RETICLE RED TUTORIAL

Free Laser Calculators

Kerf, overlap, fluence, DPI and power/speed, plus a Universal Scaler. Free, no account.

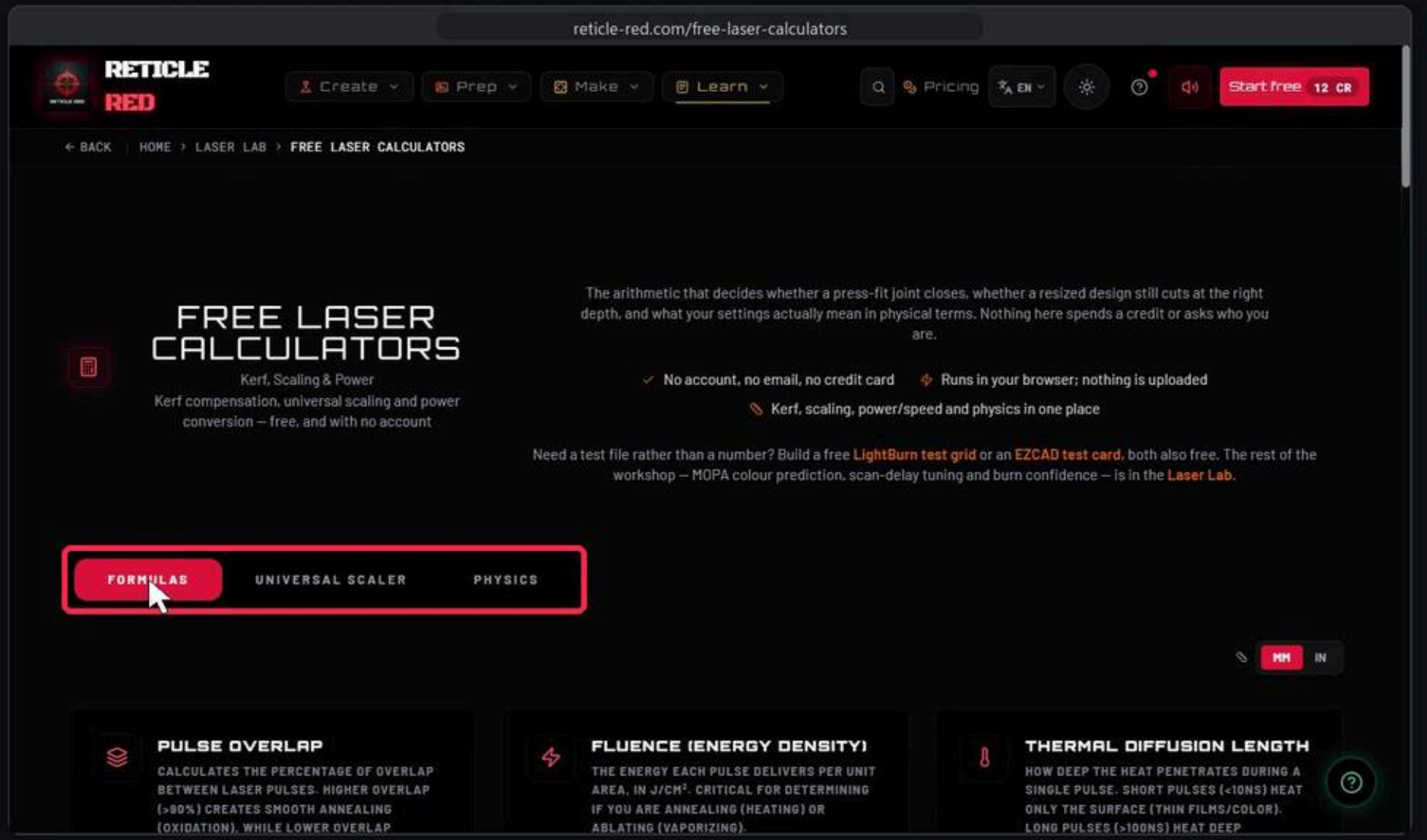
Recorded on the live site · formulas · universal scaler · physics

reticle-red.com/free-laser-calculators

PART 1 OF 2

Formulas

Units, overlap, fluence, DPI, kerf, power/speed and copy



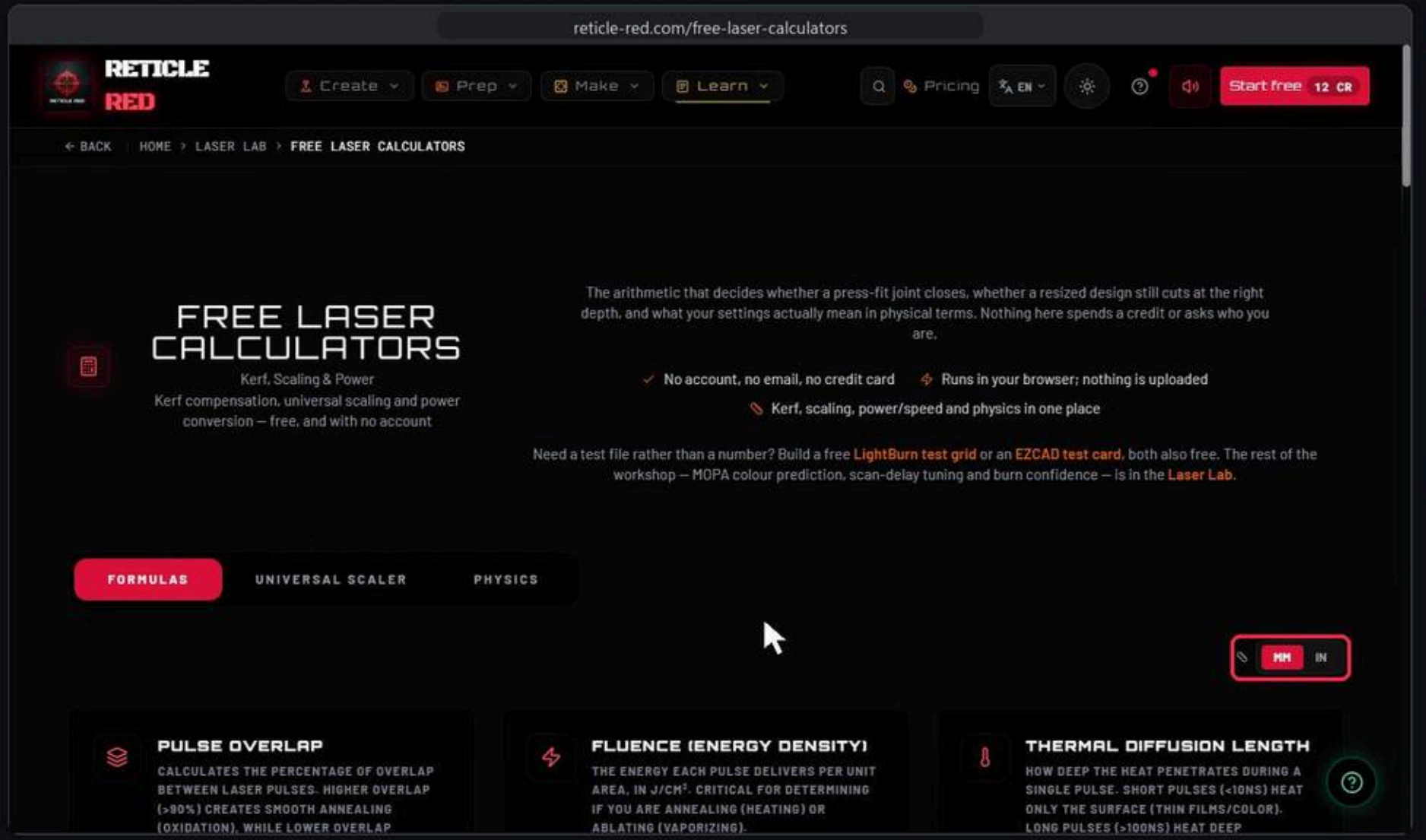
STEP 1 OF 8

Three tabs

Formulas · Universal Scaler · Physics.

CLOSE-UP





STEP 2 OF 8

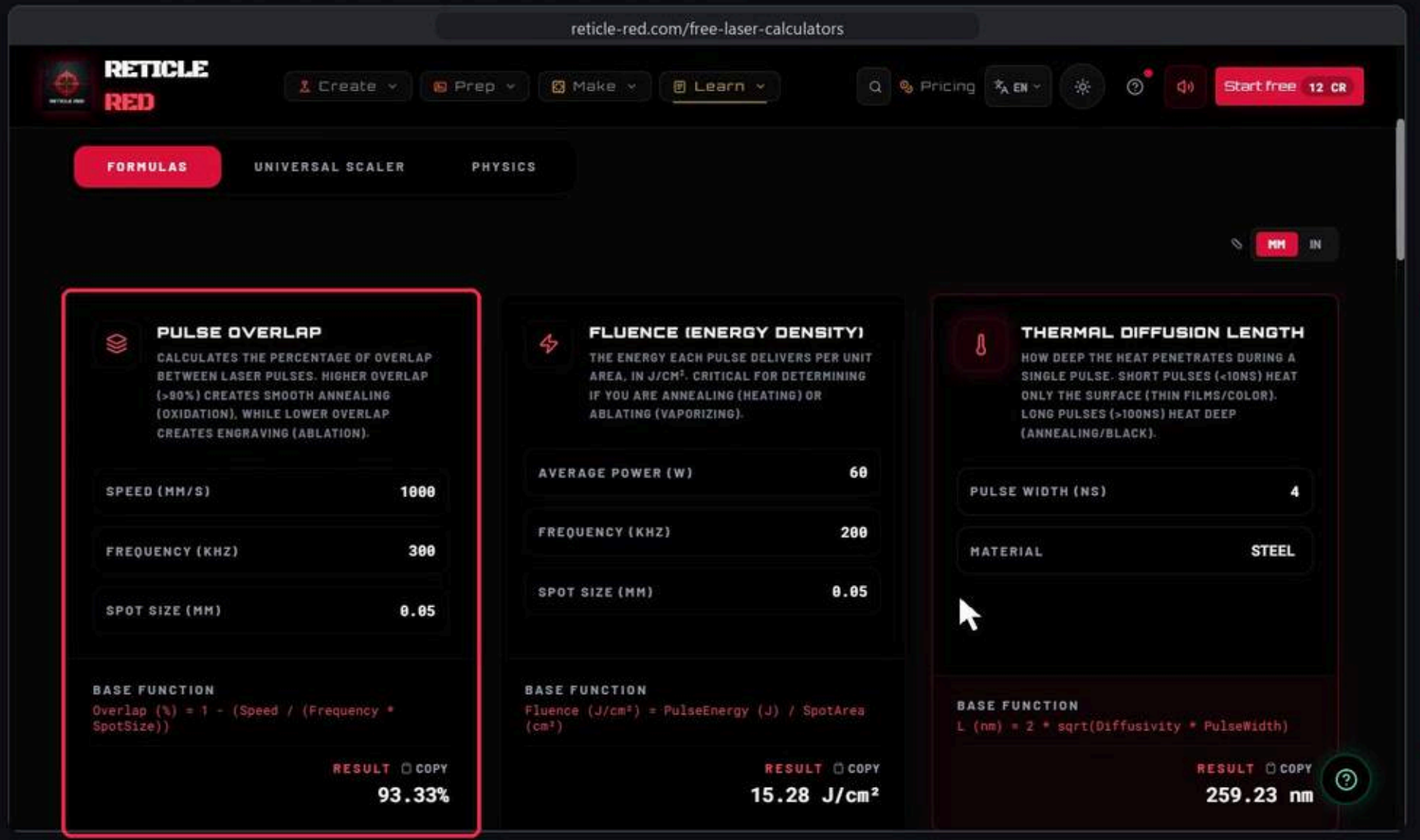
Preferred units

MM or IN for the inputs and lengths.

Every result carries its unit.

CLOSE-UP





STEP 3 OF 8

Pulse Overlap

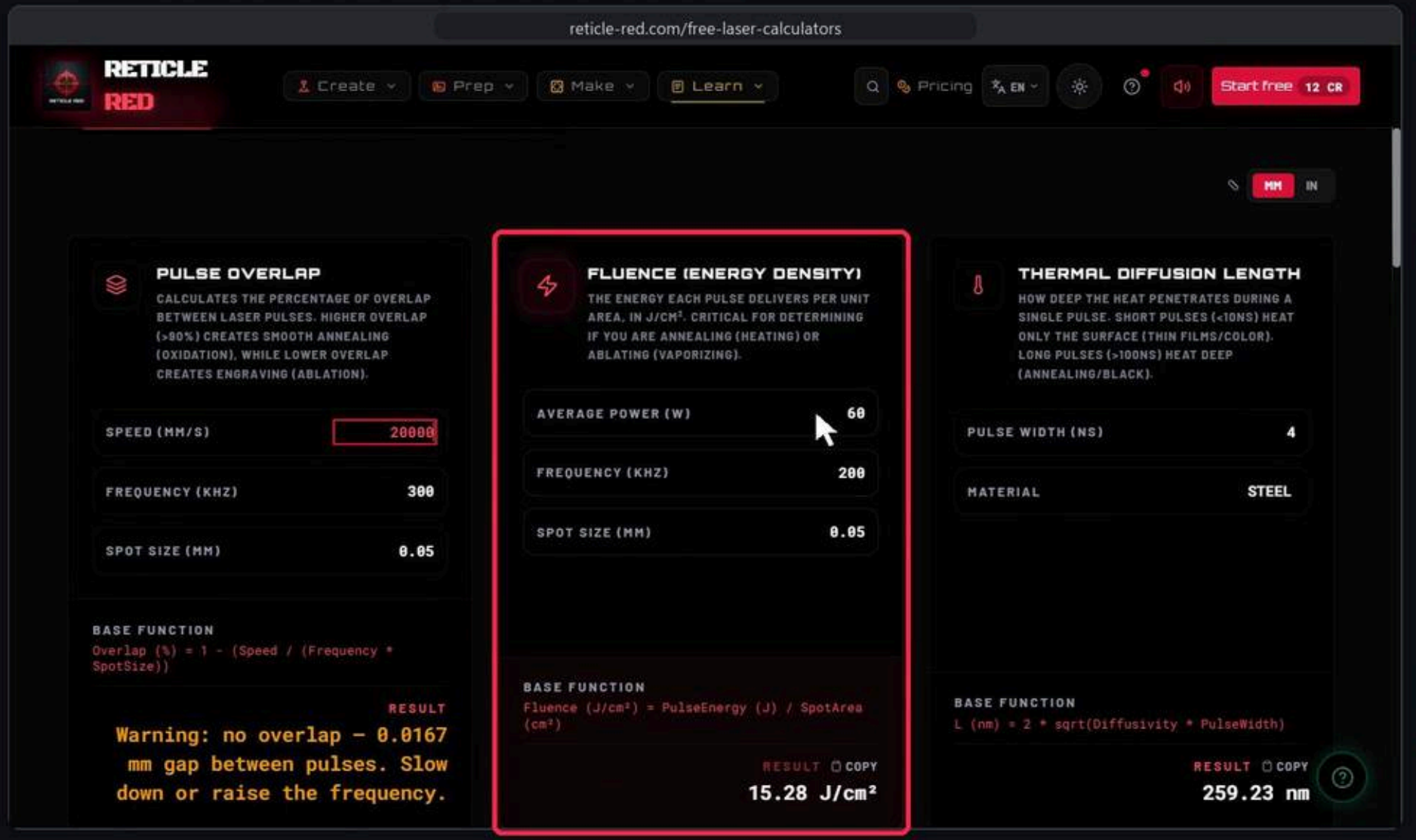
Speed, frequency, spot size.

Too fast: a warning about the gap between pulses.

CLOSE-UP



Formulas — Units, overlap, fluence, DPI, kerf, power/speed and copy



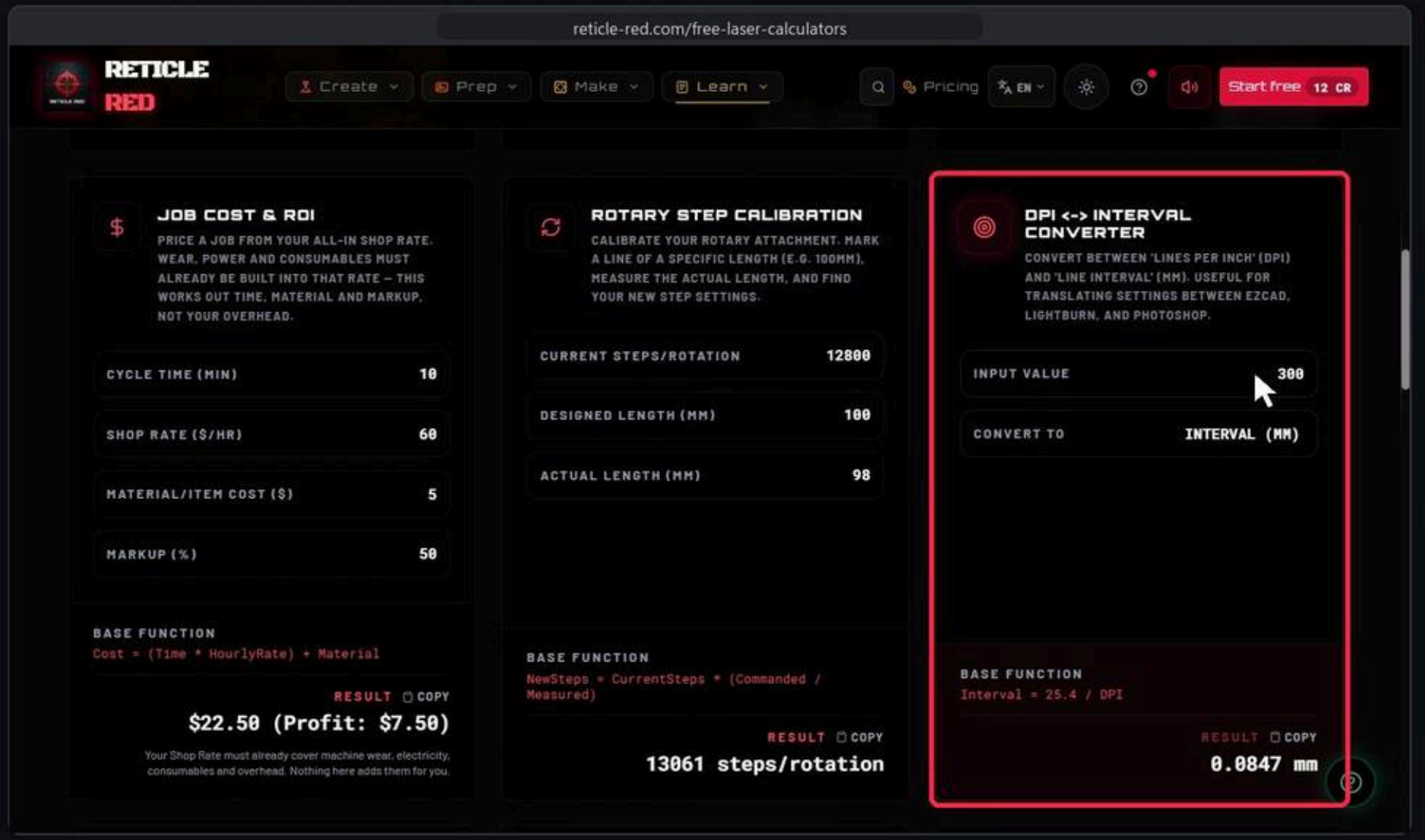
STEP 4 OF 8

Fluence (J/cm²)

60 W, 200 kHz, 0.05 mm spot ≈ 15 J/cm².

CLOSE-UP





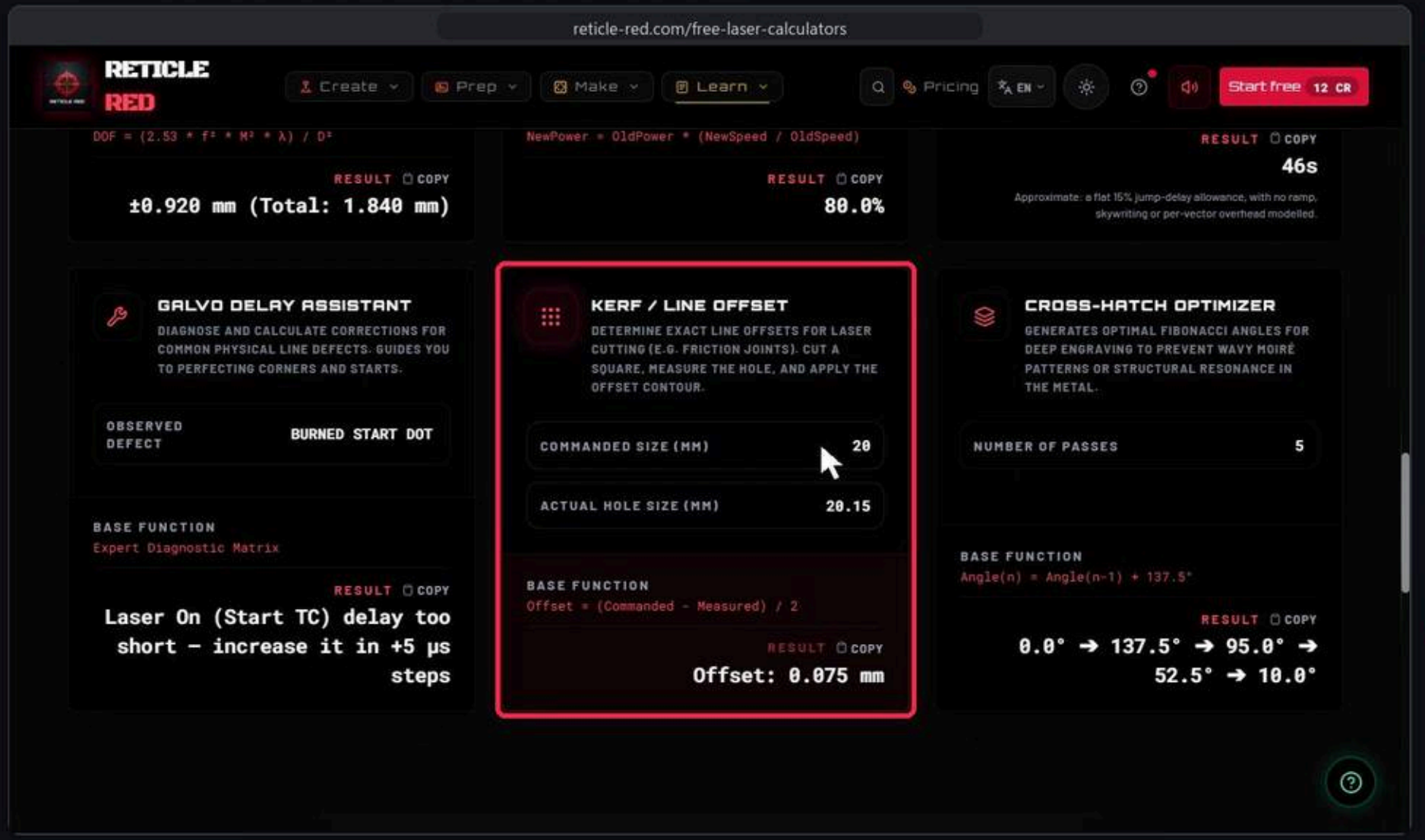
STEP 5 OF 8

DPI ↔ Interval

300 DPI = 0.0847 mm line interval, or back again.

CLOSE-UP





STEP 6 OF 8

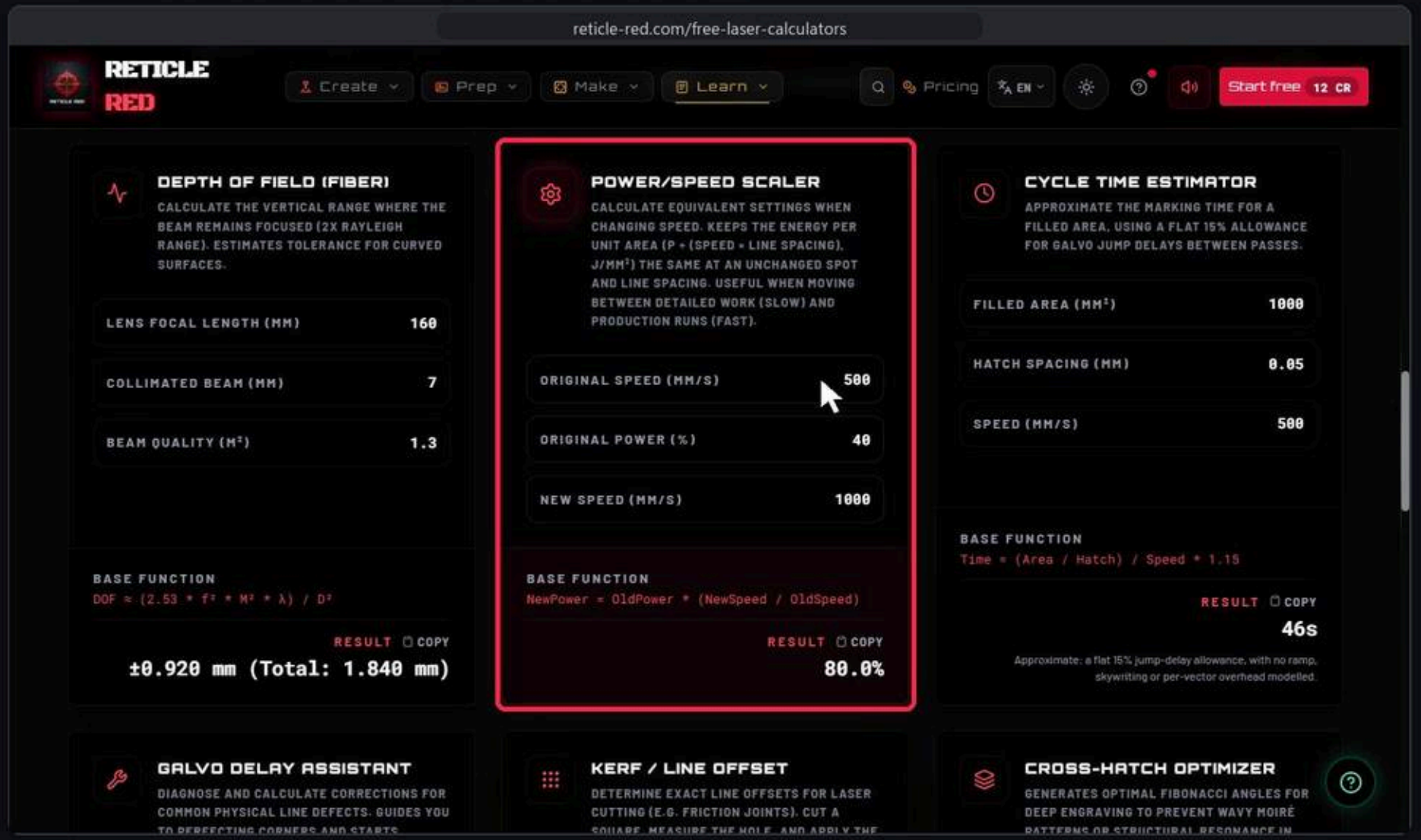
Kerf / Line Offset

20 mm square, 20.15 mm hole: offset 0.075 mm.

CLOSE-UP



Formulas — Units, overlap, fluence, DPI, kerf, power/speed and copy



STEP 7 OF 8

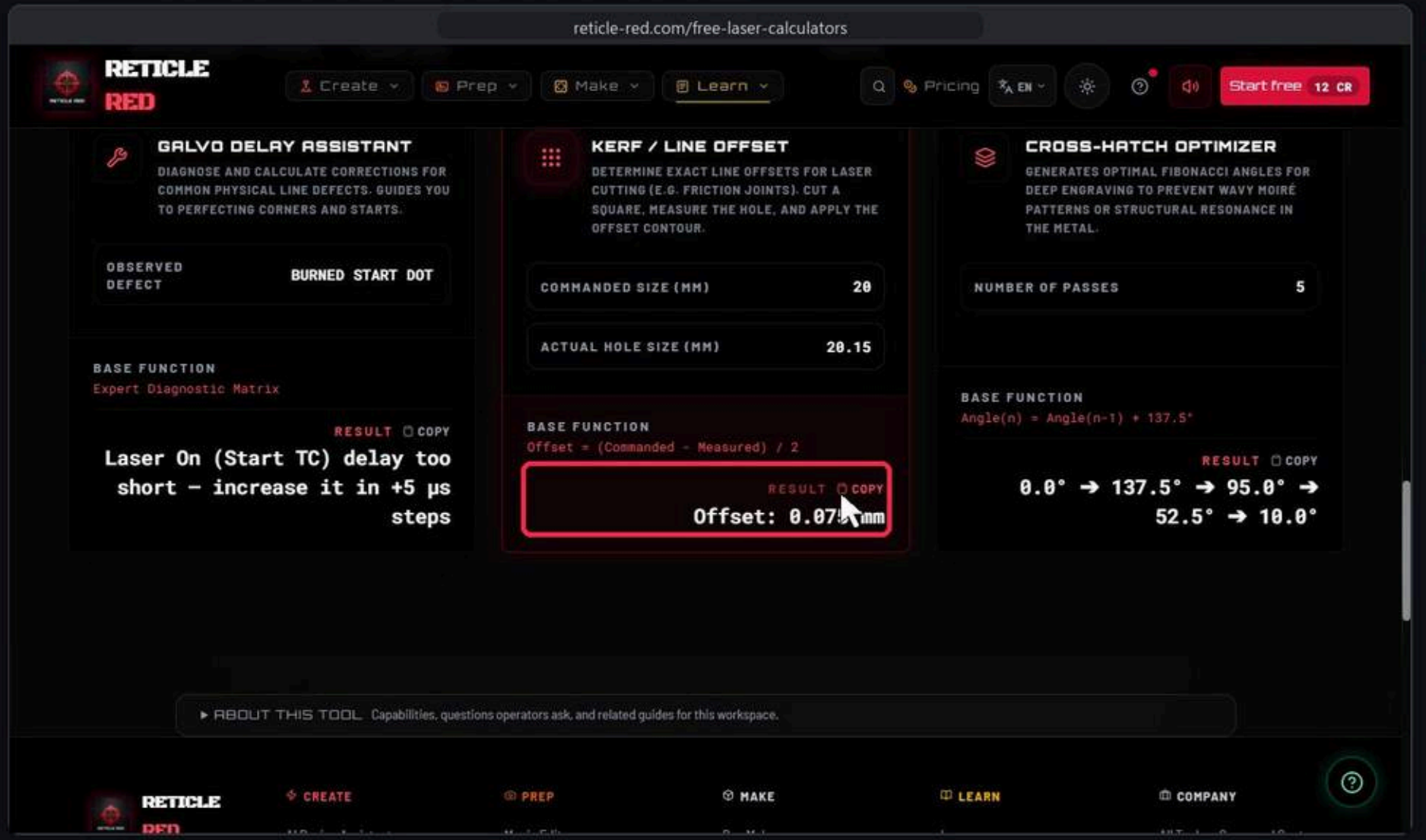
Power/Speed Scaler

Same energy per area at a new speed.

40% at 500 mm/s → 80% at 1000 mm/s.

CLOSE-UP





STEP 8 OF 8

Copy a result

The copied text includes the unit.

CLOSE-UP

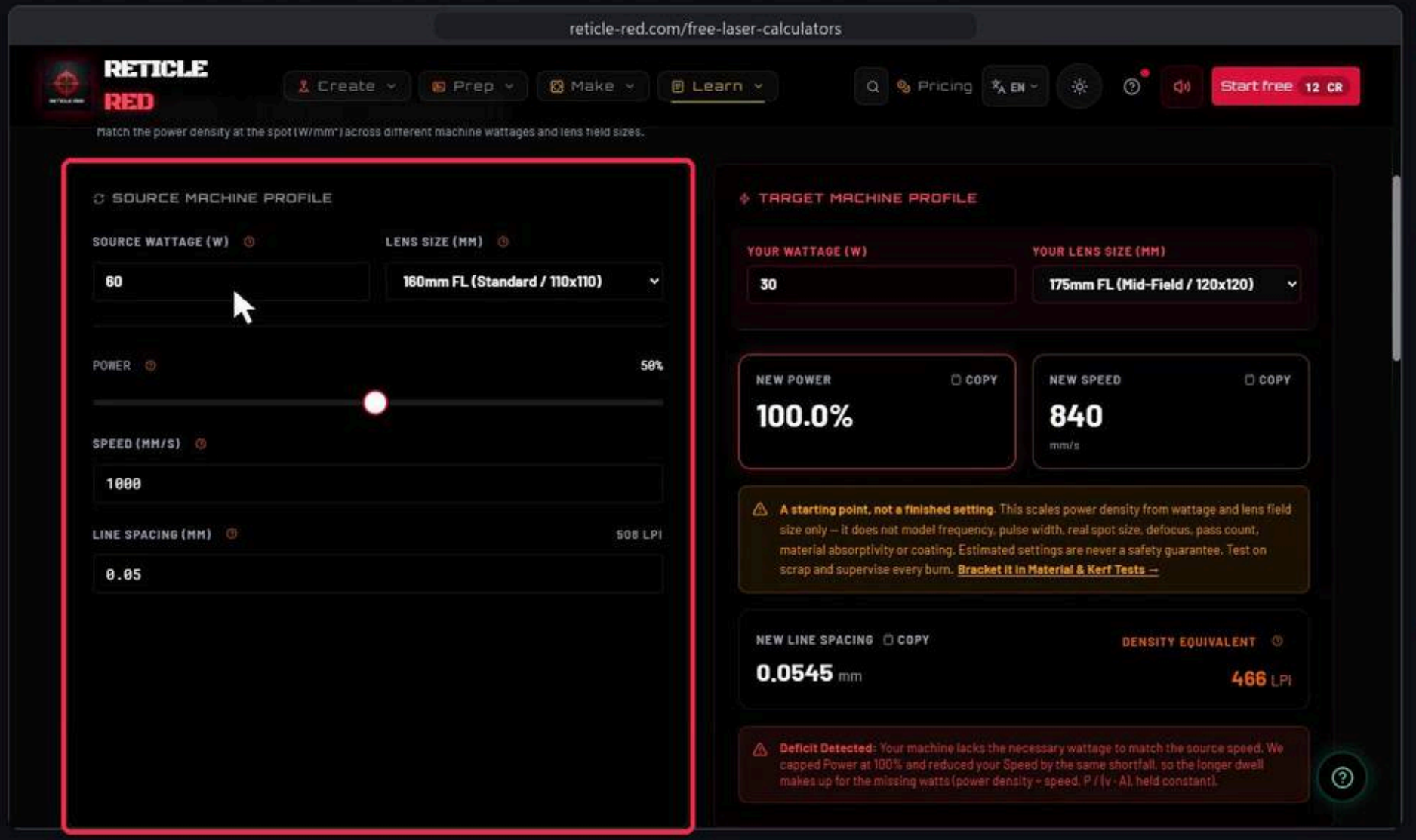


PART 2 OF 2

Universal Scaler and Physics

Move a recipe to your machine, then the why behind it

Universal Scaler and Physics — Move a recipe to your machine, then the why behind it



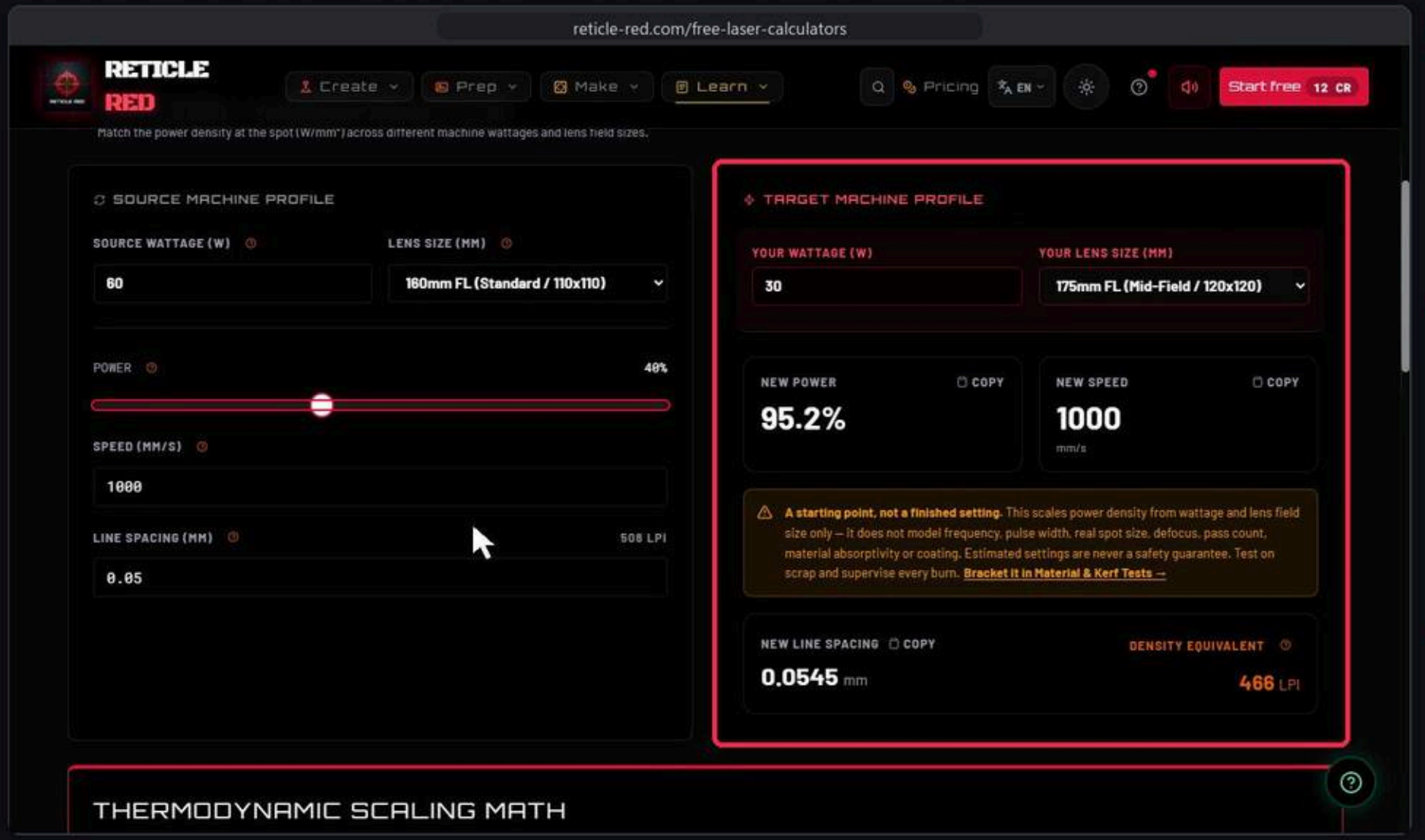
STEP 1 OF 4

Universal Scaler

Source: wattage, lens, power, speed, line spacing.

CLOSE-UP



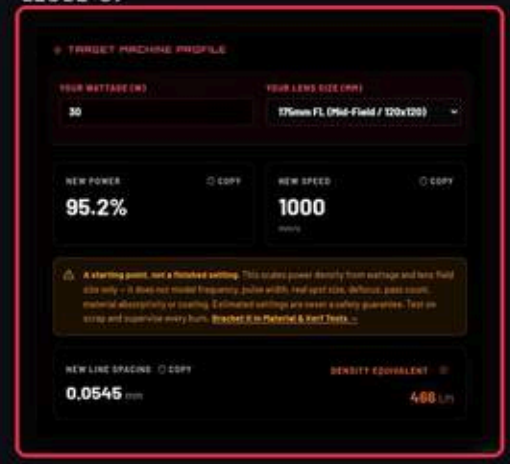


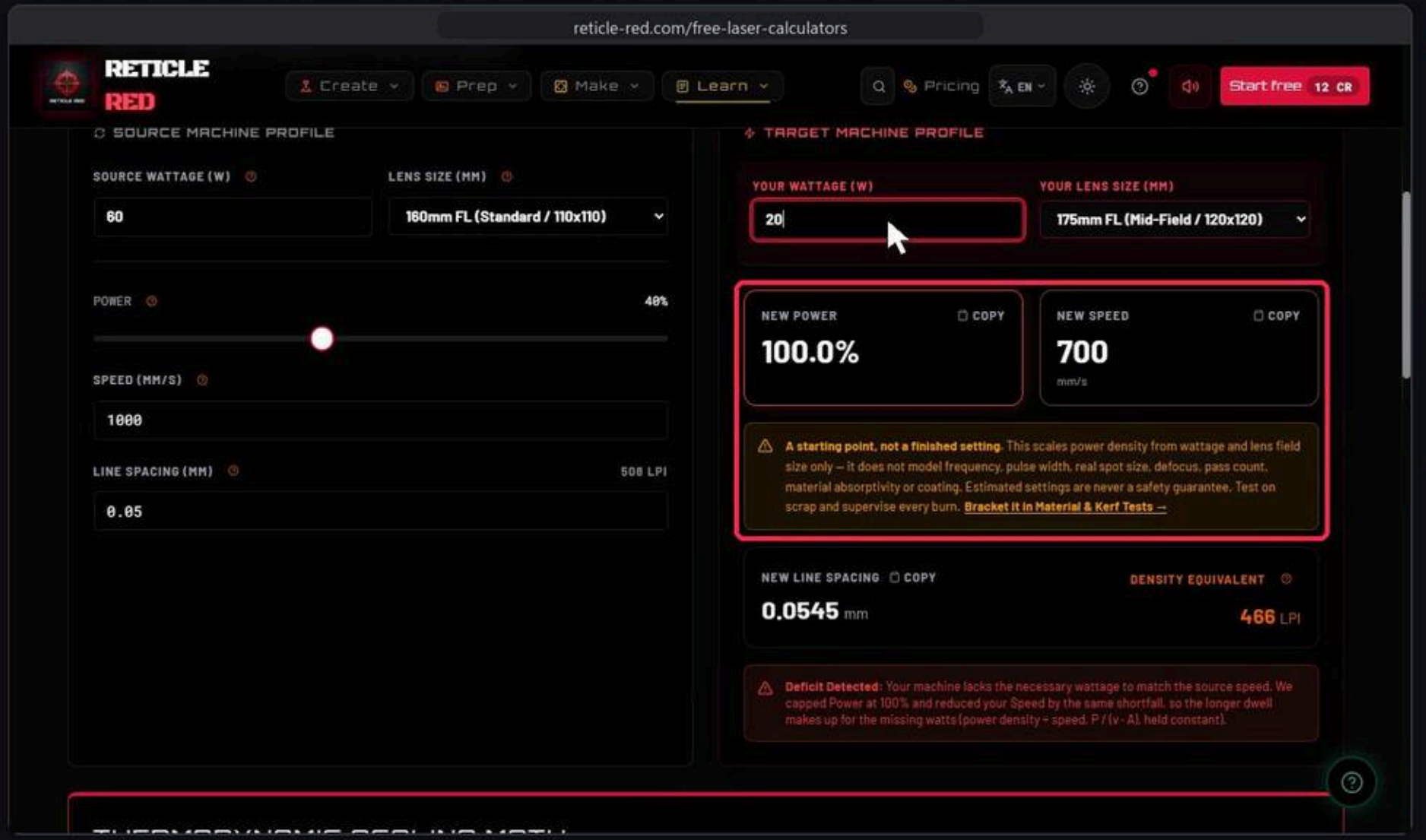
STEP 2 OF 4

Your machine

Your wattage and lens → new power, speed and line spacing, each with a copy button.

CLOSE-UP





STEP 3 OF 4

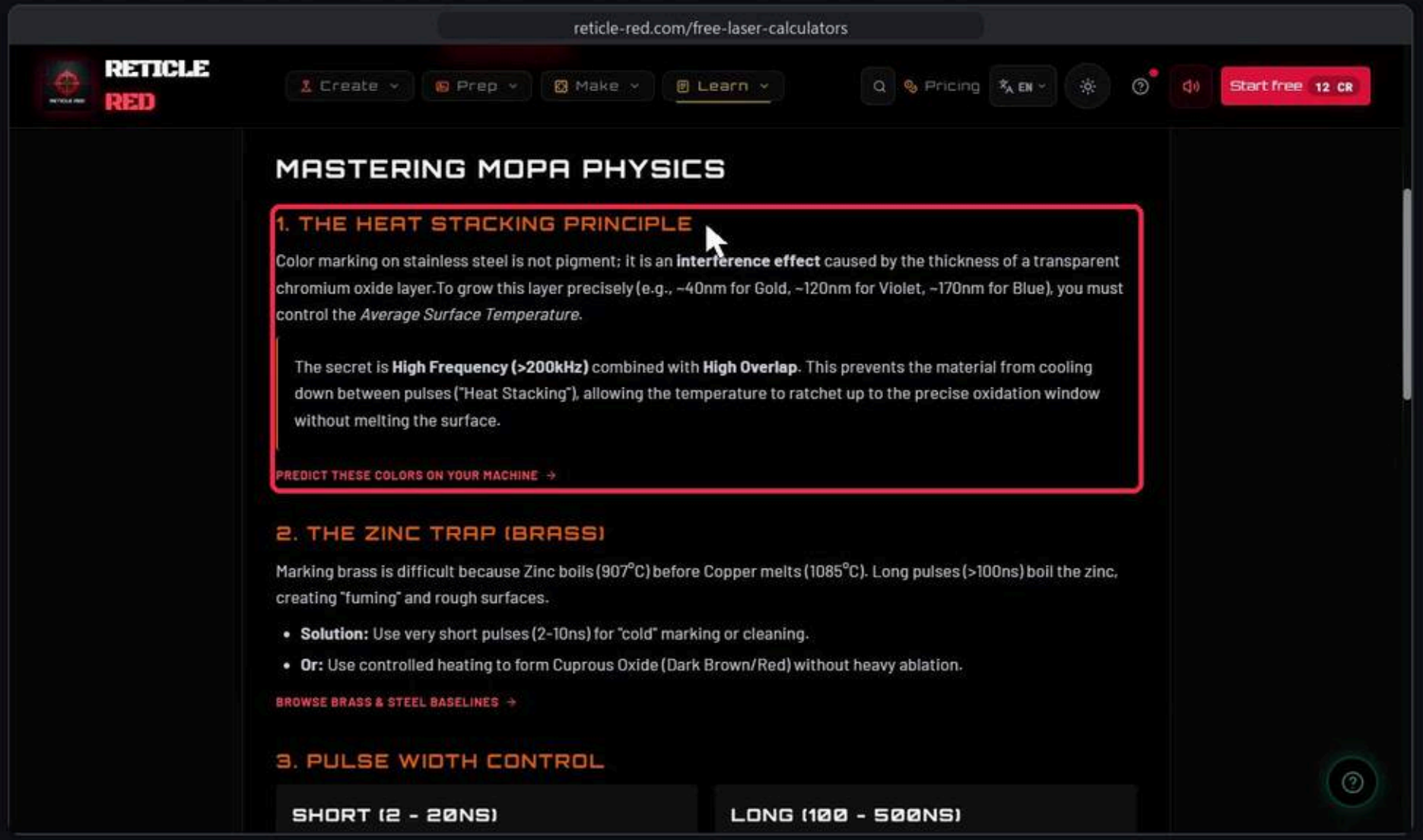
Short of watts

Power capped at 100%, speed slowed instead.

A starting point: test on scrap.

CLOSE-UP





STEP 4 OF 4

Physics

Heat stacking (stainless colour), the zinc trap (brass),

pulse width control.

CLOSE-UP



The numbers, with units

Learn → Free Laser Calculators

Free in your browser, no account needed.

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Narration: AI voice (ElevenLabs). Screens: the real reticle-red.com.