

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: P331245-927

Luminaire Tested: **SA2XXDIP-C290D330U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331245-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
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-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1961.4 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

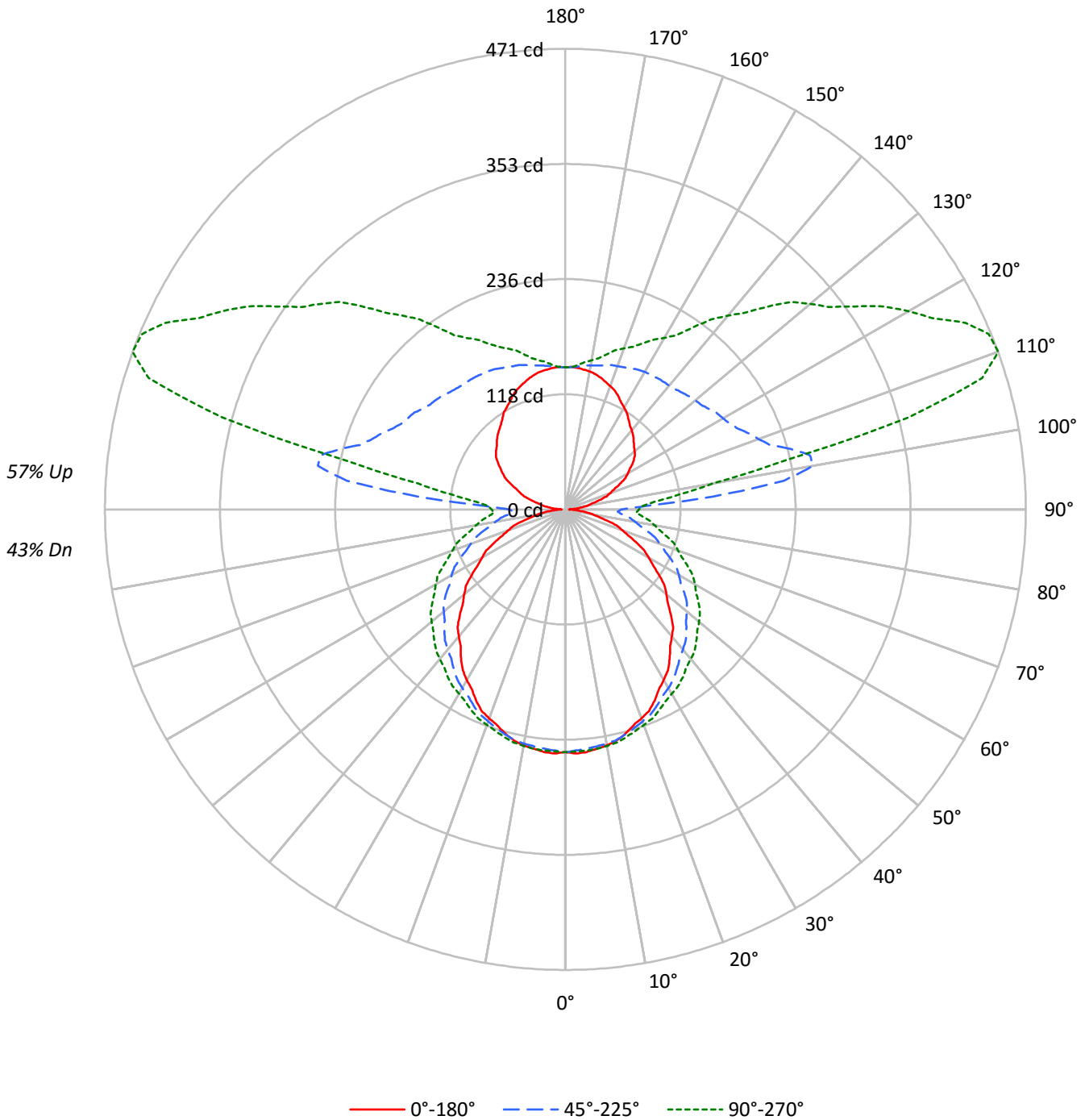
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43				
1	95	90	86	82	86	82	79	75	68	65	62	54	52	51	42	41	39	34				
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27				
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22				
4	71	60	52	45	64	55	48	42	45	40	35	36	32	29	28	25	23	19				
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16				
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	19	17	14				
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12				
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11				
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10				
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4009	4009	4009
5°	4030	3859	3845
10°	4004	3746	3703
15°	3948	3624	3554
20°	3878	3495	3410
25°	3809	3371	3279
30°	3712	3242	3150
35°	3615	3118	3059
40°	3511	3013	2965
45°	3413	2919	2886
50°	3309	2833	2810
55°	3196	2741	2731
60°	3061	2646	2648
65°	2922	2534	2548
70°	2764	2415	2440
75°	2564	2299	2342
80°	2245	2177	2240
85°	1945	2073	2163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	1.2
10°-20°	67.5	3.4
20°-30°	102.2	5.2
30°-40°	124.5	6.3
40°-50°	134.0	6.8
50°-60°	130.1	6.6
60°-70°	113.6	5.8
70°-80°	87.5	4.5
80°-90°	60.0	3.1
90°-100°	98.6	5.0
100°-110°	227.0	11.6
110°-120°	229.3	11.7
120°-130°	183.6	9.4
130°-140°	143.3	7.3
140°-150°	105.6	5.4
150°-160°	73.7	3.8
160°-170°	43.4	2.2
170°-180°	14.1	0.7
0°-30°	193.2	9.9
0°-40°	317.8	16.2
0°-60°	581.9	29.7
0°-90°	842.9	43.0
90°-120°	555.0	28.3
90°-150°	987.4	50.3
90°-180°	1119.0	57.0
0°-180°	1961.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	248	248	248	248	248	
5°	249	248	246	248	248	24
15°	238	238	238	241	241	67
25°	216	218	222	226	227	99
35°	186	192	199	207	210	116
45°	153	162	175	186	190	118
55°	117	130	149	161	166	105
65°	80	98	119	133	138	79
75°	44	65	88	102	108	47
85°	13	35	58	73	78	14
90°	4	28	57	70	75	3
95°	13	44	151	96	91	13
105°	36	64	238	414	363	38
115°	62	82	195	390	452	61
125°	85	101	179	312	362	75
135°	99	118	169	255	293	76
145°	112	129	164	206	227	71
155°	128	138	159	180	187	59
165°	139	144	153	162	164	39
175°	145	145	147	148	148	14
180°	146	146	146	146	146	



TEST NUMBER: P331245-927

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	249.8	249.5	249.4	249.1	249.0	248.7	248.2	247.8	247.3	246.8	247.2
5°	249.1	248.8	248.6	248.3	248.0	247.7	247.2	246.8	246.3	245.8	246.3
7.5°	246.8	246.6	246.4	246.3	246.1	245.9	245.5	245.2	244.8	244.4	245.0
10°	245.1	244.9	244.8	244.6	244.5	244.2	244.0	243.8	243.5	243.3	243.9
12.5°	242.2	242.2	242.2	242.3	242.3	242.2	242.1	241.9	241.7	241.5	242.2
15°	237.5	237.7	237.8	238.0	238.1	238.2	238.2	238.2	238.2	238.2	238.9
17.5°	231.5	231.8	232.1	232.5	232.8	233.1	233.4	233.6	233.9	234.2	234.9
20°	227.4	227.8	228.2	228.6	229.0	229.4	229.7	230.0	230.4	230.7	231.6
22.5°	223.2	223.6	224.0	224.5	225.0	225.5	225.9	226.3	226.8	227.2	228.1
25°	215.9	216.5	217.1	217.6	218.2	218.8	219.5	220.2	220.9	221.7	222.6
27.5°	207.3	208.2	209.1	210.0	211.0	211.8	212.6	213.5	214.4	215.2	216.4
30°	201.5	202.6	203.6	204.6	205.7	206.8	207.8	208.8	209.8	210.9	212.1
32.5°	195.2	196.4	197.5	198.7	199.9	201.1	202.3	203.5	204.8	206.0	207.5
35°	186.1	187.4	188.8	190.1	191.5	192.9	194.5	196.0	197.5	199.0	200.7
37.5°	176.1	177.7	179.3	180.9	182.4	184.2	186.2	188.1	190.0	192.0	194.0
40°	169.5	171.3	173.0	174.8	176.5	178.5	180.6	182.8	185.0	187.1	189.2
42.5°	163.2	164.9	166.7	168.4	170.2	172.3	174.8	177.3	179.7	182.2	184.5
45°	152.6	154.7	156.9	159.1	161.2	163.7	166.5	169.3	172.1	174.9	177.4
47.5°	142.1	144.5	146.9	149.2	151.5	154.4	157.6	160.9	164.2	167.5	170.1
50°	135.0	137.4	139.9	142.4	144.9	147.9	151.5	155.1	158.7	162.3	165.0
52.5°	128.0	130.6	133.2	135.9	138.5	141.6	145.4	149.2	153.0	156.9	159.6
55°	116.9	119.9	122.7	125.6	128.5	132.0	136.2	140.3	144.5	148.6	151.5
57.5°	106.0	109.2	112.5	115.7	119.0	122.7	127.0	131.2	135.5	139.7	142.8
60°	98.2	101.7	105.1	108.5	112.0	116.0	120.6	125.1	129.7	134.2	137.3
62.5°	91.3	94.9	98.5	102.0	105.6	109.6	114.2	118.7	123.3	127.9	131.1
65°	79.9	83.8	87.7	91.7	95.5	99.9	104.6	109.3	114.1	118.7	122.1
67.5°	69.4	73.5	77.6	81.7	85.8	90.2	95.1	99.9	104.7	109.6	112.9
70°	61.9	66.1	70.2	74.4	78.5	83.1	88.0	93.0	98.0	102.9	106.4
72.5°	55.0	59.3	63.5	67.8	72.2	76.8	81.8	86.8	91.9	96.9	100.3
75°	44.3	48.7	53.2	57.7	62.2	66.9	72.1	77.2	82.3	87.5	90.9
77.5°	33.9	38.6	43.3	47.9	52.7	57.6	62.8	68.0	73.2	78.3	81.8
80°	27.0	31.8	36.8	41.6	46.5	51.6	56.7	61.9	67.1	72.3	75.7
82.5°	21.2	26.1	30.9	35.6	40.5	45.6	50.8	56.1	61.3	66.5	69.9
85°	13.0	17.9	22.9	27.8	32.8	37.8	42.9	48.1	53.2	58.3	61.6
87.5°	7.1	12.0	17.0	21.9	26.8	31.9	37.3	42.8	48.2	53.5	56.6
90°	3.9	9.3	15.1	20.3	25.5	31.2	37.7	44.8	51.7	57.0	60.0
92.5°	6.7	12.5	18.9	24.5	30.7	37.9	49.2	63.0	75.9	81.3	78.7
95°	12.7	17.6	24.1	30.4	38.7	49.6	67.3	96.4	133.7	151.1	140.5
97.5°	18.5	23.3	29.6	36.8	45.3	56.9	77.6	116.2	174.8	225.6	237.7
100°	24.1	27.9	33.4	40.8	49.4	60.9	80.2	118.8	183.8	257.1	300.4
102.5°	28.9	32.2	37.5	44.7	53.2	64.6	82.6	117.3	177.6	256.2	322.5
105°	36.0	39.4	43.6	50.1	58.6	69.7	87.1	116.1	166.4	238.4	315.6
107.5°	44.0	46.7	50.5	56.2	64.1	74.9	91.7	117.4	159.5	219.5	288.0
110°	49.0	51.7	55.1	60.3	67.7	78.6	94.8	118.9	157.0	210.2	270.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	53.9	56.4	59.7	64.4	71.4	82.3	97.9	120.6	155.3	203.2	257.9
115°	61.6	63.9	66.5	70.7	77.2	87.0	102.6	123.3	154.0	195.1	241.8
117.5°	69.2	70.9	73.1	76.7	82.6	92.4	106.9	126.3	153.4	189.6	230.4
120°	74.1	75.6	77.6	80.4	86.3	95.9	110.0	128.3	153.1	186.2	224.0
122.5°	78.8	79.9	81.7	84.5	90.2	99.9	113.1	130.2	153.1	183.6	218.4
125°	84.7	85.6	87.2	90.5	96.2	105.3	118.0	133.1	153.0	179.0	210.0
127.5°	89.6	90.6	92.9	96.6	101.9	110.9	122.7	136.1	153.3	175.5	202.2
130°	92.5	93.6	96.3	100.1	105.7	114.3	125.7	138.1	153.8	173.3	197.1
132.5°	95.2	96.5	99.4	103.5	109.2	117.6	128.3	140.1	154.2	171.3	192.6
135°	98.9	100.0	103.4	107.6	114.0	122.2	132.0	142.6	154.6	168.8	186.5
137.5°	102.7	104.0	107.3	111.9	118.2	125.6	134.8	144.3	154.9	166.7	181.5
140°	105.6	106.6	110.0	114.3	120.4	127.7	136.3	145.1	154.8	165.3	178.6
142.5°	108.5	109.3	112.4	116.8	122.6	129.4	137.7	146.2	155.0	164.7	176.2
145°	112.5	113.7	116.5	120.6	126.3	132.4	140.0	147.8	155.6	164.0	173.5
147.5°	117.2	118.0	120.7	124.6	129.3	134.8	141.9	148.8	155.8	163.0	171.0
150°	120.3	121.2	123.4	127.1	131.3	136.3	142.8	149.2	155.6	162.3	169.1
152.5°	123.5	123.9	126.1	129.3	133.3	137.8	143.6	149.4	155.2	161.2	167.5
155°	127.9	128.2	129.8	132.9	136.0	140.2	145.0	149.7	154.5	159.2	164.6
157.5°	131.6	131.9	133.2	135.9	138.4	141.9	145.9	149.7	153.2	157.2	161.8
160°	134.0	134.4	135.5	137.7	140.0	143.1	146.4	149.7	152.6	155.9	159.8
162.5°	136.6	136.3	137.5	139.3	141.3	143.7	146.6	149.5	151.9	154.8	158.0
165°	139.4	139.1	139.7	141.3	142.8	144.4	146.9	148.9	150.6	152.6	155.0
167.5°	141.7	141.4	141.9	143.0	144.0	145.0	146.9	148.5	149.3	150.6	152.2
170°	143.3	142.8	143.1	143.9	144.4	145.3	146.6	148.1	148.6	149.5	150.6
172.5°	144.2	143.9	143.7	144.6	144.9	145.5	146.5	147.4	147.7	148.1	149.0
175°	145.3	145.0	144.7	145.3	145.3	145.5	146.1	146.6	146.4	146.6	146.9
177.5°	145.8	145.3	145.1	145.5	145.5	145.5	145.8	146.2	145.8	145.5	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3
2.5°	247.5	247.8	248.1	248.3	248.1	248.0	247.9	247.7
5°	246.8	247.2	247.7	247.9	247.8	247.7	247.6	247.6
7.5°	245.6	246.1	246.8	247.0	246.9	246.8	246.8	246.7
10°	244.5	245.2	245.8	246.1	246.1	246.0	245.9	245.8
12.5°	242.8	243.4	244.1	244.4	244.3	244.2	244.2	244.1
15°	239.6	240.4	241.1	241.5	241.4	241.3	241.2	241.1
17.5°	235.7	236.4	237.1	237.5	237.5	237.5	237.5	237.5
20°	232.4	233.3	234.2	234.6	234.6	234.6	234.6	234.6
22.5°	229.0	229.9	230.8	231.2	231.4	231.5	231.6	231.8
25°	223.6	224.6	225.5	226.1	226.3	226.6	226.8	227.0
27.5°	217.6	218.9	220.1	220.8	220.9	221.1	221.3	221.5
30°	213.4	214.8	216.0	216.7	217.0	217.2	217.5	217.7
32.5°	208.9	210.4	211.9	212.9	213.3	213.7	214.1	214.5
35°	202.6	204.3	206.0	207.2	207.8	208.3	208.9	209.5
37.5°	195.9	197.9	199.9	201.1	201.7	202.3	202.9	203.4
40°	191.3	193.4	195.4	196.9	197.6	198.3	199.0	199.7
42.5°	186.8	189.0	191.3	192.8	193.5	194.2	195.0	195.7
45°	179.8	182.4	184.8	186.5	187.3	188.1	188.9	189.6
47.5°	172.7	175.2	177.8	179.6	180.5	181.3	182.2	183.1
50°	167.7	170.5	173.2	175.0	175.9	176.7	177.6	178.5
52.5°	162.4	165.2	167.9	169.8	170.8	171.7	172.7	173.6
55°	154.4	157.2	160.2	162.1	163.1	164.2	165.2	166.3
57.5°	145.9	149.0	152.1	154.2	155.3	156.3	157.3	158.4
60°	140.3	143.4	146.4	148.5	149.6	150.7	151.9	153.0
62.5°	134.4	137.6	140.9	143.0	144.0	145.0	146.2	147.2
65°	125.3	128.6	131.9	134.0	135.1	136.1	137.1	138.2
67.5°	116.1	119.5	122.8	125.0	126.0	127.1	128.3	129.4
70°	109.8	113.2	116.7	118.9	119.9	120.8	121.8	122.7
72.5°	103.6	107.0	110.4	112.6	113.8	114.9	116.1	117.2
75°	94.3	97.8	101.2	103.5	104.5	105.5	106.5	107.6
77.5°	85.2	88.6	92.1	94.3	95.5	96.6	97.7	98.8
80°	79.1	82.4	85.8	88.0	89.1	90.2	91.3	92.4
82.5°	73.3	76.7	80.0	82.2	83.3	84.4	85.4	86.4
85°	65.0	68.4	71.8	74.0	75.1	76.2	77.3	78.4
87.5°	59.9	63.0	66.4	68.6	69.6	70.6	71.6	72.6
90°	62.8	65.5	69.2	71.6	72.6	73.5	74.5	75.4
92.5°	75.6	75.3	76.0	76.4	77.1	77.2	78.3	78.8
95°	120.8	106.8	98.1	93.9	91.2	89.9	90.1	91.3
97.5°	215.3	187.2	159.9	141.6	129.1	123.2	120.1	118.7
100°	297.5	265.7	230.3	198.4	176.0	164.9	157.6	153.4
102.5°	350.6	345.7	320.5	286.5	262.1	242.5	233.2	227.3
105°	376.6	411.1	417.5	410.1	393.6	377.2	366.0	363.0
107.5°	352.4	402.7	434.5	449.9	452.9	452.8	451.3	447.0
110°	332.3	384.9	423.3	448.0	460.9	467.1	470.5	471.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.7	364.3	405.2	433.2	450.8	460.7	466.3	468.7
115°	290.3	335.8	374.9	405.4	426.1	439.9	448.1	451.5
117.5°	272.0	312.2	347.8	376.4	397.5	411.9	420.4	423.3
120°	262.4	299.4	331.2	358.3	378.7	392.8	401.8	405.4
122.5°	254.4	288.4	318.7	343.2	361.6	375.3	383.2	386.3
125°	242.7	273.7	300.5	322.9	339.8	351.3	358.9	361.9
127.5°	231.1	259.2	284.4	305.1	320.0	330.7	337.4	339.8
130°	223.6	249.6	273.7	293.4	307.8	317.9	324.2	327.0
132.5°	216.4	240.5	262.7	281.3	295.5	305.6	311.4	314.0
135°	206.4	226.5	246.6	263.5	276.2	286.1	291.7	293.4
137.5°	197.8	214.8	230.9	245.6	257.1	265.5	270.5	272.7
140°	192.5	207.2	221.3	234.6	244.0	251.8	256.4	258.6
142.5°	188.3	200.7	212.8	223.9	232.7	239.8	244.0	244.7
145°	182.6	192.3	201.5	210.0	217.1	222.3	225.5	226.7
147.5°	178.4	185.7	192.6	198.6	204.3	208.3	210.4	211.1
150°	175.8	182.0	187.8	192.8	197.0	200.4	202.1	202.4
152.5°	173.3	179.0	184.0	188.4	191.7	194.6	195.8	195.9
155°	169.9	174.4	178.6	181.6	184.7	186.7	187.8	187.3
157.5°	166.0	169.7	173.2	175.6	177.8	179.4	179.9	179.9
160°	163.4	166.5	169.6	171.6	173.6	174.9	175.2	175.2
162.5°	161.0	163.7	166.3	167.8	169.8	170.7	171.0	170.7
165°	157.3	159.2	161.2	162.3	163.4	164.6	164.6	164.3
167.5°	153.8	155.3	156.6	157.6	158.1	158.8	158.7	158.4
170°	152.0	152.8	153.9	154.5	154.8	155.6	155.3	154.8
172.5°	150.0	150.6	151.5	151.8	152.1	152.5	152.2	151.9
175°	147.8	148.1	148.4	148.6	148.6	148.9	148.6	148.1
177.5°	146.2	146.2	146.5	146.5	146.5	146.5	146.2	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5

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