

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: P332251-830

Luminaire Tested: **S123RDIP-S340D585U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332251-830
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-S340D585U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3223.4 lumens
Efficiency: N/A
Efficacy: 125.9 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: Semi-Indirect

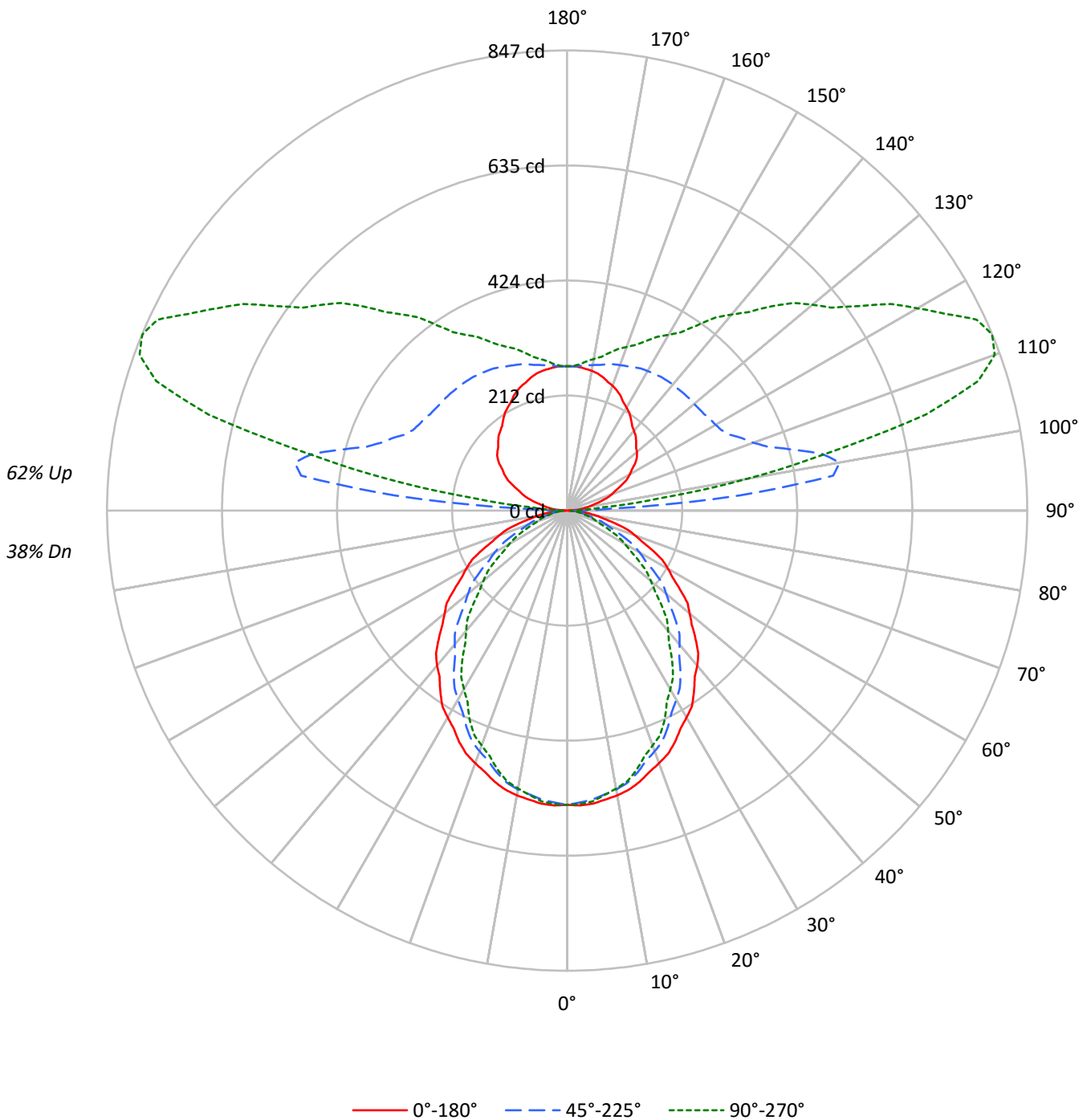
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63	53	52	51	40	39	39	32
2	87	80	74	69	79	73	68	63	59	56	53	47	45	43	36	34	33	28
3	79	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	67	56	48	42	60	51	44	39	42	37	33	34	30	27	26	23	21	18
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	23	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	21	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	14	12	10

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	1.6
10°-20°	141.5	4.4
20°-30°	203.7	6.3
30°-40°	229.5	7.1
40°-50°	219.5	6.8
50°-60°	179.8	5.6
60°-70°	121.3	3.8
70°-80°	61.0	1.9
80°-90°	18.2	0.6
90°-100°	147.8	4.6
100°-110°	418.5	13.0
110°-120°	411.7	12.8
120°-130°	328.4	10.2
130°-140°	258.9	8.0
140°-150°	193.2	6.0
150°-160°	134.7	4.2
160°-170°	79.1	2.5
170°-180°	25.7	0.8
0°-30°	396.1	12.3
0°-40°	625.5	19.4
0°-60°	1024.8	31.8
0°-90°	1225.4	38.0
90°-120°	978.0	30.3
90°-150°	1758.5	54.6
90°-180°	1998.0	62.0
0°-180°	3223.4	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	6	14	15	16	2
95°	18	59	319	93	62	20
105°	62	92	432	756	684	66
115°	110	137	331	725	832	109
125°	153	181	309	559	656	136
135°	180	214	304	460	532	139
145°	205	235	300	378	416	128
155°	233	251	291	331	345	107
165°	254	262	278	295	300	72
175°	265	265	267	271	270	25
180°	266	266	266	266	266	



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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°	8.7	8.0	7.4	6.8	6.2	5.9	6.3	6.6	7.0	7.3	7.1
90°	1.0	2.2	3.2	4.8	5.9	7.0	8.6	10.2	11.8	13.5	12.9
92.5°	6.7	9.9	14.4	18.6	23.1	31.1	45.1	68.2	91.0	82.7	62.4
95°	18.3	19.9	25.8	35.0	48.9	69.8	115.6	195.7	283.9	318.8	258.5
97.5°	31.2	31.8	36.4	44.3	58.1	80.8	124.4	214.7	361.7	494.1	528.6
100°	39.8	40.3	44.1	51.7	64.5	85.5	123.1	202.6	344.0	509.1	615.0
102.5°	48.8	49.8	53.2	60.2	71.8	91.0	124.8	192.4	318.3	481.2	619.3
105°	62.4	64.0	67.2	73.6	83.9	100.6	129.6	184.9	286.5	432.3	586.5
107.5°	76.7	78.4	81.5	87.8	97.5	112.9	138.4	184.4	266.4	389.0	529.1
110°	87.1	88.7	91.4	97.3	106.4	121.5	145.7	186.5	258.5	364.5	492.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	96.5	98.2	100.9	106.8	115.9	130.5	153.0	190.9	254.3	348.2	461.6
115°	110.2	112.4	115.6	120.9	130.1	144.6	165.0	197.8	252.7	330.6	423.7
117.5°	123.9	126.3	129.0	133.9	144.2	157.6	177.9	207.1	253.6	320.3	400.8
120°	133.4	135.0	137.6	143.0	153.3	166.6	186.0	214.0	255.3	315.6	388.7
122.5°	141.5	143.1	145.8	151.6	161.4	175.7	194.6	220.5	258.4	312.5	378.8
125°	153.3	154.3	157.5	163.4	173.6	188.1	207.0	230.6	262.9	308.6	366.1
127.5°	162.1	163.7	167.8	173.7	185.0	199.5	217.7	239.0	268.1	306.6	355.0
130°	167.8	169.4	174.2	180.6	191.9	206.4	224.1	244.6	271.5	305.4	348.9
132.5°	172.0	174.1	179.4	187.1	198.4	212.4	229.8	249.8	274.1	304.9	343.3
135°	179.6	181.7	187.7	195.7	207.0	221.5	238.2	256.5	278.0	304.3	336.0
137.5°	186.6	188.9	194.7	203.3	214.5	227.9	243.9	261.4	280.5	303.1	329.7
140°	191.4	194.1	199.4	208.0	218.8	232.2	247.8	264.0	282.2	302.7	325.7
142.5°	196.5	198.8	204.6	212.4	223.1	235.7	250.8	266.6	283.5	301.8	322.3
145°	204.8	206.4	211.3	219.3	228.5	240.8	254.9	269.4	284.4	300.5	317.7
147.5°	213.2	214.1	219.0	225.9	234.7	245.2	258.1	271.1	284.4	298.5	313.2
150°	218.8	219.3	223.7	230.6	238.2	247.8	260.2	271.5	284.4	296.7	310.2
152.5°	224.4	224.5	228.8	235.0	241.6	250.8	261.5	272.4	283.1	294.6	306.8
155°	232.8	232.8	236.0	241.4	247.3	254.9	264.0	272.6	281.7	290.9	301.6
157.5°	239.4	239.9	242.4	247.2	252.2	258.1	265.3	273.1	279.8	287.5	295.8
160°	244.6	244.6	246.8	251.1	254.9	260.2	266.6	273.1	279.0	284.9	291.9
162.5°	248.5	248.5	250.2	253.6	256.9	261.5	267.1	272.7	277.3	282.4	288.0
165°	254.3	253.7	254.9	257.5	259.7	263.4	267.7	271.5	274.8	278.5	282.8
167.5°	258.7	258.1	258.5	260.6	262.1	264.5	267.6	270.6	272.1	274.6	277.8
170°	261.3	260.2	260.7	262.3	263.4	264.5	267.2	269.4	270.4	272.0	274.8
172.5°	263.0	262.3	262.5	263.6	264.3	264.9	267.2	268.9	269.1	269.8	271.7
175°	265.0	264.5	264.0	265.0	265.0	265.6	266.6	267.7	267.2	267.2	268.2
177.5°	266.0	265.6	265.1	265.6	265.6	265.6	266.0	266.8	266.0	265.6	266.0
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6



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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°	7.1	7.2	7.2	7.3	7.1	7.2	7.2	7.0
90°	13.5	13.9	14.5	15.6	15.1	15.6	16.1	15.6
92.5°	45.2	35.9	31.8	28.9	28.0	26.3	26.9	25.9
95°	193.5	131.2	102.6	83.3	73.1	68.2	64.5	62.4
97.5°	482.5	386.4	317.1	252.8	213.1	188.9	174.4	169.8
100°	633.9	590.3	527.4	451.0	396.7	357.5	336.6	337.1
102.5°	684.2	682.8	646.1	597.7	555.4	524.3	506.8	494.5
105°	698.9	752.6	762.9	748.9	724.2	703.7	686.5	683.8
107.5°	656.5	743.9	790.9	810.0	810.5	803.6	797.8	792.9
110°	616.0	715.0	782.8	820.4	835.5	839.7	838.7	837.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	576.1	677.1	753.1	801.4	829.0	842.4	846.4	846.6
115°	523.1	616.6	695.7	754.2	794.6	818.2	829.0	831.7
117.5°	484.7	565.4	636.4	695.9	737.9	765.0	780.5	784.1
120°	464.5	537.1	601.5	655.9	698.3	728.5	741.3	744.6
122.5°	448.6	514.3	574.0	624.4	662.2	689.3	703.5	707.6
125°	427.3	486.0	537.6	580.6	615.0	638.7	652.1	655.9
127.5°	408.9	461.2	507.7	546.9	577.5	597.7	609.8	613.3
130°	397.3	445.6	489.2	525.8	554.3	573.6	584.9	589.2
132.5°	386.5	431.0	471.6	506.4	533.2	552.5	562.5	565.5
135°	372.0	410.2	445.2	475.8	502.1	518.2	527.9	531.7
137.5°	358.8	390.1	420.2	446.8	468.9	485.2	493.4	495.9
140°	351.1	378.4	404.3	427.3	447.8	462.9	471.5	470.9
142.5°	343.7	367.3	389.6	409.7	427.2	440.5	448.3	447.7
145°	334.9	352.7	369.9	385.5	398.9	410.2	414.5	415.6
147.5°	327.7	341.8	355.7	366.7	376.9	384.6	388.7	389.1
150°	322.5	334.9	346.2	356.5	364.5	370.4	373.6	373.6
152.5°	317.8	328.5	338.5	346.9	353.3	358.8	360.7	360.7
155°	310.8	319.3	327.4	333.8	338.7	343.0	344.0	344.6
157.5°	303.2	310.4	316.7	321.7	325.9	329.1	330.0	329.9
160°	298.9	304.8	310.2	314.0	317.7	320.9	320.9	320.4
162.5°	293.8	298.8	303.8	307.1	309.5	312.4	312.4	311.8
165°	287.1	290.3	294.1	296.7	298.9	301.0	300.5	300.5
167.5°	281.3	283.7	285.9	287.9	288.8	290.3	289.7	289.7
170°	277.4	279.0	281.2	282.2	282.8	283.9	283.3	283.3
172.5°	274.0	275.1	276.8	277.5	277.6	278.7	277.8	277.3
175°	269.4	269.8	271.0	271.0	271.0	271.5	271.0	270.4
177.5°	266.5	266.8	267.3	267.3	266.8	267.3	266.5	266.5
180°	265.6	265.6	265.6	265.6	265.6	265.6	265.6	265.6

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