

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: P331275-940

Luminaire Tested: **SA2XXDIP-C290D925U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331275-940  
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-C290D925U940-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4296.2 lumens  
Efficiency: N/A  
Efficacy: 115.2 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: Semi-Indirect

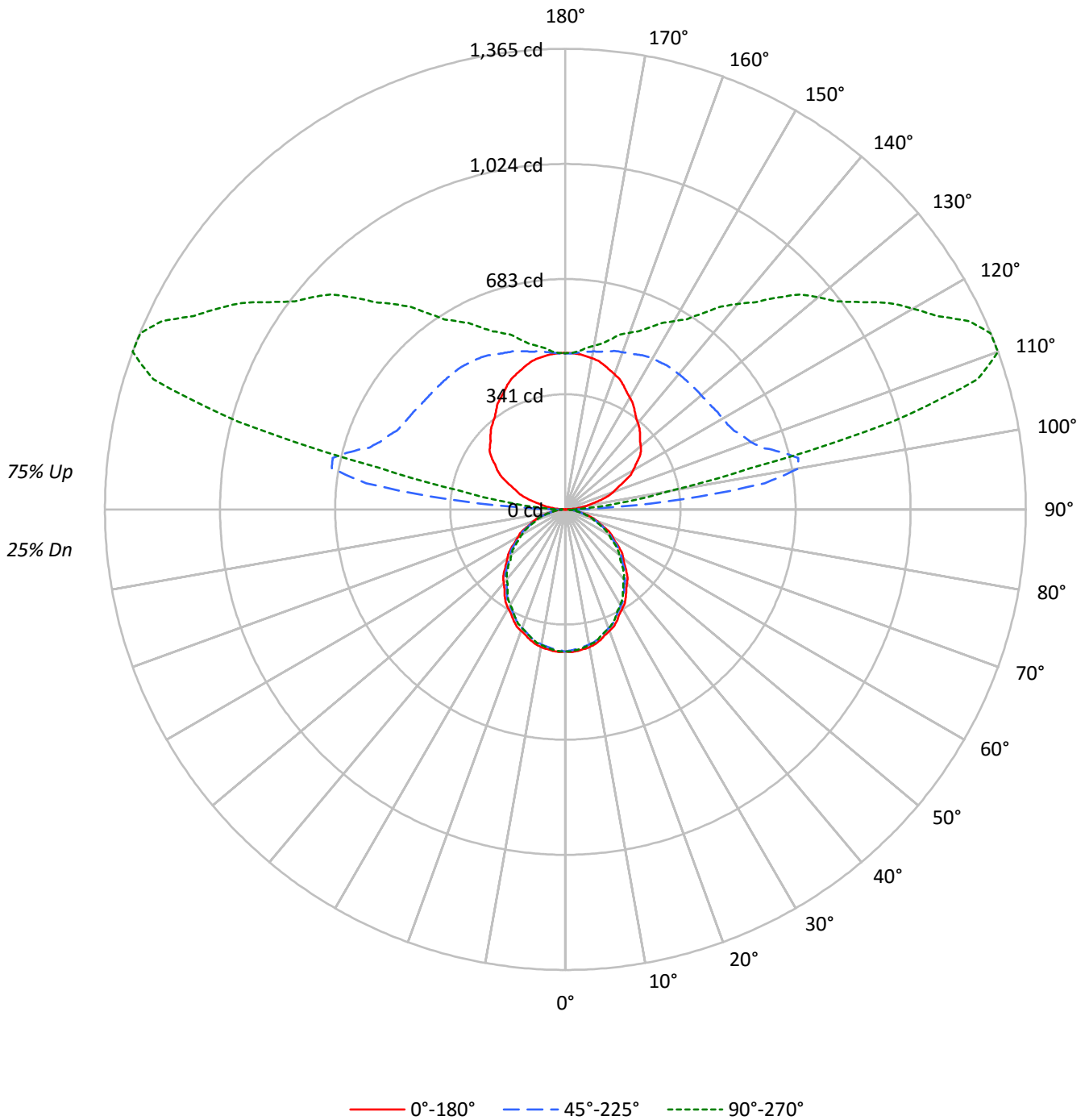
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	90	90	90	90	69	69	69	51	51	51	33	33	33	25				
1	92	88	84	81	82	78	75	73	61	59	57	44	43	42	29	29	28	21				
2	84	77	71	66	74	69	64	59	53	50	47	39	37	35	26	25	23	18				
3	76	67	60	55	68	60	54	50	47	43	39	34	32	29	23	21	20	15				
4	70	60	52	46	62	53	47	42	41	37	33	31	28	25	20	19	17	13				
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15	11				
6	59	47	39	34	52	42	36	31	33	28	25	25	21	19	17	15	13	10				
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9				
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8				
9	47	35	28	23	41	31	25	21	25	20	17	19	15	13	13	11	9	7				
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6				

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

	0°	45°	90°
0°	6801	6801	6801
5°	6827	6729	6770
10°	6787	6661	6694
15°	6703	6574	6569
20°	6584	6445	6438
25°	6465	6285	6285
30°	6315	6139	6087
35°	6173	5964	5876
40°	5994	5788	5678
45°	5818	5613	5476
50°	5627	5433	5242
55°	5427	5225	5027
60°	5205	4970	4789
65°	4967	4722	4504
70°	4664	4414	4206
75°	4242	4067	3968
80°	3766	3654	3468
85°	3075	2927	2631



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.6	0.9
10°-20°	111.5	2.6
20°-30°	163.8	3.8
30°-40°	190.3	4.4
40°-50°	190.1	4.4
50°-60°	165.8	3.9
60°-70°	122.6	2.9
70°-80°	69.4	1.6
80°-90°	22.8	0.5
90°-100°	185.0	4.3
100°-110°	627.9	14.6
110°-120°	667.1	15.5
120°-130°	549.1	12.8
130°-140°	441.0	10.3
140°-150°	333.2	7.8
150°-160°	234.2	5.5
160°-170°	137.9	3.2
170°-180°	44.9	1.0
0°-30°	314.9	7.3
0°-40°	505.2	11.8
0°-60°	861.1	20.0
0°-90°	1075.9	25.0
90°-120°	1480.0	34.4
90°-150°	2803.4	65.3
90°-180°	3220.0	74.9
0°-180°	4296.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	421	420	415	418	418	40
15°	401	398	393	395	393	113
25°	363	360	353	354	353	167
35°	313	309	303	300	298	195
45°	255	252	246	242	240	197
55°	193	190	186	181	179	172
65°	130	128	124	120	118	129
75°	68	67	65	63	64	73
85°	17	16	16	15	14	19
90°	1	12	30	29	29	3
95°	31	77	349	132	102	33
105°	109	164	659	1179	1003	115
115°	191	242	552	1139	1320	190
125°	267	316	530	922	1071	237
135°	313	374	524	775	887	242
145°	358	411	522	647	708	224
155°	407	439	506	573	595	187
165°	443	457	485	514	522	125
175°	462	462	466	472	471	44
180°	463	463	463	463	463	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	423.2	422.8	422.5	422.1	421.8	421.2	420.4	419.6	418.8	418.0	418.7
5°	421.2	420.9	420.5	420.2	419.8	419.2	418.2	417.2	416.2	415.2	415.9
7.5°	417.6	417.0	416.4	415.9	415.4	414.6	413.6	412.5	411.5	410.5	411.3
10°	414.0	413.4	412.8	412.1	411.4	410.6	409.6	408.5	407.4	406.3	407.0
12.5°	409.1	408.6	408.0	407.4	406.9	406.1	405.0	403.9	402.9	401.8	402.3
15°	401.0	400.5	399.9	399.4	398.9	398.1	396.8	395.7	394.5	393.3	393.7
17.5°	390.7	390.1	389.6	389.1	388.5	387.6	386.5	385.2	384.1	382.9	383.3
20°	383.2	382.6	382.1	381.6	381.0	380.1	378.9	377.6	376.4	375.1	375.4
22.5°	375.8	375.0	374.3	373.4	372.7	371.8	370.6	369.3	368.2	367.0	367.0
25°	362.9	362.2	361.5	360.8	360.1	358.9	357.4	355.9	354.4	352.8	353.0
27.5°	348.4	347.8	347.1	346.4	345.8	344.8	343.7	342.4	341.3	340.0	339.7
30°	338.7	338.0	337.2	336.5	335.7	334.7	333.4	332.1	330.6	329.3	329.0
32.5°	328.2	327.7	327.2	326.5	326.0	324.9	323.5	322.2	320.7	319.3	318.8
35°	313.2	312.2	311.3	310.4	309.5	308.4	306.9	305.5	304.1	302.6	302.0
37.5°	296.0	295.2	294.4	293.6	292.8	291.8	290.3	288.9	287.4	286.0	285.3
40°	284.4	283.7	282.9	282.2	281.5	280.4	278.9	277.5	276.1	274.6	273.8
42.5°	273.0	272.3	271.6	270.9	270.2	269.0	267.6	266.2	264.7	263.3	262.4
45°	254.8	254.1	253.5	252.9	252.3	251.3	249.9	248.6	247.3	245.8	244.9
47.5°	236.7	236.0	235.5	234.9	234.3	233.3	231.8	230.5	229.1	227.7	226.6
50°	224.0	223.6	223.1	222.7	222.2	221.3	220.1	218.8	217.6	216.3	215.1
52.5°	211.7	211.1	210.5	209.9	209.3	208.4	207.2	206.1	204.8	203.7	202.6
55°	192.8	192.3	191.7	191.2	190.6	189.8	188.8	187.7	186.6	185.6	184.4
57.5°	173.9	173.4	173.0	172.5	172.1	171.3	170.1	169.0	167.7	166.6	165.5
60°	161.2	160.9	160.5	160.2	159.8	159.0	157.7	156.5	155.2	153.9	152.9
62.5°	148.9	148.3	147.8	147.2	146.6	145.8	144.8	143.9	142.9	142.0	141.0
65°	130.0	129.5	128.9	128.4	127.9	127.2	126.3	125.4	124.5	123.6	122.7
67.5°	110.8	110.4	109.9	109.5	109.1	108.5	107.6	106.8	106.0	105.2	104.6
70°	98.8	98.4	98.1	97.7	97.4	96.8	96.0	95.2	94.3	93.5	92.9
72.5°	86.5	86.1	85.8	85.4	85.1	84.6	84.1	83.6	83.1	82.6	81.9
75°	68.0	67.9	67.7	67.5	67.3	67.1	66.6	66.1	65.6	65.2	64.6
77.5°	51.5	51.2	50.9	50.6	50.3	50.0	49.8	49.7	49.5	49.3	49.0
80°	40.5	40.4	40.3	40.2	40.1	40.0	39.9	39.7	39.5	39.3	39.1
82.5°	30.1	30.1	30.1	30.1	30.1	30.0	29.9	29.8	29.7	29.6	29.2
85°	16.6	16.5	16.4	16.3	16.2	16.1	16.1	16.0	15.9	15.8	15.5
87.5°	6.0	6.4	7.0	7.2	7.4	7.8	8.6	9.6	10.5	10.6	10.2
90°	0.9	3.6	7.1	8.9	10.7	13.4	17.8	24.0	29.3	30.2	29.3
92.5°	10.9	15.7	22.1	25.9	32.0	40.4	60.5	88.8	114.0	115.7	97.7
95°	31.1	34.7	43.6	51.6	65.9	87.2	128.1	205.5	308.8	348.8	305.2
97.5°	50.7	55.6	65.0	77.0	93.5	117.6	169.1	277.0	448.5	595.6	624.7
100°	68.5	71.2	79.2	93.5	111.3	136.2	183.3	291.9	484.1	703.0	831.3
102.5°	84.9	86.9	94.9	109.1	127.6	152.6	196.2	292.7	470.6	706.6	908.1
105°	108.6	112.2	118.3	131.7	151.3	176.2	218.0	297.2	444.1	659.4	896.2
107.5°	134.2	137.1	143.1	155.4	174.8	199.9	240.5	309.5	430.9	608.9	818.1
110°	151.3	154.9	160.2	171.7	190.5	216.2	255.4	319.5	428.1	584.7	768.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	166.9	170.5	176.6	187.4	205.4	231.9	269.7	330.2	428.7	569.0	734.8
115°	191.4	195.8	201.2	211.8	229.6	253.6	291.9	346.2	432.5	551.8	692.4
117.5°	216.6	220.2	225.5	235.0	252.0	277.0	312.4	363.3	438.9	543.4	665.7
120°	232.3	235.9	241.2	249.1	267.0	291.9	326.6	374.7	443.2	538.4	651.5
122.5°	247.3	250.0	255.4	264.1	282.0	307.6	340.1	384.6	448.2	535.6	639.4
125°	267.0	269.7	275.0	285.7	303.4	328.4	360.4	400.5	455.7	530.4	622.1
127.5°	282.7	286.2	293.6	305.4	322.5	348.1	379.3	415.3	463.3	527.4	606.1
130°	291.9	295.4	304.3	316.8	334.7	359.5	390.7	424.5	469.0	525.9	595.4
132.5°	300.4	304.7	314.3	327.5	346.0	371.0	400.6	433.7	474.7	525.2	586.8
135°	313.3	316.8	327.5	340.8	361.3	386.2	414.7	445.9	481.4	524.1	574.9
137.5°	325.4	329.7	340.3	354.5	374.9	398.0	426.1	455.1	487.5	524.0	566.5
140°	334.7	338.2	348.8	363.1	382.7	405.8	432.5	460.1	490.4	523.3	561.6
142.5°	343.8	346.7	356.7	371.0	389.8	411.5	437.5	464.4	492.5	523.3	556.6
145°	357.8	361.3	370.2	383.6	401.4	421.0	445.0	469.9	494.8	521.5	550.0
147.5°	372.7	375.4	383.9	396.2	411.0	428.5	451.0	473.0	495.5	518.4	543.2
150°	382.7	385.3	392.4	404.0	417.4	433.4	453.9	474.3	494.8	516.2	537.5
152.5°	392.6	393.9	401.0	411.2	423.8	438.4	456.7	475.0	493.4	512.6	532.5
155°	406.7	407.6	413.0	422.8	432.5	445.9	461.0	476.1	491.2	506.4	523.3
157.5°	418.5	419.4	423.7	432.1	440.0	451.2	464.0	476.1	487.1	500.0	514.6
160°	426.3	427.2	430.7	437.8	445.0	454.8	465.5	476.1	485.0	495.7	508.2
162.5°	434.1	433.5	437.1	442.8	449.2	456.9	466.2	475.4	482.9	492.1	502.5
165°	443.2	442.3	444.1	449.4	453.9	459.2	467.3	473.5	478.8	485.0	493.0
167.5°	450.7	449.6	451.2	454.6	457.8	461.2	467.1	472.3	474.7	478.8	483.8
170°	455.7	453.9	454.8	457.4	459.2	461.9	466.4	470.8	472.6	475.2	478.8
172.5°	458.5	457.4	456.9	459.6	460.7	462.6	465.7	468.7	469.8	471.0	473.9
175°	461.9	461.0	460.1	461.9	461.9	462.8	464.6	466.4	465.5	466.4	467.3
177.5°	463.5	462.1	461.4	462.8	462.8	462.8	463.5	464.9	463.5	462.8	463.5
180°	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	419.5	420.2	420.9	421.2	421.1	420.9	420.8	420.6
5°	416.7	417.4	418.1	418.4	418.2	418.0	417.9	417.7
7.5°	412.0	412.7	413.4	413.7	413.5	413.2	413.0	412.9
10°	407.8	408.5	409.2	409.4	409.1	408.8	408.6	408.3
12.5°	402.8	403.2	403.8	403.9	403.8	403.5	403.3	403.1
15°	394.0	394.4	394.8	394.8	394.3	393.9	393.4	393.0
17.5°	383.7	384.1	384.5	384.5	384.1	383.7	383.3	382.8
20°	375.7	375.9	376.2	376.1	375.8	375.4	375.1	374.7
22.5°	367.1	367.2	367.2	367.1	366.9	366.7	366.5	366.3
25°	353.2	353.4	353.6	353.6	353.4	353.2	353.0	352.8
27.5°	339.5	339.2	338.9	338.6	338.1	337.7	337.3	336.9
30°	328.8	328.5	328.2	328.0	327.6	327.3	326.9	326.5
32.5°	318.3	317.8	317.4	316.9	316.6	316.2	315.8	315.5
35°	301.5	301.0	300.4	300.0	299.5	299.1	298.6	298.1
37.5°	284.6	284.0	283.3	282.8	282.3	281.9	281.5	281.1
40°	273.0	272.2	271.4	270.8	270.5	270.1	269.7	269.4
42.5°	261.5	260.6	259.8	259.0	258.6	258.1	257.6	257.1
45°	243.9	242.9	241.9	241.2	240.9	240.5	240.1	239.8
47.5°	225.6	224.5	223.5	222.7	222.2	221.7	221.1	220.6
50°	213.8	212.5	211.2	210.4	210.0	209.6	209.1	208.7
52.5°	201.6	200.5	199.5	198.7	198.0	197.5	196.9	196.3
55°	183.3	182.3	181.2	180.5	180.0	179.5	179.1	178.6
57.5°	164.4	163.4	162.3	161.6	161.3	161.0	160.6	160.2
60°	151.9	151.0	150.0	149.4	149.1	148.8	148.6	148.3
62.5°	140.1	139.2	138.3	137.7	137.3	137.0	136.6	136.3
65°	121.9	121.1	120.3	119.7	119.2	118.8	118.3	117.9
67.5°	104.0	103.3	102.7	102.2	101.8	101.5	101.1	100.8
70°	92.3	91.7	91.0	90.6	90.2	89.8	89.4	89.1
72.5°	81.3	80.7	80.1	79.5	79.3	79.0	78.7	78.4
75°	64.1	63.6	63.0	62.9	63.0	63.2	63.4	63.6
77.5°	48.8	48.5	48.2	48.0	47.7	47.5	47.3	47.0
80°	38.8	38.5	38.3	38.0	37.8	37.6	37.5	37.3
82.5°	28.9	28.5	28.2	28.0	28.0	27.9	27.9	27.9
85°	15.2	15.0	14.7	14.5	14.4	14.4	14.3	14.2
87.5°	9.8	9.2	9.4	9.4	9.4	9.3	9.2	9.1
90°	28.4	26.7	28.4	29.3	29.3	29.3	29.3	29.3
92.5°	77.6	66.6	59.1	53.6	52.9	50.0	50.7	49.3
95°	233.2	178.9	141.5	121.9	110.4	103.3	100.6	101.5
97.5°	544.1	445.1	348.8	284.6	242.1	220.2	207.1	199.7
100°	812.5	702.1	580.2	472.6	398.7	360.4	334.7	318.6
102.5°	988.4	963.5	874.3	760.2	679.9	614.6	582.4	560.7
105°	1081.3	1181.9	1193.5	1164.0	1108.8	1053.7	1015.4	1003.0
107.5°	1014.4	1165.8	1258.4	1301.5	1308.4	1305.4	1297.7	1281.2
110°	956.7	1116.0	1229.9	1302.9	1341.1	1358.1	1366.1	1365.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	904.0	1056.9	1178.7	1262.3	1315.5	1343.8	1359.0	1363.8
115°	839.2	976.2	1092.9	1184.5	1247.7	1288.6	1311.8	1319.8
117.5°	790.4	910.8	1016.5	1102.5	1166.9	1210.1	1234.6	1241.3
120°	766.2	876.6	970.9	1052.0	1114.2	1156.0	1181.9	1190.8
122.5°	747.0	848.1	937.5	1010.7	1066.5	1107.6	1130.6	1138.1
125°	719.1	810.7	889.0	955.8	1007.5	1041.3	1063.5	1070.6
127.5°	691.5	774.5	848.3	909.9	954.9	986.6	1005.8	1011.6
130°	673.7	750.2	820.6	879.3	922.9	953.1	970.9	978.0
132.5°	656.6	727.5	792.0	847.2	890.1	920.4	936.7	943.2
135°	632.8	691.5	750.2	800.0	838.3	867.7	883.7	887.3
137.5°	613.7	662.8	709.4	752.9	787.8	813.1	827.2	832.5
140°	601.6	644.4	685.3	724.4	752.9	776.1	789.4	794.7
142.5°	591.7	627.9	663.2	696.0	723.0	744.0	755.9	757.0
145°	577.6	607.0	634.5	660.3	681.7	696.9	705.7	708.4
147.5°	566.7	589.9	611.4	630.3	647.9	660.0	666.0	667.6
150°	558.9	578.5	597.2	613.1	626.5	637.2	642.6	643.5
152.5°	551.1	569.2	585.1	599.0	609.4	618.7	622.6	622.8
155°	540.2	554.5	567.8	577.6	587.4	593.6	597.2	595.4
157.5°	527.5	539.5	550.7	558.4	565.3	570.4	572.0	572.0
160°	519.7	529.5	539.3	545.5	551.8	556.2	557.1	557.1
162.5°	511.9	520.2	528.6	533.4	539.7	542.7	543.6	542.9
165°	500.2	506.4	512.6	516.2	519.7	523.3	523.3	522.4
167.5°	488.9	493.7	498.0	501.2	502.8	504.8	504.6	503.5
170°	483.2	485.9	489.5	491.2	492.1	494.8	493.9	492.1
172.5°	476.8	478.8	481.6	482.7	483.6	484.8	483.9	482.9
175°	469.9	470.8	471.7	472.6	472.6	473.5	472.6	470.8
177.5°	464.9	464.9	465.7	465.7	465.7	465.7	464.9	463.5
180°	462.8	462.8	462.8	462.8	462.8	462.8	462.8	462.8

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