



# Lighting My Reef Tank

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# Why is lighting important

- Corals are animals but most have photosynthetic algae in them.
- Coral reefs should be called Algae reefs
- Most of our corals are from very shallow water

# How can we measure light

- Lux
- Lumen
- Photosynthetic Active Radiation (PAR)
- Watt
- Photosynthetic usable radiation (PUR)

# Par is the best measurement

- Only 400 to 700nm is measured
- Light best used for photosynthesis

# Watts per gallon

- Rule of thumb
- Does not take into account depth of tank
- Does not take into account relative efficiencies of different light sources
- Does not take into account quality of light
- Does not take into account color of light

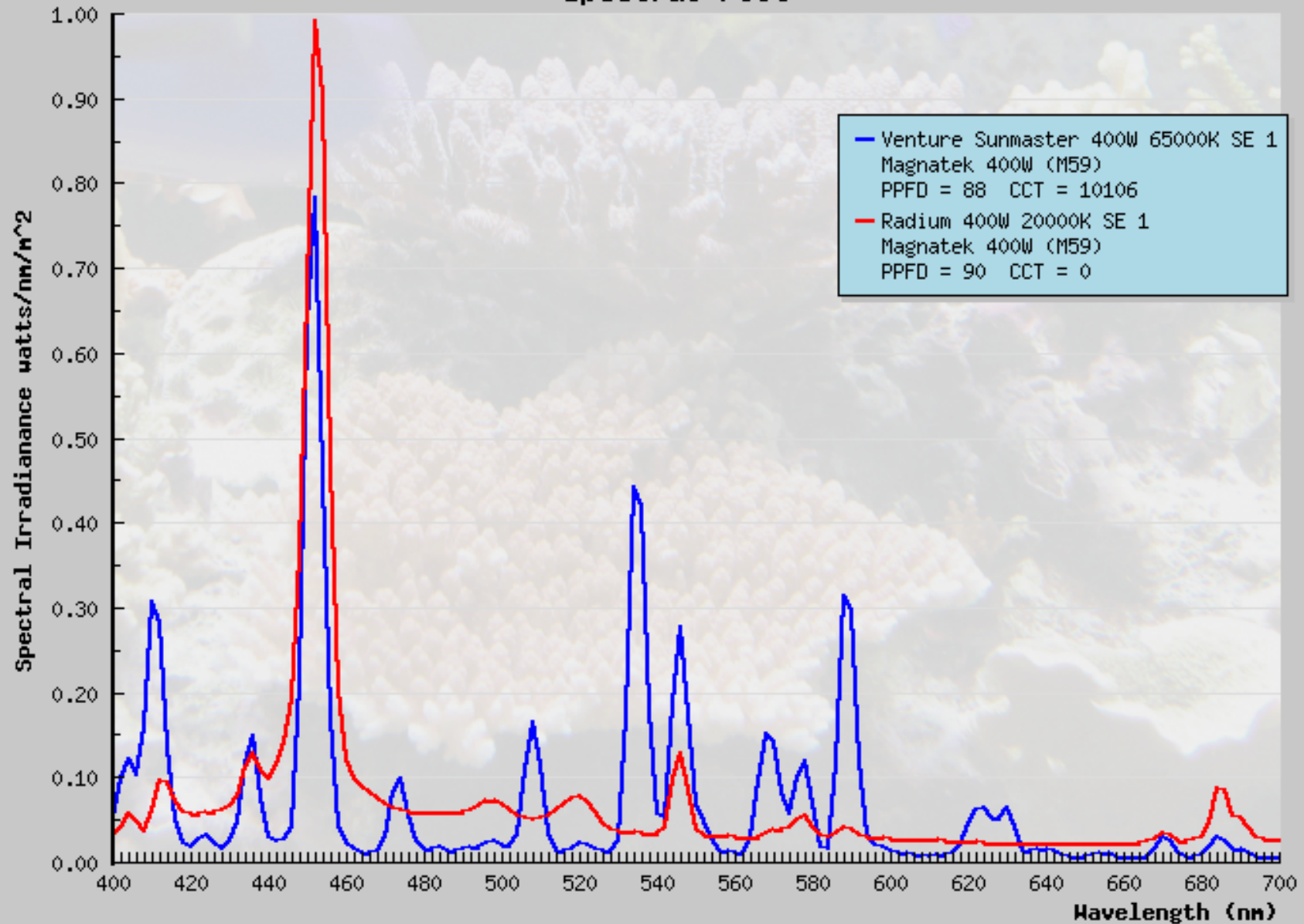
# Color Temp

- 5500k About daylight can look very yellow
- 6500K a little yellow
- 10000K, white, to blue white
- 14000k blue white
- 20,000k blue
- Actinic 03 blue

# Color Temp

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Spectral Plot



# Florescent lights

- T5 no/ho
- T8 NO
- T12 NO/HO/VHO
- Power Compact, compact florescent
- Ballast determines wattage

# FI Ballasts

- Tar/magnetic Noisy, lots of heat, short bulb life
- Electronic, uses high frequency rather than high voltage to fire the bulb, quite, low heat, longer bulb life, lower energy due to less wasted heat

# MH Ballasts

- Magnetic
  - Probe start
  - Pulse start

Must use the correct one for your bulb

ANSI rating m57/m58/m59

# Mh ballast

- Electronic
  - Will operate both probe and pulse start
  - Gives less light than tar/magnetic ballast

# Mh Bulbs

- Single ended, Mogal socket
- Double Ended "HQI"

# Resources for lighting info

- <http://lighting.reefs.org>
- [www.reefcentral.com](http://www.reefcentral.com)
- [www.reefs.org](http://www.reefs.org)
- [www.idahoreefs.org](http://www.idahoreefs.org)
- [www.cnidarianreef.com/lamps.cfm](http://www.cnidarianreef.com/lamps.cfm)



End of Lighting Presentation

(Click next for the Door Prizes)

# Door Prizes

– If you have "Little White Bugs" in your tank and they have two eyes, instead of just one, they are:

- a) Octopus
- b) Copepods
- c) Eels
- d) Amphipods

# Door Prizes

- Amphipods are a member of the shrimp family and have two eyes, whereas Copepods have only one eye.

# Door Prizes

- What is the Primary Food of the Mandarinfish?
  - a) Copepods & Amphipods
  - b) Small Crabs
  - c) Coral Polyps
  - d) Shrimps

# Door Prizes

- Copepods and amphipods are the primary food of Mandarinfish. This is why they are difficult to keep in aquariums unless you have a good bug population. In order to keep them in good health, many aquarists cultivate copepods and amphipods to add to their tank as a food source for these fish.