

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: P333022-830

Luminaire Tested: **S124RDIW-S350D770U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333022-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S350D770U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3858.4 lumens
Efficiency: N/A
Efficacy: 126.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

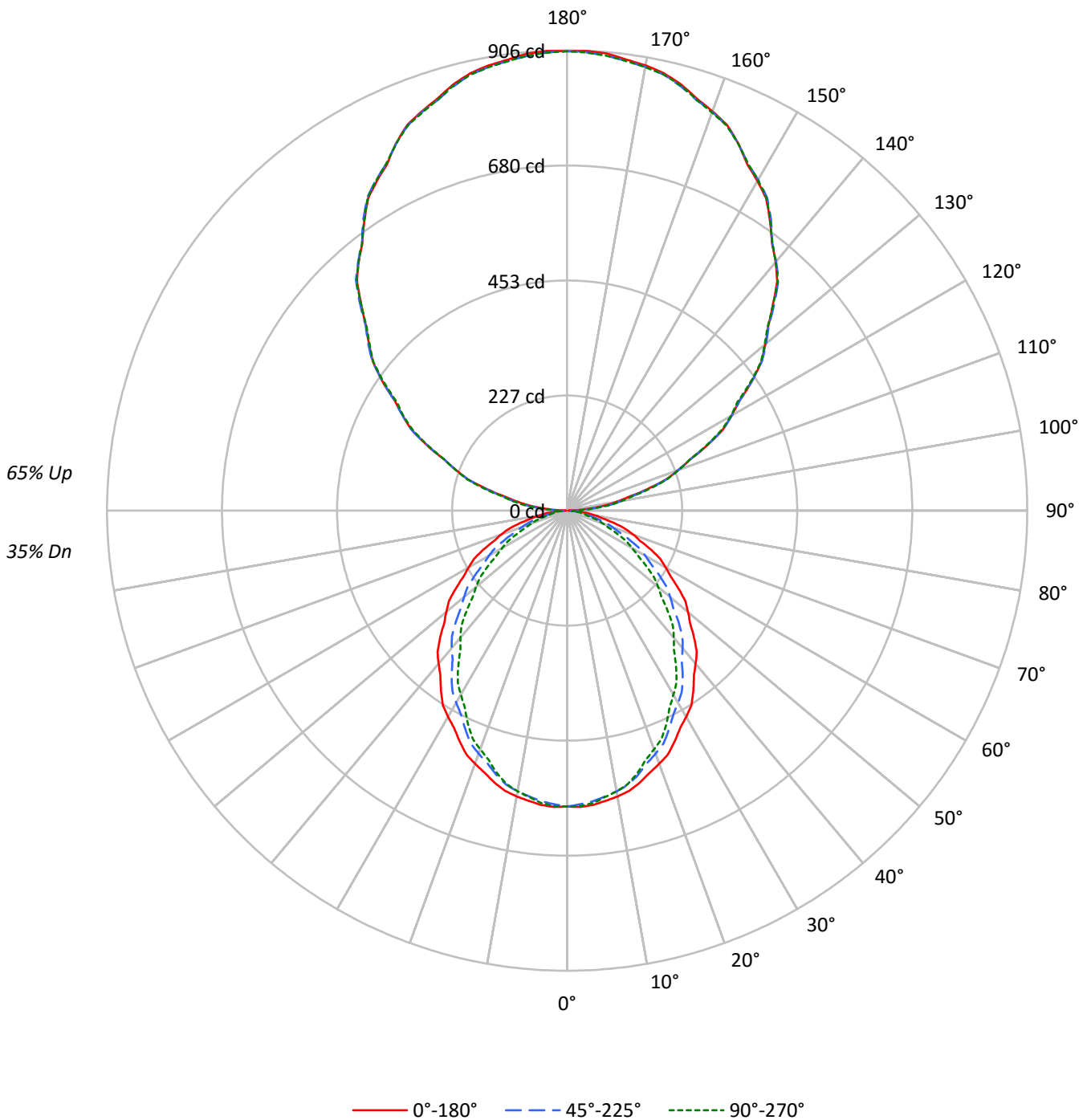
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	95	90	87	83	85	82	79	76	66	64	62	51	50	49	38	37	36	30
2	86	79	73	68	78	72	67	63	58	54	51	45	43	41	33	32	31	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	35	30	28	26	22
4	72	62	54	48	65	56	50	44	46	41	37	36	32	30	27	24	23	19
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	24	22	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	18	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	16	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	12
9	48	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	12	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	1.4
10°-20°	152.6	4.0
20°-30°	220.4	5.7
30°-40°	249.8	6.5
40°-50°	241.2	6.3
50°-60°	200.6	5.2
60°-70°	138.5	3.6
70°-80°	70.2	1.8
80°-90°	20.7	0.5
90°-100°	59.7	1.5
100°-110°	176.7	4.6
110°-120°	300.0	7.8
120°-130°	395.5	10.3
130°-140°	444.2	11.5
140°-150°	436.5	11.3
150°-160°	367.1	9.5
160°-170°	244.3	6.3
170°-180°	85.5	2.2
0°-30°	427.8	11.1
0°-40°	677.6	17.6
0°-60°	1119.4	29.0
0°-90°	1348.9	35.0
90°-120°	536.4	13.9
90°-150°	1812.6	47.0
90°-180°	2510.0	65.1
0°-180°	3858.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	2	10	15	19	21	4
95°	42	48	53	55	55	47
105°	163	164	166	169	171	173
115°	305	305	304	303	302	301
125°	444	444	444	442	441	396
135°	573	577	577	576	574	443
145°	696	699	700	699	697	435
155°	798	797	797	799	797	367
165°	868	866	865	868	866	245
175°	903	900	899	903	899	86
180°	904	904	904	904	904	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.7	8.3	8.0	7.7	7.4	7.4	7.5	7.7	7.9	8.1	8.2
90°	2.1	3.8	5.6	7.3	9.0	10.5	11.7	12.9	14.1	15.4	16.3
92.5°	15.0	17.0	18.9	20.8	22.8	24.2	25.1	25.9	26.9	27.7	28.3
95°	41.9	43.4	44.8	46.2	47.6	48.8	49.9	51.0	52.1	53.2	53.6
97.5°	73.3	74.5	75.6	76.6	77.8	79.0	80.3	81.5	82.8	84.1	84.6
100°	97.9	98.6	99.2	99.8	100.4	101.4	102.8	104.2	105.7	107.1	107.4
102.5°	123.7	123.9	124.1	124.4	124.7	125.5	126.7	128.0	129.2	130.5	131.0
105°	163.0	163.2	163.3	163.4	163.6	164.0	164.7	165.2	165.9	166.5	166.9
107.5°	204.2	204.4	204.6	204.8	205.0	205.2	205.3	205.4	205.5	205.6	205.9
110°	232.2	232.5	232.9	233.2	233.5	233.6	233.4	233.3	233.1	232.9	232.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	261.4	261.4	261.5	261.6	261.6	261.5	261.2	260.9	260.6	260.3	260.3
115°	305.0	305.0	305.0	305.0	305.0	304.8	304.5	304.3	303.9	303.6	303.4
117.5°	346.1	346.3	346.4	346.5	346.7	346.6	346.4	346.2	345.9	345.7	345.2
120°	373.5	374.2	374.8	375.4	376.1	376.1	375.7	375.2	374.8	374.3	373.4
122.5°	402.1	402.4	402.6	402.8	403.1	403.1	402.9	402.7	402.5	402.3	401.7
125°	444.2	444.2	444.2	444.2	444.2	444.1	443.9	443.8	443.7	443.5	443.2
127.5°	482.4	482.9	483.3	483.8	484.3	484.4	484.1	483.9	483.6	483.4	483.1
130°	509.3	509.7	510.2	510.7	511.1	511.3	511.3	511.3	511.3	511.3	511.0
132.5°	536.7	537.1	537.3	537.7	538.1	538.2	538.0	537.9	537.8	537.6	537.3
135°	573.0	573.8	574.8	575.7	576.6	577.1	577.1	577.1	577.1	577.1	576.8
137.5°	612.4	612.8	613.2	613.7	614.2	614.4	614.7	614.9	615.2	615.5	615.0
140°	638.7	638.9	639.3	639.6	639.9	640.1	640.1	640.1	640.1	640.1	639.9
142.5°	662.7	663.1	663.4	663.6	664.0	664.1	663.9	663.8	663.7	663.5	663.5
145°	696.1	696.6	697.3	698.0	698.5	698.9	699.1	699.3	699.4	699.6	699.4
147.5°	729.1	729.8	730.6	731.3	732.1	732.4	732.3	732.1	732.0	731.9	731.7
150°	749.2	749.8	750.5	751.1	751.7	752.1	752.1	752.1	752.1	752.1	752.1
152.5°	768.3	768.6	769.0	769.4	769.8	770.0	770.1	770.2	770.3	770.4	770.8
155°	797.5	797.5	797.5	797.5	797.5	797.4	797.2	797.1	796.9	796.8	797.4
157.5°	822.1	821.8	821.5	821.2	821.0	820.9	820.8	820.8	820.8	820.7	821.1
160°	836.7	836.5	836.3	836.2	836.0	835.8	835.8	835.6	835.4	835.3	835.8
162.5°	850.1	849.7	849.2	848.9	848.5	848.2	848.0	847.9	847.7	847.5	848.4
165°	868.2	867.7	867.2	866.8	866.3	865.9	865.5	865.3	865.0	864.6	865.5
167.5°	881.9	881.4	880.7	880.1	879.4	879.0	879.1	879.1	879.1	879.2	880.1
170°	889.9	889.0	888.3	887.5	886.7	886.4	886.6	886.7	886.8	887.0	888.0
172.5°	895.4	894.8	894.1	893.4	892.8	892.5	892.5	892.6	892.6	892.6	893.7
175°	903.1	902.3	901.5	900.8	900.0	899.6	899.4	899.2	899.1	898.9	900.0
177.5°	905.6	905.0	904.4	903.8	903.1	902.9	902.9	902.9	902.9	902.9	903.7
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	8.3	8.4	8.5	8.7	8.8	9.0	9.0	9.2
90°	17.2	18.2	19.1	19.7	20.1	20.4	20.6	21.0
92.5°	28.8	29.4	30.0	30.3	30.5	30.7	30.9	31.1
95°	54.1	54.6	55.0	55.2	55.2	55.2	55.2	55.2
97.5°	85.2	85.8	86.3	86.6	86.6	86.6	86.6	86.6
100°	107.6	107.9	108.3	108.4	108.4	108.4	108.4	108.4
102.5°	131.4	131.9	132.2	132.5	132.7	132.8	132.9	133.1
105°	167.4	167.9	168.3	168.8	169.3	169.8	170.2	170.7
107.5°	206.4	206.8	207.3	207.5	207.5	207.5	207.4	207.4
110°	232.3	232.1	231.7	231.8	232.2	232.7	233.2	233.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	260.2	260.1	260.1	260.1	260.2	260.3	260.4	260.5
115°	303.3	303.1	302.9	302.8	302.7	302.6	302.4	302.2
117.5°	344.7	344.1	343.6	343.2	342.9	342.5	342.2	342.0
120°	372.7	371.9	371.2	370.9	371.3	371.6	371.8	372.1
122.5°	401.1	400.7	400.1	399.5	399.0	398.4	397.9	397.4
125°	442.9	442.6	442.2	442.0	441.7	441.3	441.0	440.7
127.5°	482.8	482.5	482.1	481.8	481.6	481.4	481.1	480.9
130°	510.8	510.4	510.1	509.6	509.1	508.4	507.7	507.2
132.5°	537.1	536.8	536.4	536.1	535.9	535.6	535.4	535.2
135°	576.5	576.2	575.9	575.5	575.0	574.6	574.1	573.6
137.5°	614.6	614.3	613.9	613.7	613.8	613.9	614.0	614.1
140°	639.8	639.6	639.4	639.3	639.1	638.9	638.9	638.7
142.5°	663.5	663.5	663.5	663.5	663.4	663.4	663.4	663.3
145°	699.3	699.1	698.9	698.6	698.1	697.7	697.2	696.7
147.5°	731.6	731.5	731.3	731.2	731.0	730.9	730.8	730.6
150°	752.1	752.1	752.1	752.0	751.8	751.6	751.5	751.3
152.5°	771.2	771.6	771.9	771.9	771.6	771.2	770.7	770.3
155°	798.1	798.6	799.3	799.3	798.6	798.1	797.4	796.8
157.5°	821.6	822.1	822.6	822.6	822.0	821.5	821.0	820.4
160°	836.2	836.7	837.2	837.0	836.2	835.4	834.6	833.9
162.5°	849.2	850.1	850.9	850.9	850.2	849.4	848.7	847.8
165°	866.5	867.4	868.4	868.6	867.9	867.2	866.7	866.0
167.5°	881.1	881.9	882.9	882.9	881.9	881.0	880.1	879.0
170°	888.9	889.9	890.8	890.7	889.6	888.5	887.4	886.4
172.5°	894.8	895.8	896.8	896.8	895.7	894.7	893.5	892.5
175°	901.1	902.2	903.2	903.2	902.2	901.1	900.0	898.9
177.5°	904.6	905.4	906.3	906.3	905.2	904.3	903.2	902.3
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5

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