

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: P332496-935

Luminaire Tested: **S124DIP-S350D365U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332496-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D365U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2564.8 lumens
Efficiency: N/A
Efficacy: 126.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

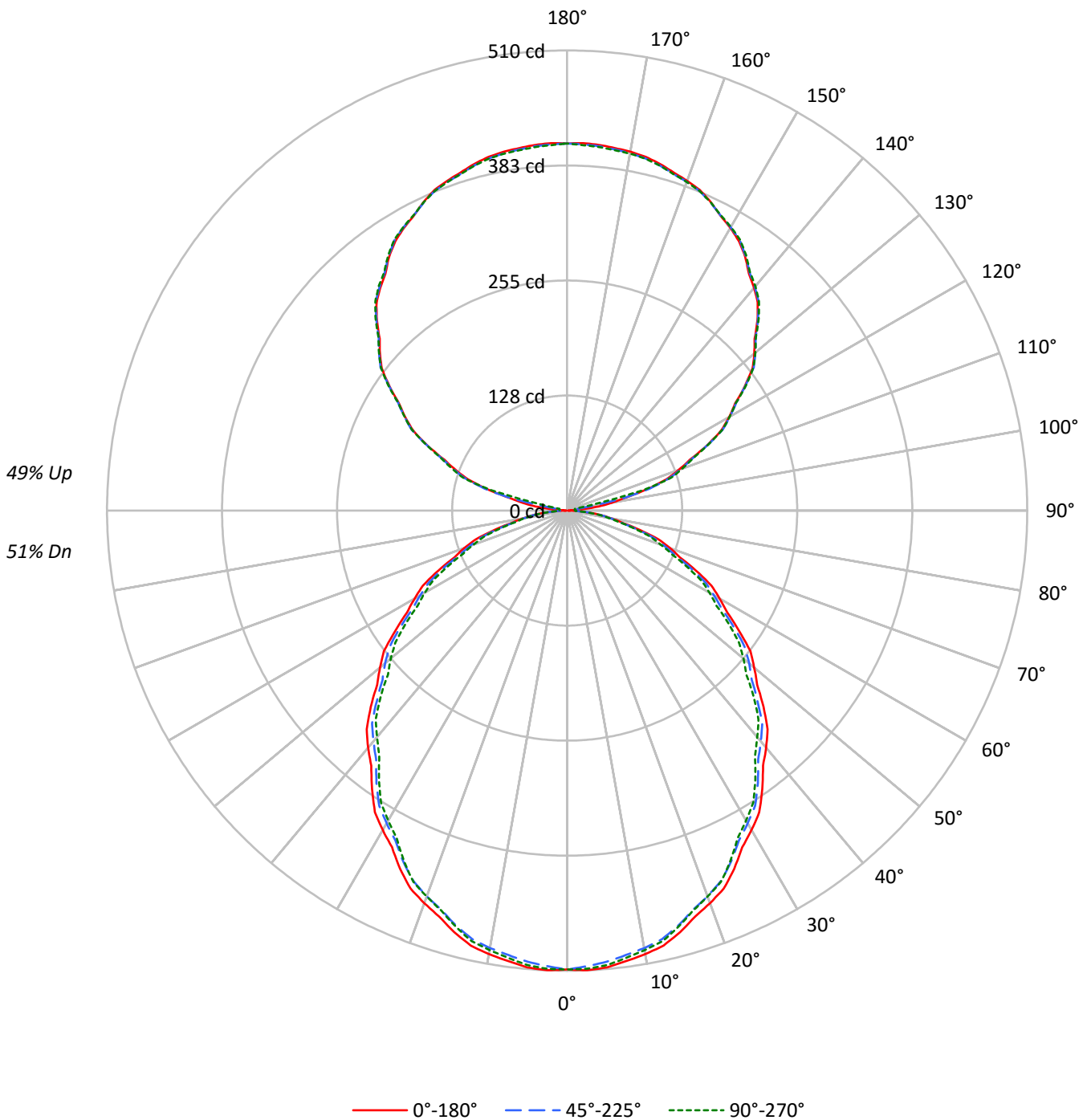
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	32	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	25	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4106	4106	4106
5°	4118	4068	4099
10°	4092	4036	4055
15°	4043	3978	3989
20°	3978	3907	3911
25°	3902	3827	3815
30°	3811	3731	3697
35°	3714	3631	3582
40°	3616	3518	3453
45°	3513	3406	3342
50°	3399	3307	3204
55°	3275	3178	3074
60°	3152	3034	2942
65°	3012	2896	2779
70°	2858	2712	2608
75°	2617	2492	2427
80°	2329	2236	2176
85°	2038	1964	1927



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	1.9
10°-20°	135.0	5.3
20°-30°	198.6	7.7
30°-40°	230.9	9.0
40°-50°	230.9	9.0
50°-60°	202.0	7.9
60°-70°	150.0	5.8
70°-80°	85.2	3.3
80°-90°	25.8	1.0
90°-100°	13.9	0.5
100°-110°	88.7	3.5
110°-120°	169.7	6.6
120°-130°	215.4	8.4
130°-140°	230.5	9.0
140°-150°	215.6	8.4
150°-160°	173.8	6.8
160°-170°	112.1	4.4
170°-180°	38.6	1.5
0°-30°	381.5	14.9
0°-40°	612.4	23.9
0°-60°	1045.3	40.8
0°-90°	1306.3	50.9
90°-120°	272.4	10.6
90°-150°	933.9	36.4
90°-180°	1258.0	49.0
0°-180°	2564.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	508	506	502	506	506	48
15°	484	482	476	478	477	136
25°	438	435	430	430	428	201
35°	377	374	368	366	364	236
45°	308	305	298	294	293	237
55°	233	231	226	221	218	208
65°	158	156	152	148	146	156
75°	84	82	80	78	78	89
85°	22	22	21	21	21	24
90°	1	4	7	8	9	2
95°	17	7	7	8	9	22
105°	92	93	95	97	87	96
115°	171	172	172	172	172	168
125°	240	242	241	242	242	215
135°	298	298	299	300	300	230
145°	344	345	345	345	346	215
155°	377	377	376	378	377	174
165°	398	396	396	398	396	112
175°	407	405	405	408	404	39
180°	407	407	407	407	407	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	509.9	509.7	509.5	509.3	509.0	508.5	507.7	507.0	506.2	505.3	506.1
5°	508.2	507.8	507.5	507.1	506.8	506.1	505.1	504.1	503.1	502.0	503.1
7.5°	503.5	503.1	502.7	502.4	502.0	501.3	500.2	499.1	498.0	496.9	497.7
10°	499.2	498.9	498.5	498.2	497.8	497.1	495.8	494.6	493.5	492.3	493.0
12.5°	493.7	493.4	493.0	492.6	492.2	491.5	490.2	489.0	487.7	486.5	487.2
15°	483.7	483.4	483.0	482.7	482.3	481.5	480.1	478.7	477.3	476.0	476.6
17.5°	471.7	471.3	470.9	470.5	469.9	469.1	467.8	466.5	465.2	463.9	464.3
20°	463.0	462.5	462.1	461.6	461.2	460.3	458.9	457.5	456.2	454.8	455.1
22.5°	453.5	452.9	452.3	451.7	451.1	450.1	448.8	447.5	446.1	444.7	445.2
25°	438.1	437.5	436.9	436.2	435.6	434.6	433.3	432.0	430.8	429.6	429.6
27.5°	420.5	419.8	419.2	418.5	417.9	417.0	415.8	414.7	413.5	412.2	412.1
30°	408.8	408.0	407.3	406.6	405.9	404.9	403.7	402.5	401.4	400.2	399.8
32.5°	396.4	395.7	395.0	394.4	393.7	392.8	391.6	390.3	389.1	387.8	387.4
35°	376.9	376.3	375.7	375.1	374.4	373.5	372.2	370.9	369.7	368.4	367.8
37.5°	356.5	355.9	355.3	354.8	354.2	353.3	351.9	350.5	349.1	347.8	347.1
40°	343.1	342.4	341.7	341.0	340.3	339.2	337.9	336.5	335.1	333.8	332.9
42.5°	328.8	328.4	328.0	327.5	327.1	326.1	324.6	323.0	321.6	320.1	319.0
45°	307.7	307.0	306.4	305.8	305.1	304.1	302.6	301.2	299.8	298.3	297.3
47.5°	285.6	285.2	284.7	284.3	283.9	283.0	281.6	280.3	279.0	277.6	276.5
50°	270.6	270.3	269.9	269.5	269.1	268.4	267.1	265.8	264.5	263.3	262.0
52.5°	256.0	255.5	255.0	254.6	254.2	253.3	251.9	250.6	249.3	248.0	246.8
55°	232.7	232.5	232.1	231.9	231.6	230.8	229.5	228.3	227.0	225.8	224.7
57.5°	210.5	210.3	209.9	209.7	209.3	208.5	207.2	206.0	204.7	203.5	202.5
60°	195.2	194.8	194.3	193.8	193.4	192.6	191.4	190.2	189.1	187.9	187.1
62.5°	180.2	179.9	179.4	179.1	178.7	177.9	176.6	175.4	174.1	172.9	172.1
65°	157.7	157.3	156.8	156.4	155.9	155.2	154.3	153.4	152.5	151.6	150.7
67.5°	135.1	134.7	134.2	133.8	133.4	132.8	131.9	131.0	130.2	129.2	128.4
70°	121.1	120.4	119.8	119.2	118.5	117.8	117.1	116.4	115.6	114.9	114.2
72.5°	106.1	105.4	104.8	104.2	103.5	102.9	102.3	101.8	101.2	100.6	100.0
75°	83.9	83.5	83.1	82.6	82.1	81.7	81.3	80.8	80.3	79.9	79.6
77.5°	62.9	62.7	62.4	62.3	62.1	61.7	61.4	61.0	60.5	60.2	60.0
80°	50.1	49.9	49.6	49.3	49.1	48.8	48.6	48.5	48.3	48.1	47.9
82.5°	37.7	37.6	37.5	37.4	37.2	37.1	37.1	37.1	37.0	37.0	36.9
85°	22.0	22.0	22.0	22.0	22.0	22.0	21.7	21.5	21.4	21.2	21.2
87.5°	8.7	8.7	8.8	8.9	9.0	9.0	9.0	9.1	9.1	9.1	9.2
90°	0.9	1.6	2.4	3.2	3.9	4.6	5.1	5.6	6.1	6.7	7.1
92.5°	3.9	3.9	3.9	4.0	4.0	4.3	4.8	5.3	5.9	6.5	6.9
95°	16.7	14.5	12.1	9.8	7.6	6.5	6.5	6.5	6.6	6.7	7.1
97.5°	35.6	36.9	38.4	39.9	41.2	38.2	30.7	23.2	15.6	8.0	8.1
100°	49.9	51.1	52.3	53.6	54.8	50.7	41.4	32.0	22.7	13.4	12.2
102.5°	66.0	66.9	67.8	68.6	69.6	69.4	68.2	67.0	65.7	64.5	52.1
105°	91.6	92.0	92.4	92.8	93.2	93.6	93.9	94.3	94.6	95.0	95.6
107.5°	115.4	115.5	115.8	116.0	116.2	116.5	117.0	117.4	117.9	118.4	118.6
110°	131.5	131.6	131.8	132.1	132.2	132.6	132.9	133.4	133.8	134.2	134.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.1	147.4	147.7	148.1	148.5	148.8	149.0	149.1	149.3	149.6	149.5
115°	171.0	171.3	171.4	171.6	171.9	171.9	171.9	171.8	171.7	171.6	171.8
117.5°	192.6	192.9	193.1	193.5	193.7	193.9	194.1	194.2	194.3	194.5	194.5
120°	207.2	207.5	207.8	208.0	208.3	208.4	208.4	208.3	208.2	208.1	208.3
122.5°	220.8	221.0	221.2	221.4	221.5	221.6	221.7	221.8	221.9	222.1	222.1
125°	240.4	240.6	240.9	241.2	241.5	241.5	241.4	241.3	241.2	241.0	241.2
127.5°	258.9	259.0	259.0	259.1	259.2	259.3	259.7	259.9	260.3	260.6	260.5
130°	270.8	270.9	271.0	271.0	271.1	271.2	271.4	271.6	271.8	272.1	272.1
132.5°	281.8	281.9	282.0	282.1	282.2	282.4	282.7	282.9	283.2	283.4	283.5
135°	298.2	298.2	298.1	298.0	297.9	298.0	298.3	298.6	298.9	299.1	299.3
137.5°	312.7	312.8	312.8	312.8	312.9	313.1	313.3	313.6	313.9	314.2	314.4
140°	322.3	322.4	322.5	322.6	322.8	322.9	323.0	323.2	323.3	323.5	323.6
142.5°	330.8	331.0	331.2	331.5	331.7	331.9	332.0	332.1	332.2	332.3	332.3
145°	343.9	344.1	344.2	344.5	344.7	344.7	344.7	344.7	344.7	344.7	344.8
147.5°	354.2	354.6	355.0	355.4	355.8	355.9	355.9	355.8	355.7	355.7	355.7
150°	361.8	362.1	362.3	362.7	362.9	363.0	362.9	362.8	362.7	362.7	362.7
152.5°	368.2	368.3	368.6	368.8	369.0	369.0	368.9	368.8	368.7	368.6	368.7
155°	377.0	377.1	377.1	377.2	377.3	377.2	377.0	376.8	376.6	376.4	376.7
157.5°	384.5	384.4	384.4	384.4	384.4	384.2	384.0	383.7	383.5	383.3	383.7
160°	388.9	388.7	388.5	388.3	388.1	388.0	387.9	387.8	387.7	387.6	388.1
162.5°	392.8	392.5	392.3	392.0	391.8	391.6	391.5	391.4	391.4	391.3	391.8
165°	397.7	397.4	397.0	396.7	396.3	396.1	396.1	396.1	396.1	396.1	396.7
167.5°	401.6	401.2	400.9	400.5	400.2	400.0	399.9	399.9	399.8	399.8	400.5
170°	403.8	403.4	402.9	402.6	402.2	402.0	402.1	402.2	402.2	402.3	402.8
172.5°	405.3	404.8	404.4	404.1	403.6	403.5	403.6	403.6	403.6	403.7	404.2
175°	406.8	406.4	406.0	405.6	405.2	405.0	405.1	405.2	405.3	405.3	406.0
177.5°	407.6	407.2	406.8	406.4	406.0	405.9	406.0	406.1	406.2	406.3	406.8
180°	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	506.8	507.6	508.2	508.6	508.5	508.4	508.3	508.2
5°	504.1	505.1	506.1	506.4	506.3	506.1	505.9	505.8
7.5°	498.4	499.3	500.1	500.4	500.3	500.2	500.1	500.0
10°	493.8	494.5	495.2	495.5	495.3	495.1	494.9	494.7
12.5°	488.0	488.8	489.7	489.9	489.7	489.4	489.1	488.9
15°	477.1	477.6	478.2	478.3	478.0	477.8	477.5	477.3
17.5°	464.6	464.9	465.3	465.4	465.2	465.0	464.9	464.7
20°	455.4	455.6	455.9	456.0	455.7	455.6	455.4	455.2
22.5°	445.7	446.2	446.7	446.8	446.4	446.1	445.7	445.5
25°	429.7	429.8	429.9	429.8	429.4	429.0	428.7	428.3
27.5°	411.8	411.6	411.4	411.0	410.6	410.2	409.7	409.2
30°	399.5	399.2	398.7	398.4	397.9	397.4	397.0	396.6
32.5°	386.9	386.5	386.1	385.6	385.2	384.7	384.3	383.8
35°	367.1	366.5	365.8	365.3	364.9	364.5	363.9	363.5
37.5°	346.4	345.7	345.0	344.4	343.8	343.2	342.6	342.0
40°	332.0	331.1	330.2	329.5	329.0	328.6	328.1	327.7
42.5°	318.0	316.9	315.9	315.2	314.9	314.6	314.3	314.0
45°	296.4	295.3	294.4	293.7	293.4	293.2	292.9	292.7
47.5°	275.3	274.2	273.1	272.2	271.6	270.9	270.2	269.5
50°	260.7	259.5	258.2	257.3	256.8	256.2	255.6	255.1
52.5°	245.7	244.6	243.5	242.5	241.9	241.2	240.5	239.8
55°	223.6	222.5	221.4	220.6	220.1	219.6	219.0	218.4
57.5°	201.5	200.4	199.4	198.6	198.1	197.6	197.1	196.5
60°	186.2	185.5	184.6	184.0	183.6	183.0	182.6	182.2
62.5°	171.4	170.7	169.9	169.3	168.8	168.4	168.0	167.5
65°	149.8	148.9	148.0	147.3	146.9	146.4	145.9	145.5
67.5°	127.5	126.7	125.8	125.3	125.2	125.0	124.9	124.8
70°	113.5	112.8	112.0	111.5	111.2	111.0	110.7	110.5
72.5°	99.4	98.8	98.2	97.8	97.6	97.3	97.0	96.8
75°	79.1	78.8	78.4	78.2	78.1	78.0	77.9	77.8
77.5°	59.9	59.8	59.8	59.6	59.3	59.1	58.8	58.6
80°	47.7	47.5	47.4	47.3	47.1	47.0	46.9	46.8
82.5°	36.8	36.7	36.6	36.5	36.4	36.2	36.2	36.1
85°	21.2	21.2	21.2	21.2	21.1	21.0	20.8	20.8
87.5°	9.3	9.4	9.5	9.6	9.6	9.6	9.6	9.6
90°	7.5	7.9	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	7.2	7.7	8.1	8.3	8.4	8.4	8.4	8.4
95°	7.5	7.9	8.4	8.5	8.6	8.7	8.8	8.8
97.5°	8.1	8.2	8.2	8.3	8.4	8.4	8.4	8.5
100°	11.1	9.9	8.8	8.3	8.4	8.4	8.4	8.5
102.5°	39.7	27.3	14.9	8.7	8.7	8.7	8.8	8.8
105°	96.2	96.8	97.4	96.4	94.0	91.6	89.1	86.7
107.5°	119.0	119.2	119.6	119.9	120.1	120.4	120.6	120.9
110°	134.5	134.6	134.7	134.9	135.1	135.3	135.5	135.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	149.5	149.5	149.4	149.6	149.8	150.1	150.3	150.6
115°	171.9	172.0	172.2	172.2	172.2	172.2	172.2	172.2
117.5°	194.4	194.4	194.4	194.3	194.3	194.3	194.3	194.2
120°	208.4	208.5	208.7	208.7	208.5	208.4	208.3	208.1
122.5°	222.1	222.2	222.3	222.3	222.1	222.1	221.9	221.8
125°	241.4	241.6	241.8	241.9	242.0	242.1	242.1	242.2
127.5°	260.5	260.5	260.5	260.4	260.4	260.3	260.2	260.2
130°	272.2	272.2	272.3	272.3	272.3	272.3	272.3	272.3
132.5°	283.6	283.7	283.8	283.8	283.7	283.6	283.6	283.5
135°	299.4	299.5	299.6	299.8	299.9	300.1	300.2	300.3
137.5°	314.5	314.7	314.8	314.9	314.8	314.8	314.7	314.7
140°	323.8	324.1	324.3	324.4	324.5	324.5	324.6	324.7
142.5°	332.5	332.7	332.8	332.9	332.9	332.9	332.9	332.9
145°	344.9	345.0	345.0	345.1	345.3	345.4	345.5	345.7
147.5°	355.8	355.9	355.9	355.9	356.0	356.0	356.1	356.2
150°	362.7	362.7	362.7	362.7	362.8	362.9	362.9	363.0
152.5°	368.8	368.9	369.0	369.0	368.9	368.9	368.9	368.9
155°	376.9	377.2	377.5	377.5	377.3	377.1	376.9	376.7
157.5°	384.0	384.4	384.7	384.7	384.4	384.0	383.7	383.3
160°	388.5	388.9	389.3	389.3	388.9	388.5	388.1	387.6
162.5°	392.1	392.5	393.0	392.9	392.4	392.0	391.5	391.1
165°	397.3	397.8	398.4	398.3	397.7	397.1	396.5	395.9
167.5°	401.1	401.7	402.2	402.2	401.5	400.8	400.1	399.5
170°	403.4	403.9	404.4	404.3	403.7	403.0	402.3	401.7
172.5°	404.8	405.4	405.9	405.8	405.1	404.3	403.6	402.9
175°	406.6	407.2	407.8	407.7	406.8	406.0	405.2	404.4
177.5°	407.3	407.7	408.1	407.9	407.3	406.7	406.0	405.4
180°	406.8	406.8	406.8	406.8	406.8	406.8	406.8	406.8

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