

**Museum  
Art & Cars**





## Visual quality

### Illuminating objects

The foundation has more than 3,000 exhibits, including vehicles that are highly sought after by collectors. Some of these highly diverse exhibits with extremely different characteristics make exacting demands on visual lighting quality. The ARCOS spotlight range provides just the right end-to-end solution. This spotlight features superb glare control thanks to a light source that is embedded deep in its reflector. Anti-glare shades provide sharp-edged light on the walls. Regardless of colour temperature, it achieves an excellent colour rendering index (Ra > 90).

#### Lighting solution



ARCOS 2 xpert LED | 22 W

ARCOS 3 tunableWhite 2700 K



The curvaceous lines of the skin of the newly built museum are echoed in its interior by curved wall geometries, different room heights and sloping ceilings. The brief for the lighting solution was to stick to this principle and cut energy consumption by using innovative LED and control technologies. The ARCOS museum spotlight product range was the solution. The LED spotlights were recessed in ceiling ducts because the ceilings were low in some places. ARCOS manifests its artistic talents in many lighting scenarios: a sequence of lighting scenes accompanied by dramatic music starts to unfold as soon as visitors enter the dark room. ARCOS spotlights complement a sophisticated art installation on the staircase. An unremarkable image reveals its full splendour in the darkness.

**Museum Art & Cars, Singen / DE**

Architect: Daniel Binder, Gottmadingen / DE

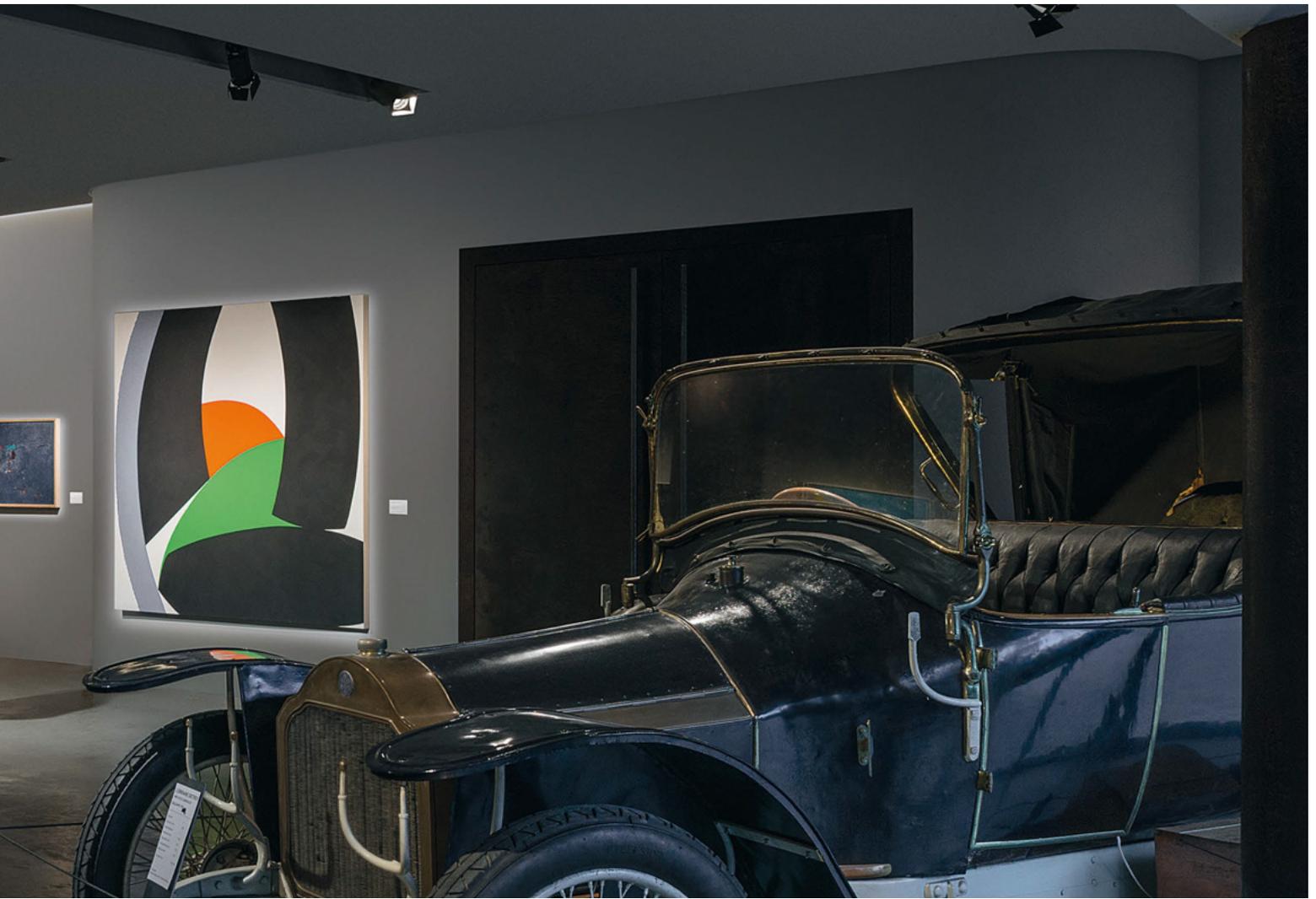
Lighting solution: ARCOS 2 xpert LED spotlights, ARCOS 3 LED spotlights tunableWhite, LITENET economy lighting management system



## Flexibility and versatility for temporary exhibitions

Exhibits include classic vehicles, images and sculptures – mainly from Southwest Germany. Exhibitions change several times a year and a unique combination of items is always on show. The optimal lighting system therefore needs to be extremely flexible in terms of its mechanical features, beam angles and light colours. A meticulously planned combination of high-performance ARCOS 3 tunable-White spotlights and compact ARCOS 2 xpert LED spotlights is able to deliver the required versatility. This flexibility is leveraged by a comprehensive range of accessories such as different glass lenses, anti-glare shades and interchangeable reflectors.





## Conservational aspects

### Lighting exhibits gently

ARCOS museum spotlights are very gentle on delicate exhibits. The spotlights' high-quality LED light sources reduce potential damage significantly compared with conventional halogen lighting. This makes longer exhibition opening hours or higher lighting levels possible for a given exposure to light. In the Museum Art & Cars the concrete effects of this are as follows: based on a standard material constant  $b=0.012$  according to CIE and an illuminance level of 200 lx, the difference in exhibition time is approximately 10,700 hours. For a given exhibition time, the illuminance level can be increased by approximately 90 lx.

**Web app for comparing two lighting solutions** The app compares various light sources with respect to the potential risk they pose to sensitive materials. Professional background knowledge makes lighting design based on scientific methods straightforward and easily understandable.



[zumtobel.com/culturewebapp](http://zumtobel.com/culturewebapp)



# ZUMTOBEL

## United Kingdom

Zumtobel Lighting Ltd.  
Chiltern Park  
Chiltern Hill, Chalfont St. Peter  
Buckinghamshire SL9 9FG  
T +44/(0)1388 420 042  
lightcentreuk@zumtobelgroup.com  
zumtobel.co.uk

## USA and Canada

Zumtobel Lighting Inc.  
3300 Route 9W  
Highland, NY 12528  
T +1/(0)845/691 6262  
F +1/(0)845/691 6289  
zli.us@zumtobel.com  
zumtobel.us

## Australia and New Zealand

Zumtobel Lighting Pty Ltd  
333 Pacific Highway  
North Sydney, NSW 2060  
T +61/(2)8913 5000  
F +61/(2)8913 5001  
info@zumtobel.com.au  
zumtobel.com.au

## China

Zumtobel Lighting China  
Shanghai office  
Room 101,  
No 192 YIHONG Technology Park  
Tianlin Road, Xuhui District  
Shanghai City, 200233, P.R. China  
T +86/(21) 6375 6262  
F +86/(21) 6375 6285  
sales.cn@zumtobel.com  
zumtobel.cn

## Hong Kong

Zumtobel Lighting Hong Kong  
Unit 4301, Level 43,  
Tower 1, Metroplaza,  
223 Hing Fong Road,  
Kwai Chung, N.T.  
T +852/2578 4303  
F +852/2887 0247  
info.hk@zumtobel.com

## India

Zumtobel Lighting GmbH  
Vipul Trade Centre, 406, 4th Floor  
Sohna Road, Sector 48,  
Gurgaon 122002, Haryana, India  
T +91/124 4206885 6886  
info.in@zumtobel.com

## Singapore

Zumtobel Lighting Singapore  
158 Kallang Way # 06-01/02  
Singapore 349245  
T +65 6844 5800  
F +65 6745 7707  
info.sg@zumtobel.com

## United Arab Emirates

Zumtobel Lighting GmbH  
4B Street, Al Quoz Industrial Area  
Dubai, United Arab Emirates  
T +971/4 340 4646  
F +971/4 299 3531  
info@zumtobel.ae  
zumtobel.ae

## Romania

Zumtobel Lighting Romania SRL  
Radu Greceanu Street, no.2,  
Ground Floor, sector 1  
012225 Bucharest  
T +40 31225 38 01  
F +40 31225 38 04  
welcome.ro@zumtobel.com  
zumtobel.com

## Hungary

ZG Lighting Hungary Kft.  
Váci út 49  
1134 Budapest  
T +36/(1) 450 2490  
F +36/(1) 350 0829  
welcome@zumtobel.hu  
zumtobel.hu

## Croatia

ZG Lighting d.o.o.  
Radnička cesta 80  
10000 Zagreb  
T +385/(1) 64 04 080  
F +385/(1) 64 04 090  
welcome@zumtobel.hr

## Bosnia and Herzegovina

ZG Lighting d.o.o.  
Topal Osman Pase 18  
71000 Sarajevo  
M+387 61 172 240  
welcome.ba@zumtobel.com

## Serbia

ZG Lighting d.o.o.  
Beton hala – Karadordeva 2-4  
11000 Belgrade  
M+381 69 54 44 802  
welcome@zumtobel.rs

## Czech Republic

ZG Lighting Czech Republic s.r.o.  
Jankovcova 2  
Praha 7  
17000 Praha  
T +420 266 782 200  
F +420 266 782 201  
welcome@zumtobel.cz  
zumtobel.cz

## Slovak Republic

ZG Lighting Slovakia s.r.o.  
Vičie Hrdlo 1,  
824 12 Bratislava  
welcome@zumtobel.sk  
zumtobel.sk

## Poland

ZG Lighting Polska Sp. z o.o.  
Woloska 9a  
Platinum Business Park III  
02-583 Warszawa  
T +48 22 856 74 31  
zgpolska@zumtobelgroup.com  
zumtobel.pl

## Slovenia

ZG Lighting d.o.o.  
Štukljeva cesta 46  
1000 Ljubljana  
T +386/(1) 5609 820  
F +386/(1) 5609 866  
si.welcome@zumtobelgroup.com  
zumtobel.si

## Russia

Zumtobel Lighting GmbH  
Official Representative Office  
Skakovaya Str. 17  
Bld. No 1, Office 1104  
125040 Moscow  
T +7/(495) 945 3633  
F +7/(495) 945 1694  
info-russia@zumtobel.com  
zumtobel.ru

## Norway

Zumtobel Belysning  
Strømsveien 344  
1081 Oslo  
T +47 22 82 07 00  
info.no@zumtobel.com  
zumtobel.no

## Sweden

Zumtobel Belysning  
Birger Jarlsgatan 57  
11356 Stockholm  
T +46 8 26 26 50  
info.se@zumtobel.com  
zumtobel.se

## Denmark

Zumtobel Belysning  
Stamholmen 155, 5. sal  
2650 Hvidovre  
T +45 35 43 70 00  
info.dk@zumtobel.com  
zumtobel.dk

## Headquarters

Zumtobel Lighting GmbH  
Schweizer Strasse 30  
Postfach 72  
6851 Dornbirn, AUSTRIA  
T +43/(0)5572/390-0  
info@zumtobel.info

ZG Licht Mitte-Ost GmbH  
Grevenmarschstrasse 74-78  
32657 Lemgo, GERMANY  
T +49/(0)5261 212-0  
F +49/(0)5261 212-7777  
info@zumtobel.de

## zumtobel.com

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