

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: P331379-940

Luminaire Tested: **SA2XXDIP-C865D330U940-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331379-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D330U940-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4160.2 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

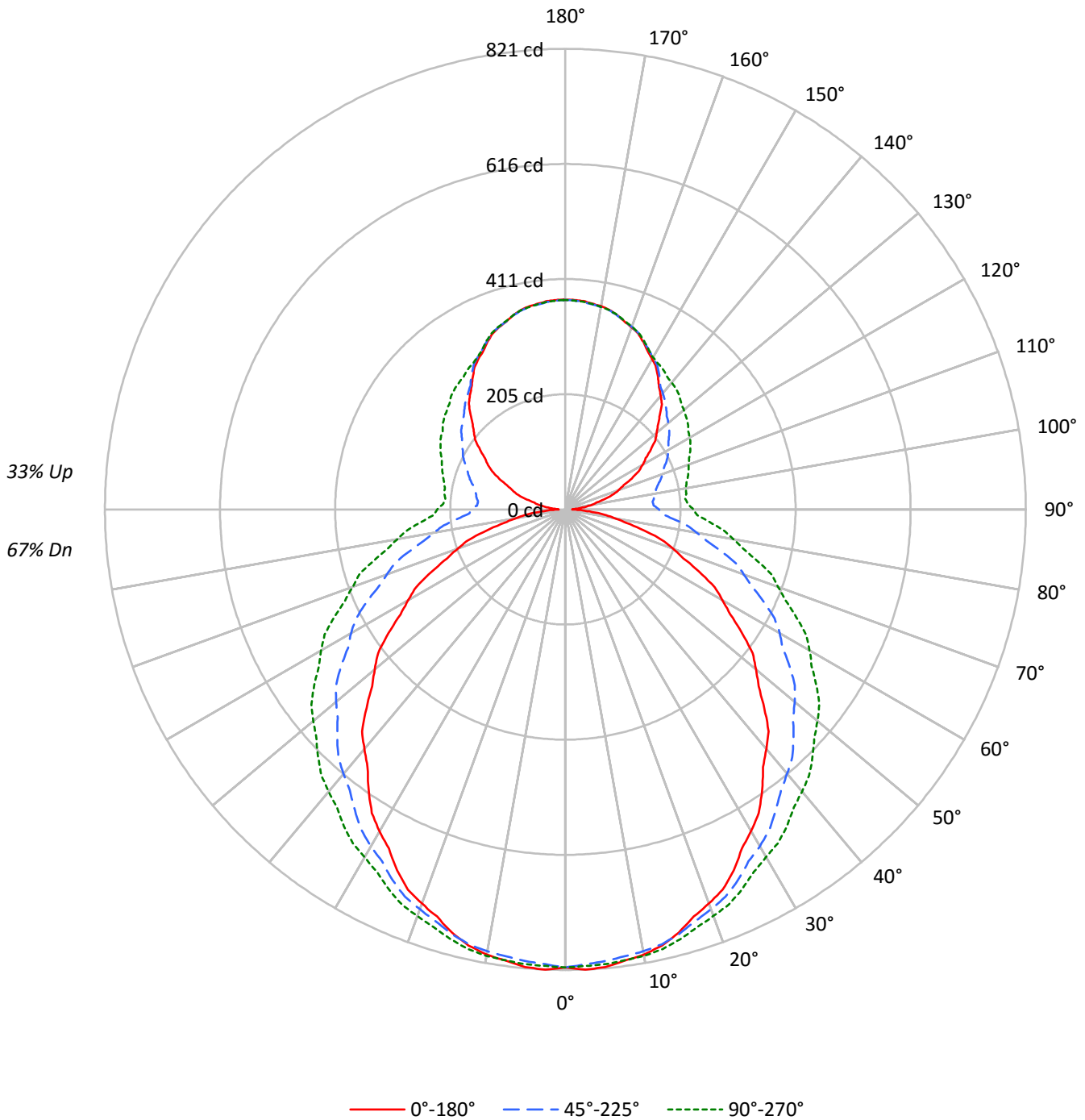
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	111	111	111	111	105	105	105	105	93	93	93	81	81	81	71	71	71	67				
1	99	94	89	85	93	89	84	81	78	75	72	69	66	64	60	58	56	52				
2	90	81	74	68	84	76	70	65	67	62	58	59	55	52	52	49	46	42				
3	81	71	62	56	76	67	59	53	59	53	48	52	47	43	45	41	38	35				
4	74	62	53	47	69	59	51	45	52	45	40	46	41	36	40	36	32	29				
5	68	55	46	40	64	52	44	38	46	40	35	41	35	31	36	31	28	25				
6	63	49	41	34	59	47	39	33	42	35	30	37	31	27	32	28	24	22				
7	58	45	36	30	54	42	34	29	38	31	26	33	28	24	29	25	21	19				
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17				
9	50	37	29	24	47	35	28	23	31	25	21	28	23	19	25	20	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.9
10°-20°	221.8	5.3
20°-30°	336.2	8.1
30°-40°	409.5	9.8
40°-50°	440.5	10.6
50°-60°	427.8	10.3
60°-70°	373.5	9.0
70°-80°	287.6	6.9
80°-90°	194.5	4.7
90°-100°	156.6	3.8
100°-110°	170.6	4.1
110°-120°	189.7	4.6
120°-130°	201.0	4.8
130°-140°	200.4	4.8
140°-150°	184.4	4.4
150°-160°	152.4	3.7
160°-170°	101.1	2.4
170°-180°	35.3	0.8
0°-30°	635.4	15.3
0°-40°	1044.8	25.1
0°-60°	1913.1	46.0
0°-90°	2768.7	66.6
90°-120°	516.9	12.4
90°-150°	1102.6	26.5
90°-180°	1391.0	33.4
0°-180°	4160.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	12	85	167	212	228	9
95°	26	85	156	199	215	26
105°	74	110	171	212	226	78
115°	131	148	198	232	246	129
125°	186	190	226	255	267	166
135°	238	242	254	278	287	184
145°	288	290	292	299	304	180
155°	329	330	331	333	332	151
165°	358	358	358	360	359	101
175°	373	372	371	373	371	35
180°	373	373	373	373	373	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.3	39.1	54.9	70.8	86.6	103.1	120.2	137.4	154.5	171.7	182.4
90°	12.1	28.3	44.3	60.5	76.5	93.7	112.1	130.5	148.8	167.2	177.6
92.5°	16.5	31.3	46.1	60.9	75.8	91.4	108.0	124.6	141.2	157.7	168.0
95°	25.9	38.9	52.0	65.0	78.1	92.6	108.5	124.4	140.4	156.2	166.2
97.5°	38.3	49.8	61.4	73.0	84.6	98.2	113.6	128.9	144.4	159.8	169.5
100°	48.3	58.6	68.8	79.2	89.4	102.1	117.0	132.0	146.9	161.8	171.6
102.5°	58.0	67.2	76.6	86.0	95.2	107.2	121.8	136.3	151.0	165.5	175.0
105°	73.7	81.5	89.3	97.2	105.0	115.8	129.7	143.5	157.3	171.0	180.4
107.5°	90.7	97.1	103.5	109.9	116.3	126.1	139.2	152.2	165.3	178.4	187.3
110°	100.9	106.5	112.2	117.9	123.5	132.8	145.7	158.5	171.5	184.3	192.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	112.9	117.8	122.6	127.4	132.2	140.8	153.0	165.1	177.4	189.6	197.8
115°	130.7	134.0	137.4	140.7	144.0	151.5	163.2	174.9	186.5	198.3	206.1
117.5°	147.3	149.8	152.2	154.7	157.1	163.6	174.2	184.8	195.3	205.8	213.5
120°	159.2	160.8	162.4	164.0	165.6	171.4	181.4	191.4	201.3	211.2	218.6
122.5°	170.0	171.1	172.2	173.3	174.4	179.7	189.2	198.7	208.1	217.7	224.6
125°	185.7	186.4	187.0	187.6	188.2	192.7	200.9	209.1	217.3	225.5	232.4
127.5°	202.2	202.7	203.2	203.8	204.3	207.9	214.4	220.9	227.5	234.0	240.2
130°	212.5	213.1	213.8	214.5	215.1	218.1	223.5	228.9	234.3	239.6	245.8
132.5°	224.1	224.5	225.1	225.5	226.0	228.4	232.6	236.9	241.3	245.6	251.4
135°	238.4	239.2	240.0	240.8	241.5	243.3	246.0	248.8	251.6	254.3	259.8
137.5°	254.8	255.3	255.9	256.5	257.1	258.0	259.3	260.6	262.0	263.3	268.1
140°	264.6	264.9	265.3	265.6	266.0	266.6	267.5	268.4	269.3	270.2	274.4
142.5°	274.6	275.0	275.4	275.7	276.1	276.4	276.8	277.1	277.5	277.9	281.2
145°	287.9	288.5	288.9	289.4	289.9	290.3	290.8	291.2	291.6	292.0	293.7
147.5°	300.9	301.5	302.0	302.6	303.2	303.6	303.9	304.3	304.5	304.8	305.1
150°	309.7	310.1	310.5	310.9	311.4	311.7	312.0	312.3	312.5	312.8	313.1
152.5°	317.5	317.9	318.3	318.8	319.1	319.6	319.9	320.2	320.6	320.9	321.2
155°	329.2	329.4	329.7	329.8	330.0	330.3	330.5	330.6	330.9	331.1	331.4
157.5°	339.2	339.4	339.5	339.7	339.8	339.9	340.1	340.2	340.3	340.5	340.9
160°	345.3	345.4	345.5	345.7	345.8	346.0	346.0	346.1	346.2	346.3	346.6
162.5°	350.8	350.9	350.9	350.9	351.0	351.0	351.1	351.2	351.2	351.2	351.8
165°	358.2	358.1	358.0	358.0	357.9	357.8	357.8	357.8	357.8	357.8	358.4
167.5°	364.4	364.2	364.0	363.7	363.6	363.5	363.4	363.4	363.4	363.4	363.8
170°	367.7	367.5	367.2	367.0	366.8	366.7	366.6	366.5	366.5	366.4	366.8
172.5°	369.9	369.7	369.5	369.3	369.1	368.9	368.9	368.8	368.7	368.6	369.2
175°	372.7	372.5	372.3	372.0	371.8	371.7	371.6	371.4	371.2	371.1	371.6
177.5°	373.8	373.6	373.4	373.4	373.2	373.0	372.9	372.8	372.6	372.6	372.9
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	193.1	203.8	214.5	221.5	224.9	228.3	231.7	235.0
90°	188.0	198.3	208.7	215.5	218.7	221.9	225.2	228.5
92.5°	178.3	188.7	199.0	205.8	208.9	212.1	215.3	218.5
95°	176.2	186.2	196.2	202.7	205.7	208.7	211.8	214.8
97.5°	179.2	189.0	198.7	205.1	208.2	211.3	214.4	217.5
100°	181.3	191.0	200.7	207.0	209.8	212.7	215.4	218.3
102.5°	184.7	194.2	203.8	210.0	212.9	215.6	218.5	221.3
105°	189.8	199.1	208.5	214.5	217.5	220.3	223.2	226.1
107.5°	196.3	205.1	214.0	219.7	222.3	224.9	227.5	230.1
110°	201.2	209.6	218.0	223.6	226.2	228.9	231.6	234.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	206.1	214.3	222.6	228.0	230.8	233.5	236.3	239.0
115°	213.9	221.8	229.5	234.8	237.5	240.1	242.8	245.5
117.5°	221.1	228.6	236.3	241.3	243.8	246.3	248.8	251.2
120°	226.0	233.4	240.7	245.8	248.4	251.1	253.8	256.5
122.5°	231.7	238.6	245.6	250.2	252.5	254.9	257.2	259.5
125°	239.2	246.1	253.1	257.6	259.9	262.3	264.5	266.8
127.5°	246.5	252.8	259.0	263.2	265.3	267.4	269.5	271.6
130°	252.0	258.2	264.3	268.3	270.1	272.0	273.8	275.6
132.5°	257.2	262.9	268.7	272.5	274.5	276.3	278.2	280.1
135°	265.3	270.7	276.2	279.8	281.7	283.6	285.5	287.4
137.5°	273.0	277.7	282.5	285.6	287.1	288.6	290.2	291.7
140°	278.6	282.8	287.0	289.7	291.1	292.3	293.6	294.9
142.5°	284.7	288.1	291.5	293.8	294.9	296.0	297.0	298.1
145°	295.3	297.0	298.6	300.0	301.0	302.0	303.1	304.1
147.5°	305.5	305.9	306.2	306.6	306.9	307.3	307.7	308.1
150°	313.3	313.4	313.7	313.7	313.4	313.3	313.1	312.8
152.5°	321.5	321.7	322.0	322.0	321.7	321.5	321.2	320.9
155°	331.8	332.2	332.5	332.6	332.3	332.2	332.0	331.7
157.5°	341.3	341.9	342.3	342.4	342.1	341.7	341.4	341.1
160°	347.1	347.5	347.9	347.9	347.7	347.4	347.1	346.9
162.5°	352.2	352.7	353.2	353.2	352.9	352.6	352.2	351.9
165°	358.8	359.4	359.8	359.9	359.5	359.2	358.8	358.6
167.5°	364.4	364.8	365.3	365.4	365.1	364.6	364.3	363.9
170°	367.4	367.8	368.4	368.4	368.0	367.6	367.1	366.7
172.5°	369.6	370.1	370.6	370.7	370.2	369.8	369.4	369.0
175°	372.1	372.6	373.1	373.1	372.7	372.3	371.8	371.4
177.5°	373.3	373.5	373.9	373.9	373.5	373.3	372.9	372.6
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4

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