

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: P331900-927

Luminaire Tested: **S123DIP-S340D1025U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331900-927
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-S340D1025U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4058.9 lumens
Efficiency: N/A
Efficacy: 108.8 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

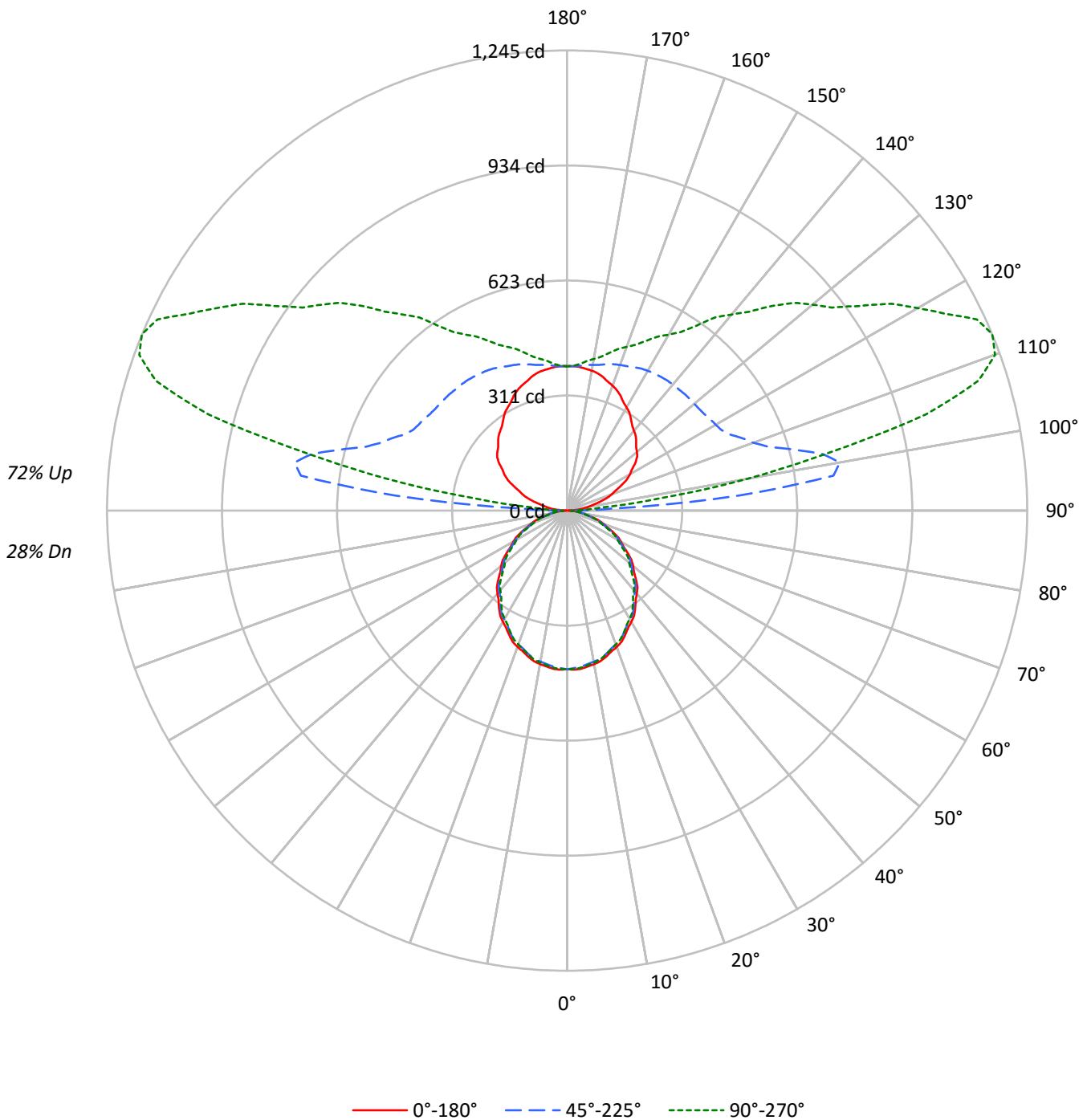
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			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	91	91	91	91	71	71	71	52	52	52	36	36	36	28
1	93	89	85	81	83	79	76	73	62	60	58	46	45	43	31	31	30	23
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25	19
3	77	68	61	55	68	61	55	50	48	44	40	36	33	31	24	23	21	16
4	70	60	52	46	63	54	47	42	42	38	34	32	29	26	22	20	18	14
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	20	18	16	12
6	59	48	40	34	53	43	36	31	34	29	25	26	22	20	18	16	14	11
7	55	43	35	30	49	39	32	27	31	26	22	23	20	17	16	14	12	9
8	51	39	31	26	45	35	28	24	28	23	20	21	18	15	15	13	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	14	14	11	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4621	4621	4621
5°	4643	4578	4611
10°	4611	4539	4568
15°	4558	4488	4496
20°	4495	4415	4418
25°	4410	4327	4318
30°	4318	4230	4197
35°	4221	4127	4075
40°	4118	4014	3953
45°	4007	3911	3815
50°	3893	3783	3677
55°	3748	3652	3539
60°	3599	3496	3384
65°	3469	3326	3224
70°	3276	3138	2996
75°	2994	2886	2766
80°	2703	2585	2566
85°	2371	2285	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	1.0
10°-20°	114.2	2.8
20°-30°	168.7	4.2
30°-40°	197.0	4.9
40°-50°	198.1	4.9
50°-60°	174.0	4.3
60°-70°	129.6	3.2
70°-80°	73.8	1.8
80°-90°	24.2	0.6
90°-100°	217.4	5.4
100°-110°	615.6	15.2
110°-120°	605.5	14.9
120°-130°	483.0	11.9
130°-140°	380.8	9.4
140°-150°	284.2	7.0
150°-160°	198.1	4.9
160°-170°	116.4	2.9
170°-180°	37.9	0.9
0°-30°	323.3	8.0
0°-40°	520.3	12.8
0°-60°	892.4	22.0
0°-90°	1120.1	27.6
90°-120°	1438.5	35.4
90°-150°	2586.5	63.7
90°-180°	2939.0	72.4
0°-180°	4058.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	430	428	424	427	427	41
15°	409	407	403	405	404	115
25°	371	369	364	365	364	171
35°	321	319	314	312	310	201
45°	263	262	257	253	251	203
55°	200	199	195	191	189	179
65°	136	134	131	128	127	134
75°	72	70	69	68	66	77
85°	19	18	18	18	18	21
90°	2	10	20	22	23	3
95°	27	87	469	137	92	29
105°	92	136	636	1112	1006	97
115°	162	202	486	1066	1223	160
125°	225	266	454	822	965	200
135°	264	315	448	677	782	204
145°	301	345	442	556	611	189
155°	342	369	428	486	507	157
165°	374	385	410	434	442	105
175°	390	390	393	398	398	37
180°	391	391	391	391	391	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	430.8	430.5	430.2	430.0	429.7	429.2	428.5	427.8	427.1	426.4	427.0
5°	429.7	429.2	428.8	428.4	428.0	427.4	426.4	425.6	424.6	423.7	424.5
7.5°	425.5	425.0	424.6	424.2	423.8	423.1	422.2	421.3	420.3	419.4	420.1
10°	421.9	421.5	421.0	420.6	420.3	419.5	418.4	417.4	416.3	415.3	416.0
12.5°	417.2	416.8	416.5	416.1	415.8	415.1	414.2	413.1	412.1	411.1	411.7
15°	409.0	408.7	408.3	408.0	407.7	406.9	405.9	404.8	403.8	402.7	403.4
17.5°	399.4	399.0	398.6	398.2	397.8	397.0	395.9	394.9	393.8	392.8	393.2
20°	392.4	391.9	391.4	390.9	390.4	389.6	388.6	387.5	386.4	385.4	385.7
22.5°	384.4	383.9	383.4	382.9	382.5	381.7	380.6	379.5	378.4	377.4	377.6
25°	371.3	370.8	370.3	369.9	369.4	368.6	367.5	366.5	365.4	364.3	364.4
27.5°	357.4	356.9	356.4	355.9	355.5	354.7	353.6	352.4	351.3	350.1	350.1
30°	347.4	346.9	346.5	346.1	345.7	344.9	343.8	342.6	341.5	340.3	340.3
32.5°	337.3	336.8	336.2	335.6	335.2	334.4	333.5	332.6	331.8	330.9	330.4
35°	321.2	320.7	320.1	319.6	319.2	318.4	317.3	316.2	315.2	314.1	313.6
37.5°	304.6	304.0	303.3	302.7	302.1	301.3	300.2	299.0	298.0	296.9	296.4
40°	293.1	292.6	292.1	291.6	291.1	290.3	289.1	288.0	286.8	285.7	285.0
42.5°	281.5	281.0	280.4	279.9	279.3	278.5	277.3	276.2	275.0	273.9	273.2
45°	263.2	262.8	262.5	262.2	261.9	261.2	260.1	259.0	257.9	256.9	256.0
47.5°	244.9	244.5	244.0	243.5	243.0	242.3	241.3	240.3	239.3	238.3	237.3
50°	232.5	232.1	231.7	231.3	230.9	230.1	229.1	228.1	227.0	225.9	225.0
52.5°	219.5	219.3	219.0	218.7	218.4	217.7	216.6	215.5	214.4	213.2	212.5
55°	199.7	199.6	199.6	199.5	199.4	198.8	197.7	196.6	195.6	194.6	193.6
57.5°	180.8	180.5	180.2	180.0	179.7	179.1	178.2	177.4	176.6	175.7	174.9
60°	167.2	167.2	167.1	167.0	166.9	166.4	165.3	164.4	163.4	162.4	161.7
62.5°	155.1	154.9	154.7	154.5	154.2	153.7	152.7	151.7	150.7	149.7	149.0
65°	136.2	135.8	135.4	135.0	134.6	134.0	133.2	132.3	131.5	130.6	130.0
67.5°	116.2	115.8	115.5	115.1	114.8	114.2	113.7	113.0	112.4	111.8	111.2
70°	104.1	103.6	103.1	102.6	102.1	101.6	101.2	100.6	100.1	99.7	99.1
72.5°	91.4	91.0	90.7	90.3	89.9	89.5	89.0	88.4	87.9	87.3	86.7
75°	72.0	71.6	71.3	71.0	70.7	70.3	70.1	69.9	69.6	69.4	69.0
77.5°	54.7	54.6	54.4	54.3	54.0	53.8	53.6	53.2	52.9	52.6	52.4
80°	43.6	43.3	43.1	42.9	42.5	42.4	42.2	42.1	41.9	41.7	41.6
82.5°	32.6	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.2	32.1
85°	19.2	19.0	18.9	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.3
87.5°	8.0	8.1	8.2	8.5	8.6	8.8	9.2	9.7	10.1	10.5	10.2
90°	1.6	3.2	4.8	7.1	8.7	10.3	12.7	15.1	17.4	19.8	19.0
92.5°	9.8	14.6	21.2	27.3	34.0	45.7	66.4	100.4	133.8	121.6	91.7
95°	26.9	29.2	37.9	51.4	71.9	102.8	170.0	287.8	417.5	468.9	380.3
97.5°	45.9	46.7	53.5	65.1	85.4	118.7	183.0	315.8	532.0	726.7	777.4
100°	58.5	59.3	64.9	75.9	94.9	125.7	181.1	298.1	506.0	748.8	904.6
102.5°	71.8	73.2	78.1	88.6	105.7	134.0	183.6	282.9	468.1	707.7	910.9
105°	91.7	94.1	98.9	108.4	123.3	147.9	190.6	272.0	421.4	635.7	862.7
107.5°	112.9	115.3	119.9	129.2	143.3	166.0	203.5	271.2	391.7	572.2	778.2
110°	128.1	130.5	134.4	143.1	156.5	178.7	214.3	274.4	380.3	536.1	725.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.0	144.4	148.4	157.0	170.5	192.0	225.1	280.7	374.0	512.1	678.9
115°	162.1	165.2	170.0	177.9	191.4	212.7	242.7	291.0	371.6	486.3	623.1
117.5°	182.2	185.8	189.8	197.0	212.1	231.9	261.6	304.6	373.0	471.1	589.4
120°	196.1	198.4	202.4	210.3	225.4	245.1	273.6	314.7	375.6	464.1	571.7
122.5°	208.1	210.5	214.4	223.0	237.4	258.4	286.2	324.2	380.0	459.7	557.1
125°	225.4	227.0	231.7	240.3	255.4	276.8	304.4	339.2	386.7	453.9	538.5
127.5°	238.5	240.8	246.7	255.6	272.2	293.5	320.3	351.6	394.3	451.1	522.0
130°	246.7	249.1	256.2	265.7	282.3	303.6	329.7	359.8	399.3	449.2	513.2
132.5°	253.0	256.0	263.8	275.2	291.8	312.5	337.9	367.4	403.1	448.5	504.9
135°	264.1	267.3	276.0	287.8	304.4	325.7	350.3	377.2	408.8	447.6	494.2
137.5°	274.6	277.9	286.4	299.0	315.5	335.3	358.9	384.4	412.6	445.8	484.9
140°	281.5	285.4	293.3	306.0	321.9	341.6	364.6	388.2	415.1	445.2	479.2
142.5°	289.1	292.4	301.0	312.4	328.1	346.7	369.0	392.1	417.0	443.9	474.1
145°	301.3	303.6	310.8	322.7	336.0	354.3	374.8	396.2	418.3	442.0	467.3
147.5°	313.6	315.1	322.0	332.2	345.2	360.8	379.5	398.7	418.3	439.0	460.7
150°	321.9	322.7	328.9	339.2	350.3	364.6	382.7	399.3	418.3	436.5	456.2
152.5°	330.0	330.2	336.5	345.5	355.4	369.0	384.6	400.6	416.4	433.3	451.2
155°	342.4	342.4	347.1	355.1	363.8	374.8	388.2	400.9	414.3	427.8	443.6
157.5°	352.2	352.8	356.6	363.6	371.0	379.5	390.3	401.7	411.7	422.9	435.1
160°	359.8	359.8	363.0	369.2	374.8	382.7	392.2	401.7	410.4	419.1	429.4
162.5°	365.5	365.5	368.0	373.0	378.0	384.6	392.8	401.1	407.9	415.3	423.7
165°	374.0	373.2	374.8	378.7	381.9	387.5	393.8	399.3	404.1	409.6	415.9
167.5°	380.5	379.5	380.3	383.3	385.6	389.0	393.6	398.1	400.3	403.9	408.5
170°	384.3	382.7	383.5	385.9	387.5	389.0	393.0	396.2	397.8	400.1	404.1
172.5°	386.8	385.9	386.0	387.8	388.7	389.7	393.0	395.5	395.9	397.0	399.7
175°	389.8	389.0	388.2	389.8	389.8	390.6	392.2	393.8	393.0	393.0	394.6
177.5°	391.3	390.6	390.0	390.6	390.6	390.6	391.3	392.5	391.3	390.6	391.3
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	427.6	428.3	429.0	429.3	429.2	429.1	429.0	429.0
5°	425.4	426.2	427.1	427.4	427.2	427.1	426.8	426.7
7.5°	420.9	421.6	422.3	422.6	422.6	422.5	422.4	422.2
10°	416.8	417.5	418.2	418.5	418.4	418.2	418.0	417.9
12.5°	412.2	412.7	413.3	413.5	413.4	413.3	413.2	413.1
15°	404.0	404.6	405.4	405.4	404.9	404.4	403.9	403.5
17.5°	393.6	394.1	394.6	394.7	394.5	394.3	394.2	394.0
20°	386.0	386.3	386.7	386.7	386.4	386.2	386.0	385.7
22.5°	377.9	378.2	378.4	378.4	378.1	377.8	377.5	377.2
25°	364.5	364.6	364.6	364.6	364.3	364.1	363.8	363.6
27.5°	350.2	350.3	350.3	350.2	349.9	349.6	349.3	349.0
30°	340.3	340.3	340.3	340.0	339.5	338.9	338.3	337.7
32.5°	329.9	329.5	329.1	328.7	328.4	328.0	327.7	327.4
35°	313.1	312.7	312.1	311.7	311.3	310.9	310.5	310.1
37.5°	295.7	295.2	294.5	294.1	293.9	293.6	293.3	293.1
40°	284.4	283.8	283.0	282.6	282.3	281.9	281.6	281.3
42.5°	272.6	271.9	271.2	270.8	270.5	270.1	269.8	269.4
45°	254.9	254.0	252.9	252.3	251.8	251.4	251.0	250.6
47.5°	236.4	235.4	234.4	233.8	233.4	233.1	232.7	232.3
50°	224.1	223.2	222.3	221.6	221.1	220.6	220.1	219.6
52.5°	211.7	210.9	210.1	209.5	209.0	208.5	208.0	207.6
55°	192.7	191.8	190.9	190.3	189.9	189.4	189.0	188.6
57.5°	174.1	173.3	172.5	171.8	171.3	170.9	170.4	169.9
60°	161.0	160.2	159.5	158.9	158.4	158.0	157.6	157.2
62.5°	148.2	147.5	146.8	146.2	146.0	145.7	145.4	145.1
65°	129.4	128.7	128.0	127.6	127.4	127.1	126.8	126.6
67.5°	110.6	110.0	109.5	109.0	108.7	108.3	108.0	107.7
70°	98.5	97.9	97.4	96.9	96.5	96.1	95.6	95.2
72.5°	86.3	85.7	85.2	84.8	84.7	84.4	84.2	84.0
75°	68.6	68.1	67.7	67.4	67.2	66.9	66.7	66.5
77.5°	52.0	51.8	51.5	51.4	51.4	51.4	51.4	51.4
80°	41.5	41.4	41.4	41.4	41.4	41.4	41.4	41.4
82.5°	32.0	31.8	31.7	31.5	31.5	31.4	31.4	31.3
85°	18.1	18.0	17.8	17.7	17.7	17.7	17.7	17.7
87.5°	10.3	10.4	10.5	10.8	10.6	10.8	10.9	10.8
90°	19.8	20.6	21.4	22.9	22.1	22.9	23.7	22.9
92.5°	66.5	52.8	46.7	42.5	41.1	38.7	39.5	38.1
95°	284.6	193.0	151.1	122.6	107.6	100.4	94.9	91.7
97.5°	709.6	568.4	466.4	371.8	313.5	277.9	256.5	249.7
100°	932.3	868.2	775.7	663.5	583.6	525.9	495.0	495.8
102.5°	1006.3	1004.2	950.3	879.2	817.0	771.3	745.5	727.3
105°	1027.9	1107.1	1122.0	1101.5	1065.1	1035.1	1009.8	1005.8
107.5°	965.7	1094.1	1163.3	1191.5	1192.2	1182.0	1173.5	1166.2
110°	906.2	1051.7	1151.3	1206.7	1228.8	1235.2	1233.6	1232.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	847.3	996.0	1107.6	1178.8	1219.3	1238.9	1244.9	1245.2
115°	769.4	907.0	1023.2	1109.4	1168.7	1203.5	1219.3	1223.3
117.5°	713.0	831.7	936.0	1023.5	1085.4	1125.2	1148.0	1153.3
120°	683.2	790.0	884.9	964.7	1027.1	1071.4	1090.4	1095.2
122.5°	659.8	756.5	844.4	918.5	974.1	1013.9	1034.7	1040.8
125°	628.7	714.9	790.8	854.0	904.6	939.4	959.2	964.7
127.5°	601.4	678.3	746.8	804.3	849.4	879.2	897.0	902.1
130°	584.4	655.5	719.5	773.3	815.2	843.8	860.3	866.6
132.5°	568.5	634.0	693.6	744.9	784.3	812.7	827.4	831.9
135°	547.2	603.3	654.7	699.8	738.6	762.2	776.5	782.0
137.5°	527.8	573.8	618.1	657.1	689.7	713.8	725.7	729.4
140°	516.3	556.7	594.6	628.7	658.7	680.8	693.5	692.7
142.5°	505.6	540.3	573.1	602.7	628.4	647.9	659.3	658.5
145°	492.7	518.7	544.0	567.0	586.7	603.3	609.7	611.2
147.5°	482.0	502.7	523.2	539.5	554.4	565.7	571.7	572.4
150°	474.4	492.7	509.2	524.3	536.1	544.8	549.5	549.5
152.5°	467.5	483.2	497.9	510.3	519.7	527.8	530.6	530.6
155°	457.0	469.7	481.6	491.1	498.2	504.5	506.0	506.8
157.5°	446.0	456.5	465.7	473.2	479.3	484.1	485.4	485.2
160°	439.7	448.4	456.2	461.8	467.3	472.1	472.1	471.3
162.5°	432.1	439.5	446.8	451.7	455.3	459.4	459.4	458.6
165°	422.2	427.0	432.5	436.5	439.7	442.8	442.0	442.0
167.5°	413.7	417.3	420.5	423.3	424.8	427.0	426.2	426.2
170°	408.1	410.4	413.5	415.1	415.9	417.5	416.7	416.7
172.5°	403.0	404.7	407.3	408.2	408.4	410.0	408.5	407.9
175°	396.2	397.0	398.5	398.5	398.5	399.3	398.5	397.8
177.5°	391.9	392.5	393.2	393.2	392.5	393.2	391.9	391.9
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6

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