

ISO/IEC 24734 Printing Productivity Report: Office Category

Full Detailed Test Report - LETTER

HP Color Laserjet Managed E65160DN

Printing device and settings	
Test Start Date and Time	2/4/2019 10:09
Tester	TQW
Machine name/model	HP Color Laserjet Managed E65160DN
Colour or B&W	Colour
FW Version	2407081_000586
Temperature and Humidity	76 degF / 24 degC 20.0 %rH
Voltage	110V
Test End Date and Time	4/25/2019 20:14

Item	Value	
Mode and Setting	Driver Version	6.6.5.23510
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	print in grayscale
	Duplex B&W Settings	print in 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
Paper	Output Orientation	Default (face down)
	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	8.55	60.14
	Duplex	10.68	60.73
B&W	Simplex	8.03	60.24
	Duplex	10.16	60.72

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: LETTER							
Office Category Test	FSOT (secs)	EFTP (ipm)			ESAT (ipm)		
		1 set only (1 set)	1 set + 30sec (# of sets)	1 set + 4min (# of sets)			
Color Mode	Simplex - Adobe Reader	8.29	28.98 (1 set)	53.33 (9 sets)	47.82 (64 sets)	60.08	
	Simplex - Word	8.65	27.76 (1 set)	53.13 (9 sets)		60.02	
	Simplex - Excel	8.70	27.60 (1 set)	53.48 (9 sets)		60.33	
	Simplex - Average	8.55	28.11 (1 set)	53.31 (9 sets)	47.82 (64 sets)	60.14	
	Duplex - Adobe Reader	10.61	22.64 (1 set)	50.20 (9 sets)		60.72	
	Duplex - Word	10.60	22.64 (1 set)	50.46 (10 sets)		60.74	
	Duplex - Excel	10.83	22.16 (1 set)	50.68 (9 sets)		60.74	
	Duplex - Average	10.68	22.48 (1 set)	50.44 (9 sets)		60.73	
	B&W mode (optional for color device)	Simplex - Adobe Reader	7.73	31.04 (1 set)	54.35 (9 sets)	48.84 (63 sets)	60.32
		Simplex - Word	8.20	29.28 (1 set)	53.59 (9 sets)		60.32
Simplex - Excel		8.15	29.44 (1 set)	53.70 (9 sets)		60.08	
Simplex - Average		8.03	29.92 (1 set)	53.98 (9 sets)	48.8 (63 sets)	60.24	
Duplex - Adobe Reader		10.01	23.98 (1 set)	51.16 (9 sets)		60.74	
Duplex - Word		10.23	23.44 (1 set)	50.78 (9 sets)		60.72	
Duplex - Excel		10.24	23.44 (1 set)	51.12 (9 sets)		60.72	
Duplex - Average		10.16	23.62 (1 set)	51.02 (9 sets)		60.72	

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 DVDRW GUD1N
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCPI/P	TCPI/P 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 Managed E65160DN

Printing device and settings	
Test Start Date and Time	2/4/2019 10:09
Tester	TQW
Machine name/model	HP Color Laserjet Managed E65160DN
Colour or B&W	Colour
FW Version	2407081_000586
Temperature and Humidity	76 degF / 24 degC 20.0 %rH
Voltage	110V
Test End Date and Time	4/25/2019 20:14

Item	Value	
Mode and Setting	Driver Version	6.6.5.23510
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	print in grayscale
	Duplex B&W Settings	print in 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
Paper	Output Orientation	Default (face down)
	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	8.73	56.95
	Duplex	10.99	57.50
B&W	Simplex	8.33	57.03
	Duplex	10.59	57.38

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 + 30sec (# of sets)	1 set + 4min (# of sets)			
Colour Mode	Simplex - Adobe Reader	8.45	28.43 (1 set)	48.87 (9 sets)	45.76 (60 sets)	56.93	
	Simplex - Word	8.95	26.81 (1 set)	50.69 (9 sets)		56.98	
	Simplex - Excel	8.79	27.31 (1 set)	50.36 (9 sets)		56.95	
	Simplex - Average	8.73	27.51 (1 set)	49.97 (9 sets)	45.76 (60 sets)	56.95	
	Duplex - Adobe Reader	10.85	22.12 (1 set)	47.50 (9 sets)		57.48	
	Duplex - Word	11.22	21.38 (1 set)	47.48 (9 sets)		57.52	
	Duplex - Excel	10.88	22.04 (1 set)	48.24 (9 sets)		57.52	
	Duplex - Average	11.0	21.84 (1 set)	47.74 (9 sets)		57.50	
	B&W mode (optional for color device)	Simplex - Adobe Reader	8.00	30.01 (1 set)	52.16 (10 sets)	45.39 (60 sets)	57.03
		Simplex - Word	8.43	28.48 (1 set)	51.73 (10 sets)		57.04
Simplex - Excel		8.56	28.06 (1 set)	51.70 (10 sets)		57.03	
Simplex - Average		8.3	28.85 (1 set)	51.86 (10 sets)	45.4 (60 sets)	57.03	
Duplex - Adobe Reader		10.32	23.28 (1 set)	49.78 (10 sets)		57.52	
Duplex - Word		10.84	22.16 (1 set)	49.02 (10 sets)		57.14	
Duplex - Excel		10.60	22.64 (1 set)	49.52 (10 sets)		57.50	
Duplex - Average		10.6	22.69 (1 set)	49.44 (10 sets)		57.38	

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 DVDRW GUD1N
I/O Subsystem	Builtin
USB Subsystem	USB 2.0/3.0
TCPI/PT	TCPI/PT 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 Managed E65160DN

Printing device and settings		
Test Start Date and Time	2/4/2019 10:09	
Tester	TQW	
Machine name/model	HP Color Laserjet Managed E65160DN	
Colour or B&W	Colour	
FW Version	2407081_000586	
Temperature and Humidity	76 degF / 24 degC 20.0 %rH	
Voltage	110V	
Test End Date and Time	4/25/2019 20:14	
Item	Value	
Mode and Setting	Driver Version	6.6.5.23510
	Media/Quality Setting	Default / Default
	Simplex B&W Settings	print in grayscale
	Duplex B&W Settings	print in 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)
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

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	112%	130%
A5, Portrait Feed, Simplex, Colour	Simplex	77%	35%
Legal, Simplex, Colour	Simplex		
Legal, Duplex, Colour	Duplex		
A4, 1200 dpi, Simplex, Colour	Simplex		
Letter, 1200 dpi, Simplex, Colour	Simplex		
A4, General Office, Simplex, Colour	Simplex		
Letter, General Office, Simplex, Colour	Simplex		
A5, Landscape Feed, Simplex, B/W	Simplex	116%	131%
A5, Portrait Feed, Simplex, B/W	Simplex	76%	39%
Legal, Simplex, B/W	Simplex		
Legal, Duplex, B/W	Duplex		
A4, 1200 dpi, Simplex, B/W	Simplex		
Letter, 1200 dpi, Simplex, B/W	Simplex		
A4, General Office, Simplex, B/W	Simplex		
Letter, General Office, Simplex, B/W	Simplex		

Notes  
 1) All printing device and driver settings were default mode.  
 2) Test conducted with 8-page 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 (sec)	1 set + 30 sec ESAT (ipm)	FSOT (base) FSOT (feature)	ESAT (feature) ESAT (base)
A5, Landscape Feed, Simplex, Colour	13.03	56.77	11.67	74.3	112%	130%
A5, Portrait Feed, Simplex, Colour	13.03	56.77	17.14	20.4	77%	35%
Legal, Simplex, Colour						
Legal, Duplex, Colour						
A4, 1200 dpi, Simplex, Colour	13.03	56.77				
Letter, 1200 dpi, Simplex, Colour						
A4, General Office, Simplex, Colour	13.03	56.77				
Letter, General Office, Simplex, Colour						
A5, Landscape Feed, Simplex, B/W	12.63	56.77	10.95	74.9	116%	131%
A5, Portrait Feed, Simplex, B/W	12.63	56.77	16.73	22.6	76%	39%
Legal, Simplex, B/W						
Legal, Duplex, B/W						
A4, 1200 dpi, Simplex, B/W	12.63	56.77				
Letter, 1200 dpi, Simplex, B/W						
A4, General Office, Simplex, B/W	12.63	56.77				
Letter, General Office, Simplex, B/W						

Notes  
 1) All printing device and driver settings were default mode.  
 2) Test conducted with 8-page 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 DVDRW GUD1N
	IO Subsystem	Builton
	USB Subsystem	USB 2.0/3.0
I/O	TCP/IP	
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 Managed E65160DN

Printing device and settings	
Test Start Date and Time	2/4/2019 9:47
Tester	TQW
Machine name/model	HP Color Laserjet Managed E65160DN
Colour or B&W	Colour
FW Version	2407081_000586
Configuration (options)	Default
Controller	11.105
Printing device page count	Not Specified
Printing supplies page count	Not Specified
Temperature and Humidity	76 degF / 24 degC 20.0 %rH
Voltage	110V
Test End Date and Time	2/5/2019 11:52

Item	Value
<b>Mode and Setting</b>	
PDL and driver version	6.6.5.23510
Print Quality mode	default
B&W settings	default
Paper feed orientation	Short Edge
<b>Paper</b>	
Paper type setting	default
Paper feeding	Standard cassette
Paper exit	Standard exit tray
<b>Paper Path</b>	
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	5.48
	Duplex	
B&W	Simplex	4.96
	Duplex	

- Notes
- 1) All printing device and driver settings w ere default mode.
  - 2) For the B/W results, the print driver w as 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 w ere 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	5.63	5.66	5.15	5.48	21 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			11.27		95 Minutes
	Recovery Time			6.1		
	FPOT from Off - Simplex			137.24		
	Warm-up Time			132.09		
B&W Mode	FPOT from Ready - Simplex	5.06	5.03	4.78	4.96	21 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			10.59		95 Minutes
	Recovery Time			5.8		
	FPOT from Off - Simplex			135.75		
	Warm-up Time			130.97		

- Notes
- 1) All printing device and driver settings w ere default mode.
  - 2) For the B/W results, the print driver w as 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 w ere 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	11.27	11.20	11.33	N/A	Adobe Reader	95 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	7.06	7.05	7.07	N/A	Adobe Reader	15 Minutes
B&W Mode	FPOT from Sleep	10.59	10.59	10.58	N/A	Adobe Reader	95 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	7.25	7.45	7.04	N/A	Adobe Reader	15 Minutes

- Notes
- 1) All printing device and driver settings w ere default mode.
  - 2) For the B/W results, the print driver w as set to "print in B/W".
  - 3) DLP includes detailed iterations as data measurements may vary run to run.

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 Memory	system devices, default system BIOS
	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
Software	Operating System	Win 10 Enterprise 64 Bit (10240)
	Printing Applications	Microsoft Word 2016
		Microsoft Excel 2016
	Adobe Reader DC	

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

Full Detailed Test Report - A4

HP Color Laserjet Managed E65160DN

Printing device and settings	
Test Start Date and Time	2/4/2019 9:47
Tester	TQW
Machine name/model	HP Color Laserjet Managed E65160DN
Colour or B&W	Colour
FW Version	2407081_000586
Configuration (options)	Default
Controller	11.105
Printing device page count	Not Specified
Printing supplies page count	Not Specified
Temperature and Humidity	76 degF / 24 degC 20.0 %rH
Voltage	110V
Test End Date and Time	2/5/2019 11:52

Item	Value
<b>Mode and Setting</b>	
PDL and driver version	6.6.5.23510
Print Quality mode	default
B&W settings	default
Paper feed orientation	Short Edge
<b>Paper</b>	
Paper type setting	default
Paper feeding	Standard cassette
Paper exit	Standard exit tray
<b>Paper Path</b>	
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	5.70
	Duplex	
B&W	Simplex	5.22
	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	6.28	5.45	5.35	5.70	21 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			11.21		95 Minutes
	Recovery Time			5.9		
	FPOT from Off - Simplex			155.80		
	Warm-up Time			150.45		
B&W Mode	FPOT from Ready - Simplex	5.63	5.08	4.93	5.22	21 Seconds
	FPOT from Ready - Duplex					
	FPOT from Sleep - Simplex			10.72		95 Minutes
	Recovery Time			5.8		
	FPOT from Off - Simplex			136.20		
	Warm-up Time			131.27		

- 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	11.21	11.30	11.11	N/A	Adobe Reader	95 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	7.00	7.00	7.00	N/A	Adobe Reader	15 Minutes
B&W Mode	FPOT from Sleep	10.72	10.65	10.78	N/A	Adobe Reader	95 Minutes
	FPOT from Sleep (15 minutes) HP/Non ISO Test	6.91	6.90	6.92	N/A	Adobe Reader	15 Minutes

- 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) DLP includes detailed iterations as data measurements may vary run to run.

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 Word 2016
		Microsoft Excel 2016
		Adobe Reader DC