



CAL ZOO'S REFERENCE SHEET

UV LIGHTING

WHAT IS UV?

UV stands for Ultra Violet, this light you can't see. There are three different types, all explained below.

UVA. This is the visible wavelength. It is responsible for inducing normal behavior in reptiles such as feeding, climbing, mating etc. In other words, UVA helps with the mental well-being of animals. Zoos have been using UVA bulbs such as the BLB blacklights and have found that exposure to high levels of UVA lighting for 2 hours daily induced mating in many species.

UVB. One of the two non-visible wavelengths of light. This is what gives humans suntans. In reptiles, UVB allows for the synthesis of vitamin D3 which allows reptiles to process calcium in their system, thus preventing or reversing metabolic bone disease.

UVC. This is the wavelength used in ultraviolet sterilizers which kill harmful bacteria. This wavelength is extremely dangerous and can actually damage DNA.

WHAT REPTILES REQUIRE UVB LIGHTING?

Mainly lizards, turtles, tortoises and crocodilians. Snakes derive their vitamin D3 from the livers of the animals they eat (mice, rats, etc.). Snakes and amphibians, however, will benefit from UVA lighting. Green Iguanas will start to show signs of metabolic bone disease at 6 months of age if not exposed UVB light. A rubber jaw, shaking and non-use of hind legs are signs of metabolic bone disease.

WHAT ARE CRI & KELVIN?

CRI. This is the Color Rendering Index. It refers to the effect a light source has upon the colors of a given object. The sun's CRI is 100. All artificial lighting is rated to the sun. Artificial lighting with a CRI rating of 90 or above is excellent. However, high levels of UVA & UVB will diminish some of the CRI. Zoo Med's Reptisun 5.0 UVB and Iguana Light 5.0 UVB have a CRI rating of 85 to 92. Many companies promote their bulbs with CRI ratings of 95 to 98. Apparently these companies fail to see the benefit of UVA & UVB light.

KELVIN. This describes the color temperature or the description of warmth or coolness of a light source. When a piece of metal is heated, the color of light it emits will change. This color begins as red and graduates to orange, yellow, white and then to blue-white and finally to deeper shades of blue. The temperature of this metal is a physical measure in Kelvin or absolute temperature. When the sun rises it is about 1,800 Kelvin. As it rises further it continues from red to orange to yellow to white and it peaks at noon at over 5,000 Kelvin. As it sets, the sun's Kelvin drops accordingly. The preferred Kelvin for reptile lighting is from 5,000 to 5,500.

WHO ENDORSES ZOO MED'S REPTISUN 5.0 UVB LIGHT?

The first big endorsement came from Bert and Hester Langerwerf of Agama International. Bert and Hester produce over 10,000 captive bred offspring each year. As of January 1996, Zoo Med's UVB lighting is being used in 15 zoos nationwide. And the list continues to grow. The Chameleon Information Network and The Vivarium magazine have given these bulbs favorable reviews. At a recent reptile symposium, one Uromastix breeder refused to sell his offspring unless the prospective buyer agreed to purchase a Zoo Med Reptisun 5.0 UVB light.

DOES GLASS FILTER UVB LIGHT?

Glass filters out 95% of all UVB rays. Aluminum screen filters out about 30%. If a screen cover is used between the light source and the animal, be sure the screen has 1/8 inch or larger holes. Also, make sure your light source is within 12 inches of your animals.

WHAT DOES "FULL SPECTRUM" MEAN?

Quite simply, anything the advertiser wants you to think it means. There is no proper definition of Full Spectrum. You should know that you cannot get UVB from a tungsten filament incandescent light bulb. This includes the "Neodymium" type light bulbs (i.e. Chromalux™). Since they have no UVB output, they provide reptiles with no physical benefits such as vitamin D3 synthesis and calcium absorption.

DOES THE VITALITE® HAVE UVB LIGHT?

Most florescent lights have very slight traces of UVB. The Vitalite® also has trace amounts of UVB. However, the Vitalite® is not marketed as a UVB reptile light and makes no claims in preventing metabolic bone disease in reptiles.

SEVERAL COMPANIES MAKE UVB TYPE LIGHTS AND COMPARE THEMSELVES TO ZOO MED, BUT AT HALF THE PRICE.

Just as you can't judge a book by it's cover, you can't judge a light bulb by it's packaging. Zoo Med has spent thousands of dollars sending competitors UVB bulbs out for complete spectranalysis. In every case they found that the competing UVB bulbs manufactured prior to 09/95 (their last test) had considerably less or none of the UVB amount stated on the package. Not only did Zoo Med come up with these results, but also found that the UVB in these competitors bulbs completely dissipated at 3 - 4 inches from the bulb's surface. Zoo Med's bulbs remained active up to 12 inches away.

WHAT IS THE DIFFERENCE BETWEEN THE REPTISUN 2.0 UVB AND THE REPTISUN 5.0 UVB?

The numbers refer to the percentage of UVB output. The 2.0 UVB has up to 2% total energy output of UVB and up to 15% total energy output of UVA. This exceeds the total UVA & UVB energy output of the majority of competitor's reptile bulbs. The 2.0 UVB is perfect for all snakes, amphibians and arachnids. For turtles, tortoises and lizards, use the Reptisun 5.0 UVB. For iguanas, use the Repti Iguana Light 5.0 UVB. Both the Reptisun 5.0 UVB and the Repti Iguana Light have up to 30% UVA output. Both Zoo Med's Reptisun 5.0 UVB and Iguana Light 5.0 UVB fall within the N.I.O.S.H. (National Institute for Occupational Safety and Health) guidelines for safety. It is Zoo Med's opinion that UVB bulbs that exceed 5% total energy output should not be sold to the general public. Just as you shouldn't look directly at the sun, you should never stare for any length of time directly within 12 inches of a UVB bulb. (The Reptisun 2.0 UVB and Repti Iguana Light 2.0 UVB will be available 04/96)

CAN I JUST PUT MY REPTILES OUTSIDE IN THE NATURAL SUNLIGHT?

If you put an aquarium in direct sunlight you could bake your animals in a matter of minutes. If you were to put part of the cage in the shade, the sun would continue to set, either putting the cage in full sunlight or full shade. Cold weather would prevent you from doing this most of the year, anyway. Zoos and professional reptile breeders keep their reptiles indoors under Zoo Med's UVB bulbs.

This sheet may be copied in its entirety only.