

AUGUST 2025

Comparative Ink Tank Device Performance: Canon MAXIFY GX4050 vs. Epson EcoTank ET-4850

Background

Keypoint Intelligence was commissioned by Canon Europe Ltd. to conduct a confidential head-to-head performance evaluation between the Canon MAXIFY GX4050 MegaTank printer and the Epson EcoTank ET-4850. The aim of this study was to assess each device's performance across several critical metrics, including page yield, operational reliability, and image quality.

To ensure a consistent and controlled testing environment, each device was operated independently using identical test protocols and conditions. Both printers were subjected to a rigorous daily usage simulation in simplex mode, operating for up to seven hours per day with a designated one-hour inactivity break to mimic typical office workflows. The ISO/IEC 24711 methodology served as the foundation for page yield testing, utilizing the ISO 24712 five-page test suite printed in 100-set batches (500 pages total per batch). Page 5 of each 100th batch was retained to monitor image consistency and check for nozzle blockage throughout the test duration.

Device reliability was evaluated by tracking nozzle performance, recording the frequency and success of cleaning routines, and logging any printer anomalies such as paper jams, system errors, or early end-of-life ink depletion. A nozzle was deemed permanently blocked only if vendor-recommended maintenance procedures failed to restore function. Test continuation in such cases proceeded with standard nozzle checks and documentation of any spontaneous recovery.

Image quality was assessed at baseline and at defined intervals throughout testing using both visual inspection and quantitative analysis. Evaluation parameters included halftone integrity, text and fine-line sharpness, and color reproduction, with output printed on plain and photo media. Assessments were conducted using visual grading scales, X-Rite spectrophotometers, and ColorThink Pro profiling software. Additional analysis was performed in each device's designated eco or ink-saving mode, with OCR legibility testing conducted to gauge font recognition fidelity under reduced ink usage conditions.

Executive Summary

Testing revealed significant performance advantages in favor of the Canon device across virtually every category assessed:

Key Comparative Findings:

	Canon MAXIFY GX4050	Epson EcoTank ET-4850	Canon Advantage
Blocked Nozzle Events	1 event (80,000+ impressions)	34 events	97% fewer interruptions
Maintenance Time	~2 minutes total	~1 hr 42 minutes total	50x less downtime
Cleaning Control	K or CMYK selective	All colors flushed	Customizable, ink-saving
Avg. CMY Page Yield	13,043 pages	7,679	More accurate grayscale tone
Plain Paper Output	Neutral, smooth greyscale	Grainy, cyan-tinged	Clear visual superiority
OCR Accuracy (Eco Mode)	88–89% (matches standard mode)	Drops to as low as 55%	Up to +34% better readability
External Use (Eco Mode)	Still suitable (less vibrant)	Unsuitable (severe loss)	Professional-grade under savings mode
Color Gamut Loss in Eco Mode	-24%	-85%	Professional-grade under savings mode

From a reliability perspective, the Canon MAXIFY GX4050 demonstrated remarkable stability, registering only one blocked nozzle event over the course of more than 80,000 impressions. In contrast, the Epson EcoTank ET-4850 experienced 34 blocked nozzle incidents, one of which required a high-consumption power clean cycle.

In terms of ink yield, the Canon MAXIFY GX4050 achieved an average CMY yield of 13,043 pages—substantially outperforming the Epson ET-4850's average CMY yield of 7,679 pages. These results exclude starter inks and any unfinished final cartridges, ensuring an equitable comparison based on actual operational performance.

Image quality evaluations consistently favored the Canon device. Output produced on plain paper by the Canon MAXIFY GX4050 was visibly superior to that of the Epson, with Canon delivering smoother, more neutral greyscales. Epson output appeared more grainy and was characterized by a noticeable cyan tint, potentially detracting from professional document aesthetics.

The Canon MAXIFY GX4050 also demonstrated superior performance in eco or ink-saving modes. Optical Character Recognition (OCR) testing showed that text printed using Canon's eco mode maintained a high readability success rate of 88–89%, virtually identical to its standard print mode. In contrast, the Epson EcoTank ET-4850 suffered a sharp decline

Comparative Ink Tank Device Performance: Canon MAXIFY GX4050 vs. Epson EcoTank ET-4850

in OCR readability when using eco mode, dropping from 90% in standard mode to as low as 55% in eco mode. Furthermore, while the Canon device's eco mode output remained suitable for external professional use (albeit with reduced vibrancy), Epson's eco mode output exhibited a substantial degradation in quality, rendering it unsuitable for customer-facing applications.

Color management analysis further highlighted the Canon device's advantage. When switching to eco mode, the Canon MAXIFY GX4050 experienced only a 24% reduction in color gamut space, compared to an 85% reduction for the Epson ET-4850—giving Canon a 79% advantage in retained color range. This underscores the Canon device's ability to maintain vivid, consistent color reproduction even under ink-saving conditions.

Overall, the Canon MAXIFY GX4050 clearly delivered superior operational efficiency, reliability, yield consistency, and professional-grade output quality compared to the Epson EcoTank ET-4850.

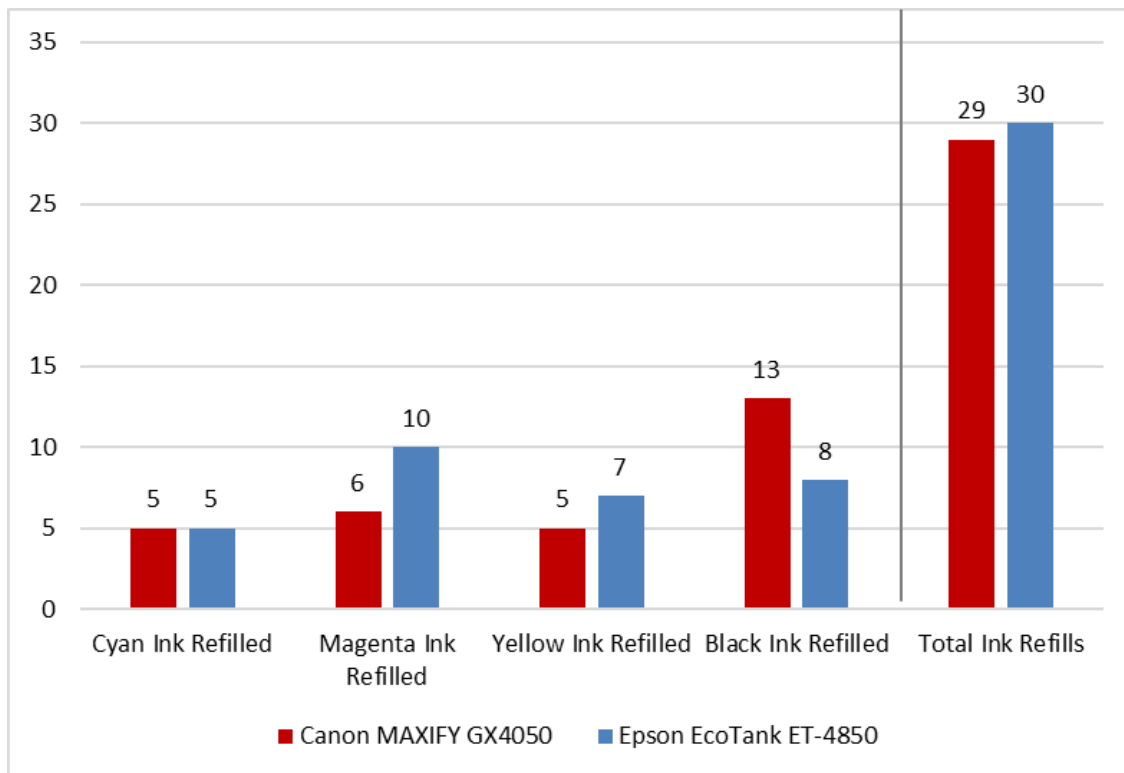
While this test was conducted using the Canon MAXIFY GX4050 and Epson EcoTank ET-4850 models, the findings may also be considered representative of functionally equivalent models sold in other non-European-Union countries/regions. The Canon GX4050 shares identical core specifications with the Canon MAXIFY GX4040. Similarly, the Epson EcoTank ET-4850 is functionally equivalent to the Epson EcoTank L6290, models which use the same print engine, head technology, and ink system, with the only notable variation being in the inclusion of a screen display on the device.

Reliability

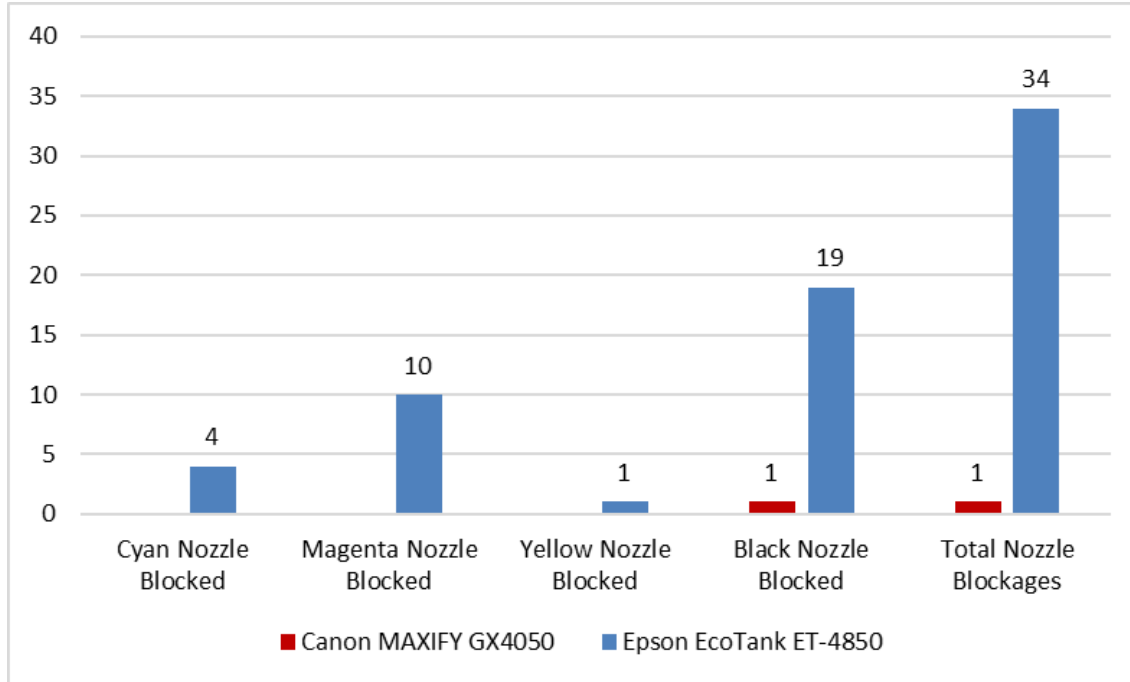
Although neither device experienced any paper jams, error codes, or permanently blocked nozzles throughout testing, the MAXIFY GX4050 exhibited better reliability in terms of the number of clogged nozzles and necessary head cleanings. The MAXIFY GX4050 experienced 97% fewer interruptions compared to the EcoTank ET-4850, with a single nozzle clogged, cleaned, and cleared compared to the EcoTank ET-4850's 34 clogged nozzles and cleanings, one of which was a power clean.

Factoring in timed maintenance routines, Canon users would spend approximately 2 minutes addressing nozzle maintenance over the test period, compared to 1 hour and 42 minutes for Epson users. Additionally, Canon's ability to selectively initiate cleaning routines for either the black (K) or CMY channels offers a significant operational efficiency advantage, whereas Epson's all-or-nothing cleaning approach results in unnecessary ink wastage across all colors.

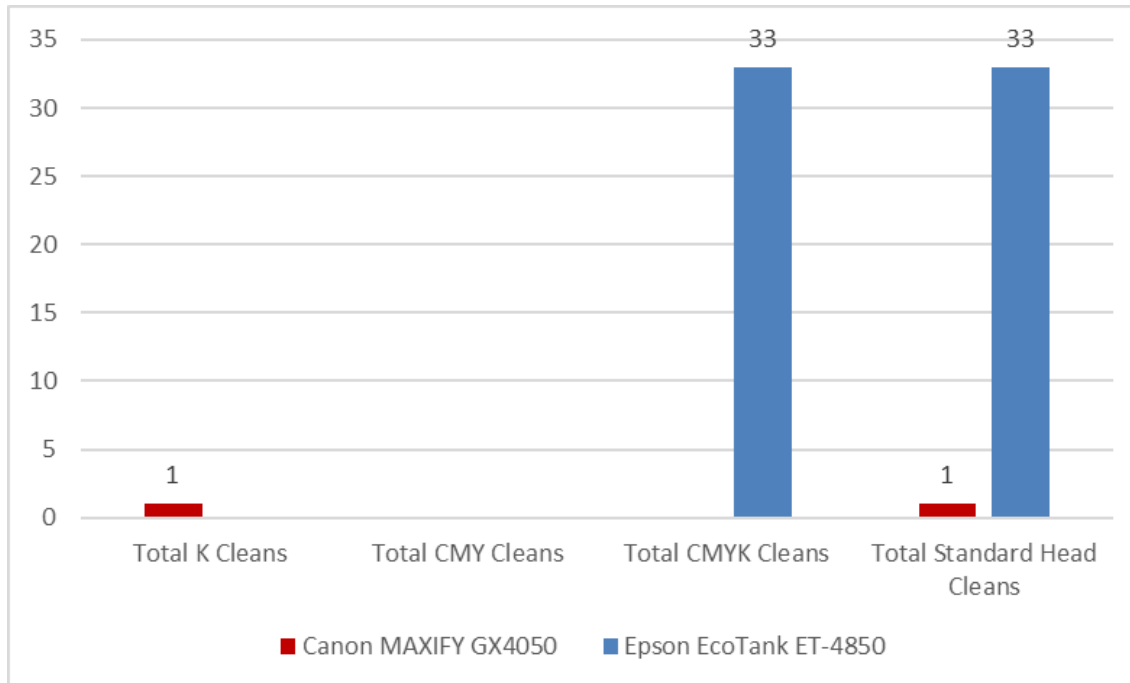
of Tank Refills by Device Per Ink Color



of Blocked Nozzles by Device Per Ink Color

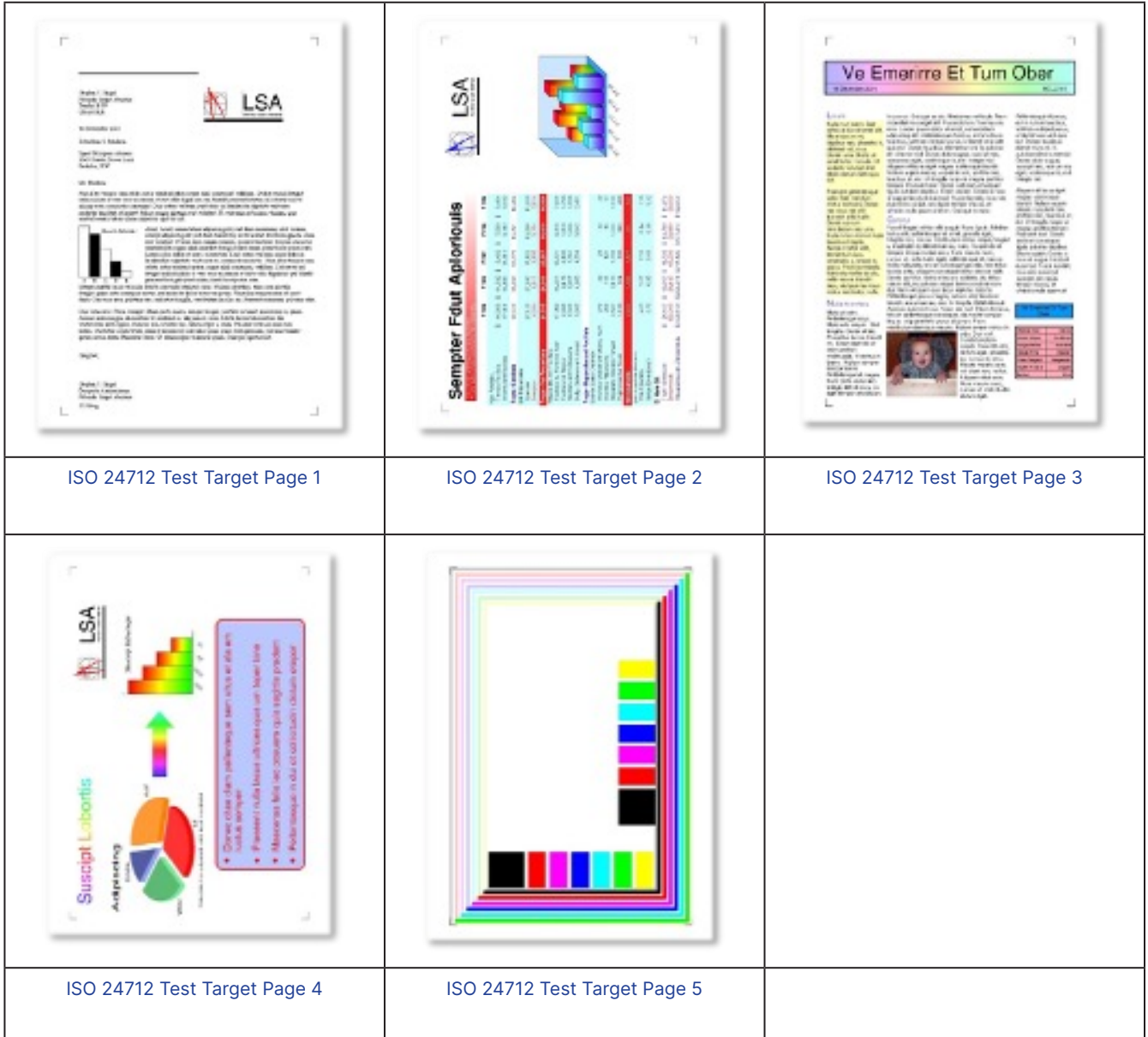


of Standard Head Cleanings by Device Per Ink Color



Page Yield

Keypoint Intelligence conducted its page yield tests using the ISO 24712 test targets (shown below).



Excluding starter inks and any unfinished final cartridges, the MAXIFY GX4050 achieved an average CMY yield of 13,043 pages, which is 70% more pages than the EcoTank ET-4850's 7,679 pages. Average CMYK yields were also in favour of the MAXIFY GX4050, with 34% more pages than the EcoTank ET-4850 (10,418 pages versus 7,795 pages, respectively).

Comparative Ink Tank Device Performance:
Canon MAXIFY GX4050 vs. Epson EcoTank ET-4850

Average Page Yield by Device Per Color

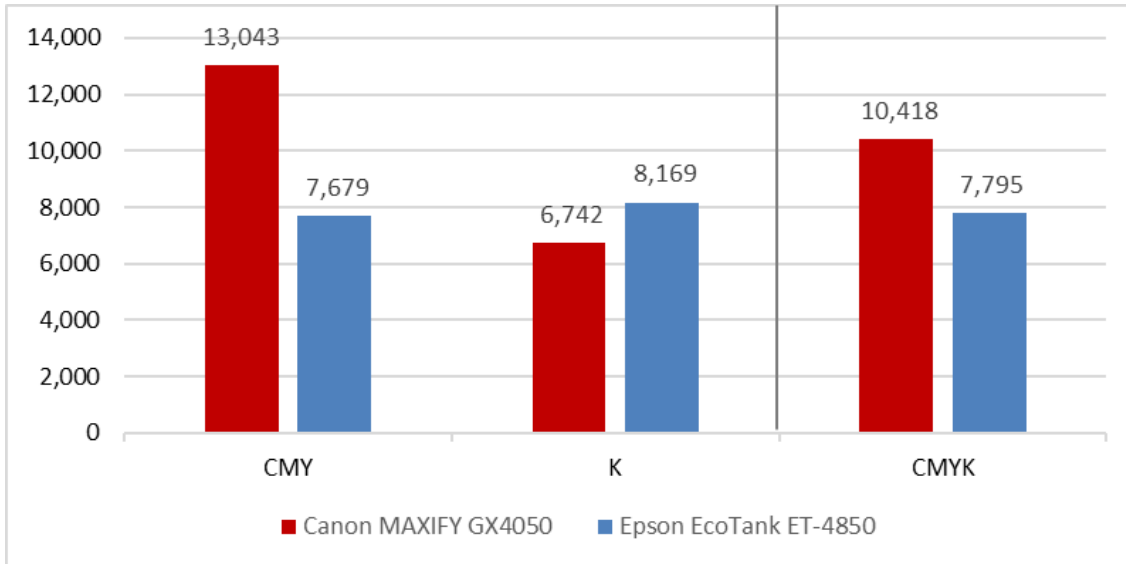


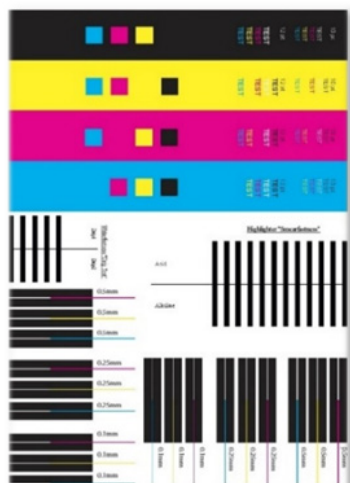

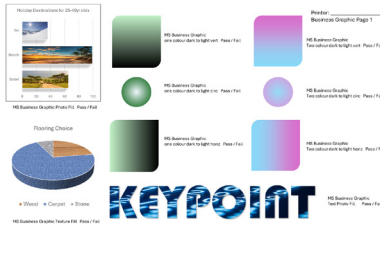





Image Quality

Keypoint Intelligence assessed the image quality of the ink cartridge brands tested using its own proprietary image quality test targets (shown below). Image quality is assessed on halftone integrity, text and fine-line sharpness, and color reproduction, with output printed on plain and photo media.

Keypoint Intelligence Image Quality Test Targets		
		
IQ Test Target One	IQ Test Target Two	IQ Test Target Three
		
IQ Test Target Four	IQ Test Target Five	IQ Test Target Six
		
IQ Test Target Seven		

Text Quality Ratings

	Canon MAXIFY GX4050	Epson ET-4850
Boldness (darkness)	Very Good	Good
Sharpness	Very Good	Good
Fully Formed (no breakup)	Very Good	Good
Smoothness (curves, serifs, lines)	Good	Good
Overspray (w/mag)	None	None
Overspray (w/o mag)	None	None
Halo (w/mag)	None	None
Halo (w/o mag)	None	None

While both devices produced competent results across a variety of test targets, the Canon GX4050 consistently delivered output that was sharper, more balanced, and more professional in appearance.

In text reproduction, the Canon model distinguished itself with bold, sharply defined characters that demonstrated excellent formation and stroke consistency. Output from the GX4050 featured smooth curves, crisp serifs, and deep optical density, all of which contributed to a more legible and aesthetically polished result. By comparison, the Epson ET-4850 produced legible but less refined text. Characters were slightly lighter in tone, and subtle softness in stroke edges reduced the overall perception of precision, particularly in fine serif fonts and small point sizes.

Line Art Quality Ratings

	Canon MAXIFY GX 4050	Epson ET-4850
Stair-Stepping of Diagonal Lines	Avg	Avg
Overspray w/mag	None	Avg
Overspray w/o mag	None	None
Halo w/mag	None	Min
Halo w/o mag	None	None
Fine Lines w/mag	Very Good	Good
Fine Lines w/o mag	Very Good	Very Good
Line Consistency w/mag	Good	Fair
Line Consistency w/o mag	Very Good	Good
Circles Fully Formed w/mag	Very Good	Fair
Circles Fully Formed w/o mag	Very Good	Fair

Line art evaluation followed a similar pattern. The Canon device exhibited clean diagonals, uniform line weight, and well-formed geometric shapes without signs of stair-stepping or degradation. Fine lines remained discrete throughout the test, indicating strong control over ink placement and resolution. In contrast, the Epson device showed minor inconsistencies in line rendering. While performance remained within acceptable limits for everyday use, the presence of occasional wavering in lines and slight variation in circular shapes underscored a difference in output control and consistency.

Halftone Pattern & Range Ratings

	Canon MAXIFY GX4050	Epson ET-4850
Smoothness (lack of graininess)	Good	Fair
Banding	None	Min
Distinct Separation Between Halftone Levels	Most	Most

Halftone pattern performance proved to be a key differentiator. The GX4050 achieved smooth tonal transitions with no visible banding or graininess. Halftone gradients were finely rendered, allowing for gradual tonal shifts that preserved detail in shaded and gradient-heavy graphics. The ET-4850, on the other hand, exhibited mild but perceptible graininess in halftone areas. Although not immediately disqualifying for general office output, this granularity would be noticeable in higher-quality applications such as brochures or customer-facing reports.

In halftone range testing, the Canon GX4050 demonstrated its output refinement by cleanly separating tonal levels across the grayscale spectrum. Each level was distinct, providing clarity and definition in gradients. The Epson device struggled somewhat in this area, with some tonal levels merging or appearing indistinct, resulting in a compressed and less nuanced tonal range.



MAXIFY GX4050 output (left) against EcoTank ET-4850; more accurate shade of gray, while Epson output appears overly blue with a cooler color temperature.

Solids Ratings

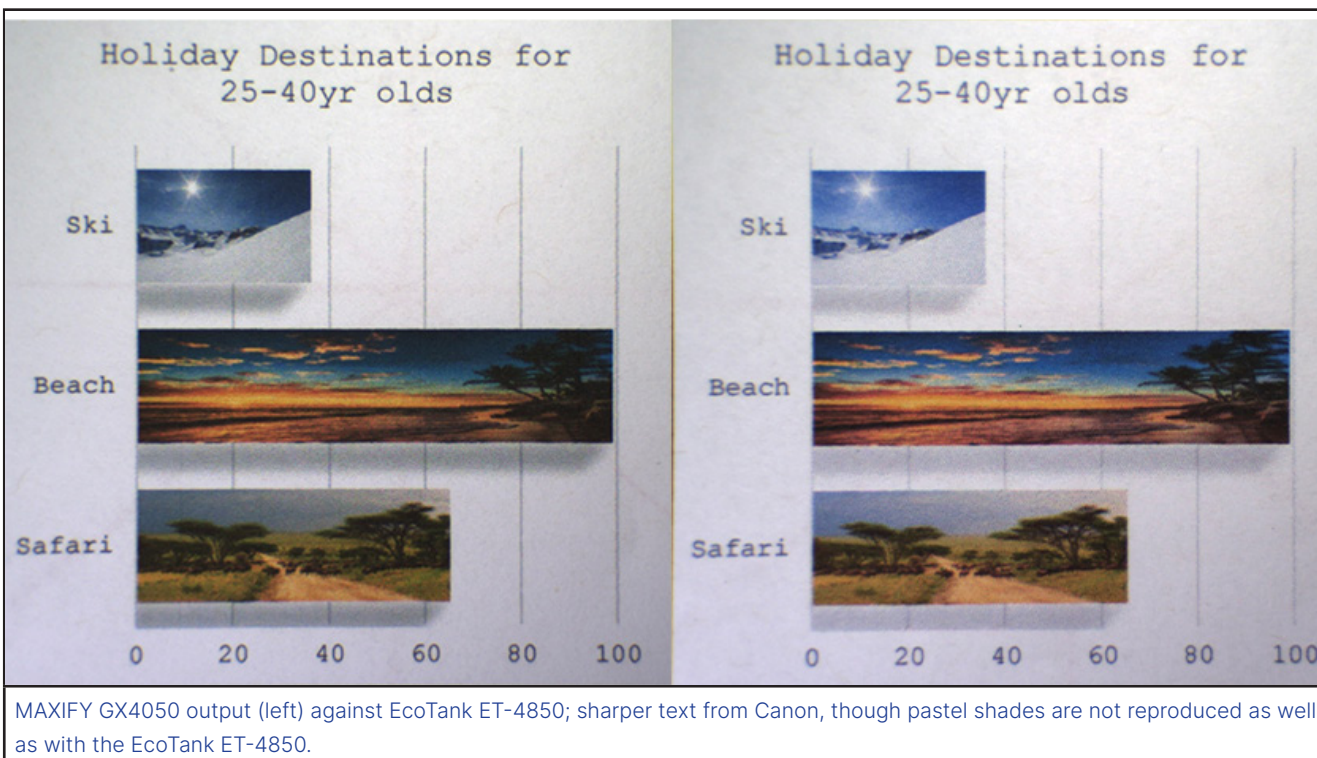
	Canon MAXIFY GX4050	Epson ET-4850
Visible Darkness/Boldness	Good	Good
Consistent coverage (lack of mottling)	Good	Good

While other categories revealed clear differentiation between the devices, the solids performance reflected an instance of parity in output quality. Both the Canon and Epson devices demonstrated similarly strong performance, delivering dense, dark solids with consistent coverage and minimal visual mottling across the test cycle.

Color Business Graphics Ratings

	Canon MAXIFY GX4050	Epson ET-4850
Sharpness/Fine Detail	Very Good	Good
Pastel Shades	Good	Very Good
Background Reproduction	Very Good	Very Good

When evaluating color business graphics, the MAXIFY GX4050 and ET-4850 exhibited background fill that was uniform, and graphical elements stood out with professional clarity. The MAXIFY GX4050 received higher marks in sharpness/fine detail, though the ET-4850 scored higher in pastel shade reproduction.



Color Photo Image Ratings

	Canon MAXIFY GX4050	Epson ET-4850
FLESH TONES	Slightly Yellow	Slightly Yellow
Smoothness—lack of graininess	Good	Good
Ability to produce Wide Range of Shades	Good	Very Good
Color Halftone Range	Very Good	Very Good
Separation between Levels	Good	Good

While both devices rendered flesh tones with a slight yellow bias, the Epson EcoTank ET-4850 outperformed the Canon MAXIFY GX4050 in other dimensions of photo image output. Epson achieved “Very Good” ratings across halftone range and shade range, while the MAXIFY GX4050 trailed behind with a “Good” ratings in shade range, indicating flatter transitions and a more limited tonal spectrum.

Eco/Ink Save Mode Image Quality

In eco or ink-saving modes, image quality testing showed a clear distinction between the Canon MAXIFY GX4050 and Epson EcoTank ET-4850. Text output from the Canon remained sharp, dense, and legible across fonts and point sizes, while the Epson's economy output displayed considerable fading, compromising both visual clarity and Optical Character Recognition (OCR) reliability. Canon's output in economy mode preserved near-parity with its standard print mode, while Epson's quality degraded to levels unsuitable for professional documentation or external communications.

In addition to qualitative assessments, below are Canon's official print yield estimates that illustrate the efficiency gains in its economy mode for the MAXIFY GX4050:

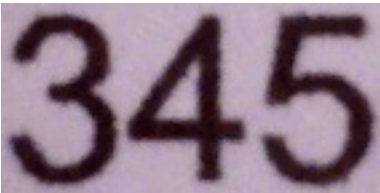
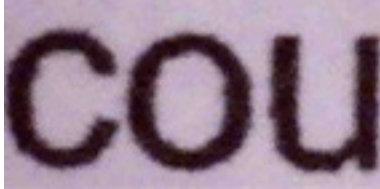
- **Black ink yield:**
 - o Standard mode: 6,000 pages
 - o Economy mode: 9,000 pages (+50% claimed increase)
- **Color ink yield:**
 - o Standard mode: 14,000 pages
 - o Economy mode: 21,100 pages (+50% claimed increase)

These figures suggest that Canon's economy mode may deliver meaningful ink savings without sacrificing functional quality. While these yield values were not independently verified during this test cycle, they provide useful context—especially in contrast to Epson's economy mode, which showed a clear visual reduction in ink coverage and experienced a dramatic drop in OCR accuracy (as low as 27.57% in mixed-content speed parsing).

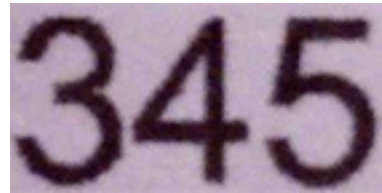
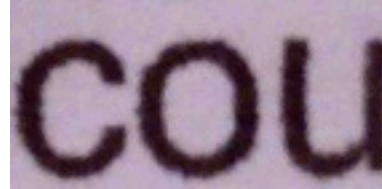
It is important to note that Keypoint Intelligence did not validate Canon's quoted page yields under economy settings during this evaluation, and we recommend readers interpret these figures as manufacturer-stated claims. However, when paired with the observed image quality consistency in eco mode, Canon's stated efficiencies strengthen the argument for its economy setting as a viable low-cost, high-output solution.

Comparative Ink Tank Device Performance:
Canon MAXIFY GX4050 vs. Epson EcoTank ET-4850

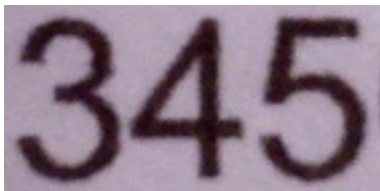
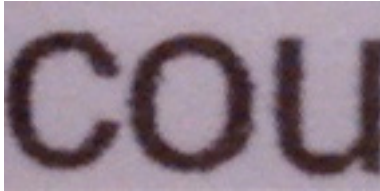
**Canon MAXIFY GX4050
(Default)**



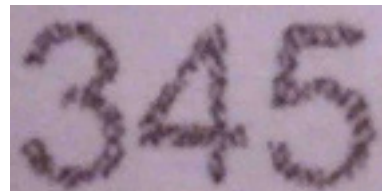
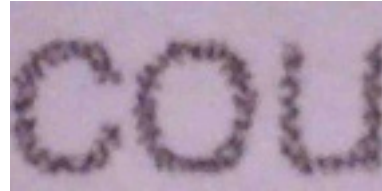
**Epson EcoTank ET-4850
(Default)**



**Canon MAXIFY GX4050
(Eco/Ink Save Mode)**



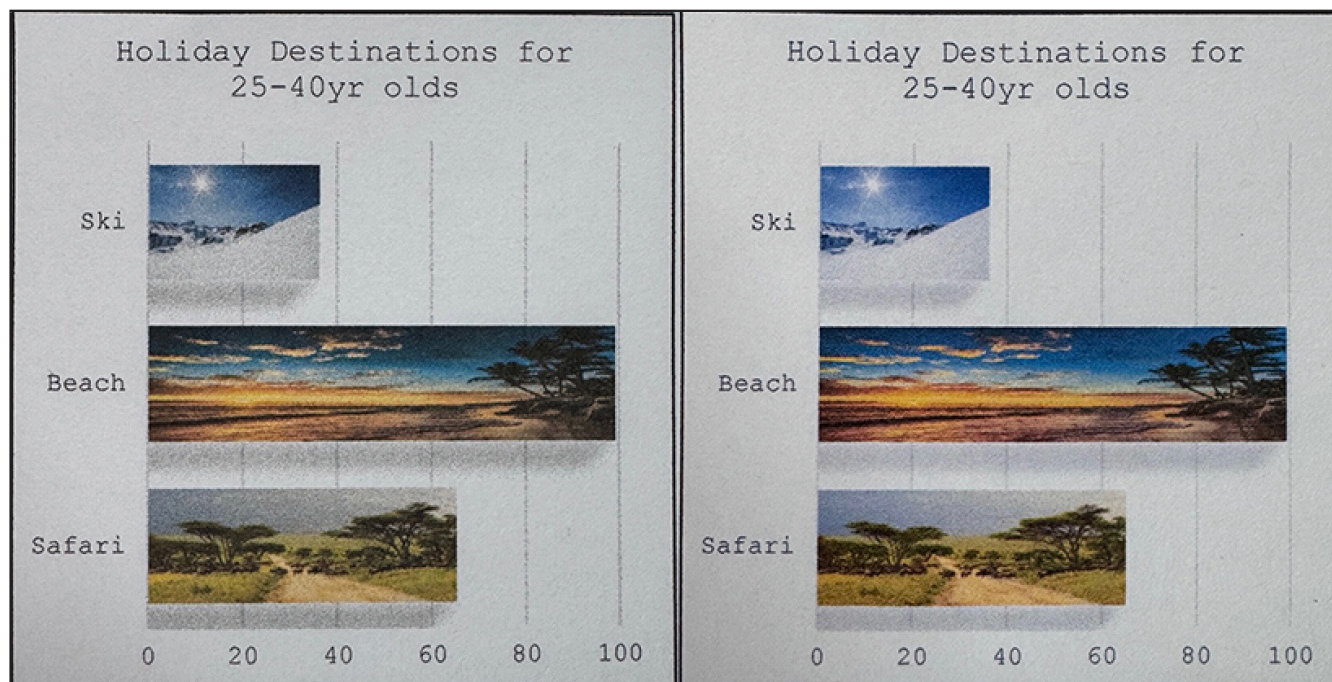
**Epson EcoTank ET-4850
(Eco/Ink Save Mode)**



Graphics Sample 1 : Canon MAXIFY GX4050 (Eco) vs Epson ET-4850 (Default)



Graphics Sample 2: Canon MAXIFY GX4050 (Eco) vs Epson ET-4850 (Default)



OCR Accuracy

Optical Character Recognition (OCR) performance was evaluated under both standard and economy print modes to determine how well each device preserved machine-readable text across different quality and ink consumption settings.

In standard mode, both the Canon GX4050 and the Epson EcoTank ET-4850 delivered strong OCR performance.

Precision-based OCR tests—those emphasizing accurate character shape and font retention—produced recognition rates above 88% for both devices.

Epson edged out a narrow lead in text-only recognition with a score of 91.33% versus Canon's 89.45%, and maintained a similarly slim advantage in mixed text and photo documents (89.83% vs. 88.19%).

However, in speed-optimized recognition—where rapid scan parsing is prioritized—the Canon slightly underperformed with 72.14% (text) and 75.54% (text + photo) versus Epson's 77.01% and 74.35%, respectively.

Overall, both devices demonstrated high OCR compatibility under standard conditions, with Epson showing a marginal lead in raw recognition success.

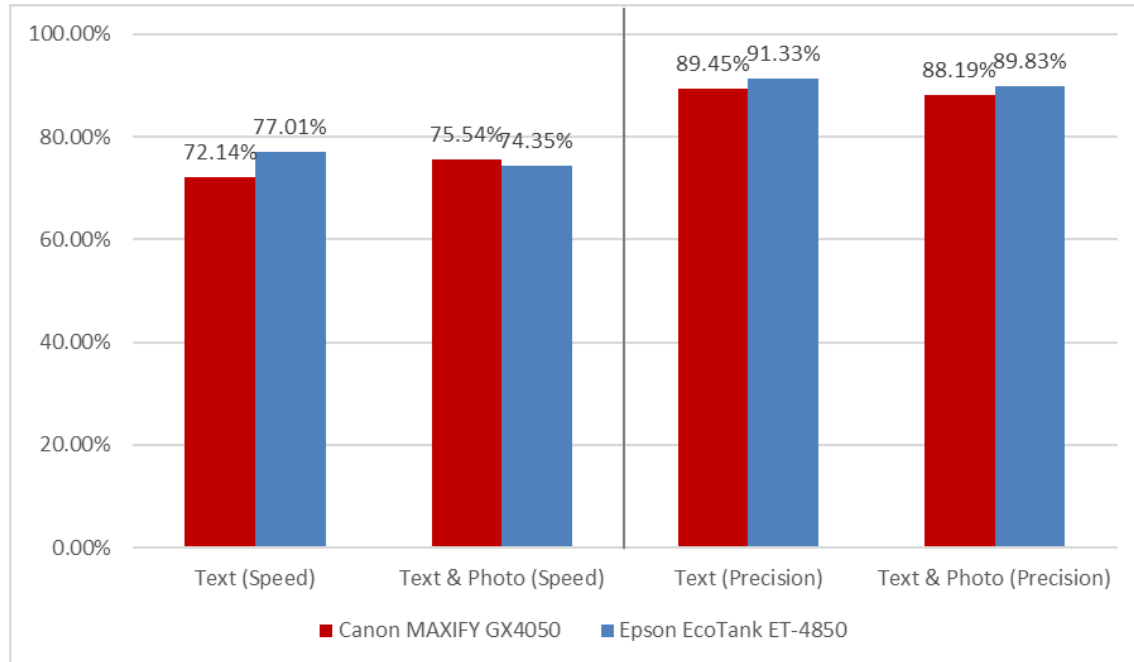
The gap widened considerably in economy mode, where the Canon GX4050 preserved its OCR accuracy at near-standard levels, while the Epson ET-4850 experienced a steep decline.

Canon maintained impressive performance across both speed and precision metrics, with scores ranging from 74.60% to 90.01%, indicating minimal degradation in readability or machine recognition.

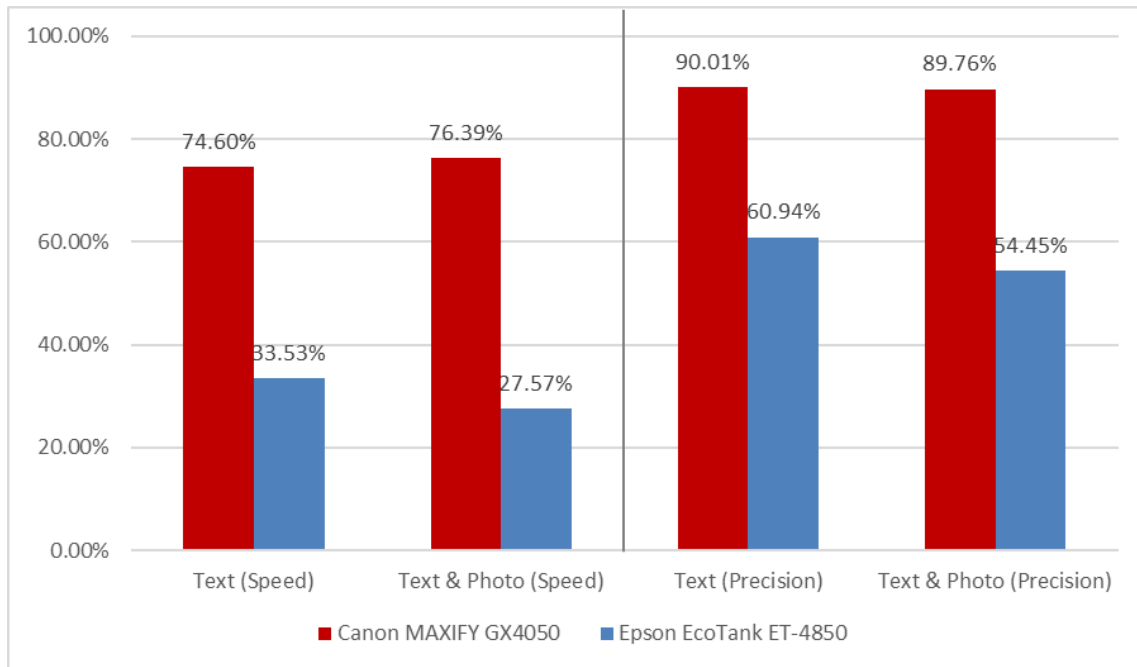
Epson's OCR accuracy dropped precipitously—most notably in speed-optimized tests, where recognition success fell to 33.53% for text and just 27.57% for mixed-content pages.

Even in precision-focused assessments, where some structural fidelity was retained, Epson failed to score above 54.45%, representing a nearly 40 percentage point drop from its standard mode performance.

OCR Accuracy (Default)



OCR Accuracy (Economy/Ink Save)



Test Methodology

Test Methodology: Intelligence to run each printer for up to seven hours per day in simplex model with an hour of inactivity in the middle of each day. The primary test target to be used throughout testing is the ISO24711 test suite. Jobs to be submitted in 100-set batches (500 pages total). Page 5 of the 100th batch shall be retained throughout testing to provide an IQ record throughout the entire test. The page shall also be checked for any nozzle blockages. Should a blockage be detected Keypoint Intelligence shall follow the vendor recommended maintenance routine until the head blockage is remedied retaining the reprinted page-5 sheet after blockage clearance as proof of resolution. Where a nozzle blockage cannot be remedied after following all the vendor's recommended countermeasures the nozzle shall be deemed to be permanently blocked. Testing shall then continue with maintenance measures only enacted when a new nozzle blockage is detected. It shall be recorded if the permanently blocked nozzle does over time remedy itself.

A) Page Yield:

Each refill ink cartridge will be run until the ink out notification is generated with page count recorded. Only fully exhausted refill cartridges shall be included in the overall yield average calculations. The ink yields of the first ink bottles shall be recorded separately and not used in the overall average yield calculation due to ink loss due to initial feed tube filling.

B) Reliability:

In addition to the recording of ink yield and nozzle maintenance procedures and permanent nozzle blockages, Keypoint Intelligence shall also record any other incidences of reliability failures including error codes, paper jams etc.

C) Image Quality:

Keypoint Intelligence shall conduct an extensive image quality evaluation of the devices at the start of testing including the following metrics using the default quality mode (mode used for ISO speed rating)

Metric	Assessment Type	Paper Used
Fine lines and fonts	Visual and OCR accuracy	Plain
Colour Gamut	IT8 chart, spectro and ColorThink Pro software	Plain and Photo paper
Business Graphics	Visual	Plain
Photographic and halftone graphics	Visual	Plain and Photo paper

D) Eco Mode Image Quality

The above image quality evaluation to be conducted using the vendor's eco mode / ink saving setting. Font reproduction to be extended to include an OCR accuracy evaluation following Keypoint Intelligence's standard OCR test procedures.

Test Environment: Testing conducted under ambient conditions of 22°C (+/-2.7°C) and 45% RH (+/-10%), monitored daily by Dickson Seven-Day Temperature/Humidity Chart Recorder, in Keypoint Intelligence's test facility at Unit 11 The Business Centre, Wokingham, Berkshire RG41 2QZ. All testing will be held strictly confidential.

ABOUT KEYPOINT INTELLIGENCE

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 60 years, Keypoint Intelligence 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. Keypoint Intelligence 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