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OPTIMIZATION OF THE PRINTING AND PRE-PRESS PROCESSES FOR FLEXO PRINTING

A magnifying glass is positioned over a technical drawing of a printing plate. The drawing shows a grid of dimensions for different paper sizes. A ruler is visible at the bottom of the image, showing measurements in millimeters.

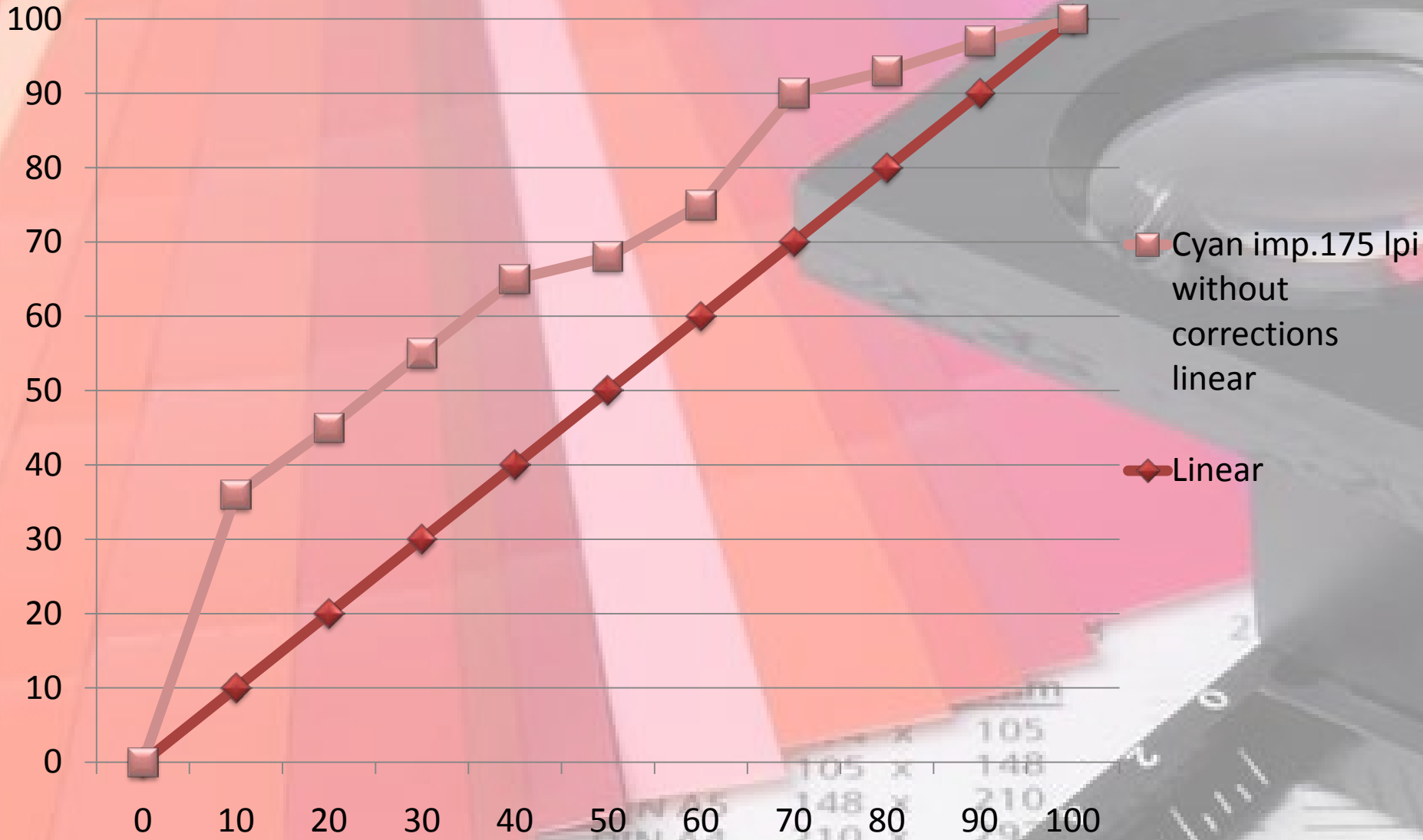
	x	105
	x	148
	x	210
DIN A5	x	297
DIN A4	x	420
DIN A3	x	594

Printing plates used in the test trial

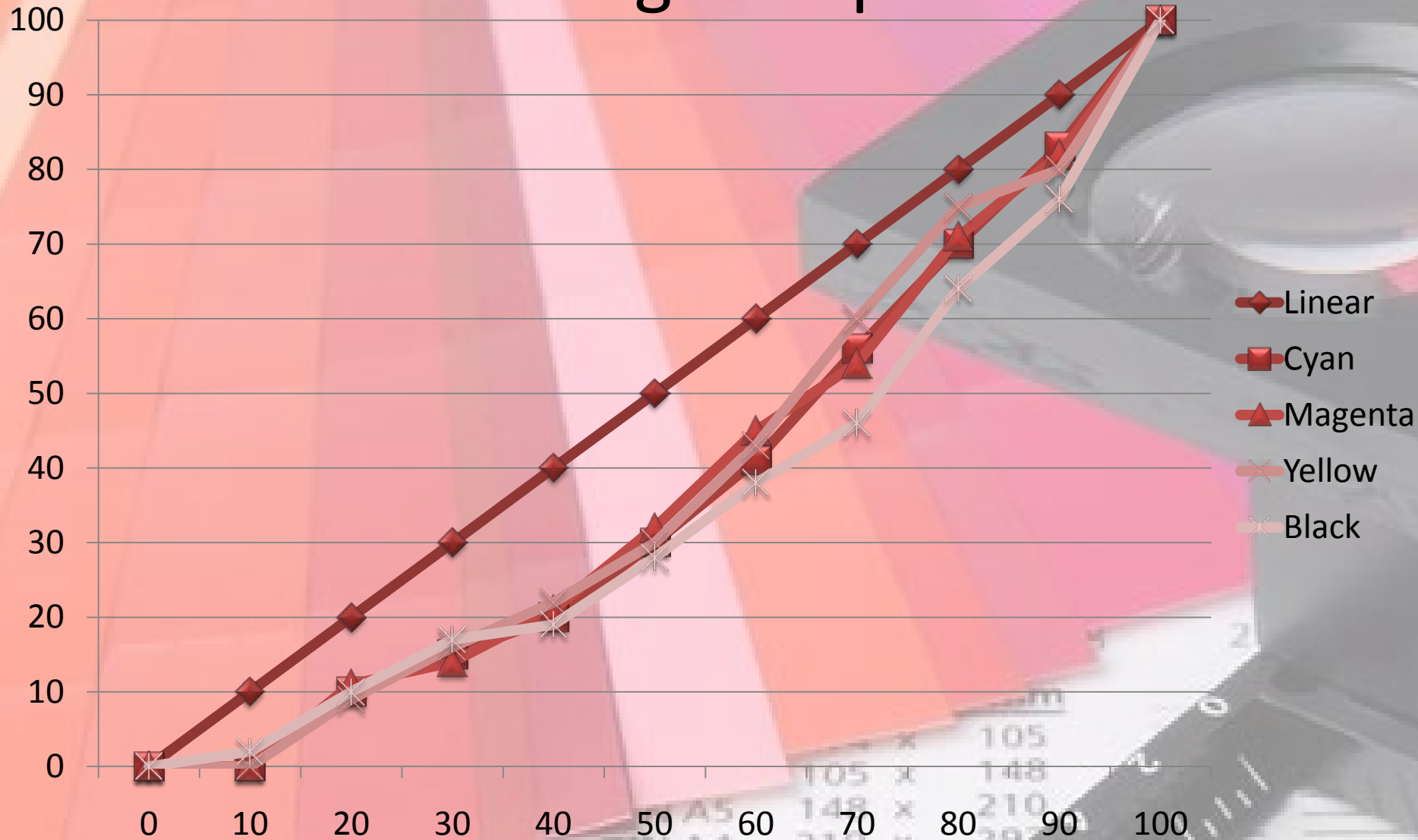
No.	Plate type	Range of use	Plate characteristics	Plate thickness [mm]	Hardness acc. To Shore, A	Screen ruling, lpi
1	Cyrel DPU 45	Lables. Flexible packing materials. Folding carton. Pre-print	Universal digital plate, practically used with all kind of inks. Suitable for all substrates, incorporates high resolution. Ozone resistant	1.7	68	175
						150
2	Cyrel DPU 67			1.14	75	175

105 x 148
148 x 210
210 x 297
297 x 420

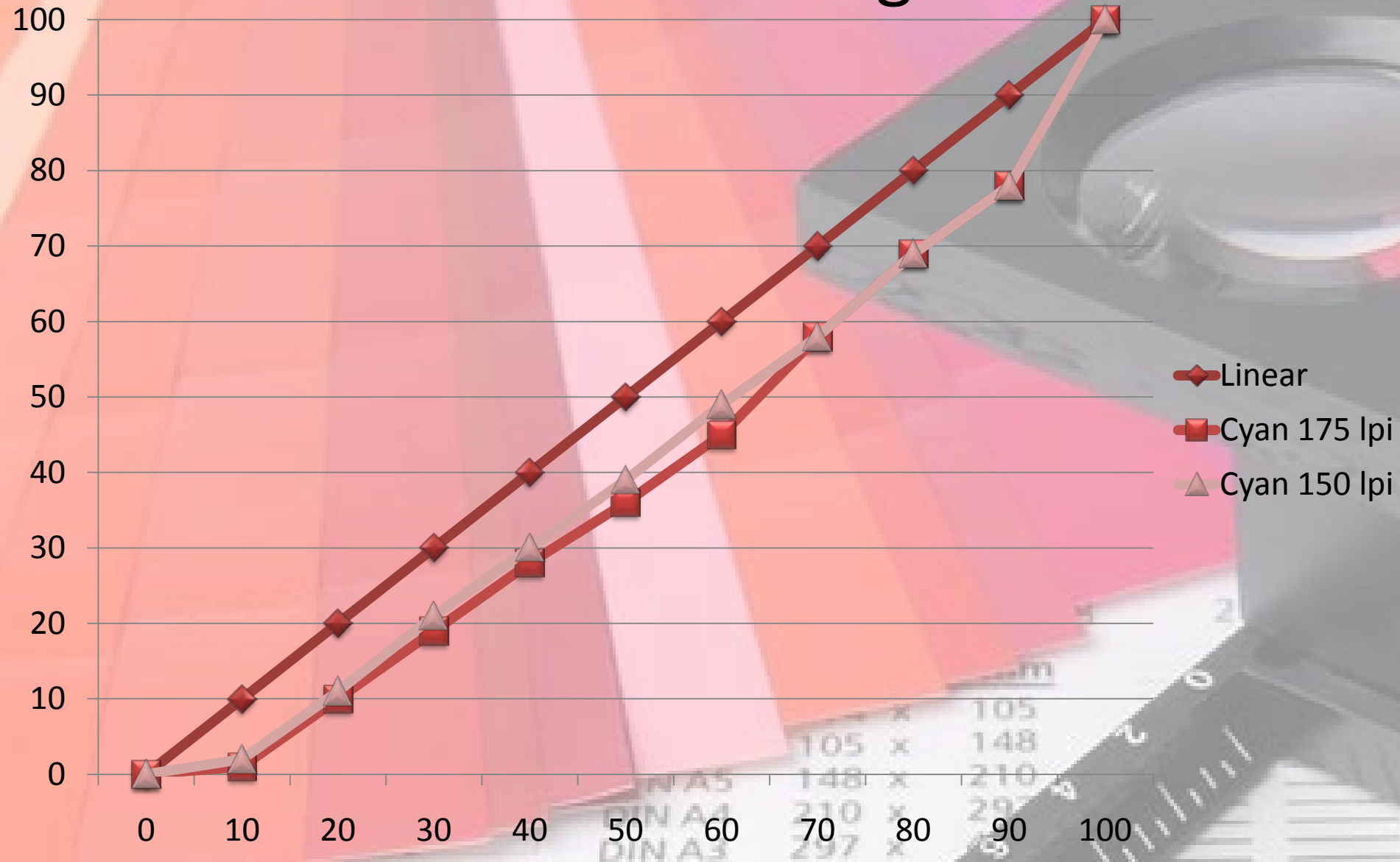
Tonal reproduction curve at 175 lpi.



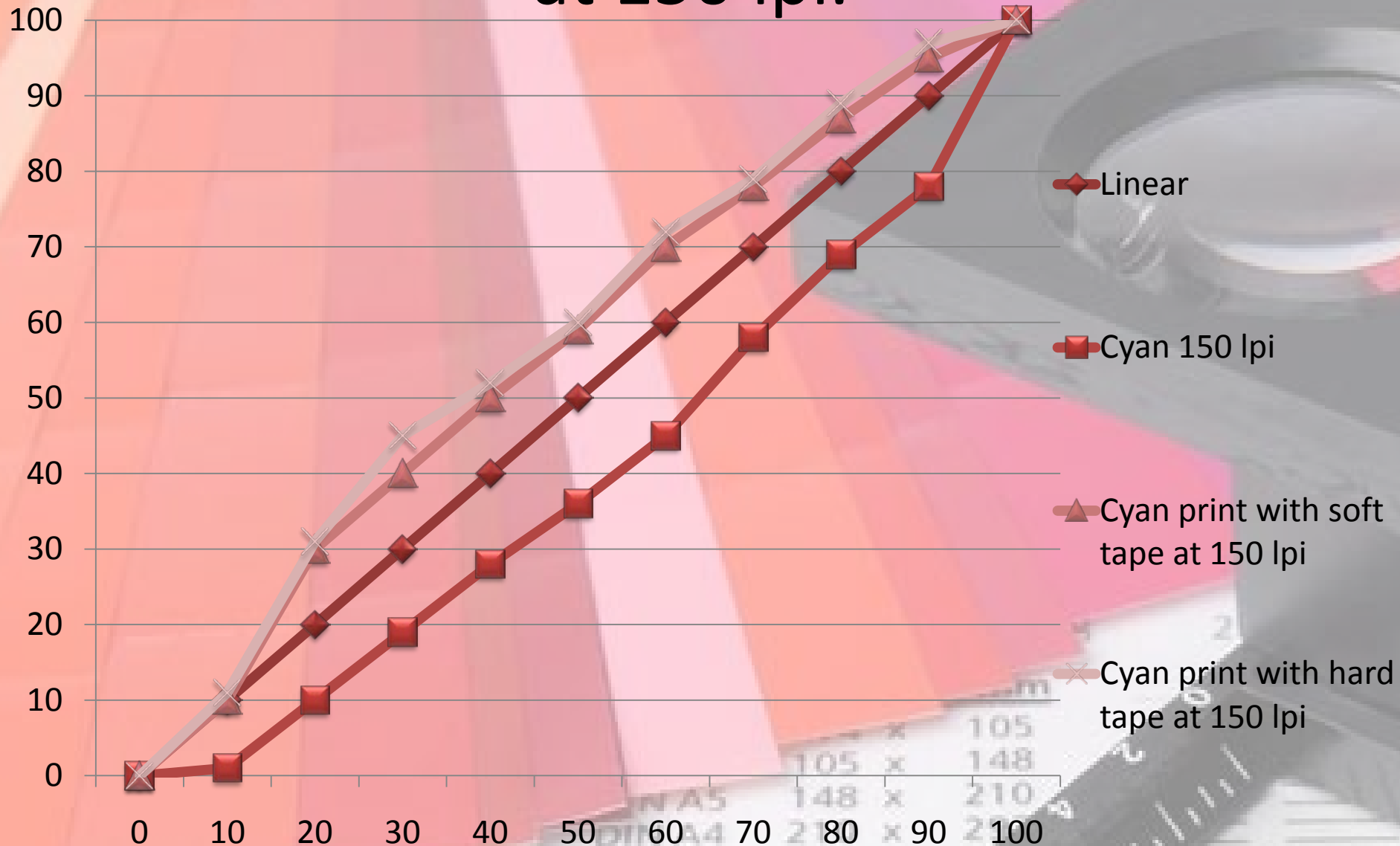
Tonal reproduction curves for screen ruling 175 lpi.



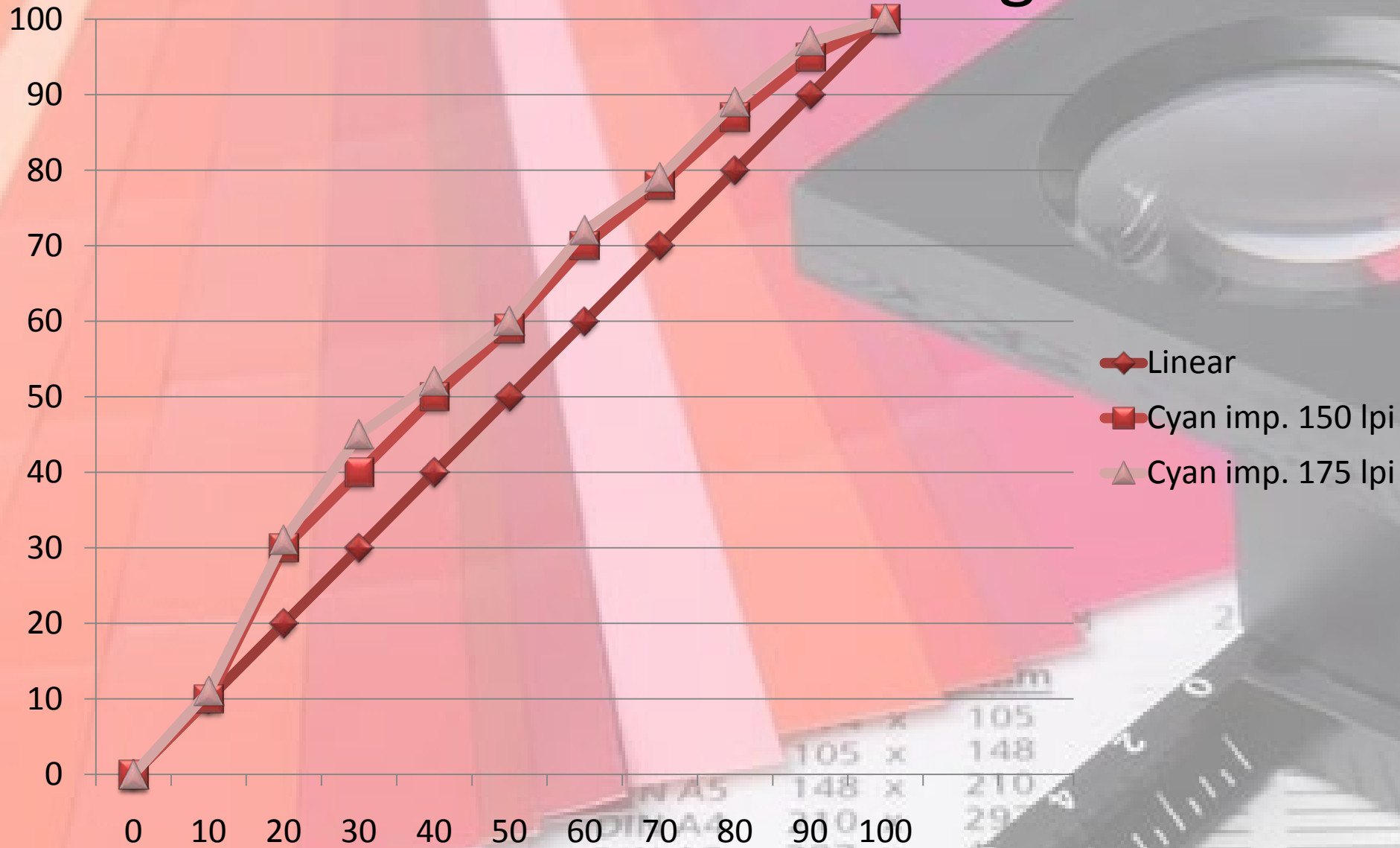
Tonal curves comparison for different screen ruling



Tonal curves with soft and hard tapes at 150 lpi.



Tonal curves comparing printing with different screen ruling.



Optical densities of 100% fields

Producer	Values for the optical densities of 100% fields, received with the use of the following anylox rollers			
	D cyan/anylox	D magenta/anylox	D yellow/anylox	D black/anylox
User				
1.Sericol	1.35-1.40 470/2.1	1.30-1.35 470/3.5	1.35-1.40 470/3.7	>1.5 470/3.5
2.Rotoprint	1.10 470/4.0	0.93 320/5.5	1.13 470/3.7	1.64 280/6.0

Conclusions:

- Printing with screen ruling of 175 lpi causes difficulties in the reproduction quality in the highlights.
- The so called bump-up of the graduation curve is done in highlights which guarantee a stable reproduction of the fine screen elements.
- After the corrections, the quality of the received print samples is significantly ameliorated.

		x	105
		x	148
DIN A5	148	x	210
DIN A4	210	x	297
DIN A3	297	x	420