

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: P331255-927

Luminaire Tested: **SA2XXDIP-C290D530U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331255-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D530U927-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

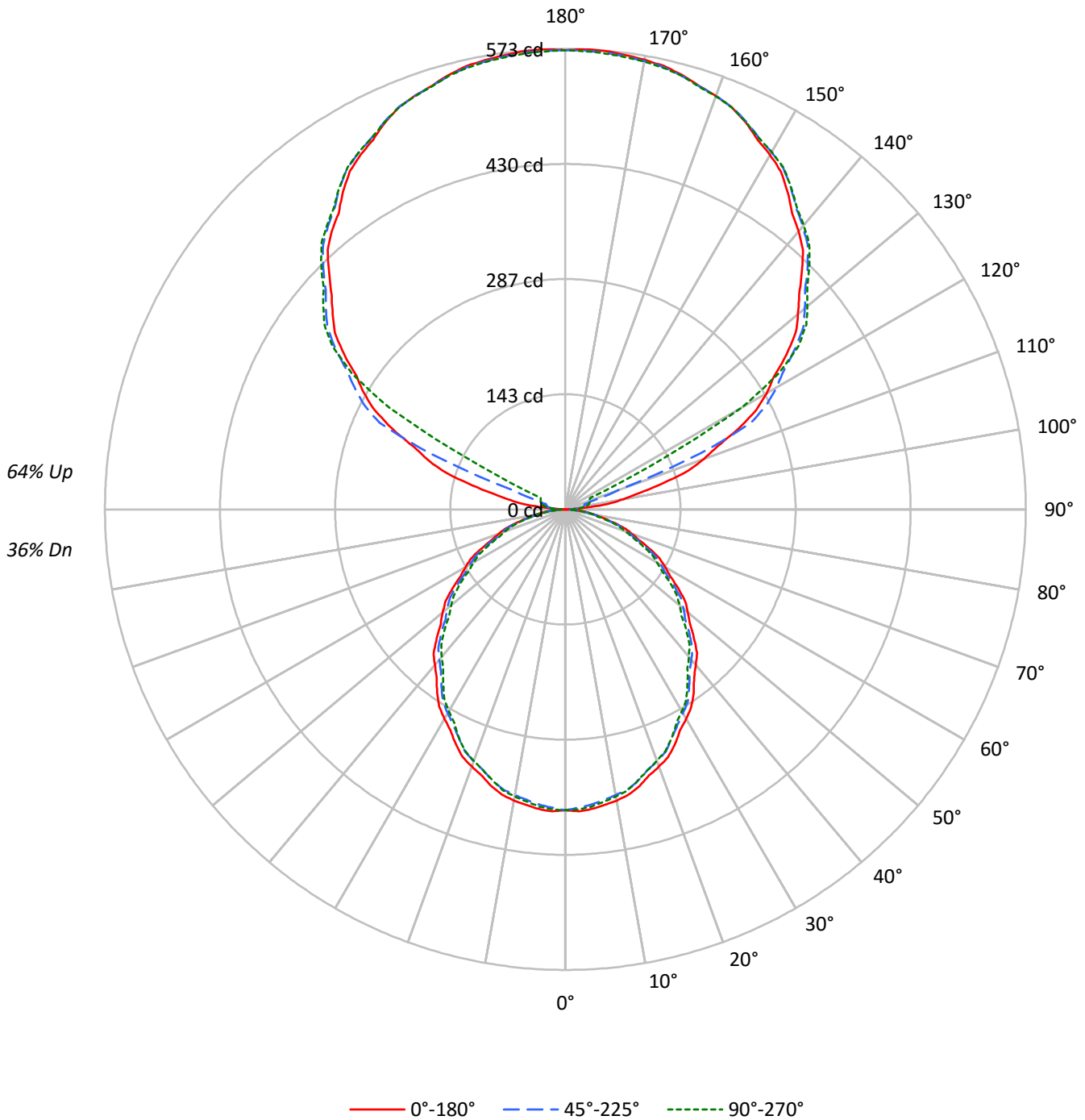
Lumens per Lamp: N/A  
Luminaire Lumens: 2627.9 lumens  
Efficiency: N/A  
Efficacy: 102.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36	36	36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	38	37	31	31	31
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	34	32	31	26	26	26
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	26	22	22	22
4	72	61	54	48	65	56	49	44	45	41	37	36	32	30	27	25	23	19	19	19
5	66	55	47	41	59	50	43	38	41	35	32	32	28	26	24	22	20	16	16	16
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17	14	14	14
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	17	15	13	13	13
8	52	40	32	27	47	36	30	25	30	25	21	24	20	18	18	16	14	11	11	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10	10	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9	9	9

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

	0°	45°	90°
0°	6042	6042	6042
5°	6065	5977	6015
10°	6030	5917	5946
15°	5954	5840	5835
20°	5849	5727	5720
25°	5744	5585	5585
30°	5610	5455	5407
35°	5483	5298	5219
40°	5324	5143	5044
45°	5167	4987	4864
50°	4999	4828	4657
55°	4822	4642	4467
60°	4624	4414	4253
65°	4413	4195	4000
70°	4145	3923	3734
75°	3768	3612	3525
80°	3347	3245	3078
85°	2723	2594	2334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.2	1.3
10°-20°	99.0	3.8
20°-30°	145.6	5.5
30°-40°	169.1	6.4
40°-50°	168.9	6.4
50°-60°	147.3	5.6
60°-70°	108.9	4.1
70°-80°	61.7	2.3
80°-90°	18.0	0.7
90°-100°	19.1	0.7
100°-110°	69.9	2.7
110°-120°	186.8	7.1
120°-130°	308.4	11.7
130°-140°	328.0	12.5
140°-150°	304.8	11.6
150°-160°	245.1	9.3
160°-170°	157.9	6.0
170°-180°	54.4	2.1
0°-30°	279.8	10.6
0°-40°	448.8	17.1
0°-60°	765.0	29.1
0°-90°	953.6	36.3
90°-120°	275.8	10.5
90°-150°	1217.0	46.3
90°-180°	1674.0	63.7
0°-180°	2627.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	374	373	369	372	371	35
15°	356	354	349	351	349	100
25°	322	319	314	314	314	148
35°	278	274	269	267	265	174
45°	226	224	218	215	213	175
55°	171	169	165	161	159	153
65°	116	113	110	107	105	114
75°	60	60	58	56	56	65
85°	15	14	14	13	13	17
90°	0	5	8	10	11	2
95°	27	14	16	18	18	33
105°	126	131	25	30	31	134
115°	238	245	255	73	34	234
125°	336	342	349	352	354	300
135°	416	422	426	430	430	321
145°	482	482	489	492	490	302
155°	531	528	532	535	532	245
165°	560	558	558	561	558	158
175°	573	570	570	573	569	54
180°	571	571	571	571	571	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	376.0	375.7	375.3	375.0	374.7	374.2	373.5	372.8	372.1	371.4	372.0
5°	374.2	373.9	373.6	373.3	373.0	372.4	371.5	370.7	369.7	368.8	369.5
7.5°	371.0	370.4	369.9	369.5	369.0	368.3	367.4	366.5	365.6	364.7	365.4
10°	367.8	367.3	366.7	366.1	365.5	364.8	363.8	362.9	361.9	360.9	361.6
12.5°	363.5	363.0	362.5	361.9	361.5	360.8	359.8	358.9	357.9	357.0	357.4
15°	356.2	355.8	355.3	354.8	354.3	353.6	352.5	351.5	350.5	349.4	349.7
17.5°	347.1	346.6	346.1	345.6	345.2	344.4	343.3	342.2	341.2	340.2	340.5
20°	340.4	339.9	339.5	339.0	338.5	337.7	336.6	335.5	334.4	333.3	333.5
22.5°	333.8	333.1	332.5	331.8	331.1	330.3	329.2	328.1	327.1	326.1	326.1
25°	322.4	321.8	321.2	320.5	319.9	318.9	317.5	316.2	314.8	313.5	313.6
27.5°	309.5	309.0	308.3	307.8	307.2	306.3	305.3	304.2	303.2	302.1	301.8
30°	300.9	300.2	299.6	299.0	298.3	297.4	296.2	295.0	293.7	292.6	292.3
32.5°	291.6	291.1	290.7	290.1	289.6	288.7	287.4	286.2	284.9	283.7	283.2
35°	278.2	277.3	276.6	275.8	275.0	273.9	272.7	271.4	270.1	268.8	268.3
37.5°	263.0	262.3	261.6	260.9	260.2	259.2	257.9	256.7	255.3	254.1	253.5
40°	252.6	252.0	251.4	250.7	250.1	249.1	247.8	246.5	245.3	244.0	243.3
42.5°	242.6	241.9	241.3	240.7	240.0	239.0	237.7	236.5	235.2	233.9	233.1
45°	226.3	225.8	225.2	224.7	224.1	223.2	222.0	220.9	219.7	218.4	217.5
47.5°	210.2	209.7	209.2	208.7	208.1	207.2	206.0	204.8	203.5	202.2	201.3
50°	199.0	198.6	198.2	197.8	197.4	196.6	195.5	194.4	193.3	192.2	191.1
52.5°	188.1	187.5	187.0	186.5	185.9	185.1	184.1	183.1	182.0	180.9	180.0
55°	171.3	170.8	170.3	169.8	169.4	168.7	167.7	166.8	165.8	164.9	163.8
57.5°	154.5	154.1	153.7	153.3	152.9	152.2	151.1	150.1	149.0	148.0	147.0
60°	143.2	142.9	142.6	142.3	142.0	141.2	140.1	139.0	137.8	136.7	135.9
62.5°	132.3	131.7	131.3	130.8	130.2	129.5	128.7	127.9	127.0	126.1	125.2
65°	115.5	115.0	114.5	114.1	113.6	113.0	112.2	111.4	110.6	109.8	109.0
67.5°	98.5	98.1	97.7	97.3	97.0	96.4	95.6	94.9	94.2	93.5	92.9
70°	87.8	87.5	87.1	86.8	86.5	86.0	85.3	84.6	83.8	83.1	82.5
72.5°	76.8	76.5	76.2	75.9	75.6	75.2	74.7	74.3	73.8	73.4	72.8
75°	60.4	60.3	60.1	60.0	59.8	59.6	59.2	58.7	58.3	57.9	57.4
77.5°	45.8	45.5	45.2	45.0	44.7	44.4	44.3	44.1	44.0	43.8	43.6
80°	36.0	35.9	35.8	35.7	35.6	35.6	35.4	35.3	35.1	34.9	34.7
82.5°	26.8	26.8	26.8	26.7	26.7	26.6	26.5	26.5	26.4	26.3	26.0
85°	14.7	14.7	14.6	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.8
87.5°	5.2	5.3	5.4	5.5	5.5	5.6	5.6	5.6	5.7	5.7	5.5
90°	0.4	1.4	2.5	3.4	4.4	5.3	6.1	6.8	7.5	8.2	8.7
92.5°	8.3	8.2	8.2	8.1	8.0	8.2	8.5	8.9	9.2	9.6	9.8
95°	26.9	23.8	20.8	17.7	14.7	13.5	14.2	14.8	15.4	16.2	16.6
97.5°	53.3	44.8	36.3	27.7	19.2	15.6	17.1	18.6	20.1	21.5	21.9
100°	73.2	60.6	48.0	35.4	22.8	17.3	18.9	20.4	22.0	23.5	24.3
102.5°	95.0	92.4	89.7	87.0	84.4	76.4	63.5	50.4	37.3	24.2	25.2
105°	125.6	128.4	131.2	134.0	136.7	125.6	100.4	75.4	50.3	25.2	26.2
107.5°	160.7	162.9	165.1	167.3	169.5	155.6	125.6	95.5	65.4	35.3	34.3
110°	183.2	185.1	187.0	188.9	190.8	178.6	152.0	125.5	98.9	72.3	63.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.3	206.0	207.7	209.5	211.1	208.7	202.2	195.6	189.0	182.5	148.9
115°	237.7	239.2	240.8	242.4	244.0	245.9	248.2	250.5	252.8	255.1	212.5
117.5°	267.6	269.3	271.1	272.8	274.6	276.2	277.8	279.4	281.0	282.5	272.3
120°	289.4	290.7	292.2	293.5	294.9	296.4	298.1	299.8	301.3	303.0	304.1
122.5°	307.9	309.3	310.9	312.3	313.7	315.4	317.1	318.9	320.8	322.6	323.2
125°	336.1	337.3	338.5	339.7	340.9	342.4	344.1	345.9	347.6	349.4	350.0
127.5°	361.6	363.0	364.3	365.6	366.9	368.3	369.6	370.9	372.2	373.5	374.4
130°	377.9	379.3	380.8	382.3	383.7	385.0	386.0	387.0	388.0	389.0	390.1
132.5°	394.4	395.6	396.9	398.2	399.4	400.5	401.6	402.6	403.5	404.6	405.4
135°	415.9	417.4	418.8	420.3	421.8	422.9	423.7	424.6	425.4	426.2	427.1
137.5°	437.7	438.6	439.7	440.7	441.7	442.8	443.7	444.7	445.5	446.5	447.4
140°	451.9	452.6	453.4	454.1	454.8	455.7	456.7	457.7	458.7	459.7	460.6
142.5°	463.7	464.5	465.1	465.7	466.4	467.3	468.5	469.6	470.8	472.0	472.7
145°	482.4	482.4	482.3	482.2	482.1	482.8	484.4	485.9	487.5	489.1	489.7
147.5°	498.8	498.4	498.0	497.7	497.3	498.0	499.5	501.1	502.6	504.1	504.6
150°	509.3	508.7	508.0	507.4	506.8	507.2	508.7	510.1	511.6	513.0	513.6
152.5°	518.2	517.5	516.8	516.1	515.4	515.7	517.1	518.6	519.9	521.3	521.9
155°	531.2	530.4	529.6	528.8	527.9	528.1	529.2	530.3	531.4	532.5	533.1
157.5°	541.4	540.7	540.0	539.3	538.6	538.7	539.4	540.2	541.0	541.8	542.3
160°	547.4	546.8	546.3	545.7	545.2	545.2	545.7	546.3	546.8	547.4	548.0
162.5°	552.6	552.1	551.5	551.0	550.5	550.4	550.9	551.4	551.8	552.3	552.9
165°	559.8	559.2	558.6	558.1	557.5	557.5	557.7	557.9	558.3	558.5	559.2
167.5°	565.1	564.5	564.0	563.4	562.8	562.7	562.9	563.2	563.5	563.7	564.4
170°	568.0	567.5	567.0	566.4	565.9	565.6	565.9	566.0	566.2	566.4	567.0
172.5°	570.1	569.5	568.9	568.4	567.8	567.6	567.8	568.0	568.2	568.4	569.0
175°	572.6	572.0	571.3	570.7	570.0	569.8	570.0	570.1	570.3	570.5	571.2
177.5°	573.0	572.5	572.0	571.5	570.9	570.7	570.8	570.8	570.9	571.0	571.6
180°	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	372.6	373.3	373.9	374.2	374.1	373.9	373.8	373.7
5°	370.2	370.8	371.5	371.7	371.5	371.4	371.2	371.1
7.5°	366.0	366.6	367.3	367.5	367.3	367.1	366.9	366.8
10°	362.3	362.9	363.5	363.7	363.5	363.2	363.0	362.7
12.5°	357.8	358.2	358.7	358.9	358.7	358.5	358.3	358.1
15°	350.1	350.4	350.7	350.7	350.3	349.9	349.5	349.1
17.5°	340.9	341.3	341.6	341.6	341.2	340.9	340.5	340.1
20°	333.7	334.0	334.2	334.1	333.8	333.5	333.2	332.9
22.5°	326.1	326.2	326.2	326.1	326.0	325.7	325.6	325.4
25°	313.8	313.9	314.1	314.1	313.9	313.8	313.6	313.5
27.5°	301.6	301.3	301.1	300.8	300.4	300.0	299.7	299.3
30°	292.1	291.8	291.6	291.4	291.0	290.7	290.4	290.0
32.5°	282.8	282.3	281.9	281.5	281.2	280.9	280.6	280.3
35°	267.8	267.4	266.9	266.5	266.1	265.7	265.3	264.8
37.5°	252.9	252.3	251.7	251.2	250.8	250.4	250.1	249.7
40°	242.6	241.9	241.1	240.6	240.3	240.0	239.6	239.3
42.5°	232.3	231.6	230.8	230.1	229.7	229.3	228.9	228.4
45°	216.7	215.8	214.9	214.3	214.0	213.7	213.3	213.0
47.5°	200.4	199.5	198.5	197.8	197.4	196.9	196.5	196.0
50°	190.0	188.8	187.7	187.0	186.6	186.2	185.8	185.4
52.5°	179.1	178.2	177.2	176.5	175.9	175.5	174.9	174.4
55°	162.9	161.9	161.0	160.3	159.9	159.5	159.1	158.7
57.5°	146.1	145.1	144.2	143.5	143.3	143.0	142.7	142.4
60°	135.0	134.1	133.2	132.7	132.5	132.2	132.0	131.7
62.5°	124.5	123.7	122.9	122.3	122.0	121.7	121.4	121.0
65°	108.3	107.6	106.9	106.3	105.9	105.5	105.1	104.7
67.5°	92.4	91.8	91.3	90.8	90.5	90.2	89.8	89.5
70°	82.0	81.4	80.9	80.5	80.2	79.8	79.5	79.1
72.5°	72.2	71.7	71.1	70.7	70.4	70.2	69.9	69.6
75°	57.0	56.5	56.0	55.8	56.0	56.2	56.3	56.5
77.5°	43.3	43.1	42.9	42.6	42.4	42.2	42.0	41.7
80°	34.5	34.2	34.0	33.7	33.6	33.4	33.3	33.1
82.5°	25.7	25.3	25.0	24.9	24.9	24.8	24.8	24.8
85°	13.5	13.3	13.1	12.9	12.8	12.8	12.7	12.6
87.5°	5.5	5.4	5.3	5.2	5.2	5.1	5.1	5.1
90°	9.2	9.7	10.1	10.5	10.6	10.8	11.0	11.2
92.5°	10.1	10.3	10.5	10.7	10.9	10.9	11.1	11.2
95°	17.0	17.5	18.0	18.1	18.1	18.0	17.9	17.7
97.5°	22.3	22.7	23.1	23.3	23.4	23.5	23.6	23.8
100°	25.0	25.7	26.5	26.9	27.2	27.3	27.5	27.7
102.5°	26.1	27.1	28.0	28.7	28.9	29.2	29.4	29.7
105°	27.3	28.3	29.2	29.9	30.3	30.7	31.1	31.4
107.5°	33.3	32.2	31.2	30.9	31.2	31.6	31.9	32.3
110°	53.9	44.8	35.6	31.2	31.5	31.9	32.3	32.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	115.4	81.9	48.4	31.8	32.1	32.4	32.7	33.0
115°	170.0	127.5	84.9	60.4	53.7	47.1	40.5	33.9
117.5°	262.0	251.7	241.4	225.4	203.6	181.9	160.2	138.4
120°	305.2	306.3	307.4	301.8	289.4	277.0	264.6	252.2
122.5°	323.8	324.6	325.2	324.3	321.9	319.5	317.1	314.7
125°	350.6	351.3	351.9	352.4	352.7	352.9	353.2	353.5
127.5°	375.3	376.3	377.2	377.7	377.8	377.9	377.9	378.0
130°	391.0	392.1	393.1	393.6	393.4	393.3	393.2	393.2
132.5°	406.3	407.2	408.1	408.4	408.3	408.2	408.1	408.1
135°	428.1	429.0	429.9	430.3	430.1	429.9	429.8	429.5
137.5°	448.3	449.2	450.1	450.4	450.0	449.7	449.5	449.2
140°	461.4	462.2	463.0	463.2	462.7	462.3	461.8	461.4
142.5°	473.5	474.2	475.0	475.2	474.7	474.2	473.7	473.2
145°	490.4	491.0	491.6	491.7	491.3	490.8	490.4	489.9
147.5°	505.1	505.6	506.0	506.0	505.7	505.3	504.9	504.5
150°	514.1	514.7	515.2	515.3	514.8	514.4	513.9	513.5
152.5°	522.4	523.0	523.6	523.5	522.9	522.3	521.7	521.1
155°	533.6	534.2	534.7	534.6	533.9	533.1	532.4	531.6
157.5°	543.0	543.6	544.2	544.2	543.4	542.7	542.0	541.3
160°	548.4	549.0	549.5	549.5	548.9	548.3	547.6	546.9
162.5°	553.6	554.2	554.8	554.8	554.0	553.2	552.4	551.6
165°	559.8	560.5	561.1	561.1	560.5	559.8	559.2	558.5
167.5°	565.0	565.7	566.3	566.3	565.4	564.6	563.7	562.9
170°	567.7	568.3	568.9	568.9	568.0	567.2	566.4	565.5
172.5°	569.7	570.3	570.9	570.8	570.1	569.2	568.4	567.5
175°	571.8	572.4	573.1	573.0	572.0	571.1	570.2	569.3
177.5°	572.0	572.6	573.1	573.0	572.4	571.6	571.0	570.4
180°	571.3	571.3	571.3	571.3	571.3	571.3	571.3	571.3

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