

Light and
health

ILLUXTRON®
LIGHTING

LIGHT & HEALTH



SUPPORT PEAK PERFORMANCE



ILLUXTRON

The use of light to support peak performance

It is now widely recognized that appropriate lighting constitutes an integral component in the support of elite athletic performance. Coaches working with this population systematically assess a range of physiological parameters and have rapidly observed that the implementation of well-designed lighting conditions is associated with significant improvements in performance.

- **Improved overall health, leading to better performance**
- **Dedicated team support for games and tournaments (avoid jet lag and shift best performance time)**
- **Feedback loop for continuous improvement**

Illuxtron works with two leading partners in elite sports:

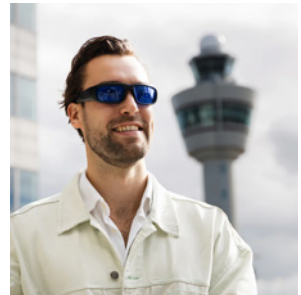
BRAINLIT

Through its subsidiary in America, BrainLit now provides support to virtually all sports teams in America in the fields of soccer, basketball, ice hockey, baseball American football. Through their European organization, they have also already supplied numerous football teams in the English Premier League.

BCL® is a registered trademark of BrainLit and Illuxtron is among the first lighting manufacturers to be certified within BrainLit's new Biocentric Lighting (BCL) Certification Program.

FluxPlus

More than 1,500 Olympians and elite athletes from many countries have utilized FluxPlus products and services to enhance physical conditioning and performance across diverse environments and at all times of day. In this context, the organization has developed substantial expertise in stabilizing and optimizing peak performance in athletic settings, irregular work schedules, and aging populations through the application of chrono-coaching, integrative lighting, and the Propeaq light glasses.



The benefits of light for other applications

OTHER APPLICATIONS



LIGHT & HEALTH

Over the past two decades, a substantial body of research has consistently demonstrated the health benefits of appropriate light exposure, including improved sleep quality, enhanced performance, increased cognitive focus, strengthened immune function, a reduced risk of burnout, and the mitigation of health risks such as obesity, cancer, and dementia.

ADVANTAGES IN ELDERLY CARE

Evidence further indicates that appropriate light exposure is associated with:

- Increased sleep duration and efficiency
- Reduction in daytime napping
- Decreased nocturnal wandering
- Alleviation of symptoms related to depressive disorders
- Lower incidence of fall-related accidents in long-term care settings
- Improvements in cognitive functioning.



Scan this QR for a video about research and studies around lighting in elderly care.



ADVANTAGES IN OFFICES

Empirical evidence indicates that appropriate light exposure is associated with:

- Increased productivity
- Enhanced cognitive functioning
- Improved task accuracy
- Better sleep quality
- Elevated mood and energy levels
- Reduction in sick leave

EXTRA ADVANTAGES IN HOSPITALS AND HEALTH CARE ENVIRONMENTS

- Reduction of "Length of stay" (LOS) within health care
- Improved health and wellbeing for shift workers
- A special recipe is used for ICU (patient/ doctor/ nurse)

Illuxtron closely follows international regulations



Plus Ultra Utrecht - BREEAM NL Outstanding - WELL Platinum

INTERNATIONAL REGULATIONS

INTEGRATIVE LIGHTING

Light should not be understood solely in terms of illuminance (lux) required for visual task performance. It also comprises a non-visual component that exerts a substantial influence on circadian regulation, including the sleep-wake cycle. This non-visual effect is quantified using melanopic Equivalent Daylight Illuminance (m-EDI). According to emerging standards, health-related effects of light can only be substantiated when exposure reaches at least 250 m-EDI during specific periods of the day. Only under such conditions can lighting be considered integrative. In collaboration with

specialists in elite sports, Illuxtron has introduced integrative lighting solutions achieving m-EDI levels of 500-750 and much higher when the time spent under the light is shorter

These developments are grounded in extensive research on circadian rhythms and are translated into optimized lighting designs. Integrative lighting combines both visual and non-visual effects, thereby producing measurable physiological benefits. When all such criteria are fulfilled, this approach is referred to as Biocentric Lighting (BCL®), a registered trademark of BrainLit.



Scan this QR for a video about BCL vs HCL.

Integrative lighting		
Traditional lighting	HCL	BCL®
3000/4000K (LV)	2700-6500K (TW) 1800-16000K (PI-LED)	2700-6500K (BCL® 2-CH) 1800-6500K (BCL® 3-CH)
	m-EDI= Not defined	m-EDI= >250

RELEVANT NORMS

The most important norm for HCL is the WELL Building Standard, which requires a m-EDI value of 250lux. BCL exceeds all norms to deliver the greatest healthy impact by using a second warmer group of lighting. This allows reaching higher circadian values (up to 1300 m-EDI) while maintaining a comfortable lighting environment. The norms for HCL are behind the technological possibilities; it is expected that the norms will become stricter in the future.

- **ISO 8995-1 (Global norm released 31st 2025)**
- **LEED (North American norm for sustainable buildings)**
- **WELL Building Standard (North American Standard to improve human health and well-being)**
- **BREEAM circadian demands (European norm with different levels for future-proof buildings)**
- **DIN/TS 67600 (Germany)**

BREEAM & WELL BUILDING STANDARD

These requirements are intended to make the sustainability of buildings measurable. For decades, they have been regularly revised and expanded to include new criteria and building types. The requirements for these types of buildings are constantly evolving, and Illuxtron ensures that any product adjustments are implemented quickly. Because Illuxtron produces to order, we don't have to deal with old inventory that hasn't been adapted yet.

WELL AS AN INVESTMENT IN YOUR EMPLOYEES

WELL is the only building certification programme in the world that prioritises people and requires performance testing to verify that the building has achieved optimal conditions for health. WELL is being implemented in over 74,000 locations in more than 137 countries around the world and leads to a 7.7% higher rental income. It tests buildings on 10 themes, including air, water, light, nutrition and mental health. The classification goes from bronze, silver, gold to platinum.

MATERIAL PASSPORT

The ESPR (Ecodesign for Sustainable Products Regulation) legislation has one goal: to make products more sustainable by setting requirements for the design of physical goods sold in the EU. A key component of this is the Digital Product Passport (DPP). This digital passport travels with the product and contains information about its composition, origin, and how the product can be used, reused, or recycled. This contributes to extending the life cycle of products so we use fewer raw materials in the transition to a circular economy.

How to implement a circadian lighting system?

INSTALLATION OF A BCL SYSTEM

All system components have a Wago plug and once connected, the components find each other automatically (even in case of a replacement of one of the components). An HCL system typically requires an electrician and a DT8 integrator to verify proper operation. The same procedure should be followed if any of the components need to be replaced.

INSTALLATION

SYSTEM HARDWARE

- A plug and play system built around standard protocols – DALI, IP/ Ethernet, WiFi and Bluetooth
- Available interfaces to BMS, alarm systems and other controllers
- Wago plugs and battery-free switches & sensors ensure easy installation



BCL Light Control Box



Scan this QR for a installation video.



BCL Wireless Motion Sensor



BCL Wireless Light and Recipe Switch

INVESTMENT AND PAYBACK TIME

According to a study by McKinsey, the investment in Biocentric lighting for offices is approximately 500-700€ per employee. The return is between 1.375-2.750€ per employee each year.

A healthy building only related to productivity, retention and improved well-being yields a net present value (NPV) of \$21,172 per employee.

An internal study after implementing BCL showed:

- A payback time of 6 months
- Lower energy usage up to 25%

The goal of BrainLit is to have the same investment for a BCL installation as a normal Dali installation.

Thanks to the experience of our partners, we can offer various studies on the payback period for different applications.



Scan this
QR for the
IWBI Special
Report.

Luminaires

LED Panel B 595x595 BCL 2700-6500K' 5500Lm



ITEM SPECIFICATIONS

Item code	Input	W	Lm	Lm/W	CRI (typ.)	UGR	Pf	Ripple	mDER ratings
30IL03MWIC02	120-250V	41,5	5500	133	93	18.2	0.95	<3%	40-95%

LUMINAIRES

Strada 90 BCL 2700-6500K' 1250Lm



ITEM SPECIFICATIONS

Also available in other colours and with WS (wire) springs.

	Item code	Input	W	Lm	Lm/W	CRI (typ.)	UGR	Pf	Ripple	mDER ratings
60°	856H03XX4W02	120-250V	10,6	1250	118	93	24.0	0.90	<5%	40-95%
80°	856H03XX4Y02	120-250V	10,6	1250	118	93	28.4	0.90	<5%	40-95%

Linea 75 BCL 2700-6500K' 1250Lm



ITEM SPECIFICATIONS Also available in other colours and with WS (wire) springs.

	Item code	Input	W	Lm	Lm/W	CRI (typ.)	UGR	Pf	Ripple	mDER ratings
60°	916G03XX4W02	120-250V	10,6	1250	118	93	24.0	0.90	<5%	40-95%
80°	916G03XX4Y02	120-250V	10,6	1250	118	93	28.4	0.90	<5%	40-95%

Strada 90



Using CS springs: Ø 90 mm.

Thickness ceiling 5-70 mm
& recess depth 70 mm.

Housing:

Matt white / Matt black

Deco ring:



Linea 75



Using CS springs: Ø 75 mm.

Thickness ceiling 5-60 mm
& recess depth 60 mm.



Matt white
RAL 9016 (XX=MW)

Matt black
RAL 9005 (XX=BL)

Accessories



BCL Wireless Light/Recipe Switch

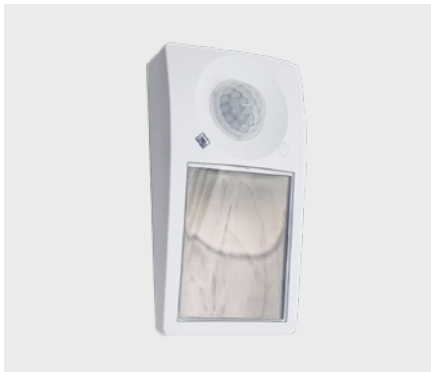
Colour	Glossy white
Type	Kinetic (battery less)
Supplier code	300032 Office
	300036 Elderly Care
	300072 Education
	300046 Sport



BCL Light Control Box

Colour	Black
Type	Dali DT8 (auto-commissioning)
Supplier code	200100 Office
	200101 Elderly Care
	200103 Education
	200104 Sport

ACCESSORIES



BCL Wireless Motion Sensor

Colour	White
Type	Powered by solar cell
Supplier code	300024



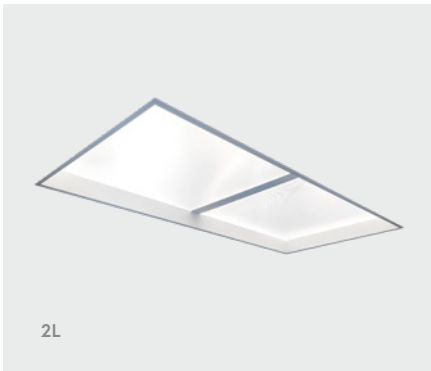
Wago T-splitter 5P

Colour	Black
Description	WAGO 770-621
Item code	Not supplied



WAGO 5P extension cable

Colour	Black
Description	WAGO 771-9985/006-301
Type	16A 1,5 mm ² H05VV-F 70°C
Item code	Not supplied



2L Recessed frame for T-bar ceiling system 600x600

Colour	White
Description	2L Recessed frame 600x600
Type of material	Aluminium



Bringing energy to people

Our company focuses on solving a common problem: we don't get enough daylight. Humans have evolved over thousands of years, spending most of our time outdoors until the most recent generations. Today, we spend up to 90% of our time indoors, but

standard indoor lighting does not meet our biological light exposure needs. Biocentric lighting brings daylight indoors to improve human health and well-being.

BRINGING ENERGY



About Illuxtron

With over 50 years of knowledge and experience in the lighting industry, we know our products inside out and strive for continuous improvements. We incorporate the latest technology in our LED lighting. We always look to innovate and improve, from dimmable downlights to LED panels and luxurious ceiling lights.

HEAD OFFICE



Vlissingen

PRODUCTION



Vlissingen



Goes



Terneuzen

FACTS

- 35 people HQ / 75-100 workers
- 3 production locations
- 520.000 products 2024
- 650.000 products 2025
- 300 project customers
- 33 export countries



Check out our website for
more information and inspiration.
Scan the QR code or go to
illuxtron.com!



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