

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: P331870

Luminaire Tested: **S123DIP-S340D365U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331870
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-S340D365U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2752.1 lumens
Efficiency: N/A
Efficacy: 135.6 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: General Diffuse

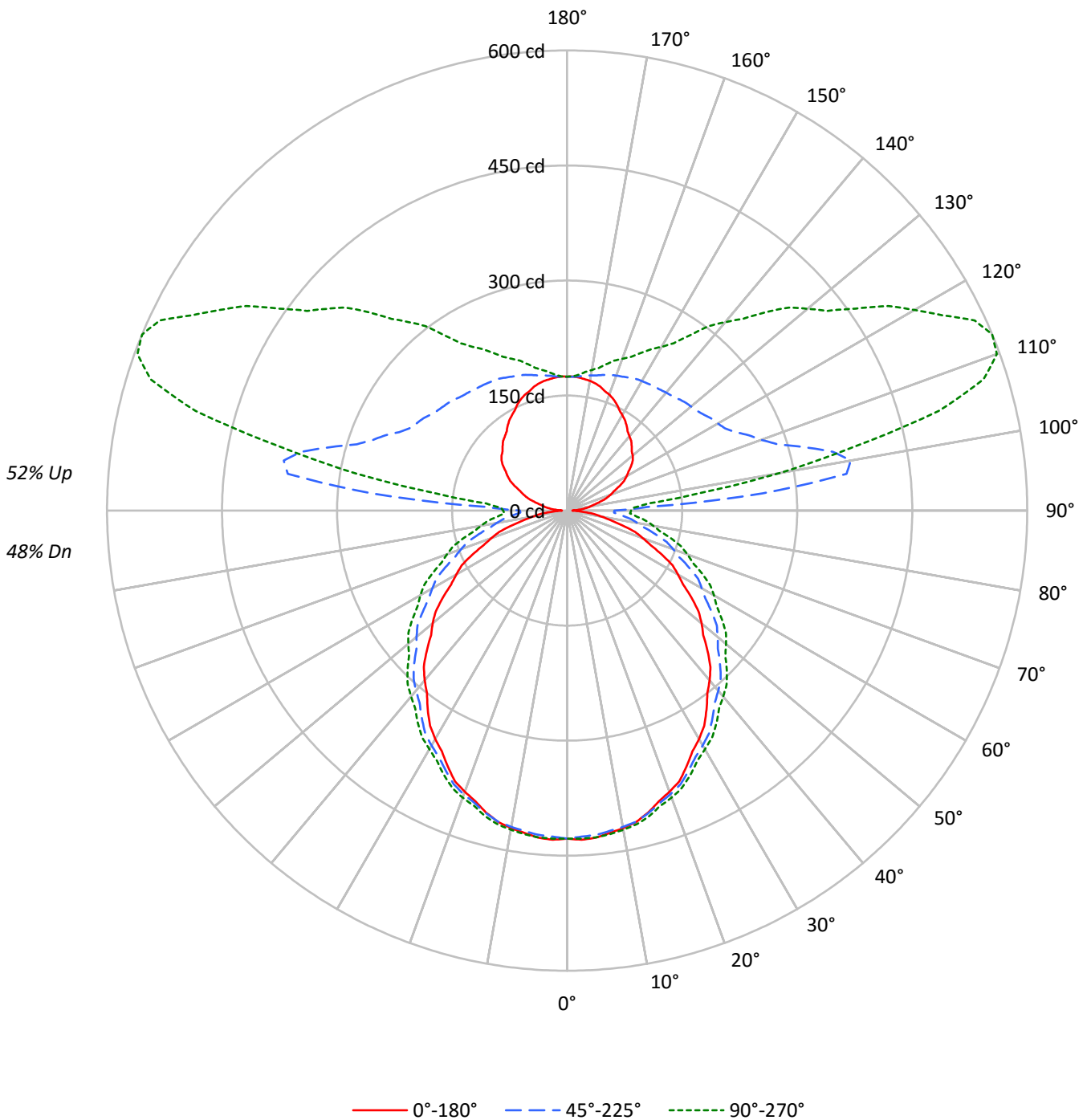
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	96	92	87	83	88	84	81	77	70	68	65	58	56	54	46	45	44	38
2	87	79	73	67	80	73	67	63	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	73	64	57	52	54	49	44	44	40	37	35	33	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	32	31	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	25	22	20	17
7	56	44	36	30	52	41	33	28	34	29	24	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	15	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

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	1.5
10°-20°	115.6	4.2
20°-30°	172.9	6.3
30°-40°	206.5	7.5
40°-50°	216.0	7.8
50°-60°	202.7	7.4
60°-70°	169.3	6.2
70°-80°	121.1	4.4
80°-90°	73.6	2.7
90°-100°	142.5	5.2
100°-110°	308.4	11.2
110°-120°	292.9	10.6
120°-130°	228.6	8.3
130°-140°	175.9	6.4
140°-150°	128.2	4.7
150°-160°	88.5	3.2
160°-170°	52.0	1.9
170°-180°	16.9	0.6
0°-30°	329.0	12.0
0°-40°	535.5	19.5
0°-60°	954.2	34.7
0°-90°	1318.2	47.9
90°-120°	743.7	27.0
90°-150°	1276.4	46.4
90°-180°	1434.0	52.1
0°-180°	2752.1	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°	7	33	62	78	83	5
95°	17	63	256	121	106	17
105°	45	76	319	544	502	47
115°	75	99	242	512	586	74
125°	102	121	218	392	459	91
135°	119	142	206	316	366	92
145°	135	154	198	252	279	85
155°	153	165	191	217	226	70
165°	167	172	183	194	198	47
175°	174	174	176	178	178	17
180°	175	175	175	175	175	



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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°	12.5	17.8	23.1	28.5	33.8	39.2	44.7	50.1	55.6	61.1	64.6
90°	6.8	12.5	18.3	24.5	30.2	36.1	42.5	48.8	55.1	61.5	64.7
92.5°	10.1	16.8	24.3	31.6	39.2	49.3	63.8	84.2	104.3	104.0	94.1
95°	17.1	22.2	30.2	40.2	53.4	71.8	106.9	164.6	227.6	255.7	219.3
97.5°	25.1	29.1	35.7	44.6	57.3	76.5	110.0	174.2	275.7	367.5	393.3
100°	30.3	34.0	39.8	48.1	59.9	77.7	107.2	164.2	261.9	375.2	447.8
102.5°	35.9	39.5	44.7	52.3	63.0	79.4	106.3	155.4	242.8	354.6	448.3
105°	44.7	48.3	52.9	59.6	68.8	83.2	106.8	147.6	218.8	319.1	423.4
107.5°	53.6	56.8	61.0	67.2	75.7	89.0	110.0	144.4	202.5	287.4	382.3
110°	60.0	63.0	66.6	72.3	80.2	93.1	113.2	144.2	195.7	269.4	356.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	66.3	68.9	72.2	77.6	85.1	97.5	116.2	145.1	190.8	256.4	333.6
115°	74.8	77.4	80.8	85.6	92.8	104.8	122.0	147.3	187.1	242.0	305.6
117.5°	83.7	86.0	88.6	92.6	100.1	111.0	127.8	150.6	184.7	232.0	287.3
120°	89.5	91.1	93.4	97.4	104.6	115.5	131.6	153.4	184.0	227.0	277.4
122.5°	94.9	96.2	98.2	102.3	109.0	120.2	135.9	156.1	184.3	223.2	269.0
125°	102.1	102.8	104.9	108.8	115.5	126.6	142.0	160.5	184.7	217.8	257.7
127.5°	108.0	108.9	111.4	115.3	122.6	133.3	147.8	164.3	185.8	213.7	247.5
130°	111.7	112.6	115.7	119.8	127.1	137.7	151.4	166.9	186.6	211.0	241.6
132.5°	114.1	115.4	118.9	123.9	131.3	141.4	154.5	169.3	186.9	208.8	235.9
135°	119.0	120.3	124.1	129.3	136.6	146.6	158.7	171.9	187.2	205.6	228.3
137.5°	123.5	124.9	128.7	134.2	141.5	150.6	161.8	173.9	187.1	202.6	221.7
140°	126.3	128.0	131.6	137.2	144.3	153.3	163.8	174.8	187.1	200.8	217.6
142.5°	129.7	131.1	134.8	139.8	146.8	155.0	165.1	175.5	186.7	198.8	213.6
145°	135.1	136.1	139.1	144.3	150.2	158.3	167.5	177.0	186.9	197.5	209.7
147.5°	140.2	140.8	143.9	148.5	154.3	161.2	169.6	178.2	186.9	196.2	206.1
150°	143.8	144.2	147.0	151.6	156.5	162.9	171.0	178.5	186.9	195.1	203.9
152.5°	147.5	147.6	150.4	154.4	158.8	164.9	171.9	179.0	186.1	193.7	201.6
155°	153.0	153.0	155.1	158.7	162.6	167.5	173.5	179.2	185.2	191.2	198.2
157.5°	157.4	157.7	159.4	162.5	165.8	169.6	174.4	179.5	184.0	189.0	194.4
160°	160.8	160.8	162.2	165.0	167.5	171.0	175.3	179.5	183.4	187.3	191.9
162.5°	163.3	163.3	164.5	166.7	168.9	171.9	175.6	179.2	182.3	185.6	189.3
165°	167.1	166.8	167.5	169.3	170.7	173.2	176.0	178.5	180.6	183.1	185.9
167.5°	170.0	169.6	170.0	171.3	172.3	173.9	175.9	177.9	178.9	180.5	182.6
170°	171.7	171.0	171.4	172.4	173.2	173.9	175.6	177.0	177.8	178.8	180.6
172.5°	172.9	172.4	172.5	173.3	173.7	174.1	175.6	176.8	176.9	177.4	178.6
175°	174.2	173.9	173.5	174.2	174.2	174.6	175.3	176.0	175.6	175.6	176.3
177.5°	174.9	174.6	174.3	174.6	174.6	174.6	174.9	175.4	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



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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°	68.2	71.8	75.4	77.8	78.7	79.8	80.9	81.9
90°	68.5	72.4	76.3	79.3	79.9	81.3	82.7	83.4
92.5°	86.3	83.6	84.3	84.6	84.9	84.8	86.1	86.5
95°	179.8	142.0	126.5	115.9	110.2	108.0	106.6	106.2
97.5°	366.1	306.0	263.5	223.3	198.3	183.4	174.9	172.9
100°	463.2	437.6	399.2	351.1	316.4	291.6	278.9	280.3
102.5°	493.9	495.9	474.7	444.8	418.1	398.7	388.2	381.1
105°	500.1	538.4	548.0	540.7	525.4	512.9	502.5	501.7
107.5°	468.8	528.9	562.7	577.1	578.3	574.7	571.8	569.4
110°	440.2	507.9	555.1	581.6	592.3	596.0	596.1	596.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	411.5	480.5	533.0	566.6	585.6	595.3	598.9	599.9
115°	373.5	437.5	491.9	532.1	559.4	575.8	583.7	586.3
117.5°	345.0	400.5	449.6	490.3	518.8	537.4	548.4	551.6
120°	329.7	379.7	424.5	461.8	490.4	510.9	520.1	523.0
122.5°	317.2	362.6	404.2	438.9	464.4	483.0	493.0	496.4
125°	300.2	340.9	377.0	406.7	430.1	446.3	455.9	459.1
127.5°	285.0	321.4	354.0	381.2	402.0	416.0	424.7	427.6
130°	275.3	309.1	339.7	365.0	384.4	397.7	405.8	409.2
132.5°	266.2	297.4	325.9	350.1	368.4	381.8	389.1	391.8
135°	253.9	280.8	305.6	327.0	344.8	355.9	362.8	365.8
137.5°	242.5	264.7	286.1	304.6	319.7	331.0	336.9	339.0
140°	235.7	255.3	273.8	290.0	304.0	314.4	320.6	320.7
142.5°	229.1	246.0	262.1	276.2	288.2	297.5	303.1	303.2
145°	221.8	234.3	246.4	257.3	266.6	274.4	277.6	278.8
147.5°	215.9	225.4	234.8	242.4	249.5	254.9	257.9	258.6
150°	212.0	220.2	227.6	234.4	239.9	244.0	246.3	246.5
152.5°	208.9	215.9	222.5	228.1	232.3	235.9	237.3	237.3
155°	204.3	209.9	215.2	219.4	222.6	225.5	226.2	226.5
157.5°	199.3	204.0	208.1	211.5	214.2	216.3	216.9	216.8
160°	196.5	200.4	203.9	206.4	208.8	211.0	211.0	210.6
162.5°	193.1	196.4	199.7	201.9	203.5	205.3	205.3	205.0
165°	188.7	190.8	193.3	195.1	196.5	197.9	197.5	197.5
167.5°	184.9	186.5	187.9	189.2	189.8	190.8	190.5	190.5
170°	182.3	183.4	184.8	185.5	185.9	186.6	186.2	186.2
172.5°	180.1	180.9	182.0	182.4	182.5	183.2	182.6	182.3
175°	177.0	177.4	178.1	178.1	178.1	178.5	178.1	177.8
177.5°	175.1	175.4	175.7	175.7	175.4	175.7	175.1	175.1
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

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