

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: P332131-930

Luminaire Tested: **S123DIW-S560D755U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332131-930
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: S123DIW-S560D755U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4026.7 lumens
Efficiency: N/A
Efficacy: 107.1 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: General Diffuse

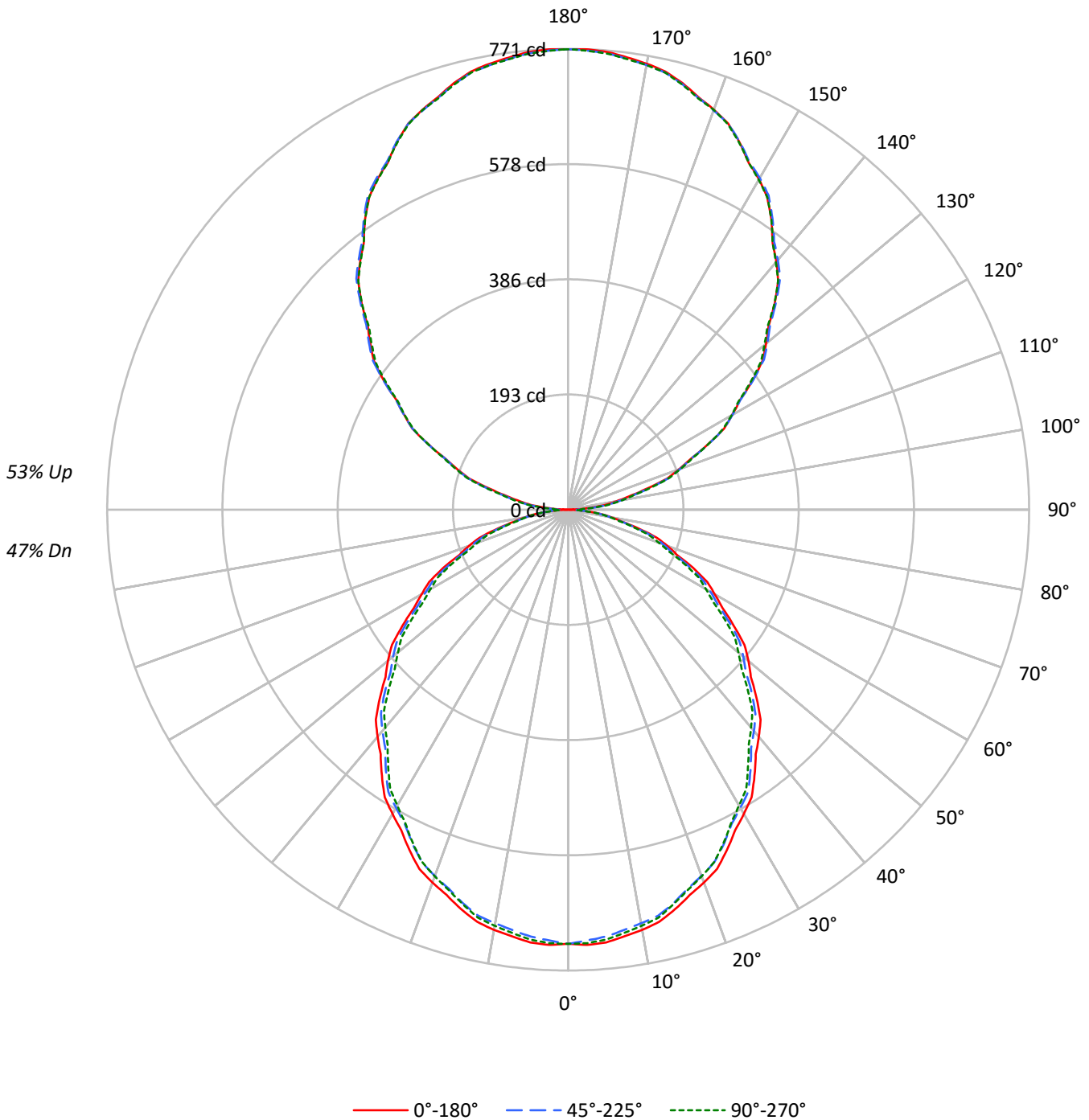
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47				47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45				39	
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38				33	
3	81	71	64	58	74	66	59	54	55	50	46	46	42	39	37	34	32				28	
4	74	63	55	49	67	58	51	46	49	44	40	41	37	34	33	30	28				24	
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24				21	
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	27	24	21				18	
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19				16	
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17				14	
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	21	18	15				13	
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14				12	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7819	7819	7819
5°	7854	7747	7800
10°	7803	7679	7726
15°	7710	7592	7608
20°	7605	7468	7475
25°	7462	7321	7305
30°	7305	7157	7102
35°	7139	6984	6893
40°	6968	6792	6687
45°	6779	6616	6454
50°	6589	6400	6223
55°	6341	6176	5988
60°	6090	5916	5726
65°	5871	5631	5456
70°	5542	5306	5070
75°	5065	4882	4675
80°	4568	4376	4339
85°	4001	3853	3705



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	1.7
10°-20°	193.2	4.8
20°-30°	285.4	7.1
30°-40°	333.3	8.3
40°-50°	335.1	8.3
50°-60°	294.4	7.3
60°-70°	219.3	5.4
70°-80°	124.9	3.1
80°-90°	38.2	0.9
90°-100°	50.2	1.2
100°-110°	150.2	3.7
110°-120°	255.5	6.3
120°-130°	336.1	8.3
130°-140°	377.7	9.4
140°-150°	371.3	9.2
150°-160°	312.6	7.8
160°-170°	208.1	5.2
170°-180°	72.9	1.8
0°-30°	547.0	13.6
0°-40°	880.3	21.9
0°-60°	1509.9	37.5
0°-90°	1892.3	47.0
90°-120°	455.9	11.3
90°-150°	1540.9	38.3
90°-180°	2134.0	53.0
0°-180°	4026.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	726	726	726	726	726	
5°	727	724	717	723	722	69
15°	692	689	681	686	683	195
25°	628	624	616	617	615	289
35°	543	539	532	528	525	340
45°	445	442	435	427	424	344
55°	338	337	329	322	319	303
65°	230	227	221	216	214	227
75°	122	119	117	114	112	130
85°	32	31	31	30	30	36
90°	1	7	14	17	18	4
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°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	728.8	728.4	728.0	727.5	727.1	726.2	725.0	723.7	722.6	721.4	722.4
5°	726.9	726.3	725.5	724.9	724.1	723.1	721.5	720.0	718.5	717.0	718.4
7.5°	719.8	719.2	718.4	717.8	717.1	715.9	714.4	712.7	711.2	709.6	710.9
10°	713.9	713.1	712.5	711.8	711.1	709.8	708.0	706.2	704.4	702.6	703.8
12.5°	705.9	705.2	704.7	704.1	703.5	702.4	700.7	699.0	697.3	695.6	696.5
15°	691.9	691.5	690.9	690.3	689.7	688.6	686.8	685.0	683.1	681.3	682.5
17.5°	675.9	675.1	674.4	673.7	672.9	671.7	669.9	668.1	666.3	664.5	665.3
20°	663.9	663.1	662.2	661.4	660.6	659.3	657.5	655.7	653.8	652.0	652.6
22.5°	650.4	649.5	648.7	647.9	647.0	645.7	643.9	642.1	640.3	638.5	639.0
25°	628.3	627.5	626.6	625.8	624.9	623.6	621.8	620.0	618.2	616.4	616.5
27.5°	604.7	603.9	603.1	602.3	601.4	600.1	598.1	596.2	594.3	592.3	592.4
30°	587.7	587.0	586.3	585.6	584.9	583.6	581.6	579.7	577.8	575.8	575.8
32.5°	570.7	569.8	568.8	567.9	567.0	565.8	564.4	562.8	561.3	559.9	559.1
35°	543.3	542.5	541.7	540.9	540.1	538.7	536.9	535.1	533.3	531.5	530.7
37.5°	515.4	514.3	513.2	512.2	511.1	509.7	507.8	506.1	504.2	502.4	501.4
40°	495.9	495.0	494.2	493.4	492.5	491.1	489.2	487.3	485.3	483.4	482.2
42.5°	476.4	475.5	474.5	473.5	472.6	471.2	469.2	467.3	465.4	463.4	462.3
45°	445.3	444.7	444.2	443.6	443.0	441.9	440.1	438.3	436.5	434.6	433.0
47.5°	414.4	413.6	412.9	412.1	411.2	409.9	408.3	406.6	404.9	403.2	401.5
50°	393.5	392.7	392.1	391.3	390.7	389.5	387.6	385.8	384.0	382.2	380.7
52.5°	371.5	371.0	370.6	370.1	369.6	368.4	366.5	364.6	362.6	360.8	359.5
55°	337.9	337.7	337.6	337.5	337.3	336.3	334.5	332.7	330.9	329.1	327.6
57.5°	305.9	305.4	304.9	304.5	304.0	303.0	301.6	300.2	298.7	297.3	296.0
60°	282.9	282.7	282.7	282.5	282.3	281.4	279.8	278.1	276.5	274.8	273.5
62.5°	262.4	262.0	261.7	261.4	261.0	260.0	258.3	256.7	254.9	253.3	252.1
65°	230.5	229.8	229.1	228.4	227.7	226.7	225.3	223.9	222.5	221.1	220.0
67.5°	196.6	196.0	195.3	194.8	194.1	193.3	192.2	191.2	190.1	189.1	188.2
70°	176.1	175.3	174.5	173.7	172.8	171.9	171.1	170.3	169.4	168.6	167.6
72.5°	154.7	154.0	153.4	152.8	152.2	151.4	150.5	149.5	148.5	147.7	146.8
75°	121.8	121.2	120.7	120.1	119.6	119.1	118.6	118.2	117.8	117.4	116.8
77.5°	92.7	92.4	92.0	91.8	91.5	91.1	90.6	90.1	89.5	89.0	88.6
80°	73.7	73.3	72.9	72.5	72.0	71.7	71.4	71.1	70.8	70.6	70.4
82.5°	55.2	55.1	55.0	55.0	54.9	54.8	54.8	54.7	54.6	54.6	54.3
85°	32.4	32.2	32.0	31.6	31.4	31.2	31.2	31.2	31.2	31.2	31.0
87.5°	13.1	13.0	13.0	12.9	12.9	13.0	13.2	13.5	13.7	13.9	13.9
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°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	723.6	724.6	725.8	726.3	726.2	726.0	725.9	725.9
5°	719.7	721.1	722.5	723.1	722.8	722.5	722.3	721.9
7.5°	712.1	713.3	714.6	715.1	714.9	714.8	714.6	714.4
10°	705.1	706.4	707.6	708.1	707.8	707.5	707.3	706.9
12.5°	697.4	698.4	699.3	699.6	699.4	699.3	699.1	699.0
15°	683.6	684.7	685.8	685.9	685.1	684.3	683.5	682.7
17.5°	666.1	666.8	667.6	667.8	667.6	667.2	666.9	666.6
20°	653.1	653.7	654.2	654.3	653.9	653.5	653.1	652.6
22.5°	639.4	639.8	640.3	640.3	639.8	639.2	638.7	638.1
25°	616.7	616.9	616.9	616.9	616.4	616.0	615.6	615.1
27.5°	592.6	592.6	592.7	592.6	592.0	591.5	590.9	590.4
30°	575.8	575.8	575.8	575.4	574.4	573.4	572.4	571.4
32.5°	558.3	557.5	556.7	556.0	555.5	555.1	554.5	554.0
35°	529.8	529.0	528.2	527.4	526.7	526.0	525.3	524.6
37.5°	500.3	499.4	498.4	497.7	497.3	496.8	496.4	495.9
40°	481.2	480.0	479.0	478.1	477.5	477.0	476.5	475.9
42.5°	461.2	460.1	458.9	458.1	457.5	457.1	456.5	455.9
45°	431.4	429.7	428.0	426.8	426.2	425.4	424.8	424.0
47.5°	399.9	398.3	396.6	395.5	394.9	394.3	393.7	393.1
50°	379.2	377.6	376.1	375.0	374.1	373.2	372.4	371.6
52.5°	358.2	356.9	355.6	354.4	353.6	352.8	352.0	351.1
55°	326.0	324.6	323.0	321.9	321.2	320.5	319.8	319.1
57.5°	294.6	293.2	291.9	290.7	289.9	289.2	288.4	287.6
60°	272.3	271.1	269.8	268.8	268.2	267.4	266.8	266.0
62.5°	250.8	249.6	248.3	247.4	247.0	246.5	246.1	245.6
65°	218.8	217.8	216.6	215.9	215.5	215.1	214.7	214.2
67.5°	187.2	186.2	185.2	184.4	183.8	183.3	182.7	182.1
70°	166.6	165.8	164.8	163.9	163.2	162.5	161.8	161.1
72.5°	145.9	145.0	144.2	143.6	143.2	142.8	142.5	142.1
75°	116.0	115.4	114.6	114.1	113.7	113.2	112.8	112.4
77.5°	88.1	87.6	87.2	86.9	86.9	86.9	86.9	86.9
80°	70.3	70.1	70.0	70.0	70.0	70.0	70.0	70.0
82.5°	54.1	53.8	53.6	53.4	53.3	53.2	53.1	53.0
85°	30.7	30.4	30.1	30.0	30.0	30.0	30.0	30.0
87.5°	13.9	13.9	13.9	13.9	13.9	14.0	14.1	14.1
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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