

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: P331272-830

Luminaire Tested: **SA2XXDIP-C290D925U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331272-830  
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-C290D925U830-4F0-1E-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**

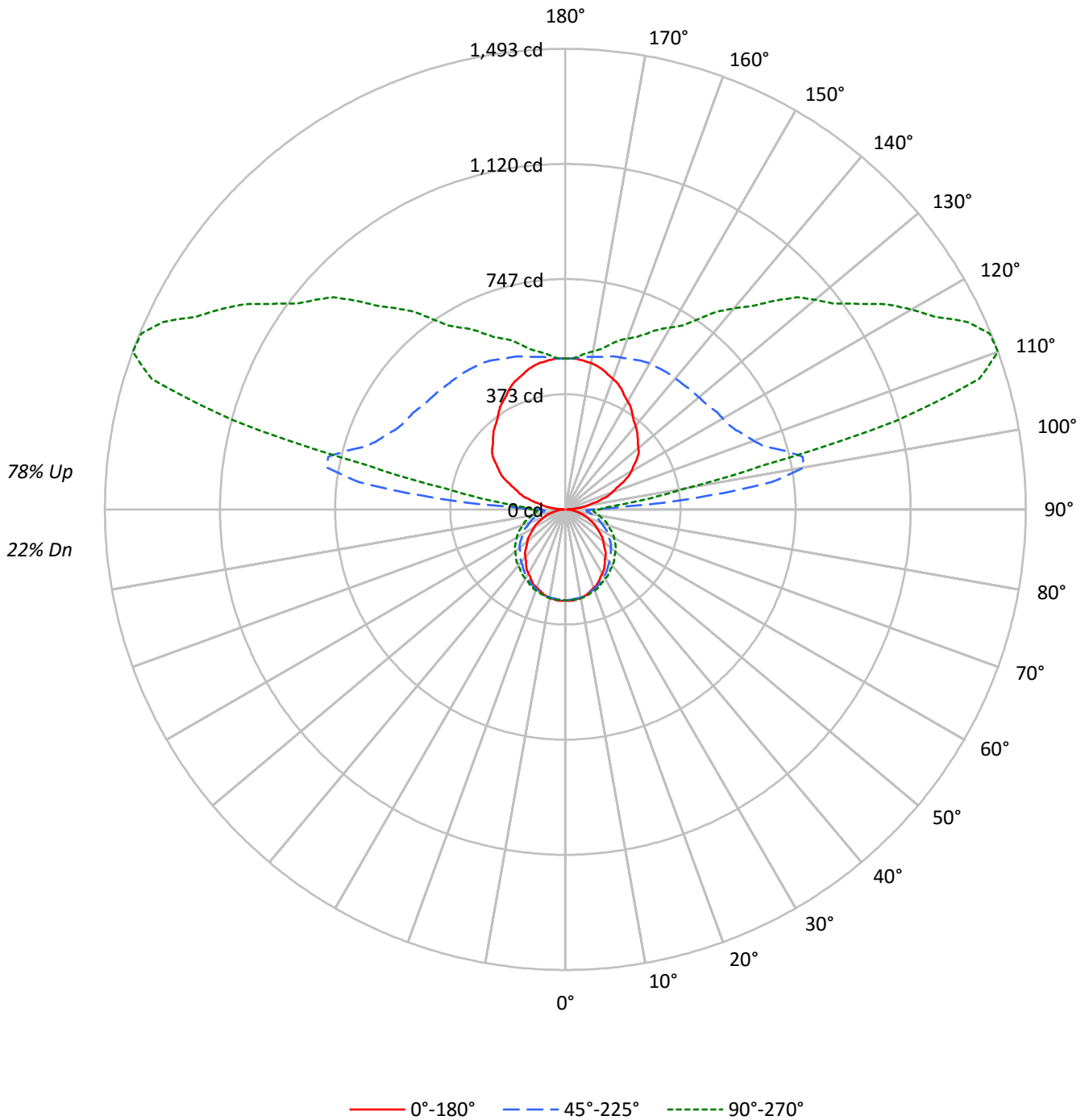
Lumens per Lamp: N/A  
Luminaire Lumens: 4535.4 lumens  
Efficiency: N/A  
Efficacy: 121.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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





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

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

	0°	45°	90°
0°	4771	4771	4771
5°	4794	4593	4573
10°	4763	4457	4407
15°	4698	4312	4229
20°	4614	4159	4059
25°	4533	4009	3902
30°	4418	3857	3747
35°	4301	3711	3638
40°	4178	3584	3528
45°	4060	3473	3434
50°	3936	3371	3343
55°	3802	3261	3248
60°	3643	3149	3150
65°	3474	3016	3031
70°	3286	2872	2904
75°	3050	2735	2786
80°	2669	2592	2667
85°	2319	2468	2574



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.0	0.6
10°-20°	80.3	1.8
20°-30°	121.6	2.7
30°-40°	148.2	3.3
40°-50°	159.4	3.5
50°-60°	154.8	3.4
60°-70°	135.2	3.0
70°-80°	104.1	2.3
80°-90°	74.2	1.6
90°-100°	243.7	5.4
100°-110°	698.8	15.4
110°-120°	728.3	16.1
120°-130°	593.4	13.1
130°-140°	471.5	10.4
140°-150°	353.2	7.8
150°-160°	247.5	5.5
160°-170°	145.7	3.2
170°-180°	47.4	1.0
0°-30°	229.9	5.1
0°-40°	378.1	8.3
0°-60°	692.3	15.3
0°-90°	1005.8	22.2
90°-120°	1670.8	36.8
90°-150°	3088.9	68.1
90°-180°	3530.0	77.8
0°-180°	4535.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	296	296	296	296	296	
5°	296	295	292	295	294	28
15°	283	283	283	287	287	80
25°	257	260	264	269	270	118
35°	221	229	237	246	249	138
45°	182	193	208	221	226	140
55°	139	155	177	192	198	124
65°	95	116	141	158	164	94
75°	53	77	104	122	128	56
85°	16	42	69	87	93	17
90°	5	42	88	104	110	5
95°	36	105	418	204	178	38
105°	117	188	734	1297	1117	124
115°	204	263	609	1242	1438	202
125°	283	336	575	1001	1162	251
135°	332	396	559	833	955	256
145°	378	435	551	687	754	237
155°	430	464	535	605	629	198
165°	468	483	513	544	552	132
175°	488	489	493	499	498	46
180°	489	489	489	489	489	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	297.2	296.9	296.7	296.4	296.2	295.9	295.3	294.8	294.3	293.7	294.1
5°	296.3	296.1	295.8	295.5	295.1	294.7	294.2	293.6	293.0	292.5	293.0
7.5°	293.6	293.4	293.2	293.0	292.8	292.6	292.1	291.7	291.2	290.8	291.5
10°	291.6	291.4	291.2	291.1	290.9	290.6	290.3	290.0	289.7	289.5	290.2
12.5°	288.1	288.2	288.2	288.3	288.3	288.2	288.0	287.9	287.6	287.4	288.1
15°	282.6	282.8	283.0	283.1	283.3	283.4	283.4	283.4	283.4	283.4	284.3
17.5°	275.4	275.8	276.2	276.6	277.0	277.4	277.7	278.0	278.2	278.6	279.5
20°	270.6	271.1	271.5	272.0	272.5	273.0	273.3	273.7	274.1	274.5	275.5
22.5°	265.5	266.0	266.6	267.1	267.7	268.2	268.7	269.3	269.8	270.3	271.4
25°	256.9	257.6	258.3	258.9	259.6	260.3	261.2	262.0	262.9	263.7	264.9
27.5°	246.7	247.7	248.8	249.9	251.0	252.0	253.0	254.0	255.1	256.1	257.5
30°	239.8	241.0	242.2	243.5	244.7	246.0	247.2	248.5	249.7	250.9	252.4
32.5°	232.2	233.7	235.0	236.4	237.8	239.2	240.7	242.1	243.6	245.1	246.9
35°	221.4	223.0	224.6	226.2	227.8	229.5	231.4	233.2	235.0	236.8	238.8
37.5°	209.5	211.4	213.3	215.2	217.0	219.1	221.5	223.8	226.1	228.5	230.8
40°	201.7	203.8	205.9	207.9	210.0	212.4	214.9	217.5	220.1	222.6	225.1
42.5°	194.2	196.2	198.3	200.4	202.6	205.0	208.0	210.9	213.9	216.8	219.5
45°	181.5	184.1	186.7	189.3	191.8	194.7	198.1	201.4	204.7	208.1	211.0
47.5°	169.1	171.9	174.7	177.5	180.3	183.7	187.6	191.4	195.4	199.3	202.4
50°	160.6	163.5	166.5	169.4	172.4	176.0	180.3	184.5	188.8	193.1	196.3
52.5°	152.3	155.4	158.5	161.6	164.8	168.5	173.1	177.6	182.1	186.6	189.9
55°	139.1	142.6	146.0	149.4	152.9	157.0	162.0	166.9	171.9	176.8	180.3
57.5°	126.1	130.0	133.8	137.7	141.6	146.0	151.1	156.1	161.2	166.3	169.9
60°	116.9	121.0	125.1	129.1	133.3	138.0	143.5	148.8	154.3	159.7	163.3
62.5°	108.7	112.9	117.2	121.4	125.6	130.4	135.9	141.3	146.8	152.2	156.0
65°	95.0	99.7	104.3	109.1	113.7	118.9	124.4	130.1	135.7	141.3	145.2
67.5°	82.6	87.5	92.3	97.2	102.1	107.4	113.1	118.9	124.6	130.4	134.3
70°	73.6	78.6	83.5	88.5	93.4	98.9	104.7	110.7	116.6	122.4	126.6
72.5°	65.4	70.5	75.6	80.7	85.9	91.3	97.4	103.3	109.3	115.3	119.3
75°	52.7	58.0	63.3	68.6	74.0	79.6	85.8	91.9	97.9	104.1	108.1
77.5°	40.3	45.9	51.5	57.0	62.7	68.5	74.7	80.9	87.1	93.2	97.4
80°	32.1	37.9	43.7	49.5	55.3	61.4	67.5	73.7	79.8	86.1	90.0
82.5°	25.3	31.0	36.8	42.4	48.2	54.2	60.4	66.7	73.0	79.2	83.2
85°	15.5	21.3	27.2	33.1	39.0	45.0	51.1	57.2	63.2	69.4	73.3
87.5°	8.6	14.8	21.2	27.2	33.4	39.8	46.8	54.2	61.5	67.7	71.4
90°	5.2	13.6	22.8	30.3	37.6	46.3	57.0	69.7	81.4	88.5	91.3
92.5°	15.5	25.6	37.5	46.8	58.3	72.7	99.8	135.6	168.1	175.7	160.4
95°	36.4	44.6	58.4	71.4	91.0	118.6	167.6	255.1	369.9	418.0	375.5
97.5°	56.6	65.7	79.6	96.4	117.7	148.0	207.8	327.3	514.2	675.0	709.5
100°	75.4	81.8	93.8	112.4	134.7	165.4	220.6	340.7	549.2	786.0	924.9
102.5°	92.4	97.6	109.3	127.6	150.4	181.0	232.2	339.4	532.6	787.3	1003.7
105°	116.9	123.5	132.8	149.7	173.1	203.3	252.4	341.1	501.2	733.9	987.4
107.5°	143.9	149.1	157.7	173.0	195.7	225.6	273.2	351.0	484.1	676.9	901.2
110°	161.6	167.3	174.8	189.0	210.7	241.2	287.3	359.7	479.1	649.3	847.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	178.1	183.5	191.5	204.6	225.2	256.3	300.6	369.0	477.7	630.4	808.5
115°	204.0	209.7	216.4	228.8	248.6	276.6	321.4	383.0	478.6	608.9	760.4
117.5°	230.3	234.7	241.0	251.7	270.4	299.1	340.4	398.2	482.2	596.5	728.6
120°	246.8	250.9	256.9	265.8	285.0	313.5	353.9	408.5	484.7	589.3	711.3
122.5°	262.6	265.8	271.5	281.0	299.9	328.9	366.8	417.5	488.2	584.2	696.4
125°	283.0	285.9	291.5	302.8	321.6	349.5	386.4	431.8	493.1	575.2	674.7
127.5°	299.6	303.3	311.1	323.4	341.4	369.7	405.0	445.4	498.7	568.9	654.4
130°	309.4	313.1	322.3	335.5	354.2	381.4	416.4	454.1	503.1	565.3	641.0
132.5°	318.4	322.8	332.9	346.8	366.2	393.3	426.2	462.8	507.6	562.5	629.9
135°	331.6	335.4	346.6	360.7	382.4	409.2	440.2	474.1	512.6	558.7	614.3
137.5°	344.3	348.8	360.1	375.1	396.5	421.2	451.4	482.5	517.1	556.1	602.9
140°	354.1	357.8	369.0	383.9	404.5	429.0	457.4	486.8	519.0	553.9	596.0
142.5°	363.9	366.8	377.3	392.2	412.1	435.0	462.5	491.0	520.7	553.3	589.7
145°	378.1	381.9	391.3	405.5	424.2	445.0	470.3	496.7	523.0	551.2	581.9
147.5°	394.0	396.8	405.8	418.8	434.4	452.9	476.7	499.9	523.8	547.9	574.3
150°	404.5	407.3	414.8	427.1	441.2	458.1	479.8	501.3	523.0	545.6	568.2
152.5°	415.0	416.3	423.9	434.6	448.0	463.4	482.8	502.1	521.5	541.9	562.9
155°	429.9	430.8	436.5	446.9	457.1	471.3	487.3	503.2	519.2	535.3	553.1
157.5°	442.3	443.3	447.8	456.8	465.1	476.9	490.5	503.2	514.9	528.5	543.9
160°	450.6	451.6	455.2	462.8	470.3	480.7	492.0	503.2	512.6	524.0	537.2
162.5°	458.8	458.3	462.0	468.1	474.9	483.0	492.8	502.5	510.4	520.2	531.1
165°	468.4	467.5	469.4	475.0	479.8	485.4	493.9	500.5	506.1	512.6	521.1
167.5°	476.4	475.2	476.9	480.5	483.9	487.5	493.7	499.2	501.7	506.1	511.3
170°	481.6	479.8	480.7	483.5	485.4	488.2	492.9	497.7	499.5	502.3	506.1
172.5°	484.7	483.5	483.0	485.8	486.9	489.0	492.2	495.4	496.5	497.9	500.9
175°	488.2	487.3	486.4	488.2	488.2	489.2	491.1	492.9	492.0	492.9	493.9
177.5°	489.9	488.4	487.7	489.2	489.2	489.2	489.9	491.4	489.9	489.2	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	295.5	295.5	295.5	295.5	295.5	295.5	295.5	295.5
2.5°	294.5	294.8	295.2	295.4	295.2	295.0	294.9	294.7
5°	293.6	294.2	294.7	294.9	294.8	294.7	294.6	294.5
7.5°	292.2	292.8	293.6	293.9	293.8	293.7	293.6	293.5
10°	291.0	291.7	292.5	292.8	292.8	292.7	292.6	292.5
12.5°	288.9	289.6	290.4	290.8	290.7	290.6	290.5	290.4
15°	285.1	286.1	286.9	287.3	287.2	287.1	287.0	286.9
17.5°	280.4	281.3	282.1	282.6	282.6	282.6	282.6	282.6
20°	276.5	277.6	278.6	279.2	279.2	279.2	279.2	279.2
22.5°	272.5	273.5	274.6	275.1	275.3	275.4	275.6	275.8
25°	266.1	267.2	268.3	269.0	269.3	269.6	269.8	270.1
27.5°	258.9	260.4	261.8	262.7	262.9	263.1	263.3	263.5
30°	253.9	255.5	257.0	257.9	258.2	258.4	258.7	259.0
32.5°	248.5	250.3	252.1	253.3	253.7	254.3	254.8	255.2
35°	241.0	243.1	245.2	246.6	247.2	247.9	248.5	249.2
37.5°	233.1	235.4	237.8	239.3	240.0	240.7	241.4	242.0
40°	227.6	230.1	232.5	234.2	235.1	235.9	236.8	237.6
42.5°	222.3	224.9	227.6	229.4	230.3	231.1	232.0	232.8
45°	214.0	217.0	219.9	221.9	222.8	223.8	224.7	225.6
47.5°	205.5	208.5	211.6	213.7	214.7	215.7	216.8	217.8
50°	199.5	202.8	206.0	208.2	209.2	210.3	211.3	212.4
52.5°	193.2	196.5	199.8	202.1	203.2	204.3	205.5	206.5
55°	183.7	187.1	190.6	192.8	194.1	195.4	196.6	197.8
57.5°	173.6	177.3	181.0	183.4	184.7	186.0	187.2	188.5
60°	166.9	170.6	174.2	176.6	178.0	179.3	180.7	182.0
62.5°	159.9	163.7	167.6	170.1	171.4	172.6	173.9	175.1
65°	149.1	153.0	156.9	159.5	160.7	161.9	163.2	164.4
67.5°	138.2	142.1	146.1	148.7	150.0	151.3	152.6	153.9
70°	130.6	134.7	138.8	141.5	142.6	143.7	144.9	146.0
72.5°	123.3	127.3	131.3	134.0	135.3	136.8	138.2	139.5
75°	112.3	116.3	120.5	123.1	124.3	125.5	126.8	128.0
77.5°	101.4	105.5	109.5	112.3	113.6	114.9	116.2	117.5
80°	94.1	98.0	102.1	104.7	106.0	107.4	108.7	110.0
82.5°	87.2	91.2	95.2	97.8	99.1	100.4	101.6	102.8
85°	77.4	81.3	85.4	88.0	89.4	90.7	92.0	93.3
87.5°	75.1	78.6	82.8	85.6	86.8	88.0	89.3	90.5
90°	94.3	96.1	101.9	105.3	106.4	107.5	108.7	109.8
92.5°	142.9	135.0	130.8	127.4	127.8	125.9	127.8	127.4
95°	302.9	249.2	213.3	194.9	183.9	177.5	175.8	177.9
97.5°	627.7	526.7	428.4	362.8	319.0	296.9	284.4	277.6
100°	908.7	795.6	670.2	558.6	481.6	442.2	416.0	400.1
102.5°	1092.0	1069.1	978.4	860.0	776.2	708.1	675.1	653.3
105°	1186.4	1296.0	1311.6	1282.7	1225.5	1168.2	1128.8	1116.6
107.5°	1111.9	1275.2	1376.2	1423.9	1432.3	1430.1	1423.1	1406.7
110°	1048.6	1220.0	1343.5	1422.7	1464.1	1483.1	1492.6	1492.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	990.5	1155.2	1286.9	1377.3	1434.6	1465.7	1482.6	1488.7
115°	918.5	1066.2	1192.2	1291.1	1359.0	1403.3	1428.8	1438.3
117.5°	863.4	993.3	1107.9	1200.7	1269.7	1316.4	1343.1	1351.3
120°	835.4	954.7	1057.1	1144.5	1211.4	1256.7	1285.0	1295.4
122.5°	812.8	922.3	1019.4	1098.4	1158.4	1202.7	1227.9	1236.7
125°	779.8	879.2	964.6	1036.8	1092.2	1128.9	1153.2	1161.6
127.5°	747.1	837.2	917.6	984.3	1032.7	1067.1	1088.2	1095.0
130°	726.0	809.3	885.9	949.5	996.4	1029.1	1048.7	1057.0
132.5°	705.8	782.9	853.4	913.2	959.3	992.0	1010.1	1017.7
135°	677.5	741.6	805.7	859.8	901.0	932.7	950.5	955.0
137.5°	654.4	708.1	759.1	806.3	843.8	871.1	886.6	893.0
140°	639.8	686.5	731.3	773.7	804.4	829.4	844.0	850.3
142.5°	628.0	667.6	706.1	741.5	770.6	793.3	806.4	808.0
145°	611.6	643.3	673.0	700.8	723.9	740.3	750.2	753.5
147.5°	599.2	623.7	646.6	666.7	685.5	698.5	705.1	707.1
150°	590.8	611.4	631.2	648.1	662.2	673.5	679.2	680.1
152.5°	582.5	601.6	618.4	633.1	644.1	653.9	658.1	658.3
155°	571.0	586.1	600.1	610.5	620.9	627.5	631.2	629.3
157.5°	557.6	570.2	582.1	590.2	597.5	602.9	604.6	604.6
160°	549.3	559.7	570.0	576.6	583.2	588.0	588.9	588.9
162.5°	541.1	549.9	558.7	563.8	570.4	573.6	574.6	573.8
165°	528.7	535.3	541.9	545.6	549.3	553.1	553.1	552.1
167.5°	516.8	521.9	526.4	529.8	531.5	533.6	533.4	532.3
170°	510.8	513.6	517.4	519.2	520.2	523.0	522.1	520.2
172.5°	504.0	506.1	509.1	510.2	511.1	512.5	511.5	510.4
175°	496.7	497.7	498.6	499.5	499.5	500.5	499.5	497.7
177.5°	491.4	491.4	492.2	492.2	492.2	492.2	491.4	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2

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