

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: P331247-830

Luminaire Tested: **SA2XXDIP-C290D330U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331247-830
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-C290D330U830-4F0-1E-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

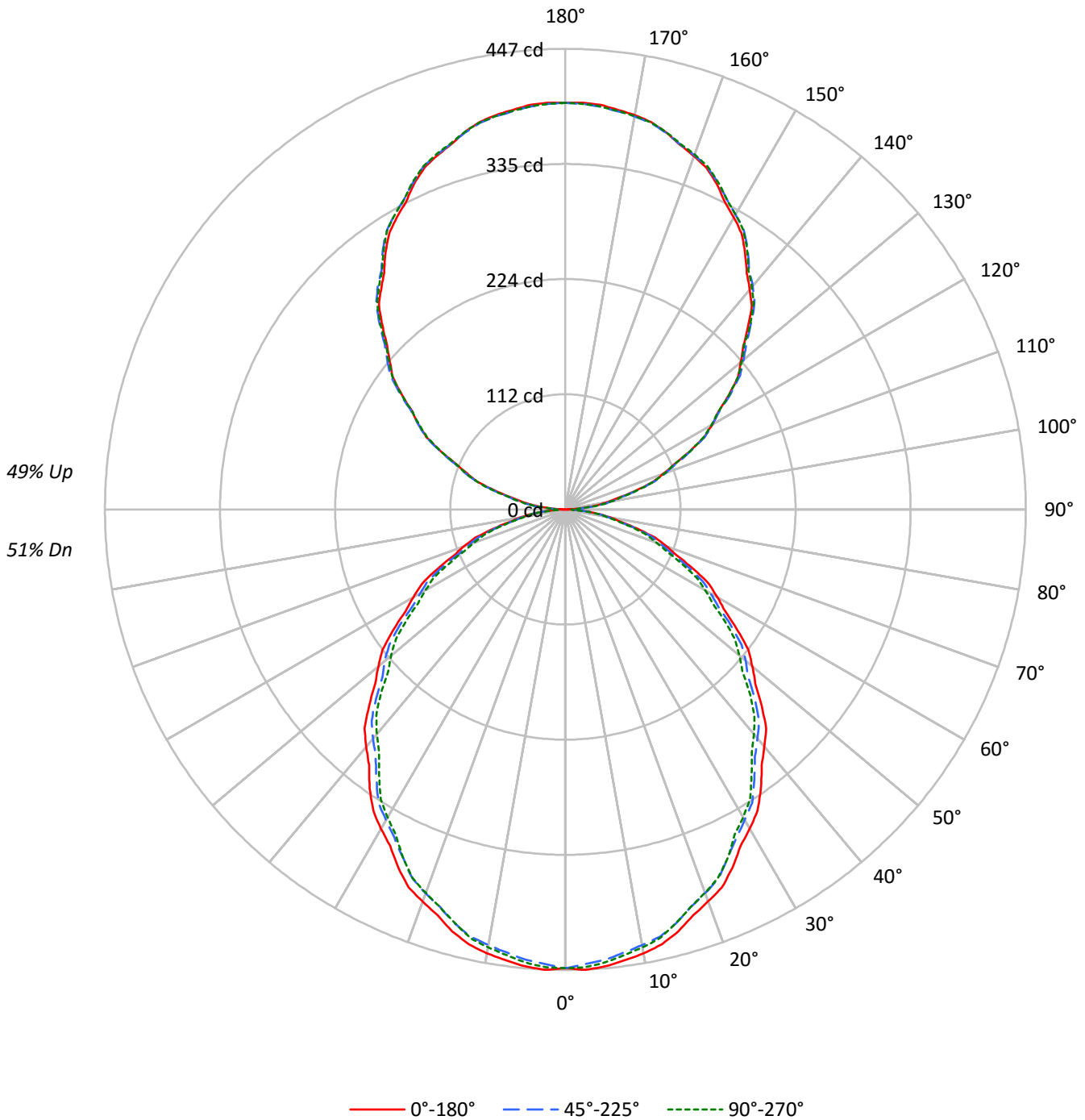
Lumens per Lamp: N/A
Luminaire Lumens: 2237.8 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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					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	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°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	1.9
10°-20°	117.8	5.3
20°-30°	173.2	7.7
30°-40°	201.2	9.0
40°-50°	200.9	9.0
50°-60°	175.2	7.8
60°-70°	129.6	5.8
70°-80°	73.4	3.3
80°-90°	21.3	1.0
90°-100°	25.0	1.1
100°-110°	77.7	3.5
110°-120°	132.8	5.9
120°-130°	174.6	7.8
130°-140°	195.9	8.8
140°-150°	192.1	8.6
150°-160°	161.1	7.2
160°-170°	106.9	4.8
170°-180°	37.4	1.7
0°-30°	332.9	14.9
0°-40°	534.0	23.9
0°-60°	910.2	40.7
0°-90°	1134.5	50.7
90°-120°	235.4	10.5
90°-150°	798.0	35.7
90°-180°	1103.0	49.3
0°-180°	2237.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	0	5	12	11	11	2
95°	17	20	21	21	21	20
105°	72	73	73	74	74	76
115°	133	135	134	134	133	132
125°	194	197	196	195	194	173
135°	251	254	255	255	254	194
145°	304	307	309	309	308	190
155°	348	349	350	352	351	160
165°	379	378	378	380	379	107
175°	394	393	392	394	393	37
180°	395	395	395	395	395	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.2	6.2	6.3	6.3	6.3	6.4	6.6	6.8	7.0	7.2	6.9
90°	0.4	1.2	2.1	3.0	3.9	5.2	6.8	8.4	10.0	11.7	11.5
92.5°	5.9	6.6	7.3	7.9	8.6	9.0	9.4	9.8	10.2	10.6	10.7
95°	17.3	18.1	18.8	19.5	20.3	20.7	20.8	21.0	21.2	21.3	21.3
97.5°	31.7	32.3	32.9	33.6	34.2	34.7	35.0	35.3	35.5	35.8	35.8
100°	42.3	42.9	43.5	44.1	44.7	45.1	45.2	45.5	45.7	46.0	46.0
102.5°	53.4	53.9	54.4	54.9	55.3	55.8	56.0	56.3	56.6	56.8	56.9
105°	71.6	71.8	72.0	72.3	72.5	72.7	72.9	73.0	73.1	73.2	73.4
107.5°	89.8	90.2	90.5	90.9	91.1	91.3	91.3	91.3	91.3	91.3	91.3
110°	101.6	102.0	102.5	102.9	103.3	103.6	103.6	103.6	103.6	103.6	103.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	114.3	114.8	115.3	115.6	116.1	116.3	116.2	116.2	116.1	116.1	115.9
115°	133.2	133.7	134.1	134.5	135.0	135.2	135.0	134.8	134.7	134.5	134.5
117.5°	151.9	152.6	153.2	153.7	154.4	154.5	154.0	153.6	153.2	152.8	152.6
120°	164.5	165.1	165.7	166.3	166.8	166.8	166.3	165.7	165.1	164.5	164.5
122.5°	176.0	176.6	177.4	178.0	178.8	179.0	178.5	178.1	177.7	177.3	177.1
125°	193.8	194.4	195.1	195.8	196.4	196.7	196.4	196.2	196.0	195.8	195.6
127.5°	211.2	212.1	212.9	213.7	214.5	214.8	214.6	214.3	214.1	213.8	213.5
130°	222.2	223.1	224.0	225.0	225.9	226.4	226.2	226.1	225.9	225.7	225.6
132.5°	234.4	235.2	235.9	236.7	237.5	237.9	237.9	238.0	238.0	238.0	237.7
135°	250.7	251.6	252.4	253.2	254.0	254.5	254.7	254.8	255.0	255.1	255.0
137.5°	268.0	268.6	269.3	270.0	270.7	271.1	271.3	271.5	271.6	271.8	271.8
140°	278.4	279.1	279.7	280.4	281.1	281.5	281.9	282.3	282.7	283.0	283.0
142.5°	289.1	289.7	290.4	291.1	291.7	292.2	292.4	292.7	292.9	293.1	293.2
145°	304.3	304.9	305.4	305.9	306.4	306.9	307.4	307.8	308.2	308.7	308.8
147.5°	318.0	318.7	319.2	319.9	320.5	320.9	321.2	321.6	321.9	322.2	322.3
150°	327.3	327.8	328.2	328.7	329.1	329.5	329.8	330.1	330.4	330.6	330.9
152.5°	335.6	336.0	336.5	337.0	337.3	337.8	338.1	338.5	338.8	339.2	339.5
155°	348.0	348.2	348.5	348.6	348.8	349.1	349.3	349.5	349.8	350.0	350.3
157.5°	358.5	358.7	358.8	359.0	359.2	359.3	359.5	359.6	359.7	359.9	360.3
160°	365.0	365.1	365.2	365.4	365.5	365.7	365.7	365.8	365.9	366.0	366.4
162.5°	370.8	370.9	370.9	370.9	371.0	371.0	371.1	371.2	371.3	371.3	371.8
165°	378.6	378.5	378.4	378.4	378.3	378.2	378.2	378.2	378.2	378.2	378.8
167.5°	385.1	384.9	384.7	384.5	384.3	384.2	384.1	384.1	384.1	384.1	384.6
170°	388.6	388.4	388.1	388.0	387.8	387.6	387.5	387.4	387.4	387.3	387.8
172.5°	391.0	390.8	390.6	390.3	390.1	389.9	389.9	389.8	389.7	389.6	390.2
175°	394.0	393.7	393.5	393.2	393.0	392.9	392.8	392.6	392.4	392.3	392.8
177.5°	395.1	394.9	394.7	394.6	394.5	394.3	394.2	394.1	393.9	393.8	394.2
180°	394.6	394.6	394.6	394.6	394.6	394.6	394.6	394.6	394.6	394.6	394.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	6.6	6.3	6.1	5.9	5.8	5.8	5.7	5.7
90°	11.4	11.2	11.0	11.0	11.1	11.2	11.2	11.3
92.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
95°	21.3	21.3	21.3	21.2	21.1	20.9	20.8	20.6
97.5°	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.7
100°	46.0	46.0	46.0	45.9	45.8	45.8	45.7	45.6
102.5°	57.0	57.0	57.1	57.1	57.0	56.9	56.9	56.8
105°	73.5	73.7	73.9	73.9	73.9	73.9	73.9	73.9
107.5°	91.4	91.5	91.5	91.4	91.0	90.8	90.4	90.0
110°	103.6	103.6	103.6	103.5	103.2	103.0	102.8	102.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	115.7	115.6	115.4	115.2	115.1	114.9	114.7	114.5
115°	134.4	134.3	134.2	134.1	133.8	133.7	133.5	133.2
117.5°	152.4	152.2	152.0	151.8	151.7	151.5	151.2	151.0
120°	164.5	164.5	164.5	164.4	164.2	163.9	163.7	163.5
122.5°	176.9	176.7	176.5	176.4	176.3	176.1	175.9	175.8
125°	195.4	195.1	194.9	194.7	194.7	194.6	194.5	194.4
127.5°	213.3	213.0	212.7	212.4	212.3	212.0	211.8	211.5
130°	225.5	225.4	225.2	225.0	224.7	224.3	224.0	223.8
132.5°	237.3	237.0	236.8	236.5	236.2	236.0	235.7	235.5
135°	255.0	254.9	254.8	254.7	254.4	254.2	254.0	253.7
137.5°	271.7	271.6	271.6	271.5	271.2	270.9	270.6	270.2
140°	283.0	283.0	283.0	282.9	282.6	282.3	282.0	281.7
142.5°	293.3	293.3	293.4	293.3	293.0	292.7	292.4	292.1
145°	308.9	308.9	309.0	308.9	308.6	308.3	308.0	307.6
147.5°	322.4	322.6	322.8	322.7	322.4	322.2	321.9	321.6
150°	331.1	331.3	331.6	331.6	331.3	331.1	330.9	330.6
152.5°	339.8	340.1	340.4	340.4	340.1	339.8	339.5	339.2
155°	350.7	351.1	351.5	351.6	351.3	351.1	350.9	350.6
157.5°	360.8	361.4	361.8	361.9	361.6	361.2	360.9	360.5
160°	366.8	367.3	367.8	367.8	367.5	367.2	366.9	366.6
162.5°	372.3	372.8	373.3	373.3	373.1	372.7	372.3	371.9
165°	379.3	379.8	380.3	380.4	380.0	379.7	379.3	379.0
167.5°	385.1	385.6	386.2	386.3	385.9	385.4	385.0	384.7
170°	388.3	388.8	389.4	389.4	389.0	388.5	388.0	387.6
172.5°	390.7	391.2	391.7	391.8	391.3	390.9	390.5	390.0
175°	393.3	393.8	394.4	394.4	394.0	393.5	393.0	392.6
177.5°	394.5	394.8	395.2	395.2	394.8	394.5	394.2	393.8
180°	394.6	394.6	394.6	394.6	394.6	394.6	394.6	394.6

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