

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: P331263-830

Luminaire Tested: **SA2XXDIP-C290D725U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331263-830  
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-C290D725U830-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

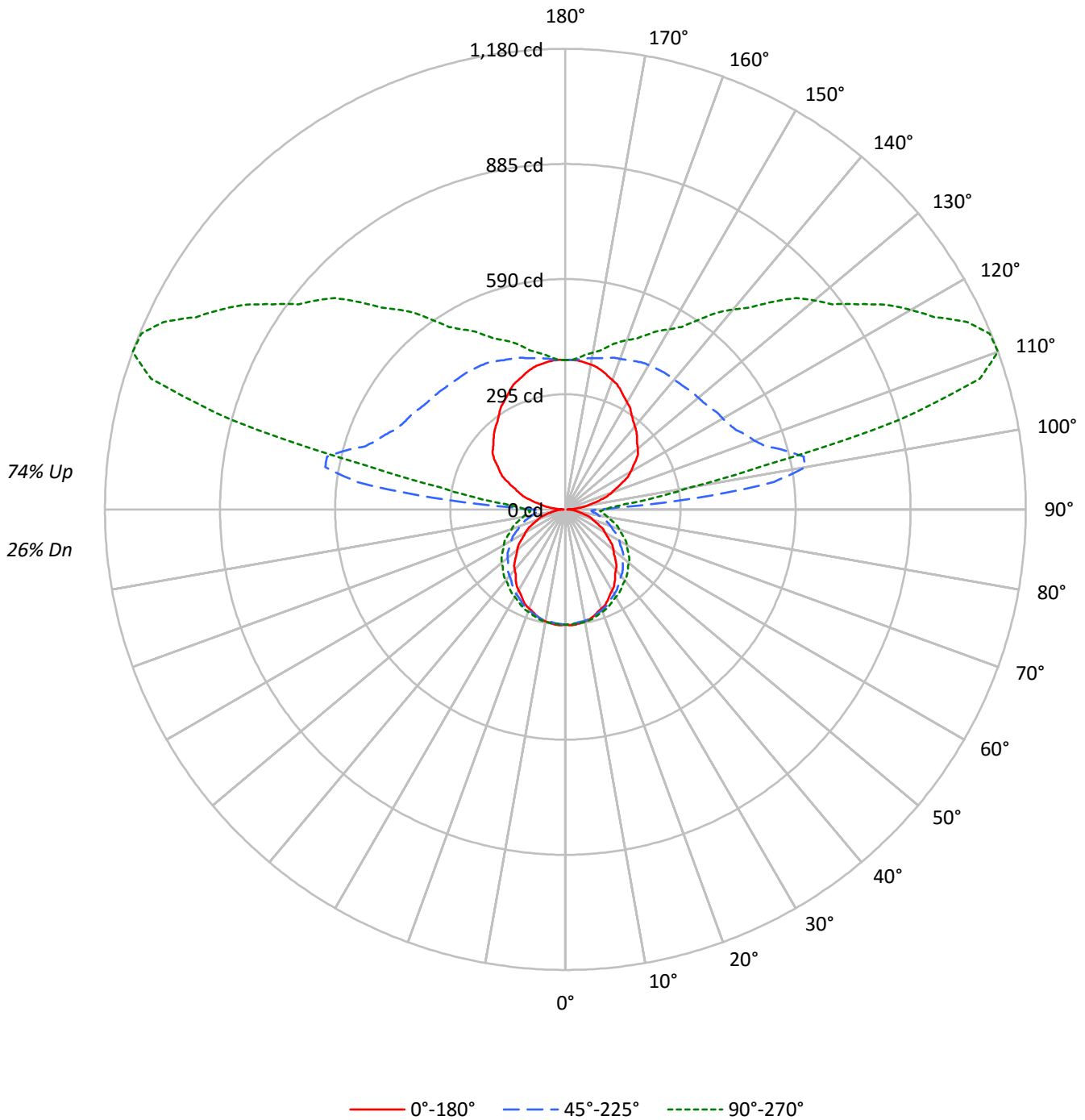
Lumens per Lamp: N/A  
Luminaire Lumens: 3796.7 lumens  
Efficiency: N/A  
Efficacy: 121.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 31.2  
Input Voltage (V): 120  
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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	26						
1	92	87	83	79	82	78	74	71	60	58	56	44	43	41	29	28	27	21						
2	83	76	69	64	74	67	62	58	52	49	45	38	36	34	25	24	22	17						
3	76	66	59	53	67	59	53	48	46	41	38	33	31	28	22	20	19	14						
4	69	58	50	44	61	52	45	40	40	36	32	30	26	24	20	18	16	12						
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	14	10						
6	58	46	38	32	51	41	34	29	32	27	23	24	20	18	16	14	12	9						
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	8						
8	49	37	30	25	44	34	27	22	26	21	18	19	16	14	13	11	9	7						
9	46	34	27	22	41	30	24	20	24	19	16	18	14	12	12	10	8	6						
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	8	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	0.7
10°-20°	80.3	2.1
20°-30°	121.6	3.2
30°-40°	148.2	3.9
40°-50°	159.4	4.2
50°-60°	154.8	4.1
60°-70°	135.2	3.6
70°-80°	104.1	2.7
80°-90°	73.3	1.9
90°-100°	201.3	5.3
100°-110°	555.0	14.6
110°-120°	575.5	15.2
120°-130°	467.6	12.3
130°-140°	370.5	9.8
140°-150°	276.8	7.3
150°-160°	193.9	5.1
160°-170°	114.1	3.0
170°-180°	37.1	1.0
0°-30°	229.9	6.1
0°-40°	378.1	10.0
0°-60°	692.3	18.2
0°-90°	1004.8	26.5
90°-120°	1331.8	35.1
90°-150°	2446.7	64.4
90°-180°	2792.0	73.5
0°-180°	3796.7	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	39	82	97	103	4
95°	29	87	338	174	155	30
105°	92	151	583	1027	887	98
115°	160	207	482	981	1136	159
125°	222	263	454	789	916	197
135°	260	310	439	655	752	201
145°	296	340	432	539	591	186
155°	337	364	419	474	493	155
165°	367	378	402	426	432	103
175°	382	383	386	391	390	36
180°	383	383	383	383	383	



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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	14.6	20.9	26.9	32.8	39.2	46.0	53.2	60.1	66.4	70.0
90°	5.0	12.7	21.2	28.2	35.2	43.2	53.0	64.2	74.7	81.5	84.6
92.5°	12.9	22.1	32.5	40.9	51.0	63.4	86.0	115.3	142.0	149.2	138.1
95°	29.2	36.7	48.4	59.6	75.9	98.6	138.2	208.0	299.2	338.1	305.6
97.5°	45.0	53.0	64.8	78.7	96.2	121.0	169.1	263.9	411.4	538.6	566.3
100°	59.8	65.5	75.6	91.0	109.1	134.2	178.6	273.8	438.3	624.9	734.5
102.5°	73.0	77.8	87.7	102.6	121.2	146.0	187.3	272.3	424.9	625.5	795.7
105°	92.0	97.7	105.7	119.4	138.5	162.9	202.5	273.1	399.5	582.8	782.1
107.5°	113.2	117.7	125.0	137.3	155.6	179.8	218.2	280.1	385.3	537.4	713.8
110°	127.0	131.9	138.2	149.6	167.0	191.6	228.8	286.4	381.0	515.3	670.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	140.0	144.5	151.1	161.6	178.1	203.1	238.8	293.3	379.4	499.9	640.2
115°	160.1	164.9	170.3	180.2	196.0	218.6	254.5	303.8	379.5	482.5	601.7
117.5°	180.6	184.3	189.4	197.8	212.6	235.6	268.9	315.0	381.6	472.0	576.1
120°	193.6	196.9	201.7	208.8	223.9	246.6	279.1	322.7	383.2	465.9	562.1
122.5°	205.9	208.5	213.0	220.5	235.4	258.4	288.9	329.3	385.5	461.5	550.0
125°	221.9	224.1	228.6	237.3	252.1	274.3	303.8	340.1	388.7	453.6	532.2
127.5°	234.9	237.7	243.8	253.4	267.5	289.9	318.1	350.3	392.6	448.1	515.6
130°	242.5	245.3	252.6	262.9	277.5	299.1	326.9	356.8	395.7	444.9	504.6
132.5°	249.6	253.1	260.9	271.7	286.9	308.3	334.4	363.4	398.8	442.2	495.4
135°	259.8	262.7	271.5	282.6	299.5	320.7	345.2	371.9	402.4	438.7	482.7
137.5°	269.8	273.3	282.1	293.9	310.7	330.1	353.7	378.1	405.4	436.0	473.1
140°	277.5	280.3	289.1	300.8	316.9	336.1	358.4	381.4	406.6	434.0	467.3
142.5°	285.1	287.4	295.6	307.3	322.7	340.7	362.2	384.6	407.8	433.4	462.1
145°	296.1	299.2	306.5	317.5	332.2	348.5	368.4	389.0	409.6	431.8	455.9
147.5°	308.6	310.8	317.8	328.0	340.3	354.7	373.4	391.5	410.3	429.1	449.8
150°	316.8	319.1	324.9	334.5	345.5	358.8	375.8	392.7	409.6	427.3	445.0
152.5°	325.1	326.1	332.0	340.4	350.8	363.0	378.1	393.3	408.5	424.4	440.9
155°	336.7	337.4	341.9	350.0	358.1	369.1	381.6	394.2	406.7	419.2	433.2
157.5°	346.5	347.1	350.7	357.8	364.3	373.5	384.2	394.2	403.3	414.0	426.0
160°	352.9	353.6	356.6	362.5	368.4	376.5	385.3	394.2	401.5	410.4	420.8
162.5°	359.4	358.9	361.9	366.6	371.9	378.2	386.0	393.6	399.8	407.5	415.9
165°	366.9	366.2	367.7	372.1	375.8	380.2	386.8	392.0	396.4	401.5	408.2
167.5°	373.2	372.2	373.5	376.4	379.0	381.8	386.6	391.0	393.0	396.4	400.5
170°	377.2	375.8	376.5	378.7	380.2	382.4	386.1	389.7	391.2	393.4	396.4
172.5°	379.6	378.7	378.2	380.5	381.4	383.0	385.5	388.0	388.9	389.9	392.3
175°	382.4	381.6	380.9	382.4	382.4	383.1	384.6	386.1	385.3	386.1	386.8
177.5°	383.7	382.6	381.9	383.1	383.1	383.1	383.7	384.9	383.7	383.1	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1



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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°	73.8	77.4	81.5	84.3	85.5	86.7	87.9	89.2
90°	87.8	90.0	95.3	98.5	99.6	100.9	102.0	103.1
92.5°	125.2	119.7	117.3	115.2	115.7	114.5	116.2	116.2
95°	249.5	208.2	180.9	167.0	158.6	153.8	152.8	154.7
97.5°	503.0	424.6	348.5	297.6	263.5	246.5	236.9	231.8
100°	722.6	634.7	537.2	450.4	390.3	359.7	339.3	327.2
102.5°	865.6	848.4	778.0	685.8	620.4	567.3	541.8	524.8
105°	938.7	1025.3	1038.2	1016.1	971.4	926.8	896.2	886.8
107.5°	879.5	1008.0	1087.9	1125.7	1132.5	1131.1	1125.8	1113.0
110°	829.4	964.3	1061.7	1124.2	1156.9	1172.0	1179.6	1179.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	783.3	913.0	1016.8	1088.2	1133.2	1157.7	1171.3	1176.3
115°	726.2	842.5	941.9	1019.7	1073.1	1108.1	1128.2	1135.9
117.5°	682.2	784.7	875.0	948.1	1002.4	1039.2	1060.4	1066.9
120°	659.8	753.8	834.6	903.5	956.1	991.8	1014.3	1022.7
122.5°	641.7	728.0	804.6	866.9	914.0	949.0	968.8	975.9
125°	615.0	693.5	760.9	817.8	861.5	890.3	909.6	916.3
127.5°	588.7	659.7	723.2	775.8	813.9	841.0	857.7	863.3
130°	571.7	637.3	697.9	748.0	784.9	810.7	826.2	832.8
132.5°	555.3	616.2	671.9	719.1	755.4	781.2	795.5	801.5
135°	532.5	583.2	633.9	676.5	708.9	734.0	748.0	751.7
137.5°	513.8	556.2	596.6	633.8	663.3	684.9	697.1	702.2
140°	502.0	538.9	574.3	607.8	631.9	651.6	663.3	668.3
142.5°	492.4	523.7	554.1	582.0	604.9	622.8	633.2	634.6
145°	479.3	504.2	527.6	549.5	567.7	580.7	588.5	591.2
147.5°	469.3	488.6	506.5	522.3	537.1	547.3	552.5	554.1
150°	462.7	478.9	494.4	507.7	518.7	527.5	532.0	532.7
152.5°	456.2	471.3	484.4	495.9	504.5	512.2	515.5	515.6
155°	447.2	459.0	470.0	478.2	486.3	491.4	494.4	492.9
157.5°	436.8	446.7	455.9	462.2	468.0	472.3	473.6	473.6
160°	430.3	438.4	446.5	451.7	456.9	460.5	461.2	461.2
162.5°	423.8	430.7	437.6	441.7	446.8	449.3	450.1	449.4
165°	414.1	419.2	424.4	427.3	430.3	433.2	433.2	432.5
167.5°	404.8	408.8	412.3	415.0	416.3	417.9	417.7	416.9
170°	400.1	402.3	405.2	406.7	407.5	409.6	408.9	407.5
172.5°	394.7	396.4	398.8	399.6	400.4	401.4	400.7	399.8
175°	389.0	389.7	390.5	391.2	391.2	392.0	391.2	389.7
177.5°	384.9	384.9	385.5	385.5	385.5	385.5	384.9	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1

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