

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: P331380-927

Luminaire Tested: **S122DIP-S865D330U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331380-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D330U927-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3781.3 lumens  
Efficiency: N/A  
Efficacy: 86.9 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: Semi-Direct

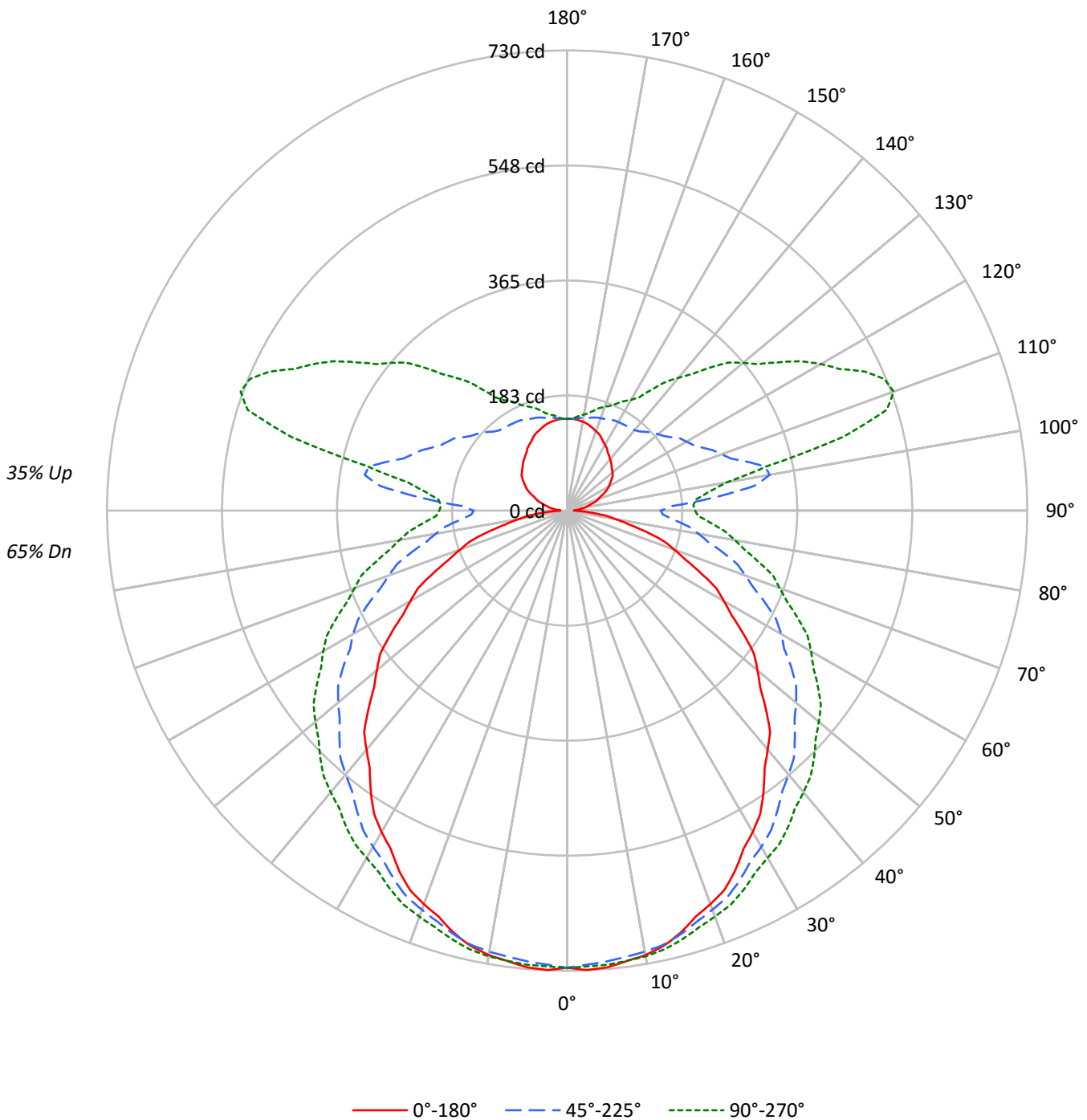
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	99	94	89	85	93	88	84	80	78	74	71	68	65	63	59	57	55	51
2	90	81	74	68	84	76	70	64	67	62	58	58	55	51	51	48	45	41
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	41	37	34
4	74	62	53	47	69	58	51	44	52	45	40	45	40	36	39	35	32	28
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21
7	58	45	36	30	54	42	34	29	37	31	26	33	28	24	29	24	21	19
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16
9	50	37	29	24	47	35	28	23	31	25	21	28	22	19	24	20	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	18	15	13

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

	0°	45°	90°
0°	11711	11711	11711
5°	11768	11274	11230
10°	11694	10940	10818
15°	11533	10587	10382
20°	11328	10209	9963
25°	11128	9845	9582
30°	10845	9471	9201
35°	10557	9109	8932
40°	10256	8801	8662
45°	9969	8526	8433
50°	9662	8276	8207
55°	9341	8008	7975
60°	8945	7730	7732
65°	8536	7405	7441
70°	8073	7053	7130
75°	7484	6710	6841
80°	6553	6361	6548
85°	5671	6056	6323



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.7	1.8
10°-20°	197.1	5.2
20°-30°	298.7	7.9
30°-40°	363.8	9.6
40°-50°	391.3	10.3
50°-60°	380.0	10.1
60°-70°	331.8	8.8
70°-80°	255.5	6.8
80°-90°	172.8	4.6
90°-100°	176.3	4.7
100°-110°	283.7	7.5
110°-120°	266.8	7.1
120°-130°	204.5	5.4
130°-140°	152.0	4.0
140°-150°	107.1	2.8
150°-160°	73.7	1.9
160°-170°	43.4	1.1
170°-180°	14.1	0.4
0°-30°	564.5	14.9
0°-40°	928.2	24.5
0°-60°	1699.6	44.9
0°-90°	2459.7	65.0
90°-120°	726.8	19.2
90°-150°	1190.5	31.5
90°-180°	1322.0	35.0
0°-180°	3781.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	727	724	718	724	723	69
15°	694	696	696	705	704	195
25°	631	638	648	660	663	290
35°	543	562	581	604	612	340
45°	446	475	511	542	554	344
55°	342	380	434	471	486	305
65°	233	286	347	388	404	232
75°	129	189	255	299	314	137
85°	38	103	170	213	229	41
90°	11	76	148	188	203	8
95°	18	83	231	201	205	17
105°	39	89	298	496	454	42
115°	64	94	237	452	521	63
125°	86	103	203	353	410	77
135°	100	119	176	277	321	77
145°	112	129	164	210	234	71
155°	128	138	159	180	187	59
165°	139	144	153	162	164	39
175°	145	145	147	148	148	14
180°	146	146	146	146	146	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	729.5	729.0	728.4	727.9	727.3	726.4	725.0	723.7	722.4	721.1	722.1
5°	727.4	726.7	726.0	725.3	724.6	723.6	722.2	720.7	719.4	718.0	719.4
7.5°	720.9	720.4	719.9	719.5	719.1	718.3	717.2	716.1	715.0	714.0	715.7
10°	715.9	715.4	714.9	714.5	714.0	713.4	712.7	712.0	711.3	710.6	712.5
12.5°	707.4	707.6	707.7	707.7	707.8	707.6	707.1	706.5	706.1	705.5	707.4
15°	693.8	694.3	694.7	695.2	695.6	695.9	695.9	695.9	695.9	695.9	698.0
17.5°	676.1	677.1	678.1	679.1	680.0	680.9	681.7	682.4	683.2	683.9	686.1
20°	664.3	665.5	666.7	667.9	669.0	670.1	671.0	671.9	672.9	673.8	676.4
22.5°	651.7	653.1	654.4	655.8	657.1	658.5	659.8	661.1	662.4	663.7	666.3
25°	630.7	632.3	634.0	635.6	637.2	639.1	641.2	643.3	645.4	647.5	650.3
27.5°	605.5	608.2	610.8	613.5	616.2	618.7	621.2	623.7	626.1	628.6	632.2
30°	588.7	591.7	594.8	597.8	600.8	603.9	606.9	609.9	613.0	616.0	619.7
32.5°	570.1	573.5	576.9	580.4	583.8	587.3	590.9	594.5	598.1	601.7	606.0
35°	543.4	547.4	551.4	555.4	559.4	563.6	568.0	572.4	576.9	581.3	586.5
37.5°	514.4	519.0	523.6	528.1	532.7	537.9	543.7	549.5	555.2	560.9	566.6
40°	495.1	500.3	505.4	510.6	515.6	521.4	527.7	534.0	540.3	546.6	552.7
42.5°	476.6	481.7	486.9	492.0	497.2	503.4	510.6	517.8	525.1	532.3	538.9
45°	445.7	452.0	458.3	464.6	471.0	478.2	486.3	494.6	502.7	510.9	518.1
47.5°	415.2	422.1	429.0	435.9	442.7	450.9	460.5	470.1	479.7	489.3	496.8
50°	394.2	401.4	408.7	415.9	423.2	432.1	442.5	453.0	463.6	474.1	482.0
52.5°	374.0	381.6	389.3	396.9	404.5	413.8	424.9	435.9	447.0	458.1	466.2
55°	341.7	350.1	358.5	366.9	375.3	385.6	397.7	409.9	422.0	434.1	442.5
57.5°	309.7	319.2	328.7	338.1	347.6	358.5	370.9	383.3	395.7	408.1	417.2
60°	287.0	297.0	307.0	317.1	327.2	338.8	352.1	365.4	378.7	392.1	401.0
62.5°	266.8	277.2	287.6	298.0	308.5	320.4	333.7	347.0	360.3	373.6	383.0
65°	233.4	244.8	256.3	267.7	279.2	291.8	305.5	319.3	333.1	346.9	356.5
67.5°	202.6	214.6	226.6	238.5	250.5	263.6	277.7	291.8	305.9	320.0	329.6
70°	180.8	193.0	205.1	217.2	229.4	242.7	257.2	271.6	286.1	300.6	310.7
72.5°	160.7	173.2	185.7	198.2	210.7	224.3	239.0	253.7	268.3	283.0	292.9
75°	129.3	142.4	155.4	168.6	181.6	195.7	210.6	225.5	240.5	255.4	265.5
77.5°	99.0	112.7	126.4	140.1	153.8	168.2	183.4	198.6	213.7	228.9	238.9
80°	78.8	93.1	107.3	121.6	135.9	150.5	165.7	180.9	196.1	211.3	221.1
82.5°	62.0	76.0	90.2	104.2	118.3	133.0	148.4	163.7	179.1	194.5	204.3
85°	37.9	52.4	66.8	81.3	95.8	110.5	125.4	140.4	155.3	170.3	180.1
87.5°	20.7	34.8	48.9	62.9	77.0	91.6	106.8	122.2	137.4	152.4	161.9
90°	10.8	25.2	39.8	53.9	68.0	83.2	99.5	116.5	133.0	148.3	157.3
92.5°	13.1	27.2	41.8	55.7	70.2	86.3	107.0	130.3	152.7	167.5	171.1
95°	18.2	30.3	44.0	57.6	73.0	92.3	119.1	157.5	204.0	230.6	225.8
97.5°	23.3	34.6	47.3	60.9	75.8	95.1	124.7	172.1	239.5	299.1	317.0
100°	28.9	38.4	49.6	62.7	76.9	95.6	123.5	170.8	244.3	326.2	375.2
102.5°	33.2	41.7	52.1	64.5	78.3	96.4	122.8	165.9	234.6	321.5	393.3
105°	39.4	47.3	56.0	67.0	79.9	97.2	122.6	159.6	217.9	297.8	380.4
107.5°	47.3	53.6	60.9	70.2	81.7	98.2	122.6	155.9	205.7	273.3	346.9
110°	51.8	57.6	63.9	72.2	82.8	98.9	122.7	154.3	199.9	260.6	326.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	56.7	61.8	67.6	74.9	84.5	100.2	123.0	152.9	194.8	249.9	309.4
115°	64.4	68.4	72.6	78.5	86.7	100.8	123.3	150.9	188.6	236.6	287.9
117.5°	71.3	74.1	77.5	82.1	89.1	102.7	123.6	149.2	182.8	225.4	270.8
120°	76.2	78.3	80.9	84.4	90.9	103.9	124.1	148.5	179.4	218.7	260.9
122.5°	80.9	82.1	84.2	87.4	93.3	106.0	125.0	147.7	176.5	212.8	251.8
125°	86.1	86.9	88.6	92.0	97.5	109.1	126.7	146.7	171.6	202.6	237.7
127.5°	91.0	91.9	94.0	97.4	102.6	113.6	129.4	146.7	167.9	194.0	224.6
130°	93.9	94.8	97.4	101.1	106.4	116.6	131.3	146.8	165.7	188.5	215.9
132.5°	96.6	97.7	100.5	104.4	110.0	119.6	132.8	146.9	163.6	183.3	208.0
135°	99.6	100.7	104.1	108.3	114.7	123.7	135.0	147.1	160.7	176.4	197.3
137.5°	103.4	104.6	108.0	112.4	118.7	126.5	136.4	146.6	157.8	170.2	188.0
140°	106.3	107.2	110.3	114.5	120.5	127.9	136.7	145.8	155.8	166.7	182.4
142.5°	109.2	109.9	112.8	117.0	122.7	129.4	137.8	146.3	155.2	165.0	178.5
145°	112.5	113.7	116.5	120.6	126.3	132.4	140.0	147.8	155.6	164.0	174.4
147.5°	117.2	118.0	120.7	124.6	129.3	134.8	141.9	148.8	155.8	163.0	171.0
150°	120.3	121.2	123.4	127.1	131.3	136.3	142.8	149.2	155.6	162.3	169.1
152.5°	123.5	123.9	126.1	129.3	133.3	137.8	143.6	149.4	155.2	161.2	167.5
155°	127.9	128.2	129.8	132.9	136.0	140.2	145.0	149.7	154.5	159.2	164.6
157.5°	131.6	131.9	133.2	135.9	138.4	141.9	145.9	149.7	153.2	157.2	161.8
160°	134.0	134.4	135.5	137.7	140.0	143.1	146.4	149.7	152.6	155.9	159.8
162.5°	136.6	136.3	137.5	139.3	141.3	143.7	146.6	149.5	151.9	154.8	158.0
165°	139.4	139.1	139.7	141.3	142.8	144.4	146.9	148.9	150.6	152.6	155.0
167.5°	141.7	141.4	141.9	143.0	144.0	145.0	146.9	148.5	149.3	150.6	152.2
170°	143.3	142.8	143.1	143.9	144.4	145.3	146.6	148.1	148.6	149.5	150.6
172.5°	144.2	143.9	143.7	144.6	144.9	145.5	146.5	147.4	147.7	148.1	149.0
175°	145.3	145.0	144.7	145.3	145.3	145.5	146.1	146.6	146.4	146.6	146.9
177.5°	145.8	145.3	145.1	145.5	145.5	145.5	145.8	146.2	145.8	145.5	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
2.5°	722.9	723.9	724.8	725.2	724.8	724.4	724.0	723.7
5°	720.7	722.2	723.6	724.1	723.9	723.7	723.4	723.2
7.5°	717.3	719.0	720.7	721.4	721.2	721.0	720.7	720.5
10°	714.3	716.2	718.1	718.9	718.7	718.4	718.2	718.0
12.5°	709.3	711.1	713.0	713.8	713.6	713.4	713.1	712.9
15°	700.1	702.2	704.3	705.2	705.0	704.7	704.5	704.3
17.5°	688.3	690.5	692.7	693.8	693.8	693.8	693.8	693.8
20°	679.0	681.5	684.0	685.4	685.4	685.4	685.4	685.4
22.5°	668.8	671.5	674.0	675.5	675.8	676.2	676.6	677.0
25°	653.2	655.9	658.8	660.5	661.2	661.9	662.6	663.3
27.5°	635.7	639.3	642.8	644.8	645.4	645.9	646.4	646.9
30°	623.4	627.2	631.0	633.2	633.8	634.5	635.3	636.0
32.5°	610.3	614.6	618.9	621.7	622.9	624.2	625.4	626.7
35°	591.6	596.8	601.9	605.2	606.9	608.6	610.1	611.8
37.5°	572.3	578.0	583.7	587.4	589.1	590.9	592.6	594.4
40°	558.7	564.8	570.9	575.0	577.1	579.2	581.3	583.4
42.5°	545.6	552.2	558.9	563.2	565.3	567.4	569.5	571.6
45°	525.4	532.6	539.9	544.6	547.0	549.3	551.7	554.0
47.5°	504.4	511.9	519.5	524.6	527.1	529.7	532.3	534.9
50°	490.0	497.9	505.9	511.1	513.7	516.3	518.8	521.4
52.5°	474.4	482.5	490.6	496.1	498.8	501.6	504.3	507.1
55°	451.0	459.4	467.8	473.5	476.5	479.6	482.6	485.6
57.5°	426.2	435.2	444.3	450.4	453.4	456.5	459.6	462.7
60°	409.9	418.7	427.6	433.6	437.0	440.2	443.5	446.8
62.5°	392.4	401.9	411.3	417.6	420.6	423.7	426.8	429.9
65°	366.1	375.7	385.2	391.5	394.5	397.6	400.6	403.6
67.5°	339.3	349.0	358.7	365.1	368.3	371.5	374.6	377.8
70°	320.8	330.7	340.8	347.2	350.1	352.8	355.7	358.5
72.5°	302.7	312.5	322.4	329.0	332.4	335.7	339.1	342.5
75°	275.5	285.6	295.6	302.1	305.2	308.2	311.2	314.3
77.5°	249.0	259.0	268.9	275.6	278.8	282.1	285.4	288.7
80°	230.9	240.7	250.6	257.1	260.3	263.6	266.9	270.1
82.5°	214.1	223.9	233.7	240.2	243.3	246.3	249.4	252.5
85°	189.9	199.7	209.5	216.1	219.4	222.6	225.9	229.2
87.5°	171.3	180.8	190.4	196.8	199.8	202.7	205.7	208.7
90°	166.4	175.2	185.1	191.5	194.2	197.0	199.9	202.6
92.5°	173.9	179.6	186.4	190.7	193.2	195.1	198.1	200.5
95°	212.0	203.7	200.9	200.6	199.7	200.3	202.2	205.3
97.5°	300.2	277.8	256.1	241.6	231.0	226.9	225.5	225.9
100°	378.0	351.9	322.2	293.9	273.2	263.8	258.3	255.8
102.5°	427.0	427.6	408.1	377.6	355.0	337.0	329.5	325.2
105°	446.9	486.6	498.4	494.6	479.8	465.0	455.6	454.2
107.5°	416.5	472.0	509.0	527.7	532.4	534.1	534.2	531.6
110°	392.6	450.1	493.5	521.4	536.1	543.9	549.0	551.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	370.1	425.7	471.4	502.8	522.1	533.5	540.9	544.9
115°	341.0	391.2	434.8	468.4	490.9	506.4	516.2	521.3
117.5°	316.9	361.6	401.8	433.5	456.1	472.1	482.2	486.7
120°	303.5	344.8	381.0	411.0	433.2	448.9	459.5	464.9
122.5°	292.0	330.2	364.6	391.9	411.7	426.8	436.3	440.8
125°	274.5	309.7	340.6	365.8	384.1	396.9	406.0	410.3
127.5°	257.2	289.1	318.1	341.4	357.7	369.7	377.8	381.6
130°	246.2	275.9	303.6	325.8	341.4	352.8	360.3	364.4
132.5°	235.4	263.2	288.8	309.9	325.2	336.6	343.6	347.5
135°	220.4	243.8	267.1	286.2	300.1	311.2	318.1	321.1
137.5°	207.1	226.8	245.8	262.4	275.0	284.5	290.5	293.7
140°	198.8	215.9	232.6	247.5	257.9	266.5	272.1	275.2
142.5°	192.5	206.9	220.9	233.4	243.1	250.9	255.9	257.5
145°	184.4	195.1	205.2	214.6	222.4	228.4	232.3	234.3
147.5°	178.6	186.1	193.1	199.3	205.4	209.8	212.3	213.3
150°	175.8	182.0	187.8	192.8	197.0	200.4	202.1	202.4
152.5°	173.3	179.0	184.0	188.4	191.7	194.6	195.8	195.9
155°	169.9	174.4	178.6	181.6	184.7	186.7	187.8	187.3
157.5°	166.0	169.7	173.2	175.6	177.8	179.4	179.9	179.9
160°	163.4	166.5	169.6	171.6	173.6	174.9	175.2	175.2
162.5°	161.0	163.7	166.3	167.8	169.8	170.7	171.0	170.7
165°	157.3	159.2	161.2	162.3	163.4	164.6	164.6	164.3
167.5°	153.8	155.3	156.6	157.6	158.1	158.8	158.7	158.4
170°	152.0	152.8	153.9	154.5	154.8	155.6	155.3	154.8
172.5°	150.0	150.6	151.5	151.8	152.1	152.5	152.2	151.9
175°	147.8	148.1	148.4	148.6	148.6	148.9	148.6	148.1
177.5°	146.2	146.2	146.5	146.5	146.5	146.5	146.2	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5

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