

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: P332870-930

Luminaire Tested: **SA4XXRDIP-C350D365U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332870-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D365U930-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

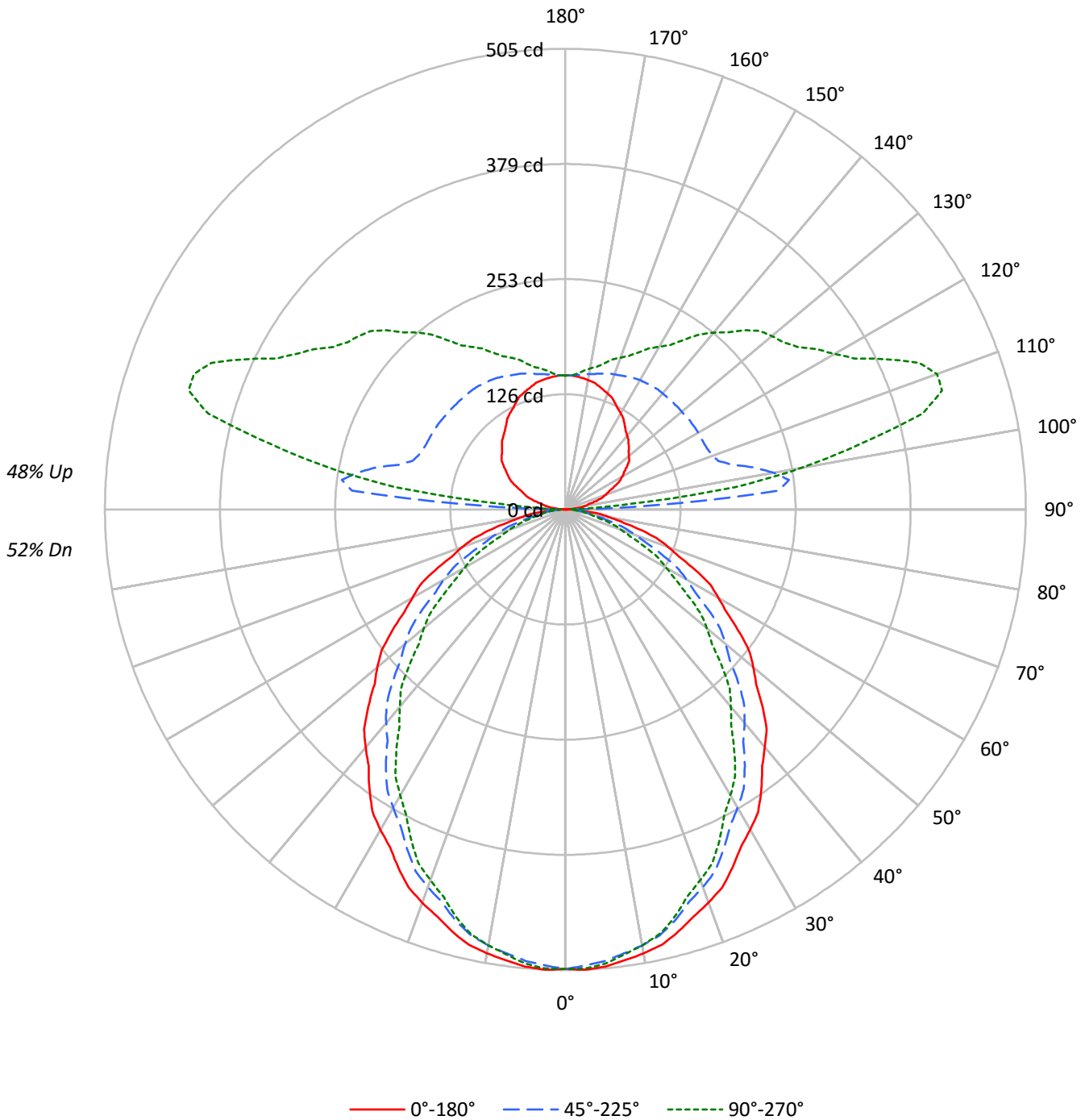
Lumens per Lamp: N/A
Luminaire Lumens: 2232.0 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 20.3
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	99	94	91	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	58	55	53	50	46	44	42	38
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	41	46	41	37	40	35	32	33	30	28	24
6	64	52	44	38	59	48	41	36	42	36	32	36	32	28	30	27	24	22
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.3	2.1
10°-20°	132.0	5.9
20°-30°	190.6	8.5
30°-40°	216.1	9.7
40°-50°	208.7	9.3
50°-60°	173.5	7.8
60°-70°	119.8	5.4
70°-80°	60.7	2.7
80°-90°	16.4	0.7
90°-100°	105.9	4.7
100°-110°	220.5	9.9
110°-120°	197.5	8.8
120°-130°	166.1	7.4
130°-140°	138.5	6.2
140°-150°	105.8	4.7
150°-160°	74.4	3.3
160°-170°	43.7	2.0
170°-180°	14.2	0.6
0°-30°	370.0	16.6
0°-40°	586.1	26.3
0°-60°	968.3	43.4
0°-90°	1165.3	52.2
90°-120°	523.9	23.5
90°-150°	934.3	41.9
90°-180°	1067.0	47.8
0°-180°	2232.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	23
90°	0	2	5	6	6	2
95°	10	30	235	116	70	11
105°	34	49	189	407	405	36
115°	59	74	169	324	389	59
125°	83	98	168	276	311	74
135°	98	117	166	245	278	76
145°	113	130	165	206	227	71
155°	129	139	161	182	190	59
165°	140	145	154	163	166	40
175°	146	147	148	150	149	14
180°	147	147	147	147	147	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.2	6.7	6.4	5.9	5.4	5.1	5.3	5.3	5.3	5.4	5.2
90°	0.3	0.9	1.7	2.0	2.3	2.3	4.0	4.0	4.6	5.2	4.9
92.5°	3.3	4.8	7.5	11.0	15.2	21.2	35.9	58.2	80.0	91.4	76.1
95°	9.5	10.4	13.3	17.0	23.9	36.0	61.1	108.4	177.2	234.8	241.5
97.5°	17.0	17.0	19.6	23.0	28.9	39.1	58.4	97.4	165.8	247.4	303.4
100°	21.9	21.9	23.9	27.4	32.9	42.1	59.1	91.6	150.4	231.7	305.4
102.5°	26.5	27.0	28.8	32.0	37.3	46.0	61.4	90.0	140.1	212.1	288.1
105°	33.8	34.6	36.0	39.5	44.7	53.0	66.9	90.7	131.1	189.0	256.7
107.5°	41.7	42.2	43.7	47.4	52.3	60.6	73.2	95.1	129.5	176.1	231.4
110°	47.0	47.5	49.0	52.4	57.6	65.4	78.1	98.2	130.0	171.7	218.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	52.0	52.6	54.3	57.5	62.7	70.4	82.7	101.7	131.3	169.7	211.6
115°	59.4	60.3	62.2	65.1	70.6	78.4	89.9	107.2	134.0	168.6	204.9
117.5°	66.9	67.8	69.5	72.7	77.9	85.9	96.9	112.8	136.8	168.3	201.9
120°	72.1	72.6	74.6	77.8	82.7	90.7	101.7	116.7	138.9	168.3	200.2
122.5°	76.6	77.2	79.2	82.2	87.6	95.4	106.3	120.4	141.0	168.0	198.4
125°	82.7	83.8	85.6	88.8	94.2	102.3	112.7	125.9	144.1	167.7	195.3
127.5°	88.1	88.9	91.1	94.7	100.4	108.5	118.5	130.7	146.6	167.1	191.3
130°	91.1	92.2	94.5	98.8	104.3	112.7	122.5	133.7	148.4	166.8	188.7
132.5°	94.1	95.0	98.0	102.1	108.0	115.9	125.7	136.7	150.0	166.6	186.5
135°	98.2	99.4	102.3	107.2	113.2	120.7	130.2	140.6	152.5	166.2	183.0
137.5°	102.5	103.5	106.7	111.4	117.6	124.8	133.7	143.4	153.8	166.2	180.0
140°	105.5	106.3	109.5	114.4	120.4	127.3	136.0	145.2	155.0	166.0	178.4
142.5°	108.7	109.6	112.5	117.2	122.9	129.6	138.1	146.6	156.0	166.0	177.0
145°	113.2	114.1	117.0	121.0	126.5	132.8	140.3	148.1	156.5	165.4	174.6
147.5°	118.4	118.6	121.2	125.3	129.9	135.6	142.6	149.4	156.8	164.4	172.5
150°	121.6	121.9	124.2	127.7	132.0	137.5	143.8	150.1	156.8	163.6	170.9
152.5°	124.6	124.7	126.9	130.2	134.0	139.1	144.7	150.6	156.3	162.5	169.0
155°	128.8	129.1	130.9	133.7	136.9	141.2	146.1	151.0	155.6	160.8	166.2
157.5°	132.9	132.9	134.5	136.7	139.5	142.9	147.1	151.0	154.8	159.0	163.5
160°	135.4	135.4	136.6	138.6	140.9	144.1	147.6	151.0	154.2	157.6	161.3
162.5°	137.7	137.5	138.4	140.2	142.3	144.8	148.0	151.0	153.4	156.2	159.6
165°	140.3	140.3	140.9	142.4	143.8	145.5	148.1	150.4	152.1	154.2	156.5
167.5°	142.9	142.6	142.9	144.0	144.8	146.2	148.1	149.7	150.7	152.1	153.7
170°	144.1	143.8	144.1	145.0	145.5	146.3	147.8	149.3	149.9	150.7	151.9
172.5°	145.2	145.0	145.0	145.6	145.9	146.6	147.6	148.8	149.0	149.3	150.3
175°	146.3	146.1	146.1	146.3	146.7	146.7	147.2	148.1	147.8	147.8	148.4
177.5°	146.9	146.7	146.4	146.7	146.7	146.7	146.9	147.3	146.9	146.9	147.2
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	5.2	5.2	5.2	5.2	5.3	5.5	5.5	5.5
90°	5.2	5.5	5.8	5.8	6.0	6.4	6.0	6.0
92.5°	56.6	42.6	33.9	28.1	24.7	23.2	22.2	22.2
95°	213.5	168.8	130.2	102.3	88.1	79.2	74.0	70.3
97.5°	315.4	298.9	270.7	240.6	219.9	202.6	194.0	187.9
100°	347.5	353.3	339.2	317.8	292.8	275.2	266.5	264.2
102.5°	345.9	374.5	378.5	369.7	354.3	341.6	332.5	330.6
105°	322.7	372.6	401.1	412.9	413.5	411.2	407.2	405.4
107.5°	289.8	342.9	383.0	408.8	423.0	429.6	432.4	433.2
110°	270.0	319.8	361.7	393.3	413.8	425.9	431.0	433.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.4	299.5	339.0	370.7	394.0	408.6	415.9	420.0
115°	240.9	276.3	310.1	337.7	360.4	377.7	387.0	389.3
117.5°	233.7	263.1	289.6	313.1	332.5	347.0	356.3	358.1
120°	230.5	257.3	280.4	300.8	317.2	330.0	337.5	340.6
122.5°	227.7	253.6	274.6	292.5	306.4	317.2	323.6	326.8
125°	223.1	247.8	267.7	283.6	295.1	303.5	308.9	310.6
127.5°	217.3	240.9	260.8	275.8	287.4	294.8	299.5	301.2
130°	212.6	235.5	255.0	270.3	282.1	289.3	293.9	295.6
132.5°	207.8	229.2	248.3	263.6	275.2	283.3	287.7	289.4
135°	201.1	219.9	237.4	251.8	263.3	271.4	276.1	277.8
137.5°	195.1	210.9	225.8	238.7	249.6	257.5	261.3	263.3
140°	191.6	205.1	218.1	230.2	240.4	246.6	250.7	253.0
142.5°	188.4	200.3	211.4	221.9	230.9	236.8	240.4	241.9
145°	183.8	193.6	202.3	210.3	217.5	222.4	225.3	226.7
147.5°	180.1	187.8	194.8	201.1	206.4	210.7	212.8	213.4
150°	177.8	184.4	190.2	195.3	200.0	203.7	205.5	205.7
152.5°	175.3	181.0	186.3	190.5	194.4	197.5	198.5	198.9
155°	171.5	176.0	180.3	183.8	186.7	189.0	189.9	189.9
157.5°	167.4	171.2	174.9	177.7	179.8	181.6	182.1	182.1
160°	164.9	168.0	171.1	173.5	175.2	176.9	177.2	177.2
162.5°	162.3	165.0	167.5	169.6	170.8	172.5	172.8	172.6
165°	158.7	160.5	162.5	164.0	165.1	166.2	166.0	165.7
167.5°	155.4	156.7	158.3	159.1	159.7	160.5	160.5	160.2
170°	153.3	154.2	155.3	156.2	156.8	157.0	156.8	156.8
172.5°	151.5	152.1	152.8	153.4	153.8	154.0	153.8	153.3
175°	149.0	149.3	149.9	149.9	149.9	150.4	149.9	149.3
177.5°	147.3	147.6	147.6	147.8	147.6	147.8	147.3	146.9
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7

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