

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: P331275-930

Luminaire Tested: **SA2XXDIP-C290D925U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331275-930  
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-C290D925U930-4F0-1E-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**

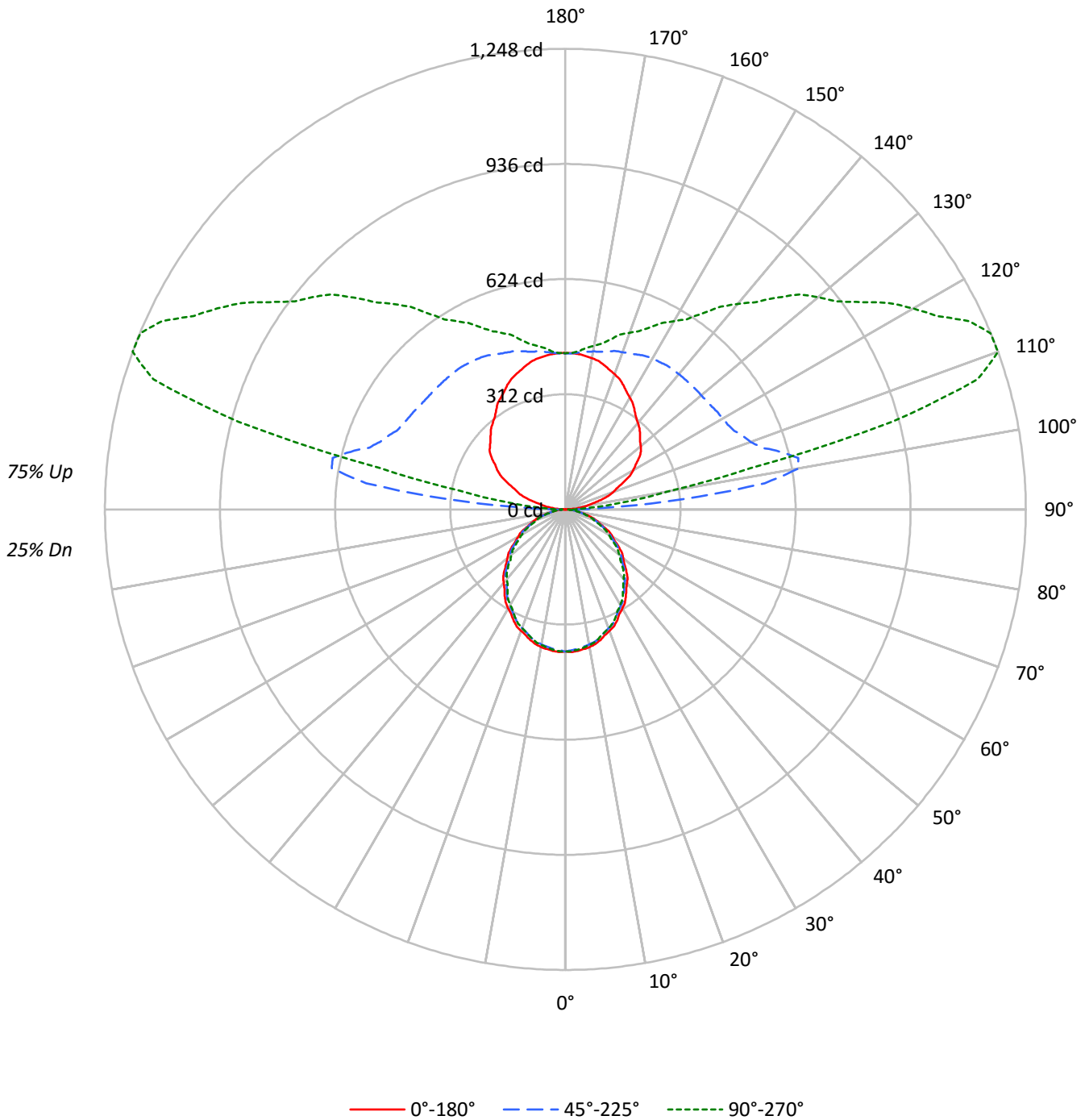
Lumens per Lamp: N/A  
Luminaire Lumens: 3928.1 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

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°	6218	6218	6218
5°	6242	6152	6190
10°	6205	6091	6120
15°	6128	6011	6006
20°	6019	5893	5887
25°	5911	5747	5747
30°	5774	5614	5565
35°	5643	5452	5373
40°	5480	5292	5191
45°	5318	5133	5005
50°	5144	4968	4793
55°	4963	4777	4597
60°	4760	4543	4379
65°	4542	4317	4118
70°	4263	4036	3843
75°	3880	3718	3624
80°	3440	3347	3171
85°	2816	2668	2408



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.2	0.9
10°-20°	101.9	2.6
20°-30°	149.8	3.8
30°-40°	174.0	4.4
40°-50°	173.8	4.4
50°-60°	151.6	3.9
60°-70°	112.1	2.9
70°-80°	63.5	1.6
80°-90°	20.9	0.5
90°-100°	169.2	4.3
100°-110°	574.1	14.6
110°-120°	609.9	15.5
120°-130°	502.1	12.8
130°-140°	403.2	10.3
140°-150°	304.7	7.8
150°-160°	214.1	5.5
160°-170°	126.0	3.2
170°-180°	41.0	1.0
0°-30°	287.9	7.3
0°-40°	461.9	11.8
0°-60°	787.3	20.0
0°-90°	983.8	25.0
90°-120°	1353.2	34.4
90°-150°	2563.1	65.3
90°-180°	2944.0	74.9
0°-180°	3928.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	385	385	385	385	385	
5°	385	384	380	382	382	37
15°	367	364	360	361	359	103
25°	332	329	323	323	323	153
35°	286	282	277	274	273	179
45°	233	230	225	221	219	180
55°	176	174	170	165	163	158
65°	119	117	113	110	108	118
75°	62	61	60	58	58	66
85°	15	15	14	13	13	17
90°	1	11	28	26	27	2
95°	28	70	319	120	93	30
105°	99	150	603	1078	917	106
115°	175	221	504	1041	1207	173
125°	244	289	485	843	979	217
135°	286	342	479	709	811	221
145°	327	376	477	592	648	205
155°	372	402	463	524	544	171
165°	405	417	443	470	478	114
175°	422	423	426	432	430	40
180°	423	423	423	423	423	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	386.9	386.6	386.3	386.0	385.6	385.1	384.4	383.7	382.9	382.2	382.9
5°	385.1	384.8	384.5	384.2	383.8	383.3	382.4	381.5	380.5	379.6	380.3
7.5°	381.8	381.2	380.7	380.3	379.8	379.0	378.1	377.2	376.3	375.4	376.0
10°	378.5	378.0	377.4	376.8	376.2	375.4	374.5	373.5	372.5	371.5	372.1
12.5°	374.1	373.6	373.1	372.5	372.0	371.3	370.3	369.3	368.4	367.4	367.8
15°	366.6	366.2	365.7	365.2	364.7	363.9	362.8	361.7	360.7	359.6	360.0
17.5°	357.2	356.7	356.2	355.7	355.2	354.4	353.4	352.2	351.1	350.1	350.4
20°	350.3	349.8	349.4	348.9	348.4	347.6	346.4	345.3	344.1	343.0	343.2
22.5°	343.6	342.8	342.2	341.4	340.8	339.9	338.8	337.7	336.6	335.6	335.6
25°	331.8	331.2	330.5	329.9	329.2	328.2	326.8	325.4	324.0	322.6	322.8
27.5°	318.5	318.0	317.3	316.7	316.2	315.3	314.2	313.1	312.0	310.9	310.6
30°	309.7	309.0	308.3	307.7	307.0	306.1	304.8	303.6	302.3	301.1	300.8
32.5°	300.1	299.6	299.1	298.6	298.1	297.1	295.8	294.6	293.3	292.0	291.5
35°	286.3	285.4	284.6	283.8	283.0	281.9	280.6	279.3	278.0	276.6	276.1
37.5°	270.7	269.9	269.2	268.5	267.7	266.8	265.5	264.2	262.8	261.5	260.9
40°	260.0	259.3	258.7	258.0	257.4	256.4	255.0	253.7	252.4	251.1	250.4
42.5°	249.6	249.0	248.3	247.7	247.0	246.0	244.7	243.4	242.1	240.8	239.9
45°	232.9	232.4	231.8	231.2	230.6	229.8	228.5	227.3	226.1	224.8	223.9
47.5°	216.4	215.8	215.3	214.7	214.2	213.3	212.0	210.8	209.5	208.1	207.2
50°	204.8	204.4	204.0	203.6	203.2	202.4	201.2	200.1	198.9	197.8	196.7
52.5°	193.6	193.0	192.5	191.9	191.4	190.5	189.5	188.4	187.3	186.2	185.2
55°	176.3	175.8	175.3	174.8	174.3	173.6	172.6	171.6	170.6	169.7	168.6
57.5°	159.0	158.6	158.2	157.8	157.4	156.6	155.6	154.5	153.4	152.3	151.3
60°	147.4	147.1	146.8	146.4	146.1	145.4	144.2	143.1	141.9	140.7	139.8
62.5°	136.2	135.6	135.1	134.6	134.0	133.3	132.4	131.6	130.7	129.8	128.9
65°	118.9	118.4	117.9	117.4	116.9	116.3	115.4	114.6	113.8	113.0	112.2
67.5°	101.3	100.9	100.5	100.1	99.8	99.2	98.4	97.7	96.9	96.2	95.6
70°	90.3	90.0	89.7	89.4	89.0	88.5	87.8	87.1	86.3	85.5	85.0
72.5°	79.1	78.8	78.4	78.1	77.8	77.4	76.9	76.5	76.0	75.5	74.9
75°	62.2	62.0	61.9	61.7	61.6	61.3	60.9	60.4	60.0	59.6	59.1
77.5°	47.1	46.8	46.6	46.3	46.0	45.7	45.6	45.4	45.2	45.1	44.8
80°	37.0	36.9	36.9	36.8	36.7	36.6	36.4	36.3	36.1	36.0	35.7
82.5°	27.6	27.6	27.6	27.5	27.5	27.4	27.3	27.2	27.1	27.1	26.7
85°	15.2	15.1	15.0	14.9	14.8	14.8	14.7	14.6	14.5	14.4	14.2
87.5°	5.5	5.9	6.4	6.6	6.8	7.1	7.8	8.8	9.6	9.7	9.3
90°	0.8	3.3	6.5	8.2	9.8	12.2	16.3	21.9	26.8	27.6	26.8
92.5°	9.9	14.3	20.2	23.7	29.3	36.9	55.4	81.2	104.3	105.7	89.4
95°	28.5	31.7	39.9	47.2	60.3	79.7	117.2	187.9	282.3	318.9	279.1
97.5°	46.4	50.8	59.4	70.4	85.4	107.5	154.6	253.2	410.1	544.5	571.2
100°	62.6	65.1	72.4	85.4	101.7	124.5	167.6	266.9	442.6	642.8	760.0
102.5°	77.6	79.4	86.7	99.8	116.7	139.5	179.4	267.6	430.3	646.0	830.3
105°	99.3	102.6	108.2	120.4	138.4	161.1	199.3	271.7	406.0	602.9	819.4
107.5°	122.7	125.3	130.9	142.1	159.8	182.8	219.9	283.0	394.0	556.8	748.0
110°	138.4	141.6	146.4	157.0	174.1	197.7	233.5	292.1	391.4	534.6	703.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.6	155.9	161.4	171.4	187.8	212.1	246.5	301.9	392.0	520.2	671.8
115°	175.0	179.0	183.9	193.6	209.9	231.9	266.9	316.5	395.4	504.5	633.1
117.5°	198.0	201.3	206.2	214.8	230.4	253.2	285.6	332.2	401.3	496.8	608.6
120°	212.4	215.6	220.5	227.8	244.1	266.9	298.6	342.6	405.2	492.3	595.7
122.5°	226.1	228.6	233.5	241.5	257.8	281.2	311.0	351.6	409.8	489.7	584.6
125°	244.1	246.5	251.4	261.2	277.4	300.3	329.5	366.2	416.6	484.9	568.8
127.5°	258.4	261.7	268.5	279.2	294.9	318.3	346.8	379.7	423.6	482.2	554.2
130°	266.9	270.1	278.3	289.7	306.0	328.7	357.2	388.2	428.8	480.9	544.4
132.5°	274.7	278.6	287.4	299.5	316.3	339.2	366.3	396.6	434.0	480.2	536.5
135°	286.4	289.7	299.5	311.6	330.4	353.1	379.2	407.6	440.2	479.2	525.6
137.5°	297.5	301.4	311.1	324.2	342.8	363.9	389.6	416.1	445.7	479.1	518.0
140°	306.0	309.2	318.9	332.0	349.9	371.0	395.4	420.7	448.3	478.4	513.5
142.5°	314.4	317.0	326.1	339.2	356.4	376.3	400.0	424.6	450.3	478.4	508.9
145°	327.1	330.4	338.5	350.7	367.0	384.9	406.8	429.7	452.4	476.8	502.9
147.5°	340.8	343.2	351.0	362.2	375.8	391.8	412.4	432.4	453.1	473.9	496.7
150°	349.9	352.3	358.8	369.4	381.6	396.2	415.0	433.7	452.4	472.0	491.5
152.5°	359.0	360.1	366.6	375.9	387.5	400.8	417.6	434.3	451.1	468.7	486.9
155°	371.9	372.7	377.6	386.5	395.4	407.6	421.5	435.3	449.1	463.0	478.4
157.5°	382.6	383.4	387.3	395.1	402.3	412.5	424.3	435.3	445.4	457.1	470.5
160°	389.8	390.6	393.8	400.3	406.8	415.8	425.6	435.3	443.4	453.2	464.6
162.5°	396.9	396.4	399.7	404.9	410.7	417.8	426.2	434.6	441.5	450.0	459.4
165°	405.2	404.4	406.0	410.9	415.0	419.9	427.2	432.9	437.7	443.4	450.8
167.5°	412.1	411.1	412.5	415.6	418.6	421.7	427.1	431.8	434.0	437.7	442.3
170°	416.6	415.0	415.8	418.2	419.9	422.3	426.4	430.5	432.1	434.5	437.7
172.5°	419.2	418.2	417.8	420.2	421.2	423.0	425.7	428.5	429.5	430.6	433.3
175°	422.3	421.5	420.7	422.3	422.3	423.1	424.8	426.4	425.6	426.4	427.2
177.5°	423.8	422.5	421.8	423.1	423.1	423.1	423.8	425.1	423.8	423.1	423.8
180°	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	383.5	384.2	384.8	385.1	385.0	384.8	384.7	384.6
5°	381.0	381.6	382.3	382.5	382.4	382.2	382.0	381.9
7.5°	376.7	377.3	378.0	378.2	378.1	377.8	377.6	377.5
10°	372.8	373.5	374.1	374.3	374.1	373.8	373.6	373.3
12.5°	368.3	368.7	369.2	369.3	369.2	368.9	368.8	368.6
15°	360.3	360.6	360.9	360.9	360.5	360.1	359.7	359.3
17.5°	350.8	351.2	351.6	351.6	351.1	350.8	350.4	350.0
20°	343.5	343.7	344.0	343.9	343.6	343.2	342.9	342.6
22.5°	335.7	335.7	335.7	335.7	335.5	335.3	335.1	334.9
25°	322.9	323.1	323.3	323.3	323.1	322.9	322.8	322.6
27.5°	310.4	310.1	309.9	309.6	309.2	308.8	308.4	308.0
30°	300.6	300.4	300.1	299.9	299.5	299.2	298.9	298.5
32.5°	291.1	290.6	290.2	289.8	289.4	289.1	288.8	288.5
35°	275.7	275.2	274.7	274.3	273.9	273.5	273.0	272.6
37.5°	260.2	259.7	259.0	258.5	258.1	257.7	257.4	257.0
40°	249.6	248.9	248.2	247.6	247.3	247.0	246.6	246.3
42.5°	239.1	238.3	237.5	236.8	236.4	235.9	235.5	235.1
45°	223.0	222.1	221.2	220.5	220.2	219.9	219.6	219.2
47.5°	206.3	205.3	204.3	203.6	203.2	202.7	202.2	201.7
50°	195.5	194.3	193.1	192.4	192.0	191.6	191.2	190.8
52.5°	184.3	183.4	182.4	181.6	181.1	180.6	180.0	179.4
55°	167.6	166.6	165.7	165.0	164.6	164.1	163.7	163.3
57.5°	150.3	149.4	148.4	147.7	147.5	147.2	146.8	146.5
60°	138.9	138.0	137.1	136.6	136.3	136.1	135.8	135.6
62.5°	128.1	127.3	126.5	125.9	125.6	125.2	124.9	124.6
65°	111.5	110.7	110.0	109.4	109.0	108.6	108.2	107.8
67.5°	95.1	94.5	93.9	93.4	93.1	92.8	92.5	92.1
70°	84.4	83.8	83.2	82.8	82.5	82.1	81.8	81.4
72.5°	74.4	73.8	73.2	72.7	72.5	72.2	72.0	71.7
75°	58.6	58.1	57.6	57.5	57.6	57.8	58.0	58.1
77.5°	44.6	44.4	44.1	43.9	43.6	43.5	43.2	43.0
80°	35.5	35.2	35.0	34.7	34.6	34.4	34.2	34.1
82.5°	26.4	26.1	25.8	25.6	25.6	25.5	25.5	25.5
85°	13.9	13.7	13.5	13.3	13.2	13.1	13.0	13.0
87.5°	9.0	8.4	8.6	8.6	8.6	8.5	8.4	8.3
90°	26.0	24.4	26.0	26.8	26.8	26.8	26.8	26.8
92.5°	70.9	60.9	54.1	49.0	48.3	45.7	46.4	45.1
95°	213.2	163.5	129.4	111.5	100.9	94.4	92.0	92.8
97.5°	497.5	407.0	318.9	260.2	221.4	201.3	189.4	182.6
100°	742.9	642.0	530.5	432.1	364.5	329.5	306.0	291.3
102.5°	903.7	880.9	799.4	695.0	621.7	561.9	532.5	512.7
105°	988.6	1080.6	1091.2	1064.3	1013.8	963.4	928.4	917.0
107.5°	927.5	1065.9	1150.6	1189.9	1196.3	1193.5	1186.5	1171.4
110°	874.7	1020.3	1124.5	1191.2	1226.2	1241.7	1249.0	1248.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	826.6	966.4	1077.7	1154.1	1202.8	1228.7	1242.5	1246.9
115°	767.3	892.6	999.2	1083.0	1140.8	1178.2	1199.4	1206.7
117.5°	722.7	832.7	929.4	1008.0	1066.9	1106.4	1128.8	1134.9
120°	700.6	801.5	887.7	961.8	1018.7	1057.0	1080.6	1088.8
122.5°	683.0	775.4	857.1	924.1	975.1	1012.7	1033.7	1040.6
125°	657.5	741.3	812.9	873.9	921.1	952.0	972.3	978.8
127.5°	632.3	708.1	775.6	831.9	873.1	902.0	919.7	924.9
130°	616.0	685.9	750.2	804.0	843.8	871.5	887.7	894.2
132.5°	600.3	665.1	724.1	774.6	813.8	841.6	856.5	862.3
135°	578.5	632.3	685.9	731.5	766.5	793.4	808.0	811.2
137.5°	561.1	606.0	648.7	688.4	720.3	743.4	756.3	761.2
140°	550.1	589.1	626.6	662.3	688.4	709.6	721.8	726.6
142.5°	541.0	574.1	606.3	636.3	661.0	680.3	691.1	692.1
145°	528.1	555.0	580.2	603.7	623.3	637.2	645.2	647.7
147.5°	518.1	539.3	559.0	576.3	592.4	603.4	608.9	610.4
150°	511.0	528.9	546.0	560.6	572.8	582.6	587.5	588.3
152.5°	503.9	520.4	534.9	547.6	557.2	565.7	569.2	569.4
155°	493.9	507.0	519.1	528.1	537.0	542.7	546.0	544.4
157.5°	482.3	493.3	503.5	510.5	516.8	521.5	523.0	523.0
160°	475.2	484.1	493.1	498.8	504.5	508.6	509.4	509.4
162.5°	468.1	475.6	483.3	487.7	493.4	496.2	497.0	496.4
165°	457.3	463.0	468.7	472.0	475.2	478.4	478.4	477.6
167.5°	447.0	451.4	455.3	458.3	459.7	461.5	461.4	460.4
170°	441.8	444.3	447.5	449.1	450.0	452.4	451.6	450.0
172.5°	435.9	437.7	440.3	441.3	442.1	443.3	442.5	441.5
175°	429.7	430.5	431.3	432.1	432.1	432.9	432.1	430.5
177.5°	425.1	425.1	425.7	425.7	425.7	425.7	425.1	423.8
180°	423.1	423.1	423.1	423.1	423.1	423.1	423.1	423.1

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