

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: P331275-830

Luminaire Tested: **SA2XXDIP-C290D925U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

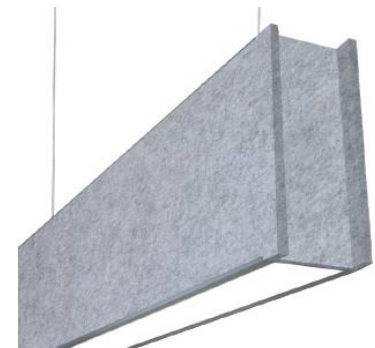
Test Information

Test Method: LM-79-08
Report Number: P331275-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C290D925U830-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4541.2 lumens
Efficiency: N/A
Efficacy: 121.7 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

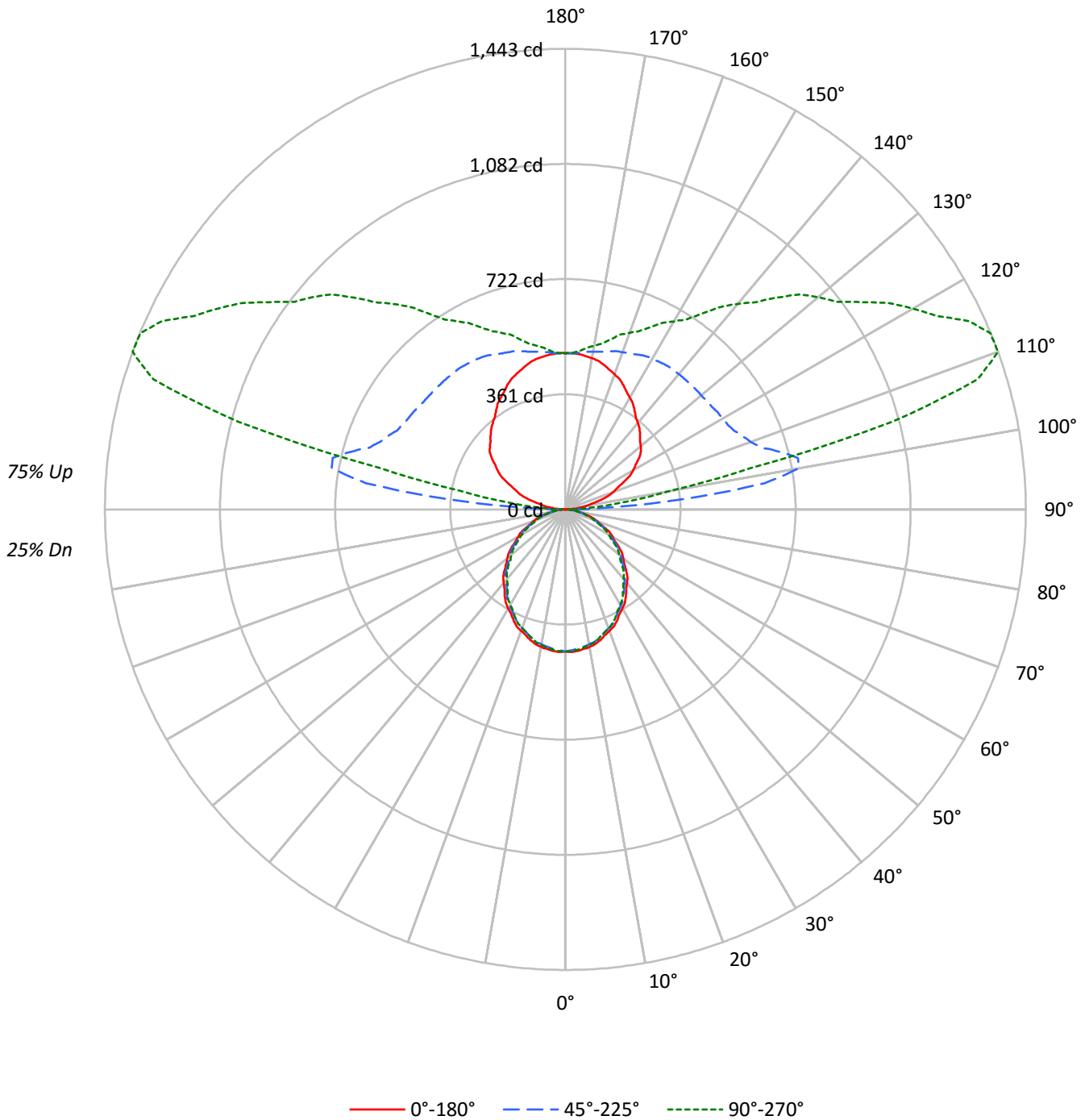
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	51	51	51	33	33	33	25				
1	92	88	84	81	82	78	75	73	61	59	57	44	43	42	29	29	28	21				
2	84	77	71	66	74	69	64	59	53	50	47	39	37	35	26	25	23	18				
3	76	67	60	55	68	60	54	50	47	43	39	34	32	29	23	21	20	15				
4	70	60	52	46	62	53	47	42	41	37	33	31	28	25	20	19	17	13				
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15	11				
6	59	47	39	34	52	42	36	31	33	28	25	25	21	19	17	15	13	10				
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9				
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8				
9	47	35	28	23	41	31	25	21	25	20	17	19	15	13	13	11	9	7				
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	0.9
10°-20°	117.8	2.6
20°-30°	173.2	3.8
30°-40°	201.2	4.4
40°-50°	200.9	4.4
50°-60°	175.2	3.9
60°-70°	129.6	2.9
70°-80°	73.4	1.6
80°-90°	24.1	0.5
90°-100°	195.6	4.3
100°-110°	663.7	14.6
110°-120°	705.1	15.5
120°-130°	580.4	12.8
130°-140°	466.1	10.3
140°-150°	352.2	7.8
150°-160°	247.5	5.5
160°-170°	145.7	3.2
170°-180°	47.4	1.0
0°-30°	332.9	7.3
0°-40°	534.0	11.8
0°-60°	910.2	20.0
0°-90°	1137.3	25.0
90°-120°	1564.4	34.4
90°-150°	2963.2	65.3
90°-180°	3404.0	75.0
0°-180°	4541.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	1	13	32	31	31	3
95°	33	81	369	139	107	35
105°	115	173	697	1246	1060	122
115°	202	255	583	1204	1395	200
125°	282	334	561	975	1132	251
135°	331	395	554	819	938	256
145°	378	435	551	684	749	237
155°	430	464	535	605	629	198
165°	468	483	513	544	552	132
175°	488	489	493	499	498	46
180°	489	489	489	489	489	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.3	6.8	7.4	7.6	7.8	8.2	9.0	10.2	11.1	11.2	10.7
90°	0.9	3.8	7.5	9.4	11.3	14.1	18.9	25.4	31.0	32.0	31.0
92.5°	11.5	16.6	23.4	27.4	33.8	42.7	64.0	93.9	120.6	122.2	103.3
95°	32.9	36.7	46.1	54.6	69.7	92.2	135.4	217.3	326.4	368.7	322.6
97.5°	53.6	58.7	68.7	81.4	98.8	124.3	178.7	292.8	474.1	629.5	660.3
100°	72.4	75.2	83.7	98.8	117.6	143.9	193.8	308.6	511.7	743.1	878.6
102.5°	89.7	91.8	100.3	115.4	134.9	161.3	207.4	309.3	497.5	746.9	959.9
105°	114.8	118.6	125.1	139.2	159.9	186.2	230.5	314.1	469.4	697.0	947.3
107.5°	141.9	144.9	151.3	164.3	184.7	211.3	254.2	327.2	455.4	643.7	864.7
110°	159.9	163.7	169.3	181.5	201.3	228.6	269.9	337.7	452.5	618.0	812.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.4	180.2	186.6	198.1	217.1	245.2	285.0	349.0	453.2	601.4	776.7
115°	202.3	207.0	212.6	223.9	242.7	268.1	308.6	365.9	457.1	583.2	731.9
117.5°	228.9	232.7	238.4	248.4	266.4	292.8	330.2	384.0	463.9	574.4	703.6
120°	245.5	249.3	255.0	263.3	282.2	308.6	345.3	396.1	468.4	569.1	688.6
122.5°	261.4	264.3	269.9	279.2	298.0	325.1	359.5	406.5	473.7	566.1	675.8
125°	282.2	285.0	290.7	302.0	320.7	347.1	381.0	423.3	481.6	560.6	657.5
127.5°	298.8	302.6	310.4	322.8	340.9	368.0	401.0	438.9	489.7	557.4	640.6
130°	308.6	312.3	321.7	334.9	353.7	380.0	412.9	448.7	495.8	555.9	629.3
132.5°	317.5	322.1	332.2	346.2	365.7	392.1	423.5	458.5	501.7	555.2	620.3
135°	331.1	334.9	346.2	360.2	381.9	408.2	438.4	471.3	508.9	554.0	607.7
137.5°	343.9	348.5	359.7	374.8	396.2	420.7	450.4	481.1	515.3	553.8	598.8
140°	353.7	357.5	368.7	383.8	404.5	429.0	457.1	486.4	518.3	553.1	593.6
142.5°	363.4	366.5	377.0	392.1	412.0	435.0	462.4	490.9	520.6	553.1	588.3
145°	378.1	381.9	391.3	405.5	424.2	445.0	470.3	496.7	523.0	551.2	581.4
147.5°	394.0	396.8	405.8	418.8	434.4	452.9	476.7	499.9	523.8	547.9	574.2
150°	404.5	407.3	414.8	427.1	441.2	458.1	479.8	501.3	523.0	545.6	568.2
152.5°	415.0	416.3	423.9	434.6	448.0	463.4	482.8	502.1	521.5	541.9	562.9
155°	429.9	430.8	436.5	446.9	457.1	471.3	487.3	503.2	519.2	535.3	553.1
157.5°	442.3	443.3	447.8	456.8	465.1	476.9	490.5	503.2	514.9	528.5	543.9
160°	450.6	451.6	455.2	462.8	470.3	480.7	492.0	503.2	512.6	524.0	537.2
162.5°	458.8	458.3	462.0	468.1	474.9	483.0	492.8	502.5	510.4	520.2	531.1
165°	468.4	467.5	469.4	475.0	479.8	485.4	493.9	500.5	506.1	512.6	521.1
167.5°	476.4	475.2	476.9	480.5	483.9	487.5	493.7	499.2	501.7	506.1	511.3
170°	481.6	479.8	480.7	483.5	485.4	488.2	492.9	497.7	499.5	502.3	506.1
172.5°	484.7	483.5	483.0	485.8	486.9	489.0	492.2	495.4	496.5	497.9	500.9
175°	488.2	487.3	486.4	488.2	488.2	489.2	491.1	492.9	492.0	492.9	493.9
177.5°	489.9	488.4	487.7	489.2	489.2	489.2	489.9	491.4	489.9	489.2	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	10.4	9.7	9.9	9.9	9.9	9.8	9.7	9.6
90°	30.1	28.2	30.1	31.0	31.0	31.0	31.0	31.0
92.5°	82.0	70.4	62.5	56.6	55.9	52.9	53.6	52.1
95°	246.5	189.1	149.6	128.8	116.7	109.1	106.3	107.3
97.5°	575.1	470.5	368.7	300.9	255.9	232.7	219.0	211.1
100°	858.8	742.2	613.3	499.5	421.4	381.0	353.7	336.8
102.5°	1044.7	1018.4	924.2	803.5	718.7	649.6	615.6	592.7
105°	1142.9	1249.2	1261.5	1230.4	1172.1	1113.8	1073.3	1060.2
107.5°	1072.2	1232.3	1330.1	1375.6	1383.0	1379.8	1371.7	1354.2
110°	1011.3	1179.6	1300.0	1377.1	1417.6	1435.5	1444.0	1443.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	955.5	1117.2	1245.9	1334.3	1390.5	1420.4	1436.4	1441.5
115°	887.0	1031.9	1155.2	1252.1	1318.8	1362.1	1386.6	1395.1
117.5°	835.5	962.7	1074.4	1165.4	1233.4	1279.1	1305.0	1312.0
120°	809.9	926.6	1026.2	1111.9	1177.7	1221.9	1249.2	1258.7
122.5°	789.6	896.5	990.9	1068.3	1127.3	1170.7	1195.0	1203.0
125°	760.1	857.0	939.7	1010.3	1064.9	1100.6	1124.1	1131.6
127.5°	730.9	818.6	896.6	961.8	1009.4	1042.8	1063.2	1069.2
130°	712.1	793.0	867.3	929.4	975.5	1007.5	1026.2	1033.8
132.5°	694.0	768.9	837.2	895.5	940.8	972.9	990.1	996.9
135°	668.8	730.9	793.0	845.6	886.1	917.2	934.1	937.8
137.5°	648.7	700.6	749.9	795.8	832.7	859.4	874.3	880.0
140°	635.9	681.1	724.3	765.7	795.8	820.3	834.4	840.0
142.5°	625.4	663.7	701.0	735.7	764.2	786.5	799.0	800.1
145°	610.5	641.6	670.7	698.0	720.6	736.6	745.9	748.8
147.5°	599.0	623.5	646.2	666.2	684.9	697.6	704.0	705.7
150°	590.8	611.4	631.2	648.1	662.2	673.5	679.2	680.1
152.5°	582.5	601.6	618.4	633.1	644.1	653.9	658.1	658.3
155°	571.0	586.1	600.1	610.5	620.9	627.5	631.2	629.3
157.5°	557.6	570.2	582.1	590.2	597.5	602.9	604.6	604.6
160°	549.3	559.7	570.0	576.6	583.2	588.0	588.9	588.9
162.5°	541.1	549.9	558.7	563.8	570.4	573.6	574.6	573.8
165°	528.7	535.3	541.9	545.6	549.3	553.1	553.1	552.1
167.5°	516.8	521.9	526.4	529.8	531.5	533.6	533.4	532.3
170°	510.8	513.6	517.4	519.2	520.2	523.0	522.1	520.2
172.5°	504.0	506.1	509.1	510.2	511.1	512.5	511.5	510.4
175°	496.7	497.7	498.6	499.5	499.5	500.5	499.5	497.7
177.5°	491.4	491.4	492.2	492.2	492.2	492.2	491.4	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2

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