2	350.3	350.3	350.2	349.9	349.6	349.3	349.0
30°	340.3	340.3	340.3	340.0	339.5	338.9	338.3	337.7
32.5°	329.9	329.5	329.1	328.7	328.4	328.0	327.7	327.4
35°	313.1	312.7	312.1	311.7	311.3	310.9	310.5	310.1
37.5°	295.7	295.2	294.5	294.1	293.9	293.6	293.3	293.1
40°	284.4	283.8	283.0	282.6	282.3	281.9	281.6	281.3
42.5°	272.6	271.9	271.2	270.8	270.5	270.1	269.8	269.4
45°	254.9	254.0	252.9	252.3	251.8	251.4	251.0	250.6
47.5°	236.4	235.4	234.4	233.8	233.4	233.1	232.7	232.3
50°	224.1	223.2	222.3	221.6	221.1	220.6	220.1	219.6
52.5°	211.7	210.9	210.1	209.5	209.0	208.5	208.0	207.6
55°	192.7	191.8	190.9	190.3	189.9	189.4	189.0	188.6
57.5°	174.1	173.3	172.5	171.8	171.3	170.9	170.4	169.9
60°	161.0	160.2	159.5	158.9	158.4	158.0	157.6	157.2
62.5°	148.2	147.5	146.8	146.2	146.0	145.7	145.4	145.1
65°	129.4	128.7	128.0	127.6	127.4	127.1	126.8	126.6
67.5°	110.6	110.0	109.5	109.0	108.7	108.3	108.0	107.7
70°	98.5	97.9	97.4	96.9	96.5	96.1	95.6	95.2
72.5°	86.3	85.7	85.2	84.8	84.7	84.4	84.2	84.0
75°	68.6	68.1	67.7	67.4	67.2	66.9	66.7	66.5
77.5°	52.0	51.8	51.5	51.4	51.4	51.4	51.4	51.4
80°	41.5	41.4	41.4	41.4	41.4	41.4	41.4	41.4
82.5°	32.0	31.8	31.7	31.5	31.5	31.4	31.4	31.3
85°	18.1	18.0	17.8	17.7	17.7	17.7	17.7	17.7
87.5°	10.5	10.5	10.6	10.7	10.8	10.8	10.9	10.9
90°	20.4	21.1	21.8	22.3	22.7	23.1	23.4	23.7
92.5°	22.5	23.6	24.7	25.4	25.6	25.8	26.1	26.2
95°	26.9	28.2	29.5	30.0	30.0	30.0	30.0	30.0
97.5°	28.3	29.7	31.1	31.8	32.1	32.2	32.4	32.6
100°	28.9	30.3	31.7	32.5	32.7	32.9	33.0	33.2
102.5°	43.3	39.0	34.6	32.6	32.9	33.2	33.5	33.8
105°	111.0	79.9	48.8	33.4	33.7	34.1	34.5	34.8
107.5°	271.8	249.0	226.2	203.0	179.6	156.1	132.7	109.2
110°	345.0	339.2	333.4	318.0	292.8	267.7	242.6	217.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.6	396.8	396.9	394.3	389.0	383.7	378.3	373.0
115°	457.4	459.1	460.9	462.2	462.8	463.5	464.2	464.9
117.5°	512.4	513.7	515.2	515.9	516.1	516.2	516.3	516.5
120°	548.4	549.8	551.2	551.9	551.9	551.9	551.9	551.9
122.5°	583.6	584.6	585.6	586.1	586.3	586.5	586.5	586.7
125°	633.3	633.6	634.0	634.3	634.7	635.0	635.4	635.7
127.5°	683.0	683.6	684.1	684.3	683.9	683.6	683.2	682.9
130°	713.0	713.8	714.5	714.6	714.3	713.9	713.6	713.2
132.5°	741.5	742.2	742.9	743.0	742.5	742.0	741.6	741.1
135°	784.7	785.2	785.7	785.7	785.2	784.7	784.1	783.6
137.5°	823.1	823.9	824.7	825.0	824.7	824.3	823.9	823.6
140°	847.5	848.2	848.9	849.1	848.7	848.3	848.0	847.6
142.5°	870.6	871.2	871.7	871.7	871.2	870.8	870.3	869.8
145°	902.9	903.2	903.6	903.8	903.8	903.8	903.8	903.8
147.5°	931.8	932.2	932.6	932.3	931.5	930.7	929.9	929.1
150°	949.6	949.9	950.3	950.1	949.7	949.1	948.6	948.1
152.5°	965.3	965.9	966.5	966.5	965.7	964.9	964.1	963.2
155°	987.0	987.9	988.7	988.6	987.6	986.6	985.5	984.4
157.5°	1005.8	1006.9	1008.0	1007.8	1006.4	1005.0	1003.7	1002.3
160°	1016.6	1017.6	1018.7	1018.6	1017.4	1016.1	1014.9	1013.7
162.5°	1026.4	1027.5	1028.7	1028.8	1027.7	1026.6	1025.6	1024.5
165°	1039.4	1040.8	1042.3	1042.4	1041.1	1039.9	1038.6	1037.4
167.5°	1049.6	1051.0	1052.3	1052.3	1051.0	1049.6	1048.1	1046.7
170°	1055.3	1056.7	1058.0	1058.0	1056.7	1055.3	1053.8	1052.4
172.5°	1059.1	1060.4	1061.8	1061.8	1060.3	1058.7	1057.2	1055.6
175°	1063.6	1064.9	1066.0	1066.0	1064.5	1063.2	1061.8	1060.3
177.5°	1065.2	1066.4	1067.5	1067.4	1066.0	1064.6	1063.2	1061.8
180°	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3	1064.3

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