

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - LETTER

HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn

Printing device and settings	
Test Start Date and Time	10/29/2020 12:28
Tester	RM
Machine name/model	HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn
Colour or B&W	Colour
FW Version	2500213_000022
Temperature and Humidity	71 degF / 22 degC 17 %RH
Voltage	110V
Test End Date and Time	11/10/2020 17:23

	Item	Value
Mode and Setting	Driver Version	7.0.0.24832
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	grayscale
	Duplex B&W Settings	grayscale
	Setting N set count	Application
Paper Path	Collating function	Activated (application)
	Paper Sending Direction	Default
	Paper Size Setting	Default
	Paper Feeding	Tray 2
	Paper Exit	Standard Exit Tray
	Output Orientation	Default (face down)
Paper	Duplexing Unit (Yes/No)	YES
	Paper Manufacturer	HP/Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: Letter			
Office Category Test for Color Device		FSOT (seconds)	ESAT (ipm)
Color	Simplex	17.17	29.05
	Duplex	23.20	26.08
B&W	Simplex	15.96	29.05
	Duplex	22.78	26.06

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://w.w.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Detailed Report: LETTER						
	Office Category Test	FSOT (secs)		EFTP (ipm)		ESAT (ipm)
		1 set only (1 set)	1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)	1 set + 30sec
Color Mode	Simplex - Adobe Reader	18.28	13.13 (1 set)	23.33 (5 sets)	27.39 (31 sets)	29.04
	Simplex - Word	16.65	14.41 (1 set)	24.10 (5 sets)		29.07
	Simplex - Excel	16.57	14.48 (1 set)	24.20 (5 sets)		29.06
	Simplex - Average	17.17	14.00 (1 set)	23.87 (5 sets)	27.39 (31 sets)	29.05
	Duplex - Adobe Reader	24.32	9.86 (1 set)	19.52 (5 sets)		26.08
	Duplex - Word	22.69	10.56 (1 set)	20.02 (5 sets)		26.10
	Duplex - Excel	22.57	10.62 (1 set)	20.10 (5 sets)		26.08
	Duplex - Average	23.20	10.34 (1 set)	19.88 (5 sets)		26.08
B&W mode (optional for color device)	Simplex - Adobe Reader	16.96	14.15 (1 set)	24.02 (5 sets)	27.35 (31 sets)	29.07
	Simplex - Word	15.59	15.39 (1 set)	24.68 (5 sets)		29.04
	Simplex - Excel	15.32	15.66 (1 set)	24.85 (5 sets)		29.05
	Simplex - Average	15.96	15.06 (1 set)	24.51 (5 sets)	27.4 (31 sets)	29.05
	Duplex - Adobe Reader	22.53	10.64 (1 set)	20.14 (5 sets)		26.06
	Duplex - Word	24.89	9.62 (1 set)	20.68 (5 sets)		26.08
	Duplex - Excel	20.92	11.46 (1 set)	20.68 (5 sets)		26.06
	Duplex - Average	22.78	10.57 (1 set)	20.50 (5 sets)		26.06

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://w.w.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters	
Item	Value
Computer	HP Z240 SFF Workstation
Processor	Intel Core i7 -6770, 3.4 GHz
System Chip Set	Intel SKL/KBL Mobile/Desktop
System Board	system devices, default system BIOS
System Memory	8 GB
Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
Video Subsystem	Microsoft Basic Display Adaptor
Optical Drive	HP HLDS DVDRW GUD1N
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCP/IP	10/1000
Operating System	Win 10 Enterprise 64 Bit (10240)
Printing Applications	Microsoft Office Word 2016 Acrobat Reader DC Microsoft Office Excel 2016
Print Driver	Not Specified
Test files and location	Office category files, hard drive

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - A4

HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn

Printing device and settings	
Test Start Date and Time	10/29/2020 12:28
Tester	RM
Machine name/model	HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn
Colour or B&W	Colour
FW Version	2500213_000022
Temperature and Humidity	71 degF / 22 degC 17 %rH
Voltage	110V
Test End Date and Time	11/10/2020 17:23

Item	Value	
Mode and Setting	Driver Version	7.0.0.24832
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	grayscale
	Duplex B&W Settings	grayscale
	Setting N set count	Application
Paper Path	Paper Sending Direction	Default
	Paper Size Setting	Default
	Paper Feeding	Tray 2
	Paper Exit	Standard Exit Tray
	Output Orientation	Default (face down)
Paper	Duplexing Unit (Yes/No)	YES
	Paper Manufacturer	HP/Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

Summary Report: A4			
Office Category Test for Color Device		FSOT (seconds)	ESAT (ipm)
Colour	Simplex	17.90	27.19
	Duplex	24.01	24.80
B&W	Simplex	16.46	27.18
	Duplex	22.19	24.79

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Detailed Report: A4						
	Office Category Test	FSOT (secs)	EFTP (ipm)			ESAT (ipm)
		1 set only (1 set)	1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)	1 set + 30sec
Colour Mode	Simplex - Adobe Reader	18.91	12.69 (1 set)	22.11 (5 sets)	25.65 (29 sets)	27.20
	Simplex - Word	17.55	13.67 (1 set)	22.78 (5 sets)		27.19
	Simplex - Excel	17.22	13.93 (1 set)	22.83 (5 sets)		27.19
	Simplex - Average	17.90	13.43	22.57	25.65	27.19
	Duplex - Adobe Reader	25.03	9.58 (1 set)	18.72 (5 sets)		24.80
	Duplex - Word	23.60	10.16 (1 set)	19.18 (5 sets)		24.80
	Duplex - Excel	23.39	10.26 (1 set)	19.26 (5 sets)		24.80
	Duplex - Average	24.0	10.00	19.05		24.80
B&W mode (optional for color device)	Simplex - Adobe Reader	17.44	13.75 (1 set)	22.78 (5 sets)	25.41 (29 sets)	27.20
	Simplex - Word	16.16	14.86 (1 set)	23.42 (5 sets)		27.18
	Simplex - Excel	15.77	15.22 (1 set)	23.52 (5 sets)		27.18
	Simplex - Average	16.5	14.61	23.24	25.4	27.18
	Duplex - Adobe Reader	23.25	10.32 (1 set)	19.26 (5 sets)		24.80
	Duplex - Word	21.73	11.04 (1 set)	19.76 (5 sets)		24.78
	Duplex - Excel	21.57	11.12 (1 set)	19.82 (5 sets)		24.80
	Duplex - Average	22.2	10.82	19.61		24.79

Notes
 1) All printing device and driver settings were default mode.
 2) For the B/W results, the print driver was set to "print in B/W".
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters	
Item	Value
Computer	HP Z240 SFF Workstation
Processor	Intel Core i7 -6770, 3.4 GHz
System Chip Set	Intel SKL/KBL Mobile/Desktop
System Board	system devices, default system BIOS
System Memory	8 GB
Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
Video Subsystem	Microsoft Basic Display Adaptor
Optical Drive	HP HLDS DVD RW GUD1N
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCP/IP	10/1000
Operating System	Win 10 Enterprise 64 Bit (10240)
Printing Applications	Microsoft Office Word 2016 Acrobat Reader DC Microsoft Office Excel 2016
Print Driver	Not Specified
Test files and location	Office category files, hard drive

ISO/IEC 24734 Printing Productivity Report: Office Category

Feature Performance Full Report - Office Feature Performance Test

HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn

Printing device and settings	
Test Start Date and Time	10/29/2020 12:28
Tester	RM
Machine name/model	HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn
Colour or B&W	Colour
FW Version	2500213_000022
Temperature and Humidity	71 degF / 22 degC 17 %RH
Voltage	110V
Test End Date and Time	11/10/2020 17:23

Item	Value	
Mode and Setting	Driver Version	7.0.0.24832
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	grayscale
	Duplex B&W Settings	grayscale
	Setting N set count	Application
	Collating function	Activated (application)
Paper Path	Paper Sending Direction	Default
	Paper Size Setting	Default
	Paper Feeding	Tray 2
	Paper Exit	Standard Exit Tray
	Output Orientation	Default (face down)
	Duplexing Unit (Yes/No)	YES
Paper	Paper Manufacturer	HP/Xerox
	Paper Weight	20lb / 75 g/m2
	Paper Size	Letter / A4
	Paper type/name	HP Multipurpose Ultra White / HP Office

ISO Print Productivity Report: Feature Performance Test Summary

Printing Modes (Feature Adobe Reader - Office test file)		Feature Performance Ratio	
		FSOT (base) FSOT (feature)	ESAT (feature) ESAT (base)
A5, Landscape Feed, Simplex, Colour	Simplex	137%	183%
A5, Portrait Feed, Simplex, Colour	Simplex	110%	30%
A4, HP High Speed, Simplex, Colour	Simplex		
Letter, HP High Speed, Simplex, Colour	Simplex		
A5, Landscape Feed, Simplex, B/W	Simplex	138%	187%
A5, Portrait Feed, Simplex, B/W	Simplex	106%	32%
A4, HP High Speed, Simplex, B/W	Simplex		
Letter, HP High Speed, Simplex, B/W	Simplex		

- Notes
 1) All printing device and driver settings were default mode.
 2) Test conducted with 8-paper Office Feature Performance file.
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Feature Performance Full Report - Feature Printing Mode: 'Office' Feature Performance Test

Printing Modes Feature Adobe Reader - Office test file (8-page)	Base Printing Mode		Feature Performance			
	FSOT Base	ESAT Base	1 set FSOT (secs)	1 set + 30 sec ESAT (ipm)	FSOT (base) FSOT (feature)	ESAT (feature) ESAT (base)
A5, Landscape Feed, Simplex, Colour	27.91	27.19	20.46	49.9	137%	183%
A5, Portrait Feed, Simplex, Colour	27.91	27.19	25.55	8.4	110%	30%
A4, HP High Speed, Simplex, Colour	27.91	27.19				
Letter, HP High Speed, Simplex, Colour						
A5, Landscape Feed, Simplex, B/W	26.41	26.62	19.18	49.9	138%	187%
A5, Portrait Feed, Simplex, B/W	26.41	26.62	24.94	8.8	106%	32%
A4, HP High Speed, Simplex, B/W	26.41	26.62				
Letter, HP High Speed, Simplex, B/W						

- Notes
 1) All printing device and driver settings were default mode.
 2) Test conducted with 8-paper Office Feature Performance file.
 3) For more information see <http://www.hp.com/go/printerclaims>.
 4) Port monitor not configured to follow device if the IP address changes.

Test System Parameters		
Item	Value	
Test System	Computer	HP Z240 SFF Workstation
	Processor	Intel Core i7 -6770, 3.4 GHz
	System Chip Set	Intel SKL/KBL Mobile/Desktop
	System Board	system devices, default system BIOS
	System Memory	8 GB
	Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
	Video Subsystem	Microsoft Basic Display Adaptor
	Optical Drive	HP HLDS DVD RW GUD1N
	I/O Subsystem	Built-in
	USB Subsystem	USB 2.0/3.0
I/O	TCP/IP	10/1000
Software	Operating System	Win 10 Enterprise 64 Bit (10240)
	Printing Applications	Microsoft Office Word 2016 Acrobat Reader DC Microsoft Office Excel 2016
	Print Driver	Not Specified
	Test files and location	Office category files, hard drive

ISO/IEC 17629 First Print Out Time Report: Office Category

Full Detailed Test Report - LETTER

HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn

Printing device and settings	
Test Start Date and Time	10/29/2020 13:24
Tester	RM
Machine name/model	HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn
Colour or B&W	Colour
FW Version	Z500213 000022
Configuration (options)	Default
Controller	7.108
Printing device page count	Not Specified
Printing supplies page count	Not Specified
Temperature and Humidity	71 degF / 22 degC 17 %rH
Voltage	110V
Test End Date and Time	11/5/2020 0:33

Item	Value
Mode and Setting	PDL and driver version 7.0.0.24832
	Print Quality mode default
	B&W settings default
Paper	Paper feed orientation Short Edge
	Paper type setting default
	Paper feeding Standard cassette
Paper Path	Paper exit Standard exit tray
	Output orientation default (face up or face down)

ISO First Page Out Time Summary Report: Office Category

Summary Report: **Letter**

FPOT from Ready (seconds)	
Color	Simplex 10.39
	Duplex
B&W	Simplex 8.70
	Duplex

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B&W results, the print driver was set to "print in B&W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.

ISO First Page Out Time Report: Office Category

Detailed Report: **LETTER**

		Word (seconds)	Excel (seconds)	Adobe Reader (seconds)	Average (seconds)	Delay Time
Color Mode	FPOT from Ready - Simplex	10.32	10.12	10.73	10.39	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			11.63		104 Minutes
	Recovery Time			0.9		
	FPOT from Off - Simplex			183.22		
	Warm-up Time			172.49		
B&W Mode	FPOT from Ready - Simplex	8.65	8.50	8.93	8.70	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			11.24		104 Minutes
	Recovery Time			2.3		
	FPOT from Off - Simplex			207.86		
	Warm-up Time			198.93		

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B&W results, the print driver was set to "print in B&W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.
- 6) Details for FPOT from Sleep are shown below.

HP Data Table

Detailed Report: **LETTER**

		FPOT Avg (secs)	FPOT (secs) Iteration 1	FPOT (secs) Iteration 2	FPOT (secs) Iteration 3	Application	Delay Time
Color Mode	FPOT from Sleep	11.63	11.67	11.58	N/A	Adobe Reader	104 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	11.47	11.40	11.53	N/A	Adobe Reader	15 Minutes
	FPOT from Ready, HP High Speed HP/Non ISO Test	N/A	N/A	N/A	N/A	Adobe Reader	N/A
B&W Mode	FPOT from Sleep	11.24	11.24	11.23	N/A	Adobe Reader	104 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	10.12	10.12	10.12	N/A	Adobe Reader	15 Minutes

Test System Parameters		
Item	Value	
Test System	Computer	HP Z240 SFF Workstation
	Processor	Intel Core i7 -6770, 3.4 Ghz
	System Chip Set	Intel SKL/KBL Mobile/Desktop
	System Board	8 system devices, default system BIOS
	System Memory	8 GB
	Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
	Video Subsystem	Microsoft Basic Display Adaptor
	Optical Drive	HP HLDS DVDRW GUD1N
	I/O Subsystem	Builtin
	USB Subsystem	USB 2.0/3.0
Printing Device Connection	TCP/IP 10/1000	
Software	Operating System	Win 10 Enterprise 64 Bit (10240)
	Printing Applications	Microsoft Office 2016 Adobe Reader DC
	Print Driver	7.0.0.24832

ISO/IEC 17629 First Print Out Time Report: Office Category

Full Detailed Test Report - A4

HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn

Printing device and settings	
Test Start Date and Time	10/29/2020 13:24
Tester	RM
Machine name/model	HP Color LaserJet Enterprise M455dn & Color LaserJet Managed E45028dn
Colour or B&W	Colour
FW Version	Z500213 000022
Configuration (options)	Default
Controller	7.108
Printing device page count	Not Specified
Printing supplies page count	Not Specified
Temperature and Humidity	71 degF / 22 degC 17 %rH
Voltage	110V
Test End Date and Time	11/5/2020 0:33

Item	Value
Mode and Setting	PDL and driver version 7.0.0.24832
	Print Quality mode default
	B&W settings default
	Paper feed orientation Short Edge
Paper	Paper type setting default
	Paper feeding Standard cassette
	Paper exit Standard exit tray
Paper Path	Output orientation default (face up or face down)

ISO First Page Out Time Summary Report: Office Category

Summary Report: A4

		FPOT from Ready (seconds)
Colour	Simplex	10.53
	Duplex	
B&W	Simplex	8.85
	Duplex	

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.

ISO First Page Out Time Report: Office Category

Detailed Report: A4

		Word (seconds)	Excel (seconds)	Adobe Reader (seconds)	Average (seconds)	Delay Time
Color Mode	FPOT from Ready - Simplex	10.51	10.27	10.80	10.53	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			11.70		104 Minutes
	Recovery Time			0.9		
	FPOT from Off - Simplex			187.77		
	Warm-up Time			176.97		
B&W Mode	FPOT from Ready - Simplex	8.80	8.65	9.10	8.85	20 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			11.36		104 Minutes
	Recovery Time			2.3		
	FPOT from Off - Simplex			182.80		
	Warm-up Time			173.70		

Notes

- 1) All printing device and driver settings were default mode.
- 2) For the B/W results, the print driver was set to "print in B/W".
- 3) For more information see <http://www.hp.com/go/printerclaims>.
- 4) Port monitor not configured to follow device if the IP address changes.
- 5) Page counts were collected after completion of the tests.
- 6) Details for FPOT from Sleep are shown below.

HP Data Table

Detailed Report: A4

		FPOT Avg (secs)	FPOT (secs) Iteration 1	FPOT (secs) Iteration 2	FPOT (secs) Iteration 3	Application	Delay Time
Color Mode	FPOT from Sleep	11.70	11.70	11.69	N/A	Adobe Reader	104 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	11.63	11.64	11.61	N/A	Adobe Reader	15 Minutes
	FPOT from Ready, HP High Speed HP/Non ISO Test	N/A	N/A	N/A	N/A	Adobe Reader	N/A
B&W Mode	FPOT from Sleep	11.36	11.39	11.32	N/A	Adobe Reader	104 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	10.30	10.30	10.29	N/A	Adobe Reader	15 Minutes

Test System Parameters		
Item	Value	
Test System	Computer	HP Z240 SFF Workstation
	Processor	Intel Core i7 -6770, 3.4 Ghz
	System Chip Set	Intel SKL/KBL Mobile/Desktop
	System Board	system devices, default system BIOS
	System Memory	8 GB
	Hard Drive Subsystem	Turbo Drive G2 256GB PCIe SSD
	Video Subsystem	Microsoft Basic Display Adaptor
	Optical Drive	HP HLDS DVDRW GUD1N
	I/O Subsystem	Builtin
	USB Subsystem	USB 2.0/3.0
Printing Device Connection	TCP/IP 10/1000	
Software	Operating System	Win 10 Enterprise 64 Bit (10240)
	Printing Applications	Microsoft Office 2016 Adobe Reader DC
	Print Driver	7.0.0.24832