



### Challenge

The tool making department including the adjoining rooms (locksmith's shop and hardening shop) was not sufficiently illuminated. 1xT8 58W and 2xT8 58W continuous row luminaires no longer met the lighting requirements for workplace lighting. The average illuminance in the working plane level was less than 500 lux. The maintenance costs were negatively affected by frequent lamp changes. The energy costs were too high.

### LED Lighting Concept

The personal advisory took place on site. The tool making department was illuminated more energy efficient and brighter by BuR Lighting with 12x 40W and 28x 65W LED Linear Trunk System luminaires. The individual luminaires were installed as continuous rows. The luminaires for each continuous row can be switched alternately via two phases.

### BuR Lighting Lighting Design

BuR Lighting designs with DIALux evo are based on:

#### EN 12464-1 Norm

Illumination of Indoor Workplaces

#### ASR A3.4 Workplaces Guideline

Technical rules for the illumination of workplaces

### Lighting Quality

- Smooth LED illumination
- Wide-beam intensive illumination of the working plane
- Average illuminance:  $E_m=785$  and  $990$  Lux
- High uniformity of illuminance:  
 $E_{min}/E_m=0,50$
- Pleasant light colour: 4.000 Kelvin
- Very good colour rendering:  $R_a>80$
- High visual comfort

### BuR Lighting Luminaires

- Article: LED Linear Trunk System
- Art.-No.: 4811040P08040NN
- Art.-No.: 4811065P08040NN
- Housing: Aluminum - superslim
- LED Driver Input Voltage: 220V-240V
- LEDs: Nichia Chips
- Wattages: 40W und 65W
- Beam Angle:  $80^\circ$
- Installation: Suspension-/Ceiling-Mounting

### Savings and Benefits

- LED System Luminaires - superslim
- Electronic LED Drivers
- High-Frequency Control of LEDs
- LED Life Span: 50.000 h
- Luminous Efficacy: 130 lm/W
- Energy Savings p.a.: 6.763 kWh
- CO<sub>2</sub>-Reduction p.a.: 3.618 kg
- Reduction of Maintenance Costs p.a.: 74%
- Return on Investment: 3,8 Years