



# SKOV International

**POULTRY EDITION**

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## Light distribution in poultry houses with litter

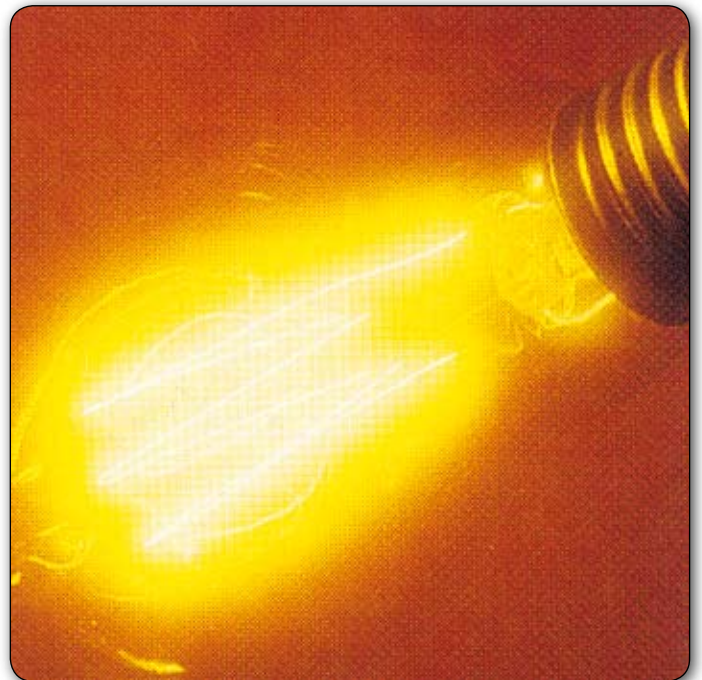
### **Uniformity**

Uniformity is one of the key words for having a good litter all over the house. To obtain this, an even distribution of the birds in the house is required when they are awake and when they rest.

Even distribution of the birds is important as the composting in the litter is dependent on the body heat of the birds. The heat from the birds is a condition of keeping a good and dry litter.

### **Light distribution affects the distribution of the birds**

It is no longer to be questioned whether light distribution affects the distribution of the birds or not. Light distribution does affect the distribution of the birds! The birds will seek to the „dark areas“ to rest. This is confirmed by experiences from many houses in Denmark, Sweden, United Kingdom, Ireland, Holland, Germany, Australia etc.





### What is even light distribution?

The ratio of the area in the house with the lowest light intensity compared with the area with the highest intensity must not exceed 1:2, maximum 1:3.

If the light intensity below the light fittings is 20 lux, the intensity must not be less than 10 lux anywhere else in the house. The highest light intensity is normally just below the light fittings.

### Light intensity

In broiler productions, the light intensity is normally 20-40 lux at the start of the batch and 5-10 lux at the end. The light intensity is high in the beginning to make it easy for the birds to find water and feed. In addition, the high light intensity makes it easier to observe the birds. The intensity must be gradually decreased to 5-10 lux at the end of the batch as a higher light intensity will stress the birds.

A light intensity above 50 lux below the light fittings will cause problems in itself as the birds will avoid this area for rest. In time, it may result in areas with bad litter and the risk of spreading those areas in the house.

### Light programs

A light program in itself may contribute to bad litter. When the light is switched off, the birds huddle together in small groups. Below these groups, a lot of heat is emitted to the litter. The heat contributes to an increased composting in the litter and this gives a good and dry litter in these areas. In the areas without birds the litter is cooled and the composting is reduced (might be stopped) and thereby the litter becomes cold.

It is not comfortable to lie on a cold layer and therefore the birds will not rest in these areas. The litter needs the heat from the birds and a vicious circle will start, which can easily result in larger areas with bad litter.

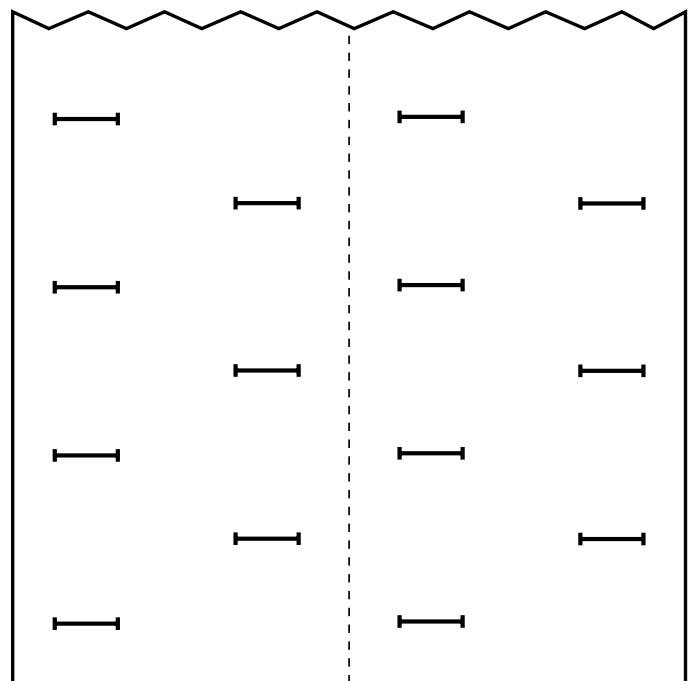
Facts about installation and distribution of light fittings  
Typical houses of today are 16-20m wide. In these houses, three to five rows of light fittings are required to have an acceptable light distribution.

The fittings in the first row are placed staggered in relation to the next row etc.

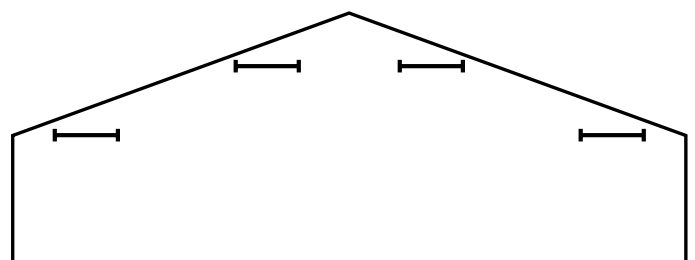
Furthermore, it may be necessary to select a fitting with a reflector at the bottom. The reflector reduces the direct descending radiation of light. This will be necessary as max. 50 lux is permissible below the fittings. Especially, the two rows of fittings placed close to the walls might cause problems.

### What is a reflector?

The reflector prevents the radiations of light from going straight down from the fittings where the light level is too high. The reflector could be a piece of tape or a sheet at the bottom of the fittings.



Distribution of light fittings



The relative low height results in requirement for reflector

