

# Light\_Output\_Meter\_In\_Watts\_2002.txt

Light output meter in watts

Diameter inside 3.762? surface area is  $\pi \cdot d^2 = 3.1416 \cdot 3.762 \cdot 3.762 = 44.46$  sq inches

Size of small silicon chip (give away) .68? x .750? give about 689 lux under desk lamp .51 sq inches. Power factor =  $44.46 / .51 = 87.2$

Preliminary measurements

.5 amp tungsten at about 2.8 v gives 1.65 ma for silicon cell.  $87.2 \cdot 1.65 = .144$  amp of light.  $.144 / .5 = .288$  or about 29% converted to light

30.3 ma LED at about 3.6 volts gives .108 ma.  $87.2 \cdot .000108 = .0094$  amp of light  
 $.0094 / .0303 = .31$  or 31% for LEDs

Size of larger silicon chip (kept) .71?x.750? gives about 711 LUX under desk lamp or .5325 sq inches. Power factor =  $44.46 / .5325 = 83.5$

Don?t know voltage of sensor, thus power out put ratio not know at this time.