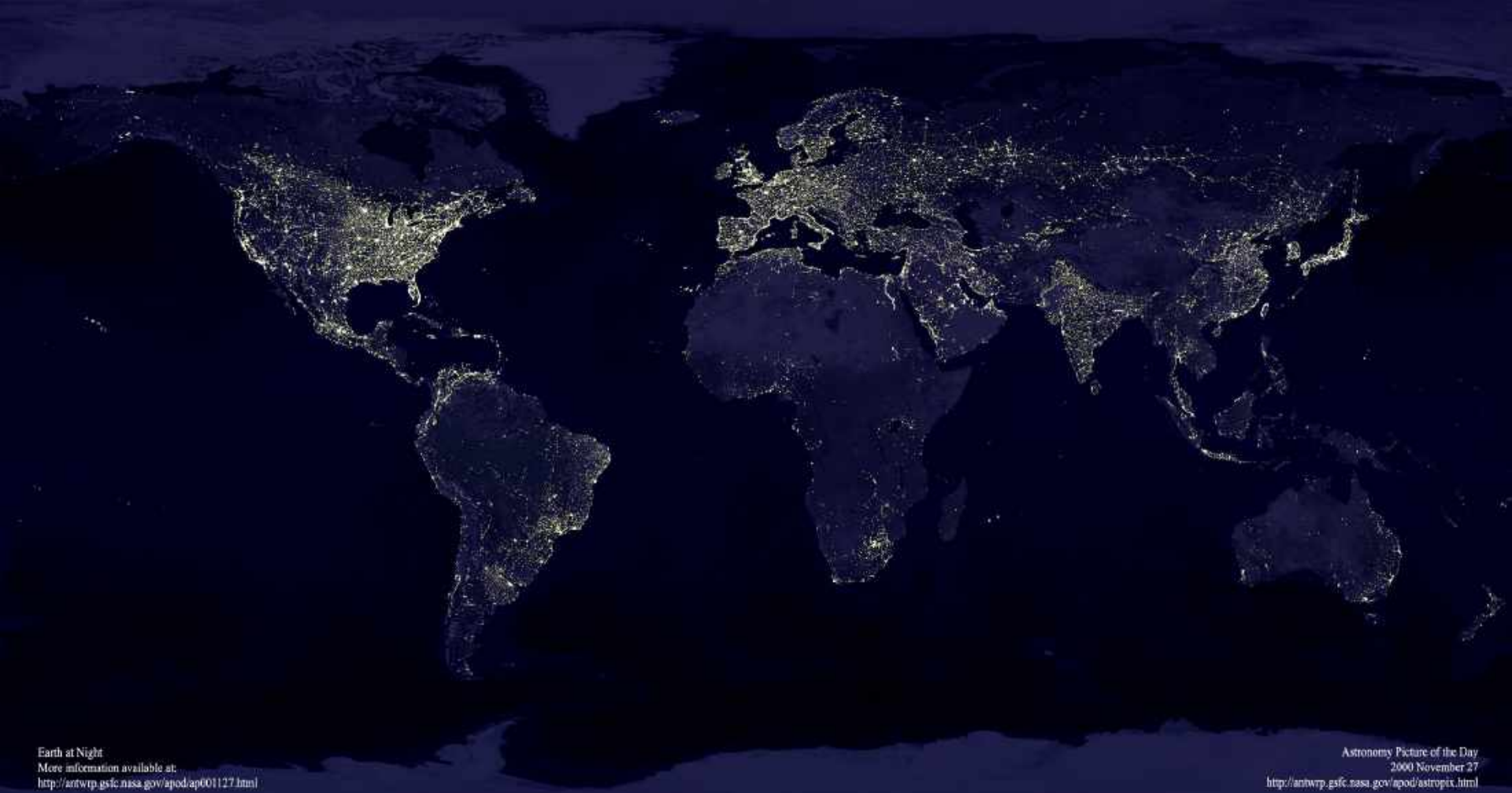




Light Pollution: What's the Big Deal?

www.blancocountynightsky.org

The Earth from Space at Night



Earth at Night.
More information available at:
<http://antwrp.gsfc.nasa.gov/apod/ap001127.html>

Astronomy Picture of the Day
2000 November 27
<http://antwrp.gsfc.nasa.gov/apod/astropix.html>

The majority of the world's people can no longer see the
Milky Way.

The United States at Night



Two thirds of Americans can no longer see the Milky Way.



NEW MEXICO

OKLAHOMA

ARKANSAS

TEXAS

LOUISIANA

CHIHUAHUA

COAHUILA

NUEVO LEON

Albuquerque

Oklahoma City

Ouachita National Forest

El Paso

Fort Worth

Dallas

Ozark National Forest

CHIHUAHUA

Big Bend National Park

TEXAS

LOUISIANA

CHIHUAHUA

COAHUILA

NUEVO LEON

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LOUISIANA

CHIHUAHUA

COAHUILA

NUEVO LEON

Albuquerque

Oklahoma City

Ouachita National Forest

El Paso

Fort Worth

Dallas

Ozark National Forest

So what's the Big Deal about Night Skies?



People who live here...



...can't see this.

The Glory of the Nighttime Sky is a Gift from God

- Psalms 19:1 *“The heavens declare the glory of God; the skies proclaim the work of His hands.”*



Who Cares about the **Nighttime** **Skies?**

Photo credit: Christopher V. Sherman

Part of our Hill Country Heritage



Part of our “Sense of Place”

Preserving Our Night Skies is a Priority for Hill Country Residents

- The night sky is a **natural resource** just like our hills, springs, and rivers
- Public Input (Blanco example): Visionaries in Preservation (VIP) Town Meetings
 - Blanco Historical Preservation Action Plan; approved by City Council



“Preserve our night skies and our Milky Way and give us back what we’ve lost.”

**Night Sky
Preservation**

**Light
Pollution
Abatement**

LIGHT POLLUTION SHOWS UP AS:

- **Sky Glow** - an atmospheric phenomenon seen as a “bubble” of eerie pink, white, or orange color hovering above cities and other brightly lit areas.
- **Light Trespass** - light shining onto other properties
- **Glare** - light shining directly into your eyes, often an irritating and sometimes dangerous condition

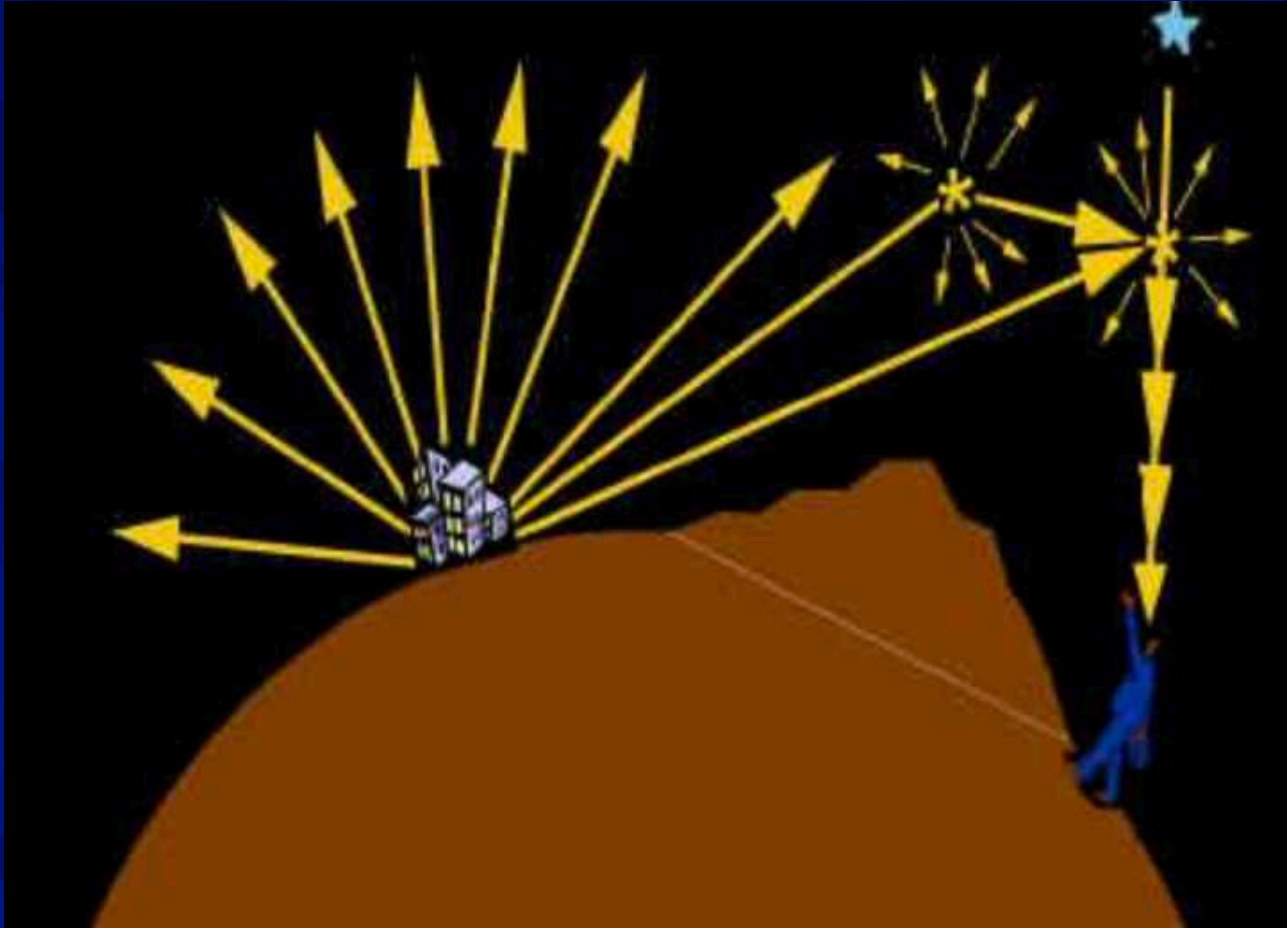
Sky Glow = Wasted Light

Wasted **Light** = Wasted **Energy** = Wasted **Money \$\$\$**

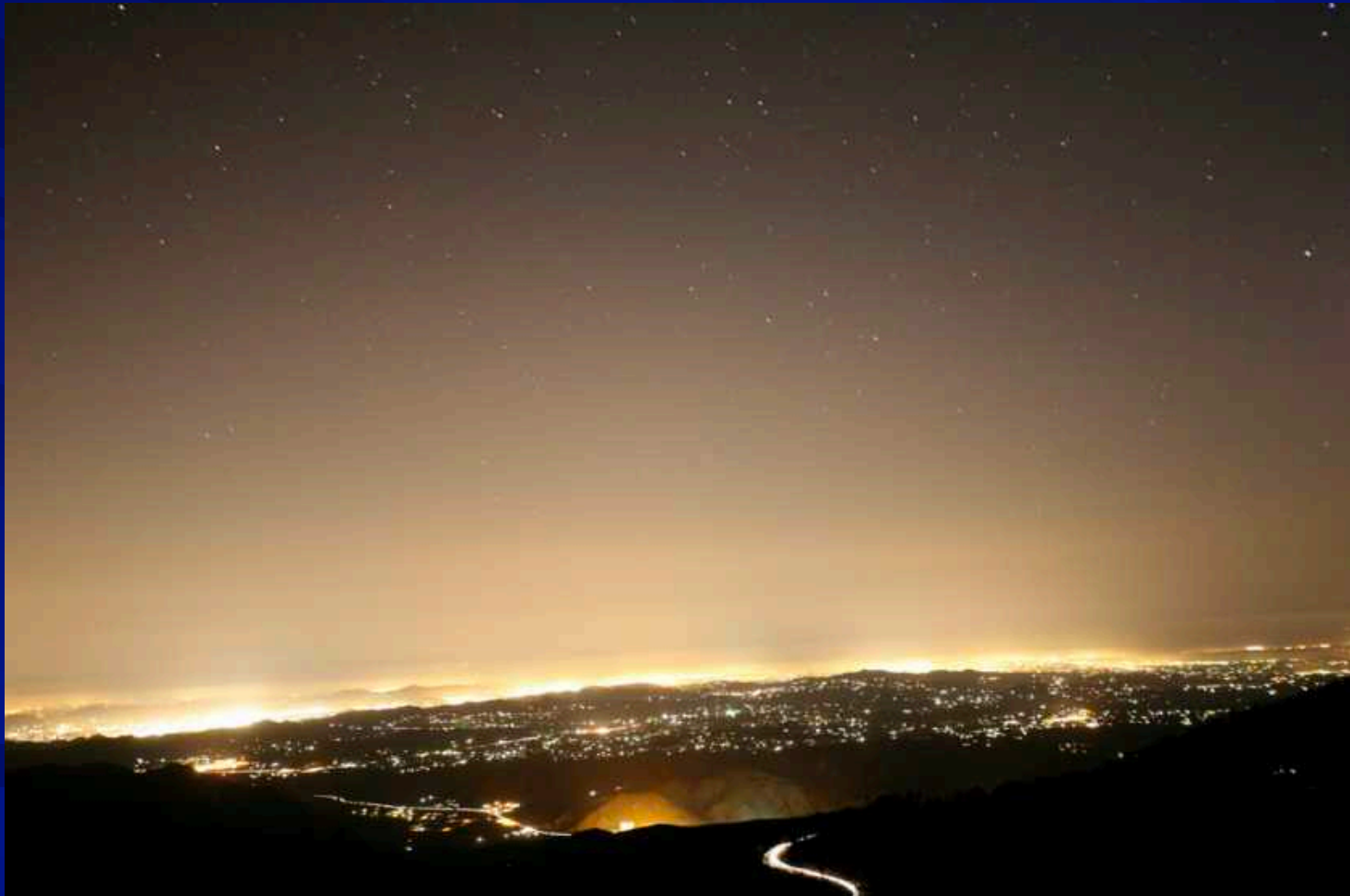


...and a Wasted **Night Sky**

Follow the Bouncing Photons



Stars Get Lost in the Sky Glow



The Great Blackout of 2003



Light Trespass

- Light that falls **outside** the property on which it is generated



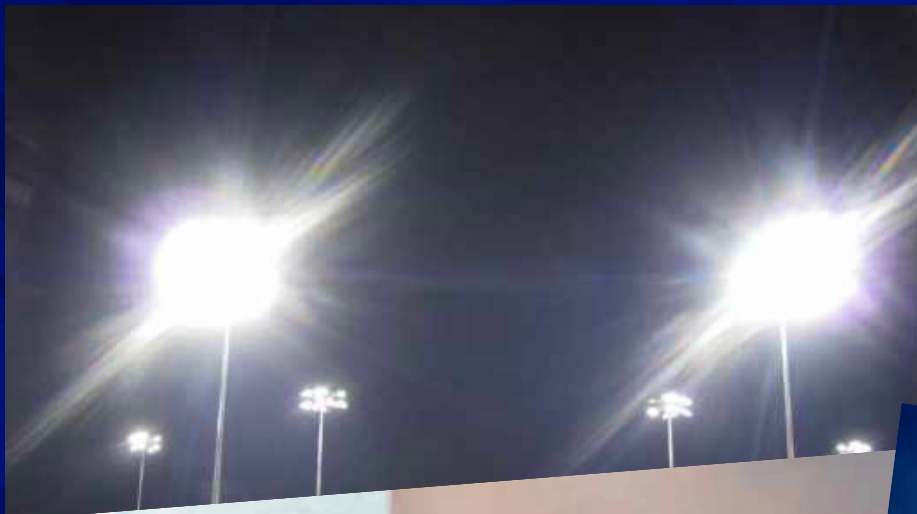
Light Trespass



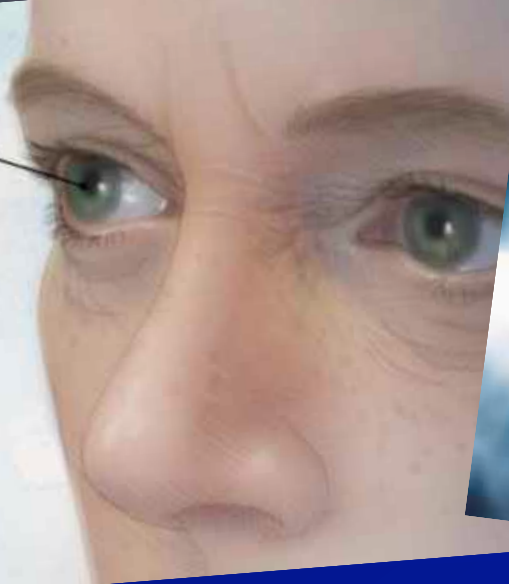
Nite, Nite



Glare



Cloudy lens



Beware the Glare



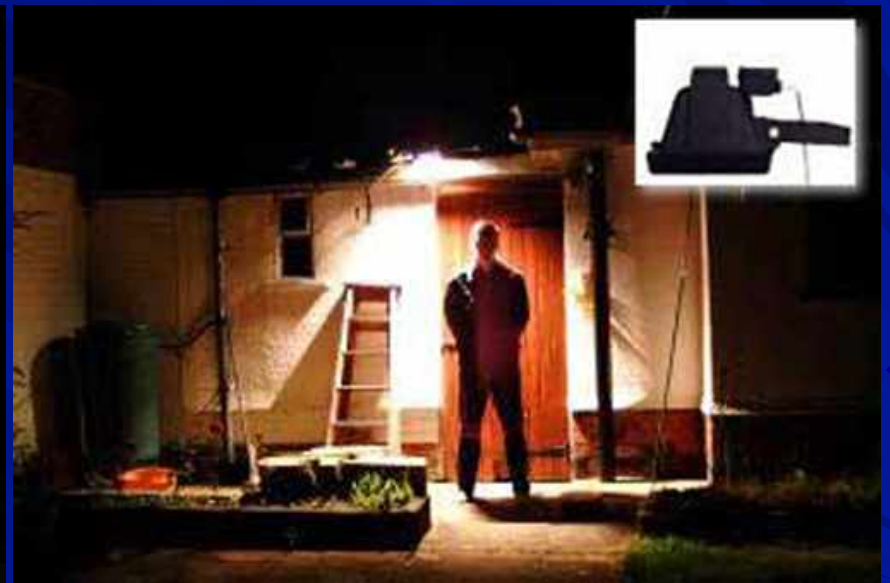
Bright Light = Good Security?



What Lurks in the Shadows?



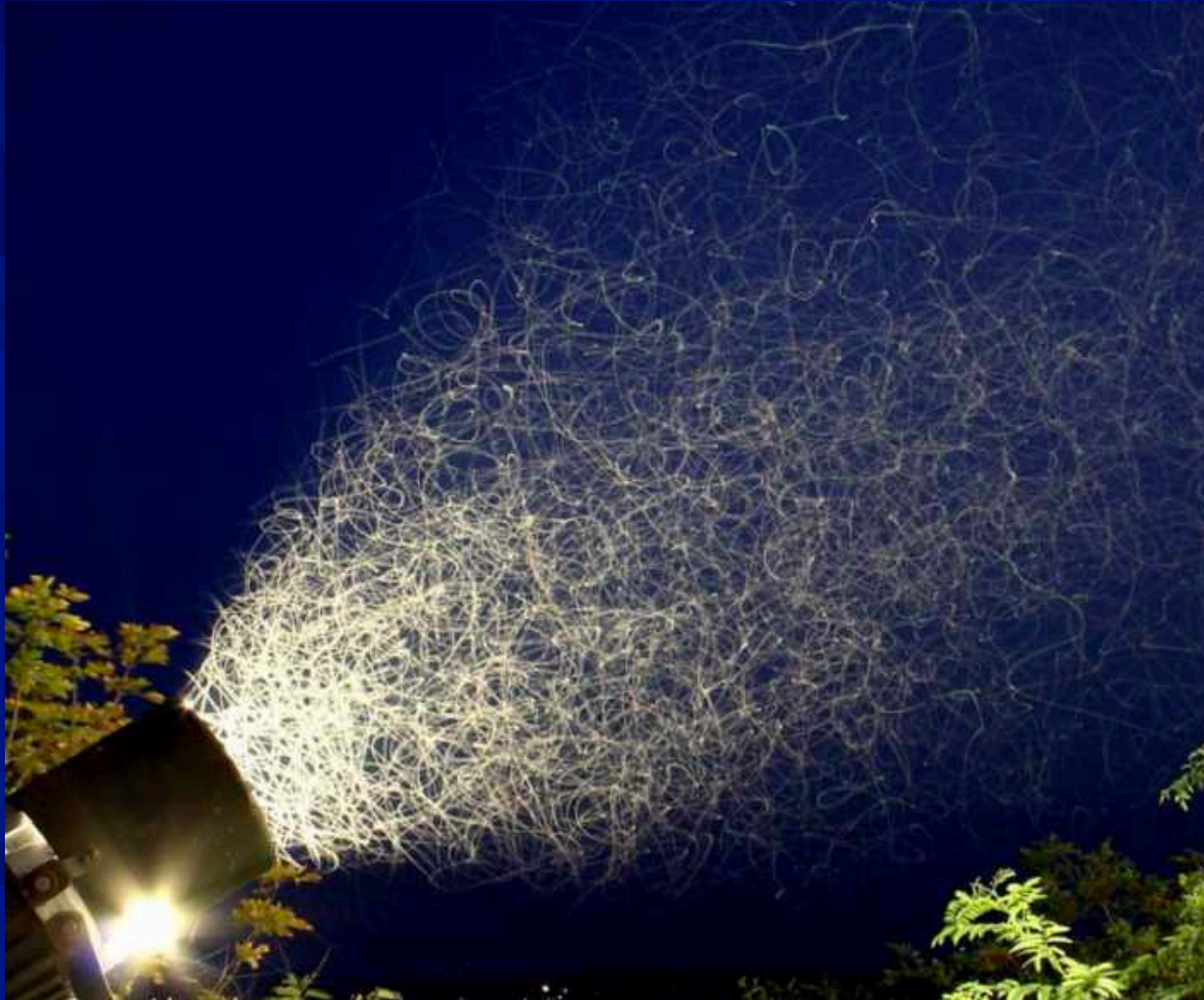
Better Security



Night Sky Polluting “Security” Lights



Don't Bug Me!



Fatal Attraction?

How About
Getting a Motion
Activated
Security Light?

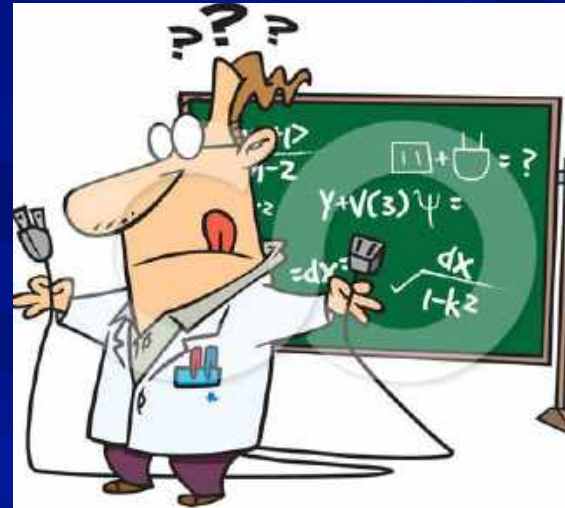


Light Pollution:

- Takes away the **enjoyment** and **wonderment** of our nighttime skies
- Disrupts **feeding cycles**, **sleeping cycles**, and **breeding cycles** for many kinds of birds and other animals as well as **migration patterns**
- Inhibits production of **melatonin**; affects **metabolism** and the **immune system**; and may lead to increases in certain forms of **cancer**, particularly in women
- Increases **difficulty of seeing** by the elderly and the vision impaired
- Gives us a **false sense of security**

Light Pollution is a “Curable Condition”

Not Rocket Science



Sometimes the questions are complicated and the answers are simple" - Dr. Seuss

Lighting Solutions



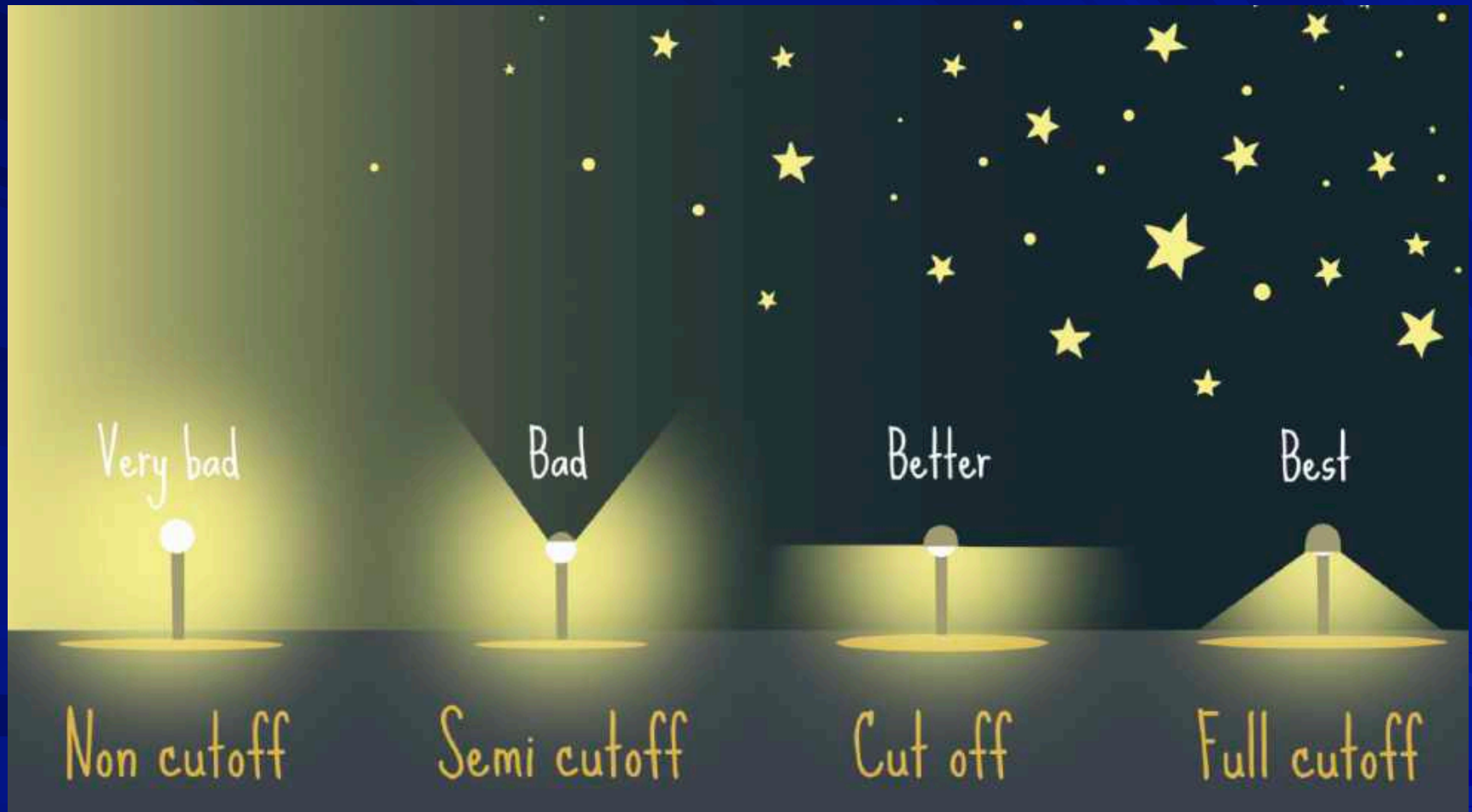
Instead of this



Do this



Light Only What is Really Needed



Light...or Night?



Good Street Lighting

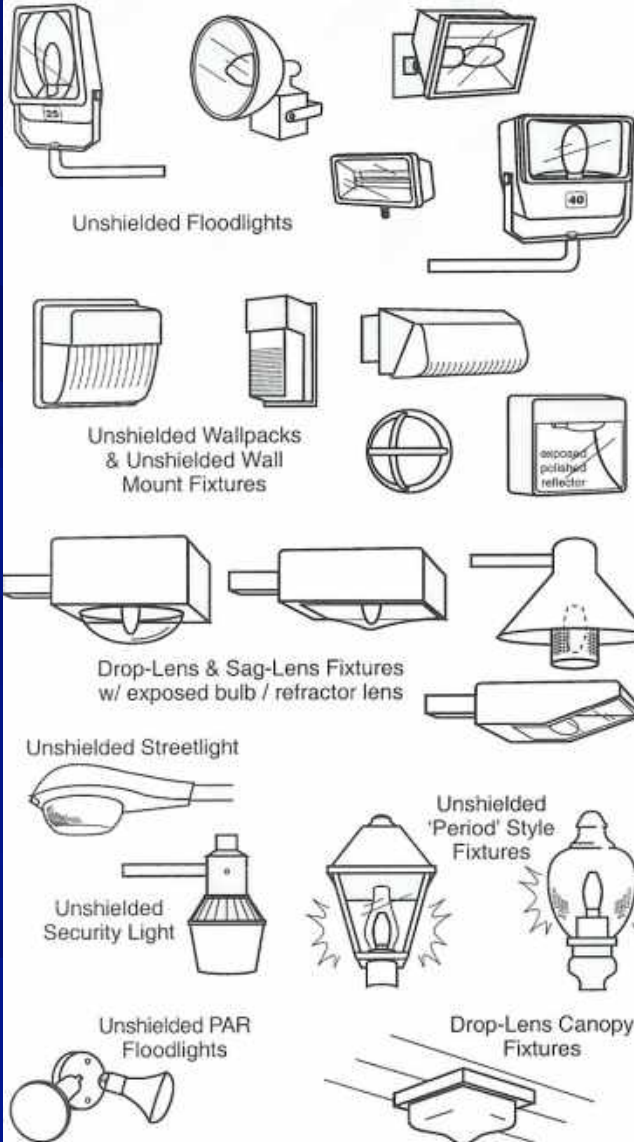


Good Fixtures are Readily Available

Examples of Acceptable / Unacceptable Lighting Fixtures

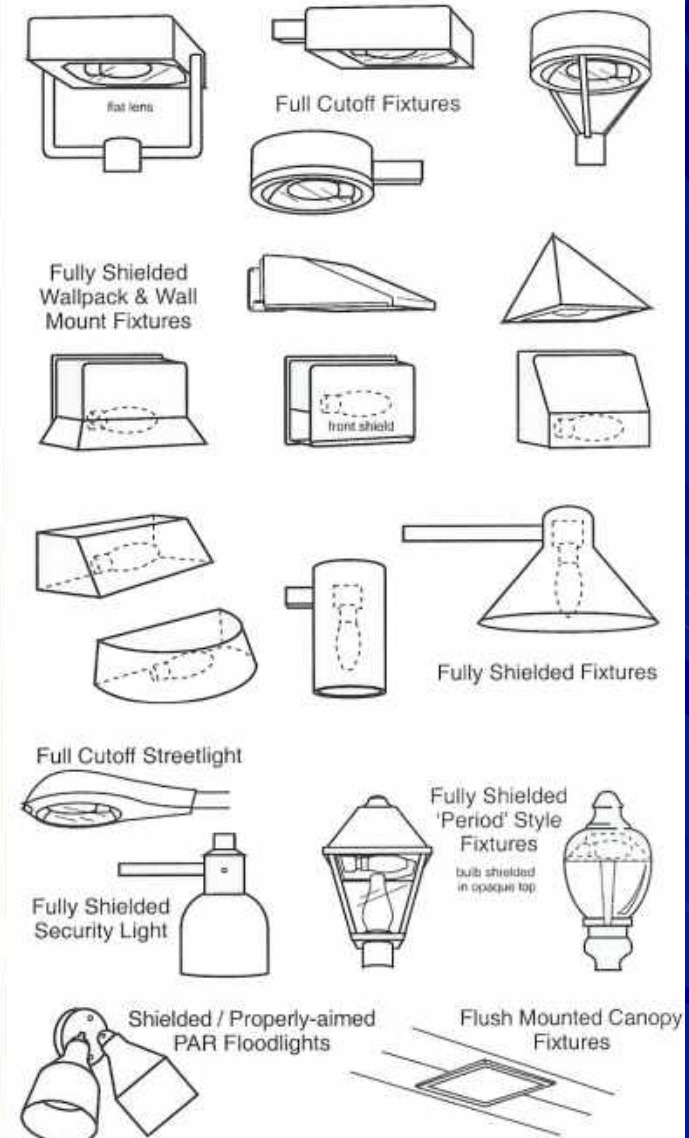
Unacceptable / Discouraged

Fixtures that produce glare and light trespass

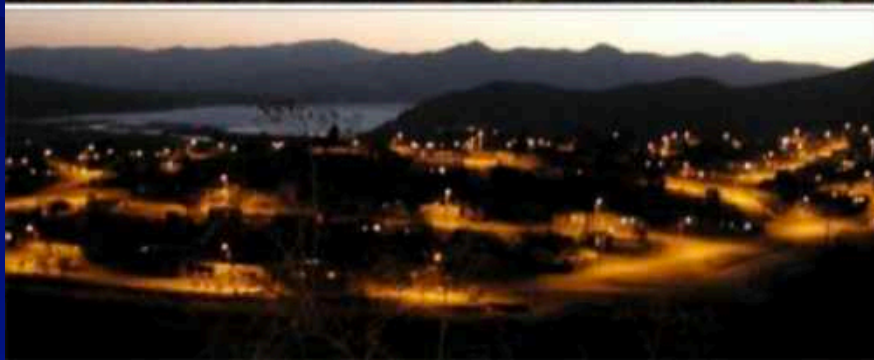
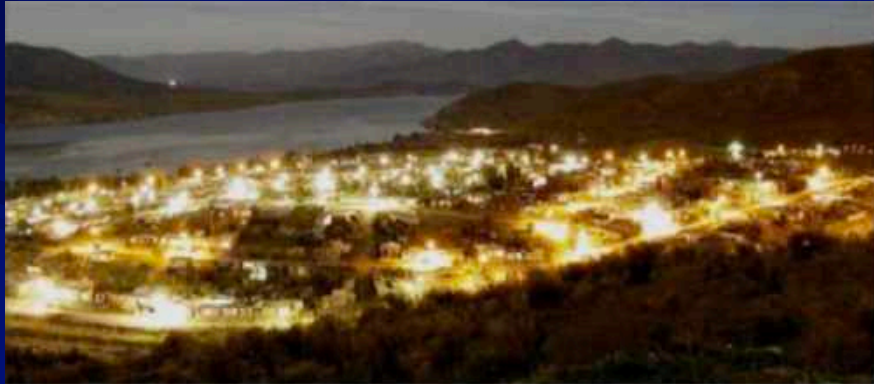


Acceptable

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



Retrofit Lighting



Which Will Scatter the Least Light?



Flat Bottomed LED: Saves the Stars and Saves \$\$\$



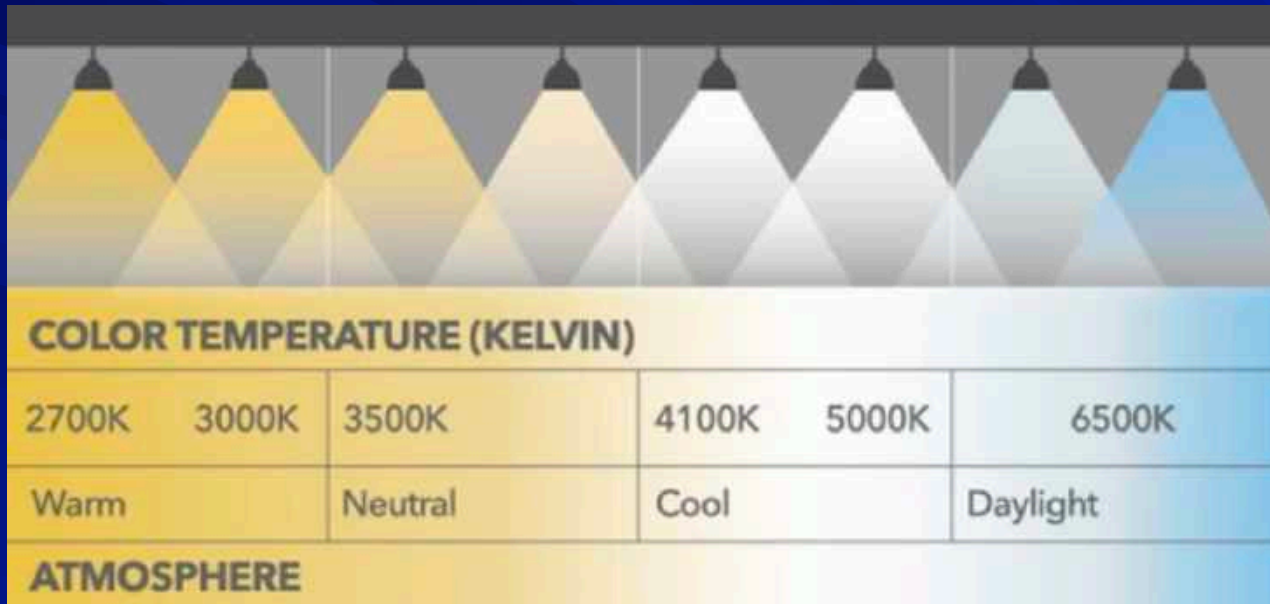
Light Output	Energy Used	Life
860 LUMENS	60 WATTS	1000 HOURS

To save energy costs, find the bulbs with the light output you need, then choose the one with the lowest watts.

uses only 9.5 Watts

Brightness	Estimated Energy Cost
800 lumens	\$1.14 per year

Kelvin Temperature



Look for Low Kelvin Temperatures

Lighting Facts Per Bulb

Brightness 800 lumens

Estimated Yearly Energy Cost \$1.14

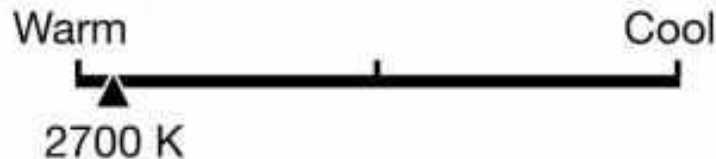
Based on 3 hrs/day, 11¢/kWh
Cost depends on rates and use



Life

Based on 3 hrs/day **22.8 years**

Light Appearance



Energy Used 9.5 watts

Happy Neighbors

&@#%@!!!



Thanks, neighbor!



So How Dark is Blanco?



The End Result...



The Protected Night Sky over Flagstaff, Arizona



The Night Sky of the Texas Hill Country: A **Treasured Natural Resource** Worth Preserving



Through personal and community action, we can reclaim our Milky Way...

One Light and One Star at a time."

Good Night, Neighbor





The Stars are
Precious.

Please
Protect
Them.