

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: P331872-930

Luminaire Tested: **S123DIP-S340D365U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331872-930
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: S123DIP-S340D365U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2166.9 lumens
Efficiency: N/A
Efficacy: 106.7 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

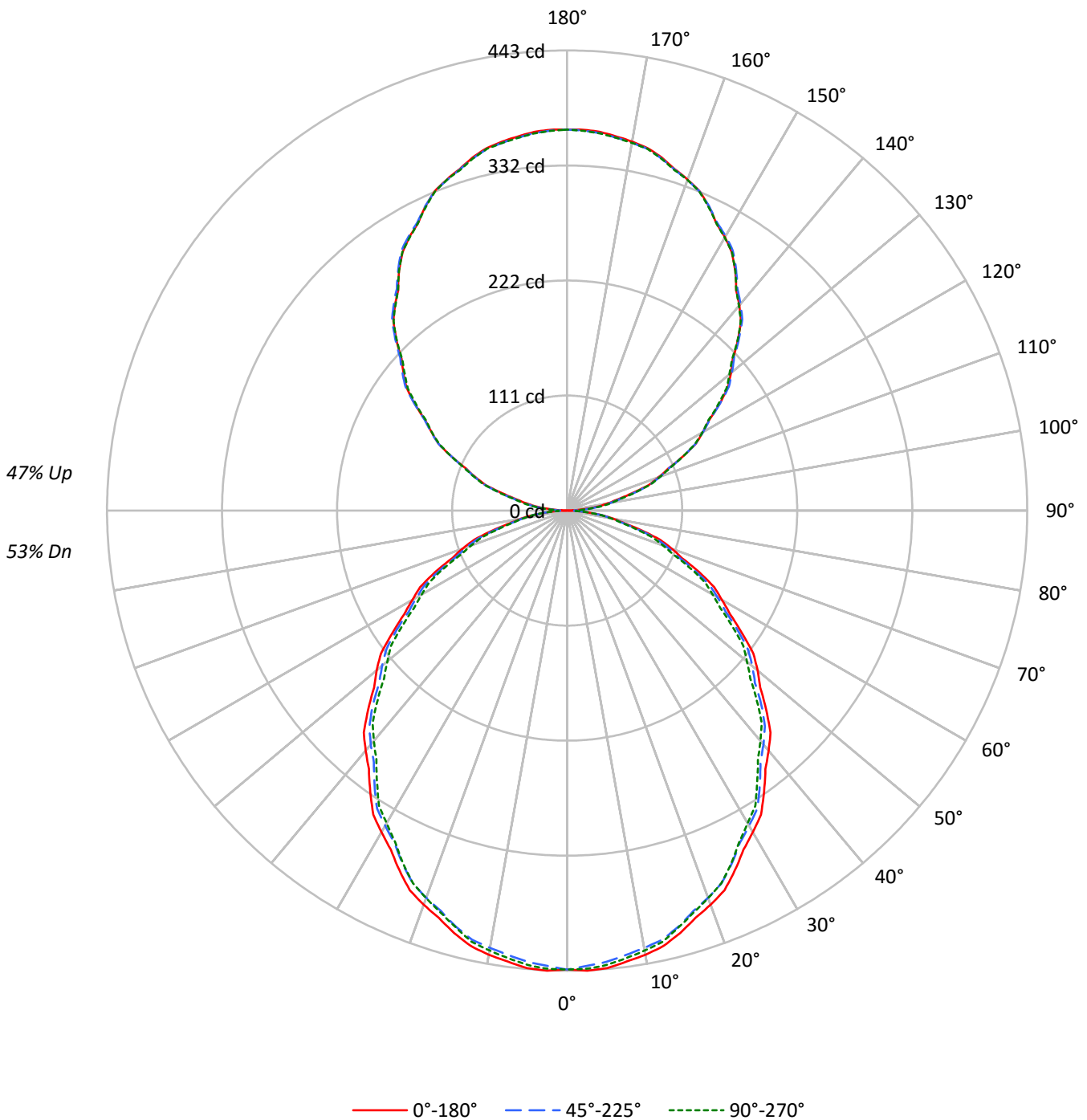
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	45				
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	37				
3	82	72	65	59	75	67	61	55	58	53	48	49	45	42	40	38	36	32				
4	75	64	56	50	69	59	52	47	51	46	41	43	39	36	36	33	31	27				
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	23				
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	30	26	23	21				
7	58	46	38	32	54	43	36	31	37	32	27	32	27	24	27	24	21	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16				
9	51	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15				
10	47	35	28	23	44	33	26	22	29	23	20	25	21	17	21	18	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4755	4755	4755
5°	4778	4712	4744
10°	4746	4671	4701
15°	4690	4619	4627
20°	4625	4543	4548
25°	4538	4454	4444
30°	4443	4354	4320
35°	4343	4248	4193
40°	4239	4131	4068
45°	4122	4025	3927
50°	4007	3893	3785
55°	3856	3757	3643
60°	3705	3597	3483
65°	3568	3423	3319
70°	3371	3229	3084
75°	3082	2969	2845
80°	2777	2665	2641
85°	2433	2347	2260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.6	1.9
10°-20°	117.5	5.4
20°-30°	173.6	8.0
30°-40°	202.8	9.4
40°-50°	203.9	9.4
50°-60°	179.1	8.3
60°-70°	133.4	6.2
70°-80°	76.0	3.5
80°-90°	22.9	1.1
90°-100°	23.9	1.1
100°-110°	71.5	3.3
110°-120°	121.6	5.6
120°-130°	160.0	7.4
130°-140°	179.8	8.3
140°-150°	176.8	8.2
150°-160°	148.8	6.9
160°-170°	99.1	4.6
170°-180°	34.7	1.6
0°-30°	332.7	15.4
0°-40°	535.5	24.7
0°-60°	918.4	42.4
0°-90°	1150.7	53.1
90°-120°	217.1	10.0
90°-150°	733.7	33.9
90°-180°	1016.0	46.9
0°-180°	2166.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	442	440	436	440	439	42
15°	421	419	414	417	415	119
25°	382	380	375	375	374	176
35°	330	328	323	321	319	207
45°	271	269	264	260	258	209
55°	206	205	200	196	194	184
65°	140	138	134	132	130	138
75°	74	73	71	70	68	79
85°	20	19	19	18	18	22
90°	0	3	7	8	9	2
95°	17	19	21	22	22	19
105°	65	66	68	68	69	69
115°	122	123	123	123	123	121
125°	179	180	180	178	177	160
135°	232	234	234	233	232	179
145°	282	283	284	283	282	176
155°	323	323	323	324	322	149
165°	352	351	351	352	351	99
175°	366	365	365	366	364	35
180°	367	367	367	367	367	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	443.4	443.0	442.8	442.5	442.2	441.7	441.0	440.3	439.5	438.8	439.4
5°	442.2	441.7	441.3	440.9	440.5	439.9	438.9	438.0	437.0	436.1	436.9
7.5°	437.9	437.4	437.0	436.6	436.2	435.5	434.6	433.6	432.6	431.6	432.4
10°	434.2	433.8	433.3	432.9	432.5	431.8	430.6	429.6	428.4	427.4	428.1
12.5°	429.3	429.0	428.6	428.3	428.0	427.2	426.2	425.2	424.1	423.1	423.7
15°	420.9	420.6	420.2	419.9	419.6	418.8	417.8	416.6	415.6	414.5	415.2
17.5°	411.1	410.7	410.3	409.8	409.4	408.6	407.5	406.4	405.3	404.2	404.6
20°	403.8	403.3	402.8	402.3	401.8	401.0	399.9	398.8	397.7	396.6	397.0
22.5°	395.6	395.1	394.6	394.1	393.6	392.8	391.7	390.6	389.5	388.4	388.7
25°	382.1	381.6	381.2	380.7	380.2	379.4	378.2	377.2	376.0	375.0	375.0
27.5°	367.8	367.3	366.8	366.3	365.8	365.0	363.9	362.6	361.5	360.3	360.4
30°	357.5	357.0	356.6	356.2	355.8	355.0	353.8	352.6	351.5	350.3	350.3
32.5°	347.2	346.6	346.0	345.4	345.0	344.1	343.2	342.3	341.4	340.6	340.1
35°	330.5	330.0	329.5	329.0	328.5	327.7	326.6	325.5	324.4	323.3	322.8
37.5°	313.5	312.8	312.2	311.5	311.0	310.1	308.9	307.8	306.7	305.6	305.0
40°	301.7	301.1	300.6	300.1	299.6	298.7	297.6	296.4	295.2	294.0	293.3
42.5°	289.8	289.2	288.6	288.0	287.5	286.6	285.4	284.2	283.1	281.8	281.2
45°	270.8	270.5	270.2	269.9	269.5	268.8	267.7	266.6	265.5	264.4	263.4
47.5°	252.1	251.6	251.1	250.6	250.1	249.4	248.3	247.3	246.3	245.2	244.3
50°	239.3	238.9	238.5	238.1	237.7	236.8	235.8	234.7	233.6	232.5	231.5
52.5°	225.9	225.7	225.3	225.1	224.8	224.0	222.9	221.8	220.6	219.4	218.7
55°	205.5	205.5	205.4	205.3	205.2	204.6	203.5	202.4	201.3	200.2	199.3
57.5°	186.1	185.8	185.5	185.2	184.9	184.3	183.4	182.5	181.7	180.8	180.0
60°	172.1	172.0	171.9	171.9	171.8	171.2	170.2	169.2	168.2	167.1	166.4
62.5°	159.6	159.4	159.2	159.0	158.7	158.2	157.1	156.1	155.1	154.1	153.4
65°	140.1	139.7	139.3	138.9	138.5	137.9	137.1	136.2	135.3	134.4	133.8
67.5°	119.6	119.2	118.9	118.5	118.1	117.6	117.0	116.3	115.7	115.0	114.5
70°	107.1	106.6	106.2	105.6	105.1	104.6	104.1	103.5	103.1	102.6	102.0
72.5°	94.1	93.7	93.4	92.9	92.5	92.1	91.6	91.0	90.4	89.8	89.3
75°	74.1	73.7	73.4	73.1	72.7	72.4	72.2	71.9	71.7	71.4	71.0
77.5°	56.3	56.2	56.0	55.8	55.6	55.4	55.1	54.8	54.5	54.1	53.9
80°	44.8	44.6	44.4	44.1	43.8	43.6	43.5	43.3	43.1	43.0	42.8
82.5°	33.6	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.2	33.0
85°	19.7	19.6	19.4	19.2	19.1	19.0	19.0	19.0	19.0	19.0	18.8
87.5°	8.0	7.9	7.8	7.7	7.7	7.7	7.7	7.9	8.0	8.1	8.1
90°	0.3	0.9	1.5	2.2	2.9	3.6	4.4	5.2	6.1	6.9	7.2
92.5°	7.0	7.4	7.8	8.3	8.7	9.1	9.6	10.1	10.6	11.1	11.3
95°	17.0	17.4	17.9	18.3	18.8	19.2	19.8	20.3	20.8	21.4	21.6
97.5°	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.3	33.7
100°	39.2	39.5	39.9	40.4	40.7	41.1	41.4	41.7	42.1	42.3	42.6
102.5°	49.6	49.8	50.0	50.2	50.5	50.8	51.2	51.7	52.1	52.5	52.7
105°	64.8	65.0	65.1	65.2	65.3	65.7	66.3	66.9	67.4	68.0	68.0
107.5°	82.6	82.7	82.8	82.8	82.9	83.0	83.2	83.5	83.7	84.0	84.1
110°	93.7	93.8	93.9	94.0	94.2	94.2	94.4	94.6	94.7	94.8	95.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	105.2	105.3	105.3	105.4	105.5	105.5	105.6	105.6	105.6	105.7	105.9
115°	122.5	122.6	122.9	123.0	123.2	123.3	123.1	123.0	122.9	122.7	122.8
117.5°	139.8	140.0	140.1	140.2	140.4	140.3	140.1	140.0	139.8	139.7	139.7
120°	150.7	151.1	151.5	151.8	152.2	152.2	152.0	151.6	151.3	151.0	150.9
122.5°	162.0	162.2	162.6	162.8	163.1	163.1	163.0	162.8	162.7	162.5	162.3
125°	179.2	179.4	179.6	179.8	180.0	180.0	179.9	179.8	179.6	179.5	179.2
127.5°	195.1	195.5	195.9	196.3	196.7	196.9	196.7	196.6	196.5	196.3	196.0
130°	205.7	206.2	206.8	207.2	207.7	207.9	207.7	207.6	207.3	207.2	206.9
132.5°	216.3	216.9	217.4	217.8	218.3	218.6	218.4	218.3	218.1	218.0	217.7
135°	232.5	232.9	233.3	233.7	234.1	234.2	234.2	234.1	234.0	234.0	233.7
137.5°	247.5	247.9	248.1	248.4	248.7	249.0	249.2	249.3	249.5	249.6	249.4
140°	257.9	258.2	258.5	258.9	259.2	259.3	259.4	259.4	259.5	259.6	259.5
142.5°	267.3	267.7	268.0	268.3	268.6	268.8	269.0	269.0	269.1	269.3	269.2
145°	282.1	282.2	282.3	282.4	282.6	282.7	282.9	283.2	283.3	283.5	283.5
147.5°	295.0	295.2	295.5	295.7	295.9	296.1	296.3	296.4	296.6	296.9	296.9
150°	303.9	304.1	304.2	304.4	304.5	304.6	304.8	304.8	305.0	305.1	305.1
152.5°	311.4	311.5	311.7	311.9	312.1	312.2	312.3	312.3	312.4	312.5	312.6
155°	323.0	323.0	323.0	323.0	323.0	323.0	323.1	323.1	323.2	323.3	323.5
157.5°	332.9	332.8	332.7	332.6	332.6	332.6	332.6	332.6	332.7	332.8	333.0
160°	339.1	339.0	338.8	338.8	338.6	338.5	338.5	338.5	338.5	338.5	338.8
162.5°	344.6	344.5	344.3	344.1	343.9	343.9	343.9	344.0	344.1	344.1	344.4
165°	351.8	351.6	351.4	351.2	351.0	350.9	350.9	350.9	350.9	350.9	351.3
167.5°	357.5	357.3	357.0	356.7	356.4	356.4	356.4	356.4	356.5	356.6	356.9
170°	360.7	360.4	360.2	360.0	359.7	359.5	359.5	359.5	359.5	359.5	360.0
172.5°	363.3	363.0	362.7	362.5	362.2	362.1	362.1	362.1	362.1	362.1	362.5
175°	365.9	365.7	365.4	365.2	364.9	364.8	364.8	364.8	364.8	364.8	365.2
177.5°	367.0	366.8	366.6	366.4	366.2	366.1	366.1	366.1	366.1	366.1	366.4
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	440.1	440.8	441.5	441.8	441.7	441.6	441.6	441.5
5°	437.8	438.6	439.5	439.9	439.7	439.5	439.3	439.1
7.5°	433.2	433.9	434.6	435.0	434.9	434.8	434.7	434.6
10°	428.9	429.7	430.4	430.7	430.6	430.4	430.2	430.1
12.5°	424.2	424.8	425.3	425.6	425.5	425.3	425.3	425.2
15°	415.8	416.5	417.2	417.3	416.7	416.2	415.7	415.2
17.5°	405.1	405.6	406.1	406.3	406.0	405.9	405.7	405.5
20°	397.3	397.6	397.9	398.0	397.7	397.5	397.2	397.0
22.5°	388.9	389.2	389.5	389.5	389.1	388.8	388.5	388.2
25°	375.1	375.2	375.3	375.2	375.0	374.7	374.5	374.2
27.5°	360.4	360.5	360.5	360.4	360.1	359.8	359.5	359.1
30°	350.3	350.3	350.3	349.9	349.4	348.8	348.2	347.6
32.5°	339.6	339.1	338.7	338.3	337.9	337.6	337.3	337.0
35°	322.3	321.8	321.2	320.8	320.4	319.9	319.5	319.1
37.5°	304.4	303.8	303.1	302.7	302.5	302.1	301.9	301.7
40°	292.7	292.0	291.3	290.8	290.5	290.2	289.8	289.5
42.5°	280.5	279.8	279.2	278.7	278.3	278.0	277.7	277.3
45°	262.4	261.4	260.3	259.7	259.2	258.8	258.4	258.0
47.5°	243.3	242.3	241.2	240.6	240.2	239.9	239.5	239.1
50°	230.6	229.7	228.8	228.0	227.6	227.1	226.6	226.0
52.5°	217.8	217.0	216.2	215.6	215.1	214.6	214.1	213.6
55°	198.4	197.4	196.5	195.8	195.4	194.9	194.5	194.1
57.5°	179.2	178.3	177.5	176.8	176.3	175.9	175.4	174.9
60°	165.7	164.9	164.1	163.5	163.1	162.7	162.2	161.8
62.5°	152.5	151.8	151.1	150.5	150.3	149.9	149.7	149.4
65°	133.1	132.5	131.8	131.3	131.1	130.8	130.5	130.3
67.5°	113.8	113.2	112.7	112.2	111.9	111.5	111.1	110.8
70°	101.4	100.8	100.2	99.7	99.3	98.9	98.4	98.0
72.5°	88.8	88.2	87.7	87.3	87.2	86.9	86.7	86.4
75°	70.6	70.1	69.7	69.4	69.1	68.9	68.6	68.4
77.5°	53.6	53.3	53.0	52.9	52.9	52.9	52.9	52.9
80°	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.6
82.5°	32.9	32.8	32.6	32.4	32.4	32.4	32.3	32.2
85°	18.7	18.5	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	8.1	8.0	8.0	8.0	8.1	8.1	8.1	8.1
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	11.5	11.7	11.9	12.0	11.9	11.8	11.7	11.7
95°	21.9	22.1	22.3	22.5	22.5	22.5	22.5	22.5
97.5°	33.9	34.2	34.6	34.7	34.7	34.7	34.6	34.6
100°	42.7	43.0	43.1	43.3	43.4	43.5	43.7	43.8
102.5°	52.9	53.1	53.2	53.3	53.3	53.3	53.2	53.2
105°	68.0	68.0	68.0	68.1	68.2	68.3	68.5	68.6
107.5°	84.4	84.5	84.8	84.9	84.8	84.7	84.6	84.5
110°	95.3	95.6	95.8	95.9	95.7	95.6	95.5	95.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	106.2	106.6	106.9	107.0	107.0	107.0	106.9	106.9
115°	122.9	122.9	123.0	123.0	122.9	122.9	122.8	122.7
117.5°	139.7	139.7	139.7	139.5	139.3	139.2	139.0	138.8
120°	150.8	150.7	150.7	150.6	150.5	150.3	150.3	150.1
122.5°	162.2	162.0	161.8	161.7	161.5	161.3	161.1	160.9
125°	179.0	178.7	178.5	178.2	178.0	177.7	177.4	177.2
127.5°	195.6	195.3	194.9	194.5	194.3	194.0	193.7	193.4
130°	206.7	206.4	206.1	205.8	205.4	204.9	204.5	204.0
132.5°	217.4	217.0	216.8	216.5	216.1	215.7	215.4	215.1
135°	233.4	233.2	232.9	232.8	232.6	232.4	232.4	232.2
137.5°	249.2	248.9	248.6	248.3	248.1	247.9	247.6	247.4
140°	259.4	259.4	259.3	259.1	258.6	258.2	257.7	257.3
142.5°	269.1	269.0	269.0	268.8	268.5	268.2	267.7	267.4
145°	283.4	283.3	283.2	283.1	282.8	282.6	282.3	282.1
147.5°	296.9	296.9	296.9	296.6	296.3	295.9	295.5	295.1
150°	305.1	305.1	305.1	304.9	304.5	304.2	303.8	303.4
152.5°	312.7	312.8	312.9	312.7	312.4	312.1	311.8	311.4
155°	323.8	324.0	324.3	324.2	323.8	323.3	322.9	322.4
157.5°	333.3	333.6	333.9	333.8	333.5	333.1	332.7	332.4
160°	339.2	339.5	339.8	339.8	339.6	339.3	339.1	338.8
162.5°	344.7	345.0	345.4	345.3	344.9	344.5	344.1	343.6
165°	351.7	352.0	352.5	352.5	352.0	351.6	351.1	350.7
167.5°	357.3	357.8	358.2	358.2	357.8	357.3	356.9	356.6
170°	360.4	360.9	361.3	361.3	360.9	360.4	360.0	359.5
172.5°	362.9	363.3	363.7	363.7	363.2	362.8	362.3	361.9
175°	365.5	365.9	366.3	366.2	365.8	365.3	364.9	364.4
177.5°	366.7	367.0	367.3	367.3	367.0	366.6	366.2	365.8
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8

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