

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: P332124-935

Luminaire Tested: **S123DIW-S560D460U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332124-935
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-S560D460U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3585.2 lumens
Efficiency: N/A
Efficacy: 118.7 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: General Diffuse

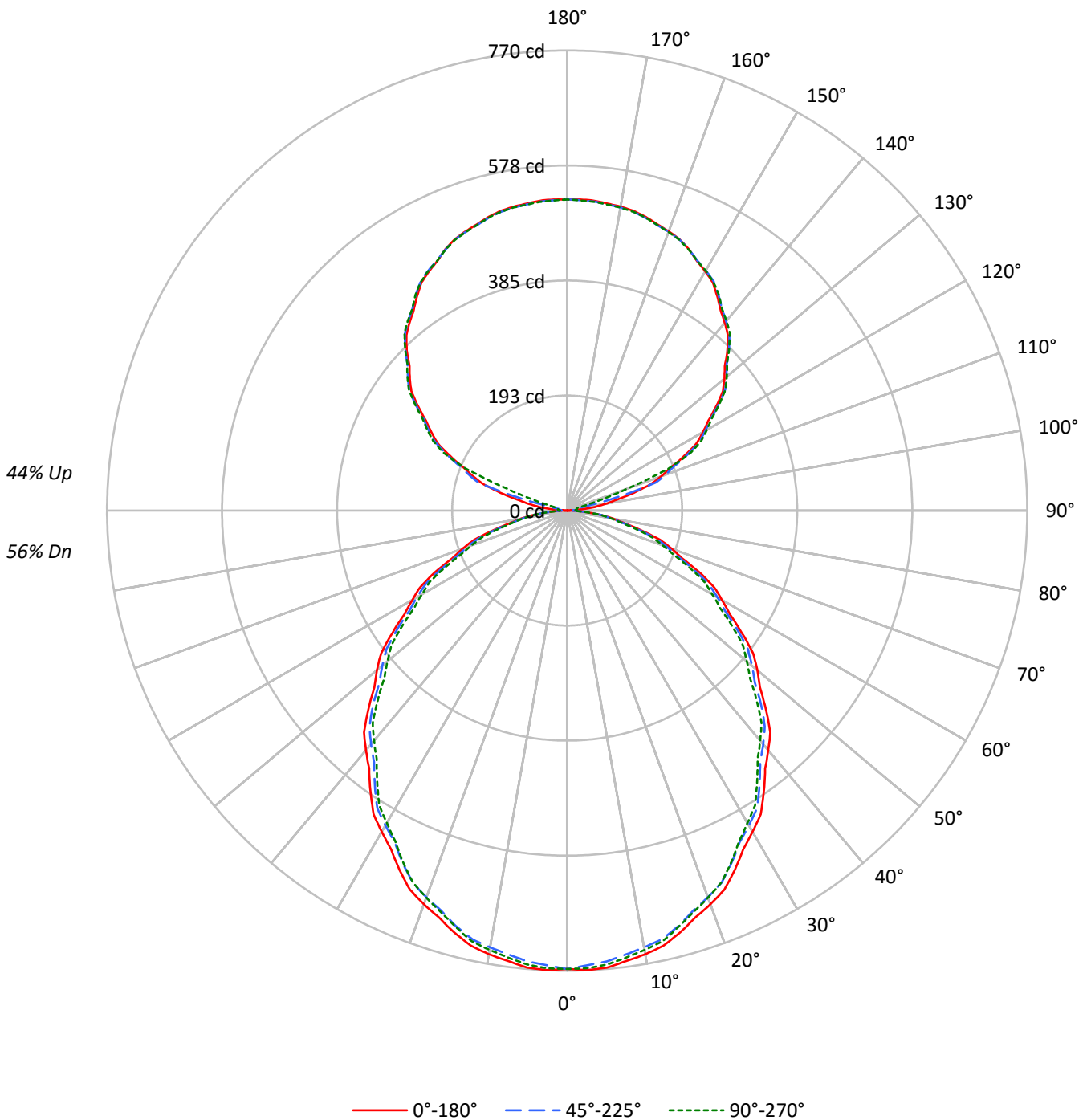
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	73	73	73	61	61	61	56
1	99	95	91	87	92	88	85	82	76	73	71	65	63	61	54	53	52	47
2	90	83	76	71	83	77	71	67	66	62	59	57	54	51	48	45	43	39
3	82	73	65	59	76	68	61	56	59	53	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	47	52	46	42	45	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	36	40	35	32	34	30	28	25
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	24	22
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	32	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	2.0
10°-20°	204.0	5.7
20°-30°	301.4	8.4
30°-40°	352.0	9.8
40°-50°	353.9	9.9
50°-60°	310.9	8.7
60°-70°	231.6	6.5
70°-80°	132.0	3.7
80°-90°	39.3	1.1
90°-100°	18.9	0.5
100°-110°	90.2	2.5
110°-120°	216.7	6.0
120°-130°	276.0	7.7
130°-140°	294.8	8.2
140°-150°	275.7	7.7
150°-160°	222.4	6.2
160°-170°	143.5	4.0
170°-180°	49.5	1.4
0°-30°	577.6	16.1
0°-40°	929.7	25.9
0°-60°	1594.5	44.5
0°-90°	1997.4	55.7
90°-120°	325.9	9.1
90°-150°	1172.4	32.7
90°-180°	1588.0	44.3
0°-180°	3585.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	0	4	9	11	12	3
95°	24	9	12	15	15	29
105°	115	117	85	20	17	122
115°	216	219	222	226	228	213
125°	305	308	309	310	311	272
135°	379	382	383	384	383	292
145°	438	440	441	442	442	274
155°	482	482	482	484	482	222
165°	509	508	507	510	508	144
175°	521	519	519	522	519	50
180°	521	521	521	521	521	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	13.8	13.6	13.4	13.3	13.1	13.0	13.2	13.3	13.3	13.4	13.4
90°	0.3	1.2	2.1	2.9	3.8	4.8	5.9	7.1	8.2	9.3	9.6
92.5°	7.2	7.0	6.7	6.5	6.2	6.5	7.4	8.2	9.0	9.9	10.4
95°	23.6	20.1	16.5	13.0	9.5	8.2	9.1	10.1	11.0	12.0	12.6
97.5°	47.4	45.8	44.3	42.7	41.1	37.2	31.0	24.8	18.7	12.5	13.2
100°	65.3	67.1	68.8	70.5	72.2	66.4	53.0	39.6	26.2	12.7	13.4
102.5°	85.8	87.0	88.3	89.5	90.7	84.0	69.4	54.8	40.1	25.5	23.3
105°	115.3	116.2	117.2	118.1	119.1	115.6	107.9	100.2	92.5	84.7	69.5
107.5°	146.4	147.1	147.9	148.6	149.4	150.4	151.6	152.8	154.0	155.2	144.1
110°	167.1	167.8	168.5	169.2	169.9	170.7	171.6	172.5	173.5	174.4	171.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	186.9	187.5	188.1	188.7	189.4	190.2	191.1	192.1	193.0	194.0	194.0
115°	216.2	216.7	217.2	217.7	218.3	219.0	219.7	220.5	221.3	222.1	222.9
117.5°	244.6	245.3	245.9	246.5	247.2	247.7	248.1	248.5	248.9	249.3	249.9
120°	262.3	263.0	263.8	264.6	265.4	265.9	266.1	266.4	266.7	266.9	267.6
122.5°	280.3	280.9	281.5	282.1	282.8	283.3	283.6	283.9	284.2	284.6	285.0
125°	304.8	305.5	306.2	306.9	307.5	308.1	308.4	308.8	309.1	309.4	309.6
127.5°	328.6	329.3	330.0	330.7	331.4	331.9	332.3	332.8	333.2	333.6	333.9
130°	343.5	344.2	344.9	345.6	346.3	346.8	347.2	347.5	347.8	348.1	348.4
132.5°	357.7	358.4	359.1	359.8	360.5	360.9	361.3	361.5	361.8	362.1	362.4
135°	379.4	380.0	380.5	381.0	381.5	381.9	382.3	382.6	383.0	383.3	383.6
137.5°	398.0	398.7	399.3	400.0	400.6	401.1	401.3	401.5	401.7	401.8	402.3
140°	410.4	411.0	411.5	412.0	412.5	412.8	413.1	413.4	413.6	413.9	414.2
142.5°	421.9	422.4	422.9	423.4	424.0	424.3	424.6	424.8	425.1	425.3	425.6
145°	437.9	438.5	439.1	439.7	440.3	440.7	440.8	441.0	441.2	441.3	441.5
147.5°	453.0	453.4	453.7	454.2	454.5	454.9	455.0	455.2	455.4	455.6	455.7
150°	462.3	462.5	462.8	463.0	463.3	463.5	463.6	463.8	464.0	464.2	464.3
152.5°	470.6	470.7	470.9	471.0	471.1	471.2	471.3	471.4	471.5	471.7	471.9
155°	482.3	482.2	482.0	481.9	481.7	481.6	481.7	481.8	481.9	482.0	482.4
157.5°	491.5	491.5	491.5	491.5	491.5	491.4	491.3	491.2	491.1	491.0	491.5
160°	497.1	497.0	496.9	496.8	496.7	496.6	496.5	496.5	496.4	496.3	496.8
162.5°	502.3	502.1	501.9	501.7	501.4	501.3	501.2	501.1	501.0	500.9	501.5
165°	508.7	508.4	508.2	507.9	507.6	507.5	507.4	507.3	507.2	507.1	507.8
167.5°	513.7	513.3	513.0	512.6	512.3	512.1	512.1	512.1	512.1	512.1	512.8
170°	516.4	516.1	515.7	515.4	515.1	514.9	514.9	514.9	514.9	514.9	515.6
172.5°	518.2	517.9	517.5	517.0	516.6	516.4	516.5	516.6	516.7	516.7	517.4
175°	520.6	520.2	519.8	519.4	518.9	518.8	518.8	518.9	519.0	519.1	519.7
177.5°	521.2	520.9	520.6	520.2	519.9	519.8	519.9	519.9	520.0	520.0	520.6
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.4
90°	10.0	10.3	10.7	10.9	11.1	11.3	11.5	11.6
92.5°	11.0	11.5	12.1	12.4	12.6	12.7	12.7	12.8
95°	13.2	13.8	14.4	14.7	14.7	14.7	14.7	14.7
97.5°	13.9	14.6	15.2	15.6	15.7	15.8	15.8	15.9
100°	14.1	14.8	15.5	15.9	16.0	16.1	16.2	16.3
102.5°	21.2	19.0	17.0	15.9	16.1	16.3	16.4	16.5
105°	54.2	39.1	23.8	16.4	16.5	16.7	16.9	17.0
107.5°	132.9	121.8	110.6	99.4	87.8	76.4	64.9	53.5
110°	168.8	165.9	163.1	155.6	143.3	131.0	118.6	106.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	194.1	194.1	194.2	192.9	190.3	187.7	185.1	182.5
115°	223.8	224.6	225.5	226.1	226.4	226.8	227.1	227.5
117.5°	250.6	251.3	252.0	252.4	252.4	252.5	252.6	252.7
120°	268.3	269.0	269.7	270.0	270.0	270.0	270.0	270.0
122.5°	285.5	286.0	286.5	286.7	286.8	286.9	287.0	287.1
125°	309.8	310.0	310.1	310.3	310.5	310.6	310.8	311.0
127.5°	334.2	334.4	334.7	334.8	334.6	334.4	334.2	334.1
130°	348.8	349.1	349.5	349.6	349.4	349.2	349.0	348.9
132.5°	362.7	363.1	363.4	363.5	363.3	363.0	362.7	362.6
135°	383.8	384.1	384.4	384.4	384.1	383.8	383.6	383.3
137.5°	402.7	403.0	403.5	403.6	403.5	403.3	403.1	402.9
140°	414.6	414.9	415.3	415.3	415.2	415.0	414.8	414.7
142.5°	425.9	426.2	426.5	426.5	426.2	426.0	425.8	425.5
145°	441.7	441.9	442.0	442.1	442.1	442.1	442.1	442.1
147.5°	455.9	456.1	456.2	456.1	455.7	455.3	455.0	454.5
150°	464.5	464.7	464.9	464.9	464.6	464.3	464.1	463.8
152.5°	472.3	472.5	472.9	472.8	472.4	472.0	471.7	471.2
155°	482.8	483.3	483.7	483.6	483.1	482.6	482.1	481.6
157.5°	492.1	492.6	493.1	493.0	492.3	491.7	491.0	490.3
160°	497.3	497.8	498.3	498.3	497.7	497.1	496.5	495.9
162.5°	502.1	502.7	503.3	503.3	502.7	502.2	501.7	501.2
165°	508.5	509.2	509.9	509.9	509.3	508.8	508.2	507.6
167.5°	513.5	514.1	514.8	514.8	514.1	513.5	512.8	512.1
170°	516.3	516.9	517.6	517.6	516.9	516.3	515.6	514.9
172.5°	518.1	518.8	519.4	519.4	518.7	517.9	517.2	516.4
175°	520.3	520.9	521.5	521.5	520.8	520.1	519.4	518.8
177.5°	521.2	521.7	522.3	522.2	521.5	520.8	520.1	519.4
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6

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