

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: P331624-927

Luminaire Tested: **SA2XXRDIP-C290D530U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331624-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C290D530U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2493.6 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

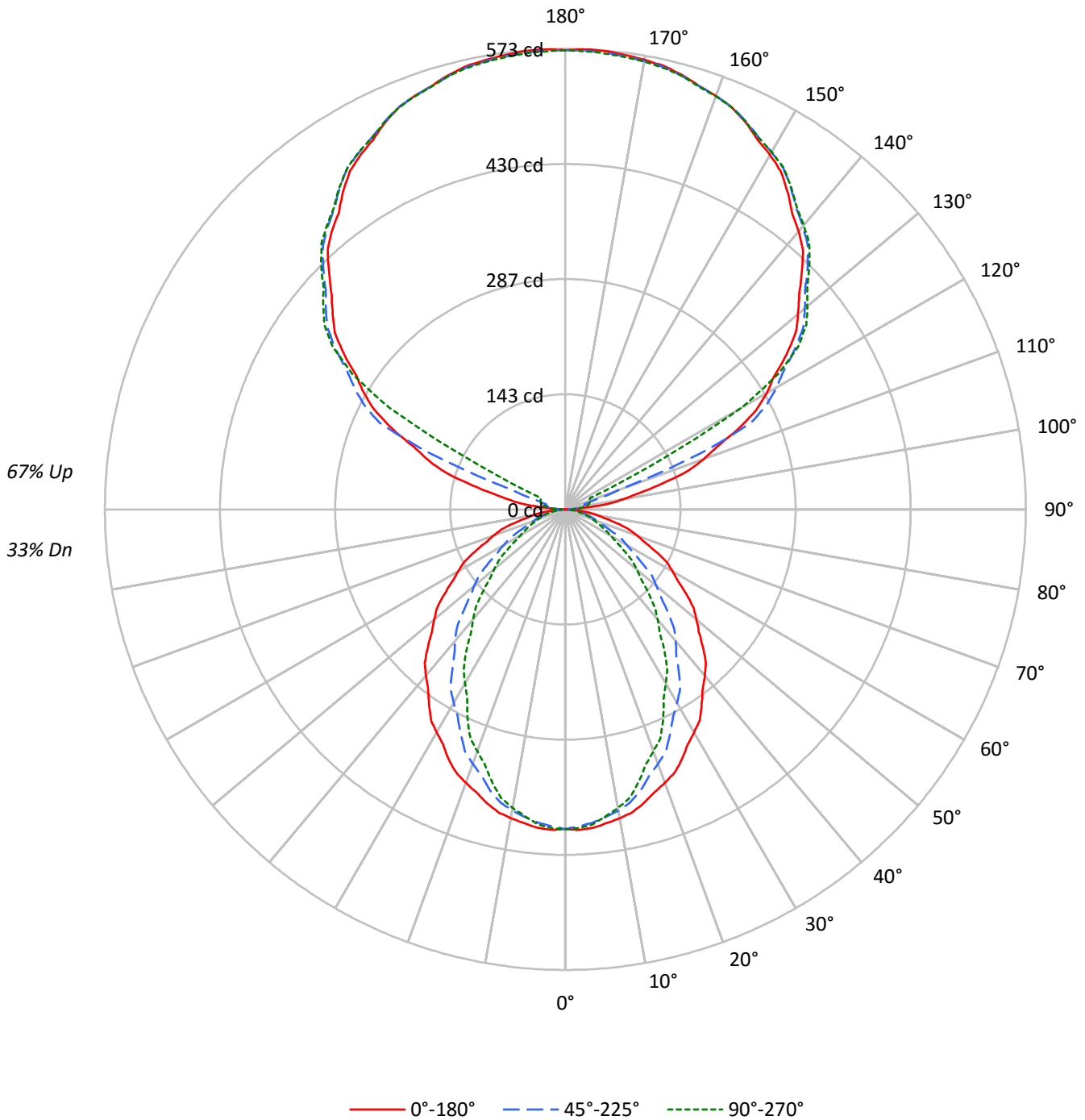
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33				
1	94	90	86	83	85	81	78	76	65	63	61	50	49	47	36	35	35	28				
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	30	24				
3	79	70	63	57	71	63	57	52	51	47	43	39	37	34	29	27	26	21				
4	72	62	54	49	65	56	50	45	45	41	37	35	32	30	26	24	22	18				
5	66	55	47	42	59	50	43	38	41	36	32	32	28	26	23	21	20	16				
6	61	49	42	36	55	45	38	33	37	32	28	29	25	23	21	19	17	14				
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	20	17	16	13				
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11				
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13	10				
10	45	34	27	22	41	31	25	21	26	21	18	20	17	15	16	13	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6421	6421	6421
5°	6446	6340	6374
10°	6396	6237	6184
15°	6322	6051	5877
20°	6220	5787	5498
25°	6116	5489	5129
30°	5972	5179	4657
35°	5830	4845	4242
40°	5689	4498	3762
45°	5523	4108	3329
50°	5350	3715	2901
55°	5177	3291	2494
60°	4973	2848	2070
65°	4741	2392	1883
70°	4471	1969	1733
75°	4130	1797	1616
80°	3645	1609	1469
85°	2853	1260	1260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.2	1.5
10°-20°	102.2	4.1
20°-30°	143.5	5.8
30°-40°	156.5	6.3
40°-50°	143.9	5.8
50°-60°	113.0	4.5
60°-70°	73.7	3.0
70°-80°	38.0	1.5
80°-90°	11.3	0.5
90°-100°	19.1	0.8
100°-110°	69.9	2.8
110°-120°	186.8	7.5
120°-130°	308.4	12.4
130°-140°	328.0	13.2
140°-150°	304.8	12.2
150°-160°	245.1	9.8
160°-170°	157.9	6.3
170°-180°	54.4	2.2
0°-30°	282.9	11.3
0°-40°	439.4	17.6
0°-60°	696.4	27.9
0°-90°	819.3	32.9
90°-120°	275.8	11.1
90°-150°	1217.0	48.8
90°-180°	1674.0	67.1
0°-180°	2493.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	398	396	391	394	393	38
15°	378	374	362	355	352	106
25°	343	331	308	294	288	158
35°	296	277	246	224	215	185
45°	242	217	180	155	146	187
55°	184	155	117	96	89	164
65°	124	95	63	51	49	123
75°	66	42	29	26	26	70
85°	15	8	7	7	7	18
90°	0	5	8	10	11	2
95°	27	14	16	18	18	33
105°	126	131	25	30	31	134
115°	238	245	255	73	34	234
125°	336	342	349	352	354	300
135°	416	422	426	430	430	321
145°	482	482	489	492	490	302
155°	531	528	532	535	532	245
165°	560	558	558	561	558	158
175°	573	570	570	573	569	54
180°	571	571	571	571	571	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	399.1	398.8	398.5	398.2	397.8	397.3	396.6	395.9	395.2	394.5	395.1
5°	397.7	397.3	396.9	396.5	396.1	395.3	394.3	393.2	392.2	391.2	391.9
7.5°	393.6	393.1	392.5	392.1	391.6	390.7	389.5	388.2	387.1	385.9	386.0
10°	390.1	389.5	389.0	388.4	387.9	386.7	385.2	383.6	382.0	380.4	380.2
12.5°	385.8	385.1	384.4	383.7	383.0	381.7	379.6	377.6	375.5	373.4	373.0
15°	378.2	377.3	376.4	375.6	374.7	372.9	370.2	367.5	364.7	362.0	360.5
17.5°	368.9	367.6	366.2	364.9	363.5	361.2	357.7	354.2	350.7	347.2	345.4
20°	362.0	360.4	358.9	357.2	355.6	352.8	348.8	344.8	340.9	336.8	334.9
22.5°	354.6	352.8	350.9	349.2	347.4	344.2	339.7	335.2	330.7	326.2	323.6
25°	343.3	340.7	338.2	335.6	333.1	329.2	323.8	318.6	313.3	308.1	304.8
27.5°	329.8	327.0	324.2	321.5	318.6	314.3	308.3	302.4	296.4	290.5	286.7
30°	320.3	317.3	314.2	311.2	308.2	303.4	297.0	290.7	284.2	277.8	273.8
32.5°	311.1	307.5	304.0	300.4	296.8	291.8	285.3	278.8	272.3	265.7	261.1
35°	295.8	291.8	287.6	283.6	279.5	273.9	266.9	259.8	252.9	245.8	240.7
37.5°	280.6	276.1	271.6	267.1	262.6	256.7	249.1	241.6	234.2	226.6	221.1
40°	269.9	265.1	260.3	255.5	250.7	244.5	236.7	228.9	221.2	213.4	207.7
42.5°	259.0	253.9	248.8	243.8	238.8	232.2	224.2	216.2	208.2	200.2	194.3
45°	241.9	236.5	231.1	225.8	220.4	213.5	205.1	196.7	188.3	179.9	174.3
47.5°	225.1	219.4	213.8	208.1	202.4	195.3	186.6	177.9	169.2	160.6	155.0
50°	213.0	207.4	201.7	196.0	190.4	183.1	174.3	165.5	156.7	147.9	142.4
52.5°	201.2	195.3	189.4	183.5	177.5	170.2	161.6	153.0	144.4	135.8	130.5
55°	183.9	177.7	171.4	165.2	158.9	151.5	142.8	134.2	125.6	116.9	112.2
57.5°	166.1	159.7	153.3	146.9	140.5	133.2	124.8	116.6	108.3	100.0	95.5
60°	154.0	147.7	141.2	134.8	128.4	121.1	112.9	104.6	96.4	88.2	84.1
62.5°	142.2	135.9	129.4	123.0	116.6	109.5	101.6	93.8	86.0	78.1	74.2
65°	124.1	117.6	111.2	104.7	98.2	91.4	84.2	77.0	69.8	62.6	59.9
67.5°	106.7	100.3	93.9	87.5	81.0	74.5	68.0	61.6	55.1	48.6	47.4
70°	94.7	88.4	82.1	76.0	69.7	63.8	58.3	52.8	47.3	41.7	41.0
72.5°	83.1	77.2	71.1	65.2	59.2	54.0	49.6	45.2	40.7	36.3	35.6
75°	66.2	60.6	55.1	49.4	43.8	39.7	36.9	34.2	31.5	28.8	28.2
77.5°	49.6	44.7	39.8	34.9	29.9	26.9	25.5	24.2	22.9	21.6	21.3
80°	39.2	35.2	31.1	27.0	22.9	20.4	19.6	18.9	18.1	17.3	17.0
82.5°	29.7	26.5	23.4	20.2	17.0	15.1	14.6	14.0	13.5	13.0	12.8
85°	15.4	13.8	12.1	10.5	8.8	7.8	7.5	7.3	7.1	6.8	6.8
87.5°	4.7	4.4	4.0	3.7	3.5	3.4	3.5	3.6	3.8	4.0	4.0
90°	0.4	1.4	2.5	3.4	4.4	5.3	6.1	6.8	7.5	8.2	8.7
92.5°	8.3	8.2	8.2	8.1	8.0	8.2	8.5	8.9	9.2	9.6	9.8
95°	26.9	23.8	20.8	17.7	14.7	13.5	14.2	14.8	15.4	16.2	16.6
97.5°	53.3	44.8	36.3	27.7	19.2	15.6	17.1	18.6	20.1	21.5	21.9
100°	73.2	60.6	48.0	35.4	22.8	17.3	18.9	20.4	22.0	23.5	24.3
102.5°	95.0	92.4	89.7	87.0	84.4	76.4	63.5	50.4	37.3	24.2	25.2
105°	125.6	128.4	131.2	134.0	136.7	125.6	100.4	75.4	50.3	25.2	26.2
107.5°	160.7	162.9	165.1	167.3	169.5	155.6	125.6	95.5	65.4	35.3	34.3
110°	183.2	185.1	187.0	188.9	190.8	178.6	152.0	125.5	98.9	72.3	63.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.3	206.0	207.7	209.5	211.1	208.7	202.2	195.6	189.0	182.5	148.9
115°	237.7	239.2	240.8	242.4	244.0	245.9	248.2	250.5	252.8	255.1	212.5
117.5°	267.6	269.3	271.1	272.8	274.6	276.2	277.8	279.4	281.0	282.5	272.3
120°	289.4	290.7	292.2	293.5	294.9	296.4	298.1	299.8	301.3	303.0	304.1
122.5°	307.9	309.3	310.9	312.3	313.7	315.4	317.1	318.9	320.8	322.6	323.2
125°	336.1	337.3	338.5	339.7	340.9	342.4	344.1	345.9	347.6	349.4	350.0
127.5°	361.6	363.0	364.3	365.6	366.9	368.3	369.6	370.9	372.2	373.5	374.4
130°	377.9	379.3	380.8	382.3	383.7	385.0	386.0	387.0	388.0	389.0	390.1
132.5°	394.4	395.6	396.9	398.2	399.4	400.5	401.6	402.6	403.5	404.6	405.4
135°	415.9	417.4	418.8	420.3	421.8	422.9	423.7	424.6	425.4	426.2	427.1
137.5°	437.7	438.6	439.7	440.7	441.7	442.8	443.7	444.7	445.5	446.5	447.4
140°	451.9	452.6	453.4	454.1	454.8	455.7	456.7	457.7	458.7	459.7	460.6
142.5°	463.7	464.5	465.1	465.7	466.4	467.3	468.5	469.6	470.8	472.0	472.7
145°	482.4	482.4	482.3	482.2	482.1	482.8	484.4	485.9	487.5	489.1	489.7
147.5°	498.8	498.4	498.0	497.7	497.3	498.0	499.5	501.1	502.6	504.1	504.6
150°	509.3	508.7	508.0	507.4	506.8	507.2	508.7	510.1	511.6	513.0	513.6
152.5°	518.2	517.5	516.8	516.1	515.4	515.7	517.1	518.6	519.9	521.3	521.9
155°	531.2	530.4	529.6	528.8	527.9	528.1	529.2	530.3	531.4	532.5	533.1
157.5°	541.4	540.7	540.0	539.3	538.6	538.7	539.4	540.2	541.0	541.8	542.3
160°	547.4	546.8	546.3	545.7	545.2	545.2	545.7	546.3	546.8	547.4	548.0
162.5°	552.6	552.1	551.5	551.0	550.5	550.4	550.9	551.4	551.8	552.3	552.9
165°	559.8	559.2	558.6	558.1	557.5	557.5	557.7	557.9	558.3	558.5	559.2
167.5°	565.1	564.5	564.0	563.4	562.8	562.7	562.9	563.2	563.5	563.7	564.4
170°	568.0	567.5	567.0	566.4	565.9	565.6	565.9	566.0	566.2	566.4	567.0
172.5°	570.1	569.5	568.9	568.4	567.8	567.6	567.8	568.0	568.2	568.4	569.0
175°	572.6	572.0	571.3	570.7	570.0	569.8	570.0	570.1	570.3	570.5	571.2
177.5°	573.0	572.5	572.0	571.5	570.9	570.7	570.8	570.8	570.9	571.0	571.6
180°	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	397.7	397.7	397.7	397.7	397.7	397.7	397.7	397.7
2.5°	395.8	396.4	397.0	397.3	397.2	397.0	396.9	396.8
5°	392.6	393.3	394.0	394.3	394.0	393.8	393.6	393.3
7.5°	386.3	386.5	386.7	386.6	386.2	385.7	385.3	384.9
10°	379.9	379.7	379.5	379.1	378.6	378.1	377.6	377.2
12.5°	372.6	372.2	371.8	371.1	370.3	369.6	368.8	368.0
15°	359.0	357.4	355.9	354.8	354.0	353.2	352.4	351.6
17.5°	343.6	341.7	340.0	338.4	337.0	335.6	334.2	332.9
20°	332.9	330.8	328.8	326.9	325.2	323.4	321.7	320.0
22.5°	321.1	318.5	315.9	313.9	312.6	311.3	310.0	308.7
25°	301.5	298.2	294.9	292.7	291.5	290.3	289.1	287.9
27.5°	282.8	279.0	275.2	272.4	270.5	268.5	266.6	264.7
30°	269.7	265.6	261.5	258.4	256.2	254.1	251.9	249.8
32.5°	256.4	251.8	247.1	243.8	241.8	239.7	237.7	235.7
35°	235.8	230.7	225.6	222.2	220.5	218.7	217.0	215.2
37.5°	215.6	210.0	204.5	200.7	198.7	196.6	194.6	192.6
40°	202.1	196.4	190.7	186.8	184.7	182.7	180.5	178.5
42.5°	188.4	182.5	176.7	172.8	170.7	168.7	166.7	164.7
45°	168.6	162.9	157.2	153.4	151.5	149.6	147.7	145.8
47.5°	149.2	143.6	138.0	134.3	132.5	130.8	129.0	127.3
50°	136.9	131.3	125.8	122.2	120.6	118.9	117.2	115.5
52.5°	125.2	119.9	114.5	111.1	109.6	108.0	106.4	104.9
55°	107.3	102.6	97.8	94.6	93.1	91.6	90.1	88.6
57.5°	91.2	86.7	82.4	79.5	78.3	77.0	75.7	74.4
60°	80.0	76.0	71.9	69.2	67.9	66.6	65.4	64.1
62.5°	70.3	66.5	62.6	60.2	59.4	58.7	57.9	57.1
65°	57.2	54.4	51.7	50.2	50.0	49.7	49.5	49.3
67.5°	46.2	44.9	43.6	42.9	42.6	42.4	42.1	41.9
70°	40.2	39.4	38.6	38.0	37.6	37.3	37.0	36.7
72.5°	34.9	34.2	33.6	33.2	33.0	32.8	32.6	32.4
75°	27.6	27.1	26.5	26.2	26.1	26.1	26.0	25.9
77.5°	20.9	20.6	20.3	20.1	20.0	19.8	19.7	19.6
80°	16.6	16.3	16.0	15.8	15.8	15.8	15.8	15.8
82.5°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
87.5°	4.0	4.0	4.0	4.1	4.1	4.2	4.2	4.3
90°	9.2	9.7	10.1	10.5	10.6	10.8	11.0	11.2
92.5°	10.1	10.3	10.5	10.7	10.9	10.9	11.1	11.2
95°	17.0	17.5	18.0	18.1	18.1	18.0	17.9	17.7
97.5°	22.3	22.7	23.1	23.3	23.4	23.5	23.6	23.8
100°	25.0	25.7	26.5	26.9	27.2	27.3	27.5	27.7
102.5°	26.1	27.1	28.0	28.7	28.9	29.2	29.4	29.7
105°	27.3	28.3	29.2	29.9	30.3	30.7	31.1	31.4
107.5°	33.3	32.2	31.2	30.9	31.2	31.6	31.9	32.3
110°	53.9	44.8	35.6	31.2	31.5	31.9	32.3	32.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	115.4	81.9	48.4	31.8	32.1	32.4	32.7	33.0
115°	170.0	127.5	84.9	60.4	53.7	47.1	40.5	33.9
117.5°	262.0	251.7	241.4	225.4	203.6	181.9	160.2	138.4
120°	305.2	306.3	307.4	301.8	289.4	277.0	264.6	252.2
122.5°	323.8	324.6	325.2	324.3	321.9	319.5	317.1	314.7
125°	350.6	351.3	351.9	352.4	352.7	352.9	353.2	353.5
127.5°	375.3	376.3	377.2	377.7	377.8	377.9	377.9	378.0
130°	391.0	392.1	393.1	393.6	393.4	393.3	393.2	393.2
132.5°	406.3	407.2	408.1	408.4	408.3	408.2	408.1	408.1
135°	428.1	429.0	429.9	430.3	430.1	429.9	429.8	429.5
137.5°	448.3	449.2	450.1	450.4	450.0	449.7	449.5	449.2
140°	461.4	462.2	463.0	463.2	462.7	462.3	461.8	461.4
142.5°	473.5	474.2	475.0	475.2	474.7	474.2	473.7	473.2
145°	490.4	491.0	491.6	491.7	491.3	490.8	490.4	489.9
147.5°	505.1	505.6	506.0	506.0	505.7	505.3	504.9	504.5
150°	514.1	514.7	515.2	515.3	514.8	514.4	513.9	513.5
152.5°	522.4	523.0	523.6	523.5	522.9	522.3	521.7	521.1
155°	533.6	534.2	534.7	534.6	533.9	533.1	532.4	531.6
157.5°	543.0	543.6	544.2	544.2	543.4	542.7	542.0	541.3
160°	548.4	549.0	549.5	549.5	548.9	548.3	547.6	546.9
162.5°	553.6	554.2	554.8	554.8	554.0	553.2	552.4	551.6
165°	559.8	560.5	561.1	561.1	560.5	559.8	559.2	558.5
167.5°	565.0	565.7	566.3	566.3	565.4	564.6	563.7	562.9
170°	567.7	568.3	568.9	568.9	568.0	567.2	566.4	565.5
172.5°	569.7	570.3	570.9	570.8	570.1	569.2	568.4	567.5
175°	571.8	572.4	573.1	573.0	572.0	571.1	570.2	569.3
177.5°	572.0	572.6	573.1	573.0	572.4	571.6	571.0	570.4
180°	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3

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