

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: P331482-927

Luminaire Tested: **S122DIW-S290D970U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331482-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D970U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3614.6 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

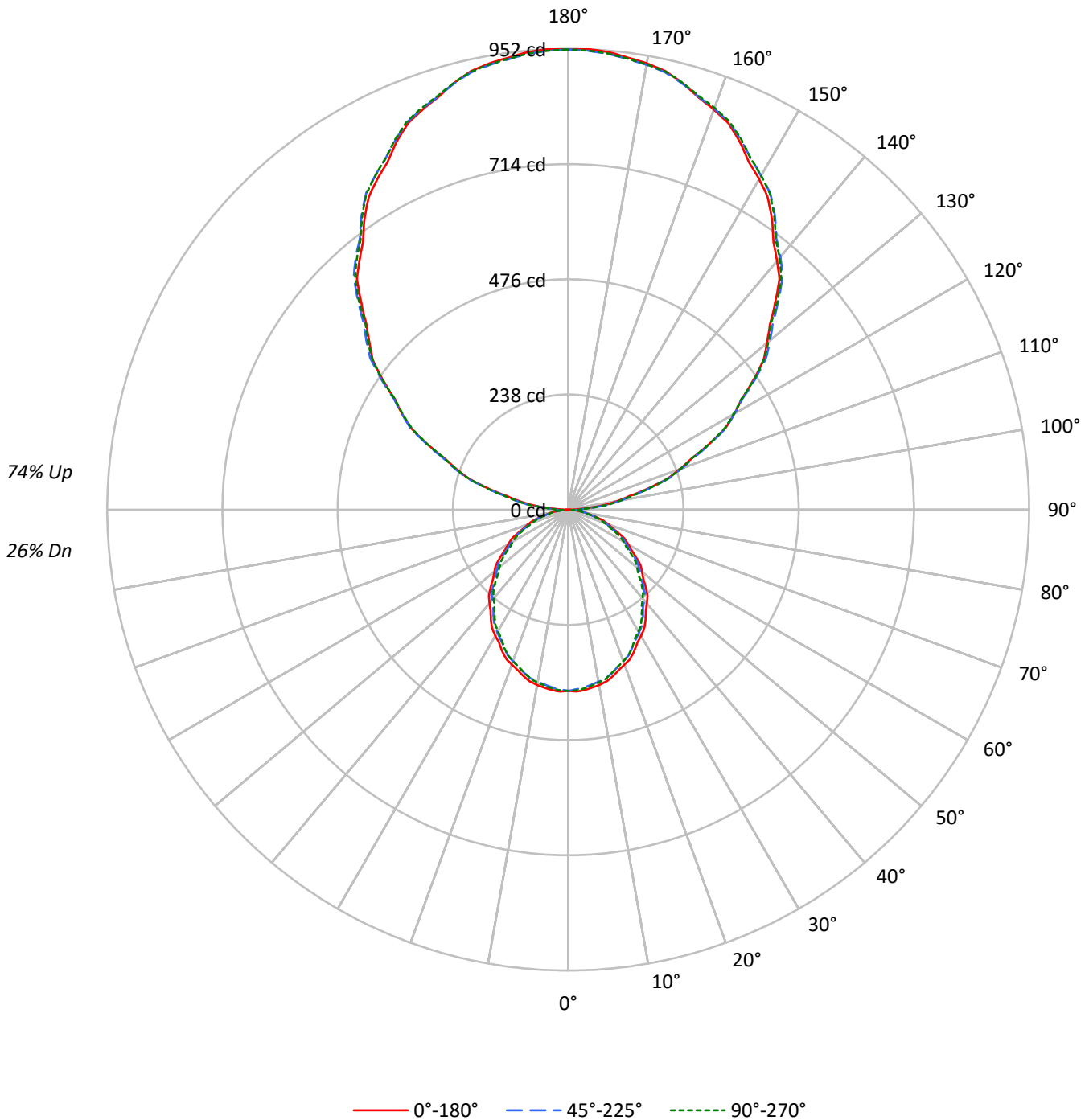
Input Watts (W): 38
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	34	34	34	26
1	92	88	85	81	82	79	76	73	61	59	57	45	44	43	30	30	29	22
2	84	77	71	66	75	69	64	60	54	50	47	40	38	36	27	25	24	19
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	24	22	21	16
4	70	60	52	46	62	54	47	42	42	37	34	31	28	26	21	19	18	14
5	64	53	45	40	57	48	41	36	37	33	29	28	25	22	19	17	16	12
6	59	47	40	34	52	43	36	31	34	29	25	25	22	19	17	15	14	10
7	54	43	35	30	48	38	32	27	30	26	22	23	19	17	16	14	12	9
8	50	39	31	26	45	35	28	24	28	23	19	21	17	15	14	12	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	13	13	11	10	7
10	44	32	25	20	39	29	23	19	23	19	15	18	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6042	6042	6042
5°	6065	5977	6015
10°	6030	5917	5946
15°	5954	5840	5835
20°	5849	5727	5720
25°	5744	5585	5585
30°	5610	5455	5407
35°	5483	5298	5219
40°	5324	5143	5044
45°	5167	4987	4864
50°	4999	4828	4657
55°	4822	4642	4467
60°	4624	4414	4253
65°	4413	4195	4000
70°	4145	3923	3734
75°	3768	3612	3525
80°	3347	3245	3078
85°	2723	2594	2334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.2	1.0
10°-20°	99.0	2.7
20°-30°	145.6	4.0
30°-40°	169.1	4.7
40°-50°	168.9	4.7
50°-60°	147.3	4.1
60°-70°	108.9	3.0
70°-80°	61.7	1.7
80°-90°	20.4	0.6
90°-100°	60.2	1.7
100°-110°	187.1	5.2
110°-120°	319.9	8.8
120°-130°	420.6	11.6
130°-140°	472.1	13.1
140°-150°	462.9	12.8
150°-160°	388.3	10.7
160°-170°	257.5	7.1
170°-180°	90.0	2.5
0°-30°	279.8	7.7
0°-40°	448.8	12.4
0°-60°	765.0	21.2
0°-90°	956.0	26.4
90°-120°	567.2	15.7
90°-150°	1922.8	53.2
90°-180°	2659.0	73.6
0°-180°	3614.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	374	373	369	372	371	35
15°	356	354	349	351	349	100
25°	322	319	314	314	314	148
35°	278	274	269	267	265	174
45°	226	224	218	215	213	175
55°	171	169	165	161	159	153
65°	116	113	110	107	105	114
75°	60	60	58	56	56	65
85°	15	14	14	13	13	17
90°	1	11	28	27	27	3
95°	42	49	51	51	50	48
105°	172	175	176	178	178	182
115°	321	325	324	323	321	317
125°	467	474	472	470	469	417
135°	604	613	615	614	611	467
145°	733	739	744	744	741	458
155°	838	841	843	847	845	386
165°	912	912	912	917	913	257
175°	949	947	945	950	946	90
180°	951	951	951	951	951	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	376.0	375.7	375.3	375.0	374.7	374.2	373.5	372.8	372.1	371.4	372.0
5°	374.2	373.9	373.6	373.3	373.0	372.4	371.5	370.7	369.7	368.8	369.5
7.5°	371.0	370.4	369.9	369.5	369.0	368.3	367.4	366.5	365.6	364.7	365.4
10°	367.8	367.3	366.7	366.1	365.5	364.8	363.8	362.9	361.9	360.9	361.6
12.5°	363.5	363.0	362.5	361.9	361.5	360.8	359.8	358.9	357.9	357.0	357.4
15°	356.2	355.8	355.3	354.8	354.3	353.6	352.5	351.5	350.5	349.4	349.7
17.5°	347.1	346.6	346.1	345.6	345.2	344.4	343.3	342.2	341.2	340.2	340.5
20°	340.4	339.9	339.5	339.0	338.5	337.7	336.6	335.5	334.4	333.3	333.5
22.5°	333.8	333.1	332.5	331.8	331.1	330.3	329.2	328.1	327.1	326.1	326.1
25°	322.4	321.8	321.2	320.5	319.9	318.9	317.5	316.2	314.8	313.5	313.6
27.5°	309.5	309.0	308.3	307.8	307.2	306.3	305.3	304.2	303.2	302.1	301.8
30°	300.9	300.2	299.6	299.0	298.3	297.4	296.2	295.0	293.7	292.6	292.3
32.5°	291.6	291.1	290.7	290.1	289.6	288.7	287.4	286.2	284.9	283.7	283.2
35°	278.2	277.3	276.6	275.8	275.0	273.9	272.7	271.4	270.1	268.8	268.3
37.5°	263.0	262.3	261.6	260.9	260.2	259.2	257.9	256.7	255.3	254.1	253.5
40°	252.6	252.0	251.4	250.7	250.1	249.1	247.8	246.5	245.3	244.0	243.3
42.5°	242.6	241.9	241.3	240.7	240.0	239.0	237.7	236.5	235.2	233.9	233.1
45°	226.3	225.8	225.2	224.7	224.1	223.2	222.0	220.9	219.7	218.4	217.5
47.5°	210.2	209.7	209.2	208.7	208.1	207.2	206.0	204.8	203.5	202.2	201.3
50°	199.0	198.6	198.2	197.8	197.4	196.6	195.5	194.4	193.3	192.2	191.1
52.5°	188.1	187.5	187.0	186.5	185.9	185.1	184.1	183.1	182.0	180.9	180.0
55°	171.3	170.8	170.3	169.8	169.4	168.7	167.7	166.8	165.8	164.9	163.8
57.5°	154.5	154.1	153.7	153.3	152.9	152.2	151.1	150.1	149.0	148.0	147.0
60°	143.2	142.9	142.6	142.3	142.0	141.2	140.1	139.0	137.8	136.7	135.9
62.5°	132.3	131.7	131.3	130.8	130.2	129.5	128.7	127.9	127.0	126.1	125.2
65°	115.5	115.0	114.5	114.1	113.6	113.0	112.2	111.4	110.6	109.8	109.0
67.5°	98.5	98.1	97.7	97.3	97.0	96.4	95.6	94.9	94.2	93.5	92.9
70°	87.8	87.5	87.1	86.8	86.5	86.0	85.3	84.6	83.8	83.1	82.5
72.5°	76.8	76.5	76.2	75.9	75.6	75.2	74.7	74.3	73.8	73.4	72.8
75°	60.4	60.3	60.1	60.0	59.8	59.6	59.2	58.7	58.3	57.9	57.4
77.5°	45.8	45.5	45.2	45.0	44.7	44.4	44.3	44.1	44.0	43.8	43.6
80°	36.0	35.9	35.8	35.7	35.6	35.6	35.4	35.3	35.1	34.9	34.7
82.5°	26.8	26.8	26.8	26.7	26.7	26.6	26.5	26.5	26.4	26.3	26.0
85°	14.7	14.7	14.6	14.5	14.4	14.3	14.3	14.2	14.1	14.0	13.8
87.5°	5.3	5.6	5.9	6.3	6.6	7.1	7.7	8.3	9.0	9.7	9.3
90°	0.8	2.9	5.1	7.2	9.3	12.4	16.3	20.2	24.2	28.0	27.7
92.5°	14.3	15.8	17.4	19.0	20.6	21.8	22.7	23.7	24.6	25.5	25.6
95°	41.7	43.5	45.3	47.1	48.9	49.9	50.3	50.6	51.0	51.3	51.3
97.5°	76.2	77.8	79.4	81.0	82.5	83.7	84.3	85.0	85.6	86.3	86.3
100°	101.9	103.3	104.7	106.2	107.6	108.6	109.1	109.6	110.2	110.7	110.7
102.5°	128.9	130.0	131.1	132.3	133.4	134.4	135.0	135.7	136.3	137.0	137.2
105°	172.5	173.0	173.6	174.1	174.7	175.1	175.5	175.8	176.2	176.5	176.9
107.5°	216.5	217.3	218.0	218.8	219.6	220.0	220.0	220.0	220.0	220.0	220.1
110°	244.7	245.8	246.8	248.0	249.0	249.5	249.5	249.5	249.5	249.5	249.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	275.5	276.6	277.7	278.8	279.8	280.3	280.1	280.0	279.9	279.7	279.2
115°	320.9	322.0	323.1	324.2	325.2	325.6	325.2	324.9	324.5	324.2	324.0
117.5°	366.2	367.7	369.1	370.5	371.9	372.1	371.1	370.1	369.2	368.1	367.7
120°	396.4	397.8	399.3	400.7	402.1	402.1	400.7	399.3	397.8	396.4	396.4
122.5°	424.0	425.7	427.4	429.1	430.8	431.2	430.2	429.2	428.2	427.1	426.7
125°	467.0	468.6	470.2	471.8	473.4	474.0	473.4	472.9	472.3	471.8	471.3
127.5°	508.9	510.9	512.9	515.0	517.0	517.7	517.1	516.4	515.8	515.2	514.4
130°	535.2	537.5	539.8	542.2	544.5	545.4	545.1	544.7	544.4	544.0	543.7
132.5°	564.7	566.6	568.5	570.4	572.3	573.2	573.3	573.4	573.5	573.5	572.7
135°	604.2	606.2	608.1	610.1	612.0	613.1	613.5	613.9	614.3	614.6	614.4
137.5°	645.7	647.4	649.0	650.5	652.1	653.2	653.6	654.1	654.6	655.1	654.9
140°	670.7	672.4	674.0	675.6	677.2	678.4	679.4	680.2	681.1	682.0	682.0
142.5°	696.5	698.1	699.7	701.2	702.9	704.0	704.6	705.2	705.8	706.4	706.5
145°	733.3	734.6	735.9	737.1	738.4	739.5	740.6	741.6	742.8	743.8	743.9
147.5°	766.3	767.8	769.3	770.7	772.2	773.3	774.0	774.8	775.5	776.2	776.6
150°	788.7	789.8	790.8	791.9	793.0	793.9	794.6	795.4	796.1	796.8	797.3
152.5°	808.7	809.7	810.8	811.8	812.9	813.9	814.8	815.6	816.4	817.3	817.9
155°	838.4	839.0	839.6	840.1	840.6	841.1	841.7	842.2	842.7	843.3	844.1
157.5°	864.0	864.4	864.7	865.1	865.4	865.8	866.1	866.4	866.7	867.0	868.2
160°	879.4	879.7	880.1	880.4	880.8	881.1	881.3	881.5	881.6	881.8	882.9
162.5°	893.5	893.6	893.7	893.7	893.8	893.9	894.1	894.3	894.5	894.6	895.9
165°	912.3	912.1	912.0	911.7	911.6	911.5	911.5	911.5	911.5	911.5	912.8
167.5°	928.0	927.5	926.9	926.4	925.9	925.6	925.6	925.5	925.5	925.4	926.7
170°	936.4	935.8	935.3	934.8	934.2	933.9	933.7	933.5	933.3	933.2	934.4
172.5°	942.1	941.6	941.0	940.6	940.0	939.6	939.4	939.3	939.1	938.9	940.2
175°	949.2	948.6	948.2	947.6	947.1	946.6	946.3	945.9	945.5	945.2	946.4
177.5°	952.1	951.6	951.3	950.8	950.4	950.0	949.7	949.4	949.2	948.9	949.7
180°	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	374.2	374.2	374.2	374.2	374.2	374.2	374.2	374.2
2.5°	372.6	373.3	373.9	374.2	374.1	373.9	373.8	373.7
5°	370.2	370.8	371.5	371.7	371.5	371.4	371.2	371.1
7.5°	366.0	366.6	367.3	367.5	367.3	367.1	366.9	366.8
10°	362.3	362.9	363.5	363.7	363.5	363.2	363.0	362.7
12.5°	357.8	358.2	358.7	358.9	358.7	358.5	358.3	358.1
15°	350.1	350.4	350.7	350.7	350.3	349.9	349.5	349.1
17.5°	340.9	341.3	341.6	341.6	341.2	340.9	340.5	340.1
20°	333.7	334.0	334.2	334.1	333.8	333.5	333.2	332.9
22.5°	326.1	326.2	326.2	326.1	326.0	325.7	325.6	325.4
25°	313.8	313.9	314.1	314.1	313.9	313.8	313.6	313.5
27.5°	301.6	301.3	301.1	300.8	300.4	300.0	299.7	299.3
30°	292.1	291.8	291.6	291.4	291.0	290.7	290.4	290.0
32.5°	282.8	282.3	281.9	281.5	281.2	280.9	280.6	280.3
35°	267.8	267.4	266.9	266.5	266.1	265.7	265.3	264.8
37.5°	252.9	252.3	251.7	251.2	250.8	250.4	250.1	249.7
40°	242.6	241.9	241.1	240.6	240.3	240.0	239.6	239.3
42.5°	232.3	231.6	230.8	230.1	229.7	229.3	228.9	228.4
45°	216.7	215.8	214.9	214.3	214.0	213.7	213.3	213.0
47.5°	200.4	199.5	198.5	197.8	197.4	196.9	196.5	196.0
50°	190.0	188.8	187.7	187.0	186.6	186.2	185.8	185.4
52.5°	179.1	178.2	177.2	176.5	175.9	175.5	174.9	174.4
55°	162.9	161.9	161.0	160.3	159.9	159.5	159.1	158.7
57.5°	146.1	145.1	144.2	143.5	143.3	143.0	142.7	142.4
60°	135.0	134.1	133.2	132.7	132.5	132.2	132.0	131.7
62.5°	124.5	123.7	122.9	122.3	122.0	121.7	121.4	121.0
65°	108.3	107.6	106.9	106.3	105.9	105.5	105.1	104.7
67.5°	92.4	91.8	91.3	90.8	90.5	90.2	89.8	89.5
70°	82.0	81.4	80.9	80.5	80.2	79.8	79.5	79.1
72.5°	72.2	71.7	71.1	70.7	70.4	70.2	69.9	69.6
75°	57.0	56.5	56.0	55.8	56.0	56.2	56.3	56.5
77.5°	43.3	43.1	42.9	42.6	42.4	42.2	42.0	41.7
80°	34.5	34.2	34.0	33.7	33.6	33.4	33.3	33.1
82.5°	25.7	25.3	25.0	24.9	24.9	24.8	24.8	24.8
85°	13.5	13.3	13.1	12.9	12.8	12.8	12.7	12.6
87.5°	9.1	8.9	8.6	8.5	8.4	8.4	8.4	8.3
90°	27.3	27.0	26.6	26.5	26.8	26.9	27.1	27.3
92.5°	25.7	25.7	25.8	25.8	25.9	25.9	26.0	26.0
95°	51.3	51.3	51.3	51.2	50.8	50.5	50.1	49.7
97.5°	86.3	86.3	86.3	86.3	86.3	86.3	86.2	86.2
100°	110.7	110.7	110.7	110.7	110.4	110.3	110.1	110.0
102.5°	137.4	137.4	137.6	137.6	137.4	137.2	137.0	136.9
105°	177.2	177.6	177.9	178.2	178.2	178.2	178.2	178.2
107.5°	220.3	220.5	220.5	220.2	219.4	218.6	217.8	217.0
110°	249.5	249.5	249.5	249.3	248.7	248.2	247.6	247.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	278.8	278.5	278.0	277.6	277.2	276.8	276.4	276.0
115°	323.8	323.6	323.4	323.1	322.6	322.0	321.5	320.9
117.5°	367.3	366.9	366.4	365.9	365.4	364.9	364.3	363.8
120°	396.4	396.4	396.4	396.1	395.5	395.1	394.5	394.0
122.5°	426.4	425.9	425.5	425.1	424.7	424.3	423.9	423.5
125°	470.7	470.2	469.7	469.3	469.1	469.0	468.7	468.6
127.5°	513.8	513.2	512.5	511.9	511.4	510.8	510.2	509.7
130°	543.3	543.0	542.6	542.0	541.3	540.6	539.9	539.2
132.5°	572.0	571.2	570.4	569.7	569.2	568.5	568.0	567.4
135°	614.3	614.1	613.9	613.5	613.0	612.4	612.0	611.4
137.5°	654.7	654.7	654.5	654.0	653.3	652.6	651.9	651.2
140°	682.0	682.0	682.0	681.7	681.0	680.2	679.5	678.8
142.5°	706.7	706.9	706.9	706.7	706.0	705.3	704.6	703.9
145°	744.2	744.3	744.5	744.3	743.5	742.8	742.1	741.4
147.5°	777.0	777.4	777.8	777.6	777.0	776.3	775.6	774.9
150°	797.8	798.4	798.9	798.9	798.4	797.8	797.3	796.8
152.5°	818.6	819.4	820.0	820.0	819.4	818.6	817.9	817.3
155°	845.1	846.0	846.8	847.0	846.5	846.0	845.4	844.9
157.5°	869.5	870.7	871.9	872.0	871.2	870.4	869.5	868.6
160°	883.9	885.0	886.1	886.3	885.6	884.9	884.2	883.4
162.5°	897.1	898.3	899.5	899.7	898.8	897.9	897.1	896.3
165°	914.0	915.2	916.5	916.6	915.8	914.9	914.0	913.1
167.5°	928.0	929.2	930.4	930.6	929.7	928.8	927.8	926.9
170°	935.6	936.9	938.2	938.3	937.2	936.1	935.0	934.0
172.5°	941.4	942.7	943.9	944.0	942.9	941.9	940.8	939.8
175°	947.7	949.0	950.1	950.3	949.2	948.2	947.1	946.0
177.5°	950.6	951.4	952.3	952.3	951.4	950.6	949.7	948.9
180°	950.8	950.8	950.8	950.8	950.8	950.8	950.8	950.8

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