

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: P332393

Luminaire Tested: **S123RDIW-S340D460U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332393
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: S123RDIW-S340D460U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2898.0 lumens
Efficiency: N/A
Efficacy: 126.0 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

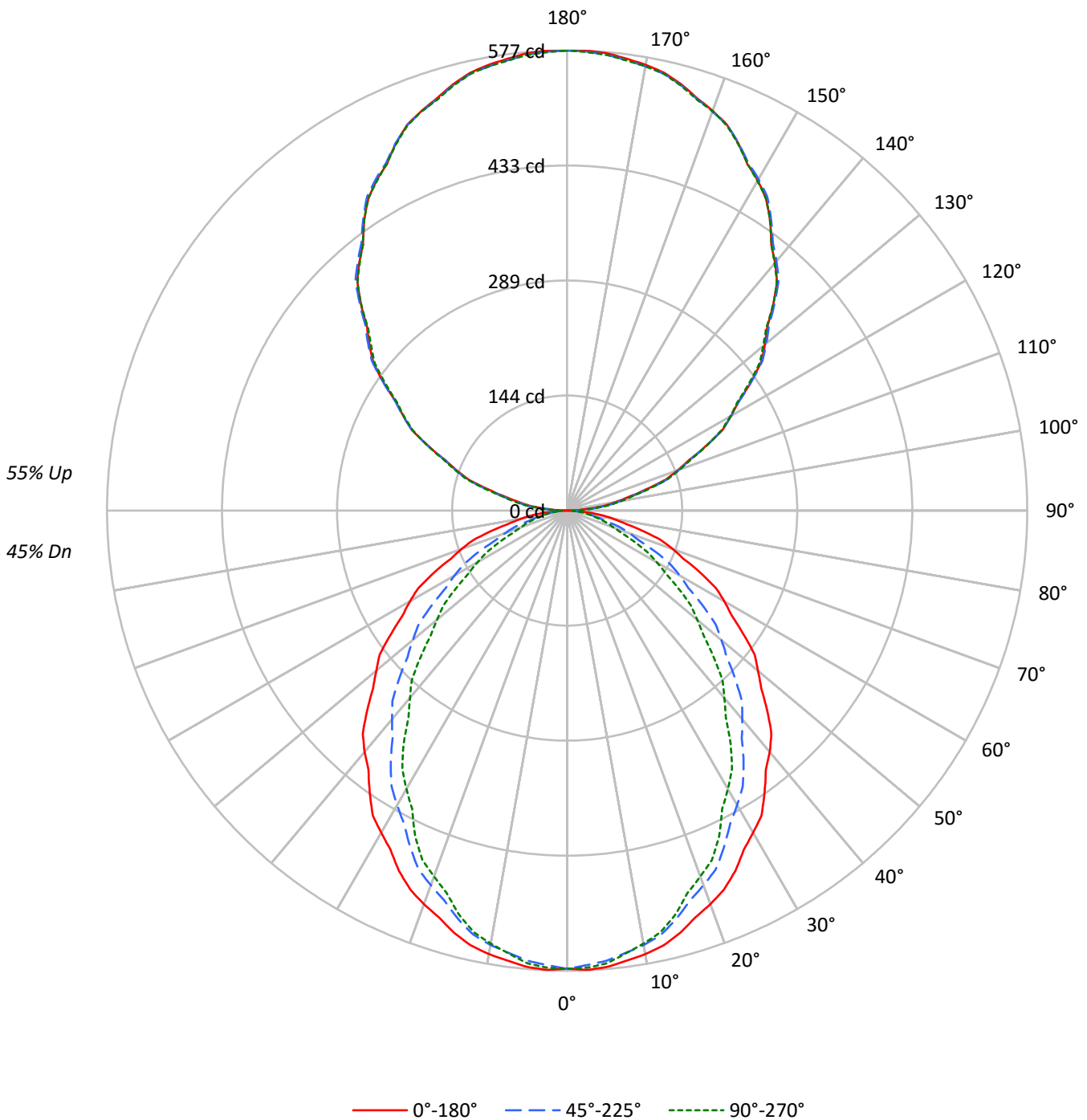
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38				
2	88	81	75	70	81	75	70	65	62	59	56	51	49	46	41	39	37	33				
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28				
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24				
5	68	57	49	43	62	52	45	40	44	39	35	37	33	30	29	27	24	21				
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19				
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	19	17				
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	17	15				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	19	21	18	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	19	16	14	12				

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	1.9
10°-20°	150.1	5.2
20°-30°	216.1	7.5
30°-40°	243.5	8.4
40°-50°	232.9	8.0
50°-60°	190.7	6.6
60°-70°	128.7	4.4
70°-80°	64.7	2.2
80°-90°	18.8	0.6
90°-100°	37.6	1.3
100°-110°	112.5	3.9
110°-120°	191.3	6.6
120°-130°	251.7	8.7
130°-140°	282.9	9.8
140°-150°	278.0	9.6
150°-160°	234.1	8.1
160°-170°	155.8	5.4
170°-180°	54.6	1.9
0°-30°	420.2	14.5
0°-40°	663.7	22.9
0°-60°	1087.3	37.5
0°-90°	1299.6	44.8
90°-120°	341.4	11.8
90°-150°	1153.9	39.8
90°-180°	1598.0	55.1
0°-180°	2898.0	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	5	11	13	14	3
95°	27	30	34	35	35	30
105°	102	103	107	107	108	109
115°	193	194	193	194	193	191
125°	282	283	282	280	279	251
135°	366	368	368	366	365	282
145°	444	445	446	445	444	277
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



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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	7.6	6.9	6.2	6.0	6.2	6.5	6.8	7.0	7.0
90°	0.5	1.5	2.5	3.5	4.5	5.6	6.9	8.3	9.6	10.9	11.3
92.5°	11.0	11.7	12.3	13.0	13.7	14.4	15.2	15.9	16.7	17.4	17.7
95°	26.7	27.4	28.1	28.9	29.6	30.3	31.1	31.9	32.7	33.5	33.9
97.5°	47.5	48.0	48.5	49.1	49.6	50.1	50.7	51.3	51.9	52.5	52.9
100°	61.6	62.2	62.8	63.4	64.0	64.6	65.1	65.6	66.1	66.6	66.9
102.5°	77.9	78.3	78.7	79.0	79.4	79.9	80.6	81.2	81.9	82.6	82.9
105°	102.0	102.2	102.4	102.6	102.8	103.3	104.2	105.1	106.0	106.9	106.9
107.5°	129.9	130.0	130.1	130.2	130.4	130.6	131.0	131.3	131.7	132.1	132.4
110°	147.3	147.5	147.7	147.9	148.1	148.3	148.5	148.7	148.9	149.1	149.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.4	165.5	165.7	165.8	165.9	166.0	166.0	166.1	166.1	166.1	166.6
115°	192.6	192.9	193.2	193.5	193.8	193.9	193.7	193.5	193.3	193.1	193.2
117.5°	220.0	220.2	220.4	220.6	220.8	220.7	220.5	220.2	220.0	219.7	219.7
120°	237.0	237.6	238.2	238.8	239.4	239.5	239.0	238.5	238.0	237.5	237.4
122.5°	254.8	255.2	255.7	256.1	256.5	256.6	256.4	256.1	255.9	255.6	255.3
125°	281.9	282.2	282.5	282.8	283.1	283.1	282.9	282.7	282.5	282.3	281.9
127.5°	306.9	307.5	308.2	308.8	309.5	309.7	309.5	309.2	309.0	308.8	308.2
130°	323.6	324.4	325.2	326.0	326.8	327.0	326.7	326.4	326.1	325.8	325.4
132.5°	340.2	341.0	341.9	342.7	343.5	343.8	343.5	343.3	343.1	342.9	342.4
135°	365.7	366.3	366.9	367.5	368.1	368.4	368.3	368.2	368.1	368.0	367.6
137.5°	389.3	389.8	390.3	390.8	391.3	391.7	391.9	392.2	392.5	392.7	392.3
140°	405.6	406.1	406.6	407.1	407.6	407.9	408.0	408.1	408.2	408.3	408.2
142.5°	420.5	421.0	421.5	422.0	422.5	422.8	423.0	423.2	423.4	423.5	423.4
145°	443.7	443.9	444.1	444.3	444.5	444.7	445.0	445.3	445.6	445.9	445.8
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	466.9
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



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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°	7.0	7.0	7.0	7.0	6.9	6.9	6.9	6.8
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	18.0	18.4	18.7	18.8	18.7	18.5	18.4	18.3
95°	34.3	34.7	35.1	35.3	35.3	35.3	35.3	35.3
97.5°	53.4	53.9	54.3	54.5	54.5	54.5	54.4	54.4
100°	67.2	67.5	67.8	68.1	68.3	68.5	68.7	68.9
102.5°	83.2	83.5	83.8	83.9	83.9	83.8	83.8	83.7
105°	106.9	106.9	106.9	107.0	107.3	107.5	107.7	107.9
107.5°	132.7	133.0	133.3	133.4	133.3	133.2	133.1	133.0
110°	149.9	150.3	150.7	150.8	150.6	150.4	150.2	150.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.6	168.1	168.3	168.2	168.2	168.2	168.1
115°	193.3	193.4	193.5	193.5	193.4	193.3	193.2	193.1
117.5°	219.7	219.6	219.6	219.5	219.2	218.9	218.6	218.3
120°	237.3	237.2	237.1	236.9	236.7	236.5	236.3	236.1
122.5°	255.1	254.8	254.5	254.3	254.0	253.7	253.4	253.1
125°	281.5	281.1	280.7	280.3	279.9	279.5	279.1	278.7
127.5°	307.7	307.1	306.5	306.0	305.6	305.1	304.6	304.2
130°	325.0	324.6	324.2	323.7	323.0	322.3	321.6	320.8
132.5°	341.9	341.4	340.9	340.4	339.9	339.3	338.8	338.2
135°	367.2	366.8	366.4	366.1	365.9	365.7	365.5	365.3
137.5°	391.9	391.5	391.0	390.6	390.2	389.9	389.5	389.1
140°	408.1	408.0	407.9	407.5	406.8	406.1	405.4	404.7
142.5°	423.3	423.2	423.1	422.8	422.3	421.7	421.2	420.6
145°	445.7	445.6	445.5	445.3	444.9	444.5	444.1	443.7
147.5°	466.9	466.9	466.9	466.6	466.0	465.3	464.7	464.1
150°	479.9	479.9	479.9	479.6	479.0	478.4	477.8	477.2
152.5°	491.8	492.0	492.2	492.0	491.5	490.9	490.4	489.9
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

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