

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: P331257-940

Luminaire Tested: **SA2XXDIP-C290D530U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331257-940
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-C290D530U940-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

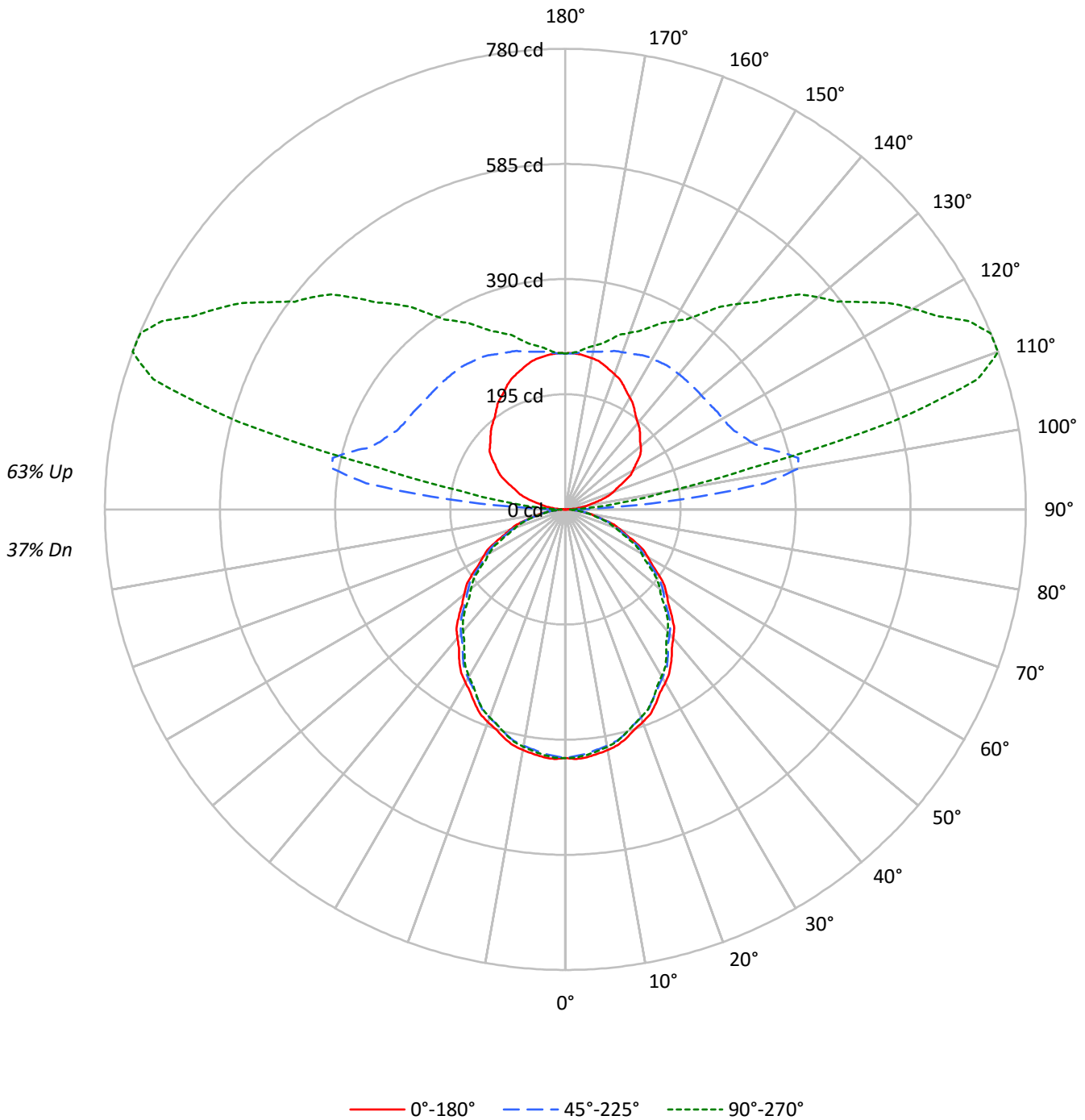
Lumens per Lamp: N/A
Luminaire Lumens: 2914.3 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 25.6
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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	95	91	87	83	86	82	79	76	67	64	62	52	51	49	39	38	37	31
2	86	79	73	68	78	72	67	62	58	55	52	46	43	41	34	33	31	26
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	27	22
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	24	22	20	16
6	61	49	41	35	55	45	38	33	37	31	28	29	25	22	22	20	18	14
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	18	16	13
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14	11
9	48	36	29	24	44	33	27	22	28	23	19	22	18	16	17	14	13	10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6801	6801	6801
5°	6827	6729	6770
10°	6787	6661	6694
15°	6703	6574	6569
20°	6584	6445	6438
25°	6465	6285	6285
30°	6315	6139	6087
35°	6173	5964	5876
40°	5994	5788	5678
45°	5818	5613	5476
50°	5627	5433	5242
55°	5427	5225	5027
60°	5205	4970	4789
65°	4967	4722	4504
70°	4664	4414	4206
75°	4242	4067	3968
80°	3766	3654	3468
85°	3075	2927	2631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.6	1.4
10°-20°	111.5	3.8
20°-30°	163.8	5.6
30°-40°	190.3	6.5
40°-50°	190.1	6.5
50°-60°	165.8	5.7
60°-70°	122.6	4.2
70°-80°	69.4	2.4
80°-90°	21.1	0.7
90°-100°	105.7	3.6
100°-110°	358.8	12.3
110°-120°	381.2	13.1
120°-130°	313.8	10.8
130°-140°	252.0	8.6
140°-150°	190.4	6.5
150°-160°	133.8	4.6
160°-170°	78.8	2.7
170°-180°	25.6	0.9
0°-30°	314.9	10.8
0°-40°	505.2	17.3
0°-60°	861.1	29.5
0°-90°	1074.2	36.9
90°-120°	845.7	29.0
90°-150°	1601.9	55.0
90°-180°	1840.0	63.1
0°-180°	2914.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	421	420	415	418	418	40
15°	401	398	393	395	393	113
25°	363	360	353	354	353	167
35°	313	309	303	300	298	195
45°	255	252	246	242	240	197
55°	193	190	186	181	179	172
65°	130	128	124	120	118	129
75°	68	67	65	63	64	73
85°	17	16	16	15	14	19
90°	0	7	17	16	17	2
95°	18	44	199	75	58	19
105°	62	94	377	674	573	66
115°	109	138	315	651	754	108
125°	153	180	303	527	612	135
135°	179	214	300	443	507	138
145°	204	235	298	370	405	128
155°	232	251	289	327	340	107
165°	253	261	277	294	298	71
175°	264	264	266	270	269	25
180°	264	264	264	264	264	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	423.2	422.8	422.5	422.1	421.8	421.2	420.4	419.6	418.8	418.0	418.7
5°	421.2	420.9	420.5	420.2	419.8	419.2	418.2	417.2	416.2	415.2	415.9
7.5°	417.6	417.0	416.4	415.9	415.4	414.6	413.6	412.5	411.5	410.5	411.3
10°	414.0	413.4	412.8	412.1	411.4	410.6	409.6	408.5	407.4	406.3	407.0
12.5°	409.1	408.6	408.0	407.4	406.9	406.1	405.0	403.9	402.9	401.8	402.3
15°	401.0	400.5	399.9	399.4	398.9	398.1	396.8	395.7	394.5	393.3	393.7
17.5°	390.7	390.1	389.6	389.1	388.5	387.6	386.5	385.2	384.1	382.9	383.3
20°	383.2	382.6	382.1	381.6	381.0	380.1	378.9	377.6	376.4	375.1	375.4
22.5°	375.8	375.0	374.3	373.4	372.7	371.8	370.6	369.3	368.2	367.0	367.0
25°	362.9	362.2	361.5	360.8	360.1	358.9	357.4	355.9	354.4	352.8	353.0
27.5°	348.4	347.8	347.1	346.4	345.8	344.8	343.7	342.4	341.3	340.0	339.7
30°	338.7	338.0	337.2	336.5	335.7	334.7	333.4	332.1	330.6	329.3	329.0
32.5°	328.2	327.7	327.2	326.5	326.0	324.9	323.5	322.2	320.7	319.3	318.8
35°	313.2	312.2	311.3	310.4	309.5	308.4	306.9	305.5	304.1	302.6	302.0
37.5°	296.0	295.2	294.4	293.6	292.8	291.8	290.3	288.9	287.4	286.0	285.3
40°	284.4	283.7	282.9	282.2	281.5	280.4	278.9	277.5	276.1	274.6	273.8
42.5°	273.0	272.3	271.6	270.9	270.2	269.0	267.6	266.2	264.7	263.3	262.4
45°	254.8	254.1	253.5	252.9	252.3	251.3	249.9	248.6	247.3	245.8	244.9
47.5°	236.7	236.0	235.5	234.9	234.3	233.3	231.8	230.5	229.1	227.7	226.6
50°	224.0	223.6	223.1	222.7	222.2	221.3	220.1	218.8	217.6	216.3	215.1
52.5°	211.7	211.1	210.5	209.9	209.3	208.4	207.2	206.1	204.8	203.7	202.6
55°	192.8	192.3	191.7	191.2	190.6	189.8	188.8	187.7	186.6	185.6	184.4
57.5°	173.9	173.4	173.0	172.5	172.1	171.3	170.1	169.0	167.7	166.6	165.5
60°	161.2	160.9	160.5	160.2	159.8	159.0	157.7	156.5	155.2	153.9	152.9
62.5°	148.9	148.3	147.8	147.2	146.6	145.8	144.8	143.9	142.9	142.0	141.0
65°	130.0	129.5	128.9	128.4	127.9	127.2	126.3	125.4	124.5	123.6	122.7
67.5°	110.8	110.4	109.9	109.5	109.1	108.5	107.6	106.8	106.0	105.2	104.6
70°	98.8	98.4	98.1	97.7	97.4	96.8	96.0	95.2	94.3	93.5	92.9
72.5°	86.5	86.1	85.8	85.4	85.1	84.6	84.1	83.6	83.1	82.6	81.9
75°	68.0	67.9	67.7	67.5	67.3	67.1	66.6	66.1	65.6	65.2	64.6
77.5°	51.5	51.2	50.9	50.6	50.3	50.0	49.8	49.7	49.5	49.3	49.0
80°	40.5	40.4	40.3	40.2	40.1	40.0	39.9	39.7	39.5	39.3	39.1
82.5°	30.1	30.1	30.1	30.1	30.1	30.0	29.9	29.8	29.7	29.6	29.2
85°	16.6	16.5	16.4	16.3	16.2	16.1	16.1	16.0	15.9	15.8	15.5
87.5°	6.0	6.1	6.3	6.4	6.5	6.6	7.0	7.6	8.0	8.0	7.7
90°	0.5	2.1	4.1	5.1	6.1	7.7	10.2	13.7	16.8	17.3	16.8
92.5°	6.2	8.9	12.6	14.9	18.3	23.1	34.6	50.7	65.2	66.1	55.8
95°	17.8	19.8	24.9	29.5	37.6	49.8	73.2	117.4	176.5	199.4	174.4
97.5°	29.0	31.7	37.1	44.1	53.4	67.2	96.7	158.3	256.3	340.3	357.0
100°	39.1	40.7	45.3	53.4	63.6	77.8	104.8	166.8	276.6	401.7	474.9
102.5°	48.5	49.7	54.2	62.3	72.9	87.1	112.1	167.2	268.9	403.8	518.9
105°	62.1	64.1	67.6	75.3	86.4	100.7	124.6	169.9	253.8	376.8	512.1
107.5°	76.7	78.3	81.8	88.8	99.9	114.2	137.4	176.8	246.2	347.9	467.4
110°	86.4	88.5	91.6	98.2	108.8	123.6	146.0	182.5	244.6	334.1	439.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	95.4	97.5	100.9	107.1	117.3	132.5	154.1	188.7	245.0	325.1	419.8
115°	109.3	111.9	114.9	121.0	131.2	144.9	166.8	197.8	247.2	315.3	395.7
117.5°	123.8	125.8	128.9	134.3	144.0	158.3	178.5	207.6	250.8	310.5	380.4
120°	132.7	134.7	137.8	142.4	152.6	166.8	186.6	214.1	253.2	307.6	372.3
122.5°	141.2	142.9	146.0	151.0	161.1	175.8	194.4	219.8	256.1	306.0	365.3
125°	152.6	154.1	157.1	163.3	173.4	187.6	206.0	228.8	260.4	303.1	355.4
127.5°	161.5	163.5	167.8	174.5	184.3	198.9	216.8	237.3	264.7	301.4	346.3
130°	166.8	168.8	173.9	181.0	191.2	205.5	223.3	242.5	268.0	300.5	340.2
132.5°	171.7	174.2	179.6	187.2	197.7	212.0	228.9	247.9	271.3	300.1	335.3
135°	179.0	181.0	187.2	194.7	206.4	220.7	237.0	254.8	275.1	299.5	328.5
137.5°	185.9	188.3	194.5	202.6	214.2	227.4	243.5	260.0	278.6	299.4	323.7
140°	191.2	193.2	199.4	207.5	218.6	231.9	247.2	262.9	280.2	299.0	320.9
142.5°	196.5	198.1	203.8	212.0	222.7	235.1	250.0	265.4	281.4	299.0	318.1
145°	204.5	206.4	211.5	219.2	229.3	240.5	254.2	268.5	282.8	298.0	314.2
147.5°	212.9	214.5	219.4	226.4	234.9	244.8	257.7	270.3	283.1	296.1	310.4
150°	218.6	220.2	224.3	230.9	238.5	247.6	259.3	271.1	282.8	295.0	307.2
152.5°	224.4	225.1	229.2	235.0	242.2	250.5	261.0	271.4	282.0	292.9	304.3
155°	232.4	232.9	235.9	241.6	247.2	254.8	263.4	272.1	280.7	289.4	299.0
157.5°	239.1	239.6	242.1	246.9	251.5	257.8	265.1	272.1	278.4	285.7	294.0
160°	243.6	244.1	246.1	250.2	254.2	259.8	266.0	272.1	277.1	283.3	290.3
162.5°	248.1	247.7	249.8	253.1	256.7	261.1	266.4	271.6	275.9	281.2	287.1
165°	253.2	252.7	253.8	256.8	259.3	262.4	267.0	270.5	273.6	277.1	281.7
167.5°	257.5	256.9	257.8	259.8	261.6	263.5	266.9	269.8	271.3	273.6	276.4
170°	260.4	259.3	259.8	261.4	262.4	263.9	266.4	269.0	270.0	271.5	273.6
172.5°	262.0	261.4	261.1	262.6	263.2	264.3	266.1	267.8	268.4	269.1	270.7
175°	263.9	263.4	262.9	263.9	263.9	264.4	265.5	266.4	266.0	266.4	267.0
177.5°	264.8	264.0	263.6	264.4	264.4	264.4	264.8	265.6	264.8	264.4	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	419.5	420.2	420.9	421.2	421.1	420.9	420.8	420.6
5°	416.7	417.4	418.1	418.4	418.2	418.0	417.9	417.7
7.5°	412.0	412.7	413.4	413.7	413.5	413.2	413.0	412.9
10°	407.8	408.5	409.2	409.4	409.1	408.8	408.6	408.3
12.5°	402.8	403.2	403.8	403.9	403.8	403.5	403.3	403.1
15°	394.0	394.4	394.8	394.8	394.3	393.9	393.4	393.0
17.5°	383.7	384.1	384.5	384.5	384.1	383.7	383.3	382.8
20°	375.7	375.9	376.2	376.1	375.8	375.4	375.1	374.7
22.5°	367.1	367.2	367.2	367.1	366.9	366.7	366.5	366.3
25°	353.2	353.4	353.6	353.6	353.4	353.2	353.0	352.8
27.5°	339.5	339.2	338.9	338.6	338.1	337.7	337.3	336.9
30°	328.8	328.5	328.2	328.0	327.6	327.3	326.9	326.5
32.5°	318.3	317.8	317.4	316.9	316.6	316.2	315.8	315.5
35°	301.5	301.0	300.4	300.0	299.5	299.1	298.6	298.1
37.5°	284.6	284.0	283.3	282.8	282.3	281.9	281.5	281.1
40°	273.0	272.2	271.4	270.8	270.5	270.1	269.7	269.4
42.5°	261.5	260.6	259.8	259.0	258.6	258.1	257.6	257.1
45°	243.9	242.9	241.9	241.2	240.9	240.5	240.1	239.8
47.5°	225.6	224.5	223.5	222.7	222.2	221.7	221.1	220.6
50°	213.8	212.5	211.2	210.4	210.0	209.6	209.1	208.7
52.5°	201.6	200.5	199.5	198.7	198.0	197.5	196.9	196.3
55°	183.3	182.3	181.2	180.5	180.0	179.5	179.1	178.6
57.5°	164.4	163.4	162.3	161.6	161.3	161.0	160.6	160.2
60°	151.9	151.0	150.0	149.4	149.1	148.8	148.6	148.3
62.5°	140.1	139.2	138.3	137.7	137.3	137.0	136.6	136.3
65°	121.9	121.1	120.3	119.7	119.2	118.8	118.3	117.9
67.5°	104.0	103.3	102.7	102.2	101.8	101.5	101.1	100.8
70°	92.3	91.7	91.0	90.6	90.2	89.8	89.4	89.1
72.5°	81.3	80.7	80.1	79.5	79.3	79.0	78.7	78.4
75°	64.1	63.6	63.0	62.9	63.0	63.2	63.4	63.6
77.5°	48.8	48.5	48.2	48.0	47.7	47.5	47.3	47.0
80°	38.8	38.5	38.3	38.0	37.8	37.6	37.5	37.3
82.5°	28.9	28.5	28.2	28.0	28.0	27.9	27.9	27.9
85°	15.2	15.0	14.7	14.5	14.4	14.4	14.3	14.2
87.5°	7.4	7.0	7.0	6.9	6.8	6.8	6.7	6.6
90°	16.2	15.2	16.2	16.8	16.8	16.8	16.8	16.8
92.5°	44.3	38.1	33.8	30.6	30.2	28.6	29.0	28.2
95°	133.2	102.2	80.9	69.6	63.0	59.0	57.4	58.0
97.5°	310.9	254.4	199.4	162.6	138.3	125.8	118.4	114.1
100°	464.3	401.3	331.5	270.0	227.8	206.0	191.2	182.1
102.5°	564.8	550.5	499.6	434.4	388.5	351.2	332.8	320.4
105°	617.9	675.3	682.0	665.1	633.6	602.1	580.2	573.1
107.5°	579.6	666.2	719.1	743.7	747.6	745.9	741.5	732.1
110°	546.7	637.7	702.8	744.5	766.3	776.1	780.6	780.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	516.6	604.0	673.5	721.3	751.7	767.9	776.5	779.3
115°	479.6	557.9	624.5	676.9	712.9	736.4	749.6	754.1
117.5°	451.7	520.4	580.9	630.0	666.8	691.5	705.4	709.3
120°	437.8	500.9	554.8	601.1	636.7	660.6	675.3	680.4
122.5°	426.9	484.6	535.7	577.5	609.4	632.9	646.0	650.3
125°	410.9	463.2	508.0	546.2	575.7	594.9	607.7	611.8
127.5°	395.1	442.6	484.7	520.0	545.6	563.7	574.7	578.0
130°	385.0	428.7	468.9	502.4	527.4	544.7	554.8	558.8
132.5°	375.2	415.7	452.6	484.1	508.6	525.9	535.3	539.0
135°	361.6	395.1	428.7	457.2	479.0	495.8	505.0	507.0
137.5°	350.7	378.8	405.4	430.3	450.1	464.6	472.6	475.6
140°	343.8	368.2	391.6	413.9	430.3	443.4	451.0	454.1
142.5°	338.0	358.8	379.0	397.7	413.1	425.2	431.9	432.6
145°	330.0	346.8	362.6	377.4	389.5	398.1	403.2	404.7
147.5°	323.9	337.1	349.4	360.2	370.2	377.1	380.6	381.5
150°	319.3	330.6	341.3	350.4	358.0	364.1	367.1	367.7
152.5°	314.9	325.3	334.3	342.2	348.2	353.6	355.8	355.9
155°	308.7	316.8	324.4	330.0	335.6	339.2	341.3	340.2
157.5°	301.5	308.3	314.7	319.1	323.0	326.0	326.9	326.9
160°	296.9	302.6	308.2	311.7	315.3	317.8	318.3	318.3
162.5°	292.5	297.3	302.1	304.8	308.4	310.1	310.6	310.2
165°	285.8	289.4	292.9	295.0	296.9	299.0	299.0	298.5
167.5°	279.4	282.1	284.5	286.4	287.3	288.5	288.4	287.8
170°	276.2	277.7	279.7	280.7	281.2	282.8	282.2	281.2
172.5°	272.5	273.6	275.2	275.8	276.3	277.1	276.5	275.9
175°	268.5	269.0	269.6	270.0	270.0	270.5	270.0	269.0
177.5°	265.6	265.6	266.1	266.1	266.1	266.1	265.6	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4

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