

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: P332122-840

Luminaire Tested: **S123DIW-S560D460U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332122-840
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-S560D460U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4250.4 lumens
Efficiency: N/A
Efficacy: 140.7 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: General Diffuse

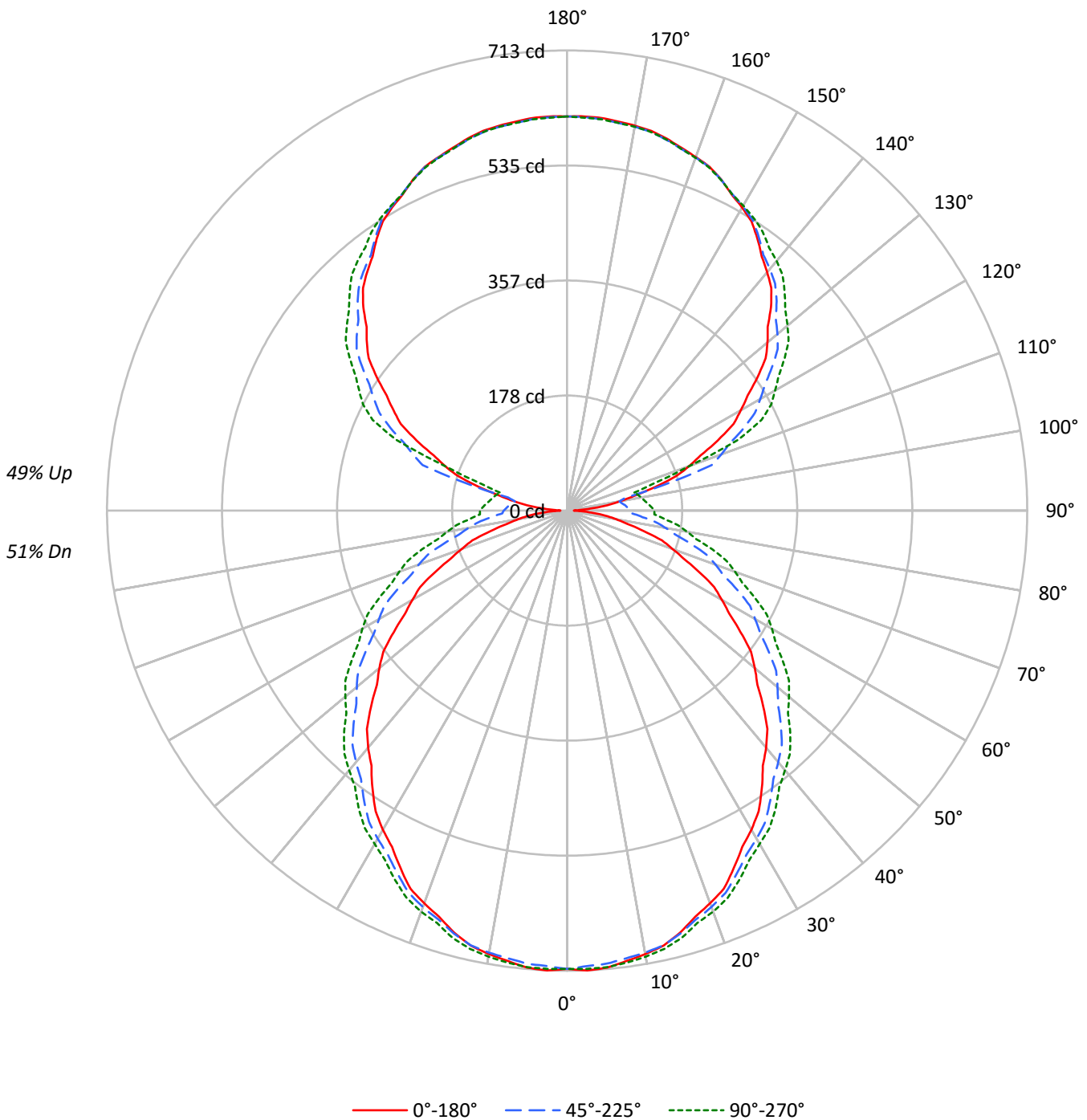
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332122-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-D

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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	97	92	88	84	89	85	81	78	72	69	67	60	58	56	49	48	46	41
2	88	80	73	68	81	74	68	63	63	58	54	52	49	46	43	40	38	34
3	80	70	62	56	73	65	58	52	55	50	45	46	42	39	37	35	32	28
4	73	62	53	47	67	57	50	44	49	43	38	41	36	33	33	30	27	24
5	67	55	46	40	61	51	43	38	43	37	33	36	32	28	30	26	24	20
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	23	21	18
7	57	44	36	30	52	41	34	28	35	29	25	30	25	22	25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	37	29	24	45	34	27	22	29	24	20	25	20	17	21	17	15	13
10	46	33	26	21	42	31	25	20	27	22	18	23	19	16	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.6
10°-20°	191.9	4.5
20°-30°	287.0	6.8
30°-40°	342.8	8.1
40°-50°	358.6	8.4
50°-60°	336.5	7.9
60°-70°	281.1	6.6
70°-80°	201.1	4.7
80°-90°	121.6	2.9
90°-100°	97.4	2.3
100°-110°	161.1	3.8
110°-120°	291.1	6.8
120°-130°	344.8	8.1
130°-140°	355.3	8.4
140°-150°	325.4	7.7
150°-160°	260.9	6.1
160°-170°	168.4	4.0
170°-180°	58.0	1.4
0°-30°	546.3	12.9
0°-40°	889.0	20.9
0°-60°	1584.2	37.3
0°-90°	2188.0	51.5
90°-120°	549.7	12.9
90°-150°	1575.1	37.1
90°-180°	2062.0	48.5
0°-180°	4250.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	10	53	98	125	135	8
95°	36	50	91	117	126	41
105°	141	163	157	102	107	150
115°	258	271	301	324	332	254
125°	360	365	388	404	411	322
135°	447	449	459	473	477	344
145°	514	517	518	525	528	322
155°	566	565	565	567	565	261
165°	597	595	595	598	595	169
175°	611	608	609	612	608	58
180°	611	611	611	611	611	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.7	29.4	38.2	47.0	55.7	64.6	73.6	82.7	91.7	100.7	106.6
90°	10.5	19.9	29.4	38.8	48.3	58.0	68.1	78.2	88.3	98.3	104.5
92.5°	17.9	25.1	32.5	39.8	47.2	55.6	65.2	74.8	84.4	94.1	100.4
95°	36.2	38.8	41.3	43.9	46.5	52.5	62.0	71.6	81.1	90.7	96.6
97.5°	63.2	67.4	71.6	75.8	80.0	82.5	83.3	84.0	84.8	85.6	91.6
100°	83.6	91.2	98.7	106.2	113.7	113.5	105.7	98.0	90.1	82.3	88.1
102.5°	106.9	113.4	119.8	126.2	132.6	131.1	121.7	112.3	102.8	93.4	95.8
105°	141.4	146.6	151.9	157.1	162.3	164.1	162.4	160.8	159.1	157.3	144.3
107.5°	176.9	181.4	185.7	190.2	194.5	201.0	209.3	217.8	226.3	234.7	226.2
110°	200.7	204.5	208.4	212.4	216.2	222.2	230.1	238.1	246.1	254.1	255.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	223.9	227.1	230.5	233.7	236.9	242.5	250.1	257.8	265.6	273.3	277.7
115°	257.5	260.1	262.9	265.5	268.1	273.1	280.1	287.2	294.4	301.4	306.6
117.5°	290.6	292.7	294.7	296.7	298.7	302.9	309.1	315.4	321.6	328.0	332.9
120°	310.7	312.5	314.3	316.0	317.8	321.6	327.6	333.6	339.6	345.6	350.3
122.5°	331.7	333.0	334.2	335.4	336.5	340.0	345.8	351.5	357.4	363.1	367.5
125°	359.8	360.6	361.4	362.2	363.0	366.2	371.5	377.0	382.3	387.7	391.5
127.5°	387.8	388.4	389.1	389.7	390.3	392.9	397.6	402.1	406.8	411.4	415.2
130°	405.3	405.9	406.5	407.1	407.8	410.0	413.8	417.7	421.5	425.4	429.0
132.5°	421.3	422.0	422.8	423.6	424.3	426.3	429.4	432.4	435.6	438.6	442.1
135°	446.7	447.1	447.5	448.0	448.4	449.7	452.0	454.3	456.7	458.9	462.3
137.5°	468.3	468.9	469.5	470.2	470.8	471.7	473.0	474.3	475.5	476.9	480.1
140°	482.1	482.7	483.3	483.9	484.5	485.3	486.1	487.0	487.8	488.6	491.5
142.5°	495.5	496.0	496.6	497.0	497.5	497.9	498.3	498.7	499.1	499.5	502.1
145°	514.3	514.9	515.4	515.9	516.5	516.8	517.1	517.3	517.5	517.7	519.3
147.5°	531.3	531.8	532.2	532.7	533.1	533.5	533.7	533.9	534.1	534.3	534.9
150°	542.2	542.5	542.8	543.1	543.4	543.6	543.8	544.0	544.2	544.4	544.6
152.5°	552.0	552.1	552.3	552.4	552.6	552.7	552.8	552.9	553.0	553.2	553.5
155°	565.7	565.5	565.3	565.2	565.0	564.9	565.0	565.1	565.2	565.3	565.8
157.5°	576.5	576.4	576.4	576.4	576.4	576.3	576.2	576.1	576.0	575.9	576.5
160°	583.0	582.9	582.8	582.7	582.6	582.5	582.4	582.3	582.2	582.1	582.7
162.5°	589.2	589.0	588.7	588.4	588.1	587.9	587.8	587.7	587.6	587.5	588.2
165°	596.6	596.3	596.0	595.7	595.4	595.2	595.1	595.0	594.9	594.8	595.6
167.5°	602.5	602.1	601.7	601.3	600.9	600.7	600.7	600.7	600.7	600.7	601.5
170°	605.7	605.3	604.9	604.5	604.1	603.9	603.9	603.9	603.9	603.9	604.7
172.5°	607.8	607.4	606.9	606.4	605.9	605.7	605.8	605.9	606.0	606.0	606.8
175°	610.7	610.2	609.7	609.2	608.6	608.4	608.5	608.6	608.7	608.8	609.6
177.5°	611.4	611.0	610.6	610.2	609.8	609.7	609.8	609.8	609.9	610.0	610.6
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	112.6	118.6	124.4	128.3	130.1	131.8	133.5	135.3
90°	110.8	117.0	123.3	127.3	129.3	131.2	133.1	135.0
92.5°	106.7	113.1	119.5	123.5	125.2	126.9	128.7	130.4
95°	102.7	108.8	114.8	118.7	120.4	122.1	123.8	125.5
97.5°	97.5	103.4	109.4	113.2	115.0	116.8	118.7	120.5
100°	93.8	99.7	105.4	109.3	111.1	112.9	114.7	116.5
102.5°	98.2	100.5	102.8	104.9	106.8	108.8	110.7	112.6
105°	131.3	118.3	105.2	99.6	101.4	103.1	104.8	106.6
107.5°	217.7	209.2	200.8	190.6	178.6	166.7	154.8	142.8
110°	256.4	257.5	258.7	252.8	239.7	226.7	213.6	200.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	282.1	286.5	290.8	292.3	290.7	289.2	287.7	286.2
115°	311.7	316.8	321.9	325.4	327.2	329.0	330.7	332.5
117.5°	337.8	342.6	347.6	350.7	352.1	353.6	355.0	356.4
120°	355.1	359.8	364.6	367.6	368.8	370.0	371.2	372.3
122.5°	371.9	376.3	380.7	383.5	384.8	386.1	387.4	388.6
125°	395.4	399.2	402.9	405.6	407.0	408.4	409.8	411.2
127.5°	418.9	422.5	426.3	428.7	429.6	430.6	431.5	432.5
130°	432.7	436.4	440.0	442.3	443.1	443.9	444.7	445.7
132.5°	445.7	449.2	452.7	454.9	455.9	456.7	457.6	458.5
135°	465.7	469.1	472.5	474.4	475.0	475.5	476.2	476.7
137.5°	483.3	486.5	489.7	491.6	492.3	492.9	493.6	494.2
140°	494.5	497.5	500.5	502.3	503.0	503.6	504.3	504.9
142.5°	504.7	507.4	510.0	511.6	512.2	512.8	513.3	513.9
145°	520.8	522.4	524.0	525.1	525.8	526.5	527.1	527.9
147.5°	535.5	536.1	536.7	537.1	537.2	537.5	537.6	537.8
150°	544.8	545.0	545.2	545.4	545.4	545.4	545.5	545.5
152.5°	553.9	554.2	554.6	554.6	554.2	553.8	553.4	553.0
155°	566.3	566.8	567.3	567.2	566.6	566.0	565.4	564.9
157.5°	577.1	577.7	578.3	578.2	577.4	576.7	575.9	575.1
160°	583.3	583.9	584.5	584.5	583.8	583.1	582.4	581.7
162.5°	589.0	589.7	590.3	590.4	589.7	589.1	588.4	587.8
165°	596.4	597.2	598.0	598.0	597.3	596.7	596.0	595.3
167.5°	602.3	603.0	603.8	603.8	603.0	602.3	601.5	600.7
170°	605.5	606.3	607.1	607.1	606.3	605.5	604.7	603.9
172.5°	607.6	608.4	609.3	609.3	608.3	607.4	606.6	605.7
175°	610.3	611.0	611.7	611.7	610.9	610.1	609.3	608.4
177.5°	611.3	611.9	612.6	612.5	611.7	610.9	610.1	609.3
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7

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