

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: P331253-830

Luminaire Tested: **SA2XXDIP-C290D530U830-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331253-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D530U830-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

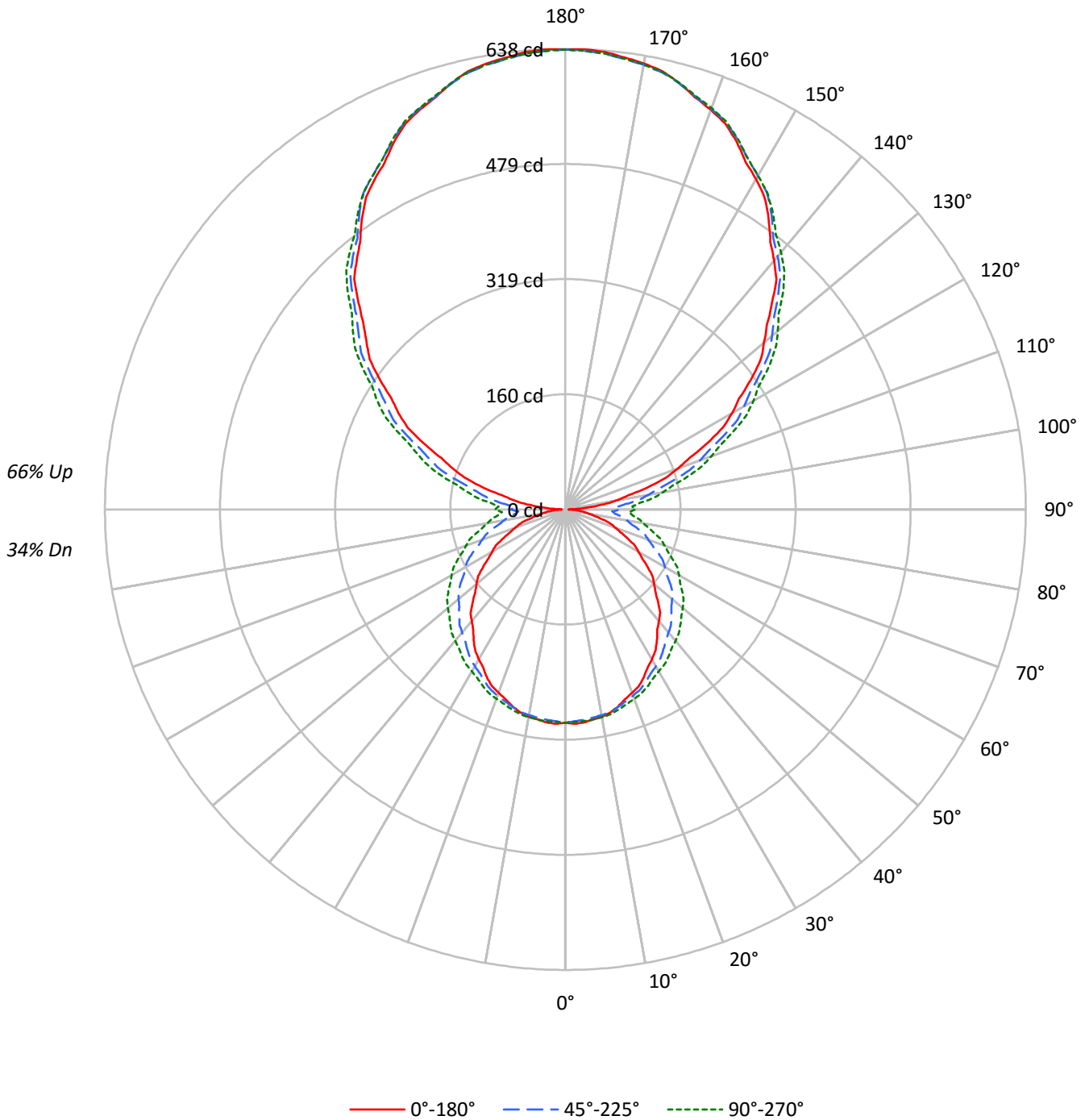
Lumens per Lamp: N/A  
Luminaire Lumens: 2910.6 lumens  
Efficiency: N/A  
Efficacy: 113.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 25.6  
Input Voltage (V): 120  
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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	34
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	24	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	25	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	20	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4771	4771	4771
5°	4794	4593	4573
10°	4763	4457	4407
15°	4698	4312	4229
20°	4614	4159	4059
25°	4533	4009	3902
30°	4418	3857	3747
35°	4301	3711	3638
40°	4178	3584	3528
45°	4060	3473	3434
50°	3936	3371	3343
55°	3802	3261	3248
60°	3643	3149	3150
65°	3474	3016	3031
70°	3286	2872	2904
75°	3050	2735	2786
80°	2669	2592	2667
85°	2319	2468	2574



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.0	1.0
10°-20°	80.3	2.8
20°-30°	121.6	4.2
30°-40°	148.2	5.1
40°-50°	159.4	5.5
50°-60°	154.8	5.3
60°-70°	135.2	4.6
70°-80°	104.1	3.6
80°-90°	72.4	2.5
90°-100°	88.5	3.0
100°-110°	160.5	5.5
110°-120°	237.5	8.2
120°-130°	294.7	10.1
130°-140°	321.7	11.1
140°-150°	311.0	10.7
150°-160°	260.1	8.9
160°-170°	172.5	5.9
170°-180°	60.3	2.1
0°-30°	229.9	7.9
0°-40°	378.1	13.0
0°-60°	692.3	23.8
0°-90°	1003.9	34.5
90°-120°	486.4	16.7
90°-150°	1413.8	48.6
90°-180°	1907.0	65.5
0°-180°	2910.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	296	296	296	296	296	
5°	296	295	292	295	294	28
15°	283	283	283	287	287	80
25°	257	260	264	269	270	118
35°	221	229	237	246	249	138
45°	182	193	208	221	226	140
55°	139	155	177	192	198	124
65°	95	116	141	158	164	94
75°	53	77	104	122	128	56
85°	16	42	69	87	93	17
90°	5	36	75	91	97	4
95°	31	57	84	99	104	35
105°	118	132	155	170	176	124
115°	217	225	243	255	258	214
125°	314	319	330	340	344	280
135°	405	411	416	425	427	313
145°	491	495	498	501	501	307
155°	562	563	565	567	566	258
165°	611	611	611	614	612	172
175°	636	634	633	637	634	60
180°	637	637	637	637	637	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	297.2	296.9	296.7	296.4	296.2	295.9	295.3	294.8	294.3	293.7	294.1
5°	296.3	296.1	295.8	295.5	295.1	294.7	294.2	293.6	293.0	292.5	293.0
7.5°	293.6	293.4	293.2	293.0	292.8	292.6	292.1	291.7	291.2	290.8	291.5
10°	291.6	291.4	291.2	291.1	290.9	290.6	290.3	290.0	289.7	289.5	290.2
12.5°	288.1	288.2	288.2	288.3	288.3	288.2	288.0	287.9	287.6	287.4	288.1
15°	282.6	282.8	283.0	283.1	283.3	283.4	283.4	283.4	283.4	283.4	284.3
17.5°	275.4	275.8	276.2	276.6	277.0	277.4	277.7	278.0	278.2	278.6	279.5
20°	270.6	271.1	271.5	272.0	272.5	273.0	273.3	273.7	274.1	274.5	275.5
22.5°	265.5	266.0	266.6	267.1	267.7	268.2	268.7	269.3	269.8	270.3	271.4
25°	256.9	257.6	258.3	258.9	259.6	260.3	261.2	262.0	262.9	263.7	264.9
27.5°	246.7	247.7	248.8	249.9	251.0	252.0	253.0	254.0	255.1	256.1	257.5
30°	239.8	241.0	242.2	243.5	244.7	246.0	247.2	248.5	249.7	250.9	252.4
32.5°	232.2	233.7	235.0	236.4	237.8	239.2	240.7	242.1	243.6	245.1	246.9
35°	221.4	223.0	224.6	226.2	227.8	229.5	231.4	233.2	235.0	236.8	238.8
37.5°	209.5	211.4	213.3	215.2	217.0	219.1	221.5	223.8	226.1	228.5	230.8
40°	201.7	203.8	205.9	207.9	210.0	212.4	214.9	217.5	220.1	222.6	225.1
42.5°	194.2	196.2	198.3	200.4	202.6	205.0	208.0	210.9	213.9	216.8	219.5
45°	181.5	184.1	186.7	189.3	191.8	194.7	198.1	201.4	204.7	208.1	211.0
47.5°	169.1	171.9	174.7	177.5	180.3	183.7	187.6	191.4	195.4	199.3	202.4
50°	160.6	163.5	166.5	169.4	172.4	176.0	180.3	184.5	188.8	193.1	196.3
52.5°	152.3	155.4	158.5	161.6	164.8	168.5	173.1	177.6	182.1	186.6	189.9
55°	139.1	142.6	146.0	149.4	152.9	157.0	162.0	166.9	171.9	176.8	180.3
57.5°	126.1	130.0	133.8	137.7	141.6	146.0	151.1	156.1	161.2	166.3	169.9
60°	116.9	121.0	125.1	129.1	133.3	138.0	143.5	148.8	154.3	159.7	163.3
62.5°	108.7	112.9	117.2	121.4	125.6	130.4	135.9	141.3	146.8	152.2	156.0
65°	95.0	99.7	104.3	109.1	113.7	118.9	124.4	130.1	135.7	141.3	145.2
67.5°	82.6	87.5	92.3	97.2	102.1	107.4	113.1	118.9	124.6	130.4	134.3
70°	73.6	78.6	83.5	88.5	93.4	98.9	104.7	110.7	116.6	122.4	126.6
72.5°	65.4	70.5	75.6	80.7	85.9	91.3	97.4	103.3	109.3	115.3	119.3
75°	52.7	58.0	63.3	68.6	74.0	79.6	85.8	91.9	97.9	104.1	108.1
77.5°	40.3	45.9	51.5	57.0	62.7	68.5	74.7	80.9	87.1	93.2	97.4
80°	32.1	37.9	43.7	49.5	55.3	61.4	67.5	73.7	79.8	86.1	90.0
82.5°	25.3	31.0	36.8	42.4	48.2	54.2	60.4	66.7	73.0	79.2	83.2
85°	15.5	21.3	27.2	33.1	39.0	45.0	51.1	57.2	63.2	69.4	73.3
87.5°	8.5	14.4	20.5	26.4	32.3	38.6	45.2	51.8	58.4	65.0	68.9
90°	4.8	11.8	18.8	25.6	32.6	40.4	49.2	57.9	66.6	75.3	78.9
92.5°	13.5	19.7	25.9	32.0	38.3	44.6	51.1	57.6	64.1	70.5	74.3
95°	31.4	37.0	42.7	48.4	54.0	59.9	65.8	71.7	77.7	83.6	87.3
97.5°	54.1	59.1	64.1	69.2	74.2	79.6	85.6	91.5	97.5	103.4	106.9
100°	71.3	75.7	80.2	84.6	89.2	94.3	99.9	105.7	111.3	117.0	120.6
102.5°	89.0	92.9	96.9	100.9	104.9	109.7	115.4	120.9	126.6	132.2	135.7
105°	117.7	120.8	123.9	127.1	130.2	134.3	139.5	144.7	149.9	155.0	158.6
107.5°	147.0	149.8	152.5	155.2	158.0	161.7	166.5	171.2	176.0	180.7	184.0
110°	165.6	168.2	170.9	173.5	176.2	179.7	184.5	189.1	193.8	198.4	201.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	186.2	188.6	191.0	193.2	195.6	198.9	203.2	207.5	211.9	216.2	219.0
115°	216.7	218.5	220.3	222.0	223.8	226.7	230.7	234.8	238.7	242.8	245.5
117.5°	246.6	248.3	249.9	251.5	253.2	255.6	258.9	262.2	265.5	268.8	271.3
120°	266.8	268.2	269.5	270.8	272.1	274.3	277.1	279.9	282.8	285.7	288.3
122.5°	285.3	286.6	287.9	289.2	290.5	292.6	295.5	298.4	301.3	304.3	306.5
125°	313.7	314.7	315.8	316.9	318.0	319.8	322.5	325.2	327.9	330.5	332.8
127.5°	341.8	343.0	344.2	345.5	346.8	348.5	350.4	352.5	354.5	356.6	358.4
130°	359.4	360.8	362.3	363.7	365.1	366.8	368.5	370.3	372.1	373.8	375.9
132.5°	379.1	380.3	381.4	382.7	383.8	385.2	386.8	388.4	389.9	391.5	393.2
135°	405.1	406.4	407.7	409.1	410.4	411.7	412.8	414.1	415.2	416.4	418.3
137.5°	433.0	434.0	435.1	436.1	437.2	438.1	438.8	439.6	440.3	441.0	442.7
140°	449.8	450.7	451.8	452.7	453.6	454.6	455.3	456.1	456.9	457.7	459.2
142.5°	466.9	468.0	468.9	469.9	470.9	471.6	472.0	472.5	473.0	473.3	474.7
145°	491.3	492.1	492.9	493.8	494.6	495.4	496.1	496.8	497.6	498.2	498.9
147.5°	513.3	514.3	515.3	516.3	517.3	518.0	518.5	519.0	519.4	520.0	520.3
150°	528.4	529.0	529.8	530.5	531.2	531.8	532.3	532.7	533.2	533.8	534.0
152.5°	541.7	542.4	543.1	543.8	544.5	545.2	545.7	546.3	546.9	547.5	547.9
155°	561.7	562.0	562.4	562.7	563.1	563.5	563.8	564.2	564.5	564.9	565.5
157.5°	578.7	579.0	579.2	579.5	579.8	579.9	580.1	580.4	580.6	580.8	581.6
160°	589.1	589.3	589.6	589.7	590.0	590.2	590.3	590.4	590.6	590.7	591.4
162.5°	598.5	598.6	598.6	598.7	598.7	598.8	598.9	599.1	599.2	599.3	600.1
165°	611.1	611.0	610.9	610.8	610.7	610.6	610.6	610.6	610.6	610.6	611.4
167.5°	621.6	621.3	620.9	620.6	620.2	620.0	620.0	620.0	619.9	619.9	620.8
170°	627.3	626.9	626.5	626.1	625.8	625.6	625.5	625.3	625.2	625.1	625.9
172.5°	631.1	630.7	630.4	630.0	629.7	629.4	629.3	629.2	629.1	629.0	629.8
175°	635.8	635.5	635.1	634.8	634.4	634.1	633.9	633.7	633.4	633.1	634.0
177.5°	637.8	637.4	637.2	636.9	636.6	636.4	636.2	636.0	635.8	635.7	636.2
180°	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	294.5	294.8	295.2	295.4	295.2	295.0	294.9	294.7
5°	293.6	294.2	294.7	294.9	294.8	294.7	294.6	294.5
7.5°	292.2	292.8	293.6	293.9	293.8	293.7	293.6	293.5
10°	291.0	291.7	292.5	292.8	292.8	292.7	292.6	292.5
12.5°	288.9	289.6	290.4	290.8	290.7	290.6	290.5	290.4
15°	285.1	286.1	286.9	287.3	287.2	287.1	287.0	286.9
17.5°	280.4	281.3	282.1	282.6	282.6	282.6	282.6	282.6
20°	276.5	277.6	278.6	279.2	279.2	279.2	279.2	279.2
22.5°	272.5	273.5	274.6	275.1	275.3	275.4	275.6	275.8
25°	266.1	267.2	268.3	269.0	269.3	269.6	269.8	270.1
27.5°	258.9	260.4	261.8	262.7	262.9	263.1	263.3	263.5
30°	253.9	255.5	257.0	257.9	258.2	258.4	258.7	259.0
32.5°	248.5	250.3	252.1	253.3	253.7	254.3	254.8	255.2
35°	241.0	243.1	245.2	246.6	247.2	247.9	248.5	249.2
37.5°	233.1	235.4	237.8	239.3	240.0	240.7	241.4	242.0
40°	227.6	230.1	232.5	234.2	235.1	235.9	236.8	237.6
42.5°	222.3	224.9	227.6	229.4	230.3	231.1	232.0	232.8
45°	214.0	217.0	219.9	221.9	222.8	223.8	224.7	225.6
47.5°	205.5	208.5	211.6	213.7	214.7	215.7	216.8	217.8
50°	199.5	202.8	206.0	208.2	209.2	210.3	211.3	212.4
52.5°	193.2	196.5	199.8	202.1	203.2	204.3	205.5	206.5
55°	183.7	187.1	190.6	192.8	194.1	195.4	196.6	197.8
57.5°	173.6	177.3	181.0	183.4	184.7	186.0	187.2	188.5
60°	166.9	170.6	174.2	176.6	178.0	179.3	180.7	182.0
62.5°	159.9	163.7	167.6	170.1	171.4	172.6	173.9	175.1
65°	149.1	153.0	156.9	159.5	160.7	161.9	163.2	164.4
67.5°	138.2	142.1	146.1	148.7	150.0	151.3	152.6	153.9
70°	130.6	134.7	138.8	141.5	142.6	143.7	144.9	146.0
72.5°	123.3	127.3	131.3	134.0	135.3	136.8	138.2	139.5
75°	112.3	116.3	120.5	123.1	124.3	125.5	126.8	128.0
77.5°	101.4	105.5	109.5	112.3	113.6	114.9	116.2	117.5
80°	94.1	98.0	102.1	104.7	106.0	107.4	108.7	110.0
82.5°	87.2	91.2	95.2	97.8	99.1	100.4	101.6	102.8
85°	77.4	81.3	85.4	88.0	89.4	90.7	92.0	93.3
87.5°	72.8	76.5	80.4	82.9	84.2	85.4	86.7	87.9
90°	82.5	86.1	89.6	92.0	93.3	94.5	95.8	97.1
92.5°	78.0	81.9	85.7	88.1	89.3	90.5	91.6	92.7
95°	90.9	94.4	98.1	100.4	101.2	102.2	103.1	104.0
97.5°	110.5	114.0	117.4	119.8	120.9	122.0	123.1	124.1
100°	124.0	127.5	131.1	133.3	134.2	135.2	136.1	137.0
102.5°	139.3	142.8	146.4	148.6	149.6	150.4	151.4	152.3
105°	162.2	165.8	169.4	171.6	172.7	173.7	174.7	175.9
107.5°	187.3	190.6	193.9	195.8	196.2	196.7	197.3	197.7
110°	204.5	207.5	210.6	212.4	213.1	213.9	214.5	215.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	221.8	224.5	227.2	229.0	229.8	230.6	231.4	232.1
115°	248.3	251.0	253.7	255.5	256.2	256.8	257.5	258.3
117.5°	273.8	276.4	278.9	280.5	281.1	281.7	282.3	283.0
120°	291.0	293.6	296.3	297.9	298.7	299.4	300.0	300.8
122.5°	308.9	311.1	313.4	314.9	315.6	316.1	316.8	317.4
125°	335.0	337.2	339.4	340.9	341.7	342.4	343.1	343.8
127.5°	360.4	362.3	364.3	365.4	365.9	366.4	366.8	367.3
130°	378.0	379.9	382.0	383.1	383.4	383.7	384.0	384.3
132.5°	394.9	396.6	398.3	399.4	399.7	400.1	400.5	400.9
135°	420.2	422.1	424.0	425.1	425.5	425.8	426.3	426.7
137.5°	444.3	446.0	447.6	448.6	448.7	448.9	449.0	449.2
140°	460.7	462.3	463.8	464.6	464.7	464.8	464.9	465.0
142.5°	476.0	477.3	478.6	479.3	479.3	479.3	479.4	479.4
145°	499.6	500.3	501.0	501.3	501.3	501.3	501.3	501.3
147.5°	520.7	520.9	521.3	521.4	521.1	520.9	520.7	520.5
150°	534.4	534.8	535.2	535.2	534.8	534.4	534.0	533.8
152.5°	548.4	548.8	549.3	549.3	548.8	548.4	547.9	547.5
155°	566.1	566.7	567.3	567.4	567.0	566.7	566.3	566.0
157.5°	582.4	583.2	584.1	584.2	583.6	583.1	582.5	581.8
160°	592.1	592.9	593.5	593.7	593.2	592.8	592.2	591.7
162.5°	600.9	601.7	602.6	602.7	602.1	601.5	601.0	600.4
165°	612.3	613.1	613.9	614.1	613.4	612.8	612.3	611.6
167.5°	621.6	622.5	623.3	623.4	622.7	622.2	621.5	620.9
170°	626.8	627.6	628.4	628.5	627.7	627.1	626.3	625.7
172.5°	630.7	631.5	632.3	632.4	631.7	630.9	630.2	629.5
175°	634.8	635.7	636.5	636.6	635.8	635.1	634.4	633.7
177.5°	636.8	637.3	637.9	637.9	637.3	636.8	636.2	635.7
180°	636.9	636.9	636.9	636.9	636.9	636.9	636.9	636.9

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