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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 - Jetstream 2 - Firefox (Score)	**110.169**		**104.802**	107.399	
Normalized	100%		95.13%	97.49%	
Standard Deviation	1.3%		1%	0.8%	
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 - Basemark - Google Chrome (Overall Score)	**1505**		**1457**	1470	
Normalized	100%		96.81%	97.62%	
Standard Deviation	0.6%		3.6%	2.1%	

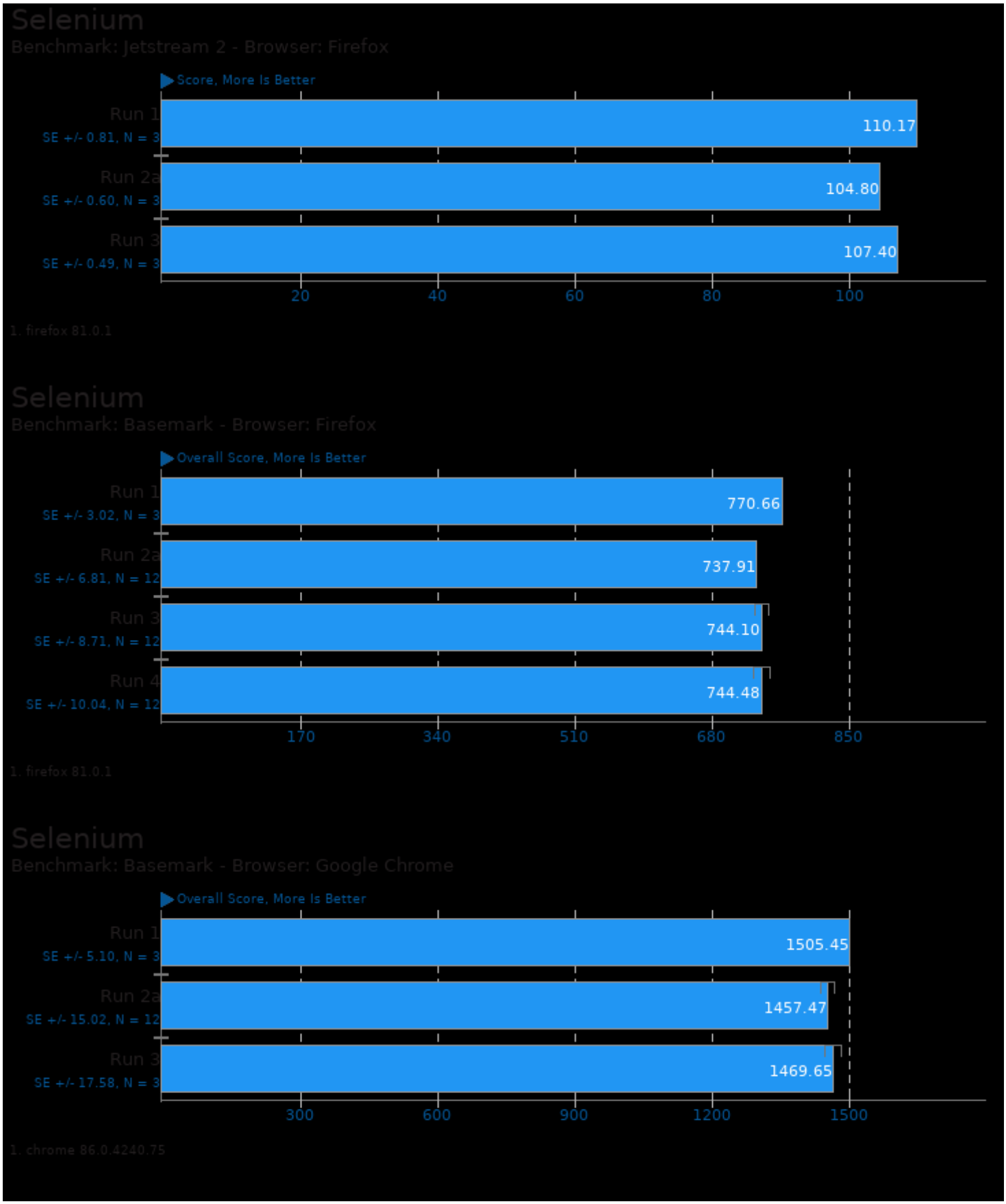
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Selenium - W.c - Google Chrome (ms)	269.728		277.8570	271.236	
Normalized	100%		97.07%	99.44%	
Standard Deviation	1.8%		1.4%	1.5%	
Selenium - W.i - Firefox (ms)	26.4		26.4	27.1	
Normalized	100%		100%	97.42%	
Standard Deviation	2.9%		1.3%	0.7%	
Selenium - 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 - 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 - Maze Solver - Firefox (sec)	4.4		4.4	4.5	
Normalized	100%		100%	97.78%	
Standard Deviation	0%		0%	1.3%	
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 - Speedometer - Google Chrome (Runs/min)	143		139.9	141	
Normalized	100%		97.83%	98.6%	
Standard Deviation			0.1%	0.4%	
Selenium - PSPDFKit WASM - Firefox (Score)	1307		1290	1316	
Normalized	98.7%		100%	98.02%	
Standard Deviation	1.4%		1.5%	0.8%	
Selenium - CanvasMark - Google Chrome (Score)	21929		21540	21947	
Normalized	99.92%		98.15%	100%	
Standard Deviation	3.4%		2.9%	2.8%	
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%
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 - MotionMark - Google Chrome (Score)	687.14		680.12	691.09	
Normalized	99.43%		98.41%	100%	
Standard Deviation	2.4%		1.3%	3%	
Selenium - PSPDFKit WASM - Google Chrome (Score)	1444		1456	1467	
Normalized	100%		99.18%	98.43%	
Standard Deviation			0.6%	2.6%	
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%	

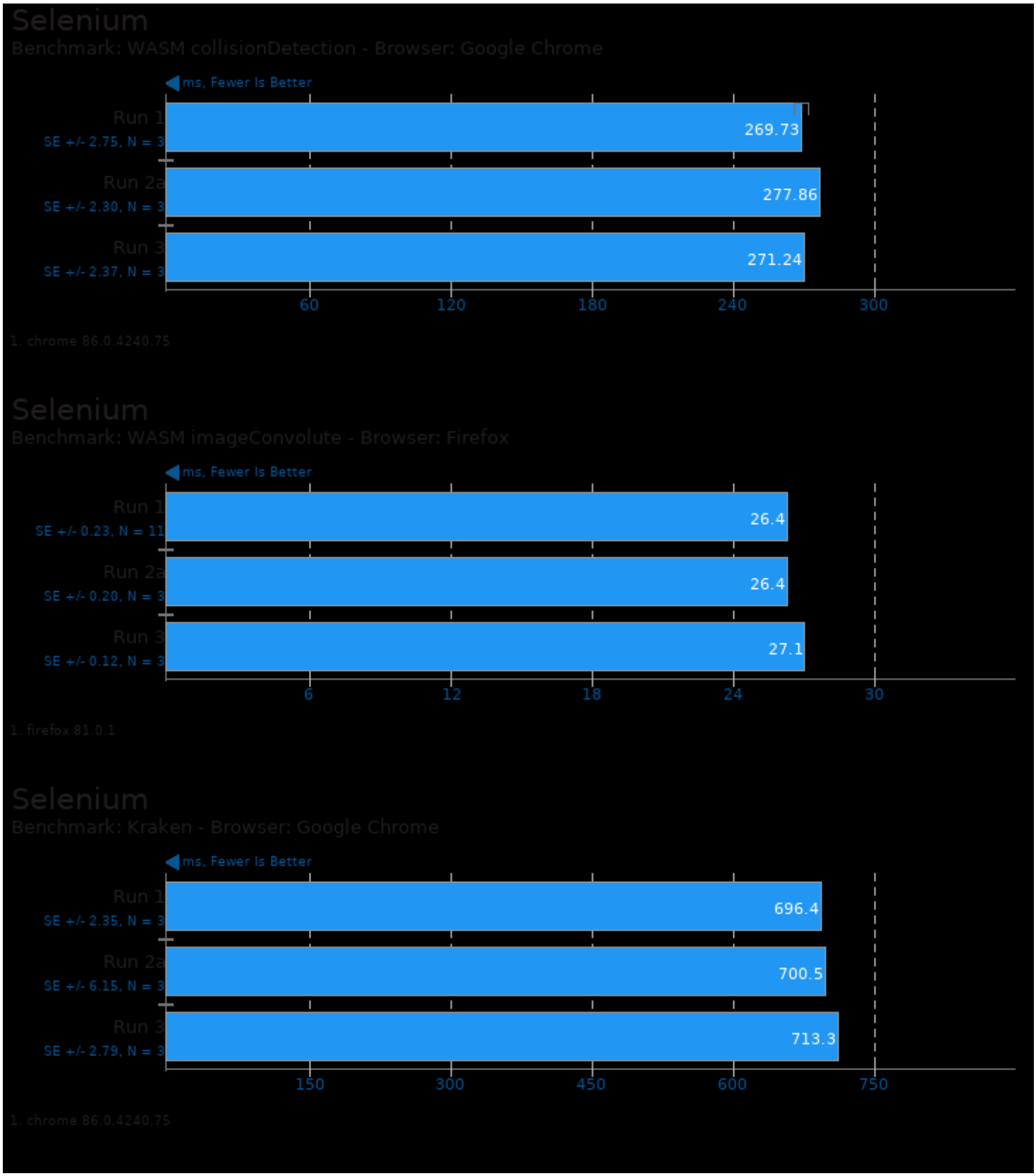
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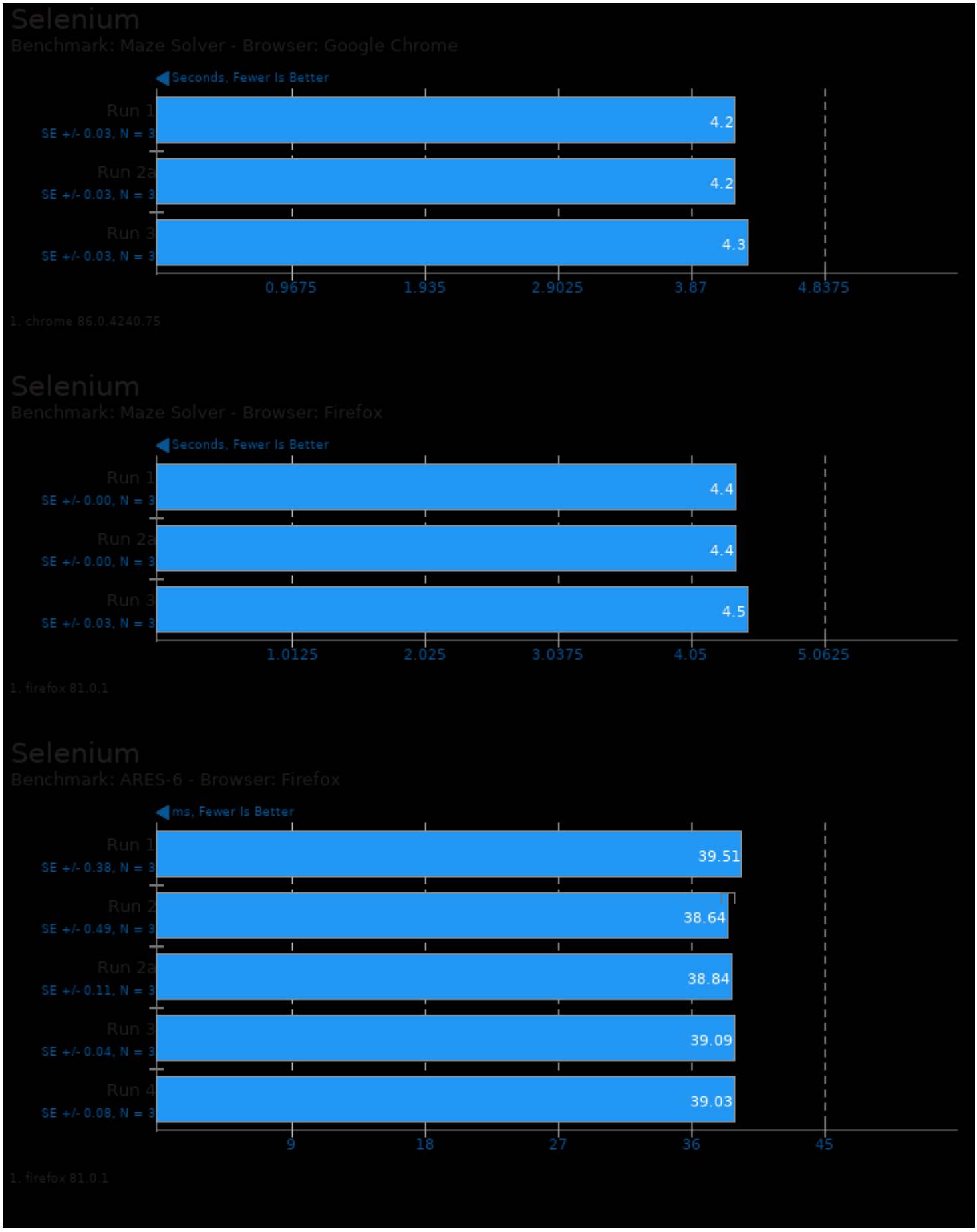
Selenium - StyleBench - Firefox (Runs / Minute)	87.0		86.0	85.76	
Normalized	100%		98.85%	98.57%	
Standard Deviation	1%		0.5%	0.3%	
Selenium - W.i - Google Chrome (ms)	27.049		26.8038	27.1805	
Normalized	99.09%		100%	98.61%	
Standard Deviation	1.8%		0.3%	1.7%	
Selenium - Speedometer - Firefox (Runs/min)	99.5		98.4	99.7	
Normalized	99.8%		98.7%	100%	
Standard Deviation	2.8%		1.8%	2.7%	
Selenium - 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 - 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 - 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 - Firefox (Score)	14021		14058	14133	14031
Normalized	99.21%		99.47%	100%	99.28%
Standard Deviation	0.7%		2%	1.7%	0.4%
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 - Octane - Google Chrome (Geometric Mean)	56664		56967	56936	
Normalized	99.47%		100%	99.95%	
Standard Deviation	1%		1.3%	0.6%	
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 - WebXPRT - Google Chrome (Score)	267		266	267	
Normalized	100%		99.63%	100%	
Standard Deviation	0.6%		1.2%	0.6%	
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 - MotionMark - Firefox (Score)	133.23		135.17	129.79	
Normalized	98.56%		100%	96.02%	
Standard Deviation	21.8%		21.1%	29.7%	

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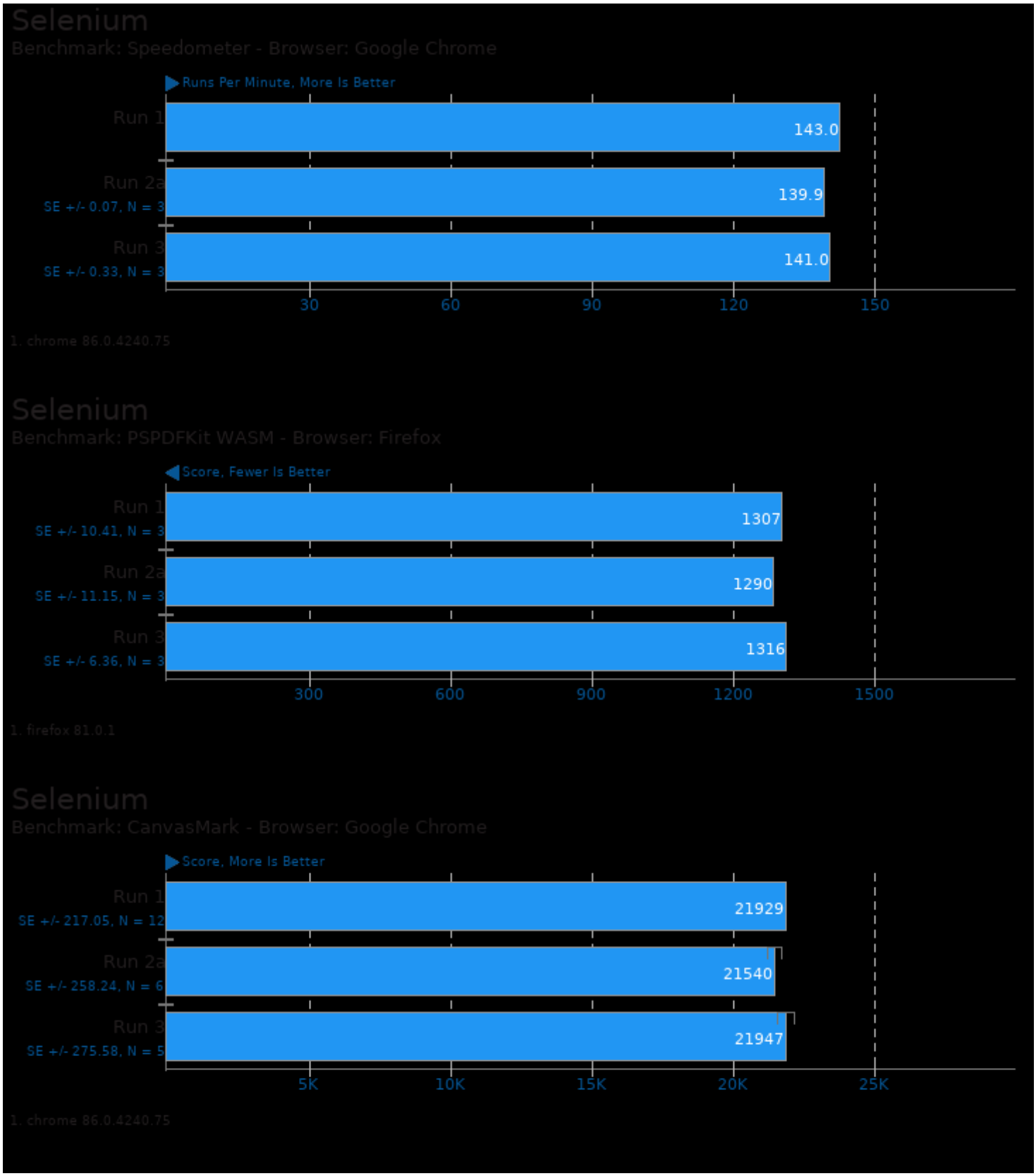


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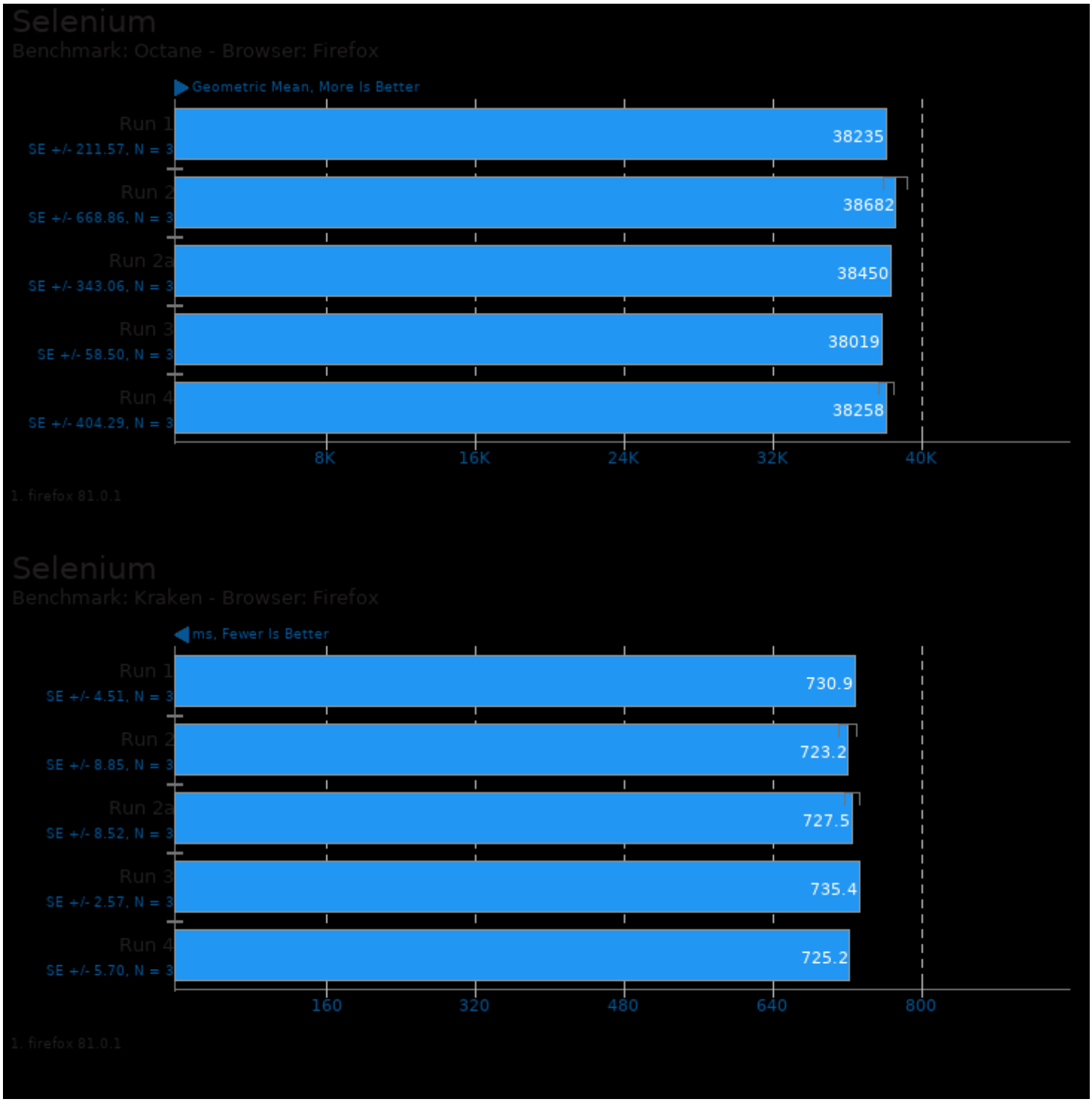



Selenium
Benchmark: Maze Solver - Browser: Google Chrome
Seconds, Fewer Is Better
Run 1
SE +/- 0.03, N = 3
4.2
Run 2a
SE +/- 0.03, N = 3
4.2
Run 3
SE +/- 0.03, N = 3
4.3
0.9675
1.935
2.9025
3.87
4.8375
1. chrome 86.0.4240.75
Selenium
Benchmark: Maze Solver - Browser: Firefox
Seconds, Fewer Is Better
Run 1
SE +/- 0.00, N = 3
4.4
Run 2a
SE +/- 0.00, N = 3
4.4
Run 3
SE +/- 0.03, N = 3
4.5
1.0125
2.025
3.0375
4.05
5.0625
1. firefox 81.0.1
Selenium
Benchmark: ARES-6 - Browser: Firefox
ms, Fewer Is Better
Run 1
SE +/- 0.38, N = 3
39.51
Run 2
SE +/- 0.49, N = 3
38.64
Run 2a
SE +/- 0.11, N = 3
38.84
Run 3
SE +/- 0.04, N = 3
39.09
Run 4
SE +/- 0.08, N = 3
39.03
9
18
27
36
45
1. firefox 81.0.1

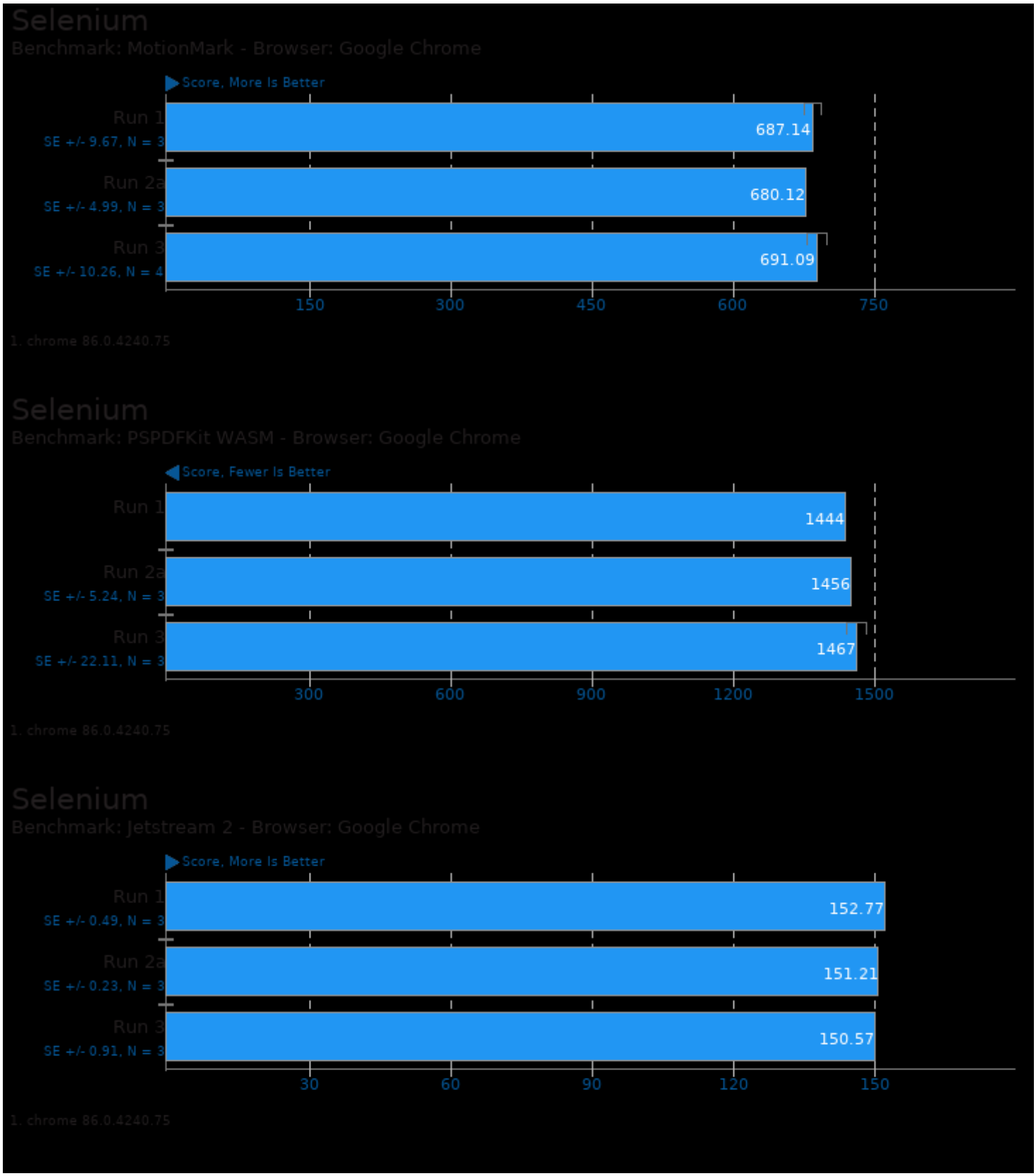
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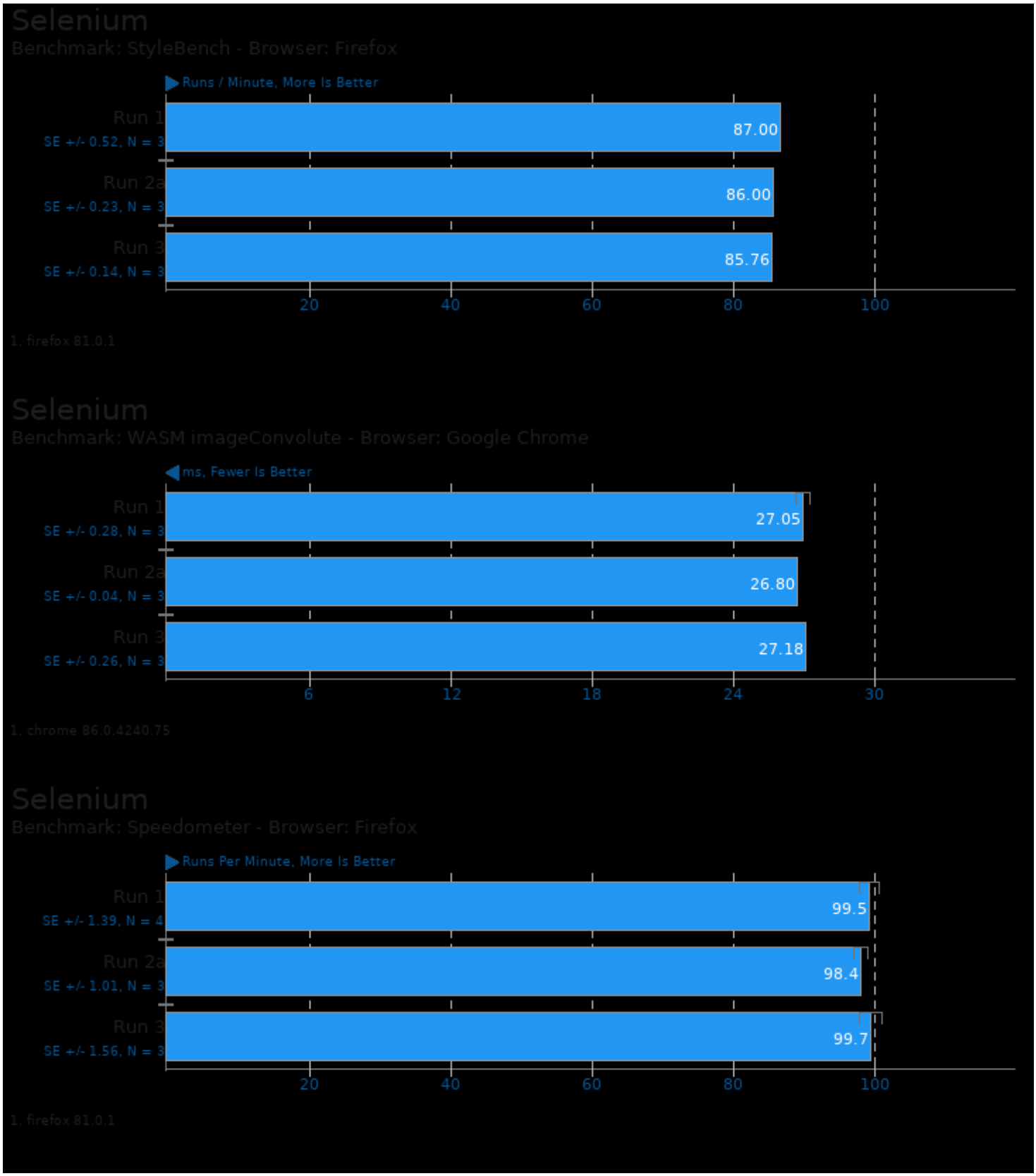


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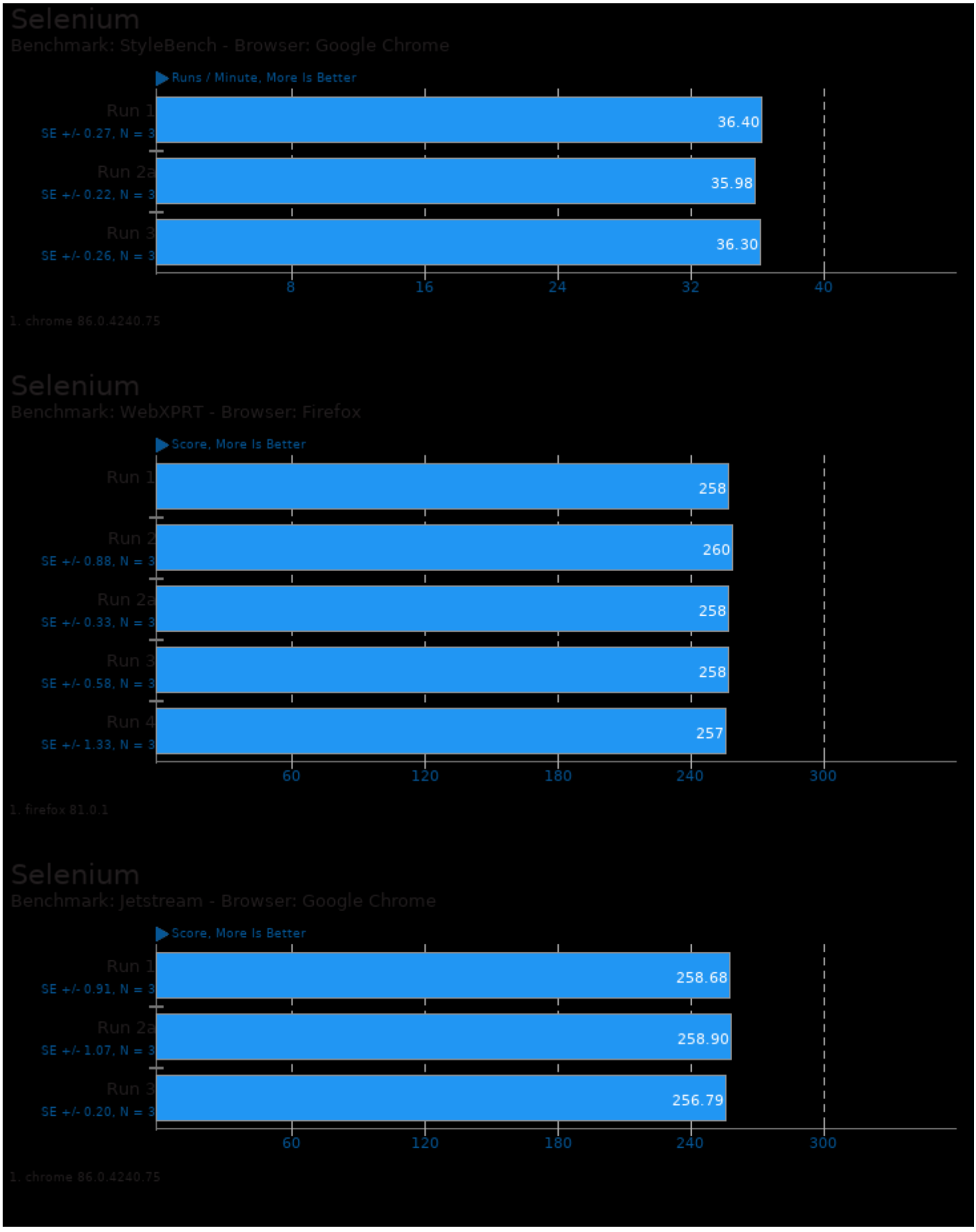


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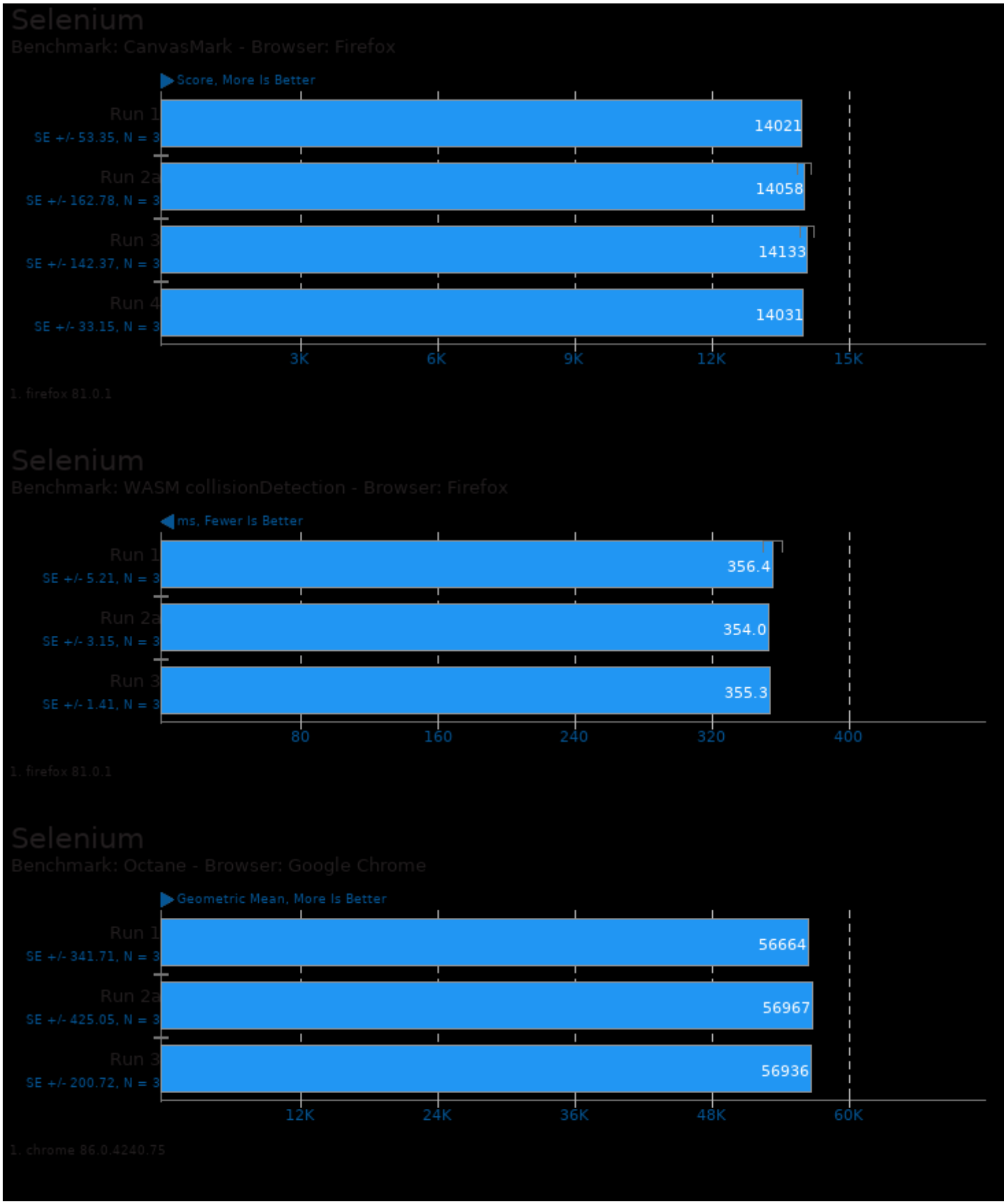


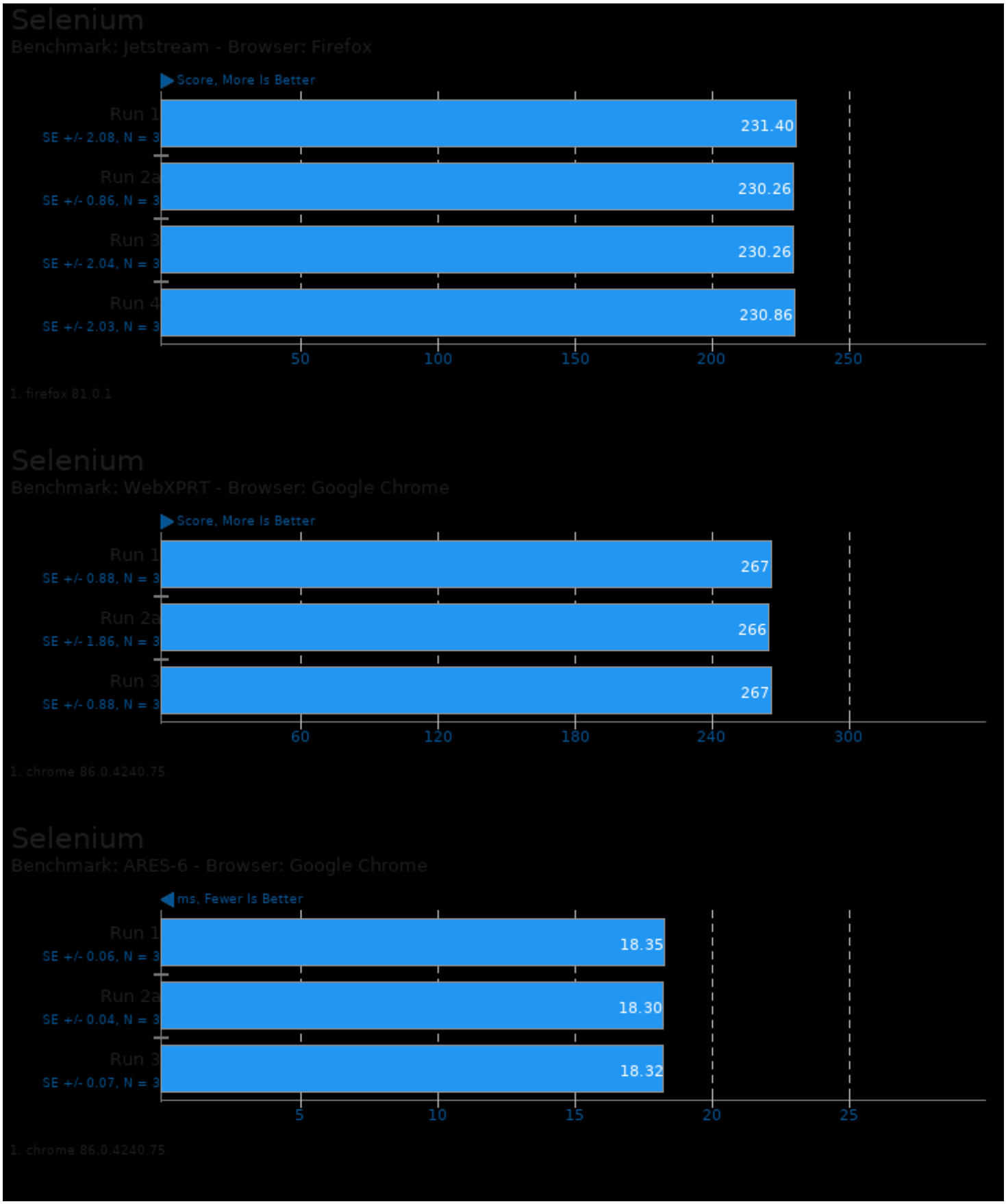

Selenium
Benchmark: StyleBench - Browser: Firefox
Runs / Minute, More Is Better
Run 1
SE +/- 0.52, N = 3
87.00
Run 2a
SE +/- 0.23, N = 3
86.00
Run 3
SE +/- 0.14, N = 3
85.76
20
40
60
80
100
1. firefox 81.0.1
Selenium
Benchmark: WASM imageConvolute - Browser: Google Chrome
ms, Fewer Is Better
Run 1
SE +/- 0.28, N = 3
27.05
Run 2a
SE +/- 0.04, N = 3
26.80
Run 3
SE +/- 0.26, N = 3
27.18
6
12
18
24
30
1. chrome 86.0.4240.75
Selenium
Benchmark: Speedometer - Browser: Firefox
Runs Per Minute, More Is Better
Run 1
SE +/- 1.39, N = 4
99.5
Run 2a
SE +/- 1.01, N = 3
98.4
Run 3
SE +/- 1.56, N = 3
99.7
20
40
60
80
100
1. firefox 81.0.1

Latest Chrome vs. Firefox on AMD Linux

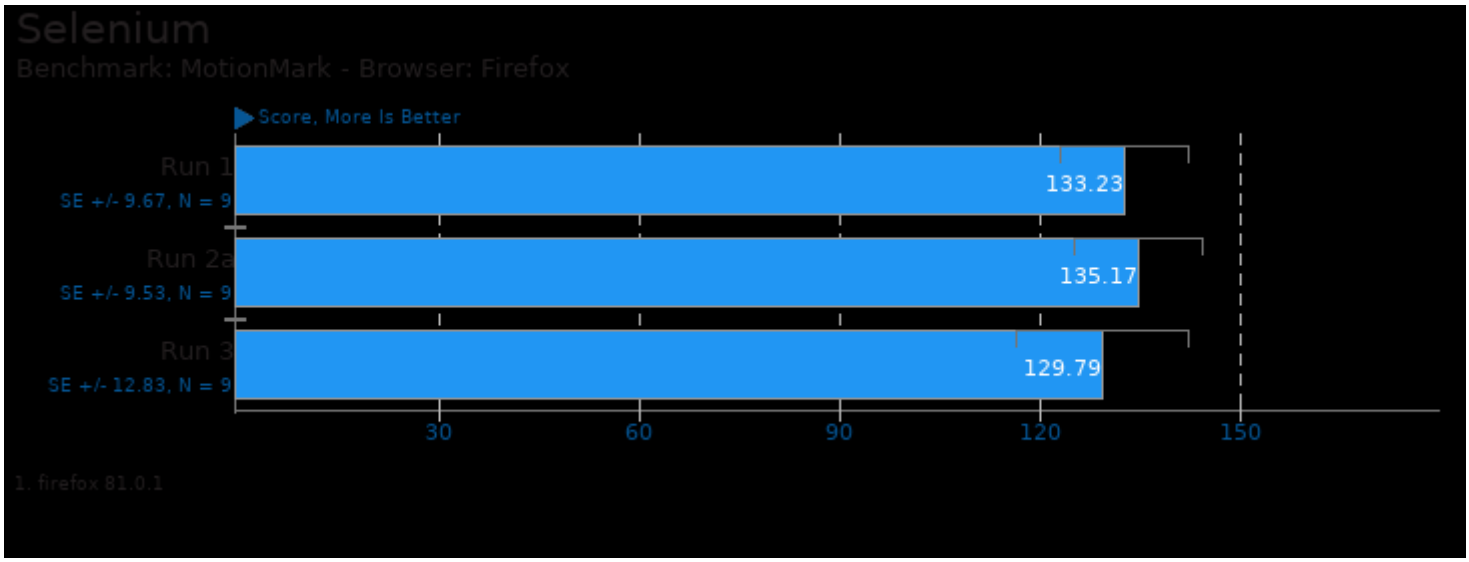


Latest Chrome vs. Firefox on AMD Linux

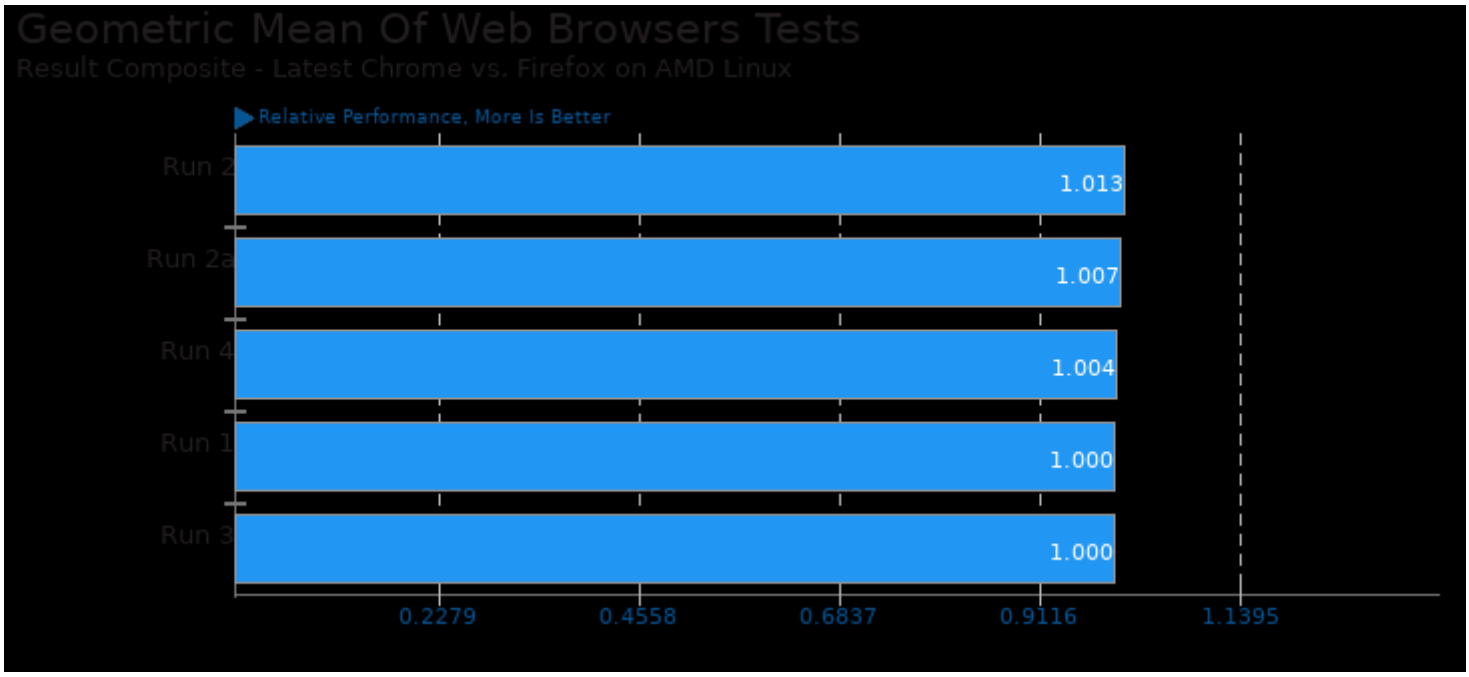



Selenium
Benchmark: Jetstream - Browser: Firefox
Score, More Is Better
Run 1
SE +/- 2.08, N = 3
231.40
Run 2
SE +/- 0.86, N = 3
230.26
Run 3
SE +/- 2.04, N = 3
230.26
Run 4
SE +/- 2.03, N = 3
230.86
50
100
150
200
250
1. firefox 81.0.1
Selenium
Benchmark: WebXPRT - Browser: Google Chrome
Score, More Is Better
Run 1
SE +/- 0.88, N = 3
267
Run 2
SE +/- 1.86, N = 3
266
Run 3
SE +/- 0.88, N = 3
267
60
120
180
240
300
1. chrome 86.0.4240.75
Selenium
Benchmark: ARES-6 - Browser: Google Chrome
ms, Fewer Is Better
Run 1
SE +/- 0.06, N = 3
18.35
Run 2
SE +/- 0.04, N = 3
18.30
Run 3
SE +/- 0.07, N = 3
18.32
5
10
15
20
25
1. chrome 86.0.4240.75

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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 16:14.