

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: P331897-930

Luminaire Tested: **S123DIP-S340D1025U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331897-930
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-S340D1025U930-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4199.6 lumens
Efficiency: N/A
Efficacy: 112.6 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

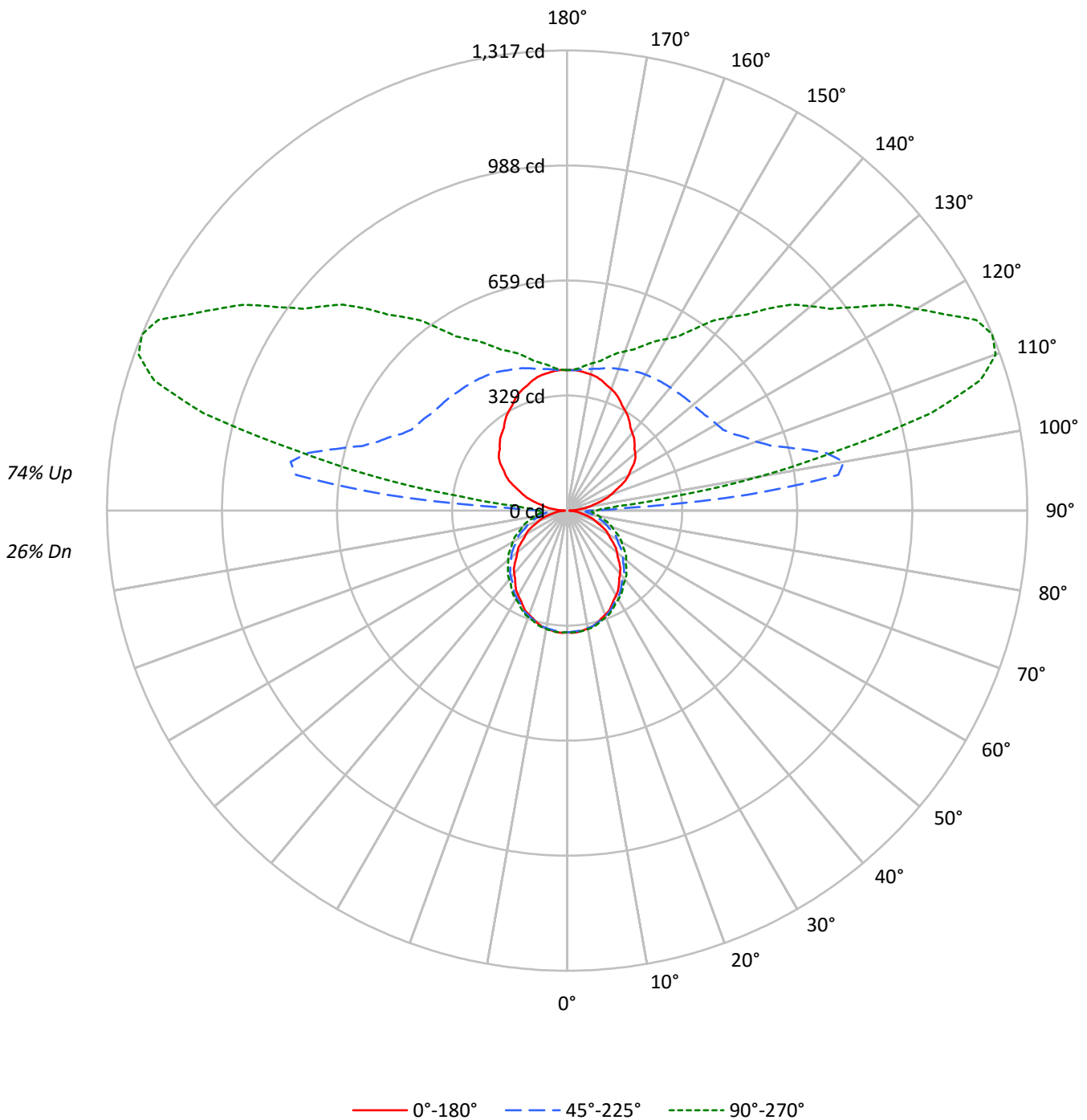
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70		51	51	51		34	34	34	26
1	92	87	83	80	82	78	75	72	60	58	56		44	42	41		29	28	27	20
2	83	76	70	65	74	68	63	58	52	49	46		38	36	34		25	24	23	17
3	76	66	59	54	67	59	53	48	46	42	38		34	31	28		22	20	19	14
4	69	59	51	45	61	52	46	41	41	36	32		30	27	24		20	18	16	12
5	63	52	44	38	56	47	40	35	36	31	28		27	23	21		18	16	14	10
6	58	46	39	33	52	42	35	30	32	27	24		24	21	18		16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21		22	18	16		14	12	11	8
8	50	38	30	25	44	34	27	23	27	22	18		20	16	14		13	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16		18	15	12		12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	14		17	13	11		11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	0.8
10°-20°	94.2	2.2
20°-30°	141.0	3.4
30°-40°	168.3	4.0
40°-50°	176.1	4.2
50°-60°	165.3	3.9
60°-70°	138.0	3.3
70°-80°	98.8	2.4
80°-90°	62.0	1.5
90°-100°	260.7	6.2
100°-110°	660.7	15.7
110°-120°	641.3	15.3
120°-130°	507.5	12.1
130°-140°	396.6	9.4
140°-150°	293.5	7.0
150°-160°	203.9	4.9
160°-170°	119.8	2.9
170°-180°	39.0	0.9
0°-30°	268.3	6.4
0°-40°	436.6	10.4
0°-60°	778.0	18.5
0°-90°	1076.8	25.6
90°-120°	1562.7	37.2
90°-150°	2760.2	65.7
90°-180°	3123.0	74.4
0°-180°	4199.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	7	33	63	78	83	5
95°	32	109	520	190	148	33
105°	97	152	683	1183	1078	103
115°	169	215	521	1126	1291	167
125°	233	276	479	866	1016	207
135°	273	325	465	708	818	211
145°	310	355	455	575	634	194
155°	352	380	440	500	522	162
165°	385	396	422	447	455	108
175°	401	402	404	410	409	38
180°	402	402	402	402	402	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.4	14.9	19.5	24.2	28.7	33.3	38.1	42.9	47.7	52.5	55.2
90°	6.6	12.3	18.1	24.7	30.4	36.3	43.0	49.8	56.5	63.3	65.3
92.5°	14.8	23.3	33.9	44.0	54.5	70.6	96.1	135.3	174.0	165.7	137.7
95°	31.9	37.6	49.8	66.9	91.4	126.9	200.2	325.5	463.2	520.2	431.7
97.5°	51.0	54.7	64.7	79.7	103.5	141.3	211.3	352.0	578.5	782.8	837.6
100°	63.7	67.2	75.6	89.7	111.9	146.9	207.7	332.1	550.0	803.7	966.5
102.5°	77.0	80.9	88.4	101.6	121.6	153.8	208.7	314.8	509.2	759.6	971.1
105°	97.4	101.9	108.8	120.6	138.1	166.2	213.8	301.2	458.6	682.8	918.8
107.5°	118.8	122.9	129.4	140.7	156.9	183.0	224.9	298.1	425.6	614.7	829.1
110°	134.1	138.1	143.7	154.2	169.5	194.7	234.7	299.9	412.4	576.1	772.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.5	152.1	157.4	167.6	182.7	207.1	244.3	304.9	404.1	549.5	723.3
115°	168.8	173.0	178.9	188.0	202.9	226.9	260.9	313.6	399.6	520.7	663.4
117.5°	189.3	193.7	198.4	206.5	222.6	244.7	278.1	325.2	398.6	502.3	626.1
120°	203.3	206.2	210.7	219.2	235.1	257.1	289.2	334.3	399.7	493.7	606.3
122.5°	215.7	218.3	222.7	231.7	246.7	269.8	301.1	342.8	402.9	487.5	589.7
125°	233.1	234.7	239.6	248.5	264.0	287.2	318.1	356.4	407.6	479.3	568.1
127.5°	246.5	248.9	254.9	263.9	281.0	303.9	333.4	367.6	413.6	474.1	548.9
130°	255.0	257.4	264.6	274.3	291.3	314.1	342.7	375.3	417.7	470.6	538.1
132.5°	261.2	264.3	272.3	284.0	301.1	323.0	350.6	382.2	420.4	468.5	528.1
135°	272.6	275.7	284.6	296.8	313.7	336.1	362.3	390.9	424.4	465.2	514.7
137.5°	283.2	286.6	295.3	308.3	325.1	345.7	370.5	397.4	426.9	461.5	503.1
140°	290.1	294.2	302.3	315.4	331.6	352.0	375.9	400.6	428.5	459.7	495.9
142.5°	297.9	301.3	310.0	321.6	337.9	356.9	379.8	403.7	429.5	457.2	489.4
145°	310.5	312.8	320.0	332.2	345.9	364.6	385.7	407.7	430.5	454.9	481.7
147.5°	322.8	324.2	331.4	341.9	355.3	371.3	390.6	410.3	430.5	451.8	474.3
150°	331.3	332.1	338.5	349.1	360.5	375.2	393.9	411.0	430.5	449.2	469.5
152.5°	339.7	339.8	346.3	355.6	365.7	379.8	395.8	412.3	428.5	446.0	464.4
155°	352.4	352.4	357.3	365.4	374.4	385.7	399.6	412.6	426.4	440.3	456.6
157.5°	362.5	363.1	367.0	374.2	381.8	390.6	401.7	413.4	423.7	435.2	447.8
160°	370.3	370.3	373.6	380.0	385.7	393.9	403.7	413.4	422.4	431.3	441.9
162.5°	376.2	376.2	378.8	383.9	389.0	395.8	404.3	412.8	419.8	427.4	436.0
165°	384.9	384.1	385.7	389.8	393.1	398.8	405.3	411.0	415.9	421.6	428.0
167.5°	391.6	390.6	391.4	394.5	396.8	400.4	405.1	409.7	412.0	415.7	420.4
170°	395.5	393.9	394.7	397.1	398.8	400.4	404.5	407.7	409.4	411.8	415.9
172.5°	398.1	397.1	397.3	399.1	400.1	401.0	404.5	407.1	407.4	408.5	411.3
175°	401.2	400.4	399.6	401.2	401.2	402.0	403.7	405.3	404.5	404.5	406.1
177.5°	402.7	402.0	401.4	402.0	402.0	402.0	402.7	404.0	402.7	402.0	402.7
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	58.2	61.2	64.2	66.4	67.1	68.2	69.1	69.9
90°	69.0	72.7	76.4	79.9	79.9	81.5	83.2	83.2
92.5°	114.6	103.3	99.7	97.3	96.6	94.9	96.5	95.8
95°	335.8	244.0	203.5	175.9	161.3	154.8	150.0	147.6
97.5°	770.2	627.4	524.9	429.3	370.1	334.3	313.2	307.0
100°	997.4	933.9	841.2	727.2	646.0	587.3	556.4	558.2
102.5°	1071.6	1071.9	1018.8	947.1	884.0	837.9	812.1	794.3
105°	1091.2	1174.9	1192.8	1173.1	1136.4	1106.3	1081.0	1077.7
107.5°	1024.2	1158.6	1232.2	1262.7	1264.0	1254.3	1246.3	1239.6
110°	961.3	1113.3	1218.0	1276.4	1299.8	1307.1	1306.1	1305.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	898.9	1053.9	1171.0	1245.7	1288.1	1309.0	1315.9	1317.0
115°	816.0	959.7	1081.3	1171.3	1233.1	1269.6	1286.5	1291.3
117.5°	755.2	879.5	988.9	1080.3	1144.5	1186.3	1210.3	1216.5
120°	723.0	834.8	934.4	1017.8	1082.7	1128.9	1149.0	1154.5
122.5°	697.2	798.6	891.0	968.5	1026.2	1067.8	1089.9	1096.7
125°	662.7	753.2	833.1	899.4	952.0	988.4	1009.3	1015.6
127.5°	632.2	713.0	785.1	845.5	892.4	923.7	942.6	948.4
130°	612.9	687.8	755.4	811.7	855.4	885.2	902.8	909.8
132.5°	595.0	664.0	726.8	780.6	821.7	851.7	867.3	872.5
135°	570.8	630.1	684.4	731.8	772.2	797.0	812.0	818.2
137.5°	548.5	597.2	644.2	685.3	719.2	744.4	757.2	761.3
140°	535.5	578.2	618.6	654.4	685.7	709.0	722.4	722.0
142.5°	522.9	559.7	594.7	625.9	652.6	673.3	685.4	685.0
145°	508.3	535.9	562.6	586.7	607.4	624.8	631.7	633.7
147.5°	496.5	518.0	539.2	556.3	572.0	583.8	590.4	591.3
150°	488.3	507.0	524.1	539.6	552.0	561.2	566.2	566.4
152.5°	481.1	497.3	512.4	525.2	534.9	543.2	546.2	546.3
155°	470.3	483.4	495.6	505.4	512.7	519.2	520.8	521.6
157.5°	459.0	469.9	479.3	487.0	493.3	498.2	499.5	499.4
160°	452.5	461.5	469.5	475.2	480.9	485.8	485.8	485.0
162.5°	444.7	452.3	459.8	464.9	468.6	472.8	472.8	472.0
165°	434.6	439.4	445.2	449.2	452.5	455.8	454.9	454.9
167.5°	425.7	429.5	432.8	435.7	437.2	439.4	438.6	438.6
170°	420.0	422.4	425.6	427.2	428.0	429.7	428.8	428.8
172.5°	414.7	416.5	419.1	420.1	420.3	421.9	420.4	419.8
175°	407.7	408.5	410.2	410.2	410.2	411.0	410.2	409.4
177.5°	403.3	404.0	404.6	404.6	404.0	404.6	403.3	403.3
180°	402.0	402.0	402.0	402.0	402.0	402.0	402.0	402.0

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