

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: P332397-930

Luminaire Tested: **S123RDIW-S340D755U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332397-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S340D755U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3194.8 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

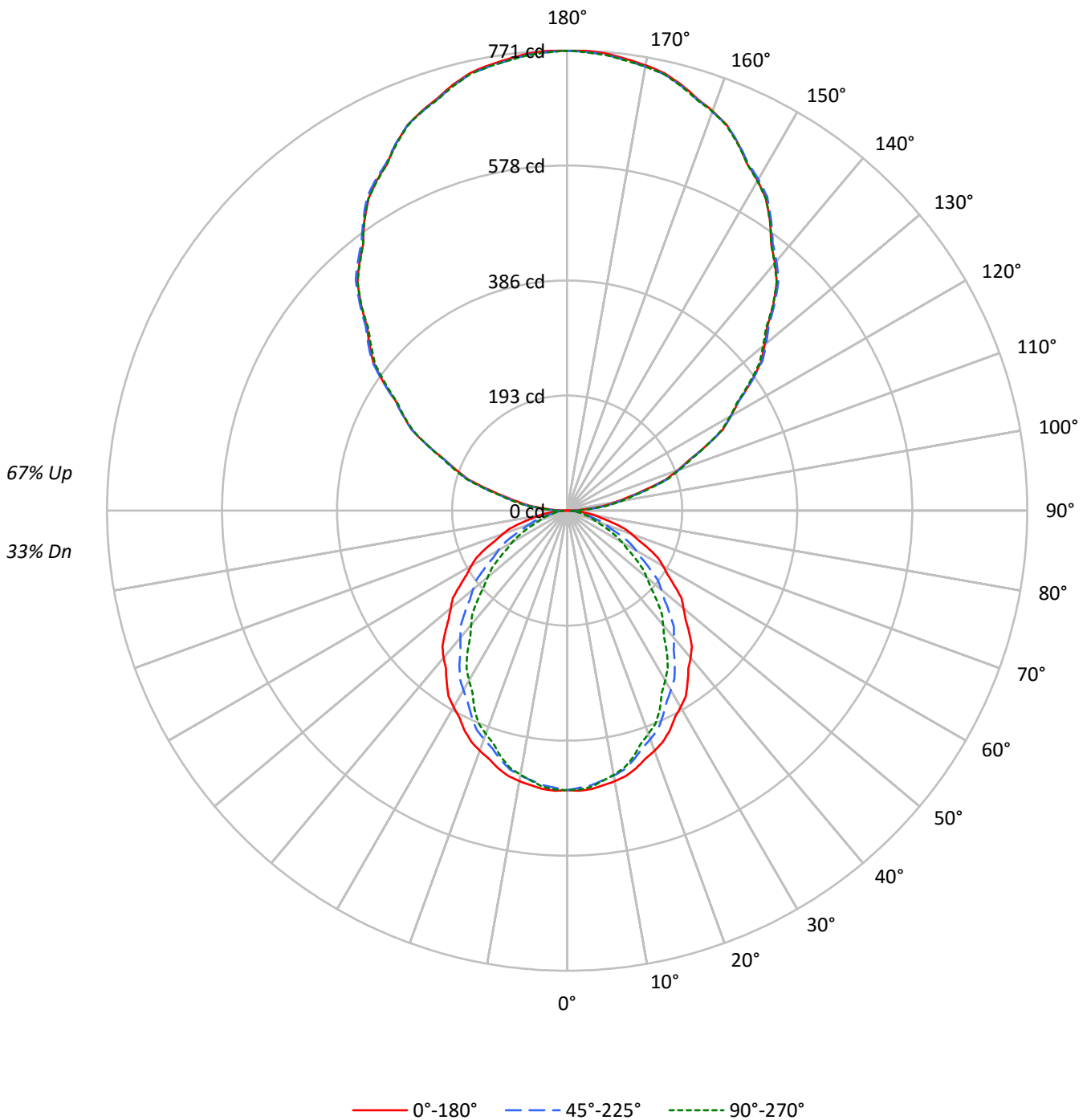
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74		57	57	57		41	41	41	33
1	94	90	86	83	85	81	78	75	65	63	61		50	49	47		36	35	35	28
2	86	79	73	68	77	71	66	62	57	54	51		44	42	40		32	31	30	24
3	78	69	62	57	71	63	57	52	51	46	43		39	36	34		29	27	25	21
4	72	61	54	48	65	56	49	44	45	40	37		35	32	29		26	24	22	18
5	66	55	47	41	59	50	43	38	40	35	32		31	28	25		23	21	19	16
6	61	49	41	36	55	45	38	33	36	31	28		28	25	22		21	19	17	14
7	56	44	37	31	50	40	34	29	33	28	24		26	22	20		19	17	15	12
8	52	40	33	28	47	37	30	26	30	25	21		24	20	18		18	15	14	11
9	48	37	29	24	44	33	27	23	27	23	19		22	18	16		16	14	12	10
10	45	33	26	22	41	31	24	20	25	20	17		20	17	14		15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5042	5042	5042
5°	5061	4991	5020
10°	5032	4928	4912
15°	4979	4813	4763
20°	4904	4669	4560
25°	4828	4507	4363
30°	4727	4320	4084
35°	4623	4133	3829
40°	4526	3912	3513
45°	4401	3694	3227
50°	4262	3448	2907
55°	4121	3166	2609
60°	3991	2863	2282
65°	3823	2534	1954
70°	3610	2127	1577
75°	3302	1676	1485
80°	2944	1488	1364
85°	2482	1309	1223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.0	1.4
10°-20°	122.4	3.8
20°-30°	176.2	5.5
30°-40°	198.5	6.2
40°-50°	189.9	5.9
50°-60°	155.5	4.9
60°-70°	104.9	3.3
70°-80°	52.8	1.7
80°-90°	16.2	0.5
90°-100°	50.2	1.6
100°-110°	150.2	4.7
110°-120°	255.5	8.0
120°-130°	336.1	10.5
130°-140°	377.7	11.8
140°-150°	371.3	11.6
150°-160°	312.6	9.8
160°-170°	208.1	6.5
170°-180°	72.9	2.3
0°-30°	342.6	10.7
0°-40°	541.1	16.9
0°-60°	886.5	27.7
0°-90°	1060.4	33.2
90°-120°	455.9	14.3
90°-150°	1540.9	48.2
90°-180°	2134.0	66.8
0°-180°	3194.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	465	465	44
15°	447	442	432	430	427	126
25°	406	396	380	372	367	187
35°	352	338	314	299	291	220
45°	289	271	243	222	212	223
55°	220	200	169	147	139	197
65°	150	129	100	82	77	148
75°	79	61	40	37	36	85
85°	20	12	11	10	10	23
90°	1	7	14	17	18	3
95°	36	40	45	47	47	40
105°	136	138	143	143	144	146
115°	257	259	258	258	258	254
125°	376	378	377	375	372	336
135°	488	492	491	489	488	376
145°	592	594	596	595	592	370
155°	678	678	679	681	677	312
165°	739	737	737	740	736	208
175°	768	766	766	769	766	73
180°	770	770	770	770	770	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4
2.5°	469.9	469.6	469.4	469.1	468.9	468.3	467.5	466.7	465.9	465.0	465.8
5°	468.4	468.0	467.6	467.2	466.7	466.0	465.0	464.0	462.9	461.9	462.7
7.5°	464.1	463.6	463.2	462.7	462.3	461.4	460.1	458.8	457.4	456.1	456.5
10°	460.4	459.8	459.3	458.7	458.0	457.0	455.5	454.0	452.4	450.9	451.0
12.5°	455.3	454.6	454.0	453.3	452.7	451.3	449.5	447.7	445.8	443.9	443.8
15°	446.8	445.8	444.9	443.9	443.0	441.4	439.0	436.7	434.3	431.9	431.5
17.5°	436.0	435.0	433.9	432.8	431.7	429.7	426.6	423.6	420.7	417.7	416.8
20°	428.1	426.8	425.4	424.1	422.7	420.4	417.3	414.0	410.8	407.6	406.5
22.5°	419.3	417.8	416.2	414.7	413.1	410.7	407.2	403.8	400.4	397.0	395.6
25°	406.5	404.4	402.3	400.1	398.0	395.0	391.2	387.3	383.4	379.5	377.7
27.5°	390.9	388.6	386.2	383.9	381.6	378.3	374.0	369.6	365.3	360.9	358.5
30°	380.3	377.7	375.2	372.7	370.1	366.5	361.7	357.0	352.3	347.6	344.7
32.5°	369.7	366.7	363.9	361.0	358.2	354.2	349.2	344.2	339.2	334.2	331.1
35°	351.8	348.7	345.7	342.7	339.7	335.5	330.3	325.0	319.8	314.5	311.0
37.5°	333.7	330.3	326.9	323.6	320.2	315.7	310.1	304.5	299.0	293.3	289.3
40°	322.1	318.5	314.7	311.0	307.3	302.4	296.4	290.4	284.5	278.4	274.1
42.5°	309.1	305.3	301.7	297.9	294.2	289.3	283.1	276.9	270.7	264.5	259.7
45°	289.1	285.3	281.5	277.7	273.9	268.7	262.3	255.8	249.2	242.7	237.9
47.5°	269.1	265.0	260.7	256.6	252.4	247.1	240.6	234.1	227.6	221.1	215.9
50°	254.5	250.5	246.6	242.6	238.6	233.3	226.4	219.6	212.7	205.9	200.6
52.5°	241.5	237.2	232.8	228.5	224.2	218.7	211.9	205.1	198.4	191.6	186.2
55°	219.6	215.4	211.3	207.2	203.0	197.4	190.2	183.0	175.9	168.7	163.8
57.5°	199.3	194.9	190.4	185.8	181.3	175.5	168.3	161.0	153.8	146.7	142.0
60°	185.4	180.8	176.1	171.5	166.8	161.0	154.0	147.0	140.0	133.0	128.4
62.5°	171.4	166.7	162.1	157.5	152.9	147.0	140.0	133.0	126.0	119.0	114.7
65°	150.1	145.4	140.8	136.2	131.5	125.9	119.3	112.7	106.2	99.5	95.4
67.5°	128.7	124.0	119.3	114.6	109.9	104.4	98.1	91.8	85.4	79.2	76.1
70°	114.7	110.1	105.6	101.0	96.5	91.2	85.4	79.4	73.5	67.6	64.7
72.5°	100.8	96.3	91.8	87.2	82.8	77.9	72.5	67.1	61.7	56.3	54.0
75°	79.4	75.3	71.3	67.3	63.2	58.9	54.2	49.6	44.9	40.3	39.5
77.5°	59.9	56.3	52.6	48.9	45.3	42.0	39.0	36.0	33.0	30.0	29.6
80°	47.5	44.0	40.6	37.1	33.7	31.1	29.3	27.5	25.7	24.0	23.6
82.5°	35.6	32.6	29.7	26.7	23.6	21.8	21.0	20.1	19.3	18.4	18.2
85°	20.1	18.3	16.4	14.6	12.7	11.7	11.4	11.2	10.9	10.6	10.4
87.5°	7.4	6.9	6.4	6.0	5.5	5.5	5.8	6.2	6.5	6.8	6.9
90°	0.6	2.0	3.3	4.6	6.0	7.5	9.3	11.0	12.8	14.5	15.1
92.5°	14.7	15.6	16.5	17.4	18.3	19.2	20.2	21.3	22.3	23.2	23.6
95°	35.7	36.6	37.6	38.6	39.5	40.4	41.6	42.6	43.7	44.8	45.3
97.5°	63.4	64.1	64.8	65.6	66.2	66.9	67.8	68.5	69.3	70.1	70.7
100°	82.3	83.1	83.9	84.7	85.5	86.3	86.9	87.6	88.3	88.9	89.4
102.5°	104.1	104.6	105.1	105.5	106.0	106.7	107.6	108.5	109.3	110.2	110.6
105°	136.2	136.4	136.7	137.0	137.2	137.9	139.2	140.4	141.6	142.8	142.8
107.5°	173.4	173.6	173.7	173.9	174.1	174.4	174.9	175.4	175.9	176.3	176.8
110°	196.7	197.0	197.2	197.5	197.7	198.0	198.3	198.5	198.9	199.1	199.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	220.9	221.0	221.2	221.4	221.5	221.6	221.7	221.8	221.8	221.8	222.5
115°	257.2	257.6	258.0	258.4	258.8	258.9	258.6	258.4	258.0	257.8	258.0
117.5°	293.8	294.0	294.2	294.6	294.8	294.8	294.4	294.1	293.8	293.3	293.3
120°	316.5	317.3	318.1	318.9	319.8	319.8	319.1	318.5	317.8	317.1	317.0
122.5°	340.2	340.8	341.4	342.0	342.6	342.7	342.3	342.0	341.7	341.3	341.0
125°	376.4	376.8	377.2	377.6	378.1	378.1	377.8	377.6	377.2	377.0	376.5
127.5°	409.8	410.7	411.6	412.4	413.3	413.5	413.3	412.9	412.6	412.4	411.6
130°	432.1	433.2	434.2	435.3	436.3	436.8	436.3	435.9	435.5	435.1	434.6
132.5°	454.4	455.4	456.5	457.5	458.7	459.0	458.8	458.4	458.1	457.9	457.2
135°	488.4	489.2	490.0	490.8	491.5	492.0	491.8	491.6	491.5	491.4	490.8
137.5°	519.8	520.5	521.1	521.9	522.5	523.0	523.3	523.7	524.1	524.4	523.8
140°	541.6	542.3	543.0	543.6	544.3	544.7	544.9	544.9	545.1	545.3	545.1
142.5°	561.5	562.1	562.8	563.5	564.1	564.6	564.8	565.1	565.3	565.6	565.4
145°	592.5	592.7	593.0	593.2	593.5	593.9	594.3	594.7	595.1	595.5	595.3
147.5°	619.5	620.0	620.5	621.0	621.5	621.9	622.3	622.6	623.1	623.5	623.5
150°	638.5	638.7	639.0	639.3	639.5	639.8	640.0	640.3	640.6	640.8	640.8
152.5°	654.0	654.3	654.7	655.1	655.4	655.7	655.8	656.0	656.2	656.3	656.6
155°	678.4	678.4	678.4	678.4	678.4	678.4	678.6	678.7	678.8	679.0	679.6
157.5°	699.2	699.0	698.9	698.7	698.5	698.5	698.6	698.7	698.9	699.0	699.5
160°	712.2	712.0	711.8	711.4	711.2	711.0	711.0	711.0	711.0	711.0	711.8
162.5°	723.9	723.5	723.1	722.8	722.4	722.3	722.4	722.4	722.6	722.7	723.3
165°	738.9	738.5	738.1	737.7	737.3	737.0	737.0	737.0	737.0	737.0	737.8
167.5°	750.9	750.3	749.8	749.3	748.7	748.5	748.6	748.7	748.9	748.9	749.7
170°	757.7	757.1	756.6	756.0	755.5	755.2	755.2	755.2	755.2	755.2	756.2
172.5°	763.0	762.5	761.9	761.3	760.8	760.5	760.5	760.5	760.5	760.5	761.4
175°	768.5	768.0	767.4	767.0	766.4	766.1	766.1	766.1	766.1	766.1	767.0
177.5°	770.9	770.4	770.0	769.6	769.2	768.9	768.9	768.9	768.9	768.9	769.6
180°	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	468.4	468.4	468.4	468.4	468.4	468.4	468.4	468.4
2.5°	466.5	467.2	468.1	468.3	468.2	468.1	467.9	467.8
5°	463.5	464.2	465.0	465.3	465.1	465.0	464.8	464.6
7.5°	457.0	457.4	457.8	457.9	457.5	457.3	457.0	456.7
10°	451.1	451.2	451.3	451.1	450.7	450.3	449.8	449.4
12.5°	443.8	443.8	443.8	443.4	443.0	442.5	442.0	441.5
15°	431.0	430.6	430.2	429.7	429.2	428.5	428.0	427.4
17.5°	415.9	415.0	414.1	413.2	412.3	411.4	410.6	409.7
20°	405.4	404.3	403.2	402.2	401.1	400.1	399.2	398.1
22.5°	394.3	392.9	391.5	390.4	389.4	388.5	387.5	386.6
25°	375.9	374.2	372.4	371.0	370.1	369.2	368.3	367.4
27.5°	356.0	353.6	351.1	349.2	347.7	346.3	345.0	343.5
30°	341.9	339.0	336.1	334.0	332.6	331.3	330.0	328.6
32.5°	327.9	324.8	321.6	319.4	318.0	316.6	315.1	313.7
35°	307.3	303.6	300.0	297.4	296.0	294.4	292.9	291.4
37.5°	285.1	281.0	276.9	273.9	272.0	270.1	268.2	266.4
40°	269.7	265.3	260.9	257.7	255.8	253.9	251.9	250.0
42.5°	254.9	250.1	245.3	242.1	240.3	238.6	236.8	235.1
45°	233.1	228.3	223.5	220.0	218.1	216.1	214.0	212.0
47.5°	210.6	205.4	200.2	196.7	194.9	193.1	191.2	189.4
50°	195.4	190.2	185.0	181.4	179.4	177.5	175.5	173.6
52.5°	180.8	175.3	169.9	166.3	164.5	162.8	161.1	159.3
55°	158.9	154.0	149.1	145.8	144.1	142.4	140.7	139.0
57.5°	137.4	132.7	128.2	125.1	123.7	122.2	120.8	119.4
60°	123.8	119.3	114.7	111.7	110.3	108.8	107.5	106.0
62.5°	110.4	106.2	101.8	98.9	97.4	96.0	94.4	92.9
65°	91.2	87.2	83.0	80.5	79.5	78.6	77.7	76.7
67.5°	73.0	69.9	66.8	64.7	63.8	62.8	61.8	60.8
70°	61.7	58.8	55.8	53.9	52.9	52.0	51.0	50.1
72.5°	51.5	49.2	46.7	45.3	44.9	44.5	44.2	43.8
75°	38.6	37.7	36.9	36.4	36.2	36.0	35.9	35.7
77.5°	29.1	28.6	28.2	27.9	27.7	27.6	27.4	27.2
80°	23.4	23.2	22.9	22.7	22.5	22.3	22.2	22.0
82.5°	17.9	17.7	17.4	17.3	17.3	17.2	17.2	17.2
85°	10.3	10.1	9.9	9.9	9.9	9.9	9.9	9.9
87.5°	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0
90°	15.6	16.1	16.7	17.0	17.4	17.6	17.9	18.2
92.5°	24.1	24.5	24.9	25.1	24.9	24.8	24.6	24.5
95°	45.8	46.4	47.0	47.2	47.2	47.2	47.2	47.2
97.5°	71.3	71.9	72.6	72.8	72.8	72.7	72.6	72.6
100°	89.8	90.2	90.6	90.9	91.2	91.5	91.7	92.0
102.5°	111.0	111.5	111.9	112.0	112.0	111.9	111.9	111.9
105°	142.8	142.8	142.8	142.9	143.2	143.5	143.7	144.1
107.5°	177.2	177.7	178.1	178.2	178.1	177.9	177.7	177.6
110°	200.2	200.7	201.2	201.4	201.1	200.8	200.6	200.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	223.1	223.8	224.5	224.7	224.7	224.6	224.5	224.5
115°	258.0	258.2	258.4	258.4	258.2	258.0	258.0	257.8
117.5°	293.3	293.3	293.3	293.1	292.7	292.3	292.0	291.6
120°	316.8	316.7	316.6	316.3	316.1	315.8	315.5	315.3
122.5°	340.6	340.2	339.9	339.6	339.2	338.8	338.4	338.0
125°	375.9	375.4	374.9	374.3	373.8	373.2	372.7	372.2
127.5°	410.8	410.1	409.4	408.6	408.1	407.4	406.8	406.2
130°	434.1	433.5	432.9	432.2	431.3	430.3	429.4	428.4
132.5°	456.6	455.9	455.3	454.6	453.9	453.1	452.4	451.7
135°	490.3	489.8	489.3	488.9	488.5	488.3	488.0	487.7
137.5°	523.3	522.7	522.2	521.6	521.1	520.6	520.1	519.6
140°	544.9	544.9	544.7	544.1	543.2	542.3	541.4	540.4
142.5°	565.3	565.2	565.0	564.6	563.9	563.1	562.4	561.7
145°	595.2	595.1	594.9	594.6	594.0	593.5	593.0	592.5
147.5°	623.5	623.5	623.5	623.1	622.2	621.4	620.6	619.8
150°	640.8	640.8	640.8	640.4	639.6	638.9	638.1	637.2
152.5°	656.8	657.0	657.2	657.0	656.2	655.6	654.8	654.2
155°	680.0	680.6	681.1	680.9	680.0	679.1	678.1	677.2
157.5°	700.1	700.7	701.2	701.1	700.3	699.6	698.9	698.1
160°	712.4	713.1	713.7	713.8	713.3	712.7	712.2	711.7
162.5°	724.0	724.7	725.4	725.3	724.4	723.6	722.7	721.8
165°	738.7	739.5	740.3	740.2	739.3	738.3	737.4	736.5
167.5°	750.6	751.5	752.3	752.3	751.5	750.6	749.7	748.9
170°	757.1	758.1	759.0	759.0	758.1	757.1	756.2	755.2
172.5°	762.2	763.0	763.9	763.9	762.9	762.0	761.0	760.1
175°	767.8	768.5	769.3	769.3	768.3	767.4	766.5	765.5
177.5°	770.2	770.9	771.5	771.4	770.7	769.9	769.2	768.4
180°	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4

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