

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: P331900-840

Luminaire Tested: **S123DIP-S340D1025U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331900-840
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-S340D1025U840-4F0-1E-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: 5174.3 lumens
Efficiency: N/A
Efficacy: 138.7 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

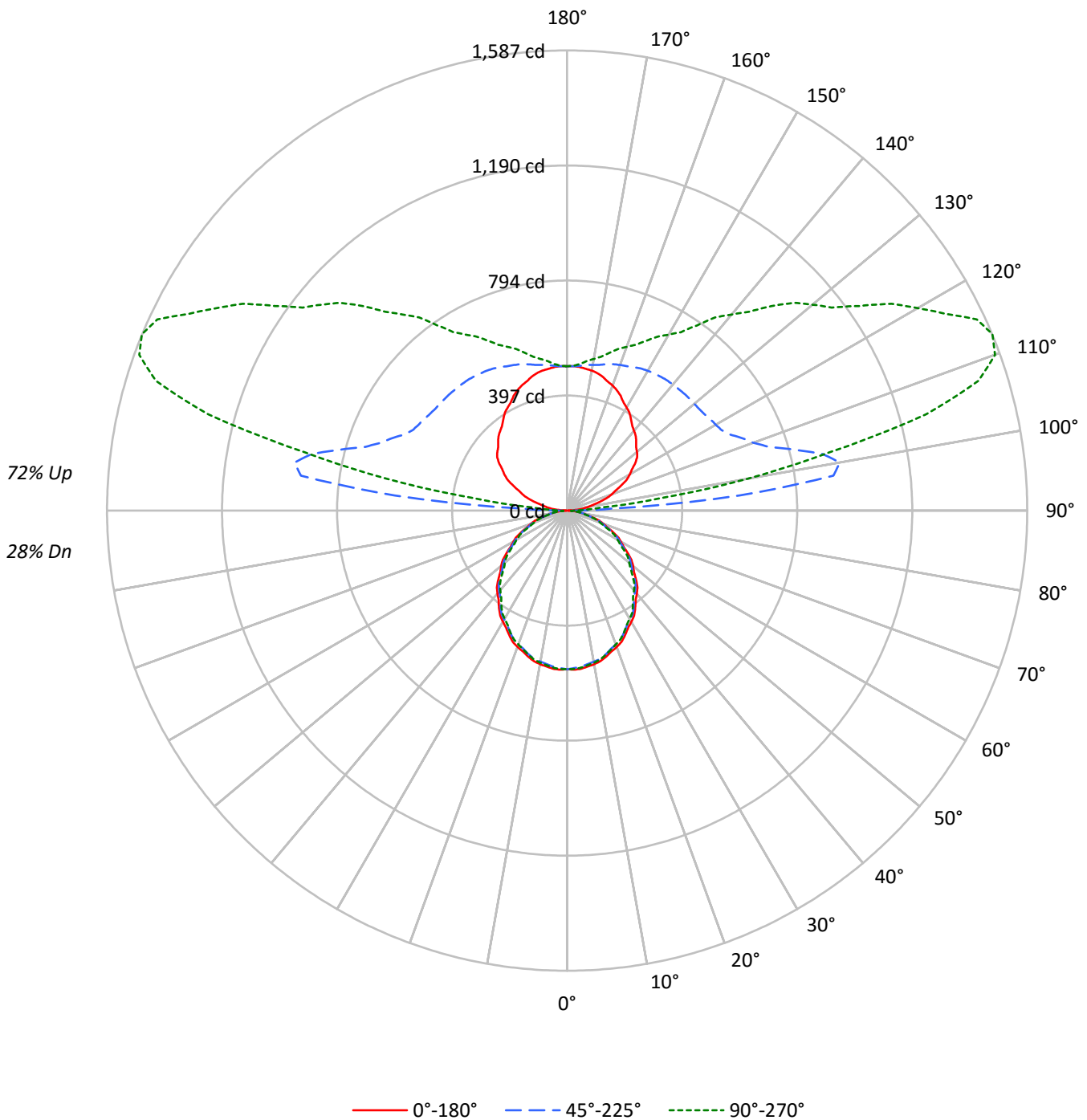
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
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°	5890	5890	5890
5°	5919	5837	5877
10°	5879	5786	5822
15°	5810	5721	5731
20°	5730	5628	5632
25°	5621	5516	5505
30°	5504	5392	5351
35°	5380	5261	5194
40°	5251	5117	5039
45°	5107	4985	4864
50°	4963	4823	4687
55°	4778	4654	4511
60°	4590	4456	4316
65°	4422	4241	4111
70°	4176	3997	3821
75°	3818	3681	3523
80°	3440	3298	3267
85°	3013	2902	2791



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	1.0
10°-20°	145.6	2.8
20°-30°	215.0	4.2
30°-40°	251.2	4.9
40°-50°	252.5	4.9
50°-60°	221.8	4.3
60°-70°	165.2	3.2
70°-80°	94.1	1.8
80°-90°	30.9	0.6
90°-100°	277.1	5.4
100°-110°	784.7	15.2
110°-120°	771.9	14.9
120°-130°	615.7	11.9
130°-140°	485.5	9.4
140°-150°	362.3	7.0
150°-160°	252.5	4.9
160°-170°	148.4	2.9
170°-180°	48.3	0.9
0°-30°	412.1	8.0
0°-40°	663.3	12.8
0°-60°	1137.6	22.0
0°-90°	1427.8	27.6
90°-120°	1833.8	35.4
90°-150°	3297.3	63.7
90°-180°	3746.0	72.4
0°-180°	5174.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	548	545	540	545	544	52
15°	521	519	513	517	514	147
25°	473	470	464	465	464	218
35°	409	406	400	398	395	256
45°	336	333	328	322	320	259
55°	255	254	248	243	240	228
65°	174	171	166	163	161	171
75°	92	90	88	86	85	98
85°	24	24	24	23	23	27
90°	2	12	25	28	29	4
95°	34	111	598	174	117	37
105°	117	173	810	1417	1282	124
115°	207	258	620	1359	1559	205
125°	287	339	579	1048	1230	255
135°	337	402	571	863	997	260
145°	384	440	564	708	779	241
155°	436	471	545	620	646	201
165°	477	490	522	554	564	134
175°	497	498	501	508	507	47
180°	498	498	498	498	498	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	549.2	548.8	548.5	548.2	547.8	547.1	546.2	545.3	544.4	543.5	544.3
5°	547.8	547.1	546.6	546.1	545.6	544.8	543.6	542.5	541.3	540.2	541.2
7.5°	542.4	541.8	541.3	540.8	540.3	539.4	538.3	537.0	535.8	534.6	535.5
10°	537.9	537.3	536.7	536.2	535.7	534.8	533.4	532.1	530.7	529.4	530.3
12.5°	531.8	531.4	530.9	530.5	530.1	529.2	528.0	526.6	525.3	524.1	524.8
15°	521.4	521.0	520.5	520.1	519.7	518.8	517.5	516.0	514.7	513.4	514.2
17.5°	509.2	508.7	508.2	507.6	507.1	506.1	504.7	503.4	502.0	500.7	501.2
20°	500.2	499.6	499.0	498.3	497.7	496.7	495.3	493.9	492.6	491.3	491.7
22.5°	490.0	489.4	488.8	488.2	487.6	486.6	485.1	483.8	482.4	481.1	481.4
25°	473.3	472.7	472.1	471.5	470.9	469.9	468.5	467.2	465.7	464.4	464.5
27.5°	455.6	454.9	454.3	453.7	453.1	452.1	450.7	449.2	447.8	446.3	446.4
30°	442.8	442.2	441.7	441.2	440.7	439.7	438.3	436.8	435.4	433.8	433.8
32.5°	430.0	429.3	428.6	427.9	427.3	426.3	425.2	424.0	422.9	421.8	421.2
35°	409.4	408.8	408.1	407.5	406.9	405.9	404.6	403.1	401.8	400.4	399.8
37.5°	388.3	387.5	386.7	385.9	385.2	384.1	382.6	381.2	379.9	378.5	377.8
40°	373.7	372.9	372.3	371.7	371.1	370.0	368.6	367.1	365.7	364.2	363.3
42.5°	358.9	358.2	357.5	356.8	356.1	355.0	353.6	352.0	350.6	349.1	348.3
45°	335.5	335.1	334.7	334.3	333.9	333.0	331.5	330.2	328.8	327.5	326.3
47.5°	312.3	311.6	311.0	310.4	309.8	308.9	307.6	306.3	305.1	303.8	302.6
50°	296.4	295.9	295.4	294.9	294.4	293.4	292.1	290.7	289.3	288.0	286.8
52.5°	279.8	279.5	279.1	278.8	278.4	277.5	276.1	274.7	273.3	271.8	270.8
55°	254.6	254.5	254.4	254.3	254.2	253.4	252.1	250.6	249.3	248.0	246.8
57.5°	230.5	230.1	229.7	229.4	229.0	228.3	227.2	226.1	225.1	224.0	223.0
60°	213.2	213.1	213.0	212.9	212.8	212.1	210.8	209.5	208.3	207.0	206.1
62.5°	197.7	197.4	197.2	196.9	196.6	195.9	194.6	193.4	192.1	190.9	190.0
65°	173.6	173.1	172.6	172.1	171.6	170.8	169.8	168.6	167.6	166.5	165.7
67.5°	148.1	147.6	147.2	146.7	146.3	145.6	144.9	144.1	143.3	142.5	141.8
70°	132.7	132.1	131.5	130.8	130.2	129.6	129.0	128.3	127.6	127.0	126.3
72.5°	116.5	116.0	115.6	115.1	114.6	114.1	113.4	112.7	112.0	111.3	110.6
75°	91.8	91.3	90.9	90.5	90.1	89.7	89.4	89.1	88.8	88.5	88.0
77.5°	69.8	69.6	69.4	69.2	68.9	68.6	68.3	67.9	67.5	67.1	66.8
80°	55.5	55.2	54.9	54.6	54.2	54.0	53.8	53.6	53.4	53.2	53.0
82.5°	41.6	41.5	41.5	41.4	41.3	41.3	41.2	41.2	41.2	41.1	40.9
85°	24.4	24.2	24.0	23.8	23.6	23.5	23.5	23.5	23.5	23.5	23.3
87.5°	10.2	10.3	10.5	10.8	11.0	11.2	11.7	12.3	12.8	13.3	13.0
90°	2.0	4.0	6.1	9.1	11.1	13.1	16.2	19.2	22.2	25.2	24.2
92.5°	12.5	18.6	27.1	34.8	43.3	58.3	84.6	128.1	170.6	155.0	116.9
95°	34.2	37.3	48.4	65.5	91.7	131.1	216.7	366.9	532.2	597.7	484.8
97.5°	58.5	59.5	68.2	83.0	108.9	151.4	233.3	402.6	678.2	926.3	991.1
100°	74.6	75.6	82.7	96.7	121.0	160.3	230.9	380.0	645.1	954.6	1153.2
102.5°	91.5	93.3	99.6	112.9	134.7	170.8	234.1	360.6	596.7	902.2	1161.2
105°	116.9	120.0	126.0	138.1	157.2	188.5	243.0	346.8	537.2	810.4	1099.7
107.5°	143.9	146.9	152.8	164.7	182.7	211.7	259.4	345.8	499.4	729.4	992.1
110°	163.3	166.3	171.4	182.5	199.5	227.8	273.2	349.8	484.8	683.5	924.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.1	184.1	189.1	200.2	217.3	244.8	286.9	357.9	476.8	652.8	865.5
115°	206.6	210.7	216.7	226.8	244.0	271.1	309.4	370.9	473.7	620.0	794.4
117.5°	232.3	236.9	242.0	251.2	270.3	295.6	333.5	388.3	475.5	600.6	751.3
120°	249.9	253.0	258.0	268.1	287.3	312.5	348.8	401.2	478.8	591.7	728.8
122.5°	265.3	268.3	273.4	284.3	302.7	329.4	364.9	413.3	484.4	586.0	710.2
125°	287.3	289.3	295.4	306.4	325.6	352.8	388.1	432.4	492.9	578.7	686.5
127.5°	304.1	307.0	314.5	325.8	347.0	374.2	408.3	448.2	502.6	575.0	665.5
130°	314.5	317.5	326.6	338.7	359.8	387.1	420.3	458.7	509.1	572.6	654.2
132.5°	322.6	326.4	336.3	350.8	371.9	398.4	430.8	468.4	513.9	571.8	643.7
135°	336.7	340.7	351.8	366.9	388.1	415.3	446.6	480.8	521.2	570.6	630.1
137.5°	350.0	354.3	365.1	381.2	402.2	427.4	457.5	490.1	525.9	568.4	618.1
140°	358.9	363.9	374.0	390.1	410.3	435.5	464.7	494.9	529.2	567.5	610.9
142.5°	368.5	372.7	383.6	398.2	418.3	441.9	470.4	499.8	531.6	565.9	604.4
145°	384.1	387.1	396.2	411.3	428.4	451.6	477.8	505.0	533.2	563.5	595.7
147.5°	399.8	401.6	410.5	423.5	440.1	459.9	483.8	508.3	533.2	559.7	587.2
150°	410.3	411.3	419.3	432.4	446.6	464.7	487.9	509.1	533.2	556.4	581.6
152.5°	420.7	420.9	429.0	440.5	453.0	470.4	490.3	510.7	530.8	552.4	575.2
155°	436.5	436.5	442.5	452.6	463.7	477.8	494.9	511.1	528.2	545.3	565.5
157.5°	449.0	449.8	454.6	463.5	472.9	483.8	497.6	512.1	524.8	539.1	554.6
160°	458.7	458.7	462.7	470.7	477.8	487.9	500.0	512.1	523.2	534.2	547.3
162.5°	466.0	466.0	469.2	475.5	481.8	490.3	500.8	511.3	520.0	529.4	540.1
165°	476.8	475.7	477.8	482.8	486.9	493.9	502.0	509.1	515.1	522.2	530.2
167.5°	485.0	483.8	484.8	488.7	491.5	495.9	501.8	507.5	510.3	514.9	520.8
170°	489.9	487.9	488.9	491.9	493.9	495.9	501.0	505.0	507.1	510.1	515.1
172.5°	493.1	491.9	492.1	494.3	495.5	496.8	501.0	504.2	504.6	506.0	509.5
175°	497.0	495.9	494.9	497.0	497.0	498.0	500.0	502.0	501.0	501.0	503.0
177.5°	498.8	498.0	497.2	498.0	498.0	498.0	498.8	500.4	498.8	498.0	498.8
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	545.1	546.0	546.8	547.2	547.1	547.0	546.9	546.8
5°	542.3	543.3	544.4	544.8	544.6	544.4	544.1	543.9
7.5°	536.5	537.5	538.4	538.8	538.7	538.6	538.5	538.3
10°	531.3	532.2	533.1	533.5	533.3	533.1	532.9	532.7
12.5°	525.4	526.1	526.8	527.1	527.0	526.8	526.7	526.6
15°	515.0	515.8	516.7	516.8	516.1	515.5	514.9	514.3
17.5°	501.8	502.4	503.0	503.2	502.9	502.7	502.5	502.3
20°	492.1	492.5	492.9	493.0	492.6	492.3	492.0	491.7
22.5°	481.7	482.1	482.4	482.4	482.0	481.6	481.2	480.8
25°	464.6	464.7	464.8	464.7	464.4	464.1	463.8	463.5
27.5°	446.5	446.6	446.6	446.5	446.1	445.7	445.2	444.8
30°	433.8	433.8	433.8	433.4	432.7	432.0	431.3	430.5
32.5°	420.6	420.0	419.5	419.0	418.6	418.2	417.8	417.4
35°	399.2	398.6	397.9	397.4	396.9	396.3	395.8	395.3
37.5°	377.0	376.3	375.5	375.0	374.7	374.3	374.0	373.7
40°	362.5	361.7	360.8	360.2	359.8	359.4	359.0	358.6
42.5°	347.5	346.6	345.8	345.2	344.8	344.4	344.0	343.5
45°	325.0	323.8	322.4	321.6	321.0	320.5	320.0	319.5
47.5°	301.3	300.1	298.8	298.0	297.5	297.1	296.6	296.2
50°	285.7	284.5	283.4	282.5	281.9	281.2	280.6	279.9
52.5°	269.8	268.8	267.8	267.0	266.4	265.8	265.2	264.6
55°	245.7	244.5	243.4	242.6	242.1	241.5	241.0	240.4
57.5°	222.0	220.9	219.8	219.0	218.4	217.8	217.2	216.6
60°	205.2	204.2	203.3	202.6	202.0	201.5	201.0	200.5
62.5°	188.9	188.0	187.1	186.4	186.1	185.7	185.4	185.0
65°	164.9	164.1	163.2	162.7	162.4	162.0	161.7	161.4
67.5°	141.0	140.3	139.6	139.0	138.6	138.0	137.6	137.2
70°	125.6	124.8	124.1	123.5	123.0	122.5	121.9	121.4
72.5°	110.0	109.3	108.7	108.2	108.0	107.7	107.3	107.0
75°	87.5	86.8	86.3	85.9	85.6	85.3	85.0	84.7
77.5°	66.3	66.0	65.6	65.5	65.5	65.5	65.5	65.5
80°	52.9	52.8	52.7	52.7	52.7	52.7	52.7	52.7
82.5°	40.8	40.6	40.4	40.2	40.2	40.1	40.0	39.9
85°	23.1	22.9	22.7	22.6	22.6	22.6	22.6	22.6
87.5°	13.1	13.2	13.4	13.7	13.5	13.7	13.9	13.7
90°	25.2	26.3	27.3	29.2	28.2	29.2	30.2	29.2
92.5°	84.8	67.4	59.5	54.2	52.4	49.4	50.4	48.6
95°	362.8	246.0	192.6	156.2	137.1	128.1	121.0	116.9
97.5°	904.6	724.6	594.5	473.9	399.6	354.3	327.0	318.3
100°	1188.5	1106.8	988.9	845.8	744.0	670.3	631.1	632.1
102.5°	1282.8	1280.2	1211.4	1120.7	1041.5	983.2	950.4	927.2
105°	1310.4	1411.3	1430.4	1404.2	1357.8	1319.5	1287.3	1282.2
107.5°	1231.0	1394.7	1483.0	1518.9	1519.7	1506.8	1495.9	1486.6
110°	1155.2	1340.7	1467.6	1538.2	1566.5	1574.6	1572.6	1570.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1080.2	1269.7	1412.0	1502.8	1554.4	1579.3	1587.0	1587.4
115°	980.8	1156.2	1304.3	1414.2	1489.9	1534.2	1554.4	1559.4
117.5°	908.9	1060.3	1193.3	1304.7	1383.6	1434.4	1463.5	1470.3
120°	870.9	1007.0	1128.0	1229.8	1309.4	1365.8	1390.1	1396.1
122.5°	841.1	964.3	1076.4	1170.9	1241.7	1292.5	1319.1	1326.8
125°	801.4	911.3	1008.0	1088.6	1153.2	1197.5	1222.7	1229.8
127.5°	766.7	864.6	952.0	1025.3	1082.8	1120.7	1143.5	1149.9
130°	745.0	835.7	917.3	985.8	1039.3	1075.6	1096.7	1104.8
132.5°	724.8	808.2	884.2	949.6	999.8	1036.0	1054.8	1060.5
135°	697.5	769.1	834.7	892.1	941.5	971.7	989.9	996.9
137.5°	672.8	731.4	787.9	837.7	879.2	909.9	925.1	929.8
140°	658.2	709.6	758.0	801.4	839.7	867.9	884.0	883.0
142.5°	644.5	688.7	730.6	768.3	801.0	826.0	840.5	839.5
145°	628.0	661.3	693.5	722.8	747.9	769.1	777.2	779.2
147.5°	614.5	640.9	666.9	687.7	706.8	721.1	728.8	729.6
150°	604.8	628.0	649.1	668.3	683.5	694.5	700.5	700.5
152.5°	595.9	615.9	634.7	650.6	662.5	672.8	676.4	676.4
155°	582.6	598.7	613.9	626.0	635.1	643.1	645.1	646.1
157.5°	568.6	582.0	593.7	603.2	611.1	617.1	618.7	618.5
160°	560.5	571.6	581.6	588.7	595.7	601.8	601.8	600.8
162.5°	550.8	560.3	569.6	575.8	580.5	585.6	585.6	584.6
165°	538.3	544.3	551.4	556.4	560.5	564.5	563.5	563.5
167.5°	527.4	532.0	536.0	539.7	541.5	544.3	543.3	543.3
170°	520.2	523.2	527.1	529.2	530.2	532.2	531.2	531.2
172.5°	513.7	515.9	519.2	520.4	520.6	522.6	520.8	520.0
175°	505.0	506.0	508.1	508.1	508.1	509.1	508.1	507.1
177.5°	499.6	500.4	501.2	501.2	500.4	501.2	499.6	499.6
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0

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