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Latest Chrome vs. Firefox on AMD Linux

AMD Ryzen 9 3900XT 12-Core testing with a MSI MEG X570 GODLIKE (MS-7C34) v1.0 (1.94 BIOS) and AMD Radeon RX 56/64 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

Run 1 had the most wins, coming in first place for 50% of the tests.

Based on the geometric mean of all complete results, the fastest (Run 2) was 1.013x the speed of the slowest (Run 3). Run 2a was 0.994x the speed of Run 2, Run 4 was 0.997x the speed of Run 2a, Run 1 was 0.996x the speed of Run 4, Run 3 was 1x the speed of Run 1.

The results with the greatest spread from best to worst included:

Selenium (Benchmark: Jetstream 2 - Browser: Firefox) at 1.051x
Selenium (Benchmark: Basemark - Browser: Firefox) at 1.044x
Selenium (Benchmark: Basemark - Browser: Google Chrome) at 1.033x
Selenium (Benchmark: WASM collisionDetection - Browser: Google Chrome) at 1.03x
Selenium (Benchmark: WASM imageConvolute - Browser: Firefox) at 1.027x
Selenium (Benchmark: Kraken - Browser: Google Chrome) at 1.024x
Selenium (Benchmark: Maze Solver - Browser: Google Chrome) at 1.024x
Selenium (Benchmark: Maze Solver - Browser: Firefox) at 1.023x

Selenium (Benchmark: ARES-6 - Browser: Firefox) at 1.023x
Selenium (Benchmark: Speedometer - Browser: Google Chrome) at 1.022x.

Test Systems:

Run 1

Run 2

Run 2a

Run 3

Run 4

Processor: AMD Ryzen 9 3900XT 12-Core @ 3.80GHz (12 Cores / 24 Threads), Motherboard: MSI MEG X570 GODLIKE (MS-7C34) v1.0 (1.94 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 500GB Seagate FireCuda 520 SSD ZP500GM30002, Graphics: AMD Radeon RX 56/64 8GB (1630/945MHz), Audio: AMD Vega 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek Device 2600 + Realtek Device 3000 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.8.0-20-generic (x86_64), Desktop: GNOME Shell 3.38.0, Display Server: X Server 1.20.8, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.2.0 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8701021
Python Notes: Python 2.7.18 + Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Run 1	Run 2	Run 2a	Run 3	Run 4
Selenium - ARES-6 - Firefox (ms)	**39.51**	**38.64**	38.84	39.09	39.03
Normalized	97.8%	100%	99.49%	98.85%	99%
Standard Deviation	1.7%	2.2%	0.5%	0.2%	0.4%
Selenium - Kraken - Firefox (ms)	730.9	**723.2**	727.5	**735.4**	725.2
Normalized	98.95%	100%	99.41%	98.34%	99.72%
Standard Deviation	1.1%	2.1%	2%	0.6%	1.4%
Selenium - Octane - Firefox (Geometric Mean)	38235	**38682**	38450	**38019**	38258
Normalized	98.84%	100%	99.4%	98.29%	98.9%
Standard Deviation	1%	3%	1.5%	0.3%	1.8%

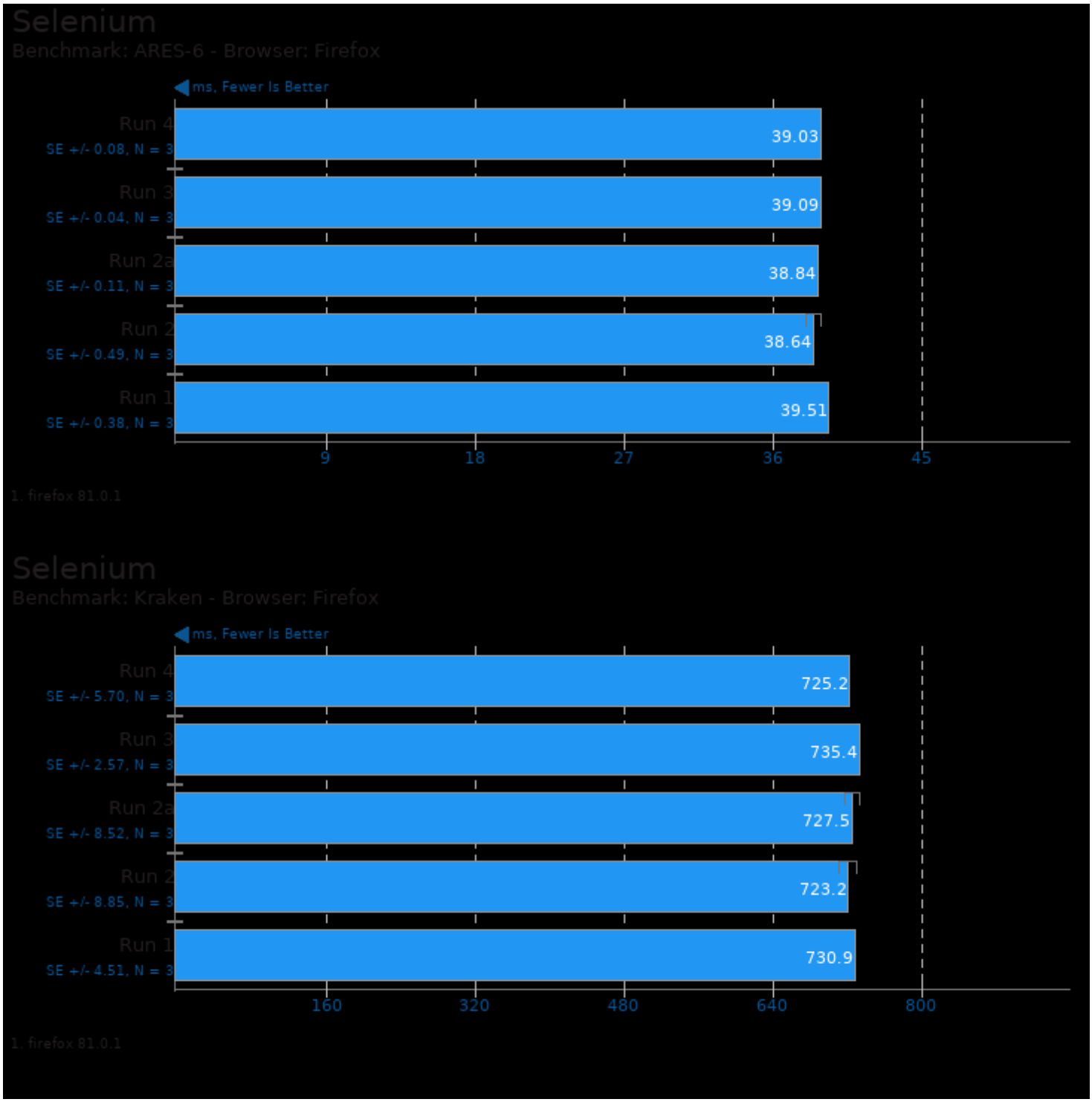
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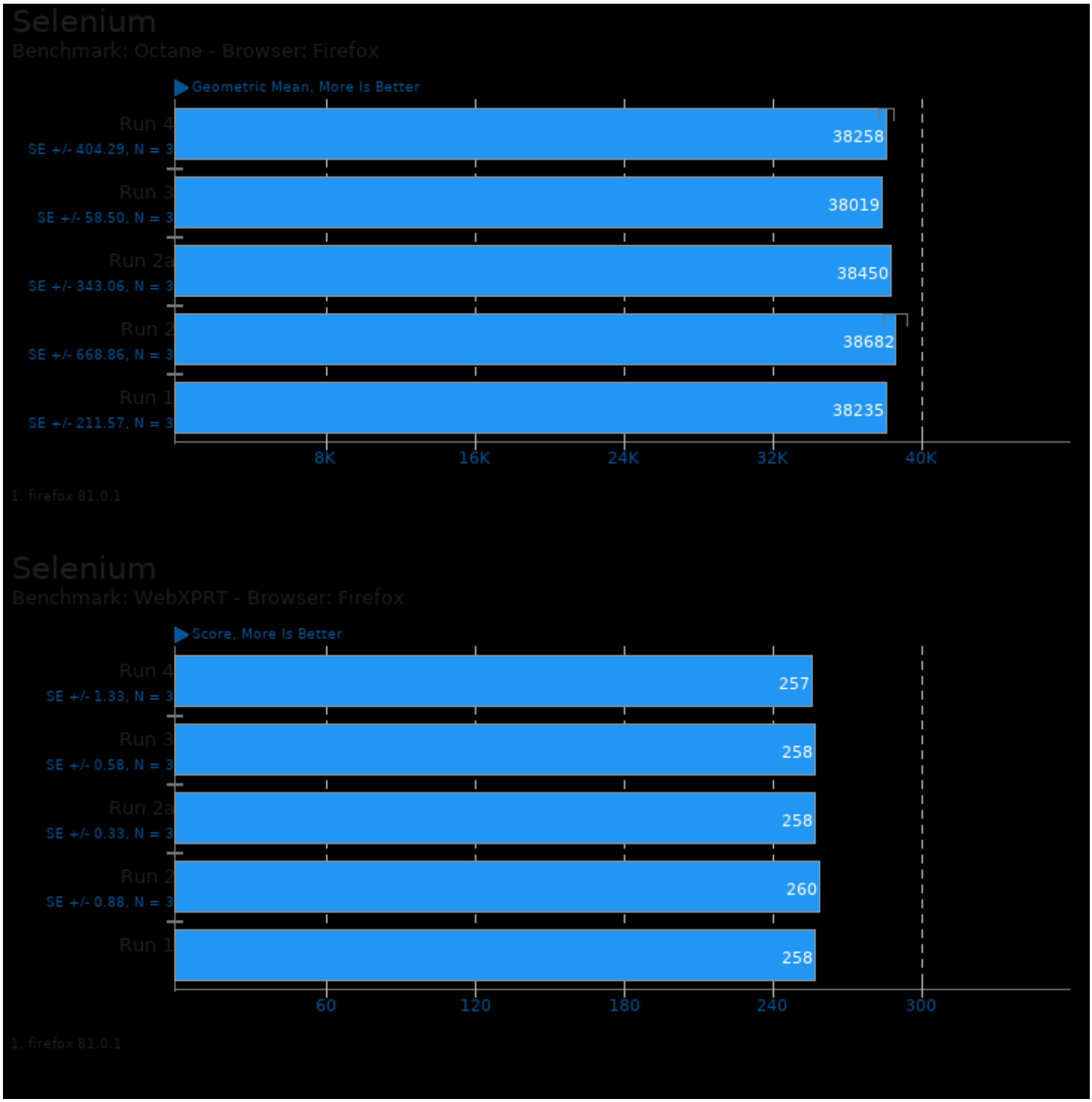
Selenium - WebXPRT - Firefox (Score)	258	260	258	258	257
Normalized	99.23%	100%	99.23%	99.23%	98.85%
Standard Deviation		0.6%	0.2%	0.4%	0.9%
Selenium - Basemark - Firefox (Overall Score)	770.66		737.91	744.10	744.48
Normalized	100%		95.75%	96.55%	96.6%
Standard Deviation	0.7%		3.2%	4.1%	4.7%
Selenium - Jetstream - Firefox (Score)	231.40		230.26	230.26	230.86
Normalized	100%		99.51%	99.51%	99.77%
Standard Deviation	1.6%		0.6%	1.5%	1.5%
Selenium - CanvasMark - Firefox (Score)	14021		14058	14133	14031
Normalized	99.21%		99.47%	100%	99.28%
Standard Deviation	0.7%		2%	1.7%	0.4%
Selenium - MotionMark - Firefox (Score)	133.23		135.17	129.79	
Normalized	98.56%		100%	96.02%	
Standard Deviation	21.8%		21.1%	29.7%	
Selenium - StyleBench - Firefox (Runs / Minute)	87.0		86.0	85.76	
Normalized	100%		98.85%	98.57%	
Standard Deviation	1%		0.5%	0.3%	
Selenium - Jetstream 2 - Firefox (Score)	110.169		104.802	107.399	
Normalized	100%		95.13%	97.49%	
Standard Deviation	1.3%		1%	0.8%	
Selenium - Maze Solver - Firefox (sec)	4.4		4.4	4.5	
Normalized	100%		100%	97.78%	
Standard Deviation	0%		0%	1.3%	
Selenium - Speedometer - Firefox (Runs/min)	99.5		98.4	99.7	
Normalized	99.8%		98.7%	100%	
Standard Deviation	2.8%		1.8%	2.7%	
Selenium - ARES-6 - Google Chrome (ms)	18.35		18.30	18.32	
Normalized	99.73%		100%	99.89%	
Standard Deviation	0.5%		0.4%	0.7%	
Selenium - Kraken - Google Chrome (ms)	696.4		700.5	713.3	
Normalized	100%		99.41%	97.63%	
Standard Deviation	0.6%		1.5%	0.7%	
Selenium - Octane - Google Chrome (Geometric Mean)	56664		56967	56936	
Normalized	99.47%		100%	99.95%	
Standard Deviation	1%		1.3%	0.6%	
Selenium - PSPDFKit WASM - Firefox (Score)	1307		1290	1316	
Normalized	98.7%		100%	98.02%	
Standard Deviation	1.4%		1.5%	0.8%	

Latest Chrome vs. Firefox on AMD Linux

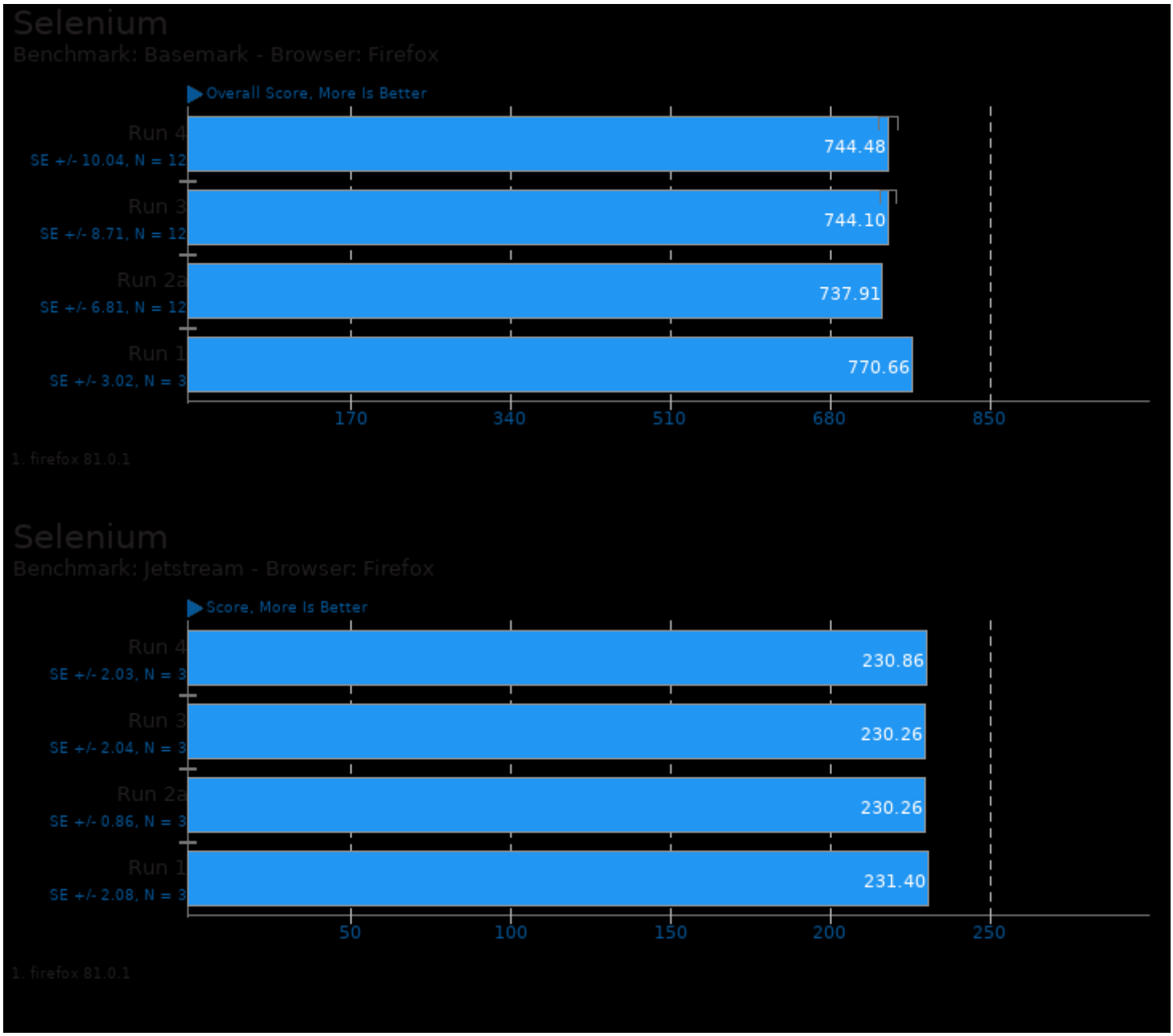
Selenium - WebXPRT - Google Chrome (Score)	**267**	**266**	**267**
Normalized	100%	99.63%	100%
Standard Deviation	0.6%	1.2%	0.6%
Selenium - Basemark - Google Chrome (Overall Score)	**1505**	**1457**	1470
Normalized	100%	96.81%	97.62%
Standard Deviation	0.6%	3.6%	2.1%
Selenium - Jetstream - Google Chrome (Score)	258.68	**258.90**	**256.79**
Normalized	99.92%	100%	99.19%
Standard Deviation	0.6%	0.7%	0.1%
Selenium - CanvasMark - Google Chrome (Score)	21929	**21540**	**21947**
Normalized	99.92%	98.15%	100%
Standard Deviation	3.4%	2.9%	2.8%
Selenium - MotionMark - Google Chrome (Score)	687.14	**680.12**	**691.09**
Normalized	99.43%	98.41%	100%
Standard Deviation	2.4%	1.3%	3%
Selenium - StyleBench - Google Chrome (Runs / Minute)	**36.4**	**35.98**	36.3
Normalized	100%	98.85%	99.73%
Standard Deviation	1.3%	1.1%	1.2%
Selenium - Jetstream 2 - Google Chrome (Score)	**152.765**	151.212	**150.573**
Normalized	100%	98.98%	98.57%
Standard Deviation	0.6%	0.3%	1%
Selenium - Maze Solver - Google Chrome (sec)	**4.2**	**4.2**	**4.3**
Normalized	100%	100%	97.67%
Standard Deviation	1.4%	1.4%	1.4%
Selenium - Speedometer - Google Chrome (Runs/min)	**143**	**139.9**	141
Normalized	100%	97.83%	98.6%
Standard Deviation		0.1%	0.4%
Selenium - PSPDFKit WASM - Google Chrome (Score)	**1444**	1456	**1467**
Normalized	100%	99.18%	98.43%
Standard Deviation		0.6%	2.6%
Selenium - W.i - Firefox (ms)	**26.4**	**26.4**	**27.1**
Normalized	100%	100%	97.42%
Standard Deviation	2.9%	1.3%	0.7%
Selenium - W.c - Firefox (ms)	**356.4**	**354.0**	355.3
Normalized	99.33%	100%	99.63%
Standard Deviation	2.5%	1.5%	0.7%
Selenium - W.i - Google Chrome (ms)	27.049	**26.8038**	**27.1805**
Normalized	99.09%	100%	98.61%
Standard Deviation	1.8%	0.3%	1.7%
Selenium - W.c - Google Chrome (ms)	**269.728**	**277.8570**	271.236
Normalized	100%	97.07%	99.44%

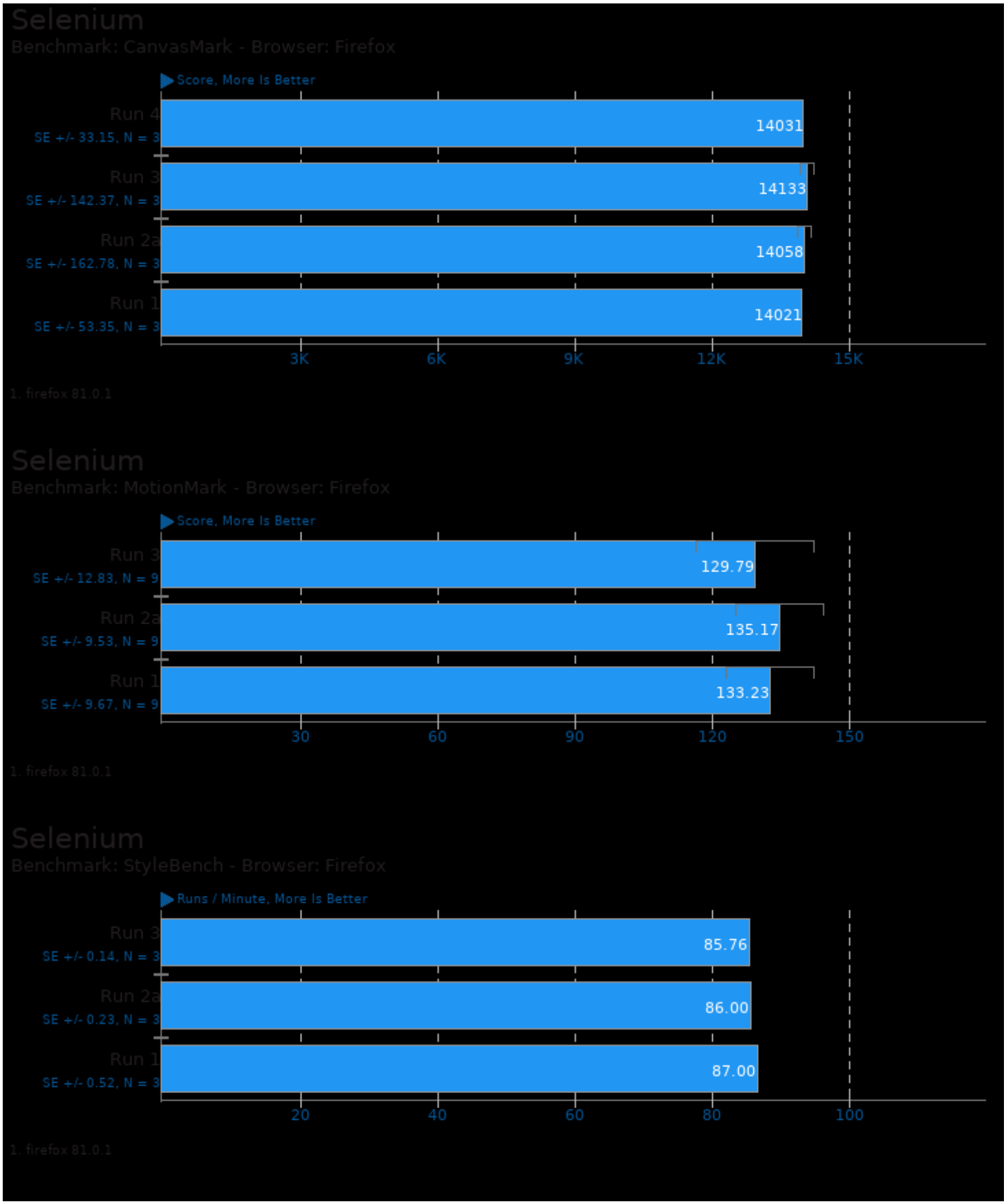
Standard Deviation	1.8%	1.4%	1.5%

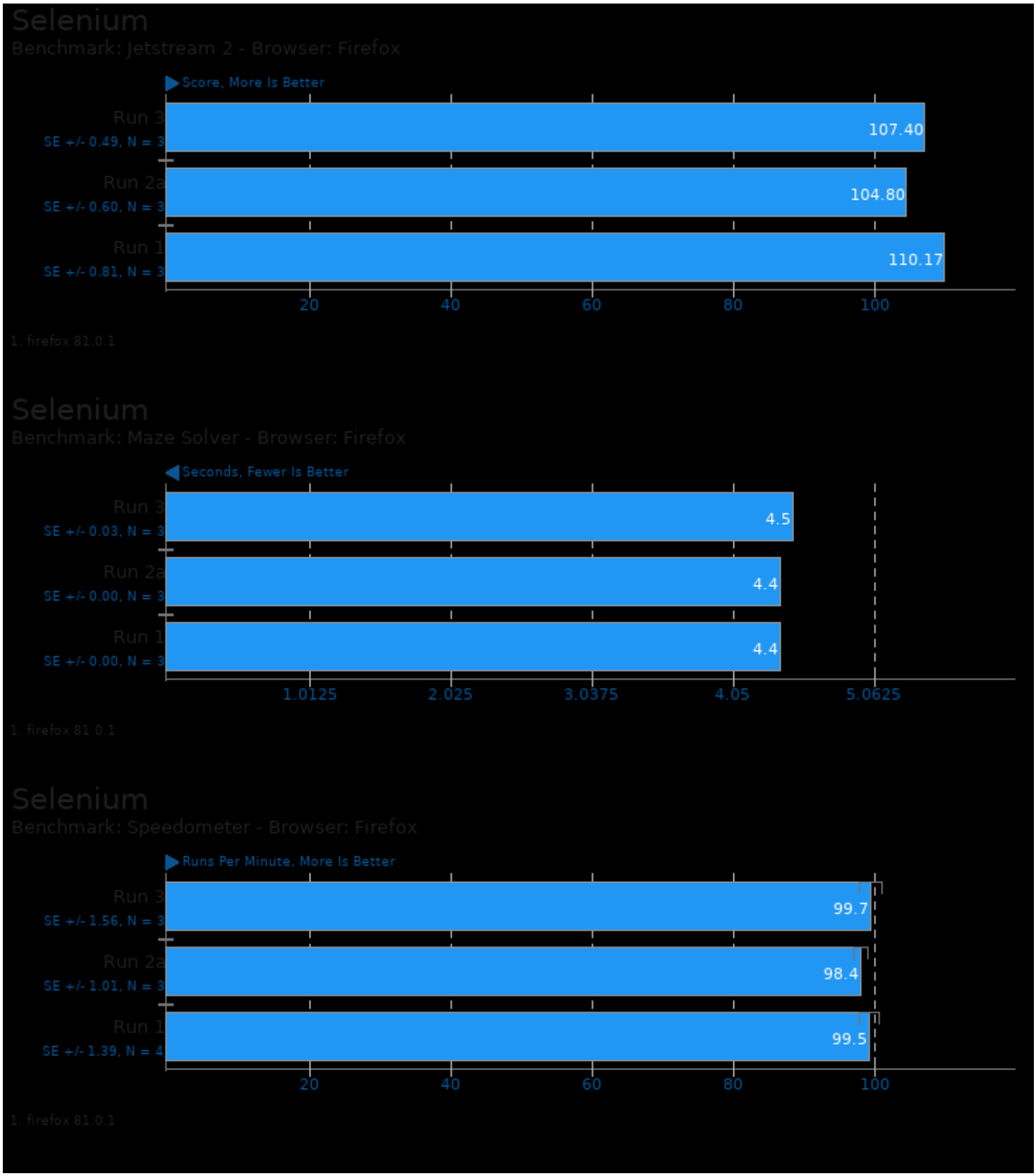

Selenium
Benchmark: ARES-6 - Browser: Firefox
ms, Fewer Is Better
Run 4
SE +/- 0.08, N = 3
39.03
Run 3
SE +/- 0.04, N = 3
39.09
Run 2a
SE +/- 0.11, N = 3
38.84
Run 2
SE +/- 0.49, N = 3
38.64
Run 1
SE +/- 0.38, N = 3
39.51
9
18
27
36
45
1. firefox 81.0.1
Selenium
Benchmark: Kraken - Browser: Firefox
ms, Fewer Is Better
Run 4
SE +/- 5.70, N = 3
725.2
Run 3
SE +/- 2.57, N = 3
735.4
Run 2a
SE +/- 8.52, N = 3
727.5
Run 2
SE +/- 8.85, N = 3
723.2
Run 1
SE +/- 4.51, N = 3
730.9
160
320
480
640
800
1. firefox 81.0.1


Selenium
Benchmark: Octane - Browser: Firefox
Geometric Mean, More Is Better
Run 4
SE +/- 404.29, N = 3
38258
Run 3
SE +/- 58.50, N = 3
38019
Run 2a
SE +/- 343.06, N = 3
38450
Run 2
SE +/- 668.86, N = 3
38682
Run 1
SE +/- 211.57, N = 3
38235
8K
16K
24K
32K
40K
1. firefox 81.0.1
Selenium
Benchmark: WebXPRT - Browser: Firefox
Score, More Is Better
Run 4
SE +/- 1.33, N = 3
257
Run 3
SE +/- 0.58, N = 3
258
Run 2a
SE +/- 0.33, N = 3
258
Run 2
SE +/- 0.88, N = 3
260
Run 1
258
60
120
180
240
300
1. firefox 81.0.1

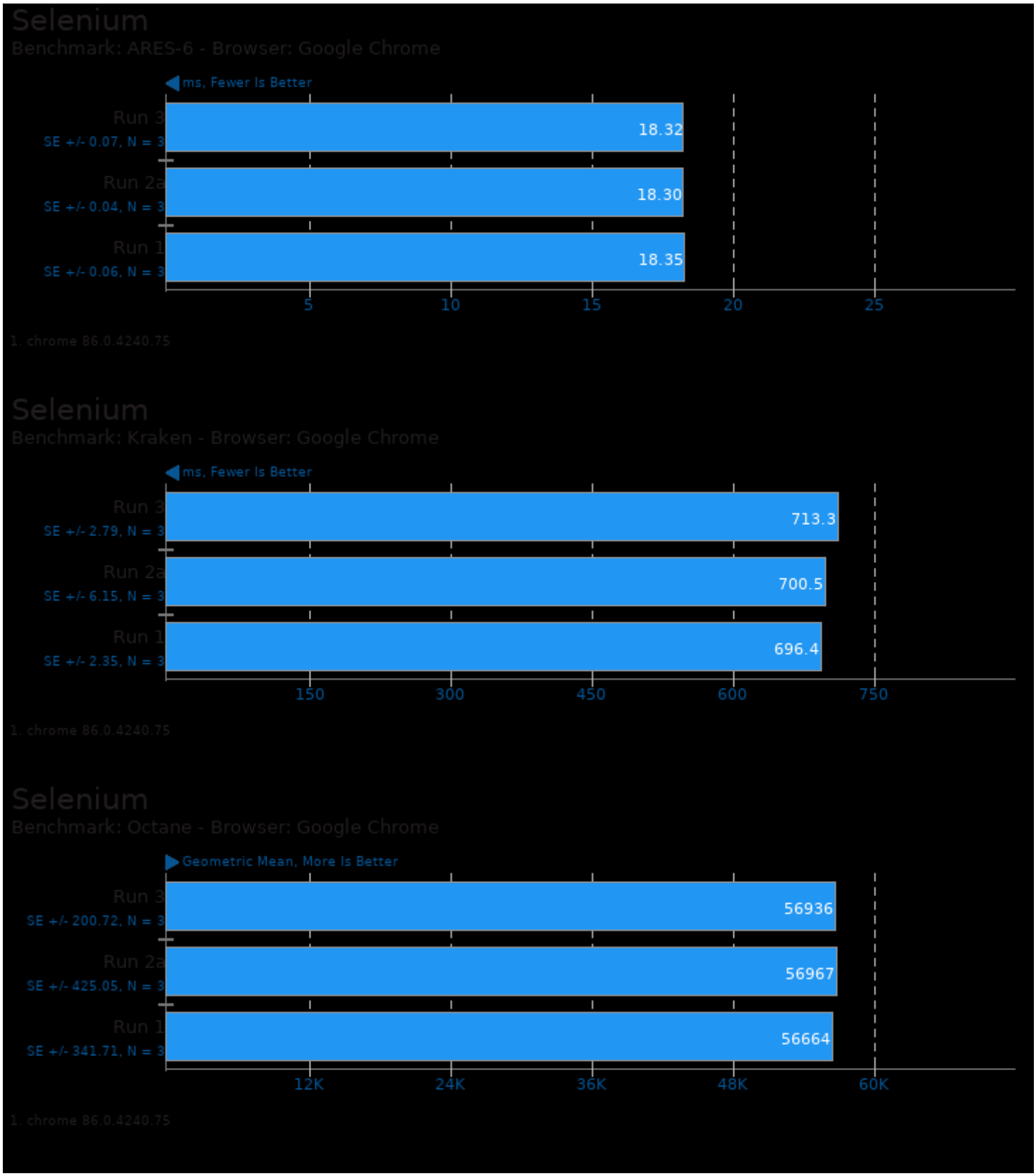
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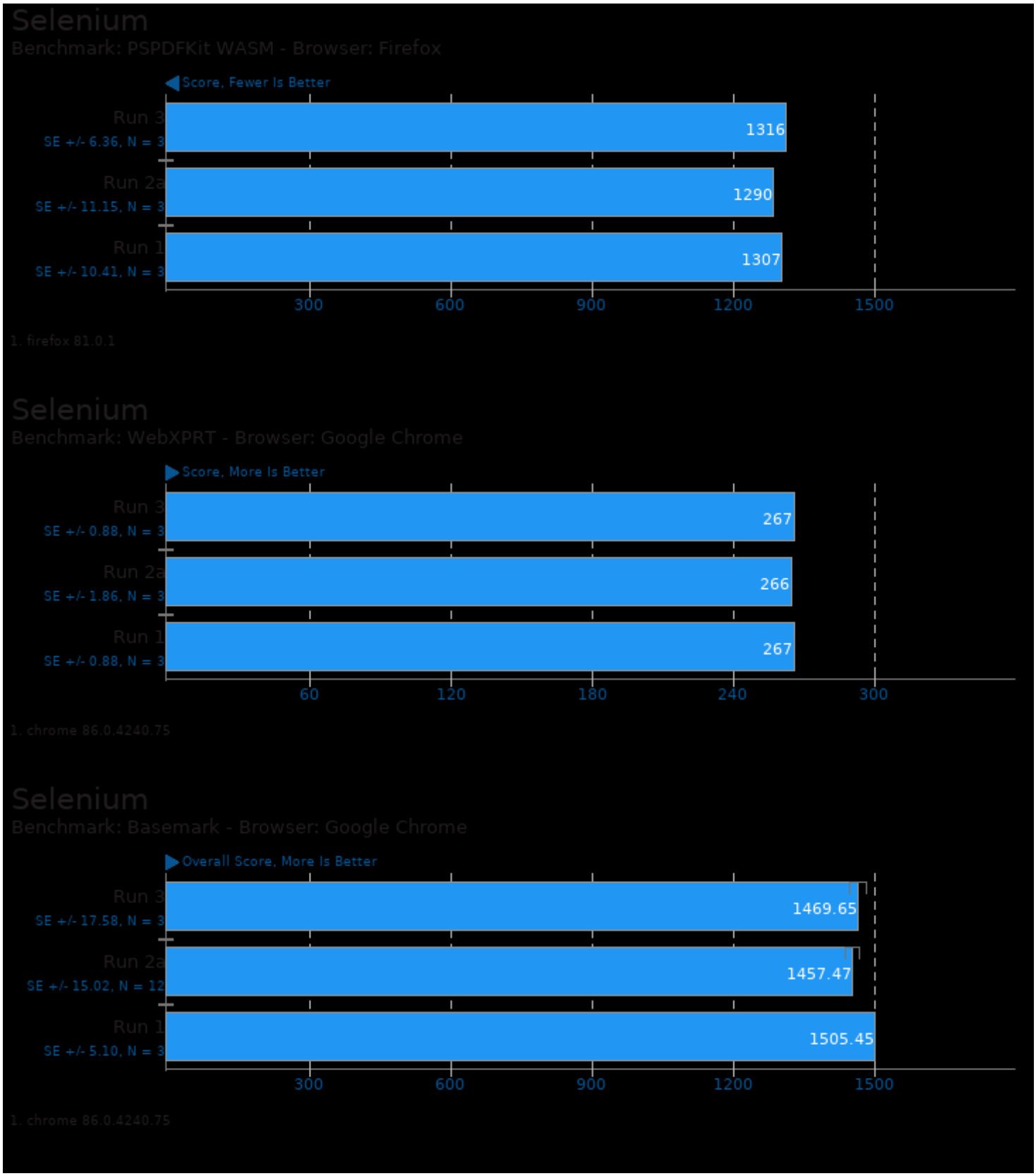



Selenium
Benchmark: CanvasMark - Browser: Firefox
Score, More Is Better
Run 4
SE +/- 33.15, N = 3
14031
Run 3
SE +/- 142.37, N = 3
14133
Run 2a
SE +/- 162.78, N = 3
14058
Run 1
SE +/- 53.35, N = 3
14021
3K
6K
9K
12K
15K
1. firefox 81.0.1
Selenium
Benchmark: MotionMark - Browser: Firefox
Score, More Is Better
Run 3
SE +/- 12.83, N = 9
129.79
Run 2a
SE +/- 9.53, N = 9
135.17
Run 1
SE +/- 9.67, N = 9
133.23
30
60
90
120
150
1. firefox 81.0.1
Selenium
Benchmark: StyleBench - Browser: Firefox
Runs / Minute, More Is Better
Run 3
SE +/- 0.14, N = 3
85.76
Run 2a
SE +/- 0.23, N = 3
86.00
Run 1
SE +/- 0.52, N = 3
87.00
20
40
60
80
100
1. firefox 81.0.1

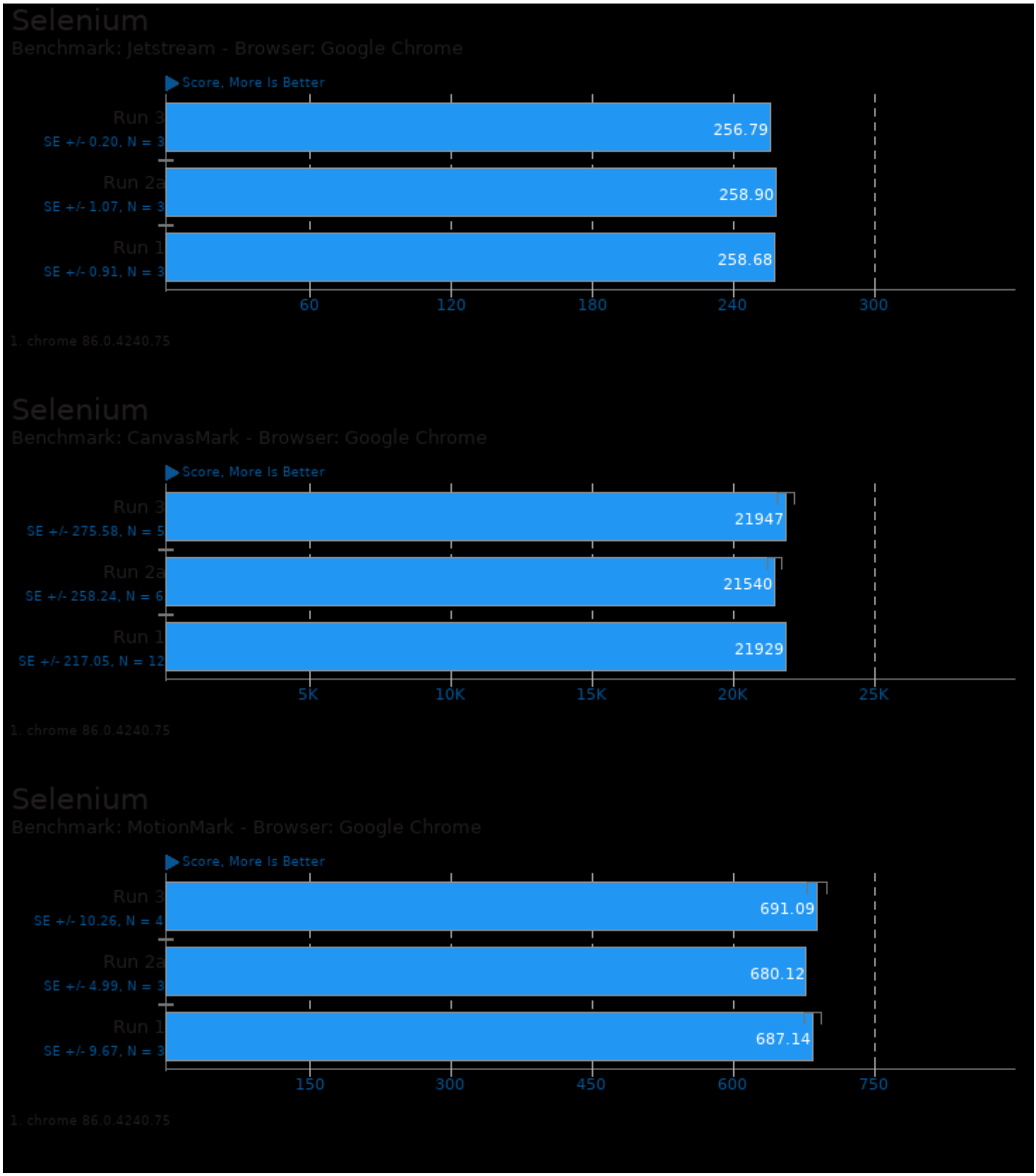

Selenium
Benchmark: Jetstream 2 - Browser: Firefox
Score, More Is Better
Run 3
SE +/- 0.49, N = 3
107.40
Run 2a
SE +/- 0.60, N = 3
104.80
Run 1
SE +/- 0.81, N = 3
110.17
20
40
60
80
100
1. firefox 81.0.1
Selenium
Benchmark: Maze Solver - Browser: Firefox
Seconds, Fewer Is Better
Run 3
SE +/- 0.03, N = 3
4.5
Run 2a
SE +/- 0.00, N = 3
4.4
Run 1
SE +/- 0.00, N = 3
4.4
1.0125
2.025
3.0375
4.05
5.0625
1. firefox 81.0.1
Selenium
Benchmark: Speedometer - Browser: Firefox
Runs Per Minute, More Is Better
Run 3
SE +/- 1.56, N = 3
99.7
Run 2a
SE +/- 1.01, N = 3
98.4
Run 1
SE +/- 1.39, N = 4
99.5
20
40
60
80
100
1. firefox 81.0.1

Latest Chrome vs. Firefox on AMD Linux

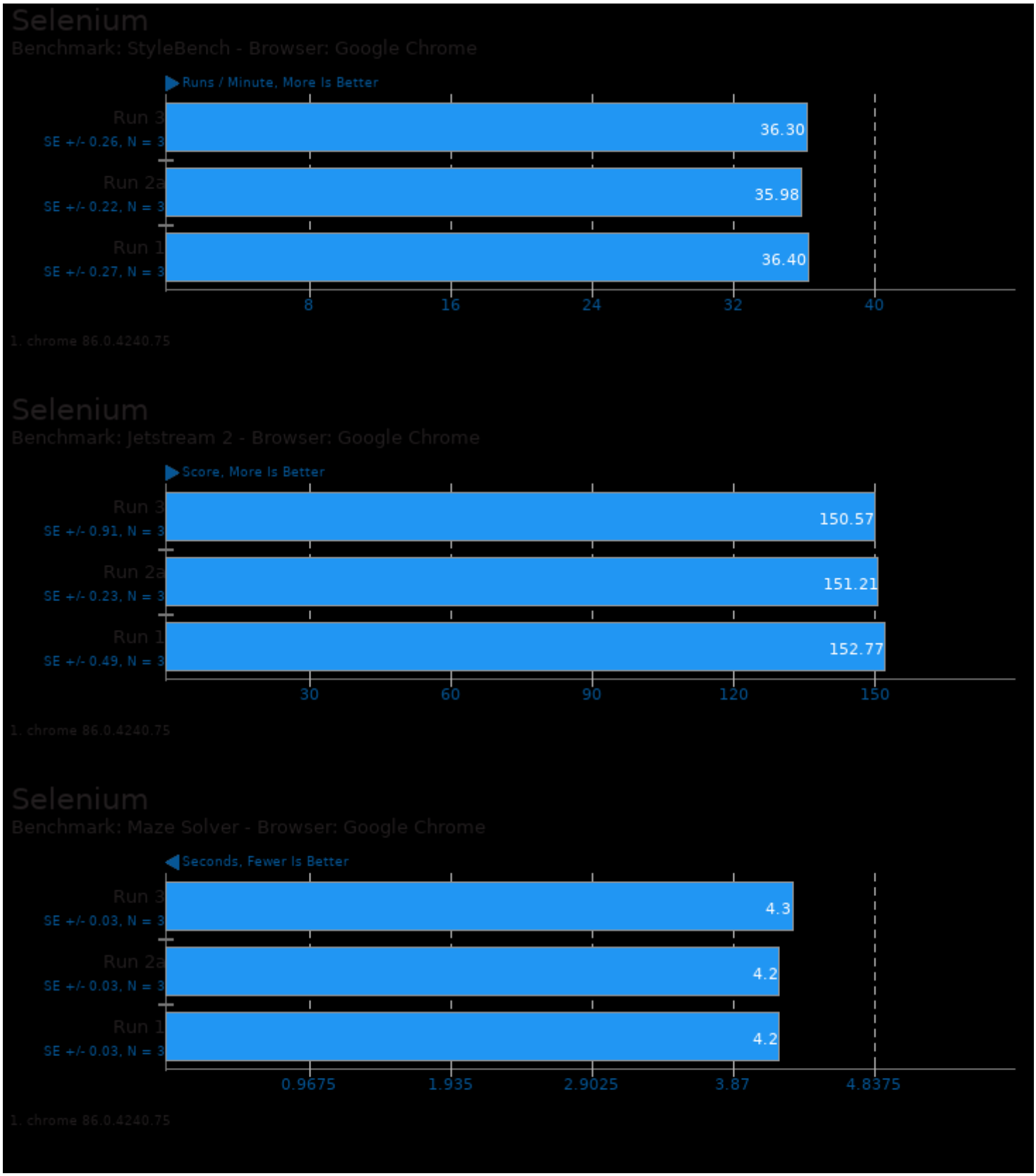


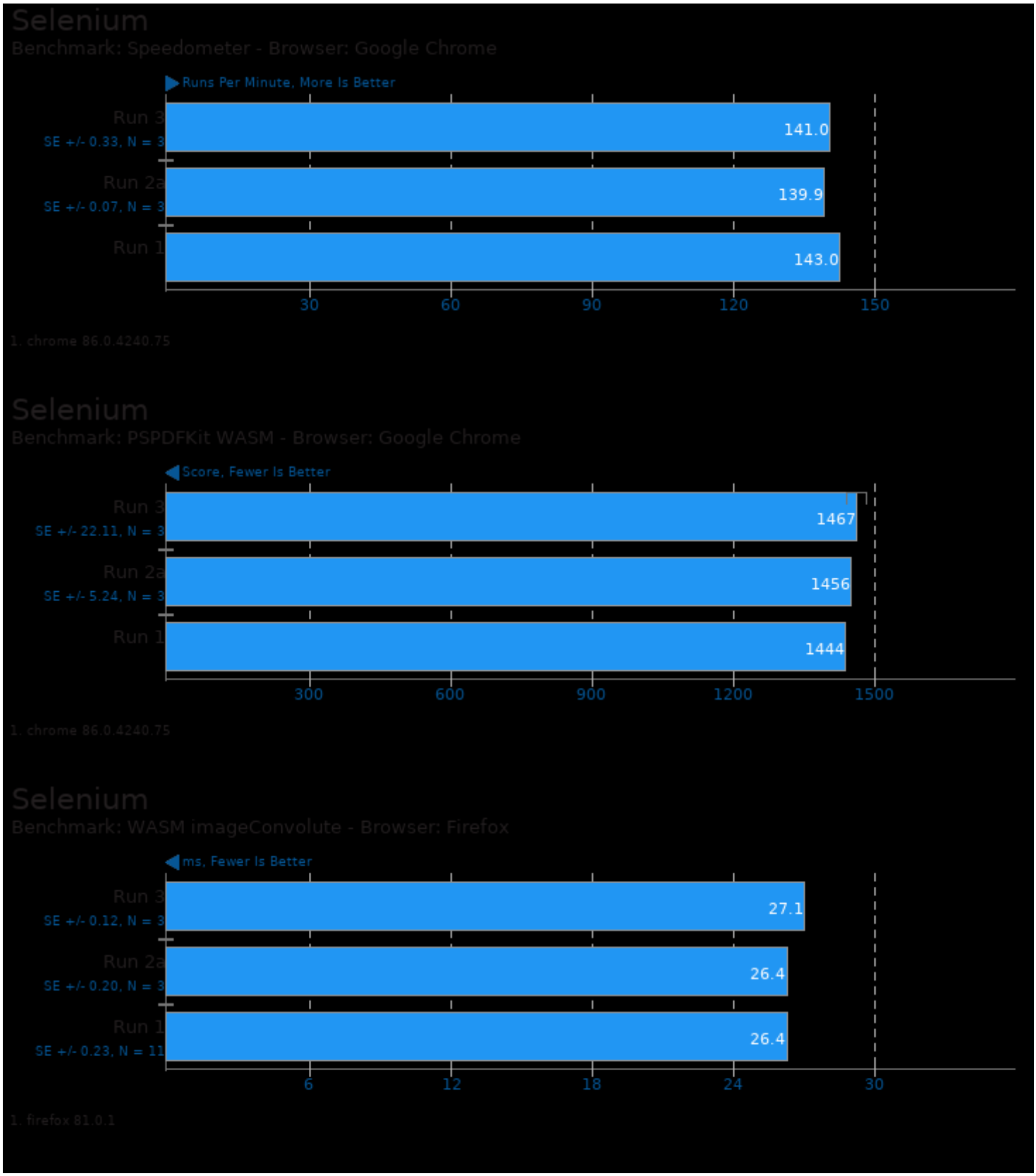

Selenium
Benchmark: PSPDFKit WASM - Browser: Firefox
Score, Fewer Is Better
Run 3
SE +/- 6.36, N = 3
1316
Run 2a
SE +/- 11.15, N = 3
1290
Run 1
SE +/- 10.41, N = 3
1307
300
600
900
1200
1500
1. firefox 81.0.1
Selenium
Benchmark: WebXPRT - Browser: Google Chrome
Score, More Is Better
Run 3
SE +/- 0.88, N = 3
267
Run 2a
SE +/- 1.86, N = 3
266
Run 1
SE +/- 0.88, N = 3
267
60
120
180
240
300
1. chrome 86.0.4240.75
Selenium
Benchmark: Basemark - Browser: Google Chrome
Overall Score, More Is Better
Run 3
SE +/- 17.58, N = 3
1469.65
Run 2a
SE +/- 15.02, N = 12
1457.47
Run 1
SE +/- 5.10, N = 3
1505.45
300
600
900
1200
1500
1. chrome 86.0.4240.75

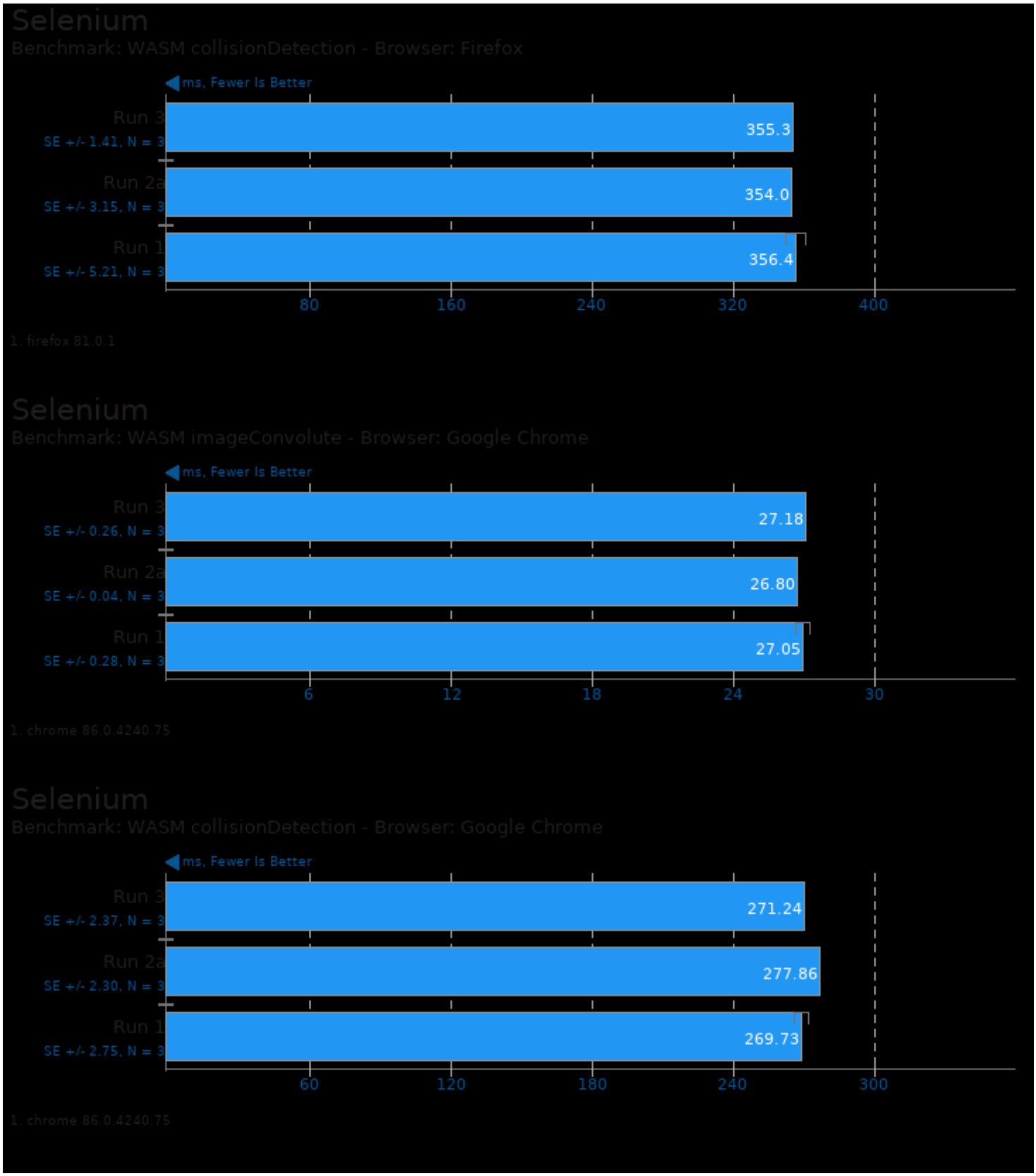
Latest Chrome vs. Firefox on AMD Linux



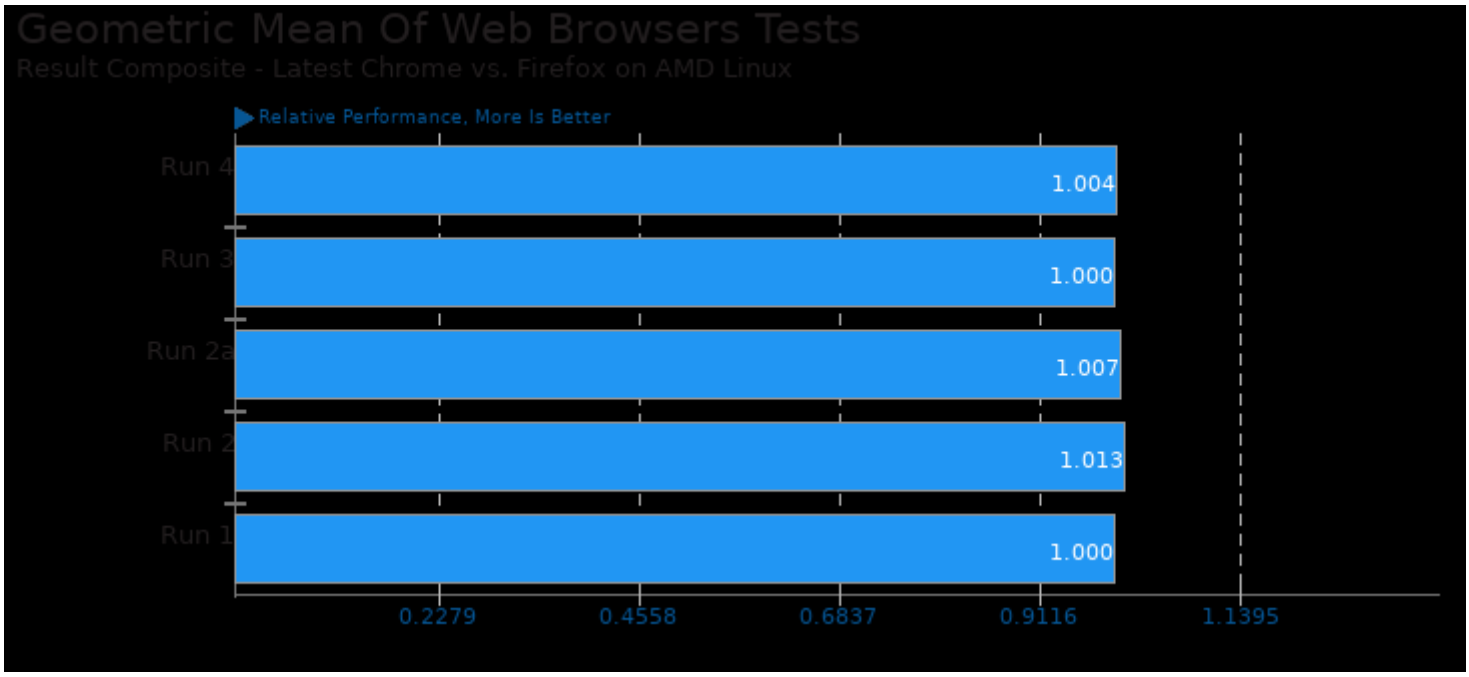
Latest Chrome vs. Firefox on AMD Linux




Selenium
Benchmark: Speedometer - Browser: Google Chrome
Runs Per Minute, More Is Better
Run 3
SE +/- 0.33, N = 3
141.0
Run 2a
SE +/- 0.07, N = 3
139.9
Run 1
143.0
30
60
90
120
150
1. chrome 86.0.4240.75
Selenium
Benchmark: PSPDFKit WASM - Browser: Google Chrome
Score, Fewer Is Better
Run 3
SE +/- 22.11, N = 3
1467
Run 2a
SE +/- 5.24, N = 3
1456
Run 1
1444
300
600
900
1200
1500
1. chrome 86.0.4240.75
Selenium
Benchmark: WASM imageConvolute - Browser: Firefox
ms, Fewer Is Better
Run 3
SE +/- 0.12, N = 3
27.1
Run 2a
SE +/- 0.20, N = 3
26.4
Run 1
SE +/- 0.23, N = 11
26.4
6
12
18
24
30
1. firefox 81.0.1


Selenium
Benchmark: WASM collisionDetection - Browser: Firefox
ms, Fewer Is Better
Run 3
SE +/- 1.41, N = 3
355.3
Run 2
SE +/- 3.15, N = 3
354.0
Run 1
SE +/- 5.21, N = 3
356.4
80
160
240
320
400
1. firefox 81.0.1
Selenium
Benchmark: WASM imageConvolute - Browser: Google Chrome
ms, Fewer Is Better
Run 3
SE +/- 0.26, N = 3
27.18
Run 2
SE +/- 0.04, N = 3
26.80
Run 1
SE +/- 0.28, N = 3
27.05
6
12
18
24
30
1. chrome 86.0.4240.75
Selenium
Benchmark: WASM collisionDetection - Browser: Google Chrome
ms, Fewer Is Better
Run 3
SE +/- 2.37, N = 3
271.24
Run 2
SE +/- 2.30, N = 3
277.86
Run 1
SE +/- 2.75, N = 3
269.73
60
120
180
240
300
1. chrome 86.0.4240.75

These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: system/selenium

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 12:19.