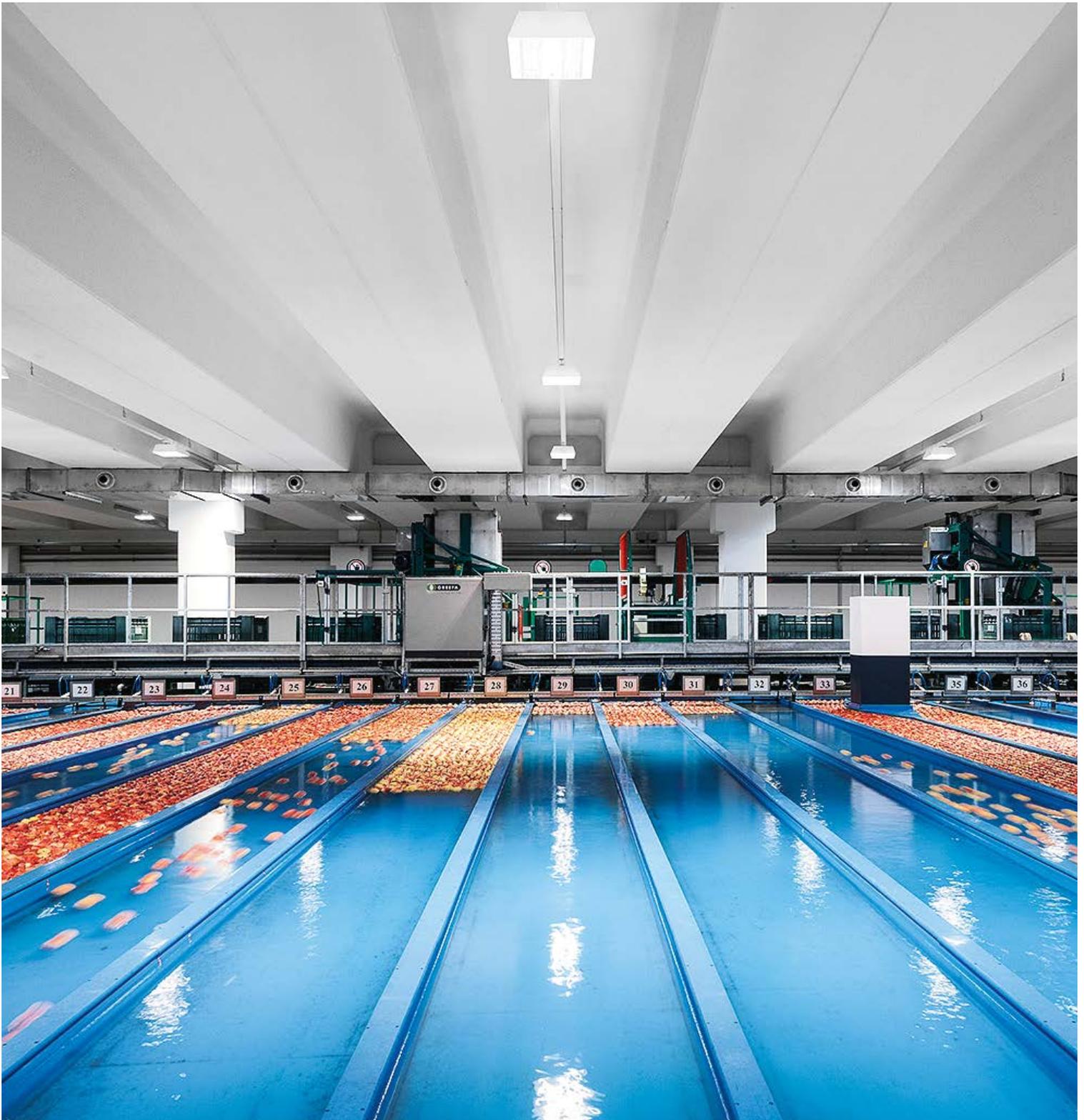


**Texel Fruit
Cooperative**

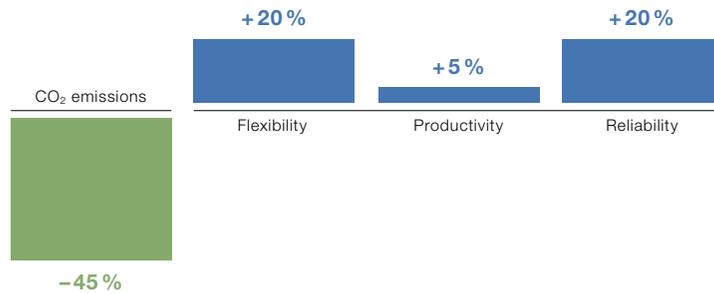




Improved lighting quality despite lower consumption

The Texel Fruit Cooperative collects at its Naturns location all apples harvested by its 350 members cultivating a gross area of 1,285 hectares, in order to sort out and pack up the apples for marketing all over the world. In line with the principles of quality and efficiency, the halls for sorting apples and storing cardboard boxes were refurbished in terms of lighting technology. Not only did the existing lighting system – moisture-proof luminaires fitted with 58W fluorescent lamps – consume too much energy, but it was also unable to provide the required illuminance levels. Providing 500 lx for the task areas and 300 lx for the conveyor belts is no problem for the new CRAFT LED high-bay luminaire – despite requiring only one third of the original number of luminaires. Two additional tasks are fulfilled by SCUBA LED moisture-proof luminaires suspended from TECTON trunking: they provide reliable emergency and passageway lighting.

zumtobel.com/industrialighting



Texel Fruit Cooperative, Naturns | IT

Design and construction management:

Dr. Ing. Siegfried Pohl, Latsch | IT

Electrical consultants: M. & N. Plan Consulting, Burgstall | IT

Electrical engineers: Elektro Gafriller, Barbian | IT

Lighting solution: CRAFT 330 Wide Beam high-bay LED luminaires, SCUBA LED moisture-proof luminaires for emergency and passageway lighting, TECTON trunking, ONLITE CPS central battery, daylight-based control system

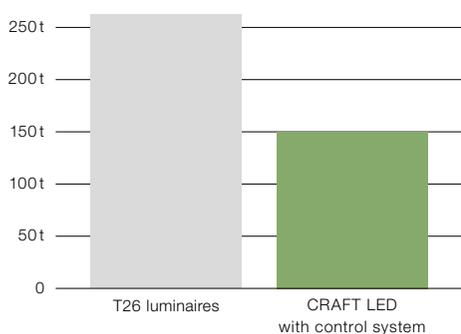
1. CO₂ efficiency and cost efficiency

-45% CO₂

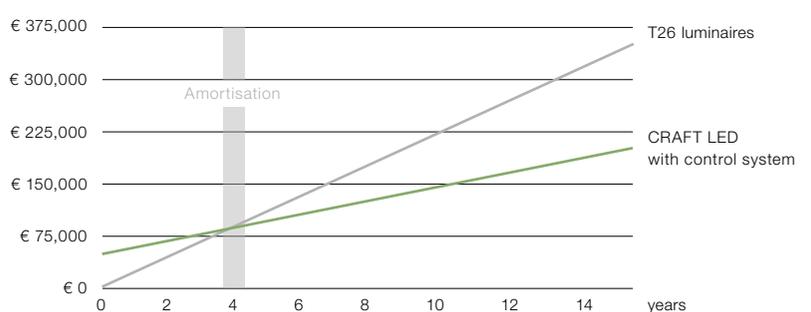
An efficient trio: Daylight, LED and Maintenance Control

Before refurbishment, the Fruit Cooperative's sorting and storing facilities included 300 luminaires fitted with an equal number of 58W T26 fluorescent lamps. Today, a lighting level of up to 500 lx is achieved with fewer luminaires: 133 CRAFT LED high-bay luminaires with 144W each reduce the annual energy consumption from 27.25 kWh per square metre to 15.61 kWh, which is highly efficient. In addition to the existing daylight-based control system, the Maintenance Control function of the DALI-dimmable LED luminaire makes a valuable contribution. In normal operation, the CRAFT luminaires are presently dimmed down to 80 percent. In order to keep up the required illuminance levels in spite of ageing, they are checked on a regular basis and the dimming levels adjusted accordingly.

CO₂ emissions over service life (15 years)



Payback period: 4 years (total cost)



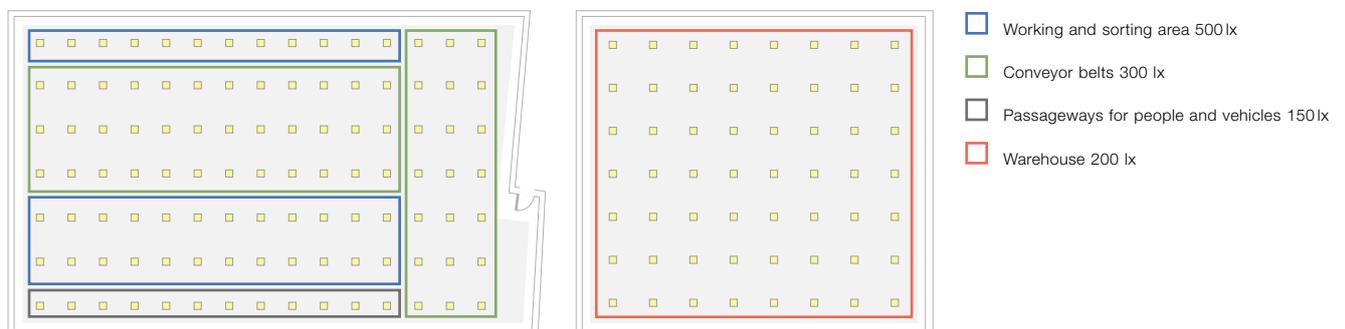
2. Flexibility

+20 %

Flexibility thanks to dimmable luminaires installed on TECTON trunking

Both the CRAFT LED high-bay luminaire and the SCUBA moisture-proof luminaire can be suspended from TECTON trunking with a flick of the wrist. One click is enough to make both mechanical and electrical connections. This means that the LED lighting modules can be relocated and rearranged quickly and easily at any time. The lighting solution will therefore quickly adapt to the changes in machinery already scheduled by Texel. Combined with the dimmability of the luminaires, this guarantees that the best illuminance level for every area will always be provided: 500 lx for the sorting area and the task areas along the walkway, 300 lx in the conveyor belt zones, 200 lx for the warehouse and 150 lx on the passageways for people and vehicles.

Usage areas sorting hall 67 x 40 x 5 m and warehouse for cardboard boxes 40 x 40 x 6.5 m (length x width x height)



eco⁺

CRAFT LED high-bay luminaires bear this label for especially resource-friendly products. For more information on eco+, please visit zumtobel.com/eco

3. Productivity

+5 %

Unique illumination with good colour rendering

Thanks to an intermediate colour temperature of 4,000 K and good colour rendering of $Ra > 80$, the natural appearance of all apple varieties is maintained even with artificial lighting. The CRAFT LED high-bay luminaire combines these qualities with good glare control – ensuring unique efficiency and uniformity: this is made possible by a lighting cone that is shaped like a pyramid with a square base, which makes overlapping cones as produced by luminaires with circular light emission a thing of the past. The fact that manual work is actually done in a few areas only is the reason why the impact on productivity is nevertheless comparatively low for the entire building. Quality control, for instance, is performed via cameras with separate lighting.

Uniform lighting thanks to square light emitting panel



In the CRAFT LED high-bay luminaire, a separate lens is assigned to every LED lighting point. This ensures that the light can be directed very precisely and provides good glare control and outstanding efficiency.

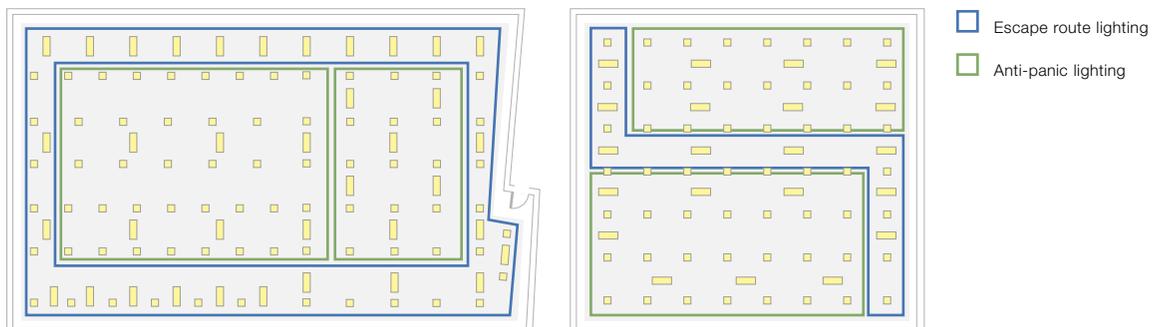
4. Reliability

+20%

Durable and maintenance-free

The pre-wired 11-pole TECTON trunking is a tried-and-tested system to keep installation times as short as possible – as required by Texel – in order to avoid production downtimes. In the sorting hall, the luminaires were installed directly above the conveyor belt systems, at a height of 4.5 m, while in the warehouse they are installed at a height of 6.5 m. In both cases, maintenance would require a lot of effort. But by opting for CRAFT and SCUBA, the Fruit Cooperative made the perfect decision: the IP65-protected LED luminaires boast a service life of 50,000 hours (with a luminous flux reduction to 70 percent) and are thus virtually maintenance-free. As a DALI luminaire with built-in emergency lighting module, SCUBA fulfils two tasks: illumination of passageways outside machinery operating times, and illumination of escape routes in emergencies. In this function it is supplied with power by the ONLITE central CPS central battery system that also monitors the building's bus system.

Emergency lighting in the sorting hall and in the warehouse for cardboard boxes





ZUMTOBEL

United Kingdom

Zumtobel Lighting Ltd.
Chiltern Park
Chiltern Hill, Chalfont St. Peter
Buckinghamshire SL9 9FG
T +44/(0)1753 482 650
F +44/(0)1753 480 350
uksales@zumtobel.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 4319-20, Level 43,
Tower 1, Metroplaza,
223 Hing Fong Road,
Kwai Fong, N.T.
T +852/(0)2503 0466
F +852/(0)2503 0177
info.hk@zumtobel.com

India

Zumtobel Lighting GmbH
1522, Devika Tower,
6, Nehru Place,
110019 New Delhi
T +91/11 4601 2782
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@zumtobeluae.ae
zumtobel.ae

Romania

Zumtobel Lighting Romania SRL
Radu Greceanu Street, no. 2,
Ground Floor, sector 1
012233 Bucharest
T +40 731 32 1200
welcome.ro@zumtobel.com
zumtobel.com

Hungary

Zumtobel Lighting Kft
Váci út 49
1134 Budapest
T +36/(1) 35 00 828
F +36/(1) 35 00 829
welcome@zumtobel.hu
zumtobel.hu

Croatia, Bosnia and Herzegovina

Zumtobel Licht d.o.o.
Radnička cesta 80 – Zagrebtower
10000 Zagreb
T +385/(1) 64 04 080
F +385/(1) 64 04 090
welcome@zumtobel.hr
welcome.ba@zumtobel.com

Serbia

Zumtobel Licht d.o.o.
Karadjordjeva 2-4
Beton Hala
11000 Belgrade
T +381/(0)11 65 57 657
F +381/(0)11 65 57 658
welcome@zumtobel.rs

Czech Republic

Zumtobel Lighting s.r.o.
Jankovcova 2
Praha 7
170 00 Praha
T +420/(2) 66 782 200
F +420/(2) 66 782 201
welcome@zumtobel.cz
zumtobel.cz

Slovak Republic

Zumtobel Lighting s.r.o.
Vlčie Hrdlo 1,
824 12 Bratislava
welcome@zumtobel.sk
zumtobel.sk

Poland

Zumtobel Licht GmbH Sp.z.o.o.
Platinum III
ul. Woloska 9a
02-583 Warszawa
T +48/(22) 856 74 31
F +48/(22) 856 74 32
welcome@zumtobel.pl
zumtobel.pl

Slovenia

Zumtobel Licht d.o.o.
Štukljeva cesta 46
1000 Ljubljana
T +386/(1) 5609 820
F +386/(1) 5609 866
welcome@zumtobel.si
zumtobel.si

Russia

Zumtobel Lighting GmbH
Official Representative Office
Skakovaya Str. 17
Bld. No 1, Office 1104
125040 Moscow
T +7/(495) 945 36 33
F +7/(495) 945 16 94
info-russia@zumtobel.com
zumtobel.ru

Norway

Zumtobel Belysning
Hoffsveien 4
Postboks 1025 Hoff
0218 Oslo
T +47 22 06 50 50
info.no@zumtobel.com
zumtobel.no

Sweden

Zumtobel Belysning
Birger Jarlsgatan 57
113 56 Stockholm
T +46 8 26 26 50
info.se@zumtobel.com
zumtobel.se

Denmark

Zumtobel Belysning
Store Kongensgade 118
1264 København
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

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

zumtobel.com



Top quality – with a five-year guarantee.

As a globally leading luminaire manufacturer, Zumtobel provides a five year manufacturer's guarantee on all Zumtobel branded products subject to registration within 90 days from the invoice date and in accordance with the terms of guarantee at zumtobel.com/guarantee.

© Zumtobel Lighting GmbH
Technical data was correct at time of going to press. We reserve the right to make technical changes without notice. Please contact your local sales office for further information.