

## Lab Test Report

A Comprehensive Keypoint Intelligence Laboratory Evaluation



# **KYOCERA ECOSYS P5026cdw\***

26 PPM Color/ 26 PPM Monochrome Laser Printer



Reliability Value Cost per page **Apps/Onboard Tools Image Quality** Color Print Quality **Black Print Quality Usability** Serviceability/Management Walk-up Experience Workstation Experience Mobility **Security Features Speed** Print Speed **Power Consumption Not Rated** 

**Excellent Very Good** 5.53¢ **Not Rated Very Good** Very Good Very Good **Very Good** Very Good Very Good Very Good **Not Rated Not Rated** Good Good Good





## **OUR TAKE**

Designed for small- to mid-size workgroups, the 26-ppm KYOCERA ECOSYS P5026cdw gave a very good overall performance in BLI's two-month lab evaluation, proving to be highly reliable, being based on an engine that had no misfeeds occurring during its 25,000-impression durability test, and no service calls required. Providing a compact footprint for environments where space is at a premium, this model includes a USB port that allows for direct printing of files from a flash drive. Very easy to use at the desktop, via the graphical KX 7.x driver, the unit is also easy to manage using KYOCERA Net Viewer, which can assign specific alerts to different recipients, while KYOCERA Command Center RX provides users with a good level of detail about device status, paper size, approximate percentage of paper remaining and toner supplies. Output produced by the ECOSYS P5026cdw was rated very good overall, with crisp and cleanly formed text, excellent halftone range and above-average production of closely spaced fine lines. KYOCERA's ECOSYS technology employs long-life drums to minimize environmental impact. BLI highly recommends the KYO-CERA ECOSYS P5026cdw.

### KYOCERA ECOSYS P5026cdw Fast Facts\*

SRP/Street Price	\$959
Max Monthly Duty Cycle	65,000 impressions
Manufacturer's Recom- mended Monthly Volume	INA
Rated Speed	26 ppm
Std/Max Paper Source(s)	2/3
Std/Max Paper Capacity	300 sheets/550 sheets
Paper Weights	16-lb bond to 90-lb index
Bypass/Paper Weights	50-sheet/16-lb bond to 120-lb index
Max Paper Capacity	550 sheets
System Memory (Std/Max)	512-MB RAM/512-MB RAM
Document Feeder/ Capacity	Not applicable
PDL/PCL	PCL 5c/6, PostScript 3, XPS
HDD	Not applicable
* At time of publication	

**Test Duration:** Two months, including a 25,000-impression durability test. More information on the KYOCERA ECOSYS P5026cdw is available through bliQ (www.buyerslab.com/bliQ).

\*Reliability is based on the KYOCERA ECOSYS M5526cdw, which uses the same engine.



### **BENEFITS**

Highly reliable performance, combined with simple routine maintenance, increases uptime

For mobile workers, there is a standard wireless interface plus Apple AirPrint, Mopria, KYOCERA Mobile Print and WiFi Direct

Compact footprint makes it ideal for office environments with limited space

Graphical and easy-to-use KX 7.x driver simplifies programming jobs and makes it easy to swap between PDLs

PRESCRIBE page design and control language lets users create complex graphics, logos and multipart forms independently of the system, and save and update them on device memory to allow for reprinting on demand

RAM Disk feature treats RAM like a hard disk to provide secure storage at no extra cost

## **ADVANTAGES**

KYOCERA uses long-life drums whose yields are rated much higher than the competitive average

Fast first-print time from overnight sleep

## **LIMITATIONS**

Standard and maximum memory capacities are lower than average in its class

## RELIABILITY

**Excellent** 

The unit is certified highly reliable by BLI, being based on an engine that completed a 25,000-impression durability test with no misfeeds recorded and no service required.

Impressions Printed	25,000
Misfeeds	0
Misfeed Rate	0/Not applicable
Service Calls	0
Service Calls	0



## **VALUE**

**Very Good** 

Competitive purchase price for comparably equipped Letter-size color laser printers in this class

Lower than average supplies cost per page

### TESTED SUPPLIES COST PER PAGE (IN DOLLARS)

	Color	Black	Average
Toner CPP	9.33¢	1.73¢	5.53¢
Total Supplies CPP			5.53¢
Competitive Average			7.58¢

Toner CPP is based on the manufacturer's declared yield, in accordance with ISO/IEC 19798, and estimated street pricing for the cartridges, which are the only consumables. Because long-life consumables, such as drums, fusers, etc., are service-replaceable items, pricing for those components are not included in BLI's analysis.

### 36-month Lifecycle TCO Analysis



Values are in US dollars. The pricing included in this TCO is provided from the manufacturer/distributor or obtained from the reseller websites at the time of publication (pricing may vary in other regions or at a later date). TCO includes supplies CPP (based on reported yields) multiplied out over 36 months, at stated monthly volumes and the purchase price of the device. Costs for paper, power, and maintenance contracts aren't included in BLI's pricing. For comparative purposes only; actual costs may vary based on page coverage and percentage of pages output.



## APPS/ONBOARD TOOLS

**Not Rated** 

This model does not support KYOCERA's HyPAS platform, unlike some sister models.

## IMAGE QUALITY

**Very Good** 

	Print Mode
Text	Very Good
Line Art	Very Good
Halftone Pattern	Very Good
Halftone Range	Excellent
Solids	Very Good
Color Photographic Images	Very Good
Color Business Graphics	Very Good

## COLOR PRINT QUALITY

**Very Good** 

Above average sharpness, pastel shades and background reproduction in business graphics, but saturation wasn't bright enough

Above average smoothness and sharpness in photographic images, but skin tones were slightly reddish

### COLOR PRINT DENSITY

	Tested Model	Competitive Average
Cyan	1.26	1.14
Magenta	1.23	1.19
Yellow	0.83	0.89

Density of a printed image with blocks of all solid colors, based on the average of two readings each for cyan, magenta and yellow, and four different locations on the output for black. The higher the reading, the darker the image.



## BLACK PRINT QUALITY

**Very Good** 

Dark, sharp and fully formed text, with no signs of breakup under magnification

Distinct fine lines, with consistent thickness, smooth circles and diagonal lines, with no evidence of breakup or stair-stepping

Some overspray and minimal haloing visible around text when viewed under magnification

Distinct separation between all grayscale levels and smooth dot-fill with no banding

Dark solids, with no mottling visible.

#### **PRINT DENSITY**

	Density Range	Average Density
KYOCERA ECOSYS P5026cdw	1.45 to 1.53	1.49
Competitive Average	1.14 to 1.78	1.44

Measurements are based on four readings corresponding to four different solid black locations on output. The higher the density reading, the darker the image.

### VISIBLE HALFTONE RANGE

#### **KYOCERA ECOSYS P5026cdw**

10% to 100%

The halftone range test original consists of 10 blocks of increasing dot-fill levels (10 to 100%, in 10% increments).

## USABILITY

**Very Good** 

## SERVICEABILITY/MANAGEMENT

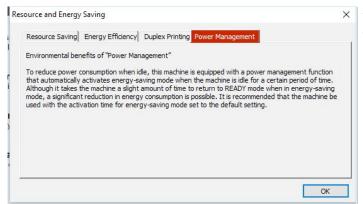
Very Good

Physical set up is simple; packaging materials are not excessive and just two people can lift the unit out of the box and place it in the desired location. Starter cartridges with a rated yield of 1,200 pages per color are preinstalled, but must be removed from the device to dispose of their protective seals.

KYOCERA's Product Library DVD contains the administrative utility suite, which includes KYOCERA Net Viewer, Job Status Monitor and KYOCERA Command Center RX, the embedded web server, as well as the drivers and documentation. The disc auto-runs and detects available KYOCERA devices on the network (either icon driven or as a list). After selecting the device with the Express Install option, just five clicks are required to install the KX driver, Status Monitor, Fonts and an Uninstall utility. The port is created automatically. Users should be up and running in minutes.



### KYOCERA ECOSYS P5026cdw Lab Test Report



When the Product Library DVD is inserted, administrators are notified about the best means of ensuring environmental best practice, including power management options (see left), the use of recycled media and duplex printing.

KYOCERA Net Viewer allows administrators to clone device settings from one device to another, plus they can deploy drivers to multiple workstations on the network, so that they don't have to be installed on each machine individually.

Net Viewer allows administrators to create groups of products based on reporting or error notification requirements. Within a "report group", an administrator can receive email reports outlining a wide variety of device statistics, including printed page volumes and consumable levels, at time intervals of their choice.

Users can expect to change consumables more frequently than they would with competitive models tested to date, according to BLI's calculations.



Command Center RX provides administrators with information about the unit and lets them handle tasks such as changing device settings, viewing device status and monitoring toner and paper supplies. It also allows administrators to configure email alerts that can be sent to up to three recipients for error conditions, including paper jam, cover open and add toner/paper.

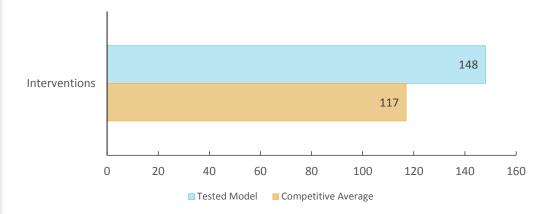


tray for different size paper; width paper guides slide can't be replaced while the unit is printing, the cartridgin sync.



Loading media is straightforward, as is adjusting the Replacing toner is a mess-free process. Although they es are accessible from the front. To replace toner, users must open the access door and release a blue lever on the left, and the cartridges lift out easily.

### Estimated User Interventions (Over 36 Months)



User interventions are calculated based on manufacturer's rated toner yields (in accordance with ISO/IEC 19798, as well as the manufacturer's rated yields for other consumables (drums, developer units, waste containers, etc.). BLI calculates the total number of supplies and maintenance parts that would be required over 36 months (assuming 1,500 pages per month). Each individual cartridge or other consumable is counted as one intervention. Paper supply replenishments aren't included in BLI's calculations. Depicted scenario is for illustrative purposes only. The actual number of interventions over three years will vary based on a number of factors, including (but not limited to) page coverage, run lengths, usage patterns, periods of inactivity and calibrations performed.



### WALK-UP EXPERIENCE

**Very Good** 



The KYOCERA ECOSYS P5026cdw has a very simple, intuitive control panel with a five-line LCD display, an alphanumeric keypad and up/down and left/right keys for menu navigation.

Print from USB is standard; the port is located on the front of the unit. The USB flash drive is auto-discovered; users can browse folders to select files—PDF, JPEG, XPS and TIFF—to output. Direct PDF encrypted print is also supported.

### WORKSTATION EXPERIENCE

**Very Good** 

Command Center RX provides users at the desktop with a good level of detail regarding the P5026cdw, including device status, paper size, remaining paper and toner supplies.

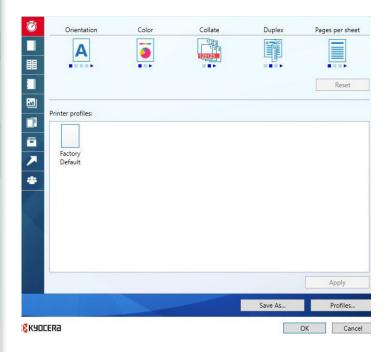
The pop-up Job Status Monitor utility, which can be placed on the desktop via the driver as an icon representing the device, provides toner and device status information, as well as audible alerts. Device status information, such as printing complete, add paper, add toner, sleep, toner low, not connected, paper jam and cover open, is displayed graphically. One thing to note is that the messages will appear on all PCs that have the utility actively running, which could be distracting to users who may not care if the device is out of toner if they aren't actively or imminently printing to it. The utility also provides a link to the web page and can be placed anywhere on the screen and enlarged and adjusted for various degrees of opacity.

KYOCERA Net Direct Print, a software utility, is also included on the Library DVD that enables direct printing of PDF, Post-Script, PRN and PRESCRIBE files without having the respective applications installed on the PC. Using this utility, users can send multiple files at one time and alter settings such as quantity, duplexing, N-up printing and resolution. They can submit files to the direct print workflow either by dragging-and-dropping or right clicking them or by browsing. Users can also set up print profiles that further simplify the submission process and are ideal for users operating the device as a short run print-on-demand resource

All features required by typical users are available on the Basic screen of the KX 7.x driver, and its layout is clear and intuitive.

The unit comes with KYOCERA's universal KX 7.x driver for various Windows operating systems, as well as Mac OS X 10.5 or later. Other supported environments include UNIX and Linux. The driver combines PCL XL (PCL 6 emulation), PCL 5e and KPDL (the company's PostScript emulation) into one, which uses less network bandwidth than installing separate drivers.





KYOCERA'S KPDL (PostScript) and PCL XL drivers have an identical interface, and users can switch between the PDL settings from the Printing Preferences dialog box. Eco Print lets users reduce the amount of toner used per job and can be set as the default setting.

The KX driver 7.x enables users to configure settings from the Printing Preferences dialog box with a clickable button that opens up the PDL Settings dialog and displays the current user-selected setting: KPDL, PCL XL, or PCL 5c. UI settings that were previously hidden such as the Security Watermark button are now shown but disabled if they are not supported by the PDL currently selected. Note that on client PCs in a client-server environment, users with administrative privileges can change the PDL from the Properties > Device Settings menu.

File size remains the same when printing multiple sets, regardless of whether "collate" is selected from the properties screen of the driver or from the print screen within an application.

The PCL XL and KPDL drivers feature PRESCRIBE—a page design and control language—which enables graphics, logos and forms, including multi-part forms, to be created independently of the system and saved and updated on the device memory to allow for printing on demand from the desktop.

## MOBILITY

**Not Rated** 

The device is Mopria-certified with optional wireless and Wi-Fi Direct interfaces; it supports mobile printing from leading tablets and smartphones via AirPrint, Google Cloud Print and KYOCERA Mobile Print app. A USB host port supports direct printing of a variety of file formats including PDF, JPEG, TIFF, and XPS.



## SECURITY

**Not Rated** 

## **SECURITY FEATURES**

AUTHENTICATION	
Network user authentication at control panel	INA
Windows	INA
Novell NetWare NDPS	
LDAP	INA
	INA
Kerberos	No
802.1x wireless	Yes
SMTP	Yes
POP before SMTP	INA
Biometric	No
ID Card	Optional
HID	Yes
Common Access	INA
Other	PaSoRi, RFIDEAS, ELATEC, Omnikey
Registered department or user ID codes	Standard
Number	20
ACCESS CONTROL	
Restrict color	Standard
Control panel lock/disablement	Standard
Restrict access to address book	INA
Restrict USB port	Standard
Restrict direct printing	Standard
Restrict other	Network port restrictions
HARD DRIVE	
Encryption	NA
Maximum level	NA
Overwrite	NA
Method	NA
Maximum number after a job	NA
Maximum number at end of lease	NA
Lock	NA
Removable	NA
Password-protected mailboxes	NA
Data auto-deletion in mailboxes	NA



JOB TRACKING	
Job logs	Standard
Digital signature	No
Verify document came from device	NA
Verify document came from specific user	NA
JOB PROTECTION	
Encrypted secure print	Standard
Secure print	Standard
Encrypted scanning	INA
Maximum level	INA
For scan to USB	INA
Unauthorized scan/copy protection block (watermark)	Standard
Compatible with same-brand devices	Yes
Compatible with third-party devices	INA
NETWORK SECURITY/PROTOCOLS	
Protocol disablement	Standard
Port disablement	Standard
IP address filtering	Standard
MAC address filtering	No
HTTPS	Standard
Self-signed certificate	Yes
Certificate signing request	Yes
IPsec	Standard
IPv6	Standard
Secure Sockets Layer (SSL)	Standard
S/MIME encryption	INA
SNMPv3 support	Standard
Transport Layer Security (TLS)	Standard
Trusted Platform Module (TPM)	INA
CERTIFICATIONS	
Common Criteria	No
EAL level	NA
Capabilities certified	NA
FIPS 140-2	No
Level	NA
IEEE 2600	No
OTHER	
Administrator password length	Up to 64 alpha/numeric characters (UTF-8)
Password-protected web server	Yes
Additional features	NA
Third-party features	NA

INA: The vendor declined to provide this information NA: Not applicable



## FEATURES

Good

The unit's standard and maximum RAM capacity of 512 MB is competitive compared with the other Letter-size color laser printers in this class.

The standard paper capacity of 300 sheets (with an additional 50-sheet bypass) is competitive. It can be upgraded to a maximum of three paper sources totalling 550 sheets, which is below average.

Media weights accommodated through the drawers (16-lb bond to 90-lb index) and bypass (16-lb bond to 120-lb index), are competitive and above average respectively, in this class.

## SPEED

Good

### PRINT SPEED

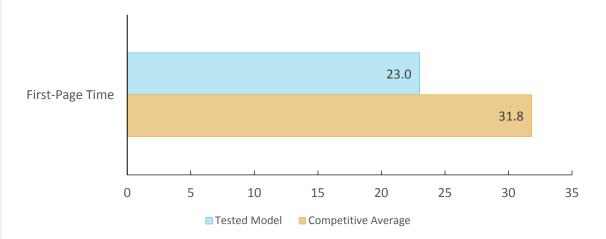
Good

For short-run jobs, the ECOSYS 5026cdw's performance was competitive. For example, first-print times for all file types tested from ready mode were competitive; first-print time from overnight sleep was faster than average.

When printing single- or multi-set documents, regardless of page length, the speeds observed in black and auto-color modes were competitive, or slightly better than average.

During its job stream test, which simulates typical traffic in a multi-user environment, the device performed less well with below average speeds, however, this should not be a concern for low-volume home users or small workgroups.

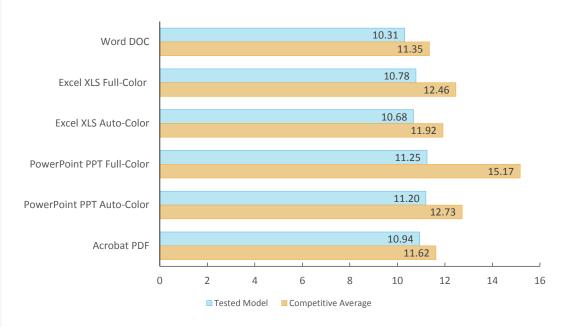
### First-Page Print Time From Overnight Sleep (in Seconds)



Device sits idle overnight; a single-page black Word document is sent to the device; first-print time indicates the time it took to RIP the image and deliver the first page of the test document to the output tray.

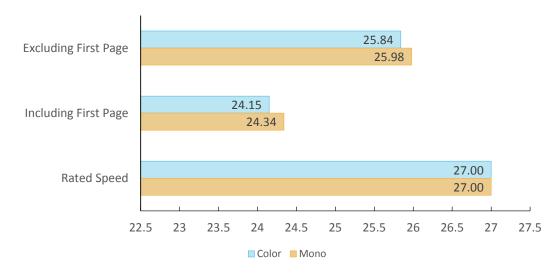


### First-Page Print Time From Ready Mode by File Type (in Seconds)



First-print time indicates the time it took to process, image and deliver a single-page test document to the output tray. Files tested include a Word document (.doc; black text), a PowerPoint slide (.ppt; color graphics and text) and an Acrobat file (.pdf; black text and graphics). The unit's print speeds were tested at the default 600 dpi using the PCL 6 driver.

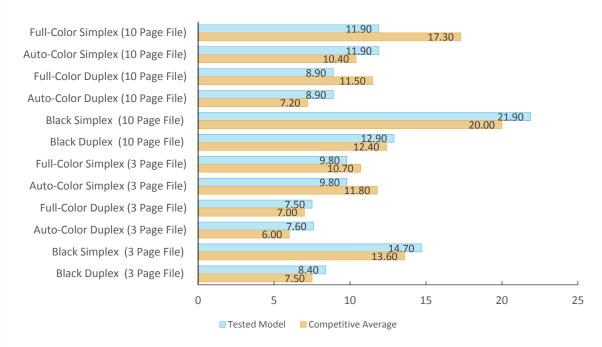
### BLI's Tested Print Speed (in PPM)



Print speed is tested using BLI's Monochrome Test Original with 6% page coverage. The test page is printed in a quantity equal to double the vendor's rated print speed for the device in each mode tested (e.g., if the vendor's rated print speed is 20 ppm, 40 pages are printed). The unit's print speeds were tested using the PCL 6 driver.

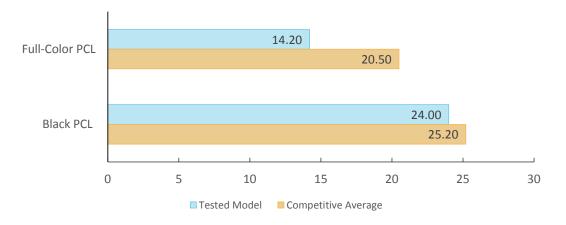


### First-Set Print Speed (Single Set; in PPM)



Single-set speed is tested using 3-page and 10-page mixed-color and black documents. The unit was tested using the PCL driver.

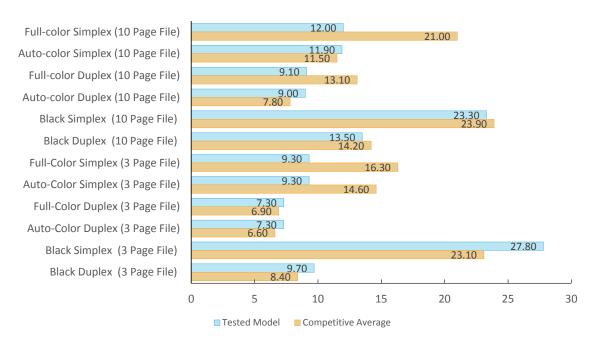
#### Job Stream Test



BLI's job stream includes Word documents, Outlook email messages, Excel spreadsheets, PowerPoint, HTML and Acrobat PDF files, totalling 19 pages. This test simulates the type of traffic a typical device might experience in a real-world, multi-user environment. All of the files are sent to the device as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device.



### Average Print Speed (Multi-Set; in PPM)



Print speed is tested using a 3-page and a 10-page color document. BLI obtains the overall speed by averaging the tested speed for each run length (1, 5, 10 and 20 sets). The unit was tested using PCL 6.

## **POWER CONSUMPTION**

**Not Rated** 

### PROJECTED ANNUAL ENERGY CONSUMPTION (IN KWH)

Total Annual Energy Consumed	23.0576 kWh
Competitive Average	36.5366 kWh

Calculations based on printing BLI's job stream test suite over a four-hour period, with the machine set to go into its energy-save and/or sleep modes at the shortest intervals possible. Total yearly energy consumption is calculated based on the total energy used during a typical workday, plus overnight and weekend sleep energy. Total number of pages run is based on a BLI survey of average monthly volumes by speed range.

Pages Printed: 114 total - 6 jobs of 19 pages each

Test Documents Used: DOC, XLS, PPT, HTML, PDF, Outlook email messages

Output Modes: 50% simplex, 50% duplex

Total number of pages run is based on a BLI survey of average monthly volumes by speed range.





### ENVIRONMENTAL FEATURES

Specified capable of running recycled paper (30%/50%/100% post-consumer content)	Yes
Instant/Quick Fusing	No
Duplexing	Yes
Toner-save mode	Yes
RoHS compliant	Yes
Toner cartridge recycling program for this product	Yes
Ability to program features such as duplexing and auto shut-off over entire fleet	Yes
What tool can be used to do this?	System menu, KX driver, KYOCERA Net Viewer, KYOC- ERA Net Admin
Eco-Label Certifications	
ENERGY STAR	Yes
Other	ECMA-370/The Eco Declaration, Germany Blue Angel, Japan Eco Mark, Montreal Protocol

INA: The vendor declined to provide this information NA: Not applicable



## SUPPORTING TEST DATA

**Test Environment:** This product was tested in BLI's European test lab, in an environment monitored by two Temp/RH chart recorders, which ensures that the typical office conditions are being maintained. All products lab tested by BLI are powered by dedicated circuits that are protected by ESP (Electronic Systems Protection, Inc.) surge protectors to prevent transient power and communication disturbances from affecting equipment under test.

**Test Equipment:** BLI's dedicated test network in Europe, consisting of Windows 2008 servers, Windows 7, and 8 and 10 workstations, 10/100/1000BaseTX network switches and CAT5e/6 cabling.

**Test Duration:** Products are tested for two months, a portion of which consists of a durability test during which the product is run at half of its manufacturer-rated maximum monthly volume, with daily volumes evenly divided over the course of the test.

**Tested Configuration:** For reliability, the KYOCERA ECOSYS M5526cdw base unit; for image quality and productivity, the KYOCERA ECOSYS P5026cdw base unit with one extra drawer (UK).

**Competitive Average Model Group:** BLI defines competitive models as comparably equipped models, that support the same maximum paper size as the tested model, in the same speed range (+/- 5ppm), with a similar duty cycle and target market.

**Test Procedures:** BLI's lab testing includes both BLI proprietary and industry-standard test procedures and documents. The reliability test is conducted using Georgia Pacific and Boise paper in the US, and UPM, Data Copy and Mondi paper in the UK. In both labs, 30 percent of the paper is recycled. The media used for image quality testing is Georgia Pacific Printing Paper (24 lb., 96 brightness) in the US and UPM Future ImageTech 100 gsm in the UK.

**Note:** This report is based on BLI testing one representative test sample at a specific point in time. BLI is not responsible for differences in performance that may be the result of lot-to-lot variation, changes in production and machine modifications implemented by the manufacturer, service issues or any other reason beyond BLI's control. Test unit serial #: VDU6Z01342

**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



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# CERTIFICATE OF RELIABILITY

Awarded to

KYOCERA Document Solutions America, Inc.

for the performance of the

## KYOCERA ECOSYS P5026cdw

in BLI's in-house durability test



GERRY STOIA, CEO

**MARCH 2018** 

DATE

\*Reliability is based on the KYOCERA ECOSYS M5526cdw, which uses the same engine.

This is to certify that when subjected to a 25,000-impression Buyers Lab durability test, the KYOCERA ECOSYS P5026cdw proved to be a highly reliable product.

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