

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: P331423-935

Luminaire Tested: **SA2XXDIP-C1005D330U935-4F0-1E-UDD-D**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331423-935  
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: SA2XXDIP-C1005D330U935-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

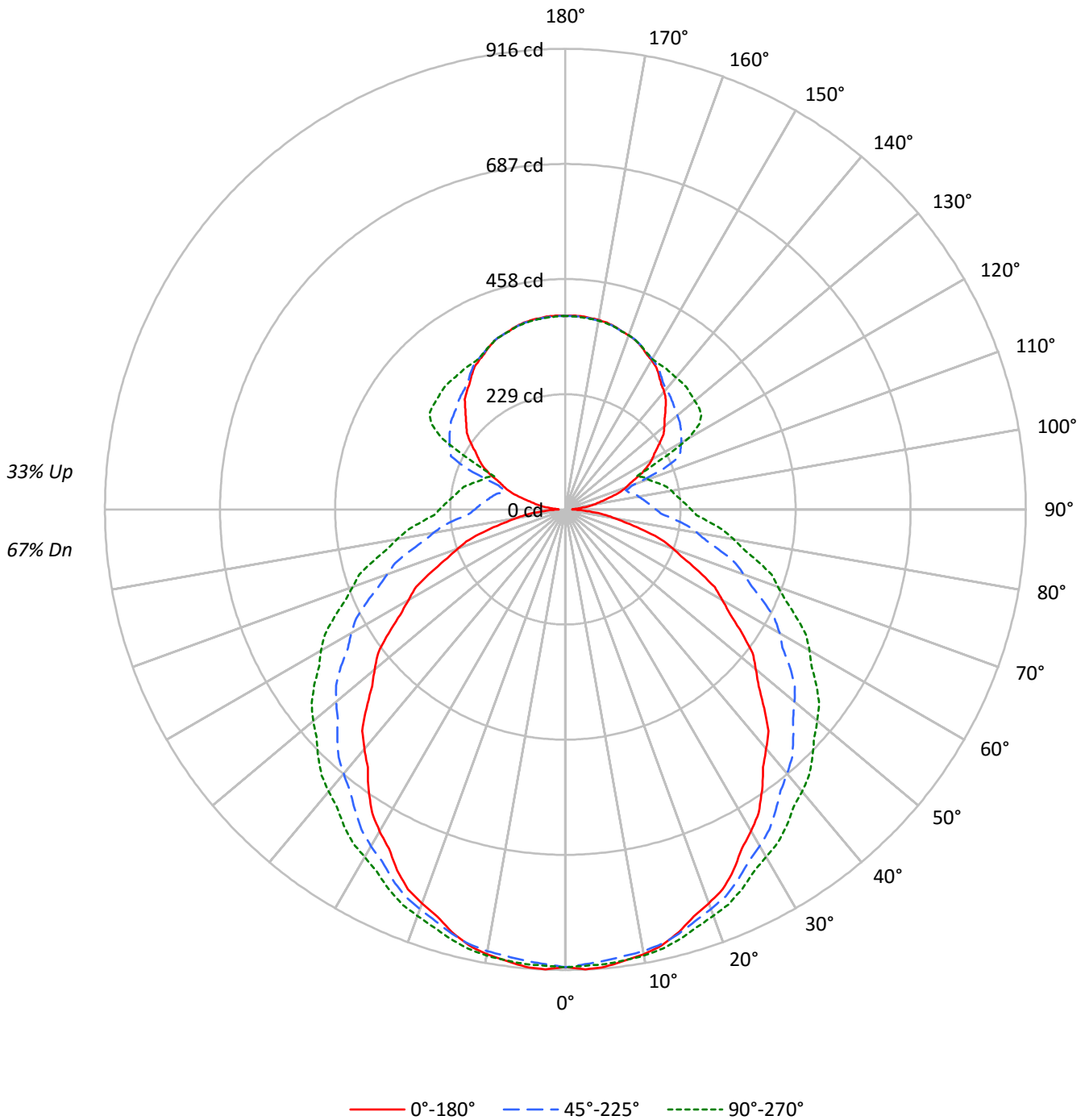
Lumens per Lamp: N/A  
Luminaire Lumens: 4601.9 lumens  
Efficiency: N/A  
Efficacy: 92.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 49.8  
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



TEST NUMBER: P331423-935  
CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331423-935

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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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	100	94	90	85	93	89	85	81	78	75	72	69	67	64	60	58	57	52
2	90	81	74	68	84	77	70	65	68	63	58	59	56	52	52	49	46	42
3	82	71	62	56	76	67	59	53	59	53	48	52	47	43	45	42	38	35
4	74	62	53	47	70	59	51	45	52	46	40	46	41	36	40	36	33	29
5	68	55	46	40	64	52	44	38	46	40	35	41	36	31	36	32	28	25
6	63	50	41	34	59	47	39	33	42	35	30	37	31	27	33	28	25	22
7	58	45	36	30	54	42	34	29	38	31	26	34	28	24	30	25	22	19
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17
9	50	37	29	24	47	35	28	23	32	25	21	28	23	19	25	21	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14699	14699	14699
5°	14772	14150	14097
10°	14679	13733	13578
15°	14477	13289	13032
20°	14222	12815	12506
25°	13968	12358	12028
30°	13612	11889	11549
35°	13253	11434	11211
40°	12874	11047	10874
45°	12515	10702	10584
50°	12128	10388	10300
55°	11724	10052	10011
60°	11226	9702	9705
65°	10711	9294	9342
70°	10136	8856	8949
75°	9394	8423	8587
80°	8224	7984	8220
85°	7107	7603	7937



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.3	1.9
10°-20°	247.4	5.4
20°-30°	374.9	8.1
30°-40°	456.6	9.9
40°-50°	491.2	10.7
50°-60°	477.0	10.4
60°-70°	416.5	9.1
70°-80°	320.7	7.0
80°-90°	216.2	4.7
90°-100°	161.1	3.5
100°-110°	155.3	3.4
110°-120°	197.3	4.3
120°-130°	247.6	5.4
130°-140°	237.6	5.2
140°-150°	208.2	4.5
150°-160°	165.0	3.6
160°-170°	106.3	2.3
170°-180°	36.6	0.8
0°-30°	708.5	15.4
0°-40°	1165.2	25.3
0°-60°	2133.4	46.4
0°-90°	3086.8	67.1
90°-120°	513.7	11.2
90°-150°	1207.1	26.2
90°-180°	1515.0	32.9
0°-180°	4601.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	910	910	910	910	910	
5°	913	909	901	909	908	87
15°	871	873	874	885	884	245
25°	792	801	813	828	833	364
35°	682	705	730	758	768	426
45°	560	596	641	681	695	432
55°	429	478	545	591	610	383
65°	293	358	435	488	507	291
75°	162	237	321	375	394	172
85°	48	129	214	267	288	51
90°	13	93	180	232	250	10
95°	29	83	163	212	230	30
105°	91	135	130	178	195	98
115°	165	187	251	166	156	162
125°	229	235	280	316	330	205
135°	281	286	302	331	342	218
145°	325	325	329	339	344	203
155°	358	356	358	360	358	165
165°	377	375	376	378	376	106
175°	386	384	384	386	383	37
180°	385	385	385	385	385	



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CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	915.8	915.1	914.3	913.6	912.9	911.7	910.1	908.4	906.8	905.2	906.4
5°	913.1	912.2	911.4	910.4	909.6	908.3	906.5	904.7	903.0	901.2	903.0
7.5°	904.9	904.3	903.7	903.2	902.6	901.6	900.3	898.9	897.6	896.2	898.3
10°	898.6	898.0	897.4	896.8	896.2	895.5	894.7	893.7	892.9	892.0	894.3
12.5°	888.0	888.1	888.3	888.4	888.5	888.2	887.6	886.9	886.3	885.6	888.0
15°	870.9	871.5	872.0	872.6	873.2	873.5	873.5	873.5	873.5	873.5	876.2
17.5°	848.7	850.0	851.2	852.4	853.6	854.7	855.7	856.6	857.6	858.5	861.3
20°	834.0	835.4	836.9	838.4	839.8	841.1	842.3	843.4	844.6	845.8	849.0
22.5°	818.1	819.8	821.5	823.2	824.9	826.6	828.2	829.8	831.5	833.1	836.4
25°	791.7	793.8	795.8	797.9	800.0	802.3	804.9	807.5	810.2	812.8	816.3
27.5°	760.0	763.4	766.7	770.1	773.4	776.6	779.7	782.8	785.9	789.1	793.5
30°	738.9	742.7	746.6	750.4	754.1	758.0	761.8	765.6	769.4	773.3	777.9
32.5°	715.7	720.0	724.3	728.6	732.8	737.2	741.8	746.2	750.8	755.3	760.7
35°	682.2	687.2	692.2	697.2	702.1	707.4	713.0	718.5	724.1	729.7	736.2
37.5°	645.8	651.5	657.3	663.0	668.7	675.2	682.4	689.7	696.9	704.1	711.3
40°	621.5	627.9	634.4	640.8	647.3	654.4	662.4	670.3	678.2	686.1	693.8
42.5°	598.3	604.7	611.1	617.6	624.1	631.8	640.9	650.1	659.1	668.2	676.5
45°	559.5	567.4	575.3	583.2	591.2	600.2	610.5	620.8	631.0	641.3	650.4
47.5°	521.2	529.9	538.5	547.1	555.7	566.0	578.1	590.0	602.1	614.1	623.6
50°	494.8	503.9	513.0	522.1	531.2	542.3	555.5	568.7	581.9	595.1	605.1
52.5°	469.5	479.1	488.6	498.2	507.7	519.4	533.3	547.3	561.1	575.1	585.2
55°	428.9	439.4	450.0	460.5	471.1	484.0	499.2	514.4	529.7	544.9	555.5
57.5°	388.7	400.6	412.5	424.5	436.4	450.0	465.6	481.1	496.7	512.2	523.6
60°	360.2	372.8	385.5	398.0	410.7	425.3	442.0	458.7	475.4	492.1	503.3
62.5°	334.9	347.9	361.0	374.1	387.2	402.1	418.8	435.5	452.3	469.0	480.8
65°	292.9	307.3	321.7	336.0	350.4	366.3	383.6	400.8	418.1	435.4	447.5
67.5°	254.4	269.4	284.4	299.5	314.4	330.8	348.5	366.3	383.9	401.7	413.8
70°	227.0	242.2	257.4	272.7	287.9	304.6	322.9	341.0	359.2	377.4	389.9
72.5°	201.6	217.3	233.1	248.7	264.5	281.5	300.0	318.4	336.8	355.2	367.6
75°	162.3	178.7	195.1	211.5	228.0	245.6	264.3	283.1	301.9	320.6	333.2
77.5°	124.3	141.5	158.7	175.8	193.0	211.1	230.2	249.3	268.3	287.4	300.0
80°	98.9	116.8	134.7	152.7	170.5	189.0	208.0	227.1	246.2	265.2	277.5
82.5°	77.8	95.5	113.1	130.8	148.4	166.9	186.2	205.5	224.8	244.1	256.4
85°	47.5	65.7	83.9	102.0	120.2	138.7	157.5	176.2	195.0	213.8	226.1
87.5°	25.9	43.6	61.1	78.8	96.3	114.6	133.5	152.3	171.2	190.1	202.1
90°	13.4	31.2	48.8	66.6	84.2	102.7	121.9	141.2	160.5	179.8	191.7
92.5°	17.7	33.5	49.3	65.1	80.8	97.9	116.2	134.5	152.8	171.2	182.8
95°	28.7	40.4	52.1	63.9	75.6	90.5	108.5	126.6	144.6	162.6	174.1
97.5°	45.1	51.7	58.1	64.7	71.2	83.3	101.3	119.2	137.1	154.9	166.0
100°	58.5	60.9	63.3	65.6	68.0	77.9	95.4	112.9	130.4	147.8	159.2
102.5°	72.2	80.2	88.4	96.5	104.6	112.3	119.4	126.6	133.7	140.9	152.1
105°	91.3	101.6	111.9	122.3	132.7	137.0	135.3	133.7	132.1	130.4	141.4
107.5°	114.5	122.8	131.1	139.4	147.7	149.0	143.4	137.8	132.1	126.4	135.6
110°	128.6	135.8	142.9	150.1	157.2	159.1	155.6	152.1	148.5	145.1	148.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.8	149.0	155.0	161.1	167.2	174.8	184.1	193.3	202.6	211.8	198.6
115°	165.3	169.6	173.9	178.1	182.4	192.0	206.7	221.4	236.2	250.9	231.1
117.5°	184.2	187.4	190.7	194.0	197.3	205.5	218.8	232.0	245.3	258.6	260.4
120°	198.8	201.0	203.0	205.1	207.2	214.7	227.6	240.4	253.2	266.0	275.0
122.5°	211.3	212.8	214.2	215.7	217.1	223.9	236.2	248.4	260.6	272.9	281.3
125°	228.9	229.8	230.6	231.4	232.2	237.9	248.4	259.0	269.6	280.1	288.4
127.5°	246.2	246.8	247.4	248.0	248.6	253.0	261.5	270.0	278.4	286.9	294.7
130°	257.1	257.8	258.5	259.2	259.8	263.6	270.4	277.3	284.1	291.0	298.7
132.5°	268.2	268.8	269.3	269.8	270.4	273.4	278.8	284.3	289.7	295.2	302.5
135°	281.4	282.4	283.4	284.4	285.3	287.6	291.1	294.5	298.1	301.5	308.3
137.5°	296.0	296.6	297.3	297.9	298.6	299.8	301.8	303.7	305.6	307.5	313.5
140°	305.6	305.8	306.0	306.2	306.4	307.1	308.4	309.7	310.9	312.2	317.5
142.5°	313.6	313.7	313.9	314.1	314.3	314.8	315.6	316.5	317.5	318.3	322.6
145°	324.9	324.9	324.8	324.7	324.6	325.1	326.1	327.3	328.3	329.3	331.5
147.5°	335.9	335.6	335.4	335.1	334.9	335.3	336.3	337.4	338.5	339.5	340.0
150°	342.9	342.5	342.1	341.6	341.2	341.6	342.5	343.5	344.5	345.5	345.9
152.5°	349.0	348.5	348.0	347.5	347.1	347.2	348.2	349.1	350.1	351.0	351.4
155°	357.7	357.1	356.6	356.0	355.5	355.6	356.4	357.1	357.8	358.5	359.0
157.5°	364.5	364.1	363.6	363.2	362.7	362.7	363.3	363.8	364.3	364.8	365.2
160°	368.6	368.2	367.8	367.5	367.1	367.1	367.5	367.8	368.2	368.6	368.9
162.5°	372.1	371.8	371.4	371.0	370.7	370.7	370.9	371.3	371.6	372.0	372.4
165°	376.9	376.6	376.2	375.8	375.5	375.4	375.6	375.7	375.9	376.1	376.5
167.5°	380.5	380.1	379.8	379.4	379.0	378.9	379.1	379.3	379.4	379.6	380.0
170°	382.5	382.1	381.8	381.4	381.0	380.9	381.0	381.2	381.3	381.4	381.9
172.5°	383.8	383.5	383.1	382.7	382.4	382.2	382.4	382.5	382.6	382.7	383.1
175°	385.6	385.1	384.7	384.3	383.8	383.7	383.8	383.9	384.1	384.2	384.6
177.5°	385.8	385.5	385.1	384.8	384.4	384.4	384.4	384.4	384.4	384.5	384.9
180°	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	907.5	908.7	909.9	910.2	909.7	909.3	908.8	908.4
5°	904.7	906.5	908.3	909.0	908.7	908.4	908.1	907.8
7.5°	900.4	902.6	904.7	905.6	905.3	905.0	904.7	904.4
10°	896.6	899.1	901.4	902.4	902.1	901.8	901.6	901.2
12.5°	890.4	892.7	895.0	896.0	895.8	895.4	895.2	894.9
15°	878.8	881.4	884.1	885.3	884.9	884.7	884.3	884.1
17.5°	864.0	866.8	869.5	870.9	870.9	870.9	870.9	870.9
20°	852.2	855.5	858.7	860.3	860.3	860.3	860.3	860.3
22.5°	839.6	842.8	846.0	847.9	848.3	848.9	849.3	849.8
25°	819.8	823.4	826.9	829.1	830.0	830.9	831.7	832.6
27.5°	798.0	802.5	806.9	809.4	810.1	810.7	811.4	812.0
30°	782.6	787.3	792.0	794.8	795.7	796.5	797.5	798.3
32.5°	766.1	771.5	776.9	780.3	782.0	783.5	785.1	786.7
35°	742.6	749.1	755.5	759.7	761.8	763.9	765.9	767.9
37.5°	718.4	725.6	732.7	737.4	739.5	741.8	743.9	746.1
40°	701.4	709.0	716.6	721.8	724.4	727.0	729.7	732.4
42.5°	684.8	693.2	701.5	707.0	709.6	712.3	714.9	717.6
45°	659.4	668.6	677.6	683.6	686.6	689.5	692.4	695.3
47.5°	633.1	642.6	652.1	658.5	661.7	665.0	668.1	671.4
50°	615.0	625.0	635.0	641.6	644.8	648.0	651.3	654.4
52.5°	595.5	605.6	615.9	622.7	626.1	629.6	633.1	636.5
55°	566.1	576.6	587.2	594.3	598.1	602.0	605.8	609.6
57.5°	535.0	546.4	557.8	565.3	569.2	573.1	577.0	580.8
60°	514.4	525.6	536.7	544.4	548.5	552.6	556.7	560.8
62.5°	492.7	504.5	516.3	524.2	528.1	531.9	535.8	539.7
65°	459.5	471.5	483.5	491.5	495.2	499.0	502.9	506.7
67.5°	425.9	438.1	450.2	458.3	462.3	466.2	470.3	474.2
70°	402.6	415.2	427.8	435.8	439.4	442.9	446.4	450.0
72.5°	380.0	392.4	404.7	413.0	417.2	421.5	425.7	429.9
75°	345.9	358.4	371.1	379.3	383.1	386.9	390.7	394.5
77.5°	312.5	325.0	337.6	345.9	350.0	354.1	358.3	362.3
80°	289.8	302.2	314.5	322.7	326.8	330.9	335.0	339.1
82.5°	268.7	281.0	293.3	301.4	305.3	309.2	313.1	316.9
85°	238.4	250.7	263.0	271.2	275.3	279.5	283.5	287.7
87.5°	214.1	226.2	238.2	246.1	249.9	253.7	257.4	261.1
90°	203.8	215.9	227.9	235.7	239.4	243.1	246.7	250.3
92.5°	194.4	206.1	217.7	225.4	228.9	232.6	236.2	239.8
95°	185.5	197.0	208.4	215.9	219.3	222.7	226.3	229.7
97.5°	177.1	188.2	199.3	206.6	210.2	213.7	217.2	220.8
100°	170.5	181.8	193.2	200.5	203.9	207.2	210.6	214.0
102.5°	163.4	174.6	185.9	193.2	196.7	200.0	203.5	206.8
105°	152.3	163.3	174.3	181.4	184.9	188.4	191.8	195.4
107.5°	144.7	153.9	163.1	169.4	172.9	176.3	179.8	183.3
110°	151.4	154.6	157.8	161.2	164.6	168.1	171.6	175.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	185.5	172.3	159.1	154.2	157.6	161.0	164.5	167.9
115°	211.2	191.4	171.5	161.0	159.8	158.6	157.3	156.1
117.5°	262.1	263.8	265.6	260.6	249.0	237.4	225.8	214.0
120°	284.0	292.9	301.9	303.8	298.7	293.5	288.4	283.3
122.5°	289.7	298.2	306.6	311.3	312.5	313.6	314.8	315.9
125°	296.8	305.1	313.5	319.1	321.9	324.8	327.5	330.4
127.5°	302.6	310.6	318.5	323.7	326.3	329.0	331.6	334.2
130°	306.4	314.2	321.8	326.8	329.2	331.4	333.7	336.0
132.5°	309.9	317.3	324.7	329.5	331.7	334.1	336.3	338.6
135°	315.1	321.8	328.6	333.1	335.4	337.6	339.8	342.0
137.5°	319.5	325.5	331.5	335.4	337.2	339.0	340.8	342.6
140°	322.7	328.0	333.2	336.6	338.0	339.4	340.9	342.3
142.5°	326.8	331.1	335.4	338.1	339.3	340.5	341.7	342.9
145°	333.7	335.9	338.1	339.8	341.0	342.1	343.3	344.4
147.5°	340.6	341.1	341.7	342.2	342.6	343.1	343.5	344.0
150°	346.2	346.6	347.0	347.0	346.7	346.4	346.0	345.8
152.5°	351.8	352.1	352.5	352.5	352.1	351.7	351.3	350.9
155°	359.3	359.6	360.1	360.0	359.5	359.0	358.5	358.0
157.5°	365.7	366.1	366.4	366.4	365.9	365.5	365.0	364.5
160°	369.4	369.7	370.1	370.1	369.6	369.2	368.8	368.3
162.5°	372.7	373.2	373.6	373.6	373.0	372.5	372.0	371.4
165°	376.9	377.4	377.8	377.8	377.4	376.9	376.5	376.1
167.5°	380.5	380.9	381.3	381.3	380.7	380.1	379.6	379.0
170°	382.3	382.7	383.1	383.1	382.5	381.9	381.4	380.8
172.5°	383.6	384.0	384.4	384.4	383.8	383.3	382.7	382.2
175°	385.0	385.5	385.9	385.8	385.2	384.6	383.9	383.3
177.5°	385.2	385.6	385.9	385.8	385.4	385.0	384.5	384.1
180°	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7

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