

Buyers Lab Performance Evaluation:

FEBRUARY 2018

COMPARISON OF INKJET STARTER CARTRIDGES USING THE CANON MAXIFY MB5150 AND DEVICE A, DEVICE B, AND DEVICE C PRINTERS.

Test Objective

Keypoint Intelligence - Buyers Lab was commissioned by Canon Europe Ltd to conduct comparative starter cartridge yield testing using the Canon MAXIFY MB5150 and Device A, Device B, and Device C 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 Canon MAXIFY MB5150's bundled starter cartridge set performed exceptionally well compared to those of the rival devices tested by Buyers Lab. The tested yields of each individual colour were much higher than the rival devices tested, as were the average CMY and CMYK yields.

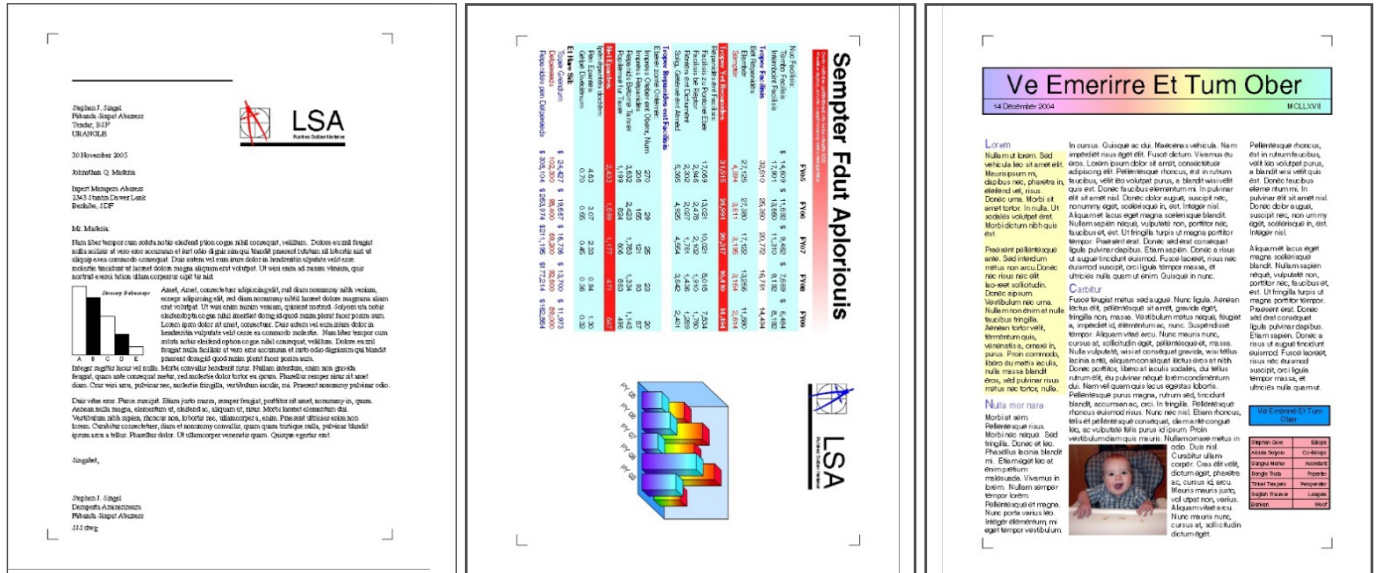
Indeed, the MAXIFY MB5150's semi-continuous average CMY and CMYK yields were 198% and 203% higher, respectively, than those of Device A—the device with the lowest yields. Even when compared to its closest rival, Device C, the MAXIFY MB5150's average CMY and CMYK yields are 103% and 70% higher, respectively. That's a remarkable advantage.

When output was printed in a stop-start fashion, the MAXIFY MB5150's lead was slightly lower, but its yields were still much, much higher than the tested rivals' yields. Its average CMY of 885 pages was 578 pages higher than that of Device A's, the device with the lowest average CMY yield, and 625 pages higher than Device A's average CMYK yield.

Based on Buyers Lab's test results, it's clear that the starter cartridge set bundled with the Canon MAXIFY MB5150 provides significantly higher page yields than those included with Device A, Device B, and Device C.

Test Files

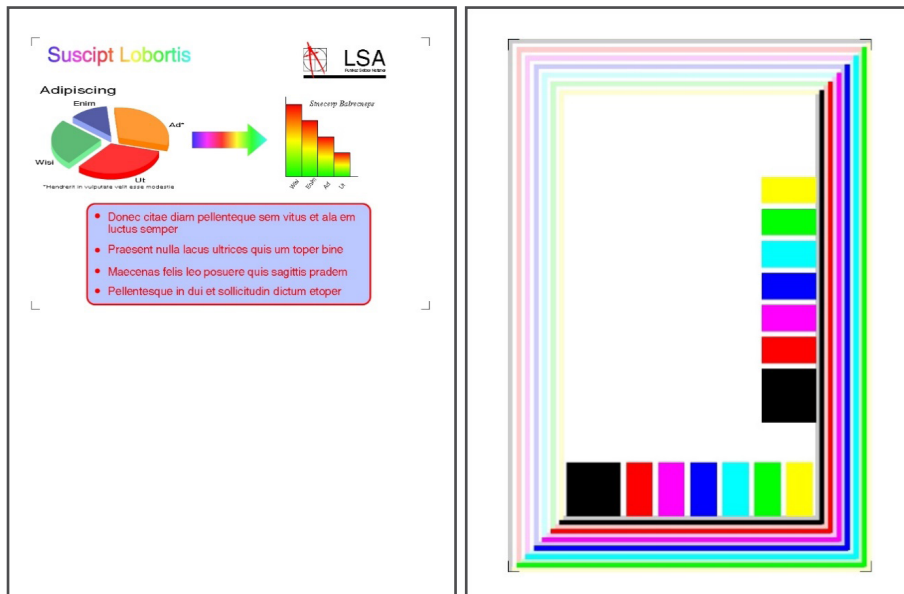
Buyers Lab used the ISO 24712 test documents to test page yield in the business semi-continuous and stop-start tests. The individual test targets are shown below.



Page One

Page Two

Page Three



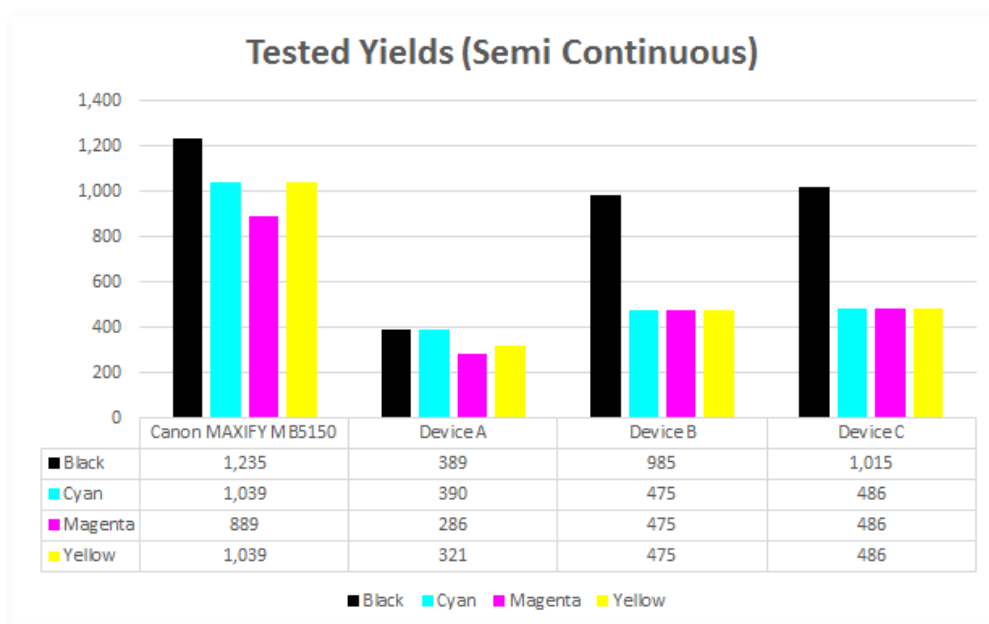
Page Four

Page Five

Comparative Page Yields

The Canon MAXIFY MB5150's page yields were way in excess of those of the rival devices, whether output was printed semi-continuously or in a stop-start manner. Device A's yields were the lowest across the board, while Device B and Device C's yields were roughly tied for second place. Indeed, when printing semi-continuously, the MAXIFY MB5150's average CMY yield of 989 pages was 198% higher than Device A's, while its average CMYK yield was 203% higher. Even when compared to the average CMY and CMYK yields of its nearest rival, Device C, the MAXIFY MB5150's yields were still 103% and 70% higher, respectively.

The trend continued in the Stop-Start tests, with the MAXIFY MB5150's average CMY and CMYK being 188% and 198% higher than Device A's yields, respectively, and 84% and 57% higher than the MAXIFY MB5150's nearest rival, Device C.

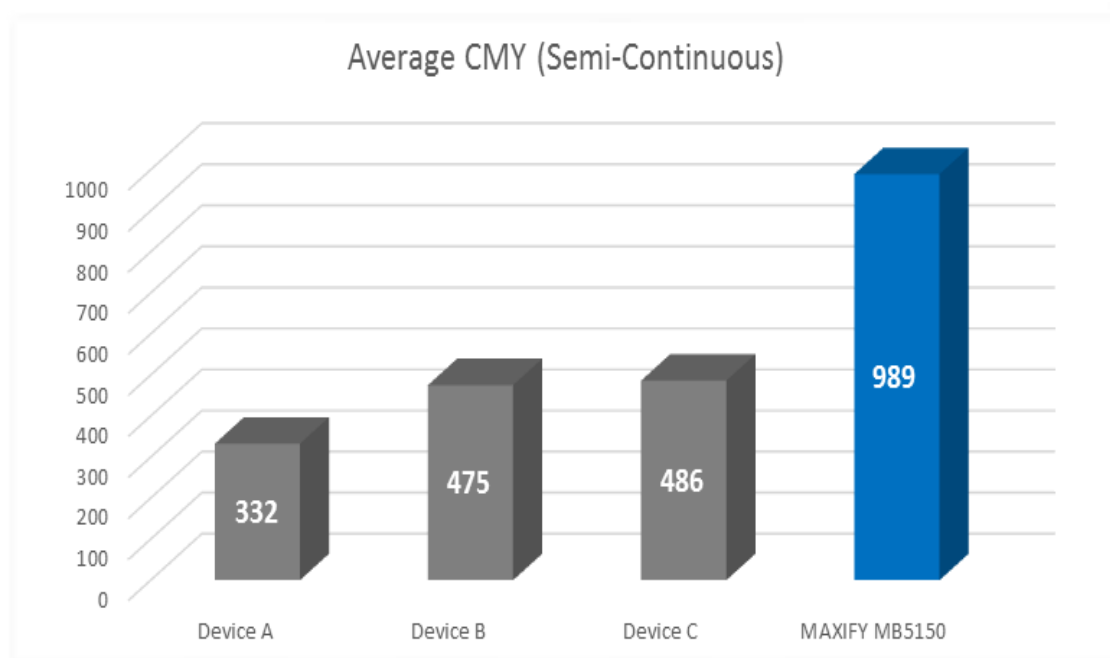


Page Yields (Semi-Continuous)						
	Cyan	Magenta	Yellow	Black	CMY	CMYK
Canon MAXIFY MB5150	1,039	889	1,039	1,235	989	1,051
Device A	390	286	321	389	332	347
Device B	475	475	475	985	475	603
Device C	486	486	486	1,015	486	618

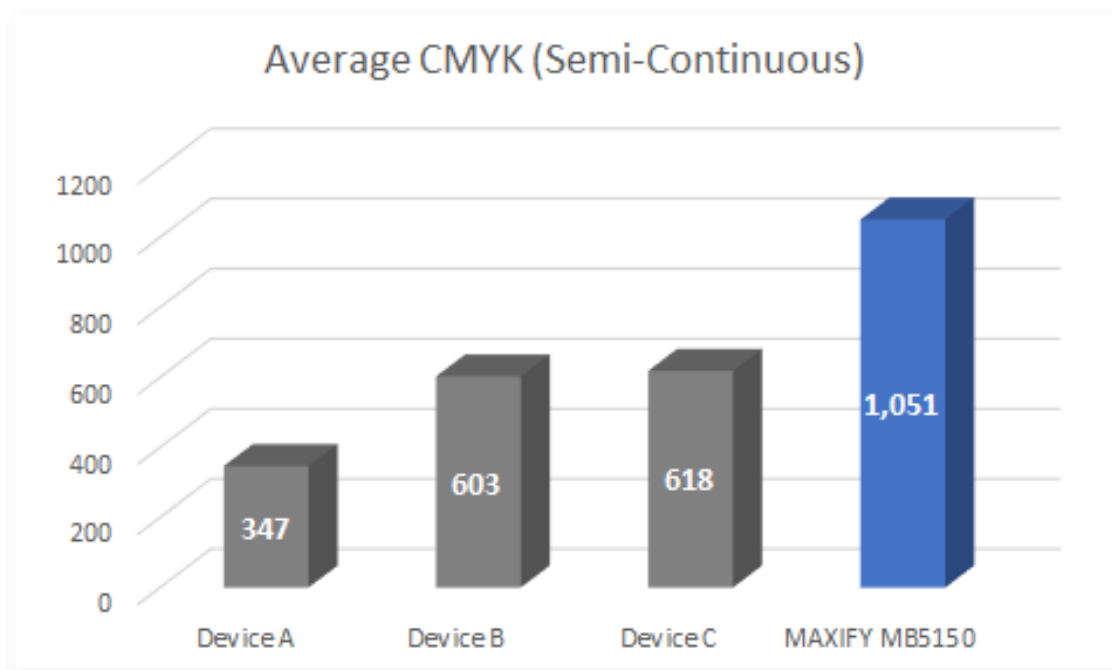
This table shows the individual colour, black, and average CMY and CMYK page yields for each printer device.

Yield Comparisons (Semi-Continuous)				
	% Below Canon MAXIFY MB5150's Tested Yield		% By Which Canon MAXIFY MB5150's Tested Yield is Higher	
	CMY	CMYK	CMY	CMYK
Device A	-66%	-67%	198%	203%
Device B	-52%	-43%	108%	74%
Device C	-51%	-41%	103%	70%

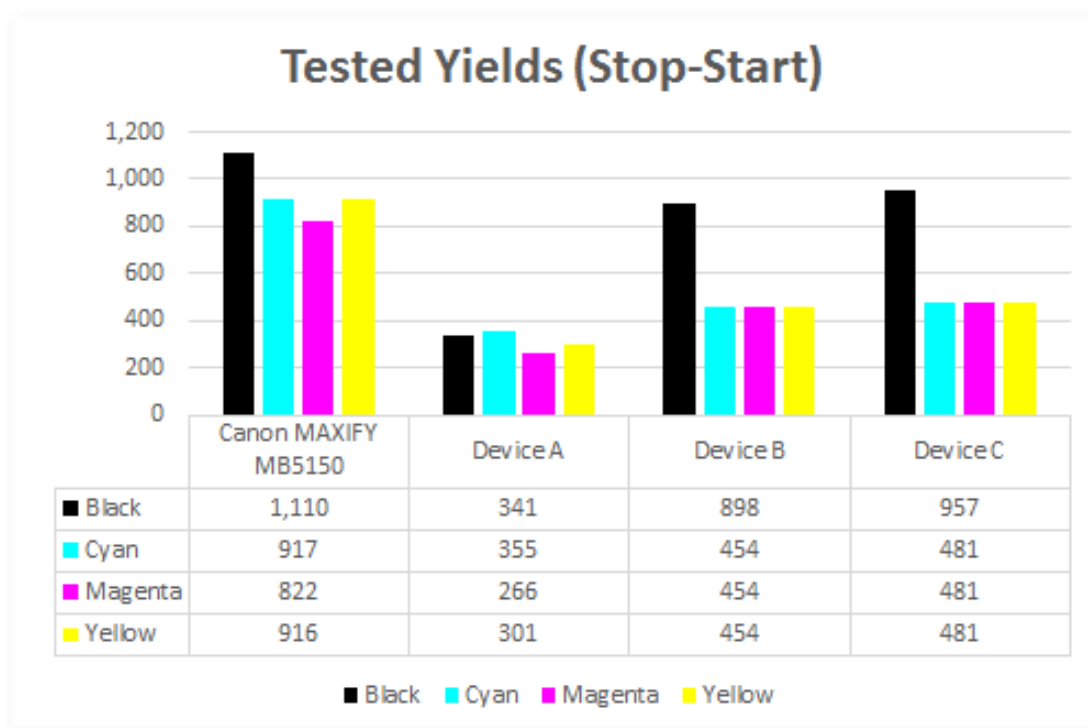
This table compares the non-Canon device's average tested yield against the genuine Canon device's average tested yield as a percentage.



When printing in a semi-continuous manner, the average CMY page yield for the MAXIFY MB5150 was the highest of the group.



When printing in a semi-continuous manner, the average CMYK page yield for the MAXIFY MB5150 was also the highest of the group.

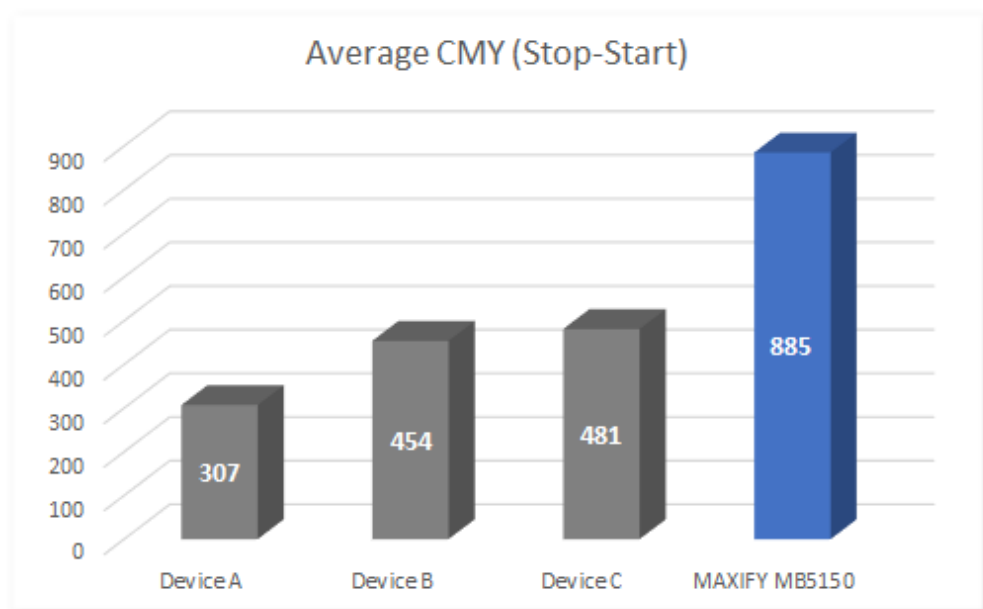


Page Yields (Stop-Start)						
	Cyan	Magenta	Yellow	Black	CMY	CMYK
Canon MAXIFY MB5150	917	822	916	1,110	885	941
Device A	355	266	301	341	307	316
Device B	454	454	454	898	454	565
Device C	481	481	481	957	481	600

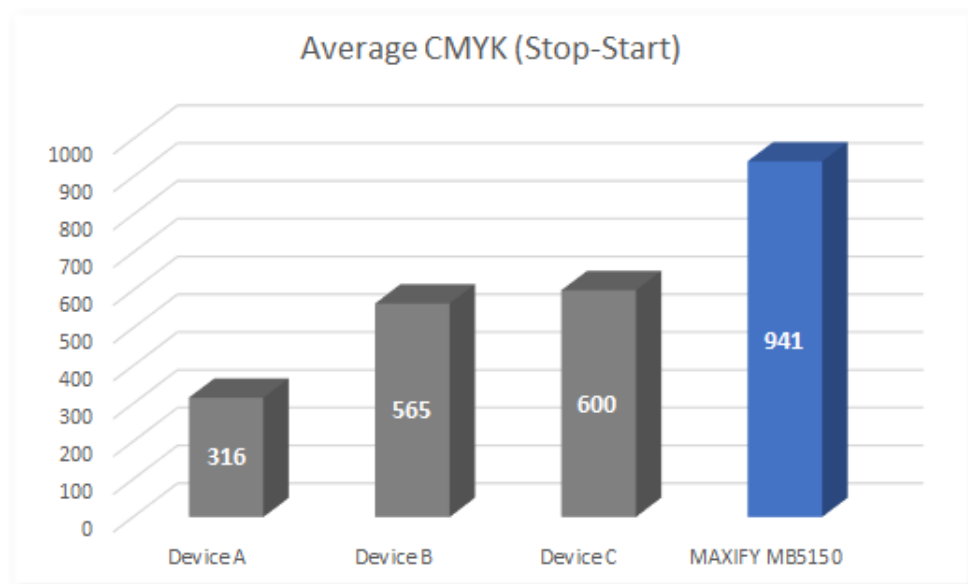
This table shows the average individual colour, black, CMY, and CMYK page yields for each printer device.

Yield Comparisons (Stop-Start)				
	% By Which Canon MAXIFY MB5150's Yields are Higher		% By Which Rival Devices' Yields are Lower	
	CMY	CMYK	CMY	CMYK
Device A	188%	198%	-65%	-66%
Device B	95%	67%	-49%	-40%
Device C	84%	57%	-46%	-36%

This table compares the rival 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 CMY page yield for the MAXIFY MB5150 was the highest of the group.



When printing in an intermittent, stop-start manner, the average CMYK page yield for the MAXIFY MB5150 was also the highest of the group.

Supporting Test Data

Semi-Continuous					
Device	CYAN				
	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	61.0	46.9	14.1	0	1,039
Device A	22.6	16.9	5.7	0	390
Device B	36.4	25.6	10.8	0	475
Device C	36.7	25.7	10.9	0	486

Device	MAGENTA				
	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	61.3	46.8	14.5	0	889
Device A	22.5	16.9	5.7	0	286
Device B	36.3	25.5	10.8	0	475
Device C	36.4	25.7	10.6	0	486

	YELLOW				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	60.1	46.9	13.2	0	1,039
Device A	22.4	16.8	5.6	0	321
Device B	36.1	25.4	10.7	0	475
Device C	36.3	25.6	10.7	0	486

	BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	100.1	61.6	38.4	0	1,235
Device A	28.1	16.8	11.3	0	389
Device B	76.9	48.2	28.8	0	985
Device C	77.3	48.4	28.7	0	1,015

Stop-Start					
	CYAN				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	61.3	47.1	14.3	0	917
Device A	22.4	16.7	5.7	0	355
Device B	36.5	25.7	10.9	0	454
Device C	36.6	25.7	10.9	0	481

	MAGENTA				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	61.3	46.8	14.5	0	822
Device A	22.4	16.7	5.7	0	266
Device B	36.3	25.5	10.8	0	454
Device C	36.5	25.7	10.8	0	481

	YELLOW				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	61.3	46.8	14.5	0	916
Device A	22.4	16.7	5.7	0	301
Device B	36.2	25.4	10.7	0	454
Device C	36.0	25.5	10.5	0	481

	BLACK				
Device	Full Weight (grams)	Empty Weight (grams)	Net Weight (grams)	Total Counter at Start	Total Counter at End
Canon MAXIFY MB5150	100.2	61.9	38.3	0	1,110
Device A	28.1	16.8	11.3	0	341
Device B	76.9	47.9	29.0	0	898
Device C	77.3	48.3	29.0	0	957

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 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:

8 x Canon MAXIFY MB5150 starter ink cartridges (2 x four-ink cartridge set)

8 x Device A starter ink cartridges (2 x four-ink cartridge set)

8 x Device B starter ink cartridges (2 x four-ink cartridge set)

8 x Device C starter ink cartridges (2 x four-ink cartridge set)

Total number of printers required:

2 x Canon MAXIFY MB5150

2 x Device A

2 x Device B

2 x Device C

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

About 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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