

ProLux LED Return-on-investment (ROI)

Why change to PROLUX LED illumination?

The ProLux represents the most thoroughly engineered LED illuminator on the market utilizing advanced heat pipe and metal core PCB technologies for thermal control, and modern CAD designed packaging. The PROLUX provides greater light output at much lower power and extremely long life. **Pays for itself in 1-3 years.**

Primary reason for changing to ProLux is the reduced cost of ownership. The factors involved are:

- no replacement lamp costs (none needed 25-50,000+ hours vs. 50-100 EKE lamps over the same time period)
- reduced power consumption by 70%,

Other, not so apparent advantages the ProLux offers are:

- consistent light color over the full range of dimming (essentially eliminates the constant white balance correction typical with photo-microscopy)
- choice of light color (3200K, 4500K, 5000K) where halogen only provides 3250K
- Higher output vs EKE reflector lamps
- Reduced heat for increased reliability and safety; much quieter fan operation
- Reduced load on HVAC system (especially factories with large production lines)
- No more misaligned lamps, burnt fingers, burnt out lamp sockets, no maintenance needed
- Universal input power for worldwide use; no setting of switches required
- Designed, manufactured, and built in the USA of the finest components

ROI Calculations

Assumptions are 200w max power consumption for a typical halogen 150watt system (lamp + transformer losses), lamp life of 500 hrs (EKE is rated at 200-1000 hrs), 8 hours/day use

Halogen systems:

Halogen based: $(8\text{hrs} * 200\text{w})/1000 * (\$ 0.12/\text{kw}) * 365 \text{ days} = \$ 70.08/\text{yr}$ power cost

Lamp replacements: $8 \text{ hr/day} * 352 \text{ days} = (2920 \text{ hrs/yr})/500 \text{ hrs life} = 6 \text{ lamps @ } \$16.00/\text{ea} = \$96.00/\text{yr}$

Total cost of halogen 150watt based systems per year $\approx \$ 70 + \$ 96 = \$166.00 / \text{yr}$

ProLux LED based: $(8 \text{ hr/day} * 60\text{w})/1000 * (\$ 0.12/\text{kw}) * 365 \text{ days} = \$21.00/\text{yr}$ power cost

Lamp replacements: $\$ 0.00$ @ expected life 25,000-50,000 hrs (equivalent of 50-100 EKE lamps)

Total cost of PROLUX LED based systems per year $\approx \$ 21 / \text{yr}$

ROI would be 3 years or less : $\$166/\text{yr}(\text{halogen}) - \$21/\text{yr}(\text{LED}) = \$145/\text{less cost/yr}$ and the savings continue over the entire life of the illuminator (>10 years)

The above calculations do not take into account the additional savings due to reduced factory HVAC load, maintenance personnel costs, equipment down time (due to lamp failure), local electrical rates and are based on a single shift (8 hour) day. Halogen systems using EJA lamps will use significantly more lamps than the EKE used in the calculations.

Companies with 24/7 operations would potentially have an ROI of 1 year or less by converting to the ProLux LED illuminator.

