

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: P331253

Luminaire Tested: **S122DIP-S290D530U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331253  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S290D530U835-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3088.0 lumens  
Efficiency: N/A  
Efficacy: 120.6 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

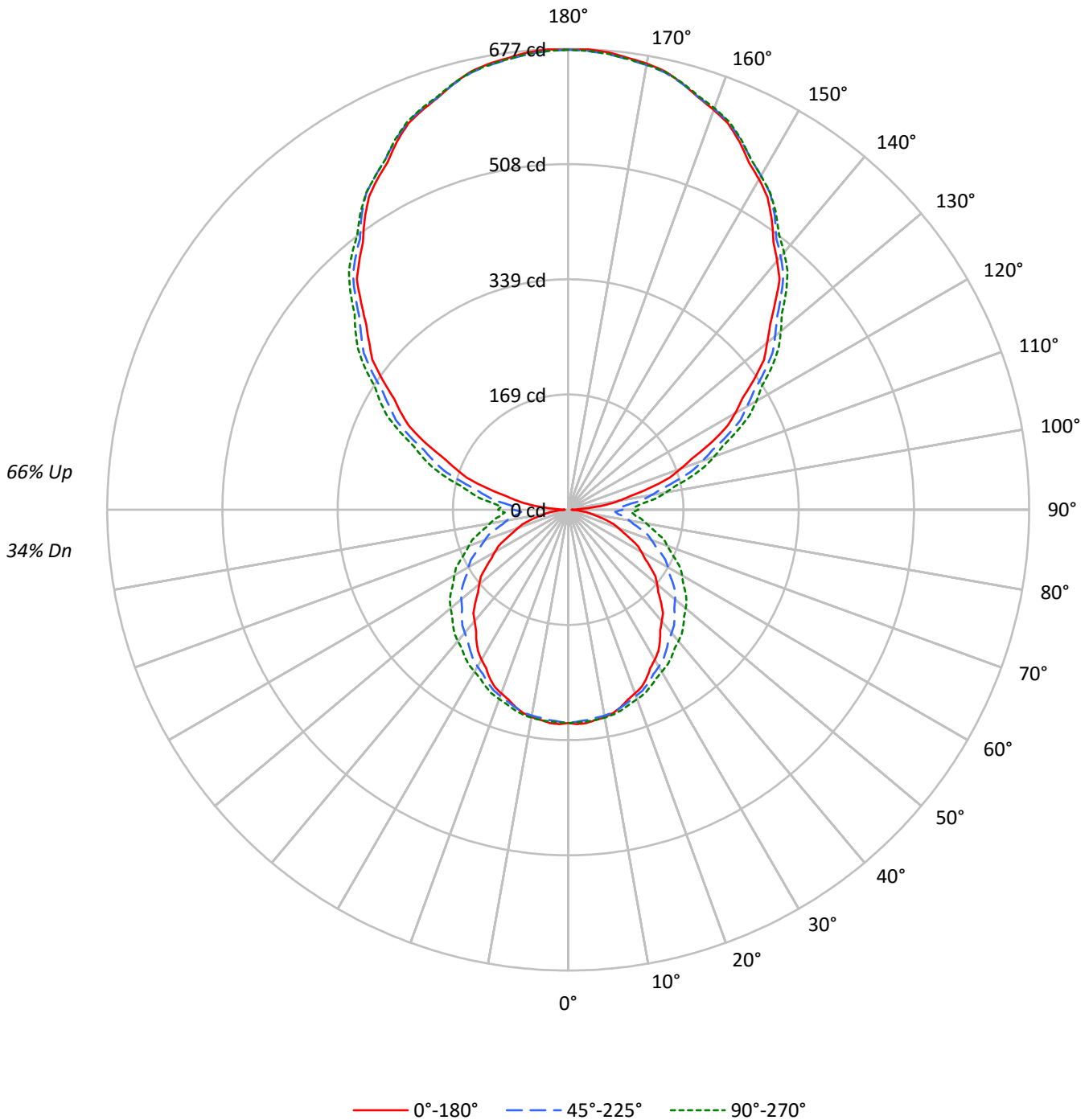
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	34
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	24	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	25	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	22	20	19	16	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

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

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.7	1.0
10°-20°	85.2	2.8
20°-30°	129.1	4.2
30°-40°	157.2	5.1
40°-50°	169.1	5.5
50°-60°	164.2	5.3
60°-70°	143.4	4.6
70°-80°	110.4	3.6
80°-90°	76.8	2.5
90°-100°	93.9	3.0
100°-110°	170.3	5.5
110°-120°	251.9	8.2
120°-130°	312.7	10.1
130°-140°	341.3	11.1
140°-150°	330.0	10.7
150°-160°	275.9	8.9
160°-170°	183.0	5.9
170°-180°	64.0	2.1
0°-30°	243.9	7.9
0°-40°	401.1	13.0
0°-60°	734.5	23.8
0°-90°	1065.1	34.5
90°-120°	516.1	16.7
90°-150°	1500.0	48.6
90°-180°	2023.0	65.5
0°-180°	3088.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	5	39	80	96	103	5
95°	33	60	89	105	110	37
105°	125	140	164	181	187	132
115°	230	239	258	270	274	227
125°	333	338	351	361	365	297
135°	430	436	442	450	453	332
145°	521	525	529	532	532	326
155°	596	598	599	602	600	274
165°	648	648	648	651	649	183
175°	675	673	672	675	672	64
180°	676	676	676	676	676	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.0	15.3	21.7	28.0	34.3	41.0	48.0	55.0	62.0	69.0	73.1
90°	5.1	12.5	19.9	27.2	34.6	42.9	52.2	61.4	70.7	79.9	83.7
92.5°	14.3	20.9	27.5	34.0	40.6	47.3	54.2	61.1	68.0	74.8	78.8
95°	33.3	39.3	45.3	51.3	57.3	63.5	69.8	76.1	82.4	88.7	92.6
97.5°	57.4	62.7	68.0	73.4	78.7	84.5	90.8	97.1	103.4	109.7	113.4
100°	75.6	80.3	85.1	89.8	94.6	100.0	106.0	112.1	118.1	124.1	127.9
102.5°	94.4	98.6	102.8	107.1	111.3	116.4	122.4	128.3	134.3	140.3	144.0
105°	124.9	128.2	131.5	134.8	138.1	142.5	148.0	153.5	159.0	164.5	168.3
107.5°	156.0	158.9	161.8	164.7	167.6	171.6	176.6	181.6	186.7	191.7	195.2
110°	175.7	178.5	181.3	184.1	186.9	190.7	195.7	200.6	205.6	210.5	213.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	197.6	200.1	202.6	205.0	207.5	211.0	215.6	220.2	224.8	229.4	232.3
115°	229.9	231.8	233.7	235.5	237.4	240.5	244.8	249.1	253.3	257.6	260.5
117.5°	261.6	263.4	265.1	266.8	268.6	271.2	274.7	278.2	281.7	285.2	287.8
120°	283.1	284.5	285.9	287.3	288.7	291.0	294.0	297.0	300.0	303.1	305.9
122.5°	302.7	304.1	305.4	306.8	308.2	310.4	313.5	316.6	319.7	322.8	325.2
125°	332.8	333.9	335.1	336.2	337.4	339.3	342.2	345.0	347.9	350.7	353.1
127.5°	362.6	363.9	365.2	366.6	367.9	369.7	371.8	374.0	376.1	378.3	380.3
130°	381.3	382.8	384.4	385.9	387.4	389.2	391.0	392.9	394.8	396.6	398.8
132.5°	402.2	403.5	404.7	406.0	407.2	408.7	410.4	412.1	413.7	415.4	417.2
135°	429.8	431.2	432.6	434.0	435.4	436.8	438.0	439.3	440.5	441.8	443.8
137.5°	459.4	460.5	461.6	462.7	463.9	464.8	465.6	466.4	467.1	467.9	469.7
140°	477.2	478.2	479.3	480.3	481.3	482.3	483.1	483.9	484.8	485.6	487.2
142.5°	495.4	496.5	497.5	498.5	499.6	500.3	500.8	501.3	501.8	502.2	503.6
145°	521.2	522.1	523.0	523.9	524.8	525.6	526.3	527.1	527.9	528.6	529.3
147.5°	544.6	545.6	546.7	547.8	548.8	549.6	550.1	550.6	551.1	551.7	552.0
150°	560.6	561.3	562.1	562.8	563.6	564.2	564.7	565.2	565.7	566.3	566.6
152.5°	574.7	575.5	576.2	577.0	577.7	578.4	579.0	579.6	580.2	580.9	581.3
155°	595.9	596.3	596.7	597.0	597.4	597.8	598.2	598.6	598.9	599.3	600.0
157.5°	614.0	614.3	614.5	614.8	615.1	615.3	615.5	615.8	616.0	616.2	617.1
160°	625.0	625.2	625.5	625.7	626.0	626.2	626.3	626.4	626.6	626.7	627.5
162.5°	635.0	635.1	635.1	635.2	635.2	635.3	635.4	635.6	635.7	635.8	636.7
165°	648.4	648.2	648.1	648.0	647.9	647.8	647.8	647.8	647.8	647.8	648.7
167.5°	659.5	659.2	658.8	658.4	658.0	657.8	657.8	657.8	657.7	657.7	658.6
170°	665.5	665.1	664.7	664.3	664.0	663.7	663.6	663.4	663.3	663.2	664.1
172.5°	669.6	669.2	668.8	668.4	668.1	667.8	667.7	667.6	667.4	667.3	668.2
175°	674.6	674.2	673.8	673.5	673.1	672.8	672.5	672.3	672.0	671.7	672.6
177.5°	676.7	676.3	676.0	675.7	675.4	675.2	675.0	674.8	674.6	674.4	675.0
180°	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	77.2	81.2	85.3	88.0	89.3	90.6	92.0	93.3
90°	87.5	91.3	95.1	97.6	99.0	100.3	101.6	103.0
92.5°	82.8	86.9	90.9	93.5	94.7	96.0	97.2	98.4
95°	96.4	100.2	104.1	106.5	107.4	108.4	109.4	110.3
97.5°	117.2	120.9	124.6	127.1	128.3	129.4	130.6	131.7
100°	131.6	135.3	139.1	141.4	142.4	143.4	144.4	145.4
102.5°	147.8	151.5	155.3	157.7	158.7	159.6	160.6	161.6
105°	172.1	175.9	179.7	182.1	183.2	184.3	185.4	186.6
107.5°	198.7	202.2	205.7	207.7	208.2	208.7	209.3	209.8
110°	217.0	220.2	223.4	225.4	226.1	226.9	227.6	228.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.3	238.2	241.1	243.0	243.8	244.7	245.5	246.3
115°	263.4	266.3	269.2	271.1	271.8	272.5	273.2	274.0
117.5°	290.5	293.2	295.9	297.6	298.2	298.9	299.5	300.2
120°	308.7	311.5	314.4	316.1	316.9	317.6	318.3	319.1
122.5°	327.7	330.1	332.5	334.1	334.8	335.4	336.1	336.8
125°	355.4	357.8	360.1	361.7	362.5	363.3	364.0	364.8
127.5°	382.4	384.4	386.5	387.7	388.2	388.7	389.2	389.7
130°	401.0	403.1	405.3	406.5	406.8	407.1	407.4	407.7
132.5°	419.0	420.8	422.6	423.7	424.1	424.5	424.9	425.3
135°	445.8	447.8	449.8	451.0	451.4	451.8	452.3	452.7
137.5°	471.4	473.2	474.9	475.9	476.1	476.3	476.4	476.6
140°	488.8	490.5	492.1	492.9	493.0	493.1	493.2	493.3
142.5°	505.0	506.4	507.8	508.5	508.5	508.5	508.6	508.6
145°	530.1	530.8	531.5	531.9	531.9	531.9	531.9	531.9
147.5°	552.4	552.7	553.1	553.2	552.9	552.7	552.4	552.2
150°	567.0	567.4	567.8	567.8	567.4	567.0	566.6	566.3
152.5°	581.8	582.3	582.8	582.8	582.3	581.8	581.3	580.9
155°	600.6	601.2	601.9	602.0	601.6	601.2	600.8	600.5
157.5°	617.9	618.8	619.7	619.8	619.2	618.6	618.0	617.3
160°	628.2	629.0	629.7	629.9	629.4	628.9	628.3	627.8
162.5°	637.5	638.4	639.3	639.4	638.8	638.2	637.6	637.0
165°	649.6	650.5	651.3	651.5	650.8	650.2	649.6	648.9
167.5°	659.5	660.4	661.3	661.4	660.7	660.1	659.4	658.7
170°	665.0	665.9	666.7	666.8	666.0	665.3	664.5	663.8
172.5°	669.1	670.0	670.8	670.9	670.2	669.4	668.6	667.9
175°	673.5	674.4	675.3	675.4	674.6	673.8	673.1	672.3
177.5°	675.6	676.2	676.8	676.8	676.2	675.6	675.0	674.4
180°	675.7	675.7	675.7	675.7	675.7	675.7	675.7	675.7

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