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## Threadripper 2970WX Linux

AMD Ryzen Threadripper 2970WX 24-Core testing with a Gigabyte X399 AORUS Gaming 7 (F12h BIOS) and Sapphire AMD Radeon RX 550 640SP / 560/560X 4GB on Ubuntu 20.04 via the Phoronix Test Suite.

### Test Systems:

#### Threadripper 2970WX

Processor: AMD Ryzen Threadripper 2970WX 24-Core @ 3.00GHz (24 Cores / 48 Threads), Motherboard: Gigabyte X399 AORUS Gaming 7 (F12h BIOS), Chipset: AMD 17h, Memory: 16GB, Disk: 120GB Force MP500, Graphics: Sapphire AMD Radeon RX 550 640SP / 560/560X 4GB (1300/1750MHz), Audio: Realtek ALC1220, Monitor: DELL S2409W, Network: Qualcomm Atheros Killer E2500 + 2 x QLogic cLOM8214 1/10GbE + Intel 8265 / 8275

OS: Ubuntu 20.04, Kernel: 5.5.0-rc7-phx-k10temp6 (x86\_64) 20200123, Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.7, Display Driver: modesetting 1.20.7, OpenGL: 4.6 Mesa 20.0.4 (LLVM 9.0.1), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

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

## Threadripper 2970WX Linux

```
--enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,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: acpi-cpufreq ondemand - CPU Microcode: 0x800820d
Java Notes: OpenJDK Runtime Environment (build 11.0.7+ea+9-post-Ubuntu-1ubuntu1)
Python Notes: Python 3.8.2
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: disabled RSB filling + tsx_async_abort: Not affected
```

### Threadripper 2970WX

<b>Stress-NG - MMAP (Bogo Ops/s)</b>	129.91
Standard Deviation	4.9%
<b>Stress-NG - NUMA (Bogo Ops/s)</b>	485.22
Standard Deviation	1.2%
<b>Stress-NG - MEMFD (Bogo Ops/s)</b>	1659
Standard Deviation	0.5%
<b>Stress-NG - Atomic (Bogo Ops/s)</b>	271413
Standard Deviation	0.1%
<b>Stress-NG - Crypto (Bogo Ops/s)</b>	5041
Standard Deviation	2.6%
<b>Stress-NG - Malloc (Bogo Ops/s)</b>	225795409
Standard Deviation	0.1%
<b>Stress-NG - Forking (Bogo Ops/s)</b>	60233
Standard Deviation	1.4%
<b>Stress-NG - SENDFILE (Bogo Ops/s)</b>	341330
Standard Deviation	2.5%
<b>Stress-NG - CPU Cache (Bogo Ops/s)</b>	60.46
Standard Deviation	6.7%
<b>Stress-NG - CPU Stress (Bogo Ops/s)</b>	8266
Standard Deviation	1.4%
<b>Stress-NG - Semaphores (Bogo Ops/s)</b>	4283225
Standard Deviation	0.1%
<b>Stress-NG - Matrix Math (Bogo Ops/s)</b>	110040
Standard Deviation	0.6%
<b>Stress-NG - Vector Math (Bogo Ops/s)</b>	165697
Standard Deviation	0.3%
<b>Stress-NG - Memory Copying (Bogo Ops/s)</b>	2963
Standard Deviation	4.4%
<b>Stress-NG - Socket Activity (Bogo Ops/s)</b>	14637
Standard Deviation	1.6%
<b>Stress-NG - Context Switching (Bogo Ops/s)</b>	12122712
Standard Deviation	1.5%
<b>Stress-NG - G.C.S.F (Bogo Ops/s)</b>	2195829
Standard Deviation	1.4%
<b>Stress-NG - G.Q.D.S (Bogo Ops/s)</b>	315.72
Standard Deviation	2.4%
<b>Stress-NG - S.V.M.P (Bogo Ops/s)</b>	126667682
Standard Deviation	0.3%
<b>dav1d - Chimera 1080p (FPS)</b>	479.32
Standard Deviation	0.3%
<b>dav1d - Summer Nature 4K (FPS)</b>	189.29

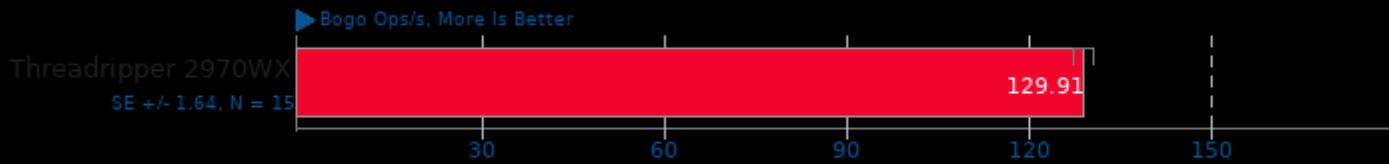
	Standard Deviation	0.5%
<b>dav1d - S.N.1 (FPS)</b>	503.61	
	Standard Deviation	0.4%
<b>dav1d - C.1.1.b (FPS)</b>	103.63	
	Standard Deviation	0.5%
<b>AOM AV1 - Speed 0 Two-Pass (FPS)</b>	0.23	
	Standard Deviation	2.5%
<b>AOM AV1 - Speed 4 Two-Pass (FPS)</b>	1.86	
	Standard Deviation	0.6%
<b>AOM AV1 - Speed 6 Realtime (FPS)</b>	14.14	
	Standard Deviation	1%
<b>AOM AV1 - Speed 6 Two-Pass (FPS)</b>	3.00	
	Standard Deviation	0.7%
<b>AOM AV1 - Speed 8 Realtime (FPS)</b>	26.36	
	Standard Deviation	2.2%
<b>SVT-AV1 - Enc Mode 0 - 1080p (FPS)</b>	0.103	
	Standard Deviation	0.6%
<b>SVT-AV1 - Enc Mode 4 - 1080p (FPS)</b>	4.640	
	Standard Deviation	1.1%
<b>SVT-AV1 - Enc Mode 8 - 1080p (FPS)</b>	40.720	
	Standard Deviation	0.5%
<b>SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)</b>	146.53	
	Standard Deviation	2.9%
<b>SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)</b>	151.67	
	Standard Deviation	2.3%
<b>SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)</b>	144.05	
	Standard Deviation	7.6%
<b>Chaos Group V-RAY - CPU (Ksamples)</b>	25794	
	Standard Deviation	1.1%
<b>LuxCoreRender - DLSC (M samples/sec)</b>	3.49	
	Standard Deviation	2.7%
<b>LuxCoreRender - R.C.a.P (M samples/sec)</b>	3.68	
	Standard Deviation	1.3%
<b>C-Blosc - blosclz (MB/s)</b>	7839	
	Standard Deviation	1%
<b>Zstd Compression - 3 (MB/s)</b>	2995	
	Standard Deviation	14.4%
<b>Zstd Compression - 19 (MB/s)</b>	41.0	
	Standard Deviation	2.4%
<b>LeelaChessZero - BLAS (Nodes/s)</b>	414	
	Standard Deviation	26.5%
<b>LeelaChessZero - Eigen (Nodes/s)</b>	528	
	Standard Deviation	2.7%
<b>LeelaChessZero - Rand (Nodes/s)</b>	117749	
	Standard Deviation	13.2%
<b>PyPerformance - go (Milliseconds)</b>	290	
	Standard Deviation	0.4%
<b>PyPerformance - 2to3 (Milliseconds)</b>	372	
<b>PyPerformance - chaos (Milliseconds)</b>	133	
<b>PyPerformance - float (Milliseconds)</b>	123	
	Standard Deviation	1.9%
<b>PyPerformance - nbody (Milliseconds)</b>	145	
	Standard Deviation	0.8%

<b>PyPerformance - pathlib (Milliseconds)</b>	20.0
Standard Deviation	0.6%
<b>PyPerformance - raytrace (Milliseconds)</b>	570
Standard Deviation	0.3%
<b>PyPerformance - json_loads (Milliseconds)</b>	29.0
Standard Deviation	0.2%
<b>PyPerformance - crypto_pyaes (Milliseconds)</b>	122
Standard Deviation	0.8%
<b>PyPerformance - regex_compile (Milliseconds)</b>	191
<b>PyPerformance - python_startup (Milliseconds)</b>	14.0
Standard Deviation	0.4%
<b>PyPerformance - django_template (Milliseconds)</b>	67.4
Standard Deviation	0.1%
<b>PyPerformance - pickle_pure_python (Milliseconds)</b>	588
Standard Deviation	0.3%
<b>oneDNN - IP Batch 1D - f32 - CPU (ms)</b>	6.62625
Standard Deviation	2.9%
<b>oneDNN - IP Batch All - f32 - CPU (ms)</b>	73.2862
Standard Deviation	0.7%
<b>oneDNN - IP Batch 1D - u8s8f32 - CPU (ms)</b>	3.09048
Standard Deviation	1.3%
<b>oneDNN - IP Batch All - u8s8f32 - CPU (ms)</b>	37.6915
Standard Deviation	2.2%
<b>oneDNN - C.B.S.A - f32 - CPU (ms)</b>	20.0117
Standard Deviation	0%
<b>oneDNN - D.B.d - f32 - CPU (ms)</b>	3.68311
Standard Deviation	2.8%
<b>oneDNN - D.B.d - f32 - CPU (ms)</b>	7.55695
Standard Deviation	0.1%
<b>oneDNN - C.B.S.A - u8s8f32 - CPU (ms)</b>	22.8045
Standard Deviation	0.6%
<b>oneDNN - D.B.d - u8s8f32 - CPU (ms)</b>	8.28328
Standard Deviation	1.1%
<b>oneDNN - D.B.d - u8s8f32 - CPU (ms)</b>	5.97184
Standard Deviation	0.2%
<b>oneDNN - R.N.N.T - f32 - CPU (ms)</b>	382.577
Standard Deviation	2.2%
<b>oneDNN - R.N.N.I - f32 - CPU (ms)</b>	86.5963
Standard Deviation	0.8%
<b>oneDNN - M.M.B.S.T - f32 - CPU (ms)</b>	1.41831
Standard Deviation	2%
<b>oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)</b>	1.57541
Standard Deviation	0.6%
<b>DaCapo Benchmark - H2 (msec)</b>	4878
Standard Deviation	3.8%
<b>DaCapo Benchmark - Jython (msec)</b>	5166
Standard Deviation	0.7%
<b>DaCapo Benchmark - Tradesoap (msec)</b>	5288
Standard Deviation	4.3%
<b>DaCapo Benchmark - Tradebeans (msec)</b>	6583
Standard Deviation	1.5%
<b>Rodinia - OpenMP LavaMD (sec)</b>	117.286
Standard Deviation	0.1%

<b>Rodinia - OpenMP HotSpot3D (sec)</b>	106.857
Standard Deviation	1.6%
<b>Rodinia - OpenMP Leukocyte (sec)</b>	64.854
Standard Deviation	2.8%
<b>Rodinia - OpenMP CFD Solver (sec)</b>	10.222
Standard Deviation	1.1%
<b>Rodinia - O.S (sec)</b>	24.897
Standard Deviation	8.6%
<b>libavif avifenc - 0 (sec)</b>	77.314
Standard Deviation	1.8%
<b>libavif avifenc - 2 (sec)</b>	46.289
Standard Deviation	0.9%
<b>libavif avifenc - 8 (sec)</b>	5.854
Standard Deviation	0.8%
<b>libavif avifenc - 10 (sec)</b>	5.646
Standard Deviation	1.4%
<b>Timed Apache Compilation - Time To Compile (sec)</b>	25.701
Standard Deviation	0.3%
<b>Timed Linux Kernel Compilation - Time To Compile (sec)</b>	50.502
Standard Deviation	2.8%
<b>Build2 - Time To Compile (sec)</b>	84.822
Standard Deviation	1.6%
<b>YafaRay - T.T.F.S.S (sec)</b>	99.233
Standard Deviation	0.6%
<b>Montage Astronomical Image Mosaic Engine -</b>	89.500
<b>M.o.M.K.b.1.5.d.x.1.5.d (sec)</b>	
Standard Deviation	2.7%
<b>G'MIC - 2.F.P.1.T (sec)</b>	256.248
Standard Deviation	1.5%
<b>G'MIC - P.I.O.A.3.V.1.T (sec)</b>	22.134
Standard Deviation	1.9%
<b>G'MIC - 3.E.F.I.R.C.1.T (sec)</b>	88.618
Standard Deviation	0.3%
<b>Hugin - P.P.A.S.T (sec)</b>	51.945
Standard Deviation	0.9%
<b>OCRMyPDF - P.6.P.P.D (sec)</b>	21.601
Standard Deviation	1.7%
<b>GNU Octave Benchmark (sec)</b>	7.798
Standard Deviation	1.1%
<b>Blender - BMW27 - CPU-Only (sec)</b>	93.25
Standard Deviation	0.2%
<b>Blender - Classroom - CPU-Only (sec)</b>	241.71
Standard Deviation	0.8%
<b>Blender - Fishy Cat - CPU-Only (sec)</b>	139.82
Standard Deviation	0.6%
<b>Blender - Barbershop - CPU-Only (sec)</b>	380.38
Standard Deviation	0.4%
<b>Blender - Pabellon Barcelona - CPU-Only (sec)</b>	338.25
Standard Deviation	0.5%
<b>Tesseract OCR - T.T.O.7.I (sec)</b>	30.829
Standard Deviation	0.8%

## Stress-NG 0.11.07

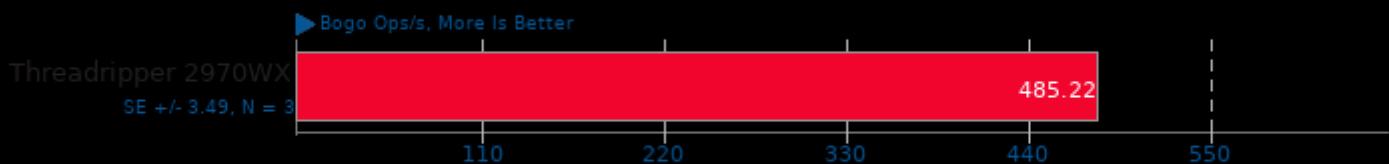
Test: MMAP



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lnt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

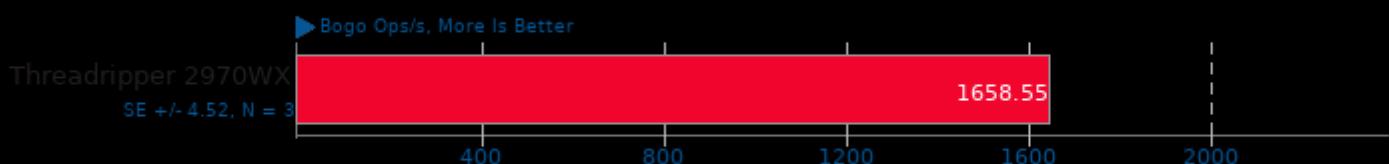
Test: NUMA



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lnt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

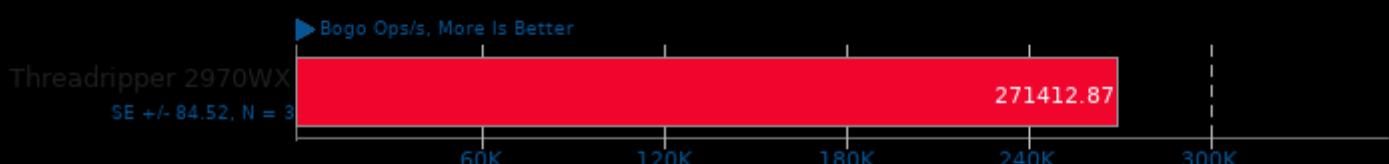
Test: MEMFD



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lnt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

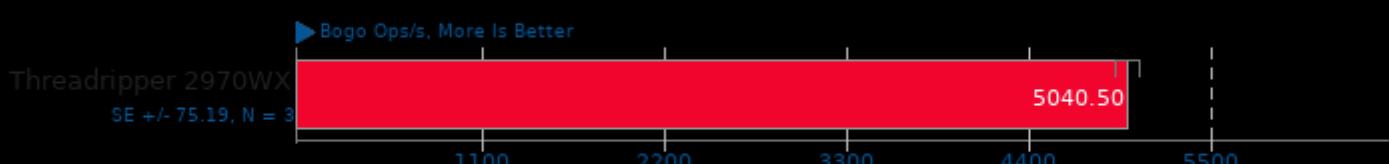
Test: Atomic



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lnt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

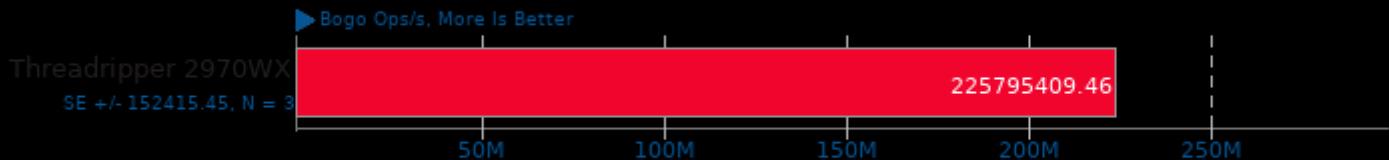
Test: Crypto



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lnt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

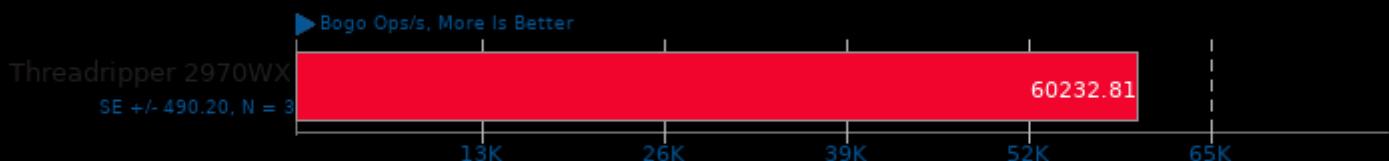
Test: Malloc



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

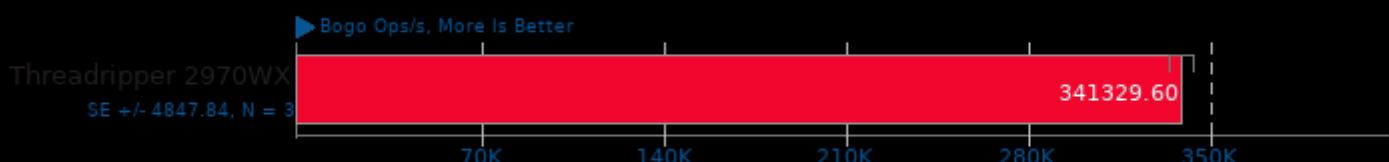
Test: Forking



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

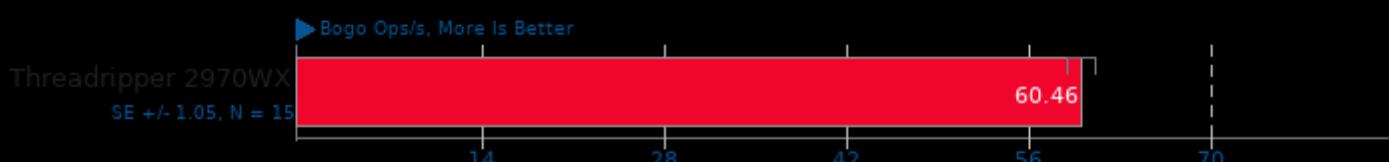
Test: SENDFILE



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

Test: CPU Cache



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

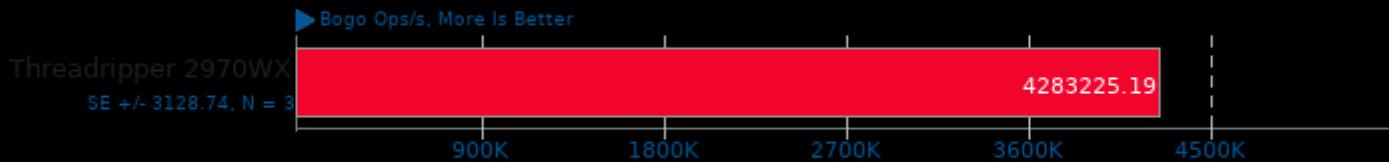
Test: CPU Stress



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

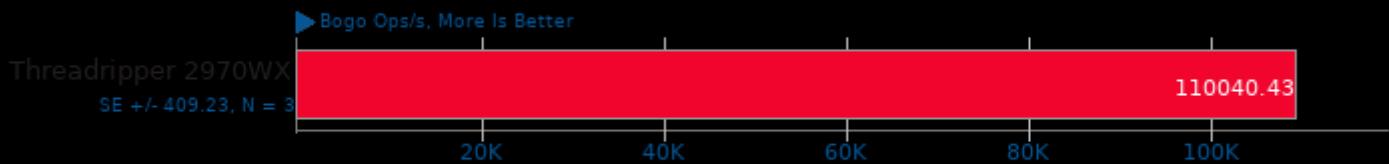
Test: Semaphores



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

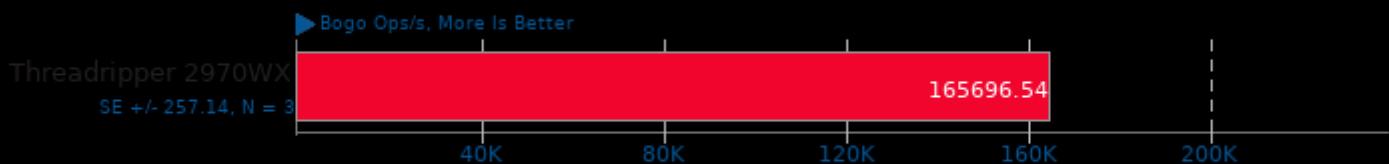
Test: Matrix Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

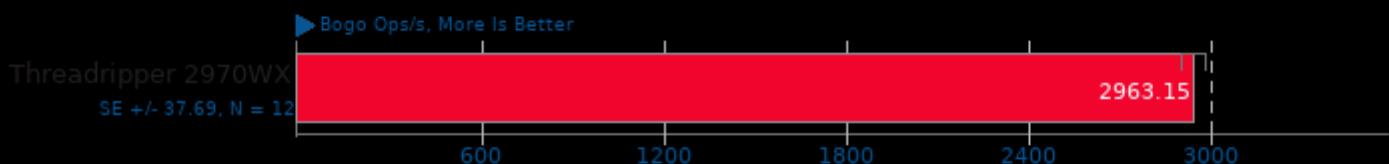
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

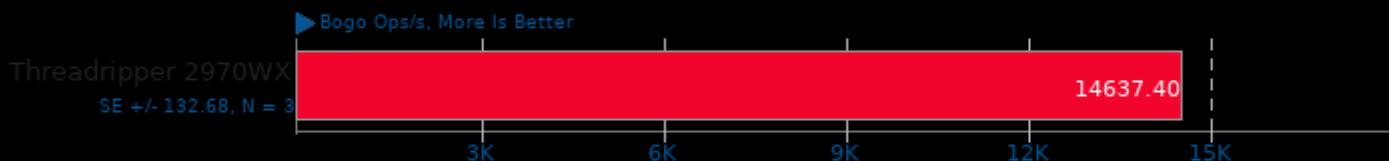
Test: Memory Copying



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

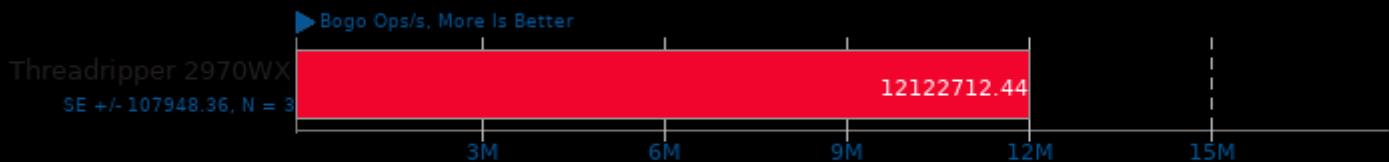
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

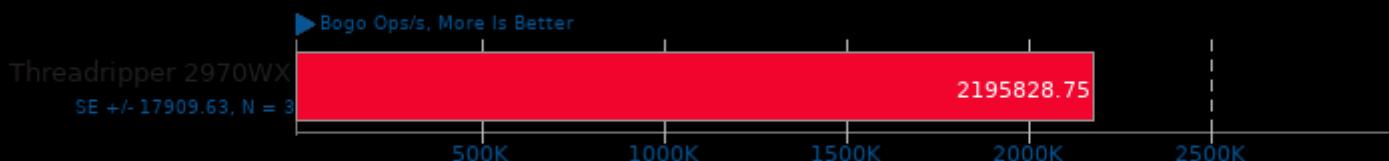
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

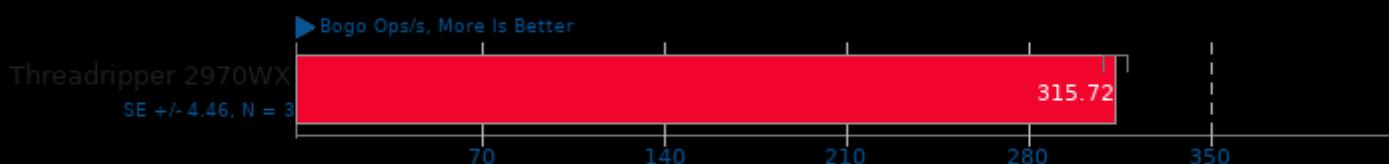
Test: Glibc C String Functions



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

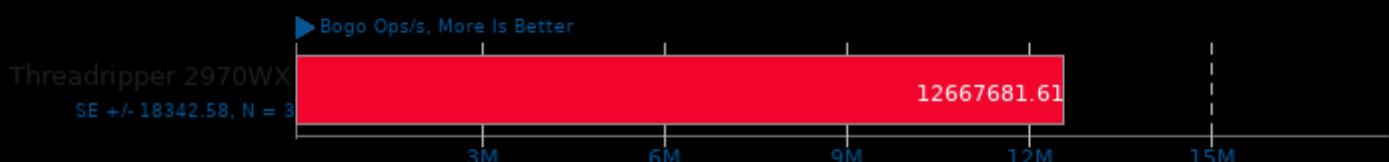
Test: Glibc Qsort Data Sorting



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## Stress-NG 0.11.07

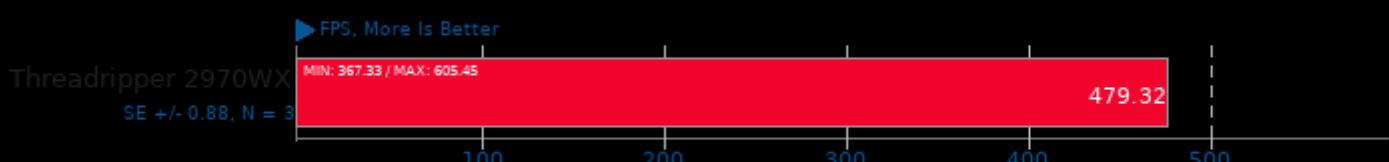
Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

## dav1d 0.7.0

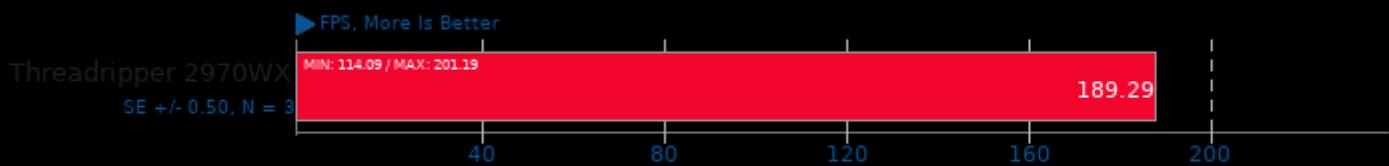
Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

**dav1d 0.7.0**

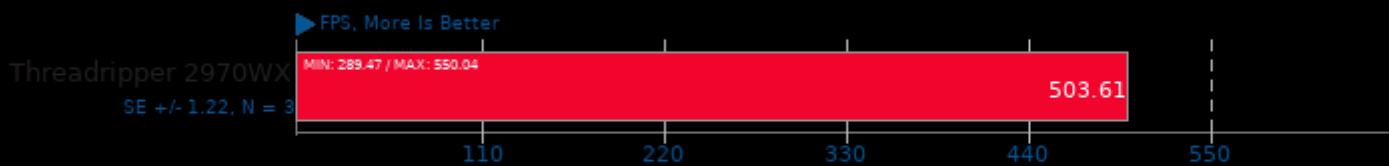
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

**dav1d 0.7.0**

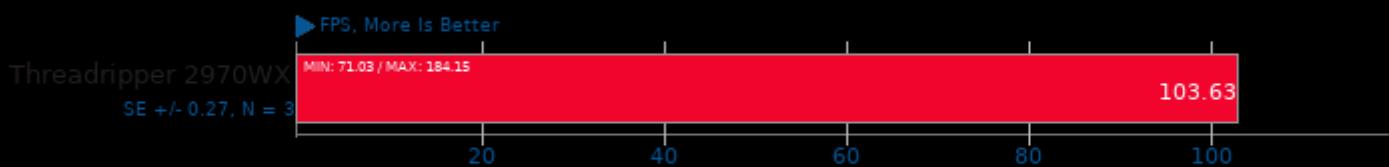
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

**dav1d 0.7.0**

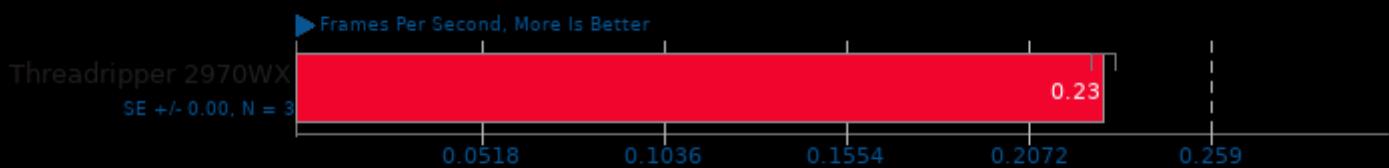
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

**AOM AV1 2.0**

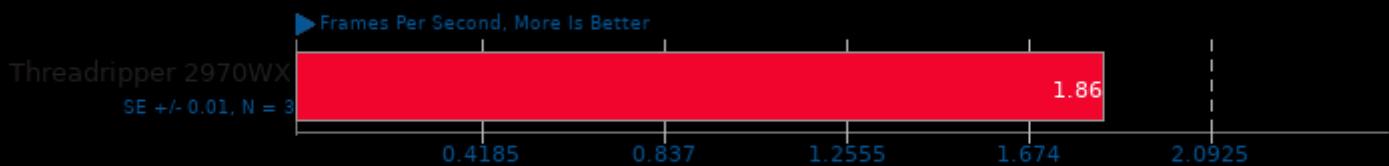
Encoder Mode: Speed 0 Two-Pass



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

**AOM AV1 2.0**

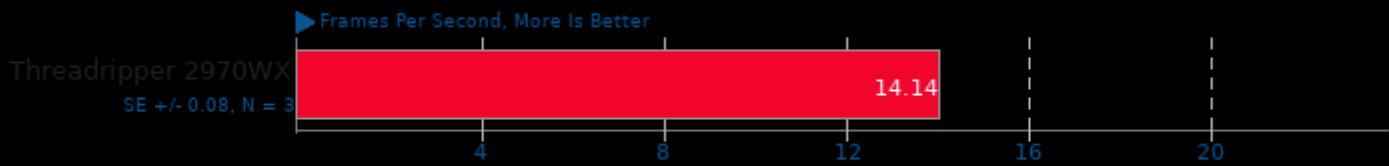
Encoder Mode: Speed 4 Two-Pass



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 2.0

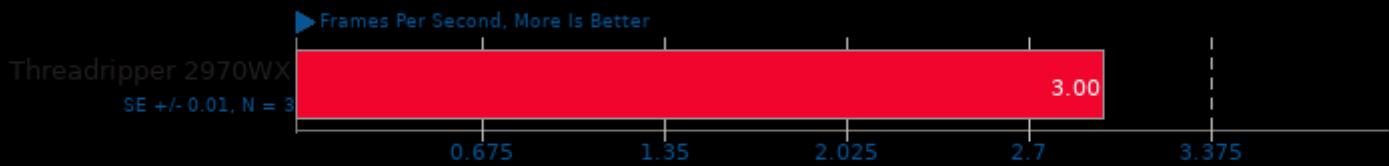
Encoder Mode: Speed 6 Realtime



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 2.0

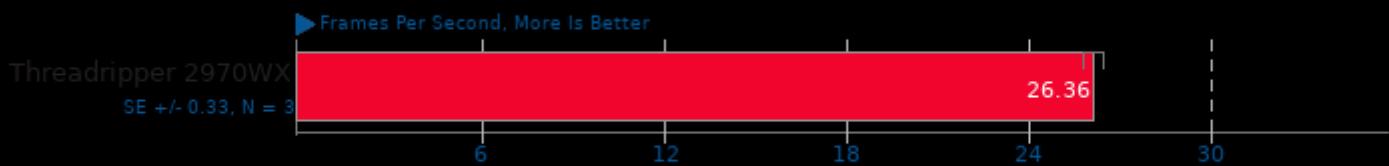
Encoder Mode: Speed 6 Two-Pass



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 2.0

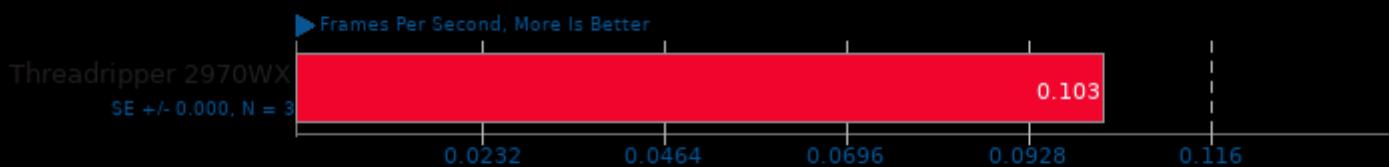
Encoder Mode: Speed 8 Realtime



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## SVT-AV1 0.8

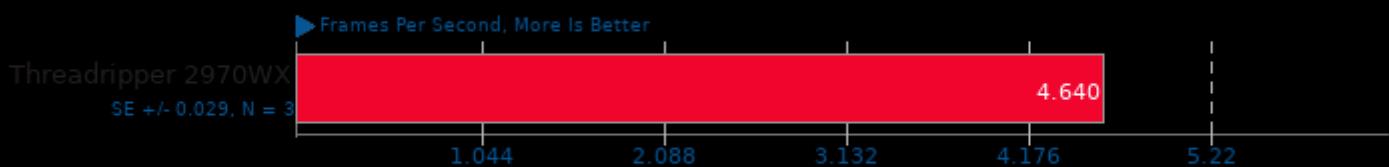
Encoder Mode: Enc Mode 0 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

## SVT-AV1 0.8

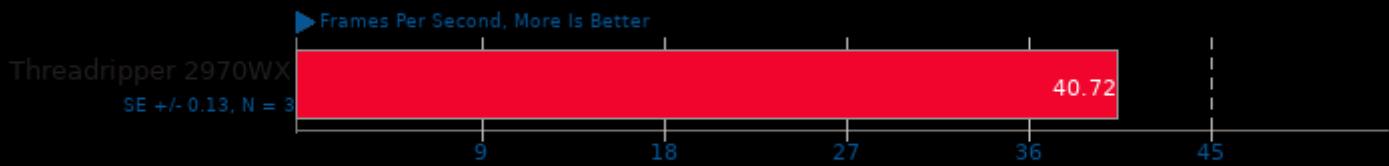
Encoder Mode: Enc Mode 4 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

## SVT-AV1 0.8

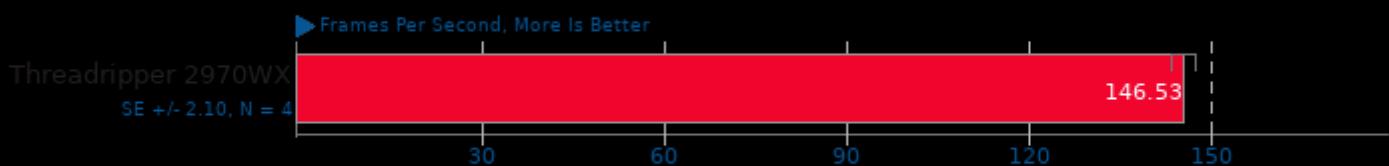
Encoder Mode: Enc Mode 8 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

## SVT-VP9 0.1

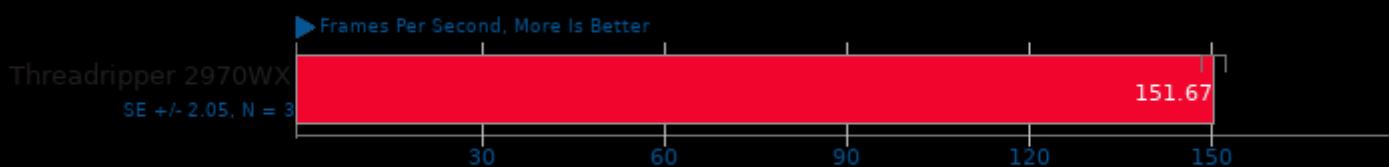
Tuning: VMAF Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

## SVT-VP9 0.1

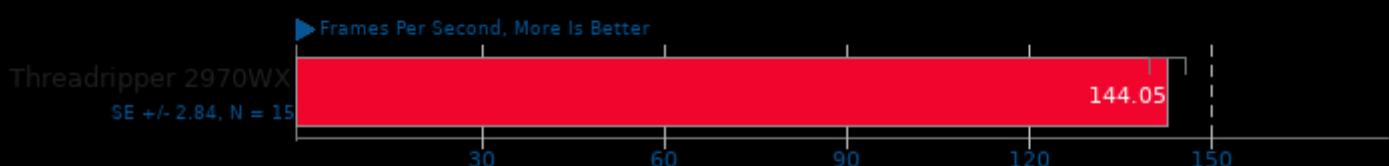
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

## SVT-VP9 0.1

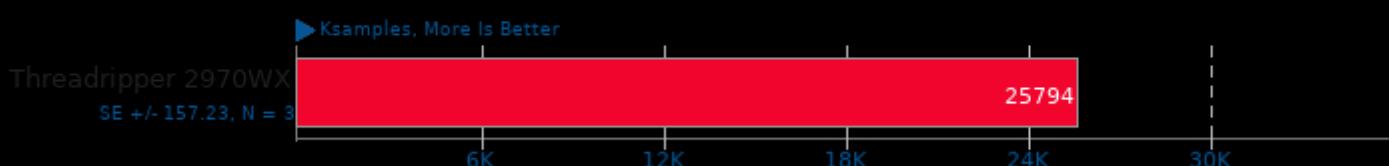
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

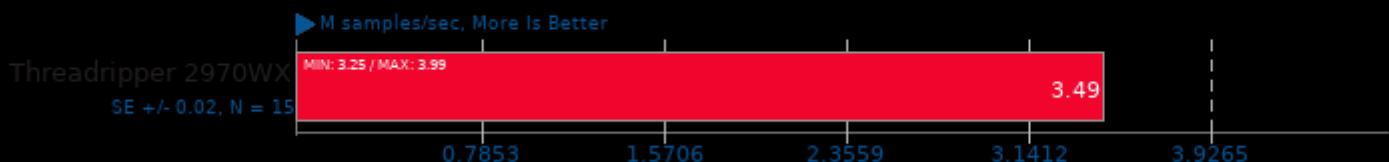
## Chaos Group V-RAY 4.10.07

Mode: CPU



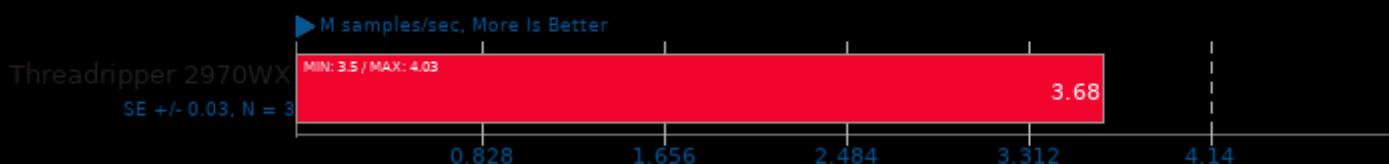
## LuxCoreRender 2.3

Scene: DLSC



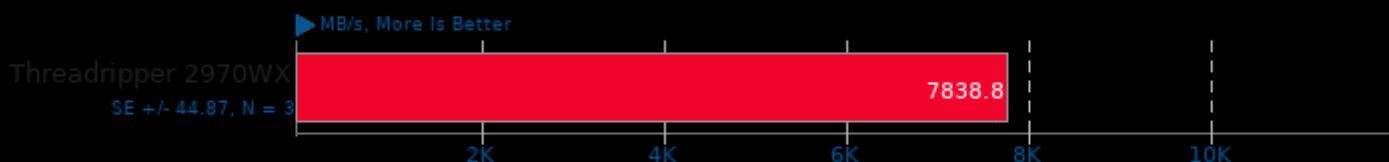
## LuxCoreRender 2.3

Scene: Rainbow Colors and Prism



## C-Blosc 2.0 Beta 5

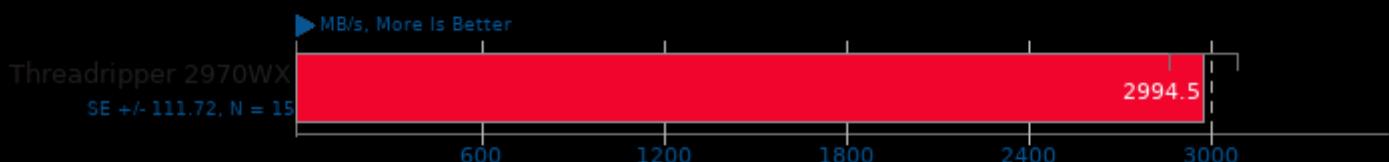
Compressor: blosclz



1. (CXX) g++ options: -rdynamic

## Zstd Compression 1.4.5

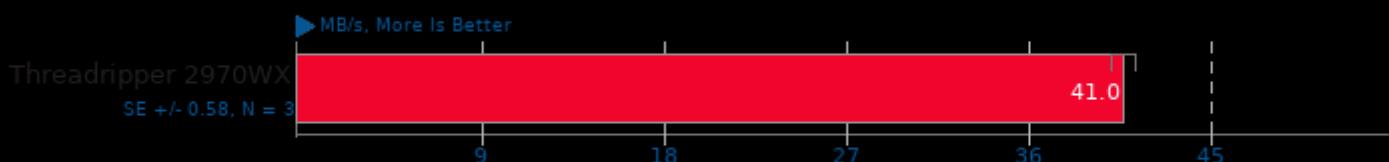
Compression Level: 3



1. (CC) gcc options: -O3 -pthread -lz -lizma

## Zstd Compression 1.4.5

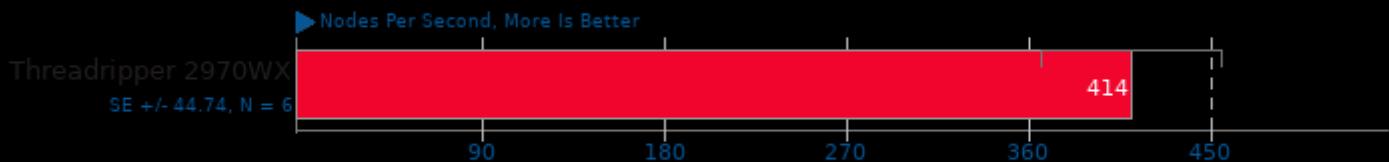
Compression Level: 19



1. (CC) gcc options: -O3 -pthread -lz -lizma

## LeelaChessZero 0.25

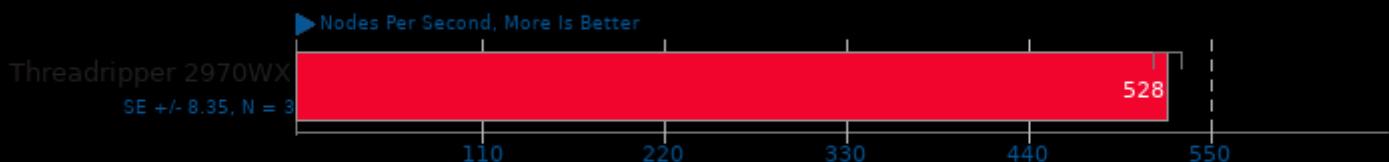
Backend: BLAS



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

## LeelaChessZero 0.25

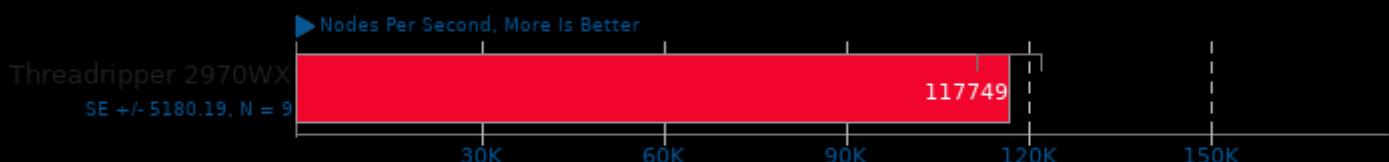
Backend: Eigen



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

## LeelaChessZero 0.25

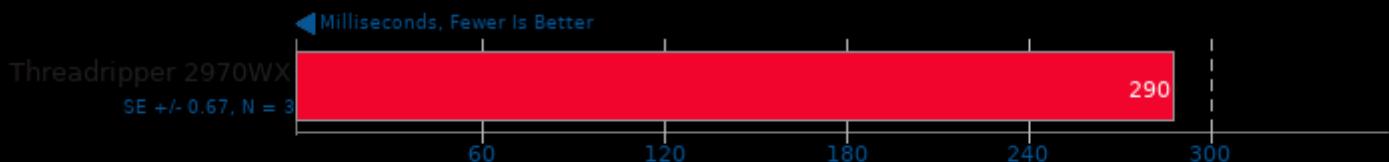
Backend: Random



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

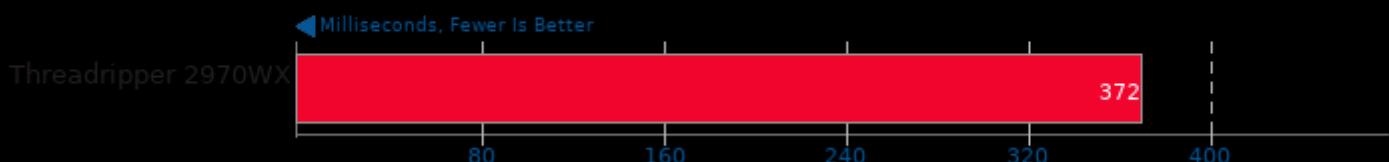
## PyPerformance 1.0.0

Benchmark: go



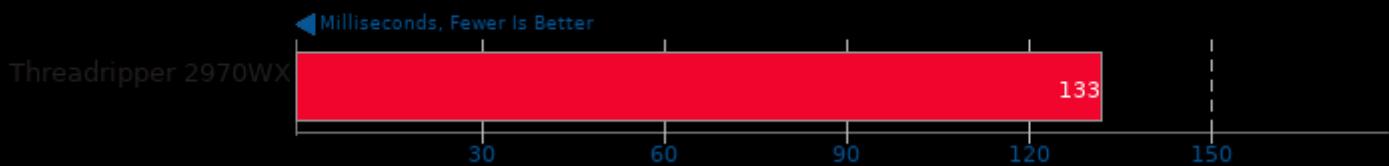
## PyPerformance 1.0.0

Benchmark: 2to3



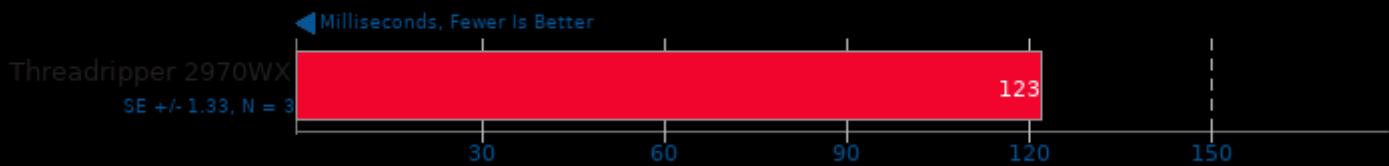
## PyPerformance 1.0.0

Benchmark: chaos



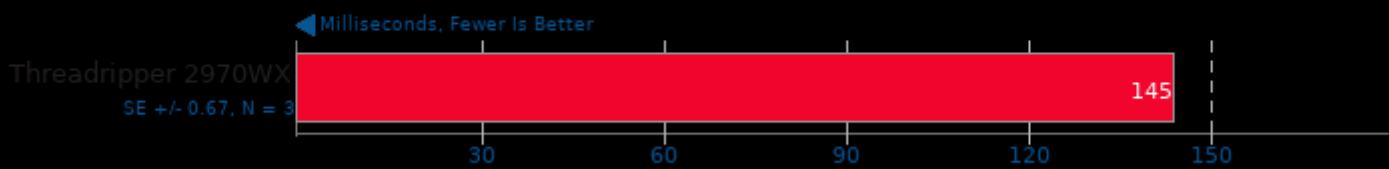
## PyPerformance 1.0.0

Benchmark: float



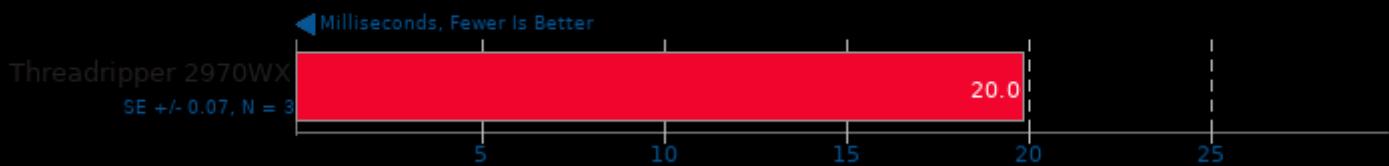
## PyPerformance 1.0.0

Benchmark: nbody



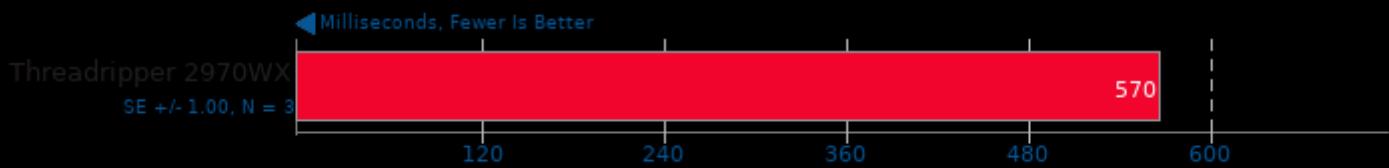
## PyPerformance 1.0.0

Benchmark: pathlib



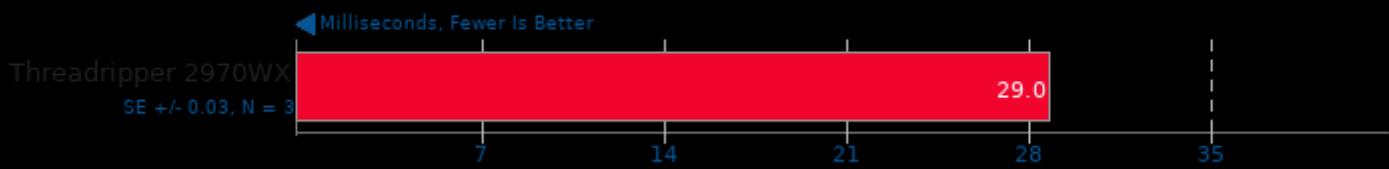
## PyPerformance 1.0.0

Benchmark: raytrace



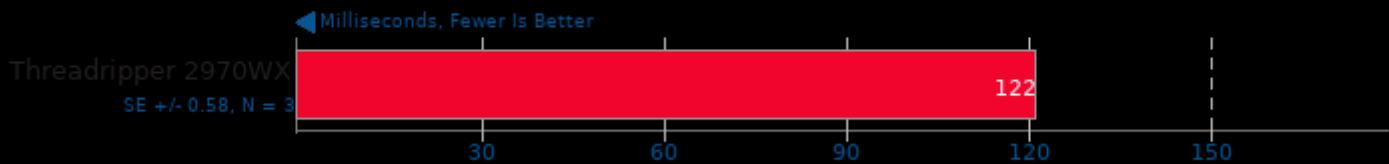
## PyPerformance 1.0.0

Benchmark: json.loads



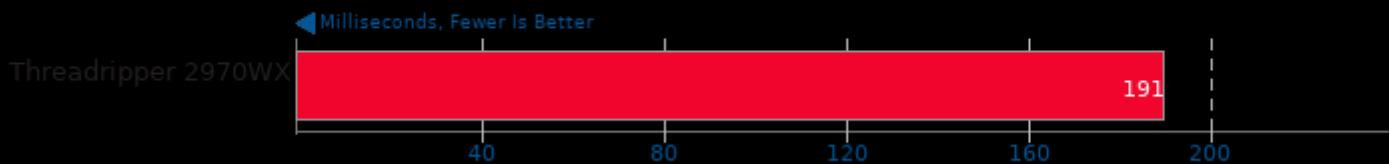
## PyPerformance 1.0.0

Benchmark: crypto\_pyaes



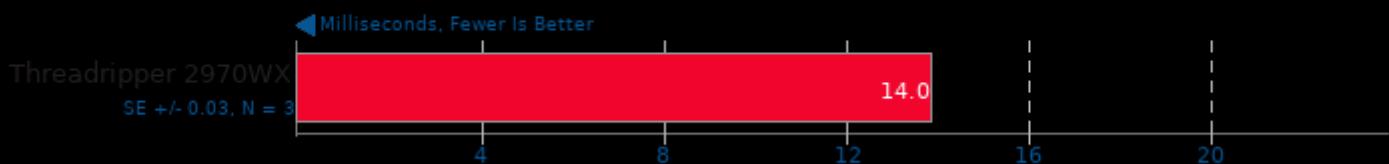
## PyPerformance 1.0.0

Benchmark: regex\_compile



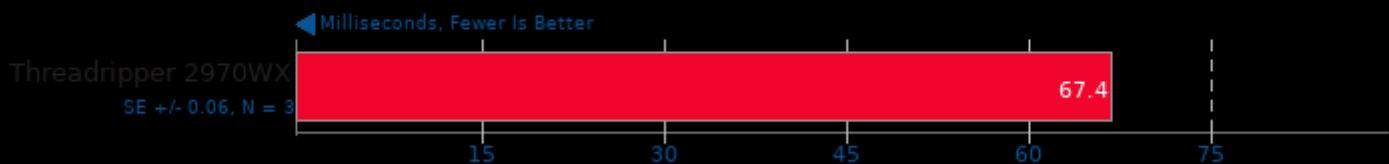
## PyPerformance 1.0.0

Benchmark: python\_startup



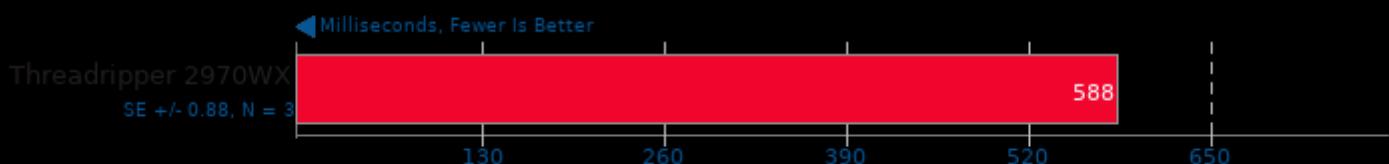
## PyPerformance 1.0.0

Benchmark: django\_template



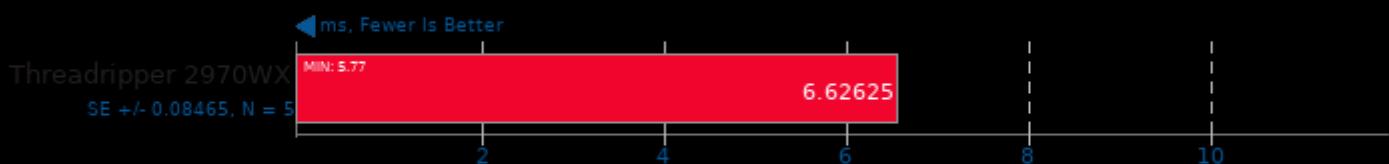
## PyPerformance 1.0.0

Benchmark: pickle\_pure\_python



## oneDNN 1.5

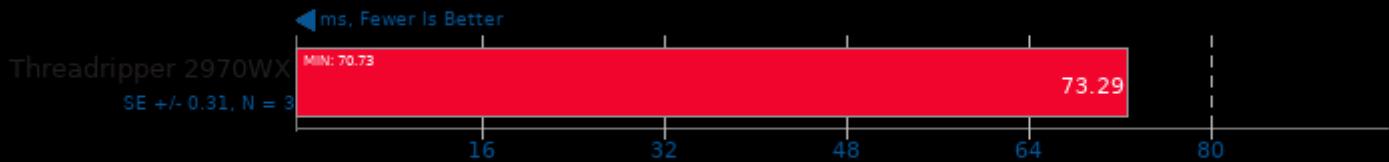
Harness: IP Batch 1D - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

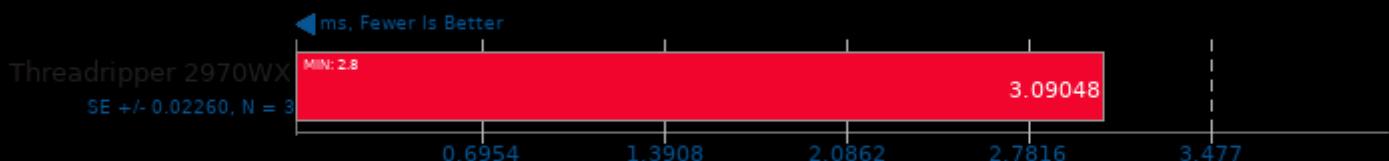
Harness: IP Batch All - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

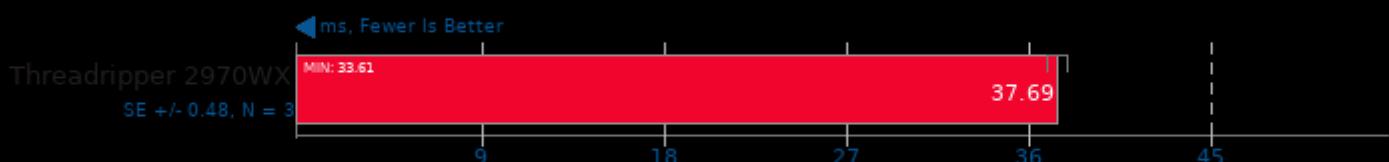
Harness: IP Batch 1D - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

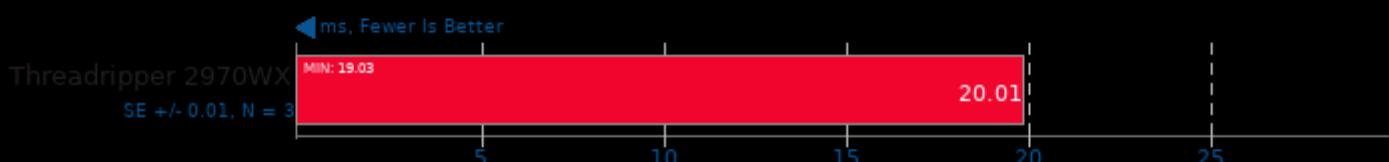
Harness: IP Batch All - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

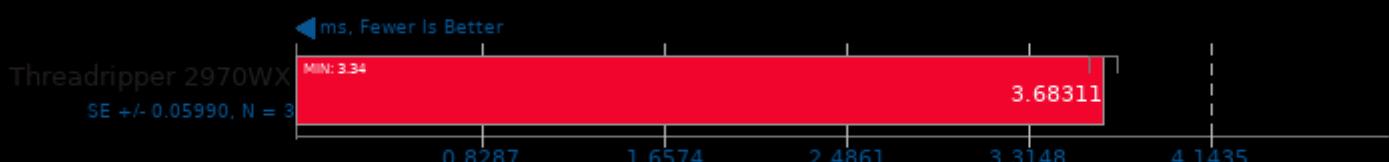
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

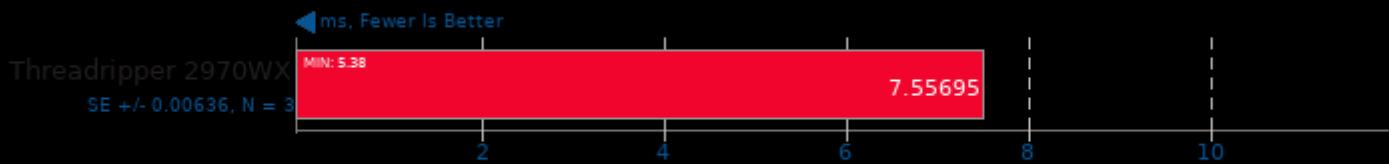
Harness: Deconvolution Batch deconv\_1d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

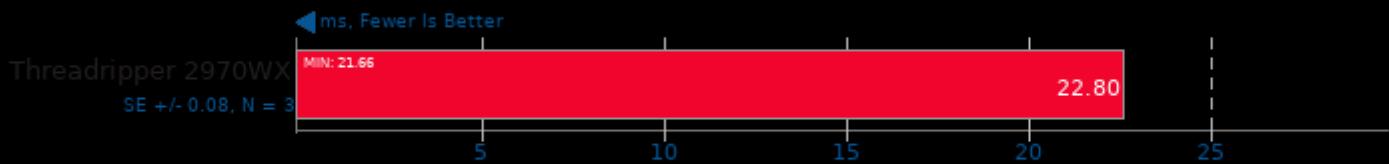
Harness: Deconvolution Batch deconv\_3d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

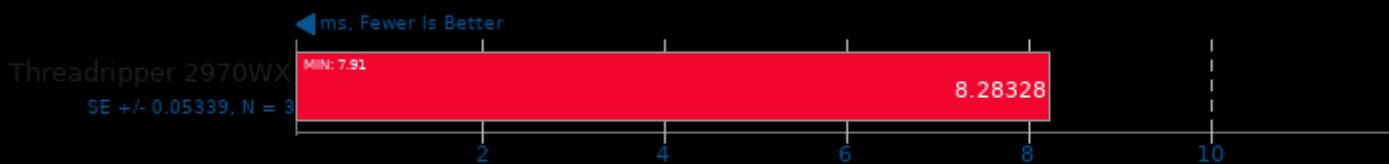
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

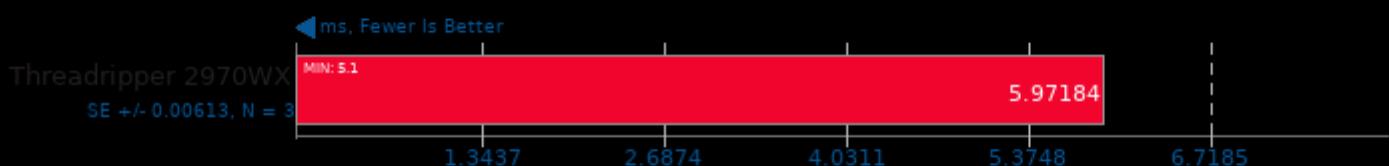
Harness: Deconvolution Batch deconv\_1d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

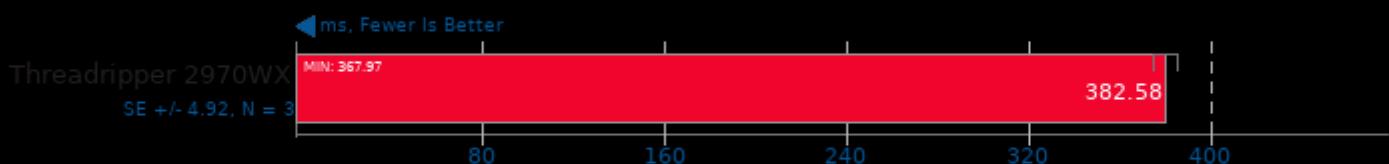
Harness: Deconvolution Batch deconv\_3d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

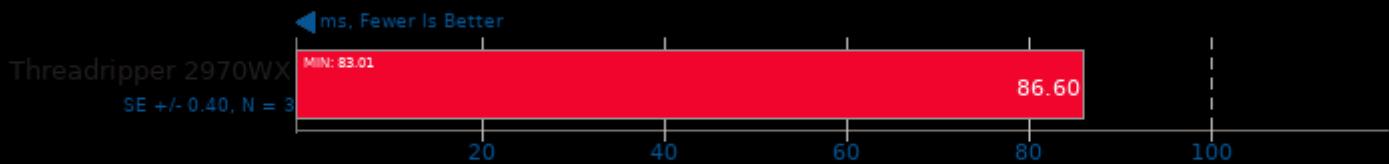
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

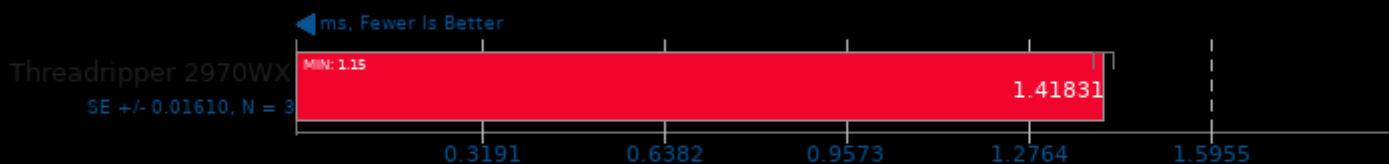
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

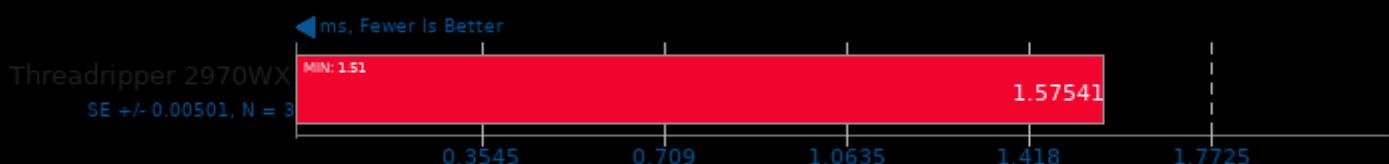
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

## oneDNN 1.5

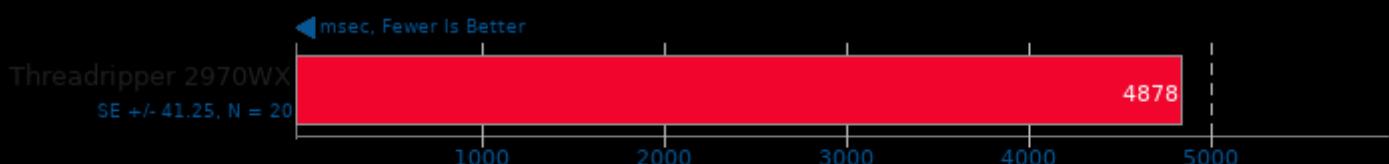
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

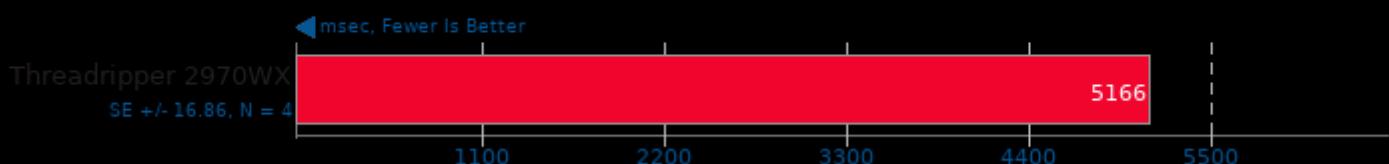
## DaCapo Benchmark 9.12-MR1

Java Test: H2



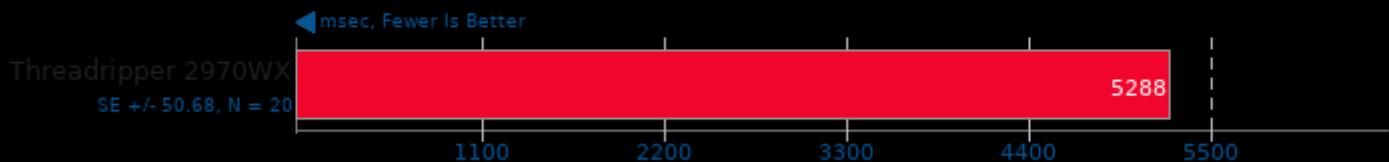
## DaCapo Benchmark 9.12-MR1

Java Test: Jython



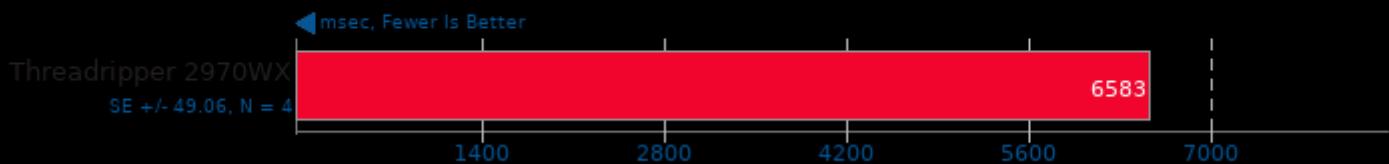
## DaCapo Benchmark 9.12-MR1

Java Test: Tradesoap



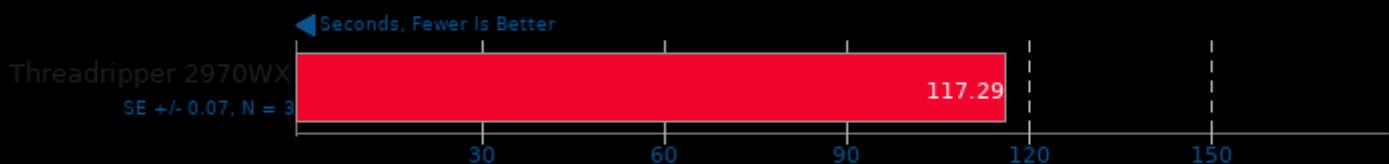
## DaCapo Benchmark 9.12-MR1

Java Test: Tradebeans



## Rodinia 3.1

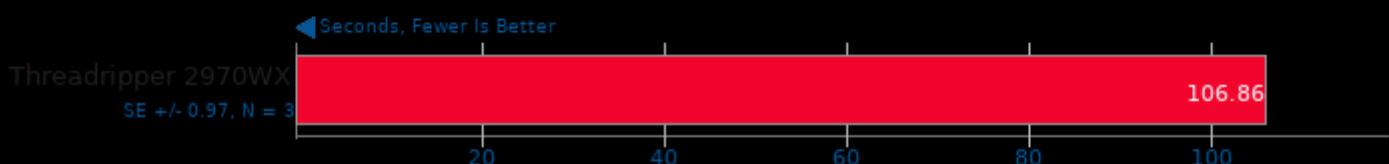
Test: OpenMP LavaMD



1. (CXX) g++ options: -O2 -fOpenCL

## Rodinia 3.1

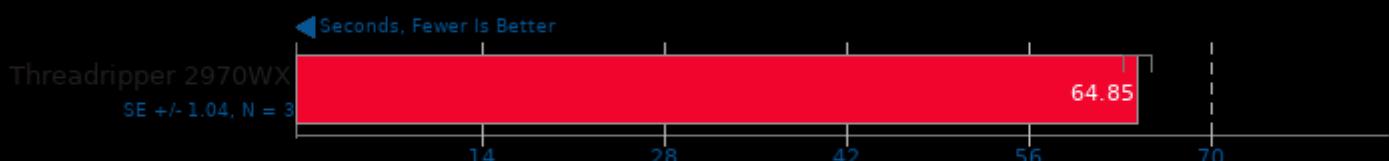
Test: OpenMP HotSpot3D



1. (CXX) g++ options: -O2 -fOpenCL

## Rodinia 3.1

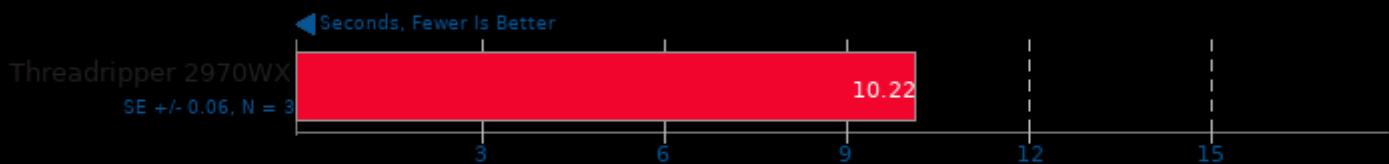
Test: OpenMP Leukocyte



1. (CXX) g++ options: -O2 -fOpenCL

## Rodinia 3.1

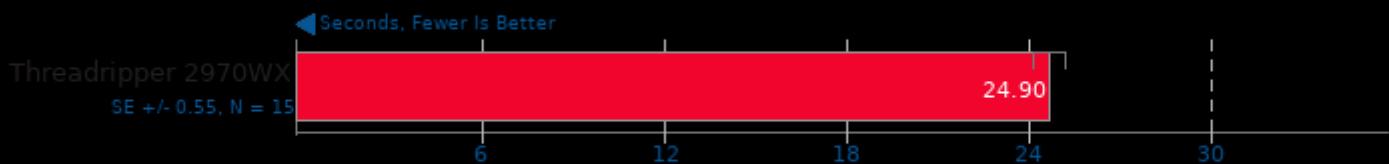
Test: OpenMP CFD Solver



1. (CXX) g++ options: -O2 -fOpenCL

## Rodinia 3.1

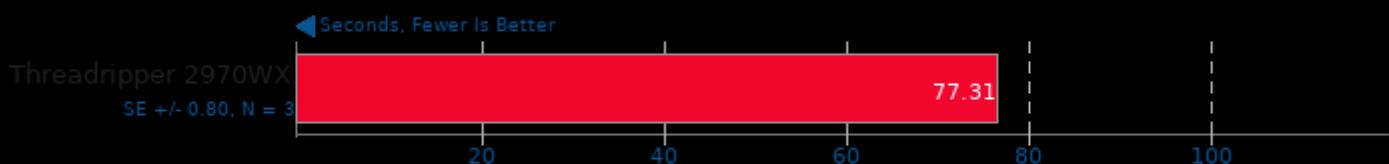
Test: OpenMP Streamcluster



1. (CXX) g++ options: -O2 -fOpenCL

## libavif avifenc 0.7.3

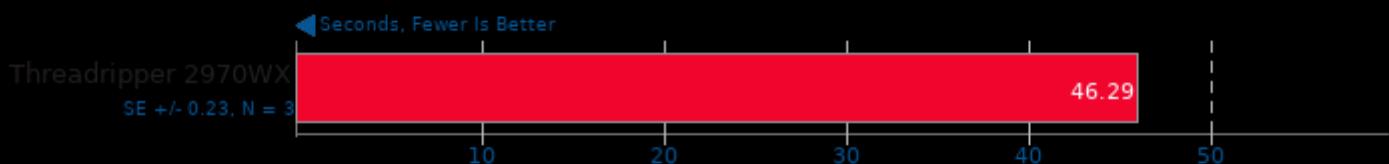
Encoder Speed: 0



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

## libavif avifenc 0.7.3

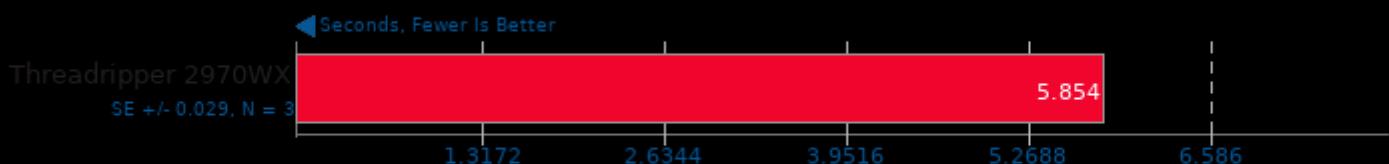
Encoder Speed: 2



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

## libavif avifenc 0.7.3

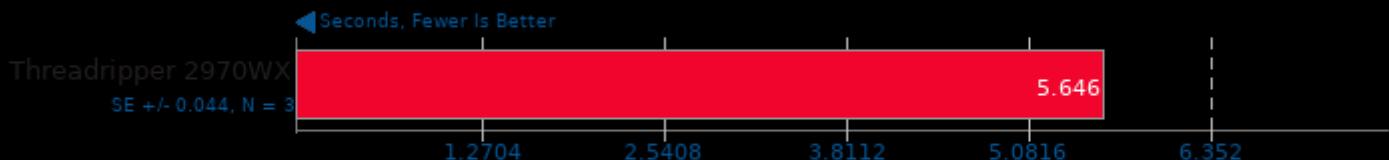
Encoder Speed: 8



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

**libavif avifenc 0.7.3**

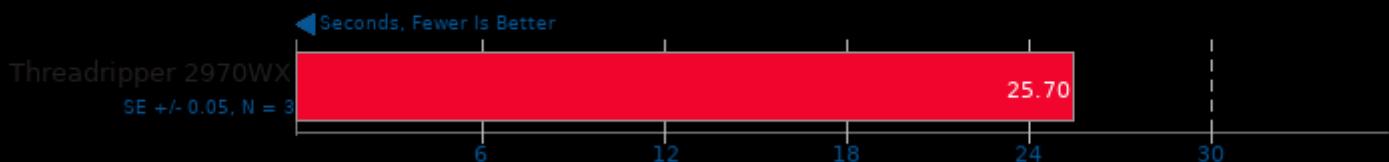
Encoder Speed: 10



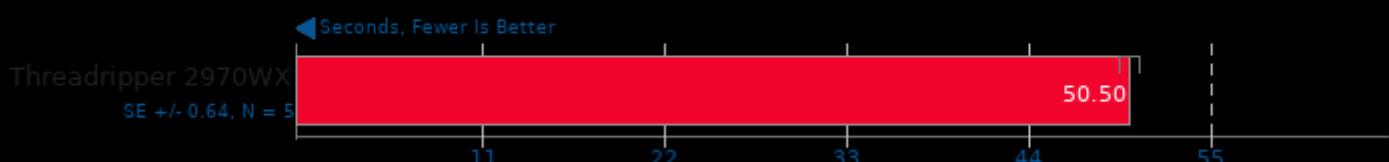
1. (CXX) g++ options: -O3 -fPIC

**Timed Apache Compilation 2.4.41**

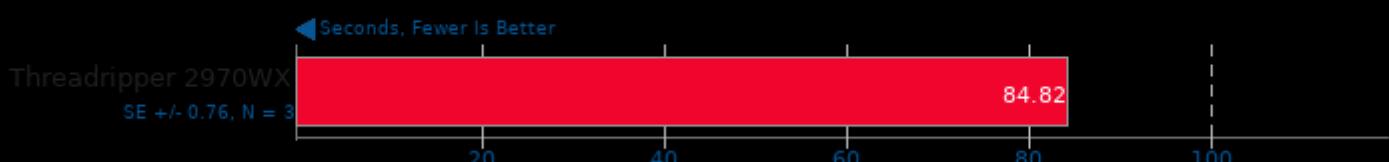
Time To Compile

**Timed Linux Kernel Compilation 5.4**

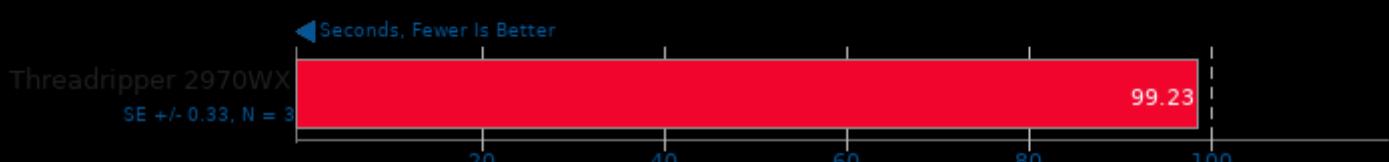
Time To Compile

**Build2 0.12**

Time To Compile

**YafaRay 3.4.1**

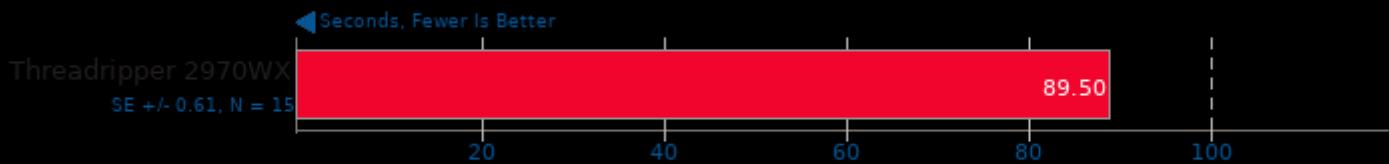
Total Time For Sample Scene



1. (CXX) g++ options: -std=c++11 -O3 -ffast-math -rdynamic -ldl -lmath -lm -lmf -lex -Half -lz -lmThread -lxm12 -lfreetype -lpthread

## Montage Astronomical Image Mosaic Engine 6.0

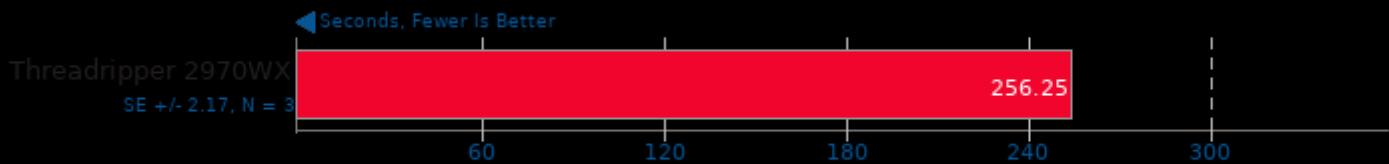
Mosaic of M17, K band, 1.5 deg x 1.5 deg



1. (CC) gcc options: -std=gnu99 -lcfitsio -lm -O2

## G'MIC

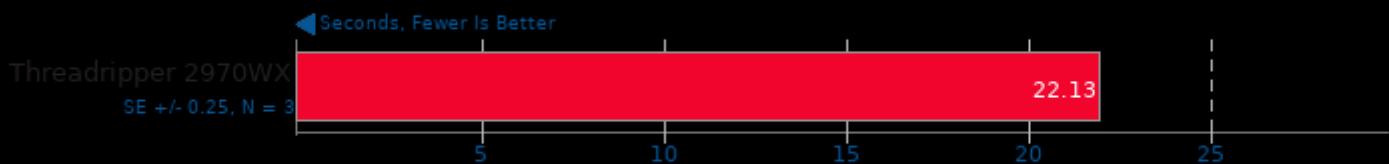
Test: 2D Function Plotting, 1000 Times



1. Version 2.4.5, Copyright (c) 2008-2019, David Tschumperle.

## G'MIC

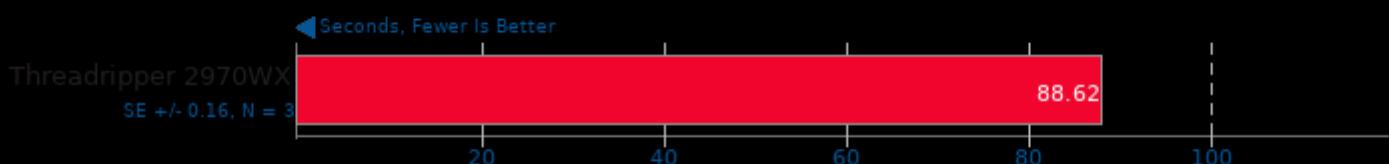
Test: Plotting Isosurface Of A 3D Volume, 1000 Times



1. Version 2.4.5, Copyright (c) 2008-2019, David Tschumperle.

## G'MIC

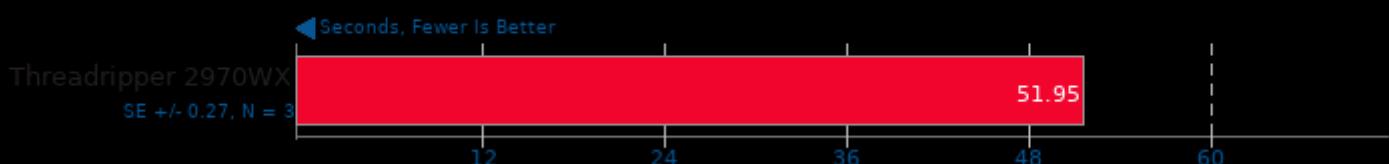
Test: 3D Elevated Function In Random Colors, 100 Times



1. Version 2.4.5, Copyright (c) 2008-2019, David Tschumperle.

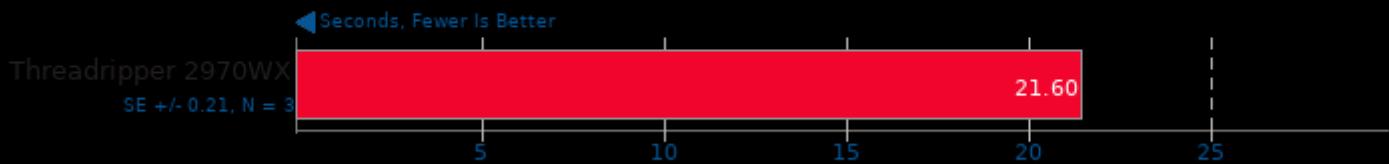
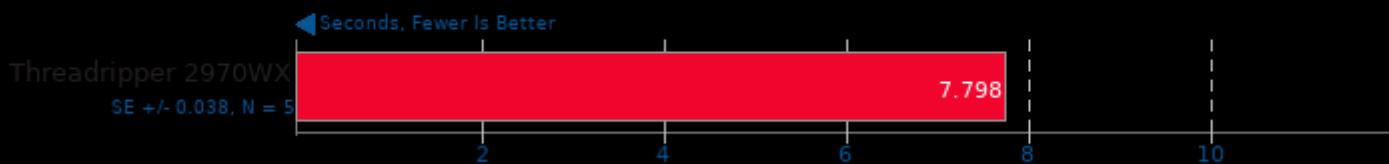
## Hugin

Panorama Photo Assistant + Stitching Time

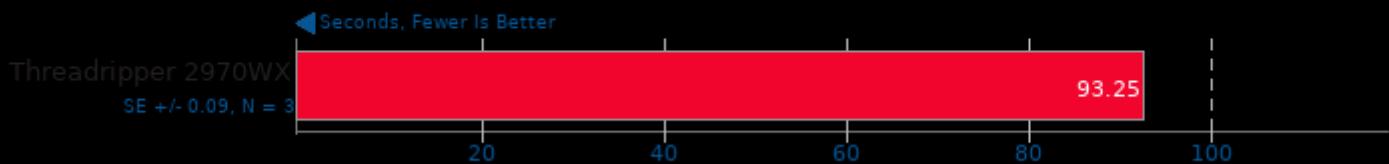


**OCRMyPDF 9.6.0+dfsg**

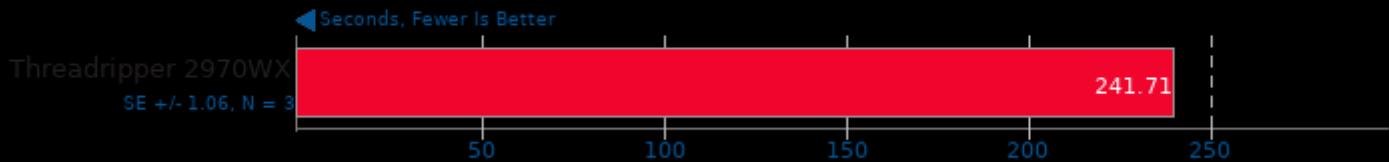
Processing 60 Page PDF Document

**GNU Octave Benchmark 5.2.0****Blender 2.82**

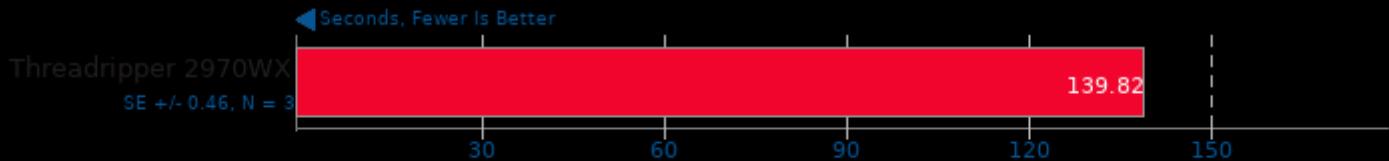
Blend File: BMW27 - Compute: CPU-Only

**Blender 2.82**

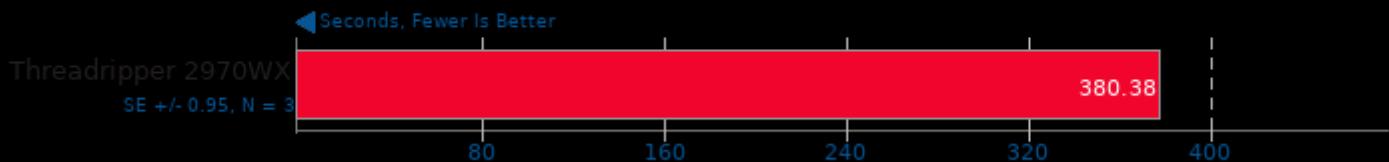
Blend File: Classroom - Compute: CPU-Only

**Blender 2.82**

Blend File: Fishy Cat - Compute: CPU-Only

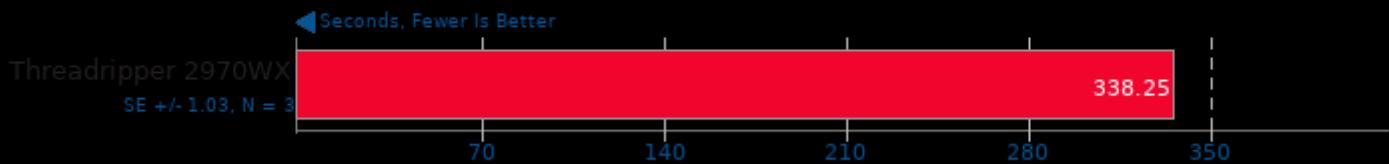
**Blender 2.82**

Blend File: Barbershop - Compute: CPU-Only



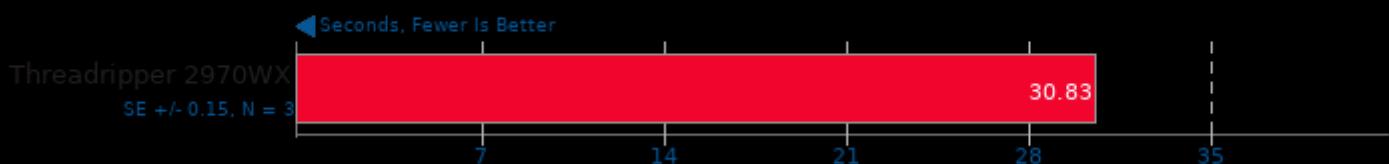
## Blender 2.82

Blend File: Pabellon Barcelona - Compute: CPU-Only



## Tesseract OCR 4.1.1

Time To OCR 7 Images



*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 06:49.*