

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

Luminaire Tested: **S123DIP-S340D805U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331888
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-S340D805U835-4F0-1E-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: 4346.1 lumens
Efficiency: N/A
Efficacy: 139.3 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

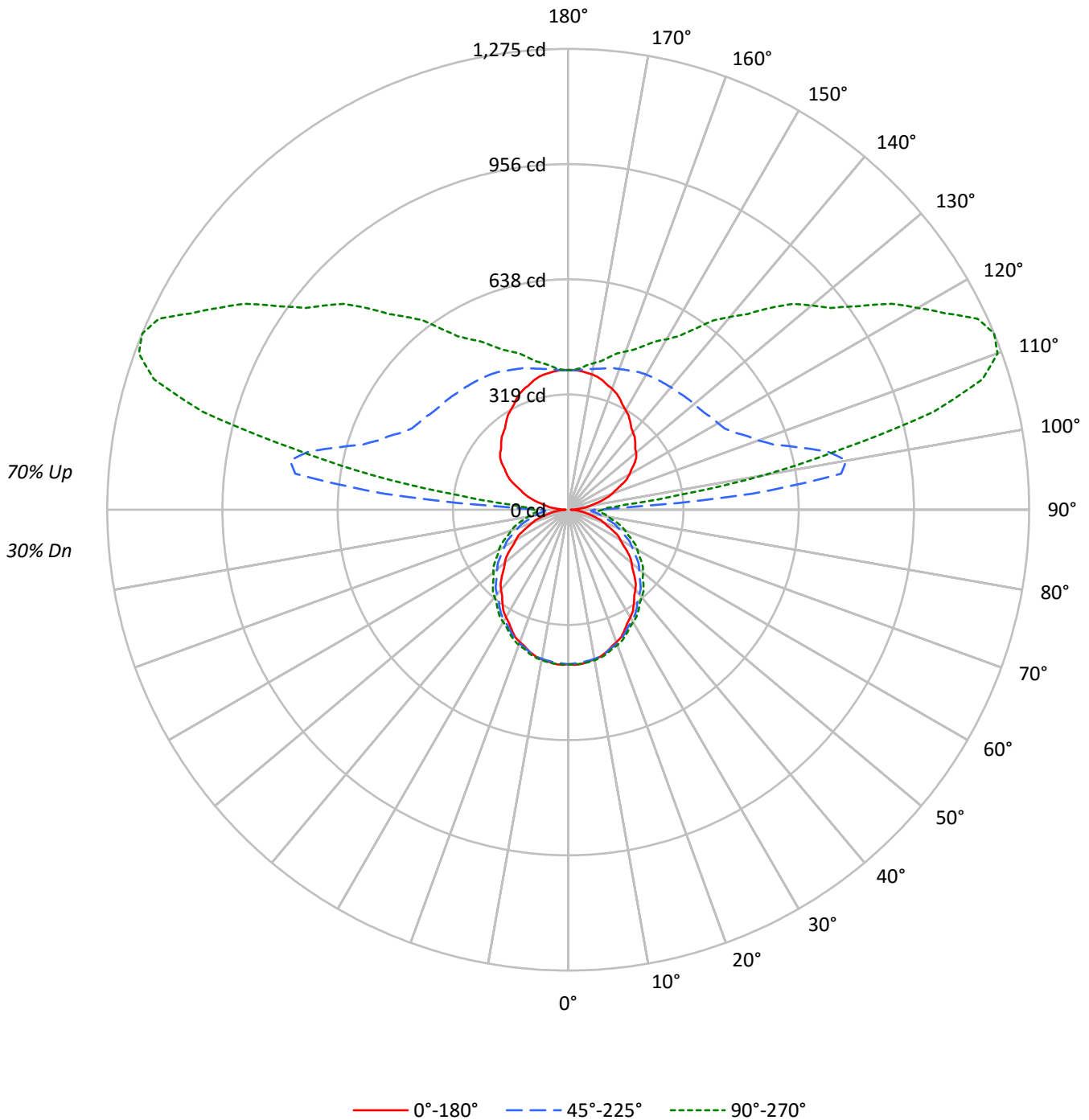
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.9
10°-20°	115.6	2.7
20°-30°	172.9	4.0
30°-40°	206.5	4.8
40°-50°	216.0	5.0
50°-60°	202.7	4.7
60°-70°	169.3	3.9
70°-80°	121.1	2.8
80°-90°	75.2	1.7
90°-100°	260.3	6.0
100°-110°	641.9	14.8
110°-120°	621.0	14.3
120°-130°	490.3	11.3
130°-140°	382.2	8.8
140°-150°	282.2	6.5
150°-160°	195.9	4.5
160°-170°	115.1	2.6
170°-180°	37.4	0.9
0°-30°	329.0	7.6
0°-40°	535.5	12.3
0°-60°	954.2	22.0
0°-90°	1319.9	30.4
90°-120°	1523.1	35.0
90°-150°	2677.9	61.6
90°-180°	3026.0	69.6
0°-180°	4346.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	8	38	72	90	96	6
95°	32	110	510	195	156	33
105°	94	149	664	1147	1047	100
115°	163	208	506	1090	1249	161
125°	224	265	464	837	982	199
135°	262	312	448	683	790	202
145°	298	341	437	553	610	187
155°	338	365	423	481	501	156
165°	370	380	405	430	437	104
175°	385	386	389	394	393	37
180°	386	386	386	386	386	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.7	18.2	23.6	29.3	34.7	40.3	46.0	51.8	57.5	63.3	66.6
90°	7.6	14.3	20.9	28.3	35.0	41.7	49.3	56.9	64.6	72.2	74.9
92.5°	15.4	24.6	35.8	46.5	57.6	74.1	99.7	138.6	176.8	169.9	143.8
95°	31.7	38.1	50.7	68.1	92.4	127.5	199.0	320.6	453.9	509.7	425.4
97.5°	49.9	54.3	64.7	79.9	103.6	140.8	209.1	345.3	563.9	761.3	814.5
100°	62.0	66.1	74.9	89.2	111.3	145.8	205.3	325.8	536.1	780.9	937.9
102.5°	74.8	79.2	87.0	100.3	120.2	152.0	205.8	308.7	496.5	738.0	941.9
105°	94.4	99.2	106.4	118.3	135.6	163.3	210.0	295.0	447.2	663.5	890.8
107.5°	114.8	119.3	125.9	137.3	153.3	179.0	220.3	291.4	414.8	597.4	803.9
110°	129.5	133.7	139.4	149.9	165.1	189.9	229.3	292.8	401.7	559.9	749.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	143.2	147.1	152.5	162.7	177.5	201.5	238.2	297.2	393.4	533.9	701.5
115°	162.6	167.0	172.9	182.0	196.5	220.1	253.5	304.9	388.4	505.5	643.3
117.5°	182.4	186.7	191.4	199.4	215.0	236.7	269.6	315.6	386.8	487.2	606.7
120°	195.8	198.6	203.0	211.4	226.8	248.3	279.8	323.9	387.5	478.5	587.2
122.5°	207.6	210.3	214.4	223.1	237.6	260.2	291.0	331.7	390.2	472.3	570.9
125°	224.2	225.8	230.5	239.1	253.9	276.5	306.9	344.3	394.2	463.7	549.5
127.5°	237.2	239.4	245.1	253.8	270.1	292.4	321.3	354.7	399.4	458.1	530.3
130°	245.3	247.6	254.5	263.8	280.1	302.2	330.1	361.8	403.0	454.3	519.6
132.5°	251.2	254.2	261.8	273.0	289.4	310.7	337.6	368.3	405.3	451.8	509.5
135°	262.1	265.1	273.6	285.2	301.5	323.1	348.5	376.2	408.7	448.1	496.1
137.5°	272.3	275.5	283.8	296.3	312.5	332.3	356.2	382.2	410.7	444.1	484.4
140°	278.8	282.7	290.5	303.0	318.7	338.4	361.4	385.1	412.0	442.0	477.2
142.5°	286.3	289.5	297.9	309.0	324.6	342.9	365.0	387.9	412.6	439.3	470.5
145°	298.3	300.6	307.5	319.1	332.3	350.3	370.6	391.7	413.6	437.0	462.9
147.5°	310.1	311.5	318.4	328.5	341.3	356.7	375.3	394.2	413.6	434.1	455.7
150°	318.2	319.0	325.2	335.4	346.3	360.4	378.4	394.8	413.6	431.6	451.1
152.5°	326.3	326.5	332.7	341.7	351.3	364.8	380.3	396.1	411.7	428.4	446.1
155°	338.5	338.5	343.2	351.0	359.6	370.6	383.9	396.4	409.7	423.0	438.6
157.5°	348.2	348.8	352.6	359.5	366.8	375.3	385.9	397.2	407.0	418.1	430.2
160°	355.7	355.7	358.9	365.1	370.6	378.4	387.8	397.2	405.8	414.4	424.5
162.5°	361.4	361.4	363.9	368.9	373.7	380.3	388.4	396.5	403.3	410.6	418.9
165°	369.8	369.0	370.6	374.5	377.6	383.1	389.3	394.8	399.5	405.0	411.2
167.5°	376.2	375.3	376.1	379.0	381.2	384.7	389.2	393.6	395.8	399.4	403.9
170°	380.0	378.4	379.2	381.5	383.1	384.7	388.6	391.7	393.3	395.6	399.5
172.5°	382.5	381.5	381.7	383.4	384.3	385.3	388.6	391.1	391.4	392.5	395.1
175°	385.4	384.7	383.9	385.4	385.4	386.2	387.8	389.3	388.6	388.6	390.1
177.5°	386.8	386.2	385.6	386.2	386.2	386.2	386.8	388.1	386.8	386.2	386.8
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	70.3	74.0	77.7	80.3	81.1	82.3	83.5	84.4
90°	79.2	83.5	87.8	91.7	91.9	93.8	95.6	95.8
92.5°	122.4	112.2	109.5	107.7	107.2	105.8	107.6	107.1
95°	334.0	246.5	208.3	182.3	168.5	162.5	158.0	155.9
97.5°	750.6	614.0	516.2	424.8	368.1	334.0	313.9	308.2
100°	968.3	908.0	819.5	710.5	632.6	576.5	547.1	548.9
102.5°	1039.1	1040.0	989.6	921.2	860.8	816.6	792.2	775.2
105°	1057.1	1138.2	1155.9	1137.5	1102.5	1073.7	1049.6	1046.7
107.5°	992.0	1121.7	1193.0	1222.7	1224.2	1215.1	1207.6	1201.3
110°	931.2	1077.7	1178.9	1235.4	1258.1	1265.2	1264.5	1263.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	870.6	1020.2	1133.2	1205.3	1246.3	1266.6	1273.4	1274.6
115°	790.4	928.9	1046.3	1133.2	1192.7	1227.9	1244.3	1249.1
117.5°	731.3	851.1	956.8	1044.9	1106.9	1147.1	1170.4	1176.5
120°	699.8	807.8	904.0	984.5	1047.0	1091.5	1111.0	1116.4
122.5°	674.7	772.5	861.7	936.6	992.2	1032.3	1053.7	1060.3
125°	640.8	728.2	805.4	869.4	920.2	955.3	975.6	981.8
127.5°	610.9	688.9	758.7	817.0	862.2	892.3	910.7	916.4
130°	592.0	664.3	729.6	784.0	826.1	854.9	871.9	878.8
132.5°	574.3	640.9	701.7	753.7	793.3	822.2	837.4	842.5
135°	550.3	607.7	660.4	706.1	745.0	768.9	783.5	789.5
137.5°	528.4	575.6	621.0	660.7	693.4	717.7	730.1	734.2
140°	515.5	556.9	596.0	630.7	660.9	683.3	696.3	696.1
142.5°	503.0	538.7	572.6	602.8	628.6	648.5	660.3	660.0
145°	488.7	515.4	541.2	564.5	584.5	601.3	608.0	609.9
147.5°	477.1	497.8	518.2	534.7	549.9	561.4	567.7	568.7
150°	469.1	487.1	503.5	518.5	530.4	539.2	544.1	544.3
152.5°	462.2	477.7	492.2	504.6	513.9	521.9	524.7	524.8
155°	451.9	464.4	476.1	485.5	492.5	498.8	500.4	501.1
157.5°	440.9	451.4	460.5	467.8	473.9	478.6	479.9	479.7
160°	434.7	443.3	451.1	456.6	462.1	466.7	466.7	466.0
162.5°	427.2	434.5	441.7	446.6	450.2	454.2	454.2	453.5
165°	417.5	422.2	427.7	431.6	434.7	437.8	437.0	437.0
167.5°	409.0	412.6	415.8	418.6	420.0	422.2	421.4	421.4
170°	403.4	405.8	408.9	410.5	411.2	412.8	412.0	412.0
172.5°	398.4	400.1	402.6	403.6	403.7	405.3	403.9	403.3
175°	391.7	392.5	394.0	394.0	394.0	394.8	394.0	393.3
177.5°	387.5	388.1	388.7	388.7	388.1	388.7	387.5	387.5
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2

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