

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: P331888-830

Luminaire Tested: **S123DIP-S340D805U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331888-830
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: S123DIP-S340D805U830-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4096.4 lumens
Efficiency: N/A
Efficacy: 131.3 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: Semi-Indirect

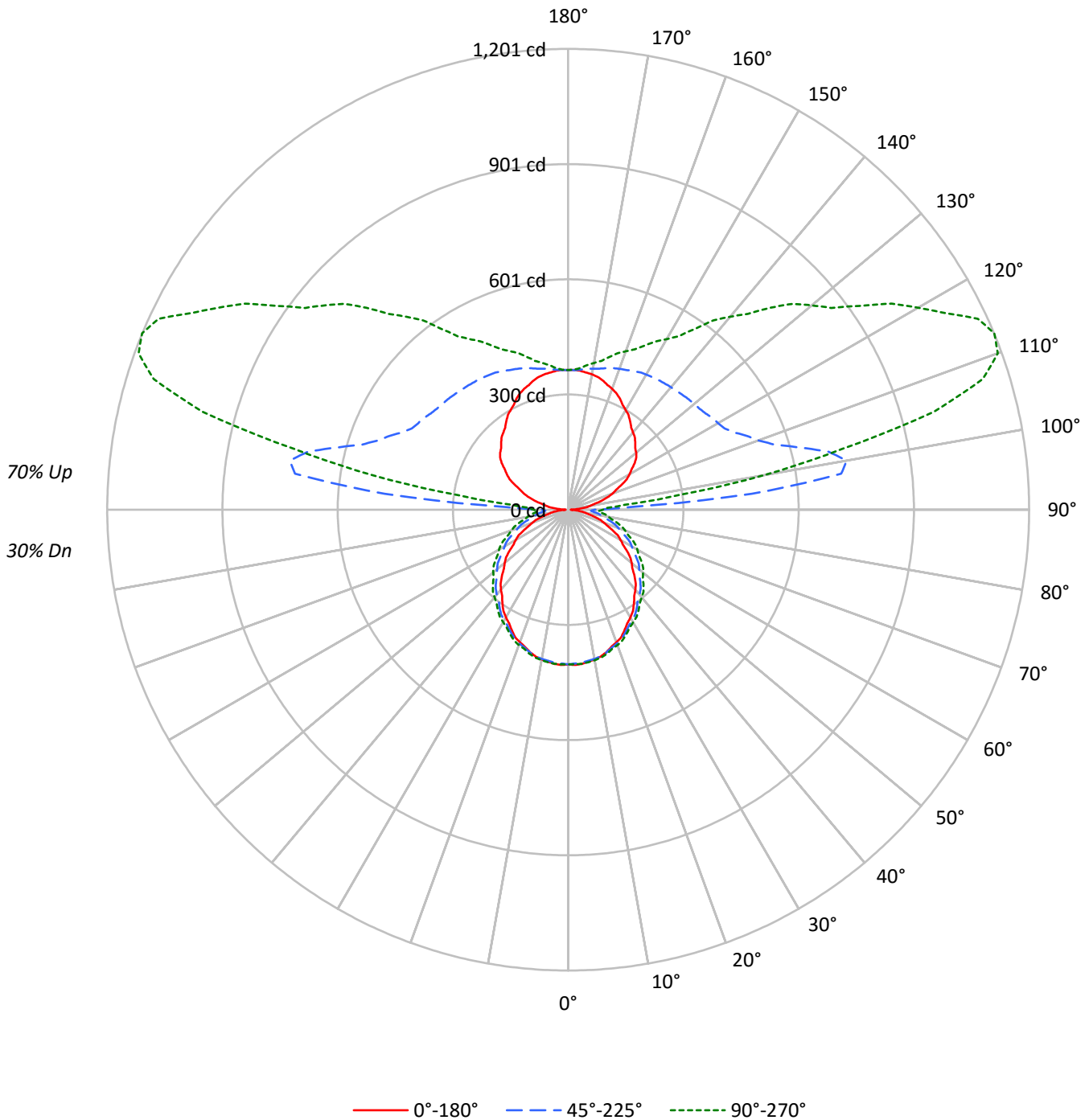
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38	30
1	93	88	84	81	83	79	76	73	62	60	58	47	45	44	33	32	31	24
2	84	77	70	65	75	69	64	59	54	51	47	41	38	36	28	27	25	20
3	77	67	60	54	68	60	54	49	48	43	39	36	33	30	25	23	21	16
4	70	59	51	45	62	53	47	41	42	37	33	32	28	26	22	20	18	14
5	64	52	44	39	57	47	40	35	37	32	29	28	25	22	20	18	16	12
6	59	47	39	33	52	42	35	30	34	28	25	25	22	19	18	16	14	10
7	54	42	34	29	48	38	31	26	30	25	22	23	19	17	16	14	12	9
8	50	38	31	25	45	34	28	23	28	23	19	21	17	15	15	13	11	8
9	47	35	27	22	42	31	25	21	25	20	17	19	16	13	14	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	0.9
10°-20°	108.9	2.7
20°-30°	163.0	4.0
30°-40°	194.6	4.8
40°-50°	203.6	5.0
50°-60°	191.1	4.7
60°-70°	159.6	3.9
70°-80°	114.2	2.8
80°-90°	70.9	1.7
90°-100°	245.3	6.0
100°-110°	605.0	14.8
110°-120°	585.3	14.3
120°-130°	462.1	11.3
130°-140°	360.3	8.8
140°-150°	266.0	6.5
150°-160°	184.6	4.5
160°-170°	108.5	2.6
170°-180°	35.3	0.9
0°-30°	310.1	7.6
0°-40°	504.7	12.3
0°-60°	899.4	22.0
0°-90°	1244.0	30.4
90°-120°	1435.6	35.0
90°-150°	2524.0	61.6
90°-180°	2852.0	69.6
0°-180°	4096.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	7	36	68	85	90	6
95°	30	104	480	184	147	31
105°	89	141	625	1081	987	94
115°	153	196	476	1027	1177	152
125°	211	250	437	789	925	188
135°	247	294	422	644	744	191
145°	281	322	412	521	575	176
155°	319	344	399	453	472	147
165°	349	358	382	405	412	98
175°	363	364	366	371	371	34
180°	364	364	364	364	364	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	12.0	17.2	22.2	27.6	32.7	38.0	43.4	48.8	54.2	59.7	62.8
90°	7.2	13.5	19.7	26.7	33.0	39.3	46.5	53.6	60.9	68.1	70.6
92.5°	14.5	23.2	33.7	43.8	54.3	69.8	94.0	130.6	166.6	160.1	135.5
95°	29.9	35.9	47.8	64.2	87.1	120.2	187.6	302.2	427.8	480.4	401.0
97.5°	47.0	51.2	61.0	75.3	97.6	132.7	197.1	325.5	531.5	717.6	767.7
100°	58.4	62.3	70.6	84.1	104.9	137.4	193.5	307.1	505.3	736.0	884.0
102.5°	70.5	74.6	82.0	94.5	113.3	143.3	194.0	291.0	468.0	695.6	887.8
105°	89.0	93.5	100.3	111.5	127.8	153.9	197.9	278.1	421.5	625.4	839.6
107.5°	108.2	112.4	118.7	129.4	144.5	168.7	207.6	274.7	391.0	563.1	757.7
110°	122.1	126.0	131.4	141.3	155.6	179.0	216.1	276.0	378.6	527.7	706.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	135.0	138.6	143.7	153.4	167.3	189.9	224.5	280.1	370.8	503.2	661.2
115°	153.3	157.4	163.0	171.5	185.2	207.5	238.9	287.4	366.1	476.5	606.3
117.5°	171.9	176.0	180.4	187.9	202.6	223.1	254.1	297.5	364.6	459.2	571.8
120°	184.5	187.2	191.3	199.3	213.8	234.0	263.7	305.3	365.2	451.0	553.5
122.5°	195.7	198.2	202.1	210.3	223.9	245.2	274.3	312.6	367.8	445.2	538.1
125°	211.3	212.8	217.3	225.4	239.3	260.6	289.3	324.5	371.6	437.1	517.9
127.5°	223.6	225.6	231.0	239.2	254.6	275.6	302.8	334.3	376.5	431.8	499.8
130°	231.2	233.4	239.9	248.6	264.0	284.8	311.1	341.0	379.8	428.2	489.7
132.5°	236.8	239.6	246.8	257.3	272.8	292.8	318.2	347.1	382.0	425.8	480.2
135°	247.0	249.9	257.9	268.8	284.2	304.5	328.5	354.6	385.2	422.4	467.6
137.5°	256.7	259.7	267.5	279.3	294.5	313.2	335.7	360.2	387.1	418.6	456.6
140°	262.8	266.5	273.8	285.6	300.4	319.0	340.6	363.0	388.3	416.6	449.8
142.5°	269.8	272.9	280.8	291.2	305.9	323.2	344.0	365.6	388.9	414.1	443.5
145°	281.2	283.3	289.8	300.8	313.2	330.2	349.3	369.2	389.8	411.9	436.3
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	429.5
150°	299.9	300.7	306.5	316.1	326.4	339.7	356.7	372.1	389.8	406.8	425.2
152.5°	307.6	307.7	313.6	322.1	331.1	343.8	358.4	373.3	388.0	403.8	420.5
155°	319.1	319.1	323.5	330.8	338.9	349.3	361.8	373.6	386.2	398.7	413.4
157.5°	328.2	328.8	332.3	338.8	345.7	353.7	363.7	374.4	383.6	394.1	405.5
160°	335.3	335.3	338.3	344.1	349.3	356.7	365.5	374.4	382.5	390.6	400.1
162.5°	340.6	340.6	343.0	347.7	352.2	358.4	366.1	373.7	380.1	387.0	394.8
165°	348.6	347.8	349.3	353.0	355.9	361.1	366.9	372.1	376.5	381.7	387.6
167.5°	354.6	353.7	354.5	357.2	359.3	362.6	366.8	371.0	373.1	376.5	380.7
170°	358.2	356.7	357.4	359.6	361.1	362.6	366.3	369.2	370.7	372.9	376.5
172.5°	360.5	359.6	359.8	361.4	362.2	363.2	366.3	368.6	368.9	369.9	372.4
175°	363.3	362.6	361.8	363.3	363.3	364.0	365.5	366.9	366.3	366.3	367.7
177.5°	364.6	364.0	363.4	364.0	364.0	364.0	364.6	365.8	364.6	364.0	364.6
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	66.3	69.7	73.2	75.7	76.4	77.6	78.7	79.6
90°	74.6	78.7	82.8	86.4	86.6	88.4	90.1	90.3
92.5°	115.4	105.8	103.2	101.5	101.0	99.7	101.4	100.9
95°	314.8	232.3	196.3	171.8	158.8	153.2	148.9	146.9
97.5°	707.5	578.7	486.5	400.4	346.9	314.8	295.9	290.5
100°	912.7	855.8	772.4	669.7	596.3	543.4	515.7	517.4
102.5°	979.4	980.2	932.7	868.3	811.3	769.7	746.7	730.7
105°	996.4	1072.8	1089.5	1072.1	1039.2	1012.0	989.3	986.6
107.5°	935.0	1057.2	1124.5	1152.4	1153.9	1145.3	1138.2	1132.3
110°	877.7	1015.8	1111.2	1164.4	1185.8	1192.5	1191.8	1191.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	820.6	961.6	1068.1	1136.0	1174.7	1193.8	1200.2	1201.4
115°	745.0	875.5	986.2	1068.1	1124.2	1157.3	1172.8	1177.3
117.5°	689.3	802.2	901.8	984.9	1043.3	1081.2	1103.2	1108.9
120°	659.6	761.4	852.1	927.9	986.8	1028.8	1047.2	1052.3
122.5°	635.9	728.1	812.2	882.8	935.2	973.0	993.2	999.4
125°	604.0	686.4	759.1	819.4	867.3	900.4	919.5	925.4
127.5°	575.8	649.3	715.1	770.1	812.7	841.0	858.4	863.7
130°	558.0	626.1	687.7	739.0	778.6	805.8	821.8	828.3
132.5°	541.3	604.1	661.4	710.4	747.7	775.0	789.3	794.1
135°	518.7	572.8	622.5	665.5	702.2	724.7	738.5	744.1
137.5°	498.0	542.5	585.3	622.7	653.6	676.5	688.2	692.0
140°	485.9	524.9	561.8	594.5	622.9	644.0	656.3	656.1
142.5°	474.1	507.7	539.7	568.2	592.5	611.2	622.4	622.1
145°	460.6	485.8	510.1	532.1	550.9	566.8	573.1	574.9
147.5°	449.7	469.2	488.4	504.0	518.3	529.1	535.1	536.0
150°	442.1	459.1	474.6	488.7	499.9	508.2	512.8	513.0
152.5°	435.6	450.3	463.9	475.6	484.4	491.9	494.6	494.6
155°	425.9	437.7	448.7	457.6	464.2	470.1	471.6	472.3
157.5°	415.6	425.5	434.0	440.9	446.7	451.1	452.3	452.1
160°	409.7	417.8	425.2	430.4	435.5	439.9	439.9	439.2
162.5°	402.7	409.5	416.3	420.9	424.3	428.1	428.1	427.4
165°	393.5	397.9	403.1	406.8	409.7	412.6	411.9	411.9
167.5°	385.5	388.9	391.9	394.5	395.9	397.9	397.2	397.2
170°	380.2	382.5	385.4	386.9	387.6	389.1	388.3	388.3
172.5°	375.5	377.1	379.5	380.4	380.5	382.0	380.7	380.1
175°	369.2	369.9	371.4	371.4	371.4	372.1	371.4	370.7
177.5°	365.2	365.8	366.4	366.4	365.8	366.4	365.2	365.2
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0

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