A Comprehensive BLI Laboratory Evaluation

Lexmark X854e

55 PPM Printer ▪ Copier ▪ Scanner ▪ Fax

Reliability	Excellent
Multitasking	Excellent
Administrative Utilities	Excellent
Feedback to Workstations	Very Good
Ease of Network Setup	Excellent
Print Drivers	Excellent
Applications Compatibility	Excellent
Scan Functions	Very Good
Fax Functions	Very Good
Print/Copy Quality	Very Good
Print/Copy Productivity	Very Good
Ease of Use	Excellent
Feature Set	Very Good
Toner Yield	Good
Cost per Page (Color/Black)	0.760¢
Value	Excellent

Test duration: Two months, including a 150,000-impression durability test.

Maximum monthly duty cycle: 300,000 impressions.
BLI's recommended monthly duty cycle for peak usage: Up to 85,000 impressions.

BLI RECOMMENDATION

ALSO INSIDE

▸ *Test Procedures*

▸ *Specifications*

▸ *Certificate of Reliability*

Ratings scale: Excellent, Very Good, Good, Fair and Poor.

Targeted to medium and large workgroups in need of a high-volume device, the Lexmark X854e MFP, which supports up to tabloid-size output, offers monochrome copy, fax and network print functionality, as well as color and monochrome scanning, in its standard configuration. Equipped with an integrated A3 flatbed scanner, 50-page ADF and 10/100BaseTX Ethernet interface, this multifunction printer has a paper capacity of 3,100 sheets (upgradeable to 5,100 sheets) and offers an optional 3,500-sheet finisher, included on BLI's test unit, which provides stapling, hole punching and offset stacking.

Proving to be highly reliable, the X854e MFP provided an impressive performance in BLI's two-month evaluation, completing a 150,000-impression durability test without a single service call or misfeed. The X854e MFP also offers very good output quality and excellent multitasking capabilities, with users able to program multiple copy jobs, limited only by memory capacity, while another

LAB TEST

copy or print job is in progress. Offering excellent overall ease of use, the X854e MFP features a well-designed color touch-screen control panel and makes use of the copy, scan to e-mail and fax functions very intuitive. The X854e also provides copy functionality normally not found on printer-based devices, such as job build, a job interrupt key and the ability to copy mixed-size originals through the document feeder.

The X854e can also be enhanced with Lexmark's new Embedded Solutions Framework (eSF), which is a platform that allows for the development of Java-based applications directly on Lexmark MFPs. In many cases, the Lexmark eSF eliminates the need for a server to run customized software applications. Customers in large enterprise environments will benefit from this new scalable architecture because Lexmark's eSF allows solutions to expand as more devices are added without the need for additional servers. Also noteworthy are the device's impressive offering of security features.

Based on its outstanding performance in BLI's extensive in-house testing, including a perfect reliability performance, BLI highly recommends the Lexmark X854e MFP for large workgroups requiring monochrome printing, copying, faxing and scanning for monthly print volumes of up to 85,000 impressions.

PERFORMANCE OVERVIEW

+, − and ○ represent positive, negative and neutral attributes, respectively.

RELIABILITY   EXCELLENT

+ The Lexmark X854e MFP is certified highly reliable by BLI, completing a 150,000-impression durability test without experiencing a single misfeed and with no service calls required.

MULTITASKING   EXCELLENT

+ Offering excellent multitasking capabilities, the Lexmark X854e MFP enables users to program multiple copy jobs (the number is limited only by memory capacity) while the system is copying or printing.

ADMINISTRATIVE UTILITIES   EXCELLENT

+ A key strength of the Lexmark X854e MFP is the MarkVision Professional utility, which enables administrators to manage groups of devices on the net-

Embedded Web Page – Supplies Status

Embedded Web Page – Alert Setup

work. One of the most thorough and flexible such utilities BLI has evaluated to date, MarkVision makes setup on the network easy. It also identifies and enables monitoring of all Lexmark printers, as well as non-Lexmark devices, on a network. MarkVision Professional provides extensive real-time device status and print job status monitoring capabilities when a client module is installed at the workstation or limited real-time feedback when accessed via a Web browser. MarkVision Professional can also be used to disable printing from/scanning to the USB flash drive, take an inventory of all printers on the network and record all printing data and export that data to a database or spreadsheet.

+ MarkVision Messenger, a component of MarkVision Professional, allows administrators to receive e-mail messages based on errors or alerts.

FEEDBACK TO WORKSTATIONS   VERY GOOD

+ Feedback is available via a status window that may be accessed from either print driver. The status window provides real-time pop-up messages regarding status information and may be configured by the end user to open whenever a print job is sent, only when an error occurs at the device, only when a warning is sent regarding the device or print job, or instead of opening, to remain minimized on the taskbar where the icon will flash until the window is opened by the user.

○ While the status window does provide information on size and type of paper in each drawer, it does not provide information on the amount of paper (only warnings if paper is "Low" or "Empty").

EASE OF NETWORK SETUP

VERY GOOD

+ The drivers CD auto-launches and very clearly walks the user through the driver installation process. Users can select a custom install to install MarkVision Professional and enable bidirectional communication support along with the drivers.

○ While not uncommon for Lexmark devices, the administrator must use "Add a Port Wizard" to create the Lexmark port for the X854e; creating the port and pointing the drivers to the port is a straightforward procedure.

PRINT DRIVERS

EXCELLENT

+ The Lexmark X854e MFP ships with two drivers, PCL 6 and PostScript 3, that are compatible with Windows 98 SE, NT 4.0, 2000, Me, XP and Server 2003, as well as Linux, UNIX and Mac OS 8.6 and later and Mac OS X environments. The drivers tested on the Windows 2000 platform were well laid out and easy to use.

+ The drivers are very graphical and provide selections for most of the commonly used features on the main screen. In addition, the PCL and PostScript print drivers are almost identical in layout, which will enhance ease of use in environments where both drivers will be used.

+ The drivers have a Job Summary feature (which can be enabled from the Other Options tab in either driver) that allows the user to view all of the driver selections before the job is spooled to the print queue or printer. This feature allows the user to confirm all of the print selections before printing the job, which could save toner and paper wasted on incorrectly printed documents.

PostScript 3 Driver
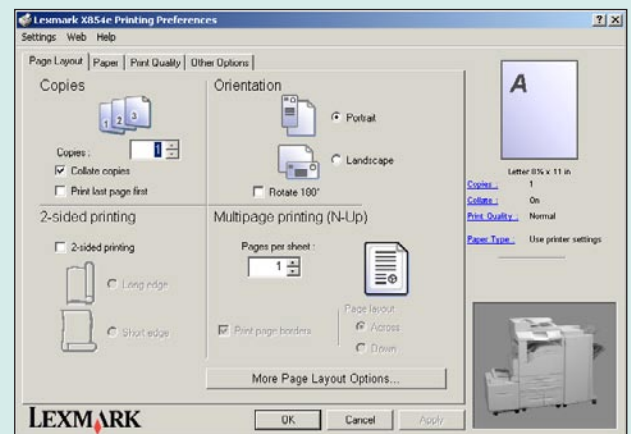
PCL 6 Driver

APPLICATIONS COMPATIBILITY
EXCELLENT

+ No problems were experienced with any of the test files used in the applications compatibility tests. Units are tested for compatibility on Windows 2000 platforms with Microsoft Word 2000, Microsoft PowerPoint 2000, Microsoft Excel 2000, Adobe PageMaker 7.0, Adobe Photoshop 6.0 and Adobe Acrobat 6.0 using 25 application test files, which contain text, graphics, halftone images, tables, etc., enabling BLI technicians to evaluate memory usage, file processing, font rendering and grayscale capability.

SCAN FUNCTIONS
VERY GOOD

+ The X854e MFP was easy to use for scanning of documents to e-mail, FTP server, network folder and workstation (local folder).

+ The "scan preview" feature allows users to preview the first page of a job on the control panel to verify settings, document orientation and placement.

+ E-mail addresses on the corporate mail server can be accessed at the control panel of the X854e MFP using LDAP. In addition, destinations can be programmed or entered on the fly at the control panel via the QWERTY touchscreen keypad or entered remotely into an address book via the embedded Web page or the optional Lexmark Document Solutions Suite software.

+ The X854e's scan to e-mail functions include an auto send-to-self feature, which automatically sends a copy of the scanned file to the user's inbox while sending the file to the selected destination.

+ Although not tested, the system offers network authentication, a security feature which requires users to log in (using their existing network ID and password) before performing any network scanning functions.

FAX FUNCTIONS
VERY GOOD

+ The unit performed well as a 33.6-Kbps fax, demonstrating good procedures for transmitting documents from memory after a failed communication and a faster than average scan-to-memory speed of 1.80 seconds per page (for the 4 percent page coverage fax test document tested; scan to memory speed for 12 percent page coverage fax test document is 1.83 seconds). This versatile unit also allows users to fax documents from their network-connected PCs using a PC fax driver that is accessible via the PostScript driver.

IMAGE QUALITY   VERY GOOD

+ Output produced by the Lexmark X854e MFP in nearly all print and copy modes was very good. When printing using the default 2400IQ, characters were crisp and cleanly formed, lines forming the circumference of circles were of consistent line weight, thin lines on dark backgrounds were clearly visible, and horizontal and vertical lines displayed no stair-stepping. In addition, halftones were visible over a very broad range, although slight graininess was evident in halftone output. Copy output for line art, halftones and solids were equally good.

PRODUCTIVITY   VERY GOOD

+ In print mode, overall simplex efficiency is competitive when compared to multifunction printers in this speed range tested to date; overall duplex efficiency is above average.

+ In copy mode, overall efficiency rates in simplex and 1:2 duplex modes are above average when compared to multifunction printers in this speed range tested to date; 2:2 duplex efficiency is competitive. In addition, document feeding speeds are competitive to faster than average.

+ When printing from the PostScript driver in the default 2400IQ resolution mode, the X854e MFP completed BLI's 19-page job stream at 57.70 percent of its rated engine speed, which is competitive for multifunction printers tested. Job stream efficiency rates when printing at 600 and 1200 dpi are also competitive.

EASE OF USE   EXCELLENT

+ As a printer, the X854e MFP offers good ease of use from the desktop via its print drivers, and its easy-to-follow installation process makes setting up the drivers quick and easy.

+ The X854e MFP is also easy to use as a walk-up device; BLI test technicians were particularly impressed with the unit's control panel design, which is very intuitive to use for copy, scan and fax functions. It incorporates a customizable touch-sensitive 8" LCD display with an easy-to-navigate menu system, and functions, such as duplexing, are identified with names that will be easily recognizable by copier users.

Lexmark X854E Control Panel

+ Overall ease of use as a walk-up device is enhanced by simple procedures for loading paper, adjusting paper drawers and removing misfeeds.

— Although a clean procedure, replacing the print cartridge is not as straight-forward as with some other models; removing the cartridge from the X854e MFP requires not only opening the front access panel but also the side panel.

+ The status window also provides Web links to the Lexmark Web site, technical support, documentation, drivers and online supplies ordering.

FEATURE SET   VERY GOOD

+ While the standard paper capacity of 3,100 sheets is competitive for models in this class, the maximum paper capacity of 5,100 sheets is 21.71 percent higher than the average for tabloid-size multifunction printers in this speed range.

+ The standard memory of 256 MB is 40.54 percent higher than the average for multifunction printers in this range; the maximum memory capacity of 384 MB is 32.2 percent higher than the average.

+ The "custom job e-mail" feature allows users to scan more than 75 pages from the ADF, to switch easily between the ADF or flatbed with the same settings, to create a PDF that contains both B&W and color (including images), and to use the scan preview when creating a scanned job.

+ With the purchase of the optional Lexmark Document Solutions Suite (LDSS) software, users can automate manual workflow processes by programming multi-step scan, fax, copy, print, e-mail and archive functions into custom one-touch icons on the eTask interface of the control panel.

+ The X854e has a convenient USB port that allows the user to print files directly (without a PC) by plugging a flash drive into the printer's control panel. Supported file types include PDF, JPG, TIF, BMP, HTML 4.0, DCX, PCX, GIF and PNG. The USB port also allows walk-up users to scan documents directly to a flash drive from the control panel.

+ Other features include a standard 80-GB hard drive and an ImageQuick card, which allows users to store forms or documents on a Web site or central server and print the latest version from the printer control panel. The ImageQuick cardallows for the direct printing of a number of file formats, including HTML, JPEG, TIFF, PostScript and PCL, without using an application or a printer driver, simply by dragging and dropping them onto the icon representing the printer on the LAN using TCP/IP.

SECURITY & ACCESSIBILITY   NOT RATED

+ The X854e MFP supports authentication with secure corporate directory browsing for controlled access to device and operations, such as sending, copying, faxing and using forms and to ensure that the user's identity can be associated with the pages that are scanned and sent. In addition, LDAP information on the network is protected by SSL encryption.

+ The X854e MFP also includes multiple LDAP features, such as native support (doesn't require external server), anonymous bind, simple bind, Kerberos support, encryption (i.e. SSL) and custom filters, as well as the ability for users to specify e-mail, fax or name mappings.

+ The administrator can lock or disable certain operator panel menus at the device to prevent users from making unauthorized changes to device configuration.

+ IPSec provides authentication and encryption of communications at the network layer allowing all application and network communications over the IP protocol to be secure. IPSec can be set up between the MFP and up to five hosts, using both IPv4 and IPv6.

+ The administrator can set up user and/or group accounts to limit access to the control panel, status utility, fax and other device settings using MarkVision Professional.

+ The Lexmark X854e MFP offers a number of standard print and hold functions, including confidential print (secure print) using PIN entry at the control panel (or using an optional card reader for confidentiality and device management), verify print (proof print), repeat print and reserve print. With the installation of an optional hard disk, administrators and/or end users may track print jobs as well.

PostScript Driver – Confidential Print (security section)

+ The Confidential jobs option allows users to send a print job directly to the printer memory. The print job can be printed only after the user types a PIN into the printer control panel. After the job is printed, the printer deletes the job from the printer memory, which can be useful when users are printing sensitive or confidential documents that should not be left in the output bin after printing.

+ Lexmark's PrintCryption solution provides high-level encryption security when printing confidential documents, securing proprietary or confidential information when transmitted over a TCP/IP network. The Lexmark PrintCryption Card decrypts the files, enabling users to print files that have been encrypted. Encrypted host data is decrypted in the printer using the PrintCryption Card, using the Rijndael encryption algorithm (a symmetric algorithm supporting key lengths of 128, 192, and 256 bits) selected by the National Institute of Science and Technology as the Advanced Encryption Standard.

TONER YIELD   GOOD

+ The tested toner yield of the Lexmark X854e's toner cartridge is competitive when compared to tested models in this speed range.

VALUE   EXCELLENT

+ The X854e is priced more than $1,000 less than the average for multifunction printers in this speed range that support up to 11" x 17" output and include a standard network interface and automatic duplexing. Its supplies cost per page is 23.45 percent less than the average and the lowest of models in this class tested to date.

SUPPORTING TEST DATA

Test Environment

This product was tested in BLI's 10,000-square-foot test lab, in an environment monitored by a Honeywell Temp/RH chart recorder, which replicates typical office conditions.

Test Equipment

BLI's dedicated test network, consisting of Windows NT 4.0, 2000 and Microsoft Exchange servers, Windows 2000 and XP workstations, 10BaseT/100BaseTX network switches and CAT5 cabling.

Test Duration

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

Tested Configuration

Lexmark X854e base unit.

Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures, including a BLI-developed variation of ASTM's 1318-90 Test Method for Determination of Productivity using Electrostatic Copy Machines. In addition to a number of proprietary test documents, BLI uses an industry-standard Katun test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. In addition to a visual observation, color print quality is tested using the ANSI standard IT8 Color Test Target, which is read using the Minolta CM503I Spectrophotometer, and samples are analyzed using the CIE XY Chromaticity Diagram. In addition, density of black and color output is measured using an X-Rite 428 Densitometer.

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RELIABILITY

Reliability

PMs/Malfunctions	Service Required	Meter Count (Impressions)	Impressions Between Service
Meter count (beginning of test)		0	
End of test period		150,000	
Total Misfeeds/Misfeed Rate	0 / Not applicable		
Total Service Calls	0		

MULTITASKING

Multitasking Evaluation

Primary Function \ Secondary Function	SEND FAX	RECEIVE FAX	PRINT	SCAN	COPY
SEND FAX	Yes	No1	Yes	Yes	Yes
RECEIVE FAX	Yes	No1	Yes	Yes	Yes
PRINT	Yes	Yes	Yes	Yes	Yes
SCAN	2	Yes	Yes	2	2
COPY	Yes	Yes	Yes	Yes	Yes

[1] *The phone line is busy or is in use. (2)*

[2] *As soon as document feeder is free, the secondary function can be programmed, but the primary function is complete.*

NOTE: (X) indicates number of occurrences. A "Yes" indicates that the user can initiate the secondary function while the primary function is taking place and that no further user intervention will be required for the secondary function to take place.

ADMINISTRATIVE UTILITIES

MarkVision Professional is a very flexible and powerful network management tool, which can identify Lexmark and non-Lexmark printers on a network; documentation on MarkVision Professional lists other printers with which the utility is compatible. Like other Lexmark devices, the X854e MFP is designed to be alert-based, allowing the printer to report errors to the management utility when they occur so that users do not have to proactively request status information. At the workstation, end users may access MarkVision simply by using their Web browser or they may install a client module of MarkVision Professional. Capabilities of the powerful utility include the ability to limit access to the MarkVision Professional Web server by assigning privileges to individual users and/or groups, and to create sub-folders of the "All Devices" folder with filters attached (such as low on toner, so that any device reporting low toner will appear in that folder). MarkVision Professional 11.0 includes enhanced user authentication and security features to limit unauthorized access, such as print server password conformance for supported devices and Print Permissions Technology, which allows the administrator to restrict access to certain printer functions. Administrators can also use MarkVision Professional to disable printing from and scanning to the USB flash drive on the control panel.

Every user has full rights to any of the settings available in the MarkVision Professional software until accounts are created. The administrator can create user or group accounts and assign user privileges. Once the administrator has created accounts, anyone accessing the MarkVision utility will be required to log on to the Web server.

The MarkVision server software also includes the MarkVision Messenger program, which allows the MarkVision server to run another application or send an e-mail message based on an event occurrence for a printer or group of printers. MarkVision Professional also has the ability to take an inventory of all printers on the network and record the data (the data may be customized by using filters), as well as export the data to a database or spreadsheet. The feature of exporting data may also be used in conjunction with MarkVision Professional's job accounting feature.

Embedded Web page:
Yes. The Lexmark X854e's embedded Web page allows the user or administrator to view printer status and remaining

life of consumables (such as the percentage of maintenance kit life remaining); view/modify printer settings; print usage and configuration reports; and view basic printer information (such as memory and options installed).

Consumables monitoring:

Yes, via the embedded Web page, MarkVision Professional or the status window. The user or administrator can view remaining life of consumables, which includes a percentage of life remaining for the maintenance kit, the size and type of paper in each drawer and if there are any warnings for the paper drawers, indicated by "Empty" or "Low." From the embedded Web page, users can check if the print cartridge is "Empty" or "OK" only.

IMAGE QUALITY

Print Quality

Print Quality	
Text	Very Good
Line Art	Very Good
Halftone Range	Excellent
Halftone Fill	Excellent
Solids	Excellent

Print density:
1.28 to 1.35

Density for units in this class tested to date:
1.00 to 1.94

Measurements are based on four readings corresponding to four different solid black locations on the output. The higher the density reading, the darker the image.
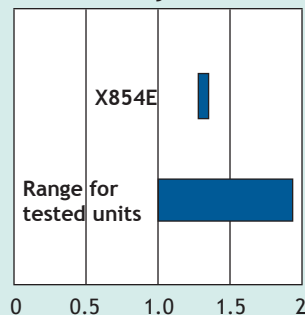
Halftone range:
From 2% to 96%, with distinct transitions between levels and consistent toner coverage within levels.

Typical halftone range for monochrome laser/LED printer-based products:
3% to 88%

Print density

X854E	
Range for tested units	

0   0.5   1.0   1.5   2

LAB TEST

Copy Quality

Copy Quality	
Text	Very Good
Line Art	Very Good
Halftone Range	Very Good
Halftone Fill	Excellent
Solids	Very Good

Copy density

Original

X854E

Range for
tested units   ????
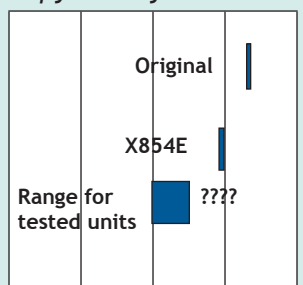
| 0 | 0.5 | 1.0 | 1.5 | 2 |

Pages Per Minute

Density of original:
1.65 to 1.69.

Density of copy:
1.46 to 1.50.

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

Halftone range:
From 15% to 100%, with distinct transitions between most levels and consistent toner coverage within levels.

PRODUCTIVITY

TESTED FIRST-PRINT TIMES (seconds)

PostScript 3 (2400IQ)

Windows 2000	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File type	Black Text	Color Graphic/ Text	Color Graphic	Black Graphic/ Text	Color Graphic
File extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	248 KB
Post-Raster File Size	104 KB	70.1 KB	51.5 MB	771 KB	2.17 MB
First-Page Time	7.61	7.19	2.19.04	7.89	8.57

PCL6 (2400IQ)

| Windows 2000	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File type	Black Text	Color Graphic/ Text	Color Graphic	Black Graphic/ Text	Color Graphic
File extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	248 KB
Post-Raster File Size	17.8 KB	20.9 KB	4.95 MB	528 KB	269 KB
First-Page Time	6.74	10.52	26.97	10.09	9.96

The Lexmark X854e's print speeds were tested at the default 2400IQ using the PostScript 3 and PCL 6 drivers.

First-print time indicates the time it took to RIP, image and deliver the first page of the test document set to the output tray.
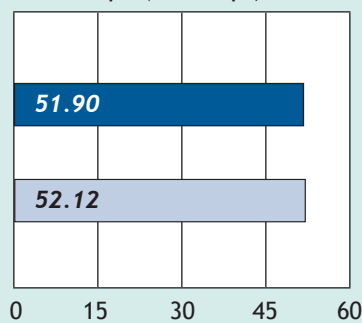
Lexmark's rated speed:

55 ppm

BLI'S Tested Print Speeds

PostScript (default 2400IQ)
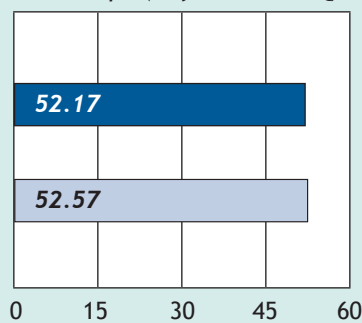
52.17	Average Speed (including first page)
52.57	Average Speed (excluding first page)

0   15   30   45   60

Pages Per Minute

PostScript (1200 dpi)

51.90	Average Speed (including first page)
52.12	Average Speed (excluding first page)

0   15   30   45   60

Pages Per Minute

PostScript (600 dpi)

52.32	Average Speed (including first page)
52.28	Average Speed (excluding first page)

0   15   30   45   60
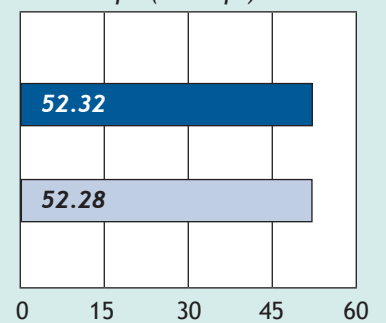
Pages Per Minute

■ Average Speed (including first page)   ▨ Average Speed (excluding first page)

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 Lexmark X854e's print speeds were tested using the PostScript 3 driver; times from the PCL 6 driver were similar.

First-copy time

Platen: **4.97**

Document Feeder: **6.53**

Pages Per Minute

First-copy time:
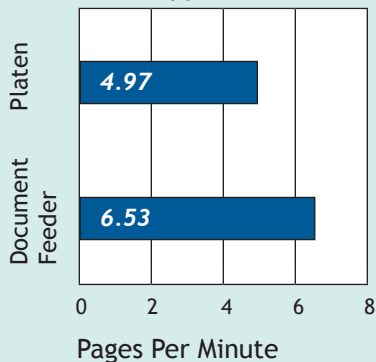
4.97 seconds from the platen.
6.53 seconds from the document feeder.

Copies per minute

excluding first page: **55**

including first page: **49**
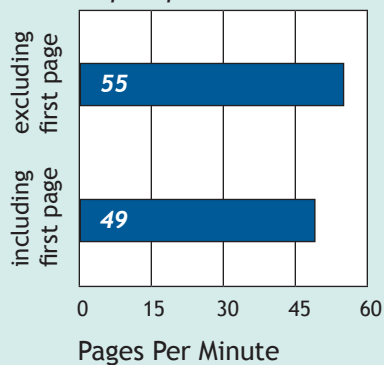
Pages Per Minute

Copies per minute:

55, excluding first copy.
49, including first copy.

Document feeding speeds

1:1 **53.66**

1:2 **44.64**

2:2 **11.48**

Originals Per Minute
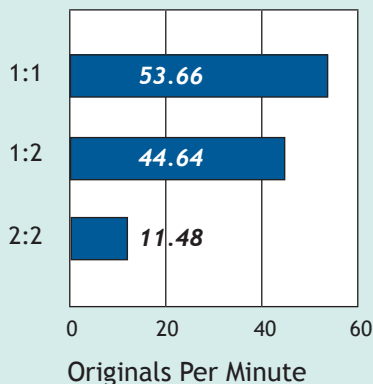
Document feeding speeds (8-1/2" x 11" originals):

1:1 copy mode: 53.66 originals per minute.
1:2 copy mode: 44.64 originals per minute.
2:2 copy mode: 11.48 originals, or 22.96 images, per minute.

LAB TEST

Copy/Print Efficiency for 1, 5, 10 and 20 Sets

Overall Efficiency

1:1 **87.1**
1:2 **75.5**
2:2 **69.8**
1:1 **83.5**
1:2 **73.6**

0   25   50   75   100

Percent

BLI obtains the overall efficiency by dividing the tested speed of the device by the rated speed and then multiplying by 100 for each run length. All jobs are based on a 10-page document printed at the default 2400IQ using the PostScript print driver.

■ Copy
□ Print

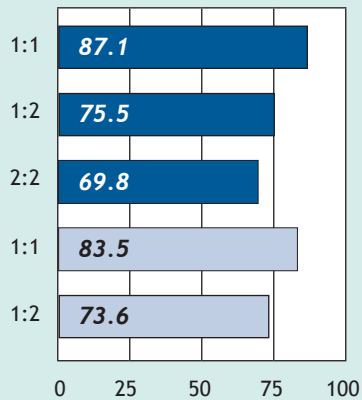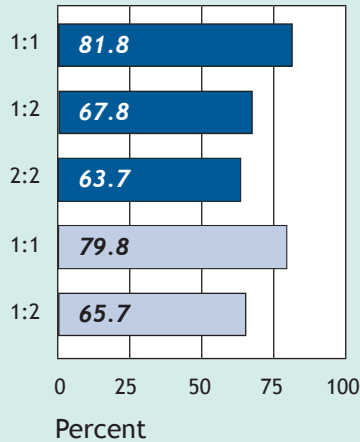Lexmark X854 Copy/Print Efficiency (without optional finisher)

Copy	1:1				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	16.78	35.8	65.0%	65.0%
5	0	59.62	50.3	91.5%	78.3%
10	1	55.12	52.1	94.8%	83.8%
20	3	44.51	53.4	97.2%	**87.1%**
Copy	1:2				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	21.33	28.1	51.1%	51.1%
5	1	9.3	43.3	78.7%	64.9%
10	2	9.18	46.4	84.4%	71.4%
20	4	8.58	48.3	87.8%	**75.5%**
Copy	2:2				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	53.46	22.4	40.8%	40.8%
5	2	30.52	39.9	72.5%	56.6%
10	4	30.06	44.4	80.8%	64.7%
20	8	33.27	46.8	85.0%	**69.8%**
Print	1:1				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	18.96	31.6	57.5%	57.5%
5	1	2.74	47.8	86.9%	72.2%
10	1	56.85	51.3	93.4%	79.3%
20	3	46.77	52.9	96.2%	**83.5%**
Print	1:2				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	23.48	25.6	46.5%	46.5%
5	1	10.84	42.3	77.0%	61.7%
10	2	10.08	46.1	83.9%	69.1%
20	4	10.36	47.9	87.1%	**73.6%**

Efficiency is tested using a 10-page document. In print mode, the document is printed using the PostScript driver at the default 2400IQ resolution.

Copy/Print Efficiency for 1, 5, 10 and 20 Sets

Overall Efficiency

	Percent
1:1	81.8
1:2	67.8
2:2	63.7
1:1	79.8
1:2	65.7

0 25 50 75 100

Percent

BLI obtains the overall efficiency by dividing the tested speed of the device by the rated speed and then multiplying by 100 for each run length. All jobs are based on a 10-page document printed at the default 2400IQ using the PostScript print driver.

■ Copy
□ Print

Lexmark X854 Copy/Print Efficiency (w/optional finisher)

Copy	1:1				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	16.78	35.8	65.0%	65.0%
5	1	8.93	43.5	79.1%	72.1%
10	2	2.26	49.1	89.2%	77.8%
20	3	52.12	51.7	94.0%	**81.8%**
Copy	1:2				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	21.33	28.1	51.1%	51.1%
5	1	19.25	37.9	68.8%	60.0%
10	2	27.18	40.8	74.1%	64.7%
20	4	43.52	42.3	77.0%	**67.8%**
Copy	2:2				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	53.46	22.4	40.8%	40.8%
5	2	45.36	36.3	66.0%	53.4%
10	5	1.92	39.7	72.3%	59.7%
20	9	37.48	41.6	75.6%	**63.7%**
Print	1:1				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	18.96	31.6	57.5%	57.5%
5	1	8.77	43.6	79.3%	68.4%
10	2	3.33	48.6	88.5%	75.1%
20	3	52.38	51.6	93.9%	**79.8%**
Print	1:2				
Sets	Min.	Sec.	PPM	Efficiency	Overall Efficiency
1	0	23.48	25.6	46.5%	46.5%
5	1	23.08	36.1	65.7%	56.1%
10	2	25.2	41.3	75.1%	62.4%
20	4	49.4	41.5	75.4%	**65.7%**

Efficiency is tested using a 10-page document. In print mode, the document is printed using the PostScript driver at the default 2400IQ resolution.

Job Stream Evaluation

A job stream consisting of nine files (a mix of Word, Excel, HTML, PowerPoint and e-mail) is sent to a paused print queue. All files are monochrome or monochrome and mixed color and consist of five or fewer pages (total of 19 pages). Timing begins when the queue is released and ends when the last page of the job stream completely exits the device.

Time to completion of all print jobs (PostScript, 2400IQ):
35.92 seconds.

Time to completion of all print jobs (PostScript, 1200 dpi):
40.04 seconds.

Time to completion of all print jobs (PostScript, 600 dpi):
33.09 seconds.

Range for monochrome printers tested to date:
31.36 seconds to 15 minutes, 1.88 seconds.

Problems encountered:
None.

PRINT DRIVERS

Lexmark X854e Print Driver Features

Windows 2000	PCL 6	PostScript 3
Auto Feature/Device Detection	Yes	Yes
Booklet Printing	Yes	Yes
Collate Sets	Yes	Yes
Max paper sources per job	5	5
N-up Printing	2 to 16	2 to 16
Overlay	Yes	Yes
Paper Gauge	No	No
Print and Save	Yes	Yes
Proof Print	Yes	Yes
Quantity Selection	Up to 999	Up to 999
Reduction/Enlargement	Auto	10% to 400%
Resolution Modes	2400IQ (default); 1200 dpi; 600 dpi	2400IQ (default); 1200 dpi; 600 dpi
Save Settings	Yes	Yes
Secure Printing	Yes	Yes
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes

LAB TEST

Send once/print many:

Yes. When printing multiple collated sets—regardless of whether collate is selected from the driver or from the Windows print screen within an application—the file size is not increased. Output was properly collated.

SCAN FUNCTIONS

Scan to e-mail speeds (8-1/2" x 11" originals):

1:1 mode: 50.67 originals per minute.
2:2 mode: 11.31 originals, or 22.62 images, per minute.

FAX FUNCTIONS

Fax scanning speed:

The average speed is obtained from scanning into memory three originals using standard resolution and normal contrast setting; timing begins when the "start" button is pressed and continues until the last page exits onto the exit tray.

Fax scanning speed with 4% page coverage original:
1.80 seconds per page.

Fax scanning speed with 12% page coverage original:
1.83 seconds per page.

TONER YIELD

Color (6%)	Net Weight (Grams)	Toner Yield (Impressions)[1]	Impressions Per Gram	Toner Cost Per Page[1]	Supplies Cost Per Page[2]
Black	589.1	28,782	48.85	0.459¢	0.760¢

[1] *Testing was conducted using BLI's 6% toner yield test original with 6% page coverage.*

[2] *The supplies cost per page is based on suggested retail pricing, BLI's tested toner yields for black based on a test original with 6 percent coverage, and Lexmark's rated yields for the photoconductor and fuser maintenance kit.*

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Lexmark X854e MFP

55 ppm (mono / color) console, MFP (p/s/f) Laser

FAD 34151

US release:	February 2006
US SRP / Street:	$16,999 (Web)/$11,099
Color Type:	*NA*
Controller:	Lexmark
CPU / Bits / MHz:	*INA* / 624
Memory (std / max):	256 MB / 768 MB
HDD:	Standard 80-GB
PDLs:	PCL 6, PostScript 3, PPDS, direct PDF v1.5

■ ENGINE

Mfr / Model / Country:	Lexmark / X854e / *INA*
Monthly Duty Cycle:	300,000 pages
Rated Engine Life:	*INA*

■ RESOLUTION

Standard:	600 x 600 dpi, 1200 x 1200 dpi
Enhanced:	2400 Image Quality

■ INTERFACE / CONNECTIVITY

Client OS Spt:	Windows 98/XP/2000/Me,Mac OS 9.x
Network Spt:	Windows, Mac, Netware, UNIX, Linux
Std Interface:	Parallel, USB, 10 / 100BaseT Ethernet
Opt Interface:	Serial, 802.11g wireless
Printer Mgmt:	MarkVision Professional

■ COMMENTS:
Scan: mono / color scanning, 600 x 600 dpi mono, 600 x 300 dpi color, 75-sheet ADF; Fax: 33.6 Kbps, 5,000 speed dials

Paper Handling

Std/Max Paper Source(s):	5 / 6
Std/Max Paper Capacity:	3,100 sheets / 5,100 sheets
Paper Size (W x L):	11" x 17" max
Print Area (W x L):	*INA* max
Paper Weights:	17-lb. bond to 100-lb index
Std Output Capacity:	500
Other Output:	Optional
Bypass (Capacity/Weight):	100 sheets / 17-lb. bond to 100-lb index
Automatic Duplexing:	Standard

Features

Collation:	Standard
Color Depth (Bits):	*NA*
Color Management:	*NA*
Fonts:	158 PostScript, 89 PCL
IPP (Web) Support:	Standard
RIP Once / Print Many:	Standard

Secure Printing:	Standard

Additional Information

Display / Characters:	Touch-screen LCD
Energy Star Compliance:	Yes
Noise Level (Print / Idle):	53 dB / 32 dB
Power Consumption:	*INA* max
Power Reqs (V/Hz/Amps):	*INA*
Warranty:	1-year on-site or 600,000 impressions
Weight (Base Unit):	300 lbs
Dimensions (H x W x D):	43" x 25" x 25.5"

Options

Finisher:	$1,319
2,000-sheet LCT:	$1,119
N4050e 802.11g wireless print server:	$449
Serial interface card:	$87
10-ft parallel cable	$24.99
6-ft USB cable:	$21
128-MB DRAM:	$879
256-MB DRAM:	$1,259
512-MB DRAM:	$1,499

Supplies

Black toner: $132; yield–30,000 pages; coverage–ISO / IEC 19752

Photoconductor drum: $125; yield–48,000 pages; coverage–*NA*

Maintenance kit: $366.67; yield–300,000 pages