

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: P332244-840

Luminaire Tested: **S123RDIP-S340D365U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332244-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S340D365U840-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2570.7 lumens  
Efficiency: N/A  
Efficacy: 126.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

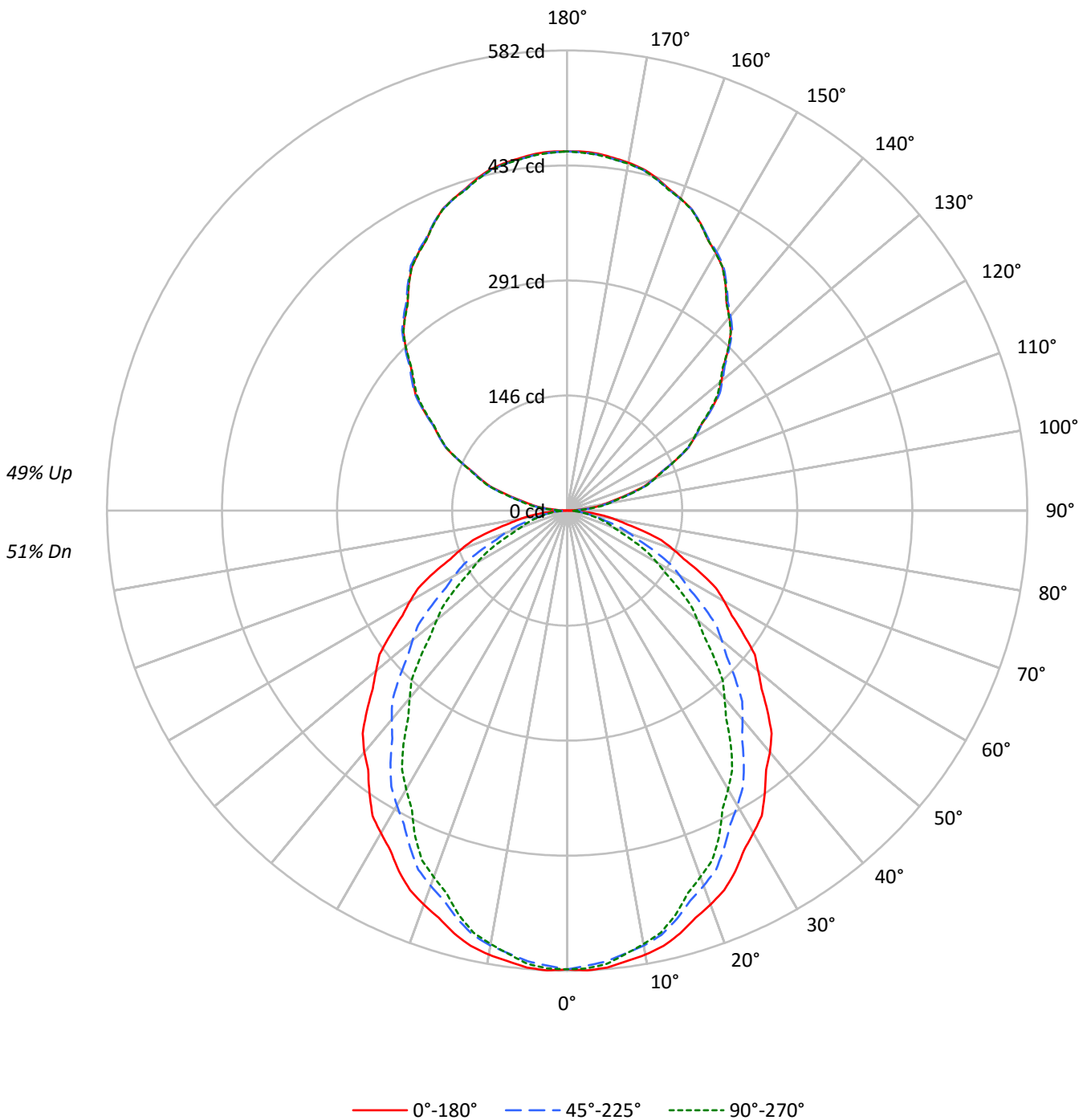
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	84	84	84		70	70	70		57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70		62	60	59		51	50	49	44
2	90	83	77	72	83	77	71	67	65	61	58		55	52	50		45	43	42	37
3	82	73	66	60	76	68	61	56	58	53	49		49	45	42		40	38	36	32
4	75	65	57	51	69	60	53	48	52	46	42		44	40	37		36	33	31	28
5	69	58	50	44	64	54	47	41	46	41	37		39	35	32		33	30	27	24
6	64	52	44	38	59	48	41	36	42	36	32		36	31	28		30	27	24	21
7	59	47	39	34	55	44	37	32	38	32	28		33	28	25		27	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25		30	25	22		25	22	19	17
9	51	39	32	27	47	37	30	25	32	27	23		27	23	20		23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	21		25	21	18		22	18	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.5	2.1
10°-20°	151.6	5.9
20°-30°	218.3	8.5
30°-40°	245.9	9.6
40°-50°	235.2	9.1
50°-60°	192.6	7.5
60°-70°	130.0	5.1
70°-80°	65.4	2.5
80°-90°	18.6	0.7
90°-100°	29.6	1.2
100°-110°	88.6	3.4
110°-120°	150.7	5.9
120°-130°	198.2	7.7
130°-140°	222.7	8.7
140°-150°	219.0	8.5
150°-160°	184.3	7.2
160°-170°	122.7	4.8
170°-180°	43.0	1.7
0°-30°	424.3	16.5
0°-40°	670.2	26.1
0°-60°	1098.1	42.7
0°-90°	1312.0	51.0
90°-120°	268.8	10.5
90°-150°	908.7	35.3
90°-180°	1259.0	49.0
0°-180°	2570.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	0	4	9	10	11	3
95°	21	24	26	28	28	24
105°	80	81	84	84	85	86
115°	152	153	152	152	152	150
125°	222	223	222	221	219	198
135°	288	290	290	288	288	222
145°	349	350	351	351	349	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.1	8.4	7.6	6.9	6.1	5.8	6.0	6.2	6.4	6.6	6.6
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.6	8.6	8.9
92.5°	8.7	9.2	9.7	10.3	10.8	11.3	11.9	12.5	13.1	13.7	13.9
95°	21.1	21.6	22.1	22.7	23.2	23.8	24.5	25.1	25.8	26.5	26.8
97.5°	37.4	37.8	38.3	38.7	39.1	39.5	40.0	40.4	40.9	41.3	41.7
100°	48.6	49.0	49.5	50.0	50.4	50.9	51.3	51.7	52.1	52.4	52.7
102.5°	61.4	61.7	61.9	62.2	62.5	62.9	63.4	64.0	64.5	65.0	65.2
105°	80.3	80.5	80.6	80.8	80.9	81.4	82.1	82.8	83.5	84.2	84.2
107.5°	102.3	102.4	102.5	102.6	102.7	102.8	103.1	103.4	103.7	104.0	104.2
110°	116.0	116.1	116.3	116.4	116.6	116.7	116.9	117.1	117.2	117.4	117.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	130.4	130.5	130.6	130.7	130.7	130.8	130.8	130.8	130.9	131.2
115°	151.7	151.9	152.2	152.4	152.6	152.7	152.5	152.4	152.2	152.0	152.1
117.5°	173.2	173.4	173.6	173.7	173.9	173.8	173.6	173.4	173.2	173.0	173.0
120°	186.6	187.1	187.6	188.0	188.5	188.5	188.2	187.8	187.4	187.0	186.9
122.5°	200.7	201.0	201.4	201.7	202.1	202.1	201.9	201.7	201.5	201.3	201.1
125°	222.0	222.2	222.5	222.7	223.0	223.0	222.8	222.7	222.5	222.4	222.0
127.5°	241.7	242.2	242.7	243.2	243.7	243.9	243.7	243.5	243.4	243.2	242.8
130°	254.8	255.4	256.1	256.7	257.3	257.5	257.3	257.1	256.8	256.6	256.3
132.5°	267.9	268.6	269.2	269.8	270.4	270.7	270.5	270.3	270.1	270.0	269.6
135°	288.0	288.5	288.9	289.4	289.9	290.1	290.0	289.9	289.8	289.8	289.4
137.5°	306.6	307.0	307.3	307.7	308.1	308.4	308.6	308.8	309.0	309.2	308.9
140°	319.4	319.8	320.2	320.6	321.0	321.2	321.3	321.3	321.4	321.5	321.4
142.5°	331.1	331.5	331.9	332.3	332.6	333.0	333.2	333.3	333.4	333.6	333.5
145°	349.4	349.5	349.7	349.8	350.0	350.2	350.4	350.7	350.9	351.1	351.1
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	367.7
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	6.6	6.6	6.6	6.5	6.5	6.4	6.4	6.3
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.2	14.4	14.7	14.8	14.7	14.6	14.5	14.4
95°	27.1	27.4	27.7	27.9	27.9	27.9	27.9	27.9
97.5°	42.0	42.4	42.8	42.9	42.9	42.9	42.8	42.8
100°	52.9	53.2	53.4	53.6	53.7	53.9	54.1	54.2
102.5°	65.5	65.7	65.9	66.0	66.0	66.0	65.9	65.9
105°	84.2	84.2	84.2	84.3	84.4	84.6	84.8	84.9
107.5°	104.5	104.7	105.0	105.1	105.0	104.9	104.8	104.7
110°	118.1	118.4	118.7	118.8	118.6	118.5	118.3	118.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.6	132.0	132.4	132.5	132.5	132.5	132.4	132.4
115°	152.2	152.3	152.4	152.4	152.3	152.2	152.1	152.0
117.5°	173.0	173.0	173.0	172.8	172.6	172.4	172.2	172.0
120°	186.8	186.7	186.7	186.5	186.4	186.2	186.1	185.9
122.5°	200.9	200.7	200.5	200.3	200.1	199.8	199.5	199.3
125°	221.7	221.4	221.1	220.8	220.5	220.2	219.7	219.4
127.5°	242.3	241.9	241.4	241.0	240.7	240.2	239.9	239.5
130°	256.0	255.6	255.3	254.9	254.4	253.8	253.3	252.7
132.5°	269.2	268.8	268.5	268.1	267.6	267.2	266.8	266.4
135°	289.1	288.8	288.5	288.3	288.1	287.9	287.8	287.6
137.5°	308.6	308.3	307.9	307.6	307.3	307.0	306.7	306.4
140°	321.3	321.3	321.2	320.9	320.3	319.8	319.2	318.7
142.5°	333.4	333.3	333.3	333.0	332.5	332.1	331.6	331.2
145°	351.0	350.9	350.8	350.6	350.3	350.0	349.7	349.4
147.5°	367.7	367.7	367.7	367.4	367.0	366.5	366.0	365.5
150°	377.9	377.9	377.9	377.7	377.2	376.8	376.3	375.8
152.5°	387.3	387.5	387.6	387.4	387.0	386.6	386.2	385.8
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

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