

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: P332125-930

Luminaire Tested: **S123DIW-S560D460U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332125-930
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-S560D460U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3194.5 lumens
Efficiency: N/A
Efficacy: 105.8 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

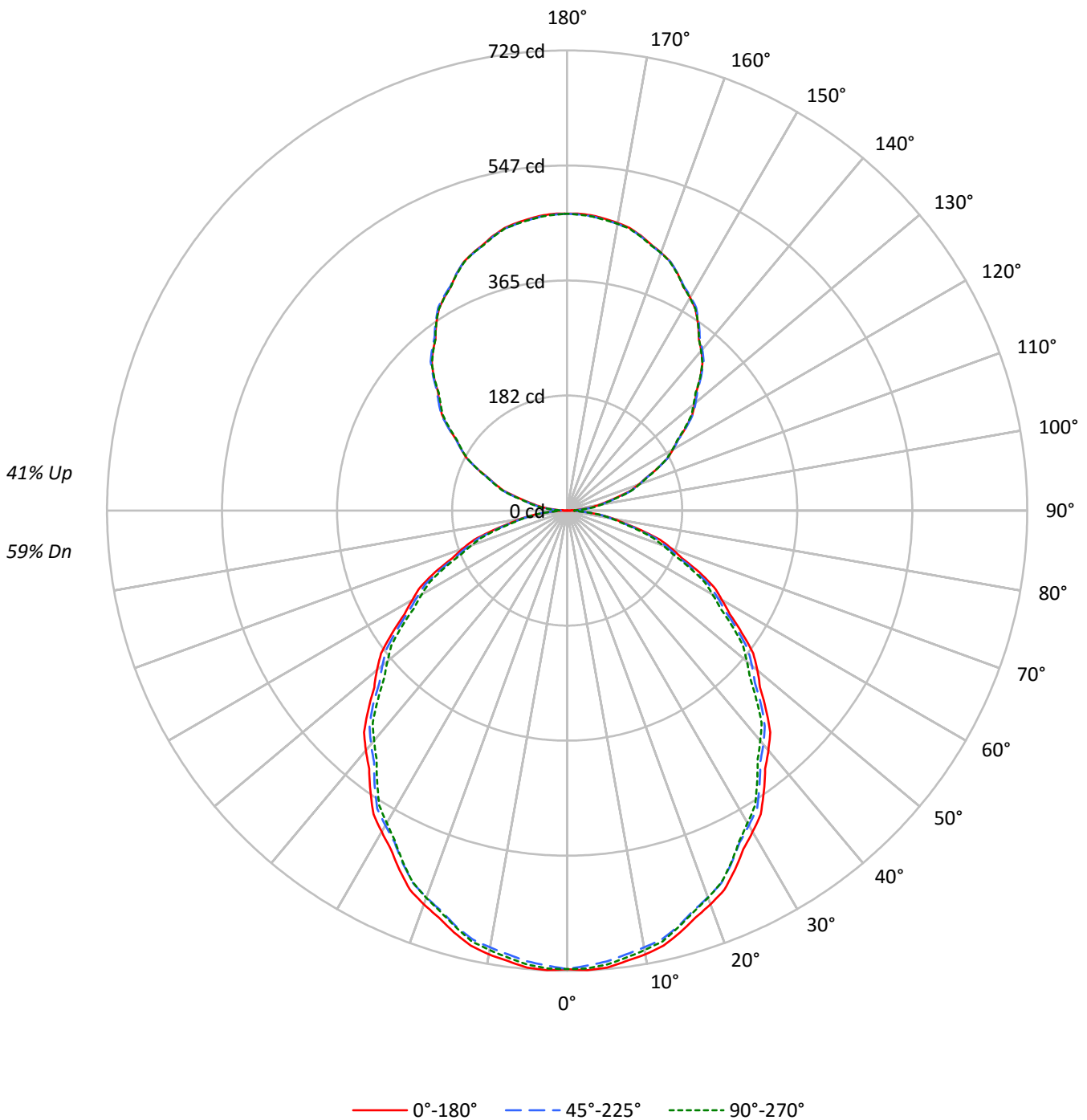
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65	59																				
1	100	95	91	88	93	89	86	83	78	75	73	67	65	63	57	56	54	50																				
2	91	83	77	72	84	78	72	68	68	64	60	59	55	53	50	48	46	42																				
3	83	73	66	60	77	69	62	57	60	55	50	52	48	45	44	41	39	35																				
4	76	65	57	51	70	61	54	48	53	48	43	46	42	38	40	36	34	30																				
5	70	58	49	43	65	54	47	41	48	42	37	41	37	33	36	32	29	26																				
6	64	52	44	38	60	49	41	36	43	37	32	38	33	29	32	29	26	23																				
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20																				
8	55	43	35	29	51	40	33	28	36	30	25	31	26	23	27	23	20	18																				
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	16																				
10	48	36	28	24	45	34	27	23	30	24	21	27	22	19	23	20	17	15																				

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	2.1
10°-20°	193.2	6.0
20°-30°	285.4	8.9
30°-40°	333.3	10.4
40°-50°	335.1	10.5
50°-60°	294.4	9.2
60°-70°	219.3	6.9
70°-80°	124.9	3.9
80°-90°	37.3	1.2
90°-100°	30.6	1.0
100°-110°	91.7	2.9
110°-120°	156.0	4.9
120°-130°	205.2	6.4
130°-140°	230.6	7.2
140°-150°	226.7	7.1
150°-160°	190.8	6.0
160°-170°	127.0	4.0
170°-180°	44.5	1.4
0°-30°	547.0	17.1
0°-40°	880.3	27.6
0°-60°	1509.9	47.3
0°-90°	1891.4	59.2
90°-120°	278.3	8.7
90°-150°	940.8	29.5
90°-180°	1303.0	40.8
0°-180°	3194.5	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°	0	4	9	10	11	3
95°	22	24	27	29	29	24
105°	83	84	87	87	88	89
115°	157	158	157	158	157	155
125°	230	231	230	229	227	205
135°	298	300	300	299	298	230
145°	362	362	364	363	362	226
155°	414	414	415	416	413	191
165°	451	450	450	452	450	127
175°	469	468	468	470	467	45
180°	470	470	470	470	470	



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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°	13.0	12.9	12.7	12.6	12.4	12.4	12.5	12.6	12.6	12.8	12.7
90°	0.4	1.2	2.0	2.9	3.7	4.6	5.6	6.8	7.8	8.9	9.2
92.5°	9.0	9.5	10.0	10.6	11.2	11.7	12.4	13.0	13.6	14.2	14.4
95°	21.8	22.3	22.9	23.6	24.1	24.7	25.4	26.0	26.7	27.3	27.6
97.5°	38.7	39.1	39.5	40.0	40.4	40.8	41.3	41.8	42.3	42.8	43.1
100°	50.2	50.7	51.2	51.7	52.2	52.7	53.1	53.5	53.9	54.3	54.5
102.5°	63.5	63.8	64.2	64.4	64.7	65.1	65.7	66.2	66.8	67.3	67.6
105°	83.2	83.3	83.5	83.6	83.8	84.2	85.0	85.7	86.4	87.2	87.2
107.5°	105.9	106.0	106.1	106.2	106.3	106.5	106.8	107.0	107.4	107.7	107.9
110°	120.1	120.3	120.4	120.6	120.7	120.9	121.1	121.2	121.4	121.6	121.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.9	134.9	135.1	135.2	135.3	135.3	135.3	135.4	135.4	135.4	135.8
115°	157.0	157.3	157.5	157.8	158.0	158.1	157.9	157.8	157.6	157.4	157.5
117.5°	179.4	179.5	179.7	179.9	180.0	179.9	179.8	179.5	179.4	179.1	179.1
120°	193.2	193.7	194.2	194.7	195.2	195.3	194.9	194.4	194.0	193.6	193.6
122.5°	207.7	208.1	208.5	208.8	209.1	209.2	209.0	208.8	208.6	208.4	208.1
125°	229.8	230.1	230.3	230.6	230.8	230.8	230.6	230.5	230.3	230.2	229.8
127.5°	250.2	250.7	251.3	251.8	252.3	252.5	252.3	252.1	251.9	251.8	251.3
130°	263.8	264.5	265.1	265.8	266.4	266.6	266.4	266.1	265.9	265.6	265.3
132.5°	277.4	278.0	278.8	279.4	280.1	280.3	280.1	279.9	279.7	279.6	279.2
135°	298.2	298.6	299.1	299.6	300.1	300.4	300.3	300.2	300.1	300.0	299.7
137.5°	317.4	317.8	318.2	318.6	319.0	319.4	319.5	319.8	320.0	320.2	319.8
140°	330.7	331.1	331.5	331.9	332.3	332.6	332.6	332.7	332.8	332.9	332.8
142.5°	342.8	343.2	343.6	344.1	344.5	344.7	344.9	345.0	345.2	345.3	345.2
145°	361.7	361.9	362.1	362.2	362.4	362.6	362.8	363.1	363.3	363.5	363.5
147.5°	378.3	378.5	378.9	379.1	379.4	379.7	379.9	380.2	380.4	380.7	380.7
150°	389.8	390.0	390.1	390.3	390.4	390.6	390.8	390.9	391.1	391.3	391.3
152.5°	399.3	399.5	399.7	399.9	400.1	400.3	400.4	400.6	400.6	400.7	400.9
155°	414.2	414.2	414.2	414.2	414.2	414.3	414.3	414.4	414.5	414.6	414.9
157.5°	426.9	426.8	426.7	426.6	426.5	426.5	426.6	426.6	426.6	426.7	427.1
160°	434.9	434.7	434.6	434.4	434.2	434.1	434.1	434.1	434.1	434.1	434.6
162.5°	442.0	441.7	441.5	441.2	441.1	441.0	441.0	441.1	441.2	441.2	441.6
165°	451.1	450.9	450.6	450.4	450.1	450.0	450.0	450.0	450.0	450.0	450.5
167.5°	458.4	458.1	457.8	457.5	457.1	457.0	457.1	457.1	457.2	457.2	457.8
170°	462.6	462.3	461.9	461.6	461.3	461.1	461.1	461.1	461.1	461.1	461.7
172.5°	465.9	465.5	465.2	464.9	464.5	464.3	464.3	464.3	464.3	464.3	464.9
175°	469.2	468.9	468.6	468.2	467.9	467.7	467.7	467.7	467.7	467.7	468.2
177.5°	470.7	470.3	470.1	469.9	469.6	469.4	469.4	469.4	469.4	469.4	469.9
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3



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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°	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.7
90°	9.5	9.9	10.2	10.4	10.6	10.8	10.9	11.1
92.5°	14.7	15.0	15.2	15.3	15.2	15.1	15.0	14.9
95°	28.0	28.3	28.6	28.8	28.8	28.8	28.8	28.8
97.5°	43.5	43.9	44.3	44.4	44.4	44.4	44.4	44.4
100°	54.8	55.0	55.3	55.5	55.7	55.8	56.0	56.2
102.5°	67.8	68.1	68.3	68.4	68.4	68.3	68.3	68.2
105°	87.2	87.2	87.2	87.2	87.5	87.6	87.8	88.0
107.5°	108.2	108.4	108.7	108.8	108.7	108.6	108.5	108.4
110°	122.2	122.5	122.9	122.9	122.8	122.6	122.5	122.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	136.2	136.6	137.1	137.2	137.1	137.1	137.1	137.1
115°	157.6	157.7	157.8	157.8	157.7	157.6	157.5	157.4
117.5°	179.1	179.0	179.0	179.0	178.7	178.5	178.2	178.0
120°	193.5	193.4	193.3	193.1	193.0	192.8	192.7	192.5
122.5°	208.0	207.7	207.5	207.3	207.1	206.8	206.6	206.4
125°	229.5	229.2	228.9	228.5	228.2	227.9	227.6	227.2
127.5°	250.9	250.4	249.9	249.5	249.2	248.7	248.3	248.0
130°	265.0	264.6	264.3	263.9	263.3	262.8	262.2	261.5
132.5°	278.8	278.3	277.9	277.5	277.1	276.6	276.2	275.7
135°	299.4	299.1	298.7	298.5	298.3	298.2	298.0	297.8
137.5°	319.5	319.2	318.8	318.5	318.1	317.9	317.6	317.2
140°	332.7	332.6	332.6	332.2	331.7	331.1	330.5	330.0
142.5°	345.1	345.0	345.0	344.7	344.3	343.8	343.4	342.9
145°	363.4	363.3	363.2	363.1	362.7	362.4	362.1	361.7
147.5°	380.7	380.7	380.7	380.4	379.9	379.4	378.9	378.4
150°	391.3	391.3	391.3	391.0	390.5	390.0	389.6	389.1
152.5°	401.0	401.1	401.3	401.1	400.7	400.2	399.8	399.4
155°	415.2	415.6	415.9	415.7	415.2	414.6	414.0	413.4
157.5°	427.5	427.8	428.1	428.0	427.6	427.1	426.6	426.2
160°	435.0	435.4	435.8	435.8	435.5	435.1	434.8	434.5
162.5°	442.1	442.5	442.9	442.8	442.3	441.7	441.2	440.7
165°	451.0	451.5	452.0	451.9	451.3	450.8	450.2	449.6
167.5°	458.3	458.8	459.3	459.3	458.8	458.3	457.8	457.2
170°	462.3	462.8	463.4	463.4	462.8	462.3	461.7	461.1
172.5°	465.4	465.9	466.4	466.4	465.8	465.2	464.6	464.1
175°	468.7	469.2	469.7	469.7	469.1	468.6	468.0	467.4
177.5°	470.3	470.7	471.0	471.0	470.5	470.1	469.6	469.1
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3

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