

## Buyers Lab Performance Evaluation:

FEBRUARY 2018

### **COMPARISON OF INKJET STARTER CARTRIDGES USING THE CANON PIXMA TS3150, 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 TS3150, 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**

The page yields produced by the Canon PIXMA TS3150 were far in excess of those produced by Device A and Device B. When the devices printed semi-continuously, the PIXMA TS3150 produced a CMY yield that was 138% higher than Device A's yield, and a whopping 177% higher than Device B's CMY yield. In the same test, the PIXMA TS3150's CMYK yield was 126% and 98% higher than the rival devices, respectively.

One PIXMA TS3150 printed in a stop-start fashion, and in that test, the PIXMA TS3150's page yields exceeded those of Device A and Device B once again. For example, in that test the PIXMA TS3150's CMY page yield was 156% higher than Device B's and 97% higher than Device A's, while the PIXMA TS3150's CMYK yield was 118% and 94% higher than the rival devices' yields, respectively.

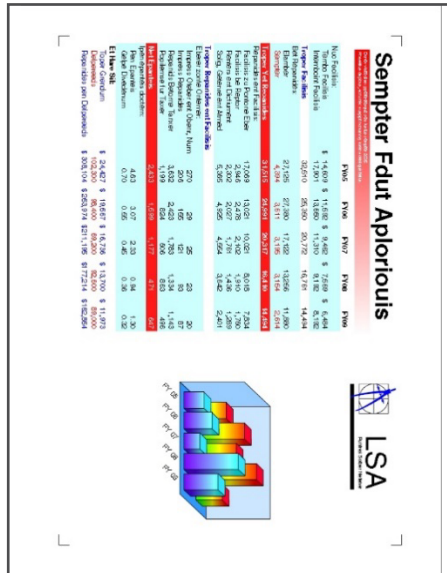
From the results gained in Buyers Lab's testing, it's clear that the cartridge set provided with the Canon PIXMA TS3150 provides much higher page yields than those bundled with Device A and Device B.

## 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.



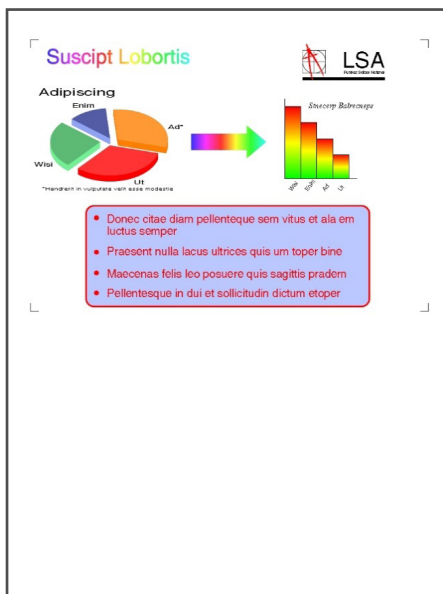
Page One



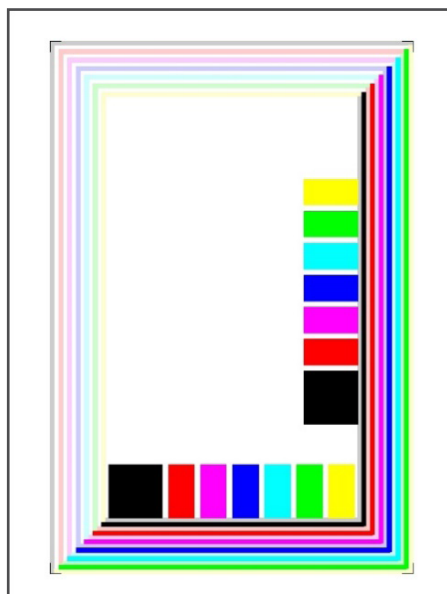
Page Two



Page Three



Page Four

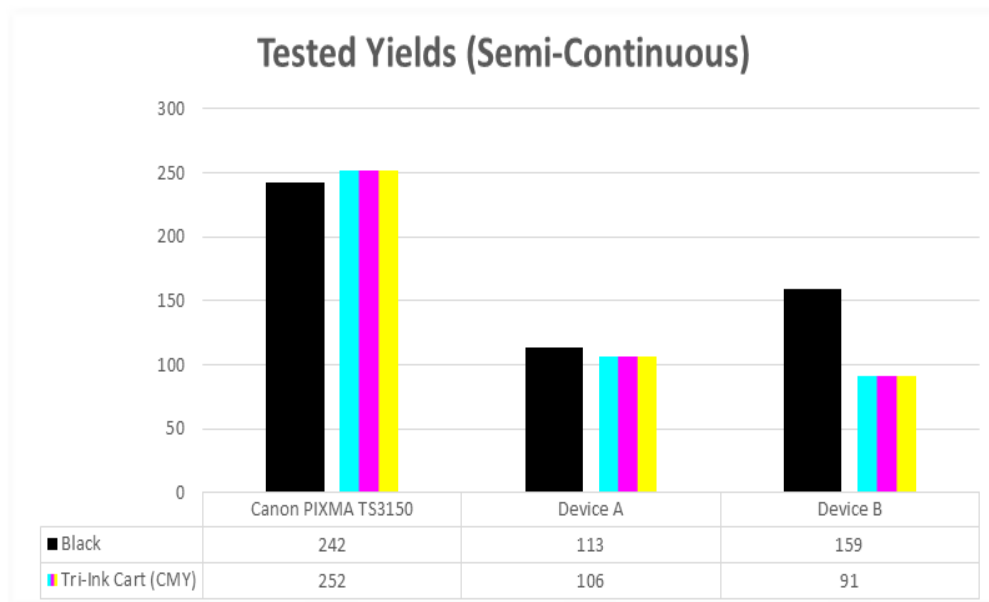


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## Comparative Page Yields

The Canon PIXMA TS3150's starter cartridge set outperformed those of Device A and Device B. Indeed, the PIXMA TS3150 produced a CMY yield of 252 pages in the semi-continuous test, while Device A produced 106 pages and Device B produced just 91 pages. That makes the PIXMA TS3150's CMY yield 138% and 177% higher, respectively. The PIXMA TS3150 was still the victor with regards to black cartridge yield, with 242 pages printed compared to Device A's 113 pages and Device B's 159 pages. This makes the PIXMA TS3150's semi-continuous black yield 114% higher than Device A's yield, and 52% higher than Device B's yield.

The same trend was shown in the stop-start test, with the PIXMA TS3150 producing page yields well in excess of its tested rivals. Its CMYK yield was 238 pages, which is 94% higher than Device A's 123 pages and 118% higher than Device B's 109 pages. The PIXMA TS3150's black yield of 237 pages was 91% higher than Device A's 124-page yield and 90% higher than Device B's 125-page yield.

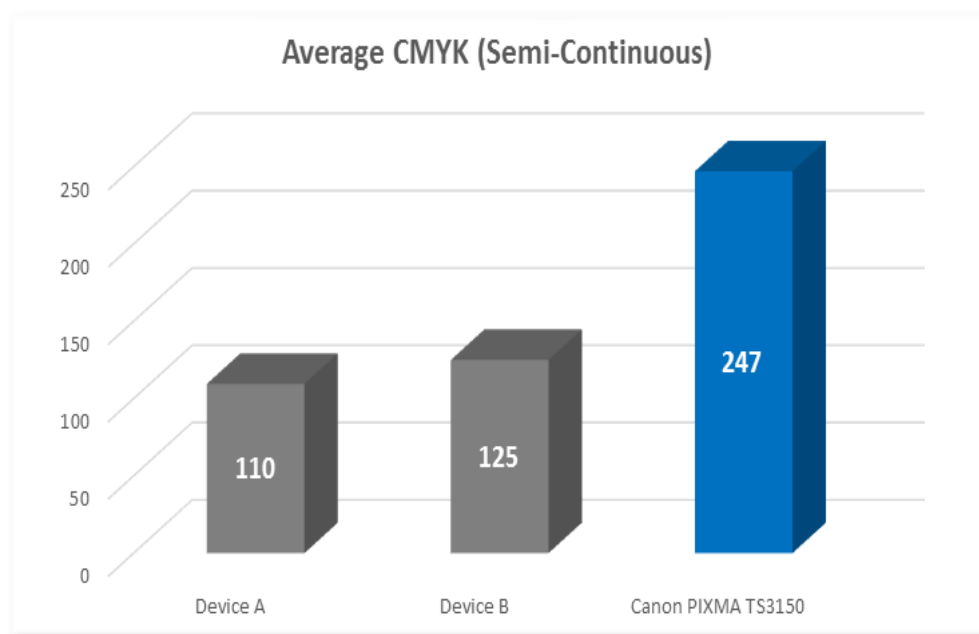


Page Yields (Semi-Continuous)			
	Tri-Ink Cartridge (CMY)	Black	CMYK
Canon PIXMA TS3150	252	242	247
Device A	106	113	110
Device B	91	159	125

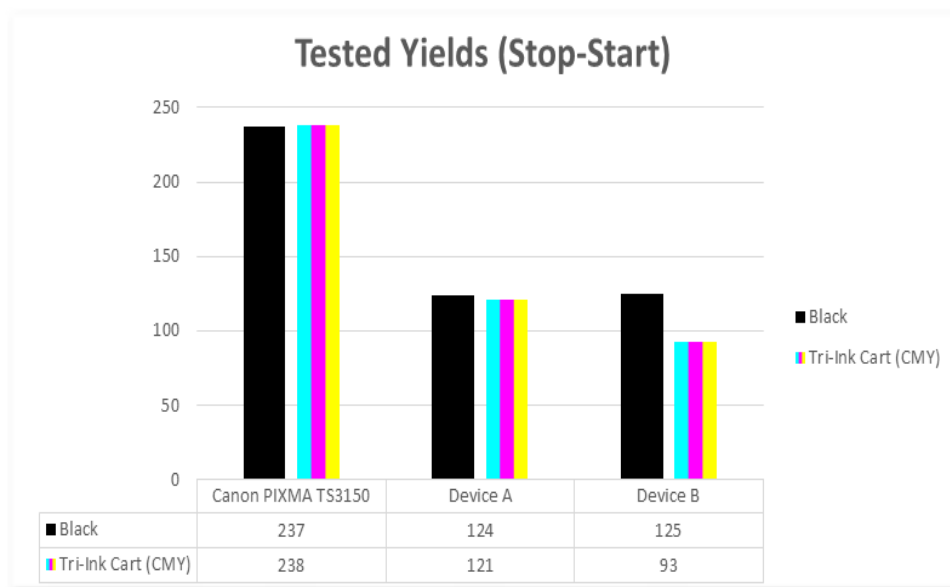
This table shows the average colour, black, and CMYK page yields for each printer device.

Yield Comparisons (Semi-Continuous)				
	% Below Canon PIXMA TS3150's Tested Yield		% By Which Canon PIXMA TS3150's Tested Yield is Higher	
	CMY	CMYK	CMY	CMYK
<b>Device A</b>	-58%	-56%	138%	126%
<b>Device B</b>	-64%	-49%	177%	98%

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



When printed in a semi-continuous manner, the average CMYK page yield for the PIXMA TS3150 was the highest of the group.

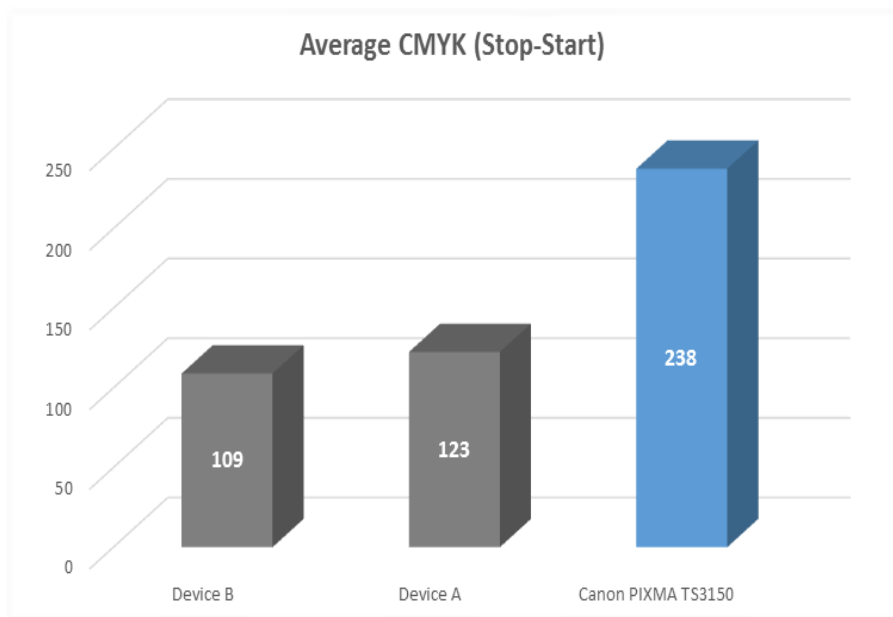


Page Yields (Stop-Start)			
	Tri-Ink Cartridge (CMY)	Black	CMYK
Canon PIXMA TS3150	238	237	238
Device A	121	124	123
Device B	93	125	109

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

Yield Comparisons (Stop-Start)				
	% Below Canon PIXMA TS3150's Tested Yield		% By Which Canon PIXMA TS3150's Tested Yield is Higher	
	CMY	CMYK	CMY	CMYK
Device A	-49%	-48%	97%	94%
Device B	-61%	-54%	156%	118%

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



When printed in an intermittent, stop-start manner, the average CMYK page yield for the PIXMA TS3150 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 TS3150	38.5	30.9	7.6	0	252
Device A	30.3	27.1	3.3	0	106
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 TS3150	38.6	31.1	7.5	0	242
Device A	27.8	23.9	3.8	0	113
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 TS3150	38.6	31.0	7.6	0	238
Device A	30.7	27.0	3.8	0	121
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 TS3150	38.5	31.2	7.3	0	237
Device A	27.9	23.9	4.0	0	124
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. Yields were tested on two devices of each model type, and the results were averaged.

## 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 TS3150 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 TS3150

2 x Device A

2 x Device B

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

## About Keypoint Intelligence - Buyers Lab

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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.

For more information, please call David Sweetnam at +44 (0) 118 977 2000 or email him at [david.sweetnam@keypointintelligence.com](mailto:david.sweetnam@keypointintelligence.com)