

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: P332868-940

Luminaire Tested: **S124RDIP-S350D365U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332868-940  
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: S124RDIP-S350D365U940-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2578.1 lumens  
Efficiency: N/A  
Efficacy: 127.0 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: General Diffuse

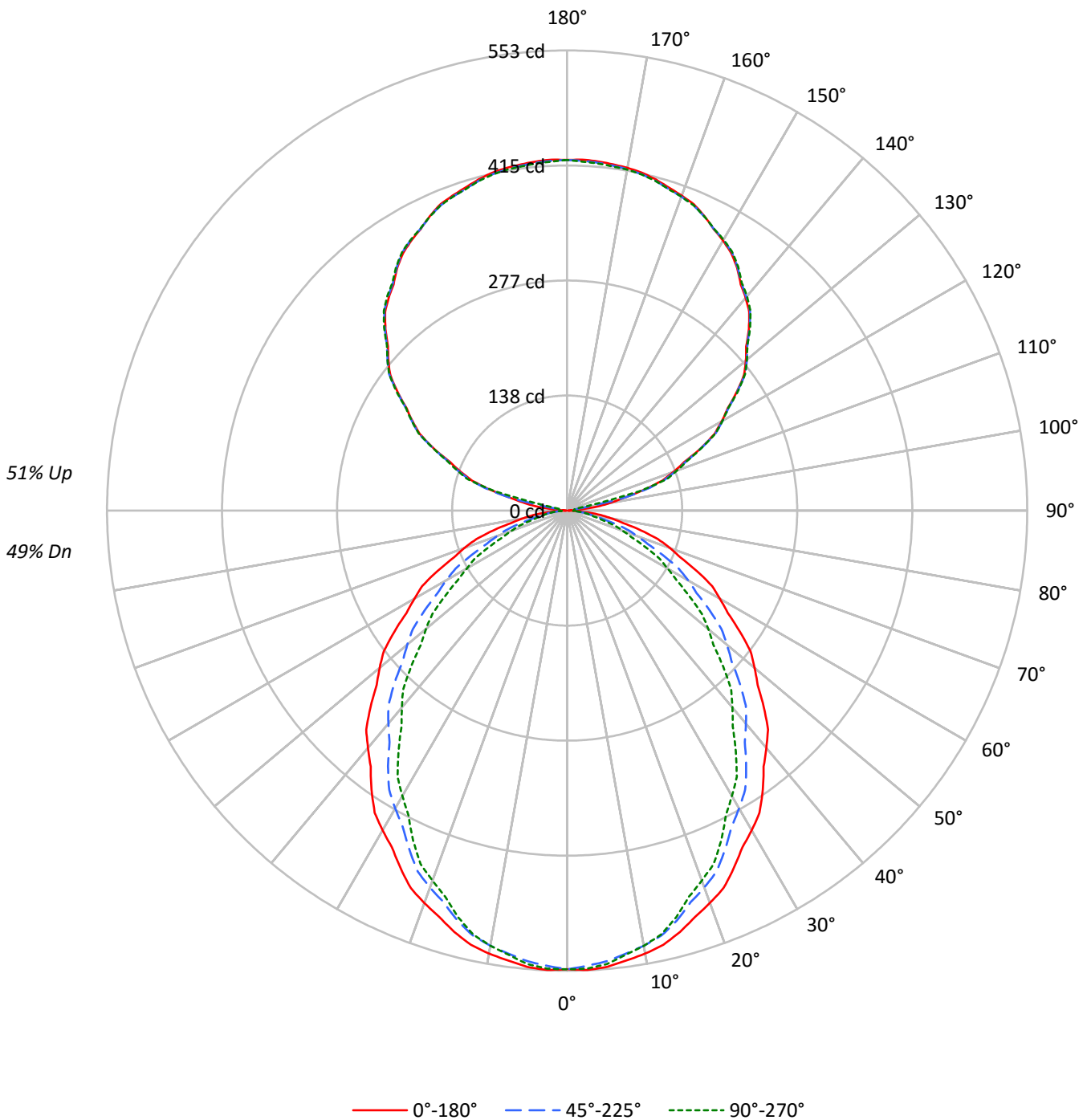
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83		69	69	69		56	56	56	49
1	98	94	90	87	90	87	83	80	73	71	69		61	59	58		50	48	47	42
2	89	82	76	71	82	76	71	66	64	61	57		54	51	49		44	42	40	36
3	82	72	65	59	75	67	61	56	57	52	48		48	44	41		39	37	35	31
4	75	64	56	51	69	60	53	47	51	46	41		43	39	36		35	32	30	26
5	69	57	49	43	63	53	46	41	46	40	36		38	34	31		32	29	26	23
6	63	51	43	38	58	48	41	36	41	36	31		35	31	27		29	26	23	20
7	59	47	39	33	54	43	36	31	37	32	28		32	27	24		26	23	21	18
8	54	42	35	29	50	39	33	28	34	29	25		29	25	22		24	21	19	16
9	51	39	31	26	47	36	29	25	31	26	22		27	23	20		22	19	17	15
10	47	35	28	24	44	33	27	22	29	24	20		25	21	18		21	18	15	13

**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	2.0
10°-20°	144.4	5.6
20°-30°	208.5	8.1
30°-40°	236.4	9.2
40°-50°	228.2	8.9
50°-60°	189.8	7.4
60°-70°	131.1	5.1
70°-80°	66.4	2.6
80°-90°	18.3	0.7
90°-100°	14.4	0.6
100°-110°	91.9	3.6
110°-120°	175.8	6.8
120°-130°	223.1	8.7
130°-140°	238.7	9.3
140°-150°	223.2	8.7
150°-160°	180.0	7.0
160°-170°	116.1	4.5
170°-180°	40.0	1.6
0°-30°	404.7	15.7
0°-40°	641.0	24.9
0°-60°	1059.1	41.1
0°-90°	1274.8	49.4
90°-120°	282.1	10.9
90°-150°	967.2	37.5
90°-180°	1303.0	50.5
0°-180°	2578.1	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°	1	4	7	9	10	2
95°	17	7	7	9	9	22
105°	95	97	98	100	90	99
115°	177	178	178	178	178	174
125°	249	250	250	250	251	222
135°	309	309	310	310	311	238
145°	356	357	357	357	358	222
155°	390	391	390	391	390	180
165°	412	410	410	413	410	116
175°	421	420	420	422	419	40
180°	421	421	421	421	421	



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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°	7.9	7.5	7.0	6.6	6.2	6.0	6.0	6.1	6.1	6.2	6.2
90°	1.0	1.7	2.5	3.3	4.0	4.7	5.3	5.8	6.3	7.0	7.3
92.5°	4.0	4.0	4.0	4.1	4.1	4.5	5.0	5.5	6.2	6.7	7.1
95°	17.3	15.0	12.6	10.2	7.8	6.7	6.7	6.8	6.9	7.0	7.3
97.5°	36.8	38.3	39.8	41.3	42.7	39.6	31.7	24.0	16.1	8.3	8.4
100°	51.7	53.0	54.2	55.5	56.7	52.5	42.9	33.2	23.5	13.9	12.7
102.5°	68.3	69.3	70.2	71.1	72.1	71.9	70.6	69.4	68.0	66.8	53.9
105°	94.9	95.2	95.7	96.1	96.6	96.9	97.3	97.6	98.0	98.4	99.0
107.5°	119.5	119.7	119.9	120.1	120.4	120.6	121.2	121.6	122.1	122.6	122.9
110°	136.2	136.3	136.5	136.8	137.0	137.3	137.7	138.1	138.6	139.0	139.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.3	152.7	153.0	153.4	153.8	154.1	154.3	154.4	154.6	154.9	154.8
115°	177.1	177.4	177.5	177.7	178.0	178.0	178.0	177.9	177.8	177.7	177.9
117.5°	199.5	199.7	200.0	200.4	200.6	200.8	201.0	201.2	201.3	201.4	201.4
120°	214.6	214.9	215.2	215.4	215.7	215.8	215.8	215.7	215.6	215.5	215.7
122.5°	228.7	228.9	229.1	229.3	229.4	229.5	229.6	229.7	229.8	230.0	230.0
125°	249.0	249.2	249.5	249.8	250.1	250.1	250.0	249.9	249.8	249.6	249.8
127.5°	268.1	268.2	268.2	268.3	268.4	268.6	268.9	269.2	269.6	269.9	269.8
130°	280.4	280.5	280.6	280.7	280.8	280.9	281.1	281.3	281.5	281.8	281.8
132.5°	291.9	291.9	292.0	292.2	292.3	292.5	292.7	293.0	293.3	293.6	293.6
135°	308.8	308.8	308.7	308.6	308.5	308.6	309.0	309.2	309.5	309.8	310.0
137.5°	323.9	324.0	324.0	324.0	324.0	324.2	324.5	324.8	325.1	325.4	325.6
140°	333.8	333.9	334.0	334.1	334.3	334.4	334.6	334.7	334.8	335.0	335.2
142.5°	342.6	342.8	343.0	343.3	343.6	343.8	343.8	343.9	344.0	344.1	344.2
145°	356.1	356.3	356.5	356.8	357.0	357.0	357.0	357.0	357.0	357.0	357.1
147.5°	366.8	367.3	367.7	368.1	368.5	368.6	368.5	368.5	368.4	368.4	368.4
150°	374.7	375.0	375.2	375.6	375.9	375.9	375.9	375.8	375.7	375.7	375.7
152.5°	381.3	381.5	381.7	381.9	382.2	382.2	382.1	381.9	381.8	381.7	381.8
155°	390.5	390.6	390.6	390.7	390.7	390.7	390.5	390.2	390.0	389.9	390.1
157.5°	398.2	398.1	398.1	398.1	398.1	397.9	397.7	397.4	397.2	397.0	397.3
160°	402.8	402.5	402.3	402.2	401.9	401.8	401.7	401.6	401.5	401.4	401.9
162.5°	406.8	406.5	406.3	406.0	405.7	405.6	405.5	405.4	405.4	405.3	405.7
165°	411.9	411.5	411.2	410.8	410.5	410.3	410.3	410.3	410.3	410.3	410.9
167.5°	415.9	415.5	415.2	414.8	414.5	414.3	414.2	414.2	414.1	414.1	414.7
170°	418.2	417.8	417.3	417.0	416.5	416.3	416.4	416.5	416.5	416.6	417.1
172.5°	419.7	419.3	418.8	418.5	418.0	417.9	417.9	418.0	418.0	418.1	418.7
175°	421.3	420.9	420.5	420.1	419.6	419.5	419.5	419.6	419.7	419.7	420.4
177.5°	422.1	421.7	421.3	420.9	420.5	420.4	420.5	420.6	420.7	420.8	421.3
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3



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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°	6.2	6.2	6.2	6.2	6.3	6.4	6.5	6.6
90°	7.8	8.2	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	7.5	7.9	8.4	8.6	8.6	8.6	8.6	8.7
95°	7.8	8.2	8.6	8.8	8.9	9.0	9.1	9.1
97.5°	8.4	8.5	8.5	8.6	8.6	8.6	8.7	8.8
100°	11.5	10.3	9.1	8.6	8.6	8.6	8.7	8.8
102.5°	41.1	28.3	15.4	9.0	9.0	9.0	9.1	9.1
105°	99.6	100.2	100.9	99.9	97.4	94.9	92.3	89.8
107.5°	123.2	123.5	123.9	124.1	124.4	124.7	124.9	125.2
110°	139.3	139.4	139.6	139.7	139.9	140.2	140.4	140.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	154.8	154.8	154.7	154.9	155.2	155.4	155.7	156.0
115°	178.0	178.2	178.3	178.3	178.3	178.3	178.3	178.3
117.5°	201.3	201.3	201.3	201.3	201.3	201.3	201.3	201.2
120°	215.8	216.0	216.2	216.2	216.0	215.8	215.7	215.5
122.5°	230.1	230.2	230.2	230.2	230.1	230.0	229.8	229.7
125°	250.0	250.2	250.4	250.6	250.7	250.7	250.7	250.8
127.5°	269.8	269.7	269.7	269.7	269.7	269.6	269.5	269.5
130°	281.9	282.0	282.0	282.0	282.0	282.0	282.0	282.0
132.5°	293.7	293.8	293.9	293.9	293.8	293.7	293.7	293.6
135°	310.0	310.2	310.3	310.5	310.6	310.8	310.9	311.0
137.5°	325.7	325.9	326.0	326.1	326.0	326.0	325.9	325.9
140°	335.4	335.6	335.8	336.0	336.1	336.1	336.2	336.3
142.5°	344.4	344.6	344.6	344.7	344.8	344.8	344.8	344.8
145°	357.2	357.3	357.3	357.4	357.6	357.8	357.8	358.0
147.5°	368.5	368.5	368.5	368.6	368.7	368.7	368.8	368.9
150°	375.7	375.7	375.7	375.7	375.8	375.9	375.9	375.9
152.5°	381.9	382.0	382.2	382.2	382.1	382.1	382.1	382.0
155°	390.4	390.7	390.9	391.0	390.7	390.6	390.4	390.1
157.5°	397.7	398.1	398.4	398.4	398.1	397.7	397.3	397.0
160°	402.3	402.8	403.1	403.1	402.8	402.3	401.9	401.4
162.5°	406.1	406.5	407.0	406.9	406.4	406.0	405.5	405.0
165°	411.4	412.0	412.6	412.5	411.9	411.3	410.6	410.0
167.5°	415.4	416.0	416.5	416.5	415.8	415.1	414.4	413.8
170°	417.8	418.3	418.8	418.7	418.1	417.4	416.7	416.0
172.5°	419.3	419.8	420.4	420.3	419.5	418.7	418.0	417.2
175°	421.1	421.7	422.3	422.2	421.3	420.5	419.6	418.8
177.5°	421.8	422.2	422.7	422.5	421.9	421.2	420.5	419.8
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3

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