

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: P333022-940

Luminaire Tested: **S124RDIW-S350D770U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333022-940  
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-S350D770U940-4F0-1E-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: 3650.3 lumens  
Efficiency: N/A  
Efficacy: 120.1 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

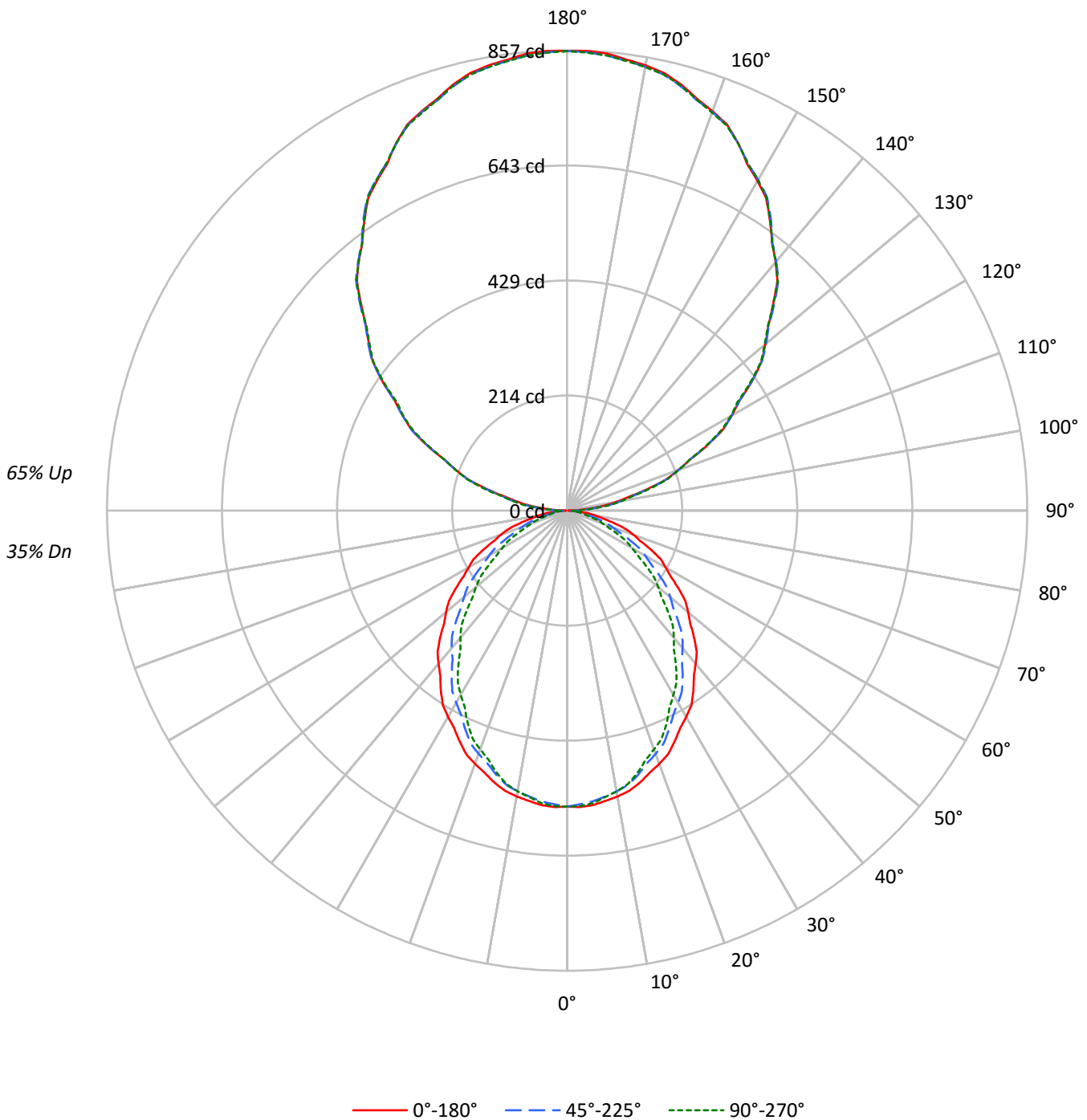
Input Watts (W): 30.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.8	1.4
10°-20°	144.4	4.0
20°-30°	208.5	5.7
30°-40°	236.4	6.5
40°-50°	228.2	6.3
50°-60°	189.8	5.2
60°-70°	131.1	3.6
70°-80°	66.4	1.8
80°-90°	19.6	0.5
90°-100°	56.4	1.5
100°-110°	167.2	4.6
110°-120°	283.8	7.8
120°-130°	374.2	10.3
130°-140°	420.2	11.5
140°-150°	413.0	11.3
150°-160°	347.3	9.5
160°-170°	231.1	6.3
170°-180°	80.9	2.2
0°-30°	404.7	11.1
0°-40°	641.0	17.6
0°-60°	1059.1	29.0
0°-90°	1276.1	35.0
90°-120°	507.4	13.9
90°-150°	1714.8	47.0
90°-180°	2374.0	65.0
0°-180°	3650.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	2	9	14	18	20	4
95°	40	46	50	52	52	44
105°	154	155	158	160	162	164
115°	289	288	287	287	286	284
125°	420	420	420	418	417	374
135°	542	546	546	545	543	419
145°	658	661	662	661	659	412
155°	754	754	754	756	754	347
165°	821	819	818	822	819	231
175°	854	851	850	854	850	81
180°	856	856	856	856	856	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	8.2	7.8	7.6	7.3	7.0	7.0	7.1	7.3	7.5	7.7	7.8
90°	2.0	3.6	5.3	6.9	8.5	9.9	11.1	12.2	13.4	14.5	15.4
92.5°	14.2	16.1	17.8	19.7	21.6	22.9	23.7	24.5	25.4	26.2	26.8
95°	39.7	41.0	42.4	43.7	45.0	46.2	47.2	48.2	49.3	50.3	50.7
97.5°	69.4	70.4	71.5	72.5	73.6	74.7	76.0	77.1	78.4	79.5	80.1
100°	92.6	93.3	93.8	94.4	95.0	95.9	97.3	98.6	100.0	101.3	101.6
102.5°	117.0	117.3	117.4	117.7	118.0	118.7	119.8	121.1	122.3	123.5	123.9
105°	154.2	154.4	154.5	154.6	154.8	155.2	155.8	156.3	156.9	157.5	157.9
107.5°	193.2	193.4	193.6	193.8	193.9	194.1	194.2	194.3	194.4	194.5	194.8
110°	219.7	220.0	220.3	220.6	220.9	221.0	220.8	220.7	220.5	220.3	220.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	247.3	247.3	247.4	247.4	247.4	247.4	247.1	246.8	246.6	246.3	246.3
115°	288.6	288.6	288.6	288.6	288.6	288.4	288.1	287.8	287.5	287.2	287.0
117.5°	327.4	327.6	327.7	327.8	328.0	327.9	327.7	327.5	327.3	327.1	326.5
120°	353.4	354.0	354.5	355.2	355.8	355.8	355.4	355.0	354.5	354.1	353.3
122.5°	380.4	380.7	380.8	381.1	381.4	381.4	381.2	380.9	380.8	380.6	380.0
125°	420.3	420.3	420.3	420.3	420.3	420.2	420.0	419.9	419.7	419.5	419.3
127.5°	456.4	456.8	457.3	457.7	458.2	458.3	458.0	457.8	457.5	457.4	457.0
130°	481.8	482.2	482.7	483.1	483.6	483.8	483.8	483.8	483.8	483.8	483.5
132.5°	507.7	508.1	508.4	508.7	509.1	509.2	509.0	508.9	508.8	508.6	508.4
135°	542.1	542.9	543.8	544.7	545.5	546.0	546.0	546.0	546.0	546.0	545.7
137.5°	579.3	579.8	580.1	580.6	581.0	581.3	581.6	581.8	582.0	582.3	581.8
140°	604.2	604.5	604.8	605.1	605.4	605.6	605.6	605.6	605.6	605.6	605.4
142.5°	627.0	627.3	627.6	627.9	628.2	628.3	628.1	628.0	627.9	627.8	627.8
145°	658.5	659.1	659.7	660.3	660.8	661.2	661.4	661.6	661.6	661.8	661.6
147.5°	689.7	690.5	691.2	691.9	692.6	692.9	692.8	692.6	692.5	692.4	692.2
150°	708.8	709.4	710.0	710.6	711.1	711.5	711.5	711.5	711.5	711.5	711.5
152.5°	726.8	727.2	727.5	727.9	728.3	728.4	728.5	728.7	728.8	728.9	729.2
155°	754.5	754.5	754.5	754.5	754.5	754.4	754.2	754.1	753.9	753.9	754.4
157.5°	777.8	777.5	777.2	776.9	776.7	776.6	776.5	776.5	776.5	776.4	776.9
160°	791.6	791.4	791.2	791.1	790.9	790.8	790.7	790.5	790.3	790.2	790.7
162.5°	804.2	803.9	803.4	803.1	802.7	802.5	802.3	802.2	802.0	801.8	802.6
165°	821.4	820.9	820.5	820.0	819.6	819.2	818.9	818.6	818.3	818.0	818.9
167.5°	834.4	833.8	833.2	832.6	832.0	831.6	831.7	831.7	831.7	831.8	832.7
170°	841.9	841.1	840.3	839.6	838.9	838.6	838.7	838.9	839.0	839.2	840.1
172.5°	847.1	846.5	845.9	845.3	844.6	844.4	844.4	844.5	844.5	844.5	845.5
175°	854.4	853.6	852.9	852.2	851.5	851.0	850.9	850.7	850.6	850.4	851.5
177.5°	856.8	856.2	855.6	855.1	854.4	854.2	854.2	854.2	854.2	854.2	855.0
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	7.8	7.9	8.0	8.2	8.3	8.5	8.6	8.7
90°	16.3	17.2	18.1	18.6	19.0	19.3	19.5	19.9
92.5°	27.3	27.8	28.4	28.7	28.9	29.1	29.2	29.4
95°	51.2	51.6	52.1	52.3	52.3	52.3	52.3	52.3
97.5°	80.6	81.1	81.7	81.9	81.9	81.9	81.9	81.9
100°	101.8	102.1	102.5	102.5	102.5	102.5	102.5	102.5
102.5°	124.3	124.8	125.1	125.4	125.6	125.6	125.7	125.9
105°	158.4	158.8	159.3	159.7	160.2	160.6	161.0	161.5
107.5°	195.3	195.6	196.1	196.3	196.3	196.3	196.2	196.2
110°	219.8	219.5	219.2	219.3	219.7	220.2	220.6	221.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	246.2	246.1	246.1	246.1	246.2	246.3	246.4	246.5
115°	287.0	286.8	286.6	286.5	286.3	286.2	286.1	285.9
117.5°	326.1	325.6	325.0	324.7	324.4	324.0	323.8	323.5
120°	352.6	351.9	351.2	350.9	351.2	351.5	351.8	352.0
122.5°	379.5	379.1	378.5	378.0	377.5	376.9	376.5	375.9
125°	419.0	418.7	418.4	418.1	417.9	417.5	417.2	417.0
127.5°	456.7	456.5	456.1	455.8	455.7	455.4	455.1	455.0
130°	483.2	482.9	482.6	482.1	481.6	481.0	480.4	479.8
132.5°	508.1	507.8	507.5	507.2	507.0	506.8	506.5	506.3
135°	545.4	545.1	544.8	544.5	544.0	543.6	543.1	542.7
137.5°	581.5	581.1	580.8	580.6	580.7	580.8	580.9	580.9
140°	605.3	605.1	604.9	604.8	604.7	604.5	604.4	604.2
142.5°	627.8	627.7	627.7	627.7	627.6	627.6	627.6	627.5
145°	661.6	661.4	661.2	660.9	660.5	660.0	659.6	659.2
147.5°	692.1	692.1	691.9	691.8	691.6	691.5	691.3	691.2
150°	711.5	711.5	711.5	711.4	711.2	711.1	711.0	710.8
152.5°	729.6	730.0	730.3	730.3	730.0	729.6	729.2	728.8
155°	755.0	755.5	756.2	756.2	755.5	755.0	754.4	753.9
157.5°	777.3	777.8	778.2	778.2	777.7	777.2	776.7	776.1
160°	791.1	791.6	792.0	791.8	791.1	790.3	789.6	788.9
162.5°	803.4	804.2	805.0	805.0	804.3	803.6	802.9	802.1
165°	819.7	820.6	821.5	821.7	821.1	820.5	819.9	819.3
167.5°	833.6	834.4	835.3	835.3	834.4	833.5	832.6	831.6
170°	841.0	841.9	842.8	842.7	841.6	840.6	839.5	838.6
172.5°	846.5	847.5	848.5	848.5	847.4	846.4	845.3	844.4
175°	852.5	853.5	854.5	854.5	853.5	852.5	851.5	850.4
177.5°	855.8	856.6	857.5	857.4	856.4	855.5	854.5	853.6
180°	855.7	855.7	855.7	855.7	855.7	855.7	855.7	855.7

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