

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: P332511-830

Luminaire Tested: **SA4XXDIP-C350D810U830-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332511-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D810U830-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

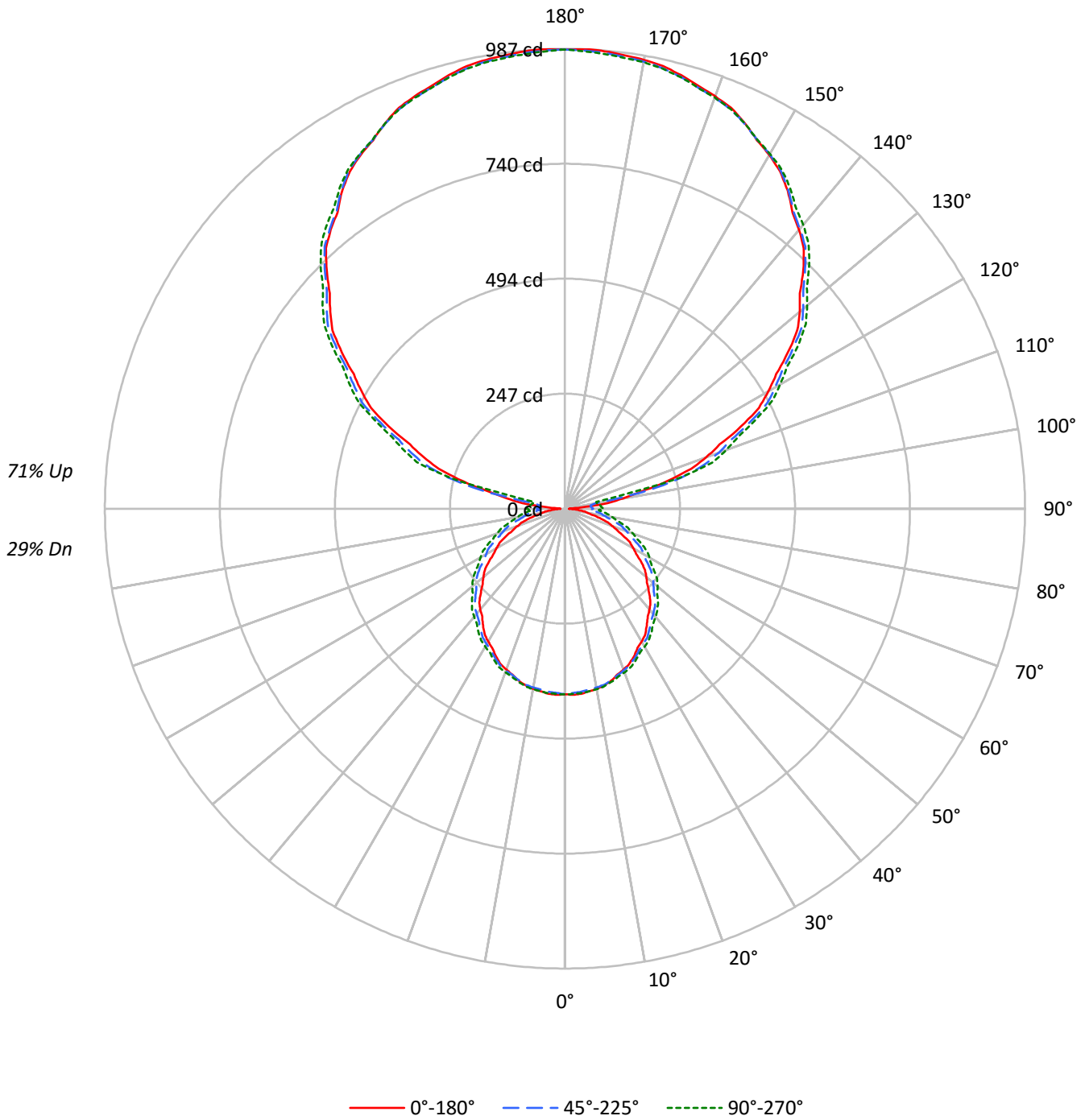
Lumens per Lamp: N/A
Luminaire Lumens: 4408.9 lumens
Efficiency: N/A
Efficacy: 141.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29
1	92	88	84	80	82	79	75	72	62	59	57	46	44	43	31	30	30	23
2	84	76	70	65	75	68	63	59	54	50	47	40	37	35	27	26	24	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	22	20	15
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	28	24	22	19	17	15	11
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	0.9
10°-20°	108.1	2.5
20°-30°	163.4	3.7
30°-40°	197.8	4.5
40°-50°	209.1	4.7
50°-60°	196.8	4.5
60°-70°	163.2	3.7
70°-80°	114.7	2.6
80°-90°	67.7	1.5
90°-100°	72.2	1.6
100°-110°	243.4	5.5
110°-120°	430.2	9.8
120°-130°	532.6	12.1
130°-140°	562.9	12.8
140°-150°	523.0	11.9
150°-160°	421.0	9.5
160°-170°	271.5	6.2
170°-180°	93.6	2.1
0°-30°	309.3	7.0
0°-40°	507.0	11.5
0°-60°	912.9	20.7
0°-90°	1258.4	28.5
90°-120°	745.7	16.9
90°-150°	2364.3	53.6
90°-180°	3150.0	71.4
0°-180°	4408.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	9	35	60	77	83	7
95°	46	38	55	71	76	57
105°	226	240	259	275	254	237
115°	417	424	437	448	451	410
125°	584	587	596	606	610	521
135°	723	723	728	737	741	557
145°	833	835	835	838	842	521
155°	913	914	912	914	912	421
165°	963	960	960	965	959	272
175°	985	981	982	987	979	94
180°	985	985	985	985	985	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.7	18.1	22.4	26.9	31.3	35.8	40.3	45.0	49.6	54.2	57.3
90°	9.3	15.1	20.9	26.7	32.4	38.1	43.6	49.2	54.8	60.4	64.3
92.5°	16.0	19.7	23.4	27.1	30.7	35.3	40.9	46.5	52.1	57.7	61.5
95°	46.4	44.0	41.8	39.4	37.1	38.1	42.3	46.6	50.8	55.0	58.7
97.5°	91.3	97.6	104.0	110.2	116.5	112.5	98.2	84.0	69.7	55.5	58.2
100°	125.7	131.3	136.9	142.3	147.9	141.3	122.5	103.8	85.1	66.4	66.3
102.5°	164.7	169.1	173.5	178.0	182.4	185.0	185.9	186.7	187.6	188.3	160.9
105°	225.8	228.8	231.8	234.7	237.7	241.4	245.9	250.4	254.9	259.4	263.3
107.5°	283.4	285.5	287.7	289.7	291.8	295.2	299.8	304.3	309.0	313.6	316.7
110°	322.0	323.9	325.7	327.5	329.4	332.6	337.1	341.5	346.0	350.4	353.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	359.3	361.5	363.5	365.6	367.8	370.7	374.5	378.2	382.0	385.8	388.0
115°	416.9	418.2	419.6	421.0	422.4	424.6	427.6	430.6	433.6	436.6	439.1
117.5°	469.1	470.2	471.5	472.7	473.8	476.1	479.4	482.8	486.1	489.4	491.3
120°	504.1	505.0	506.1	507.0	507.9	509.7	512.5	515.2	517.8	520.6	522.9
122.5°	537.2	537.5	538.0	538.5	538.9	540.6	543.6	546.5	549.5	552.4	554.6
125°	584.0	584.6	585.1	585.7	586.2	587.6	589.7	591.8	594.0	596.2	598.5
127.5°	628.7	628.8	628.9	628.9	629.0	630.3	633.0	635.7	638.3	640.9	642.6
130°	657.2	657.3	657.3	657.4	657.5	658.6	660.6	662.7	664.8	666.8	668.8
132.5°	683.8	684.0	684.2	684.4	684.6	685.6	687.5	689.4	691.3	693.1	695.0
135°	723.1	722.9	722.8	722.6	722.5	723.0	724.4	725.8	727.1	728.5	730.4
137.5°	758.4	758.3	758.3	758.3	758.2	758.7	759.8	760.8	761.9	763.0	764.8
140°	781.4	781.6	781.8	782.0	782.2	782.6	783.0	783.4	783.8	784.3	786.1
142.5°	801.6	802.2	802.8	803.3	803.9	804.3	804.4	804.6	804.6	804.8	806.3
145°	833.2	833.6	834.0	834.4	834.8	835.0	835.0	835.0	835.0	835.0	835.8
147.5°	858.5	859.2	860.1	860.9	861.7	862.0	861.9	861.7	861.5	861.4	861.6
150°	876.7	877.2	877.8	878.4	878.9	879.1	878.9	878.8	878.6	878.4	878.4
152.5°	891.6	892.2	892.7	893.2	893.7	893.8	893.5	893.2	892.9	892.6	892.9
155°	913.1	913.2	913.4	913.6	913.8	913.6	913.1	912.6	912.1	911.6	912.3
157.5°	931.2	931.1	931.0	930.9	930.9	930.5	929.9	929.4	928.9	928.3	929.2
160°	941.9	941.3	940.8	940.4	939.9	939.5	939.4	939.2	939.1	938.9	939.9
162.5°	951.3	950.6	950.0	949.4	948.8	948.4	948.2	948.1	947.9	947.7	948.8
165°	963.2	962.4	961.6	960.7	960.0	959.5	959.5	959.5	959.5	959.5	960.8
167.5°	972.6	971.8	970.9	970.1	969.2	968.7	968.7	968.6	968.5	968.4	969.8
170°	978.0	976.9	976.0	975.0	974.0	973.6	973.7	973.9	974.1	974.3	975.5
172.5°	981.5	980.5	979.5	978.5	977.6	977.1	977.3	977.5	977.6	977.8	979.1
175°	985.3	984.3	983.4	982.4	981.4	981.0	981.2	981.3	981.5	981.7	983.1
177.5°	987.1	986.2	985.2	984.3	983.4	983.1	983.4	983.6	983.9	984.1	985.1
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	60.3	63.4	66.4	68.5	69.5	70.3	71.3	72.2
90°	68.1	71.9	75.8	78.3	79.5	80.6	81.6	82.8
92.5°	65.2	69.0	72.8	75.1	76.0	76.8	77.7	78.5
95°	62.3	66.0	69.7	72.0	73.0	74.2	75.2	76.3
97.5°	60.9	63.6	66.3	68.1	69.2	70.2	71.2	72.2
100°	66.1	66.0	65.9	66.3	67.1	68.0	68.8	69.7
102.5°	133.5	106.0	78.6	65.3	66.1	66.9	67.7	68.5
105°	267.3	271.3	275.2	274.7	269.5	264.4	259.3	254.2
107.5°	319.9	323.0	326.2	328.4	329.8	331.1	332.4	333.8
110°	355.6	358.3	360.9	362.8	364.1	365.4	366.6	368.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	390.0	392.2	394.4	396.2	397.6	399.0	400.4	401.8
115°	441.7	444.1	446.7	448.3	448.9	449.7	450.3	451.0
117.5°	493.3	495.3	497.4	498.7	499.5	500.2	500.9	501.6
120°	525.2	527.5	529.8	531.2	531.7	532.2	532.6	533.1
122.5°	556.8	558.9	561.1	562.4	562.8	563.2	563.5	563.9
125°	601.0	603.3	605.7	607.3	608.0	608.8	609.5	610.3
127.5°	644.3	646.0	647.7	648.8	649.3	649.9	650.4	651.0
130°	670.8	672.7	674.7	675.9	676.6	677.1	677.7	678.3
132.5°	696.9	698.8	700.6	701.8	702.3	702.8	703.2	703.7
135°	732.3	734.2	736.1	737.5	738.5	739.3	740.3	741.2
137.5°	766.6	768.4	770.2	771.3	771.7	772.0	772.5	772.9
140°	787.9	789.7	791.5	792.6	793.2	793.9	794.6	795.2
142.5°	807.8	809.3	810.8	811.7	812.2	812.7	813.0	813.5
145°	836.5	837.3	838.0	838.8	839.5	840.2	840.9	841.7
147.5°	861.8	862.0	862.2	862.5	863.0	863.6	864.0	864.5
150°	878.4	878.4	878.4	878.5	878.7	878.8	879.0	879.2
152.5°	893.2	893.4	893.6	893.7	893.6	893.5	893.4	893.3
155°	912.9	913.6	914.3	914.4	913.8	913.3	912.9	912.4
157.5°	930.0	930.9	931.7	931.7	930.9	930.0	929.2	928.3
160°	940.8	941.9	942.8	942.8	941.9	940.8	939.9	938.9
162.5°	949.7	950.6	951.7	951.6	950.5	949.3	948.3	947.2
165°	962.1	963.5	964.8	964.7	963.2	961.8	960.3	958.8
167.5°	971.3	972.7	974.1	974.0	972.4	970.7	969.1	967.5
170°	976.9	978.2	979.5	979.3	977.7	976.1	974.4	972.8
172.5°	980.4	981.8	983.1	982.8	981.1	979.3	977.5	975.7
175°	984.6	986.1	987.5	987.3	985.3	983.4	981.4	979.4
177.5°	986.3	987.3	988.4	988.1	986.5	985.0	983.4	981.8
180°	985.3	985.3	985.3	985.3	985.3	985.3	985.3	985.3

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