

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: P332412-927

Luminaire Tested: **S123RDIW-S560D460U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332412-927
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: S123RDIW-S560D460U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3152.5 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

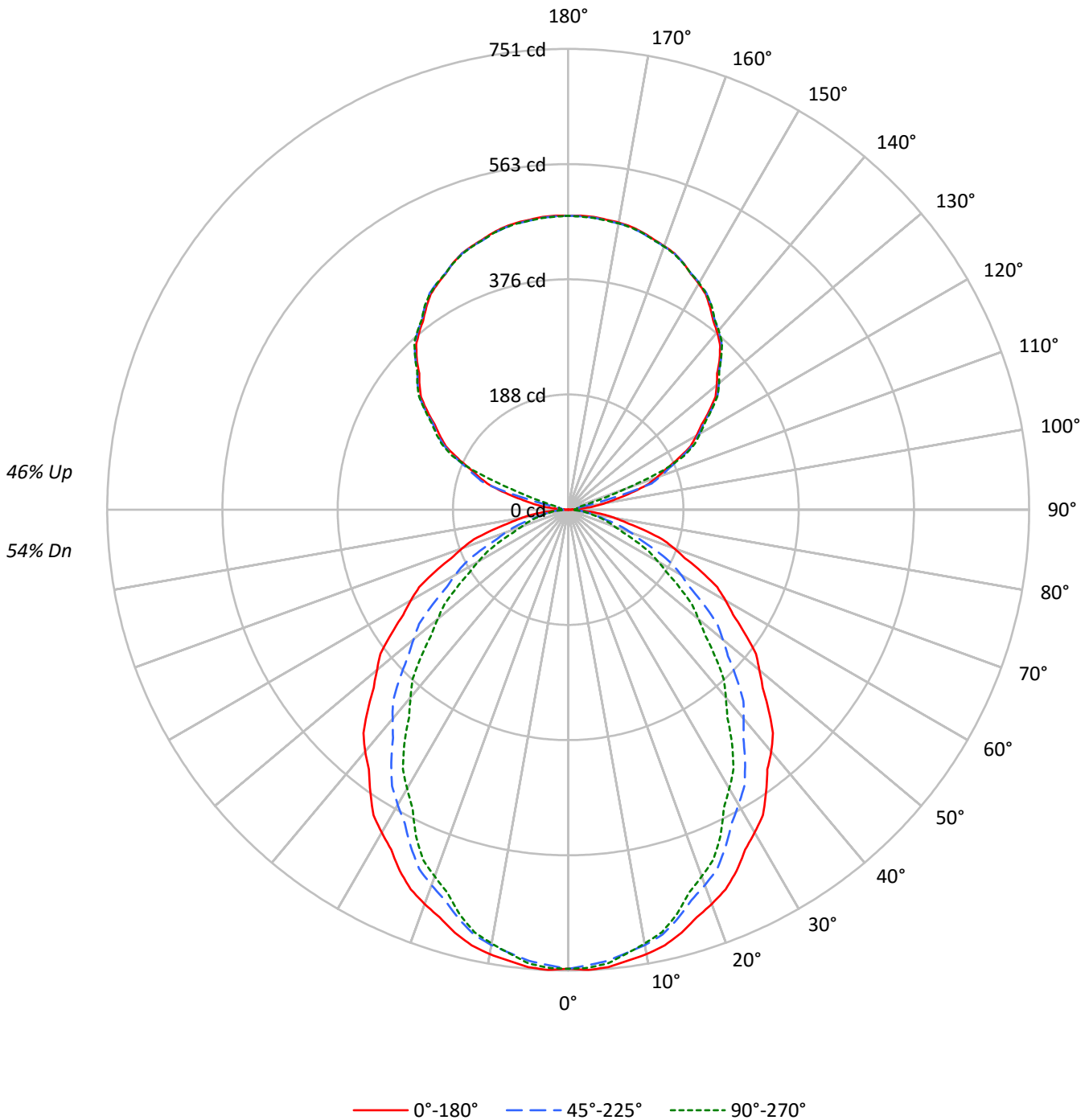
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	99	95	91	88	92	88	85	82	75	73	71	64	62	61	53	52	51	46
2	90	83	77	72	84	77	72	68	66	63	59	56	54	51	47	45	43	39
3	83	73	66	60	76	68	62	57	59	54	50	50	47	44	42	40	37	33
4	76	65	57	51	70	61	54	49	53	47	43	45	41	38	38	35	32	29
5	70	58	50	44	64	54	47	42	47	42	37	40	36	33	34	31	28	25
6	64	52	44	39	59	49	42	37	43	37	33	37	32	29	31	28	25	22
7	60	47	39	34	55	44	37	32	39	33	29	33	29	26	29	25	23	20
8	55	43	35	30	51	40	34	29	35	30	26	31	26	23	26	23	20	18
9	52	39	32	27	48	37	30	26	33	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	28	23	30	25	21	26	22	19	23	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8054	8054	8054
5°	8084	7973	8018
10°	8039	7873	7847
15°	7952	7689	7608
20°	7834	7458	7285
25°	7712	7201	6969
30°	7549	6901	6524
35°	7384	6603	6116
40°	7231	6250	5611
45°	7030	5903	5154
50°	6807	5508	4644
55°	6583	5056	4168
60°	6374	4573	3645
65°	6105	4050	3123
70°	5766	3402	2521
75°	5273	2674	2371
80°	4705	2374	2182
85°	3977	2100	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	2.2
10°-20°	195.5	6.2
20°-30°	281.5	8.9
30°-40°	317.1	10.1
40°-50°	303.3	9.6
50°-60°	248.4	7.9
60°-70°	167.6	5.3
70°-80°	84.3	2.7
80°-90°	23.7	0.8
90°-100°	17.4	0.6
100°-110°	83.0	2.6
110°-120°	199.4	6.3
120°-130°	253.9	8.1
130°-140°	271.3	8.6
140°-150°	253.7	8.0
150°-160°	204.6	6.5
160°-170°	132.1	4.2
170°-180°	45.5	1.4
0°-30°	547.2	17.4
0°-40°	864.3	27.4
0°-60°	1416.1	44.9
0°-90°	1691.6	53.7
90°-120°	299.8	9.5
90°-150°	1078.7	34.2
90°-180°	1461.0	46.3
0°-180°	3152.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	748	745	738	743	742	71
15°	714	706	690	687	683	201
25°	649	633	606	594	587	298
35°	562	539	502	477	465	352
45°	462	433	388	354	339	356
55°	351	320	269	236	222	314
65°	240	206	159	130	123	237
75°	127	97	64	58	57	135
85°	32	19	17	16	16	36
90°	0	4	9	10	11	3
95°	22	8	11	13	14	27
105°	106	108	78	18	16	112
115°	199	201	204	208	209	196
125°	280	283	285	285	286	250
135°	349	351	353	354	353	269
145°	403	405	406	407	407	252
155°	444	443	444	445	443	204
165°	468	467	467	469	467	132
175°	479	477	478	480	477	46
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	750.7	750.2	749.8	749.3	748.9	748.1	746.8	745.4	744.2	742.9	744.1
5°	748.2	747.6	746.9	746.2	745.5	744.4	742.8	741.2	739.5	737.9	739.1
7.5°	741.3	740.6	739.8	739.1	738.4	737.0	734.9	732.8	730.6	728.6	729.2
10°	735.5	734.5	733.6	732.6	731.7	730.0	727.6	725.2	722.7	720.3	720.4
12.5°	727.2	726.2	725.1	724.1	723.0	721.0	718.0	715.1	712.1	709.2	709.1
15°	713.6	712.2	710.7	709.2	707.7	705.0	701.3	697.5	693.7	690.0	689.3
17.5°	696.5	694.8	693.1	691.3	689.6	686.3	681.5	676.8	671.9	667.2	665.7
20°	683.9	681.8	679.6	677.4	675.3	671.6	666.5	661.4	656.2	651.1	649.4
22.5°	669.8	667.3	664.9	662.3	659.9	655.9	650.5	645.0	639.6	634.1	631.9
25°	649.3	645.9	642.5	639.2	635.8	631.1	624.8	618.6	612.4	606.3	603.4
27.5°	624.4	620.7	617.0	613.2	609.5	604.2	597.3	590.4	583.5	576.6	572.7
30°	607.4	603.4	599.4	595.3	591.3	585.4	577.9	570.4	562.8	555.2	550.6
32.5°	590.4	585.9	581.3	576.7	572.1	565.9	557.9	549.9	541.9	533.9	528.9
35°	561.9	557.1	552.2	547.4	542.5	535.9	527.5	519.2	510.8	502.5	496.6
37.5°	533.1	527.7	522.3	516.8	511.4	504.3	495.4	486.5	477.5	468.6	462.0
40°	514.6	508.7	502.7	496.8	490.8	483.1	473.6	464.0	454.4	444.8	437.8
42.5°	493.7	487.7	481.9	475.9	470.0	462.1	452.2	442.3	432.4	422.5	414.8
45°	461.8	455.7	449.6	443.6	437.5	429.3	418.9	408.5	398.2	387.8	380.1
47.5°	429.8	423.2	416.5	409.9	403.2	394.7	384.3	373.9	363.5	353.2	344.8
50°	406.5	400.2	393.9	387.5	381.2	372.6	361.6	350.8	339.8	328.9	320.5
52.5°	385.7	378.8	371.9	365.0	358.2	349.4	338.5	327.7	316.9	306.1	297.4
55°	350.8	344.1	337.5	330.9	324.3	315.3	303.8	292.4	280.9	269.4	261.6
57.5°	318.5	311.2	304.0	296.8	289.6	280.3	268.8	257.3	245.7	234.2	226.9
60°	296.1	288.8	281.3	273.9	266.5	257.1	246.0	234.8	223.6	212.4	205.1
62.5°	273.8	266.4	259.0	251.5	244.2	234.8	223.6	212.5	201.2	190.0	183.2
65°	239.7	232.3	224.9	217.5	210.0	201.1	190.5	180.1	169.5	159.0	152.4
67.5°	205.6	198.1	190.6	183.1	175.6	166.8	156.7	146.6	136.6	126.4	121.5
70°	183.2	175.9	168.7	161.4	154.2	145.8	136.3	126.9	117.5	108.1	103.3
72.5°	160.9	153.8	146.6	139.4	132.2	124.4	115.8	107.2	98.6	90.1	86.2
75°	126.8	120.3	113.9	107.4	100.9	94.0	86.6	79.1	71.8	64.3	63.0
77.5°	95.8	89.9	84.1	78.2	72.3	67.0	62.3	57.5	52.7	47.9	47.2
80°	75.9	70.3	64.8	59.3	53.7	49.6	46.7	43.9	41.0	38.3	37.8
82.5°	57.0	52.1	47.4	42.6	37.8	34.8	33.4	32.2	30.8	29.5	29.1
85°	32.2	29.2	26.2	23.3	20.3	18.6	18.2	17.8	17.4	17.0	16.7
87.5°	11.7	10.7	9.7	8.6	7.6	7.2	7.4	7.6	7.8	8.0	8.0
90°	0.3	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.5	8.6	8.9
92.5°	6.7	6.4	6.2	5.9	5.7	6.0	6.8	7.5	8.3	9.1	9.6
95°	21.7	18.5	15.2	12.0	8.7	7.5	8.4	9.3	10.1	11.0	11.6
97.5°	43.6	42.1	40.7	39.3	37.8	34.2	28.5	22.8	17.2	11.5	12.1
100°	60.1	61.7	63.3	64.9	66.5	61.1	48.8	36.4	24.1	11.7	12.4
102.5°	78.9	80.1	81.2	82.4	83.5	77.3	63.8	50.4	36.9	23.4	21.5
105°	106.1	106.9	107.8	108.7	109.6	106.4	99.3	92.2	85.1	78.0	63.9
107.5°	134.7	135.4	136.1	136.7	137.4	138.4	139.5	140.6	141.7	142.8	132.6
110°	153.8	154.4	155.0	155.7	156.3	157.0	157.9	158.8	159.6	160.5	157.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.0	172.5	173.1	173.6	174.3	175.0	175.9	176.7	177.6	178.5	178.5
115°	198.9	199.4	199.9	200.3	200.8	201.5	202.2	202.9	203.6	204.3	205.1
117.5°	225.1	225.7	226.2	226.8	227.4	227.9	228.2	228.6	229.0	229.3	230.0
120°	241.3	242.0	242.7	243.4	244.2	244.6	244.9	245.1	245.3	245.6	246.2
122.5°	257.9	258.4	259.0	259.6	260.2	260.6	260.9	261.2	261.5	261.8	262.2
125°	280.4	281.1	281.7	282.3	283.0	283.4	283.8	284.1	284.4	284.7	284.9
127.5°	302.4	303.0	303.6	304.3	304.9	305.4	305.8	306.2	306.6	307.0	307.2
130°	316.1	316.7	317.3	318.0	318.6	319.1	319.4	319.7	320.0	320.3	320.6
132.5°	329.2	329.8	330.4	331.1	331.7	332.1	332.4	332.6	332.9	333.1	333.4
135°	349.1	349.6	350.1	350.5	351.0	351.4	351.7	352.0	352.4	352.7	352.9
137.5°	366.2	366.9	367.4	368.0	368.6	369.0	369.2	369.4	369.6	369.7	370.1
140°	377.6	378.1	378.6	379.1	379.5	379.9	380.1	380.3	380.6	380.8	381.1
142.5°	388.2	388.6	389.1	389.6	390.1	390.4	390.6	390.9	391.1	391.3	391.6
145°	402.9	403.5	404.0	404.6	405.1	405.4	405.6	405.8	405.9	406.1	406.2
147.5°	416.8	417.2	417.5	417.9	418.2	418.5	418.7	418.8	419.0	419.1	419.3
150°	425.3	425.6	425.8	426.0	426.3	426.4	426.6	426.7	426.9	427.1	427.2
152.5°	433.0	433.1	433.2	433.3	433.5	433.6	433.6	433.7	433.8	434.0	434.2
155°	443.8	443.6	443.5	443.4	443.2	443.1	443.2	443.3	443.4	443.5	443.9
157.5°	452.3	452.2	452.2	452.2	452.2	452.1	452.0	451.9	451.9	451.8	452.3
160°	457.3	457.2	457.2	457.1	457.0	456.9	456.9	456.8	456.7	456.6	457.1
162.5°	462.2	462.0	461.8	461.6	461.4	461.2	461.1	461.1	461.0	460.9	461.4
165°	468.0	467.8	467.5	467.3	467.1	466.9	466.8	466.8	466.7	466.6	467.2
167.5°	472.6	472.3	472.0	471.7	471.3	471.2	471.2	471.2	471.2	471.2	471.8
170°	475.2	474.8	474.5	474.2	473.9	473.7	473.7	473.7	473.7	473.7	474.4
172.5°	476.8	476.5	476.1	475.7	475.3	475.2	475.2	475.3	475.4	475.4	476.0
175°	479.0	478.6	478.2	477.8	477.4	477.3	477.4	477.4	477.5	477.6	478.2
177.5°	479.6	479.3	479.0	478.6	478.3	478.2	478.3	478.3	478.4	478.5	479.0
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	745.3	746.5	747.7	748.1	747.9	747.7	747.5	747.3
5°	740.3	741.6	742.8	743.2	743.0	742.7	742.4	742.1
7.5°	729.9	730.6	731.3	731.3	730.9	730.5	730.0	729.5
10°	720.6	720.7	720.8	720.6	719.9	719.2	718.6	717.9
12.5°	709.0	708.9	708.8	708.4	707.6	706.8	706.1	705.3
15°	688.6	687.9	687.3	686.4	685.5	684.6	683.7	682.7
17.5°	664.3	662.9	661.4	660.0	658.6	657.2	655.8	654.4
20°	647.6	645.9	644.1	642.5	640.8	639.2	637.5	636.0
22.5°	629.8	627.6	625.4	623.5	622.0	620.5	619.0	617.5
25°	600.6	597.7	594.9	592.7	591.3	589.8	588.3	586.8
27.5°	568.7	564.8	560.9	557.8	555.5	553.3	551.0	548.7
30°	546.1	541.5	536.9	533.5	531.4	529.3	527.0	524.9
32.5°	523.9	518.8	513.8	510.2	507.9	505.6	503.4	501.1
35°	490.8	485.1	479.3	475.2	472.7	470.3	467.9	465.4
37.5°	455.4	448.9	442.3	437.5	434.5	431.5	428.5	425.5
40°	430.8	423.7	416.8	411.7	408.6	405.5	402.4	399.3
42.5°	407.2	399.5	391.8	386.6	383.8	381.0	378.3	375.5
45°	372.4	364.7	357.0	351.6	348.3	345.1	341.8	338.6
47.5°	336.4	328.1	319.7	314.1	311.2	308.3	305.5	302.5
50°	312.2	303.8	295.5	289.7	286.6	283.5	280.4	277.3
52.5°	288.8	280.0	271.3	265.6	262.8	260.1	257.3	254.5
55°	253.8	246.0	238.1	232.9	230.2	227.5	224.8	222.1
57.5°	219.4	212.1	204.7	199.9	197.6	195.3	193.0	190.7
60°	197.8	190.5	183.2	178.5	176.2	173.9	171.6	169.3
62.5°	176.3	169.5	162.6	158.0	155.7	153.2	150.8	148.5
65°	145.8	139.2	132.5	128.5	127.1	125.6	124.1	122.6
67.5°	116.6	111.6	106.7	103.5	101.9	100.3	98.7	97.1
70°	98.5	93.9	89.1	86.0	84.5	83.1	81.6	80.1
72.5°	82.3	78.5	74.6	72.4	71.8	71.1	70.5	69.9
75°	61.6	60.3	58.9	58.1	57.8	57.6	57.3	57.0
77.5°	46.5	45.8	45.0	44.5	44.3	44.0	43.7	43.4
80°	37.4	37.0	36.6	36.3	36.0	35.7	35.5	35.2
82.5°	28.7	28.3	27.9	27.6	27.6	27.6	27.5	27.4
85°	16.5	16.2	15.9	15.8	15.8	15.8	15.8	15.8
87.5°	7.9	7.9	7.8	7.8	7.7	7.6	7.5	7.4
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	10.1	10.6	11.2	11.4	11.6	11.6	11.7	11.8
95°	12.1	12.7	13.2	13.5	13.5	13.5	13.5	13.5
97.5°	12.8	13.4	14.0	14.3	14.4	14.5	14.6	14.7
100°	13.0	13.6	14.3	14.7	14.7	14.8	14.9	15.0
102.5°	19.5	17.5	15.6	14.7	14.8	15.0	15.1	15.2
105°	49.9	36.0	21.9	15.1	15.2	15.4	15.5	15.7
107.5°	122.3	112.1	101.8	91.4	80.8	70.3	59.7	49.2
110°	155.3	152.7	150.0	143.1	131.8	120.5	109.2	97.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.6	178.6	178.6	177.4	175.1	172.7	170.3	167.9
115°	205.9	206.7	207.5	208.0	208.3	208.7	209.0	209.3
117.5°	230.6	231.2	231.9	232.2	232.3	232.3	232.4	232.5
120°	246.8	247.5	248.1	248.4	248.4	248.4	248.4	248.4
122.5°	262.7	263.2	263.6	263.8	263.9	264.0	264.0	264.1
125°	285.0	285.2	285.3	285.5	285.7	285.8	286.0	286.1
127.5°	307.4	307.7	307.9	308.0	307.8	307.7	307.5	307.4
130°	320.9	321.2	321.5	321.6	321.5	321.3	321.2	321.0
132.5°	333.7	334.1	334.4	334.5	334.2	334.0	333.7	333.6
135°	353.2	353.4	353.6	353.6	353.4	353.2	352.9	352.7
137.5°	370.5	370.8	371.2	371.4	371.2	371.1	370.9	370.7
140°	381.4	381.8	382.1	382.1	382.0	381.8	381.7	381.5
142.5°	391.9	392.1	392.4	392.4	392.1	392.0	391.7	391.5
145°	406.4	406.5	406.7	406.8	406.8	406.8	406.8	406.8
147.5°	419.5	419.6	419.8	419.6	419.3	418.9	418.6	418.2
150°	427.4	427.5	427.7	427.7	427.5	427.2	427.0	426.7
152.5°	434.5	434.7	435.1	435.0	434.7	434.3	434.0	433.6
155°	444.3	444.7	445.0	445.0	444.5	444.0	443.5	443.1
157.5°	452.7	453.2	453.7	453.6	453.0	452.4	451.8	451.1
160°	457.6	458.0	458.5	458.5	458.0	457.4	456.9	456.3
162.5°	462.0	462.6	463.0	463.1	462.6	462.1	461.6	461.1
165°	467.9	468.5	469.1	469.1	468.6	468.1	467.5	467.0
167.5°	472.5	473.0	473.6	473.6	473.0	472.5	471.8	471.2
170°	475.0	475.6	476.3	476.3	475.6	475.0	474.4	473.7
172.5°	476.7	477.3	477.9	477.9	477.2	476.5	475.9	475.2
175°	478.7	479.3	479.8	479.8	479.2	478.6	477.9	477.3
177.5°	479.5	480.0	480.5	480.5	479.8	479.2	478.6	477.9
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0

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