(2) If all the energy released by a burning candle were emitted as 5500 Å photons, how many candle-years of illumination would a 150-gram candle provide?

From our Round-Number Handbook (January 1983) we take $10^4$ calories/g for the heat of combustion and 680 lumens/watt for the light equivalent of energy in 5500 Å photons. Our 150-gram candle will yield $6 \times 10^6$ J, equivalent to $4 \times 10^9$ lumen-seconds. At $4\pi$ lumens per candle that is about 10 candle-years. In other words, the efficiency of this candle as a light source is equal to the life of the burning candle divided by 10 years!