Efficiëntie van verlichtingsbronnen

Bron: <https://en.wikipedia.org/wiki/Luminous_efficacy>

Deze tabel beschrijft de efficiëntie van verschillende lichtbronnen. De efficiënties zijn vermeld zonder rekening te houden met de verliezen in de eventueel benodigde voorschakelapparaten. In de praktijk zal de efficiëntie dus lager zijn.

|  |  |  |  |
| --- | --- | --- | --- |
| **Categorie** | **Type** | **Overall luminous efficacy (lm/W)** | **Overall luminous efficiency** |
| Verbranding  *(Combustion)* | kaars | 0.3 | 0.04% |
| gasmantel | 1–2 | 0.15–0.3% |
| Gloeilamp  *([Incandescent](https://en.wikipedia.org/wiki/Incandescent_light_bulb" \o "Incandescent light bulb))* | 100–200 W tungsten incandescent (230 V) | 13.8–15.2 | 2–2.2% |
| 100–200–500 W tungsten glass halogen (230 V) | 16.7–17.6 -19.8 | 2.4–2.6–2.9% |
| 5–40–100 W tungsten incandescent (120 V) | 5–12.6–17.5 | 0.7–1.8–2.6% |
| 2.6 W tungsten glass halogen (5.2 V) | 19.2 | 2.8% |
| tungsten quartz halogen (12–24 V) | 24 | 3.5% |
| photographic and projection lamps | 35 | 5.1% |
| Lichtgevende diode  *(LED -* [*Light-emitting diode*](https://en.wikipedia.org/wiki/Light-emitting_diode)*)* | white LED (raw, without power supply) | 4.5–150 | 0.66–22% |
| 4.1 W LED [screw base](https://en.wikipedia.org/wiki/Edison_screw) lamp (120 V) | 58.5–82.9 | 8.6–12% |
| 5.4 W LED screw base lamp (100 V 50/60 Hz) | 101.9 | 14.9% |
| 6.9 W LED screw base lamp (120 V) | 55.1–81.9 | 8.1–12% |
| 7 W LED [PAR20](https://en.wikipedia.org/wiki/Parabolic_aluminized_reflector_light) (120 V) | 28.6 | 4.2% |
| 7 W LED [PAR30](https://en.wikipedia.org/wiki/Parabolic_aluminized_reflector_light) (110-230 V) | 60 | 8.8% |
| 8.7 W LED screw base lamp (120 V) | 69–93.1 | 10.1–13.6% |
| Theoretical limit for a white LED with phosphorescence color mixing | 260–300 | 38.1–43.9% |
| Booglamp  *([Arc lamp](https://en.wikipedia.org/wiki/Arc_lamp" \o "Arc lamp))* | [carbon arc lamp](https://en.wikipedia.org/wiki/Carbon_arc_lamp) | 2-7 | 0.29-1.0% |
| [xenon arc lamp](https://en.wikipedia.org/wiki/Xenon_arc_lamp) | 30–50 | 4.4–7.3% |
| [mercury](https://en.wikipedia.org/wiki/Mercury_%28element%29)-[xenon](https://en.wikipedia.org/wiki/Xenon) arc lamp | 50–55 | 7.3–8% |
| [UHP](https://en.wikipedia.org/wiki/Ultra-high-performance_lamp) – ultra-high-pressure [mercury-vapor](https://en.wikipedia.org/wiki/Mercury-vapor_lamp) arc lamp: initial, free mounted | 58–78 | 8.5–11.4% |
| UHP – ultra-high-pressure mercury-vapor arc lamp: rated, with reflector for [projectors](https://en.wikipedia.org/wiki/Digital_Light_Processing) | 30–50 | 4.4–7.3% |
| Fluorescentie  *(*[*Fluorescent*](https://en.wikipedia.org/wiki/Fluorescent_lamp)*)* | [very low](https://en.wikipedia.org/wiki/Vacuum) [pressure](https://en.wikipedia.org/wiki/Pressure) [mercury-vapor](https://en.wikipedia.org/wiki/Mercury-vapor_lamp) [gas-discharge lamp](https://en.wikipedia.org/wiki/Gas-discharge_lamp) with [fluorescence](https://en.wikipedia.org/wiki/Fluorescence) as T12 tube with magnetic ballast | 60 | 9% |
| 9–32 W [compact fluorescent](https://en.wikipedia.org/wiki/Compact_fluorescent_lamp) (with ballast) | 46–75 | 8–11.45% |
| T8 tube with electronic ballast | 80–100 | 12–15% |
| PL-S 11 W U-tube, excluding ballast loss | 82 | 12% |
| T5 tube | 70–104.2 | 10–15.63% |
| 70-150W Inductively Coupled Electrodeless Lighting System | 71-84 | 10-12% |
| Gasontlading  *(*[*Gas discharge*](https://en.wikipedia.org/wiki/Gas-discharge_lamp)*)* | 1400 W [sulfur lamp](https://en.wikipedia.org/wiki/Sulfur_lamp) | 100 | 15% |
| [metal halide lamp](https://en.wikipedia.org/wiki/Metal_halide_lamp) | 65–115 | 9.5–17% |
| [high pressure sodium lamp](https://en.wikipedia.org/wiki/Sodium_vapor_lamp#High_pressure_.2F_HPS_.2F_SON) | 85–150 | 12–22% |
| [low pressure sodium lamp](https://en.wikipedia.org/wiki/Sodium_vapor_lamp#Low_pressure_.2F_LPS_.2F_SOX) | 100–200 | 15–29% |
| [Plasma display panel](https://en.wikipedia.org/wiki/Plasma_display_panel) | 2-10 | 0.3–1.5% |
| Kathodeluminescentie  *([Cathodoluminescence](https://en.wikipedia.org/wiki/Electron_stimulated_luminescence" \o "Electron stimulated luminescence))* | [electron stimulated luminescence](https://en.wikipedia.org/wiki/Electron_stimulated_luminescence) | 30 | 5% |
| Ideale bronnen  *(Ideal sources)* | Truncated 5800 K blackbody | 251 | 37% |
| Green light at 555 nm (maximum possible luminous efficacy) | 683.002 | 100% |