

Buyers Lab Performance Evaluation:

FEBRUARY 2018

COMPARISON OF INKJET STARTER CARTRIDGES USING THE CANON PIXMA TS5150, DEVICE A, AND DEVICE B PRINTERS

Test Objective

Keypoint Intelligence - Buyers Lab was commissioned by Canon Europe Ltd to conduct comparative starter cartridge yield testing using the Canon PIXMA TS5150, Device A, and Device B printers. Each printer was subjected to two tests that simulated business workflows, with one test printing in a stop-start fashion and the other printing semi-continuously. All testing was conducted at Buyers Lab's European test facility in Wokingham, UK.

Executive Summary

Page yields produced by the Canon PIXMA TS5150 were much higher than those produced by Device A and Device B, overall. When the devices printed semi-continuously, the PIXMA TS5150 produced a CMY yield that was 36% higher than Device A's yield, and an impressive 171% higher than Device B's CMY yield. In the same test, the PIXMA TS5150's CMYK yield was 36% and 96% higher than the rival devices' yields, respectively.

The devices were also run in a stop-start fashion, and the PIXMA TS5150's page yields were far superior to those of Device A and Device B once again. For example, in the stop-start workflow test the PIXMA TS5150's CMY page yield was 196% higher than Device B's and 72% higher than Device A's, while the PIXMA TS5150's CMYK yield was 138% and 51% higher than those of the rival devices, respectively.

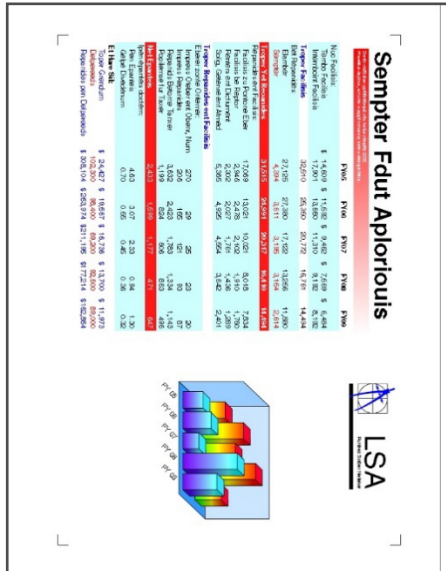
Based on Buyers Lab's testing, it's clear that the cartridge set provided with the Canon PIXMA TS5150 produces much higher page yields than those bundled with Device A and Device B.

Test Files

Buyers Lab used the ISO 24712 test documents to test page yield in the business semi-continuous and stop-start tests. The individual test targets are shown below.



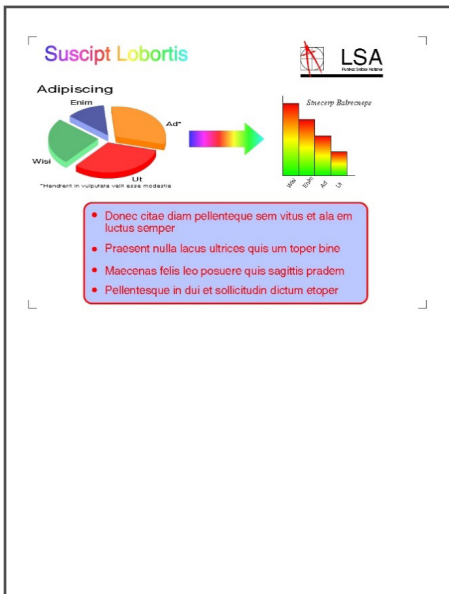
Page One



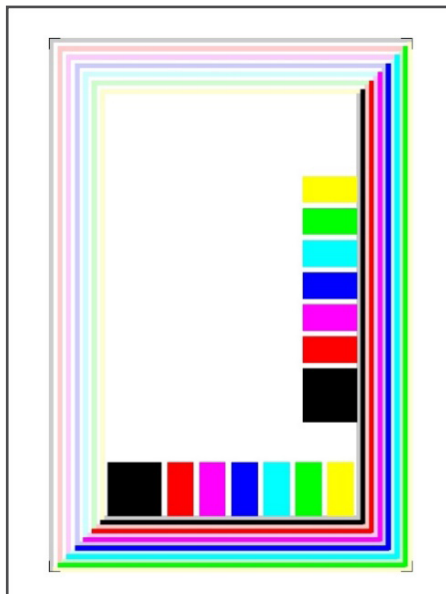
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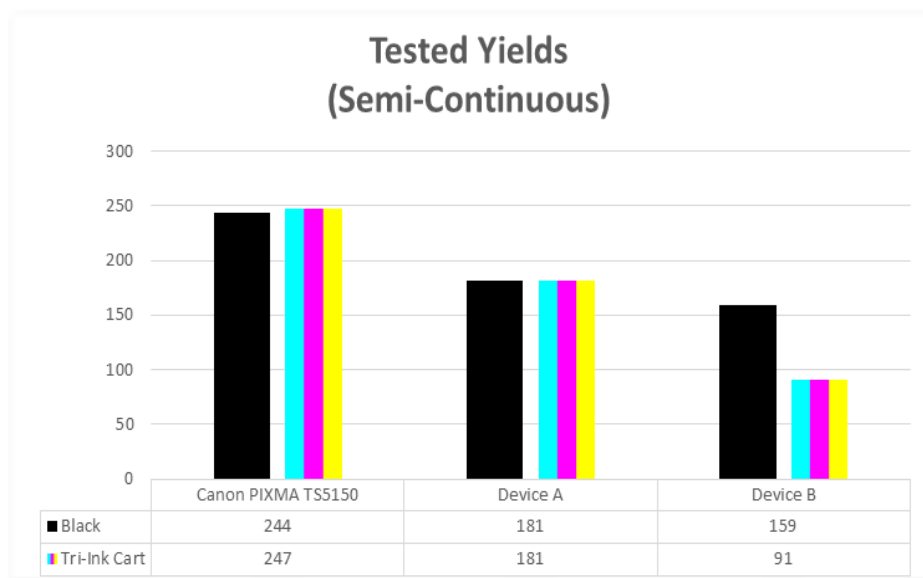


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Comparative Page Yields

The Canon PIXMA TS5150's starter cartridge set delivered higher yields than Device A's and Device B's cartridges. Indeed, the PIXMA TS5150 produced a CMY yield of 247 pages in the semi-continuous test, while Device A produced 181 pages and Device B produced just 91 pages. That makes the PIXMA TS5150's CMY yield 36% and 171% higher, respectively. The PIXMA TS5150 was still the highest with regards to black cartridge yield, with 244 pages compared to Device A's 181 pages and Device B's 159 pages. This makes the PIXMA TS5150's semi-continuous black yield 35% higher than Device A's yield, and 53% higher than Device B's yield.

The same trend was shown in the stop-start test, with the PIXMA TS5150 producing page yields well in excess of its tested rivals. Its CMY yield was 275 pages, which is 72% higher than Device A's 160 pages and 196% higher than Device B's 93 pages. The PIXMA TS5150's black yield of 243 pages was 34% higher than Device A's 182-page yield and 94% higher than Device B's 125-page yield.

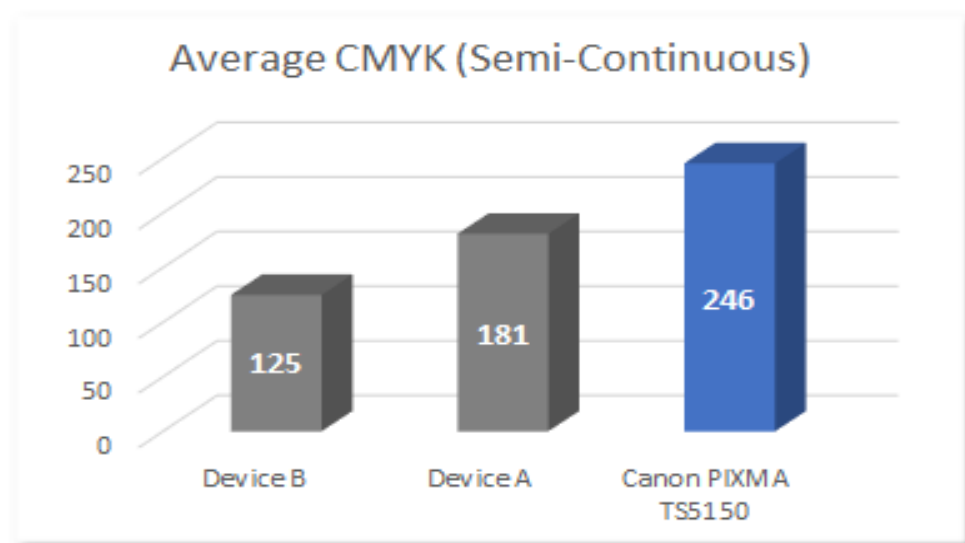


Page Yields (Semi-Continuous)			
	Tri-Ink Cartridge (CMY)	Black	CMYK
Canon PIXMA TS5150	247	244	246
Device A	181	181	181
Device B	91	159	125

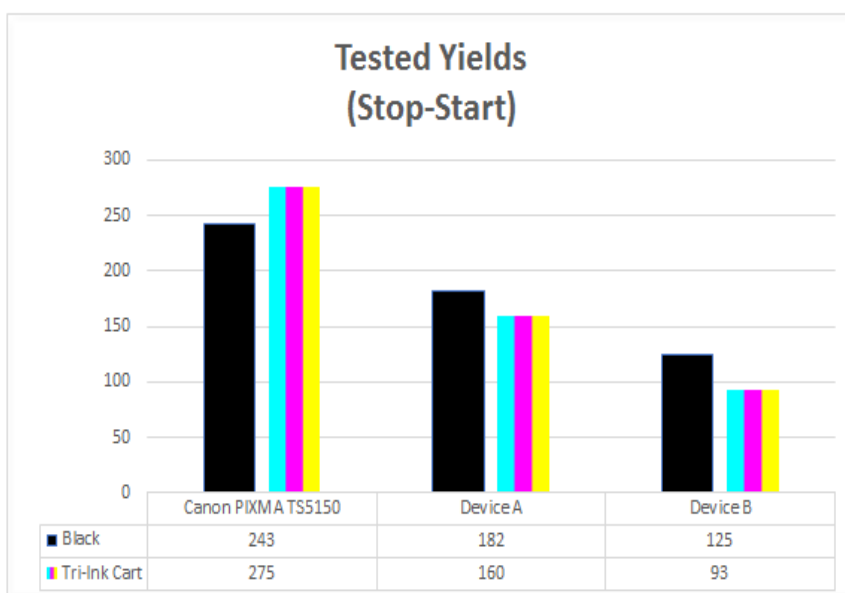
This table shows the average colour, black, and average CMYK page yields for each printer device.

Yield Comparisons (Semi-Continuous)				
	% Below Canon PIXMA TS5150's Tested Yield		% By Which Canon PIXMA TS5150's Tested Yield is Higher	
	CMY	CMYK	CMY	CMYK
Device A	-27%	-26%	36%	36%
Device B	-63%	-49%	171%	96%

This table compares the non-Canon devices' average tested yield against the genuine Canon device's average tested yield as a percentage.



When printing in a semi-continuous manner, the average CMYK page yield for the PIXMA TS5150 was the highest of the group.

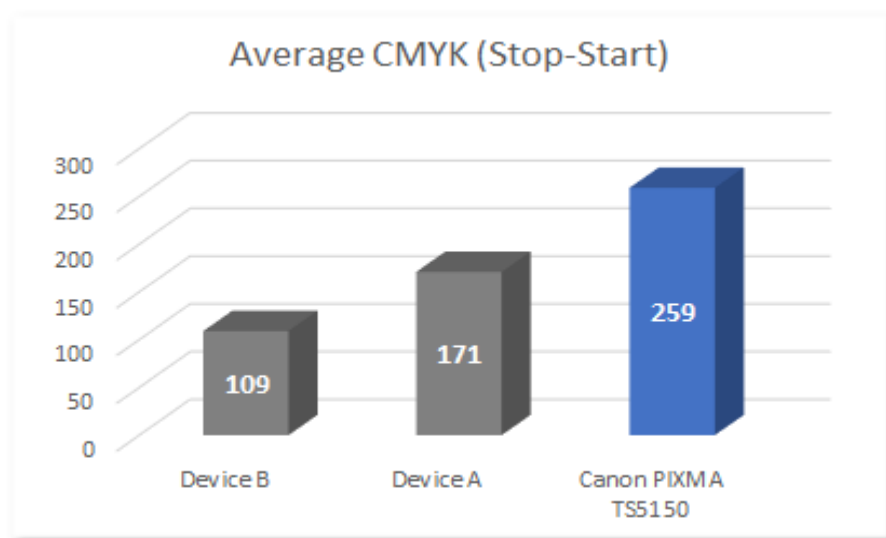


Page Yields (Stop-Start)			
	Tri-Ink Cartridge (CMY)	Black	CMYK
Canon PIXMA TS5150	275	243	259
Device A	160	182	171
Device B	93	125	109

This table shows the average colour, black, and CMYK page yields for each printer device.

Yield Comparisons (Stop-Start)				
	% Below Canon PIXMA TS5150's Tested Yield		% By Which Canon PIXMA TS5150's Tested Yield is Higher	
	CMY	CMYK	CMY	CMYK
Device A	-42%	-34%	72%	51%
Device B	-66%	-58%	196%	138%

This table compares the non-Canon devices' average tested yield against the genuine Canon device's average tested yield as a percentage.



When printing in an intermittent, stop-start manner, the average CMYK page yield for the PIXMA TS5150 was the highest of the group.

Supporting Test Data

Semi-Continuous					
	CMY				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS5150	43.3	35.7	7.5	0	247
Device A	34.1	29.2	4.9	0	181
Device B	30.2	27.3	3.0	0	91

	BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS5150	39.5	31.8	7.7	0	244
Device A	30.4	26.2	4.2	0	181
Device B	29.0	24.8	4.2	0	159

Stop-Start					
	CMY				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS5150	43.4	35.5	7.8	0	275
Device A	34.1	29.0	5.1	0	160
Device B	30.3	27.1	3.2	0	93

	BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon PIXMA TS5150	39.6	31.7	7.9	0	243
Device A	30.4	25.0	5.5	0	182
Device B	29.1	24.6	4.5	0	125

Test Methodology

Buyers Lab used the starter cartridge set included in a device's box to test the page yield of each printer device. The cartridge set was weighed at the start of testing, run to exhaustion and then weighed again. Page yield was evaluated per the following:

A. Ink Yield: The single starter ink cartridge set included with the devices in the box was run to exhaustion using the ISO 24712 test document suite. Two devices of each model type were used to test the yields—one for the semi-continuous test and one for the stop-start test.

Test Environment/Conditions

All testing was conducted in a controlled environment at Buyers Lab's test facility located at Wokingham, UK, per the following conditions:

Temperature was maintained at 22°C, +/-2.7°C with daily conditions monitored and logged 24/7 by a seven-day temperature/humidity chart recorder. Relative humidity was maintained within 45% +/- 10% with daily conditions monitored and logged 24/7 by a seven-day temperature/humidity chart recorder. Materials conditioning: printers, paper, and cartridges were acclimatized to the above conditions for a minimum of 24 hours prior to testing. Prior to acclimatization, packaging and shipping materials were removed from the printer and cartridges. Paper was acclimatized in a ream wrapper.

Test Equipment

Total number of cartridges tested:

4 x Canon PIXMA TS5150 starter ink cartridges (one tri-colour ink cartridge and one black cartridge per test device)

4 x Device A starter ink cartridges (one tri-colour ink cartridge and one black cartridge per test device)

4 x Device B starter ink cartridges (one tri-colour ink cartridge and one black cartridge per test device)

Total number of printers required:

2 x Canon PIXMA TS5150

2 x Device A

2 x Device B

Test devices were purchased by Buyers Lab on the open market.

About Keypoint Intelligence - Buyers Lab

Keypoint Intelligence is a one-stop shop for the digital imaging industry. With our unparalleled tools and unmatched depth of knowledge, we cut through the noise of data to offer clients the unbiased insights and responsive tools they need in those mission-critical moments that define their products and empower their sales.

For over 50 years, Buyers Lab has been the global document imaging industry's resource for unbiased and reliable information, test data, and competitive selling tools. What started out as a consumer-based publication about office equipment has become an all-encompassing industry resource. Buyers Lab evolves in tandem with the ever-changing landscape of document imaging solutions, constantly updating our methods, expanding our offerings, and tracking cutting-edge developments.

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