

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: P331870-840

Luminaire Tested: **S123DIP-S340D365U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331870-840
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-S340D365U840-4F0-1E-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: 2779.3 lumens
Efficiency: N/A
Efficacy: 136.9 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

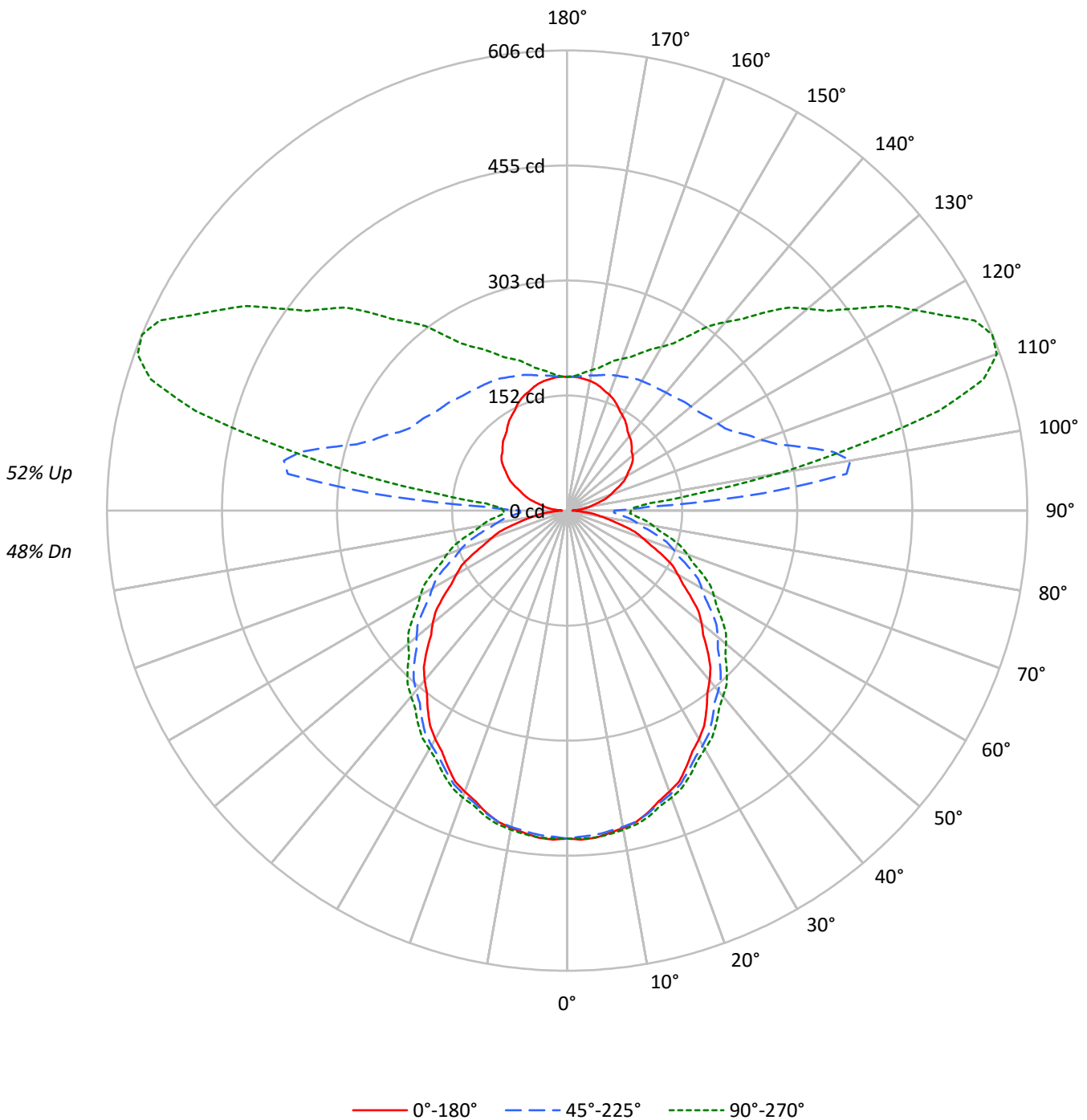
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	38		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°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	1.5
10°-20°	116.7	4.2
20°-30°	174.6	6.3
30°-40°	208.5	7.5
40°-50°	218.1	7.8
50°-60°	204.7	7.4
60°-70°	171.0	6.2
70°-80°	122.3	4.4
80°-90°	74.3	2.7
90°-100°	143.9	5.2
100°-110°	311.4	11.2
110°-120°	295.7	10.6
120°-130°	230.8	8.3
130°-140°	177.6	6.4
140°-150°	129.5	4.7
150°-160°	89.4	3.2
160°-170°	52.5	1.9
170°-180°	17.1	0.6
0°-30°	332.3	12.0
0°-40°	540.8	19.5
0°-60°	963.6	34.7
0°-90°	1331.2	47.9
90°-120°	751.1	27.0
90°-150°	1289.0	46.4
90°-180°	1448.0	52.1
0°-180°	2779.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	7	34	62	79	84	5
95°	17	63	258	122	107	17
105°	45	77	322	550	507	48
115°	76	100	244	517	592	75
125°	103	122	220	396	464	92
135°	120	143	208	319	369	93
145°	136	156	199	254	282	85
155°	154	167	193	219	229	71
165°	169	174	185	196	199	48
175°	176	176	177	180	180	17
180°	176	176	176	176	176	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.6	18.0	23.3	28.8	34.1	39.6	45.1	50.6	56.1	61.7	65.2
90°	6.9	12.6	18.5	24.7	30.5	36.5	42.9	49.3	55.6	62.1	65.3
92.5°	10.2	17.0	24.5	31.9	39.6	49.8	64.4	85.0	105.3	105.0	95.0
95°	17.3	22.4	30.5	40.6	53.9	72.5	108.0	166.2	229.8	258.2	221.5
97.5°	25.3	29.4	36.1	45.0	57.9	77.3	111.1	175.9	278.4	371.1	397.2
100°	30.6	34.3	40.2	48.6	60.5	78.5	108.3	165.8	264.5	378.9	452.2
102.5°	36.3	39.9	45.1	52.8	63.6	80.2	107.3	156.9	245.2	358.1	452.7
105°	45.1	48.8	53.4	60.2	69.5	84.0	107.9	149.1	221.0	322.2	427.6
107.5°	54.1	57.4	61.6	67.9	76.4	89.9	111.1	145.8	204.5	290.2	386.1
110°	60.6	63.6	67.3	73.0	81.0	94.0	114.3	145.6	197.6	272.1	360.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	67.0	69.6	72.9	78.4	85.9	98.5	117.3	146.5	192.7	258.9	336.9
115°	75.5	78.2	81.6	86.4	93.7	105.8	123.2	148.8	188.9	244.4	308.6
117.5°	84.5	86.8	89.5	93.5	101.1	112.1	129.1	152.1	186.5	234.3	290.1
120°	90.4	92.0	94.3	98.4	105.6	116.6	132.9	154.9	185.8	229.2	280.1
122.5°	95.8	97.1	99.2	103.3	110.1	121.4	137.2	157.6	186.1	225.4	271.7
125°	103.1	103.8	105.9	109.9	116.6	127.8	143.4	162.1	186.5	219.9	260.2
127.5°	109.1	110.0	112.5	116.4	123.8	134.6	149.3	165.9	187.6	215.8	249.9
130°	112.8	113.7	116.8	121.0	128.4	139.1	152.9	168.5	188.4	213.1	244.0
132.5°	115.2	116.5	120.1	125.1	132.6	142.8	156.0	171.0	188.7	210.9	238.2
135°	120.2	121.5	125.3	130.6	137.9	148.0	160.3	173.6	189.0	207.6	230.6
137.5°	124.7	126.1	130.0	135.5	142.9	152.1	163.4	175.6	188.9	204.6	223.9
140°	127.5	129.3	132.9	138.6	145.7	154.8	165.4	176.5	188.9	202.8	219.7
142.5°	131.0	132.4	136.1	141.2	148.2	156.5	166.7	177.2	188.5	200.8	215.7
145°	136.4	137.4	140.5	145.7	151.7	159.9	169.2	178.7	188.7	199.4	211.8
147.5°	141.6	142.2	145.3	150.0	155.8	162.8	171.3	180.0	188.7	198.1	208.1
150°	145.2	145.6	148.5	153.1	158.0	164.5	172.7	180.3	188.7	197.0	205.9
152.5°	149.0	149.1	151.9	155.9	160.4	166.5	173.6	180.8	187.9	195.6	203.6
155°	154.5	154.5	156.6	160.3	164.2	169.2	175.2	181.0	187.0	193.1	200.2
157.5°	159.0	159.3	161.0	164.1	167.4	171.3	176.1	181.3	185.8	190.9	196.3
160°	162.4	162.4	163.8	166.6	169.2	172.7	177.0	181.3	185.2	189.1	193.8
162.5°	164.9	164.9	166.1	168.3	170.6	173.6	177.3	181.0	184.1	187.4	191.2
165°	168.7	168.4	169.2	171.0	172.4	174.9	177.7	180.3	182.4	184.9	187.7
167.5°	171.7	171.3	171.7	173.0	174.0	175.6	177.6	179.7	180.7	182.3	184.4
170°	173.4	172.7	173.1	174.1	174.9	175.6	177.3	178.7	179.6	180.6	182.4
172.5°	174.6	174.1	174.2	175.0	175.4	175.8	177.3	178.5	178.6	179.2	180.4
175°	175.9	175.6	175.2	175.9	175.9	176.3	177.0	177.7	177.3	177.3	178.0
177.5°	176.6	176.3	176.0	176.3	176.3	176.3	176.6	177.1	176.6	176.3	176.6
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	68.9	72.5	76.1	78.6	79.5	80.6	81.7	82.7
90°	69.2	73.1	77.1	80.1	80.7	82.1	83.5	84.2
92.5°	87.2	84.4	85.1	85.4	85.7	85.6	86.9	87.4
95°	181.6	143.4	127.7	117.0	111.3	109.1	107.7	107.2
97.5°	369.7	309.0	266.1	225.5	200.3	185.2	176.6	174.6
100°	467.8	441.9	403.1	354.6	319.5	294.5	281.7	283.1
102.5°	498.8	500.8	479.4	449.2	422.2	402.6	392.0	384.9
105°	505.0	543.7	553.4	546.0	530.6	518.0	507.5	506.6
107.5°	473.4	534.1	568.3	582.8	584.0	580.4	577.4	575.0
110°	444.5	512.9	560.6	587.3	598.1	601.9	602.0	602.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	415.6	485.2	538.3	572.2	591.4	601.2	604.8	605.8
115°	377.2	441.8	496.8	537.3	564.9	581.5	589.5	592.1
117.5°	348.4	404.5	454.0	495.1	523.9	542.7	553.8	557.0
120°	333.0	383.4	428.7	466.4	495.2	515.9	525.2	528.2
122.5°	320.3	366.2	408.2	443.2	469.0	487.8	497.9	501.3
125°	303.2	344.3	380.7	410.7	434.3	450.7	460.4	463.6
127.5°	287.8	324.6	357.5	385.0	406.0	420.1	428.9	431.8
130°	278.0	312.1	343.1	368.6	388.2	401.6	409.8	413.2
132.5°	268.8	300.3	329.1	353.6	372.0	385.6	392.9	395.7
135°	256.4	283.6	308.6	330.2	348.2	359.4	366.4	369.4
137.5°	244.9	267.3	288.9	307.6	322.9	334.3	340.2	342.3
140°	238.0	257.8	276.5	292.9	307.0	317.5	323.8	323.9
142.5°	231.4	248.4	264.7	278.9	291.0	300.4	306.1	306.2
145°	224.0	236.6	248.8	259.8	269.2	277.1	280.3	281.6
147.5°	218.0	227.6	237.1	244.8	252.0	257.4	260.4	261.2
150°	214.1	222.4	229.8	236.7	242.3	246.4	248.7	248.9
152.5°	211.0	218.0	224.7	230.4	234.6	238.2	239.6	239.6
155°	206.3	212.0	217.3	221.6	224.8	227.7	228.4	228.7
157.5°	201.3	206.0	210.2	213.6	216.3	218.4	219.0	218.9
160°	198.4	202.4	205.9	208.4	210.9	213.1	213.1	212.7
162.5°	195.0	198.3	201.7	203.9	205.5	207.3	207.3	207.0
165°	190.6	192.7	195.2	197.0	198.4	199.9	199.4	199.4
167.5°	186.7	188.3	189.8	191.1	191.7	192.7	192.4	192.4
170°	184.1	185.2	186.6	187.3	187.7	188.4	188.0	188.0
172.5°	181.9	182.7	183.8	184.2	184.3	185.0	184.4	184.1
175°	178.7	179.2	179.9	179.9	179.9	180.3	179.9	179.6
177.5°	176.8	177.1	177.4	177.4	177.1	177.4	176.8	176.8
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

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