LED Lighting for the Industry - CNC-Processing

Challenge
The CNC processing hall was originally illuminated with conventional 2xT8 58W linear fluorescent lamps. The arrangement of the luminaires made it difficult to work zonewise in the working plane. Maintenance costs were negatively affected by frequent lamp changes. The existing luminaires and light sources were no longer economical and up to date.

LED Lighting Concept
The personal consultation took place on site. The CNC hall was illuminated by BuR Lighting with daylight dependent controllable 150W ZigBee LED High Bay luminaires in the high protection class IP65 (dustproof and protected against water jets). ZigBee Control supports the permanent alignment of daylight and artificial light with radio-controlled data and signal transmission. ZigBee® is a registered trademark of the ZigBee® Alliance.

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
- High quality controllable LED illumination
- Wide-beam illumination of the working plane and the CNC-workplaces
- Average illuminance: E_m=490 Lux
- High uniformity of illuminance: E_{min}/E_m= 0,46
- Pleasant light colour: 4.000 Kelvin
- Very good colour rendering: Ra>80
- High visual comfort

BuR Lighting Luminaires
- Article: LED High Bay ZigBee
- Art.-No.: 4111150P09040VZ
- Housing: Aluminum Die-Cast
- LED Driver Input Voltage: 100V-240V
- LEDs: Nichia Chip
- Wattage: 150W
- Beam Angle: 90°
- Protection Rating: IP65
- Intelligent Lighting Control: ZigBee

Savings and Benefits
- Radio controlled LED Luminaires
- Sealed Wide Voltage LED Drivers
- Lighting Control according to Daylight
- LED Life Span: 50.000 h
- Luminous Efficacy: 130 lm/W
- Energy Savings p.a.: 47.962 kWh
- CO_2-Reduction p.a.: 25.660 kg
- Reduction of Maintenance Costs p.a.: 73%
- Return on Investment: 2,0 Years

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