

Abstract Submitted  
for the OSS11 Meeting of  
The American Physical Society

**Health Related Aspects of Artificial Light** RICHARD HANSLER, VILNIS KUBULINS, EDWARD CAROME, Lighting Innovations Institute, John Carroll University — It was long thought that the “sleep hormone,” melatonin, is produced by the pineal gland only when the eyes are in darkness. Thus, in developed countries, due to the use of electric lighting after dark, melatonin production usually occurs only when one is asleep. For most people, this is substantially less than the 9 to 10 hour production time capability of the pineal gland. However, in 2001 it was discovered that not all light, but mainly a band of wavelengths in the blue portion of the spectrum, below 530nm, suppresses melatonin production. On learning this, and that melatonin is a very active cancer fighting antioxidant and has many other health promoting properties, it was decided to make available lighting products that can enhance melatonin production. Included are lamps that do not emit the offending blue wavelengths and eyeglasses that filter out the blue portion of the spectrum. These and other related products are meant to be used for several hours in the evening, before retiring, thus maximizing the pineal gland’s production time. The effects of their use on sleep and several other health related conditions are discussed.

Edward Carome  
Lighting Innovations Institute, John Carroll University

Date submitted: 10 Mar 2011

Electronic form version 1.4