

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: P331288-840

Luminaire Tested: **S122DIP-S485D330U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331288-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S485D330U840-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3308.9 lumens  
Efficiency: N/A  
Efficacy: 120.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

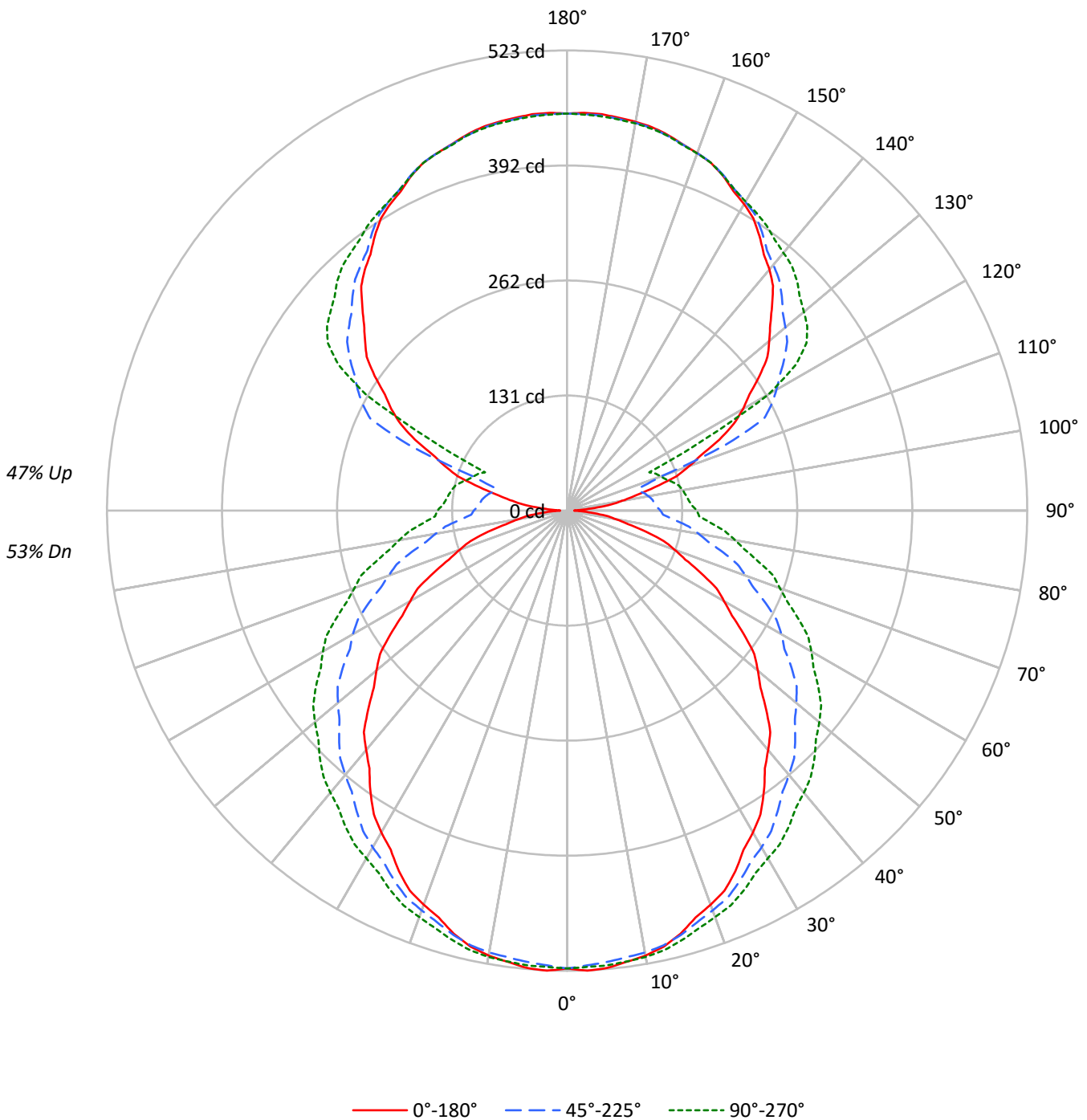
Input Watts (W): 27.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331288-840

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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	97	92	87	83	89	85	81	78	72	69	67	61	58	56	50	48	47	42
2	88	79	72	67	81	73	67	62	62	58	54	52	49	46	43	40	38	34
3	80	69	61	55	73	64	57	51	55	49	45	46	42	38	37	34	32	28
4	73	61	52	46	67	57	49	43	48	42	38	40	36	32	33	30	27	23
5	66	54	45	39	61	50	42	37	43	37	32	36	31	28	30	26	23	20
6	61	48	40	34	56	45	37	32	39	32	28	32	28	24	27	23	20	17
7	56	44	35	29	52	41	33	28	35	29	24	29	25	21	24	21	18	15
8	52	39	31	26	48	37	29	24	32	26	22	27	22	19	22	19	16	14
9	49	36	28	23	45	34	27	22	29	23	19	25	20	17	21	17	14	12
10	45	33	25	21	42	31	24	19	27	21	17	23	18	15	19	16	13	11

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

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.3	1.5
10°-20°	141.4	4.3
20°-30°	214.3	6.5
30°-40°	261.0	7.9
40°-50°	280.8	8.5
50°-60°	272.7	8.2
60°-70°	238.1	7.2
70°-80°	183.3	5.5
80°-90°	124.1	3.8
90°-100°	99.8	3.0
100°-110°	117.1	3.5
110°-120°	188.4	5.7
120°-130°	266.4	8.1
130°-140°	268.6	8.1
140°-150°	242.4	7.3
150°-160°	193.6	5.8
160°-170°	124.7	3.8
170°-180°	42.9	1.3
0°-30°	405.0	12.2
0°-40°	666.0	20.1
0°-60°	1219.4	36.9
0°-90°	1764.9	53.3
90°-120°	405.3	12.2
90°-150°	1182.7	35.7
90°-180°	1544.0	46.7
0°-180°	3308.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	8	55	106	137	148	6
95°	27	53	100	129	138	31
105°	103	130	85	114	124	110
115°	191	206	247	124	103	188
125°	267	273	302	323	332	238
135°	329	335	345	363	369	254
145°	381	381	386	393	395	238
155°	420	417	420	422	420	193
165°	442	440	441	443	441	125
175°	452	450	451	453	450	43
180°	451	451	451	451	451	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	14.8	25.0	35.1	45.3	55.4	65.9	76.7	87.7	98.5	109.3	116.2
90°	7.9	18.4	28.9	39.4	50.0	60.9	72.2	83.5	94.8	106.0	113.1
92.5°	13.5	22.5	31.5	40.5	49.5	59.3	69.9	80.5	91.1	101.7	108.5
95°	27.3	32.7	38.2	43.7	49.2	57.3	67.8	78.4	88.9	99.5	106.2
97.5°	47.4	47.7	47.9	48.2	48.5	53.9	64.8	75.6	86.4	97.3	103.8
100°	63.1	59.4	55.6	51.8	48.1	51.6	62.2	72.8	83.4	94.0	100.8
102.5°	79.7	83.3	86.8	90.4	93.9	95.1	93.9	92.7	91.5	90.3	97.1
105°	103.0	110.1	117.1	124.1	131.2	129.2	118.1	106.9	95.8	84.8	91.4
107.5°	130.5	136.1	141.8	147.4	153.1	148.2	132.8	117.3	102.0	86.5	91.4
110°	147.6	152.6	157.4	162.3	167.1	163.2	150.5	137.7	124.9	112.2	110.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	164.4	168.5	172.7	176.9	181.1	184.4	187.0	189.7	192.4	195.0	173.9
115°	190.8	193.8	196.9	200.0	203.1	209.2	218.6	228.0	237.3	246.7	218.1
117.5°	213.6	216.2	218.7	221.4	223.9	229.3	237.5	245.8	254.0	262.2	259.0
120°	230.9	232.6	234.4	236.1	237.8	242.8	250.7	258.7	266.8	274.8	280.3
122.5°	245.5	246.9	248.3	249.7	251.2	255.7	263.4	271.1	278.8	286.6	291.6
125°	267.0	267.9	268.8	269.8	270.7	274.6	281.3	288.1	294.8	301.5	306.6
127.5°	287.1	288.0	288.9	289.7	290.6	293.8	299.1	304.5	309.8	315.2	320.1
130°	299.9	300.9	301.9	303.0	304.0	306.6	310.9	315.2	319.5	323.9	328.7
132.5°	313.0	313.9	314.7	315.5	316.3	318.4	321.9	325.5	329.0	332.5	337.1
135°	329.2	330.4	331.5	332.8	333.9	335.6	337.9	340.3	342.6	345.0	349.2
137.5°	346.4	347.2	348.0	348.7	349.5	350.6	352.1	353.7	355.1	356.6	360.3
140°	357.6	358.1	358.5	358.9	359.3	360.0	361.2	362.3	363.5	364.6	367.9
142.5°	367.1	367.4	367.8	368.1	368.5	369.1	370.1	371.1	372.0	373.0	375.8
145°	381.0	381.0	380.9	380.8	380.7	381.3	382.5	383.8	385.1	386.3	387.8
147.5°	393.9	393.6	393.3	393.0	392.8	393.2	394.5	395.8	397.0	398.2	398.7
150°	402.2	401.7	401.2	400.7	400.2	400.6	401.7	402.9	404.0	405.3	405.7
152.5°	409.3	408.8	408.2	407.6	407.1	407.3	408.4	409.5	410.6	411.7	412.1
155°	419.6	418.9	418.3	417.6	417.0	417.1	418.0	418.8	419.7	420.5	421.0
157.5°	427.6	427.1	426.5	426.0	425.4	425.5	426.1	426.7	427.3	427.9	428.4
160°	432.3	431.9	431.4	431.0	430.6	430.6	431.0	431.4	431.9	432.3	432.7
162.5°	436.5	436.1	435.7	435.2	434.7	434.7	435.0	435.5	435.9	436.3	436.8
165°	442.1	441.7	441.2	440.8	440.4	440.3	440.5	440.7	440.9	441.1	441.6
167.5°	446.3	445.9	445.5	444.9	444.5	444.4	444.6	444.8	445.0	445.2	445.8
170°	448.7	448.2	447.8	447.4	446.9	446.8	446.9	447.1	447.2	447.4	447.9
172.5°	450.2	449.8	449.3	448.9	448.5	448.3	448.5	448.6	448.8	448.9	449.4
175°	452.2	451.7	451.2	450.7	450.2	450.0	450.2	450.3	450.5	450.6	451.1
177.5°	452.5	452.1	451.7	451.3	450.9	450.8	450.8	450.9	450.9	451.0	451.4
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	123.1	130.1	136.9	141.5	143.7	145.8	148.0	150.2
90°	120.2	127.2	134.3	139.0	141.1	143.3	145.4	147.5
92.5°	115.2	122.0	128.8	133.2	135.2	137.3	139.5	141.6
95°	112.9	119.7	126.4	130.8	132.7	134.6	136.5	138.5
97.5°	110.3	116.7	123.3	127.5	129.6	131.7	133.7	135.8
100°	107.6	114.4	121.2	125.5	127.5	129.6	131.5	133.5
102.5°	104.0	110.8	117.6	122.1	124.1	126.1	128.2	130.3
105°	98.1	104.7	111.4	115.8	118.0	120.1	122.2	124.4
107.5°	96.2	101.0	105.8	109.3	111.5	113.6	115.7	117.9
110°	108.5	106.5	104.6	104.7	106.8	109.0	111.2	113.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	152.8	131.7	110.6	101.0	103.1	105.1	107.2	109.4
115°	189.6	161.0	132.5	116.4	113.1	109.7	106.3	102.9
117.5°	255.9	252.7	249.5	240.2	224.8	209.3	193.9	178.4
120°	285.9	291.4	297.0	295.9	287.9	279.9	272.0	264.1
122.5°	296.7	301.8	306.9	309.3	308.9	308.6	308.3	308.0
125°	311.6	316.7	321.6	325.1	326.8	328.5	330.2	331.9
127.5°	325.0	329.9	334.8	338.0	339.5	341.0	342.5	344.1
130°	333.5	338.3	343.2	346.2	347.4	348.7	350.0	351.2
132.5°	341.6	346.2	350.8	353.7	355.0	356.3	357.5	358.8
135°	353.5	357.7	361.9	364.7	365.9	367.0	368.2	369.4
137.5°	364.2	368.0	371.7	374.1	375.0	375.9	376.8	377.7
140°	371.2	374.6	377.9	379.9	380.5	381.2	381.8	382.5
142.5°	378.5	381.3	384.1	385.7	386.2	386.7	387.2	387.7
145°	389.3	390.8	392.3	393.3	393.7	394.3	394.8	395.3
147.5°	399.2	399.7	400.2	400.5	400.6	400.7	400.8	400.9
150°	406.1	406.5	407.0	407.0	406.7	406.3	405.9	405.6
152.5°	412.6	413.0	413.4	413.4	412.9	412.5	412.0	411.5
155°	421.4	421.8	422.3	422.2	421.6	421.1	420.5	419.9
157.5°	428.9	429.4	429.8	429.8	429.2	428.7	428.1	427.6
160°	433.2	433.6	434.0	434.0	433.5	433.0	432.5	432.0
162.5°	437.2	437.7	438.2	438.2	437.5	436.9	436.3	435.7
165°	442.1	442.6	443.1	443.1	442.6	442.1	441.6	441.1
167.5°	446.3	446.8	447.3	447.2	446.6	445.9	445.2	444.5
170°	448.4	448.9	449.4	449.3	448.7	448.0	447.4	446.7
172.5°	449.9	450.4	450.9	450.9	450.2	449.6	448.9	448.3
175°	451.6	452.1	452.6	452.5	451.8	451.1	450.3	449.6
177.5°	451.8	452.2	452.6	452.5	452.0	451.5	451.0	450.5
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2

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