

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: P332494-927

Luminaire Tested: **S124DIP-S350D365U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332494-927  
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-S350D365U927-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2146.8 lumens  
Efficiency: N/A  
Efficacy: 105.8 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: General Diffuse

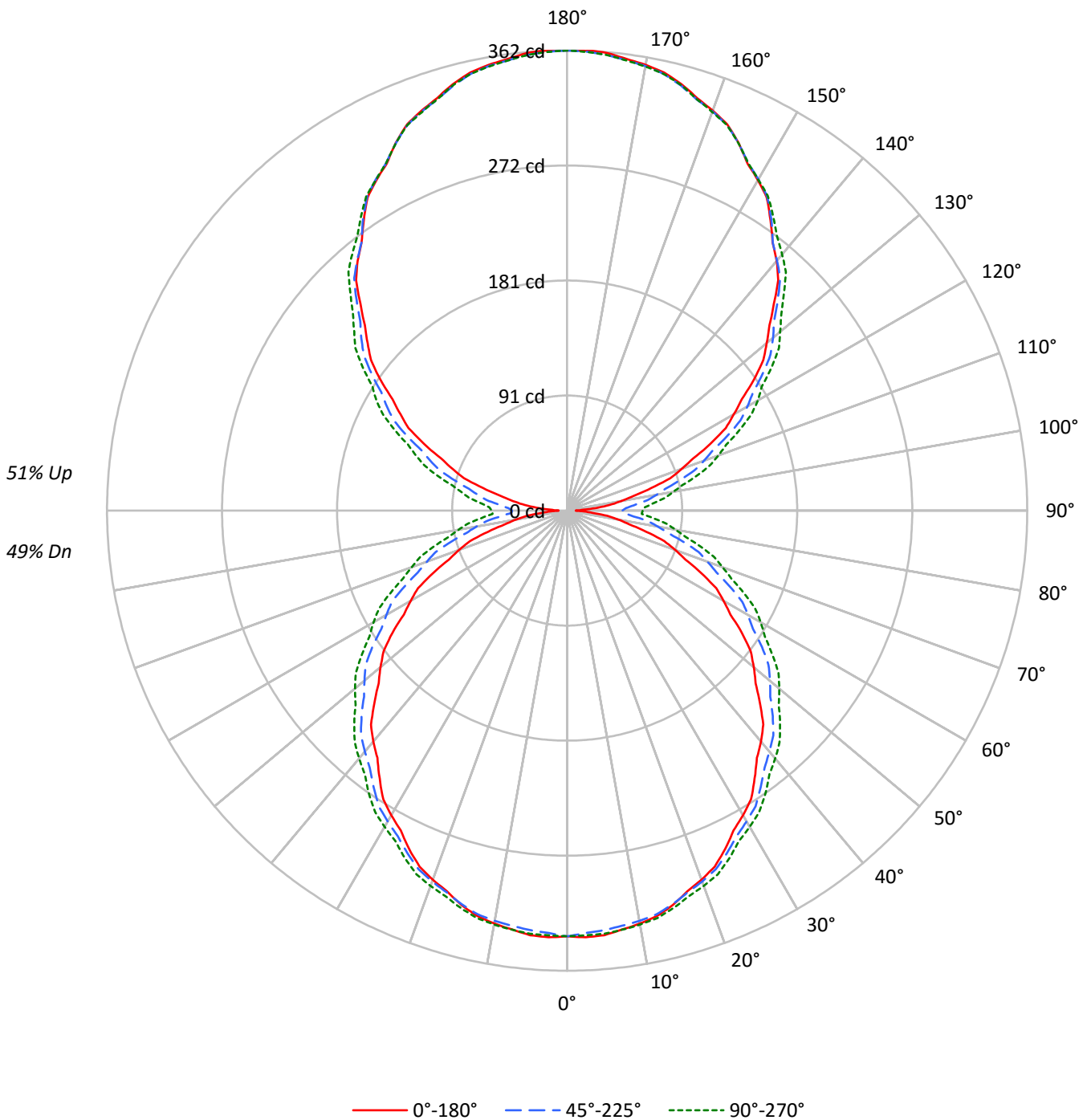
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	97	92	88	84	89	85	81	78	71	68	66	59	57	55	47	46	45	39
2	88	80	73	68	80	73	68	63	62	57	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	66	57	49	44	48	42	38	40	35	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	35	31	28	29	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	23	20	17
7	57	44	36	30	52	41	33	28	35	29	25	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	26	22	19	22	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	17	22	18	15	18	15	13	11

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

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.7	1.5
10°-20°	90.8	4.2
20°-30°	137.4	6.4
30°-40°	166.2	7.7
40°-50°	175.7	8.2
50°-60°	165.4	7.7
60°-70°	137.2	6.4
70°-80°	96.4	4.5
80°-90°	55.6	2.6
90°-100°	56.2	2.6
100°-110°	94.7	4.4
110°-120°	136.1	6.3
120°-130°	167.3	7.8
130°-140°	181.7	8.5
140°-150°	175.5	8.2
150°-160°	146.9	6.8
160°-170°	97.7	4.6
170°-180°	34.2	1.6
0°-30°	259.9	12.1
0°-40°	426.1	19.9
0°-60°	767.2	35.7
0°-90°	1056.4	49.2
90°-120°	287.0	13.4
90°-150°	811.5	37.8
90°-180°	1090.0	50.8
0°-180°	2146.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	7	25	43	55	59	5
95°	22	37	54	64	68	23
105°	69	77	91	101	105	73
115°	124	128	139	147	149	123
125°	179	179	188	194	196	160
135°	230	232	234	240	241	178
145°	279	280	280	282	283	175
155°	319	319	319	320	319	147
165°	347	347	346	348	347	98
175°	361	360	360	362	360	34
180°	362	362	362	362	362	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.2	14.8	18.4	21.9	25.4	29.1	32.8	36.5	40.3	44.0	46.6
90°	6.8	10.9	14.9	18.9	22.9	26.9	31.1	35.1	39.2	43.3	46.1
92.5°	11.7	15.4	19.3	23.1	26.9	30.7	34.6	38.6	42.5	46.4	49.0
95°	21.7	25.0	28.3	31.6	34.9	38.5	42.3	46.2	50.1	53.9	56.3
97.5°	33.7	36.6	39.4	42.2	45.0	48.4	52.3	56.2	60.0	63.9	66.4
100°	43.3	45.7	48.2	50.5	53.0	56.1	59.9	63.7	67.5	71.3	73.7
102.5°	53.6	55.6	57.6	59.7	61.6	64.5	68.1	71.9	75.6	79.2	81.6
105°	68.6	70.3	72.1	73.8	75.5	78.0	81.4	84.7	88.0	91.3	93.6
107.5°	85.0	86.5	87.9	89.4	90.8	93.0	95.9	98.9	101.9	104.8	107.0
110°	95.9	97.2	98.5	99.8	101.1	103.1	106.0	108.8	111.7	114.6	116.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.3	108.4	109.4	110.4	111.5	113.4	116.1	118.7	121.4	124.1	125.9
115°	124.3	125.1	125.8	126.5	127.3	129.0	131.5	134.0	136.6	139.1	140.9
117.5°	140.7	141.2	141.7	142.2	142.7	144.1	146.6	148.9	151.3	153.7	155.3
120°	151.4	151.9	152.3	152.9	153.4	154.7	156.9	159.1	161.4	163.7	165.0
122.5°	162.8	163.0	163.1	163.2	163.3	164.5	166.8	169.0	171.1	173.3	174.8
125°	179.3	179.2	179.1	179.0	179.0	179.9	181.9	183.9	185.9	188.0	189.4
127.5°	194.5	194.6	194.6	194.8	194.9	195.7	197.2	198.7	200.2	201.7	203.0
130°	204.9	205.0	205.1	205.3	205.3	206.0	207.4	208.7	210.0	211.4	212.8
132.5°	215.9	215.9	216.0	216.0	216.1	216.7	217.7	218.6	219.7	220.7	222.0
135°	230.0	230.4	230.8	231.2	231.5	232.0	232.6	233.1	233.8	234.3	235.5
137.5°	245.8	245.9	246.0	246.1	246.1	246.4	246.8	247.2	247.6	248.0	249.0
140°	256.4	256.4	256.4	256.4	256.5	256.6	256.7	256.7	256.8	256.9	257.9
142.5°	265.6	265.8	265.9	266.0	266.1	266.1	266.0	265.9	265.8	265.7	266.6
145°	278.9	279.1	279.2	279.4	279.6	279.7	279.7	279.8	279.9	280.0	280.4
147.5°	292.2	292.3	292.6	292.8	292.9	293.0	293.0	292.9	292.9	292.9	292.9
150°	300.2	300.3	300.5	300.7	300.9	301.0	301.0	301.0	301.0	301.0	301.0
152.5°	307.5	307.6	307.8	307.9	308.0	308.1	308.2	308.2	308.2	308.3	308.5
155°	319.1	319.1	319.1	319.1	319.1	319.1	319.0	318.9	318.9	318.9	319.1
157.5°	329.0	328.8	328.8	328.7	328.5	328.4	328.4	328.4	328.4	328.4	328.6
160°	334.8	334.7	334.7	334.6	334.5	334.5	334.5	334.4	334.3	334.2	334.5
162.5°	340.2	340.0	339.8	339.7	339.5	339.5	339.4	339.3	339.2	339.1	339.5
165°	347.4	347.2	347.1	346.8	346.7	346.5	346.3	346.3	346.1	346.0	346.3
167.5°	352.9	352.7	352.4	352.1	351.9	351.7	351.8	351.8	351.8	351.8	352.2
170°	356.1	355.8	355.5	355.1	354.8	354.7	354.7	354.8	354.9	355.0	355.3
172.5°	358.3	358.1	357.7	357.5	357.3	357.1	357.1	357.2	357.2	357.2	357.6
175°	361.4	361.1	360.8	360.4	360.1	360.0	359.9	359.8	359.8	359.7	360.1
177.5°	362.4	362.2	361.9	361.6	361.4	361.3	361.3	361.3	361.3	361.3	361.6
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	49.0	51.5	54.0	55.6	56.4	57.2	57.9	58.7
90°	48.9	51.7	54.4	56.2	57.0	57.8	58.6	59.4
92.5°	51.6	54.1	56.7	58.4	59.1	59.8	60.6	61.3
95°	58.8	61.2	63.6	65.2	66.0	66.7	67.5	68.2
97.5°	68.8	71.1	73.6	75.1	75.9	76.6	77.3	78.0
100°	76.0	78.4	80.8	82.3	82.9	83.5	84.1	84.6
102.5°	84.0	86.3	88.6	90.2	90.9	91.6	92.3	93.0
105°	95.9	98.2	100.4	102.0	102.8	103.7	104.6	105.4
107.5°	109.2	111.5	113.7	115.1	115.7	116.3	116.8	117.5
110°	118.2	119.9	121.8	123.1	123.9	124.8	125.6	126.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	127.7	129.5	131.3	132.6	133.3	134.0	134.8	135.5
115°	142.7	144.4	146.2	147.3	147.9	148.4	148.9	149.4
117.5°	156.8	158.3	159.8	160.8	161.4	161.9	162.5	163.0
120°	166.4	167.7	169.1	170.2	171.0	171.7	172.5	173.3
122.5°	176.3	177.7	179.2	180.1	180.5	180.9	181.2	181.6
125°	190.9	192.3	193.8	194.7	195.1	195.5	195.8	196.2
127.5°	204.5	205.8	207.2	208.1	208.6	209.1	209.5	210.0
130°	214.1	215.5	216.9	217.7	217.9	218.2	218.5	218.7
132.5°	223.3	224.7	225.9	226.8	227.2	227.6	228.0	228.4
135°	236.7	238.0	239.2	240.0	240.2	240.5	240.8	241.1
137.5°	250.0	251.1	252.2	252.9	253.3	253.8	254.3	254.7
140°	259.0	259.9	260.9	261.7	262.0	262.4	262.7	263.1
142.5°	267.6	268.5	269.4	270.1	270.5	270.8	271.1	271.4
145°	280.8	281.2	281.7	281.9	282.1	282.3	282.4	282.6
147.5°	292.9	292.9	292.9	293.0	293.3	293.4	293.7	293.8
150°	301.0	301.0	301.0	300.9	300.9	300.8	300.7	300.6
152.5°	308.6	308.8	309.0	308.9	308.7	308.6	308.4	308.2
155°	319.3	319.6	319.8	319.8	319.6	319.3	319.1	318.9
157.5°	328.8	329.0	329.2	329.2	328.9	328.8	328.5	328.3
160°	334.6	334.8	335.0	334.9	334.6	334.3	334.0	333.7
162.5°	339.8	340.2	340.5	340.5	340.2	339.9	339.6	339.3
165°	346.7	347.1	347.5	347.5	347.3	347.1	346.8	346.6
167.5°	352.6	352.9	353.3	353.3	352.9	352.5	352.1	351.7
170°	355.7	356.1	356.5	356.4	356.0	355.5	355.1	354.7
172.5°	358.1	358.5	358.9	358.9	358.5	358.0	357.6	357.1
175°	360.6	361.0	361.5	361.5	361.0	360.6	360.1	359.7
177.5°	361.9	362.3	362.7	362.7	362.3	361.9	361.5	361.1
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9

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