

Honolulu's New Street Lights: An Unnecessary, Costly Mistake

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Honolulu seen from Tantalus

- 30 million lumens upwards
- More than \$300,000 per year wasted just illuminating this one vantage point.

The Problem

- Honolulu is going to replace its street lights
- The request for proposals specifies lights that are rich in blue light
- **The lighting will harm human health, wildlife, and tourism**
- It will destroy the view of the night sky for residents and visitors, and create an unpleasant night time ambiance
- It will strongly impact visible light astronomy for astronomical observatories on the islands of Maui and Hawai`i
- The Sierra Club, Oahu Group presented objections to the City's plans, but the City refuses to change them

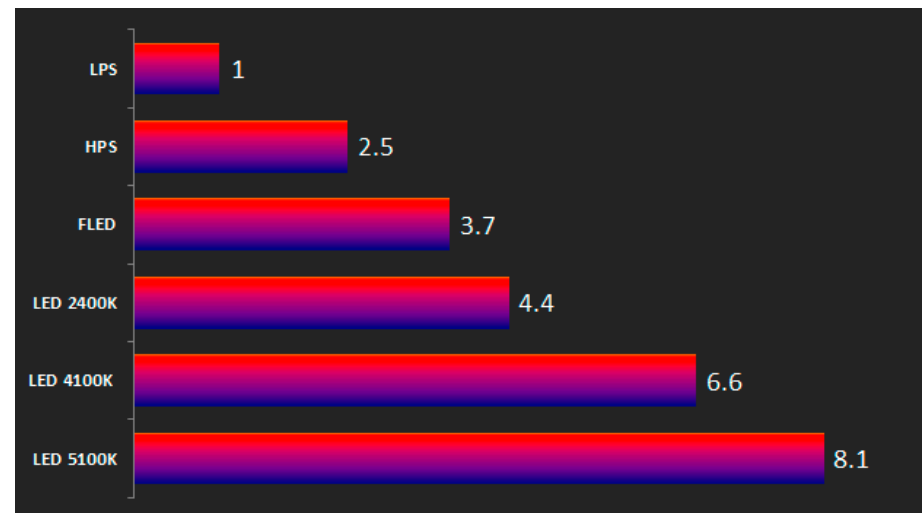
The Solution

- Use different, less blue lights
- No cost difference
- No real energy use difference
- No real loss in efficiency
- Among all of our environmental problems, this is the easiest to solve: just use different lights.

Impact of Light Technology Choice

- The City has specified lights that will reduce the visibility of stars by 2.6X (and 6.6X worse than the widely-ignored current law requires)
 - City specs: 4000K and higher Color temperature, LED

- Light technology choices changes our ability to see stars:
- LPS – low pressure sodium (what’s required under current law)
- HPS – high pressure sodium (what’s widely used now)
- FLED – filtered LED, that removes blue light
- LED 2400K – “warm white”
- LED 4100K – “cool white”
- Source: <http://www.flagstaffdarks skies.org/for-wonks/lamp-spectrum-light-pollution/>



Impact of Light Technology Choice

- Blue rich light suppresses human melatonin production, and can affect sleep
 - Suppressed melatonin levels have been linked to increases in growth of certain types of cancer cells (e.g., breast and prostate)
 - Recent research shows that exposure to bluish light at night (just from cell phones, for instance) makes sleep more difficult
- Blue rich light produces more glare
- Blue rich LED lights have been described as prison lighting, or “zombie lights”
- The switch to LEDs provides a wonderful opportunity to restore our view of the night sky
 - Lower color temperatures with less blue light should be specified (2700 K)
 - Our view of the night sky and the Milky Way would be restored
 - We could have best night sky of any large city in the USA
- Our economy is strongly tourist-based — maintenance of a pleasant night time environment is critically important

Why Blue Light is Bad

- Blue rich light is NOT safer
 - Instead, the blue light causes the eye's iris to contract and can reduce visibility
 - Brighter light creates glare, which can hide hazards
- The people, when given the facts, oppose blue lights
 - Our last [presentation](#) to City Council members about lighting issues in Honolulu has been downloaded 1800 times
 - The City's plans for excessive lighting in Hawaii Kai 2 years ago were met with great community resistance

Honolulu should learn from Davis, CA

- The city of Davis in California signed a contract to install blue rich LED streetlights
- After installation began, residents complained bitterly about the color of the lights and the glare that they produced
- The city council and staff listened, and adopted 2700K streetlights that maintained much better ambiance, and reduced glare and light trespass
- The cost to change the contract was [\\$350,000](#)
- Honolulu should stop the current procurement in order to eliminate future cost when Honolulu's residents find the currently specified >4000+ LED lights unacceptable

What Honolulu Should Do

- Require all outdoor lighting, at a minimum:
 - To be fully shielded and only illuminate downward
 - To have a color temperature no greater than 3000K
 - To require streetlights to illuminate only the streets and sidewalks, and eliminate light trespass
- Establish fines for non-compliant lighting
- Use LED streetlights designed to reduce light pollution.
There will be no energy cost in making this change.
 - < 3000K LEDs are available that exceed the energy efficiency specified in the present request for proposals

For more information

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- Other resources
 - [Our more detailed presentation about lighting in Honoulu](#)
 - [The Model Lighting Ordinance](#) – a comprehensive set of lighting regulations designed to comply with national standards for safety and to save money for local governments