

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: P332504

Luminaire Tested: **S124DIP-S350D590U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332504
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
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-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3554.2 lumens
Efficiency: N/A
Efficacy: 138.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

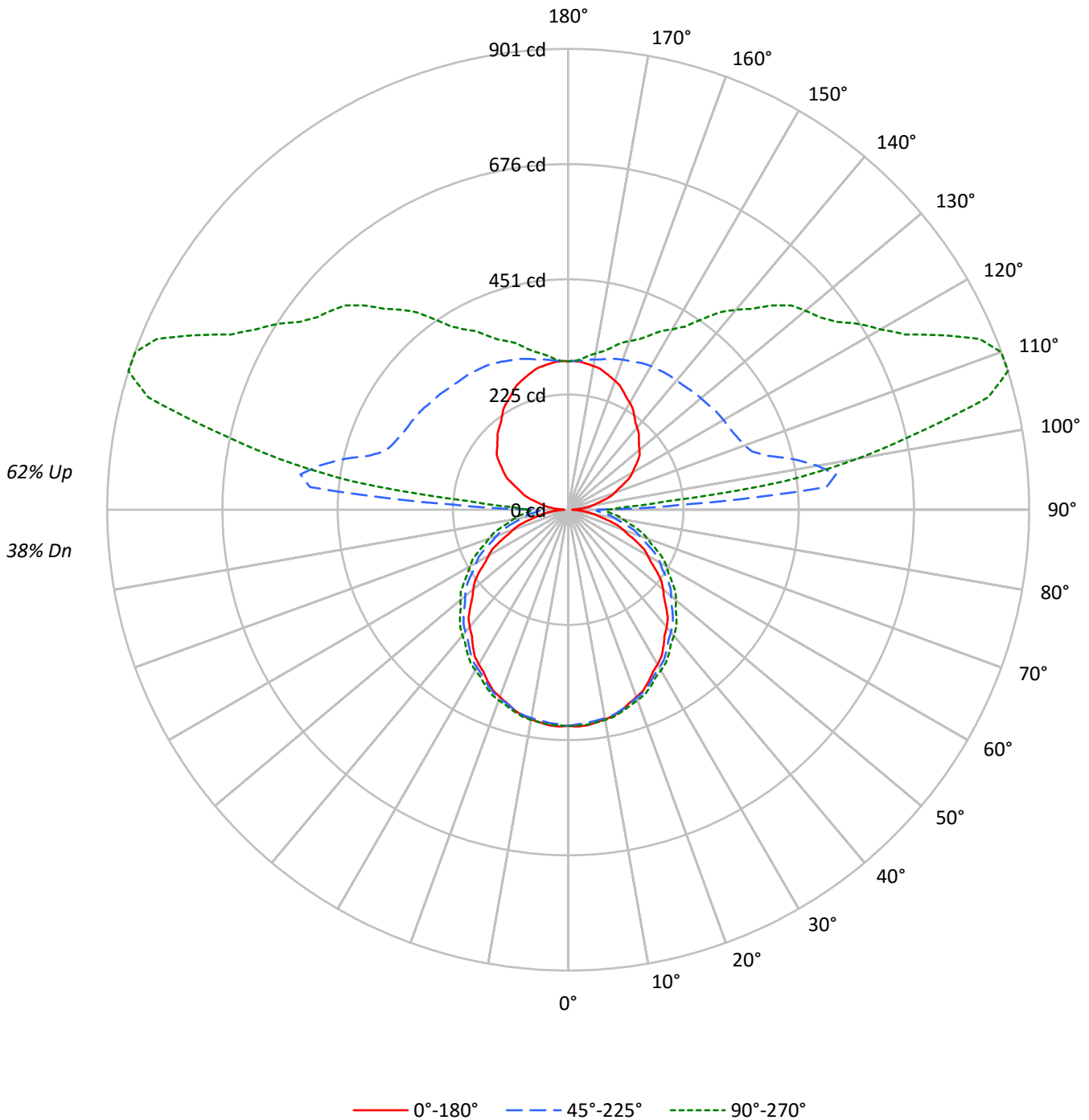
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	63	61	51	50	48	38	37	36	30
2	85	78	71	66	77	71	65	61	57	53	50	45	42	40	33	31	30	25
3	78	68	61	55	70	62	55	50	50	45	42	39	36	33	29	27	25	20
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	23	21	17
5	65	53	45	39	59	48	41	36	39	34	30	31	27	24	23	21	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	27	21	18	21	17	15	16	13	11	9
10	44	32	25	20	40	30	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	1.1
10°-20°	114.7	3.2
20°-30°	173.4	4.9
30°-40°	209.8	5.9
40°-50°	221.8	6.2
50°-60°	208.8	5.9
60°-70°	173.2	4.9
70°-80°	121.7	3.4
80°-90°	70.4	2.0
90°-100°	250.6	7.0
100°-110°	466.7	13.1
110°-120°	411.2	11.6
120°-130°	340.3	9.6
130°-140°	279.1	7.9
140°-150°	210.5	5.9
150°-160°	147.2	4.1
160°-170°	86.6	2.4
170°-180°	28.2	0.8
0°-30°	328.1	9.2
0°-40°	537.9	15.1
0°-60°	968.5	27.2
0°-90°	1333.7	37.5
90°-120°	1128.5	31.8
90°-150°	1958.5	55.1
90°-180°	2220.0	62.5
0°-180°	3554.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	8	31	57	71	76	6
95°	25	81	506	284	197	26
105°	71	111	406	848	850	76
115°	120	155	356	673	807	120
125°	166	197	345	568	640	148
135°	196	233	333	496	565	151
145°	225	257	327	411	454	141
155°	255	275	318	360	376	118
165°	278	286	305	323	328	78
175°	290	290	293	297	296	27
180°	290	290	290	290	290	



TEST NUMBER: P332504

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.1	18.6	23.3	27.7	32.1	36.5	41.8	46.4	51.3	56.1	59.0
90°	8.1	13.5	19.4	24.2	29.0	33.3	41.3	45.8	51.5	57.1	59.6
92.5°	13.7	20.5	29.6	40.3	52.5	68.5	102.0	150.8	198.4	225.5	198.3
95°	25.0	30.2	39.3	50.2	67.4	95.2	149.2	247.0	387.7	506.1	522.1
97.5°	39.4	42.3	50.2	60.1	74.8	98.5	141.0	222.5	362.3	527.9	641.6
100°	48.6	51.3	58.0	67.6	81.2	102.8	140.6	209.2	329.6	494.6	643.5
102.5°	57.7	61.0	66.9	75.7	88.5	109.1	143.5	204.3	307.3	453.9	607.3
105°	71.0	74.8	79.8	88.7	101.1	120.6	151.9	203.1	286.9	405.5	542.1
107.5°	86.7	89.5	94.1	103.1	114.7	133.7	162.5	209.3	281.2	377.2	489.2
110°	96.8	99.4	103.7	112.0	123.8	141.7	170.5	214.1	280.6	367.0	462.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	106.4	108.9	113.5	121.2	132.8	150.6	178.3	219.4	281.6	361.0	446.2
115°	120.4	123.0	128.0	134.6	146.4	163.9	190.1	227.7	284.1	356.0	430.1
117.5°	135.3	137.5	141.6	148.4	159.2	177.0	201.8	236.4	287.1	352.5	421.3
120°	145.0	146.4	150.7	157.3	167.3	185.0	209.7	242.4	289.4	350.7	416.1
122.5°	154.1	155.3	159.4	165.2	175.9	192.9	217.5	248.2	291.8	348.3	410.5
125°	165.6	167.8	171.1	177.3	188.0	205.2	228.4	257.3	295.8	345.3	402.0
127.5°	176.1	177.8	181.9	188.9	200.1	217.2	239.0	265.1	298.5	341.2	391.0
130°	181.7	183.9	188.3	196.8	207.5	224.8	245.9	269.8	300.6	338.8	384.1
132.5°	187.6	189.3	195.2	203.2	214.8	231.1	251.8	274.9	302.6	336.8	377.9
135°	195.5	197.8	203.5	213.2	225.1	240.3	259.9	281.2	305.3	333.4	368.2
137.5°	203.8	205.9	212.0	221.2	233.5	247.8	265.7	285.2	306.3	331.1	359.9
140°	209.7	211.3	217.5	227.1	239.0	252.7	269.9	288.2	307.7	329.5	355.4
142.5°	215.7	217.4	223.2	232.4	244.0	257.1	273.7	290.6	309.0	328.8	351.8
145°	224.7	226.3	231.9	239.7	250.5	263.0	277.8	293.2	309.8	327.4	346.3
147.5°	234.8	235.3	240.2	248.3	257.2	268.5	282.4	295.8	310.3	325.4	341.6
150°	241.2	241.7	246.1	252.9	261.3	272.1	284.7	297.2	310.3	324.0	338.3
152.5°	246.8	246.8	251.4	257.8	265.4	275.3	286.5	298.1	309.4	321.7	334.6
155°	255.0	255.6	259.0	264.7	271.0	279.5	289.2	298.9	308.0	318.3	329.1
157.5°	263.1	263.1	266.3	270.7	276.2	282.9	291.2	298.9	306.6	314.8	323.6
160°	268.1	268.1	270.4	274.4	278.9	285.2	292.1	298.9	305.2	312.0	319.5
162.5°	272.7	272.2	274.0	277.6	281.7	286.6	293.0	298.9	303.8	309.3	315.8
165°	277.8	277.8	278.9	281.8	284.7	288.1	293.2	297.8	301.2	305.2	309.8
167.5°	282.9	282.4	282.9	285.1	286.7	289.3	293.1	296.4	298.5	301.1	304.3
170°	285.2	284.7	285.2	286.9	288.1	289.8	292.6	295.5	296.6	298.3	300.6
172.5°	287.5	286.9	287.0	288.3	289.0	290.2	292.2	294.6	294.8	295.6	297.4
175°	289.8	289.2	289.2	289.8	290.4	290.4	291.5	293.2	292.6	292.6	293.8
177.5°	290.8	290.4	289.9	290.4	290.4	290.4	290.8	291.7	290.8	290.8	291.3
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	62.2	65.4	68.5	70.5	71.6	72.6	73.4	74.3
90°	63.2	66.8	70.5	72.4	73.8	75.2	75.5	76.4
92.5°	162.6	137.8	123.5	114.0	108.1	105.9	104.8	105.6
95°	469.6	384.0	310.4	256.9	229.9	213.2	203.9	197.4
97.5°	668.3	638.2	585.1	527.4	487.4	453.9	437.7	426.8
100°	729.6	743.9	718.8	678.3	629.4	595.4	579.0	575.2
102.5°	724.4	783.7	794.6	778.8	749.1	724.7	707.5	704.7
105°	675.4	776.7	835.8	860.9	862.9	859.2	852.1	849.5
107.5°	607.4	715.1	797.2	849.8	878.7	892.5	898.9	901.2
110°	566.3	667.4	752.6	817.0	858.3	883.1	894.2	900.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	535.5	625.1	705.6	770.0	816.8	846.6	861.8	871.0
115°	503.8	576.2	645.3	701.6	747.4	782.4	801.3	806.6
117.5°	486.5	546.8	601.5	649.4	688.7	718.3	737.6	742.0
120°	478.1	533.2	581.0	622.9	656.3	682.2	697.9	705.0
122.5°	470.7	524.0	567.7	604.6	632.8	655.0	668.4	675.4
125°	458.8	509.8	551.2	583.9	607.3	624.5	636.0	640.0
127.5°	444.3	493.1	534.2	565.3	589.0	604.4	614.2	618.4
130°	433.3	480.3	520.9	552.4	576.5	591.3	601.1	605.2
132.5°	422.0	466.2	505.9	537.3	560.9	577.6	586.9	590.9
135°	405.8	444.6	481.0	510.7	534.2	550.8	560.5	564.6
137.5°	391.3	424.3	455.1	481.9	503.8	520.1	528.1	532.8
140°	383.0	411.2	438.2	463.2	483.6	496.7	505.2	510.3
142.5°	375.5	400.4	423.6	445.2	463.3	475.4	482.9	486.5
145°	365.2	385.2	403.0	419.5	434.2	444.3	450.4	453.7
147.5°	356.7	372.2	386.0	398.7	409.6	418.2	422.9	424.3
150°	352.0	365.1	376.5	386.8	395.9	403.3	406.7	407.3
152.5°	346.9	358.2	368.7	377.2	384.9	391.0	393.0	393.6
155°	339.4	348.5	357.1	363.9	369.7	374.2	375.9	375.9
157.5°	331.3	339.0	346.1	351.6	356.0	359.4	360.4	360.4
160°	326.3	332.6	338.8	343.4	346.8	350.3	350.8	350.8
162.5°	321.3	326.6	331.5	335.7	338.2	341.6	342.2	341.7
165°	314.3	317.7	321.7	324.6	326.9	329.1	328.6	328.0
167.5°	307.6	310.2	313.4	315.1	316.3	317.7	317.6	317.2
170°	303.5	305.2	307.5	309.2	310.3	310.9	310.3	310.3
172.5°	299.8	301.1	302.5	303.7	304.4	305.0	304.4	303.5
175°	294.9	295.5	296.6	296.6	296.6	297.8	296.6	295.5
177.5°	291.7	292.2	292.2	292.6	292.2	292.6	291.7	290.8
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4

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