

Shopping for Grow Lights? Learn the Optimal Number of Lumens Required for Your Plants.



If you're venturing into the realm of indoor gardening, one essential tool you'll need to master is the grow light. These artificial light sources mimic the sun's rays, providing the energy necessary for plants to thrive. However, choosing the best grow lights for plants can be a daunting task. After all, there are a large number of options on the market. You want to stay frugal but you want to get a good light. One thing to consider is the number of lumens required for your plants.

What Are Lumens?

Lumens are a unit of measurement used to quantify the total amount of visible light emitted by a light source. This is

calculated as it is perceived by the human eye. In simpler terms, lumens are a measure of how bright a light appears to us.

The concept of lumens is based on the sensitivity of the human eye to different wavelengths of light. The eye is more sensitive to green-yellow light, so light sources that emit more light in this range will appear brighter to us.

Brighter Isn't Always Better

In the context of grow lights, lumens can be somewhat misleading. That's because plants have different light requirements than humans. Whereas lumens are measure by how our eyes perceive them, a plant's "eyes" would see them differently. Plants primarily use specific wavelengths of light in the blue and red spectrum for photosynthesis. Therefore, even though a grow light might have a high lumen output, it may not provide the right light spectrum or intensity that plants need for healthy growth. Nevertheless, lumens are one good indicator to look at when choosing the best grow lights for your plants.

Lumens and the Best Grow Lights for Plants

Let's start out speaking generally. First, higher lumens generally indicate a brighter light output. If you know that you have plants that need a lot of bright light, then you might want to look for grow lights with higher lumens. But what's a high number for lumens? Most grow lights will offer between 2000 – 10000 lumens per square foot, so plants that need a lot of light will be closer to that 10000.

As a very general guideline, some indoor growers

recommend around:

- 2000 to 5000 lumens per square foot for low-light plants
- 5000 to 7000 lumens per square foot for medium-light plants
- 7000 to 10000 lumens per square foot for high-light plants

What does that mean?

Low-light plants can tolerate indirect or filtered light. They are ideal for areas in your home or office with less intense light levels. Examples include spider plants and snake plants as well as peace lilies.

Medium-light plants thrive in moderate light levels and can tolerate some direct sunlight. Placing them in locations with a bit more light will help them grow and remain healthy. Examples include philodendron, African violets, and Boston fern.

High-light plants benefit from intense light exposure, making them well-suited for use with high-output grow lights. They are often cultivated for their flowers, fruits, or specific culinary uses. Tomato and basil plants are common examples. Orchids are also in this category.

The Best Low, Medium and High Light Grow Lights for Plants

If you're ready to start looking at some good options for grow lights, then you can head to Amazon to get started. Here are some top options in each category:

Low Light Grow Lights

- [GYTF's T5 White Full Spectrum LED Plant Growing Lamp Strips](#) are 3000 lumens. They have very bright LED bulbs

that provide full spectrum light. This is great for plants. You can get them in packs of 2, 3 or 4 ranging in price from \$19.99 to \$34.99.

- FECiDA's Desk Grow Lights for Indoor plants are another good option at 2000 lumens. These are designed to sit nicely on your desk. They have an adjustable height of 16" – 24". They cost a little over \$30 on Amazon.
- Need something a little taller? LBW's Adjustable Tripod Stand adjusts to between 15 and 48 inches. It's 3800 lumens.
- Monios-L T8 LED Grow Light 4FT grow light strips are 4300 lumens, so they're at the higher end for low light grow lights.

Medium Light Grow Lights

MILYN's 100W Led Grow Light Bulb is 5000 lumens. If you have a range of low-light and medium-light plants then you might want to try these.

[FECiDA's 600W LED Grow Light Dimmable lights](#) are good for seed starting and for medium-light plants. It offers 5000 lumens.

High Light Grow Lights

FECiDA's dimmable lights don't just come in the 600W. There's also a 1000W and even a 2000W. These offer 12000 and 20000 lumens respectively. Therefore, if you primarily grow indoor plants that fruit or flower, then you might want to check out what they have to offer.

In Addition to Lumens: PPF

If you want to use lumens as a rough reference, you can look for grow lights with higher lumen outputs, but it's crucial to also consider the light spectrum and coverage area. For example, plants in the vegetative stage require a higher proportion of blue light, while flowering and fruiting plants

benefit from more red light. Therefore, a balanced spectrum with a higher total output of usable PAR light would be more valuable than just looking at lumens.

If you want to dig deeper, then you should also look at [Photosynthetic Photon Flux Density](#) (PPFD). PPFD measures the number of photons in the photosynthetically active radiation (PAR) range that reach a specific area (usually measured in micromoles per square meter per second, $\mu\text{mol}/\text{m}^2/\text{s}$).

Different plants have varying PPFD requirements at different stages of growth. It's crucial to provide the right amount of light for optimal photosynthesis and overall health. Therefore, when shopping for grow lights, it's essential to consider the light's PPFD output and its spectral distribution (the balance of red and blue light), rather than focusing solely on lumens.

But, getting the right number of lumens is a great place to start! It will help you narrow down the options. Then you can choose among those select options by looking at PPFD, cost, and other details.

Read More:

- [6 Inexpensive Grow Lights for Indoor Plants](#)
- [6 Tips to Revive Wilted Plants](#)
- [Container Gardening: Fabric Pots vs. Plastic Pots](#)

6 Inexpensive Grow Lights for

Indoor Plants



6 INEXPENSIVE GROW LIGHTS

for Indoor
Plants

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Growing plants indoors is great. However, when plants are grown indoors, they often do not receive enough natural sunlight to meet their needs. This is where grow lights come in. Of course, you can choose to spend a lot of money on grow lights. However, you don't have to do that. There are some great options for inexpensive grow lights for indoors plants.

What Are Grow Lights?

Grow lights are special lights designed just for plants. They emit a range of light wavelengths, including red and blue light which are important for photosynthesis. Grow lights can be used as the only source of light for indoor plants. However, most of us have at least some natural light in our homes, especially during the warmer months of the year. Therefore, most of us are seeking inexpensive grow lights for indoor plants that supplement that existing natural light.

Types of Grow Lights

Before we get into the most inexpensive grow lights for indoor plants, let's look at the different types of grow lights along with their relative costs. The first three on this list are the most common options and the latter three are alternatives that some people prefer.

Fluorescent Grow Lights

Fluorescent lights are a popular choice for indoor growers due to their affordability and energy efficiency. They come in two main types: T5 and T8. T5s are more efficient and produce more light per watt than T8s. Fluorescent lights emit mostly blue light, which is good for vegetative growth. However, they don't emit as much red light, which is needed for flowering. Fluorescent lights are generally the most inexpensive grow lights for indoor plants. They typically cost anywhere from \$20 to \$200.

LED Grow Lights

LED grow lights are becoming increasingly popular among indoor growers due to their energy efficiency and versatility. They emit both blue and red light, which is important for both vegetative growth and flowering. LED lights also produce less heat than other types of grow lights, which can be beneficial for certain plants. The cost of LED grow lights varies widely, but they tend to be more expensive than fluorescent lights, ranging from \$50 to \$1000 or more. Still, there are some good inexpensive grow lights for indoor plants in this category. In fact, they are a [preferred choice over fluorescents](#) for most people.

High-Intensity Discharge (HID) Grow Lights

HID lights are the most powerful grow lights available and are commonly used by commercial growers. They come in two types – one better for flowering and one better for vegetation. HID lights can cost anywhere from \$100 to \$1000 or more. Moreover, they tend to cost a lot to operate, so your utility bill will go up when using them. These aren't your best choice.

Ceramic Metal Halide (CMH) Grow Lights

CMH grow lights are a relatively new type of HID light that uses ceramic arc tubes instead of quartz. CMH lights are also cooler and more durable than other types of HID lights. However, they can be more expensive than other types of grow lights.

Plasma Grow Lights

Plasma grow lights are another type of HID light that uses plasma technology to produce a full spectrum of light. They are highly efficient, producing more light per watt than other types of grow lights, and have a long lifespan. However,

plasma grow lights are among your most expensive option.

Induction Grow Lights

Induction grow lights use a high-frequency magnetic field to generate light. Therefore, they are highly efficient and long-lasting. They emit a full spectrum of light and are a good option for indoor growers looking for a low-maintenance and energy-efficient grow light. However, induction grow lights are also among the most expensive options.

6 Inexpensive Grow Lights for Indoor Plants

With all of that in mind, the most inexpensive grow lights for indoor plants will be fluorescents and some LED options. That said, arguably the [LED lights are the better choice for most gardeners](#). Here are some good choices:

1. LORDEM Plant Grow Light

This is a 72 LED Full Spectrum Grow Light. Therefore, it's good for most plant types. It's highly adjustable in terms of plant height and has a long cord to make it easy to set up indoors. Amazon sells this for about \$20.

2. Yadoker Plant Grow Light

This one is almost identical to the previous suggestion including the price point.

3. GooingTop LED Grow Light

This one is designed with a clip so that you can clip it onto a table and adjust the light accordingly over tabletop indoor plants. According to Amazon, it is "equipped with 10 Red + 74 White LEDs, this growing Lamp is similar to the full-spectrum

sunlight at noon.” Moreover, it comes with a one year warranty. It sells for about \$35.

4. Aokrean Grow Lights for Indoor Plants

This is a cute little stand on which you set your flower pot. The light can be adjusted up to 26” to accommodate different pot sizes. It’s a stylish option that looks kind of similar to the Ring Light for humans. They are sold individually but you get a much better deal if you get a two pack. Pay about \$25 for two.

5. Mosthink LED Plant Grow Light Strips

Most of the inexpensive grow lights for indoor plants are little lamps like the ones above. However, you can also get glow light strips. These can be a great way to give the proper light to multiple plants in one area of the home. This one is 13” long and you get a two pack for under \$20. However, you can also find ones that are longer if you need to cover more area for your plants.

6. DOMMIA Grow Lights for Indoor Plants

In terms of aesthetics, I really like this option. It’s a panel that looks a bit like a sunburst or stars. You can place the panel like a shelf on a multiple-shelf plant stand, illuminating the plants below it on that particular shelf. An entire set of these looks really striking. And, of course, it gives your plants the light that they need to thrive. This costs about \$20 per panel.

Read More:

- [Edible Plants You Can Grow Inside](#)
- [Cheap and Effective Liquid Nutrients For Your Indoor Plants](#)
- [5 Quick Tips to Rescue Your Plants from Root Rot](#)

Inexpensive Alternatives To Grow Lights



Grow lights can be a really helpful tool for indoor gardening. Many people find that they are worth their cost. However, they aren't cheap. Therefore, you might want to consider some of these inexpensive alternatives to grow lights.

What Are Grow Lights?

Grow lights are exactly what their name says: lights designed to help plants grow better. As you might guess, [these aren't just any regular light](#), though. You can't just turn a desk lamp on to your plants and assume that they'll grow better as a result. Instead, plants need light that's similar to

sunlight. Grow lights use particular colors from the light spectrum to help your indoor plants grow.

Inexpensive Alternatives To Grow Lights

There are several good inexpensive alternatives to grow lights. However, it's important that when you look at these cheaper alternatives, you make sure that you're choosing the right ones for your plants. There are different types of grow lights, with different intensity and energy efficiency, etc. Do your research to find out what works best with your particular setup.

1. Fluorescent Lights

[Hydroponic Way](#) suggests using fluorescent lighting as one of the best inexpensive alternatives to grow lights. They note that they generally don't emit a lot of heat, which is important. A light bulb that burns too hot can burn your plants, doing the exact opposite of helping them to grow! However, because they don't burn too hot, they also don't burn too bright. As a result, they don't produce enough light for some plants to grow well. Do your research to find plants that will grow well under fluorescent lighting.

2. LED Grow Lights

There are actually many different types of grow lights on the market. Some are more expensive than others. If you want to purchase grow lights made for your indoor garden but don't want to spend a lot of money, then consider purchasing LED grow lights. They're easy to find. Moreover, they're energy-efficient so they won't run up the cost of your home electric bill.

3. Halogen Lights

Hydroponic Way notes that these are not the most efficient option. However, if you already have halogen lights or you can get them affordably, then you might want to see if they work well for your indoor garden.

4. Incandescent Light Bulbs

[Today's Homeowner](#) notes that you can use incandescent lighting bulbs as grow lights. However, as aforementioned, they burn hot so they have the potential to burn your plants. As a result, make sure that you keep the lights further away from the plants than you would with the other types of alternative lights. They note that a nice option is to combine incandescent lights with fluorescent lights because each emits a different type of light on the spectrum, giving your plants a better balance for good growth.

5. Sunlight

Obviously, the sun is the best light source for your plants. If you can skip the grow lights and use nature, then that's your best option. It's free, after all. Of course, you might not have the choice to grow all of your plants outdoors. Or you might want to enjoy indoor gardening during months when it's too cold for plants outside. If you can set plants up near windows that get the right amount of sun, this is still your best option.

Read More:

- [Seed Starting on a Budget: Germination](#)
- [6 Tips to Revive Wilted Plants](#)
- [Natural Plant Dyeing: Colorfast vs. Fugitive Light Dyes](#)