

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: P332393-927

Luminaire Tested: **S123RDIW-S340D460U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332393-927
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-S340D460U927-4F0-1E-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: 2295.7 lumens
Efficiency: N/A
Efficacy: 99.8 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

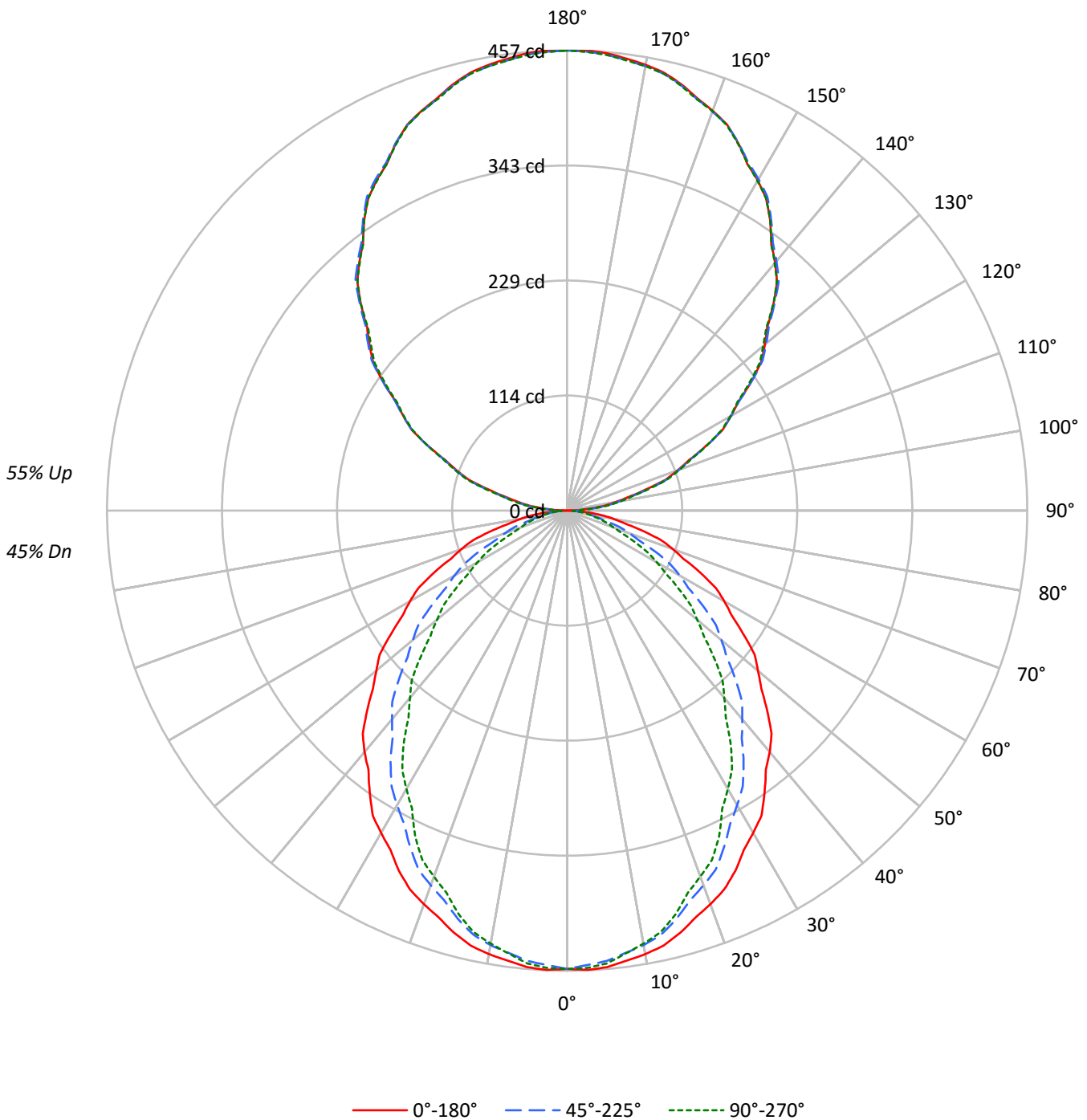
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4899	4899	4899
5°	4917	4850	4878
10°	4889	4790	4773
15°	4837	4677	4628
20°	4765	4537	4431
25°	4691	4380	4240
30°	4593	4197	3967
35°	4491	4016	3720
40°	4398	3801	3413
45°	4276	3589	3136
50°	4141	3349	2825
55°	4003	3076	2535
60°	3877	2781	2217
65°	3713	2463	1897
70°	3509	2068	1533
75°	3211	1626	1443
80°	2858	1444	1327
85°	2421	1272	1186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.7	1.9
10°-20°	118.9	5.2
20°-30°	171.2	7.5
30°-40°	192.9	8.4
40°-50°	184.5	8.0
50°-60°	151.1	6.6
60°-70°	101.9	4.4
70°-80°	51.3	2.2
80°-90°	14.9	0.6
90°-100°	29.8	1.3
100°-110°	89.1	3.9
110°-120°	151.6	6.6
120°-130°	199.4	8.7
130°-140°	224.1	9.8
140°-150°	220.3	9.6
150°-160°	185.4	8.1
160°-170°	123.4	5.4
170°-180°	43.2	1.9
0°-30°	332.9	14.5
0°-40°	525.7	22.9
0°-60°	861.4	37.5
0°-90°	1029.5	44.8
90°-120°	270.4	11.8
90°-150°	914.1	39.8
90°-180°	1266.0	55.1
0°-180°	2295.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	455	455	455	455	455	
5°	455	453	449	452	452	43
15°	434	430	420	418	415	122
25°	395	385	369	361	357	182
35°	342	328	306	290	283	214
45°	281	264	236	215	206	217
55°	213	195	164	143	135	191
65°	146	125	97	79	74	144
75°	77	59	39	36	35	82
85°	20	12	10	10	10	22
90°	0	4	9	10	11	2
95°	21	24	26	28	28	24
105°	81	82	85	85	86	87
115°	153	154	153	153	153	151
125°	223	224	224	222	221	199
135°	290	292	292	290	289	223
145°	352	352	353	353	352	219
155°	402	402	403	404	402	185
165°	438	437	437	439	437	124
175°	456	455	454	456	454	43
180°	457	457	457	457	457	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	456.6	456.3	456.1	455.8	455.6	455.0	454.2	453.4	452.7	451.9	452.6
5°	455.1	454.7	454.3	453.9	453.4	452.8	451.8	450.8	449.8	448.9	449.6
7.5°	450.9	450.4	450.0	449.6	449.2	448.3	447.0	445.8	444.4	443.1	443.5
10°	447.3	446.8	446.2	445.7	445.0	444.0	442.6	441.1	439.6	438.2	438.2
12.5°	442.4	441.7	441.1	440.5	439.8	438.6	436.7	435.0	433.2	431.3	431.3
15°	434.1	433.2	432.3	431.3	430.5	428.9	426.6	424.3	422.0	419.7	419.3
17.5°	423.7	422.6	421.6	420.5	419.5	417.5	414.5	411.6	408.8	405.8	405.0
20°	416.0	414.7	413.4	412.1	410.7	408.5	405.4	402.3	399.2	396.1	395.0
22.5°	407.4	405.9	404.4	402.9	401.4	399.0	395.7	392.4	389.0	385.7	384.4
25°	395.0	392.9	390.9	388.8	386.7	383.8	380.1	376.3	372.5	368.8	367.0
27.5°	379.9	377.6	375.3	373.0	370.7	367.6	363.4	359.1	354.9	350.7	348.3
30°	369.5	367.0	364.6	362.1	359.7	356.1	351.5	346.9	342.3	337.7	334.9
32.5°	359.2	356.3	353.6	350.8	348.0	344.2	339.3	334.5	329.6	324.7	321.7
35°	341.8	338.8	335.9	333.0	330.0	326.0	320.9	315.8	310.7	305.6	302.1
37.5°	324.2	320.9	317.7	314.4	311.1	306.7	301.3	295.9	290.5	285.0	281.1
40°	313.0	309.4	305.8	302.2	298.6	293.8	288.0	282.2	276.4	270.5	266.3
42.5°	300.3	296.7	293.1	289.5	285.9	281.1	275.0	269.0	263.0	257.0	252.3
45°	280.9	277.2	273.5	269.8	266.1	261.1	254.8	248.5	242.2	235.8	231.2
47.5°	261.5	257.5	253.3	249.3	245.3	240.1	233.8	227.4	221.2	214.8	209.8
50°	247.3	243.4	239.6	235.8	231.9	226.6	220.0	213.3	206.7	200.0	195.0
52.5°	234.6	230.4	226.2	222.0	217.9	212.5	205.9	199.3	192.7	186.2	180.9
55°	213.3	209.3	205.3	201.3	197.3	191.8	184.8	177.8	170.9	163.9	159.1
57.5°	193.7	189.3	185.0	180.5	176.2	170.5	163.5	156.5	149.5	142.5	138.0
60°	180.1	175.6	171.1	166.6	162.1	156.5	149.6	142.8	136.0	129.2	124.8
62.5°	166.5	162.0	157.5	153.0	148.5	142.8	136.0	129.2	122.4	115.6	111.5
65°	145.8	141.3	136.8	132.3	127.8	122.3	115.9	109.5	103.1	96.7	92.7
67.5°	125.1	120.5	115.9	111.4	106.8	101.5	95.3	89.2	83.0	76.9	73.9
70°	111.5	107.0	102.6	98.2	93.8	88.6	82.9	77.2	71.5	65.7	62.8
72.5°	97.9	93.6	89.2	84.8	80.4	75.7	70.4	65.2	60.0	54.7	52.4
75°	77.2	73.2	69.2	65.4	61.4	57.2	52.7	48.2	43.6	39.1	38.3
77.5°	58.2	54.7	51.1	47.5	44.0	40.8	37.9	34.9	32.1	29.2	28.8
80°	46.1	42.8	39.5	36.0	32.7	30.2	28.4	26.7	25.0	23.3	23.0
82.5°	34.6	31.7	28.8	25.9	23.0	21.2	20.4	19.6	18.8	17.9	17.7
85°	19.6	17.7	15.9	14.2	12.4	11.3	11.1	10.9	10.6	10.3	10.1
87.5°	7.1	6.6	6.0	5.5	4.9	4.8	4.9	5.1	5.4	5.5	5.5
90°	0.4	1.2	2.0	2.8	3.6	4.4	5.5	6.6	7.6	8.6	9.0
92.5°	8.7	9.3	9.7	10.3	10.9	11.4	12.0	12.6	13.2	13.8	14.0
95°	21.2	21.7	22.3	22.9	23.4	24.0	24.6	25.3	25.9	26.5	26.9
97.5°	37.6	38.0	38.4	38.9	39.3	39.7	40.2	40.6	41.1	41.6	41.9
100°	48.8	49.3	49.7	50.2	50.7	51.2	51.6	52.0	52.4	52.8	53.0
102.5°	61.7	62.0	62.3	62.6	62.9	63.3	63.8	64.3	64.9	65.4	65.7
105°	80.8	81.0	81.1	81.3	81.4	81.8	82.5	83.3	84.0	84.7	84.7
107.5°	102.9	103.0	103.1	103.1	103.3	103.5	103.8	104.0	104.3	104.6	104.9
110°	116.7	116.8	117.0	117.2	117.3	117.5	117.6	117.8	118.0	118.1	118.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	131.0	131.1	131.3	131.3	131.4	131.5	131.5	131.6	131.6	131.6	132.0
115°	152.6	152.8	153.0	153.3	153.5	153.6	153.4	153.3	153.1	153.0	153.0
117.5°	174.3	174.4	174.6	174.8	174.9	174.8	174.7	174.4	174.3	174.0	174.0
120°	187.7	188.2	188.7	189.2	189.6	189.7	189.3	188.9	188.5	188.1	188.1
122.5°	201.8	202.2	202.6	202.9	203.2	203.3	203.1	202.9	202.7	202.5	202.2
125°	223.3	223.6	223.8	224.0	224.3	224.3	224.1	223.9	223.8	223.6	223.3
127.5°	243.1	243.6	244.2	244.6	245.2	245.3	245.2	244.9	244.8	244.6	244.2
130°	256.4	257.0	257.6	258.3	258.9	259.0	258.8	258.6	258.3	258.1	257.8
132.5°	269.5	270.1	270.8	271.5	272.1	272.4	272.1	272.0	271.8	271.6	271.2
135°	289.7	290.2	290.7	291.1	291.6	291.8	291.8	291.7	291.6	291.5	291.2
137.5°	308.4	308.8	309.2	309.6	310.0	310.3	310.5	310.7	310.9	311.1	310.8
140°	321.3	321.7	322.1	322.5	322.9	323.1	323.2	323.3	323.4	323.4	323.4
142.5°	333.1	333.5	333.9	334.3	334.7	334.9	335.1	335.3	335.4	335.5	335.4
145°	351.5	351.6	351.8	352.0	352.1	352.3	352.5	352.8	353.0	353.2	353.2
147.5°	367.6	367.8	368.1	368.4	368.7	368.9	369.2	369.4	369.6	369.9	369.9
150°	378.7	378.9	379.1	379.2	379.4	379.5	379.7	379.9	380.0	380.2	380.2
152.5°	387.9	388.2	388.4	388.6	388.8	389.0	389.0	389.2	389.3	389.4	389.5
155°	402.4	402.4	402.4	402.4	402.4	402.5	402.6	402.7	402.7	402.8	403.1
157.5°	414.8	414.7	414.6	414.5	414.4	414.4	414.5	414.5	414.5	414.6	414.9
160°	422.6	422.4	422.2	422.1	421.9	421.8	421.8	421.8	421.8	421.8	422.2
162.5°	429.4	429.2	429.0	428.7	428.6	428.5	428.5	428.6	428.6	428.7	429.1
165°	438.3	438.1	437.8	437.6	437.4	437.3	437.3	437.3	437.3	437.3	437.8
167.5°	445.4	445.1	444.8	444.5	444.2	444.0	444.1	444.2	444.3	444.3	444.8
170°	449.5	449.2	448.9	448.5	448.2	448.1	448.1	448.1	448.1	448.1	448.6
172.5°	452.7	452.3	452.0	451.7	451.3	451.1	451.1	451.1	451.1	451.1	451.7
175°	455.9	455.6	455.3	455.0	454.6	454.5	454.5	454.5	454.5	454.5	455.0
177.5°	457.3	457.0	456.8	456.5	456.3	456.1	456.1	456.1	456.1	456.1	456.5
180°	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	455.1	455.1	455.1	455.1	455.1	455.1	455.1	455.1
2.5°	453.3	454.0	454.8	455.0	455.0	454.8	454.6	454.6
5°	450.4	451.1	451.8	452.1	451.9	451.8	451.6	451.5
7.5°	444.0	444.4	444.8	444.9	444.6	444.3	444.0	443.8
10°	438.3	438.4	438.5	438.3	437.9	437.5	437.0	436.7
12.5°	431.3	431.2	431.2	430.9	430.4	429.9	429.4	429.0
15°	418.8	418.4	418.0	417.6	417.0	416.4	415.8	415.3
17.5°	404.1	403.2	402.3	401.5	400.6	399.7	398.9	398.1
20°	394.0	392.8	391.8	390.8	389.8	388.8	387.9	386.8
22.5°	383.1	381.8	380.4	379.3	378.3	377.5	376.5	375.7
25°	365.3	363.6	361.9	360.5	359.7	358.8	357.8	357.0
27.5°	345.9	343.6	341.2	339.3	337.9	336.5	335.2	333.7
30°	332.2	329.4	326.6	324.6	323.2	321.9	320.6	319.2
32.5°	318.6	315.6	312.5	310.3	309.0	307.6	306.2	304.8
35°	298.6	295.0	291.5	289.0	287.6	286.1	284.6	283.1
37.5°	277.0	273.0	269.0	266.1	264.3	262.4	260.6	258.8
40°	262.1	257.8	253.5	250.4	248.5	246.7	244.8	242.9
42.5°	247.6	243.0	238.4	235.2	233.5	231.8	230.1	228.4
45°	226.5	221.8	217.1	213.8	211.9	209.9	207.9	206.0
47.5°	204.6	199.6	194.5	191.1	189.3	187.6	185.8	184.0
50°	189.9	184.8	179.7	176.3	174.4	172.5	170.6	168.7
52.5°	175.6	170.3	165.1	161.6	159.9	158.2	156.5	154.8
55°	154.4	149.6	144.9	141.6	140.1	138.4	136.7	135.1
57.5°	133.5	129.0	124.5	121.5	120.2	118.7	117.4	116.0
60°	120.3	115.9	111.5	108.5	107.2	105.8	104.4	103.0
62.5°	107.3	103.1	98.9	96.1	94.7	93.2	91.7	90.3
65°	88.6	84.7	80.6	78.2	77.2	76.4	75.5	74.5
67.5°	70.9	67.9	64.9	62.9	61.9	61.0	60.0	59.1
70°	60.0	57.1	54.2	52.4	51.4	50.5	49.6	48.7
72.5°	50.1	47.8	45.4	44.0	43.6	43.3	42.9	42.5
75°	37.5	36.7	35.8	35.3	35.2	35.0	34.9	34.7
77.5°	28.3	27.8	27.4	27.1	26.9	26.8	26.6	26.5
80°	22.7	22.5	22.3	22.1	21.9	21.7	21.5	21.4
82.5°	17.4	17.2	17.0	16.8	16.8	16.7	16.7	16.7
85°	10.0	9.8	9.7	9.6	9.6	9.6	9.6	9.6
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4
90°	9.3	9.6	9.9	10.1	10.3	10.5	10.6	10.8
92.5°	14.3	14.6	14.8	14.9	14.8	14.7	14.6	14.5
95°	27.2	27.5	27.8	28.0	28.0	28.0	28.0	28.0
97.5°	42.3	42.7	43.0	43.2	43.2	43.2	43.1	43.1
100°	53.2	53.5	53.7	53.9	54.1	54.3	54.4	54.6
102.5°	65.9	66.1	66.4	66.5	66.5	66.4	66.4	66.3
105°	84.7	84.7	84.7	84.8	85.0	85.2	85.3	85.5
107.5°	105.1	105.4	105.6	105.7	105.6	105.5	105.4	105.4
110°	118.7	119.1	119.4	119.5	119.3	119.1	119.0	118.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	132.4	132.8	133.2	133.3	133.2	133.2	133.2	133.2
115°	153.1	153.2	153.3	153.3	153.2	153.1	153.0	153.0
117.5°	174.0	174.0	174.0	173.9	173.6	173.4	173.2	172.9
120°	188.0	187.9	187.8	187.7	187.5	187.4	187.2	187.0
122.5°	202.1	201.8	201.6	201.5	201.2	201.0	200.7	200.5
125°	223.0	222.7	222.4	222.0	221.7	221.4	221.1	220.8
127.5°	243.8	243.3	242.8	242.4	242.1	241.7	241.3	241.0
130°	257.5	257.1	256.8	256.4	255.9	255.3	254.8	254.1
132.5°	270.8	270.5	270.1	269.7	269.3	268.8	268.4	267.9
135°	290.9	290.6	290.3	290.0	289.9	289.7	289.5	289.4
137.5°	310.5	310.1	309.7	309.4	309.1	308.9	308.6	308.2
140°	323.3	323.2	323.1	322.8	322.3	321.7	321.2	320.6
142.5°	335.3	335.3	335.2	334.9	334.5	334.1	333.7	333.2
145°	353.1	353.0	352.9	352.8	352.4	352.1	351.8	351.5
147.5°	369.9	369.9	369.9	369.6	369.2	368.6	368.1	367.7
150°	380.2	380.2	380.2	379.9	379.5	379.0	378.5	378.0
152.5°	389.6	389.8	389.9	389.8	389.4	388.9	388.5	388.1
155°	403.5	403.8	404.1	403.9	403.4	402.8	402.3	401.7
157.5°	415.3	415.7	416.0	415.9	415.5	415.0	414.5	414.2
160°	422.6	423.0	423.4	423.4	423.1	422.8	422.5	422.2
162.5°	429.5	429.9	430.3	430.2	429.8	429.2	428.7	428.2
165°	438.2	438.7	439.2	439.1	438.6	438.0	437.4	436.9
167.5°	445.3	445.8	446.2	446.2	445.8	445.3	444.8	444.3
170°	449.2	449.7	450.3	450.3	449.7	449.2	448.6	448.1
172.5°	452.2	452.7	453.1	453.1	452.6	452.0	451.5	450.9
175°	455.4	455.9	456.4	456.4	455.8	455.3	454.7	454.2
177.5°	456.9	457.3	457.6	457.6	457.2	456.8	456.3	455.8
180°	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0

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