

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: P331272-935

Luminaire Tested: **SA2XXDIP-C290D925U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331272-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D925U935-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

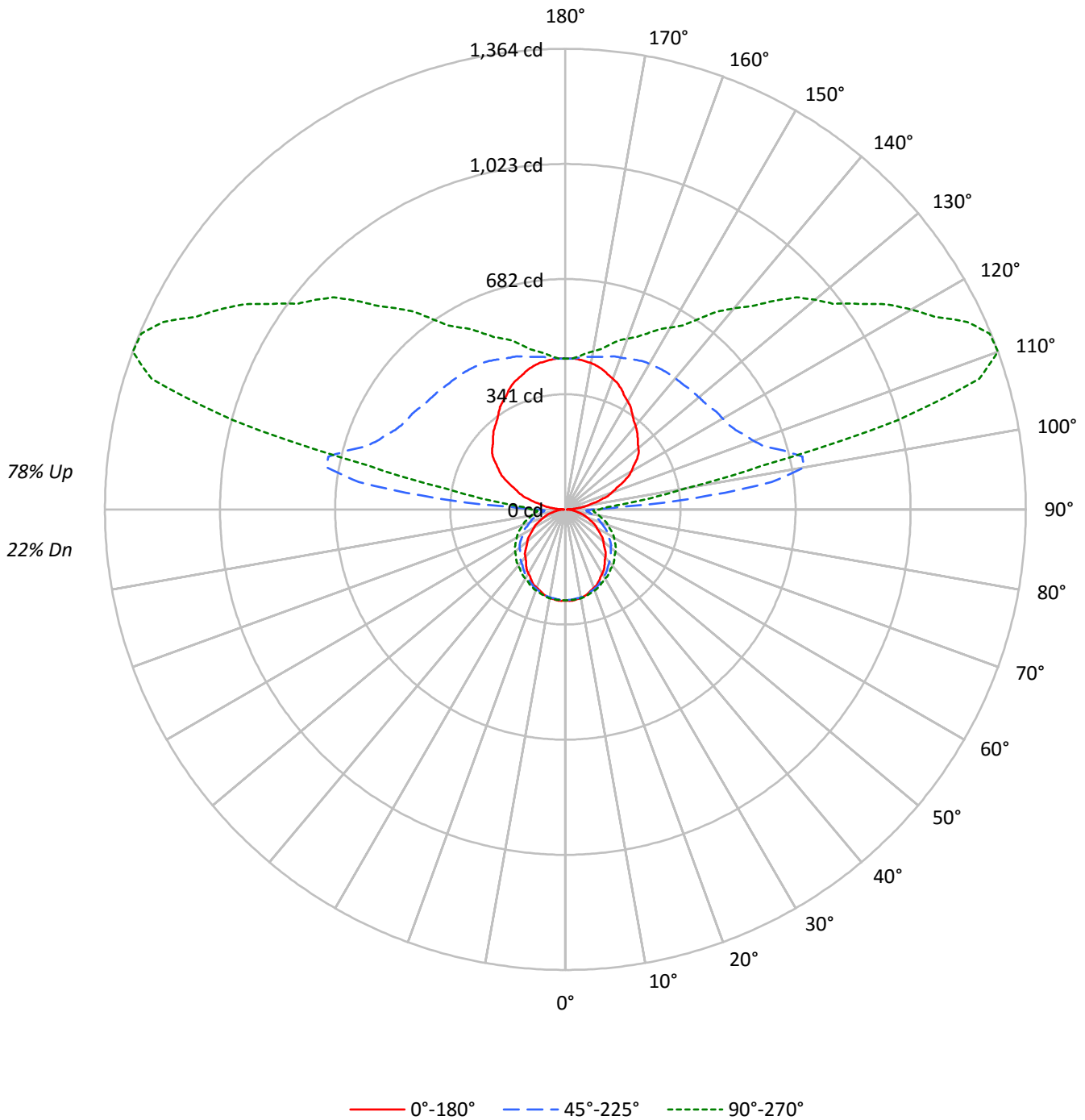
Lumens per Lamp: N/A  
Luminaire Lumens: 4143.0 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

Input Watts (W): 37.3  
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





TEST NUMBER: P331272-935

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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	50	30	10	0	
RCR																						
0	101	101	101	101	89	89	89	89	68	68	68	48	48	48	31	31	31	22				
1	91	86	82	79	80	77	73	70	58	56	54	41	40	39	26	25	24	17				
2	82	75	69	64	73	67	61	57	51	47	44	36	34	32	22	21	20	14				
3	75	66	58	53	66	58	52	47	44	40	37	32	29	27	20	18	17	11				
4	68	58	50	44	60	51	45	40	39	35	31	28	25	22	17	16	14	10				
5	63	51	43	37	55	46	39	34	35	30	26	25	22	19	16	14	12	8				
6	57	46	38	32	51	41	34	29	31	26	23	22	19	17	14	12	11	7				
7	53	41	33	28	47	37	30	25	28	23	20	20	17	15	13	11	9	6				
8	49	37	30	24	43	33	27	22	25	21	17	18	15	13	12	10	8	6				
9	45	34	26	21	40	30	24	19	23	19	15	17	14	11	11	9	7	5				
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	10	8	7	5				

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

	0°	45°	90°
0°	4358	4358	4358
5°	4379	4195	4179
10°	4352	4070	4026
15°	4290	3939	3863
20°	4215	3798	3707
25°	4141	3663	3565
30°	4034	3524	3423
35°	3928	3389	3323
40°	3818	3275	3223
45°	3709	3172	3137
50°	3596	3079	3053
55°	3474	2979	2968
60°	3329	2876	2878
65°	3174	2756	2769
70°	3001	2623	2653
75°	2784	2499	2544
80°	2445	2366	2436
85°	2110	2255	2350



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.6	0.6
10°-20°	73.3	1.8
20°-30°	111.1	2.7
30°-40°	135.3	3.3
40°-50°	145.6	3.5
50°-60°	141.4	3.4
60°-70°	123.5	3.0
70°-80°	95.1	2.3
80°-90°	67.8	1.6
90°-100°	222.6	5.4
100°-110°	638.4	15.4
110°-120°	665.3	16.1
120°-130°	542.0	13.1
130°-140°	430.7	10.4
140°-150°	322.6	7.8
150°-160°	226.1	5.5
160°-170°	133.1	3.2
170°-180°	43.3	1.0
0°-30°	210.0	5.1
0°-40°	345.4	8.3
0°-60°	632.4	15.3
0°-90°	918.7	22.2
90°-120°	1526.3	36.8
90°-150°	2821.7	68.1
90°-180°	3224.0	77.8
0°-180°	4143.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	270	270	270	270	270	
5°	271	269	267	269	269	26
15°	258	259	259	262	262	73
25°	235	237	241	245	247	108
35°	202	209	216	225	228	126
45°	166	177	190	202	206	128
55°	127	142	162	175	181	114
65°	87	106	129	145	150	86
75°	48	70	95	111	117	51
85°	14	38	63	79	85	15
90°	5	38	81	95	100	4
95°	33	96	382	186	162	34
105°	107	172	670	1185	1020	114
115°	186	240	556	1134	1314	185
125°	259	307	526	914	1061	230
135°	303	362	510	761	872	234
145°	345	397	504	628	688	217
155°	393	424	489	553	575	181
165°	428	441	468	497	504	121
175°	446	446	450	456	455	42
180°	447	447	447	447	447	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	271.5	271.2	271.0	270.8	270.6	270.3	269.8	269.3	268.8	268.3	268.6
5°	270.7	270.4	270.2	269.9	269.6	269.2	268.7	268.2	267.7	267.2	267.7
7.5°	268.2	268.0	267.9	267.7	267.5	267.3	266.8	266.5	266.0	265.6	266.3
10°	266.4	266.2	266.0	265.9	265.7	265.4	265.2	264.9	264.7	264.4	265.1
12.5°	263.2	263.3	263.3	263.4	263.4	263.3	263.1	262.9	262.7	262.5	263.2
15°	258.1	258.3	258.5	258.6	258.8	258.9	258.9	258.9	258.9	258.9	259.7
17.5°	251.6	251.9	252.3	252.7	253.0	253.4	253.7	253.9	254.2	254.5	255.3
20°	247.2	247.6	248.1	248.5	248.9	249.3	249.7	250.0	250.4	250.7	251.7
22.5°	242.5	243.0	243.5	244.0	244.5	245.0	245.5	246.0	246.5	246.9	247.9
25°	234.7	235.3	235.9	236.5	237.1	237.8	238.6	239.4	240.1	240.9	241.9
27.5°	225.3	226.3	227.3	228.3	229.3	230.2	231.1	232.0	233.0	233.9	235.2
30°	219.0	220.2	221.3	222.4	223.5	224.7	225.8	227.0	228.1	229.2	230.6
32.5°	212.2	213.4	214.6	215.9	217.2	218.5	219.9	221.2	222.6	223.9	225.5
35°	202.2	203.7	205.2	206.6	208.1	209.7	211.4	213.0	214.6	216.3	218.2
37.5°	191.4	193.1	194.8	196.6	198.2	200.2	202.3	204.4	206.6	208.7	210.9
40°	184.3	186.1	188.0	189.9	191.8	194.0	196.3	198.7	201.0	203.4	205.6
42.5°	177.4	179.3	181.2	183.0	185.0	187.3	190.0	192.7	195.4	198.0	200.5
45°	165.8	168.2	170.6	172.9	175.2	177.9	181.0	184.0	187.0	190.1	192.8
47.5°	154.5	157.0	159.6	162.1	164.7	167.8	171.3	174.9	178.5	182.0	184.9
50°	146.7	149.4	152.1	154.7	157.5	160.7	164.7	168.6	172.5	176.4	179.3
52.5°	139.1	142.0	144.8	147.7	150.5	153.9	158.1	162.2	166.3	170.5	173.5
55°	127.1	130.3	133.4	136.5	139.7	143.4	148.0	152.5	157.0	161.5	164.7
57.5°	115.2	118.7	122.3	125.8	129.3	133.4	138.0	142.6	147.2	151.9	155.2
60°	106.8	110.6	114.3	118.0	121.7	126.1	131.0	136.0	140.9	145.9	149.2
62.5°	99.3	103.1	107.0	110.9	114.8	119.2	124.2	129.1	134.1	139.1	142.5
65°	86.8	91.1	95.3	99.6	103.8	108.6	113.7	118.8	124.0	129.1	132.7
67.5°	75.4	79.9	84.3	88.8	93.2	98.1	103.3	108.6	113.8	119.1	122.7
70°	67.2	71.8	76.3	80.8	85.3	90.3	95.7	101.1	106.5	111.8	115.6
72.5°	59.8	64.4	69.1	73.7	78.4	83.4	88.9	94.4	99.9	105.3	109.0
75°	48.1	53.0	57.9	62.7	67.6	72.8	78.4	83.9	89.5	95.1	98.8
77.5°	36.9	41.9	47.0	52.1	57.3	62.6	68.3	73.9	79.6	85.2	88.9
80°	29.4	34.6	40.0	45.2	50.5	56.1	61.6	67.3	72.9	78.6	82.2
82.5°	23.1	28.3	33.6	38.7	44.0	49.5	55.2	61.0	66.6	72.3	76.0
85°	14.1	19.5	24.9	30.2	35.6	41.1	46.7	52.3	57.8	63.4	67.0
87.5°	7.8	13.5	19.4	24.9	30.5	36.3	42.8	49.5	56.1	61.8	65.3
90°	4.7	12.4	20.8	27.6	34.4	42.3	52.1	63.7	74.4	80.8	83.4
92.5°	14.1	23.4	34.3	42.8	53.3	66.4	91.2	123.9	153.6	160.5	146.5
95°	33.2	40.7	53.4	65.3	83.1	108.3	153.1	233.1	337.9	381.9	343.0
97.5°	51.7	60.0	72.8	88.1	107.5	135.2	189.9	299.0	469.7	616.6	648.1
100°	68.9	74.7	85.7	102.6	123.0	151.1	201.6	311.3	501.7	718.0	844.9
102.5°	84.4	89.2	99.9	116.6	137.4	165.3	212.2	310.0	486.6	719.2	916.9
105°	106.8	112.8	121.3	136.7	158.1	185.7	230.6	311.6	457.9	670.4	902.0
107.5°	131.5	136.2	144.0	158.0	178.7	206.1	249.6	320.6	442.2	618.4	823.2
110°	147.7	152.8	159.7	172.6	192.4	220.3	262.4	328.6	437.6	593.1	773.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	162.7	167.6	175.0	186.9	205.7	234.1	274.6	337.1	436.4	575.8	738.6
115°	186.3	191.6	197.7	209.0	227.1	252.7	293.6	349.9	437.2	556.2	694.7
117.5°	210.3	214.4	220.2	229.9	247.0	273.2	311.0	363.8	440.5	544.9	665.6
120°	225.4	229.2	234.7	242.8	260.4	286.4	323.3	373.2	442.8	538.3	649.8
122.5°	239.9	242.8	248.1	256.7	274.0	300.4	335.1	381.3	446.0	533.6	636.2
125°	258.6	261.1	266.3	276.6	293.8	319.3	353.0	394.4	450.5	525.5	616.3
127.5°	273.7	277.1	284.2	295.4	311.9	337.7	370.0	406.9	455.6	519.7	597.8
130°	282.7	286.0	294.5	306.4	323.6	348.4	380.4	414.8	459.6	516.4	585.6
132.5°	290.8	294.9	304.1	316.8	334.5	359.3	389.3	422.8	463.6	513.8	575.4
135°	302.9	306.3	316.6	329.5	349.3	373.8	402.1	433.1	468.3	510.4	561.2
137.5°	314.5	318.7	329.0	342.7	362.2	384.8	412.3	440.7	472.3	508.0	550.7
140°	323.5	326.8	337.1	350.7	369.5	391.9	417.8	444.7	474.1	506.0	544.4
142.5°	332.4	335.1	344.7	358.3	376.4	397.4	422.5	448.5	475.6	505.4	538.6
145°	345.4	348.9	357.5	370.4	387.5	406.5	429.6	453.7	477.8	503.5	531.6
147.5°	359.9	362.5	370.7	382.5	396.8	413.7	435.5	456.7	478.5	500.5	524.6
150°	369.5	372.0	378.9	390.1	403.0	418.4	438.2	458.0	477.8	498.4	519.0
152.5°	379.1	380.3	387.2	397.0	409.2	423.3	441.0	458.7	476.4	495.0	514.2
155°	392.7	393.6	398.7	408.2	417.6	430.5	445.1	459.7	474.3	489.0	505.2
157.5°	404.1	404.9	409.1	417.2	424.8	435.7	448.1	459.7	470.4	482.8	496.9
160°	411.6	412.5	415.9	422.8	429.6	439.1	449.4	459.7	468.3	478.6	490.7
162.5°	419.1	418.6	422.1	427.6	433.8	441.2	450.1	459.0	466.2	475.2	485.2
165°	427.9	427.1	428.8	433.9	438.2	443.4	451.2	457.2	462.3	468.3	476.0
167.5°	435.1	434.1	435.7	438.9	442.0	445.3	451.0	456.0	458.3	462.3	467.1
170°	440.0	438.2	439.1	441.7	443.4	446.0	450.3	454.6	456.3	458.8	462.3
172.5°	442.7	441.7	441.2	443.8	444.8	446.7	449.6	452.5	453.6	454.8	457.5
175°	446.0	445.1	444.3	446.0	446.0	446.9	448.6	450.3	449.4	450.3	451.2
177.5°	447.5	446.2	445.5	446.9	446.9	446.9	447.5	448.9	447.5	446.9	447.5
180°	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	269.0	269.3	269.7	269.8	269.7	269.5	269.4	269.2
5°	268.2	268.7	269.2	269.4	269.3	269.2	269.1	269.1
7.5°	266.9	267.5	268.2	268.5	268.4	268.3	268.2	268.1
10°	265.8	266.5	267.2	267.5	267.4	267.3	267.3	267.2
12.5°	263.9	264.6	265.3	265.6	265.5	265.4	265.4	265.3
15°	260.5	261.3	262.1	262.4	262.3	262.3	262.2	262.1
17.5°	256.1	256.9	257.7	258.1	258.1	258.1	258.1	258.1
20°	252.6	253.6	254.5	255.0	255.0	255.0	255.0	255.0
22.5°	248.9	249.9	250.8	251.3	251.5	251.6	251.8	251.9
25°	243.1	244.1	245.1	245.7	246.0	246.2	246.5	246.8
27.5°	236.5	237.9	239.2	240.0	240.1	240.3	240.5	240.7
30°	232.0	233.4	234.8	235.6	235.8	236.1	236.3	236.6
32.5°	227.0	228.7	230.3	231.4	231.8	232.3	232.7	233.2
35°	220.2	222.1	223.9	225.2	225.8	226.4	227.0	227.6
37.5°	212.9	215.1	217.2	218.6	219.2	219.9	220.5	221.1
40°	207.9	210.2	212.4	214.0	214.7	215.5	216.3	217.1
42.5°	203.0	205.4	207.9	209.6	210.3	211.1	211.9	212.7
45°	195.4	198.2	200.9	202.7	203.5	204.4	205.3	206.1
47.5°	187.7	190.5	193.3	195.2	196.1	197.1	198.0	199.0
50°	182.3	185.3	188.2	190.2	191.1	192.1	193.0	194.0
52.5°	176.5	179.5	182.5	184.6	185.6	186.7	187.7	188.6
55°	167.8	170.9	174.1	176.2	177.3	178.5	179.6	180.7
57.5°	158.6	162.0	165.3	167.6	168.8	169.9	171.0	172.2
60°	152.5	155.8	159.1	161.4	162.6	163.8	165.1	166.3
62.5°	146.0	149.6	153.1	155.4	156.5	157.6	158.9	160.0
65°	136.2	139.7	143.4	145.7	146.8	147.9	149.0	150.2
67.5°	126.2	129.8	133.5	135.9	137.0	138.2	139.4	140.6
70°	119.3	123.0	126.8	129.2	130.3	131.3	132.3	133.4
72.5°	112.6	116.3	119.9	122.4	123.6	124.9	126.2	127.4
75°	102.5	106.2	110.0	112.4	113.6	114.7	115.8	116.9
77.5°	92.6	96.3	100.0	102.5	103.8	105.0	106.2	107.4
80°	85.9	89.5	93.2	95.7	96.9	98.1	99.3	100.5
82.5°	79.6	83.3	87.0	89.4	90.5	91.7	92.8	93.9
85°	70.7	74.3	78.0	80.4	81.6	82.8	84.0	85.2
87.5°	68.6	71.8	75.7	78.2	79.3	80.4	81.5	82.7
90°	86.1	87.8	93.1	96.2	97.2	98.2	99.3	100.3
92.5°	130.5	123.3	119.5	116.4	116.8	115.0	116.8	116.4
95°	276.7	227.6	194.8	178.1	168.0	162.1	160.6	162.5
97.5°	573.4	481.1	391.3	331.4	291.4	271.2	259.8	253.6
100°	830.1	726.8	612.3	510.3	440.0	404.0	380.0	365.5
102.5°	997.6	976.6	893.7	785.6	709.0	646.9	616.7	596.8
105°	1083.7	1183.9	1198.2	1171.7	1119.5	1067.1	1031.1	1020.0
107.5°	1015.7	1164.8	1257.1	1300.7	1308.4	1306.4	1299.9	1285.0
110°	957.9	1114.5	1227.3	1299.6	1337.5	1354.8	1363.5	1363.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	904.8	1055.2	1175.5	1258.2	1310.5	1338.9	1354.4	1359.9
115°	839.0	974.0	1089.1	1179.4	1241.4	1281.9	1305.2	1313.9
117.5°	788.7	907.4	1012.0	1096.8	1159.9	1202.6	1226.9	1234.4
120°	763.1	872.1	965.6	1045.5	1106.6	1148.0	1173.8	1183.4
122.5°	742.5	842.5	931.2	1003.4	1058.2	1098.6	1121.6	1129.7
125°	712.3	803.1	881.1	947.1	997.7	1031.2	1053.4	1061.1
127.5°	682.4	764.7	838.2	899.1	943.4	974.7	994.0	1000.3
130°	663.2	739.3	809.3	867.4	910.2	940.0	957.9	965.5
132.5°	644.7	715.1	779.5	834.2	876.3	906.2	922.7	929.6
135°	618.9	677.4	736.0	785.4	823.0	852.0	868.2	872.4
137.5°	597.8	646.9	693.4	736.5	770.8	795.7	809.9	815.7
140°	584.4	627.1	668.0	706.8	734.8	757.7	771.0	776.7
142.5°	573.7	609.8	645.0	677.3	704.0	724.7	736.7	738.1
145°	558.7	587.6	614.8	640.2	661.2	676.2	685.3	688.3
147.5°	547.3	569.7	590.6	609.0	626.2	638.1	644.1	645.9
150°	539.7	558.5	576.6	592.0	604.9	615.3	620.4	621.3
152.5°	532.1	549.6	564.9	578.3	588.4	597.4	601.2	601.3
155°	521.6	535.4	548.2	557.7	567.1	573.2	576.6	574.9
157.5°	509.4	520.9	531.8	539.2	545.8	550.8	552.3	552.3
160°	501.8	511.3	520.7	526.8	532.8	537.1	538.0	538.0
162.5°	494.3	502.3	510.4	515.1	521.1	524.0	524.9	524.2
165°	482.9	489.0	495.0	498.4	501.8	505.2	505.2	504.4
167.5°	472.1	476.7	480.9	484.0	485.5	487.4	487.2	486.2
170°	466.6	469.2	472.6	474.3	475.2	477.8	476.9	475.2
172.5°	460.4	462.3	465.0	466.1	466.9	468.1	467.3	466.2
175°	453.7	454.6	455.5	456.3	456.3	457.2	456.3	454.6
177.5°	448.9	448.9	449.6	449.6	449.6	449.6	448.9	447.5
180°	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9

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