

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: P331247-927

Luminaire Tested: **SA2XXDIP-C290D330U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331247-927  
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-C290D330U927-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1880.8 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

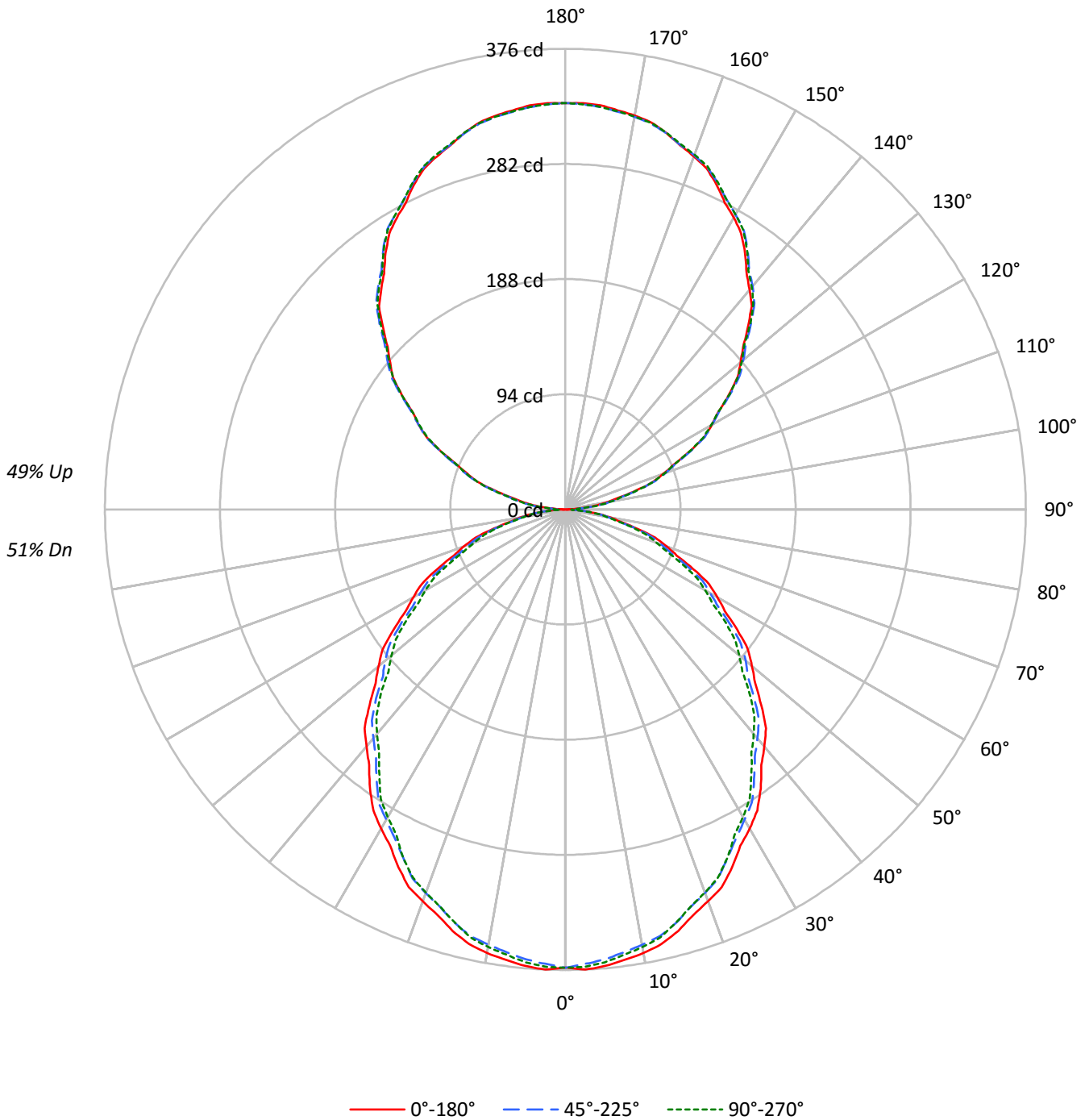
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	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	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43																				
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36																				
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30																				
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26																				
5	68	57	49	43	63	53	45	40	45	39	35	38	34	30	32	28	26	23																				
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20																				
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18																				
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16																				
9	50	38	31	25	46	36	29	24	31	25	22	26	22	19	22	19	16	14																				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13																				

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

	0°	45°	90°
0°	6042	6042	6042
5°	6065	5977	6015
10°	6030	5917	5946
15°	5954	5840	5835
20°	5849	5727	5720
25°	5744	5585	5585
30°	5610	5455	5407
35°	5483	5298	5219
40°	5324	5143	5044
45°	5167	4987	4864
50°	4999	4828	4657
55°	4822	4642	4467
60°	4624	4414	4253
65°	4413	4195	4000
70°	4145	3923	3734
75°	3768	3612	3525
80°	3347	3245	3078
85°	2723	2594	2334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.2	1.9
10°-20°	99.0	5.3
20°-30°	145.6	7.7
30°-40°	169.1	9.0
40°-50°	168.9	9.0
50°-60°	147.3	7.8
60°-70°	108.9	5.8
70°-80°	61.7	3.3
80°-90°	17.9	1.0
90°-100°	21.0	1.1
100°-110°	65.3	3.5
110°-120°	111.6	5.9
120°-130°	146.7	7.8
130°-140°	164.7	8.8
140°-150°	161.5	8.6
150°-160°	135.4	7.2
160°-170°	89.8	4.8
170°-180°	31.4	1.7
0°-30°	279.8	14.9
0°-40°	448.8	23.9
0°-60°	765.0	40.7
0°-90°	953.5	50.7
90°-120°	197.9	10.5
90°-150°	670.7	35.7
90°-180°	927.0	49.3
0°-180°	1880.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	374	373	369	372	371	35
15°	356	354	349	351	349	100
25°	322	319	314	314	314	148
35°	278	274	269	267	265	174
45°	226	224	218	215	213	175
55°	171	169	165	161	159	153
65°	116	113	110	107	105	114
75°	60	60	58	56	56	65
85°	15	14	14	13	13	17
90°	0	4	10	9	10	1
95°	15	17	18	18	17	17
105°	60	61	62	62	62	64
115°	112	114	113	113	112	111
125°	163	165	164	164	163	146
135°	211	214	214	214	213	163
145°	256	258	259	260	259	160
155°	292	293	294	295	295	135
165°	318	318	318	320	318	90
175°	331	330	330	331	330	31
180°	332	332	332	332	332	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	376.0	375.7	375.3	375.0	374.7	374.2	373.5	372.8	372.1	371.4	372.0
5°	374.2	373.9	373.6	373.3	373.0	372.4	371.5	370.7	369.7	368.8	369.5
7.5°	371.0	370.4	369.9	369.5	369.0	368.3	367.4	366.5	365.6	364.7	365.4
10°	367.8	367.3	366.7	366.1	365.5	364.8	363.8	362.9	361.9	360.9	361.6
12.5°	363.5	363.0	362.5	361.9	361.5	360.8	359.8	358.9	357.9	357.0	357.4
15°	356.2	355.8	355.3	354.8	354.3	353.6	352.5	351.5	350.5	349.4	349.7
17.5°	347.1	346.6	346.1	345.6	345.2	344.4	343.3	342.2	341.2	340.2	340.5
20°	340.4	339.9	339.5	339.0	338.5	337.7	336.6	335.5	334.4	333.3	333.5
22.5°	333.8	333.1	332.5	331.8	331.1	330.3	329.2	328.1	327.1	326.1	326.1
25°	322.4	321.8	321.2	320.5	319.9	318.9	317.5	316.2	314.8	313.5	313.6
27.5°	309.5	309.0	308.3	307.8	307.2	306.3	305.3	304.2	303.2	302.1	301.8
30°	300.9	300.2	299.6	299.0	298.3	297.4	296.2	295.0	293.7	292.6	292.3
32.5°	291.6	291.1	290.7	290.1	289.6	288.7	287.4	286.2	284.9	283.7	283.2
35°	278.2	277.3	276.6	275.8	275.0	273.9	272.7	271.4	270.1	268.8	268.3
37.5°	263.0	262.3	261.6	260.9	260.2	259.2	257.9	256.7	255.3	254.1	253.5
40°	252.6	252.0	251.4	250.7	250.1	249.1	247.8	246.5	245.3	244.0	243.3
42.5°	242.6	241.9	241.3	240.7	240.0	239.0	237.7	236.5	235.2	233.9	233.1
45°	226.3	225.8	225.2	224.7	224.1	223.2	222.0	220.9	219.7	218.4	217.5
47.5°	210.2	209.7	209.2	208.7	208.1	207.2	206.0	204.8	203.5	202.2	201.3
50°	199.0	198.6	198.2	197.8	197.4	196.6	195.5	194.4	193.3	192.2	191.1
52.5°	188.1	187.5	187.0	186.5	185.9	185.1	184.1	183.1	182.0	180.9	180.0
55°	171.3	170.8	170.3	169.8	169.4	168.7	167.7	166.8	165.8	164.9	163.8
57.5°	154.5	154.1	153.7	153.3	152.9	152.2	151.1	150.1	149.0	148.0	147.0
60°	143.2	142.9	142.6	142.3	142.0	141.2	140.1	139.0	137.8	136.7	135.9
62.5°	132.3	131.7	131.3	130.8	130.2	129.5	128.7	127.9	127.0	126.1	125.2
65°	115.5	115.0	114.5	114.1	113.6	113.0	112.2	111.4	110.6	109.8	109.0
67.5°	98.5	98.1	97.7	97.3	97.0	96.4	95.6	94.9	94.2	93.5	92.9
70°	87.8	87.5	87.1	86.8	86.5	86.0	85.3	84.6	83.8	83.1	82.5
72.5°	76.8	76.5	76.2	75.9	75.6	75.2	74.7	74.3	73.8	73.4	72.8
75°	60.4	60.3	60.1	60.0	59.8	59.6	59.2	58.7	58.3	57.9	57.4
77.5°	45.8	45.5	45.2	45.0	44.7	44.4	44.3	44.1	44.0	43.8	43.6
80°	36.0	35.9	35.8	35.7	35.6	35.6	35.4	35.3	35.1	34.9	34.7
82.5°	26.8	26.8	26.8	26.7	26.7	26.6	26.5	26.5	26.4	26.3	26.0
85°	14.7	14.7	14.6	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.8
87.5°	5.2	5.2	5.3	5.3	5.3	5.4	5.5	5.7	5.9	6.0	5.8
90°	0.3	1.0	1.7	2.5	3.2	4.4	5.7	7.1	8.4	9.8	9.7
92.5°	5.0	5.5	6.1	6.7	7.2	7.6	7.9	8.2	8.6	8.9	9.0
95°	14.6	15.2	15.8	16.4	17.0	17.4	17.5	17.7	17.8	17.9	17.9
97.5°	26.6	27.2	27.6	28.2	28.8	29.2	29.4	29.6	29.9	30.1	30.1
100°	35.6	36.0	36.5	37.1	37.5	37.9	38.0	38.3	38.4	38.7	38.7
102.5°	44.9	45.3	45.7	46.1	46.5	46.9	47.1	47.3	47.5	47.8	47.8
105°	60.2	60.4	60.5	60.8	60.9	61.1	61.2	61.3	61.5	61.6	61.7
107.5°	75.5	75.8	76.0	76.4	76.6	76.8	76.8	76.8	76.8	76.8	76.8
110°	85.4	85.7	86.1	86.5	86.8	87.1	87.1	87.1	87.1	87.1	87.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	96.1	96.5	96.9	97.2	97.6	97.8	97.7	97.7	97.6	97.6	97.4
115°	111.9	112.3	112.7	113.0	113.4	113.6	113.4	113.3	113.2	113.0	113.0
117.5°	127.7	128.3	128.7	129.2	129.8	129.8	129.4	129.1	128.7	128.4	128.3
120°	138.2	138.8	139.3	139.7	140.2	140.2	139.7	139.3	138.8	138.2	138.2
122.5°	147.9	148.5	149.1	149.6	150.3	150.4	150.0	149.7	149.3	149.0	148.9
125°	162.9	163.4	164.0	164.5	165.1	165.3	165.1	164.9	164.8	164.5	164.4
127.5°	177.5	178.2	179.0	179.6	180.3	180.5	180.4	180.1	179.9	179.7	179.4
130°	186.7	187.5	188.3	189.1	189.9	190.3	190.1	190.0	189.9	189.7	189.6
132.5°	197.0	197.6	198.3	198.9	199.6	199.9	199.9	200.0	200.0	200.0	199.8
135°	210.7	211.4	212.1	212.8	213.5	213.9	214.0	214.1	214.3	214.4	214.3
137.5°	225.2	225.8	226.3	227.0	227.5	227.8	228.0	228.1	228.3	228.5	228.5
140°	234.0	234.6	235.1	235.7	236.2	236.6	236.9	237.3	237.6	237.9	237.9
142.5°	243.0	243.5	244.1	244.6	245.2	245.6	245.7	246.0	246.2	246.4	246.4
145°	255.8	256.3	256.7	257.1	257.5	257.9	258.3	258.7	259.0	259.4	259.5
147.5°	267.3	267.8	268.3	268.9	269.3	269.7	270.0	270.3	270.5	270.8	270.9
150°	275.1	275.5	275.8	276.2	276.6	276.9	277.2	277.4	277.7	277.9	278.1
152.5°	282.1	282.4	282.8	283.2	283.5	283.9	284.2	284.5	284.8	285.1	285.3
155°	292.5	292.6	292.9	293.0	293.2	293.4	293.6	293.7	294.0	294.1	294.5
157.5°	301.3	301.5	301.6	301.7	301.9	302.0	302.1	302.2	302.3	302.5	302.9
160°	306.7	306.9	307.0	307.1	307.2	307.4	307.4	307.4	307.5	307.6	307.9
162.5°	311.6	311.7	311.7	311.7	311.8	311.8	311.9	312.0	312.0	312.0	312.5
165°	318.2	318.1	318.1	318.1	318.0	317.9	317.9	317.9	317.9	317.9	318.4
167.5°	323.7	323.5	323.4	323.1	323.0	322.9	322.8	322.8	322.8	322.8	323.2
170°	326.6	326.5	326.2	326.1	325.9	325.7	325.7	325.6	325.6	325.5	325.9
172.5°	328.6	328.4	328.3	328.0	327.9	327.7	327.7	327.6	327.6	327.5	328.0
175°	331.1	330.9	330.7	330.5	330.3	330.2	330.1	329.9	329.8	329.7	330.1
177.5°	332.1	331.9	331.8	331.7	331.5	331.4	331.3	331.2	331.1	331.0	331.3
180°	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	372.6	373.3	373.9	374.2	374.1	373.9	373.8	373.7
5°	370.2	370.8	371.5	371.7	371.5	371.4	371.2	371.1
7.5°	366.0	366.6	367.3	367.5	367.3	367.1	366.9	366.8
10°	362.3	362.9	363.5	363.7	363.5	363.2	363.0	362.7
12.5°	357.8	358.2	358.7	358.9	358.7	358.5	358.3	358.1
15°	350.1	350.4	350.7	350.7	350.3	349.9	349.5	349.1
17.5°	340.9	341.3	341.6	341.6	341.2	340.9	340.5	340.1
20°	333.7	334.0	334.2	334.1	333.8	333.5	333.2	332.9
22.5°	326.1	326.2	326.2	326.1	326.0	325.7	325.6	325.4
25°	313.8	313.9	314.1	314.1	313.9	313.8	313.6	313.5
27.5°	301.6	301.3	301.1	300.8	300.4	300.0	299.7	299.3
30°	292.1	291.8	291.6	291.4	291.0	290.7	290.4	290.0
32.5°	282.8	282.3	281.9	281.5	281.2	280.9	280.6	280.3
35°	267.8	267.4	266.9	266.5	266.1	265.7	265.3	264.8
37.5°	252.9	252.3	251.7	251.2	250.8	250.4	250.1	249.7
40°	242.6	241.9	241.1	240.6	240.3	240.0	239.6	239.3
42.5°	232.3	231.6	230.8	230.1	229.7	229.3	228.9	228.4
45°	216.7	215.8	214.9	214.3	214.0	213.7	213.3	213.0
47.5°	200.4	199.5	198.5	197.8	197.4	196.9	196.5	196.0
50°	190.0	188.8	187.7	187.0	186.6	186.2	185.8	185.4
52.5°	179.1	178.2	177.2	176.5	175.9	175.5	174.9	174.4
55°	162.9	161.9	161.0	160.3	159.9	159.5	159.1	158.7
57.5°	146.1	145.1	144.2	143.5	143.3	143.0	142.7	142.4
60°	135.0	134.1	133.2	132.7	132.5	132.2	132.0	131.7
62.5°	124.5	123.7	122.9	122.3	122.0	121.7	121.4	121.0
65°	108.3	107.6	106.9	106.3	105.9	105.5	105.1	104.7
67.5°	92.4	91.8	91.3	90.8	90.5	90.2	89.8	89.5
70°	82.0	81.4	80.9	80.5	80.2	79.8	79.5	79.1
72.5°	72.2	71.7	71.1	70.7	70.4	70.2	69.9	69.6
75°	57.0	56.5	56.0	55.8	56.0	56.2	56.3	56.5
77.5°	43.3	43.1	42.9	42.6	42.4	42.2	42.0	41.7
80°	34.5	34.2	34.0	33.7	33.6	33.4	33.3	33.1
82.5°	25.7	25.3	25.0	24.9	24.9	24.8	24.8	24.8
85°	13.5	13.3	13.1	12.9	12.8	12.8	12.7	12.6
87.5°	5.5	5.3	5.1	5.0	4.9	4.9	4.8	4.8
90°	9.6	9.4	9.3	9.3	9.3	9.4	9.4	9.5
92.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
95°	17.9	17.9	17.9	17.8	17.7	17.6	17.5	17.3
97.5°	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.0
100°	38.7	38.7	38.7	38.6	38.5	38.5	38.4	38.3
102.5°	47.9	47.9	48.0	48.0	47.9	47.8	47.8	47.8
105°	61.8	61.9	62.1	62.1	62.1	62.1	62.1	62.1
107.5°	76.8	76.9	76.9	76.8	76.5	76.3	76.0	75.7
110°	87.1	87.1	87.1	87.0	86.7	86.6	86.4	86.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	97.3	97.1	97.0	96.8	96.7	96.6	96.4	96.3
115°	113.0	112.9	112.8	112.7	112.5	112.3	112.2	111.9
117.5°	128.1	127.9	127.8	127.6	127.5	127.3	127.1	126.9
120°	138.2	138.2	138.2	138.2	138.0	137.8	137.6	137.4
122.5°	148.7	148.5	148.4	148.3	148.1	148.0	147.8	147.7
125°	164.2	164.0	163.8	163.7	163.7	163.6	163.5	163.4
127.5°	179.3	179.0	178.8	178.6	178.4	178.2	178.0	177.8
130°	189.5	189.4	189.3	189.1	188.9	188.5	188.3	188.1
132.5°	199.5	199.2	199.0	198.8	198.5	198.4	198.1	198.0
135°	214.3	214.2	214.1	214.0	213.8	213.7	213.5	213.3
137.5°	228.4	228.3	228.3	228.1	227.9	227.7	227.4	227.1
140°	237.9	237.9	237.9	237.7	237.5	237.3	237.0	236.8
142.5°	246.5	246.5	246.6	246.5	246.3	246.0	245.7	245.5
145°	259.6	259.6	259.7	259.6	259.4	259.1	258.9	258.6
147.5°	271.0	271.2	271.3	271.2	271.0	270.8	270.5	270.3
150°	278.3	278.5	278.7	278.7	278.5	278.3	278.1	277.9
152.5°	285.6	285.8	286.1	286.1	285.8	285.6	285.3	285.1
155°	294.8	295.1	295.4	295.5	295.2	295.1	294.9	294.7
157.5°	303.2	303.7	304.1	304.2	303.9	303.6	303.3	303.0
160°	308.3	308.7	309.1	309.1	308.9	308.6	308.4	308.2
162.5°	312.9	313.3	313.8	313.8	313.5	313.2	312.9	312.6
165°	318.8	319.2	319.6	319.7	319.4	319.1	318.8	318.5
167.5°	323.7	324.1	324.6	324.6	324.3	323.9	323.6	323.3
170°	326.4	326.8	327.3	327.3	326.9	326.5	326.1	325.7
172.5°	328.4	328.8	329.2	329.3	328.9	328.5	328.2	327.8
175°	330.6	331.0	331.4	331.4	331.1	330.7	330.3	329.9
177.5°	331.6	331.8	332.2	332.2	331.8	331.6	331.3	331.0
180°	331.7	331.7	331.7	331.7	331.7	331.7	331.7	331.7

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