

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: P332245-830

Luminaire Tested: **S123RDIP-S340D365U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332245-830
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: S123RDIP-S340D365U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2462.5 lumens
Efficiency: N/A
Efficacy: 121.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

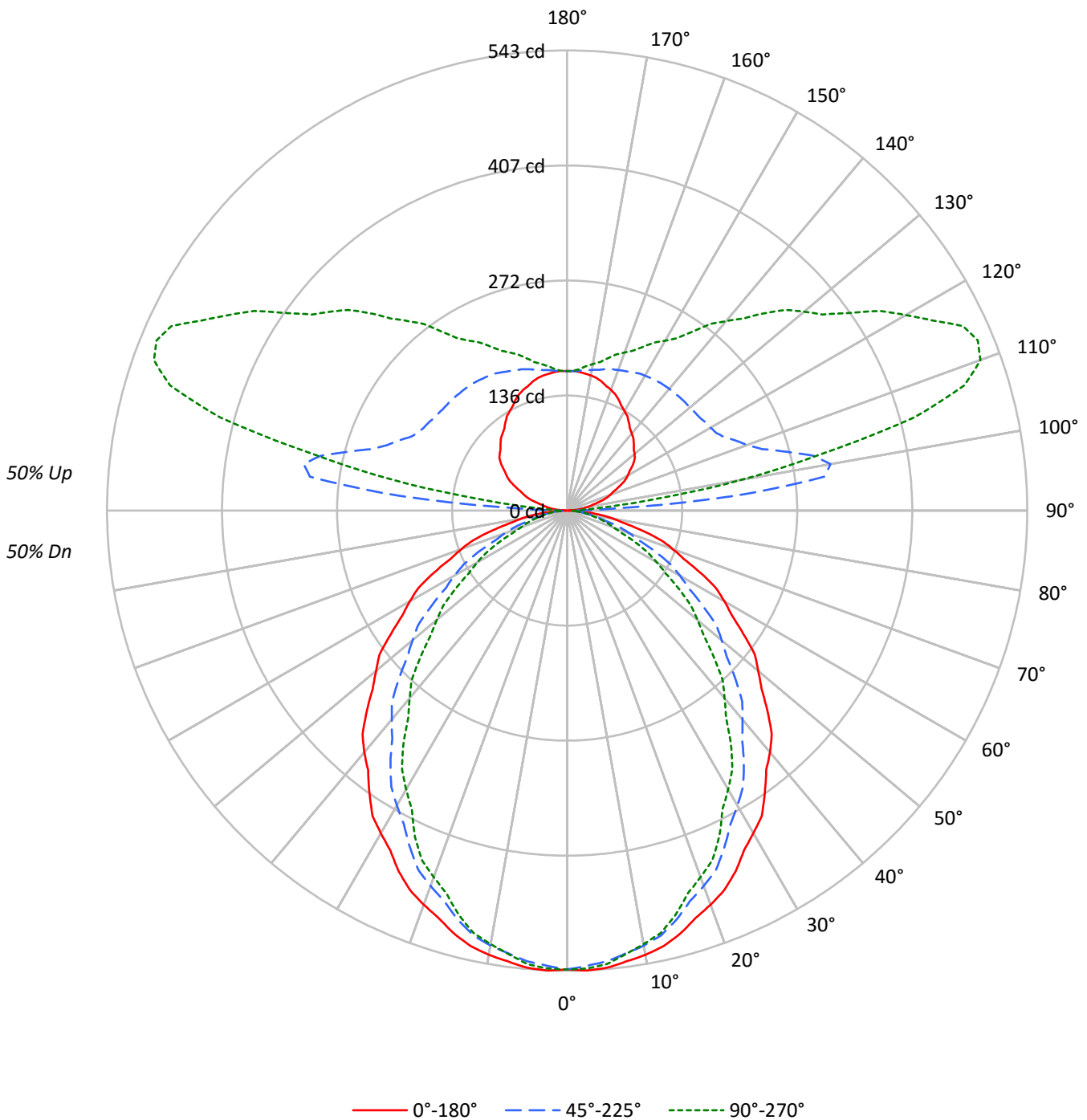
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	94	90	87	90	87	84	81	73	71	69	61	60	58	50	49	48	43
2	90	82	76	71	82	76	71	67	65	61	58	54	51	49	44	42	41	36
3	82	73	65	60	75	67	61	56	57	53	49	48	45	42	40	37	35	31
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27
5	69	58	50	44	63	54	46	41	46	40	36	39	35	31	32	29	27	23
6	64	52	44	38	59	48	41	36	41	36	32	35	31	28	29	26	24	21
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	25	21	19	17
9	51	39	31	26	47	36	30	25	32	26	22	27	23	20	23	20	17	15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5829	5829	5829
5°	5851	5770	5804
10°	5818	5698	5678
15°	5756	5565	5506
20°	5669	5399	5271
25°	5582	5211	5044
30°	5464	4994	4721
35°	5344	4778	4427
40°	5233	4523	4061
45°	5087	4271	3731
50°	4928	3985	3361
55°	4763	3659	3016
60°	4613	3309	2637
65°	4419	2932	2259
70°	4173	2458	1825
75°	3818	1938	1718
80°	3403	1717	1574
85°	2878	1519	1408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.9	2.1
10°-20°	141.5	5.7
20°-30°	203.7	8.3
30°-40°	229.5	9.3
40°-50°	219.5	8.9
50°-60°	179.8	7.3
60°-70°	121.3	4.9
70°-80°	61.0	2.5
80°-90°	17.4	0.7
90°-100°	91.6	3.7
100°-110°	259.3	10.5
110°-120°	255.1	10.4
120°-130°	203.5	8.3
130°-140°	160.4	6.5
140°-150°	119.7	4.9
150°-160°	83.4	3.4
160°-170°	49.0	2.0
170°-180°	16.0	0.6
0°-30°	396.1	16.1
0°-40°	625.5	25.4
0°-60°	1024.8	41.6
0°-90°	1224.6	49.7
90°-120°	605.9	24.6
90°-150°	1089.5	44.2
90°-180°	1238.0	50.3
0°-180°	2462.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	539	534	538	537	51
15°	516	511	499	497	494	145
25°	470	458	439	430	425	216
35°	407	390	364	345	337	254
45°	334	314	281	256	245	258
55°	254	231	195	170	161	228
65°	174	149	115	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	11	11	26
90°	1	4	8	9	10	2
95°	11	37	198	58	39	12
105°	39	57	268	468	424	41
115°	68	85	205	449	515	68
125°	95	112	191	346	406	84
135°	111	133	188	285	329	86
145°	127	145	186	234	258	80
155°	144	156	180	205	214	66
165°	158	162	173	183	186	44
175°	164	164	166	168	168	16
180°	165	165	165	165	165	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	543.3	542.9	542.6	542.3	542.1	541.4	540.5	539.5	538.6	537.6	538.5
5°	541.5	541.0	540.5	540.1	539.5	538.8	537.5	536.4	535.2	534.0	534.9
7.5°	536.5	535.9	535.5	534.9	534.4	533.4	531.9	530.4	528.8	527.3	527.7
10°	532.3	531.6	530.9	530.3	529.5	528.3	526.6	524.8	523.0	521.3	521.4
12.5°	526.3	525.6	524.8	524.1	523.3	521.8	519.6	517.6	515.4	513.2	513.1
15°	516.5	515.4	514.3	513.2	512.2	510.3	507.6	504.8	502.1	499.4	498.9
17.5°	504.1	502.8	501.6	500.3	499.1	496.7	493.2	489.7	486.4	482.9	481.8
20°	494.9	493.4	491.8	490.3	488.7	486.1	482.4	478.6	474.9	471.3	470.0
22.5°	484.7	483.0	481.2	479.4	477.6	474.8	470.8	466.8	462.9	458.9	457.3
25°	470.0	467.5	465.1	462.6	460.1	456.7	452.2	447.7	443.2	438.8	436.7
27.5°	451.9	449.2	446.5	443.8	441.1	437.3	432.3	427.3	422.3	417.3	414.4
30°	439.6	436.7	433.8	430.8	427.9	423.7	418.2	412.7	407.3	401.8	398.5
32.5°	427.3	424.0	420.7	417.4	414.1	409.5	403.7	397.9	392.2	386.3	382.8
35°	406.7	403.1	399.6	396.2	392.7	387.9	381.8	375.7	369.7	363.6	359.5
37.5°	385.8	381.8	378.0	374.1	370.1	365.0	358.5	352.0	345.6	339.1	334.4
40°	372.4	368.2	363.8	359.6	355.2	349.6	342.7	335.7	328.9	321.9	316.9
42.5°	357.3	353.0	348.7	344.4	340.2	334.4	327.3	320.1	312.9	305.8	300.2
45°	334.2	329.8	325.5	321.0	316.6	310.7	303.2	295.7	288.1	280.6	275.0
47.5°	311.1	306.3	301.4	296.6	291.8	285.7	278.1	270.6	263.2	255.6	249.6
50°	294.3	289.6	285.1	280.5	275.9	269.7	261.7	253.8	245.9	238.0	232.0
52.5°	279.2	274.2	269.2	264.2	259.2	252.8	245.0	237.1	229.3	221.5	215.3
55°	253.8	249.0	244.3	239.5	234.7	228.2	219.9	211.6	203.3	195.0	189.4
57.5°	230.5	225.3	220.1	214.8	209.6	202.8	194.5	186.2	177.9	169.6	164.2
60°	214.3	209.0	203.6	198.2	192.8	186.2	178.0	169.9	161.8	153.7	148.5
62.5°	198.1	192.7	187.4	182.1	176.7	169.9	161.8	153.7	145.6	137.5	132.6
65°	173.5	168.1	162.8	157.4	152.0	145.5	137.9	130.3	122.7	115.1	110.3
67.5°	148.8	143.4	137.9	132.5	127.1	120.7	113.4	106.1	98.8	91.5	87.9
70°	132.6	127.3	122.1	116.8	111.6	105.5	98.7	91.8	85.0	78.1	74.7
72.5°	116.5	111.3	106.1	100.9	95.7	90.0	83.8	77.6	71.4	65.1	62.4
75°	91.8	87.1	82.4	77.8	73.0	68.1	62.7	57.3	51.9	46.6	45.6
77.5°	69.3	65.0	60.8	56.6	52.4	48.5	45.1	41.6	38.2	34.7	34.2
80°	54.9	50.9	46.9	42.9	38.9	35.9	33.8	31.8	29.7	27.7	27.3
82.5°	41.2	37.7	34.3	30.8	27.3	25.2	24.2	23.3	22.3	21.3	21.0
85°	23.3	21.1	18.9	16.9	14.7	13.5	13.2	12.9	12.6	12.3	12.1
87.5°	8.6	7.8	7.1	6.4	5.7	5.5	5.7	5.8	6.0	6.2	6.1
90°	0.7	1.3	2.0	3.0	3.7	4.3	5.4	6.3	7.4	8.3	8.0
92.5°	4.1	6.1	9.0	11.5	14.3	19.2	28.0	42.3	56.4	51.2	38.6
95°	11.3	12.3	16.0	21.7	30.3	43.3	71.6	121.2	175.9	197.6	160.2
97.5°	19.3	19.6	22.5	27.4	36.0	50.0	77.1	133.0	224.1	306.1	327.4
100°	24.7	25.0	27.3	32.0	40.0	53.0	76.3	125.5	213.2	315.5	381.1
102.5°	30.3	30.8	32.9	37.3	44.5	56.5	77.4	119.1	197.2	298.1	383.7
105°	38.6	39.7	41.7	45.6	51.9	62.3	80.3	114.6	177.6	267.8	363.4
107.5°	47.6	48.5	50.5	54.4	60.3	69.9	85.8	114.2	165.0	241.0	327.8
110°	53.9	55.0	56.6	60.3	66.0	75.3	90.3	115.6	160.2	225.8	305.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	59.9	60.8	62.5	66.2	71.8	80.9	94.8	118.3	157.5	215.7	286.0
115°	68.2	69.7	71.6	74.9	80.6	89.6	102.3	122.5	156.6	204.8	262.5
117.5°	76.7	78.2	79.9	83.0	89.4	97.6	110.2	128.3	157.1	198.4	248.3
120°	82.6	83.6	85.3	88.6	94.9	103.2	115.3	132.5	158.3	195.5	240.8
122.5°	87.7	88.7	90.3	94.0	100.0	108.9	120.6	136.6	160.0	193.7	234.7
125°	94.9	95.6	97.6	101.2	107.5	116.6	128.3	142.9	162.9	191.1	226.9
127.5°	100.5	101.4	104.0	107.6	114.6	123.7	134.9	148.1	166.1	190.0	219.9
130°	104.0	104.9	107.9	111.9	118.9	127.9	138.9	151.6	168.2	189.2	216.1
132.5°	106.6	107.8	111.1	115.9	122.9	131.7	142.3	154.8	169.8	188.9	212.7
135°	111.2	112.5	116.2	121.2	128.3	137.2	147.5	158.9	172.2	188.5	208.2
137.5°	115.6	117.1	120.6	125.9	132.9	141.2	151.2	161.9	173.8	187.8	204.2
140°	118.6	120.3	123.6	128.9	135.5	143.9	153.5	163.5	174.8	187.6	201.8
142.5°	121.8	123.2	126.8	131.6	138.3	146.0	155.4	165.1	175.7	187.0	199.7
145°	126.9	127.9	130.9	135.9	141.6	149.2	157.9	166.8	176.2	186.2	196.8
147.5°	132.1	132.7	135.6	140.0	145.4	151.9	159.9	168.0	176.2	184.9	194.1
150°	135.5	135.9	138.6	142.9	147.5	153.5	161.2	168.2	176.2	183.9	192.2
152.5°	139.0	139.1	141.8	145.5	149.7	155.4	162.0	168.7	175.4	182.6	190.0
155°	144.2	144.2	146.2	149.6	153.3	157.9	163.5	168.9	174.6	180.2	186.8
157.5°	148.4	148.6	150.2	153.2	156.3	159.9	164.4	169.2	173.4	178.1	183.2
160°	151.6	151.6	152.9	155.5	157.9	161.2	165.2	169.2	172.9	176.5	180.9
162.5°	153.9	153.9	155.0	157.1	159.2	162.0	165.5	168.9	171.8	174.9	178.4
165°	157.5	157.2	157.9	159.6	160.9	163.2	165.9	168.2	170.2	172.6	175.2
167.5°	160.2	159.9	160.2	161.5	162.4	163.9	165.8	167.7	168.6	170.1	172.1
170°	161.8	161.2	161.6	162.5	163.2	163.9	165.5	166.8	167.6	168.5	170.2
172.5°	163.0	162.5	162.6	163.3	163.7	164.1	165.5	166.6	166.7	167.2	168.3
175°	164.2	163.9	163.5	164.2	164.2	164.6	165.2	165.9	165.5	165.5	166.2
177.5°	164.9	164.6	164.3	164.6	164.6	164.6	164.9	165.3	164.9	164.6	164.9
180°	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	539.3	540.2	541.1	541.4	541.3	541.1	540.9	540.8
5°	535.8	536.7	537.5	537.9	537.7	537.5	537.3	537.2
7.5°	528.3	528.8	529.2	529.3	529.0	528.7	528.3	528.0
10°	521.5	521.6	521.7	521.5	521.0	520.6	520.0	519.5
12.5°	513.1	513.0	513.0	512.6	512.1	511.5	511.0	510.4
15°	498.3	497.9	497.4	496.8	496.2	495.4	494.7	494.1
17.5°	480.8	479.8	478.7	477.7	476.6	475.6	474.7	473.6
20°	468.7	467.4	466.2	465.0	463.7	462.6	461.5	460.2
22.5°	455.8	454.2	452.6	451.3	450.2	449.1	448.0	447.0
25°	434.6	432.6	430.6	429.0	427.9	426.9	425.7	424.7
27.5°	411.6	408.8	406.0	403.7	402.0	400.4	398.8	397.1
30°	395.2	391.9	388.6	386.2	384.6	383.0	381.4	379.8
32.5°	379.1	375.5	371.8	369.2	367.6	366.0	364.3	362.7
35°	355.2	351.0	346.9	343.8	342.1	340.4	338.6	336.9
37.5°	329.6	324.8	320.1	316.6	314.4	312.3	310.1	307.9
40°	311.8	306.7	301.6	297.9	295.7	293.5	291.2	289.0
42.5°	294.6	289.2	283.6	279.8	277.8	275.8	273.8	271.7
45°	269.5	263.9	258.4	254.4	252.1	249.8	247.4	245.1
47.5°	243.5	237.4	231.4	227.3	225.3	223.2	221.0	219.0
50°	225.9	219.9	213.9	209.7	207.5	205.2	202.9	200.7
52.5°	209.0	202.6	196.4	192.3	190.2	188.2	186.2	184.2
55°	183.7	178.0	172.4	168.5	166.6	164.7	162.7	160.7
57.5°	158.8	153.4	148.2	144.6	143.0	141.3	139.7	138.0
60°	143.2	137.9	132.6	129.1	127.5	125.8	124.2	122.5
62.5°	127.6	122.7	117.7	114.3	112.6	110.9	109.1	107.4
65°	105.5	100.8	96.0	93.0	91.9	90.9	89.8	88.7
67.5°	84.4	80.8	77.2	74.8	73.7	72.6	71.4	70.3
70°	71.4	68.0	64.5	62.3	61.2	60.1	59.0	58.0
72.5°	59.6	56.8	54.0	52.4	51.9	51.5	51.1	50.6
75°	44.6	43.6	42.6	42.0	41.8	41.7	41.5	41.3
77.5°	33.6	33.1	32.6	32.2	32.0	31.9	31.7	31.5
80°	27.1	26.8	26.5	26.3	26.0	25.8	25.6	25.4
82.5°	20.7	20.5	20.2	20.0	20.0	19.9	19.9	19.9
85°	11.9	11.7	11.5	11.4	11.4	11.4	11.4	11.4
87.5°	6.0	6.0	6.0	6.1	5.9	5.9	5.9	5.7
90°	8.3	8.7	9.0	9.6	9.3	9.6	10.0	9.6
92.5°	28.1	22.2	19.6	17.9	17.3	16.3	16.7	16.0
95°	119.9	81.2	63.6	51.7	45.3	42.3	40.0	38.6
97.5°	298.9	239.4	196.4	156.7	132.1	117.1	108.0	105.2
100°	392.7	365.7	326.8	279.5	245.8	221.5	208.5	208.9
102.5°	423.9	423.0	400.3	370.3	344.1	324.9	314.1	306.3
105°	433.0	466.3	472.6	464.0	448.7	436.0	425.4	423.7
107.5°	406.7	460.8	490.0	501.9	502.2	497.9	494.3	491.3
110°	381.7	443.0	484.9	508.3	517.6	520.3	519.6	519.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	356.9	419.5	466.6	496.5	513.6	521.9	524.4	524.5
115°	324.0	382.0	431.0	467.3	492.3	506.9	513.6	515.3
117.5°	300.3	350.3	394.3	431.1	457.2	474.0	483.5	485.8
120°	287.8	332.7	372.7	406.3	432.6	451.3	459.3	461.3
122.5°	278.0	318.6	355.6	386.9	410.3	427.1	435.8	438.4
125°	264.8	301.1	333.1	359.8	381.1	395.7	404.1	406.3
127.5°	253.4	285.7	314.5	338.8	357.8	370.3	377.9	379.9
130°	246.1	276.2	303.1	325.7	343.4	355.4	362.4	365.0
132.5°	239.5	267.0	292.2	313.8	330.4	342.3	348.6	350.4
135°	230.5	254.1	275.8	294.7	311.1	321.1	327.1	329.4
137.5°	222.3	241.7	260.3	276.8	290.5	300.7	305.7	307.3
140°	217.5	234.5	250.4	264.8	277.5	286.8	292.1	291.8
142.5°	213.0	227.5	241.4	253.8	264.7	273.0	277.7	277.4
145°	207.5	218.5	229.1	238.8	247.1	254.1	256.8	257.5
147.5°	203.0	211.8	220.4	227.2	233.6	238.3	240.8	241.1
150°	199.8	207.5	214.5	220.8	225.8	229.5	231.5	231.5
152.5°	196.9	203.5	209.7	215.0	218.9	222.3	223.5	223.5
155°	192.6	197.8	202.8	206.8	209.8	212.5	213.2	213.5
157.5°	187.8	192.3	196.1	199.3	201.9	203.9	204.4	204.3
160°	185.2	188.9	192.2	194.5	196.8	198.9	198.9	198.5
162.5°	182.0	185.1	188.2	190.3	191.8	193.5	193.5	193.2
165°	177.9	179.8	182.2	183.9	185.2	186.5	186.2	186.2
167.5°	174.3	175.8	177.1	178.3	178.9	179.8	179.6	179.6
170°	171.8	172.9	174.2	174.8	175.2	175.9	175.5	175.5
172.5°	169.8	170.5	171.5	171.9	172.0	172.7	172.1	171.8
175°	166.8	167.2	167.9	167.9	167.9	168.2	167.9	167.6
177.5°	165.0	165.3	165.6	165.6	165.3	165.6	165.0	165.0
180°	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6

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