

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: P332392-840

Luminaire Tested: **S123RDIW-S340D460U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332392-840
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: S123RDIW-S340D460U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 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: 3174.7 lumens
Efficiency: N/A
Efficacy: 138.0 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

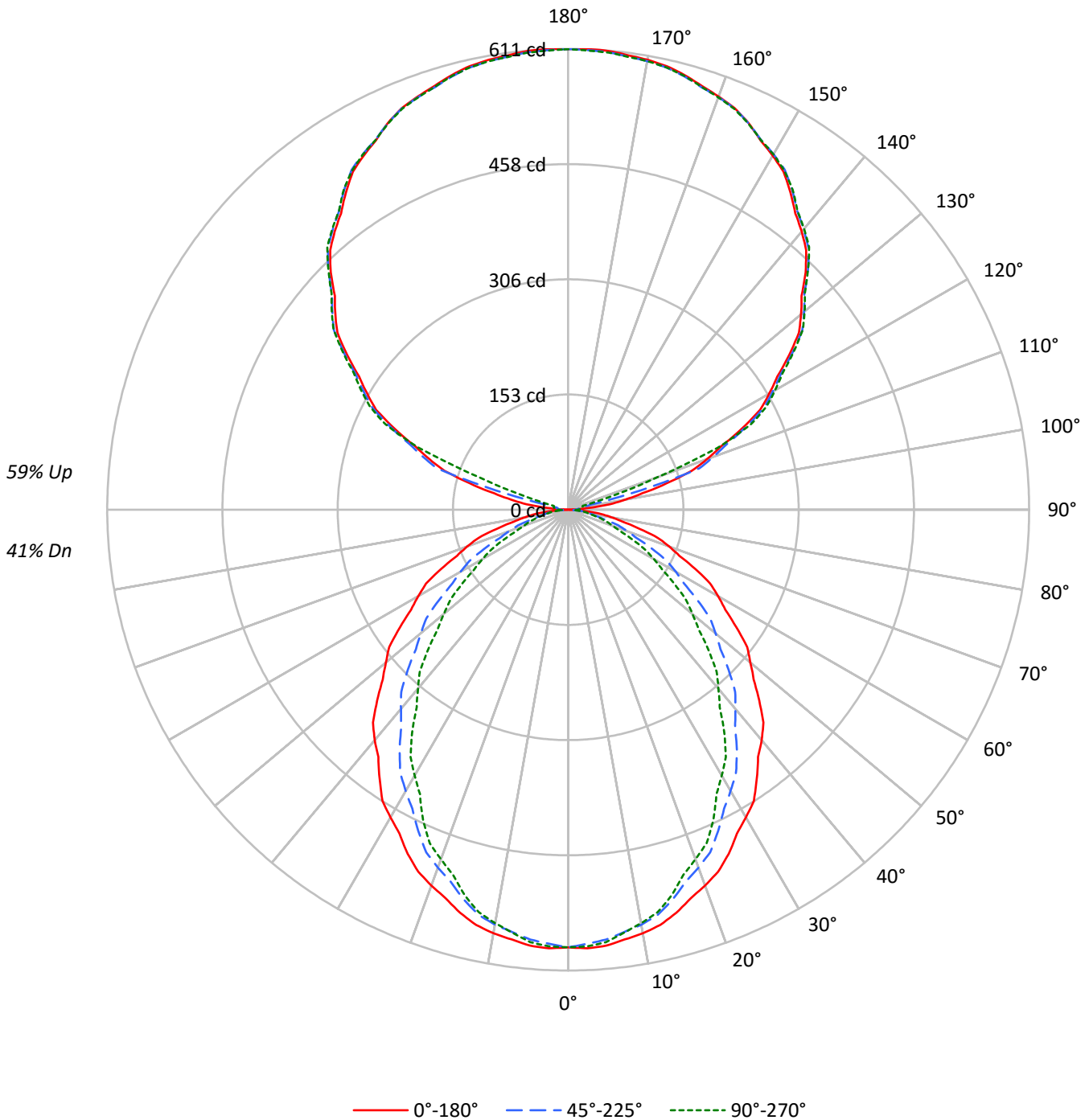
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	40	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	35	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	39	34	39	34	30	32	28	25	25	22	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	26	23	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	1.7
10°-20°	151.6	4.8
20°-30°	218.3	6.9
30°-40°	245.9	7.7
40°-50°	235.2	7.4
50°-60°	192.6	6.1
60°-70°	130.0	4.1
70°-80°	65.4	2.1
80°-90°	19.0	0.6
90°-100°	22.2	0.7
100°-110°	105.8	3.3
110°-120°	254.2	8.0
120°-130°	323.7	10.2
130°-140°	345.8	10.9
140°-150°	323.4	10.2
150°-160°	260.8	8.2
160°-170°	168.4	5.3
170°-180°	58.0	1.8
0°-30°	424.3	13.4
0°-40°	670.2	21.1
0°-60°	1098.1	34.6
0°-90°	1312.4	41.3
90°-120°	382.2	12.0
90°-150°	1375.1	43.3
90°-180°	1862.0	58.7
0°-180°	3174.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	0	5	11	13	14	3
95°	28	10	14	17	17	34
105°	135	138	99	24	20	143
115°	254	256	260	265	267	250
125°	358	361	363	364	365	319
135°	445	448	450	451	450	343
145°	514	517	518	519	519	321
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°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.1	8.4	7.7	7.0	6.3	6.1	6.3	6.6	6.8	7.1	7.1
90°	0.4	1.4	2.4	3.4	4.4	5.7	7.0	8.3	9.6	10.9	11.3
92.5°	8.5	8.2	7.9	7.6	7.3	7.7	8.7	9.6	10.6	11.6	12.2
95°	27.7	23.5	19.4	15.2	11.1	9.6	10.7	11.8	12.9	14.0	14.7
97.5°	55.6	53.7	51.9	50.1	48.2	43.6	36.4	29.1	21.9	14.6	15.5
100°	76.6	78.7	80.7	82.7	84.7	77.9	62.2	46.5	30.7	14.9	15.8
102.5°	100.6	102.1	103.5	105.0	106.4	98.6	81.4	64.2	47.1	29.9	27.4
105°	135.2	136.3	137.4	138.6	139.7	135.6	126.5	117.5	108.5	99.4	81.5
107.5°	171.7	172.6	173.5	174.3	175.2	176.4	177.8	179.3	180.7	182.1	169.1
110°	196.0	196.8	197.6	198.4	199.2	200.2	201.3	202.4	203.5	204.6	201.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	219.2	219.9	220.7	221.4	222.2	223.1	224.2	225.3	226.4	227.5	227.5
115°	253.6	254.2	254.8	255.4	256.0	256.8	257.7	258.6	259.5	260.4	261.5
117.5°	286.9	287.7	288.4	289.1	289.9	290.5	290.9	291.4	292.0	292.4	293.2
120°	307.6	308.5	309.4	310.3	311.2	311.8	312.1	312.5	312.8	313.1	313.9
122.5°	328.7	329.4	330.1	330.9	331.6	332.2	332.6	333.0	333.4	333.8	334.3
125°	357.5	358.3	359.1	359.9	360.7	361.3	361.7	362.1	362.5	362.9	363.1
127.5°	385.5	386.3	387.1	387.9	388.7	389.3	389.8	390.3	390.8	391.3	391.6
130°	402.9	403.7	404.6	405.4	406.2	406.8	407.2	407.6	408.0	408.3	408.7
132.5°	419.6	420.4	421.2	422.0	422.8	423.3	423.7	424.0	424.3	424.6	425.1
135°	445.0	445.7	446.3	446.9	447.5	448.0	448.4	448.8	449.2	449.6	449.9
137.5°	466.9	467.7	468.4	469.2	469.9	470.4	470.7	470.9	471.1	471.3	471.8
140°	481.4	482.0	482.6	483.2	483.8	484.2	484.5	484.8	485.1	485.4	485.8
142.5°	494.8	495.4	496.0	496.7	497.3	497.7	498.0	498.3	498.6	498.9	499.2
145°	513.6	514.3	515.0	515.7	516.4	516.8	517.1	517.3	517.5	517.7	517.9
147.5°	531.3	531.8	532.2	532.7	533.1	533.5	533.7	533.9	534.1	534.3	534.5
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°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	7.1	7.1	7.1	7.1	7.0	7.0	6.9	6.9
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	12.9	13.5	14.2	14.5	14.7	14.8	14.9	15.0
95°	15.5	16.2	16.9	17.3	17.3	17.3	17.3	17.3
97.5°	16.3	17.1	17.9	18.3	18.4	18.5	18.6	18.7
100°	16.6	17.4	18.2	18.7	18.8	18.9	19.0	19.1
102.5°	24.8	22.3	19.9	18.7	18.9	19.1	19.2	19.4
105°	63.6	45.8	28.0	19.2	19.4	19.6	19.8	20.0
107.5°	155.9	142.9	129.8	116.5	103.0	89.6	76.1	62.7
110°	197.9	194.6	191.3	182.5	168.0	153.6	139.2	124.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	227.6	227.6	227.7	226.2	223.2	220.2	217.1	214.1
115°	262.5	263.5	264.5	265.2	265.6	266.0	266.4	266.8
117.5°	294.0	294.8	295.6	296.0	296.1	296.2	296.3	296.4
120°	314.7	315.5	316.3	316.7	316.7	316.7	316.7	316.7
122.5°	334.9	335.5	336.0	336.3	336.4	336.5	336.6	336.7
125°	363.3	363.6	363.8	364.0	364.2	364.4	364.6	364.8
127.5°	391.9	392.2	392.5	392.6	392.4	392.2	392.0	391.8
130°	409.1	409.5	409.9	410.0	409.8	409.6	409.4	409.2
132.5°	425.5	425.9	426.3	426.4	426.1	425.8	425.5	425.3
135°	450.2	450.5	450.8	450.8	450.5	450.2	449.9	449.6
137.5°	472.3	472.7	473.2	473.4	473.2	473.0	472.8	472.6
140°	486.3	486.7	487.1	487.2	487.0	486.8	486.6	486.4
142.5°	499.6	499.9	500.2	500.2	499.9	499.7	499.4	499.1
145°	518.1	518.3	518.5	518.6	518.6	518.6	518.6	518.6
147.5°	534.7	534.9	535.1	534.9	534.5	534.0	533.6	533.1
150°	544.8	545.0	545.2	545.2	544.9	544.6	544.3	544.0
152.5°	553.9	554.2	554.6	554.5	554.1	553.6	553.2	552.7
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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