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8100-june-2022

Intel Core i3-8100 testing with a ASRock Z370M-ITX/ac (P4.10 BIOS) and Intel UHD 630 CFL GT2 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 29% of the tests.

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

Stress-NG (Test: Futex) at 1.733x
AOM AV1 (Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K) at 1.562x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K) at 1.327x
Stress-NG (Test: Glibc C String Functions) at 1.26x
Stress-NG (Test: Memory Copying) at 1.154x
Stress-NG (Test: Atomic) at 1.144x
Stress-NG (Test: MMAP) at 1.125x
Renaissance (Test: Scala Dotty) at 1.114x
yquake2 (Renderer: OpenGL 3.x - AF: On - MSAA: On - Resolution: 1920 x 1080) at 1.102x
yquake2 (Renderer: Vulkan - AF: On - MSAA: Off - Resolution: 1920 x 1080) at 1.086x.

Test Systems:

A

Processor: Intel Core i3-8100 @ 3.60GHz (4 Cores), Motherboard: ASRock Z370M-ITX/ac (P4.10 BIOS), Chipset: Intel 8th Gen Core 4-core Desktop, Memory: 8GB, Disk: 60GB DREVO X1 SSD, Graphics: Intel UHD 630 CFL GT2 3GB (1100MHz), Audio: Realtek ALC892, Monitor: VA2431, Network: Intel I219-V + Intel I211 + Intel Dual Band-AC 3168NGW

OS: Ubuntu 20.04, Kernel: 5.11.0-41-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.2.6, Vulkan: 1.2.131, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-Av3uEd/gcc-9-9.4.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xea - Thermald 1.9.1
Java Notes: OpenJDK Runtime Environment (build 11.0.15+10-Ubuntu-0ubuntu0.20.04.1)
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

Intel Core i3-8100

B

C

D

Processor: Intel Core i3-8100 @ 3.60GHz (4 Cores), Motherboard: ASRock Z370M-ITX/ac (P4.10 BIOS), Chipset: Intel 8th Gen Core 4-core Desktop, Memory: 8GB, Disk: 60GB DREVO X1 SSD, Graphics: Intel UHD 630 CFL GT2 3GB (1100MHz), Audio: Realtek ALC892, Monitor: VA2431, Network: Intel I219-V + Intel I211 + Intel Dual Band-AC 3168NGW

OS: Ubuntu 20.04, Kernel: 5.11.0-41-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.2.6, Vulkan: 1.2.182, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-Av3uEd/gcc-9-9.4.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xea - Thermald 1.9.1
Java Notes: OpenJDK Runtime Environment (build 11.0.15+10-Ubuntu-0ubuntu0.20.04.1)
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	A	Intel Core i3-8100	B	C	D
yquake2 - Vulkan - On - On - 1920 x 1080 (FPS)	23.1		23.4	23.4	23.4
Normalized	98.72%		100%	100%	100%
yquake2 - Vulkan - Off - On - 1920 x 1080 (FPS)	24		24.2	24.2	24.2
Normalized	99.17%		100%	100%	100%
yquake2 - Vulkan - On - Off - 1920 x 1080 (FPS)	213.2		229.3	231.6	228.9
Normalized	92.06%		99.01%	100%	98.83%
yquake2 - Vulkan - Off - Off - 1920 x 1080 (FPS)	232.7		243	242.4	240
Normalized	95.76%		100%	99.75%	98.77%
yquake2 - OpenGL 3.x - On - On - 1920 x 1080 (FPS)	97.8		106.7	107.8	103.6
Normalized	90.72%		98.98%	100%	96.1%
yquake2 - OpenGL 3.x - Off - On - 1920 x 1080 (FPS)	102.8		105.4	108.3	104.2
Normalized	94.92%		97.32%	100%	96.21%
yquake2 - OpenGL 3.x - On - Off - 1920 x 1080 (FPS)	308.9		322.6	323.6	322.8
Normalized	95.46%		99.69%	100%	99.75%
yquake2 - OpenGL 3.x - Off - Off - 1920 x 1080 (FPS)	322.9		339.2	343.1	339.8
Normalized	94.11%		98.86%	100%	99.04%
yquake2 - Software CPU - On - On - 1920 x 1080 (FPS)	86.1		87.1	87.1	88.3
Normalized	97.51%		98.64%	98.64%	100%
yquake2 - OpenGL ES 3.x - On - On - 1920 x 1080 (FPS)	103.2		105.3	107.8	104
Normalized	95.73%		97.68%	100%	96.47%
yquake2 - Software CPU - Off - On - 1920 x 1080 (FPS)	88.7		91.2	90.4	90.7
Normalized	97.26%		100%	99.12%	99.45%
yquake2 - Software CPU - On - Off - 1920 x 1080 (FPS)	85.3		87.1	88.1	88.2
Normalized	96.71%		98.75%	99.89%	100%
yquake2 - OpenGL ES 3.x - Off - On - 1920 x 1080 (FPS)	102.7		107.3	108	103.9
Normalized	95.09%		99.35%	100%	96.2%
yquake2 - OpenGL ES 3.x - On - Off - 1920 x 1080 (FPS)	311.8		325.1	326.3	325.8
Normalized	95.56%		99.63%	100%	99.85%
yquake2 - Software CPU - Off - Off - 1920 x 1080 (FPS)	90		90	90.4	90.1
Normalized	99.56%		99.56%	100%	99.67%
yquake2 - OpenGL ES 3.x - Off - Off - 1920 x 1080 (FPS)	320		340.7	343.3	339.1
Normalized	93.21%		99.24%	100%	98.78%

yquake2 - S.C.C.L - On - On - 1920 x 1080 (FPS)	81	82.2	82.1	81.3
Normalized	98.54%	100%	99.88%	98.91%
yquake2 - S.C.C.L - Off - On - 1920 x 1080 (FPS)	83.6	83.2	83.3	84.2
Normalized	99.29%	98.81%	98.93%	100%
yquake2 - S.C.C.L - On - Off - 1920 x 1080 (FPS)	81.6	81	81.5	80.8
Normalized	100%	99.26%	99.88%	99.02%
yquake2 - S.C.C.L - Off - Off - 1920 x 1080 (FPS)	84.7	84.5	84.7	84.3
Normalized	100%	99.76%	100%	99.53%
Glibc Benchmarks - cos (ns)	102.827	101.816	104.8	102.905
Normalized	99.02%	100%	97.15%	98.94%
Glibc Benchmarks - exp (ns)	22.9173	22.9835	22.9063	22.8829
Normalized	99.85%	99.56%	99.9%	100%
Glibc Benchmarks - ffs (ns)	7.01735	7.01735	7.01973	7.01755
Normalized	100%	100%	99.97%	100%
Glibc Benchmarks - sin (ns)	87.933	87.929	87.9296	87.9303
Normalized	100%	100%	100%	100%
Glibc Benchmarks - log2 (ns)	28.537	28.5383	28.5469	28.5392
Normalized	100%	100%	99.97%	99.99%
Glibc Benchmarks - modf (ns)	8.04067	8.03219	8.03053	8.03058
Normalized	99.87%	99.98%	100%	100%
Glibc Benchmarks - sinh (ns)	36.5447	36.5462	36.5366	36.5413
Normalized	99.98%	99.97%	100%	99.99%
Glibc Benchmarks - sqrt (ns)	7.03595	7.03453	7.03516	7.03413
Normalized	99.97%	99.99%	99.99%	100%
Glibc Benchmarks - tanh (ns)	51.106	51.1062	51.1168	51.106
Normalized	100%	100%	99.98%	100%
Glibc Benchmarks - asinh (ns)	39.3521	39.5021	39.5754	39.5163
Normalized	100%	99.62%	99.44%	99.58%
Glibc Benchmarks - atanh (ns)	47.15	47.1483	47.155	47.1582
Normalized	100%	100%	99.99%	99.98%
Glibc Benchmarks - ffsll (ns)	7.01873	7.01758	7.01795	7.01789
Normalized	99.98%	100%	99.99%	100%
Glibc Benchmarks - sincos (ns)	57.813	59.7109	57.8429	57.8264
Normalized	100%	96.82%	99.95%	99.98%
Glibc Benchmarks - pthread_once (ns)	7.01119	7.01721	7.01059	7.01646
Normalized	99.99%	99.91%	100%	99.92%
Etcpak - Multi-Threaded - ETC2 (Mpx/s)	700.203	699.831	700.218	697.191
Normalized	100%	99.94%	100%	99.57%
Etcpak - Single-Threaded - ETC2 (Mpx/s)	187.145	187.147	187.069	186.937
Normalized	100%	100%	99.96%	99.89%
libgav1 - Chimera 1080p (FPS)	127.83	130.59	128.96	130.77
Normalized	97.75%	99.86%	98.62%	100%
libgav1 - Summer Nature 4K	39.93	40.5	40.36	40.49
Normalized	98.59%	100%	99.65%	99.98%
libgav1 - S.N.1 (FPS)	149.58	152.24	151.66	152.13

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Normalized	98.25%	100%	99.62%	99.93%
libgav1 - C.1.1.b (FPS)	36.71	36.88	36.84	36.86
Normalized	99.54%	100%	99.89%	99.95%
simdjson - Kostya (GB/s)	2.26	2.26	2.26	2.25
Normalized	100%	100%	100%	99.56%
simdjson - TopTweet (GB/s)	3.54	3.54	3.51	3.55
Normalized	99.72%	99.72%	98.87%	100%
simdjson - LargeRand (GB/s)	0.78	0.77	0.78	0.78
Normalized	100%	98.72%	100%	100%
simdjson - PartialTweets (GB/s)	2.99	2.98	2.98	2.98
Normalized	100%	99.67%	99.67%	99.67%
simdjson - DistinctUserID (GB/s)	3.46	3.46	3.45	3.45
Normalized	100%	100%	99.71%	99.71%
Renaissance - Scala Dotty (ms)	1169	1302	1178	1172
Normalized	100%	89.78%	99.28%	99.75%
Renaissance - Rand Forest (ms)	860.8	813.3	793.8	793.5
Normalized	92.18%	97.57%	99.96%	100%
Renaissance - ALS Movie Lens (ms)	15549	15621	15536	15660
Normalized	99.92%	99.46%	100%	99.21%
Renaissance - Apache Spark ALS (ms)	19801	19276	19739	19789
Normalized	97.35%	100%	97.66%	97.41%
Renaissance - Apache Spark Bayes (ms)	9366	9140	9322	9730
Normalized	97.59%	100%	98.06%	93.94%
Renaissance - Savina Reactors.IO (ms)	7836	7820	7768	8022
Normalized	99.14%	99.34%	100%	96.83%
Renaissance - A.S.P (ms)	4210	4157	4256	4235
Normalized	98.75%	100%	97.66%	98.16%
Renaissance - F.H.R (ms)	3167	3234	3117	3194
Normalized	98.42%	96.36%	100%	97.57%
Renaissance - I.M.D.S (ms)	4600	4585	4455	4650
Normalized	96.85%	97.16%	100%	95.82%
Renaissance - A.U.C.T (ms)	10770	10724	10588	10618
Normalized	98.31%	98.73%	100%	99.72%
Renaissance - G.A.U.J.F (ms)	1967	1979	1992	1974
Normalized	100%	99.35%	98.71%	99.64%
Nettle - aes256 (Mbyte/s)	5694	5698	5690	5707
Normalized	99.78%	99.85%	99.7%	100%
Nettle - chacha (Mbyte/s)	1117	1117	1117	1117
Normalized	99.97%	99.99%	100%	99.99%
Nettle - sha512 (Mbyte/s)	451.66	451.68	451.73	451.77
Normalized	99.98%	99.98%	99.99%	100%
Nettle - poly1305-aes (Mbyte/s)	3388	3387	3388	3386
Normalized	100%	99.95%	99.98%	99.93%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.06	0.06	0.06	0.06
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	2.25	2.25	2.25	2.26
Normalized	99.56%	99.56%	99.56%	100%

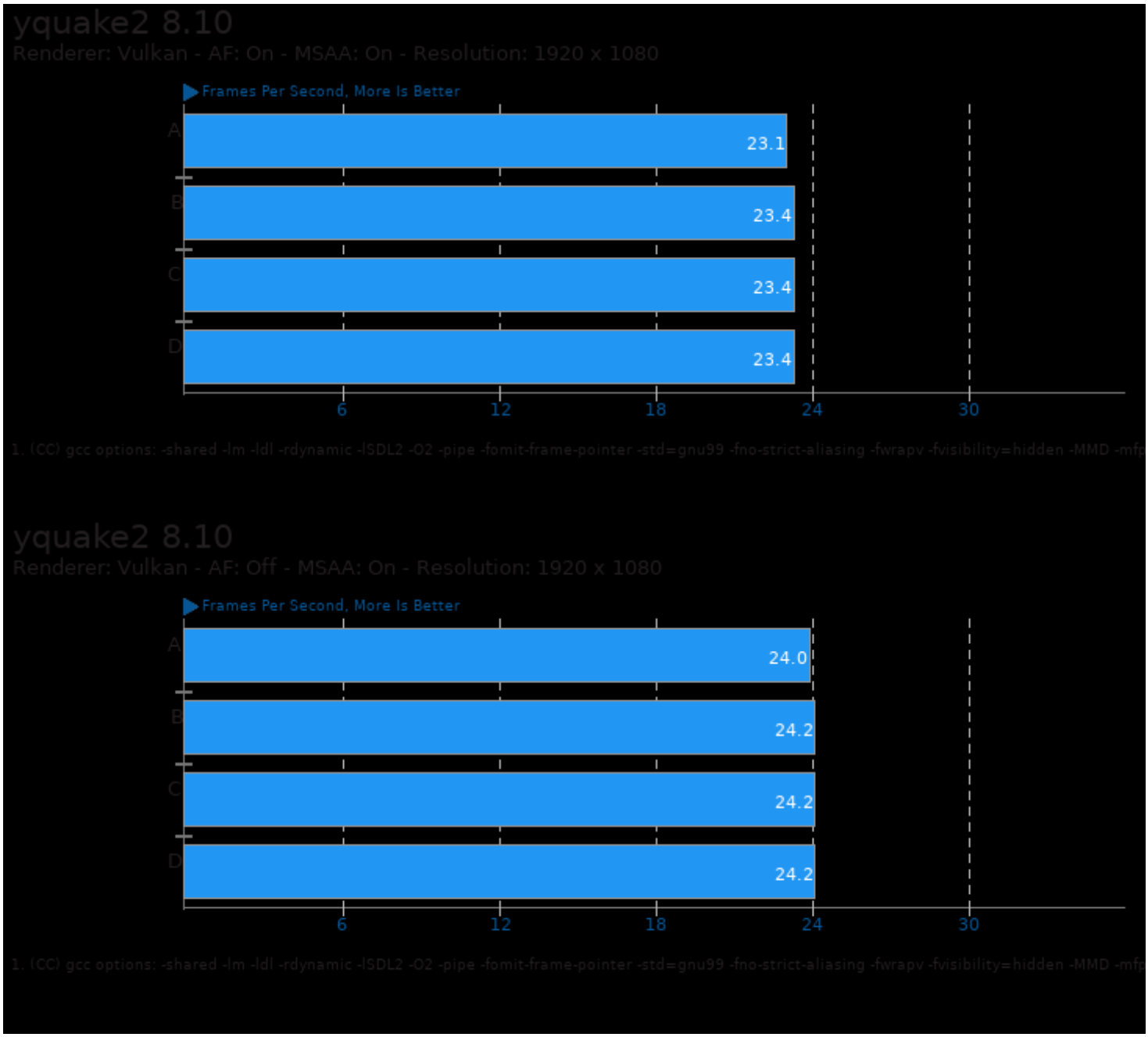
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**11.98**	12.21	**12.26**	12.16
Normalized	97.72%	99.59%	100%	99.18%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	3.95	**3.93**	**3.97**	3.96
Normalized	99.5%	98.99%	100%	99.75%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**14.31**	15.01	**15.32**	14.83
Normalized	93.41%	97.98%	100%	96.8%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**16.03**	16.83	**21.27**	16.24
Normalized	75.36%	79.13%	100%	76.35%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	17.17	18.04	**26.14**	**16.74**
Normalized	65.68%	69.01%	100%	64.04%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.19	0.19	0.19	0.19
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**5.58**	5.56	**5.54**	**5.54**
Normalized	100%	99.64%	99.28%	99.28%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**26.76**	**26.39**	26.73	26.66
Normalized	100%	98.62%	99.89%	99.63%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**12.46**	12.5	**12.54**	12.5
Normalized	99.36%	99.68%	100%	99.68%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**69.56**	69.29	69.25	**68.99**
Normalized	100%	99.61%	99.55%	99.18%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	88.93	**88.43**	**89**	88.83
Normalized	99.92%	99.36%	100%	99.81%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	**95.19**	**92.92**	94.75	93.91
Normalized	100%	97.62%	99.54%	98.66%
7-Zip Compression - Compression Rating (MIPS)	22048	21997	**21985**	**22052**
Normalized	99.98%	99.75%	99.7%	100%
7-Zip Compression - D.R (MIPS)	15008	**15014**	**15005**	15006
Normalized	99.96%	100%	99.94%	99.95%
libavif avifenc - 0 (sec)	**452.434**	453.139	453.584	**454.376**
Normalized	100%	99.84%	99.75%	99.57%
libavif avifenc - 2 (sec)	199.77	199.353	**199.261**	**199.957**
Normalized	99.75%	99.95%	100%	99.65%
libavif avifenc - 6 (sec)	31.218	**31.243**	31.073	**30.955**
Normalized	99.16%	99.08%	99.62%	100%
libavif avifenc - 6, Lossless (sec)	37.403	**37.427**	37.267	**37.244**
Normalized	99.57%	99.51%	99.94%	100%
libavif avifenc - 10, Lossless	**15.189**	**15.291**	15.238	15.226
Normalized	100%	99.33%	99.68%	99.76%

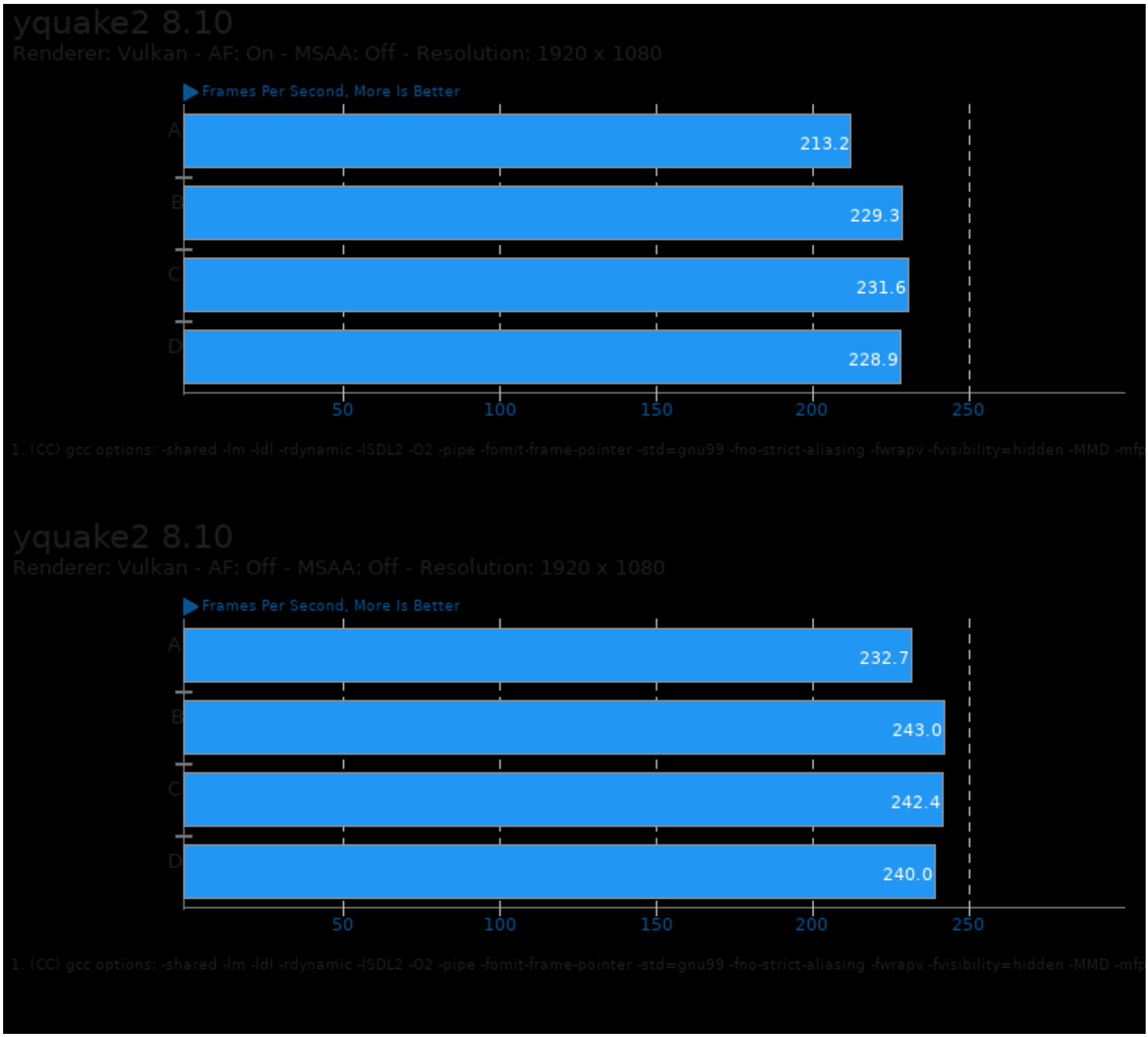
Timed MPlayer Compilation - Time To Compile (sec)	114.882	**115.332**	**114.705**	114.857
Normalized	99.85%	99.46%	100%	99.87%
Parallel BZIP2 Compression - F.1.0.R.a.m.i.C (sec)	**29.998**	29.982	**29.728**	29.882
Normalized	99.1%	99.15%	100%	99.48%
WebP2 Image Encode - Default (sec)	**10.137**	10.136	10.126	**10.085**
Normalized	99.49%	99.5%	99.6%	100%
WebP2 Image Encode - Q.7.C.E.7 (sec)	**596.305**	595.035	594.262	**593.819**
Normalized	99.58%	99.8%	99.93%	100%
WebP2 Image Encode - Q.9.C.E.7 (sec)	**1272**	1272	1271	**1269**
Normalized	99.76%	99.8%	99.84%	100%
WebP2 Image Encode - Q.1.C.E.5 (sec)	19.211	**19.298**	**19.193**	19.217
Normalized	99.91%	99.46%	100%	99.88%
WebP2 Image Encode - Q.1.L.C (sec)	**2926**	2927	**2937**	2926
Normalized	100%	99.98%	99.62%	99.99%
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	**0.516**	0.514	**0.509**	**0.509**
Normalized	100%	99.61%	98.64%	98.64%
TensorFlow Lite - SqueezeNet	**8300**	**8317**	8306	8307
Normalized	100%	99.81%	99.93%	99.92%
TensorFlow Lite - Inception V4	**120418**	**120354**	120409	120367
Normalized	99.95%	100%	99.95%	99.99%
TensorFlow Lite - NASNet Mobile (us)	**17066**	17062	**17042**	17043
Normalized	99.86%	99.89%	100%	100%
TensorFlow Lite - Mobilenet Float (us)	**5951**	5952	**5958**	5957
Normalized	100%	99.99%	99.88%	99.9%
TensorFlow Lite - Mobilenet Quant (us)	8204	**8293**	8206	**8197**
Normalized	99.91%	98.84%	99.88%	100%
TensorFlow Lite - I.R.V (us)	109558	109506	**109587**	**109434**
Normalized	99.89%	99.93%	99.86%	100%
Stress-NG - MMAP (Bogo Ops/s)	9.82	9.86	**8.99**	**10.11**
Normalized	97.13%	97.53%	88.92%	100%
Stress-NG - NUMA (Bogo Ops/s)	**81.88**	**82.62**	82.42	82.54
Normalized	99.1%	100%	99.76%	99.9%
Stress-NG - Futex (Bogo Ops/s)	**983786**	**567812**	596191	779303
Normalized	100%	57.72%	60.6%	79.21%
Stress-NG - MEMFD (Bogo	**116.84**	**115.42**	116.67	116.04
Normalized	100%	98.78%	99.85%	99.32%
Stress-NG - Atomic (Bogo Ops/s)	197120	**225397**	**197062**	197214
Normalized	87.45%	100%	87.43%	87.5%
Stress-NG - Crypto (Bogo Ops/s)	4797	**4786**	4796	**4800**
Normalized	99.94%	99.73%	99.93%	100%
Stress-NG - Malloc (Bogo Ops/s)	**356561**	352174	352774	**346765**

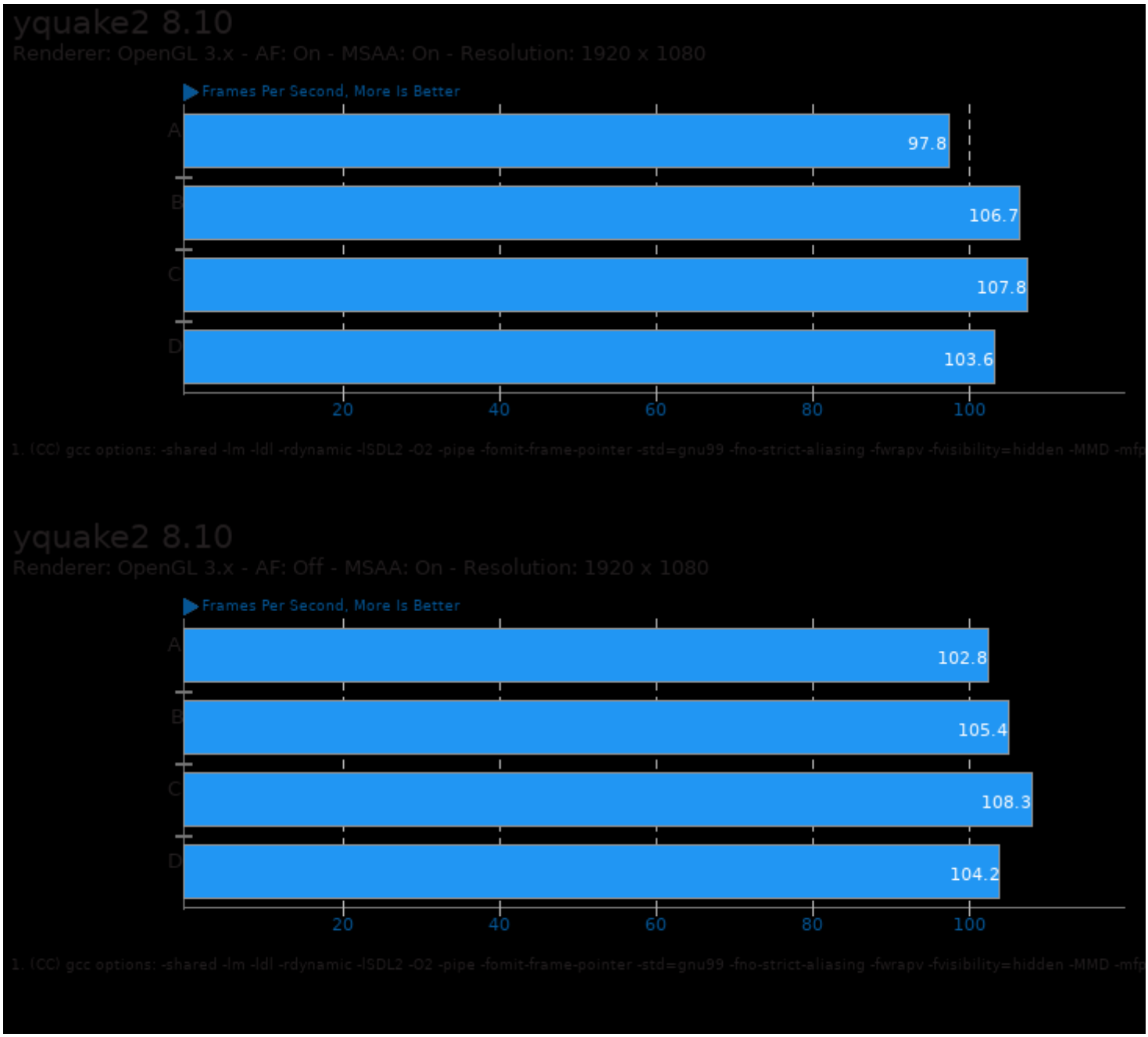
	Normalized	100%	98.77%	98.94%	97.25%
Stress-NG - Forking (Bogo	18618	18824	18236	18354
	Normalized	98.91%	100%	96.88%	97.51%
Stress-NG - SENDFILE (Bogo Ops/s)	43316	43222	43220	43229
	Normalized	100%	99.78%	99.78%	99.8%
Stress-NG - CPU Cache (Bogo Ops/s)	164.47	162.43	160.67	165
	Normalized	99.68%	98.44%	97.38%	100%
Stress-NG - CPU Stress (Bogo Ops/s)	5413	5416	5411	5419
	Normalized	99.9%	99.95%	99.86%	100%
Stress-NG - Semaphores (Bogo Ops/s)	241285	241366	233828	234180
	Normalized	99.97%	100%	96.88%	97.02%
Stress-NG - Matrix Math (Bogo Ops/s)	13620	13612	13494	13634
	Normalized	99.9%	99.84%	98.97%	100%
Stress-NG - Vector Math (Bogo Ops/s)	9084	9080	9082	9082
	Normalized	100%	99.96%	99.98%	99.98%
Stress-NG - x86_64 RdRand (Bogo Ops/s)	4789	4790	4789	4789
	Normalized	99.98%	100%	99.98%	99.97%
Stress-NG - Memory Copying (Bogo Ops/s)	1450	1521	1673	1653
	Normalized	86.67%	90.92%	100%	98.81%
Stress-NG - Socket Activity (Bogo Ops/s)	3463	3408	3415	3453
	Normalized	100%	98.39%	98.62%	99.69%
Stress-NG - Context Switching (Bogo Ops/s)	1140202	1146224	1135816	1145622
	Normalized	99.47%	100%	99.09%	99.95%
Stress-NG - G.C.S.F (Bogo	437714	440005	439412	349178
	Normalized	99.48%	100%	99.87%	79.36%
Stress-NG - G.Q.D.S (Bogo	54.2	53.7	53.73	53.07
	Normalized	100%	99.08%	99.13%	97.92%
Stress-NG - S.V.M.P (Bogo	2402442	2375487	2394564	2390582
	Normalized	100%	98.88%	99.67%	99.51%
Facebook RocksDB - Rand Read (Op/s)	18444631	18395494	18419743	18432280
	Normalized	100%	99.73%	99.87%	99.93%
Facebook RocksDB - Update Rand (Op/s)	238248	242022	236018	231616
	Normalized	98.44%	100%	97.52%	95.7%
Facebook RocksDB - Read While Writing (Op/s)	436220	451879	444002	451626
	Normalized	96.53%	100%	98.26%	99.94%
Facebook RocksDB - R.R.W.R (Op/s)	563565	603412	591684	605794
	Normalized	93.03%	99.61%	97.67%	100%

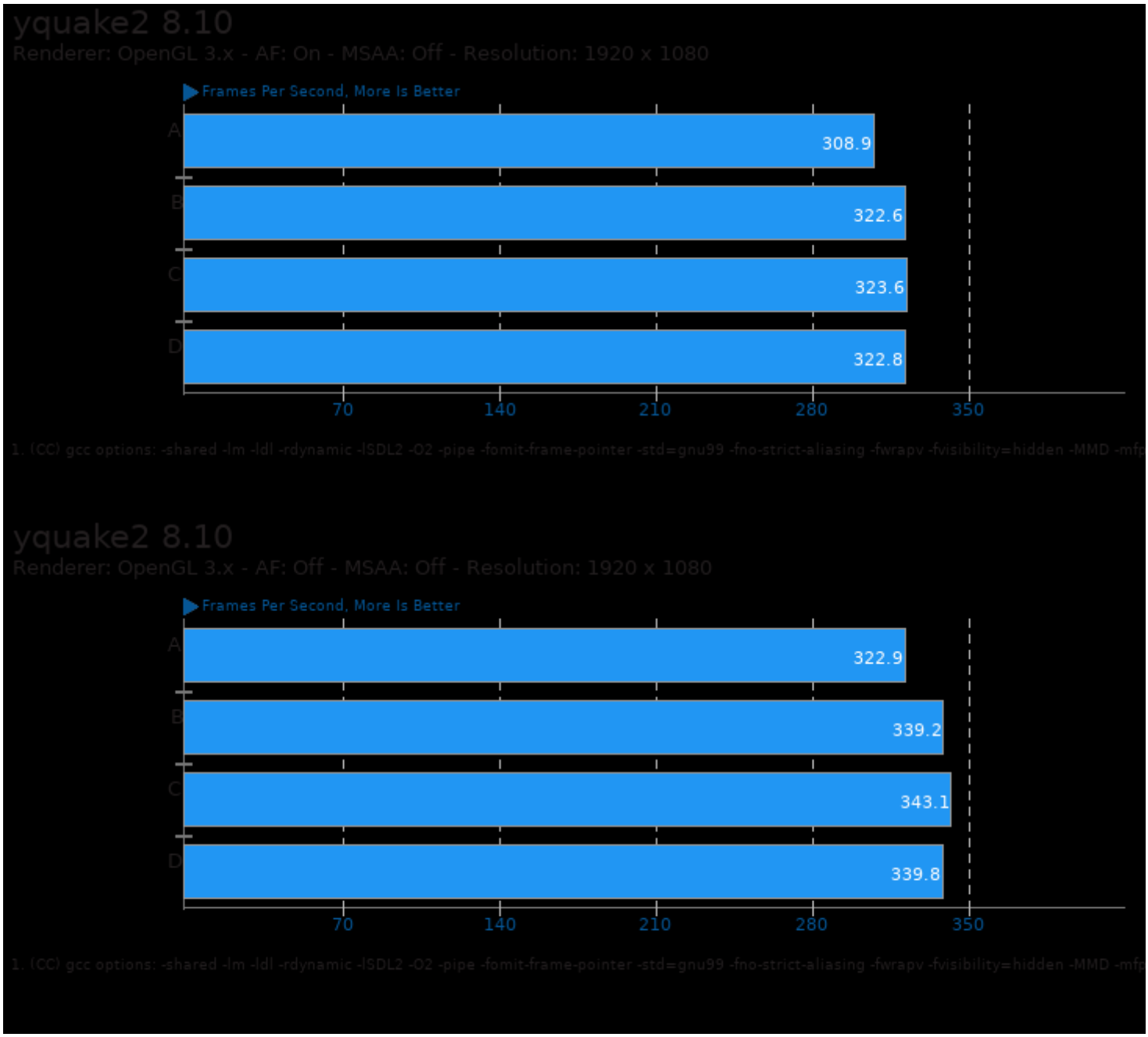
8100-june-2022

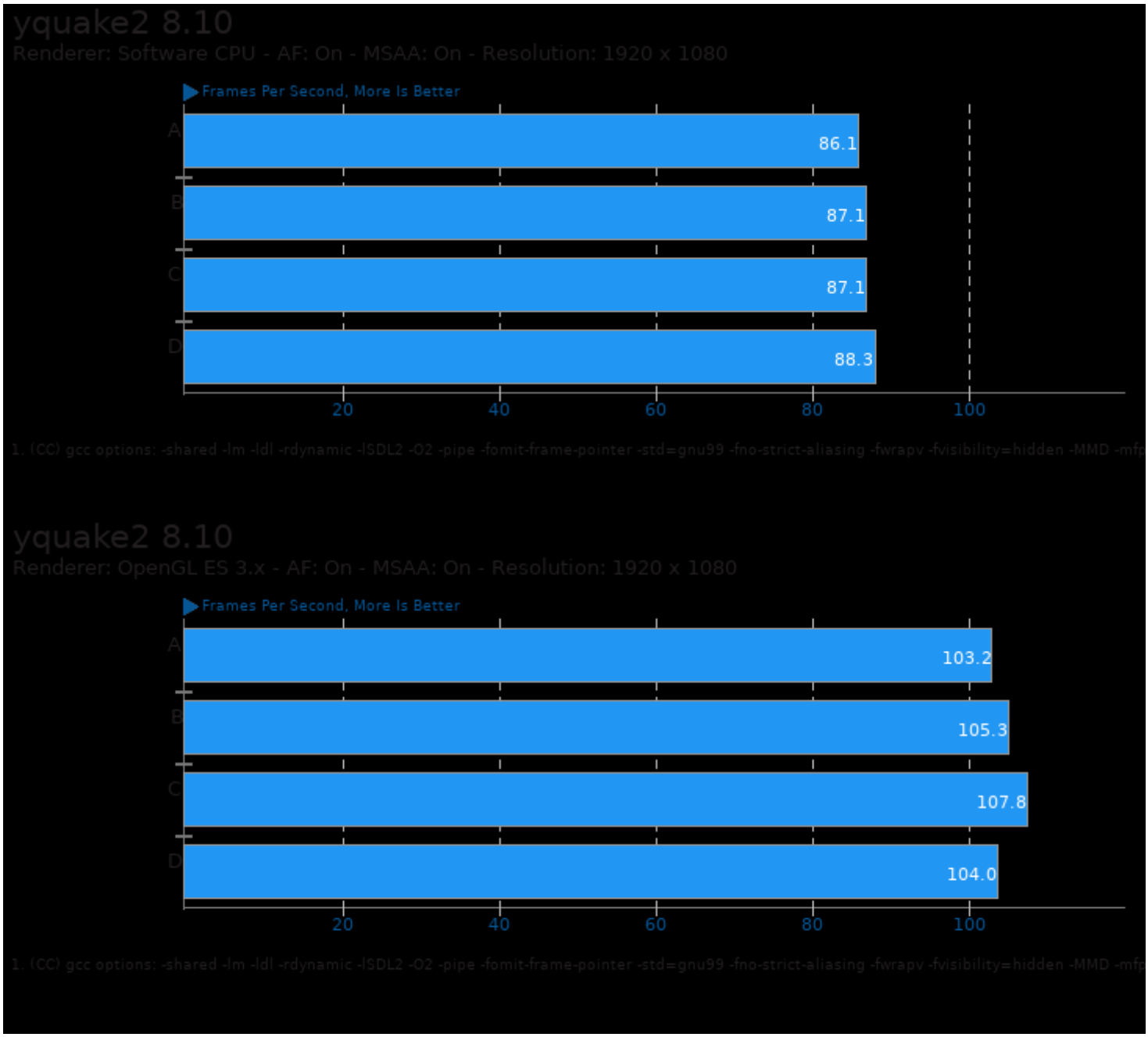
InfluxDB - 4 - 10000 - 2,5000,1 - 10000 (val/sec)	**786902**		783527	783971	**770479**
Normalized	100%		99.57%	99.63%	97.91%
InfluxDB - 64 - 10000 - 2,5000,1 - 10000 (val/sec)	881434		**864986**	**883307**	872613
Normalized	99.79%		97.93%	100%	98.79%
Timed Linux Kernel Compilation - defconfig (sec)		**296.373**	**299.463**	299.05	298.319
Normalized		100%	98.97%	99.1%	99.35%
Standard Deviation		0.6%			

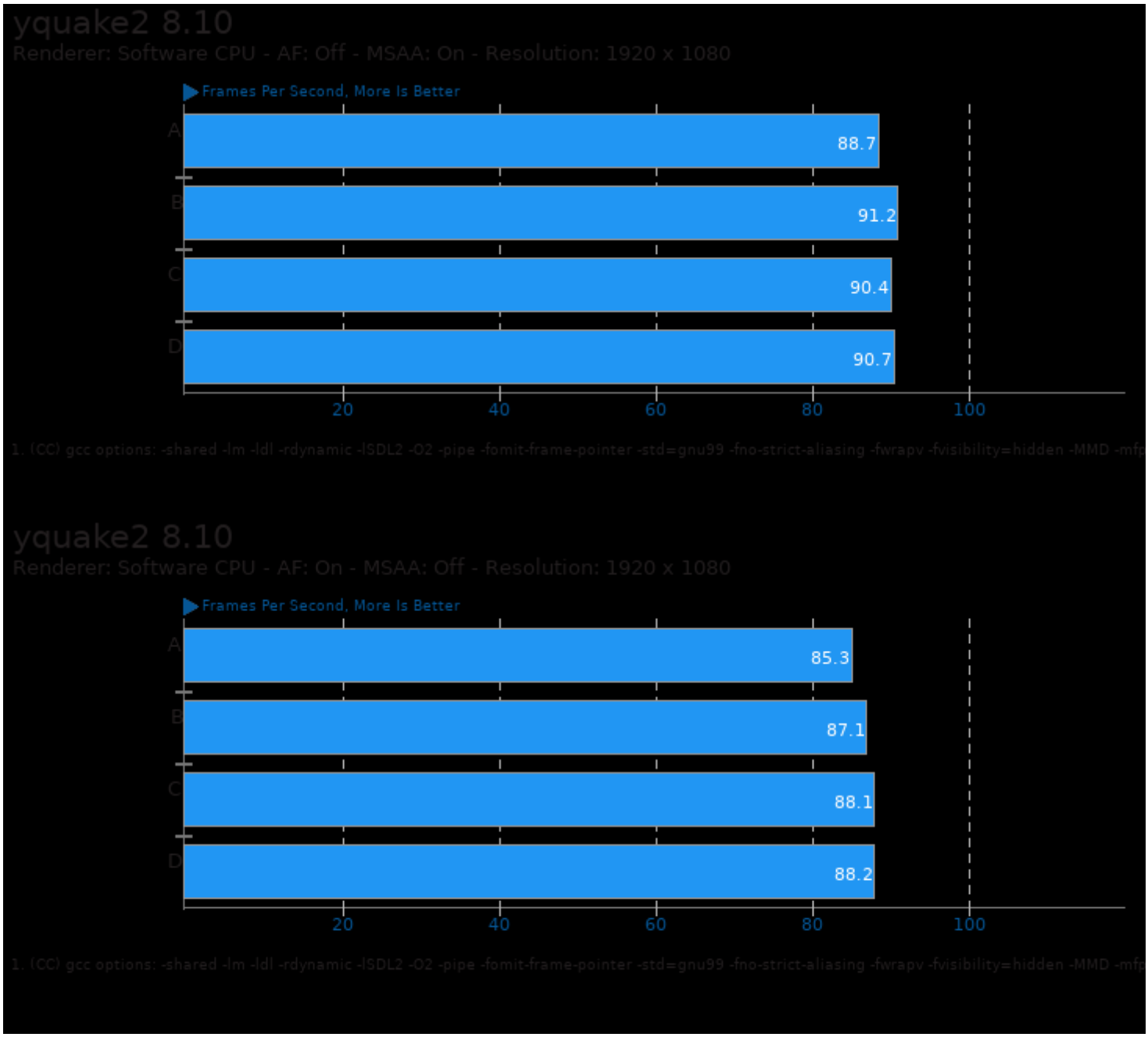

yquake2 8.10
Renderer: Vulkan - AF: On - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
23.1
23.4
23.4
23.4
6
12
18
24
30
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: Vulkan - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
24.0
24.2
24.2
24.2
6
12
18
24
30
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

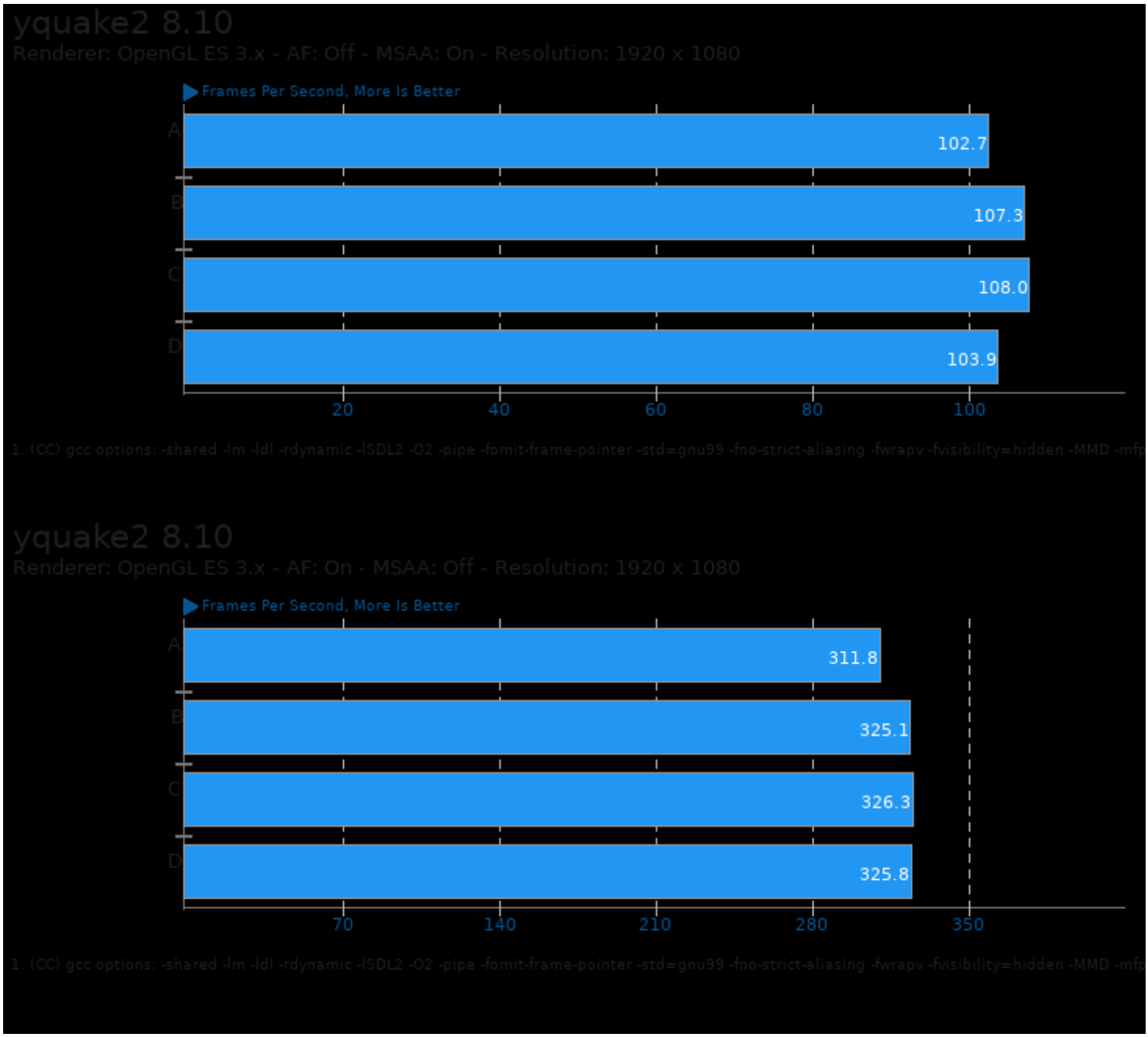

yquake2 8.10
Renderer: Vulkan - AF: On - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
213.2
B
229.3
C
231.6
D
228.9
50
100
150
200
250
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: Vulkan - AF: Off - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
232.7
B
243.0
C
242.4
D
240.0
50
100
150
200
250
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

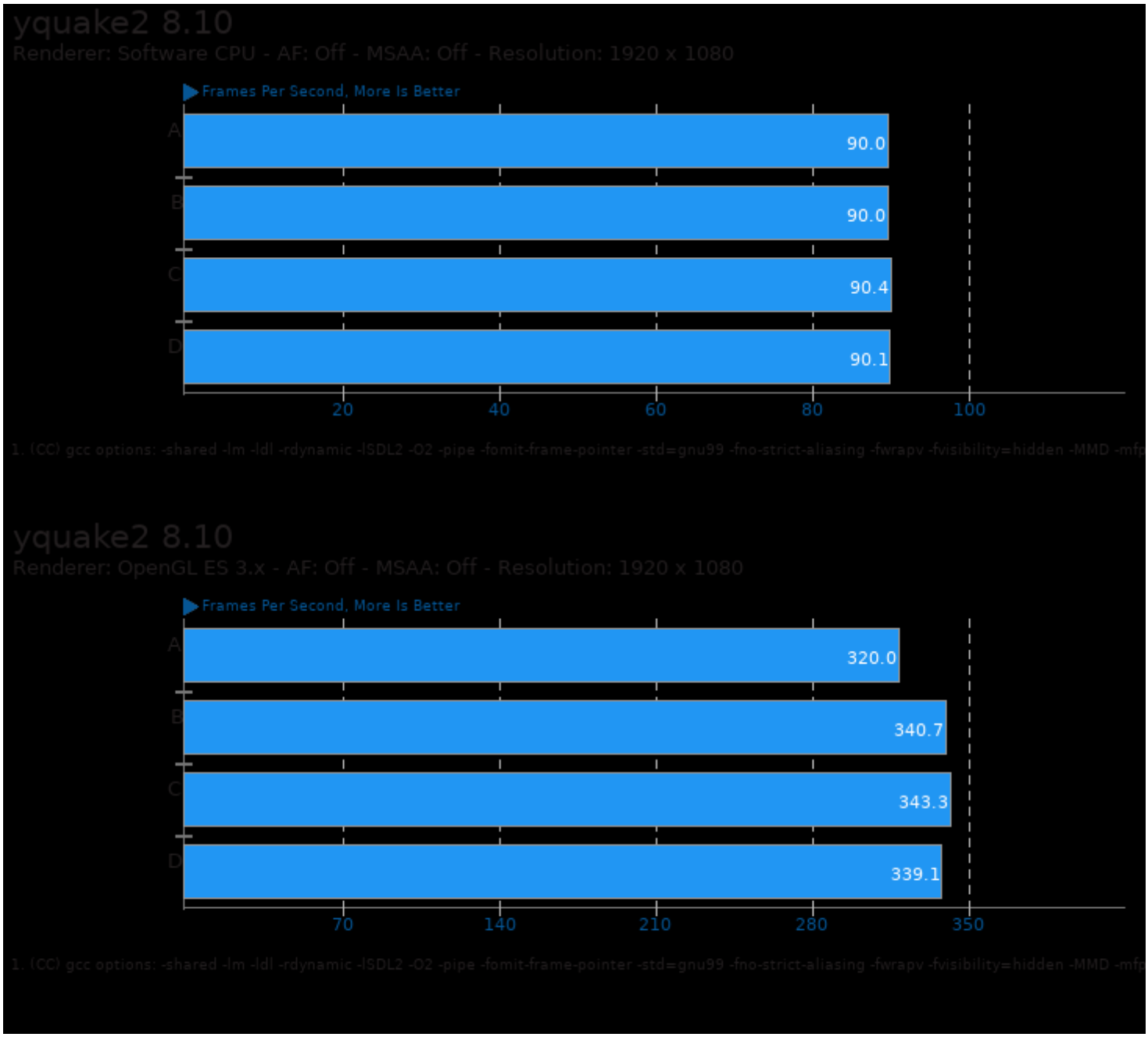

yquake2 8.10
Renderer: OpenGL 3.x - AF: On - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
97.8
106.7
107.8
103.6
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: OpenGL 3.x - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
102.8
105.4
108.3
104.2
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

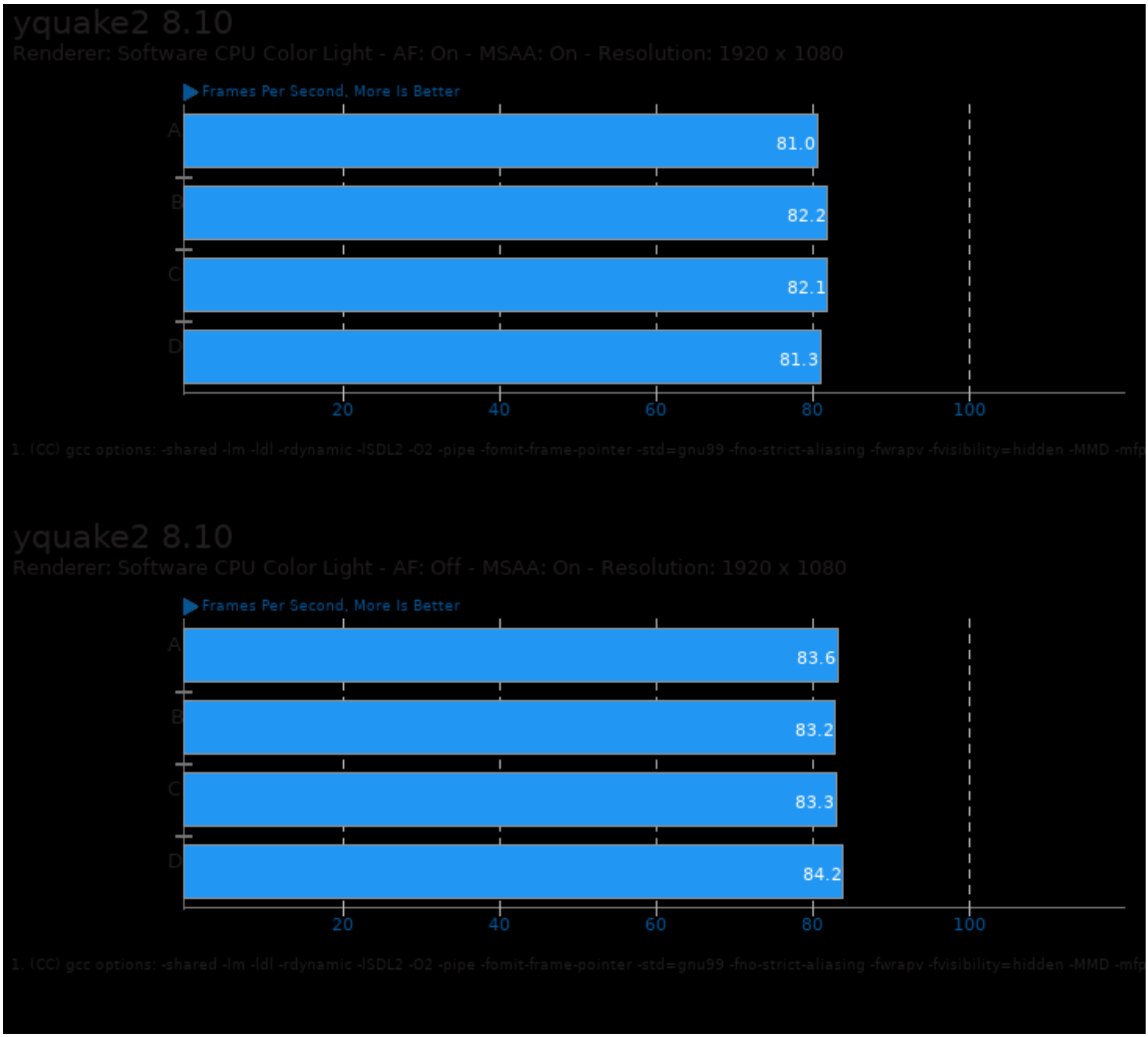

yquake2 8.10
Renderer: OpenGL 3.x - AF: On - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
308.9
322.6
323.6
322.8
70
140
210
280
350
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: OpenGL 3.x - AF: Off - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
322.9
339.2
343.1
339.8
70
140
210
280
350
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

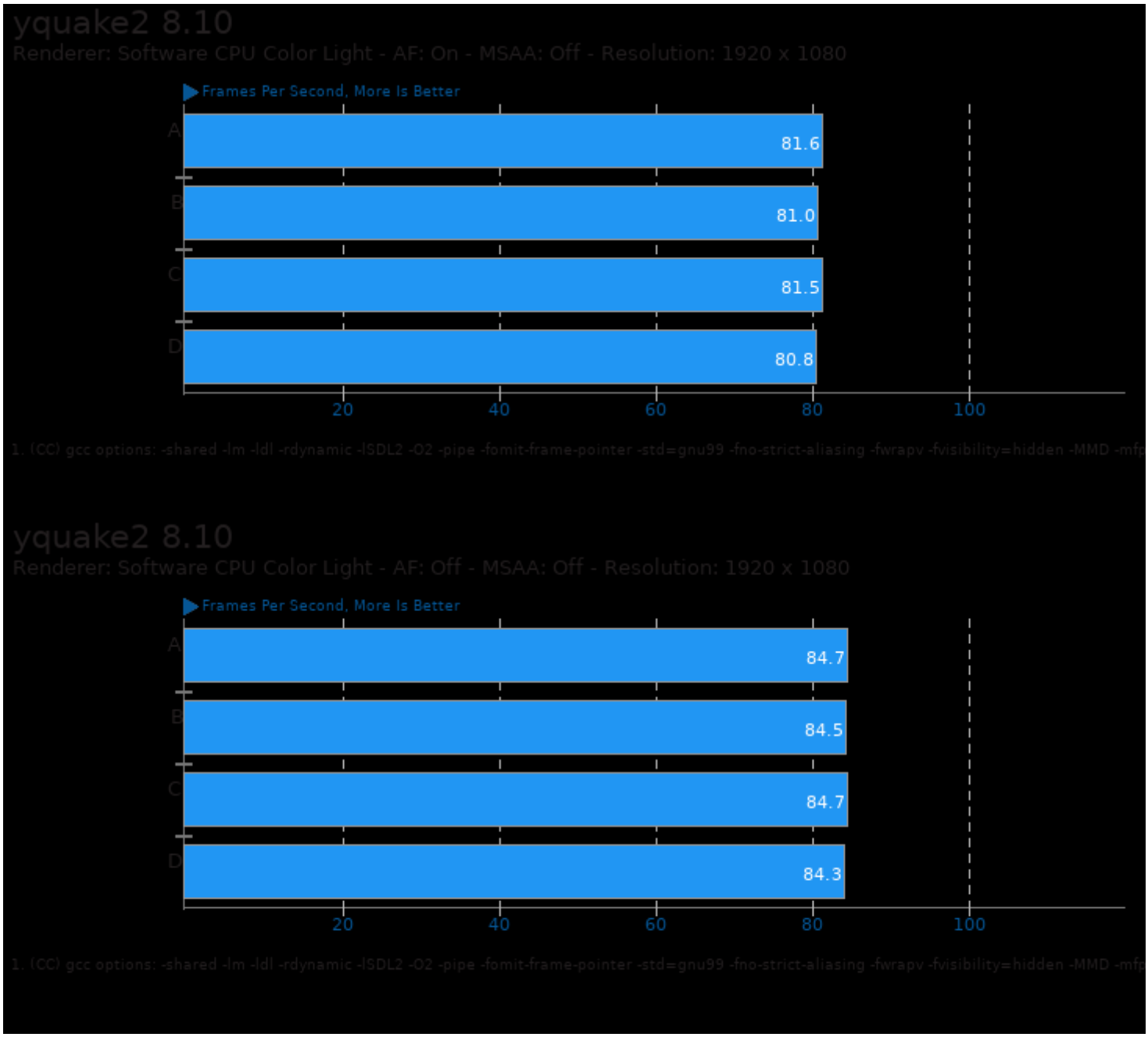

yquake2 8.10
Renderer: Software CPU - AF: On - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
86.1
87.1
87.1
88.3
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: OpenGL ES 3.x - AF: On - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
103.2
105.3
107.8
104.0
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

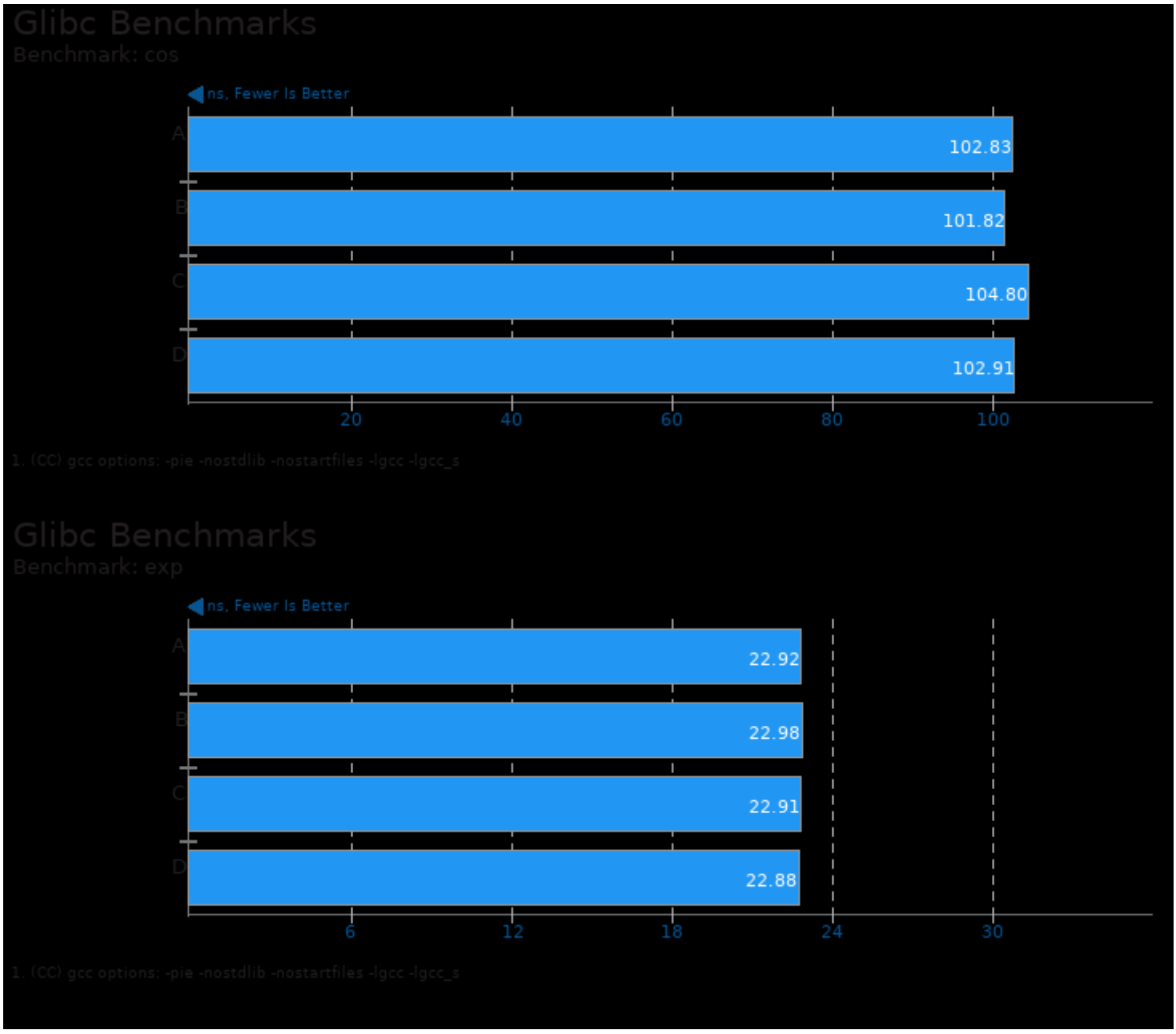

yquake2 8.10
Renderer: Software CPU - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
88.7
91.2
90.4
90.7
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: Software CPU - AF: On - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
85.3
87.1
88.1
88.2
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

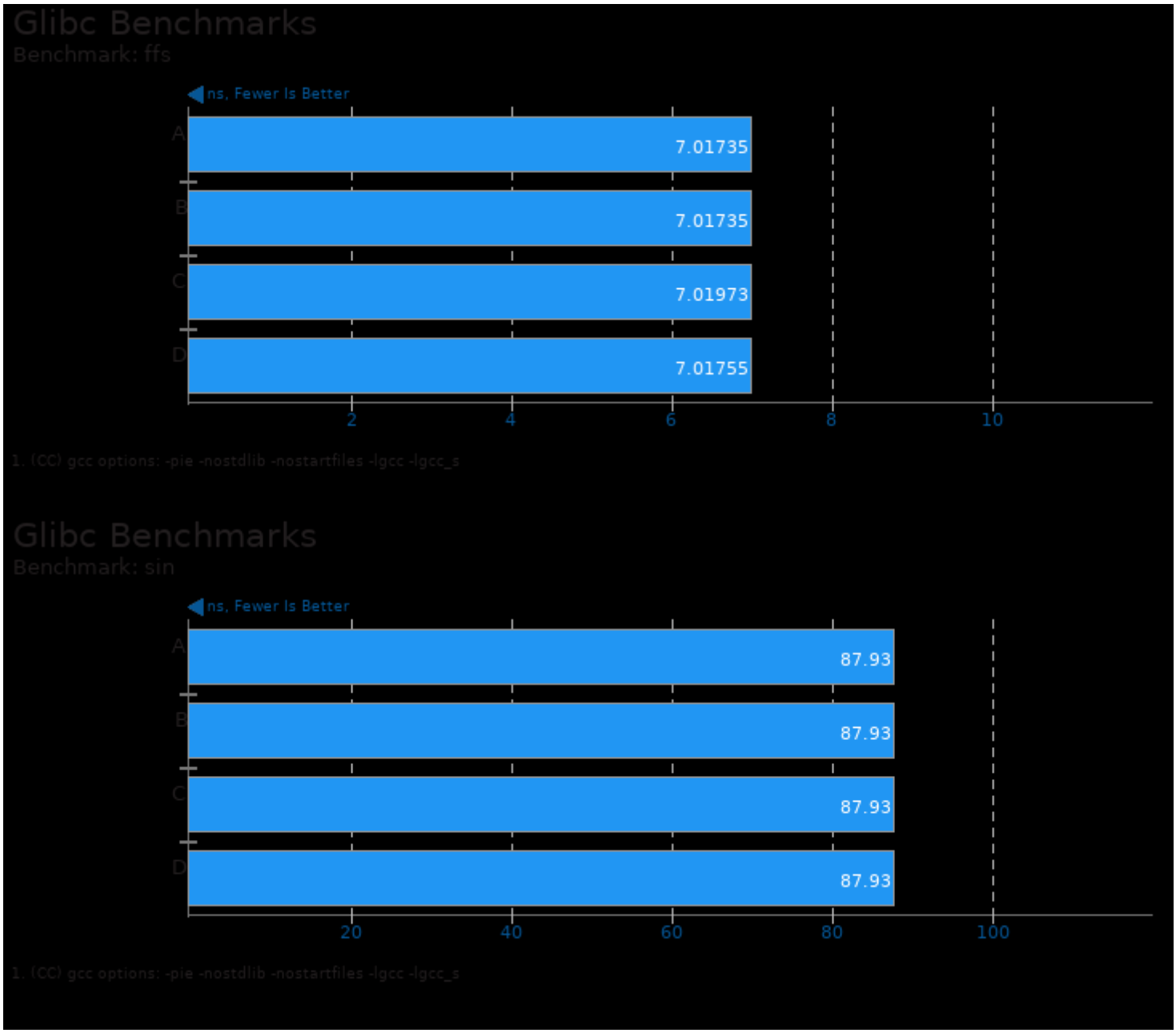

yquake2 8.10
Renderer: OpenGL ES 3.x - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
102.7
107.3
108.0
103.9
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: OpenGL ES 3.x - AF: On - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
311.8
325.1
326.3
325.8
70
140
210
280
350
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

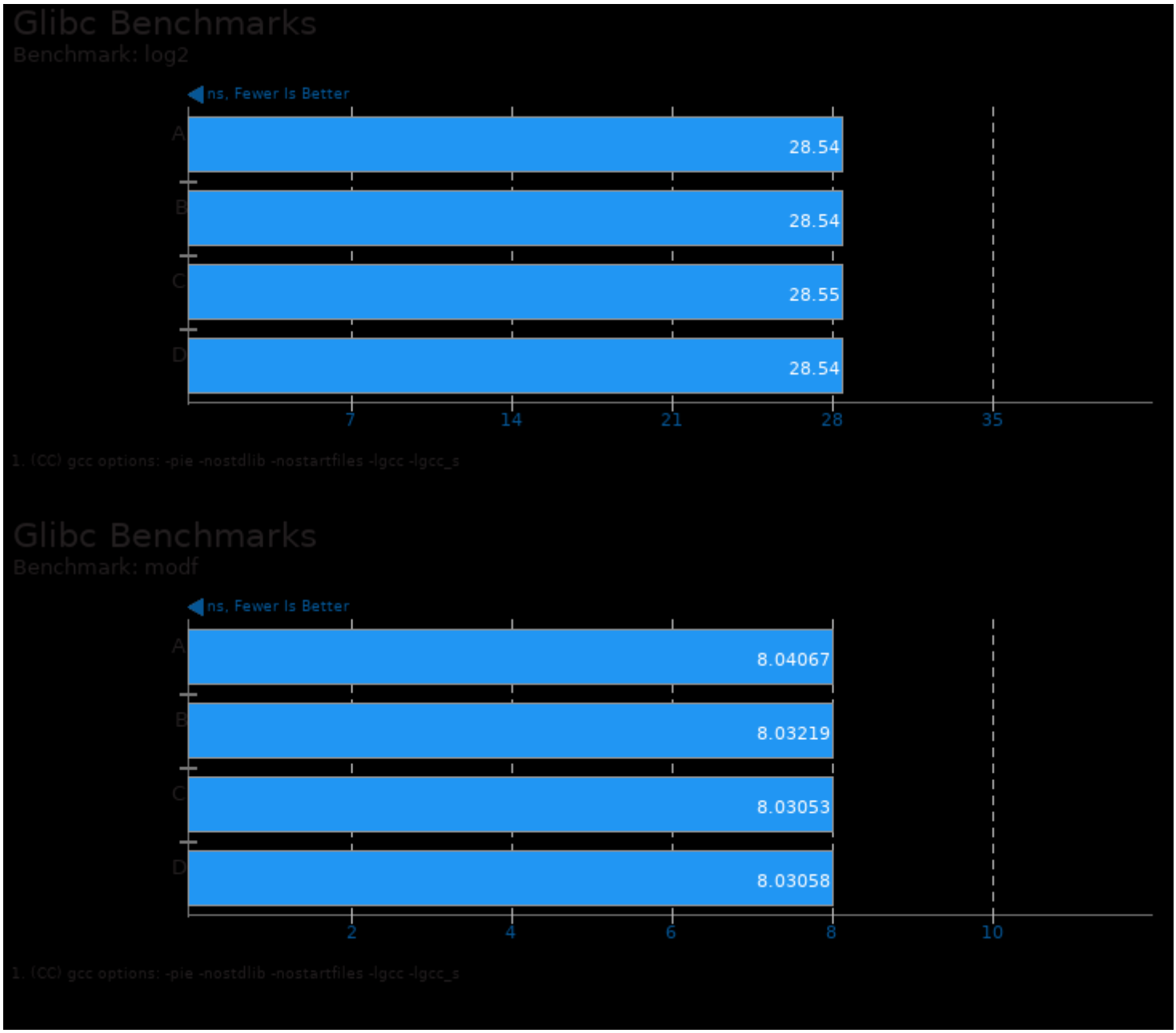

yquake2 8.10
Renderer: Software CPU - AF: Off - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
90.0
90.0
90.4
90.1
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfp
yquake2 8.10
Renderer: OpenGL ES 3.x - AF: Off - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
B
C
D
320.0
340.7
343.3
339.1
70
140
210
280
350
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfp

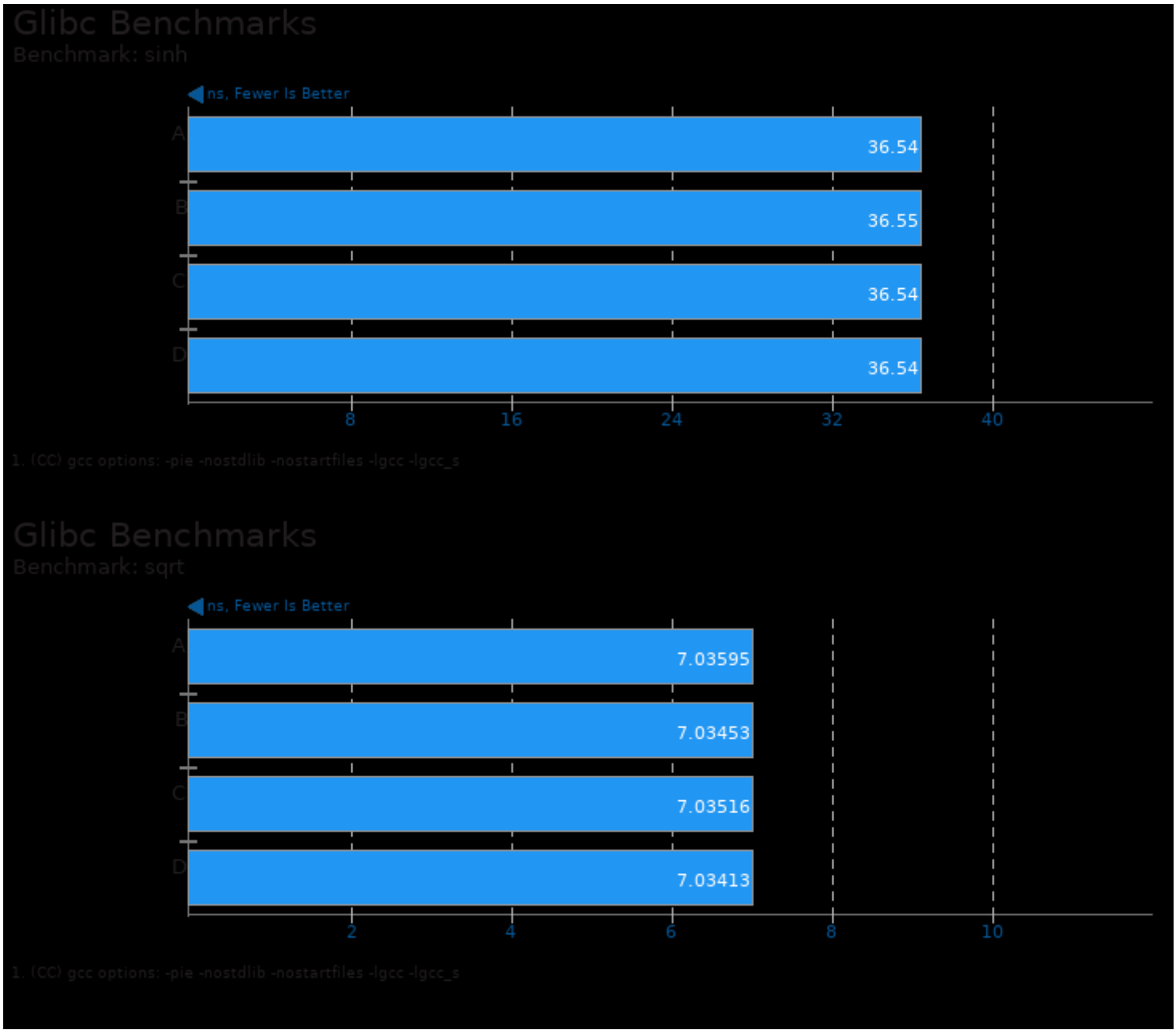

yquake2 8.10
Renderer: Software CPU Color Light - AF: On - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
81.0
B
82.2
C
82.1
D
81.3
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: Software CPU Color Light - AF: Off - MSAA: On - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
83.6
B
83.2
C
83.3
D
84.2
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

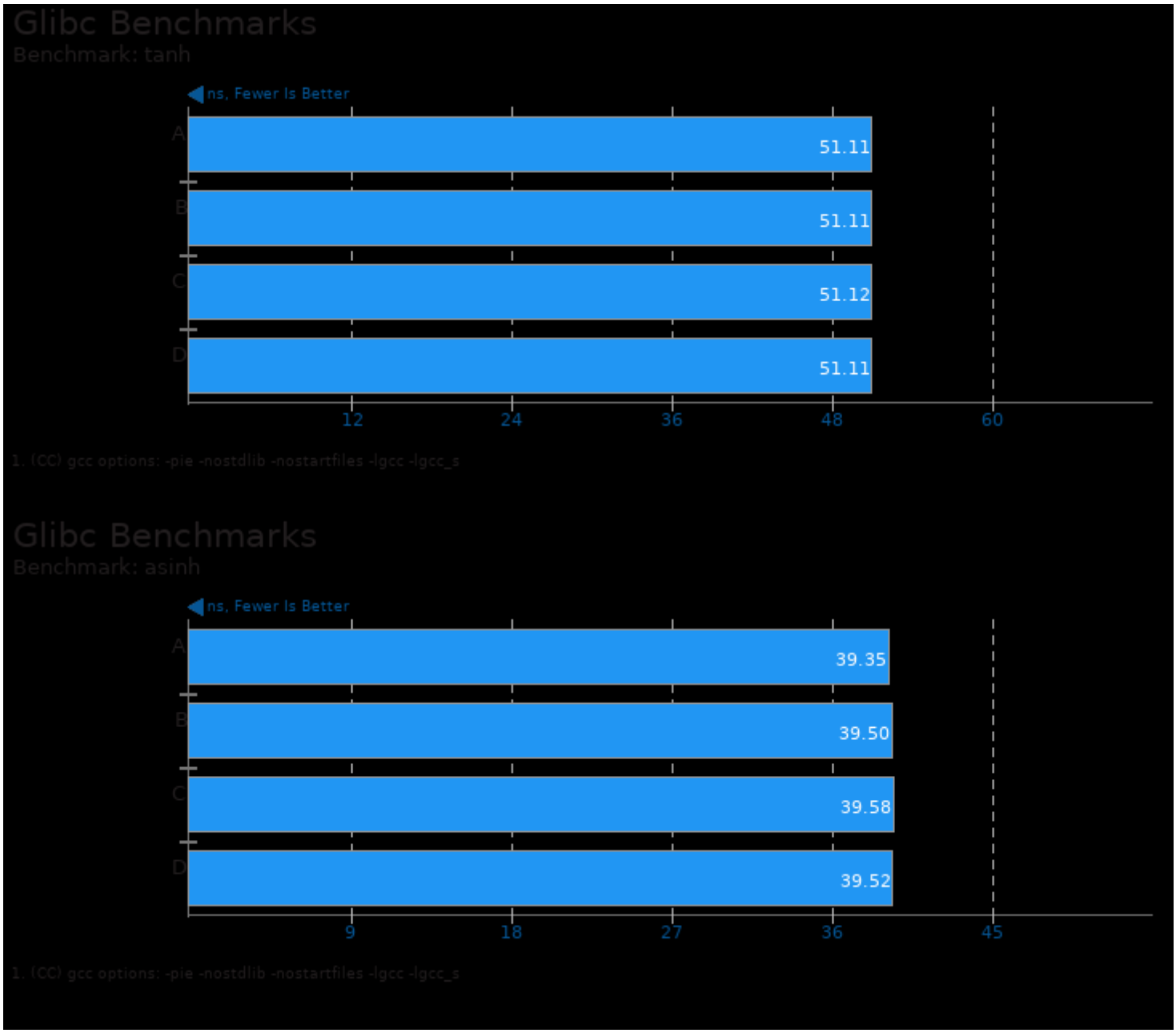

yquake2 8.10
Renderer: Software CPU Color Light - AF: On - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
81.6
B
81.0
C
81.5
D
80.8
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf
yquake2 8.10
Renderer: Software CPU Color Light - AF: Off - MSAA: Off - Resolution: 1920 x 1080
Frames Per Second, More Is Better
A
84.7
B
84.5
C
84.7
D
84.3
20
40
60
80
100
1. (CC) gcc options: -shared -lm -ldl -rdynamic -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

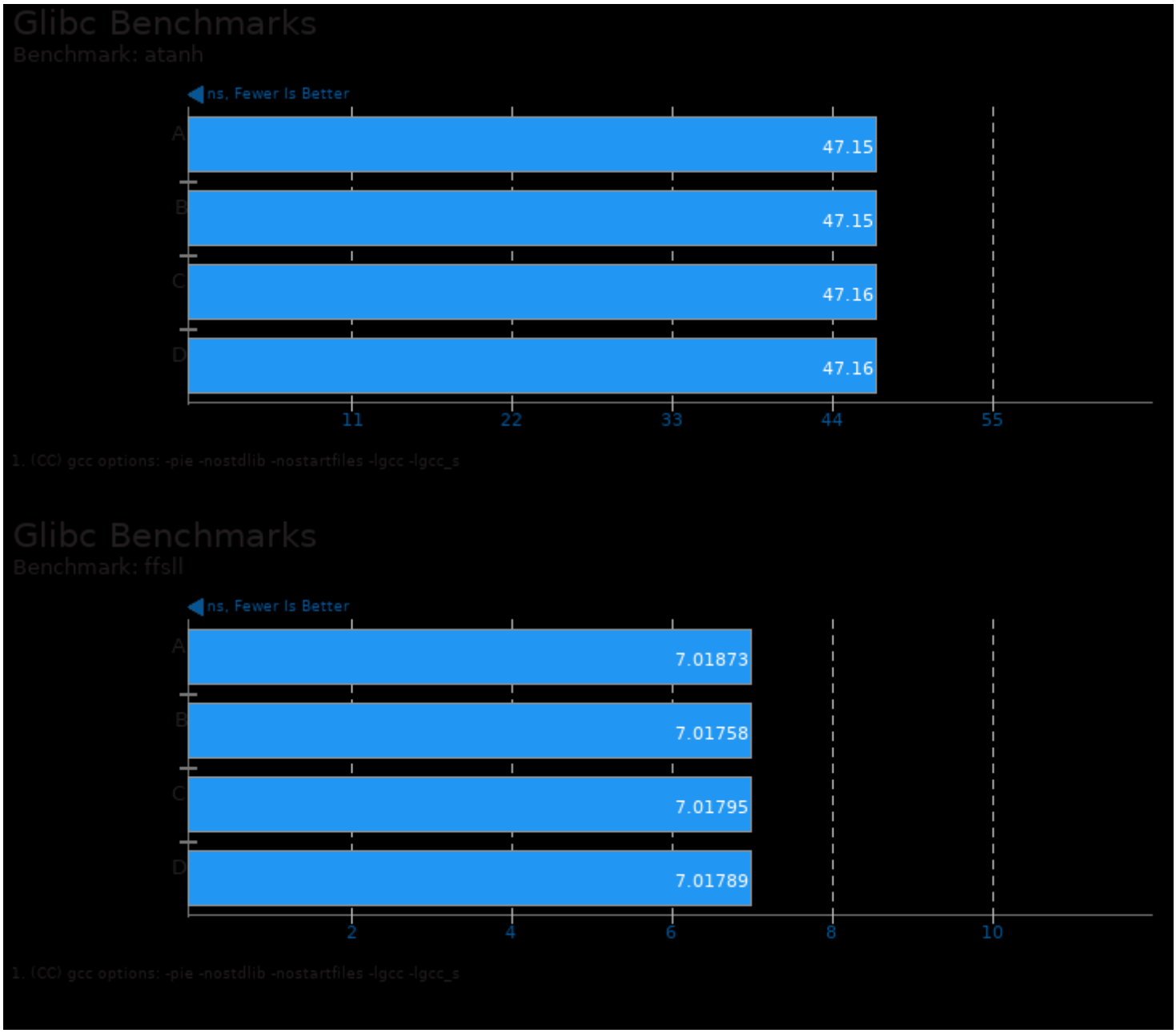

Glibc Benchmarks
Benchmark: cos
ns, Fewer Is Better
A
B
C
D
102.83
101.82
104.80
102.91
20
40
60
80
100
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: exp
ns, Fewer Is Better
A
B
C
D
22.92
22.98
22.91
22.88
6
12
18
24
30
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

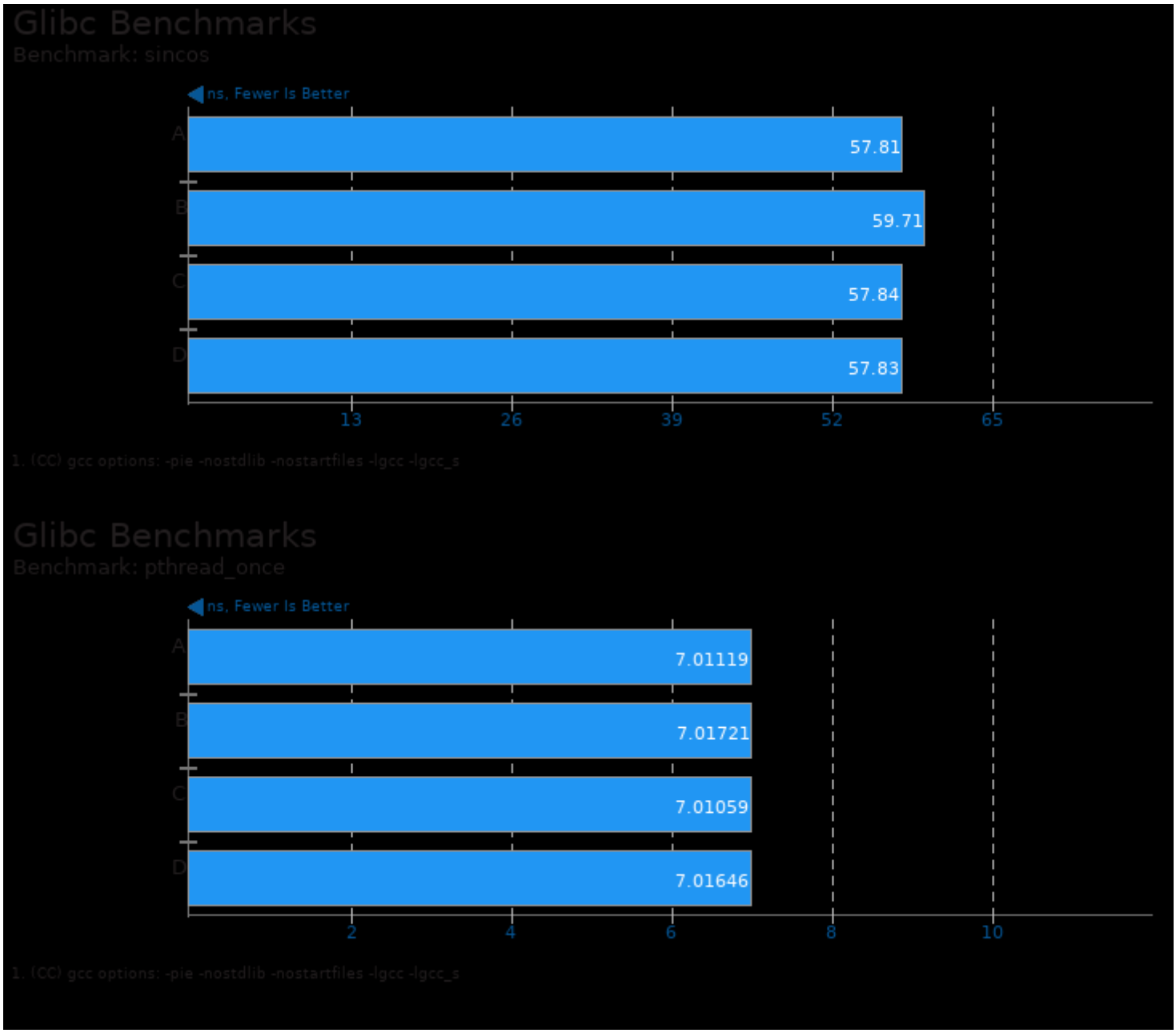

Glibc Benchmarks
Benchmark: ffs
ns, Fewer Is Better
A
B
C
D
7.01735
7.01735
7.01973
7.01755
2
4
6
8
10
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: sin
ns, Fewer Is Better
A
B
C
D
87.93
87.93
87.93
87.93
20
40
60
80
100
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

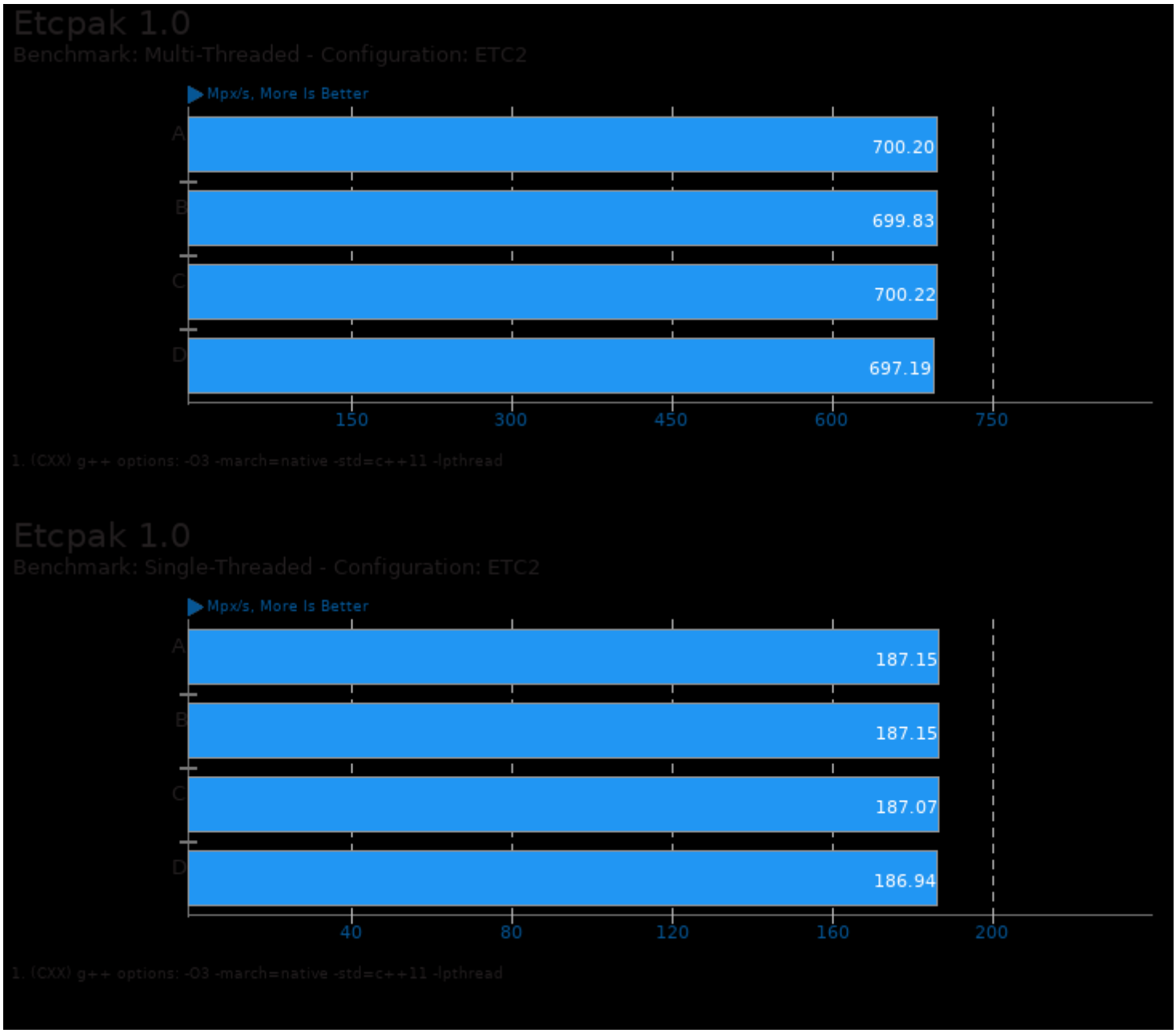

Glibc Benchmarks
Benchmark: log2
ns, Fewer Is Better
A
B
C
D
28.54
28.54
28.55
28.54
7
14
21
28
35
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: modf
ns, Fewer Is Better
A
B
C
D
8.04067
8.03219
8.03053
8.03058
2
4
6
8
10
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

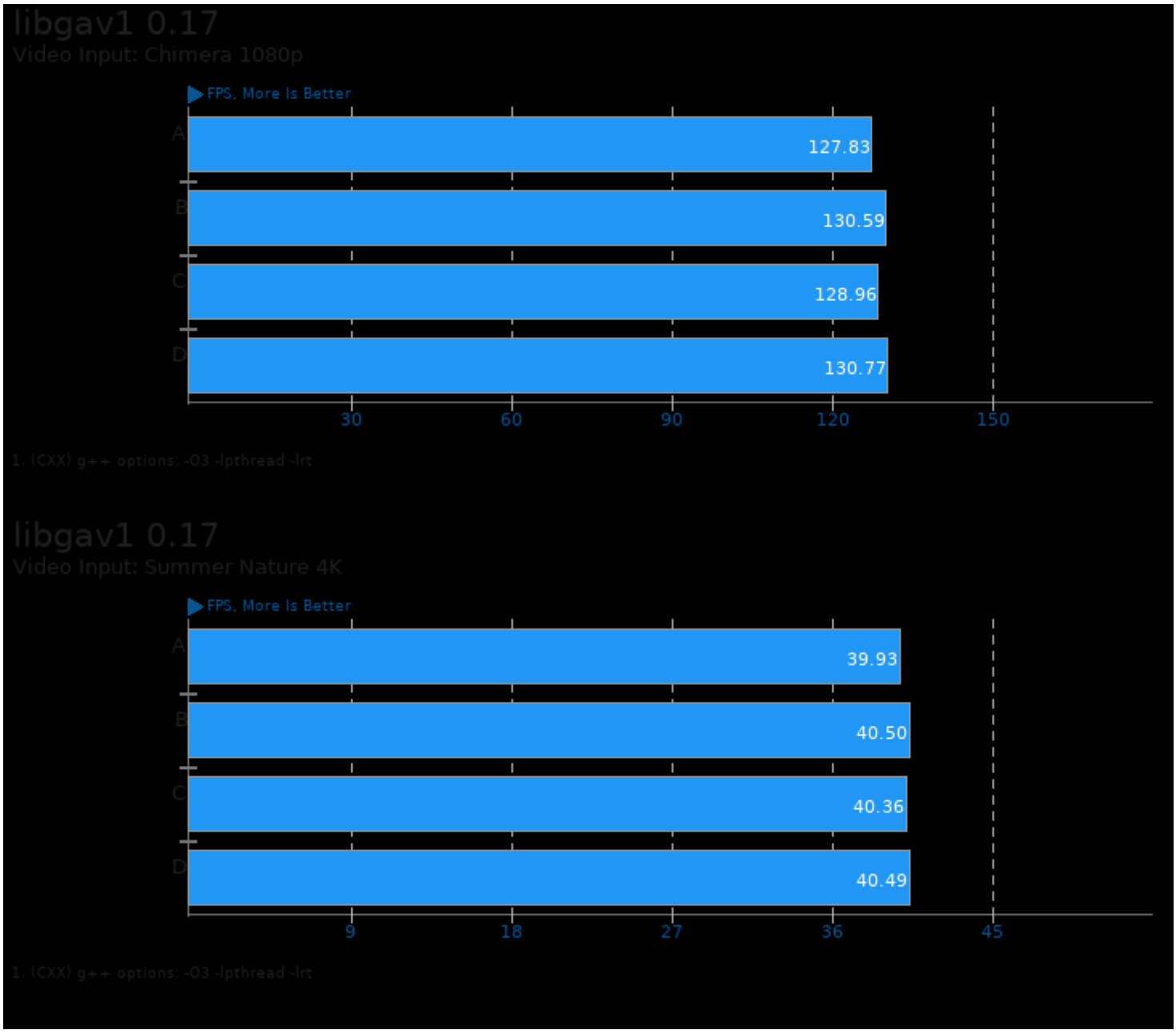

Glibc Benchmarks
Benchmark: sinh
ns, Fewer Is Better
A
B
C
D
36.54
36.55
36.54
36.54
8
16
24
32
40
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: sqrt
ns, Fewer Is Better
A
B
C
D
7.03595
7.03453
7.03516
7.03413
2
4
6
8
10
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

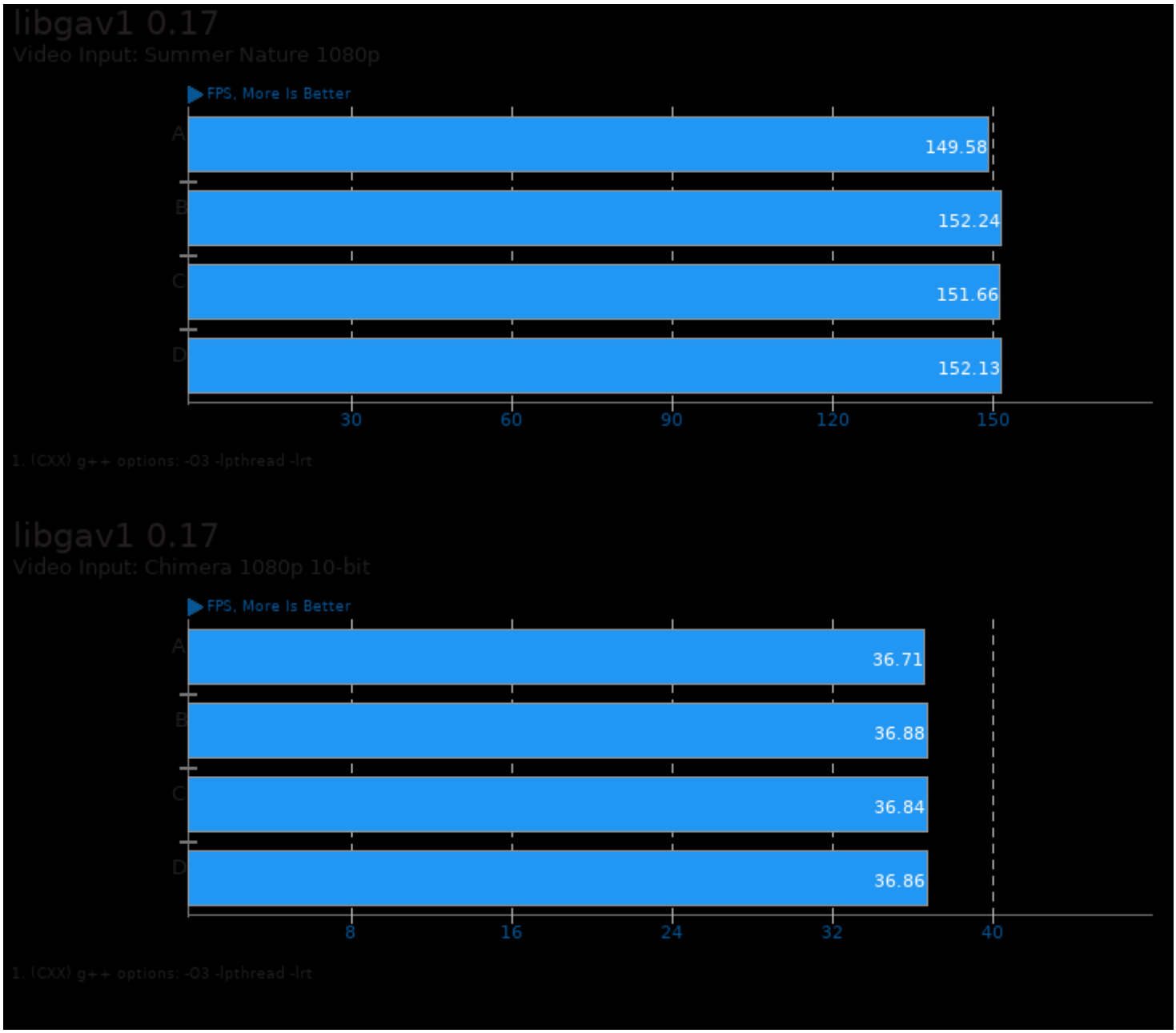

Glibc Benchmarks
Benchmark: tanh
ns, Fewer Is Better
A
B
C
D
51.11
51.11
51.12
51.11
12
24
36
48
60
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: asinh
ns, Fewer Is Better
A
B
C
D
39.35
39.50
39.58
39.52
9
18
27
36
45
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

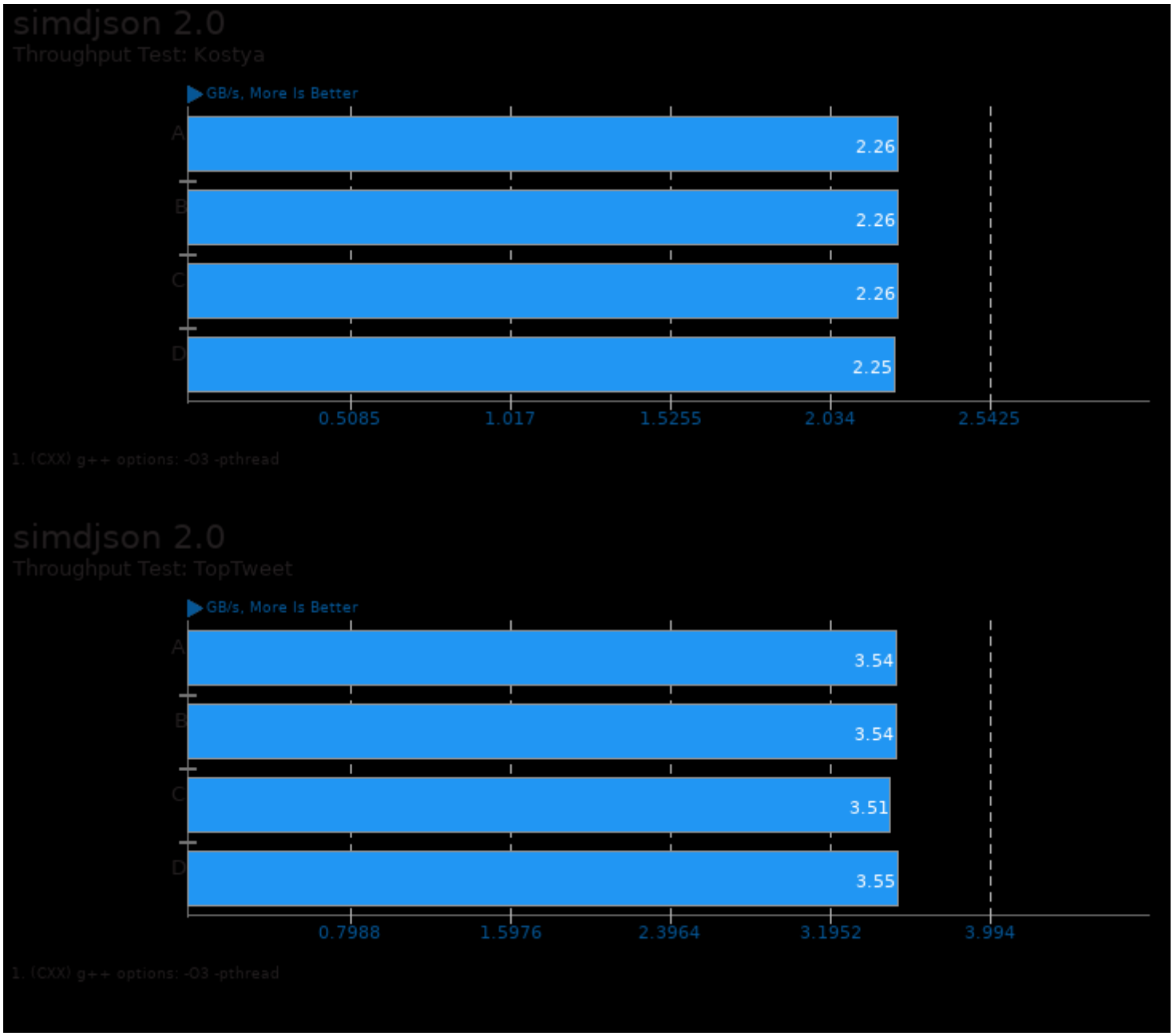

Glibc Benchmarks
Benchmark: atanh
ns, Fewer Is Better
A
47.15
B
47.15
C
47.16
D
47.16
11
22
33
44
55
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: ffsll
ns, Fewer Is Better
A
7.01873
B
7.01758
C
7.01795
D
7.01789
2
4
6
8
10
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s

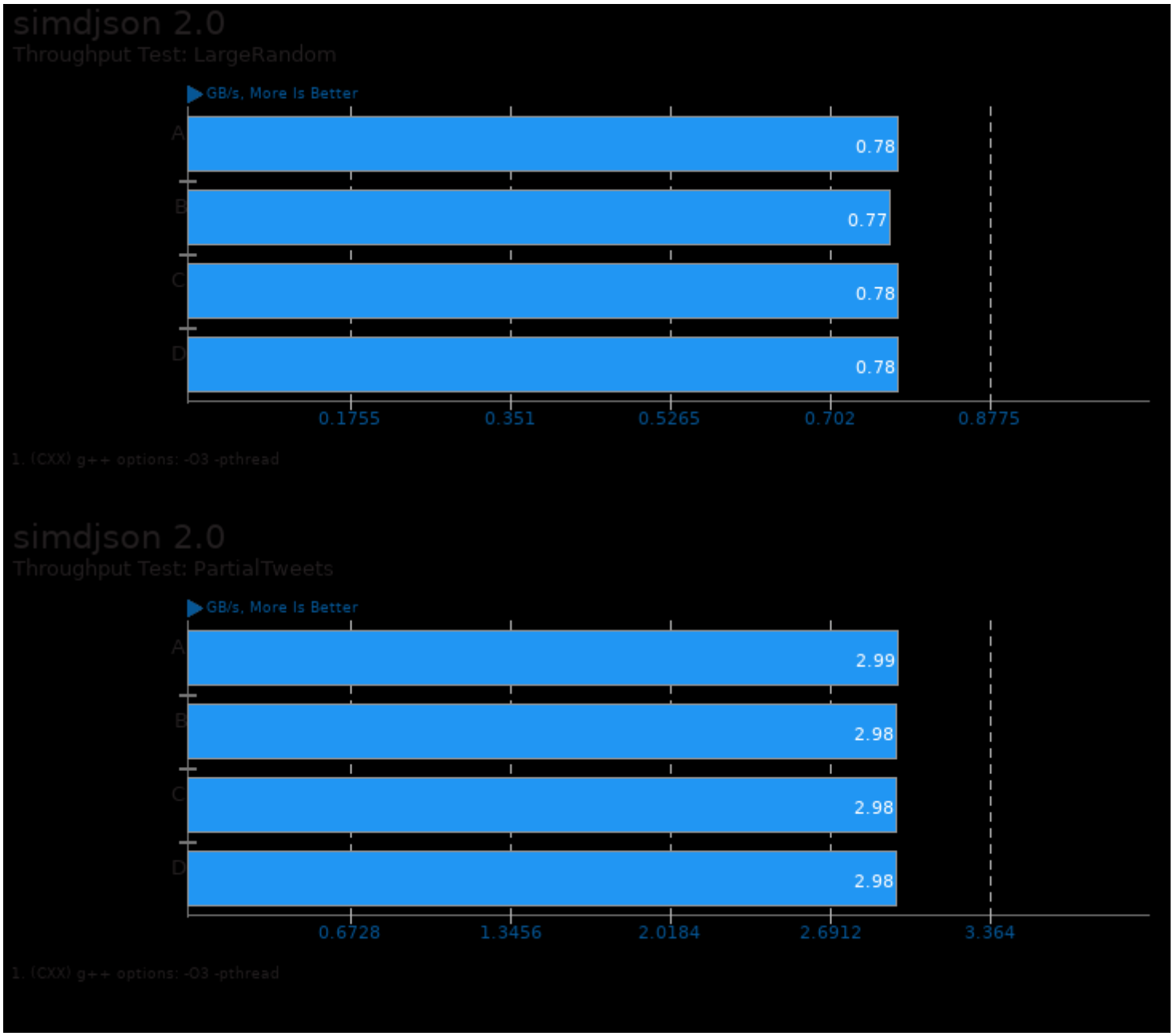

Glibc Benchmarks
Benchmark: sincos
ns, Fewer Is Better
A
B
C
D
57.81
59.71
57.84
57.83
13
26
39
52
65
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s
Glibc Benchmarks
Benchmark: pthread_once
ns, Fewer Is Better
A
B
C
D
7.01119
7.01721
7.01059
7.01646
2
4
6
8
10
1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc_s


Etcpak 1.0
Benchmark: Multi-Threaded - Configuration: ETC2
Mpx/s, More Is Better
A
B
C
D
700.20
699.83
700.22
697.19
150
300
450
600
750
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread
Etcpak 1.0
Benchmark: Single-Threaded - Configuration: ETC2
Mpx/s, More Is Better
A
B
C
D
187.15
187.15
187.07
186.94
40
80
120
160
200
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread


libgav1 0.17
Video Input: Chimera 1080p
FPS, More Is Better
A
127.83
B
130.59
C
128.96
D
130.77
30
60
90
120
150
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.17
Video Input: Summer Nature 4K
FPS, More Is Better
A
39.93
B
40.50
C
40.36
D
40.49
9
18
27
36
45
1. (CXX) g++ options: -O3 -lpthread -lrt

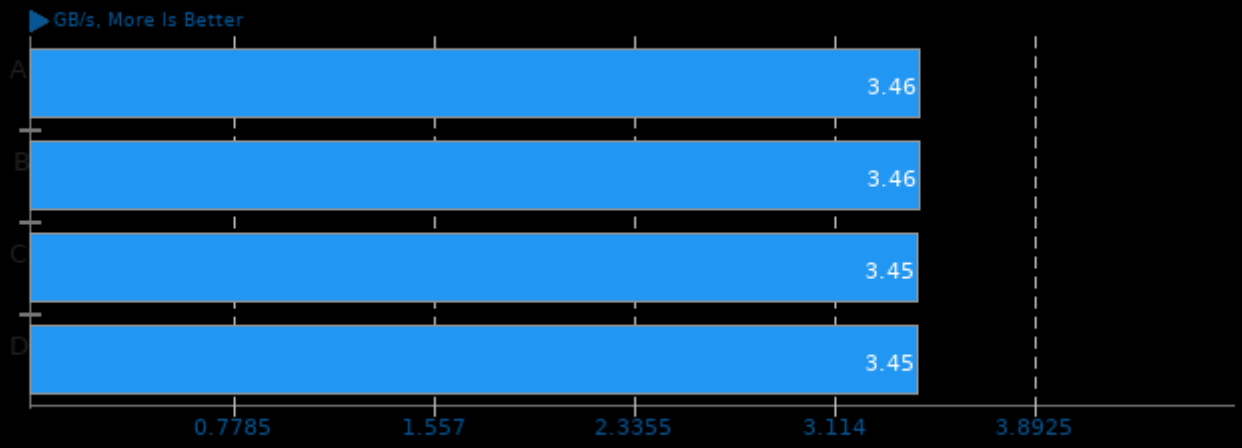

libgav1 0.17
Video Input: Summer Nature 1080p
FPS, More Is Better
A
149.58
B
152.24
C
151.66
D
152.13
30
60
90
120
150
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.17
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
A
36.71
B
36.88
C
36.84
D
36.86
8
16
24
32
40
1. (CXX) g++ options: -O3 -lpthread -lrt


simdjson 2.0
Throughput Test: Kostya
GB/s, More Is Better
A
B
C
D
2.26
2.26
2.26
2.25
0.5085
1.017
1.5255
2.034
2.5425
1. (CXX) g++ options: -O3 -pthread
simdjson 2.0
Throughput Test: TopTweet
GB/s, More Is Better
A
B
C
D
3.54
3.54
3.51
3.55
0.7988
1.5976
2.3964
3.1952
3.994
1. (CXX) g++ options: -O3 -pthread


simdjson 2.0
Throughput Test: LargeRandom
GB/s, More Is Better
A
B
C
D
0.78
0.77
0.78
0.78
0.1755
0.351
0.5265
0.702
0.8775
1. (CXX) g++ options: -O3 -pthread
simdjson 2.0
Throughput Test: PartialTweets
GB/s, More Is Better
A
B
C
D
2.99
2.98
2.98
2.98
0.6728
1.3456
2.0184
2.6912
3.364
1. (CXX) g++ options: -O3 -pthread

simdjson 2.0

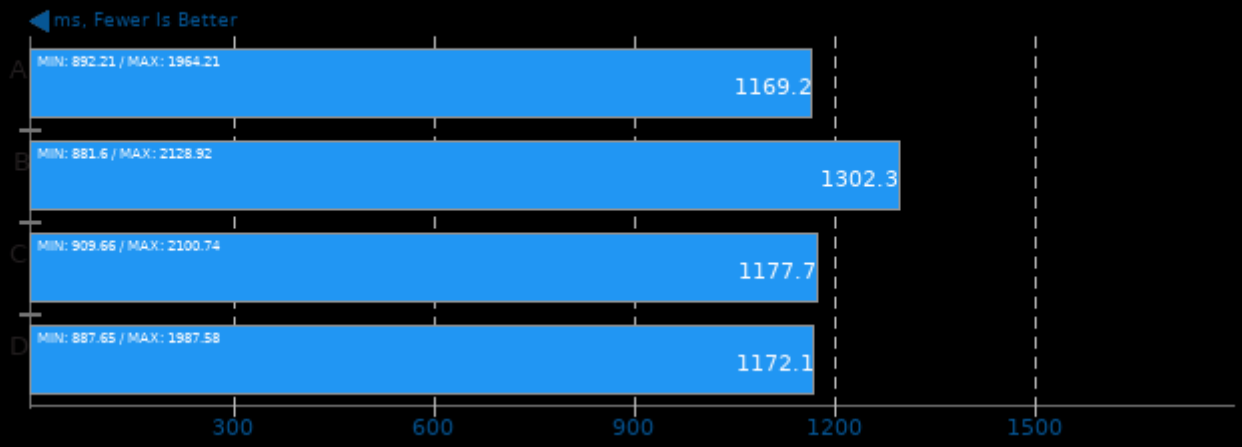
Throughput Test: DistinctUserID



1. (CXX) g++ options: -O3 -pthread

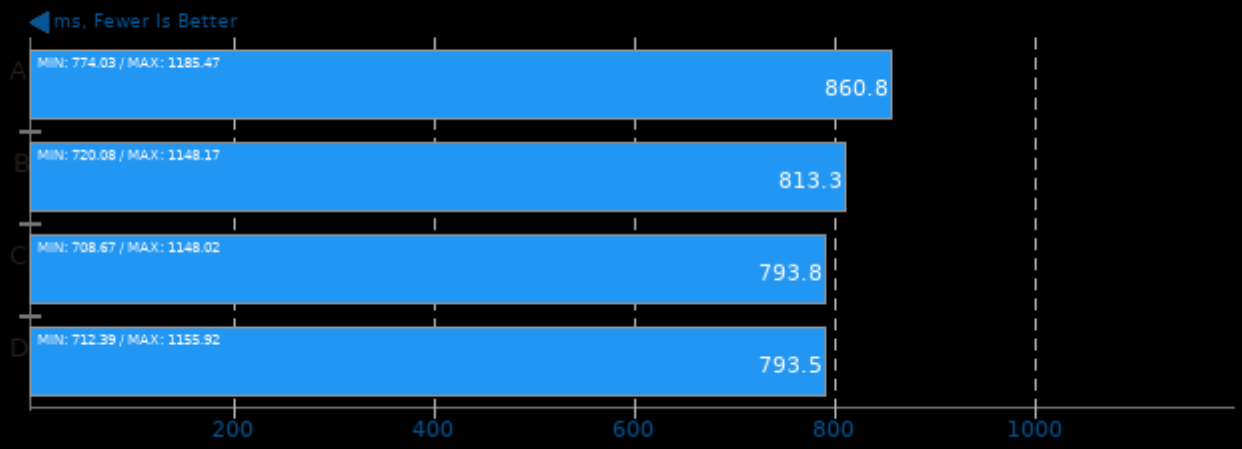
Renaissance 0.14

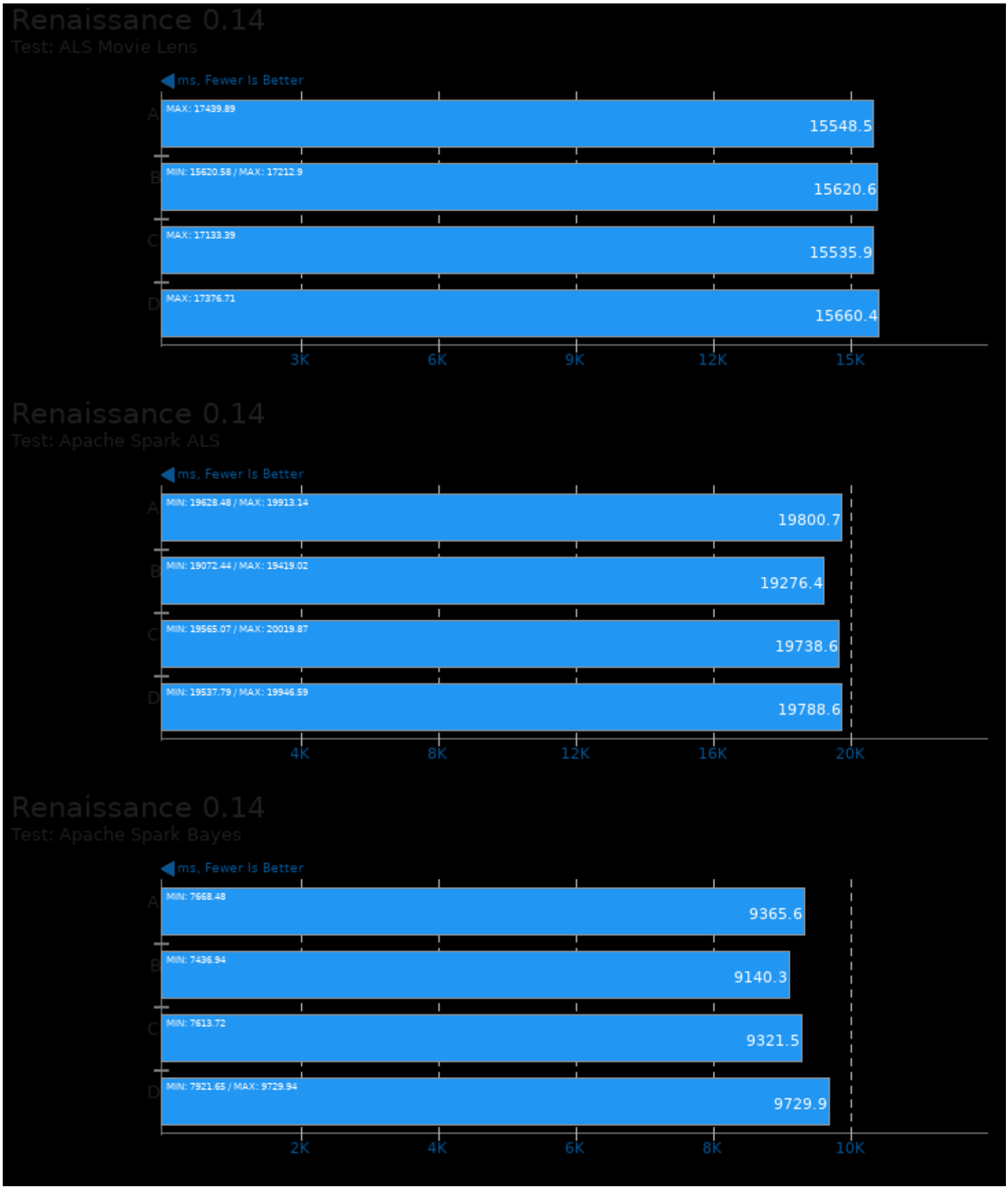
Test: Scala Dotty

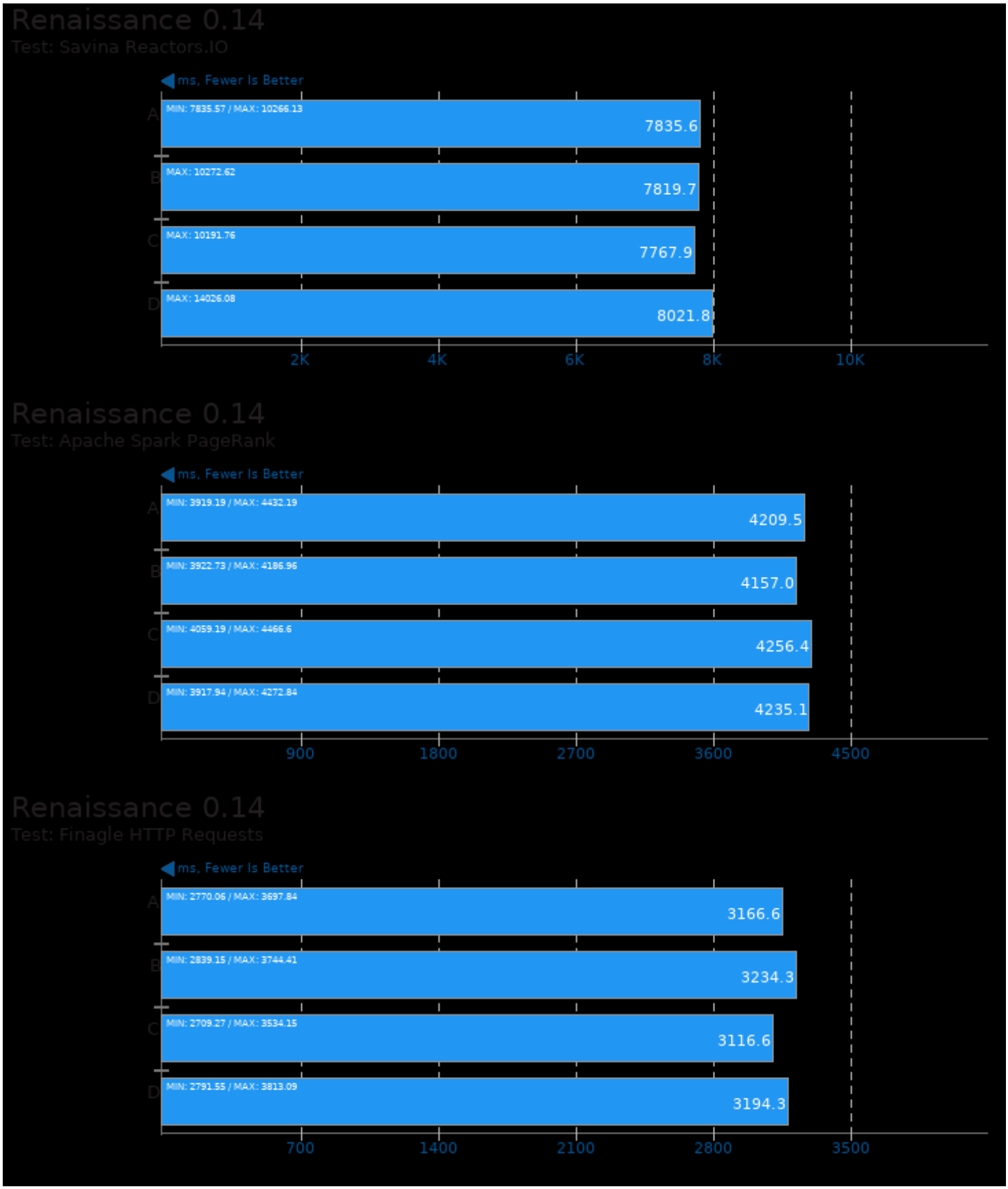


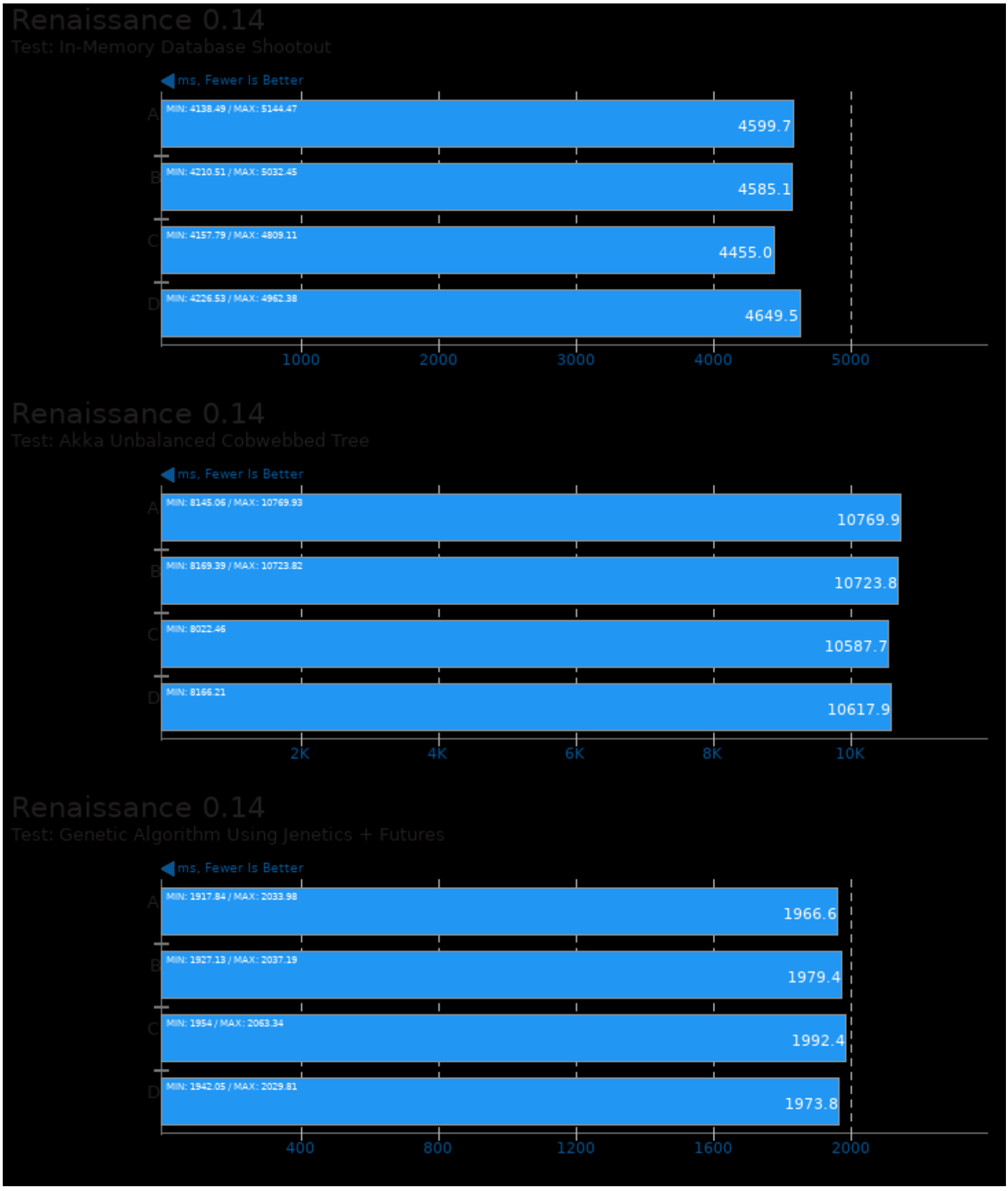
Renaissance 0.14

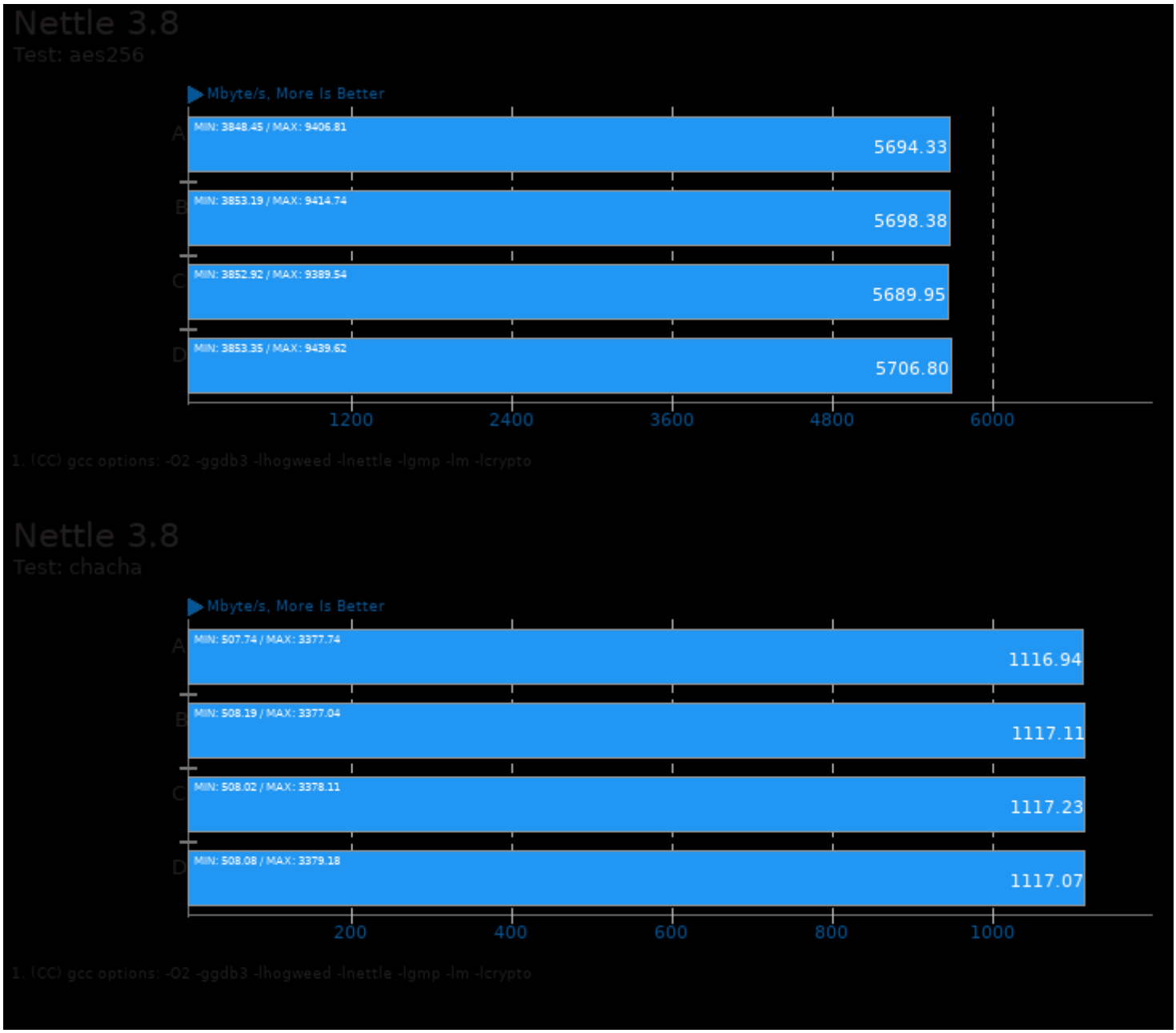
Test: Random Forest

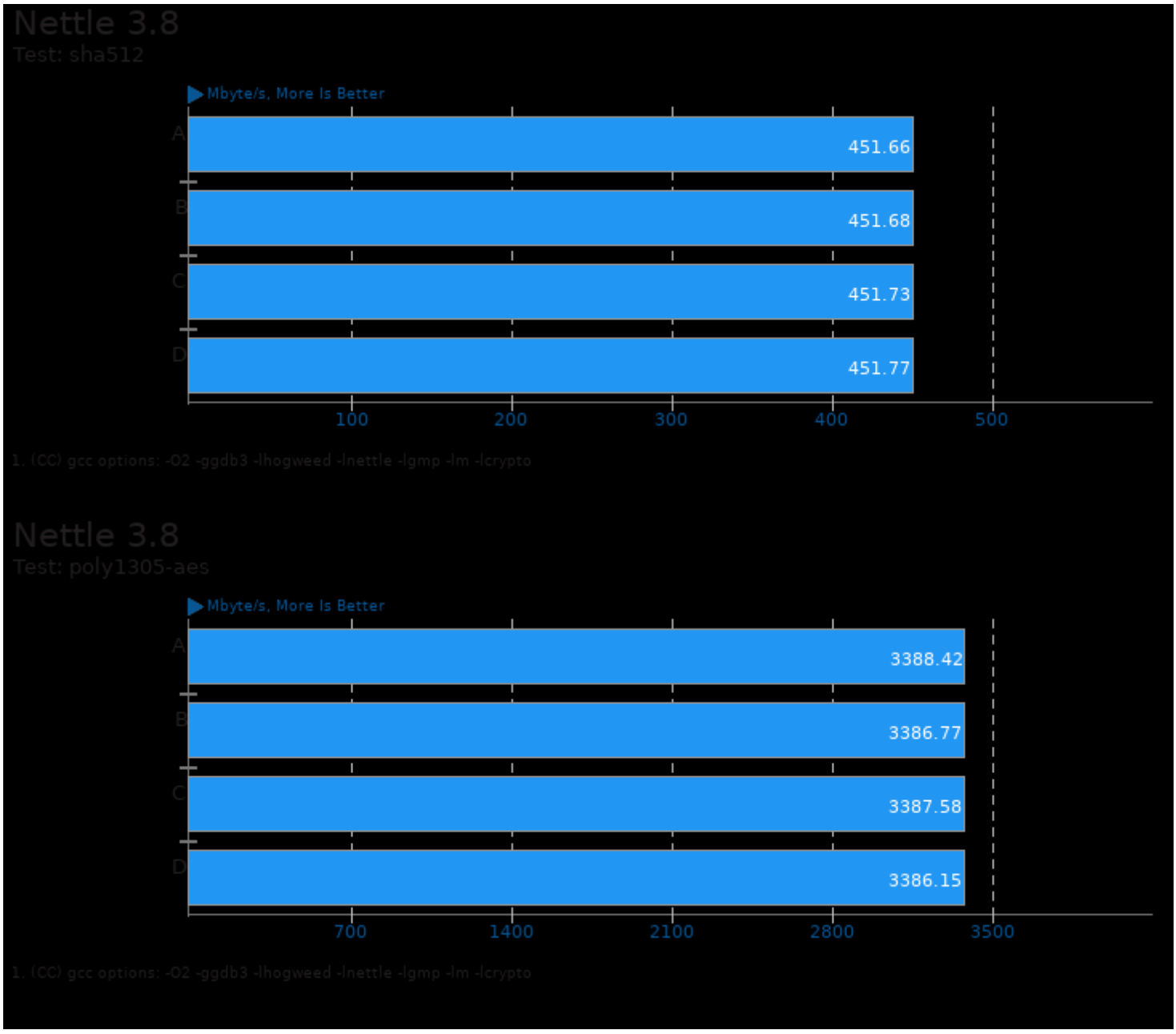


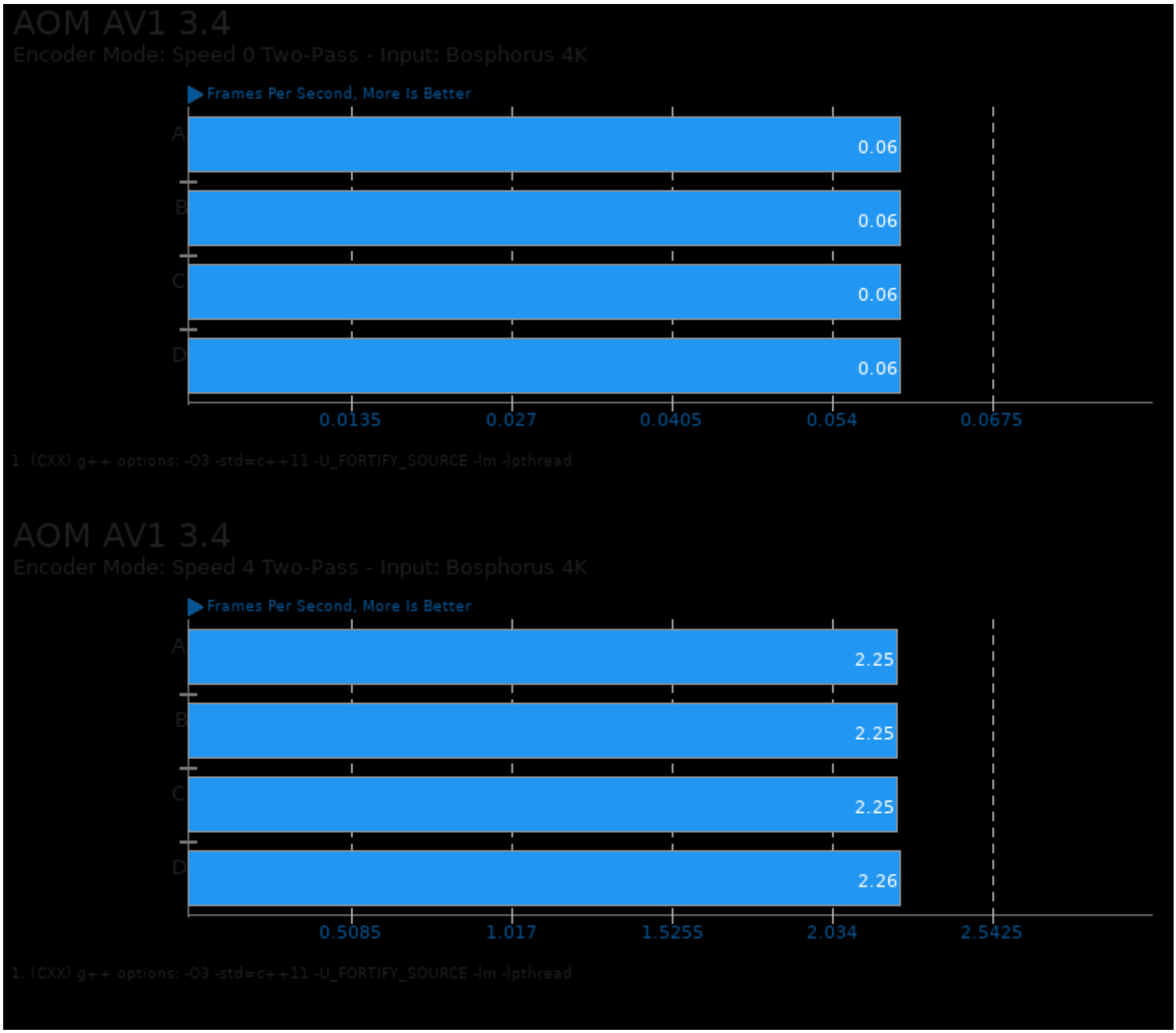

Renaissance 0.14
Test: ALS Movie Lens
ms, Fewer Is Better
A
MAX: 17439.89
15548.5
B
MIN: 15620.58 / MAX: 17212.9
15620.6
C
MAX: 17133.39
15535.9
D
MAX: 17376.71
15660.4
3K
6K
9K
12K
15K
Renaissance 0.14
Test: Apache Spark ALS
ms, Fewer Is Better
A
MIN: 19628.48 / MAX: 19913.14
19800.7
B
MIN: 19072.44 / MAX: 19419.02
19276.4
C
MIN: 19565.07 / MAX: 20019.87
19738.6
D
MIN: 19537.79 / MAX: 19946.59
19788.6
4K
8K
12K
16K
20K
Renaissance 0.14
Test: Apache Spark Bayes
ms, Fewer Is Better
A
MIN: 7668.48
9365.6
B
MIN: 7436.94
9140.3
C
MIN: 7613.72
9321.5
D
MIN: 7921.65 / MAX: 9729.94
9729.9
2K
4K
6K
8K
10K

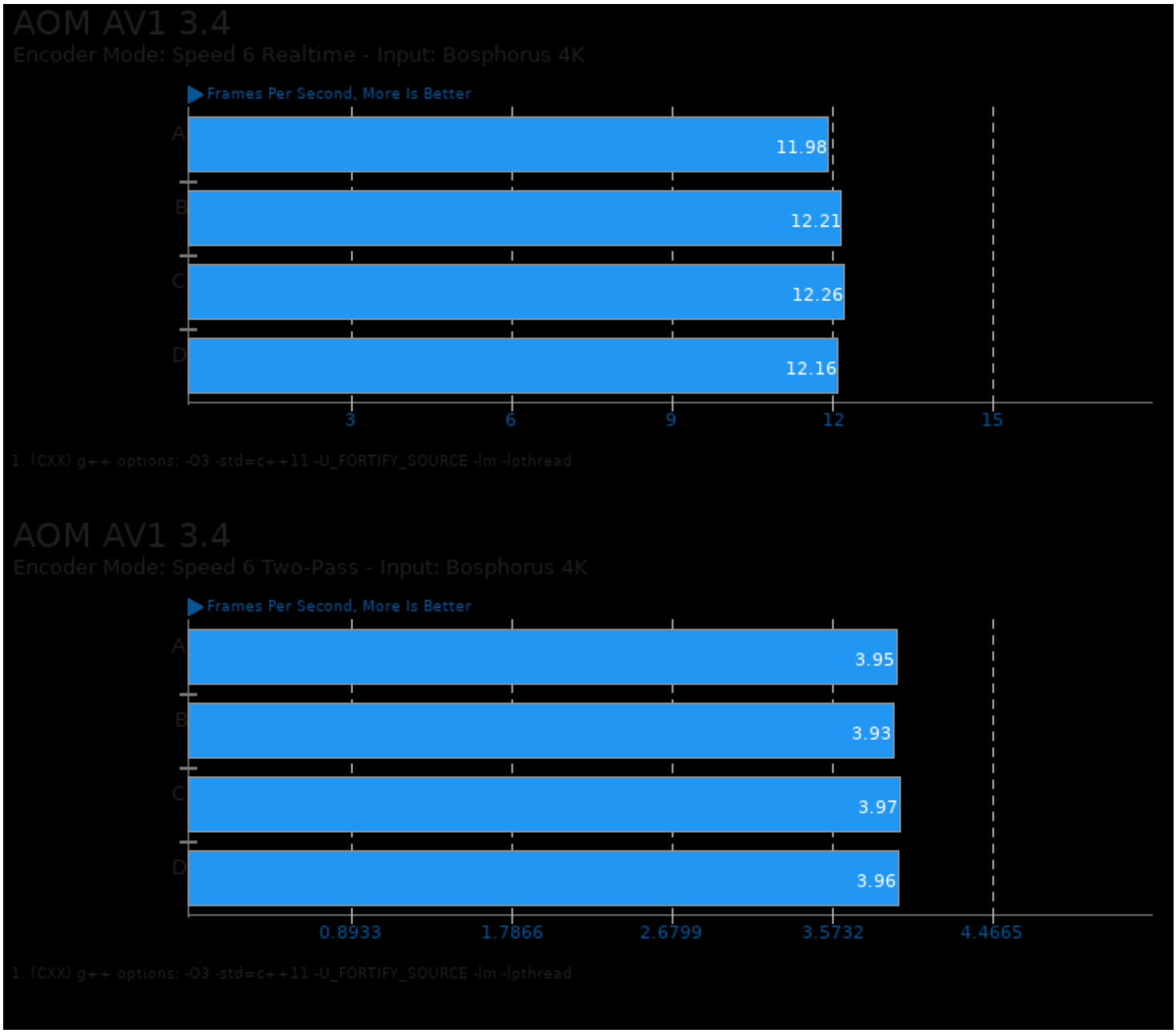

Renaissance 0.14
Test: Savina Reactors.IO
ms, Fewer Is Better
A
MIN: 7835.57 / MAX: 10266.13
7835.6
B
MAX: 10272.62
7819.7
C
MAX: 10191.76
7767.9
D
MAX: 14026.08
8021.8
2K
4K
6K
8K
10K
Renaissance 0.14
Test: Apache Spark PageRank
ms, Fewer Is Better
A
MIN: 3919.19 / MAX: 4432.19
4209.5
B
MIN: 3922.73 / MAX: 4186.96
4157.0
C
MIN: 4059.19 / MAX: 4466.6
4256.4
D
MIN: 3917.94 / MAX: 4272.84
4235.1
900
1800
2700
3600
4500
Renaissance 0.14
Test: Finagle HTTP Requests
ms, Fewer Is Better
A
MIN: 2770.06 / MAX: 3697.84
3166.6
B
MIN: 2839.15 / MAX: 3744.41
3234.3
C
MIN: 2709.27 / MAX: 3534.15
3116.6
D
MIN: 2791.55 / MAX: 3813.09
3194.3
700
1400
2100
2800
3500

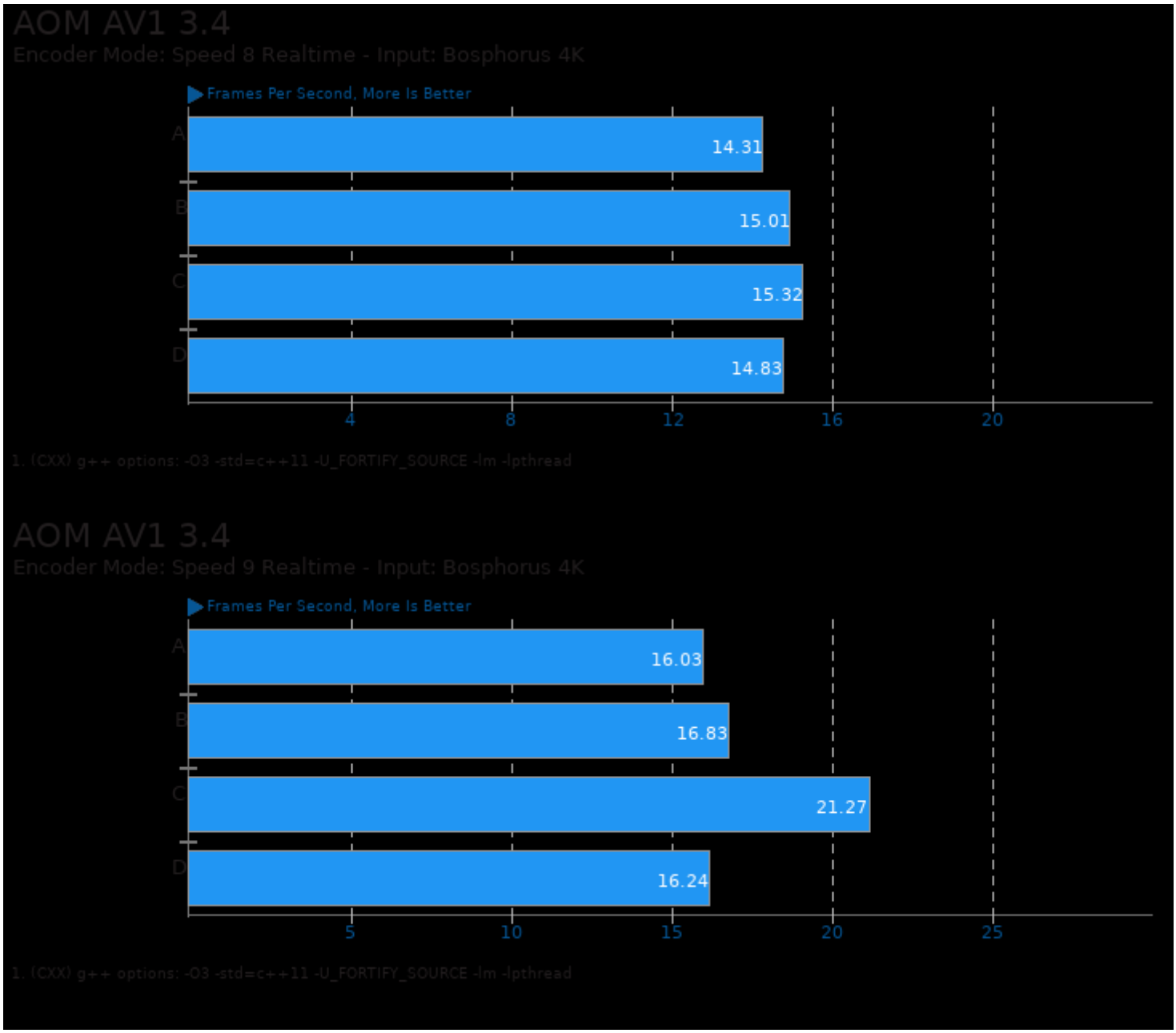

Renaissance 0.14
Test: In-Memory Database Shootout
ms, Fewer Is Better
A
MIN: 4138.49 / MAX: 5144.47
4599.7
B
MIN: 4210.51 / MAX: 5032.45
4585.1
C
MIN: 4157.79 / MAX: 4809.11
4455.0
D
MIN: 4226.53 / MAX: 4962.38
4649.5
1000
2000
3000
4000
5000
Renaissance 0.14
Test: Akka Unbalanced Cobwebbed Tree
ms, Fewer Is Better
A
MIN: 8145.06 / MAX: 10769.93
10769.9
B
MIN: 8169.39 / MAX: 10723.82
10723.8
C
MIN: 8022.46
10587.7
D
MIN: 8166.21
10617.9
2K
4K
6K
8K
10K
Renaissance 0.14
Test: Genetic Algorithm Using Jenetics + Futures
ms, Fewer Is Better
A
MIN: 1917.84 / MAX: 2033.98
1966.6
B
MIN: 1927.13 / MAX: 2037.19
1979.4
C
MIN: 1954 / MAX: 2063.34
1992.4
D
MIN: 1942.05 / MAX: 2029.81
1973.8
400
800
1200
1600
2000

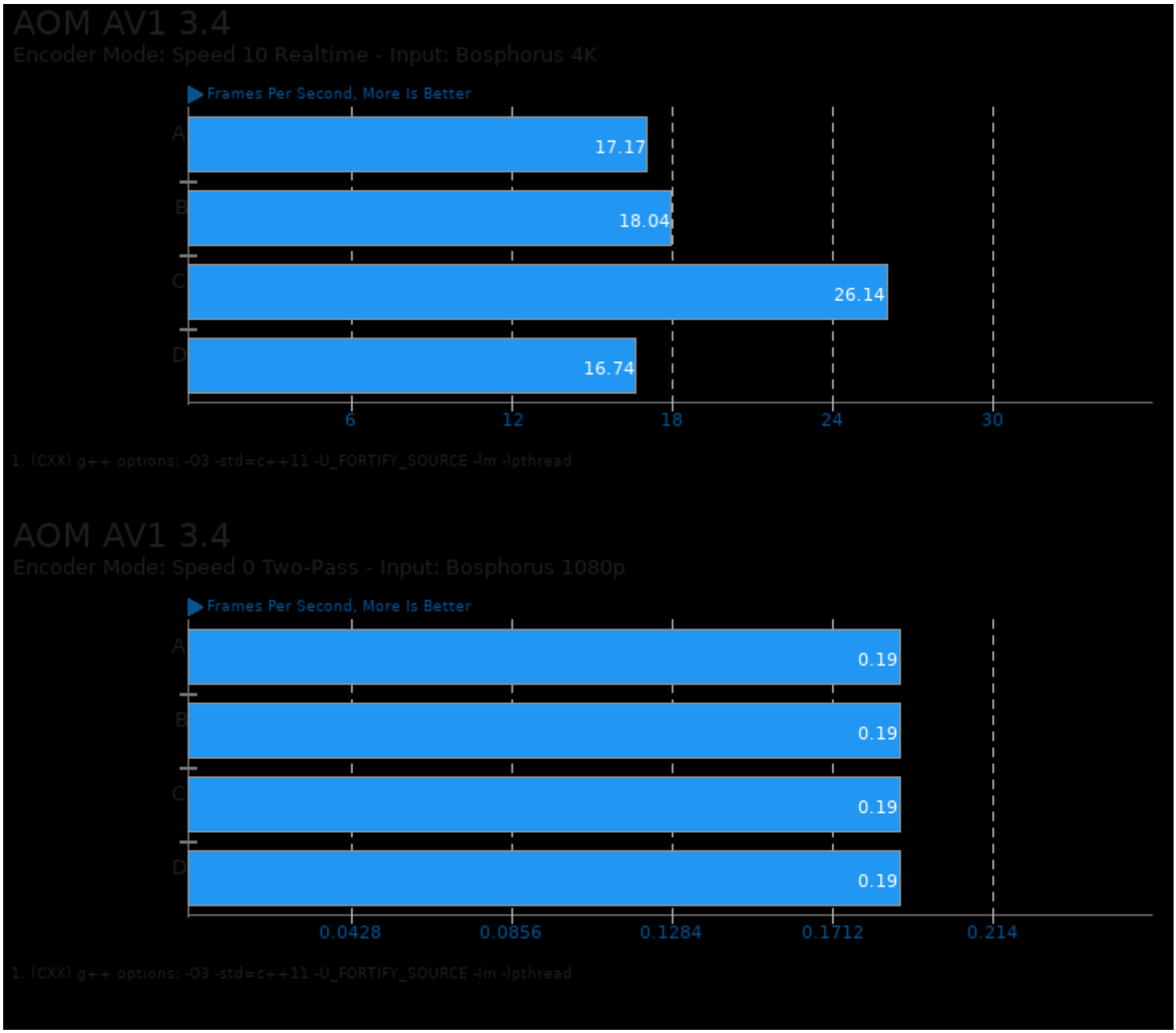

Nettle 3.8
Test: aes256
Mbyte/s, More Is Better
A
MIN: 3848.45 / MAX: 9406.81
5694.33
B
MIN: 3853.19 / MAX: 9414.74
5698.38
C
MIN: 3852.92 / MAX: 9389.54
5689.95
D
MIN: 3853.35 / MAX: 9439.62
5706.80
1200
2400
3600
4800
6000
1. (CC) gcc options: -O2 -ggdb3 -lhogweed -lnettle -lgmp -lm -lcrypto
Nettle 3.8
Test: chacha
Mbyte/s, More Is Better
A
MIN: 507.74 / MAX: 3377.74
1116.94
B
MIN: 508.19 / MAX: 3377.04
1117.11
C
MIN: 508.02 / MAX: 3378.11
1117.23
D
MIN: 508.08 / MAX: 3379.18
1117.07
200
400
600
800
1000
1. (CC) gcc options: -O2 -ggdb3 -lhogweed -lnettle -lgmp -lm -lcrypto

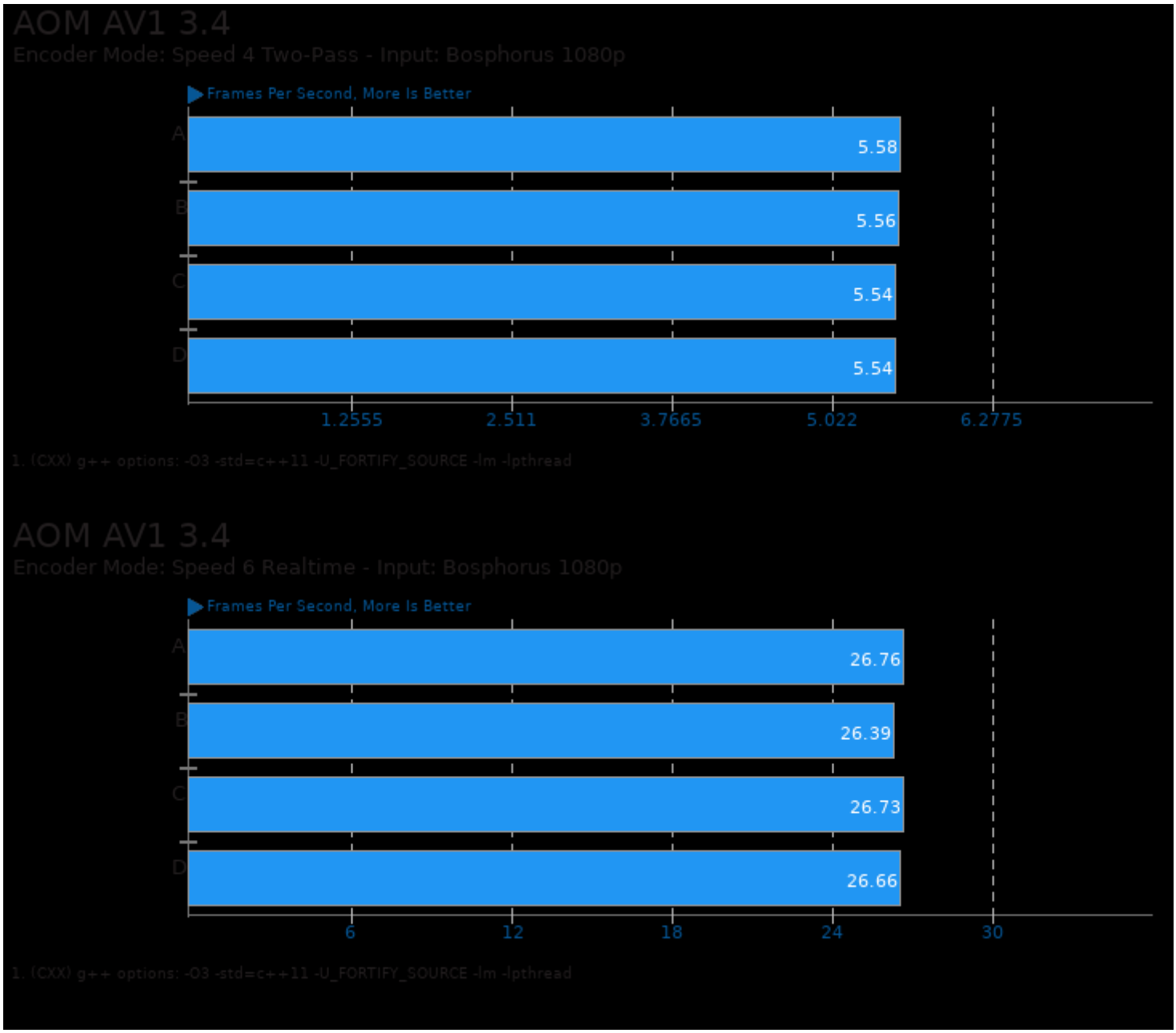

Nettle 3.8
Test: sha512
Mbyte/s, More Is Better
A
B
C
D
451.66
451.68
451.73
451.77
100
200
300
400
500
1. (CC) gcc options: -O2 -ggdb3 -lhogweed -lnettle -lgmp -lm -lcrypto
Nettle 3.8
Test: poly1305-aes
Mbyte/s, More Is Better
A
B
C
D
3388.42
3386.77
3387.58
3386.15
700
1400
2100
2800
3500
1. (CC) gcc options: -O2 -ggdb3 -lhogweed -lnettle -lgmp -lm -lcrypto

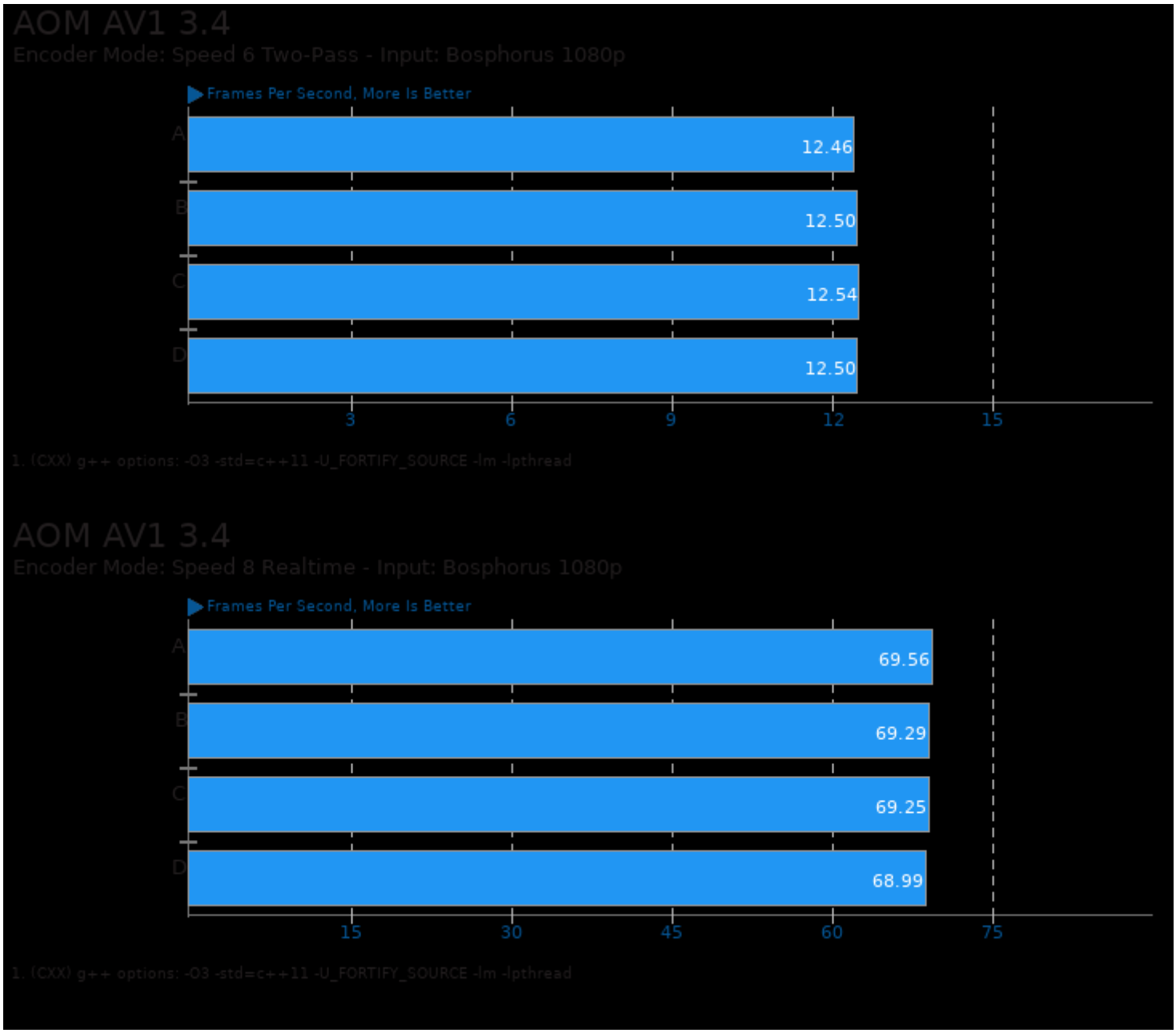

AOM AV1 3.4
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
D
0.06
0.06
0.06
0.06
0.0135
0.027
0.0405
0.054
0.0675
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
D
2.25
2.25
2.25
2.26
0.5085
1.017
1.5255
2.034
2.5425
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

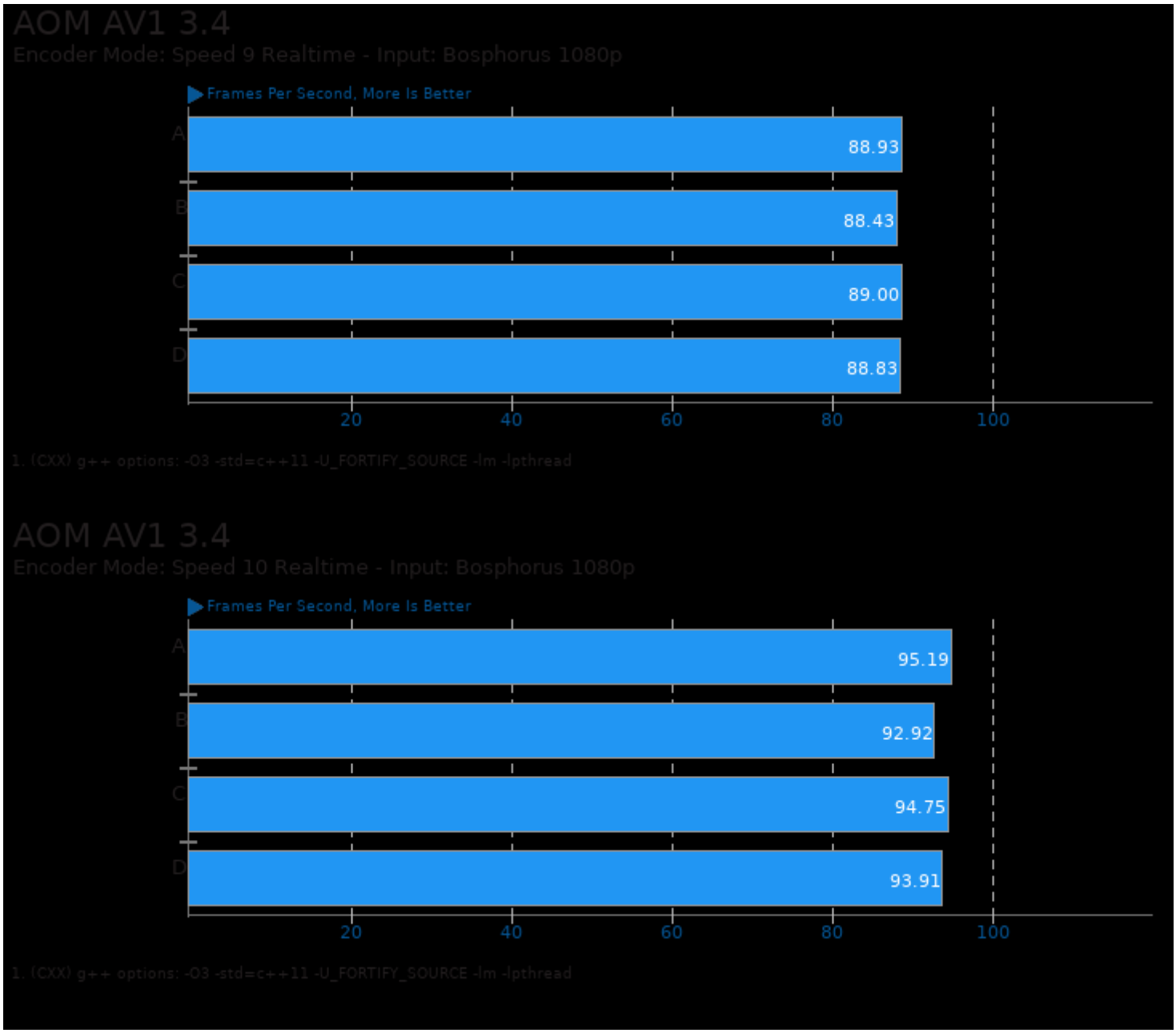

AOM AV1 3.4
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
D
11.98
12.21
12.26
12.16
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
D
3.95
3.93
3.97
3.96
0.8933
1.7866
2.6799
3.5732
4.4665
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

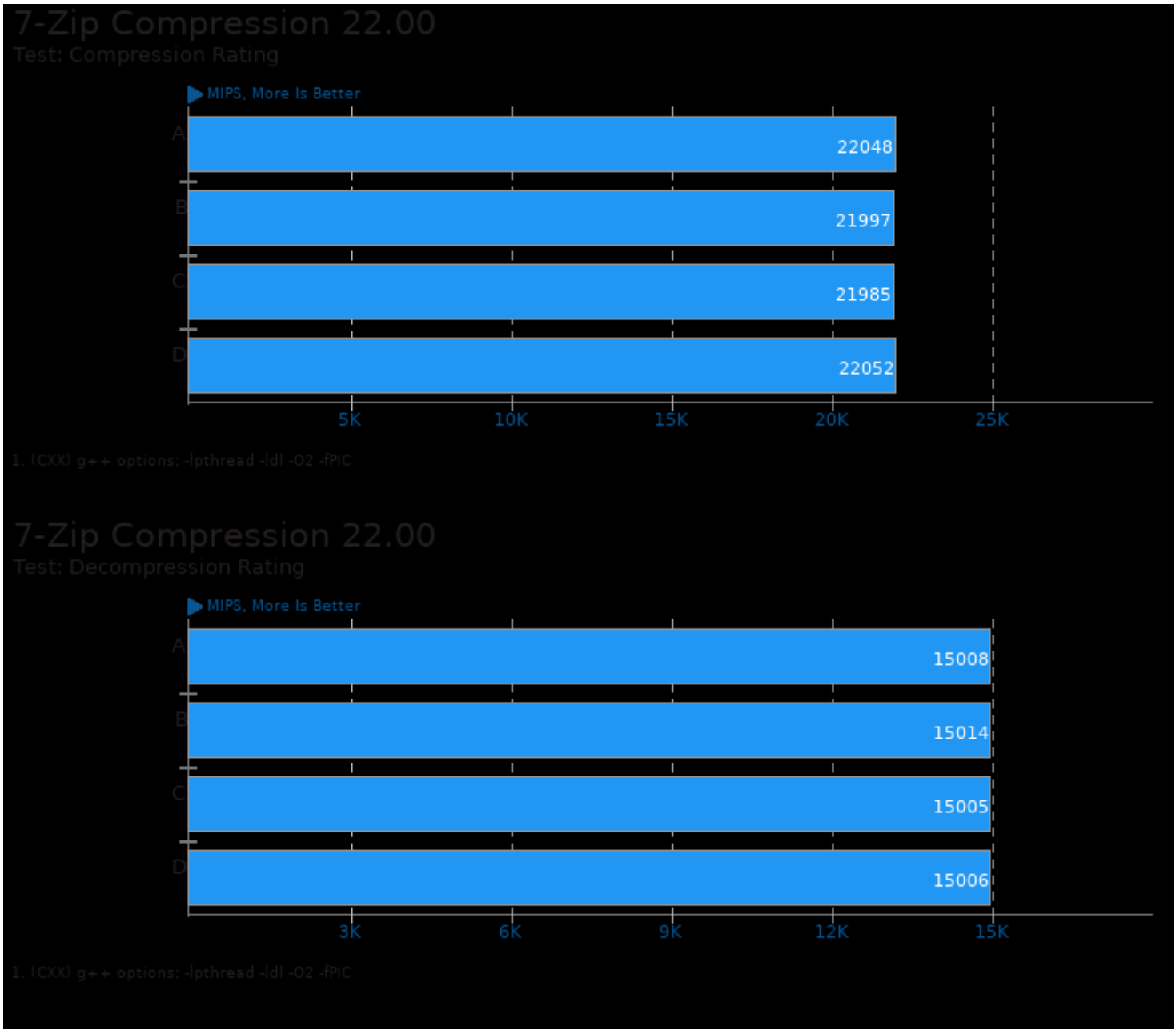

AOM AV1 3.4
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
14.31
B
15.01
C
15.32
D
14.83
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
16.03
B
16.83
C
21.27
D
16.24
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

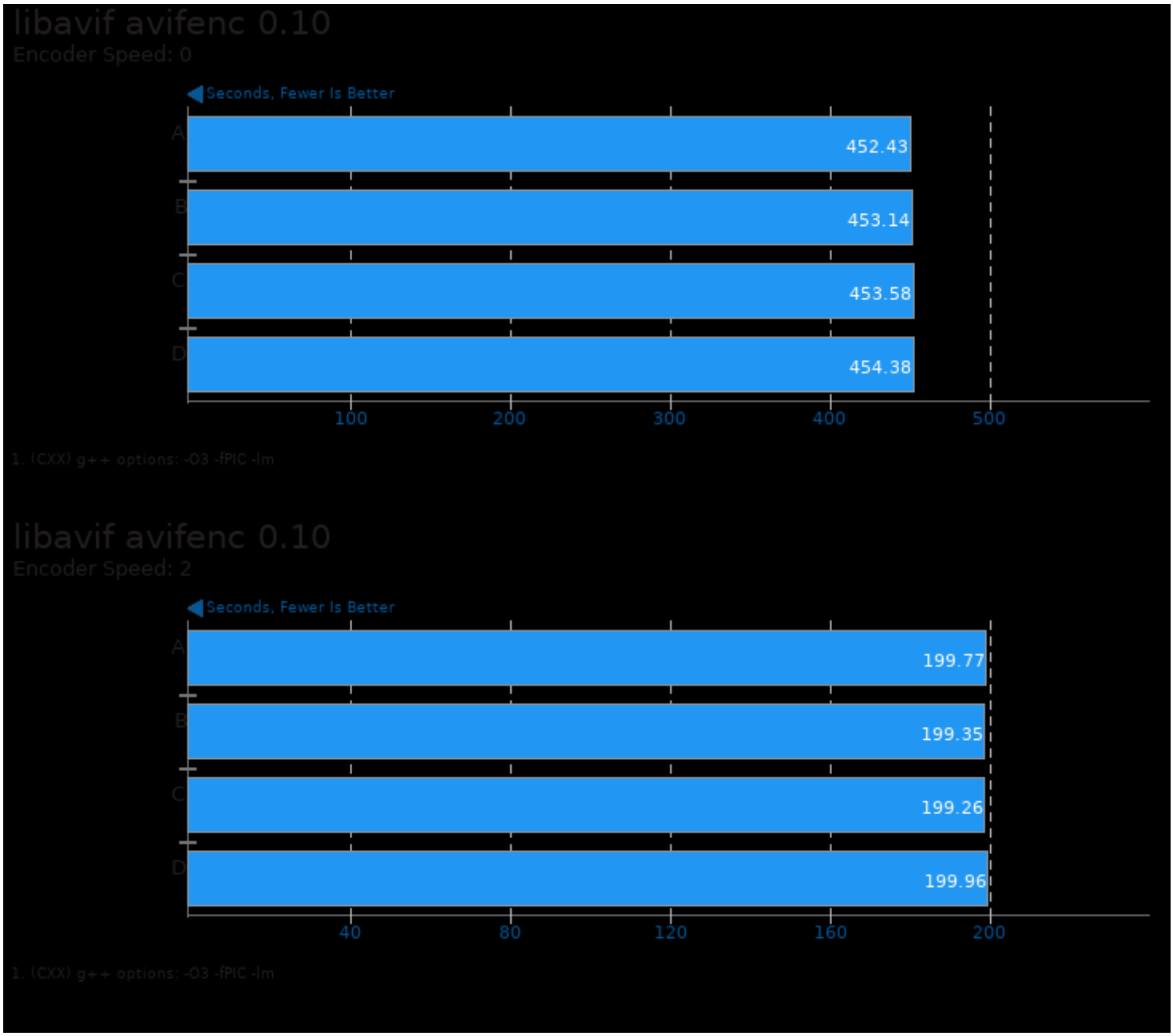

AOM AV1 3.4
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
17.17
B
18.04
C
26.14
D
16.74
6
12
18
24
30
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
0.19
B
0.19
C
0.19
D
0.19
0.0428
0.0856
0.1284
0.1712
0.214
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

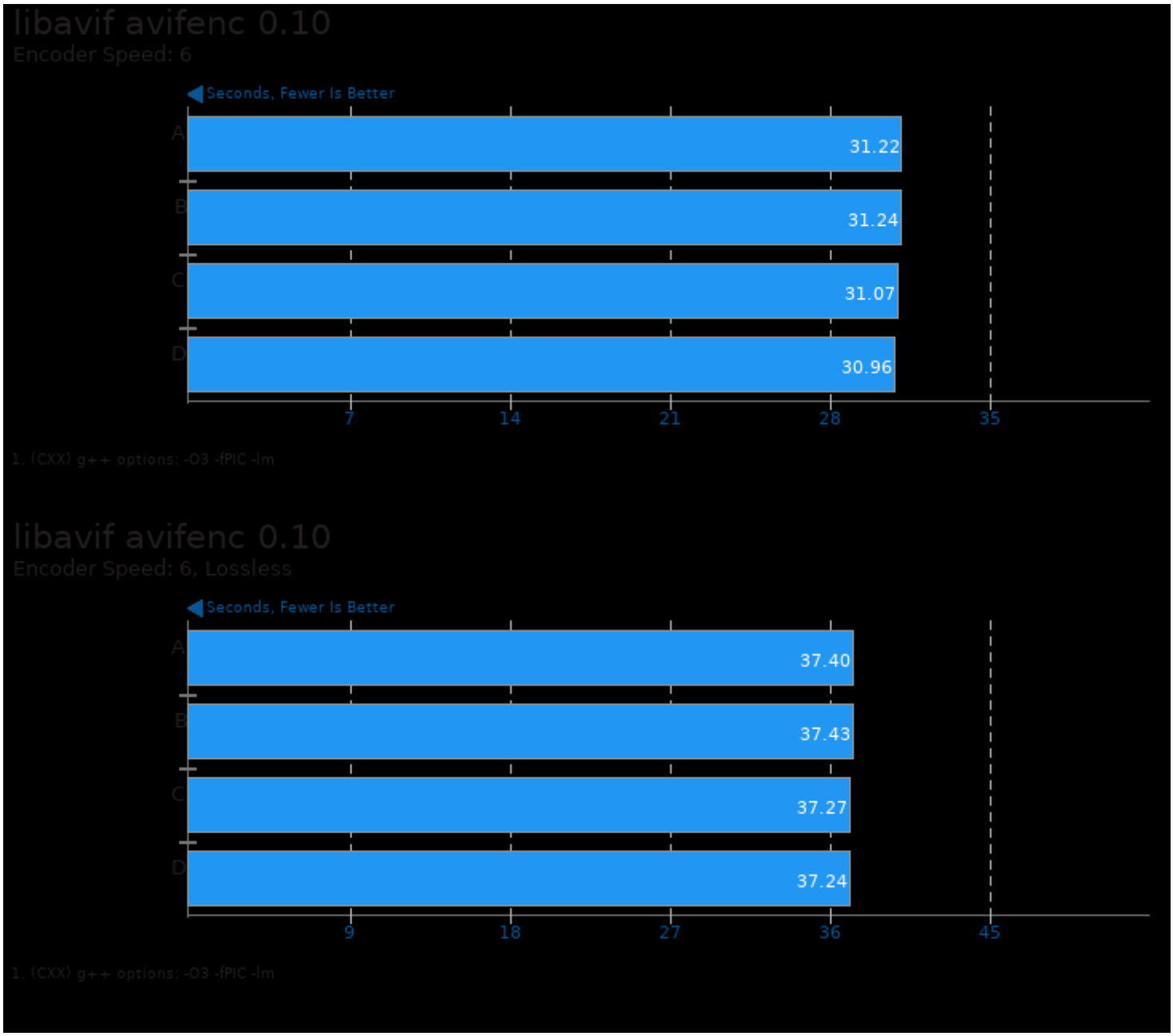

AOM AV1 3.4
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
D
5.58
5.56
5.54
5.54
1.2555
2.511
3.7665
5.022
6.2775
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
D
26.76
26.39
26.73
26.66
6
12
18
24
30
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.4
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
D
12.46
12.50
12.54
12.50
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
D
69.56
69.29
69.25
68.99
15
30
45
60
75
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.4
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
D
88.93
88.43
89.00
88.83
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.4
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
D
95.19
92.92
94.75
93.91
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

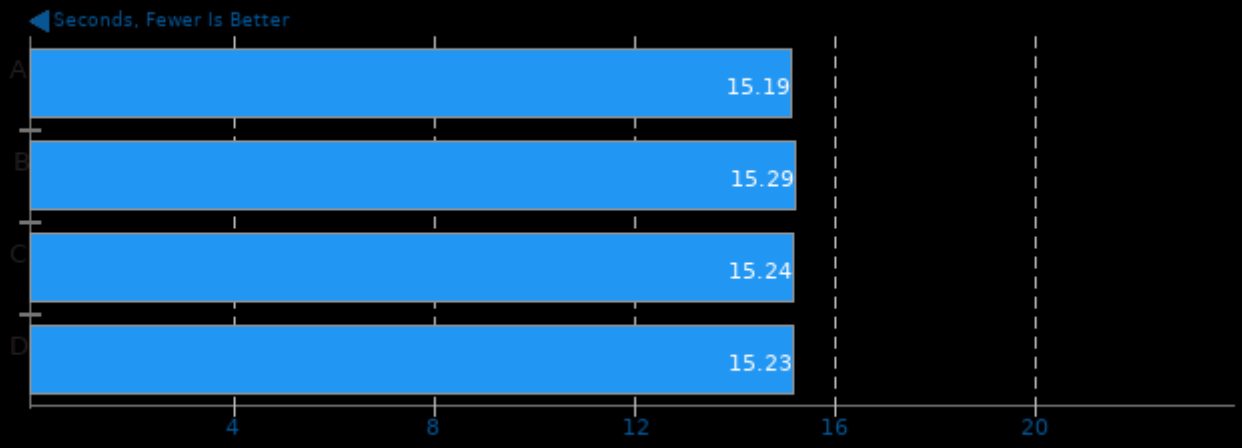

7-Zip Compression 22.00
Test: Compression Rating
MIPS, More Is Better
A
B
C
D
22048
21997
21985
22052
5K
10K
15K
20K
25K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
7-Zip Compression 22.00
Test: Decompression Rating
MIPS, More Is Better
A
B
C
D
15008
15014
15005
15006
3K
6K
9K
12K
15K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC


libavif avifenc 0.10
Encoder Speed: 0
Seconds, Fewer Is Better
A
B
C
D
452.43
453.14
453.58
454.38
100
200
300
400
500
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.10
Encoder Speed: 2
Seconds, Fewer Is Better
A
B
C
D
199.77
199.35
199.26
199.96
40
80
120
160
200
1. (CXX) g++ options: -O3 -fPIC -lm


libavif avifenc 0.10
Encoder Speed: 6
Seconds, Fewer Is Better
A
B
C
D
31.22
31.24
31.07
30.96
7
14
21
28
35
1. (CXX) g++ options: -O3 -fPIC -lm
libavif avifenc 0.10
Encoder Speed: 6, Lossless
Seconds, Fewer Is Better
A
B
C
D
37.40
37.43
37.27
37.24
9
18
27
36
45
1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.10

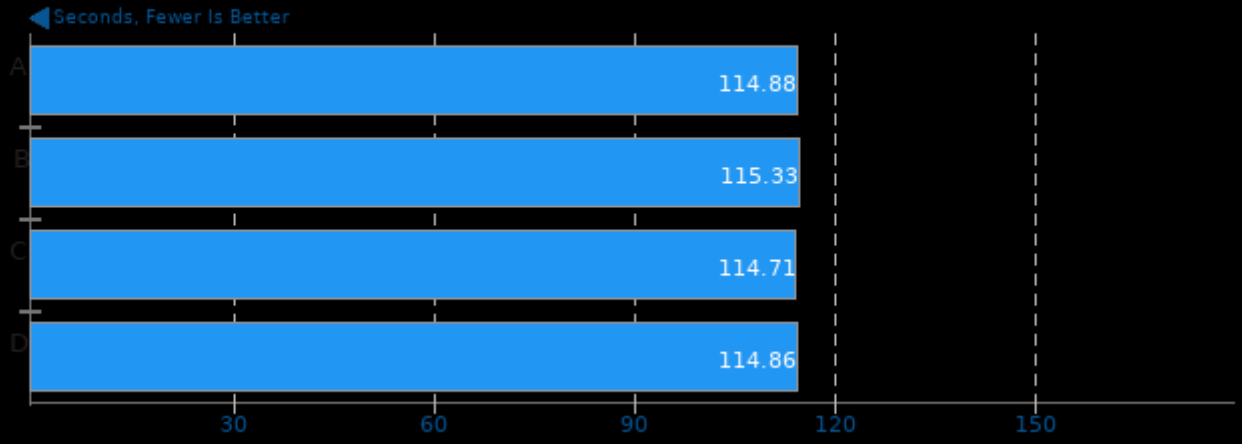
Encoder Speed: 10, Lossless



1. (CXX) g++ options: -O3 -fPIC -lm

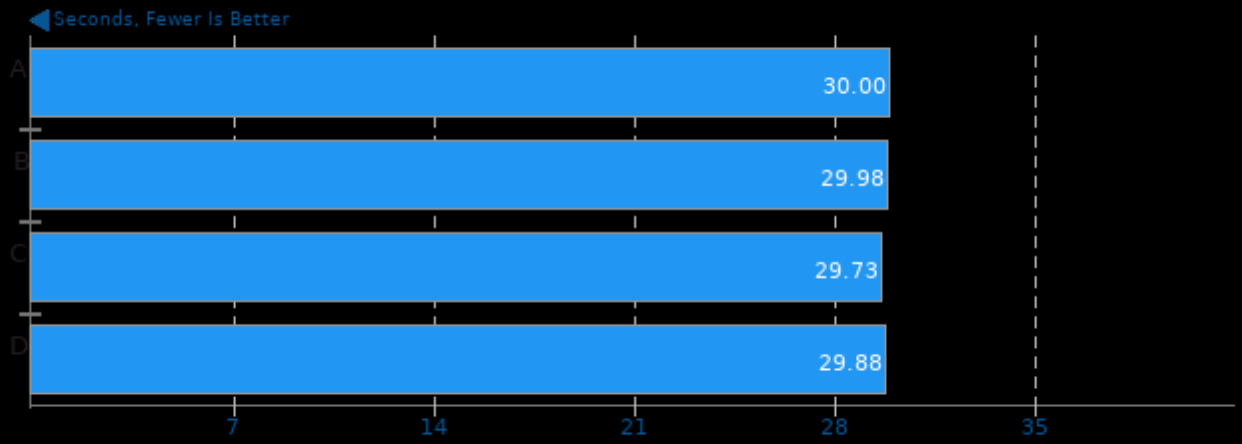
Timed MPlayer Compilation 1.5

Time To Compile

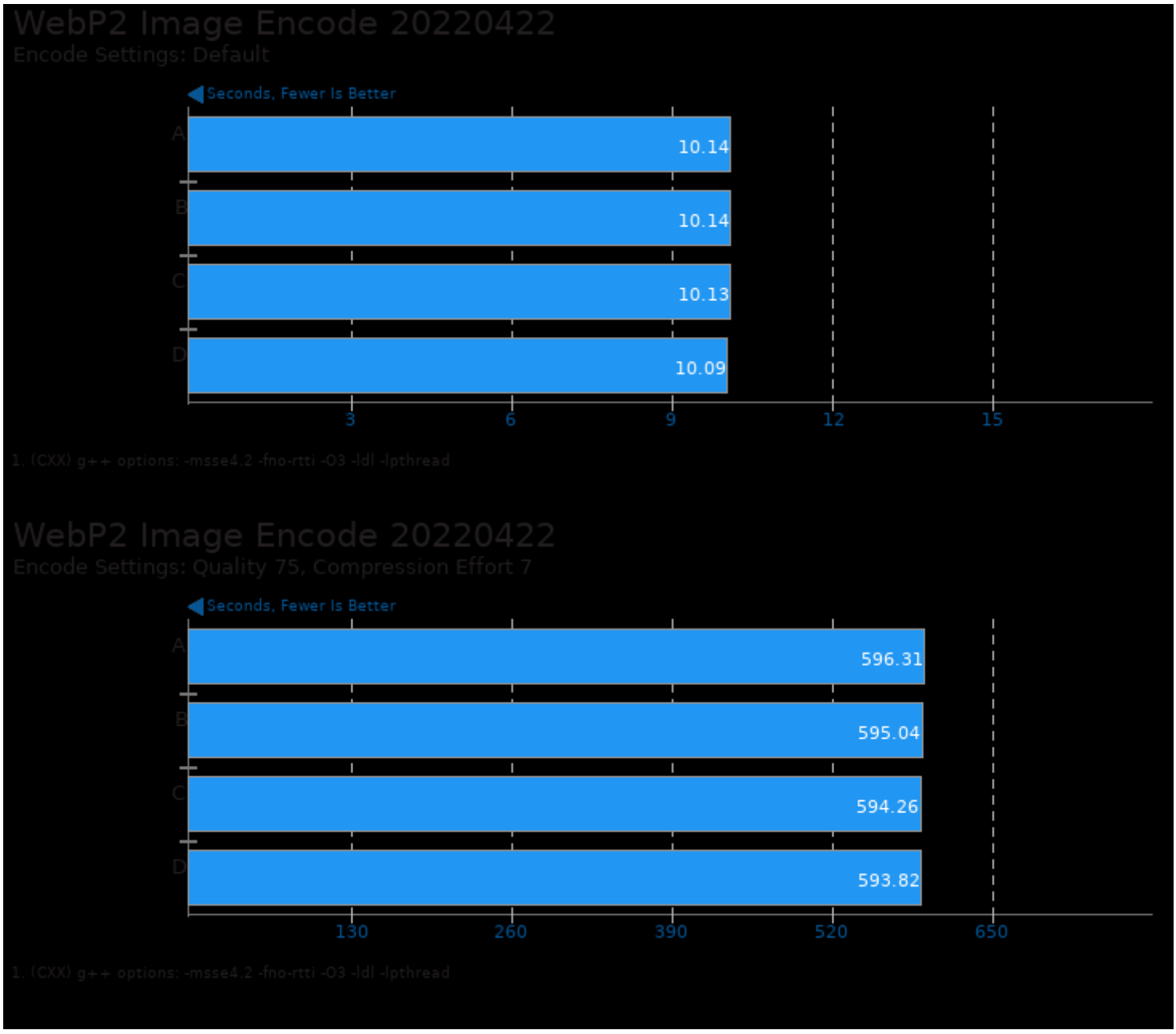


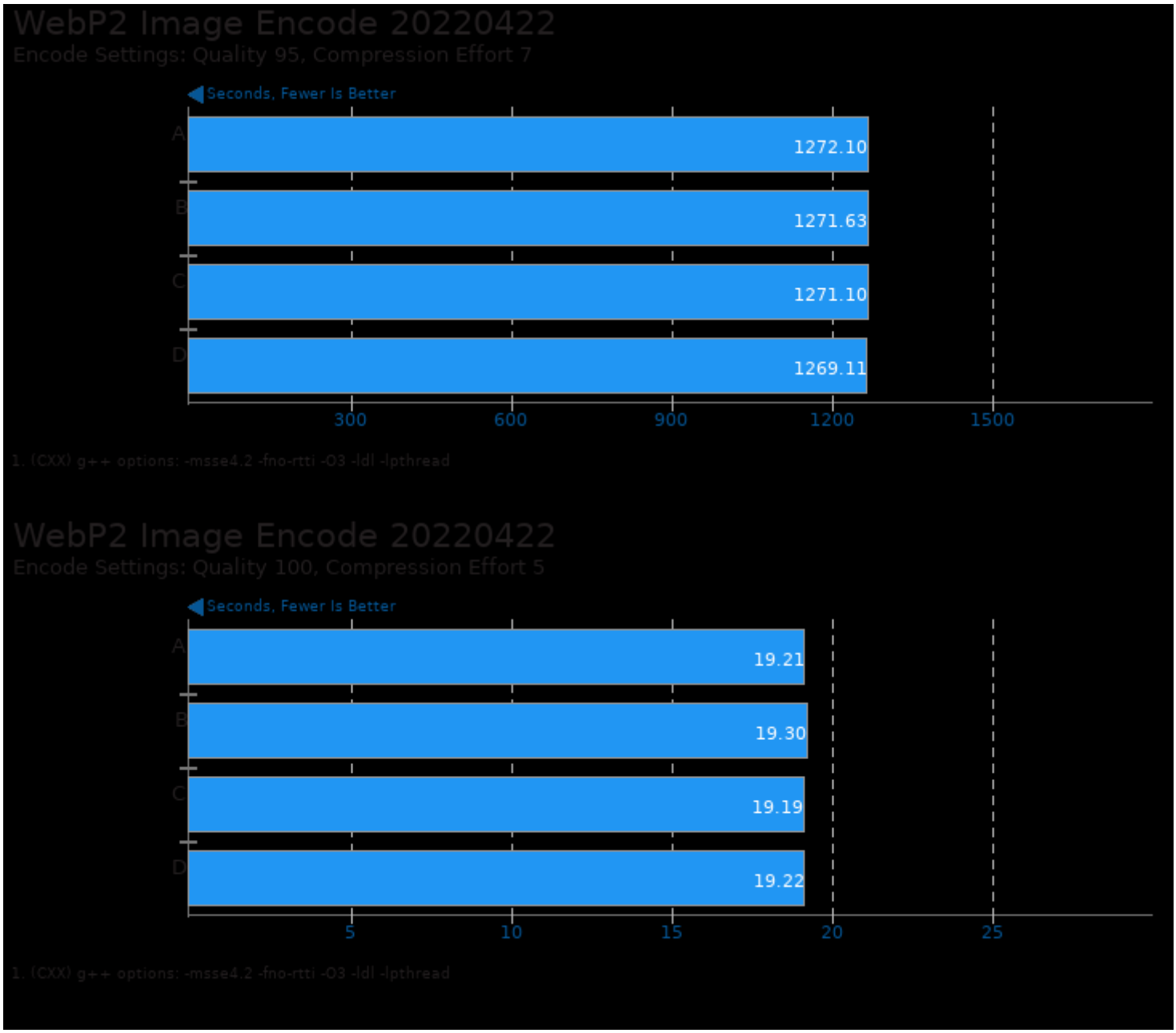
Parallel BZIP2 Compression 1.1.13

FreeBSD-13.0-RELEASE-amd64-memstick.img Compression



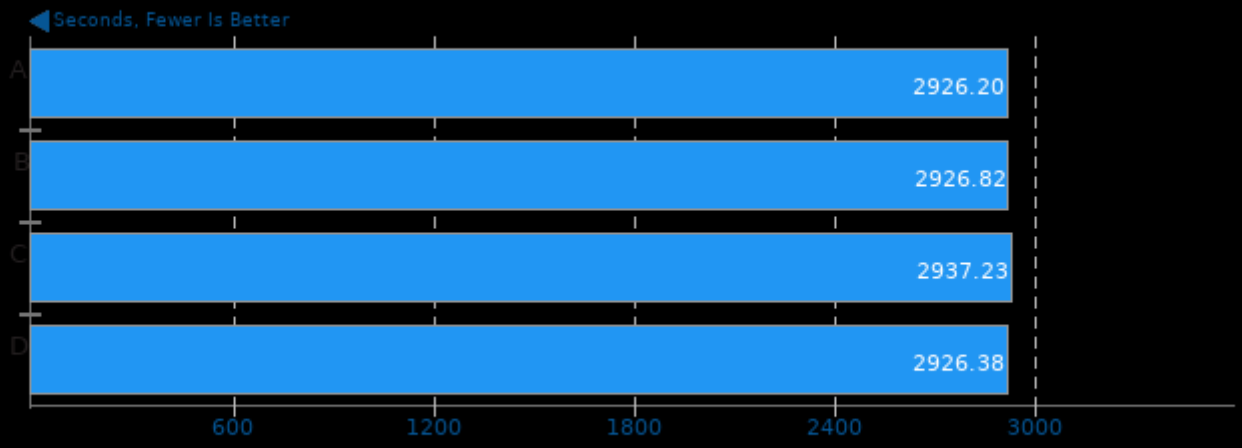
1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread


WebP2 Image Encode 20220422
Encode Settings: Default
Seconds, Fewer Is Better
A
B
C
D
10.14
10.14
10.13
10.09
3
6
9
12
15
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread
WebP2 Image Encode 20220422
Encode Settings: Quality 75, Compression Effort 7
Seconds, Fewer Is Better
A
B
C
D
596.31
595.04
594.26
593.82
130
260
390
520
650
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread


WebP2 Image Encode 20220422
Encode Settings: Quality 95, Compression Effort 7
Seconds, Fewer Is Better
A
1272.10
B
1271.63
C
1271.10
D
1269.11
300
600
900
1200
1500
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread
WebP2 Image Encode 20220422
Encode Settings: Quality 100, Compression Effort 5
Seconds, Fewer Is Better
A
19.21
B
19.30
C
19.19
D
19.22
5
10
15
20
25
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

WebP2 Image Encode 20220422

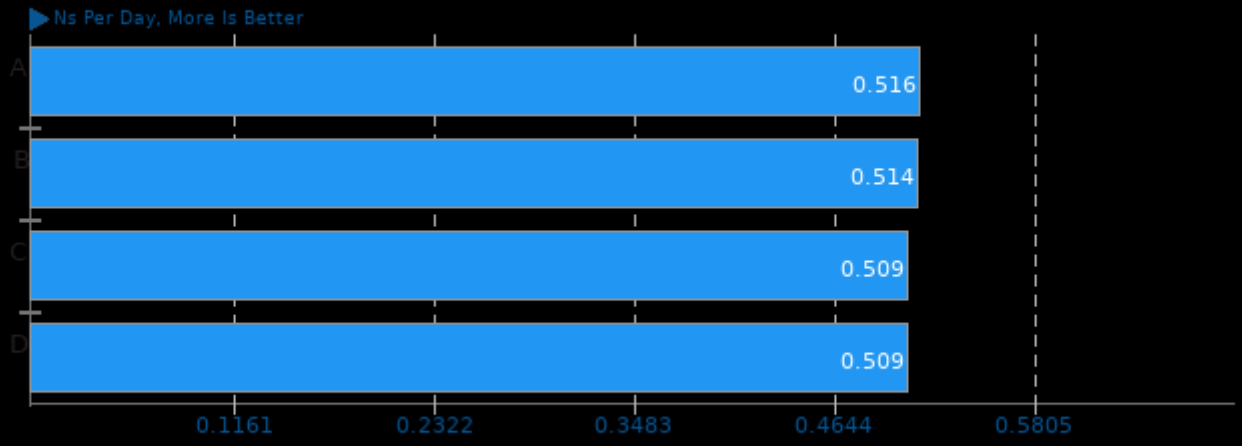
Encode Settings: Quality 100, Lossless Compression



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

GROMACS 2022.1

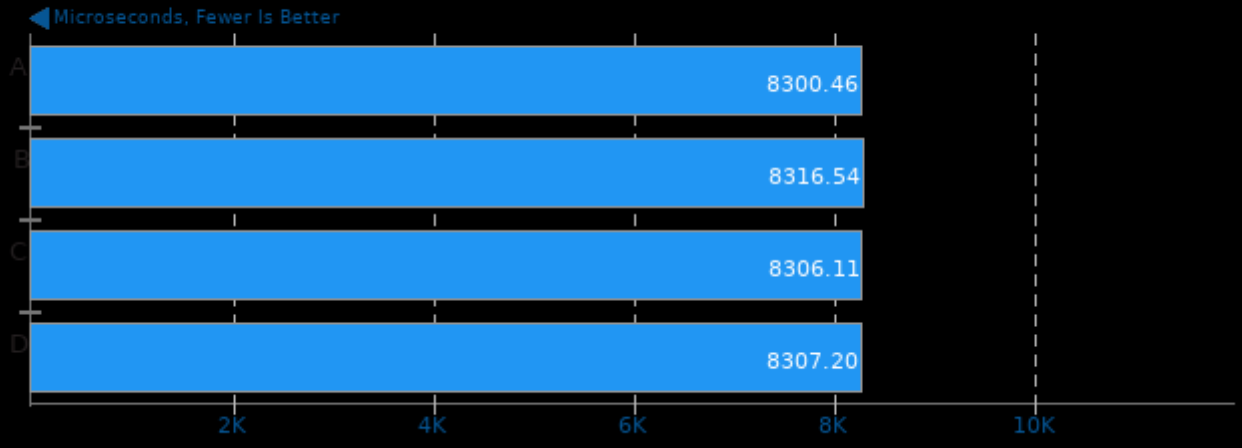
Implementation: MPI CPU - Input: water_GMX50_bare

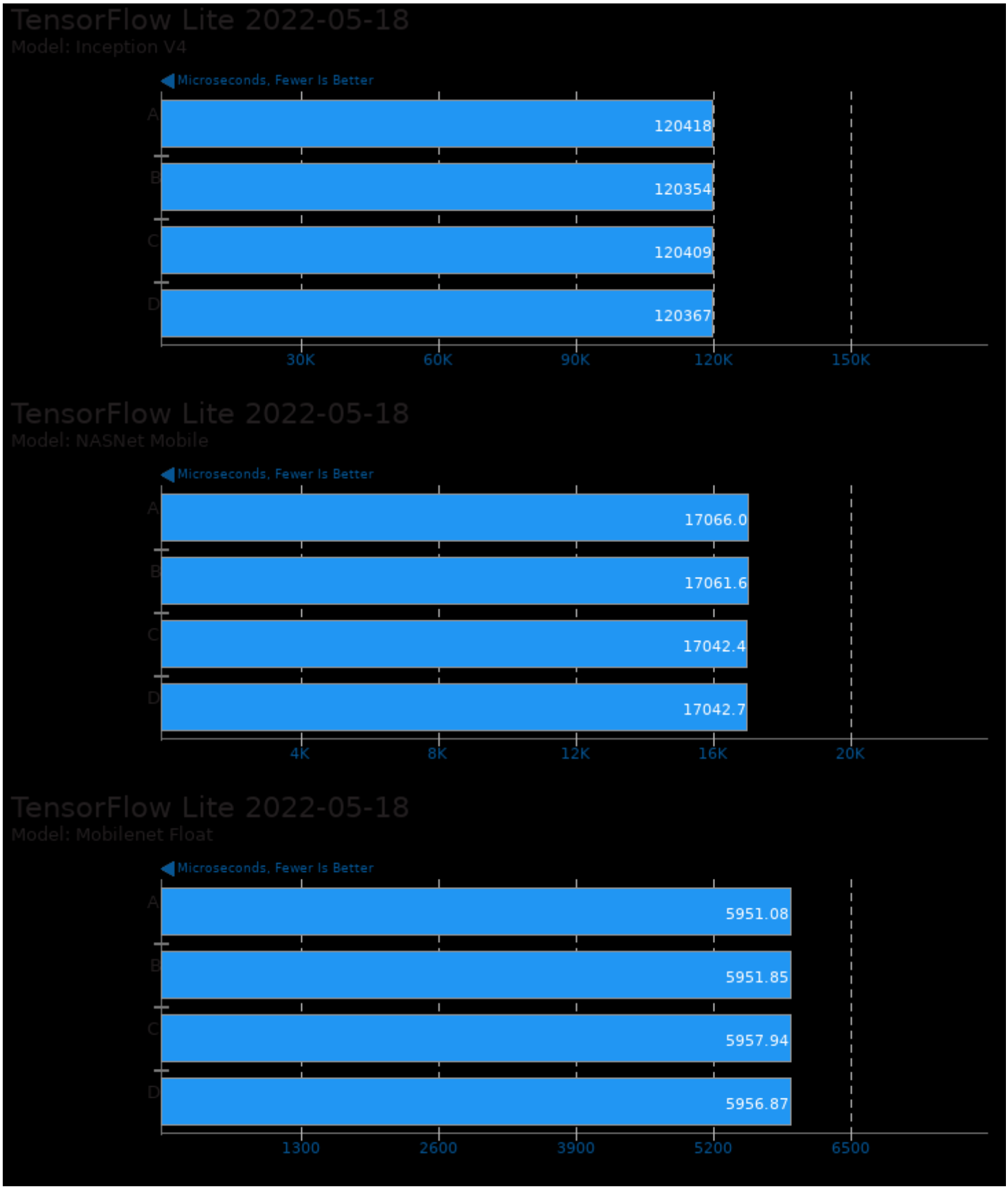


1. (CXX) g++ options: -O3 -pthread

TensorFlow Lite 2022-05-18

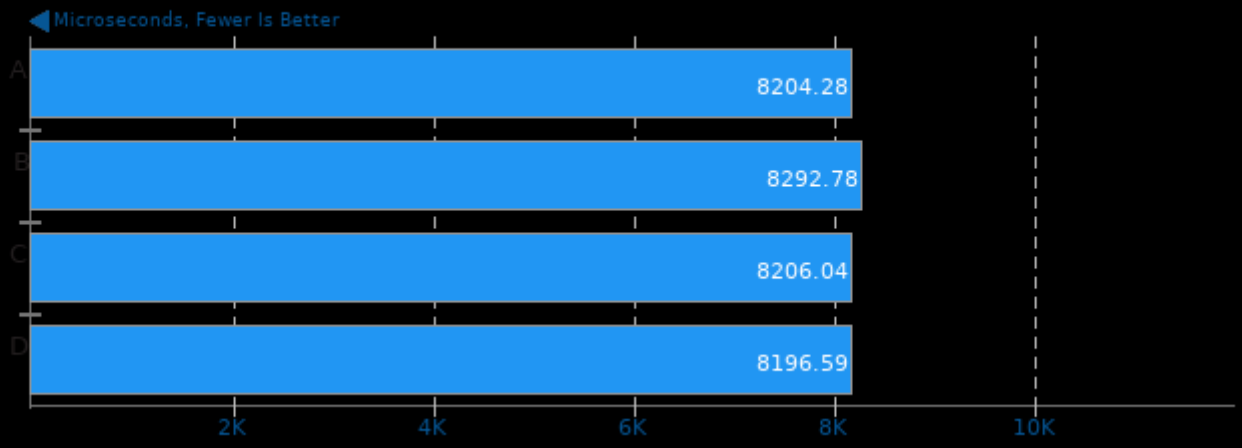
Model: SqueezeNet




TensorFlow Lite 2022-05-18
Model: Inception V4
Microseconds, Fewer Is Better
A
120418
B
120354
C
120409
D
120367
30K
60K
90K
120K
150K
TensorFlow Lite 2022-05-18
Model: NASNet Mobile
Microseconds, Fewer Is Better
A
17066.0
B
17061.6
C
17042.4
D
17042.7
4K
8K
12K
16K
20K
TensorFlow Lite 2022-05-18
Model: Mobilenet Float
Microseconds, Fewer Is Better
A
5951.08
B
5951.85
C
5957.94
D
5956.87
1300
2600
3900
5200
6500

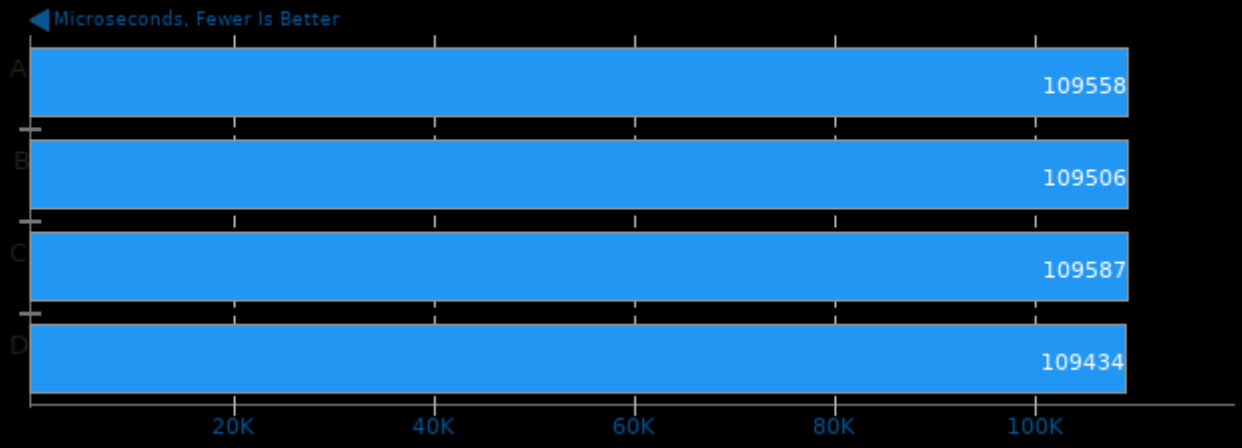
TensorFlow Lite 2022-05-18

Model: Mobilenet Quant



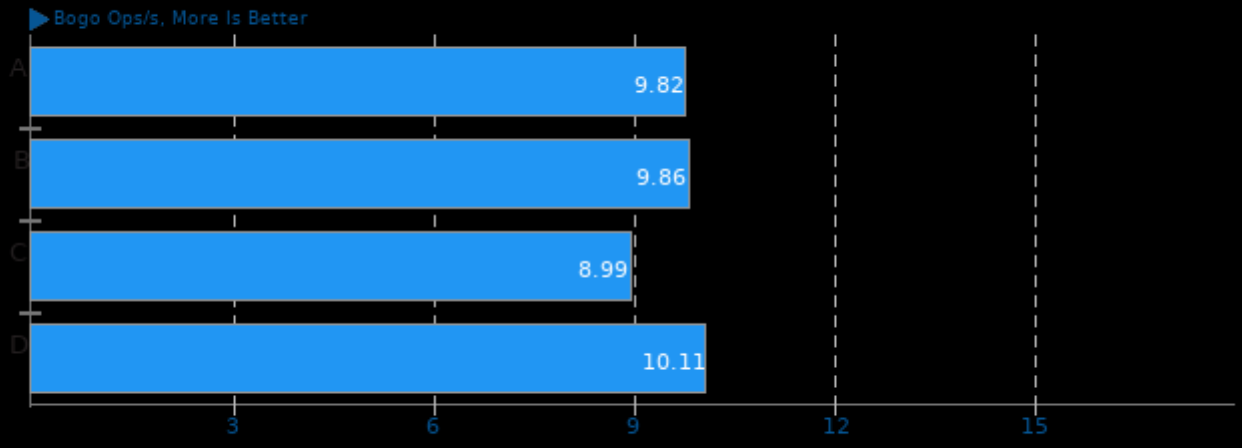
TensorFlow Lite 2022-05-18

Model: Inception ResNet V2

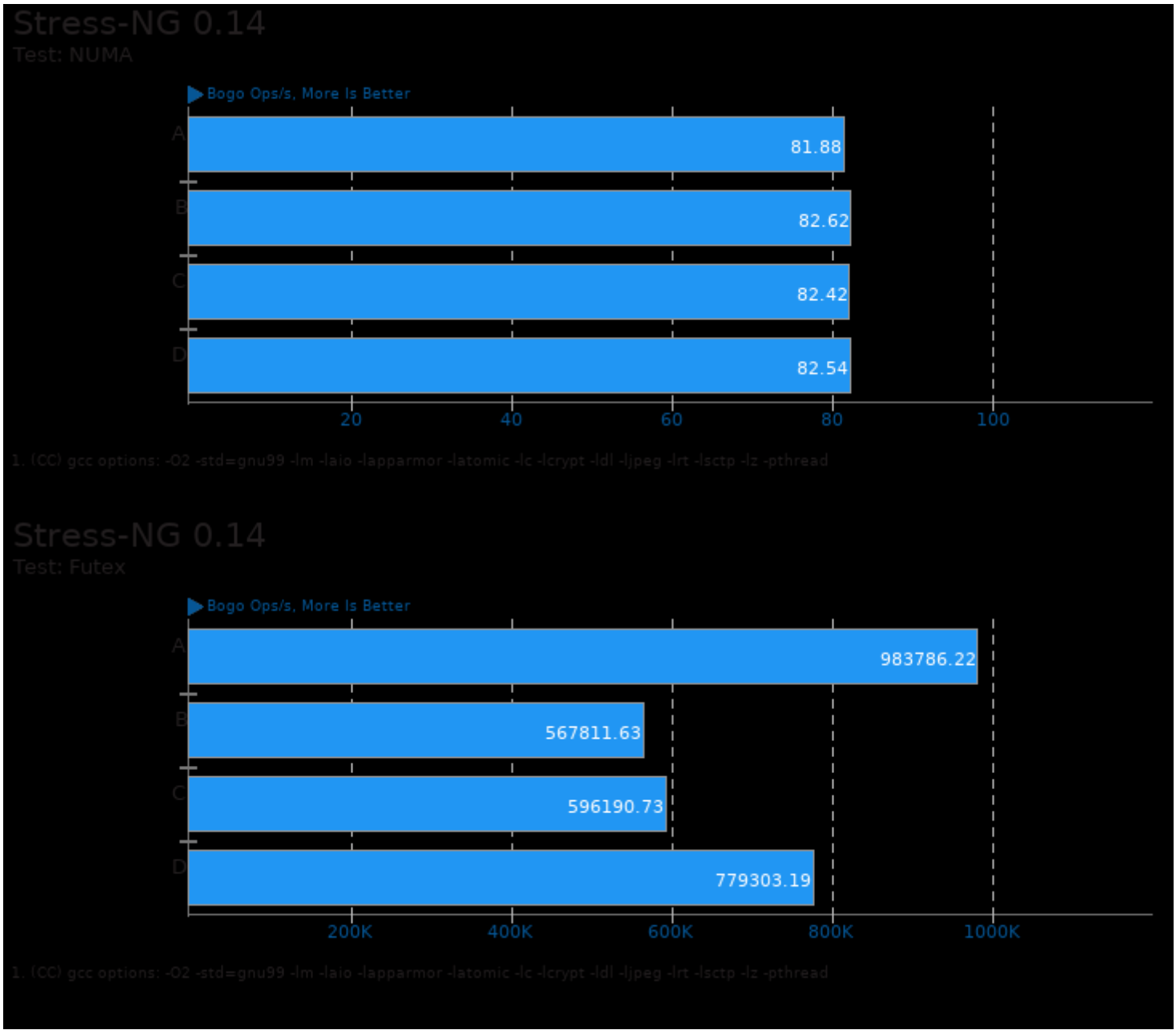


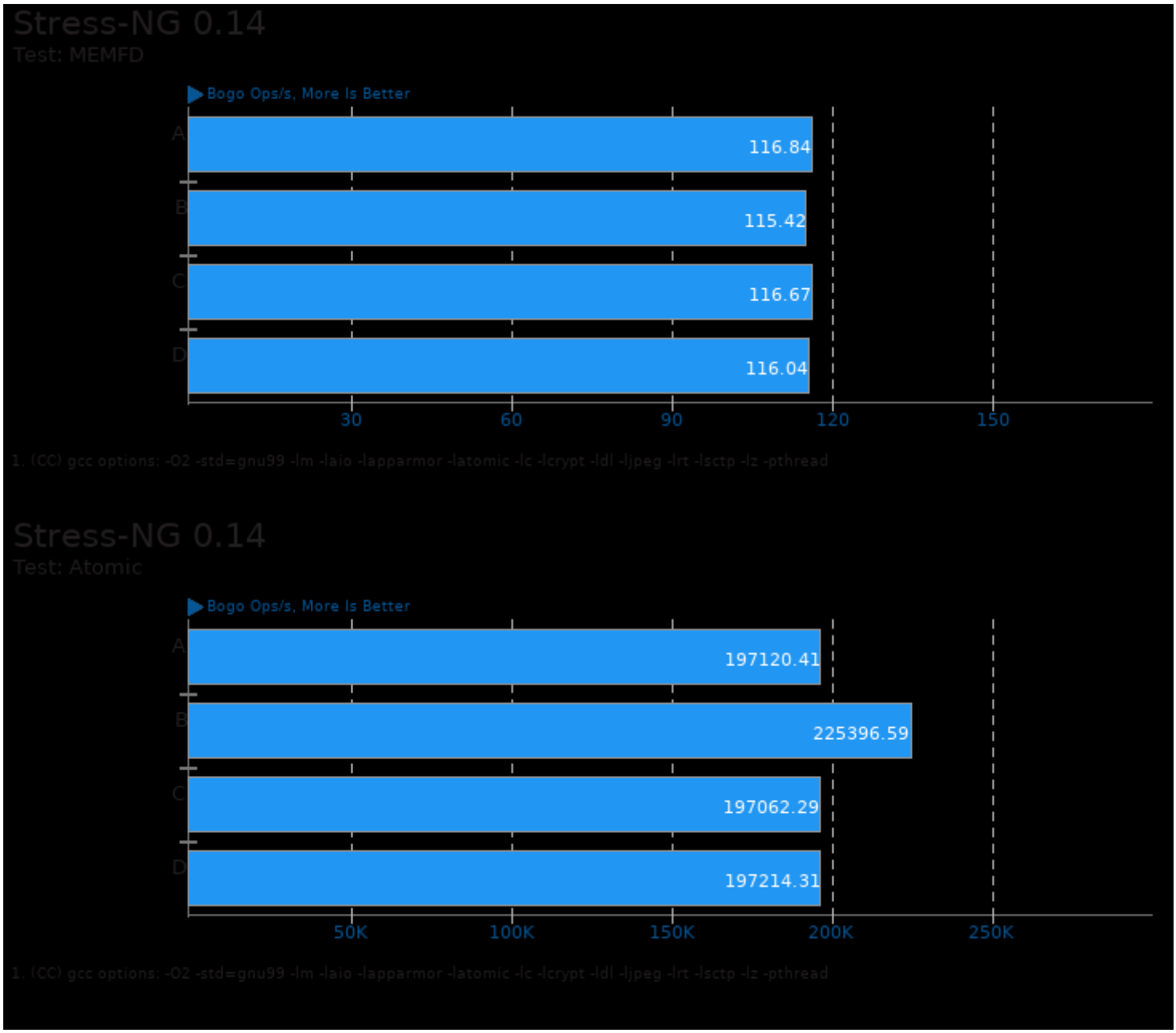
Stress-NG 0.14

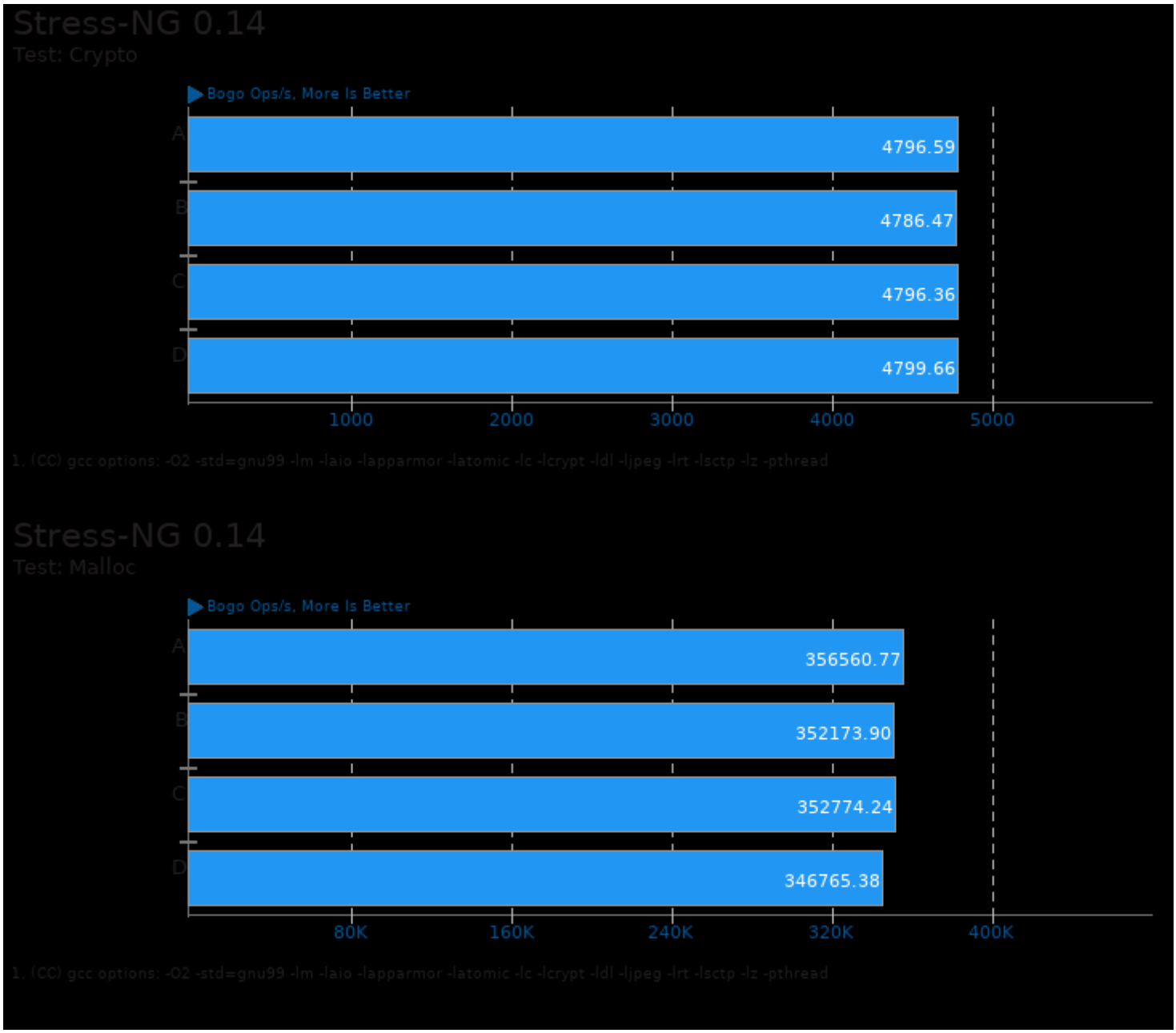
Test: MMAP

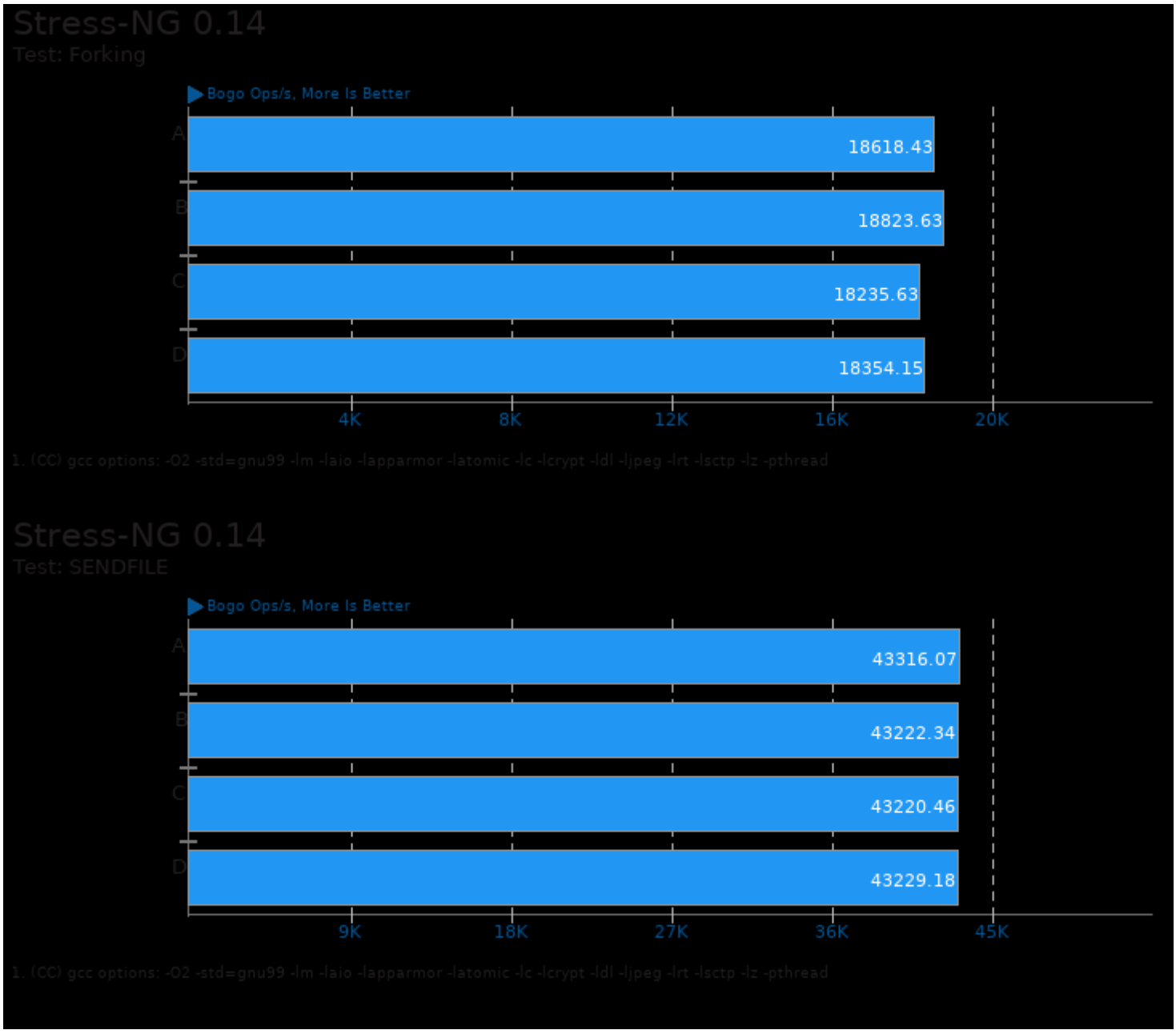


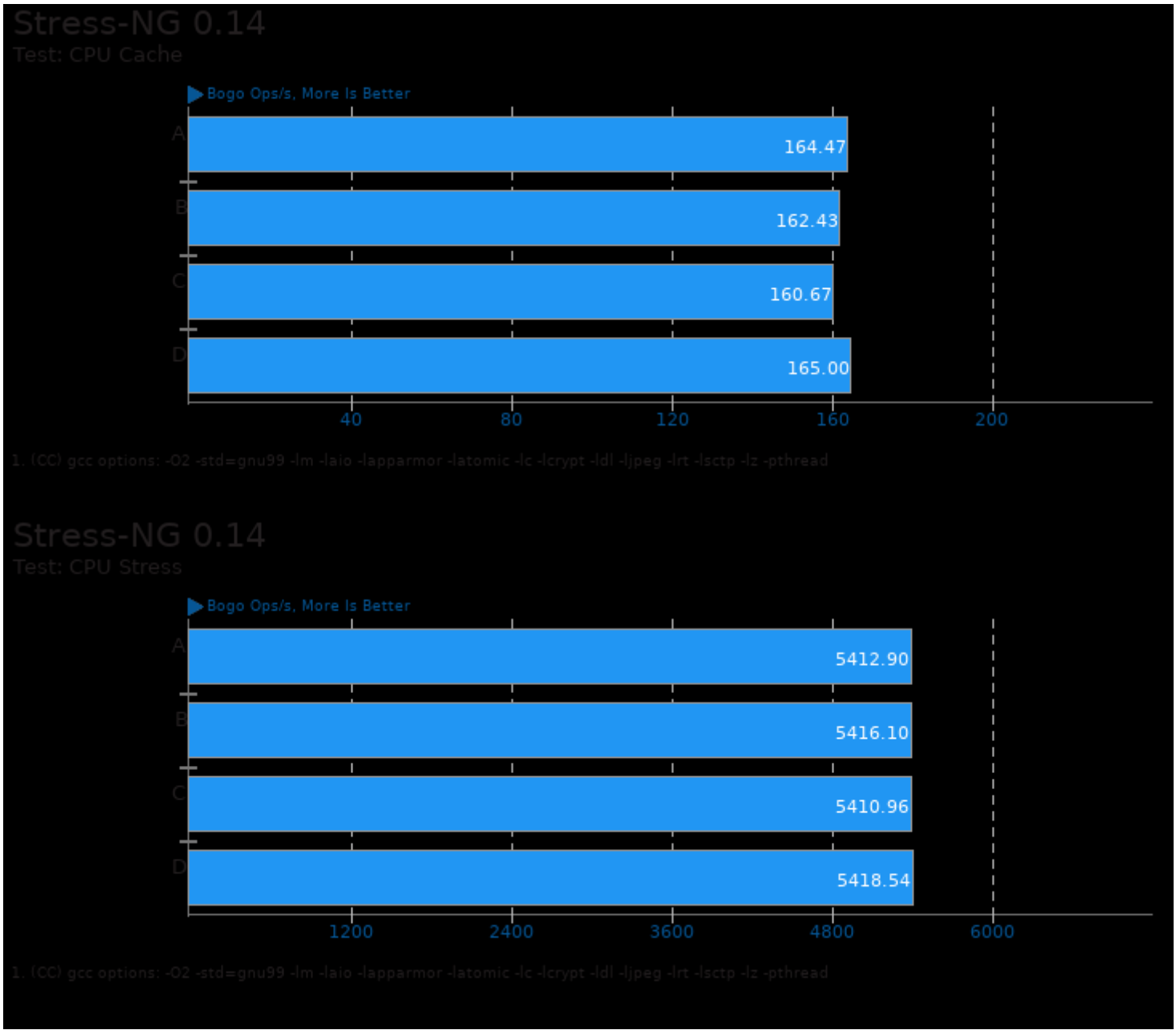
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

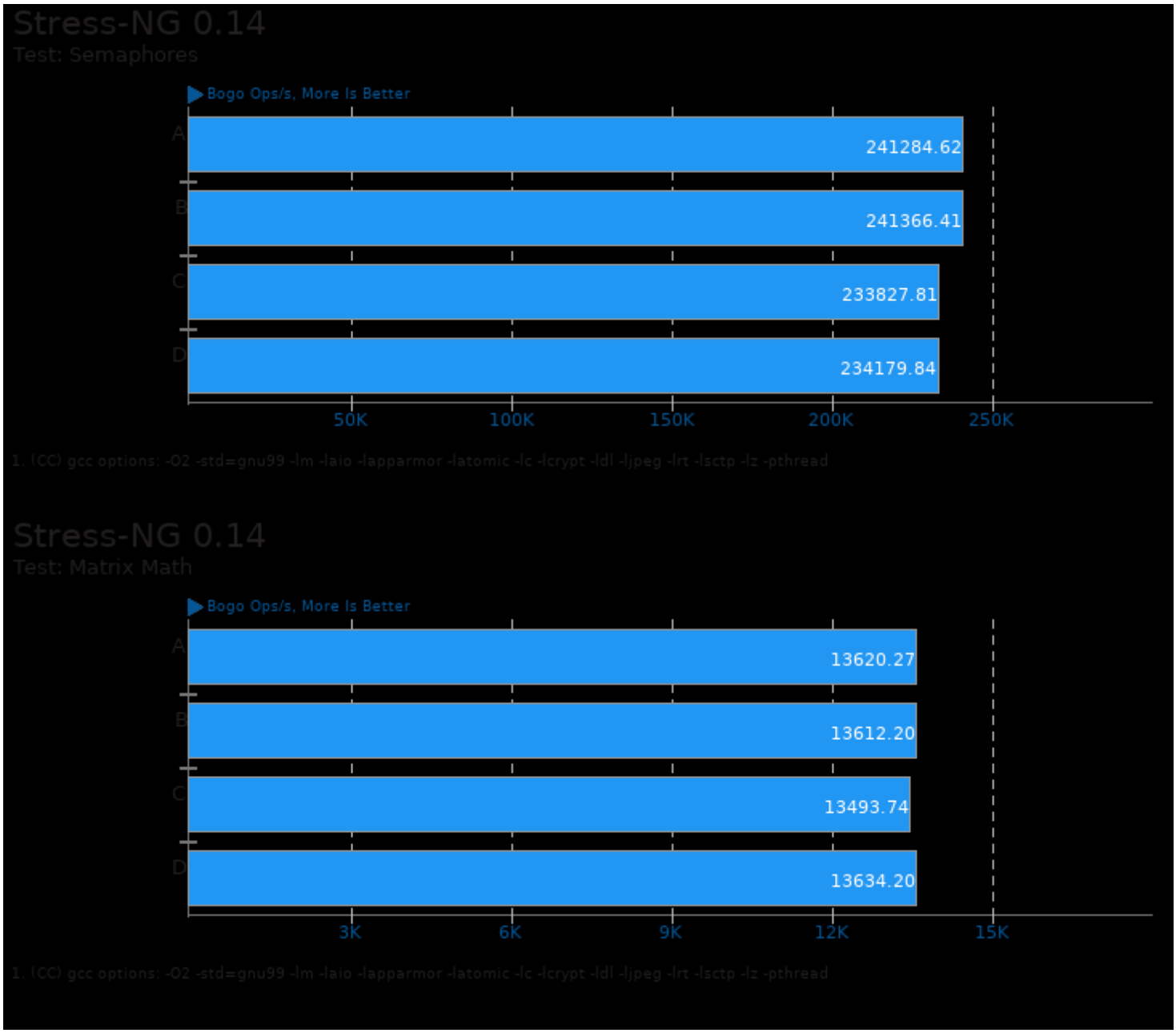

Stress-NG 0.14
Test: NUMA
Bogo Ops/s, More Is Better
A
81.88
B
82.62
C
82.42
D
82.54
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: Futex
Bogo Ops/s, More Is Better
A
983786.22
B
567811.63
C
596190.73
D
779303.19
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

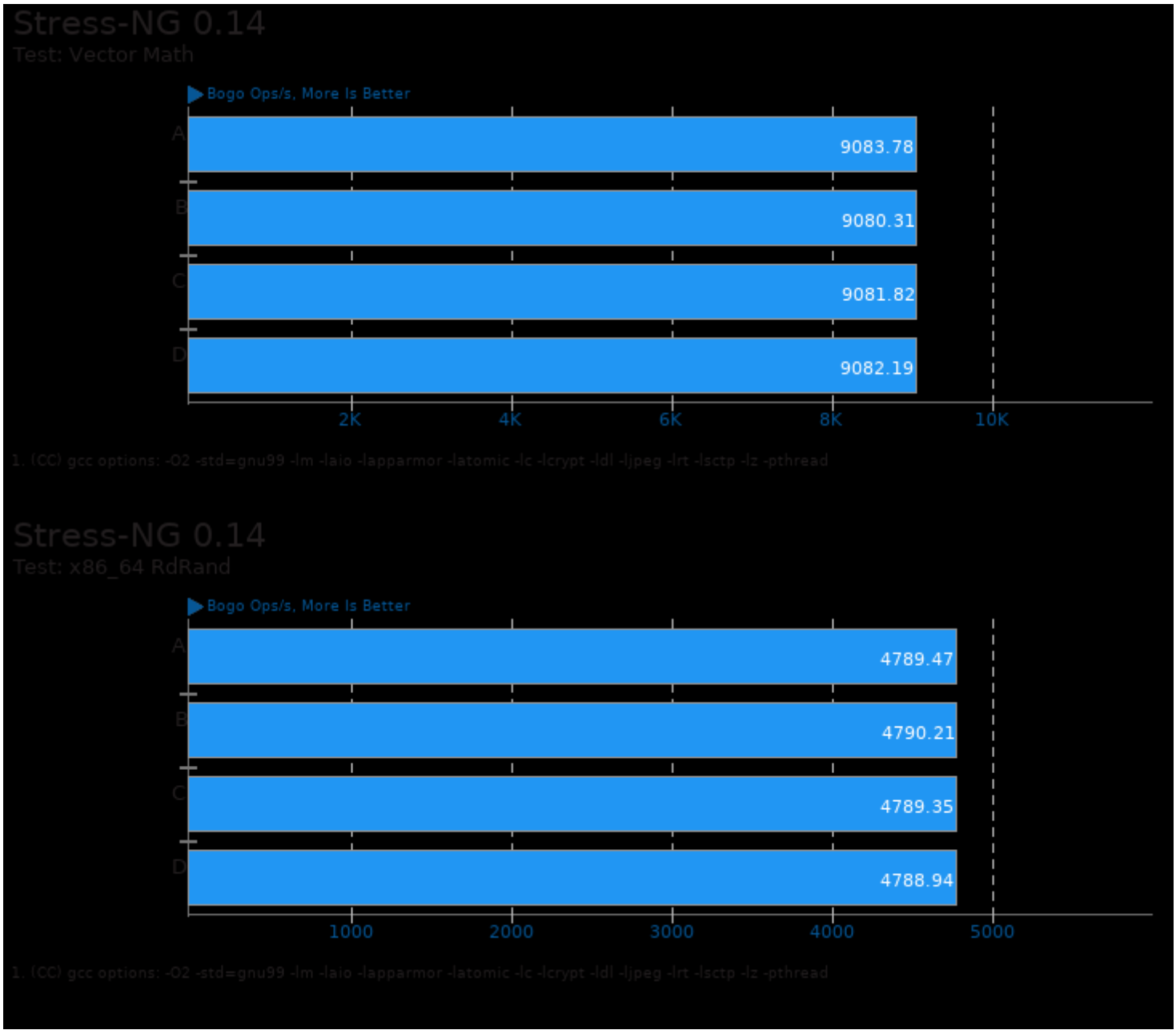

Stress-NG 0.14
Test: MEMFD
Bogo Ops/s, More Is Better
A
116.84
B
115.42
C
116.67
D
116.04
30
60
90
120
150
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: Atomic
Bogo Ops/s, More Is Better
A
197120.41
B
225396.59
C
197062.29
D
197214.31
50K
100K
150K
200K
250K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

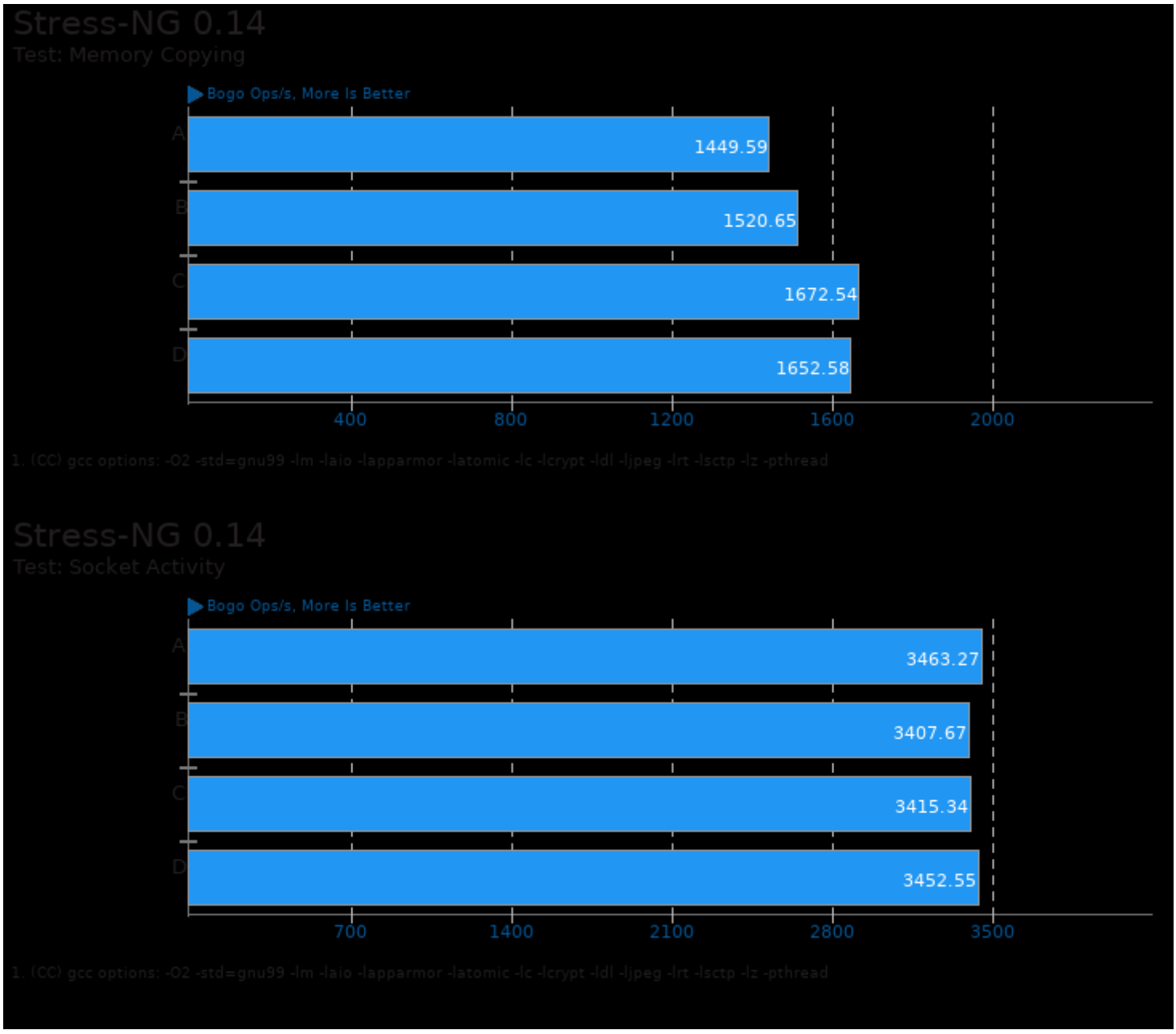

Stress-NG 0.14
Test: Crypto
Bogo Ops/s, More Is Better
A
4796.59
B
4786.47
C
4796.36
D
4799.66
1000
2000
3000
4000
5000
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: Malloc
Bogo Ops/s, More Is Better
A
356560.77
B
352173.90
C
352774.24
D
346765.38
80K
160K
240K
320K
400K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

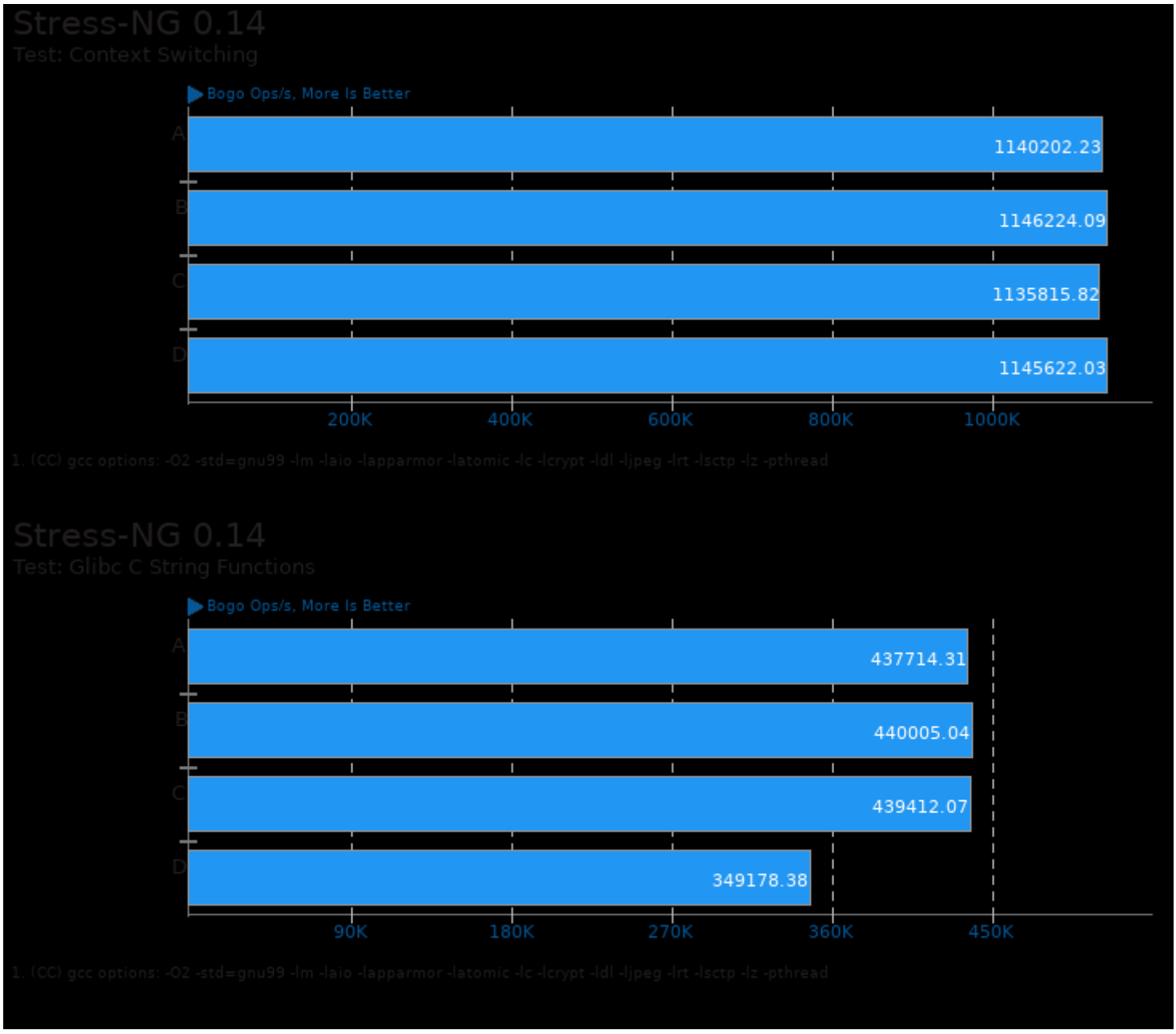

Stress-NG 0.14
Test: Forking
Bogo Ops/s, More Is Better
A
18618.43
B
18823.63
C
18235.63
D
18354.15
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: SENDFILE
Bogo Ops/s, More Is Better
A
43316.07
B
43222.34
C
43220.46
D
43229.18
9K
18K
27K
36K
45K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

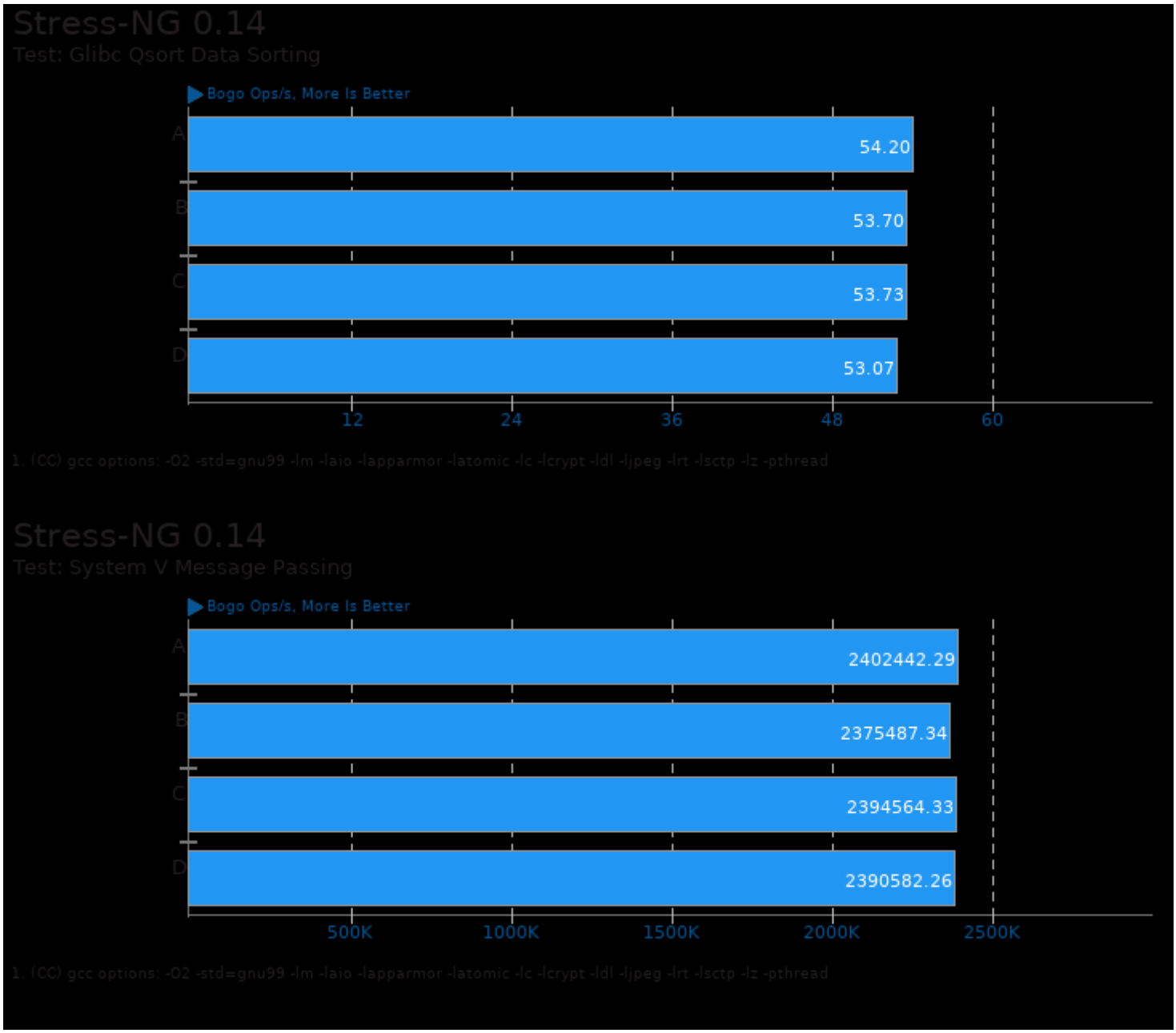

Stress-NG 0.14
Test: CPU Cache
Bogo Ops/s, More Is Better
A
164.47
B
162.43
C
160.67
D
165.00
40
80
120
160
200
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: CPU Stress
Bogo Ops/s, More Is Better
A
5412.90
B
5416.10
C
5410.96
D
5418.54
1200
2400
3600
4800
6000
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

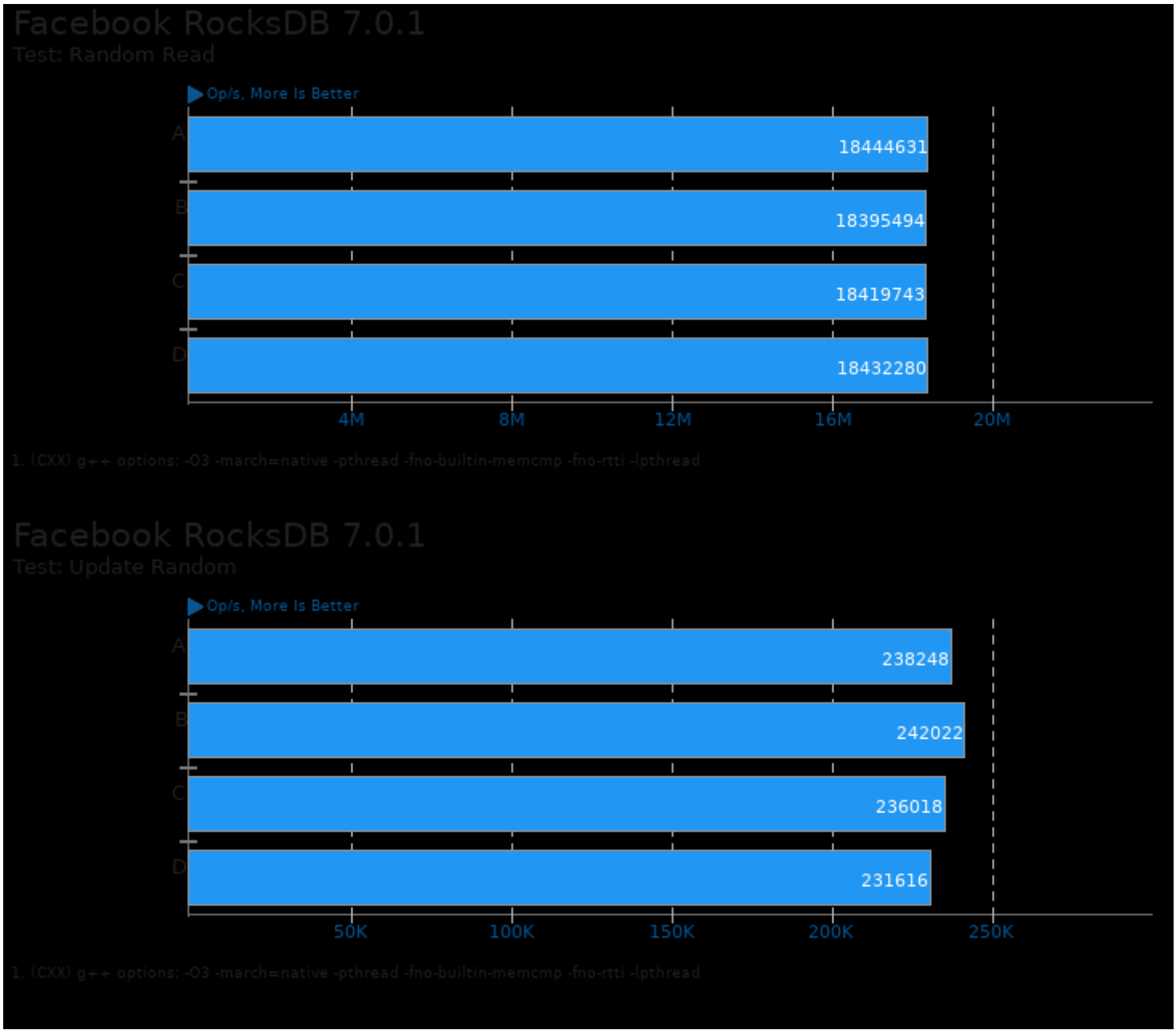

Stress-NG 0.14
Test: Semaphores
Bogo Ops/s, More Is Better
A
B
C
D
241284.62
241366.41
233827.81
234179.84
50K
100K
150K
200K
250K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: Matrix Math
Bogo Ops/s, More Is Better
A
B
C
D
13620.27
13612.20
13493.74
13634.20
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14
Test: Vector Math
Bogo Ops/s, More Is Better
A
B
C
D
9083.78
9080.31
9081.82
9082.19
2K
4K
6K
8K
10K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: x86_64 RdRand
Bogo Ops/s, More Is Better
A
B
C
D
4789.47
4790.21
4789.35
4788.94
1000
2000
3000
4000
5000
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14
Test: Memory Copying
Bogo Ops/s, More Is Better
A
1449.59
B
1520.65
C
1672.54
D
1652.58
400
800
1200
1600
2000
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: Socket Activity
Bogo Ops/s, More Is Better
A
3463.27
B
3407.67
C
3415.34
D
3452.55
700
1400
2100
2800
3500
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread

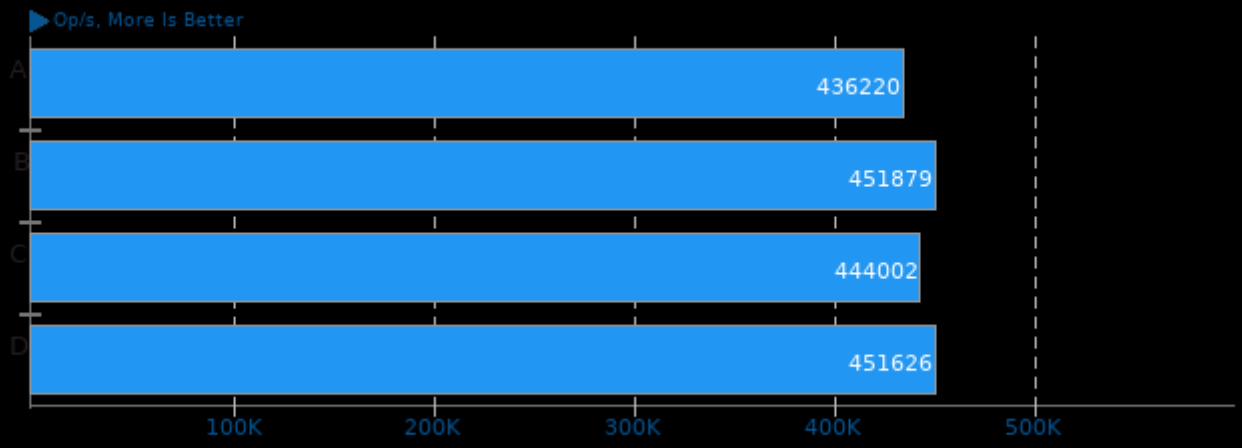

Stress-NG 0.14
Test: Context Switching
Bogo Ops/s, More Is Better
A
1140202.23
B
1146224.09
C
1135815.82
D
1145622.03
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
A
437714.31
B
440005.04
C
439412.07
D
349178.38
90K
180K
270K
360K
450K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14
Test: Glibc Qsort Data Sorting
Bogo Ops/s, More Is Better
A
B
C
D
54.20
53.70
53.73
53.07
12
24
36
48
60
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14
Test: System V Message Passing
Bogo Ops/s, More Is Better
A
B
C
D
2402442.29
2375487.34
2394564.33
2390582.26
500K
1000K
1500K
2000K
2500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lsctp -lz -pthread


Facebook RocksDB 7.0.1
Test: Random Read
Op/s, More Is Better
A
B
C
D
18444631
18395494
18419743
18432280
4M
8M
12M
16M
20M
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 7.0.1
Test: Update Random
Op/s, More Is Better
A
B
C
D
238248
242022
236018
231616
50K
100K
150K
200K
250K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.0.1

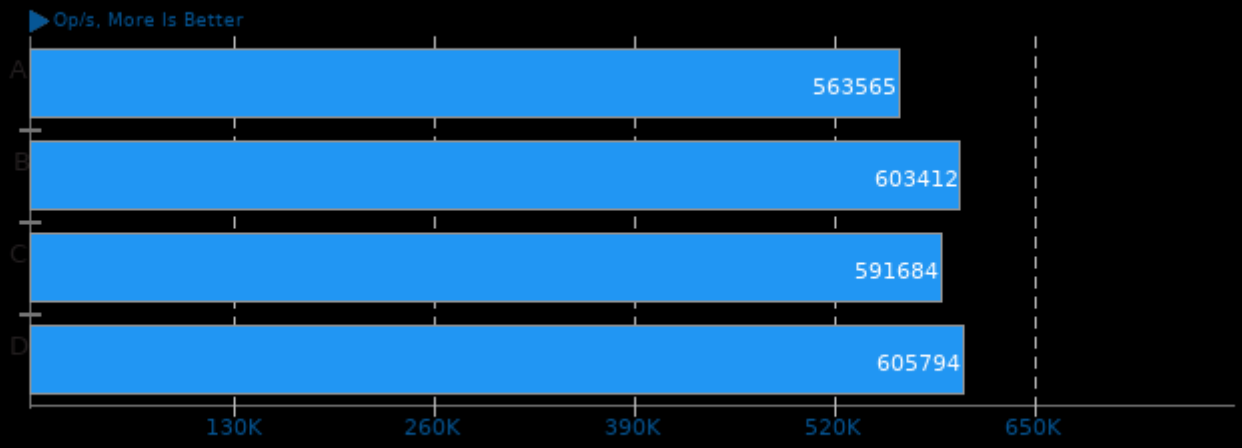
Test: Read While Writing



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.0.1

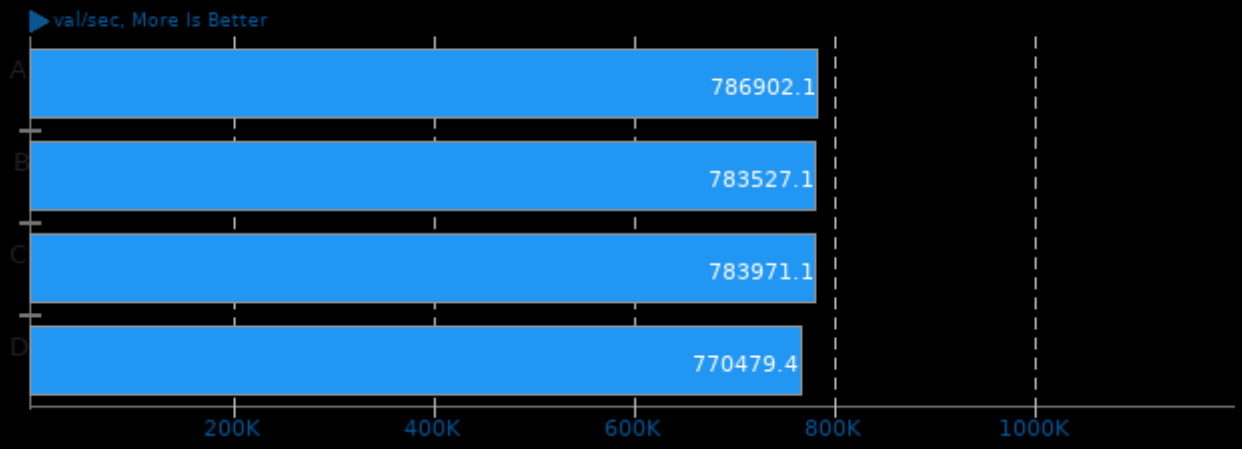
Test: Read Random Write Random

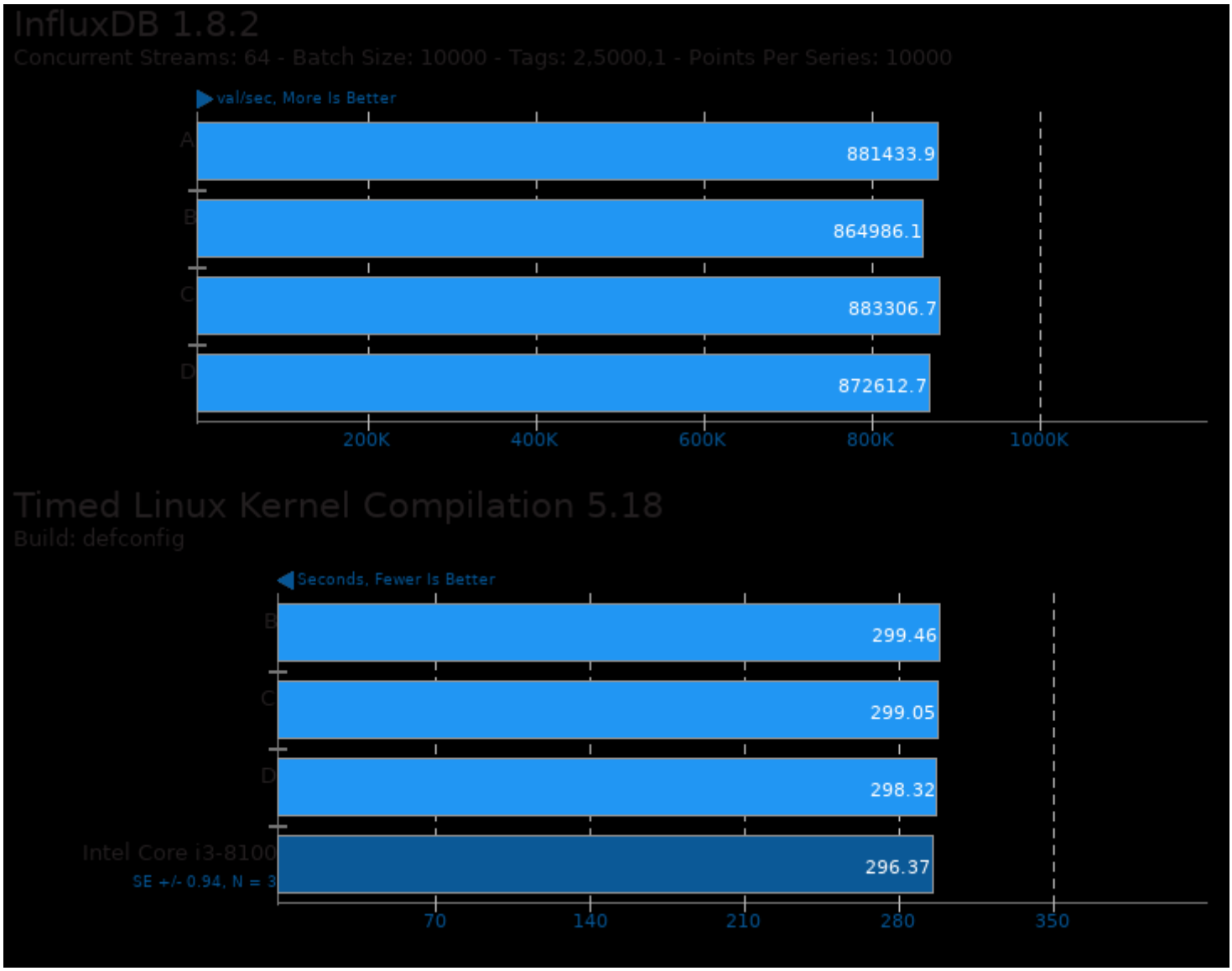


1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

InfluxDB 1.8.2

Concurrent Streams: 4 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000





This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:58.