

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: P333021-927

Luminaire Tested: **S124RDIW-S350D770U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333021-927  
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-S350D770U927-4F0-1E-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: 3565.6 lumens  
Efficiency: N/A  
Efficacy: 117.3 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

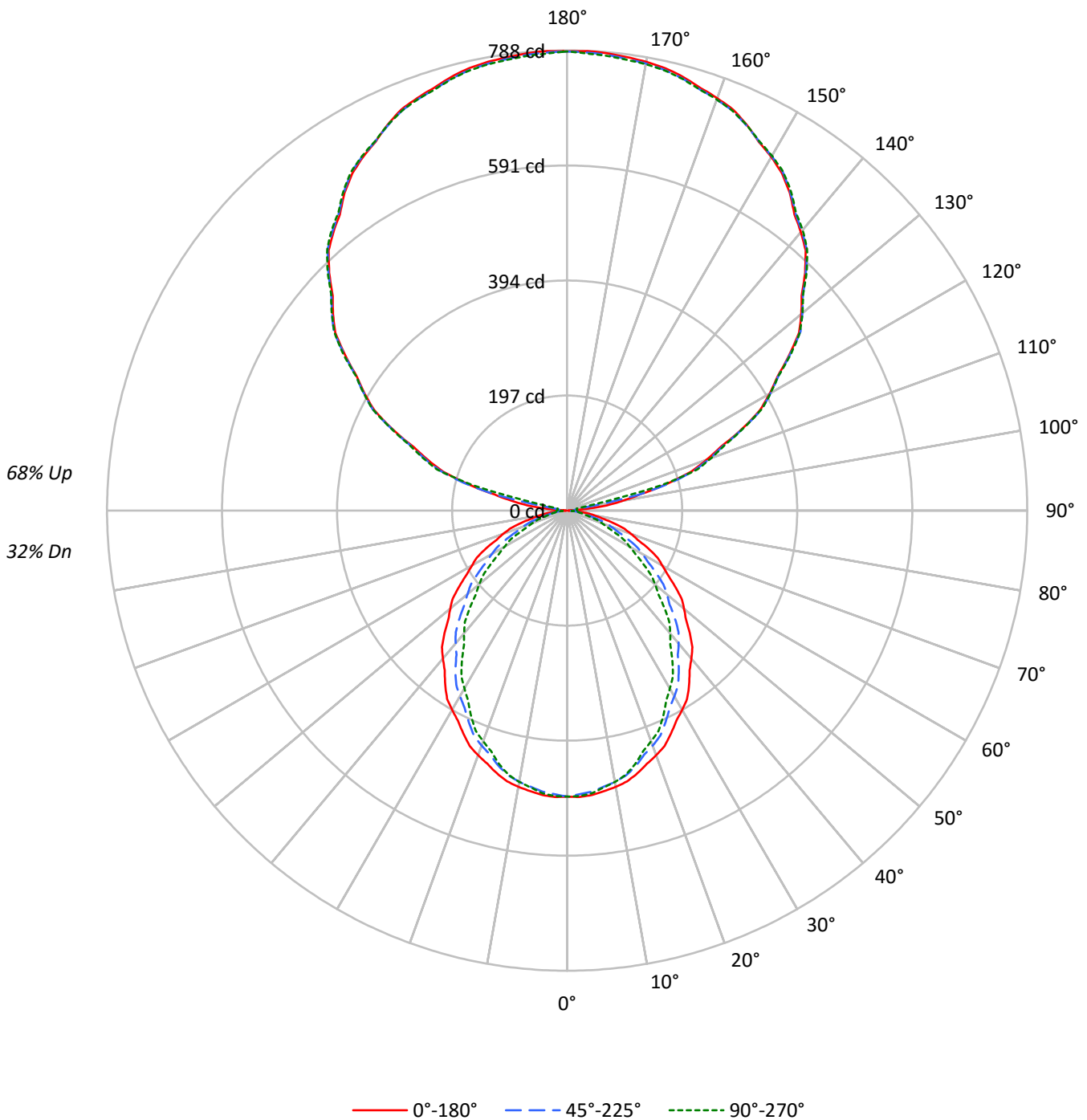
Input Watts (W): 30.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.0	1.3
10°-20°	128.3	3.6
20°-30°	185.2	5.2
30°-40°	210.0	5.9
40°-50°	202.8	5.7
50°-60°	168.6	4.7
60°-70°	116.4	3.3
70°-80°	59.0	1.7
80°-90°	17.4	0.5
90°-100°	26.9	0.8
100°-110°	171.5	4.8
110°-120°	328.0	9.2
120°-130°	416.3	11.7
130°-140°	445.5	12.5
140°-150°	416.6	11.7
150°-160°	335.9	9.4
160°-170°	216.7	6.1
170°-180°	74.7	2.1
0°-30°	359.5	10.1
0°-40°	569.5	16.0
0°-60°	940.8	26.4
0°-90°	1133.7	31.8
90°-120°	526.3	14.8
90°-150°	1804.7	50.6
90°-180°	2432.0	68.2
0°-180°	3565.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	2	8	13	16	18	2
95°	32	14	13	16	17	42
105°	177	180	184	187	168	185
115°	330	332	332	333	333	325
125°	464	467	466	467	468	415
135°	576	576	578	579	580	444
145°	664	666	666	667	668	415
155°	729	729	727	729	728	336
165°	769	766	766	770	765	217
175°	786	783	783	788	782	75
180°	786	786	786	786	786	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.3	7.0	6.7	6.5	6.3	6.2	6.3	6.5	6.7	6.8	6.9
90°	1.7	3.2	4.7	6.1	7.5	8.8	9.8	10.9	11.9	12.9	13.7
92.5°	7.4	7.5	7.6	7.6	7.7	8.3	9.3	10.4	11.4	12.4	13.2
95°	32.3	27.9	23.4	19.0	14.6	12.4	12.5	12.7	12.8	12.9	13.7
97.5°	68.7	71.5	74.2	77.0	79.8	73.8	59.3	44.7	30.1	15.5	15.6
100°	96.4	98.8	101.2	103.5	105.8	98.0	80.0	61.9	43.9	25.9	23.7
102.5°	127.5	129.2	130.9	132.7	134.4	134.0	131.7	129.4	127.0	124.7	100.7
105°	177.0	177.8	178.6	179.4	180.1	180.9	181.5	182.1	182.8	183.5	184.7
107.5°	223.0	223.4	223.8	224.2	224.6	225.2	226.1	227.0	227.8	228.7	229.3
110°	254.1	254.4	254.8	255.2	255.6	256.2	257.0	257.8	258.6	259.3	259.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	284.2	284.9	285.6	286.2	286.9	287.5	287.9	288.2	288.6	289.0	288.9
115°	330.5	330.9	331.3	331.6	332.0	332.2	332.0	331.9	331.8	331.6	331.9
117.5°	372.2	372.7	373.3	373.8	374.3	374.7	375.0	375.3	375.6	375.9	375.8
120°	400.4	401.0	401.5	402.0	402.5	402.7	402.6	402.5	402.3	402.2	402.5
122.5°	426.8	427.1	427.4	427.7	428.0	428.3	428.5	428.6	428.8	429.0	429.2
125°	464.5	465.1	465.6	466.1	466.6	466.8	466.5	466.3	466.0	465.7	466.1
127.5°	500.3	500.4	500.6	500.7	500.8	501.2	501.8	502.4	503.0	503.6	503.5
130°	523.3	523.5	523.6	523.7	523.9	524.1	524.5	524.9	525.3	525.7	525.9
132.5°	544.5	544.8	545.0	545.2	545.4	545.8	546.3	546.8	547.3	547.8	548.0
135°	576.2	576.2	576.0	575.8	575.8	575.9	576.5	576.9	577.5	578.1	578.3
137.5°	604.4	604.4	604.5	604.5	604.6	604.9	605.5	606.0	606.7	607.2	607.4
140°	622.7	623.0	623.2	623.5	623.8	624.0	624.3	624.6	624.8	625.1	625.4
142.5°	639.2	639.7	640.2	640.6	641.0	641.4	641.5	641.7	641.8	642.0	642.3
145°	664.5	664.9	665.3	665.7	666.1	666.2	666.2	666.2	666.2	666.2	666.4
147.5°	684.6	685.3	686.0	686.7	687.5	687.8	687.7	687.5	687.4	687.3	687.4
150°	699.2	699.7	700.2	700.8	701.2	701.5	701.3	701.2	701.1	700.9	700.9
152.5°	711.4	711.8	712.3	712.6	713.0	713.1	712.9	712.7	712.5	712.3	712.4
155°	728.6	728.7	728.8	729.0	729.1	729.0	728.6	728.2	727.8	727.4	727.9
157.5°	743.1	743.0	742.9	742.8	742.8	742.4	742.0	741.6	741.1	740.7	741.3
160°	751.5	751.1	750.8	750.4	750.0	749.6	749.6	749.4	749.2	749.2	750.0
162.5°	759.0	758.5	758.0	757.6	757.0	756.7	756.6	756.5	756.3	756.2	757.0
165°	768.6	767.9	767.2	766.6	766.0	765.6	765.6	765.6	765.6	765.6	766.7
167.5°	776.1	775.4	774.8	774.0	773.3	773.0	772.9	772.9	772.8	772.7	773.8
170°	780.3	779.5	778.7	777.9	777.2	776.8	777.0	777.1	777.2	777.4	778.4
172.5°	783.2	782.4	781.6	780.8	780.0	779.7	779.8	779.9	780.1	780.2	781.3
175°	786.2	785.4	784.7	783.9	783.1	782.8	782.8	783.0	783.2	783.2	784.4
177.5°	787.6	786.9	786.2	785.4	784.7	784.4	784.7	784.8	785.1	785.2	786.1
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	7.0	7.1	7.1	7.3	7.4	7.5	7.6	7.8
90°	14.5	15.3	16.1	16.6	16.9	17.1	17.3	17.7
92.5°	14.0	14.8	15.6	16.0	16.1	16.2	16.2	16.2
95°	14.5	15.3	16.1	16.6	16.6	16.8	17.0	17.0
97.5°	15.7	15.8	15.8	15.9	16.1	16.2	16.3	16.5
100°	21.5	19.2	17.0	15.9	16.1	16.2	16.3	16.5
102.5°	76.8	52.8	28.8	16.8	16.9	16.9	16.9	17.0
105°	185.8	187.0	188.1	186.4	181.7	177.0	172.3	167.6
107.5°	229.9	230.4	231.1	231.6	232.1	232.6	233.1	233.5
110°	259.8	260.1	260.4	260.7	261.1	261.5	261.9	262.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.8	288.8	288.8	289.0	289.5	289.9	290.5	291.0
115°	332.2	332.4	332.7	332.8	332.8	332.8	332.8	332.8
117.5°	375.7	375.7	375.7	375.6	375.6	375.5	375.4	375.4
120°	402.7	403.0	403.2	403.2	403.0	402.7	402.5	402.2
122.5°	429.4	429.5	429.7	429.6	429.4	429.0	428.8	428.6
125°	466.5	466.9	467.3	467.5	467.7	467.8	467.9	468.1
127.5°	503.4	503.4	503.3	503.2	503.1	503.0	502.9	502.8
130°	525.9	526.1	526.2	526.2	526.2	526.2	526.2	526.2
132.5°	548.0	548.2	548.3	548.3	548.3	548.1	548.0	548.0
135°	578.5	578.8	579.1	579.3	579.6	579.9	580.1	580.4
137.5°	607.8	608.1	608.3	608.5	608.4	608.3	608.2	608.2
140°	625.8	626.2	626.6	626.9	627.0	627.2	627.3	627.4
142.5°	642.6	642.9	643.2	643.3	643.3	643.3	643.4	643.4
145°	666.5	666.6	666.8	666.9	667.2	667.5	667.7	668.0
147.5°	687.5	687.6	687.7	687.9	687.9	688.1	688.2	688.3
150°	700.9	700.9	700.9	701.0	701.2	701.2	701.4	701.5
152.5°	712.6	712.8	713.0	713.1	713.0	713.0	712.9	712.8
155°	728.4	729.0	729.4	729.5	729.1	728.7	728.3	728.0
157.5°	742.0	742.8	743.4	743.4	742.8	742.0	741.3	740.7
160°	750.8	751.5	752.3	752.3	751.5	750.8	750.0	749.2
162.5°	757.8	758.5	759.3	759.3	758.4	757.5	756.6	755.7
165°	767.7	768.7	769.8	769.8	768.6	767.4	766.2	765.0
167.5°	775.0	776.1	777.3	777.2	775.9	774.6	773.2	772.0
170°	779.4	780.5	781.6	781.4	780.1	778.8	777.5	776.2
172.5°	782.3	783.3	784.3	784.2	782.8	781.4	780.0	778.6
175°	785.6	786.8	788.0	787.7	786.2	784.7	783.1	781.5
177.5°	787.0	787.7	788.6	788.4	787.1	785.8	784.7	783.4
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2

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