

Best Lighting for Yards and Gardens



Day: Sunlight

Night: Moon - Starlight



Plants use

Blue & Red

> for *photosynthesis* &

Blue, Red & Ultraviolet

> to sense photoperiod in daylight hours

Ultraviolet

strongly attracts insects

Artificial light at night:

- > Blinds nocturnal pollinators
- > Disrupts predator-prey balance
- > Breaks food chains
- > Reduces biodiversity
- > Weakens ecosystems

Result

Unstable, easily-perturbed environments

Leave leaf litter wherever possible* because it:

- ✓ Moderates ground and subsoil temperature fluctuations winter and summer
- ✓ Shelters insects, spiders, and other invertebrates that are food for birds and mammals
- ✓ Shields from stray artificial light the eggs, larvae, and pupae of butterflies and moths (pollinators of next season's flowers)
- ✓ Returns nutrients to the soil

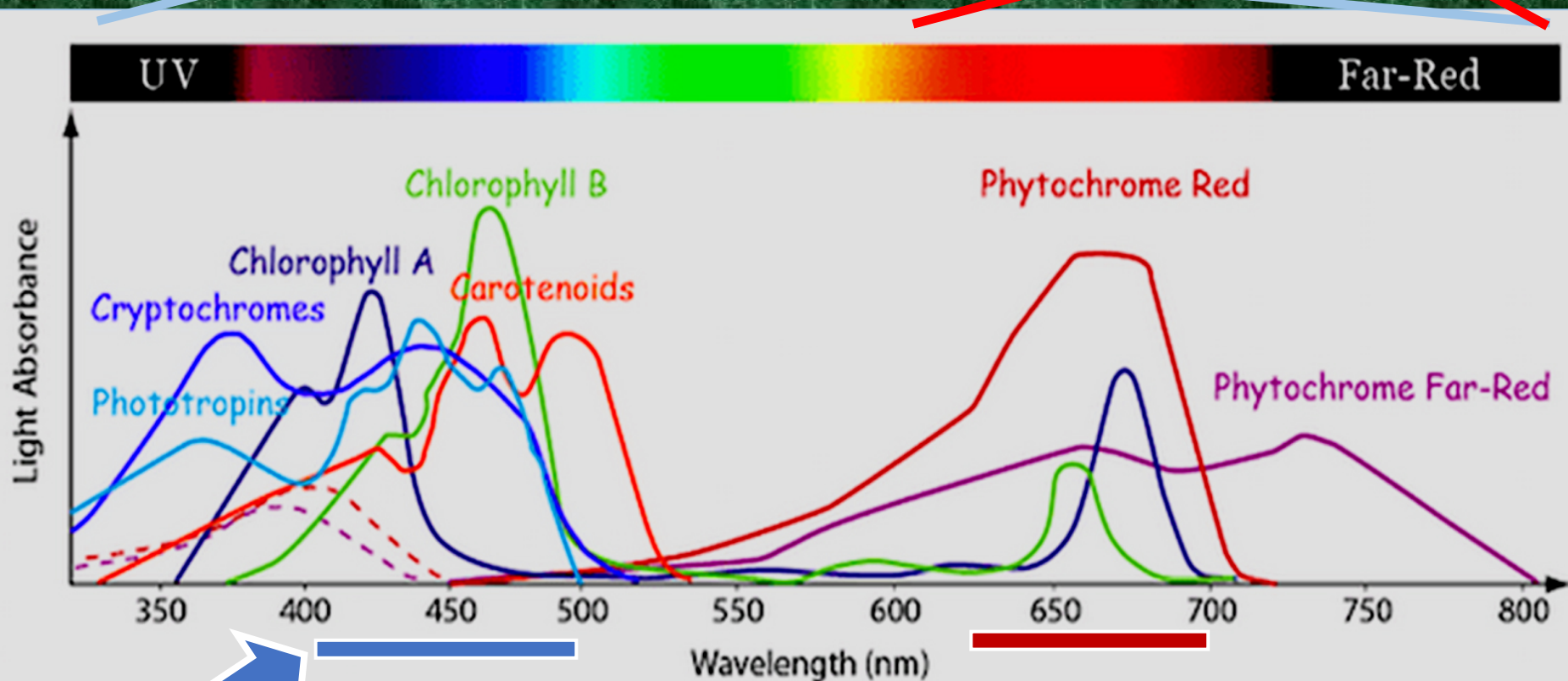
* Remove leaf litter only where necessary for safety on walkways and steps.



Best Light for yards and gardens?

But, when mounted lights are needed, use

- > Amber–yellow lamps (colour temperature 2700 K, or lower if available)
- > Fully shielded fixtures mounted as low as possible & pointed down to prevent light spread beyond path (may need extra baffle)
- > Infra-red motion sensors or time of night controls adjusted to minimize



The **blue in sunlight** keeps the *circadian clocks* in all organisms, Plants and Animals, in tune with daylength as seasons change through the year

Blue at night

- > blocks melatonin production
- > disrupts biological rhythms in all species, harming their health and ability to adjust to the annual cycle of seasons
- > disrupts activity of nocturnal pollinators (moths, beetles, other insects), which reduces flowering, fruiting, and reproduction in plants
- > Changes behaviours of many nocturnal and diurnal vertebrates (birds, reptiles, amphibians, mammals, fish)

Red at night interferes with plant growth; disrupts bird orientation

Plants require
Continuous darkness
for
vegetative growth
during the night



Night tells many animals when to eat, to sleep, to hunt, to migrate, or to reproduce. At least half of all life starts daily activities at or after sundown.



See recommendations for lamps and fixtures in flier on *Safe and Healthy Outdoor Lighting*
victoria.rasc.ca/night-lighting

