

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: P333021-830

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333021-830
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: S124RDIW-S350D770U830-4F0-1E-UDD-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4242.4 lumens
Efficiency: N/A
Efficacy: 139.6 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

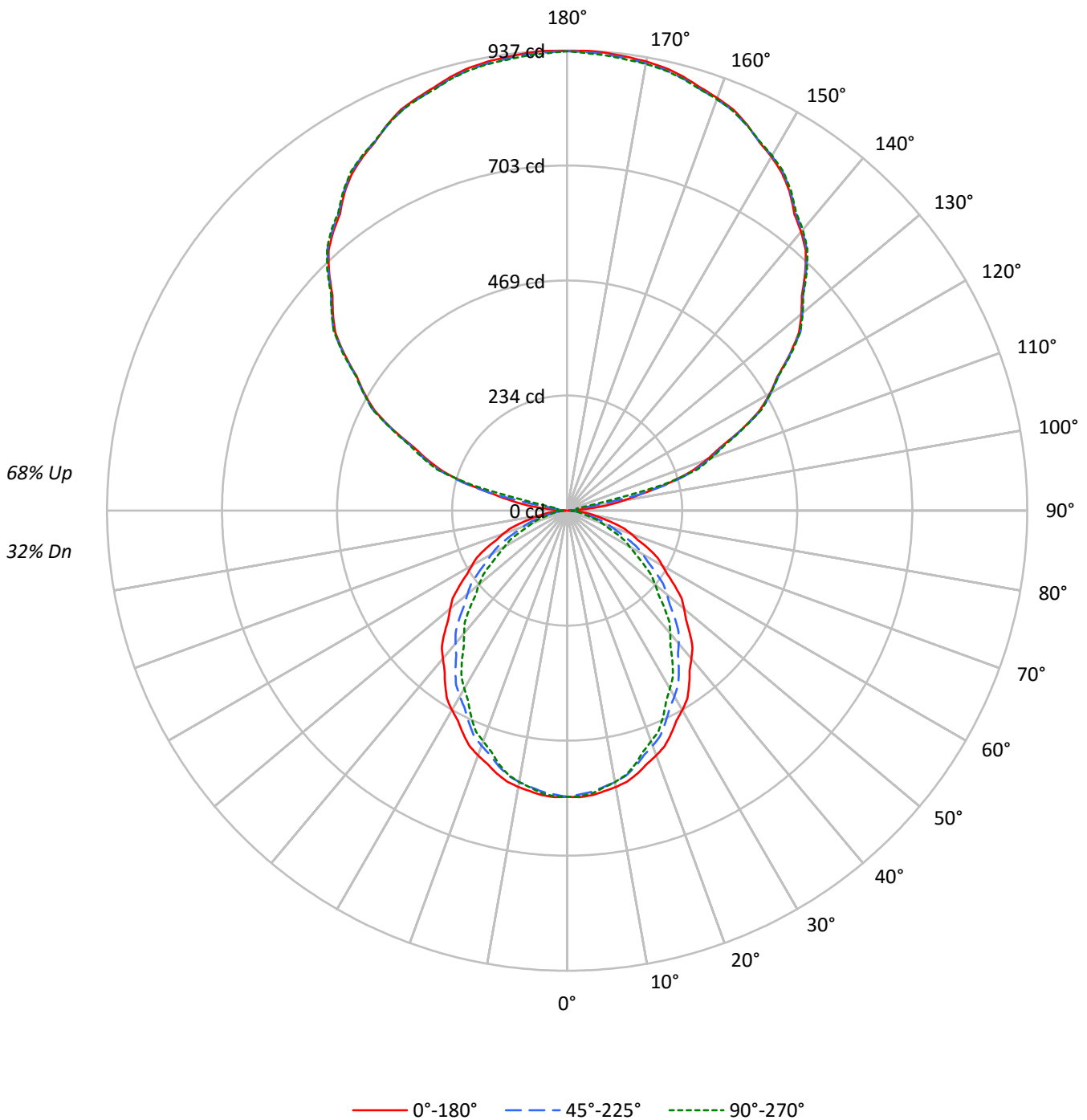
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	56	56	56	39	39	39	32
1	94	90	86	83	84	81	78	75	64	62	60	49	48	46	35	34	34	27
2	86	78	73	68	77	71	66	62	56	53	50	43	41	39	31	30	28	23
3	78	69	62	57	70	62	56	52	50	46	42	38	36	33	28	26	24	20
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	25	23	21	17
5	66	54	47	41	59	49	43	38	40	35	31	31	27	25	22	20	18	15
6	60	49	41	35	54	44	37	33	36	31	27	28	24	22	20	18	16	13
7	56	44	36	31	50	40	33	29	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	30	25	29	25	21	23	20	17	17	15	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	20	16	14	15	12	11	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	1.3
10°-20°	152.6	3.6
20°-30°	220.4	5.2
30°-40°	249.8	5.9
40°-50°	241.2	5.7
50°-60°	200.6	4.7
60°-70°	138.5	3.3
70°-80°	70.2	1.7
80°-90°	20.7	0.5
90°-100°	32.0	0.8
100°-110°	204.0	4.8
110°-120°	390.2	9.2
120°-130°	495.4	11.7
130°-140°	530.0	12.5
140°-150°	495.6	11.7
150°-160°	399.7	9.4
160°-170°	257.8	6.1
170°-180°	88.8	2.1
0°-30°	427.8	10.1
0°-40°	677.6	16.0
0°-60°	1119.4	26.4
0°-90°	1348.9	31.8
90°-120°	626.2	14.8
90°-150°	2147.2	50.6
90°-180°	2894.0	68.2
0°-180°	4242.4	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	3
95°	38	16	15	19	20	49
105°	211	215	218	223	199	220
115°	393	395	394	396	396	387
125°	553	555	554	556	557	493
135°	686	685	688	689	690	528
145°	791	793	793	793	795	494
155°	867	867	865	868	866	400
165°	914	911	911	916	910	258
175°	935	932	932	937	930	89
180°	935	935	935	935	935	



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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°	8.9	9.0	9.0	9.0	9.1	9.9	11.1	12.3	13.6	14.8	15.7
95°	38.5	33.2	27.9	22.6	17.3	14.8	14.9	15.1	15.3	15.4	16.3
97.5°	81.7	85.0	88.3	91.6	94.9	87.8	70.5	53.2	35.8	18.5	18.6
100°	114.7	117.5	120.4	123.1	125.9	116.6	95.2	73.7	52.2	30.8	28.2
102.5°	151.7	153.7	155.8	157.9	159.9	159.5	156.7	153.9	151.1	148.4	119.8
105°	210.6	211.5	212.4	213.4	214.3	215.2	215.9	216.7	217.5	218.3	219.7
107.5°	265.3	265.8	266.3	266.7	267.2	268.0	269.0	270.0	271.1	272.1	272.9
110°	302.3	302.7	303.2	303.7	304.1	304.8	305.8	306.7	307.6	308.5	308.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	338.1	338.9	339.8	340.5	341.4	342.0	342.5	342.9	343.4	343.8	343.7
115°	393.2	393.7	394.2	394.5	395.0	395.2	395.0	394.9	394.7	394.5	394.9
117.5°	442.9	443.5	444.1	444.7	445.4	445.8	446.2	446.5	446.9	447.2	447.1
120°	476.5	477.1	477.7	478.3	478.9	479.2	479.0	478.9	478.7	478.5	478.9
122.5°	507.8	508.1	508.5	508.9	509.3	509.5	509.8	510.0	510.2	510.5	510.7
125°	552.7	553.4	553.9	554.6	555.2	555.3	555.1	554.8	554.4	554.1	554.6
127.5°	595.2	595.4	595.6	595.7	595.9	596.3	597.0	597.8	598.4	599.2	599.1
130°	622.6	622.8	623.0	623.1	623.3	623.6	624.1	624.5	625.0	625.5	625.7
132.5°	647.9	648.2	648.5	648.7	648.9	649.4	650.0	650.6	651.2	651.8	652.0
135°	685.6	685.5	685.3	685.1	685.0	685.2	685.9	686.5	687.1	687.8	688.1
137.5°	719.1	719.2	719.3	719.3	719.3	719.7	720.4	721.0	721.8	722.5	722.7
140°	740.9	741.2	741.5	741.9	742.2	742.4	742.8	743.1	743.4	743.8	744.1
142.5°	760.5	761.1	761.7	762.1	762.7	763.1	763.3	763.5	763.6	763.8	764.2
145°	790.6	791.1	791.5	792.0	792.5	792.7	792.7	792.7	792.7	792.7	792.9
147.5°	814.5	815.4	816.2	817.1	818.0	818.3	818.2	818.0	817.8	817.7	817.8
150°	831.9	832.5	833.1	833.8	834.3	834.6	834.4	834.2	834.2	834.0	834.0
152.5°	846.4	846.9	847.4	847.9	848.4	848.5	848.2	848.0	847.7	847.4	847.6
155°	866.9	867.0	867.1	867.3	867.5	867.3	866.9	866.4	865.9	865.4	866.1
157.5°	884.1	884.0	883.9	883.8	883.7	883.4	882.9	882.3	881.7	881.3	882.0
160°	894.1	893.6	893.2	892.8	892.3	891.9	891.8	891.6	891.5	891.4	892.3
162.5°	903.1	902.5	901.9	901.4	900.7	900.3	900.2	900.0	899.8	899.8	900.7
165°	914.5	913.6	912.9	912.1	911.3	911.0	911.0	911.0	911.0	911.0	912.2
167.5°	923.4	922.6	921.8	921.0	920.1	919.7	919.6	919.5	919.5	919.4	920.7
170°	928.4	927.5	926.5	925.6	924.7	924.3	924.4	924.6	924.7	924.9	926.1
172.5°	931.8	930.9	929.9	929.0	928.0	927.7	927.8	927.9	928.1	928.3	929.5
175°	935.4	934.4	933.6	932.6	931.7	931.3	931.4	931.6	931.8	931.9	933.3
177.5°	937.1	936.2	935.4	934.4	933.6	933.3	933.6	933.8	934.1	934.2	935.3
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4



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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°	16.7	17.6	18.6	19.0	19.1	19.2	19.2	19.3
95°	17.2	18.2	19.1	19.7	19.8	20.0	20.2	20.3
97.5°	18.7	18.8	18.9	18.9	19.1	19.3	19.4	19.6
100°	25.5	22.8	20.2	18.9	19.1	19.3	19.4	19.6
102.5°	91.3	62.8	34.3	20.0	20.1	20.1	20.1	20.2
105°	221.1	222.4	223.9	221.8	216.2	210.6	205.0	199.4
107.5°	273.5	274.2	274.9	275.5	276.2	276.7	277.3	277.9
110°	309.2	309.4	309.8	310.2	310.7	311.1	311.6	312.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	343.7	343.7	343.6	343.8	344.4	345.0	345.6	346.2
115°	395.2	395.5	395.9	396.0	396.0	396.0	396.0	396.0
117.5°	447.0	447.0	447.0	446.9	446.9	446.8	446.7	446.7
120°	479.2	479.5	479.8	479.8	479.5	479.2	478.9	478.5
122.5°	510.9	511.0	511.2	511.1	510.9	510.5	510.2	509.9
125°	555.1	555.5	556.0	556.3	556.5	556.6	556.8	556.9
127.5°	599.0	598.9	598.8	598.7	598.6	598.4	598.3	598.2
130°	625.8	625.9	626.1	626.1	626.1	626.1	626.1	626.1
132.5°	652.1	652.2	652.4	652.4	652.3	652.1	652.1	652.0
135°	688.3	688.7	689.0	689.3	689.6	689.9	690.2	690.5
137.5°	723.1	723.5	723.8	724.0	723.9	723.8	723.7	723.6
140°	744.6	745.1	745.6	745.9	746.0	746.2	746.4	746.5
142.5°	764.6	764.9	765.3	765.4	765.4	765.4	765.5	765.5
145°	793.0	793.1	793.3	793.5	793.8	794.2	794.5	794.8
147.5°	817.9	818.1	818.2	818.4	818.5	818.7	818.9	819.0
150°	834.0	834.0	834.0	834.1	834.2	834.3	834.5	834.6
152.5°	847.9	848.1	848.4	848.5	848.4	848.3	848.2	848.1
155°	866.7	867.3	867.9	868.0	867.5	867.0	866.6	866.2
157.5°	882.9	883.7	884.5	884.5	883.7	882.9	882.0	881.3
160°	893.2	894.1	895.0	895.0	894.1	893.2	892.3	891.4
162.5°	901.6	902.5	903.4	903.4	902.4	901.3	900.2	899.2
165°	913.4	914.6	915.9	915.9	914.5	913.0	911.6	910.2
167.5°	922.1	923.4	924.8	924.7	923.1	921.6	920.0	918.5
170°	927.4	928.7	929.9	929.7	928.2	926.6	925.1	923.5
172.5°	930.8	932.0	933.2	933.0	931.3	929.7	928.0	926.3
175°	934.7	936.1	937.5	937.3	935.4	933.6	931.7	929.8
177.5°	936.3	937.3	938.3	938.0	936.5	935.0	933.6	932.1
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4

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