

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: P332876-935

Luminaire Tested: **S124RDIP-S350D590U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332876-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S350D590U935-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3049.3 lumens
Efficiency: N/A
Efficacy: 119.1 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

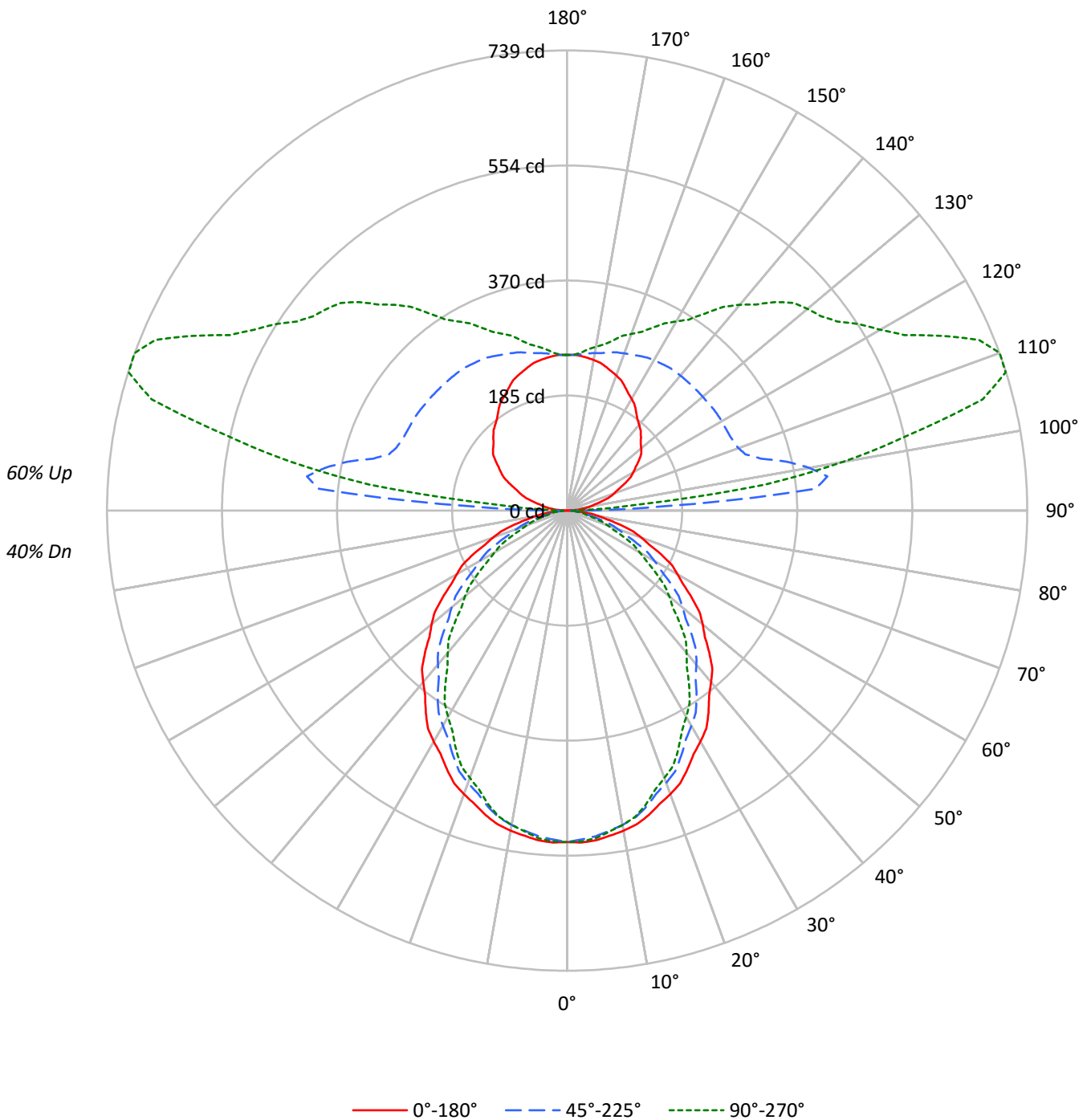
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40																				
1	96	92	88	85	87	84	80	78	69	66	64	55	53	52	42	41	40	34																				
2	87	80	74	69	79	73	68	64	60	57	54	48	46	44	37	36	34	29																				
3	80	71	64	58	72	65	59	54	53	49	45	43	40	37	33	31	29	25																				
4	73	63	55	49	66	57	51	46	48	43	39	38	35	32	30	27	25	22																				
5	67	56	48	42	61	51	44	39	43	37	33	34	31	28	27	24	22	19																				
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	22	20	17																				
7	57	45	37	32	52	42	35	30	35	30	26	28	24	22	22	20	18	15																				
8	53	41	33	28	48	38	31	26	32	27	23	26	22	19	21	18	16	13																				
9	49	37	30	25	45	35	28	24	29	24	20	24	20	17	19	16	14	12																				
10	46	34	27	23	42	32	25	21	27	22	18	22	18	16	18	15	13	11																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4297	4297	4297
5°	4306	4254	4280
10°	4279	4203	4203
15°	4231	4115	4084
20°	4163	3998	3924
25°	4077	3862	3764
30°	3993	3719	3564
35°	3900	3571	3362
40°	3789	3402	3144
45°	3685	3234	2923
50°	3567	3041	2688
55°	3441	2839	2432
60°	3303	2619	2172
65°	3177	2344	1914
70°	2991	2039	1626
75°	2757	1691	1323
80°	2404	1288	1213
85°	2038	1176	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.0	1.6
10°-20°	139.4	4.6
20°-30°	201.3	6.6
30°-40°	228.2	7.5
40°-50°	220.4	7.2
50°-60°	183.2	6.0
60°-70°	126.5	4.1
70°-80°	64.1	2.1
80°-90°	17.8	0.6
90°-100°	180.6	5.9
100°-110°	375.8	12.3
110°-120°	336.6	11.0
120°-130°	283.1	9.3
130°-140°	236.1	7.7
140°-150°	180.4	5.9
150°-160°	126.8	4.2
160°-170°	74.6	2.4
170°-180°	24.3	0.8
0°-30°	390.7	12.8
0°-40°	619.0	20.3
0°-60°	1022.6	33.5
0°-90°	1231.1	40.4
90°-120°	893.0	29.3
90°-150°	1592.6	52.2
90°-180°	1818.0	59.6
0°-180°	3049.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	532	532	532	532	532	
5°	531	530	525	529	528	50
15°	506	502	492	491	489	143
25°	458	450	434	427	423	211
35°	396	382	362	349	341	247
45°	323	307	283	264	256	249
55°	244	228	202	181	173	219
65°	166	148	123	106	100	164
75°	88	73	54	45	42	93
85°	22	14	13	12	12	25
90°	0	4	9	10	10	2
95°	16	51	400	198	120	18
105°	57	83	322	694	691	61
115°	101	127	287	552	664	100
125°	141	168	286	470	529	125
135°	168	199	283	417	474	129
145°	193	221	282	352	386	121
155°	220	237	274	310	324	101
165°	239	247	263	278	282	68
175°	250	250	252	255	254	24
180°	250	250	250	250	250	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	533.6	533.2	533.0	532.7	532.4	531.8	531.1	530.3	529.4	528.7	529.4
5°	531.4	531.1	530.7	530.4	529.9	529.3	528.1	527.1	526.0	525.0	525.8
7.5°	526.6	526.2	525.9	525.5	525.1	524.2	522.8	521.3	520.0	518.6	519.1
10°	522.0	521.6	521.2	520.7	520.2	519.2	517.5	515.9	514.3	512.7	513.1
12.5°	516.2	515.7	515.1	514.6	514.1	512.9	510.9	509.0	507.1	505.1	505.4
15°	506.2	505.3	504.5	503.7	502.9	501.4	499.1	496.8	494.6	492.3	492.1
17.5°	494.0	492.8	491.6	490.5	489.3	487.3	484.7	481.9	479.2	476.5	476.0
20°	484.6	483.4	482.2	481.0	479.8	477.8	474.7	471.6	468.5	465.4	464.7
22.5°	474.2	472.8	471.5	470.2	468.8	466.5	463.2	459.9	456.7	453.3	452.3
25°	457.7	456.1	454.4	452.8	451.2	448.5	444.8	441.1	437.3	433.6	432.0
27.5°	440.4	438.3	436.3	434.3	432.2	429.2	425.2	421.3	417.3	413.4	411.4
30°	428.3	426.0	423.8	421.5	419.3	416.0	411.7	407.5	403.2	399.0	396.7
32.5°	415.6	413.0	410.5	407.9	405.4	401.9	397.5	393.1	388.7	384.4	381.7
35°	395.7	392.8	389.9	387.0	384.1	380.4	375.9	371.3	366.9	362.3	359.2
37.5°	374.4	371.4	368.5	365.5	362.5	358.5	353.4	348.4	343.5	338.5	335.0
40°	359.5	356.5	353.4	350.5	347.5	343.5	338.3	333.1	328.0	322.8	319.0
42.5°	345.1	342.0	338.8	335.7	332.6	328.3	323.0	317.5	312.2	306.8	302.9
45°	322.8	319.4	316.1	312.7	309.4	305.0	299.5	294.1	288.7	283.3	278.8
47.5°	299.7	296.3	292.8	289.3	285.9	281.3	275.7	270.0	264.3	258.7	254.1
50°	284.0	280.5	277.0	273.5	269.9	265.3	259.5	253.7	247.9	242.1	237.5
52.5°	268.1	264.6	261.1	257.7	254.3	249.5	243.6	237.6	231.7	225.8	221.2
55°	244.5	240.9	237.3	233.7	230.1	225.2	219.4	213.5	207.6	201.7	197.0
57.5°	221.2	217.4	213.7	209.9	206.1	201.4	195.5	189.8	184.0	178.1	173.4
60°	204.6	201.0	197.3	193.7	190.1	185.4	179.6	173.7	168.0	162.2	157.5
62.5°	189.6	185.8	182.0	178.3	174.5	169.7	163.8	157.8	151.9	145.9	141.5
65°	166.3	162.4	158.5	154.6	150.7	145.9	140.1	134.2	128.5	122.7	118.8
67.5°	142.1	138.4	134.6	130.9	127.2	122.6	117.2	111.8	106.4	101.1	97.7
70°	126.7	123.0	119.2	115.4	111.5	107.0	101.9	96.7	91.5	86.4	83.4
72.5°	110.5	107.0	103.6	100.1	96.7	92.6	87.6	82.7	77.9	73.0	70.5
75°	88.4	85.1	81.7	78.4	75.0	71.2	67.0	62.7	58.5	54.2	52.1
77.5°	66.1	63.3	60.4	57.6	54.8	51.6	48.1	44.7	41.2	37.8	36.6
80°	51.7	49.2	46.5	43.9	41.2	38.6	35.9	33.1	30.4	27.7	27.5
82.5°	39.3	36.9	34.5	32.1	29.7	27.7	26.2	24.6	23.1	21.5	21.4
85°	22.0	20.2	18.4	16.5	14.7	13.7	13.4	13.2	12.9	12.7	12.5
87.5°	7.6	7.2	6.9	6.5	5.9	5.7	6.2	6.1	6.2	6.4	6.2
90°	0.5	1.5	2.9	3.4	4.0	4.0	6.9	6.9	7.8	8.9	8.4
92.5°	5.6	8.2	12.7	18.8	25.9	36.2	61.1	99.2	136.4	155.8	129.8
95°	16.2	17.7	22.6	29.0	40.7	61.4	104.1	184.7	302.0	400.3	411.6
97.5°	29.1	29.1	33.3	39.2	49.3	66.6	99.5	166.0	282.8	421.6	517.1
100°	37.4	37.4	40.7	46.7	56.0	71.7	100.7	156.2	256.4	394.9	520.6
102.5°	45.2	46.0	49.0	54.5	63.5	78.4	104.6	153.4	238.7	361.5	491.1
105°	57.4	59.0	61.4	67.3	76.1	90.4	113.9	154.7	223.5	322.2	437.6
107.5°	71.0	72.0	74.5	80.8	89.2	103.2	124.8	162.0	220.8	300.2	394.4
110°	80.1	81.0	83.5	89.4	98.2	111.5	133.1	167.5	221.5	292.7	372.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.7	89.7	92.6	98.1	106.9	120.1	140.9	173.4	223.9	289.2	360.6
115°	101.2	102.6	106.1	111.0	120.4	133.6	153.3	182.7	228.4	287.3	349.2
117.5°	114.2	115.5	118.6	124.0	132.7	146.5	165.1	192.3	233.2	286.8	344.1
120°	122.8	123.8	127.2	132.6	140.9	154.7	173.4	198.9	236.8	286.8	341.4
122.5°	130.6	131.6	135.1	140.1	149.2	162.6	181.2	205.2	240.3	286.5	338.2
125°	140.9	142.9	145.9	151.3	160.6	174.4	192.0	214.6	245.6	285.9	333.0
127.5°	150.1	151.7	155.2	161.4	171.1	184.9	202.1	222.8	249.8	284.7	326.1
130°	155.2	157.1	161.1	168.5	177.8	192.0	208.7	227.9	253.0	284.4	321.7
132.5°	160.3	161.9	167.0	174.0	184.1	197.5	214.2	233.0	255.7	284.0	317.8
135°	167.5	169.4	174.4	182.7	193.0	205.8	222.0	239.7	259.8	283.4	311.9
137.5°	174.7	176.5	181.9	189.9	200.6	212.8	227.9	244.4	262.3	283.3	306.8
140°	179.8	181.2	186.7	195.0	205.3	217.1	231.9	247.5	264.2	282.9	304.0
142.5°	185.3	186.8	191.7	199.7	209.7	221.0	235.4	249.9	265.8	282.9	301.7
145°	193.0	194.5	199.4	206.3	215.6	226.4	239.2	252.4	266.7	281.9	297.6
147.5°	201.7	202.2	206.6	213.6	221.4	231.2	243.1	254.7	267.2	280.2	294.0
150°	207.2	207.8	211.7	217.6	225.0	234.3	245.1	255.9	267.2	279.0	291.3
152.5°	212.4	212.5	216.4	221.9	228.5	237.0	246.7	256.7	266.4	277.0	288.1
155°	219.6	220.1	223.0	227.9	233.3	240.6	249.0	257.4	265.2	274.1	283.4
157.5°	226.5	226.5	229.3	233.1	237.8	243.6	250.7	257.4	264.0	271.0	278.6
160°	230.8	230.8	232.8	236.3	240.1	245.6	251.5	257.4	262.8	268.6	275.1
162.5°	234.8	234.4	235.9	239.0	242.5	246.8	252.3	257.4	261.6	266.3	271.9
165°	239.2	239.2	240.1	242.6	245.1	248.1	252.4	256.4	259.3	262.8	266.7
167.5°	243.6	243.1	243.6	245.5	246.8	249.1	252.4	255.2	257.0	259.2	262.0
170°	245.6	245.1	245.6	247.0	248.1	249.5	251.9	254.4	255.4	256.8	258.8
172.5°	247.5	247.0	247.1	248.2	248.8	249.9	251.6	253.7	253.8	254.5	256.1
175°	249.5	249.0	249.0	249.5	250.0	250.0	251.0	252.4	251.9	251.9	253.0
177.5°	250.4	250.0	249.6	250.0	250.0	250.0	250.4	251.2	250.4	250.4	250.8
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	530.3	531.1	531.8	532.2	532.1	532.1	532.0	531.9
5°	526.8	527.6	528.6	528.9	528.7	528.6	528.3	528.1
7.5°	519.7	520.3	520.9	521.0	520.7	520.5	520.1	519.9
10°	513.4	513.8	514.1	514.1	513.8	513.4	513.1	512.7
12.5°	505.6	505.8	506.1	505.9	505.4	504.9	504.4	503.9
15°	492.0	491.8	491.5	491.2	490.5	489.9	489.3	488.6
17.5°	475.4	475.0	474.5	473.7	472.8	471.8	470.9	469.9
20°	464.0	463.2	462.5	461.6	460.4	459.2	458.1	456.8
22.5°	451.2	450.0	449.0	448.0	447.0	446.1	445.1	444.1
25°	430.5	429.0	427.5	426.3	425.3	424.4	423.5	422.6
27.5°	409.5	407.6	405.7	404.2	402.8	401.5	400.2	398.9
30°	394.4	392.2	389.9	388.1	386.6	385.2	383.7	382.3
32.5°	379.1	376.4	373.8	371.8	370.4	369.0	367.6	366.3
35°	356.1	353.1	350.0	347.7	346.0	344.4	342.8	341.1
37.5°	331.6	328.1	324.7	322.1	320.5	318.8	317.2	315.6
40°	315.1	311.3	307.5	304.9	303.2	301.6	300.0	298.3
42.5°	299.0	295.2	291.3	288.5	286.8	285.1	283.4	281.7
45°	274.4	269.9	265.4	262.4	260.8	259.2	257.5	256.0
47.5°	249.5	244.9	240.3	237.1	235.3	233.5	231.7	230.0
50°	233.0	228.5	223.9	220.8	219.1	217.4	215.7	214.0
52.5°	216.5	212.0	207.4	204.1	202.4	200.6	198.8	197.0
55°	192.3	187.6	182.9	179.7	178.0	176.2	174.5	172.8
57.5°	168.6	163.8	159.0	156.0	154.7	153.4	152.1	150.8
60°	152.7	148.1	143.4	140.3	138.8	137.4	136.0	134.5
62.5°	137.2	132.9	128.5	125.8	124.6	123.5	122.3	121.1
65°	114.9	111.0	107.1	104.6	103.5	102.5	101.3	100.2
67.5°	94.4	91.0	87.6	85.4	84.2	83.0	81.8	80.6
70°	80.4	77.4	74.5	72.5	71.5	70.7	69.7	68.9
72.5°	67.9	65.3	62.9	61.1	60.3	59.5	58.6	57.8
75°	50.0	48.0	45.9	44.6	44.0	43.5	43.0	42.4
77.5°	35.4	34.2	33.0	32.3	32.1	31.9	31.8	31.6
80°	27.2	26.9	26.6	26.4	26.3	26.3	26.2	26.1
82.5°	21.1	20.9	20.8	20.6	20.5	20.4	20.3	20.2
85°	12.3	12.1	11.9	11.8	11.8	11.8	11.8	11.8
87.5°	6.2	6.2	6.2	6.2	6.4	6.5	6.5	6.6
90°	8.9	9.3	9.8	9.8	10.3	10.8	10.3	10.3
92.5°	96.4	72.6	57.8	48.0	42.1	39.5	37.8	37.8
95°	363.9	287.8	222.0	174.4	150.3	135.1	126.2	119.9
97.5°	537.7	509.5	461.4	410.1	374.9	345.3	330.5	320.3
100°	592.4	602.2	578.1	541.7	499.0	469.1	454.3	450.4
102.5°	589.6	638.3	645.3	630.2	603.9	582.2	566.7	563.5
105°	550.1	635.1	683.7	703.9	704.8	700.9	694.0	691.0
107.5°	494.0	584.4	653.0	696.7	721.0	732.2	737.1	738.4
110°	460.2	545.2	616.4	670.5	705.3	725.9	734.8	739.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	435.5	510.6	577.9	631.9	671.5	696.5	708.9	716.0
115°	410.6	471.1	528.5	575.7	614.4	643.9	659.6	663.6
117.5°	398.4	448.4	493.6	533.6	566.7	591.4	607.3	610.4
120°	393.0	438.6	477.9	512.7	540.8	562.4	575.1	580.6
122.5°	388.2	432.3	468.0	498.6	522.3	540.8	551.6	557.0
125°	380.1	422.4	456.2	483.3	502.9	517.2	526.5	529.4
127.5°	370.3	410.7	444.5	470.1	489.9	502.6	510.4	513.3
130°	362.5	401.3	434.6	460.7	480.9	493.1	501.0	503.9
132.5°	354.2	390.6	423.3	449.3	469.1	482.9	490.3	493.4
135°	342.9	374.8	404.7	429.3	448.9	462.7	470.5	473.5
137.5°	332.5	359.6	384.8	407.0	425.3	438.9	445.4	448.9
140°	326.6	349.7	371.8	392.4	409.7	420.4	427.3	431.3
142.5°	321.2	341.5	360.4	378.3	393.5	403.6	409.7	412.3
145°	313.3	330.0	344.8	358.5	370.8	379.2	384.1	386.5
147.5°	306.9	320.2	332.0	342.9	351.9	359.0	362.7	363.7
150°	303.1	314.4	324.2	333.0	340.9	347.2	350.2	350.7
152.5°	298.7	308.4	317.5	324.8	331.4	336.7	338.4	338.9
155°	292.2	300.1	307.5	313.3	318.3	322.2	323.6	323.6
157.5°	285.2	291.9	298.0	302.7	306.5	309.4	310.3	310.3
160°	280.9	286.4	291.7	295.7	298.6	301.6	302.0	302.0
162.5°	276.6	281.2	285.4	289.0	291.2	294.1	294.6	294.2
165°	270.6	273.5	277.0	279.5	281.5	283.4	282.9	282.4
167.5°	264.8	267.1	269.8	271.3	272.3	273.5	273.5	273.1
170°	261.3	262.8	264.8	266.2	267.2	267.7	267.2	267.2
172.5°	258.1	259.2	260.5	261.5	262.1	262.6	262.1	261.3
175°	253.9	254.4	255.4	255.4	255.4	256.4	255.4	254.4
177.5°	251.2	251.6	251.6	251.9	251.6	251.9	251.2	250.4
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0

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