

# Flat Light LED Surface-Mounted

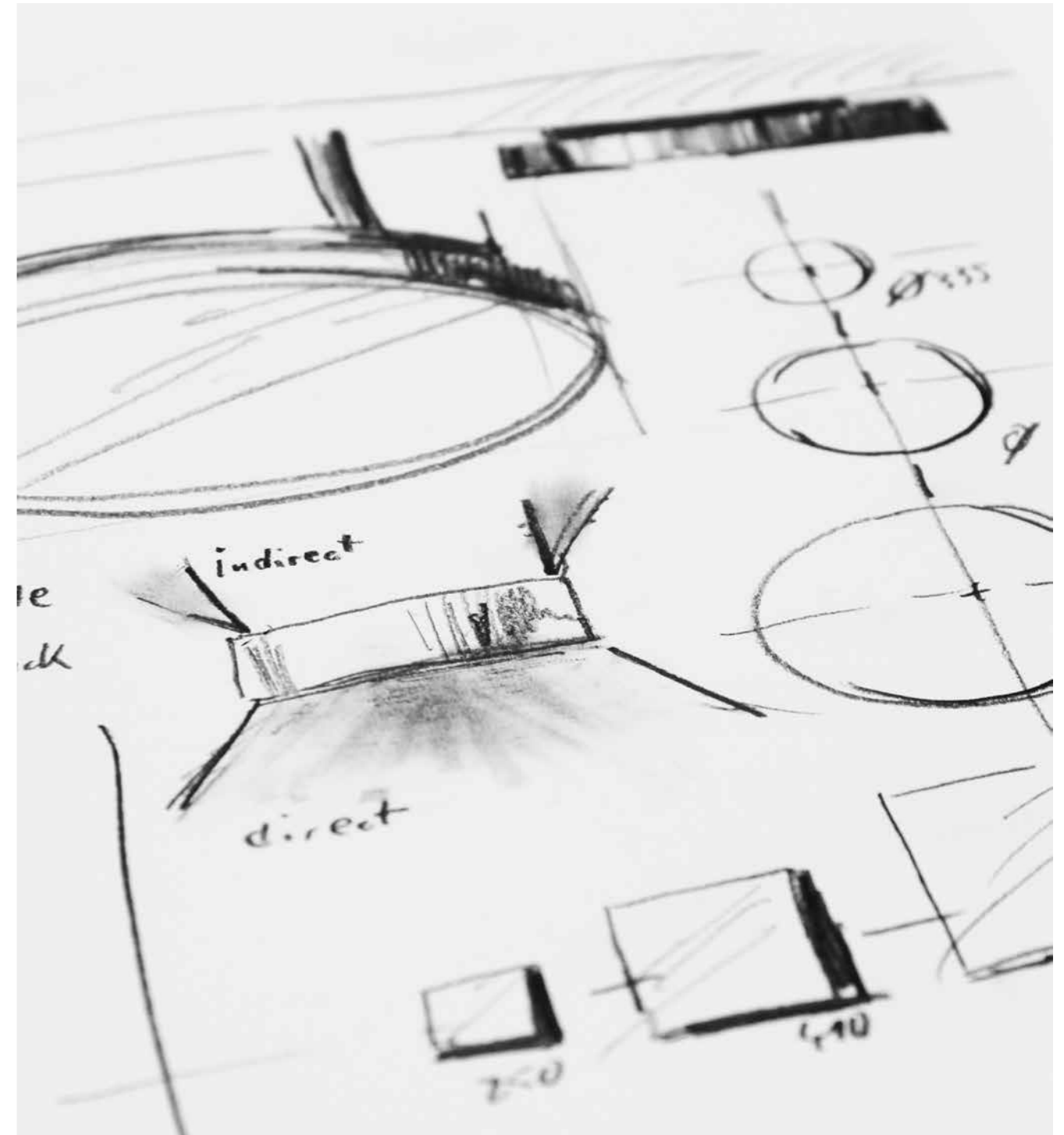






The high-impact surface-mounted luminaires can be selectively used as part of a room's architecture.

Thomas Schneider, Head of International Project Management WILA Lichttechnik

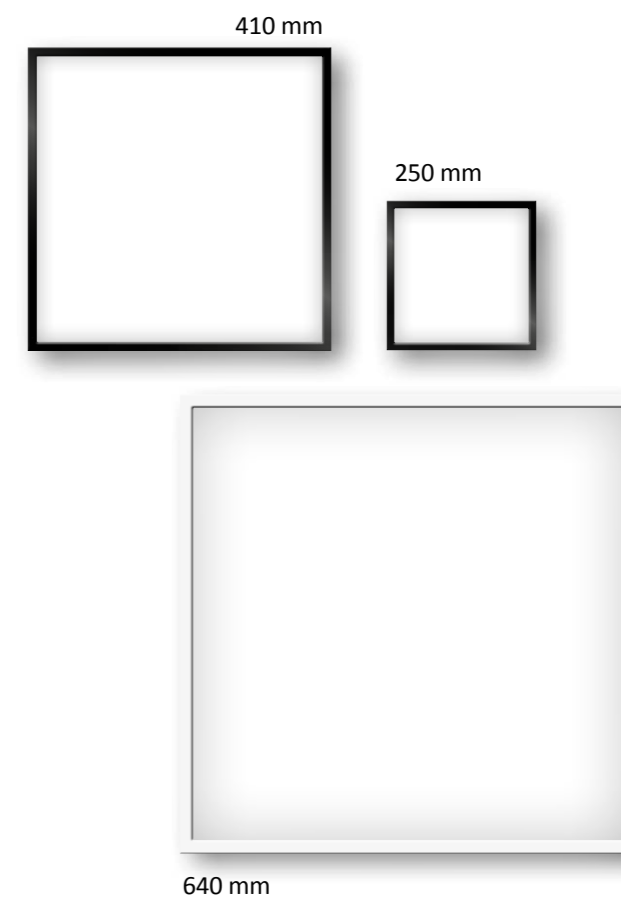


Setting architectural accents with surface-mounted LED luminaires: The flat light elements in various sizes and colours provide great design freedom. Mounted to ceilings or walls they achieve the desired atmosphere in corridors, stairwells, waiting areas and similar interiors.

The decorative, indirect portion of light pleasantly brightens up ceilings and walls making luminaires appear to hover.

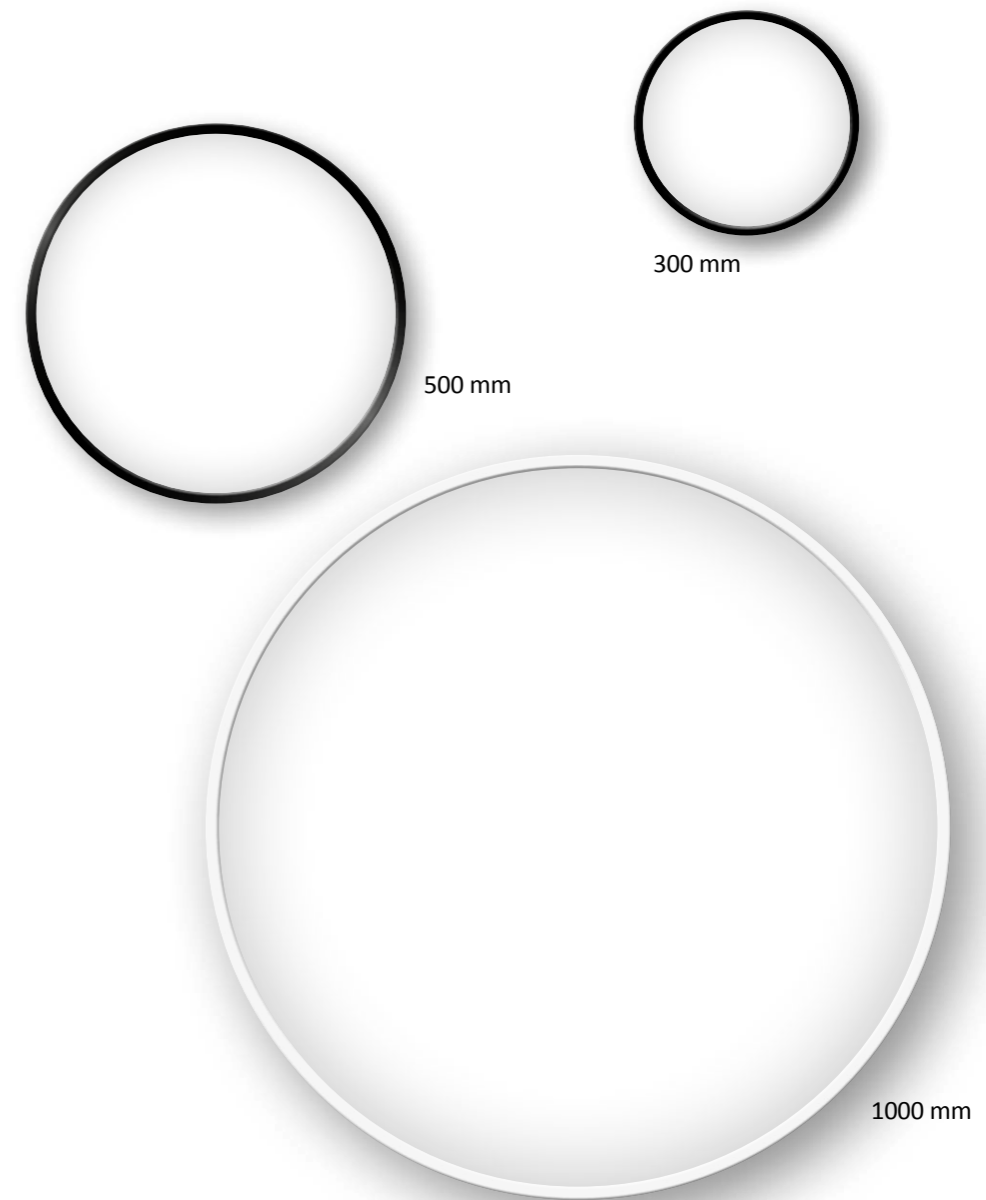
The opal cover softly diffuses the light into the room.





Enormous freedom for lighting designers: the choice of **sizes**, **shapes** and **colours** allows planners to handle luminaires and ever new combinations in a really creative way.

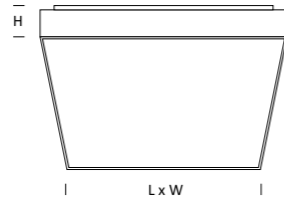
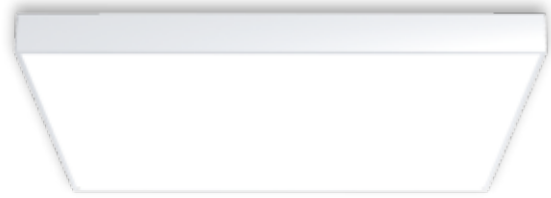
The surface-mounted luminaires score with their clear and clean look. The black-painted versions stand out particularly well from the background. Small luminaires are great for arranging in groups to illuminate larger rooms.



The flat surface-mounted height makes these luminaires the ideal solution for stairwells and narrower corridors. The option of either wall and ceiling installation ensures a consistent and harmonious ceiling look.

[For Technical Data on Surface-Mounted Luminaire see Page 46](#)





**SQUARE**

System Photometric Data						
LED	Llm	Llm/W	$\gamma \geq 65^\circ$	H mm	kg	Article Number
<b>Ra &gt; 80</b>						
<b>Q250, L x W 250 x 250 mm</b>						
18 W	1480	74	-	70	1.6	EL2402001-30-30
<b>Q410, L x W 410 x 410 mm</b>						
36 W	2610	67	-	70	3.6	EL2402002-30-30
<b>Q640, L x W 640 x 640 mm</b>						
36 W	2650	68	-	70	7.4	EL2402003-30-30

Replace Index -30 (3000 K) by -40 (4000 K)

**Lighting Technology**

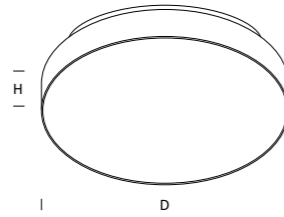
Light distribution direct/indirect  
 Colour rendering Ra > 80  
 Colour temperatures 3000, 4000 K  
 Service life 50,000 h (L70)

**Luminaire Housing**

Housing in galvanised sheet steel, lacquered in RAL9016 (white), alternatively in RAL9005 (black)  
 Frosted cover for softly diffusing the light into the depth of the room  
 Back cover in clear PC

**Operating and Assembly Technology**

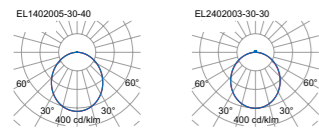
Suitable for ceiling and wall installation  
 Surface-mounted part of luminaire can be fastened without tools  
 Control gear static or DALI, built into the luminaire housing



**CIRCULAR**

System Photometric Data						
LED	Llm	Llm/W	$\gamma \geq 65^\circ$	H mm	kg	Article Number
<b>Ra &gt; 80</b>						
<b>D335 mm</b>						
18 W	1440	72	-	70	2.0	EL1402001-30-30
26 W	1900	68	-	70	2.0	EL1402002-30-30
<b>D515 mm</b>						
26 W	1930	69	-	70	4.0	EL1402003-30-30
36 W	2540	65	-	70	4.0	EL1402004-30-30
<b>D1000 mm</b>						
72 W	4840	62	-	100	13.8	EL1402005-30-30

Replace Index -30 (3000 K) by -40 (4000 K)



**Individual Lighting Solutions**

Alternatively, the surface-mounted luminaires can also be used as pendant luminaires as shown in the photo. For details please contact us.



# Accessories

## Equipment T-BAR LED system

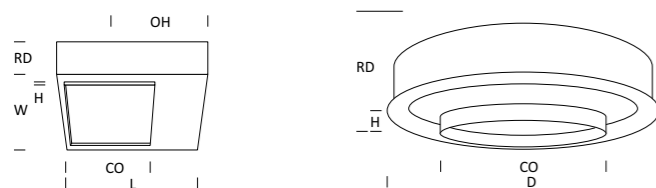
The T-BAR LED system can be supplied with signs. For more details and to customise please contact us.



## Concrete mounting boxes

Concrete mounting boxes allow the uninterrupted use of Downlights even in exposed concrete and plastered ceilings. Thus the ceiling appearance remains clean, and alternative surface-mounted luminaires are not required. The two-part metal housing holds its shape and is designed for better heat transfer; it also allows accurate positioning and fast installation while meeting all legally required fire prevention regulations.

Concrete mounting boxes	CO	RD	D	L x W	OH	H	Article Number
<b>Flat Light LED Recessed, square</b>							
Q15	170	90	-	310 x 310	190	20	88078Q15
Q18	195	90	-	310 x 310	190	20	88078Q18
<b>Flat Light LED Recessed, circular</b>							
R15	165	90	360	-	-	35	88078R15
R18	195	90	360	-	-	35	88078R18



88078Qxx

88078Rxx

## LED gear boxes

All LED luminaires shown in this brochure are sold without gear boxes to provide you with the highest degree of flexibility. Two product lines with distinct characteristics are available. The colour-coded LED gear boxes are coordinated with the corresponding luminaire to reduce errors during electrical installation. The electrical connection occurs via a plug connector that is protected against polarity reversal.

### Premium version with Loop-in/out

WILA LED gear boxes, standard or DALI dimmable. High-quality version with gear box housing with Loop-in/out. Suitable for emergency lighting with central battery. Single battery solutions on request.

### Standard version without Loop-in/out

Cost-effective alternative if Loop-in/out function is not required, standard or DALI dimmable. Suitable for emergency lighting with central battery. Single battery solutions on request.

LED gear boxes with Loop-in/out static  
T-BAR LED-System

100 W 83751

LED gear boxes	Article number		Article number	
	without Loop-in/out static	DALI	with Loop-in/out static	DALI

### Flat Light LED Recessed

9 / 12 W	83771	83771-DD	83771-DV	83771-DD-DV
13 / 18 W	83761	83761-DD	83761-DV	83761-DD-DV
19 / 25 W	83762	83762-DD	83762-DV	83762-DD-DV



# Definitions

## Catalogue information

Many luminaires are protected by comprehensive design registrations, patents and trademark protections. We reserve the right to change material, design and programme without notice. Statements are not warranted characteristics. Pictures and drawings are for illustrative purposes only. Our terms and conditions of sale and delivery apply.

## Luminaire luminous flux Llm

The luminaire luminous flux (Llm) defines the usable light of the luminaire and is the decisive value in lighting design. As opposed to the lamp luminous flux (lm), the luminaire luminous flux (Llm) accounts for losses due to the design of the luminaire. WILA defines only the Llm value for all LED lamps. This value can be found both in data sheets and in the relevant ldt file.

## System efficiency Llm/W

System efficiency defines the ratio of luminaire light flux (Llm) to power input (W). Efficiency losses due to gear boxes have already been taken into account by WILA in the Llm/W value.

## System photometric data

For a qualified comparison between LED luminaires and luminaires with compact fluorescent lamps, it is important to ensure first that the products to be compared share approximately the same photometric data. Sample calculation:

**LED luminous flux 2000 lm (100%)** – system losses (light output ratio) = luminaire luminous flux 1720 Llm

**LED efficiency 2000 lm : 29 W = 69 lm/W**

**System efficiency 1720 Llm : 31 W (29 W LED module + 2 W driver) = 55 Llm/W**

## Heat sink

LED module  
2000 lm / 69 lm/W



Luminaire luminous flux 1720 Llm  
System efficiency 55 Llm/W

## Beam Spread Angle $\gamma$

The beam spread angle  $\gamma$  is defined as the angle at which the luminous intensity drops to 1% of the maximum value  $I_{max}$ . It is measured from the vertical (see luminous intensity distribution curve) and is an important dimension in glare reducing measures.

## Limits of the average luminance of screens with a beam angle of $> 65^\circ$

	Screen high Illuminance $\geq 200 \text{ cd/m}^2$	Screen average Illuminance $\leq 200 \text{ cd/m}^2$
Positive polarity and usual requirements <sup>1)</sup>	$\leq 3000 \text{ cd/m}^2$	$\leq 1500 \text{ cd/m}^2$
Negative polarity and high requirements <sup>2)</sup>	$\leq 1500 \text{ cd/m}^2$	$\leq 1000 \text{ cd/m}^2$

<sup>1)</sup> Example Office programme, dark text on bright background

<sup>2)</sup> Example CAD programme, bright lines on dark background

## UGR

The UGR method takes into account the layout of the luminaires in the room and evaluates the glare produced by the entire lighting system for a specific observer's position. WILA provides UGR values where the observer's position is parallel to the longitudinal axis of the luminaire and the lamp/luminaire axis is parallel to the longer side of the room. The UGR method is implemented on the basis of simple tables. A low UGR value indicates that glare is negligible or non-existent.

## Suitability examples UGR values:

< 16 for drafting rooms,  
< 19 for offices and control rooms,  
< 22 for precision industrial tasks  
< 25 for light industrial tasks and  
< 28 for heavy industrial tasks.

## F marking

All WILA luminaires are suitable for use in or on ceilings of normal flammability and have so far been labelled with the F marking. With the publication of the EN 60598 standard, date of issue 09/2009, this marking is no longer applicable. After the end of the transitional phase on 12.04.2012, all luminaires without labelling are suitable for use in or on a ceiling of normal flammability. Luminaires that do not fulfil the thermal requirements will be marked with a new pictogram in the future.

## Luminous intensity distribution

In order to give a clearer overview, the luminous intensity distribution curves have been divided into groups. Shown are the planes from  $0^\circ$  to  $180^\circ$  (red line) and from  $90^\circ$  to  $270^\circ$  (blue line). The  $0^\circ$  plane is on the right.

## Beam chart

For accent luminaires beam charts are shown. The angle of the spread out beam corresponds to the half-peak divergence angle of the luminous intensity. Diameter and mean illuminance  $E_m [lx]$  can be read from the chart for each corresponding height.

## Index

-DV = power pass-through  
-DD = dimmable, Dali

## Abbreviations/Dimensions

OH = overhang, maximum expansion of luminaire from the centre of reflector  
W, W1 = width information  
D = diameter  
CO = ceiling, wall or recessed floor cut-out  
CO W = width of ceiling or wall cut-out for recessed luminaires  
CO L = length of ceiling or wall cut-out for recessed luminaires  
RD = required installation depth for recessed luminaires under consideration of F conditions  
H, H1 = height information  
K = colour temperature  
L, L1 = length information  
Q = reflector size, square  
R = reflector size, round  
Ra = colour rendering index  
W = electrical power  
 $\alpha$  = half-peak divergence angle  
 $\gamma$  = beam spread angle

## Information about maintenance

The illuminance for a room/property must satisfy the published values according to DIN 12464-1 over the entire period of usage; this corresponds to the maintenance value. The electrical planner is responsible for determining the maintenance factor dependent upon the lighting system and the spatial conditions used and ensuring this with a maintenance schedule. Further details about maintenance can be found in the "Knowledge" section of our website at [www.wila.com](http://www.wila.com)