

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: P331499-935

Luminaire Tested: **S122DIW-S485D435U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331499-935  
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-S485D435U935-4F0-1E-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: 3193.0 lumens  
Efficiency: N/A  
Efficacy: 105.7 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

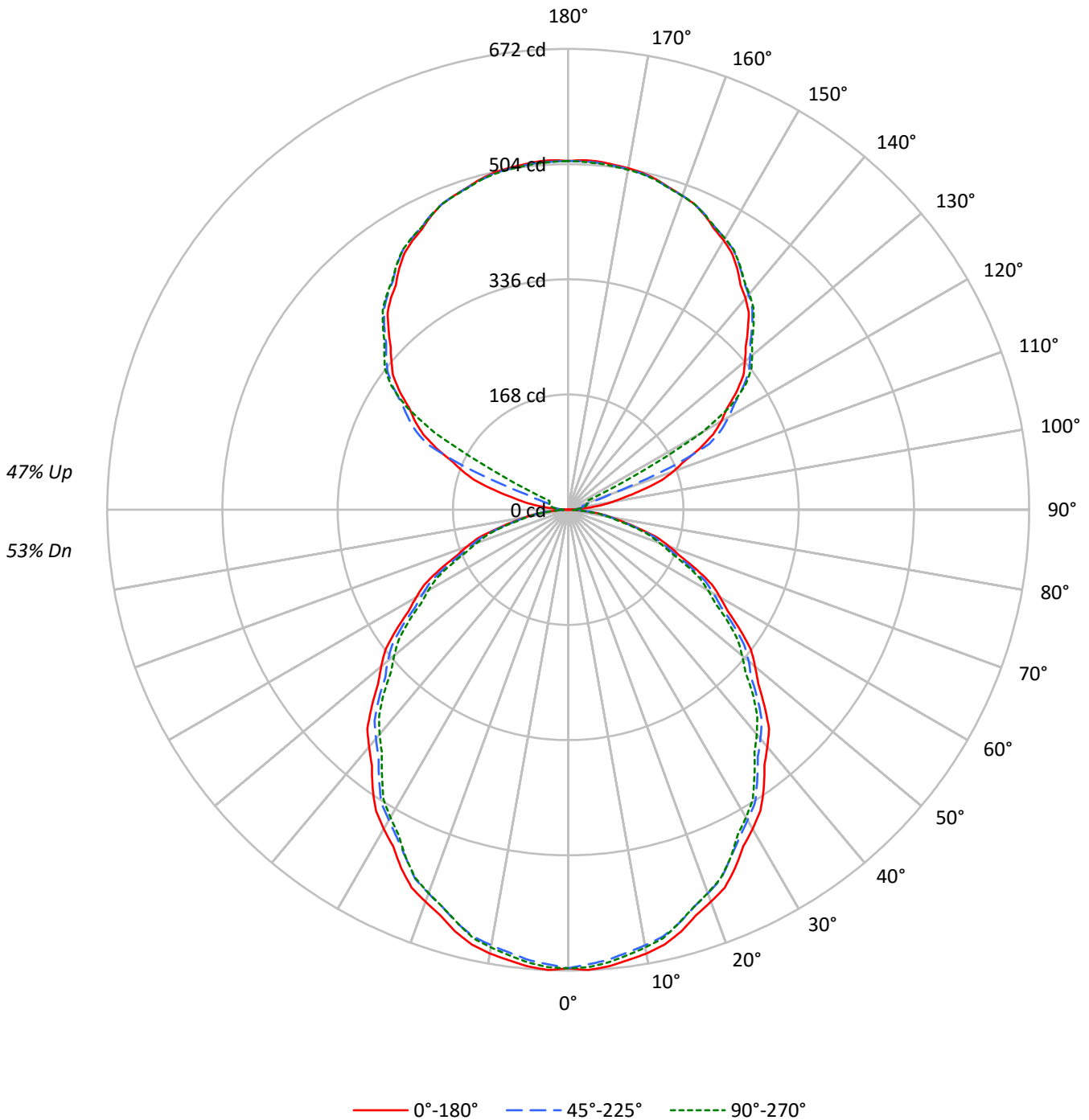
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	10797	10797	10797
5°	10838	10682	10746
10°	10775	10575	10627
15°	10641	10437	10425
20°	10452	10232	10220
25°	10265	9978	9978
30°	10023	9747	9661
35°	9798	9469	9329
40°	9514	9190	9012
45°	9236	8912	8690
50°	8932	8626	8317
55°	8617	8290	7983
60°	8263	7892	7598
65°	7885	7492	7148
70°	7407	7010	6680
75°	6744	6457	6301
80°	5979	5793	5504
85°	4872	4650	4168



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.9	2.0
10°-20°	176.9	5.5
20°-30°	260.1	8.1
30°-40°	302.1	9.5
40°-50°	301.8	9.5
50°-60°	263.2	8.2
60°-70°	194.6	6.1
70°-80°	110.2	3.5
80°-90°	30.9	1.0
90°-100°	17.0	0.5
100°-110°	62.2	1.9
110°-120°	166.3	5.2
120°-130°	274.5	8.6
130°-140°	291.9	9.1
140°-150°	271.3	8.5
150°-160°	218.2	6.8
160°-170°	140.6	4.4
170°-180°	48.4	1.5
0°-30°	499.9	15.7
0°-40°	802.0	25.1
0°-60°	1366.9	42.8
0°-90°	1702.6	53.3
90°-120°	245.5	7.7
90°-150°	1083.3	33.9
90°-180°	1490.0	46.7
0°-180°	3193.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	669	666	659	664	663	63
15°	637	632	624	627	624	179
25°	576	571	560	561	560	265
35°	497	490	480	476	473	310
45°	404	400	390	384	381	312
55°	306	302	294	287	284	274
65°	206	202	196	190	187	204
75°	108	107	104	100	101	115
85°	26	26	25	23	22	30
90°	0	4	7	9	10	2
95°	24	13	14	16	16	29
105°	112	117	22	26	28	120
115°	212	218	227	65	30	208
125°	299	304	311	313	315	267
135°	370	376	379	383	382	286
145°	430	429	435	438	436	269
155°	473	470	474	476	473	218
165°	498	496	497	500	497	141
175°	510	507	508	510	507	48
180°	509	509	509	509	509	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	671.8	671.2	670.7	670.1	669.5	668.7	667.4	666.2	664.9	663.6	664.8
5°	668.7	668.1	667.6	667.0	666.5	665.4	663.8	662.3	660.6	659.1	660.2
7.5°	662.8	661.9	661.1	660.1	659.3	658.1	656.4	654.9	653.2	651.6	652.8
10°	657.2	656.2	655.1	654.2	653.2	651.8	650.1	648.4	646.7	645.0	646.1
12.5°	649.5	648.6	647.6	646.8	645.9	644.6	642.9	641.2	639.5	637.7	638.5
15°	636.6	635.8	634.9	634.0	633.2	631.8	629.9	628.1	626.2	624.4	624.9
17.5°	620.1	619.3	618.5	617.6	616.7	615.4	613.5	611.6	609.7	607.8	608.5
20°	608.3	607.4	606.6	605.7	604.9	603.5	601.4	599.4	597.4	595.5	595.9
22.5°	596.5	595.3	594.1	592.9	591.7	590.1	588.2	586.3	584.4	582.6	582.6
25°	576.2	575.0	573.9	572.7	571.6	569.8	567.4	564.9	562.5	560.1	560.3
27.5°	553.0	552.0	551.0	549.9	548.9	547.4	545.5	543.5	541.7	539.8	539.3
30°	537.6	536.4	535.3	534.2	533.0	531.3	529.2	527.1	525.0	522.8	522.4
32.5°	521.1	520.2	519.3	518.3	517.5	515.8	513.6	511.3	509.1	506.9	506.1
35°	497.1	495.6	494.2	492.8	491.4	489.5	487.2	484.9	482.6	480.4	479.5
37.5°	469.9	468.6	467.4	466.1	464.9	463.1	460.8	458.6	456.2	454.0	452.9
40°	451.4	450.2	449.1	448.0	446.9	445.1	442.8	440.6	438.2	436.0	434.7
42.5°	433.4	432.2	431.1	430.0	428.9	427.1	424.8	422.6	420.3	417.9	416.6
45°	404.5	403.5	402.4	401.5	400.5	398.9	396.7	394.6	392.4	390.3	388.7
47.5°	375.7	374.7	373.8	372.8	371.9	370.3	368.1	365.8	363.6	361.4	359.7
50°	355.6	354.9	354.1	353.4	352.8	351.4	349.4	347.4	345.3	343.4	341.4
52.5°	336.0	335.1	334.2	333.2	332.3	330.9	329.0	327.1	325.2	323.3	321.7
55°	306.1	305.2	304.4	303.5	302.6	301.4	299.6	297.9	296.2	294.5	292.8
57.5°	276.0	275.3	274.6	274.0	273.3	272.0	270.1	268.2	266.3	264.4	262.7
60°	255.9	255.4	254.8	254.2	253.7	252.4	250.4	248.3	246.3	244.4	242.8
62.5°	236.3	235.5	234.5	233.6	232.7	231.5	230.0	228.4	226.9	225.3	223.9
65°	206.4	205.5	204.7	203.8	203.0	201.8	200.4	199.0	197.5	196.1	194.8
67.5°	175.9	175.2	174.5	173.8	173.1	172.2	170.9	169.6	168.3	167.0	166.1
70°	156.9	156.4	155.8	155.2	154.6	153.7	152.4	151.1	149.8	148.5	147.6
72.5°	137.3	136.8	136.2	135.6	135.1	134.4	133.5	132.7	131.9	131.0	130.0
75°	108.1	107.7	107.5	107.2	106.9	106.4	105.6	105.0	104.3	103.5	102.6
77.5°	81.8	81.3	80.8	80.3	79.8	79.5	79.2	78.9	78.6	78.4	77.9
80°	64.3	64.1	64.1	63.9	63.7	63.5	63.2	62.9	62.7	62.3	61.9
82.5°	47.9	47.8	47.8	47.8	47.7	47.6	47.4	47.3	47.1	46.9	46.4
85°	26.3	26.3	26.1	25.9	25.8	25.7	25.5	25.4	25.2	25.1	24.6
87.5°	9.3	9.3	9.2	9.2	9.1	9.0	9.0	8.9	8.8	8.7	8.4
90°	0.3	1.3	2.2	3.1	4.0	4.7	5.4	6.0	6.7	7.3	7.7
92.5°	7.4	7.3	7.2	7.1	7.1	7.2	7.6	7.9	8.2	8.5	8.8
95°	23.9	21.2	18.5	15.8	13.1	12.1	12.7	13.2	13.8	14.4	14.7
97.5°	47.4	39.9	32.3	24.6	17.0	13.9	15.2	16.5	17.9	19.2	19.5
100°	65.2	53.9	42.7	31.5	20.3	15.4	16.8	18.2	19.5	21.0	21.6
102.5°	84.6	82.2	79.8	77.5	75.1	68.1	56.5	44.9	33.2	21.5	22.4
105°	111.8	114.3	116.8	119.2	121.7	111.8	89.5	67.1	44.8	22.5	23.3
107.5°	143.0	145.0	147.0	149.0	150.9	138.5	111.8	85.0	58.2	31.4	30.5
110°	163.0	164.7	166.4	168.2	169.9	158.9	135.3	111.7	88.0	64.4	56.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.8	183.4	184.9	186.4	188.0	185.8	179.9	174.1	168.2	162.5	132.6
115°	211.6	213.0	214.4	215.8	217.1	218.9	220.9	223.0	225.0	227.0	189.2
117.5°	238.2	239.7	241.3	242.8	244.4	245.9	247.3	248.7	250.1	251.5	242.4
120°	257.6	258.8	260.0	261.3	262.5	263.9	265.4	266.8	268.3	269.8	270.7
122.5°	274.1	275.3	276.6	277.9	279.2	280.7	282.3	283.9	285.5	287.1	287.7
125°	299.2	300.2	301.4	302.4	303.4	304.7	306.3	307.9	309.4	311.0	311.5
127.5°	321.9	323.1	324.3	325.5	326.7	327.8	329.0	330.1	331.3	332.4	333.3
130°	336.4	337.7	339.0	340.3	341.6	342.7	343.6	344.5	345.4	346.3	347.2
132.5°	351.1	352.1	353.3	354.4	355.5	356.5	357.4	358.3	359.2	360.2	360.9
135°	370.2	371.5	372.8	374.1	375.5	376.4	377.2	378.0	378.7	379.4	380.2
137.5°	389.6	390.5	391.4	392.4	393.2	394.1	394.9	395.8	396.6	397.4	398.2
140°	402.3	402.9	403.6	404.2	404.8	405.6	406.6	407.4	408.3	409.2	409.9
142.5°	412.8	413.5	414.0	414.6	415.2	416.0	417.0	418.0	419.0	420.1	420.8
145°	429.5	429.4	429.3	429.2	429.1	429.8	431.2	432.6	433.9	435.3	435.9
147.5°	443.9	443.7	443.3	443.1	442.7	443.2	444.6	446.0	447.4	448.8	449.2
150°	453.4	452.8	452.2	451.7	451.1	451.4	452.8	454.1	455.4	456.7	457.2
152.5°	461.3	460.7	460.0	459.4	458.7	459.1	460.3	461.6	462.8	464.1	464.5
155°	472.9	472.2	471.4	470.7	469.9	470.1	471.1	472.0	473.0	474.0	474.5
157.5°	481.9	481.3	480.7	480.1	479.5	479.5	480.2	480.9	481.6	482.2	482.8
160°	487.2	486.7	486.3	485.8	485.3	485.3	485.8	486.3	486.7	487.2	487.8
162.5°	492.0	491.5	490.9	490.5	490.0	490.0	490.3	490.8	491.2	491.6	492.2
165°	498.3	497.8	497.3	496.8	496.3	496.2	496.5	496.7	497.0	497.1	497.7
167.5°	503.0	502.5	502.0	501.5	501.0	500.9	501.1	501.4	501.6	501.8	502.4
170°	505.7	505.1	504.6	504.2	503.7	503.5	503.7	503.9	504.0	504.2	504.7
172.5°	507.4	507.0	506.4	505.9	505.4	505.3	505.4	505.6	505.8	505.9	506.5
175°	509.7	509.1	508.5	508.0	507.4	507.2	507.4	507.6	507.6	507.8	508.4
177.5°	510.1	509.6	509.1	508.7	508.2	508.0	508.1	508.2	508.2	508.2	508.8
180°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	665.9	667.0	668.1	668.7	668.4	668.1	668.0	667.7
5°	661.4	662.5	663.7	664.1	663.8	663.5	663.2	663.0
7.5°	653.9	655.0	656.3	656.6	656.3	656.0	655.7	655.4
10°	647.2	648.4	649.5	649.9	649.5	649.0	648.6	648.2
12.5°	639.4	640.2	640.9	641.2	640.8	640.6	640.2	639.9
15°	625.5	626.1	626.6	626.5	625.9	625.2	624.5	623.7
17.5°	609.1	609.8	610.4	610.4	609.7	609.1	608.4	607.7
20°	596.3	596.8	597.2	597.1	596.5	595.9	595.4	594.8
22.5°	582.7	582.8	582.9	582.8	582.5	582.1	581.8	581.4
25°	560.7	560.9	561.2	561.2	560.9	560.7	560.3	560.1
27.5°	538.9	538.5	538.0	537.5	536.8	536.1	535.5	534.8
30°	521.9	521.5	521.1	520.6	520.0	519.4	518.8	518.2
32.5°	505.3	504.5	503.8	503.1	502.5	502.0	501.4	500.8
35°	478.6	477.8	476.9	476.1	475.4	474.7	474.0	473.3
37.5°	451.9	450.8	449.8	448.8	448.2	447.5	446.8	446.2
40°	433.4	432.1	430.8	429.9	429.3	428.8	428.2	427.6
42.5°	415.2	413.8	412.3	411.3	410.4	409.7	408.9	408.0
45°	387.2	385.6	384.0	383.0	382.4	381.9	381.3	380.6
47.5°	358.1	356.4	354.7	353.5	352.7	351.9	351.0	350.2
50°	339.4	337.3	335.4	334.0	333.3	332.6	331.8	331.1
52.5°	320.0	318.3	316.7	315.4	314.4	313.5	312.5	311.6
55°	291.1	289.4	287.7	286.5	285.7	285.0	284.3	283.6
57.5°	261.1	259.3	257.7	256.6	256.0	255.5	254.9	254.3
60°	241.2	239.6	238.1	237.0	236.6	236.2	235.7	235.3
62.5°	222.4	220.9	219.5	218.5	217.9	217.4	216.9	216.3
65°	193.6	192.3	191.0	189.9	189.2	188.6	187.9	187.1
67.5°	165.1	164.0	163.1	162.3	161.7	161.1	160.6	160.0
70°	146.5	145.5	144.6	143.8	143.2	142.6	142.1	141.5
72.5°	129.1	128.0	127.1	126.3	125.9	125.4	124.9	124.5
75°	101.8	101.0	100.1	99.8	100.1	100.4	100.7	101.0
77.5°	77.5	77.1	76.6	76.2	75.8	75.4	75.0	74.6
80°	61.5	61.0	60.7	60.3	60.0	59.8	59.4	59.2
82.5°	45.9	45.3	44.8	44.4	44.4	44.3	44.3	44.3
85°	24.2	23.8	23.3	23.1	22.9	22.8	22.6	22.5
87.5°	8.2	7.9	7.7	7.5	7.4	7.3	7.2	7.1
90°	8.2	8.6	9.0	9.3	9.5	9.6	9.8	9.9
92.5°	9.0	9.2	9.4	9.6	9.6	9.7	9.8	9.9
95°	15.2	15.6	16.0	16.2	16.1	16.0	15.9	15.8
97.5°	19.9	20.2	20.5	20.8	20.8	20.9	21.0	21.1
100°	22.3	22.9	23.6	24.0	24.2	24.4	24.5	24.6
102.5°	23.2	24.1	25.0	25.5	25.7	26.0	26.2	26.4
105°	24.3	25.1	26.1	26.7	26.9	27.3	27.6	28.0
107.5°	29.6	28.7	27.7	27.5	27.8	28.2	28.4	28.8
110°	48.0	39.9	31.7	27.7	28.1	28.4	28.8	29.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.8	72.9	43.1	28.3	28.6	28.8	29.1	29.4
115°	151.4	113.5	75.6	53.7	47.9	41.9	36.1	30.1
117.5°	233.2	224.0	214.8	200.6	181.2	161.9	142.6	123.2
120°	271.7	272.7	273.7	268.6	257.6	246.6	235.5	224.5
122.5°	288.3	288.9	289.5	288.7	286.5	284.4	282.2	280.1
125°	312.1	312.7	313.2	313.7	313.9	314.2	314.4	314.6
127.5°	334.2	334.9	335.8	336.2	336.3	336.3	336.4	336.4
130°	348.1	349.0	349.9	350.3	350.3	350.2	350.1	350.0
132.5°	361.7	362.4	363.2	363.5	363.4	363.3	363.3	363.3
135°	381.1	381.9	382.7	383.0	382.9	382.7	382.5	382.4
137.5°	399.1	399.8	400.6	400.9	400.6	400.4	400.1	399.8
140°	410.7	411.5	412.2	412.3	411.9	411.5	411.1	410.7
142.5°	421.5	422.1	422.8	422.9	422.5	422.1	421.7	421.3
145°	436.5	437.0	437.6	437.7	437.3	436.9	436.5	436.1
147.5°	449.6	450.0	450.5	450.5	450.1	449.8	449.4	449.1
150°	457.7	458.1	458.7	458.7	458.3	457.9	457.4	457.1
152.5°	465.0	465.5	466.1	466.0	465.5	464.9	464.3	463.8
155°	475.0	475.4	476.0	475.9	475.2	474.6	473.9	473.3
157.5°	483.4	483.9	484.5	484.4	483.8	483.1	482.5	481.9
160°	488.2	488.7	489.2	489.1	488.6	488.0	487.4	486.9
162.5°	492.8	493.4	493.9	493.8	493.1	492.4	491.7	491.0
165°	498.3	498.9	499.5	499.5	498.9	498.3	497.7	497.1
167.5°	503.0	503.5	504.1	504.0	503.3	502.6	501.8	501.1
170°	505.3	505.9	506.4	506.4	505.7	504.9	504.2	503.4
172.5°	507.0	507.6	508.2	508.2	507.4	506.7	505.9	505.2
175°	509.0	509.5	510.1	510.1	509.2	508.4	507.6	506.8
177.5°	509.2	509.6	510.1	510.1	509.5	508.9	508.2	507.7
180°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6

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