LED Lighting for the Industry - Metal Working



Challenge
For the "Metal working" department and its 2-shift operation, the illumination should become more efficient and brilliant. The visual conditions at the machines were inadequate. The illuminance in the working plane level was below the recommended values. In use were 21x 1xT5 54W classic fluorescent lamps with high energy consumption. The maintenance costs were negatively affected by frequent lamp changes.

LED Lighting Concept
The personal advisory took place on site. Only 14x BuR Lighting LED Low Bay Linear luminaires 40W with the high protection class IP66 (dustproof and protection against strong water jets) were newly installed. The illuminance in the working plane level was raised to over E_m=750 Lux. The resulting energy savings and CO_2 reduction are considerable.

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 LED illuminiation
- Deep-wide-beam illumination of the working plane and the machines
- Average illuminance: E_m=840 Lux
- High uniformity of illuminance E_{min}/E_m= 0,60
- Pleasant light colour: 4.000 Kelvin
- Very good colour rendering: Ra>80
- High visual comfort

BuR Lighting Luminaires
- Article: LED Low Bay Linear
- Art.-No.: 4322040G110040NN
- Housing: Galvanized Steel
- LEDs: Epistar 5630
- Wattage: 40W
- Beam Angle: 110°
- Protection Rating: IP66
- Impact Protection Class: IK08
- Glare Control: UGR<19

Savings and Benefits
- LED Luminaires made of Galvanized Steel
- LED Drivers with λ>0.95
- LEDs free of Mercury and Pollutants
- LED Life Span: 50.000 h
- Luminous Efficacy: 118 lm/W
- Energy Savings p.a.: 2.865 kWh
- CO_2-Reduction p.a.: 1.533 kg
- Reduction of Maintenance Costs p.a.: 72%
- Return on Investment: 2,5 Years

BuR Lighting
Vertrieb, Projektierung, Lager
Heedfelder Str. 61-63
D-58509 Lüdenscheid

Fon: +49 2351 96 36 65
Mobil: +49 152 23897612
E-Mail: m.hoffmeister@bur.lighting
Web: www.bur.lighting

Lichtbereich der I.N.D.I.A. GmbH
Geschäftsführer: Dr. Markus Hoffmeister
HR B 4901 Amtsgericht Iserlohn
Ust.-IdNr.: DE 233933544

Technische und formale Änderungen vorbehalten
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