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Blender 3.3 NVIDIA

AMD Ryzen 9 5950X 16-Core testing with a ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS) and NVIDIA GeForce RTX 3080 Ti 12GB on Ubuntu 20.04 via the Phoronix Test Suite.

Test Systems:

RTX 3070

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: NVIDIA GeForce RTX 3070 8GB, Audio: NVIDIA Device 228b, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa201016

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: 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 Retpolines IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

RTX 2060 SUPER

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: NVIDIA GeForce RTX 2060 SUPER 8GB, Audio: NVIDIA TU106 HD Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 3070 Ti

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: NVIDIA GeForce RTX 3070 Ti 8GB, Audio: NVIDIA Device 228b, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 3090

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: NVIDIA GeForce RTX 3090 24GB, Audio: NVIDIA Device 1aef, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 3060 Ti

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: NVIDIA GeForce RTX 3060 Ti 8GB, Audio: NVIDIA Device 228b, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

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RTX 3080

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: NVIDIA GeForce RTX 3080 10GB, Audio: NVIDIA Device 1aef, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 3060

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 2 x 16384 MB DDR4-3600MT/s, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: eVGA NVIDIA GeForce RTX 3060 12GB, Audio: NVIDIA Device 228e, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 2080 SUPER

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OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 2060

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OS: Ubuntu 20.04, Kernel: 5.15.0-46-generic (x86_64), Desktop: GNOME Shell 3.36.9, Display Server: X Server 1.20.13, Display Driver: NVIDIA 515.65.01, OpenGL: 4.6.0, OpenCL: OpenCL 3.0 CUDA 11.7.101, Vulkan: 1.3.205, Compiler: GCC 9.4.0, File-System: ext4, Screen Resolution: 3840x2160

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RTX 3080 Ti

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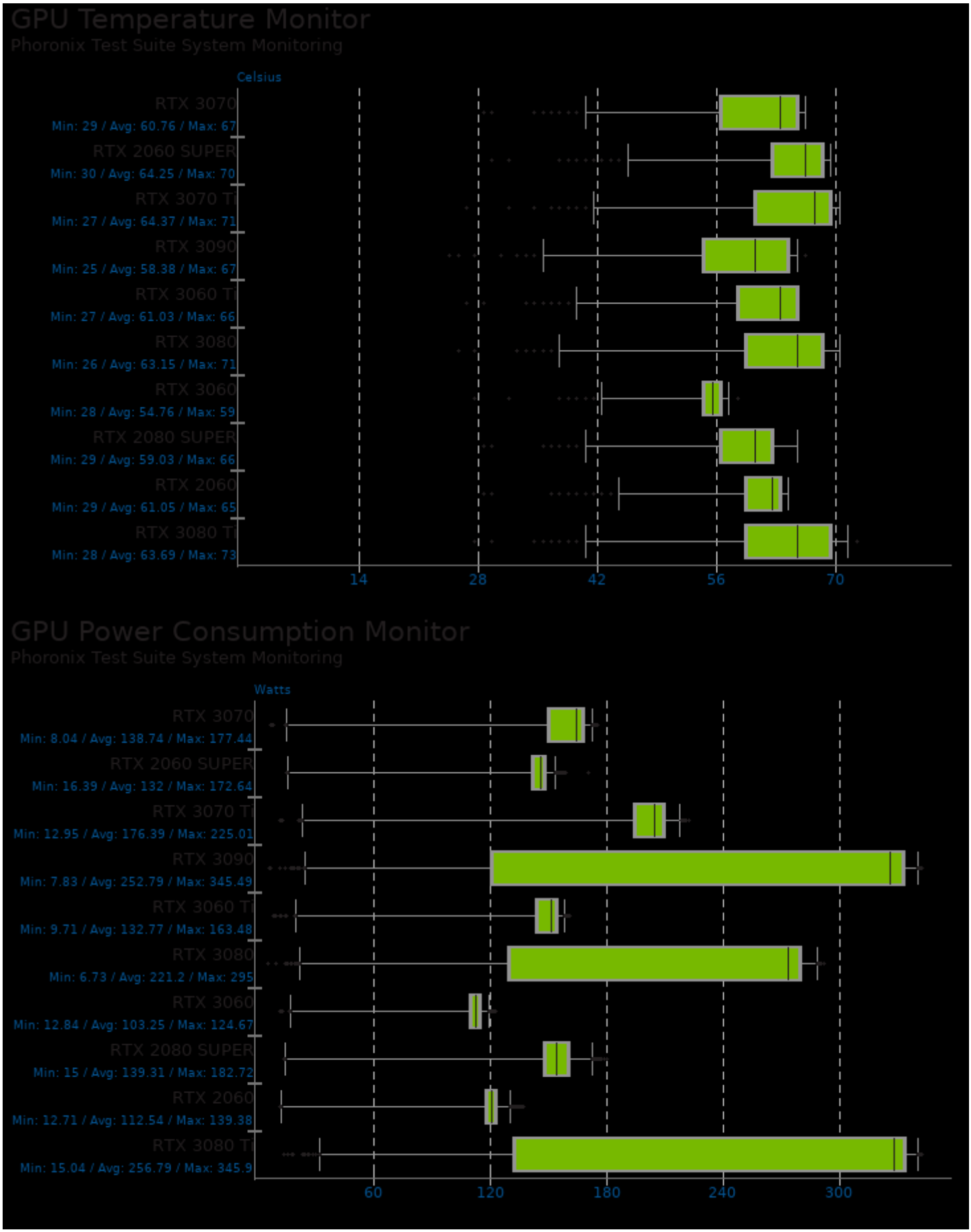
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	RTX 3070	RTX 2060 SUPER	RTX 3070 Ti	RTX 3090	RTX 3060 Ti	RTX 3080	RTX 3060	RTX 2080 SUPER	RTX 2060	RTX 3080 Ti
Blender - BMW27 - CUDA (sec)	17.88	24.85	16.7	**10.79**	20.34	12.76	27.14	20.44	**29.91**	11.18
Normalized	60.35%	43.42%	64.61%	100%	53.05%	84.56%	39.76%	52.79%	36.07%	96.51%
Standard Deviation	0.4%	0.4%	0.3%	0.4%	0.1%	0.8%	0.1%	0.1%	0.3%	0.4%

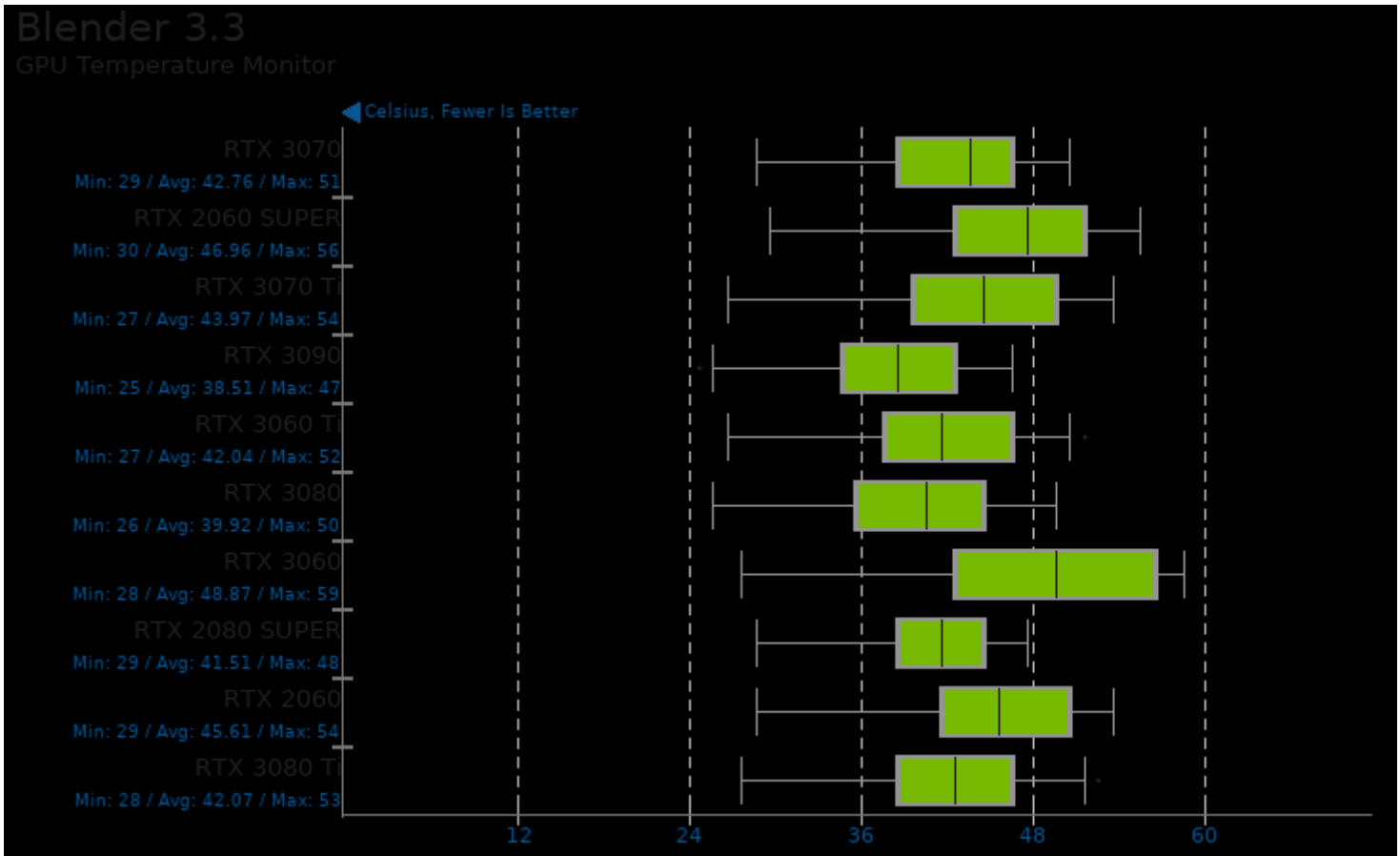
Blender 3.3 NVIDIA

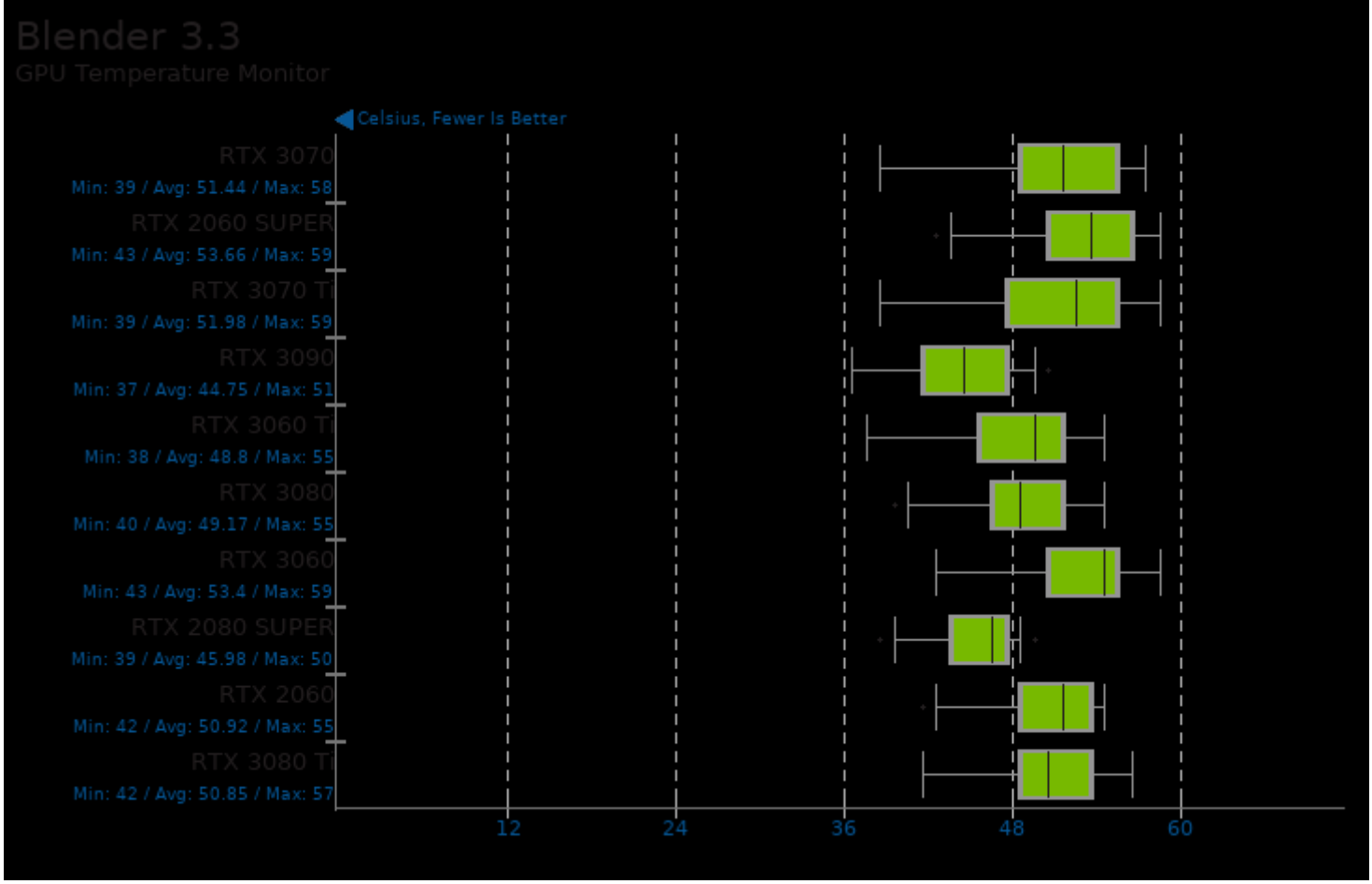
Blender - BMW27 - NVIDIA OptiX (sec)	10.07	13.13	9.09	**6.38**	10.93	7.43	13.76	12.02	**16.19**	6.52
Normalized	63.36%	48.59%	70.19%	100%	58.37%	85.87%	46.37%	53.08%	39.41%	97.85%
Standard Deviation	2.4%	2.5%	0.6%	0.5%	0.5%	0.6%	0.3%	0.5%	0.2%	0.8%
Blender - Classroom - CUDA	36.27	54.18	33.78	**21.10**	41.39	25.25	55.92	45.84	**67.10**	21.86
Normalized	58.17%	38.94%	62.46%	100%	50.98%	83.56%	37.73%	46.03%	31.45%	96.52%
Standard Deviation	0.2%	0.4%	0.2%	0.2%	0.2%	0.3%	0.1%	0.2%	0.4%	0.2%
Blender - Classroom - NVIDIA	24.85	35.21	22.76	**15.01**	27.40	17.71	35.86	32.56	**44.89**	15.46
Normalized	60.4%	42.63%	65.95%	100%	54.78%	84.75%	41.86%	46.1%	33.44%	97.09%
Standard Deviation	0.3%	0.1%	0.5%	0.4%	0.1%	0.1%	0.1%	0.2%	0.1%	0.3%
Blender - Fishy Cat - CUDA (sec)	36.91	55.12	35.42	**22.36**	43.33	26.30	58.74	42.09	**64.85**	23.28
Normalized	60.58%	40.57%	63.13%	100%	51.6%	85.02%	38.07%	53.12%	34.48%	96.05%
Standard Deviation	0.1%	0.2%	0.1%	0.2%	0.1%	0.3%	0%	0.3%	0.1%	0.3%
Blender - Fishy Cat - NVIDIA OptiX	18.17	27.44	17.05	**10.90**	20.62	12.76	27.55	21.49	**31.57**	11.33
Normalized	59.99%	39.72%	63.93%	100%	52.86%	85.42%	39.56%	50.72%	34.53%	96.2%
Standard Deviation	2.4%	1.9%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0%	0.4%
Blender - Pabellon Barcelona - CUDA (sec)	90.95	141.75	85.35	**50.79**	107.23	62.20	148.33	117.43	**182.88**	52.81
Normalized	55.84%	35.83%	59.51%	100%	47.37%	81.66%	34.24%	43.25%	27.77%	96.17%
Standard Deviation	0.1%	0.1%	0.1%	0%	0.1%	0.2%	0.2%	0.4%	0%	0%
Blender - Pabellon Barcelona - NVIDIA OptiX (sec)	27.67	42.23	25.41	**16.97**	30.44	20.32	39.97	39.07	**54.88**	17.41
Normalized	61.33%	40.18%	66.78%	100%	55.75%	83.51%	42.46%	43.43%	30.92%	97.47%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
Blender - Barbershop - CUDA (sec)	156.41	235.54	146.38	**91.79**	179.04	109.32	239.77	200.13	**289.45**	95.20
Normalized	58.69%	38.97%	62.71%	100%	51.27%	83.96%	38.28%	45.87%	31.71%	96.42%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.1%	0%	0%	0.1%	0.1%	0.1%
Blender - Barbershop - NVIDIA OptiX (sec)	90.79	145.93	84.82	**56.37**	100.87	66.52	131.80	128.10	**177.81**	58.13
Normalized	62.09%	38.63%	66.46%	100%	55.88%	84.74%	42.77%	44%	31.7%	96.97%
Standard Deviation	0.1%	0.1%	0.1%	0%	0.1%	0.2%	0%	0.2%	0.2%	0.2%

Blender 3.3 NVIDIA

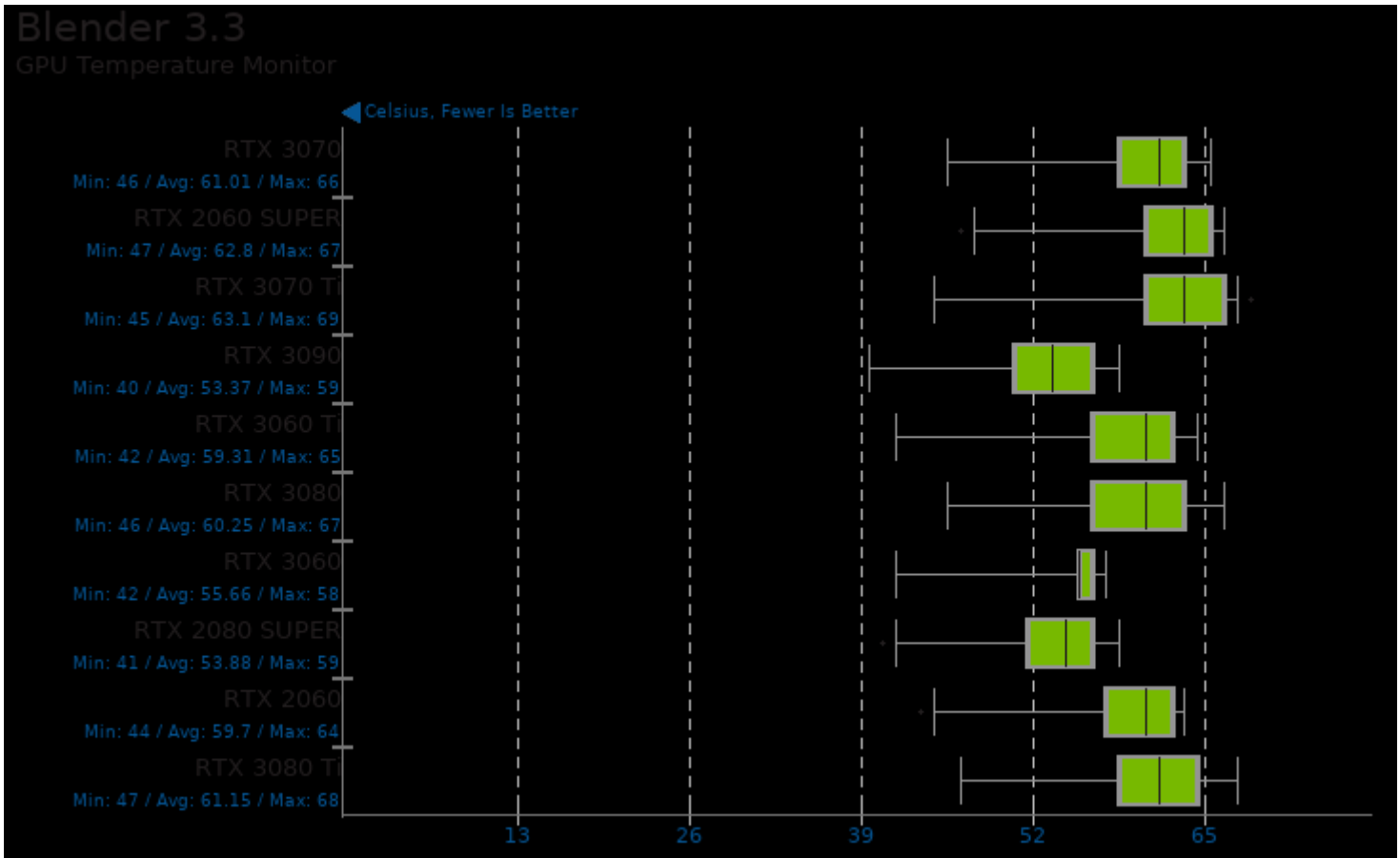


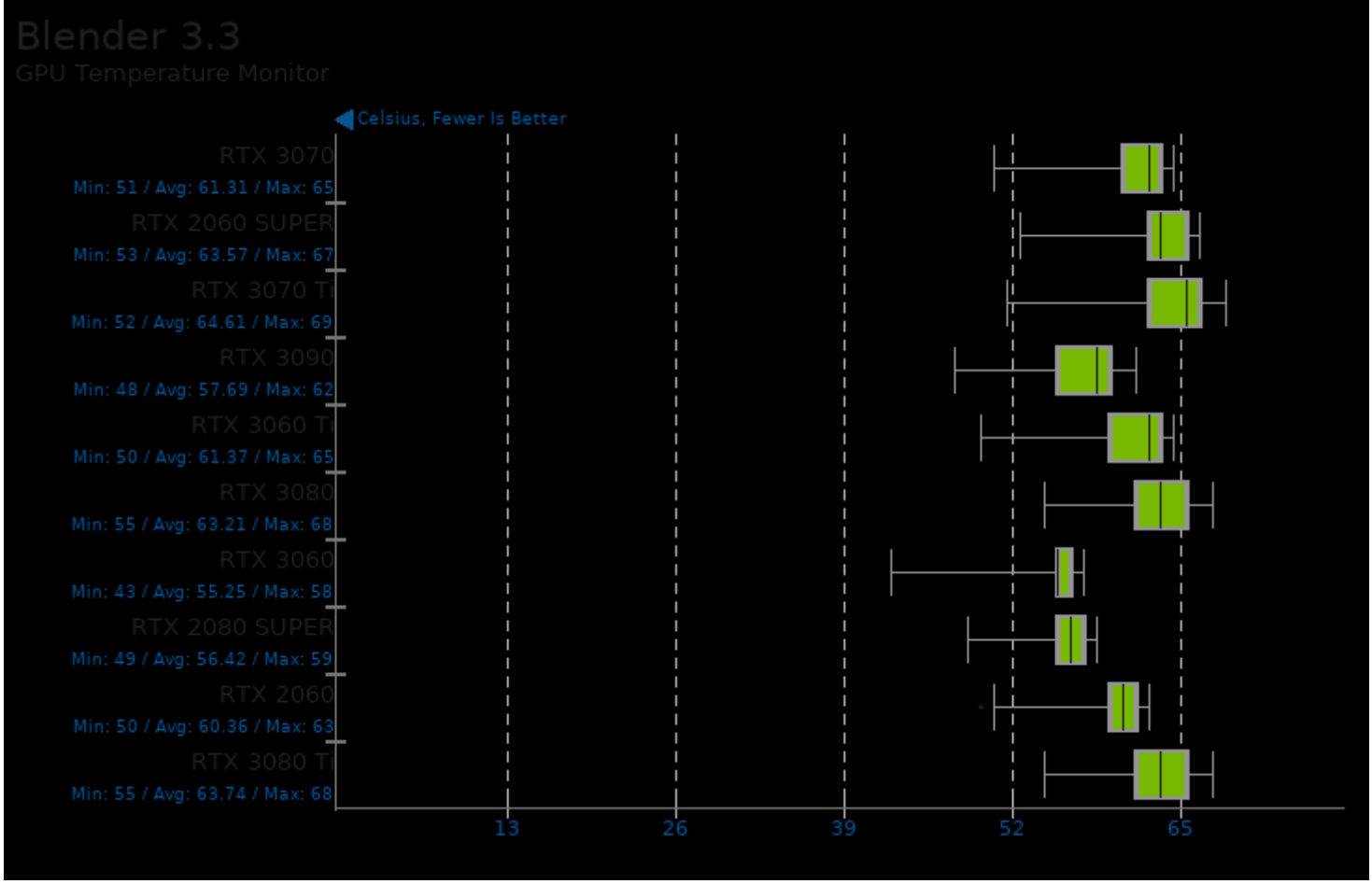
Blender 3.3 NVIDIA



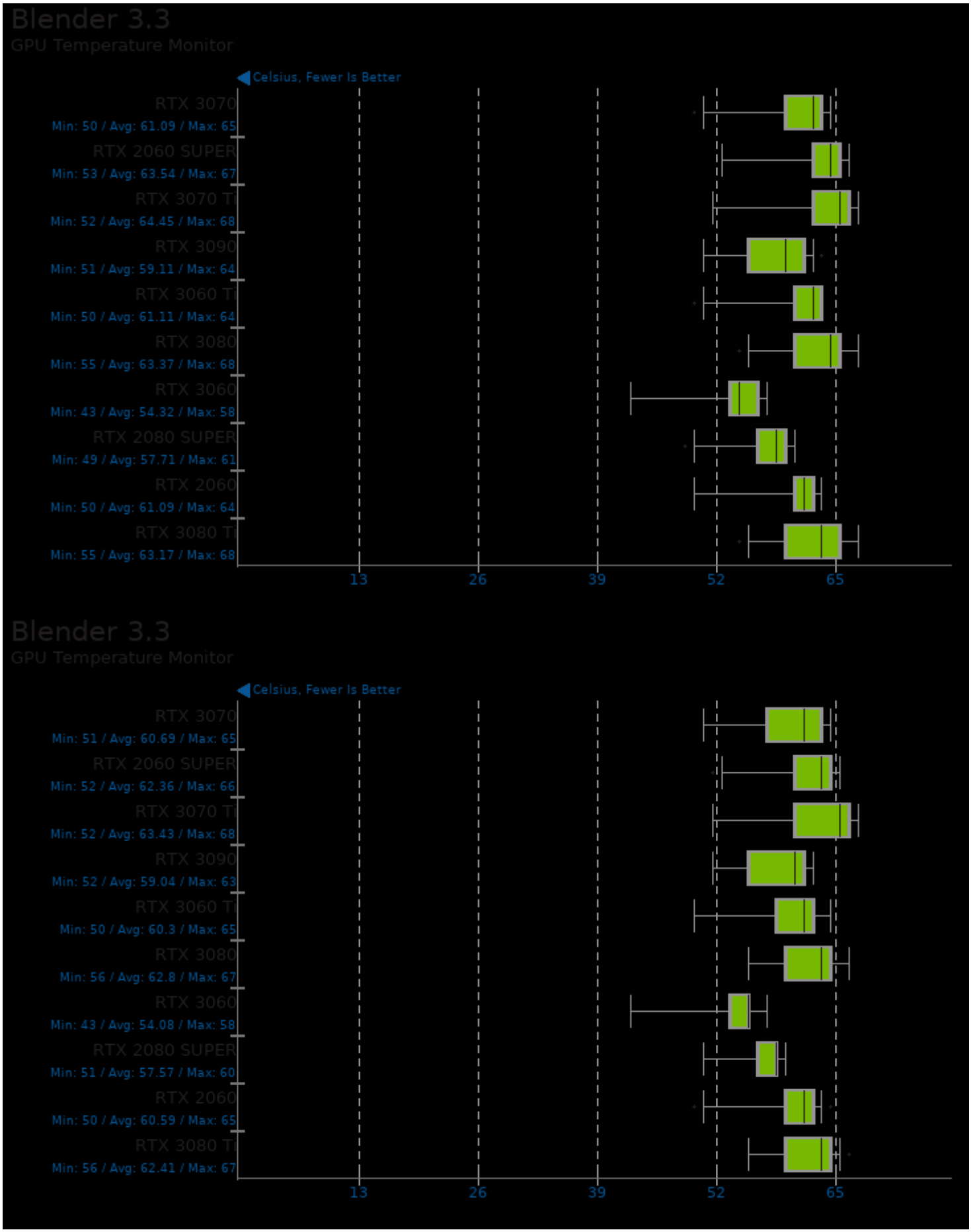


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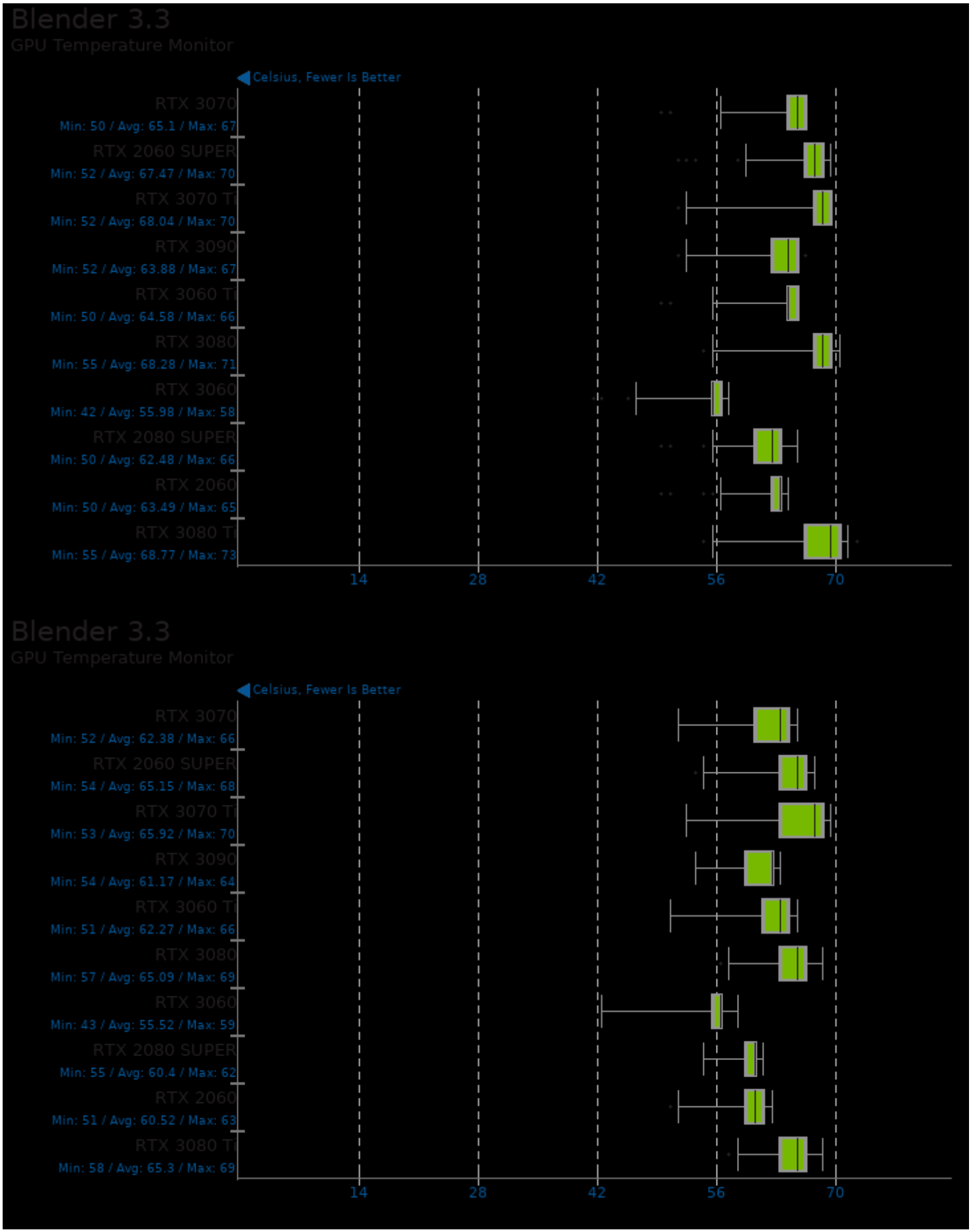




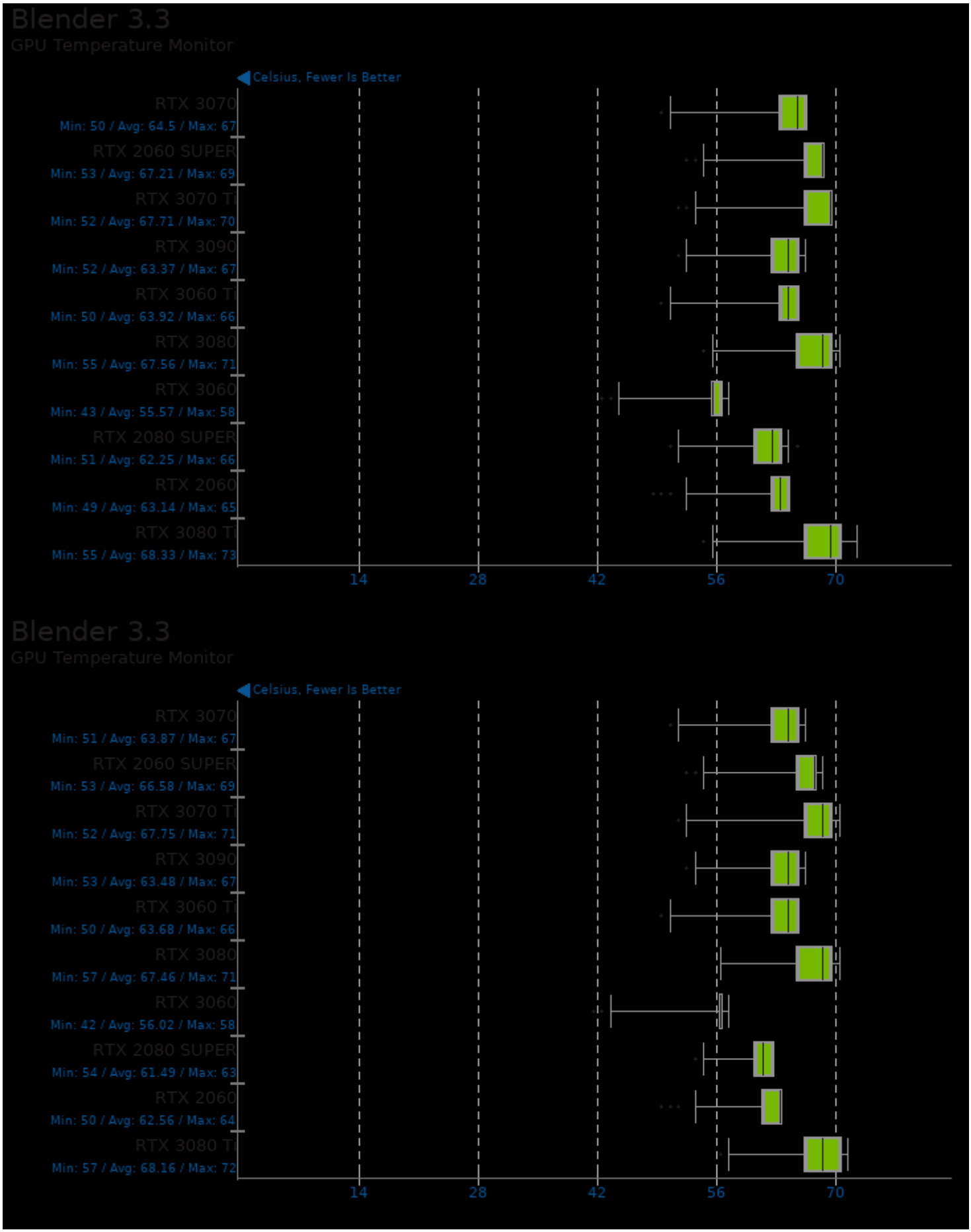
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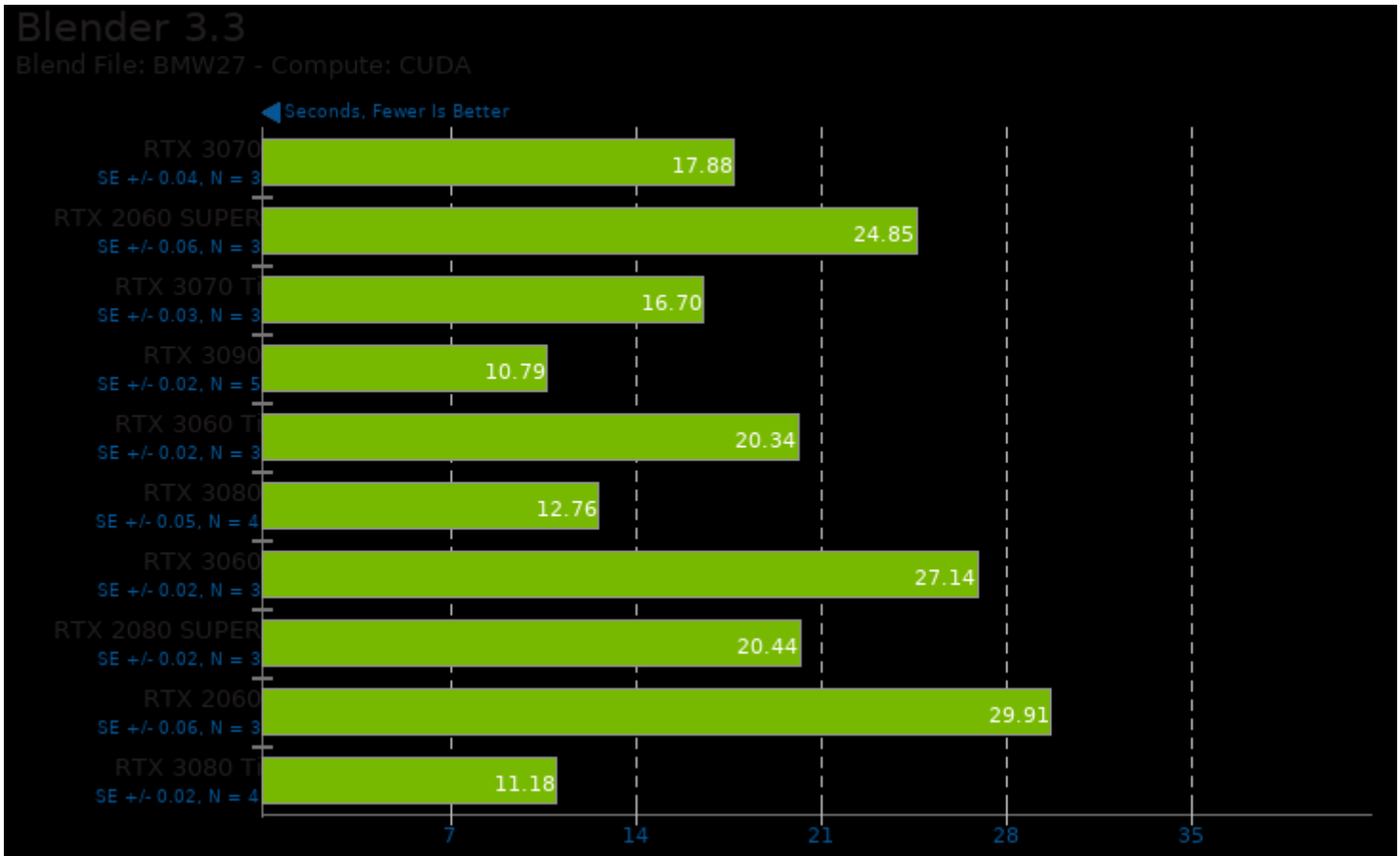
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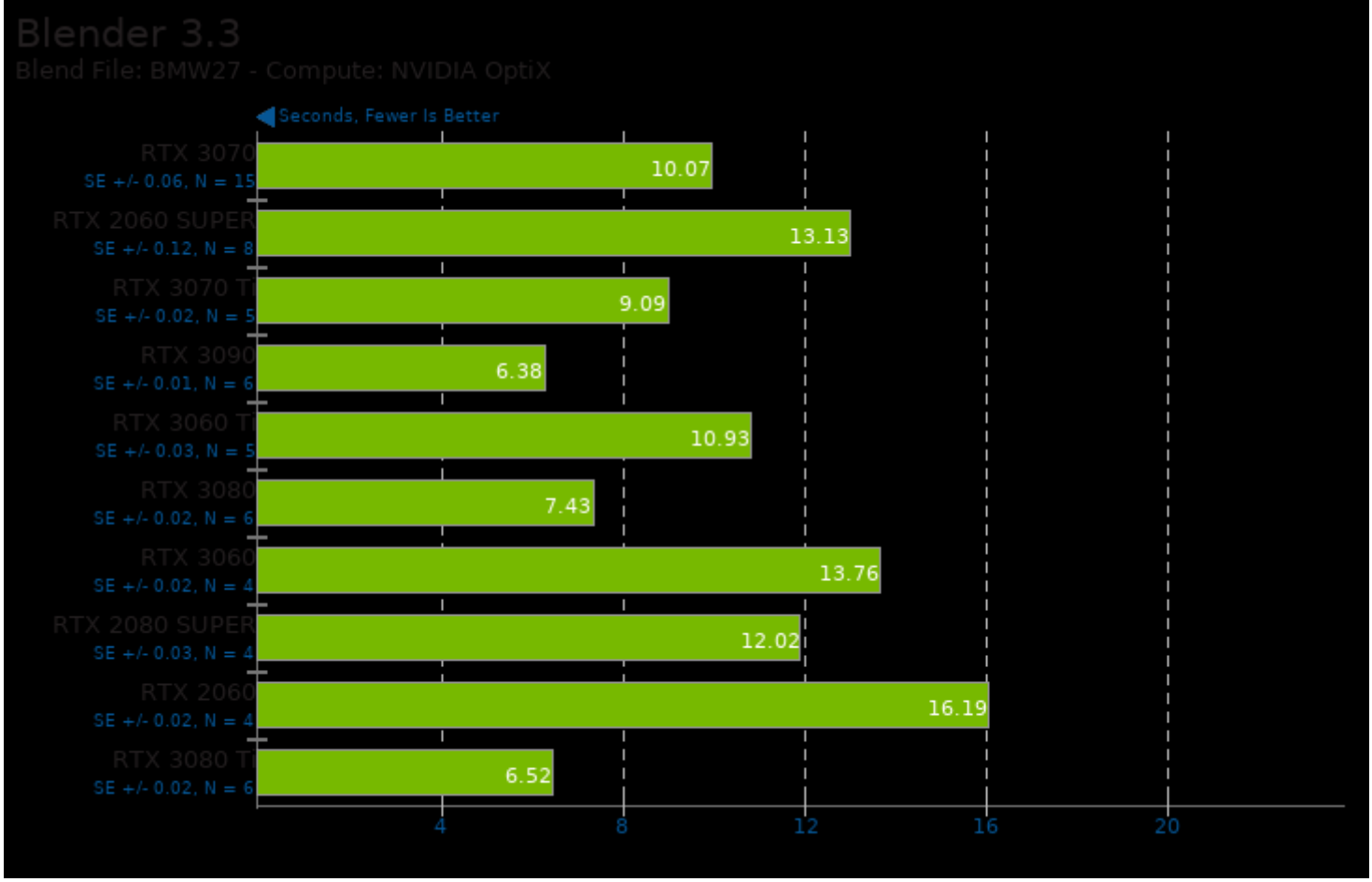


Blender 3.3 NVIDIA

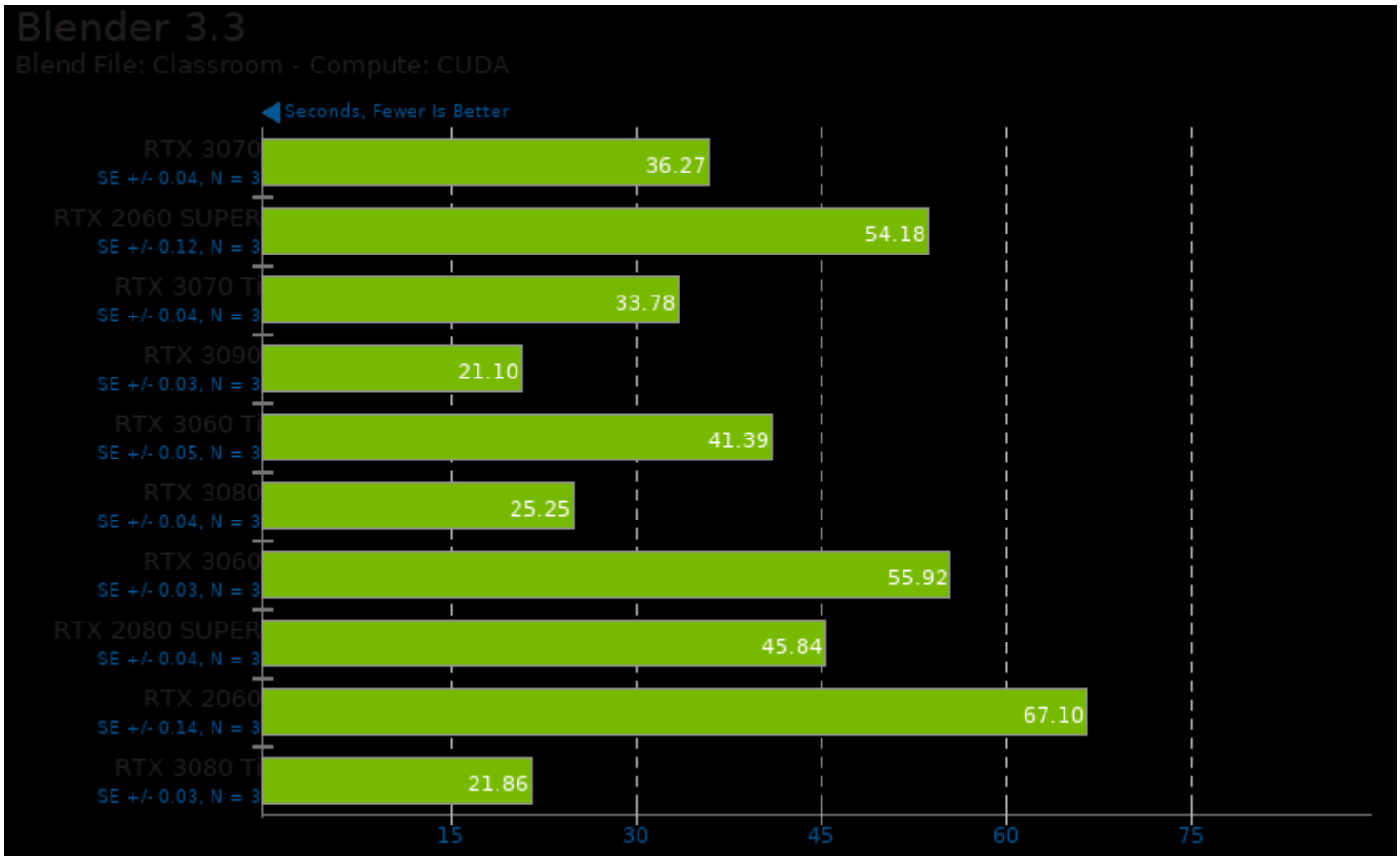


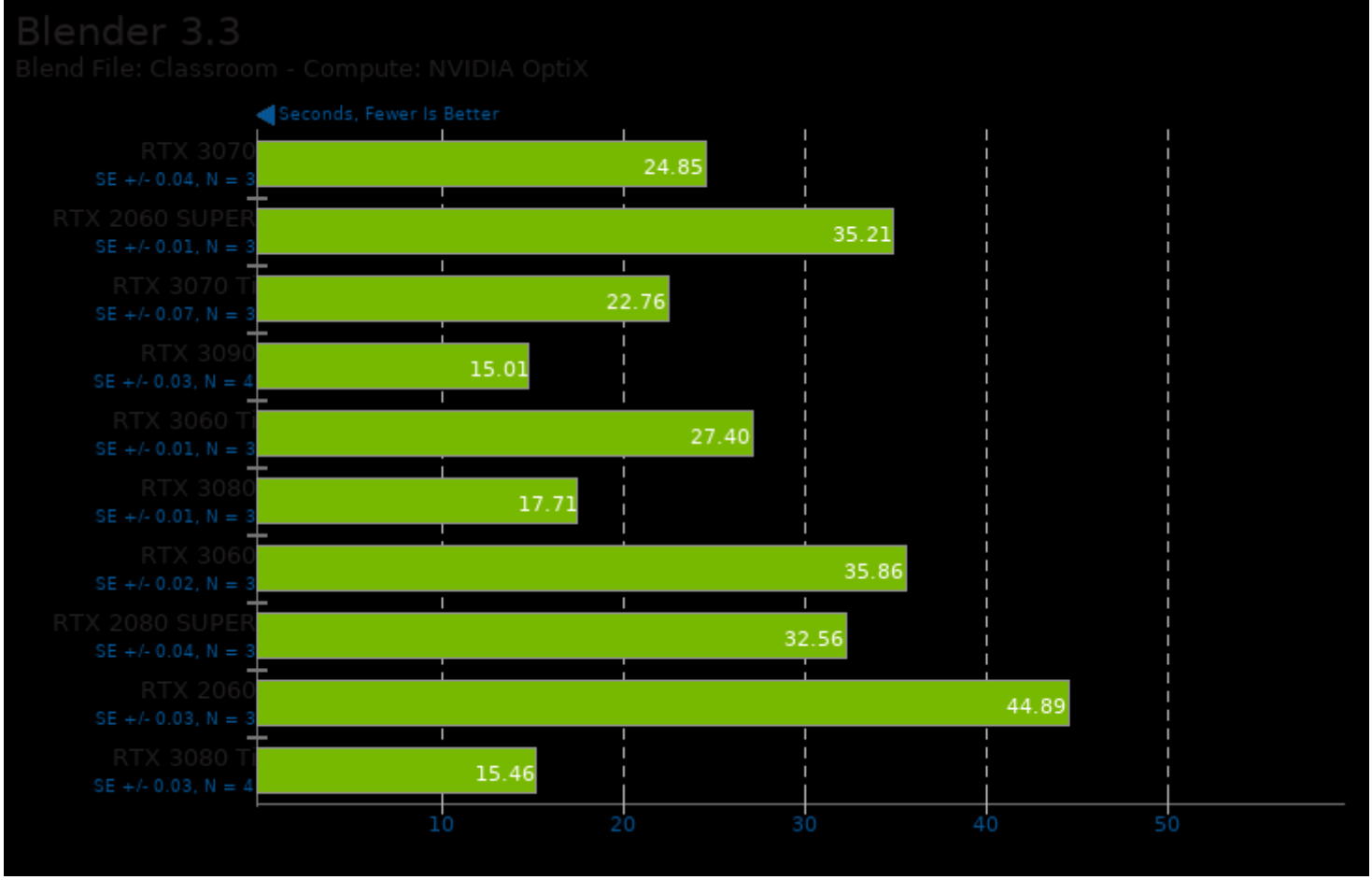
Blender 3.3 NVIDIA



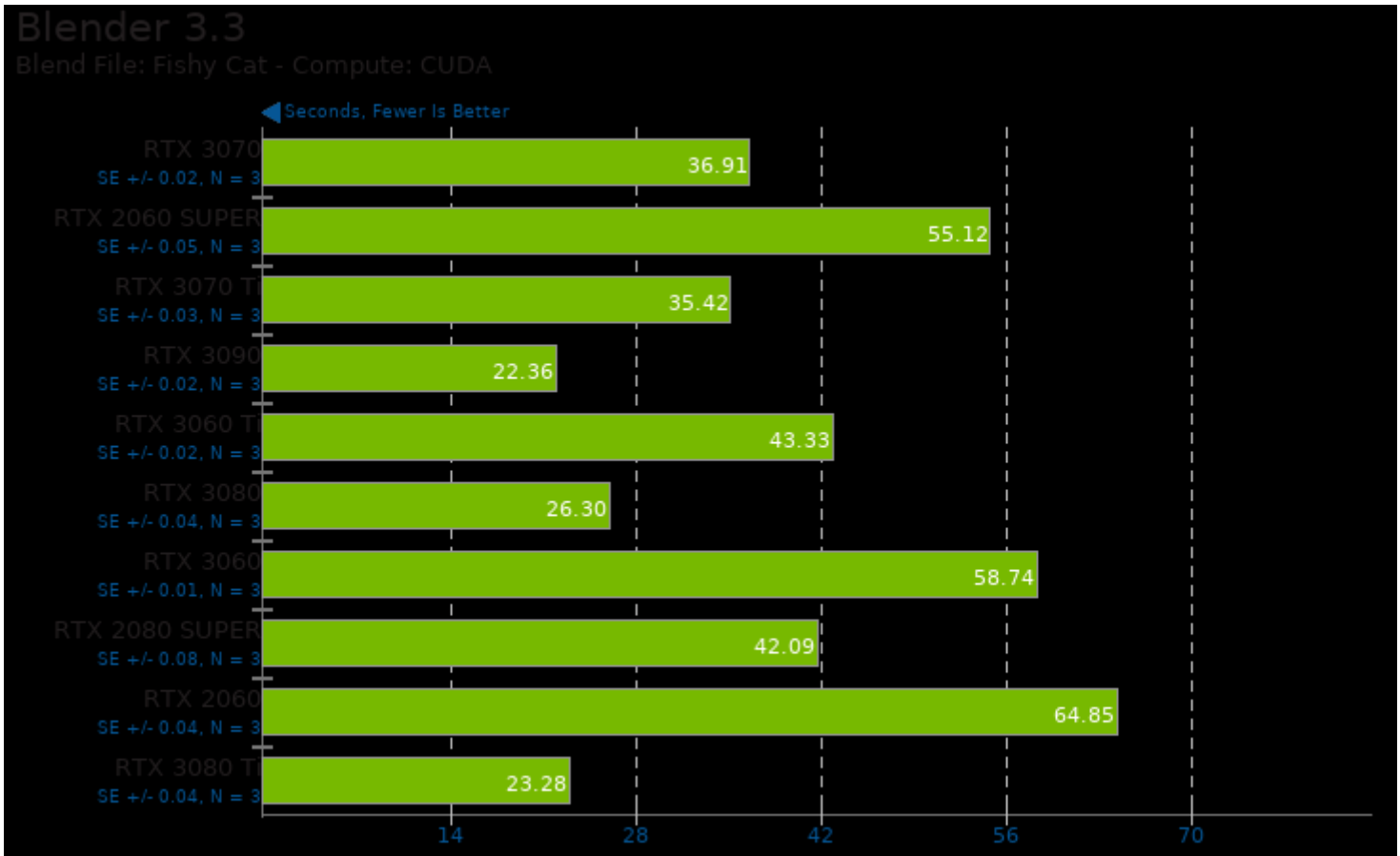


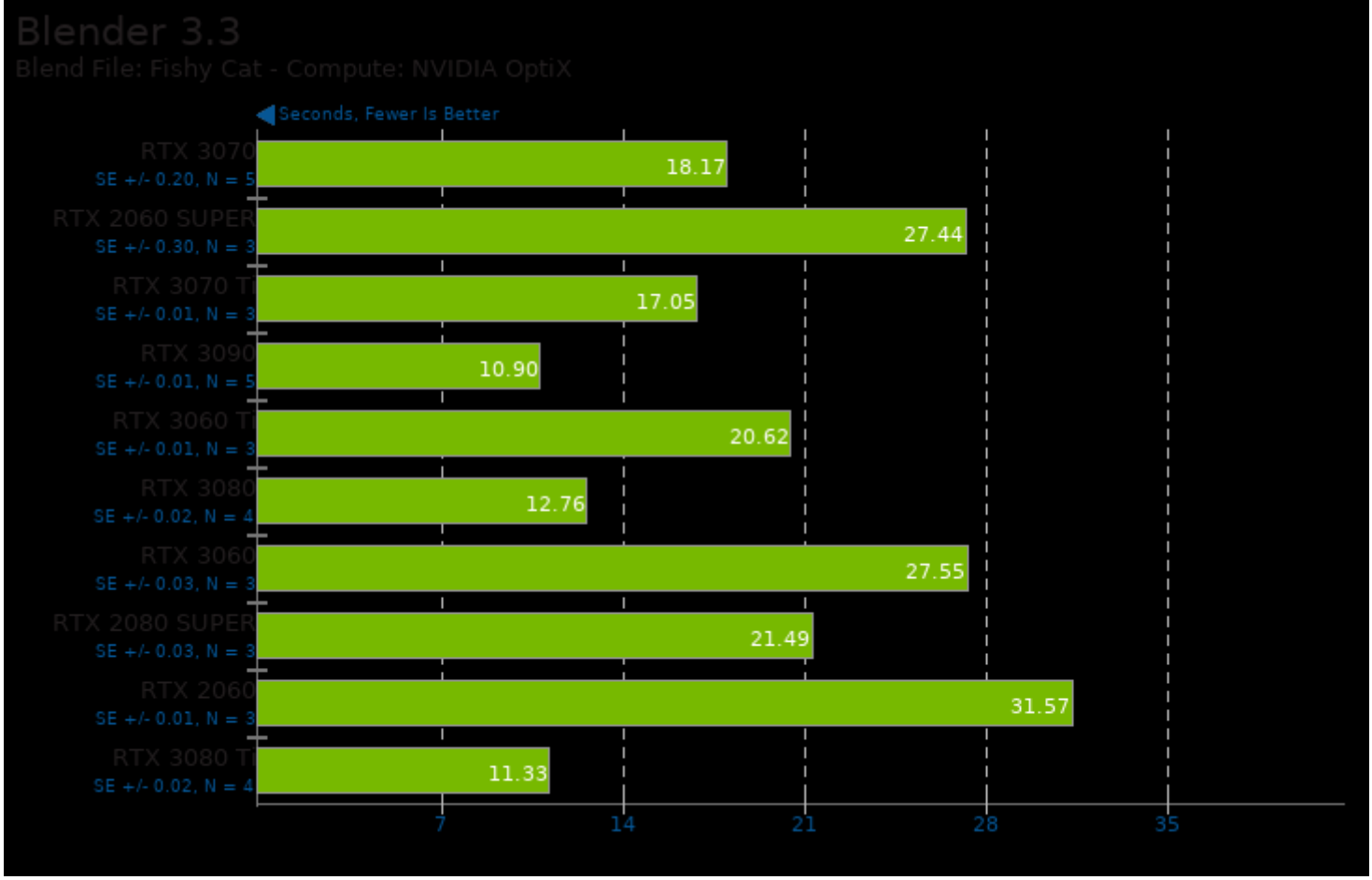
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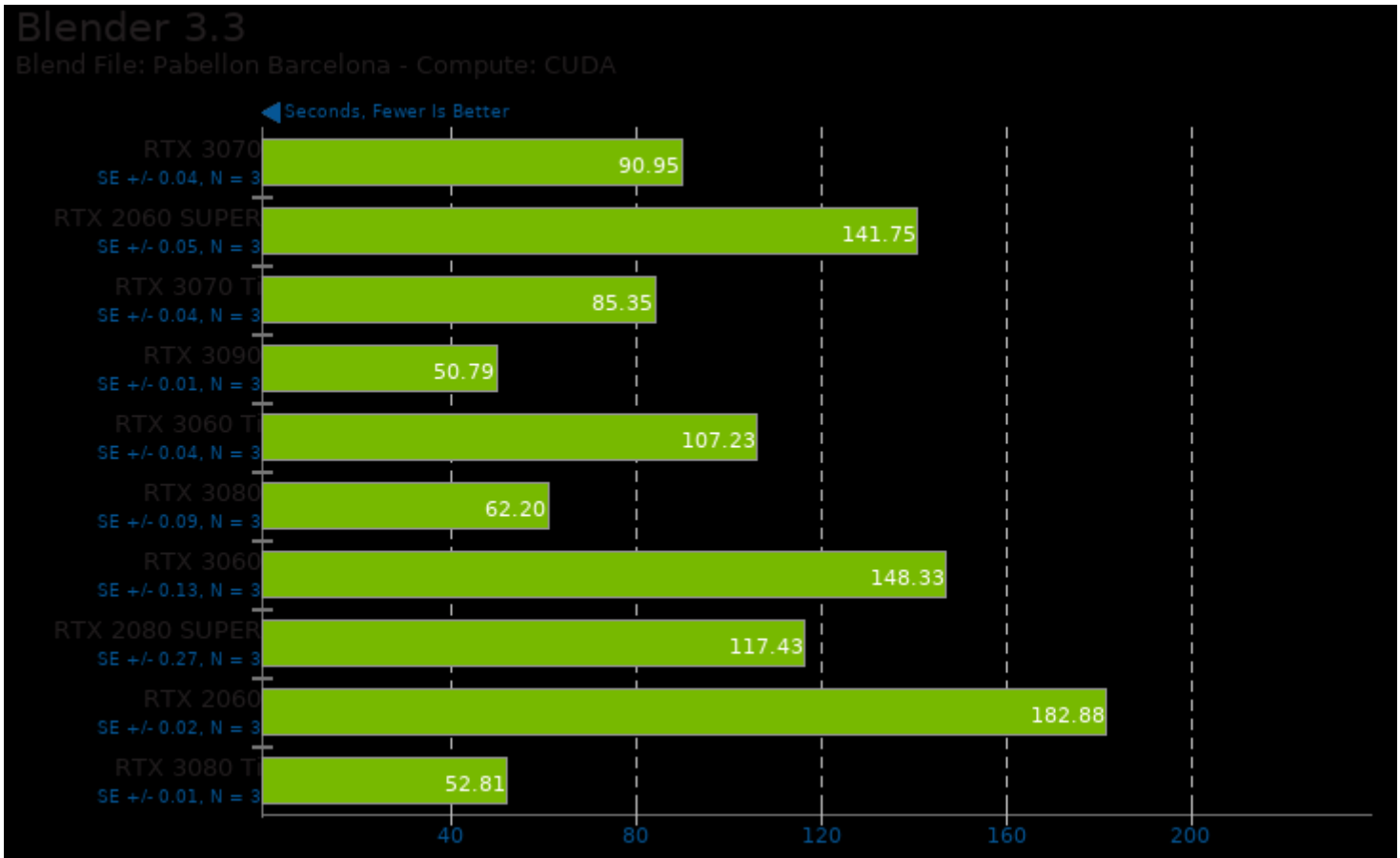


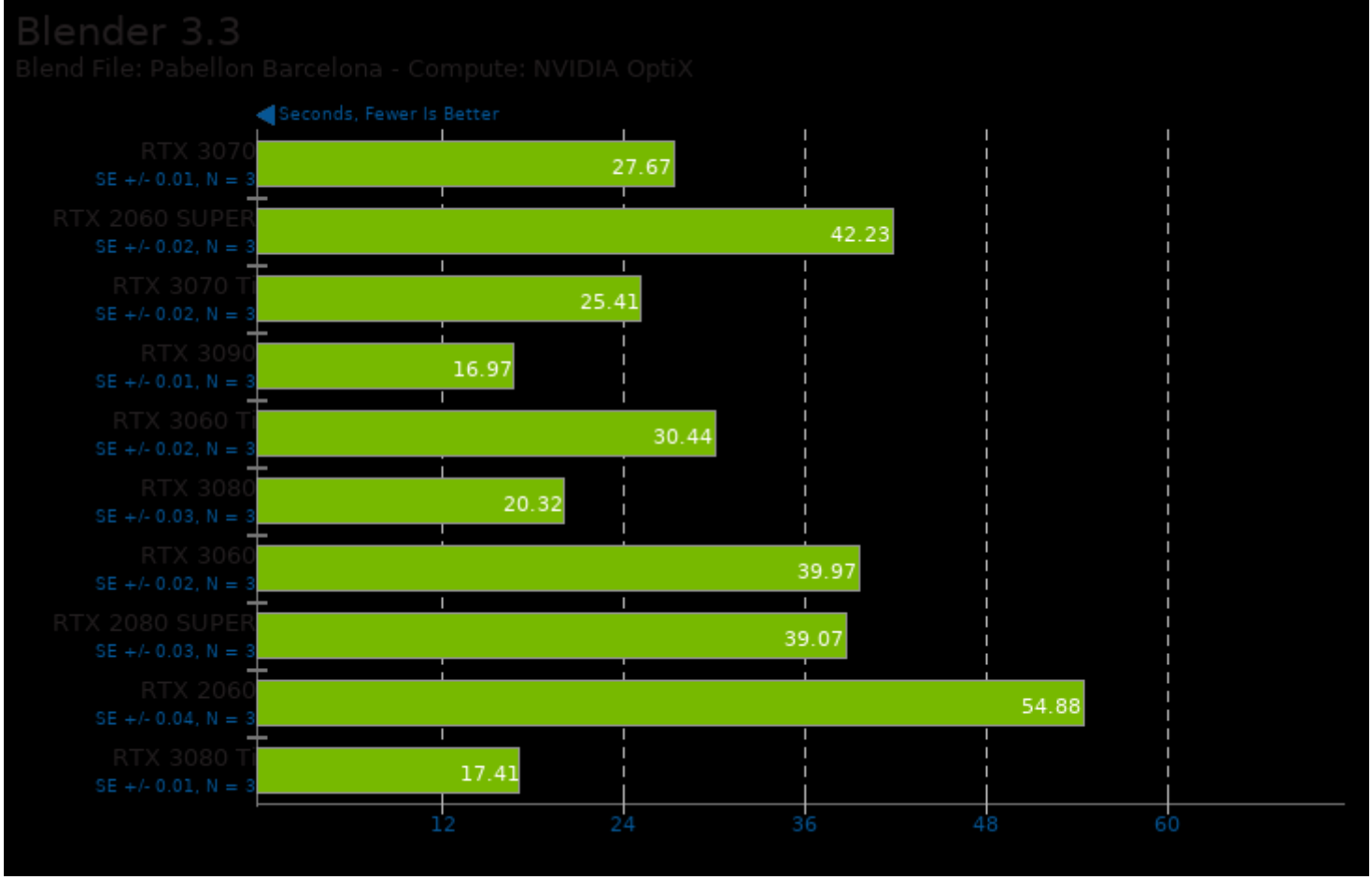
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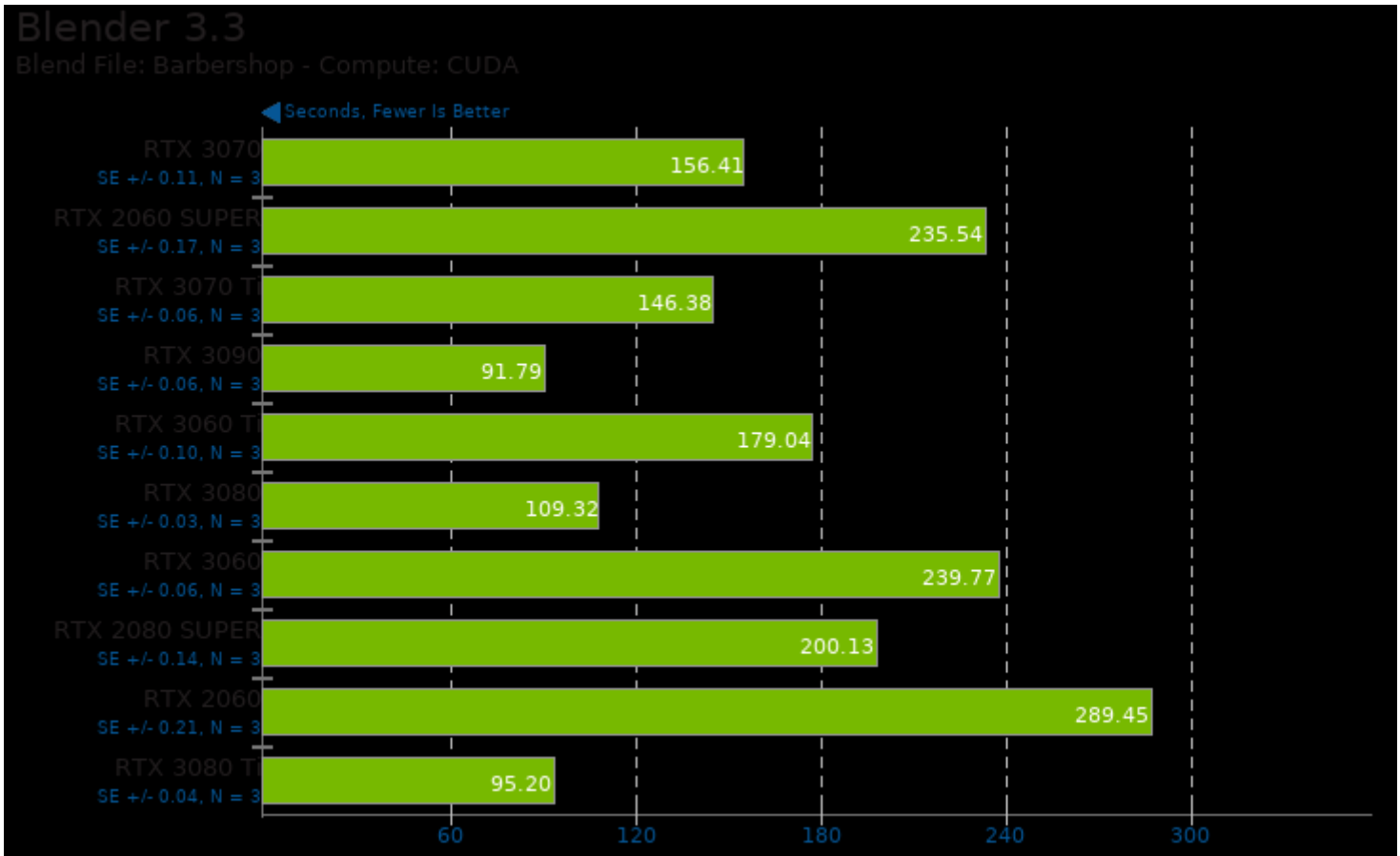


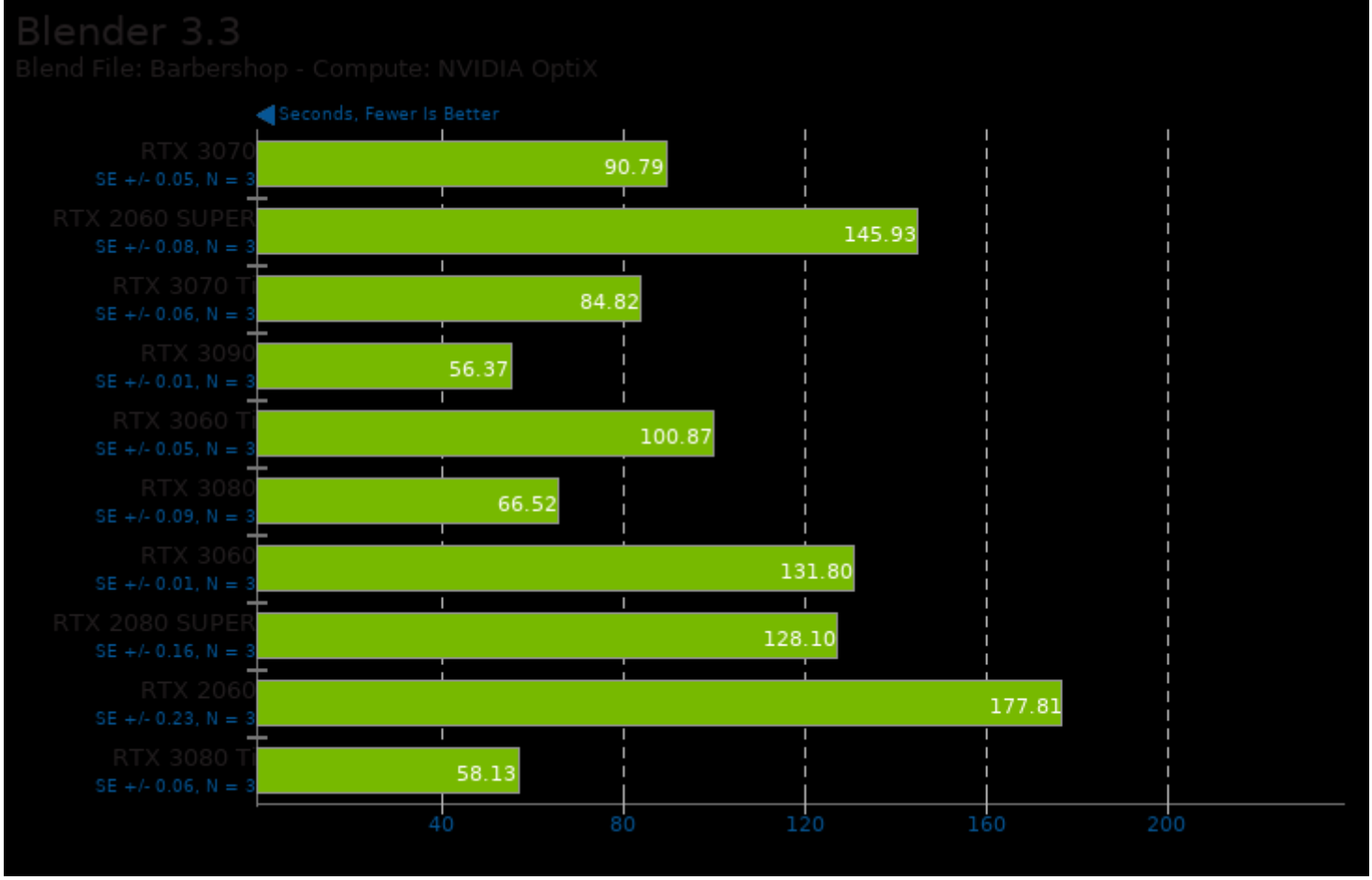
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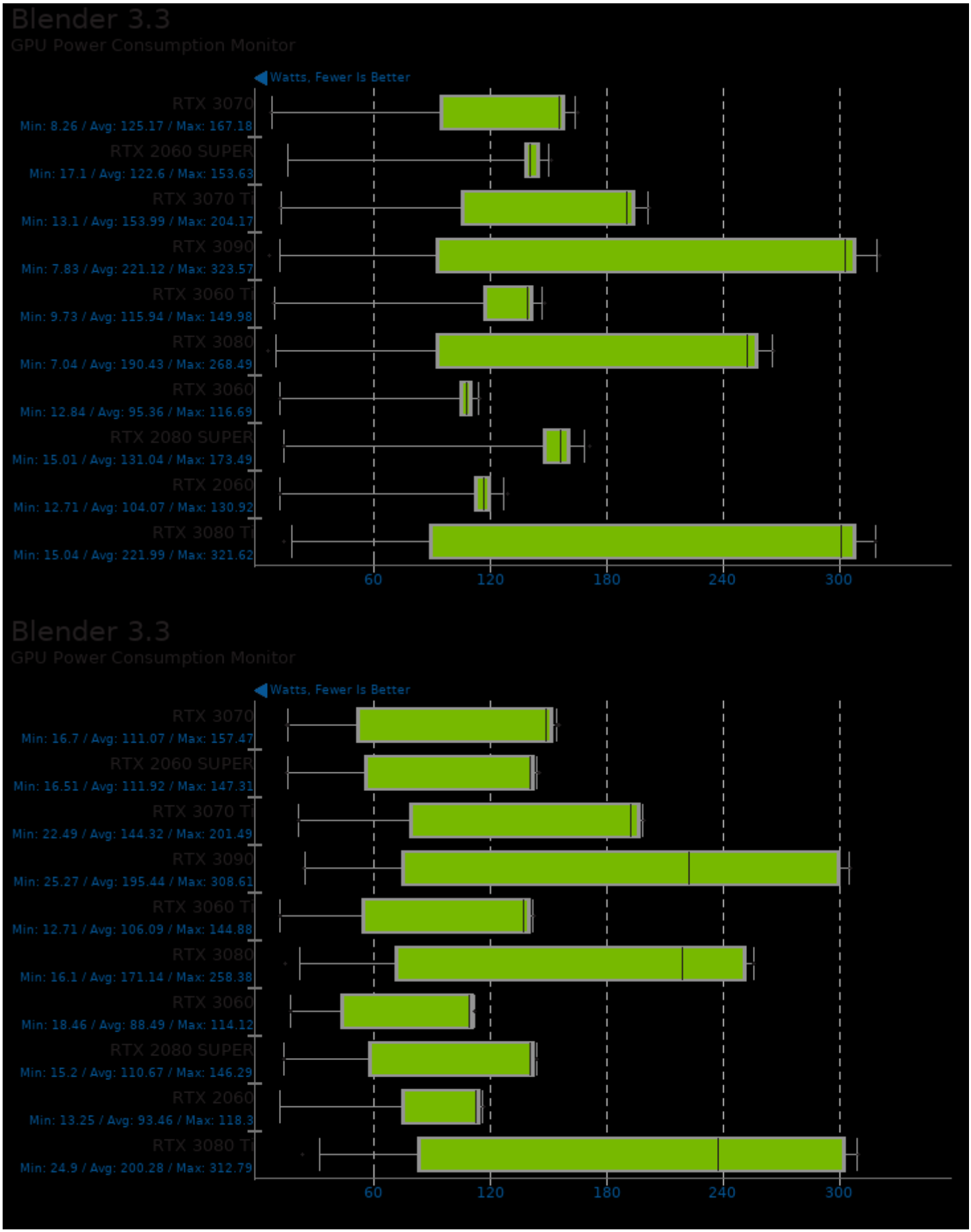


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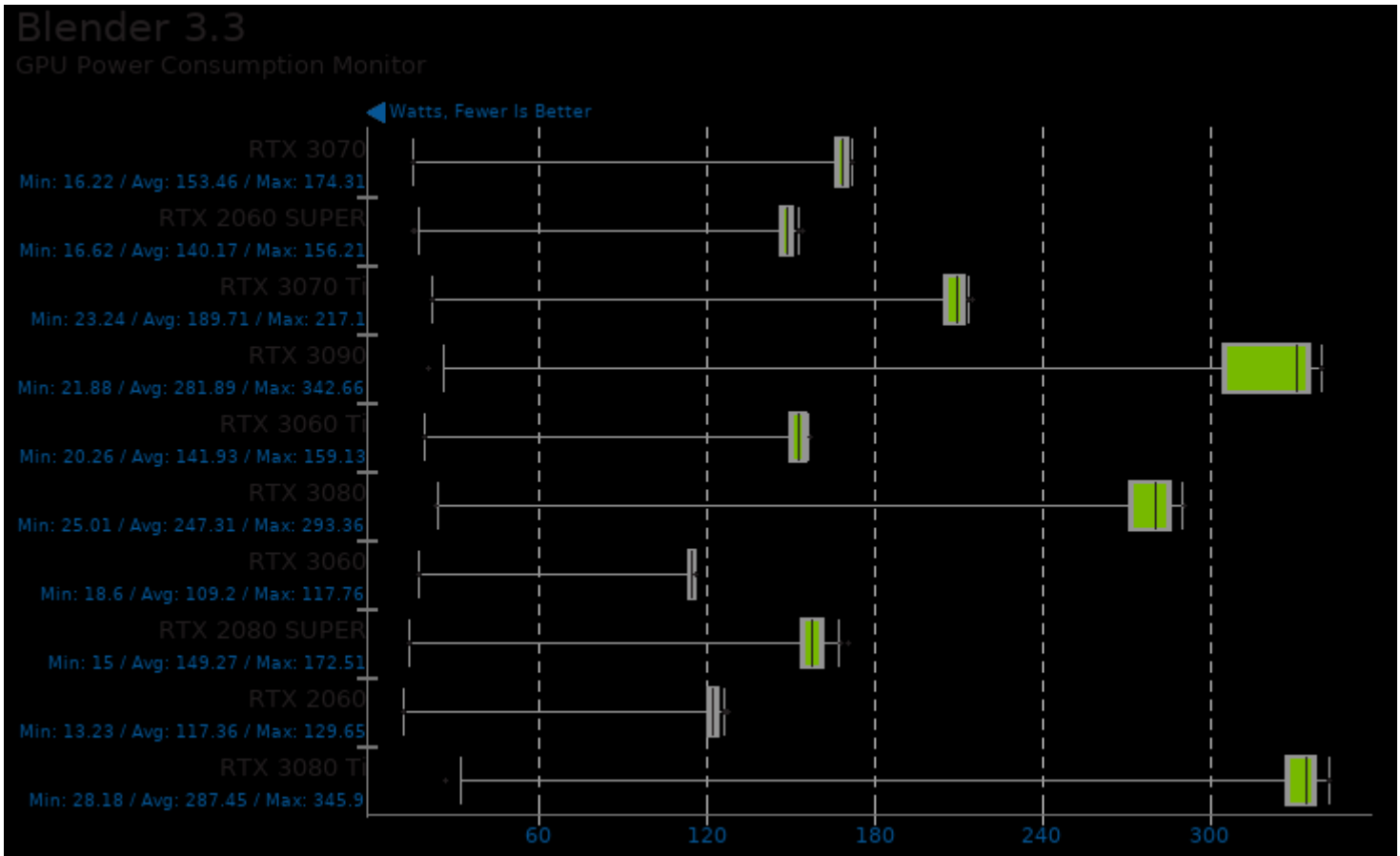


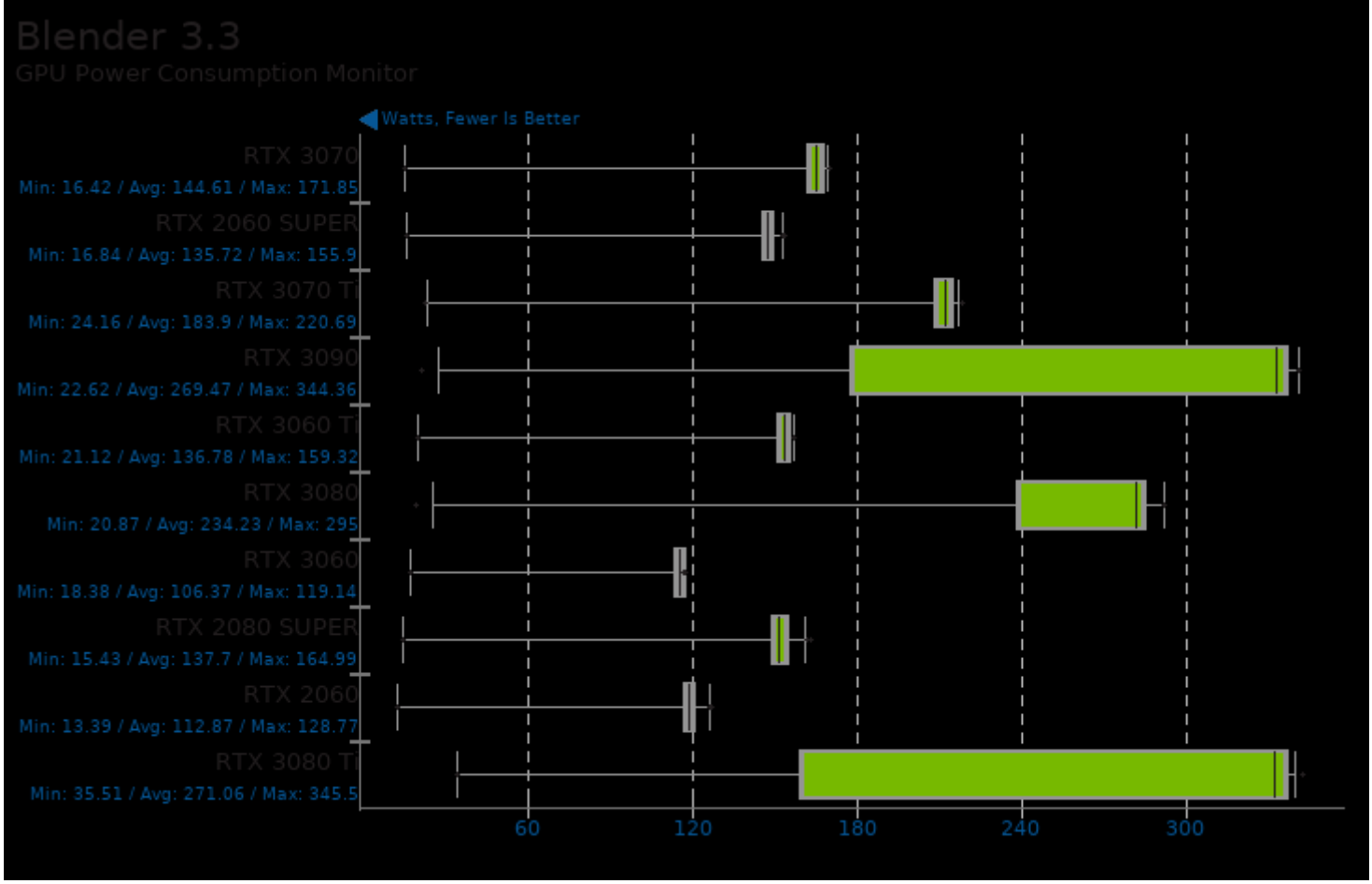


Blender 3.3 NVIDIA

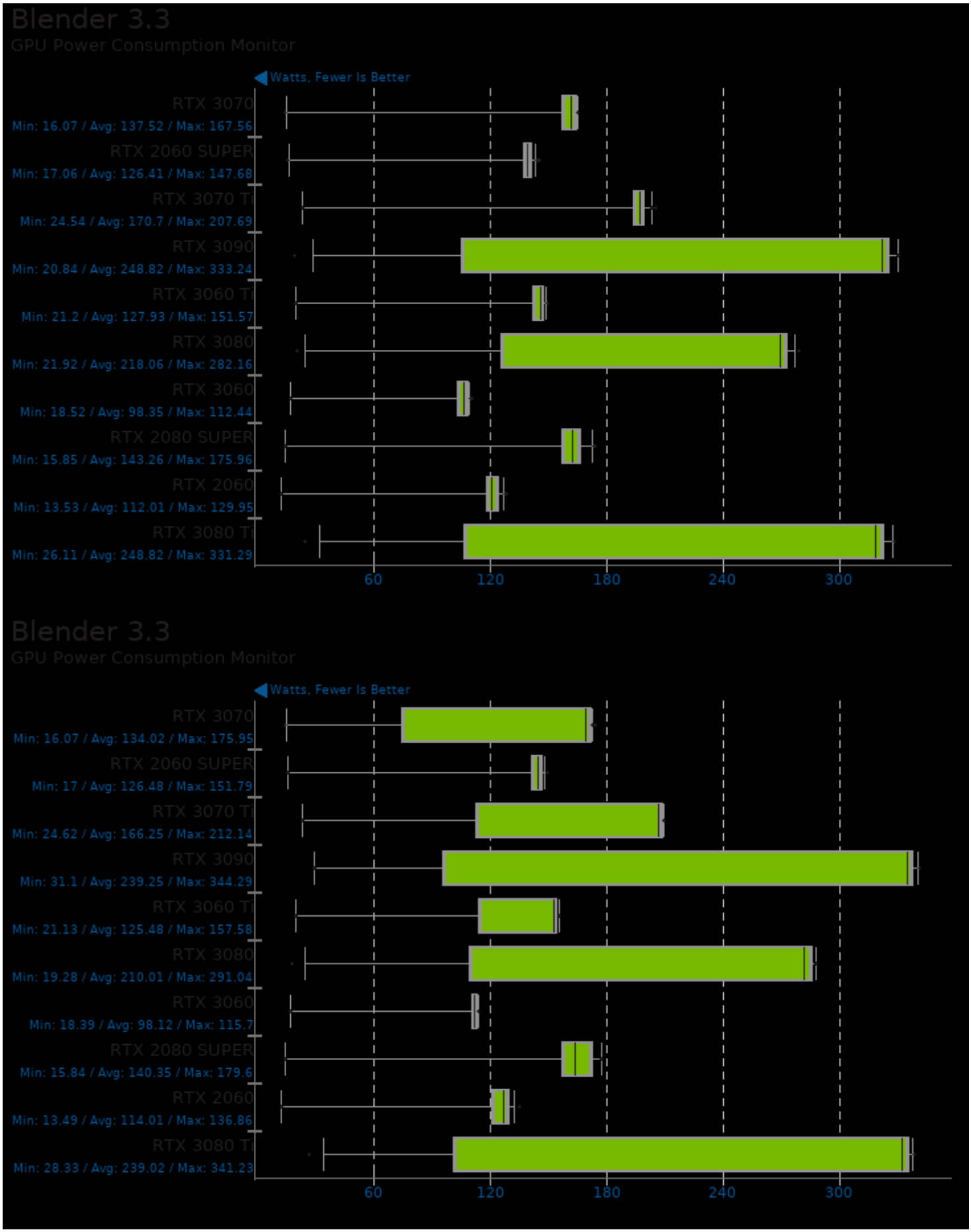


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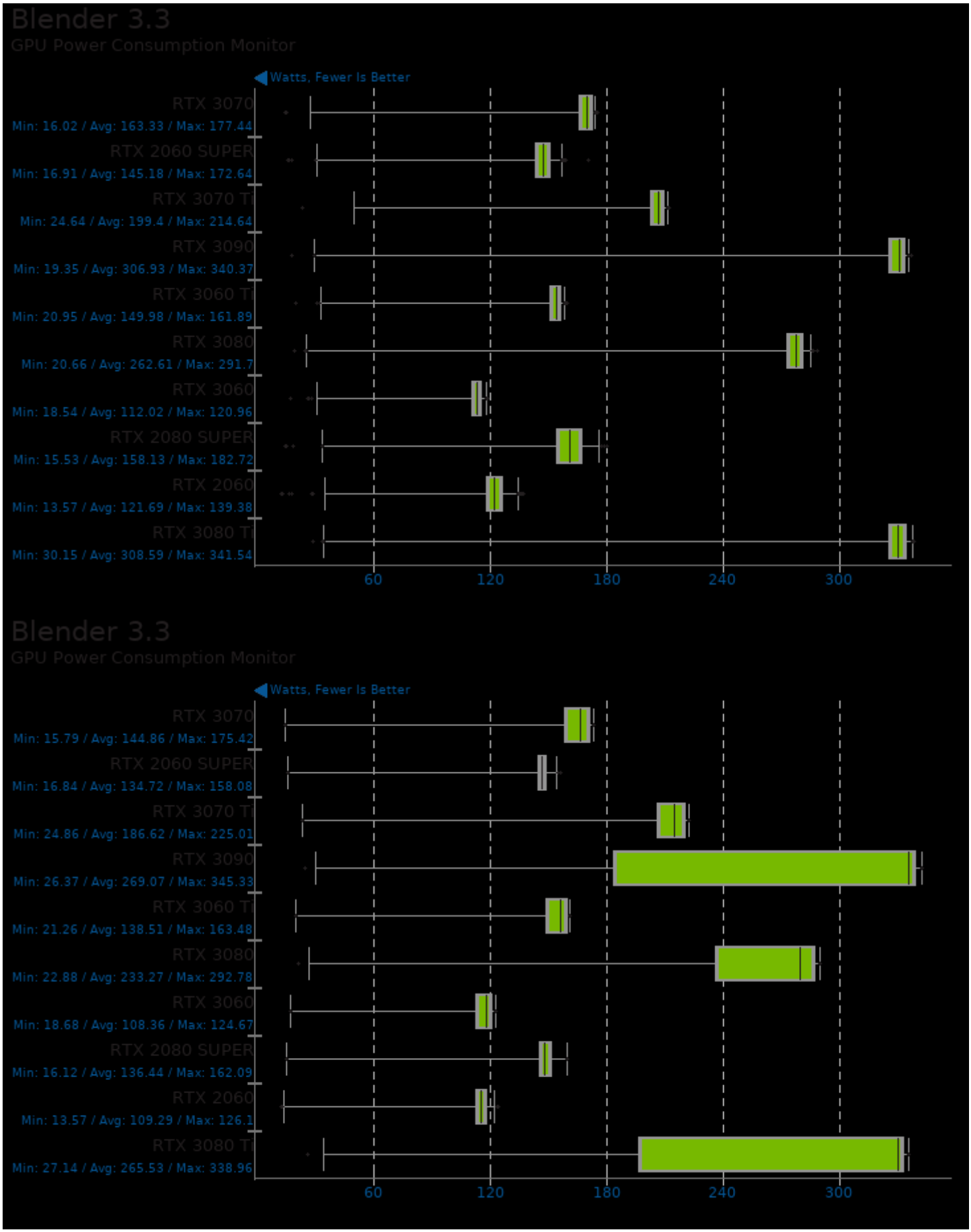




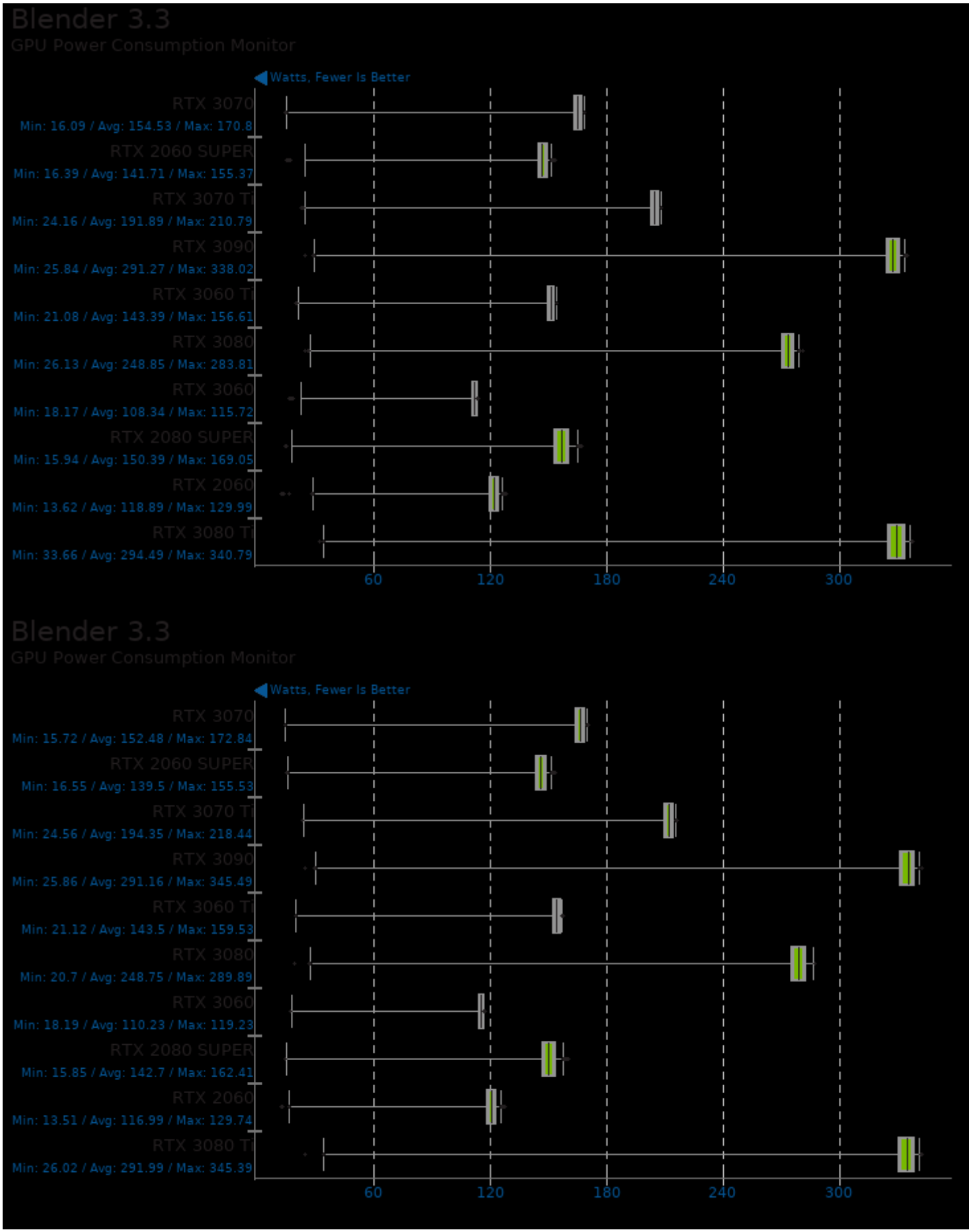
Blender 3.3 NVIDIA



Blender 3.3 NVIDIA



Blender 3.3 NVIDIA



Blender 3.3 NVIDIA

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