

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: P331499-940

Luminaire Tested: **S122DIW-S485D435U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331499-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D435U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3307.0 lumens
Efficiency: N/A
Efficacy: 109.5 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

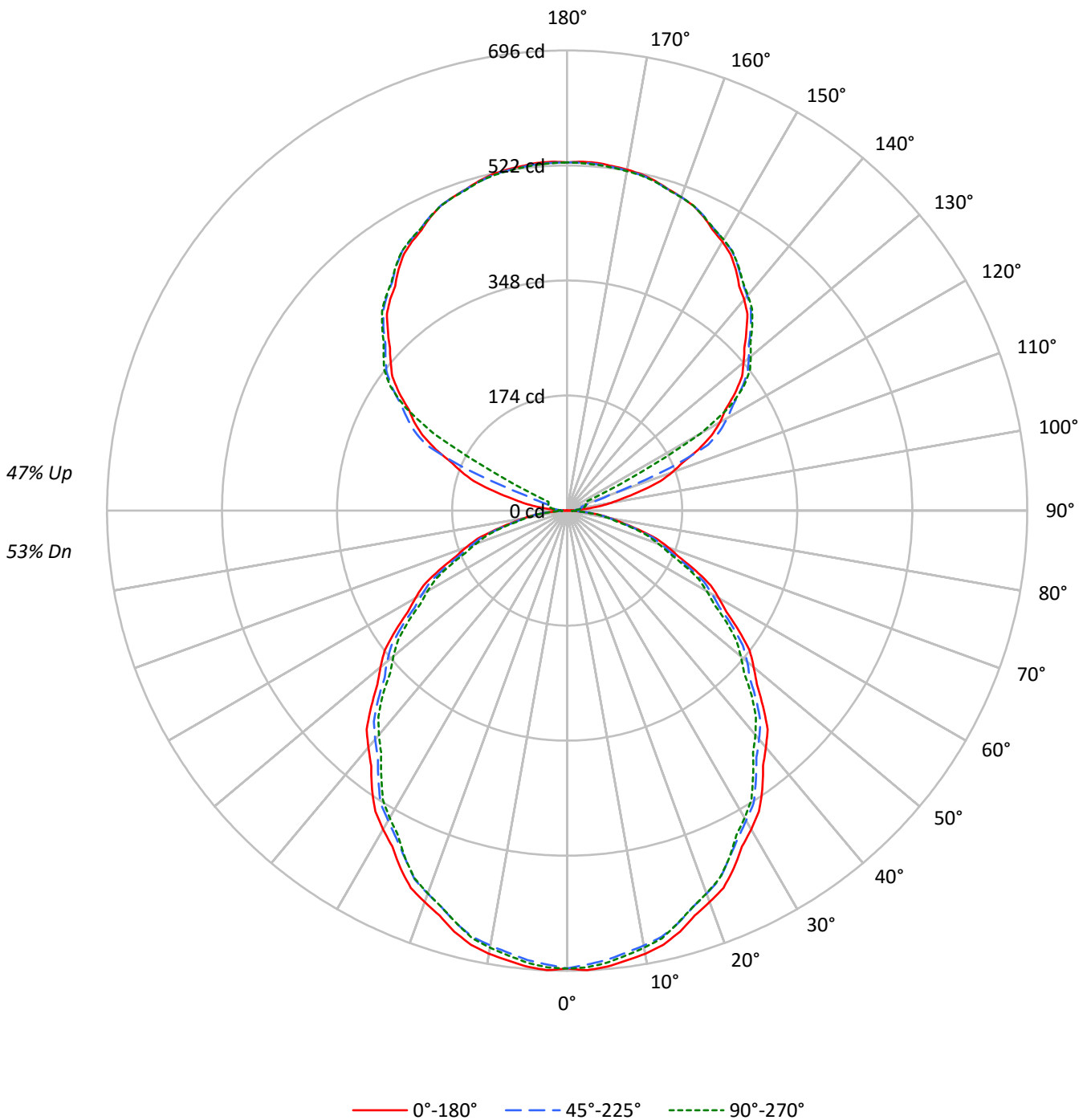
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53				
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45				
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	38				
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	41	38	36	32				
4	75	64	56	50	69	60	53	47	51	46	42	44	39	36	36	33	31	27				
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24				
6	63	51	43	37	59	48	41	35	41	36	31	35	31	27	30	26	24	21				
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	27	24	21	19				
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17				
9	51	38	31	26	47	36	29	24	31	26	22	27	23	20	23	20	17	15				
10	47	35	28	23	44	33	26	22	29	24	20	25	21	18	21	18	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11183	11183	11183
5°	11225	11063	11128
10°	11158	10952	11006
15°	11020	10810	10798
20°	10825	10596	10584
25°	10630	10334	10334
30°	10381	10094	10006
35°	10147	9806	9662
40°	9853	9518	9333
45°	9565	9229	9001
50°	9251	8932	8616
55°	8923	8586	8267
60°	8557	8173	7869
65°	8164	7759	7404
70°	7671	7260	6916
75°	6981	6687	6525
80°	6192	6007	5700
85°	5057	4798	4316



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.1	2.0
10°-20°	183.3	5.5
20°-30°	269.4	8.1
30°-40°	312.9	9.5
40°-50°	312.5	9.5
50°-60°	272.6	8.2
60°-70°	201.5	6.1
70°-80°	114.1	3.5
80°-90°	32.0	1.0
90°-100°	17.6	0.5
100°-110°	64.4	1.9
110°-120°	172.2	5.2
120°-130°	284.3	8.6
130°-140°	302.4	9.1
140°-150°	281.0	8.5
150°-160°	225.9	6.8
160°-170°	145.6	4.4
170°-180°	50.1	1.5
0°-30°	517.7	15.7
0°-40°	830.6	25.1
0°-60°	1415.7	42.8
0°-90°	1763.4	53.3
90°-120°	254.2	7.7
90°-150°	1121.9	33.9
90°-180°	1544.0	46.7
0°-180°	3307.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	693	693	693	693	693	
5°	693	690	683	688	687	66
15°	659	655	647	649	646	186
25°	597	591	580	581	580	274
35°	515	508	498	494	490	321
45°	419	414	404	397	394	323
55°	317	313	305	297	294	283
65°	214	210	203	197	194	211
75°	112	110	107	104	105	120
85°	27	27	26	24	23	31
90°	0	4	8	9	10	2
95°	25	13	15	17	16	30
105°	116	121	23	27	29	124
115°	219	226	235	67	31	216
125°	310	315	322	325	326	276
135°	383	389	393	396	396	296
145°	445	445	451	453	452	278
155°	490	487	491	493	490	226
165°	516	514	515	517	515	146
175°	528	525	526	528	525	50
180°	527	527	527	527	527	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6
2.5°	695.8	695.2	694.6	694.0	693.4	692.5	691.2	689.9	688.6	687.2	688.5
5°	692.6	692.0	691.4	690.8	690.3	689.1	687.5	685.9	684.2	682.6	683.8
7.5°	686.4	685.5	684.7	683.7	682.8	681.5	679.8	678.2	676.5	674.8	676.1
10°	680.6	679.6	678.5	677.5	676.5	675.0	673.2	671.5	669.8	668.0	669.1
12.5°	672.6	671.7	670.7	669.9	669.0	667.6	665.8	664.1	662.3	660.5	661.3
15°	659.3	658.4	657.5	656.7	655.8	654.3	652.4	650.5	648.5	646.7	647.2
17.5°	642.2	641.4	640.5	639.6	638.7	637.3	635.3	633.4	631.4	629.5	630.2
20°	630.0	629.1	628.2	627.3	626.4	625.0	622.9	620.8	618.8	616.7	617.2
22.5°	617.8	616.5	615.3	614.0	612.8	611.2	609.2	607.3	605.3	603.3	603.4
25°	596.7	595.5	594.3	593.2	592.0	590.1	587.6	585.1	582.6	580.1	580.3
27.5°	572.7	571.7	570.6	569.5	568.5	566.9	565.0	562.9	561.0	559.0	558.6
30°	556.8	555.5	554.4	553.2	552.0	550.3	548.0	545.9	543.7	541.4	541.0
32.5°	539.7	538.8	537.8	536.8	535.9	534.2	531.9	529.6	527.3	525.0	524.1
35°	514.8	513.3	511.8	510.3	508.9	506.9	504.6	502.2	499.8	497.5	496.6
37.5°	486.7	485.4	484.1	482.8	481.4	479.7	477.2	474.9	472.5	470.2	469.0
40°	467.5	466.3	465.1	464.0	462.8	461.0	458.6	456.3	453.9	451.6	450.2
42.5°	448.9	447.6	446.5	445.3	444.2	442.4	440.0	437.7	435.2	432.8	431.4
45°	418.9	417.9	416.8	415.8	414.7	413.1	410.9	408.7	406.4	404.2	402.6
47.5°	389.1	388.1	387.1	386.1	385.1	383.5	381.2	378.9	376.6	374.3	372.6
50°	368.3	367.6	366.8	366.0	365.3	363.9	361.9	359.8	357.7	355.6	353.6
52.5°	348.0	347.1	346.1	345.1	344.1	342.7	340.7	338.8	336.8	334.8	333.1
55°	317.0	316.1	315.2	314.3	313.4	312.1	310.3	308.5	306.7	305.0	303.3
57.5°	285.8	285.1	284.4	283.7	283.0	281.7	279.7	277.8	275.8	273.8	272.1
60°	265.0	264.5	263.9	263.2	262.7	261.4	259.3	257.2	255.1	253.1	251.5
62.5°	244.8	243.9	242.9	241.9	241.0	239.8	238.2	236.6	235.0	233.4	231.8
65°	213.7	212.9	212.0	211.1	210.3	209.0	207.6	206.1	204.6	203.1	201.8
67.5°	182.2	181.5	180.7	180.0	179.3	178.3	177.0	175.7	174.3	173.0	172.0
70°	162.5	161.9	161.3	160.7	160.2	159.2	157.8	156.5	155.2	153.8	152.8
72.5°	142.2	141.7	141.1	140.4	139.9	139.2	138.3	137.4	136.6	135.7	134.6
75°	111.9	111.6	111.3	111.0	110.7	110.2	109.4	108.7	108.0	107.2	106.3
77.5°	84.7	84.2	83.7	83.2	82.7	82.3	82.0	81.7	81.4	81.1	80.7
80°	66.6	66.4	66.3	66.2	66.0	65.8	65.5	65.2	64.9	64.6	64.1
82.5°	49.6	49.5	49.5	49.5	49.4	49.3	49.1	49.0	48.8	48.6	48.1
85°	27.3	27.2	27.0	26.8	26.8	26.6	26.4	26.3	26.1	25.9	25.5
87.5°	9.6	9.6	9.5	9.5	9.5	9.4	9.3	9.2	9.1	9.0	8.7
90°	0.4	1.3	2.2	3.2	4.1	4.9	5.6	6.2	7.0	7.6	8.0
92.5°	7.7	7.6	7.5	7.4	7.4	7.5	7.8	8.2	8.5	8.8	9.1
95°	24.8	21.9	19.2	16.4	13.6	12.5	13.1	13.6	14.3	14.9	15.2
97.5°	49.1	41.3	33.4	25.5	17.7	14.4	15.8	17.1	18.5	19.9	20.2
100°	67.5	55.8	44.2	32.6	21.0	16.0	17.4	18.8	20.2	21.8	22.4
102.5°	87.6	85.2	82.7	80.3	77.8	70.5	58.5	46.5	34.4	22.3	23.2
105°	115.8	118.4	120.9	123.5	126.0	115.7	92.6	69.5	46.4	23.3	24.2
107.5°	148.1	150.2	152.2	154.3	156.3	143.5	115.7	88.0	60.3	32.5	31.6
110°	168.8	170.6	172.4	174.2	175.9	164.6	140.1	115.7	91.1	66.7	58.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	188.3	189.9	191.5	193.1	194.7	192.4	186.4	180.3	174.2	168.3	137.3
115°	219.2	220.6	222.0	223.5	224.9	226.7	228.8	231.0	233.0	235.1	195.9
117.5°	246.6	248.3	249.9	251.5	253.1	254.7	256.1	257.5	259.0	260.5	251.0
120°	266.8	268.0	269.3	270.6	271.9	273.3	274.8	276.3	277.9	279.4	280.4
122.5°	283.8	285.2	286.5	287.8	289.2	290.7	292.4	294.0	295.7	297.4	298.0
125°	309.9	310.9	312.1	313.2	314.2	315.6	317.3	318.9	320.5	322.1	322.6
127.5°	333.4	334.7	335.8	337.1	338.3	339.5	340.7	341.9	343.1	344.3	345.2
130°	348.4	349.7	351.1	352.4	353.7	354.9	355.9	356.8	357.8	358.6	359.5
132.5°	363.6	364.7	365.9	367.0	368.2	369.3	370.1	371.1	372.0	373.0	373.8
135°	383.4	384.8	386.1	387.4	388.9	389.9	390.7	391.5	392.2	393.0	393.8
137.5°	403.5	404.4	405.4	406.4	407.2	408.1	409.0	409.9	410.7	411.6	412.4
140°	416.6	417.2	417.9	418.6	419.3	420.1	421.1	422.0	422.8	423.8	424.5
142.5°	427.6	428.2	428.7	429.4	430.0	430.9	431.9	432.9	434.0	435.1	435.8
145°	444.8	444.7	444.6	444.5	444.4	445.1	446.6	448.0	449.4	450.8	451.5
147.5°	459.8	459.5	459.1	458.9	458.5	459.1	460.5	461.9	463.3	464.8	465.2
150°	469.6	469.0	468.3	467.8	467.2	467.5	469.0	470.3	471.6	473.0	473.5
152.5°	477.8	477.2	476.4	475.8	475.1	475.5	476.7	478.0	479.3	480.6	481.1
155°	489.7	489.0	488.2	487.5	486.7	486.9	487.9	488.8	489.9	490.9	491.4
157.5°	499.1	498.5	497.8	497.2	496.6	496.6	497.3	498.0	498.7	499.4	500.0
160°	504.6	504.1	503.6	503.1	502.6	502.6	503.1	503.6	504.1	504.6	505.2
162.5°	509.5	509.0	508.5	508.0	507.5	507.5	507.8	508.3	508.7	509.2	509.8
165°	516.0	515.6	515.1	514.5	514.0	513.9	514.2	514.4	514.7	514.9	515.5
167.5°	520.9	520.4	520.0	519.4	518.9	518.8	519.0	519.2	519.5	519.7	520.3
170°	523.7	523.2	522.6	522.2	521.7	521.5	521.7	521.8	522.0	522.2	522.7
172.5°	525.5	525.0	524.5	524.0	523.4	523.3	523.4	523.6	523.8	524.0	524.6
175°	527.9	527.3	526.6	526.1	525.5	525.3	525.5	525.7	525.8	525.9	526.6
177.5°	528.2	527.8	527.3	526.8	526.4	526.1	526.2	526.3	526.4	526.4	526.9
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	692.6	692.6	692.6	692.6	692.6	692.6	692.6	692.6
2.5°	689.6	690.8	692.0	692.5	692.2	692.0	691.8	691.5
5°	685.0	686.2	687.3	687.8	687.5	687.2	686.9	686.6
7.5°	677.3	678.4	679.7	680.0	679.8	679.4	679.0	678.8
10°	670.3	671.5	672.7	673.1	672.6	672.2	671.7	671.3
12.5°	662.2	663.0	663.8	664.1	663.7	663.4	663.1	662.7
15°	647.8	648.5	649.0	648.9	648.2	647.5	646.8	646.0
17.5°	630.8	631.5	632.2	632.1	631.4	630.8	630.1	629.4
20°	617.6	618.0	618.5	618.4	617.8	617.2	616.6	616.0
22.5°	603.5	603.6	603.7	603.6	603.2	602.9	602.5	602.2
25°	580.7	580.9	581.2	581.2	580.9	580.7	580.3	580.1
27.5°	558.1	557.7	557.2	556.7	556.0	555.3	554.6	553.8
30°	540.6	540.1	539.7	539.1	538.5	538.0	537.3	536.7
32.5°	523.3	522.5	521.7	521.0	520.4	519.9	519.2	518.6
35°	495.7	494.8	493.9	493.1	492.4	491.6	490.9	490.2
37.5°	468.0	466.9	465.8	464.8	464.1	463.4	462.7	462.1
40°	448.9	447.5	446.2	445.2	444.6	444.1	443.4	442.8
42.5°	430.0	428.6	427.0	426.0	425.1	424.3	423.5	422.6
45°	401.0	399.4	397.7	396.6	396.0	395.5	394.8	394.2
47.5°	370.9	369.1	367.4	366.1	365.2	364.4	363.6	362.7
50°	351.5	349.4	347.3	345.9	345.2	344.5	343.7	343.0
52.5°	331.4	329.7	328.0	326.6	325.7	324.7	323.7	322.7
55°	301.5	299.7	297.9	296.7	295.9	295.2	294.4	293.7
57.5°	270.4	268.6	266.9	265.7	265.1	264.6	264.0	263.4
60°	249.8	248.2	246.6	245.5	245.0	244.6	244.2	243.7
62.5°	230.3	228.8	227.3	226.3	225.7	225.2	224.6	224.0
65°	200.5	199.1	197.8	196.7	196.0	195.3	194.6	193.8
67.5°	170.9	169.9	168.9	168.1	167.5	166.8	166.3	165.7
70°	151.8	150.7	149.7	148.9	148.3	147.7	147.1	146.5
72.5°	133.7	132.6	131.6	130.8	130.4	129.8	129.4	128.9
75°	105.4	104.6	103.7	103.3	103.7	104.0	104.2	104.6
77.5°	80.3	79.8	79.4	78.9	78.5	78.1	77.7	77.2
80°	63.7	63.2	62.9	62.4	62.2	61.9	61.5	61.3
82.5°	47.5	46.9	46.4	46.0	46.0	45.9	45.8	45.8
85°	25.1	24.6	24.2	23.9	23.7	23.6	23.5	23.3
87.5°	8.5	8.2	7.9	7.8	7.7	7.6	7.5	7.4
90°	8.5	8.9	9.3	9.6	9.8	10.0	10.2	10.3
92.5°	9.3	9.5	9.7	9.9	10.0	10.1	10.2	10.3
95°	15.7	16.1	16.6	16.8	16.7	16.6	16.5	16.4
97.5°	20.6	21.0	21.2	21.5	21.6	21.7	21.8	21.8
100°	23.1	23.7	24.4	24.9	25.1	25.2	25.3	25.5
102.5°	24.1	25.0	25.9	26.4	26.7	26.9	27.1	27.4
105°	25.1	26.0	27.0	27.6	27.9	28.3	28.6	29.0
107.5°	30.7	29.7	28.7	28.4	28.8	29.2	29.4	29.8
110°	49.8	41.3	32.8	28.7	29.1	29.4	29.8	30.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	106.5	75.5	44.7	29.3	29.6	29.9	30.1	30.4
115°	156.8	117.5	78.3	55.6	49.6	43.4	37.4	31.2
117.5°	241.5	232.0	222.5	207.8	187.7	167.6	147.7	127.6
120°	281.4	282.4	283.5	278.2	266.8	255.4	243.9	232.5
122.5°	298.5	299.2	299.8	299.0	296.8	294.5	292.3	290.1
125°	323.2	323.9	324.4	324.9	325.1	325.4	325.7	325.8
127.5°	346.1	346.9	347.8	348.2	348.3	348.3	348.4	348.4
130°	360.5	361.4	362.4	362.8	362.7	362.7	362.6	362.5
132.5°	374.6	375.3	376.1	376.5	376.4	376.3	376.3	376.2
135°	394.7	395.5	396.4	396.6	396.5	396.4	396.2	396.0
137.5°	413.3	414.1	414.9	415.2	414.9	414.6	414.4	414.0
140°	425.3	426.1	426.9	427.0	426.6	426.1	425.8	425.3
142.5°	436.5	437.2	437.9	438.0	437.6	437.2	436.8	436.3
145°	452.1	452.6	453.3	453.3	452.9	452.5	452.1	451.7
147.5°	465.7	466.1	466.5	466.5	466.2	465.8	465.5	465.1
150°	474.0	474.5	475.0	475.1	474.7	474.2	473.8	473.4
152.5°	481.6	482.1	482.7	482.6	482.1	481.5	480.9	480.4
155°	492.0	492.4	492.9	492.8	492.1	491.5	490.8	490.2
157.5°	500.6	501.1	501.8	501.7	501.1	500.3	499.7	499.1
160°	505.6	506.1	506.7	506.6	506.0	505.4	504.8	504.3
162.5°	510.3	511.0	511.5	511.4	510.7	510.0	509.3	508.5
165°	516.1	516.7	517.3	517.3	516.7	516.1	515.5	514.9
167.5°	520.9	521.5	522.1	522.0	521.2	520.5	519.7	519.0
170°	523.3	524.0	524.5	524.4	523.7	522.9	522.2	521.4
172.5°	525.1	525.8	526.4	526.3	525.5	524.8	524.0	523.3
175°	527.2	527.7	528.3	528.2	527.4	526.6	525.7	524.9
177.5°	527.4	527.8	528.3	528.2	527.6	527.0	526.4	525.8
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7

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