

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: P332506

Luminaire Tested: **S124DIP-S350D590U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332506
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D590U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3564.1 lumens
Efficiency: N/A
Efficacy: 139.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

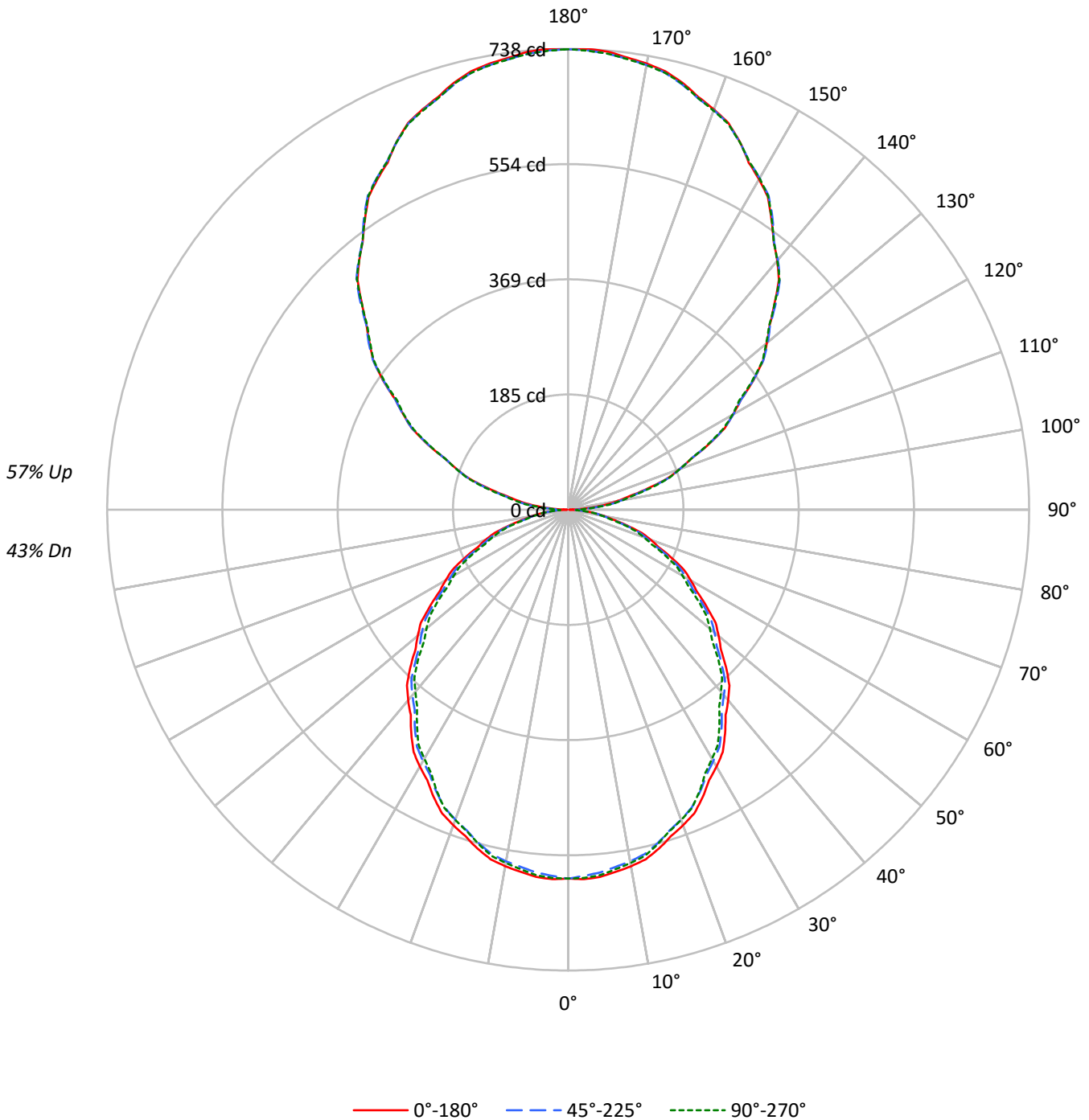
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43
1	96	92	88	84	88	84	81	78	69	67	65	56	54	53	43	42	42	36
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	37	35	30
3	80	70	63	57	73	65	58	53	54	49	45	43	40	37	34	32	30	25
4	73	62	54	48	66	57	50	45	48	42	38	39	35	32	30	28	26	22
5	67	55	47	41	61	51	44	39	42	37	33	35	31	28	27	25	22	19
6	62	50	42	36	56	46	39	33	38	33	29	31	27	24	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	28	24	21	23	20	17	15
8	53	41	33	28	48	37	31	26	32	26	22	26	22	19	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4769	4769	4769
5°	4783	4725	4760
10°	4753	4687	4710
15°	4695	4621	4633
20°	4619	4538	4542
25°	4532	4444	4431
30°	4426	4333	4294
35°	4315	4217	4161
40°	4200	4086	4011
45°	4080	3956	3881
50°	3947	3841	3721
55°	3804	3690	3571
60°	3660	3523	3416
65°	3500	3364	3228
70°	3319	3151	3028
75°	3041	2895	2820
80°	2706	2599	2529
85°	2371	2279	2232



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	1.6
10°-20°	156.7	4.4
20°-30°	230.7	6.5
30°-40°	268.2	7.5
40°-50°	268.2	7.5
50°-60°	234.6	6.6
60°-70°	174.2	4.9
70°-80°	99.0	2.8
80°-90°	30.8	0.9
90°-100°	48.6	1.4
100°-110°	144.1	4.0
110°-120°	244.6	6.9
120°-130°	322.5	9.0
130°-140°	362.2	10.2
140°-150°	355.9	10.0
150°-160°	299.3	8.4
160°-170°	199.1	5.6
170°-180°	69.7	2.0
0°-30°	443.1	12.4
0°-40°	711.3	20.0
0°-60°	1214.1	34.1
0°-90°	1518.1	42.6
90°-120°	437.3	12.3
90°-150°	1477.8	41.5
90°-180°	2046.0	57.4
0°-180°	3564.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	590	588	583	588	587	56
15°	562	560	553	555	554	158
25°	509	505	499	499	498	234
35°	438	434	428	425	422	274
45°	357	354	346	342	340	275
55°	270	269	262	257	254	242
65°	183	181	176	172	169	181
75°	98	95	93	91	90	104
85°	26	26	25	25	24	28
90°	2	8	12	16	17	4
95°	34	39	43	45	45	38
105°	133	134	136	137	139	141
115°	249	249	248	247	246	245
125°	362	362	362	360	359	323
135°	467	470	470	469	468	361
145°	568	570	570	570	568	355
155°	650	650	650	652	650	299
165°	708	706	705	708	706	199
175°	736	734	733	736	733	70
180°	738	738	738	738	738	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	592.2	592.0	591.7	591.5	591.2	590.6	589.7	588.8	587.9	586.9	587.8
5°	590.2	589.8	589.4	589.0	588.6	587.8	586.6	585.5	584.3	583.1	584.3
7.5°	584.8	584.3	583.9	583.5	583.1	582.2	580.9	579.7	578.4	577.1	578.0
10°	579.8	579.4	579.0	578.6	578.2	577.3	575.9	574.5	573.2	571.8	572.6
12.5°	573.4	573.0	572.6	572.1	571.7	570.8	569.3	567.9	566.4	565.0	565.9
15°	561.8	561.4	561.0	560.6	560.2	559.2	557.6	556.0	554.4	552.9	553.5
17.5°	547.9	547.4	546.9	546.4	545.8	544.8	543.3	541.8	540.3	538.8	539.2
20°	537.7	537.2	536.7	536.1	535.6	534.6	533.0	531.4	529.8	528.2	528.6
22.5°	526.7	526.0	525.3	524.6	523.9	522.8	521.2	519.7	518.1	516.5	517.1
25°	508.8	508.1	507.4	506.6	505.9	504.8	503.3	501.8	500.4	498.9	499.0
27.5°	488.4	487.6	486.9	486.1	485.4	484.3	482.9	481.6	480.2	478.8	478.6
30°	474.8	473.9	473.1	472.2	471.4	470.3	468.9	467.5	466.2	464.8	464.4
32.5°	460.4	459.6	458.8	458.1	457.3	456.2	454.8	453.3	451.9	450.4	449.9
35°	437.8	437.1	436.4	435.6	434.9	433.8	432.3	430.8	429.4	427.9	427.2
37.5°	414.1	413.4	412.7	412.1	411.4	410.3	408.7	407.1	405.5	403.9	403.1
40°	398.5	397.7	396.9	396.0	395.2	394.0	392.4	390.8	389.2	387.7	386.6
42.5°	381.9	381.4	380.9	380.4	379.9	378.7	377.0	375.2	373.5	371.8	370.5
45°	357.4	356.6	355.9	355.2	354.4	353.2	351.5	349.8	348.2	346.5	345.3
47.5°	331.7	331.2	330.7	330.2	329.7	328.7	327.1	325.5	324.0	322.4	321.1
50°	314.3	313.9	313.5	313.0	312.6	311.7	310.2	308.7	307.2	305.8	304.3
52.5°	297.3	296.7	296.2	295.7	295.2	294.2	292.6	291.1	289.5	288.0	286.7
55°	270.3	270.0	269.6	269.3	269.0	268.1	266.6	265.2	263.7	262.2	261.0
57.5°	244.5	244.2	243.8	243.5	243.1	242.2	240.7	239.3	237.8	236.4	235.2
60°	226.7	226.2	225.7	225.1	224.6	223.7	222.3	220.9	219.6	218.2	217.3
62.5°	209.3	208.9	208.4	208.0	207.5	206.6	205.1	203.7	202.2	200.8	199.9
65°	183.2	182.7	182.1	181.6	181.1	180.3	179.2	178.2	177.1	176.1	175.0
67.5°	156.9	156.4	155.9	155.4	154.9	154.2	153.2	152.2	151.2	150.1	149.1
70°	140.6	139.8	139.1	138.4	137.6	136.8	136.0	135.2	134.3	133.5	132.6
72.5°	123.2	122.4	121.7	121.0	120.2	119.5	118.8	118.2	117.5	116.8	116.1
75°	97.5	97.0	96.5	95.9	95.4	94.9	94.4	93.8	93.3	92.8	92.4
77.5°	73.0	72.8	72.5	72.3	72.1	71.7	71.3	70.8	70.3	69.9	69.7
80°	58.2	57.9	57.6	57.3	57.0	56.7	56.5	56.3	56.1	55.9	55.6
82.5°	43.8	43.7	43.5	43.4	43.2	43.1	43.1	43.1	43.0	43.0	42.9
85°	25.6	25.6	25.6	25.6	25.6	25.5	25.2	25.0	24.8	24.6	24.6
87.5°	10.2	10.4	10.6	10.8	11.0	11.1	11.2	11.4	11.5	11.6	11.7
90°	1.7	3.1	4.5	5.9	7.3	8.5	9.5	10.5	11.5	12.5	13.3
92.5°	12.2	13.8	15.4	17.0	18.6	19.7	20.5	21.2	21.9	22.6	23.0
95°	34.2	35.4	36.5	37.6	38.8	39.8	40.7	41.6	42.5	43.3	43.7
97.5°	59.8	60.7	61.6	62.5	63.4	64.4	65.4	66.5	67.5	68.6	69.0
100°	79.8	80.4	80.9	81.4	81.9	82.7	83.8	85.0	86.1	87.3	87.5
102.5°	100.8	101.0	101.2	101.4	101.6	102.3	103.3	104.3	105.4	106.4	106.8
105°	132.9	133.0	133.1	133.3	133.4	133.7	134.2	134.7	135.2	135.7	136.1
107.5°	166.5	166.7	166.8	167.0	167.2	167.3	167.3	167.4	167.5	167.6	167.9
110°	189.4	189.6	189.9	190.1	190.4	190.4	190.3	190.2	190.1	189.9	189.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.1	213.1	213.2	213.2	213.3	213.2	213.0	212.7	212.5	212.3	212.2
115°	248.7	248.7	248.7	248.7	248.7	248.5	248.3	248.0	247.8	247.5	247.4
117.5°	282.2	282.3	282.4	282.5	282.6	282.6	282.4	282.2	282.0	281.9	281.4
120°	304.6	305.1	305.6	306.1	306.6	306.7	306.3	305.9	305.5	305.1	304.5
122.5°	327.8	328.0	328.2	328.4	328.6	328.7	328.5	328.3	328.1	328.0	327.5
125°	362.2	362.2	362.2	362.2	362.2	362.1	362.0	361.9	361.7	361.6	361.3
127.5°	393.3	393.7	394.1	394.5	394.8	394.9	394.7	394.5	394.3	394.1	393.9
130°	415.2	415.6	416.0	416.4	416.7	416.9	416.9	416.9	416.9	416.9	416.7
132.5°	437.6	437.9	438.1	438.4	438.7	438.8	438.7	438.6	438.5	438.4	438.1
135°	467.1	467.9	468.6	469.4	470.2	470.5	470.5	470.5	470.5	470.5	470.3
137.5°	499.3	499.6	500.0	500.3	500.7	501.0	501.2	501.4	501.6	501.8	501.5
140°	520.7	521.0	521.2	521.5	521.7	521.9	521.9	521.9	521.9	521.9	521.7
142.5°	540.3	540.6	540.9	541.1	541.4	541.4	541.3	541.2	541.1	541.0	541.0
145°	567.5	568.0	568.5	569.0	569.5	569.8	570.0	570.1	570.2	570.3	570.2
147.5°	594.4	595.0	595.6	596.2	596.9	597.1	597.0	596.9	596.8	596.7	596.6
150°	610.8	611.4	611.9	612.4	612.9	613.1	613.1	613.1	613.1	613.1	613.1
152.5°	626.4	626.7	627.0	627.3	627.6	627.8	627.9	628.0	628.1	628.2	628.5
155°	650.2	650.2	650.2	650.2	650.2	650.1	650.0	649.9	649.8	649.6	650.1
157.5°	670.3	670.0	669.8	669.6	669.4	669.2	669.2	669.2	669.2	669.1	669.5
160°	682.1	682.0	681.9	681.8	681.6	681.5	681.4	681.3	681.1	681.0	681.4
162.5°	693.1	692.8	692.4	692.1	691.8	691.5	691.4	691.3	691.2	691.0	691.7
165°	707.8	707.4	707.0	706.7	706.3	706.0	705.7	705.5	705.2	705.0	705.7
167.5°	719.1	718.6	718.0	717.5	717.0	716.7	716.7	716.8	716.8	716.8	717.6
170°	725.5	724.9	724.2	723.6	722.9	722.7	722.8	722.9	723.1	723.2	724.0
172.5°	730.0	729.5	729.0	728.5	727.9	727.7	727.7	727.7	727.7	727.8	728.6
175°	736.3	735.7	735.1	734.4	733.8	733.4	733.3	733.2	733.0	732.9	733.8
177.5°	738.4	737.9	737.4	736.9	736.3	736.1	736.1	736.1	736.1	736.1	736.8
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	588.6	589.5	590.3	590.7	590.6	590.5	590.4	590.3
5°	585.5	586.6	587.8	588.2	588.0	587.8	587.6	587.4
7.5°	578.9	579.9	580.8	581.2	581.1	580.9	580.8	580.7
10°	573.5	574.3	575.2	575.5	575.3	575.0	574.8	574.6
12.5°	566.8	567.7	568.7	569.0	568.7	568.4	568.1	567.8
15°	554.1	554.7	555.4	555.5	555.2	554.9	554.6	554.3
17.5°	539.6	540.0	540.4	540.5	540.3	540.1	539.9	539.7
20°	528.9	529.2	529.5	529.6	529.3	529.1	528.9	528.7
22.5°	517.6	518.2	518.8	518.9	518.5	518.1	517.7	517.4
25°	499.1	499.2	499.3	499.2	498.7	498.3	497.9	497.5
27.5°	478.3	478.1	477.8	477.4	476.9	476.4	475.8	475.3
30°	464.0	463.6	463.1	462.7	462.1	461.6	461.1	460.6
32.5°	449.4	448.9	448.4	447.9	447.4	446.8	446.3	445.8
35°	426.4	425.7	424.9	424.3	423.8	423.3	422.7	422.2
37.5°	402.3	401.5	400.7	400.0	399.3	398.6	397.9	397.2
40°	385.6	384.5	383.5	382.7	382.1	381.6	381.1	380.6
42.5°	369.3	368.1	366.9	366.1	365.7	365.4	365.0	364.7
45°	344.2	343.0	341.9	341.1	340.8	340.5	340.2	339.9
47.5°	319.8	318.5	317.2	316.2	315.4	314.6	313.8	313.0
50°	302.8	301.4	299.9	298.8	298.2	297.6	296.9	296.3
52.5°	285.4	284.1	282.8	281.7	280.9	280.1	279.3	278.5
55°	259.7	258.4	257.2	256.2	255.6	255.0	254.3	253.7
57.5°	234.0	232.8	231.6	230.7	230.1	229.5	228.9	228.2
60°	216.3	215.4	214.4	213.7	213.2	212.6	212.1	211.6
62.5°	199.1	198.2	197.3	196.6	196.1	195.6	195.1	194.5
65°	174.0	172.9	171.9	171.1	170.6	170.0	169.5	169.0
67.5°	148.1	147.1	146.1	145.5	145.4	145.2	145.1	144.9
70°	131.8	131.0	130.1	129.5	129.2	128.9	128.6	128.3
72.5°	115.5	114.8	114.1	113.6	113.3	113.0	112.7	112.4
75°	91.9	91.5	91.1	90.8	90.7	90.6	90.5	90.4
77.5°	69.6	69.5	69.4	69.2	68.9	68.6	68.3	68.1
80°	55.4	55.2	55.0	54.9	54.7	54.6	54.5	54.4
82.5°	42.7	42.6	42.5	42.4	42.3	42.1	42.0	41.9
85°	24.6	24.6	24.6	24.6	24.5	24.4	24.2	24.1
87.5°	11.9	12.1	12.2	12.3	12.4	12.4	12.5	12.5
90°	14.1	14.8	15.6	16.1	16.4	16.6	16.9	17.1
92.5°	23.5	24.0	24.4	24.7	24.9	25.0	25.2	25.3
95°	44.1	44.5	44.9	45.1	45.1	45.1	45.1	45.1
97.5°	69.5	69.9	70.4	70.6	70.6	70.6	70.6	70.6
100°	87.8	88.0	88.3	88.4	88.4	88.4	88.4	88.4
102.5°	107.1	107.5	107.8	108.1	108.2	108.3	108.4	108.5
105°	136.5	136.9	137.3	137.6	138.0	138.4	138.8	139.2
107.5°	168.3	168.6	169.0	169.2	169.1	169.1	169.1	169.1
110°	189.4	189.2	188.9	189.0	189.4	189.7	190.1	190.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.2	212.1	212.1	212.1	212.2	212.2	212.3	212.4
115°	247.3	247.2	247.0	246.9	246.8	246.6	246.5	246.4
117.5°	281.0	280.6	280.1	279.8	279.5	279.3	279.0	278.8
120°	303.9	303.2	302.6	302.4	302.7	302.9	303.2	303.4
122.5°	327.1	326.7	326.2	325.8	325.3	324.9	324.4	324.0
125°	361.1	360.8	360.6	360.3	360.1	359.8	359.6	359.3
127.5°	393.6	393.4	393.1	392.9	392.7	392.5	392.3	392.1
130°	416.4	416.2	415.9	415.5	415.0	414.5	414.0	413.5
132.5°	437.9	437.6	437.4	437.1	436.9	436.7	436.5	436.3
135°	470.0	469.8	469.5	469.2	468.8	468.4	468.1	467.7
137.5°	501.1	500.8	500.5	500.3	500.4	500.5	500.6	500.7
140°	521.6	521.5	521.4	521.2	521.1	521.0	520.9	520.7
142.5°	541.0	541.0	540.9	540.9	540.9	540.9	540.8	540.8
145°	570.1	570.0	569.8	569.6	569.2	568.8	568.4	568.1
147.5°	596.5	596.4	596.3	596.2	596.1	595.9	595.8	595.7
150°	613.1	613.1	613.1	613.1	612.9	612.8	612.7	612.6
152.5°	628.8	629.1	629.4	629.4	629.1	628.7	628.4	628.1
155°	650.6	651.1	651.7	651.7	651.1	650.6	650.1	649.6
157.5°	669.9	670.3	670.7	670.6	670.2	669.8	669.3	668.9
160°	681.8	682.1	682.5	682.4	681.8	681.1	680.5	679.9
162.5°	692.4	693.1	693.8	693.8	693.2	692.5	691.9	691.3
165°	706.5	707.2	708.0	708.1	707.6	707.1	706.6	706.1
167.5°	718.3	719.1	719.9	719.8	719.1	718.3	717.5	716.7
170°	724.7	725.5	726.2	726.2	725.3	724.4	723.5	722.6
172.5°	729.5	730.4	731.2	731.2	730.3	729.4	728.5	727.7
175°	734.7	735.6	736.4	736.4	735.6	734.7	733.8	732.9
177.5°	737.5	738.2	738.9	738.9	738.1	737.3	736.4	735.6
180°	737.5	737.5	737.5	737.5	737.5	737.5	737.5	737.5

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