

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: P331891-830

Luminaire Tested: **S123DIP-S340D805U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331891-830
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-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4070.6 lumens
Efficiency: N/A
Efficacy: 130.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

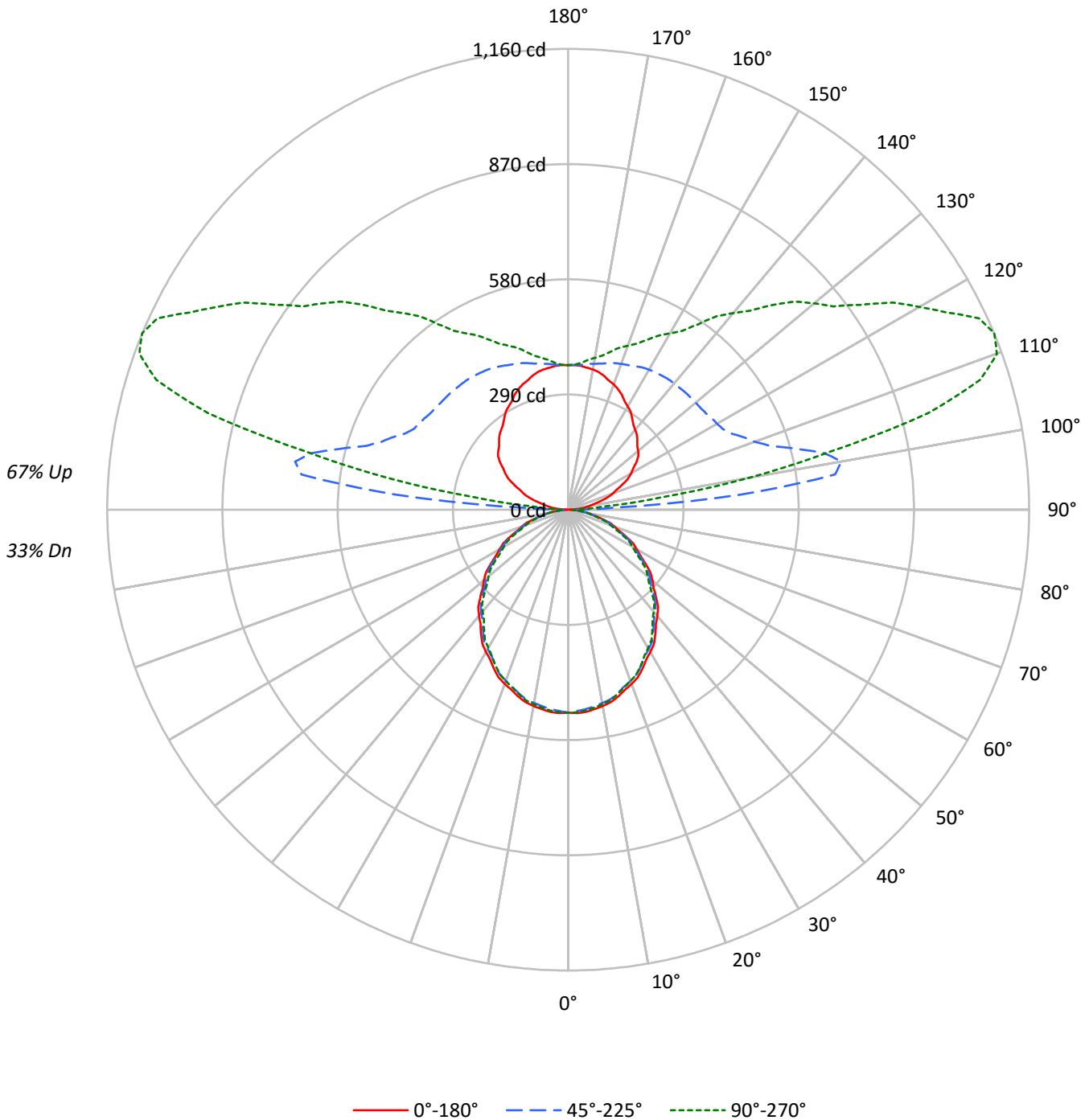
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	94	90	86	82	84	81	78	75	64	62	60	49	48	47	35	35	34	27
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28	23
3	78	69	62	56	70	62	56	51	50	45	42	38	35	33	28	26	24	19
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17
5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	20	18	14
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	18	16	13
7	55	43	36	30	50	39	33	28	32	27	23	25	21	19	18	16	14	11
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	14	13	10
9	48	36	28	24	43	33	26	22	27	22	18	21	17	15	15	13	11	9
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5498	5498	5498
5°	5524	5448	5486
10°	5487	5400	5434
15°	5422	5340	5349
20°	5347	5252	5257
25°	5247	5149	5138
30°	5137	5033	4994
35°	5021	4911	4847
40°	4900	4776	4703
45°	4766	4654	4539
50°	4632	4501	4376
55°	4459	4344	4211
60°	4284	4159	4028
65°	4126	3958	3836
70°	3899	3733	3566
75°	3564	3435	3290
80°	3211	3081	3050
85°	2816	2717	2606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	1.2
10°-20°	135.9	3.3
20°-30°	200.7	4.9
30°-40°	234.4	5.8
40°-50°	235.7	5.8
50°-60°	207.0	5.1
60°-70°	154.2	3.8
70°-80°	87.9	2.2
80°-90°	28.0	0.7
90°-100°	202.6	5.0
100°-110°	573.6	14.1
110°-120°	564.3	13.9
120°-130°	450.1	11.1
130°-140°	354.9	8.7
140°-150°	264.9	6.5
150°-160°	184.6	4.5
160°-170°	108.5	2.7
170°-180°	35.3	0.9
0°-30°	384.6	9.4
0°-40°	619.1	15.2
0°-60°	1061.7	26.1
0°-90°	1331.9	32.7
90°-120°	1340.5	32.9
90°-150°	2410.4	59.2
90°-180°	2739.0	67.3
0°-180°	4070.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	511	511	511	511	511	
5°	511	509	504	508	508	48
15°	487	485	479	482	480	137
25°	442	439	434	434	433	203
35°	382	379	374	371	369	239
45°	313	311	306	301	298	242
55°	238	237	232	227	224	213
65°	162	160	155	152	151	160
75°	86	84	83	80	79	92
85°	23	22	22	21	21	25
90°	2	9	18	21	21	3
95°	25	81	437	127	86	27
105°	86	126	592	1036	937	91
115°	151	188	453	994	1140	150
125°	210	248	423	766	899	186
135°	246	294	417	631	729	190
145°	281	322	412	518	570	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°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	512.6	512.2	511.9	511.6	511.2	510.7	509.8	509.0	508.1	507.3	508.0
5°	511.2	510.7	510.2	509.7	509.3	508.5	507.4	506.3	505.2	504.2	505.1
7.5°	506.2	505.7	505.2	504.7	504.3	503.4	502.4	501.2	500.1	499.0	499.8
10°	502.0	501.5	501.0	500.5	500.0	499.2	497.9	496.6	495.3	494.1	494.9
12.5°	496.3	496.0	495.5	495.1	494.7	493.9	492.8	491.5	490.3	489.2	489.8
15°	486.6	486.3	485.8	485.4	485.0	484.2	483.0	481.6	480.4	479.2	479.9
17.5°	475.2	474.8	474.3	473.7	473.3	472.4	471.1	469.9	468.5	467.3	467.8
20°	466.8	466.3	465.7	465.1	464.5	463.5	462.3	461.0	459.8	458.5	458.9
22.5°	457.3	456.8	456.2	455.6	455.1	454.1	452.8	451.6	450.3	449.0	449.3
25°	441.8	441.2	440.6	440.1	439.5	438.6	437.2	436.0	434.7	433.5	433.6
27.5°	425.2	424.6	424.0	423.5	422.9	422.0	420.7	419.2	417.9	416.5	416.6
30°	413.3	412.7	412.3	411.8	411.3	410.4	409.1	407.6	406.3	404.9	404.9
32.5°	401.3	400.7	400.0	399.4	398.8	397.8	396.8	395.8	394.7	393.7	393.1
35°	382.1	381.5	380.9	380.3	379.8	378.8	377.6	376.3	375.0	373.7	373.2
37.5°	362.4	361.7	360.9	360.1	359.5	358.4	357.1	355.8	354.6	353.3	352.6
40°	348.7	348.1	347.5	346.9	346.4	345.3	344.0	342.6	341.3	339.9	339.1
42.5°	335.0	334.3	333.7	333.0	332.3	331.3	330.0	328.6	327.3	325.8	325.1
45°	313.1	312.7	312.4	312.0	311.6	310.8	309.4	308.2	306.9	305.7	304.5
47.5°	291.4	290.9	290.3	289.7	289.2	288.3	287.1	285.9	284.7	283.5	282.4
50°	276.6	276.2	275.7	275.2	274.8	273.8	272.6	271.4	270.0	268.8	267.7
52.5°	261.2	260.9	260.5	260.2	259.9	259.0	257.7	256.4	255.1	253.6	252.8
55°	237.6	237.5	237.4	237.3	237.2	236.5	235.3	233.9	232.7	231.5	230.4
57.5°	215.1	214.8	214.4	214.1	213.8	213.1	212.1	211.0	210.1	209.1	208.1
60°	199.0	198.9	198.8	198.7	198.6	197.9	196.7	195.6	194.4	193.2	192.4
62.5°	184.5	184.3	184.1	183.8	183.5	182.9	181.6	180.5	179.3	178.1	177.3
65°	162.0	161.6	161.1	160.6	160.1	159.4	158.4	157.4	156.5	155.4	154.7
67.5°	138.3	137.8	137.4	137.0	136.6	135.9	135.3	134.5	133.7	133.0	132.3
70°	123.9	123.3	122.7	122.1	121.5	120.9	120.4	119.7	119.1	118.6	117.9
72.5°	108.8	108.3	107.9	107.4	107.0	106.5	105.8	105.2	104.5	103.9	103.2
75°	85.7	85.2	84.8	84.5	84.1	83.7	83.4	83.1	82.8	82.6	82.1
77.5°	65.1	64.9	64.8	64.6	64.3	64.0	63.7	63.3	63.0	62.6	62.3
80°	51.8	51.6	51.3	51.0	50.6	50.4	50.2	50.0	49.9	49.7	49.5
82.5°	38.8	38.7	38.7	38.6	38.5	38.5	38.5	38.5	38.5	38.4	38.2
85°	22.8	22.6	22.4	22.2	22.1	22.0	22.0	22.0	22.0	22.0	21.8
87.5°	9.4	9.5	9.5	9.8	9.8	10.0	10.4	10.7	11.0	11.4	11.2
90°	1.5	2.9	4.4	6.6	8.1	9.6	11.8	14.0	16.2	18.4	17.7
92.5°	9.1	13.6	19.8	25.5	31.7	42.6	61.9	93.6	124.7	113.3	85.5
95°	25.1	27.2	35.3	47.9	67.0	95.8	158.4	268.2	389.1	437.0	354.5
97.5°	42.7	43.5	49.9	60.7	79.6	110.7	170.5	294.4	495.8	677.2	724.5
100°	54.6	55.2	60.4	70.8	88.4	117.2	168.7	277.8	471.6	697.9	843.0
102.5°	66.9	68.2	72.8	82.6	98.5	124.8	171.1	263.6	436.2	659.5	848.9
105°	85.5	87.7	92.1	100.9	115.0	137.8	177.6	253.4	392.8	592.5	804.0
107.5°	105.2	107.4	111.7	120.4	133.6	154.8	189.6	252.8	365.0	533.2	725.3
110°	119.4	121.6	125.3	133.4	145.9	166.5	199.7	255.7	354.5	499.6	675.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.3	134.6	138.3	146.4	158.9	178.9	209.7	261.6	348.6	477.2	632.7
115°	151.1	154.0	158.4	165.8	178.3	198.2	226.2	271.2	346.4	453.2	580.7
117.5°	169.8	173.1	176.8	183.6	197.7	216.0	243.7	283.9	347.7	439.0	549.3
120°	182.8	184.9	188.6	196.0	210.0	228.5	255.0	293.3	350.1	432.5	532.8
122.5°	194.0	196.1	199.8	207.8	221.2	240.8	266.7	302.1	354.1	428.5	519.2
125°	210.0	211.5	215.9	224.0	238.0	257.9	283.7	316.1	360.3	423.0	501.8
127.5°	222.3	224.4	229.9	238.2	253.6	273.5	298.4	327.6	367.4	420.4	486.5
130°	229.9	232.1	238.7	247.6	263.1	283.0	307.3	335.3	372.1	418.6	478.2
132.5°	235.8	238.7	245.8	256.5	271.9	291.2	314.9	342.3	375.7	417.9	470.6
135°	246.1	249.1	257.2	268.2	283.7	303.6	326.4	351.5	381.0	417.1	460.5
137.5°	255.8	258.9	266.9	278.7	294.0	312.5	334.4	358.3	384.6	415.5	451.9
140°	262.3	266.0	273.4	285.2	299.9	318.3	339.7	361.8	386.9	414.9	446.6
142.5°	269.4	272.5	280.5	291.1	305.9	323.0	343.8	365.3	388.6	413.7	441.9
145°	280.8	283.0	289.6	300.7	313.2	330.2	349.3	369.2	389.8	411.9	435.5
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	429.3
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°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	508.8	509.6	510.4	510.8	510.7	510.6	510.5	510.4
5°	506.1	507.1	508.1	508.5	508.3	508.1	507.8	507.7
7.5°	500.8	501.6	502.5	502.8	502.8	502.7	502.6	502.4
10°	495.9	496.7	497.6	497.9	497.8	497.6	497.4	497.2
12.5°	490.4	491.1	491.7	492.0	491.9	491.7	491.6	491.5
15°	480.7	481.5	482.3	482.4	481.7	481.2	480.6	480.0
17.5°	468.3	468.9	469.5	469.7	469.4	469.2	469.0	468.8
20°	459.3	459.7	460.1	460.1	459.8	459.5	459.2	458.9
22.5°	449.6	450.0	450.3	450.3	449.9	449.5	449.1	448.7
25°	433.7	433.8	433.9	433.8	433.5	433.2	432.9	432.6
27.5°	416.7	416.8	416.8	416.7	416.3	415.9	415.6	415.2
30°	404.9	404.9	404.9	404.5	403.9	403.2	402.6	401.8
32.5°	392.6	392.0	391.5	391.1	390.7	390.3	389.9	389.6
35°	372.6	372.0	371.4	370.9	370.4	369.9	369.4	368.9
37.5°	351.9	351.2	350.4	350.0	349.7	349.3	349.0	348.7
40°	338.4	337.6	336.8	336.2	335.8	335.5	335.1	334.7
42.5°	324.3	323.5	322.7	322.2	321.8	321.4	321.0	320.6
45°	303.3	302.2	301.0	300.2	299.6	299.2	298.7	298.2
47.5°	281.3	280.1	278.9	278.1	277.7	277.3	276.8	276.4
50°	266.6	265.5	264.5	263.6	263.1	262.5	261.9	261.3
52.5°	251.8	250.9	250.0	249.2	248.6	248.1	247.5	246.9
55°	229.3	228.2	227.2	226.4	225.9	225.4	224.9	224.4
57.5°	207.2	206.1	205.2	204.4	203.9	203.3	202.7	202.2
60°	191.5	190.6	189.7	189.1	188.5	188.0	187.6	187.1
62.5°	176.3	175.5	174.7	174.0	173.7	173.3	173.1	172.7
65°	153.9	153.2	152.3	151.8	151.6	151.2	150.9	150.6
67.5°	131.6	130.9	130.3	129.7	129.3	128.8	128.5	128.1
70°	117.3	116.5	115.8	115.3	114.8	114.3	113.8	113.3
72.5°	102.6	102.0	101.4	100.9	100.8	100.5	100.2	99.9
75°	81.6	81.1	80.6	80.2	79.9	79.6	79.4	79.1
77.5°	61.9	61.6	61.3	61.2	61.2	61.2	61.2	61.2
80°	49.4	49.3	49.2	49.2	49.2	49.2	49.2	49.2
82.5°	38.1	37.9	37.7	37.5	37.5	37.4	37.3	37.2
85°	21.6	21.4	21.2	21.1	21.1	21.1	21.1	21.1
87.5°	11.2	11.3	11.4	11.7	11.5	11.7	11.8	11.7
90°	18.4	19.1	19.9	21.4	20.6	21.4	22.1	21.4
92.5°	62.0	49.2	43.5	39.7	38.4	36.1	36.9	35.5
95°	265.3	179.8	140.7	114.2	100.2	93.6	88.4	85.5
97.5°	661.3	529.7	434.6	346.5	292.1	258.9	239.0	232.7
100°	868.8	809.1	722.9	618.2	543.8	490.0	461.3	462.0
102.5°	937.7	935.9	885.6	819.3	761.4	718.8	694.7	677.8
105°	958.0	1031.6	1045.7	1026.5	992.6	964.6	941.0	937.4
107.5°	899.9	1019.5	1084.1	1110.3	1111.0	1101.5	1093.5	1086.8
110°	844.5	980.1	1072.9	1124.5	1145.1	1151.0	1149.5	1148.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	789.7	928.2	1032.3	1098.5	1136.3	1154.6	1160.2	1160.5
115°	717.0	845.2	953.6	1033.9	1089.1	1121.5	1136.3	1140.0
117.5°	664.4	775.1	872.3	953.9	1011.4	1048.6	1069.8	1074.9
120°	636.7	736.1	824.6	899.0	957.2	998.5	1016.2	1020.6
122.5°	614.9	704.9	786.8	856.0	907.7	944.8	964.3	969.9
125°	585.8	666.2	736.9	795.9	843.0	875.4	893.8	899.0
127.5°	560.5	632.1	696.0	749.6	791.5	819.3	835.9	840.7
130°	544.6	610.9	670.6	720.7	759.8	786.3	801.7	807.7
132.5°	529.8	590.9	646.4	694.2	730.8	757.4	771.1	775.2
135°	509.9	562.2	610.1	652.1	688.2	710.4	723.6	728.8
137.5°	491.8	534.7	576.0	612.4	642.7	665.2	676.4	679.8
140°	481.2	518.8	554.1	585.8	613.9	634.4	646.3	645.5
142.5°	471.2	503.4	534.1	561.7	585.5	603.8	614.4	613.7
145°	459.1	483.4	507.0	528.4	546.8	562.2	568.2	569.6
147.5°	449.2	468.5	487.6	502.8	516.7	527.2	532.8	533.4
150°	442.1	459.1	474.6	488.5	499.6	507.7	512.2	512.2
152.5°	435.6	450.3	463.9	475.6	484.3	491.8	494.5	494.5
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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