

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: P331620

Luminaire Tested: **SA2XXRDIP-C290D330U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331620
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: SA2XXRDIP-C290D330U835-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

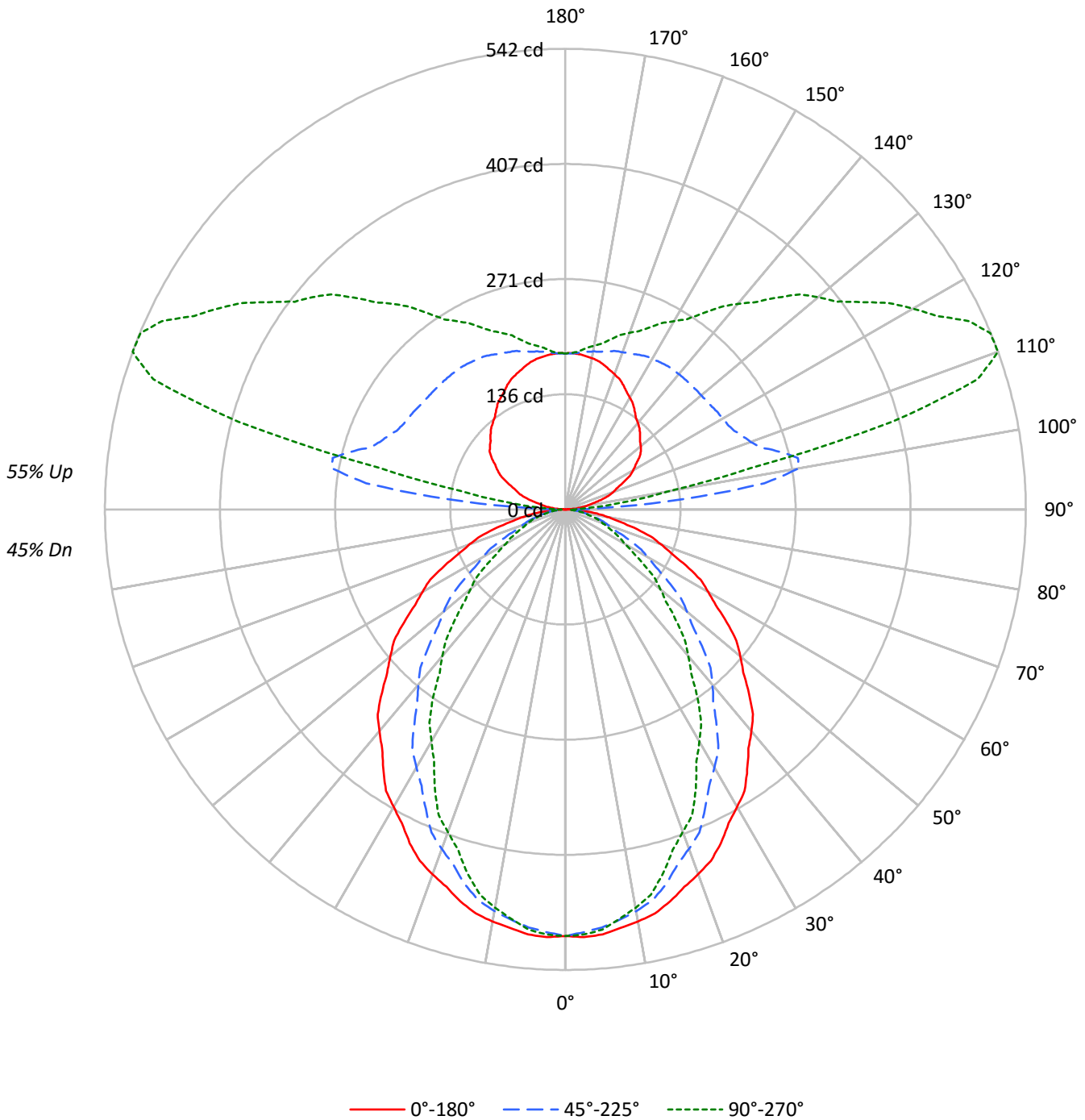
Lumens per Lamp: N/A
Luminaire Lumens: 2312.6 lumens
Efficiency: N/A
Efficacy: 113.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 20.3
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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38				
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38	33				
3	81	72	65	59	74	66	60	55	56	51	48	46	43	40	37	34	33	28				
4	74	64	56	51	68	59	52	47	50	45	41	41	38	35	33	31	28	25				
5	68	57	49	44	63	53	46	41	45	39	35	37	33	30	30	27	25	22				
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	25	22	19				
7	58	47	39	33	54	43	36	31	37	31	28	31	27	24	25	22	20	17				
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16				
9	51	39	31	27	46	36	30	25	31	26	22	26	22	19	21	19	16	14				
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8105	8105	8105
5°	8136	8003	8047
10°	8073	7873	7806
15°	7980	7639	7418
20°	7852	7306	6940
25°	7721	6928	6474
30°	7538	6538	5878
35°	7360	6116	5355
40°	7181	5678	4749
45°	6971	5186	4201
50°	6754	4690	3662
55°	6533	4155	3147
60°	6278	3594	2612
65°	5987	3018	2376
70°	5641	2488	2186
75°	5215	2264	2040
80°	4603	2027	1860
85°	3612	1593	1593



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.0	2.0
10°-20°	129.0	5.6
20°-30°	181.2	7.8
30°-40°	197.6	8.5
40°-50°	181.6	7.9
50°-60°	142.7	6.2
60°-70°	93.0	4.0
70°-80°	48.0	2.1
80°-90°	14.1	0.6
90°-100°	73.5	3.2
100°-110°	249.3	10.8
110°-120°	264.8	11.5
120°-130°	218.0	9.4
130°-140°	175.1	7.6
140°-150°	132.3	5.7
150°-160°	93.0	4.0
160°-170°	54.7	2.4
170°-180°	17.8	0.8
0°-30°	357.2	15.4
0°-40°	554.7	24.0
0°-60°	879.0	38.0
0°-90°	1034.1	44.7
90°-120°	587.6	25.4
90°-150°	1113.0	48.1
90°-180°	1279.0	55.3
0°-180°	2312.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	502	502	502	502	502	
5°	502	500	494	498	496	48
15°	477	472	457	449	444	134
25°	433	418	389	371	363	199
35°	373	349	310	283	272	234
45°	305	274	227	196	184	236
55°	232	196	148	121	112	207
65°	157	120	79	64	62	155
75°	84	53	36	33	33	88
85°	20	10	9	9	9	23
90°	0	5	12	12	12	2
95°	12	30	138	52	40	13
105°	43	65	262	468	398	46
115°	76	96	219	452	524	75
125°	106	125	211	366	425	94
135°	124	148	208	308	352	96
145°	142	163	207	257	281	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	503.8	503.4	503.0	502.6	502.2	501.5	500.6	499.8	498.9	498.0	498.8
5°	502.0	501.5	501.0	500.5	500.0	499.0	497.7	496.4	495.1	493.8	494.7
7.5°	496.8	496.2	495.5	494.9	494.3	493.2	491.7	490.1	488.6	487.1	487.3
10°	492.4	491.7	491.0	490.3	489.6	488.2	486.2	484.2	482.2	480.2	479.9
12.5°	487.0	486.1	485.2	484.4	483.5	481.8	479.2	476.6	474.0	471.4	470.9
15°	477.4	476.3	475.2	474.1	473.0	470.7	467.3	463.9	460.4	457.0	455.1
17.5°	465.7	464.0	462.3	460.6	458.9	455.9	451.5	447.1	442.7	438.3	436.0
20°	457.0	455.0	453.0	450.9	448.9	445.4	440.3	435.3	430.3	425.2	422.7
22.5°	447.6	445.3	443.0	440.8	438.5	434.5	428.8	423.1	417.5	411.8	408.5
25°	433.4	430.1	426.9	423.7	420.5	415.5	408.8	402.2	395.5	388.9	384.7
27.5°	416.3	412.8	409.3	405.8	402.2	396.7	389.2	381.7	374.2	366.7	361.9
30°	404.3	400.5	396.6	392.8	389.0	383.0	374.9	366.9	358.8	350.7	345.6
32.5°	392.7	388.2	383.7	379.2	374.7	368.4	360.2	351.9	343.7	335.4	329.6
35°	373.4	368.3	363.1	358.0	352.8	345.8	336.9	328.0	319.2	310.3	303.9
37.5°	354.2	348.5	342.8	337.2	331.5	324.0	314.5	305.0	295.6	286.1	279.1
40°	340.7	334.7	328.6	322.5	316.5	308.6	298.8	289.0	279.2	269.4	262.2
42.5°	326.9	320.5	314.1	307.8	301.4	293.1	283.0	272.9	262.8	252.7	245.3
45°	305.3	298.5	291.7	285.0	278.2	269.5	258.9	248.3	237.7	227.1	220.0
47.5°	284.2	277.0	269.9	262.7	255.5	246.5	235.5	224.6	213.6	202.7	195.6
50°	268.9	261.8	254.6	247.4	240.3	231.1	220.0	208.9	197.8	186.7	179.7
52.5°	254.0	246.5	239.1	231.6	224.1	214.9	204.0	193.2	182.3	171.4	164.7
55°	232.1	224.3	216.4	208.5	200.6	191.3	180.3	169.4	158.5	147.6	141.6
57.5°	209.7	201.6	193.5	185.5	177.4	168.1	157.6	147.2	136.7	126.2	120.6
60°	194.4	186.4	178.3	170.2	162.1	152.9	142.5	132.1	121.7	111.3	106.1
62.5°	179.5	171.5	163.4	155.3	147.2	138.2	128.3	118.4	108.5	98.6	93.7
65°	156.7	148.5	140.4	132.2	124.0	115.4	106.3	97.2	88.1	79.0	75.6
67.5°	134.7	126.6	118.5	110.4	102.3	94.1	85.9	77.8	69.6	61.4	59.8
70°	119.5	111.6	103.7	95.9	88.0	80.6	73.6	66.6	59.7	52.7	51.7
72.5°	104.9	97.4	89.8	82.3	74.7	68.2	62.6	57.0	51.4	45.8	44.9
75°	83.6	76.5	69.5	62.4	55.3	50.1	46.6	43.2	39.8	36.3	35.6
77.5°	62.6	56.4	50.2	44.0	37.8	33.9	32.2	30.6	28.9	27.3	26.9
80°	49.5	44.4	39.2	34.1	28.9	25.8	24.8	23.8	22.8	21.8	21.4
82.5°	37.5	33.5	29.5	25.5	21.5	19.1	18.4	17.7	17.0	16.4	16.1
85°	19.5	17.4	15.3	13.2	11.1	9.8	9.5	9.2	8.9	8.6	8.6
87.5°	5.9	5.5	5.1	4.6	4.1	4.0	4.3	4.8	5.2	5.3	5.2
90°	0.4	1.4	2.8	3.5	4.2	5.3	7.1	9.5	11.7	12.0	11.7
92.5°	4.3	6.2	8.8	10.3	12.7	16.0	24.0	35.3	45.3	45.9	38.8
95°	12.4	13.8	17.3	20.5	26.1	34.6	50.9	81.6	122.6	138.5	121.2
97.5°	20.1	22.0	25.8	30.6	37.1	46.7	67.1	110.0	178.1	236.4	248.0
100°	27.2	28.3	31.4	37.1	44.2	54.1	72.8	115.9	192.2	279.1	330.0
102.5°	33.7	34.5	37.7	43.3	50.7	60.6	77.9	116.2	186.8	280.5	360.5
105°	43.1	44.5	47.0	52.3	60.1	70.0	86.6	118.0	176.3	261.8	355.8
107.5°	53.3	54.4	56.8	61.7	69.4	79.4	95.5	122.9	171.1	241.7	324.8
110°	60.1	61.5	63.6	68.2	75.6	85.9	101.4	126.8	170.0	232.1	305.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	66.3	67.7	70.1	74.4	81.5	92.1	107.1	131.1	170.2	225.9	291.7
115°	76.0	77.7	79.9	84.1	91.2	100.7	115.9	137.4	171.7	219.1	274.9
117.5°	86.0	87.4	89.5	93.3	100.1	110.0	124.0	144.2	174.3	215.7	264.3
120°	92.2	93.6	95.8	98.9	106.0	115.9	129.7	148.8	176.0	213.8	258.6
122.5°	98.2	99.3	101.4	104.9	111.9	122.1	135.0	152.7	177.9	212.6	253.8
125°	106.0	107.1	109.2	113.4	120.5	130.4	143.1	159.0	180.9	210.6	247.0
127.5°	112.2	113.6	116.6	121.3	128.0	138.2	150.6	164.9	183.9	209.4	240.6
130°	115.9	117.3	120.8	125.8	132.9	142.7	155.1	168.5	186.2	208.8	236.4
132.5°	119.3	121.0	124.8	130.0	137.4	147.3	159.1	172.2	188.5	208.5	233.0
135°	124.4	125.8	130.0	135.3	143.5	153.3	164.7	177.0	191.2	208.1	228.2
137.5°	129.2	130.9	135.1	140.8	148.8	158.0	169.2	180.7	193.6	208.0	224.9
140°	132.9	134.3	138.5	144.2	151.9	161.1	171.7	182.7	194.7	207.8	222.9
142.5°	136.5	137.7	141.6	147.3	154.8	163.4	173.7	184.4	195.5	207.8	221.0
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	218.4
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.7
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	499.6	500.4	501.2	501.5	501.4	501.2	501.0	500.9
5°	495.6	496.5	497.4	497.7	497.4	497.1	496.8	496.5
7.5°	487.6	487.9	488.1	488.0	487.5	486.9	486.4	485.9
10°	479.6	479.3	479.0	478.5	477.9	477.3	476.7	476.1
12.5°	470.4	469.8	469.3	468.5	467.5	466.5	465.5	464.5
15°	453.2	451.2	449.3	447.9	446.9	445.8	444.8	443.8
17.5°	433.7	431.4	429.2	427.2	425.4	423.7	421.9	420.2
20°	420.2	417.6	415.1	412.7	410.5	408.3	406.1	403.9
22.5°	405.3	402.0	398.8	396.3	394.6	393.0	391.3	389.7
25°	380.6	376.4	372.3	369.5	368.0	366.4	364.9	363.4
27.5°	357.0	352.2	347.4	343.8	341.4	339.0	336.6	334.2
30°	340.4	335.3	330.1	326.2	323.4	320.7	318.0	315.3
32.5°	323.7	317.8	311.9	307.7	305.2	302.6	300.0	297.5
35°	297.6	291.2	284.8	280.5	278.3	276.1	273.9	271.7
37.5°	272.1	265.1	258.1	253.3	250.8	248.2	245.7	243.1
40°	255.1	247.9	240.7	235.8	233.2	230.6	227.9	225.3
42.5°	237.8	230.4	223.0	218.1	215.5	213.0	210.4	207.9
45°	212.8	205.6	198.5	193.7	191.3	188.8	186.4	184.0
47.5°	188.4	181.3	174.2	169.5	167.3	165.1	162.9	160.7
50°	172.8	165.8	158.8	154.3	152.2	150.1	147.9	145.8
52.5°	158.0	151.3	144.6	140.2	138.3	136.3	134.3	132.4
55°	135.5	129.5	123.4	119.4	117.5	115.6	113.7	111.8
57.5°	115.1	109.5	104.0	100.4	98.8	97.2	95.6	93.9
60°	101.0	95.9	90.7	87.3	85.7	84.1	82.5	80.9
62.5°	88.8	83.9	79.0	76.0	75.0	74.1	73.1	72.1
65°	72.2	68.7	65.3	63.4	63.1	62.8	62.5	62.2
67.5°	58.3	56.7	55.1	54.2	53.8	53.5	53.2	52.9
70°	50.7	49.7	48.7	48.0	47.5	47.1	46.7	46.3
72.5°	44.1	43.2	42.4	41.9	41.6	41.4	41.1	40.9
75°	34.9	34.2	33.5	33.1	33.0	32.9	32.8	32.7
77.5°	26.4	26.0	25.6	25.4	25.2	25.0	24.9	24.7
80°	21.0	20.6	20.2	20.0	20.0	20.0	20.0	20.0
82.5°	15.9	15.6	15.4	15.3	15.3	15.3	15.3	15.3
85°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
87.5°	5.0	4.8	4.8	4.9	4.9	4.9	4.9	4.9
90°	11.3	10.6	11.3	11.7	11.7	11.7	11.7	11.7
92.5°	30.8	26.4	23.5	21.3	21.0	19.9	20.1	19.6
95°	92.6	71.0	56.2	48.4	43.8	41.0	39.9	40.3
97.5°	216.0	176.7	138.5	113.0	96.1	87.4	82.3	79.3
100°	322.6	278.8	230.4	187.6	158.3	143.1	132.9	126.5
102.5°	392.4	382.5	347.1	301.8	269.9	244.0	231.2	222.6
105°	429.3	469.2	473.8	462.2	440.2	418.3	403.1	398.2
107.5°	402.7	462.9	499.6	516.7	519.5	518.3	515.2	508.7
110°	379.8	443.1	488.3	517.3	532.5	539.2	542.4	542.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.9	419.6	467.9	501.2	522.3	533.5	539.5	541.4
115°	333.2	387.6	433.9	470.3	495.4	511.6	520.8	524.0
117.5°	313.8	361.6	403.6	437.7	463.3	480.5	490.1	492.8
120°	304.2	348.0	385.5	417.6	442.4	459.0	469.2	472.8
122.5°	296.6	336.7	372.2	401.2	423.4	439.8	448.9	451.8
125°	285.5	321.9	353.0	379.5	400.0	413.4	422.2	425.1
127.5°	274.5	307.5	336.8	361.2	379.1	391.7	399.3	401.6
130°	267.5	297.9	325.8	349.1	366.4	378.4	385.5	388.3
132.5°	260.7	288.8	314.5	336.4	353.4	365.4	371.9	374.5
135°	251.2	274.5	297.9	317.6	332.8	344.5	350.9	352.3
137.5°	243.7	263.2	281.7	298.9	312.8	322.8	328.4	330.5
140°	238.8	255.8	272.1	287.6	298.9	308.1	313.4	315.5
142.5°	234.9	249.3	263.3	276.3	287.0	295.4	300.1	300.5
145°	229.3	241.0	251.9	262.2	270.6	276.7	280.2	281.2
147.5°	225.0	234.2	242.7	250.2	257.2	262.0	264.4	265.1
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

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