

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Depth of Field Calculator MCP for AI Agents

Plan precise focus boundaries and hyperfocal distances for any camera setup.

Depth of Field Calculator MCP calculates precise depth of field, hyperfocal distance, and blur limits for any camera sensor. It helps photographers get exact focus boundaries for specific lenses and cameras without doing manual math.

A+ Quality Score 100/100

photography

lens

aperture

focus

optics



The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Depth of Field Calculator MCP

3 tools available

Cloud-hosted on Vinkius

This Depth of Field Calculator MCP provides the optical math you need to nail your focus without guessing. Instead of squinting at a manual or doing complex mental math, you can ask your agent to figure out exactly where your focus will fall. It handles the heavy lifting of sensor-specific data, like crop factors and Circle of Confusion limits, so you don't have to look them up in a spreadsheet. When you're planning a shot, you can get the near and far limits for a specific aperture or find the perfect hyperfocal distance for a landscape setup. It takes the guesswork out of optical physics. Because it's part of the Vinkius catalog, you can plug it into your existing AI setup and have a dedicated optics expert ready to help you plan your next shoot. You can use it to verify if your foreground will be sharp enough or if you'll need to stop down your lens further to achieve a specific look. It turns complex physics into actionable numbers for your next project. It works across different camera brands and lens types, ensuring your focus is always where it needs to be. You can quickly switch between units to match your preferred workflow, whether you're working in inches or meters.

Core Capabilities

01 — Pull sensor data

This tool pulls specific camera properties like crop factors and Circle of Confusion limits.

03 — Find hyperfocal distances

This tool determines the point of maximum focus for various lens and aperture combinations.

05 — Analyze lens behavior

This tool shows how different apertures affect your focus range and blur.

02 — Compute focus limits

This tool calculates near and far depth of field boundaries for your specific settings.

04 — Swap measurement units

This tool converts measurements between different units like millimeters, meters, and inches.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/mcp/depth-of-field-calculator — connect your AI agent in three steps.

- 01 Tell your agent which camera model and lens you're using for your shot.
- 02 Provide your current settings like aperture, focal length, and distance.
- 03 Get a breakdown of your focus limits and hyperfocal points in your preferred units.

The bottom line is you get precise optical data for any camera setup in seconds.

Built For

Professional photographers who need to plan complex focus planes for landscapes or product shots. It's for the person who hates blurry foregrounds and wants to know exactly what's in focus before they press the shutter.

Landscape Photographer

Uses the tool to calculate hyperfocal distances for wide-angle shots to keep everything from the foreground to the horizon sharp.

Studio Photographer

Calculates depth of field for product shots to ensure specific items are isolated with the correct amount of blur.

Gear Reviewer

Compares how different sensors and lenses affect focus boundaries to write accurate technical reviews.

What Changes When You Connect

- 01 Stop guessing focus: Use `calculate_dof_metrics` to see exactly where your focus starts and ends for any given aperture.
- 02 Save time on research: Use `lookup_camera` to instantly pull sensor data without searching through thick manufacturer manuals.

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- 03** Plan landscapes better: Get accurate hyperfocal distances to keep everything from the foreground to the horizon sharp.
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- 04** Handle any sensor: The MCP accounts for different crop factors automatically based on the camera body you specify.
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- 05** Stay consistent: Use `convert_units` to keep your measurements in the format you prefer, whether you work in meters or inches.
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Real-World Applications

Landscape planning

A photographer wants to know the hyperfocal distance for an 16mm lens at f/11 to keep a mountain range sharp. They ask their agent to run the calculation.

Product photography

A studio pro needs to know the blur limit for an 85mm lens at f/1.8 to isolate a watch. They use the MCP to get the exact near and far limits.

Gear comparison

A reviewer wants to see how a full-frame vs. APS-C sensor changes the depth of field for the same lens. The agent pulls the data for both bodies.

Unit conversion

A user has a distance in millimeters but needs the focus limits in meters for a specific calculation. They ask the agent to convert the final metrics.

Patterns to Avoid

Manual math errors

✗ AVOID

Trying to calculate the Circle of Confusion by hand and getting it wrong for your specific sensor.

✓ INSTEAD

Use `'lookup_camera'` to get the correct limits for your specific sensor automatically.

Forgetting crop factors

✗ AVOID

Assuming a lens behaves the same on all cameras and getting incorrect focus boundaries.

✓ INSTEAD

Use `'lookup_camera'` to pull the correct crop factor for your specific camera body.

Wrong units

X AVOID

Getting results in meters when you actually need the measurements in inches for your project.

✓ INSTEAD

Use ``convert_units`` to switch your measurement scale to your preferred format.

The Right Fit

Use this if you need to calculate optical physics for specific camera bodies and lenses. It is the right choice for planning shots before you leave the house or for verifying technical specs during a studio session. Don't use it if you just want a general blurry background effect without needing specific numbers. If you need a full photo editing suite or a library of stock images, look for a different tool. This MCP is purely for the math of focus boundaries.

Depth of Field Calculator for Precise Lens Optics

Today, photographers often have to flip between several tabs or thick manuals to find sensor specs. You have to remember the crop factor for your specific body, find the Circle of Confusion, and then do the math to see if your foreground will actually be sharp. It's a lot of mental overhead for a single shot.

With this MCP, you just tell your agent what gear you're packing. It pulls the data and gives you the exact focus boundaries. You get the numbers you need without the manual research.

Depth of Field Calculator for Landscape Focus Planning

Stop worrying about whether your foreground is tack sharp. You can ask for the hyperfocal distance and know exactly where to set your focus point.

You get a clear plan for every shot, from wide landscapes to tight studio portraits.

Depth of Field Calculator: 3 Lens Optics Tools

Use these tools to calculate focus boundaries, find sensor specs, and convert units for your photography gear.

#	TOOL	DESCRIPTION
01	lookup_camera	Get specific sensor data like crop factor and CoC limits for a camera model. Use this to pull the correct data for your specific camera body instantly.
02	calculate_dof_metrics	Calculate near and far focus limits and hyperfocal distance for specific lens settings. Use this to see exactly how different apertures affect your focus range.
03	convert_units	Convert measurements between different units like millimeters and meters. Use this to keep your measurements in the format you prefer for your workflow.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U What's the depth of field for a 35mm lens at f/4 on a Sony A7III at 3 meters?



For a Sony A7III (Full Frame) setup, here are your focus boundaries:

METRIC	VALUE
Near Limit	2.35m
Far Limit	3.72m
Total Depth of Field	1.37m

Your focus will be sharp from approximately 2.35 meters to 3.72 meters away.

U Find the hyperfocal distance for an 85mm lens at f/1.8 on a Canon R7.



Based on the Canon R7 sensor and an 85mm lens at f/1.8, your **hyperfocal distance** is approximately **12.45 meters**.

This is the point where everything beyond this distance will be acceptably sharp.

U Convert 50mm to meters.



50mm is equal to **0.05 meters**.

Frequently Asked Questions

01 Can the Depth of Field Calculator MCP help with landscape photography?

Yes, it calculates hyperfocal distances for different lenses and apertures. This helps you know exactly where to focus so that your foreground and background stay sharp.

02 Does Depth of Field Calculator MCP support different camera sensors?

Yes, it looks up specific crop factors and Circle of Confusion limits for various camera bodies. This ensures the math is accurate for your specific gear.

03 How does Depth of Field Calculator MCP handle different apertures?

It computes near and far focus limits based on the f-stop you provide. You can see exactly how stopping down your lens changes your focus range.

04 Can I use Depth of Field Calculator MCP to check blur limits?

Yes, it provides the exact boundaries of your focus area. You can use this to verify if a specific object will be in focus or fall into the blur zone.

05 Does Depth of Field Calculator MCP support unit conversions?

Yes, it can switch between millimeters, meters, and inches. You can get your results in the format that best fits your workflow.

06 How do I find the correct Circle of Confusion (CoC) for my camera?

Use the `'lookup_camera'` tool with your specific camera model name to retrieve the precise CoC limit and crop factor from our database.

07 Can I calculate depth of field for macro photography?

Yes. By providing a small `'subjectDistance'` and the appropriate `'cocLimit'` via `'calculate_dof_metrics'`, you can determine the extremely shallow depth of field typical in macro work.

08 What units are used for the results?

The `'calculate_dof_metrics'` tool provides results in meters, feet, and inches. You can also use `'convert_units'` to transform any measurement between mm, cm, m, km, inch, or ft.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

https://edge.vinkius.com/[TOKEN]/mcp

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"depth-of-field-calculator": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

 Ask ChatGPT

 Ask Claude

 Ask Perplexity

 Ask Gemini

 Ask Grok

READY TO CONNECT

Depth of Field Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

Generated	July 2026
MCP Server	Depth of Field Calculator MCP
Server ID	019f3775-d2e3-730d-9e9d-c6a8d3acf494
Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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