

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: P331870-940

Luminaire Tested: **S123DIP-S340D365U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331870-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D365U940-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2454.1 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

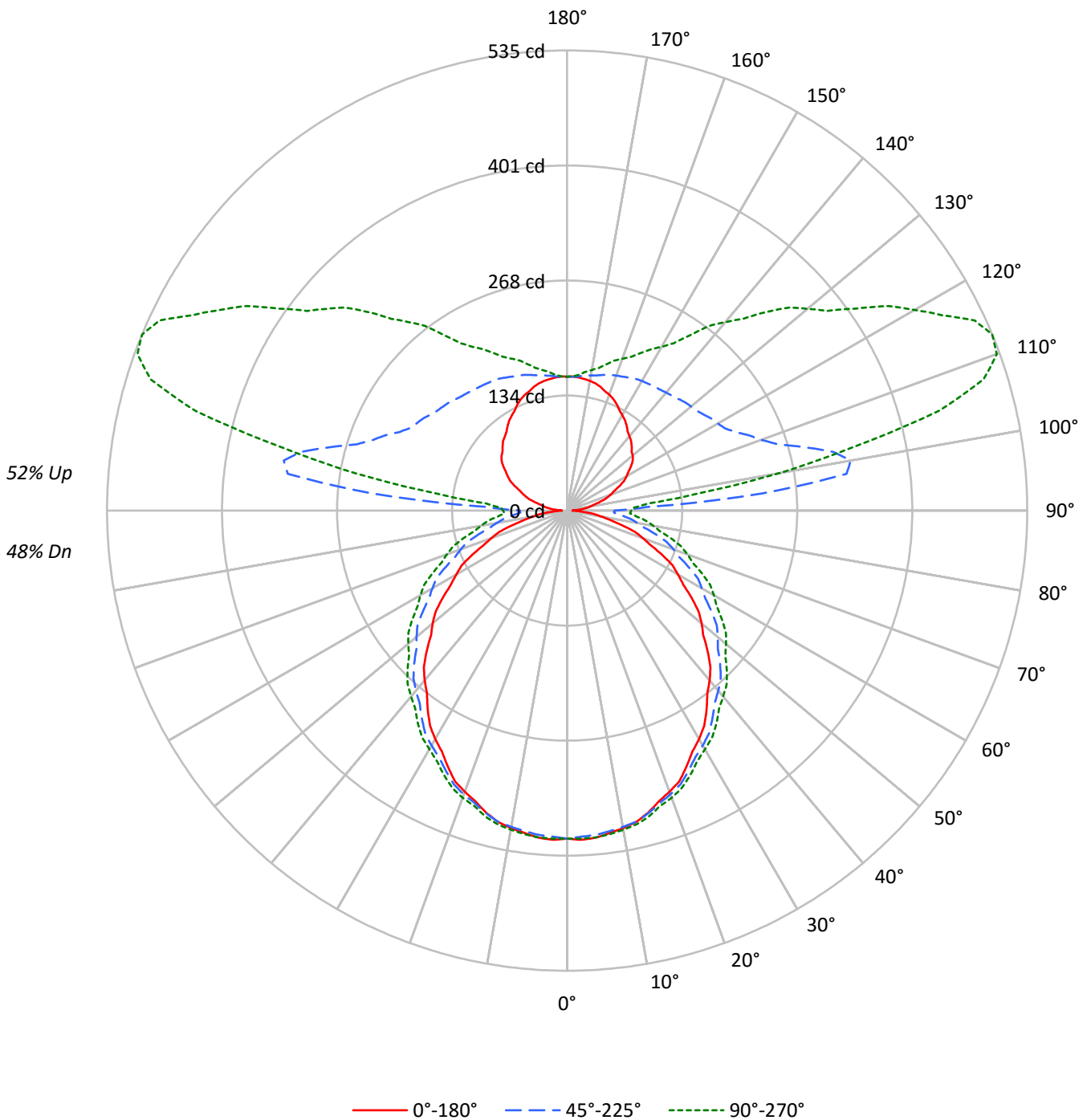
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	96	92	87	83	88	84	81	77	70	68	65	58	56	54	46	45	44	38
2	87	79	73	67	80	73	67	63	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	73	64	57	52	54	49	44	44	40	37	35	33	30	26
4	72	61	53	47	66	56	49	44	47	42	38	39	35	32	31	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	25	22	20	17
7	56	44	36	30	52	41	33	28	34	29	24	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	15	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4105	4105	4105
5°	4118	4002	4004
10°	4082	3910	3890
15°	4029	3805	3766
20°	3954	3686	3630
25°	3860	3549	3485
30°	3767	3425	3339
35°	3659	3294	3223
40°	3557	3175	3098
45°	3445	3060	2998
50°	3333	2947	2888
55°	3211	2831	2789
60°	3090	2713	2689
65°	2967	2588	2567
70°	2783	2448	2443
75°	2551	2287	2318
80°	2278	2128	2175
85°	2025	2018	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	1.5
10°-20°	103.1	4.2
20°-30°	154.2	6.3
30°-40°	184.1	7.5
40°-50°	192.6	7.8
50°-60°	180.7	7.4
60°-70°	151.0	6.2
70°-80°	108.0	4.4
80°-90°	65.6	2.7
90°-100°	127.0	5.2
100°-110°	275.0	11.2
110°-120°	261.1	10.6
120°-130°	203.8	8.3
130°-140°	156.8	6.4
140°-150°	114.4	4.7
150°-160°	79.0	3.2
160°-170°	46.4	1.9
170°-180°	15.1	0.6
0°-30°	293.4	12.0
0°-40°	477.5	19.5
0°-60°	850.9	34.7
0°-90°	1175.5	47.9
90°-120°	663.2	27.0
90°-150°	1138.2	46.4
90°-180°	1279.0	52.1
0°-180°	2454.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	382	381	378	382	381	36
15°	364	365	364	368	368	102
25°	328	332	334	339	339	151
35°	282	289	295	301	302	177
45°	231	241	251	259	263	178
55°	176	190	205	216	219	158
65°	122	138	156	168	173	120
75°	66	86	106	120	125	71
85°	20	41	63	77	81	21
90°	6	30	55	69	74	4
95°	15	56	228	108	95	15
105°	40	68	284	485	447	42
115°	67	88	216	457	523	66
125°	91	108	194	349	409	81
135°	106	126	183	282	326	82
145°	120	138	176	225	249	75
155°	136	147	170	194	202	63
165°	149	153	163	173	176	42
175°	155	156	157	159	158	15
180°	156	156	156	156	156	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	383.1	382.9	382.6	382.5	382.2	381.8	381.2	380.6	380.0	379.4	380.0
5°	381.8	381.7	381.5	381.3	381.1	380.8	380.1	379.6	379.1	378.5	379.2
7.5°	378.1	378.2	378.2	378.2	378.3	378.0	377.5	376.9	376.4	375.9	376.7
10°	374.8	375.0	375.1	375.3	375.5	375.4	374.9	374.4	374.0	373.5	374.4
12.5°	370.8	371.0	371.3	371.6	371.8	371.8	371.5	371.1	370.9	370.5	371.4
15°	363.6	363.8	364.1	364.4	364.6	364.8	364.6	364.5	364.4	364.4	365.3
17.5°	354.5	355.0	355.5	356.1	356.6	356.9	356.9	356.8	356.8	356.8	357.6
20°	347.8	348.3	348.8	349.5	350.0	350.4	350.5	350.7	350.9	351.1	352.0
22.5°	340.8	341.3	341.9	342.4	343.0	343.4	343.7	343.9	344.2	344.5	345.5
25°	328.2	329.1	330.1	331.0	331.9	332.5	332.8	333.1	333.3	333.7	334.8
27.5°	315.6	316.6	317.7	318.8	319.9	320.7	321.2	321.8	322.4	323.0	324.0
30°	306.7	307.8	309.1	310.2	311.5	312.4	313.2	313.9	314.6	315.4	316.5
32.5°	296.7	298.0	299.3	300.7	302.0	303.2	304.2	305.1	306.1	307.0	308.3
35°	282.5	284.0	285.5	287.0	288.5	289.8	291.0	292.2	293.4	294.6	296.0
37.5°	267.6	269.2	270.9	272.6	274.2	275.8	277.2	278.7	280.3	281.7	283.3
40°	257.6	259.3	260.9	262.6	264.2	266.0	267.9	269.7	271.5	273.4	275.0
42.5°	246.6	248.7	250.7	252.7	254.8	256.7	258.7	260.6	262.5	264.4	266.2
45°	231.0	233.3	235.4	237.6	239.9	242.1	244.4	246.7	249.1	251.4	253.2
47.5°	214.6	217.1	219.6	222.2	224.7	227.3	229.9	232.6	235.1	237.8	239.8
50°	204.0	206.6	209.2	211.8	214.4	217.0	219.9	222.8	225.7	228.5	230.7
52.5°	192.7	195.5	198.1	200.9	203.7	206.6	209.7	212.9	216.1	219.2	221.4
55°	176.2	179.2	182.3	185.3	188.3	191.5	194.8	198.2	201.5	204.8	207.3
57.5°	160.1	163.2	166.4	169.6	172.7	176.2	179.8	183.4	187.1	190.7	193.2
60°	148.7	152.0	155.4	158.7	162.0	165.6	169.4	173.2	176.9	180.7	183.3
62.5°	138.1	141.5	144.9	148.3	151.7	155.4	159.4	163.5	167.5	171.5	174.0
65°	121.7	125.4	128.9	132.5	136.2	140.0	144.0	148.1	152.1	156.2	159.0
67.5°	105.1	109.0	112.8	116.5	120.4	124.4	128.5	132.7	136.8	141.0	143.9
70°	93.5	97.5	101.4	105.4	109.3	113.6	118.0	122.4	126.9	131.3	134.3
72.5°	82.8	86.9	90.8	94.8	98.7	103.0	107.5	112.2	116.7	121.4	124.4
75°	66.1	70.4	74.7	79.1	83.5	87.9	92.6	97.1	101.7	106.4	109.4
77.5°	51.5	55.8	60.2	64.6	68.9	73.5	78.1	82.8	87.4	92.1	95.3
80°	41.1	45.7	50.2	54.8	59.2	63.9	68.7	73.5	78.3	83.1	86.2
82.5°	32.2	36.7	41.4	45.9	50.6	55.3	60.2	65.0	69.9	74.8	77.9
85°	20.3	25.0	29.6	34.2	38.8	43.6	48.5	53.3	58.2	63.1	66.3
87.5°	11.1	15.9	20.6	25.4	30.1	35.0	39.9	44.7	49.6	54.5	57.6
90°	6.1	11.1	16.3	21.8	26.9	32.2	37.9	43.5	49.1	54.8	57.7
92.5°	9.0	15.0	21.7	28.2	35.0	44.0	56.9	75.1	93.0	92.7	83.9
95°	15.2	19.8	26.9	35.8	47.6	64.0	95.3	146.8	203.0	228.0	195.6
97.5°	22.4	25.9	31.8	39.8	51.1	68.2	98.1	155.3	245.8	327.7	350.7
100°	27.0	30.3	35.5	42.9	53.4	69.3	95.6	146.4	233.5	334.6	399.3
102.5°	32.0	35.2	39.9	46.6	56.2	70.8	94.8	138.6	216.5	316.2	399.8
105°	39.9	43.1	47.2	53.1	61.3	74.2	95.2	131.6	195.1	284.5	377.6
107.5°	47.8	50.6	54.4	59.9	67.5	79.4	98.1	128.8	180.6	256.3	340.9
110°	53.5	56.2	59.4	64.5	71.5	83.0	100.9	128.6	174.5	240.2	318.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	59.1	61.4	64.4	69.2	75.9	86.9	103.6	129.4	170.1	228.6	297.5
115°	66.7	69.0	72.1	76.3	82.8	93.5	108.8	131.3	166.8	215.8	272.5
117.5°	74.6	76.7	79.0	82.6	89.3	99.0	114.0	134.3	164.7	206.9	256.2
120°	79.8	81.2	83.3	86.9	93.3	103.0	117.3	136.8	164.1	202.4	247.4
122.5°	84.6	85.8	87.6	91.2	97.2	107.2	121.2	139.2	164.3	199.0	239.9
125°	91.0	91.7	93.5	97.0	103.0	112.9	126.6	143.1	164.7	194.2	229.8
127.5°	96.3	97.1	99.3	102.8	109.3	118.9	131.8	146.5	165.7	190.6	220.7
130°	99.6	100.4	103.2	106.8	113.3	122.8	135.0	148.8	166.4	188.2	215.4
132.5°	101.7	102.9	106.0	110.5	117.1	126.1	137.8	151.0	166.7	186.2	210.4
135°	106.1	107.3	110.7	115.3	121.8	130.7	141.5	153.3	166.9	183.3	203.6
137.5°	110.1	111.4	114.8	119.7	126.2	134.3	144.3	155.1	166.8	180.7	197.7
140°	112.6	114.1	117.3	122.3	128.7	136.7	146.1	155.9	166.8	179.1	194.0
142.5°	115.7	116.9	120.2	124.7	130.9	138.2	147.2	156.5	166.5	177.3	190.5
145°	120.5	121.4	124.0	128.7	133.9	141.2	149.4	157.8	166.7	176.1	187.0
147.5°	125.0	125.6	128.3	132.4	137.6	143.7	151.2	158.9	166.7	175.0	183.8
150°	128.2	128.6	131.1	135.2	139.6	145.3	152.5	159.2	166.7	174.0	181.8
152.5°	131.5	131.6	134.1	137.7	141.6	147.0	153.3	159.6	165.9	172.7	179.8
155°	136.4	136.4	138.3	141.5	145.0	149.4	154.7	159.8	165.1	170.5	176.7
157.5°	140.4	140.6	142.1	144.9	147.8	151.2	155.5	160.1	164.1	168.5	173.3
160°	143.4	143.4	144.6	147.1	149.4	152.5	156.3	160.1	163.5	167.0	171.1
162.5°	145.6	145.6	146.7	148.6	150.6	153.3	156.6	159.8	162.6	165.5	168.8
165°	149.0	148.7	149.4	151.0	152.2	154.4	156.9	159.2	161.0	163.3	165.8
167.5°	151.6	151.2	151.6	152.8	153.6	155.1	156.9	158.6	159.5	161.0	162.8
170°	153.1	152.5	152.8	153.7	154.4	155.1	156.6	157.8	158.5	159.4	161.0
172.5°	154.2	153.7	153.8	154.5	154.9	155.2	156.6	157.7	157.7	158.2	159.3
175°	155.3	155.1	154.7	155.3	155.3	155.7	156.3	156.9	156.6	156.6	157.2
177.5°	156.0	155.7	155.4	155.7	155.7	155.7	156.0	156.4	156.0	155.7	156.0
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	380.6	381.2	381.8	382.0	382.0	381.9	381.8	381.7
5°	380.0	380.8	381.5	381.8	381.7	381.6	381.5	381.4
7.5°	377.7	378.6	379.5	380.0	379.9	379.7	379.6	379.5
10°	375.4	376.3	377.2	377.6	377.4	377.2	377.0	376.8
12.5°	372.2	373.1	373.9	374.3	374.1	373.9	373.7	373.5
15°	366.2	367.1	368.1	368.5	368.4	368.3	368.2	368.1
17.5°	358.4	359.3	360.1	360.4	360.3	360.2	360.1	359.9
20°	352.8	353.6	354.5	354.9	355.0	355.1	355.2	355.3
22.5°	346.5	347.6	348.7	349.2	349.1	349.0	349.0	348.9
25°	336.0	337.2	338.4	339.0	339.0	339.0	339.0	339.0
27.5°	325.0	326.1	327.2	327.7	327.8	327.9	327.9	328.0
30°	317.5	318.7	319.8	320.3	320.3	320.3	320.3	320.3
32.5°	309.4	310.6	311.7	312.5	312.7	312.9	313.2	313.3
35°	297.4	298.7	300.1	301.0	301.4	301.8	302.1	302.5
37.5°	284.8	286.4	288.0	288.9	289.2	289.5	289.8	290.1
40°	276.5	278.1	279.6	280.6	281.0	281.4	281.8	282.1
42.5°	267.9	269.6	271.3	272.4	273.0	273.4	273.9	274.5
45°	254.9	256.6	258.4	259.7	260.4	261.1	261.9	262.6
47.5°	241.7	243.8	245.8	247.0	247.5	248.2	248.7	249.3
50°	232.7	234.9	237.0	238.4	239.1	239.7	240.3	241.0
52.5°	223.6	225.8	228.0	229.5	230.3	231.1	231.8	232.6
55°	209.8	212.3	214.8	216.4	217.1	217.9	218.6	219.4
57.5°	195.7	198.2	200.7	202.4	203.3	204.2	205.1	205.9
60°	185.9	188.5	191.1	192.9	193.9	194.9	195.9	197.0
62.5°	176.6	179.1	181.7	183.5	184.5	185.4	186.4	187.3
65°	161.8	164.5	167.3	169.2	170.0	171.0	171.9	172.8
67.5°	147.0	150.0	153.0	155.0	155.7	156.5	157.3	158.0
70°	137.2	140.2	143.1	145.1	146.0	146.9	147.8	148.7
72.5°	127.3	130.4	133.4	135.5	136.3	137.2	138.2	139.1
75°	112.4	115.5	118.6	120.6	121.7	122.9	123.9	125.1
77.5°	98.5	101.7	105.0	106.9	107.8	108.7	109.5	110.4
80°	89.3	92.6	95.7	97.6	98.6	99.5	100.5	101.4
82.5°	81.1	84.2	87.4	89.3	90.3	91.2	92.1	93.1
85°	69.5	72.6	75.7	77.8	78.6	79.6	80.5	81.4
87.5°	60.8	64.0	67.2	69.4	70.2	71.2	72.1	73.0
90°	61.1	64.6	68.0	70.7	71.2	72.5	73.7	74.4
92.5°	77.0	74.5	75.2	75.4	75.7	75.6	76.8	77.1
95°	160.3	126.6	112.8	103.3	98.3	96.3	95.1	94.7
97.5°	326.5	272.9	235.0	199.1	176.8	163.5	156.0	154.2
100°	413.0	390.2	356.0	313.1	282.1	260.0	248.7	249.9
102.5°	440.4	442.2	423.3	396.6	372.8	355.5	346.2	339.8
105°	445.9	480.1	488.7	482.1	468.5	457.4	448.1	447.4
107.5°	418.0	471.6	501.8	514.6	515.7	512.5	509.9	507.7
110°	392.5	452.9	495.0	518.6	528.2	531.5	531.5	531.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	366.9	428.5	475.3	505.2	522.2	530.8	534.0	534.9
115°	333.1	390.1	438.6	474.5	498.8	513.4	520.5	522.8
117.5°	307.6	357.1	400.9	437.2	462.6	479.2	489.0	491.9
120°	294.0	338.6	378.5	411.8	437.3	455.6	463.8	466.4
122.5°	282.9	323.3	360.4	391.4	414.1	430.7	439.6	442.6
125°	267.7	304.0	336.2	362.7	383.5	398.0	406.5	409.4
127.5°	254.1	286.6	315.7	339.9	358.5	371.0	378.7	381.3
130°	245.5	275.6	302.9	325.5	342.8	354.6	361.9	364.9
132.5°	237.4	265.2	290.6	312.2	328.5	340.5	347.0	349.4
135°	226.4	250.4	272.5	291.6	307.5	317.4	323.5	326.2
137.5°	216.2	236.0	255.1	271.6	285.1	295.2	300.4	302.3
140°	210.2	227.7	244.2	258.6	271.1	280.4	285.9	286.0
142.5°	204.3	219.4	233.7	246.3	257.0	265.3	270.3	270.4
145°	197.8	208.9	219.7	229.4	237.7	244.7	247.5	248.6
147.5°	192.5	201.0	209.4	216.2	222.5	227.3	230.0	230.6
150°	189.0	196.4	203.0	209.0	213.9	217.6	219.6	219.8
152.5°	186.3	192.5	198.4	203.4	207.1	210.4	211.6	211.6
155°	182.2	187.2	191.9	195.6	198.5	201.1	201.7	202.0
157.5°	177.7	181.9	185.6	188.6	191.0	192.9	193.4	193.3
160°	175.2	178.7	181.8	184.0	186.2	188.2	188.2	187.8
162.5°	172.2	175.1	178.1	180.0	181.5	183.1	183.1	182.8
165°	168.3	170.1	172.4	174.0	175.2	176.5	176.1	176.1
167.5°	164.9	166.3	167.6	168.7	169.2	170.1	169.9	169.9
170°	162.6	163.5	164.8	165.4	165.8	166.4	166.0	166.0
172.5°	160.6	161.3	162.3	162.6	162.7	163.4	162.8	162.6
175°	157.8	158.2	158.8	158.8	158.8	159.2	158.8	158.5
177.5°	156.1	156.4	156.7	156.7	156.4	156.7	156.1	156.1
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7

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