

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: P332243

Luminaire Tested: **S123RDIP-S340D365U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332243
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D365U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 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: 2749.7 lumens
Efficiency: N/A
Efficacy: 135.5 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

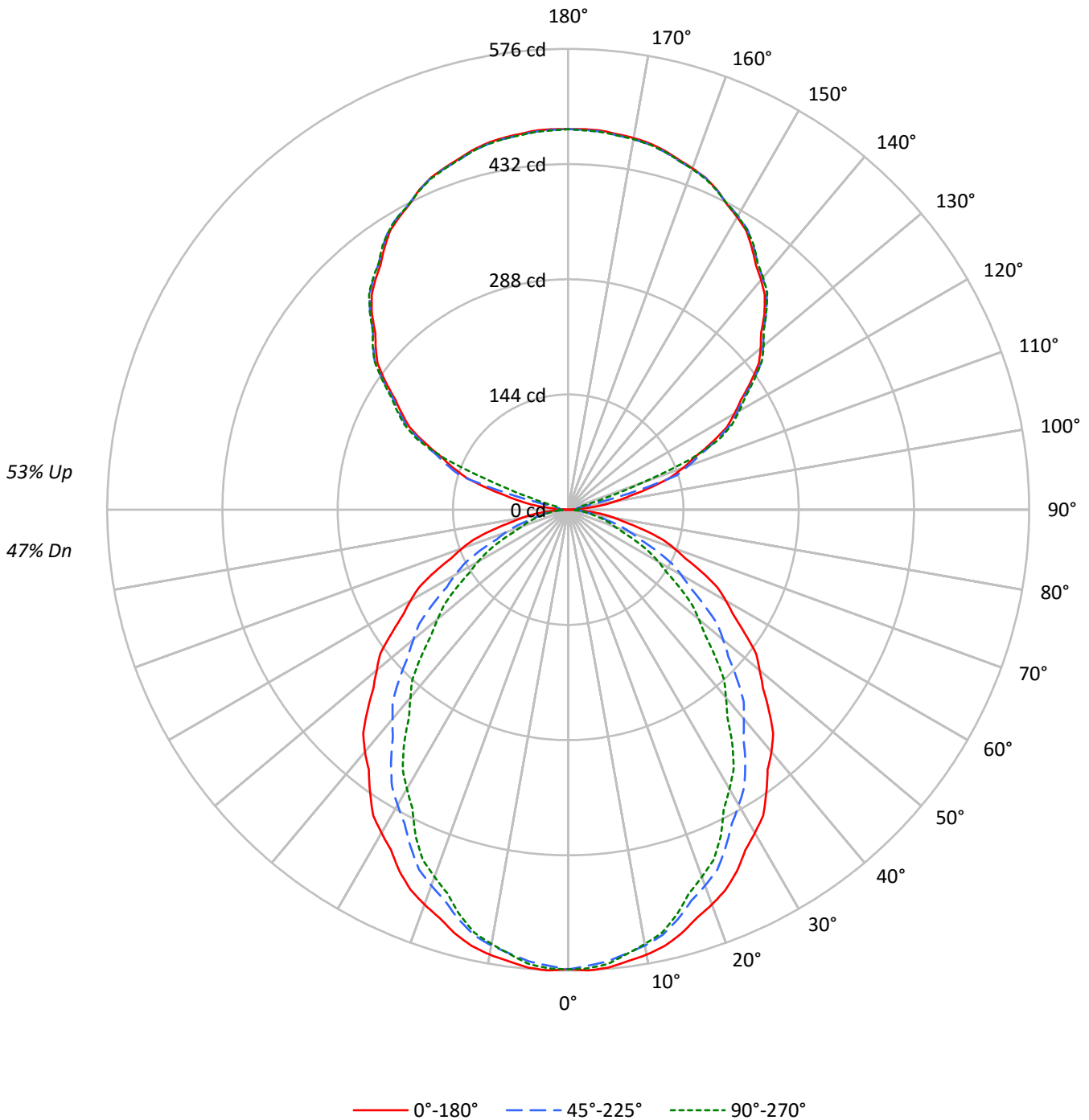
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47								
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40								
2	89	82	76	71	82	75	70	66	64	60	57	53	50	48	42	41	39	34								
3	81	72	65	59	75	67	60	55	56	52	48	47	43	41	38	36	34	29								
4	75	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25								
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	22								
6	63	51	43	38	58	48	41	35	41	35	31	34	30	27	28	25	23	20								
7	58	46	39	33	54	43	36	31	37	31	27	31	27	24	26	23	20	18								
8	54	42	35	29	50	39	32	28	34	28	24	28	24	21	24	20	18	16								
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	16	14								
10	47	35	28	24	44	33	27	22	29	23	20	24	20	17	20	17	15	13								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6184	6184	6184
5°	6207	6122	6158
10°	6172	6045	6025
15°	6107	5904	5841
20°	6015	5727	5593
25°	5922	5529	5352
30°	5797	5299	5009
35°	5670	5070	4696
40°	5552	4799	4308
45°	5398	4532	3958
50°	5228	4228	3565
55°	5054	3883	3200
60°	4895	3511	2799
65°	4689	3110	2397
70°	4428	2609	1936
75°	4051	2054	1822
80°	3608	1822	1674
85°	3051	1606	1494



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.0	2.0
10°-20°	150.1	5.5
20°-30°	216.1	7.9
30°-40°	243.5	8.9
40°-50°	232.9	8.5
50°-60°	190.7	6.9
60°-70°	128.7	4.7
70°-80°	64.7	2.4
80°-90°	18.5	0.7
90°-100°	17.3	0.6
100°-110°	82.4	3.0
110°-120°	198.0	7.2
120°-130°	252.1	9.2
130°-140°	269.3	9.8
140°-150°	251.9	9.2
150°-160°	203.2	7.4
160°-170°	131.1	4.8
170°-180°	45.2	1.6
0°-30°	420.2	15.3
0°-40°	663.7	24.1
0°-60°	1087.3	39.5
0°-90°	1299.2	47.2
90°-120°	297.7	10.8
90°-150°	1071.0	38.9
90°-180°	1450.0	52.7
0°-180°	2749.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	574	572	567	570	570	54
15°	548	542	530	527	524	154
25°	499	486	466	456	451	229
35°	432	414	386	366	357	270
45°	355	333	298	272	260	273
55°	269	246	207	181	170	241
65°	184	158	122	100	94	182
75°	97	75	49	45	44	104
85°	25	15	13	12	12	28
90°	0	4	8	10	11	2
95°	22	8	11	13	13	27
105°	105	107	77	18	16	112
115°	198	200	203	206	208	195
125°	278	281	283	283	284	249
135°	347	349	350	351	350	267
145°	400	402	403	404	404	250
155°	441	440	440	442	440	203
165°	465	464	463	466	464	131
175°	476	474	474	476	474	45
180°	476	476	476	476	476	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	576.4	576.0	575.7	575.4	575.1	574.4	573.4	572.4	571.4	570.4	571.3
5°	574.5	574.0	573.5	573.0	572.4	571.6	570.3	569.1	567.8	566.6	567.5
7.5°	569.2	568.6	568.1	567.5	567.0	565.9	564.3	562.7	561.0	559.4	559.9
10°	564.7	564.0	563.3	562.6	561.8	560.5	558.7	556.8	554.9	553.1	553.2
12.5°	558.4	557.6	556.8	556.0	555.2	553.6	551.3	549.1	546.8	544.5	544.4
15°	548.0	546.8	545.7	544.5	543.4	541.4	538.5	535.6	532.7	529.8	529.3
17.5°	534.8	533.5	532.2	530.8	529.5	527.0	523.3	519.6	516.0	512.3	511.2
20°	525.1	523.5	521.8	520.2	518.5	515.7	511.8	507.8	503.9	500.0	498.6
22.5°	514.3	512.4	510.5	508.6	506.7	503.7	499.5	495.3	491.1	486.9	485.2
25°	498.6	496.0	493.4	490.8	488.2	484.5	479.8	475.0	470.2	465.5	463.3
27.5°	479.5	476.6	473.7	470.9	468.0	464.0	458.7	453.3	448.0	442.7	439.7
30°	466.4	463.3	460.2	457.1	454.0	449.5	443.7	437.9	432.1	426.3	422.8
32.5°	453.4	449.8	446.3	442.8	439.3	434.5	428.3	422.2	416.1	409.9	406.1
35°	431.5	427.7	424.0	420.3	416.6	411.5	405.1	398.6	392.2	385.8	381.4
37.5°	409.3	405.1	401.0	396.9	392.7	387.2	380.4	373.5	366.7	359.8	354.8
40°	395.1	390.6	386.0	381.5	376.9	370.9	363.6	356.2	348.9	341.5	336.2
42.5°	379.1	374.5	370.0	365.4	360.9	354.8	347.2	339.6	332.0	324.4	318.5
45°	354.6	349.9	345.3	340.6	335.9	329.6	321.7	313.7	305.7	297.7	291.8
47.5°	330.1	325.0	319.8	314.7	309.6	303.1	295.1	287.1	279.2	271.2	264.8
50°	312.2	307.3	302.5	297.6	292.7	286.1	277.7	269.3	260.9	252.5	246.1
52.5°	296.2	290.9	285.6	280.3	275.0	268.2	259.9	251.6	243.3	235.0	228.4
55°	269.3	264.2	259.2	254.1	249.0	242.1	233.3	224.5	215.7	206.9	200.9
57.5°	244.5	239.0	233.5	227.9	222.4	215.2	206.4	197.5	188.7	179.9	174.2
60°	227.4	221.7	216.0	210.3	204.6	197.5	188.9	180.3	171.7	163.1	157.5
62.5°	210.2	204.5	198.8	193.2	187.5	180.3	171.7	163.1	154.5	145.9	140.7
65°	184.1	178.4	172.7	167.0	161.3	154.4	146.3	138.2	130.2	122.1	117.0
67.5°	157.9	152.1	146.3	140.6	134.8	128.1	120.3	112.6	104.8	97.1	93.3
70°	140.7	135.1	129.5	123.9	118.4	111.9	104.7	97.4	90.2	82.9	79.3
72.5°	123.6	118.1	112.6	107.0	101.5	95.5	88.9	82.3	75.7	69.1	66.2
75°	97.4	92.4	87.4	82.5	77.5	72.2	66.5	60.8	55.1	49.4	48.4
77.5°	73.5	69.0	64.5	60.0	55.6	51.5	47.8	44.1	40.5	36.8	36.3
80°	58.2	54.0	49.8	45.5	41.3	38.1	35.9	33.7	31.5	29.4	29.0
82.5°	43.7	40.0	36.4	32.7	29.0	26.7	25.7	24.7	23.7	22.6	22.3
85°	24.7	22.4	20.1	17.9	15.6	14.3	14.0	13.7	13.4	13.0	12.8
87.5°	9.0	8.3	7.5	6.8	6.0	5.7	5.9	6.1	6.3	6.5	6.5
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	6.6	6.4	6.1	5.9	5.7	6.0	6.7	7.5	8.3	9.0	9.5
95°	21.6	18.3	15.1	11.9	8.7	7.5	8.4	9.2	10.1	11.0	11.5
97.5°	43.3	41.9	40.4	39.0	37.5	34.0	28.3	22.7	17.0	11.4	12.0
100°	59.7	61.3	62.9	64.4	66.0	60.7	48.4	36.2	23.9	11.7	12.3
102.5°	78.4	79.5	80.6	81.8	82.9	76.8	63.4	50.0	36.6	23.3	21.3
105°	105.3	106.2	107.0	107.9	108.8	105.7	98.6	91.5	84.5	77.4	63.5
107.5°	133.7	134.4	135.1	135.8	136.5	137.4	138.5	139.6	140.7	141.8	131.6
110°	152.7	153.3	153.9	154.5	155.2	155.9	156.8	157.6	158.5	159.4	156.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.7	171.3	171.9	172.4	173.0	173.7	174.6	175.5	176.3	177.2	177.2
115°	197.5	198.0	198.5	198.9	199.4	200.0	200.7	201.4	202.1	202.8	203.6
117.5°	223.5	224.1	224.6	225.2	225.8	226.3	226.6	227.0	227.4	227.7	228.3
120°	239.6	240.3	241.0	241.7	242.4	242.9	243.1	243.4	243.6	243.8	244.5
122.5°	256.0	256.6	257.1	257.7	258.3	258.7	259.0	259.3	259.6	259.9	260.4
125°	278.5	279.1	279.7	280.3	281.0	281.4	281.8	282.1	282.4	282.7	282.9
127.5°	300.2	300.9	301.5	302.1	302.7	303.2	303.6	304.0	304.4	304.7	305.0
130°	313.8	314.4	315.0	315.7	316.3	316.8	317.1	317.4	317.7	318.0	318.3
132.5°	326.8	327.4	328.1	328.7	329.3	329.7	330.0	330.3	330.5	330.8	331.1
135°	346.7	347.1	347.6	348.1	348.5	348.9	349.2	349.6	349.9	350.2	350.4
137.5°	363.6	364.2	364.8	365.4	366.0	366.4	366.6	366.7	366.9	367.1	367.5
140°	374.9	375.4	375.9	376.3	376.8	377.2	377.4	377.6	377.9	378.1	378.4
142.5°	385.4	385.9	386.3	386.8	387.3	387.6	387.9	388.1	388.3	388.6	388.8
145°	400.0	400.6	401.1	401.7	402.2	402.6	402.7	402.9	403.0	403.2	403.4
147.5°	413.8	414.2	414.5	414.9	415.2	415.5	415.7	415.8	416.0	416.1	416.3
150°	422.3	422.5	422.7	423.0	423.2	423.4	423.6	423.7	423.9	424.0	424.2
152.5°	429.9	430.0	430.1	430.2	430.3	430.5	430.5	430.6	430.7	430.8	431.1
155°	440.7	440.5	440.3	440.2	440.0	440.0	440.1	440.1	440.2	440.3	440.7
157.5°	449.0	449.0	449.0	448.9	448.9	448.9	448.8	448.7	448.6	448.6	449.0
160°	454.1	454.0	453.9	453.8	453.8	453.7	453.6	453.5	453.5	453.4	453.8
162.5°	458.9	458.7	458.5	458.3	458.1	457.9	457.8	457.8	457.7	457.6	458.1
165°	464.7	464.4	464.2	464.0	463.7	463.6	463.5	463.4	463.3	463.3	463.9
167.5°	469.2	468.9	468.6	468.3	467.9	467.8	467.8	467.8	467.8	467.8	468.4
170°	471.7	471.4	471.1	470.8	470.5	470.3	470.3	470.3	470.3	470.3	471.0
172.5°	473.4	473.1	472.7	472.3	471.9	471.8	471.8	471.9	472.0	472.0	472.7
175°	475.6	475.2	474.8	474.5	474.1	473.9	474.0	474.1	474.1	474.2	474.8
177.5°	476.2	475.9	475.6	475.3	474.9	474.8	474.9	474.9	475.0	475.1	475.6
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	572.2	573.1	574.1	574.4	574.3	574.1	573.9	573.8
5°	568.5	569.4	570.3	570.7	570.5	570.3	570.1	569.9
7.5°	560.5	561.0	561.5	561.6	561.2	560.9	560.5	560.2
10°	553.3	553.4	553.5	553.3	552.8	552.3	551.7	551.2
12.5°	544.4	544.3	544.3	543.9	543.3	542.7	542.1	541.5
15°	528.7	528.2	527.7	527.1	526.4	525.6	524.9	524.2
17.5°	510.1	509.0	507.9	506.8	505.7	504.6	503.6	502.5
20°	497.3	495.9	494.6	493.3	492.0	490.8	489.6	488.3
22.5°	483.6	481.9	480.2	478.8	477.6	476.5	475.3	474.2
25°	461.1	459.0	456.8	455.1	454.0	452.9	451.7	450.6
27.5°	436.7	433.7	430.7	428.3	426.5	424.8	423.1	421.3
30°	419.3	415.8	412.3	409.7	408.0	406.4	404.7	403.0
32.5°	402.2	398.4	394.5	391.7	390.0	388.3	386.5	384.8
35°	376.9	372.4	368.0	364.8	363.0	361.1	359.2	357.4
37.5°	349.7	344.6	339.6	335.9	333.6	331.3	329.0	326.7
40°	330.8	325.4	320.0	316.1	313.7	311.4	309.0	306.6
42.5°	312.6	306.8	300.9	296.9	294.7	292.6	290.5	288.3
45°	285.9	280.0	274.1	269.9	267.5	265.0	262.5	260.0
47.5°	258.3	251.9	245.5	241.2	239.0	236.8	234.5	232.3
50°	239.7	233.3	226.9	222.5	220.1	217.7	215.3	212.9
52.5°	221.7	215.0	208.4	204.0	201.8	199.7	197.6	195.4
55°	194.9	188.9	182.9	178.8	176.8	174.7	172.6	170.5
57.5°	168.5	162.8	157.2	153.4	151.7	149.9	148.2	146.4
60°	151.9	146.3	140.7	137.0	135.3	133.5	131.8	130.0
62.5°	135.4	130.2	124.9	121.3	119.5	117.7	115.8	114.0
65°	111.9	106.9	101.8	98.7	97.5	96.4	95.3	94.1
67.5°	89.5	85.7	81.9	79.4	78.2	77.0	75.8	74.6
70°	75.7	72.1	68.4	66.1	64.9	63.8	62.6	61.5
72.5°	63.2	60.3	57.3	55.6	55.1	54.6	54.2	53.7
75°	47.3	46.3	45.2	44.6	44.4	44.2	44.0	43.8
77.5°	35.7	35.1	34.6	34.2	34.0	33.8	33.6	33.4
80°	28.7	28.4	28.1	27.9	27.6	27.4	27.2	27.0
82.5°	22.0	21.7	21.4	21.2	21.2	21.1	21.1	21.1
85°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
87.5°	6.5	6.5	6.5	6.4	6.4	6.3	6.3	6.2
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	10.1	10.6	11.1	11.4	11.4	11.5	11.6	11.7
95°	12.1	12.6	13.2	13.4	13.4	13.4	13.4	13.4
97.5°	12.6	13.3	13.9	14.2	14.3	14.4	14.5	14.6
100°	12.9	13.5	14.2	14.5	14.6	14.7	14.8	14.8
102.5°	19.4	17.4	15.5	14.6	14.7	14.8	15.0	15.1
105°	49.6	35.7	21.8	14.9	15.1	15.2	15.4	15.5
107.5°	121.5	111.3	101.1	90.7	80.3	69.8	59.3	48.8
110°	154.2	151.6	149.0	142.1	130.9	119.6	108.4	97.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	177.3	177.3	177.4	176.2	173.8	171.5	169.1	166.7
115°	204.4	205.2	206.0	206.5	206.8	207.2	207.5	207.8
117.5°	229.0	229.6	230.2	230.6	230.6	230.7	230.8	230.8
120°	245.1	245.7	246.3	246.7	246.7	246.7	246.7	246.7
122.5°	260.8	261.3	261.7	261.9	262.0	262.1	262.1	262.2
125°	283.0	283.2	283.3	283.5	283.6	283.8	284.0	284.1
127.5°	305.2	305.5	305.8	305.8	305.6	305.5	305.3	305.2
130°	318.7	319.0	319.3	319.4	319.2	319.1	318.9	318.7
132.5°	331.4	331.7	332.0	332.1	331.8	331.6	331.4	331.2
135°	350.7	350.9	351.1	351.1	350.9	350.7	350.4	350.2
137.5°	367.8	368.2	368.6	368.7	368.5	368.4	368.2	368.1
140°	378.7	379.0	379.4	379.4	379.3	379.1	379.0	378.8
142.5°	389.1	389.3	389.6	389.6	389.4	389.1	388.9	388.7
145°	403.5	403.7	403.8	403.9	403.9	403.9	403.9	403.9
147.5°	416.4	416.6	416.8	416.7	416.3	415.9	415.6	415.2
150°	424.4	424.5	424.7	424.6	424.4	424.2	423.9	423.7
152.5°	431.4	431.7	432.0	431.9	431.6	431.2	430.8	430.5
155°	441.1	441.5	441.9	441.8	441.4	440.9	440.4	439.9
157.5°	449.5	450.0	450.5	450.4	449.8	449.2	448.5	447.9
160°	454.3	454.8	455.3	455.2	454.7	454.1	453.6	453.0
162.5°	458.7	459.2	459.7	459.8	459.3	458.8	458.3	457.8
165°	464.5	465.2	465.8	465.8	465.3	464.7	464.2	463.6
167.5°	469.0	469.7	470.3	470.3	469.7	469.0	468.4	467.8
170°	471.6	472.2	472.8	472.8	472.2	471.6	471.0	470.3
172.5°	473.3	473.9	474.5	474.5	473.8	473.1	472.4	471.7
175°	475.3	475.9	476.4	476.4	475.8	475.1	474.5	473.9
177.5°	476.1	476.6	477.1	477.0	476.4	475.8	475.1	474.5
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6

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