

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: P332512-935

Luminaire Tested: **S124DIP-S350D810U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332512-935
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-S350D810U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3657.9 lumens
Efficiency: N/A
Efficacy: 117.2 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

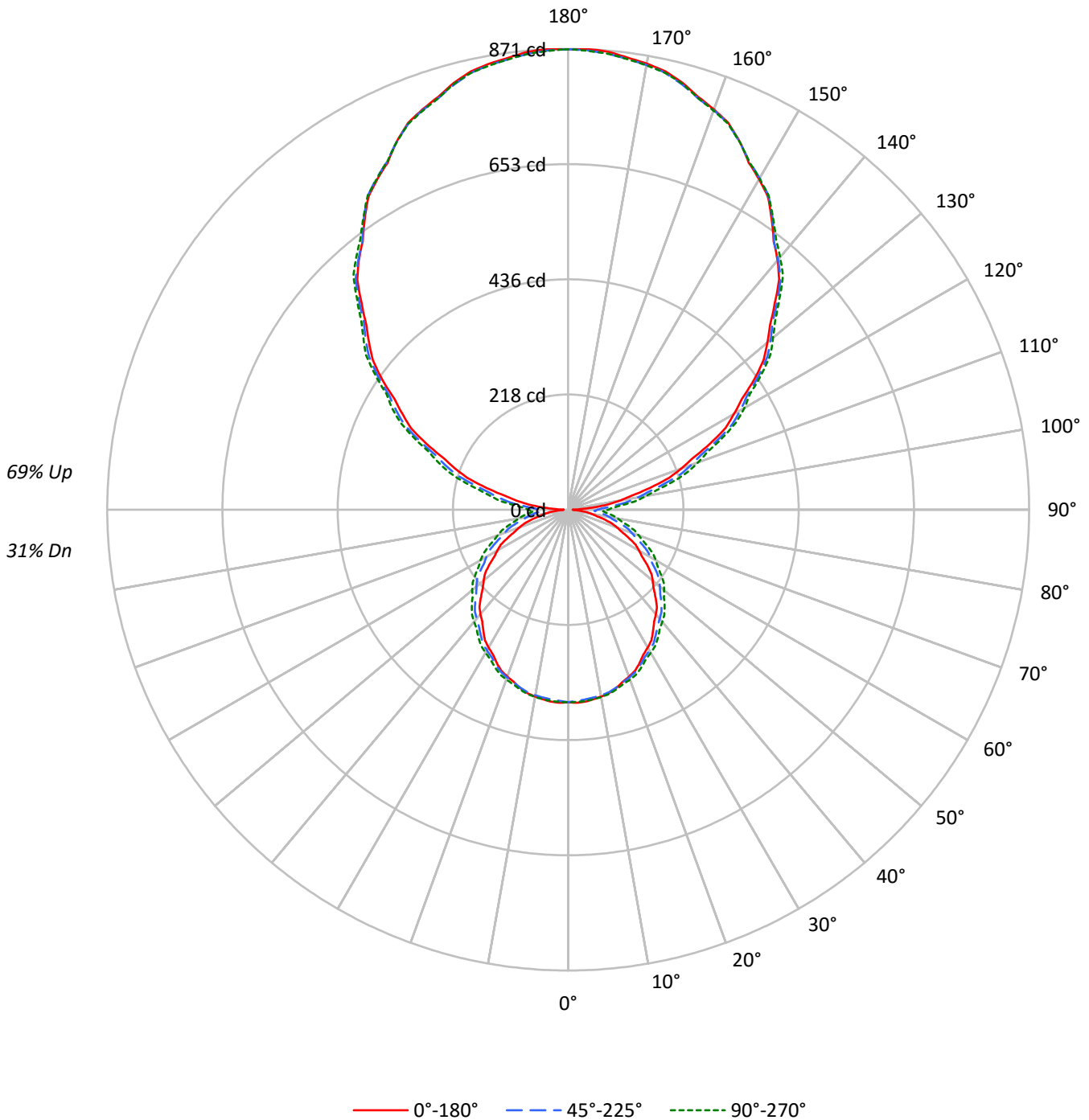
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	93	88	84	81	83	80	76	73	63	61	58	48	46	45	33	33	32	25
2	84	77	71	65	75	69	64	59	55	51	48	41	39	37	29	27	26	21
3	77	67	60	54	69	61	54	49	48	43	40	36	33	31	25	24	22	17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	20	19	14
5	64	53	45	39	57	47	40	35	38	33	29	29	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	49	38	31	26	31	25	22	23	20	17	17	14	12	10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	8
9	47	35	27	22	42	31	25	21	25	20	17	20	16	13	14	12	10	8
10	44	32	25	20	39	29	23	18	23	18	15	18	14	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	0.9
10°-20°	98.7	2.7
20°-30°	149.3	4.1
30°-40°	180.7	4.9
40°-50°	191.0	5.2
50°-60°	179.7	4.9
60°-70°	149.1	4.1
70°-80°	104.7	2.9
80°-90°	61.8	1.7
90°-100°	92.6	2.5
100°-110°	196.1	5.4
110°-120°	306.1	8.4
120°-130°	390.4	10.7
130°-140°	431.7	11.8
140°-150°	420.9	11.5
150°-160°	353.3	9.7
160°-170°	235.0	6.4
170°-180°	82.3	2.2
0°-30°	282.5	7.7
0°-40°	463.2	12.7
0°-60°	833.9	22.8
0°-90°	1149.6	31.4
90°-120°	594.7	16.3
90°-150°	1837.8	50.2
90°-180°	2508.0	68.6
0°-180°	3657.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	8	32	55	70	76	7
95°	46	65	87	99	103	49
105°	160	170	187	199	205	171
115°	296	300	311	319	322	292
125°	429	429	438	444	446	382
135°	552	556	559	564	565	427
145°	670	672	673	675	674	419
155°	767	767	767	769	767	353
165°	835	833	832	836	833	235
175°	869	866	865	869	865	82
180°	870	870	870	870	870	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.5	16.5	20.5	24.5	28.6	32.7	36.9	41.1	45.3	49.5	52.3
90°	8.5	13.8	19.1	24.4	29.6	34.8	39.9	44.9	50.0	55.2	58.7
92.5°	20.6	25.7	30.9	36.1	41.2	46.1	50.9	55.6	60.4	65.0	68.1
95°	45.7	50.0	54.3	58.7	63.0	67.6	72.3	77.1	81.9	86.6	89.5
97.5°	75.3	79.0	82.7	86.3	90.0	94.2	99.1	104.0	108.9	113.8	116.8
100°	98.8	101.7	104.6	107.5	110.6	114.4	119.3	124.2	129.1	134.0	136.7
102.5°	123.5	125.8	128.1	130.4	132.7	136.2	140.9	145.6	150.2	155.0	157.7
105°	160.5	162.5	164.5	166.3	168.3	171.3	175.2	179.2	183.1	187.1	189.9
107.5°	200.1	201.8	203.5	205.1	206.8	209.2	212.5	215.8	219.0	222.3	225.0
110°	226.7	228.3	229.9	231.4	233.0	235.3	238.3	241.3	244.4	247.4	249.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	254.4	255.6	256.8	258.0	259.2	261.1	263.9	266.7	269.4	272.2	274.1
115°	295.9	296.7	297.6	298.3	299.2	300.9	303.5	306.1	308.7	311.3	313.1
117.5°	335.4	336.0	336.7	337.3	337.9	339.4	341.9	344.4	346.9	349.4	350.8
120°	361.4	362.4	363.3	364.1	365.0	366.5	368.7	370.8	373.0	375.2	376.3
122.5°	388.9	389.3	389.5	389.9	390.1	391.4	393.6	396.0	398.2	400.5	401.8
125°	429.0	429.0	428.9	428.8	428.7	429.7	431.8	433.9	436.1	438.2	439.6
127.5°	465.7	466.1	466.5	466.8	467.2	468.1	469.6	471.1	472.6	474.1	475.4
130°	491.3	491.6	492.0	492.3	492.7	493.6	495.1	496.5	497.9	499.4	500.8
132.5°	517.6	517.9	518.1	518.3	518.6	519.3	520.3	521.3	522.4	523.4	524.6
135°	552.1	553.0	553.9	554.8	555.7	556.5	557.1	557.8	558.4	559.0	560.2
137.5°	590.0	590.4	590.7	591.1	591.3	591.9	592.4	592.9	593.5	594.0	595.0
140°	615.4	615.6	615.8	616.0	616.2	616.4	616.5	616.6	616.6	616.7	617.8
142.5°	638.2	638.5	638.8	639.0	639.3	639.4	639.2	639.0	638.9	638.7	639.7
145°	670.2	670.6	671.1	671.7	672.2	672.5	672.7	672.8	673.0	673.1	673.5
147.5°	702.0	702.6	703.2	703.8	704.5	704.7	704.6	704.5	704.3	704.2	704.2
150°	721.3	721.9	722.3	722.8	723.3	723.6	723.6	723.6	723.6	723.6	723.6
152.5°	739.3	739.6	739.9	740.3	740.6	740.9	741.0	741.1	741.2	741.4	741.8
155°	767.3	767.3	767.3	767.3	767.3	767.2	767.2	767.0	766.8	766.7	767.2
157.5°	791.1	790.7	790.5	790.2	790.0	789.8	789.8	789.8	789.7	789.7	790.1
160°	805.0	804.9	804.8	804.6	804.4	804.3	804.2	804.0	803.8	803.7	804.2
162.5°	817.9	817.6	817.2	816.8	816.4	816.1	816.0	815.9	815.7	815.5	816.4
165°	835.3	834.9	834.5	834.0	833.5	833.2	832.8	832.6	832.2	832.0	832.8
167.5°	848.7	848.0	847.4	846.8	846.2	845.8	845.8	845.9	845.9	845.9	846.9
170°	856.2	855.5	854.7	853.9	853.3	852.9	853.1	853.3	853.3	853.5	854.4
172.5°	861.6	861.0	860.3	859.7	859.1	858.8	858.8	858.8	858.8	858.9	859.9
175°	869.0	868.2	867.5	866.8	866.0	865.6	865.4	865.2	865.1	865.0	866.0
177.5°	871.4	870.8	870.2	869.6	869.0	868.7	868.7	868.7	868.7	868.7	869.5
180°	870.3	870.3	870.3	870.3	870.3	870.3	870.3	870.3	870.3	870.3	870.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	55.1	57.9	60.7	62.6	63.5	64.2	65.1	66.0
90°	62.2	65.7	69.2	71.5	72.6	73.5	74.6	75.6
92.5°	71.2	74.3	77.4	79.4	80.3	81.2	82.1	83.0
95°	92.4	95.3	98.2	100.0	100.8	101.7	102.5	103.3
97.5°	119.7	122.6	125.4	127.3	128.1	128.9	129.7	130.4
100°	139.5	142.2	144.9	146.6	147.2	147.9	148.5	149.1
102.5°	160.5	163.3	166.1	167.9	168.8	169.6	170.4	171.3
105°	192.5	195.3	197.9	199.9	201.0	202.2	203.5	204.6
107.5°	227.6	230.2	232.9	234.5	235.1	235.7	236.3	237.0
110°	251.0	252.7	254.5	256.0	257.2	258.3	259.5	260.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.0	278.0	279.9	281.3	282.1	282.9	283.8	284.6
115°	315.0	316.8	318.7	319.9	320.3	320.8	321.2	321.8
117.5°	352.1	353.5	354.9	355.8	356.2	356.6	357.1	357.5
120°	377.3	378.4	379.4	380.5	381.5	382.5	383.6	384.6
122.5°	403.1	404.4	405.7	406.4	406.6	406.7	406.7	406.8
125°	441.0	442.5	443.8	444.7	445.0	445.1	445.4	445.7
127.5°	476.7	478.1	479.4	480.3	480.6	481.0	481.4	481.8
130°	502.0	503.3	504.7	505.3	505.3	505.2	505.1	505.1
132.5°	525.9	527.2	528.4	529.2	529.5	529.8	530.1	530.5
135°	561.3	562.4	563.6	564.2	564.3	564.4	564.5	564.6
137.5°	595.9	596.8	597.7	598.5	599.0	599.6	600.1	600.6
140°	618.8	619.8	620.9	621.5	621.8	622.1	622.4	622.7
142.5°	640.7	641.7	642.7	643.3	643.7	644.0	644.5	644.8
145°	673.9	674.3	674.7	674.9	674.8	674.7	674.6	674.5
147.5°	704.1	704.0	704.0	704.0	704.2	704.4	704.5	704.6
150°	723.6	723.6	723.6	723.5	723.4	723.2	723.1	722.9
152.5°	742.1	742.4	742.8	742.8	742.4	742.0	741.7	741.2
155°	767.8	768.4	769.0	769.0	768.4	767.8	767.2	766.7
157.5°	790.6	791.1	791.5	791.4	791.0	790.5	790.0	789.5
160°	804.6	805.0	805.5	805.4	804.6	803.8	803.1	802.4
162.5°	817.2	817.9	818.8	818.8	818.0	817.3	816.6	815.8
165°	833.8	834.7	835.6	835.7	835.1	834.5	833.9	833.4
167.5°	847.7	848.7	849.5	849.5	848.6	847.7	846.8	845.8
170°	855.3	856.2	857.1	857.0	856.0	855.0	853.9	852.8
172.5°	860.9	861.9	863.0	863.0	861.9	860.8	859.8	858.8
175°	867.0	868.1	869.2	869.2	868.1	867.0	866.0	865.0
177.5°	870.4	871.2	872.1	872.0	871.1	870.1	869.2	868.1
180°	870.3	870.3	870.3	870.3	870.3	870.3	870.3	870.3

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