

**Welcome from  
Eng. Basem Tweme**

**Fitzgerad in New  
Dubai Airport**

**Advantages of  
Electronic Start**

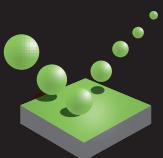
**Light & Health**

**Prijects**

**New Agencies**

**We Miss You  
(Mr. Elias Tweme)**

# Lighting Magazine



**Beam Engineering  
Technology Ltd.**

## WELCOME

Welcome to our summer edition of lighting Newsletter with an increasing focus on energy saving LED, Shopping Centers Lighting, White Light and the new projects done by the company from the beginning of this year.

As we are now in the "lighting season", we hope that the many new products introduced by the new lighting companies to our range will assist in promoting your businesses.

Our Lighting Newsletter is a promotional magazine. Our intent is to offer – not only to industry professionals, but to the general public as well – useful information and interesting news on what is going on in the world of lighting design, in particular on the use of light in applications like urban decoration, traffic and road systems, sports facilities, infrastructures, and presents interesting lighting projects.

Another important goal for the Lighting Newsletter is to collect and provide visibility to contributions from architects, regulators and lighting design experts.

The previous editions already published can be downloaded from our website at [www.beam-lighting.com](http://www.beam-lighting.com).

I hope you will find this Newsletter useful and interesting and we will be ready for any comments from your side.

I hope you will have all enjoyable summer break,

Yours Sincerely

Eng. Basem Tweme  
General Manager

*Beam Engineering Technology Ltd. is the sole agent and representative for the following lighting companies and it is the only authorized Palestinian Company to distribute and market the products of these lighting companies in Palestine*



**disano** ●

Its products represent the right solution for all the needs of architects, designers and installers, thanks to their refined design, compliance with environmental

regulations, energy-saving features, and the use of cutting-edge technologies to achieve light management.

In addition, Disano offers all the advantages of an industrial and commercial organization capable of supporting the client, ranging from the choice of products, to design consulting, and to technical support services.

[www.disano.it](http://www.disano.it)



## Fosnova

Its products represent the right solution for all the needs of architects, designers and installers, thanks to their refined design, compliance with environmental regulations, energy-saving features, and the use of cutting-edge technologies to achieve light management.

[www.fosnova.it](http://www.fosnova.it)



ASD's range of high quality, hard wearing and practical Office &

Commercial, Utility and Exterior luminaries are designed and manufactured to meet the exacting demands of facility managers, specifiers, contractors, designers & architects and end users. Using the latest manufacturing techniques we have a range that meets the demands of domestic and commercial installations, offering a comprehensive range of energy saving lamp and operating options to meet the latest building regulations requirements.

[www.asdlighting.co.uk](http://www.asdlighting.co.uk)



**MODUS**<sup>®</sup>  
Český výrobce svítidel

Modus already belongs for thirteen years in the most important producers of lighting fittings and components in Czech Republic. In year 2006

the company owners has resolved upon so far the largest investment and both into modern technology and to new premises for moving of manufacturing plant, which is now limited by current conditions for efficient development.

[www.modus.cz](http://www.modus.cz)



## LUCIS

A company specialized in hand-blown three-ply glass lighting fixtures. The procedure of melting and hand-processing of glass metal causes small imperfections, changes in colors, shapes and strength of the glass. Then each glass shade is the original piece of master-glassmaker's hand-work. The cooperation with young Czech designers brings new form solutions but

also new materials, especially plastics and stainless steel. New technologies make possible a different access to formation and also to conception of lightening and light fittings in general. The light fitting becomes a strong design element.

[www.lucis.eu](http://www.lucis.eu)



Arkos Light is part of Oscaluz Company and is located in Spain. The company started manufacturing lighting fixtures in 1984. The company is specialized in indoor and outdoor fittings.

[www.arkoslight.com](http://www.arkoslight.com)



Is one of the fastest developing Czech companies specializing in the manufacture of luminaries. The Company focuses mainly on technical design luminaries to be used preferably in prestige areas, commercial, administration premises and offices with top price/quality ratio. Since its foundation in 1992, HALLA have been making regular investments to increase production capacity and mainly the quality of our products in order to be able to satisfy the needs and requirements of the ever growing number of partners and customers.

[www.halla.cz](http://www.halla.cz)

## *From the idea to tangible reality: the development of new solutions*

**LED** is the acronym of LIGHT EMITTING DIODE, a component that emits monochromatic light with the flow of electric current. LEDs are making available new and enthusiastic tools for the work of the lighting designer and enable imaginative lighting products and astonishing effects to be created, which were once technically impossible. For the first time the progress achieved by LED technology has made it possible to achieve both high-quality colored and white lighting for indoor and outdoor applications. Seven-

color LEDs and a high-power white LED rated at 550K with an RA 75 index have become available in recent years; progress has also been made in the field of plastic and silicon lens which enable long-life LEDs with a high preservation level of the luminous flux to be produced. A high-quality "hot white" LED with an RA 90 index rated at 3200K has also appeared on the market over the last year. The luminosity, uniformity and the chromatic yield of LEDs have been enhanced so greatly that today the LED modules are starting to be used more and more for lighting in rooms and areas. Technical features LEDs are only a few millimeters in size, but offer distinct advantages thanks to their innovative technology and represent a real alternative to traditional light sources in many applications. They are produced using semiconductors that convert electric current directly into light. The LED modules assure wide creative design opportunities applied to innovative solutions thanks to the variety of

colors, to their compactness and flexibility. In addition to the aesthetic features, the reduced energy consumption and the long working life, with the subsequent minimum need for maintenance, enable interesting applications to be adopted in terms of operating economy. The LED's power supply can be either at constant voltage or constant current and the printed circuits on which the LEDs are mounted include active or passive devices able to enhance the performance. If the components are only positioned on the surface they are defined as SMT (surface mounting technology) or as COB (chip on board) if they are an integral part of the board. The high-power LEDs are mounted on metal heat sinks. Small, colored and modern A light emitting diode is composed of various layers of semiconductor material. White light is produced by converting the luminescence: an emission of a blue light is exploited to obtain a yellow emission in response. The efficiency of LEDs has improved

significantly in recent years and has reached levels which exceed 20 lm/W, depending on the color. The direct voltage level depends on the color of the light and ranges between 2 to 4V, with a current that can exceed 700 mA. The maximum luminosity is achieved with a power supply at constant current conditions. Much more than a simple light source LED modules consist of a certain number of light emitter diodes mounted on a printed circuit board with active or passive current regulating devices. Optics or light guiding devices can also be added depending on the field of application. The printed circuits can be rigid or flexible. Modules with a flexible printed circuit enable three-dimensional arrangements to be adopted. The variety of colors, the compactness and the flexibility of the modules ensure a wide variety of creative possibilities in the various applications. LED modules illuminate routes and profiles, produce color effects and ensure road signs provide greater safety.

## **Technological advantages**

- **reduced electric energy consumption**
- **high chromatic efficiency**
- **extremely long working life**
- **negligible initial mortality**
- **reduced size**
- **very high resistance to impacts and vibrations**
- **directly light emission**
- **no infrared/ultraviolet emissions**
- **reduced power absorption**
- **minimum heat generation**

Performance in relation to temperature Light emission decreases as the temperature increases. Temperature dependency is more significant, for example, in yellow LEDs compared with green LEDs. The maximum working temperature for LEDs is normally 100°C and must not be exceeded.

Useful working life The "useful working life of Leds" is understood as a decaying process of the luminous flux with time; this decay leads to the concept that a LED is to be replaced when its luminous flux is equal to

50% of the initial luminous flux. The useful working life depends on two important factors: the working temperature and the power supply current. The use of converters ensures that the current is always within the foreseen limits and, therefore, the useful working life of the LEDs must be ensured by an optimum working temperature.

The limited heat generated by the LEDs is dissipated by a special aluminum circuit on which the LEDs are mounted. Heavy duty use or no air circulation do not enable natural heat exchange to be achieved and, consequently, the temperature could rise to dangerous levels. The ultimate stress levels of a LED are relatively very limited, namely 85/10°C on the body: therefore, power LEDs must be installed correctly in ventilated environments, and not close to heat sources.

Advantages for users The variety of colors, the compactness and the flexibility of the modules ensure extended creative design possibilities applied to innovative solutions.

The limited electric

energy consumption and the long useful working life with the consequent minimum need for maintenance, enable interesting applications to be adopted in terms of the economic operation. The excellent reliability ensures safety also in more demanding operating conditions.

Source: [www.disano.it](http://www.disano.it)



**LIGHTING SYSTEMS IN SHOPPING CENTRES**  
**WAYS OF MAKING THE FOLLOWING PRODUCTS MORE ATTRACTIVE:**  
**FRESH PRODUCTS**  
**CLOTHING**  
**HOUSEHOLD ARTICLES**



**Fruit and vegetables:** bright white light enhances the colour of fresh vegetables, while warm colours make fruit look more attractive. CDM lamps, 3000K, are recommended for use with compatible spotlights and aluminised floodlights equipped with filters.



**Meat:** enhancing the red colour of meat adds a fresher look to the products. "Champagne" floodlights equipped with CDM 3000K or SDW lamps, 2500K, with or without filters, are recommended.



**Bakery products:** warm light enhances the gold hue of bakery products. "Champagne" floodlights fitted with CDM or SDW lamps, 3000K, and suitable filters are recommended.



**Fish:** cold white light reflecting on the ice is perfect for fresh fish, adding to it the appearance of fish just out of the water. CDM lamps, 4200K, or aluminised floodlights are recommended for use with suitable filters.



**Cheese:** warm white light is also suitable for fresh cheese and attracts buyers. Recommended for use with CDM and SWD lamps, 3000K, or with aluminised floodlights and suitable filters.



**Fabrics:** colours add a pleasant appearance to the goods. Lamps matching the colour of the fabrics or special filters and spotlights are recommended.



**Household articles:** correct lighting enhances the chrome-plated characteristics of ceramic ware, crockery and household accessories. CDM lamps, 4200K, or aluminised floodlights are recommended for cold-coloured products, while CDM lamps, 3000K equipped with "champagne" floodlights, are ideal for warm-coloured articles.



	Matrix B3	Eta 1	Bell 5	Lens recommended	Lamp recommended	Positioning of lighting fixtures
<p>Filters for fruit</p> 	22005600-00	22005610-00	22005620-00	Aluminised	CDM 3000K	Directional lighting contrasted with general lighting
<p>Filters for fish</p> 	22005601-00	22005611-00	22005621-00	Aluminised	CDM 4200K	Ice sparkle enhancing directional lighting
<p>Filters for meat</p> 	22005602-00	22005612-00	22005622-00	Champagne	CDM 3000K SDW 2500K	Even lighting, no accent lighting, no overheating
<p>Filters for baker's shops</p> 	22005603-00	22005613-00	22005623-00	Champagne	CDM 3000K SDW 2500K	Non-perpendicular lighting, no accent lighting
<p>Filters for cheese</p> 	22005604-00	22005614-00	22005624-00	Aluminised	CDM 3000K SDW 2500K	Even lighting, no accent lighting, no overheating
<p>Filters for fabrics</p> 	22005605-00	22005615-00	22005625-00	Aluminised or champagne	CDM 3000K CDM 4200K	Accent, directional lighting
			22005630-00	Champagne		

## White Light

Progress has triggered increased demand for more and better quality lighting systems in urban contexts. High and low pressure sodium lamps are unable to meet such requirements, as yellow light does not provide adequate color rendering.

roads.

Over time, man has kept improving the quality of light, attempting to reproduce in the best possible way the only point of reference available, i.e., daylight.

The evolution of light has gradually progressed from simple lanterns containing candles, to modern streetlamps, which strive to imitate sunlight as accurately as possible.

This revolution is

Instead, these new systems produce good quality lighting in the urban contexts desired, retaining optimal color contrasts and different shades, while also substantially improving safety for pedestrians and drivers alike. These new lamps make a better use of electricity, in combination with the properties of High pressure Sodium lamps. The application of these new technologies also



White light presents residents and tourists with an aesthetically upgraded environment; it reduces the risk of accident, improving vision and safety as a result, and enhances buildings, façades and

represented by “White Light”, namely, a modern lighting system designed to replace traditional High and Low pressure Sodium lamps, which privilege the quantity of light produced rather than quality.

entails reduced energy consumption, as the lamps are dimmerable and also use less power, without affecting quality. The aesthetic value of White Lights should not be ignored, as white lights are able to

enhance any work of art or building, without compromising color.

These devices fully enhance cities of art at any time of the day, making them more livable and easier to visit, and also add even more charm to the nightscape, which outshines, with its fascination, its counterpart “in broad daylight”.

Source: [www.disano.it](http://www.disano.it)

## Some useful tips

Taking time to either press a switch or turn a tap off can be hardly meaningful, however, if everybody did it every day, the results would be quite astonishing. Check these tips on how to save energy in daily life.

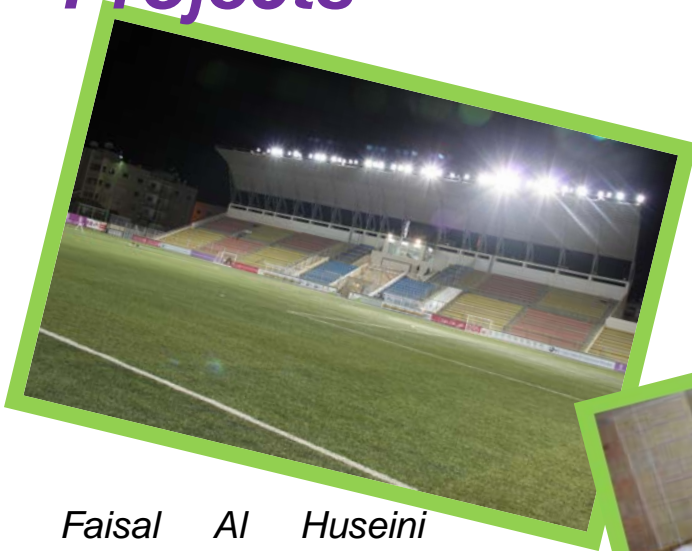
- Do not forget to switch off the lights when you do not need them. By switching off 5 bulbs where they are not needed could save you up to approximately 60€ a year, avoiding the emission of 400kg of carbon dioxide a year.
- Switch to low consumption light bulbs:

only one of them can reduce your bill by 60€, avoiding the emission of 400 kg of carbon dioxide during its lifecycle – which is up to 10 times higher than the lifecycle of ordinary bulbs. Low consumption light bulbs cost more, although they will save you more money in the end.

- Avoid leaving electrical equipment on the standby mode and switch it off when not in use. A TV running three hours a day (the average time that Europeans spend in front of the television) that is left on the standby mode for the remaining 21 hours, consumes approximately 40% of its energy in the standby mode.

- Unplug the battery charger when not in use. It still consumes electricity even when unplugged. It has been estimated that approximately 95% goes to waste if the plug is left in.

# New Projects



*Faisal Al Huseini  
International Stadium  
– Al Ram*



**Curia Franciscan  
Fathers Project -  
Jerusalem**



**Carmel Convent -  
Bethlehem**



**Beit Jala  
Community Center**



***Dar Al Nadweh –  
Bethlehem***



***Augusta Victoria  
Hospital –  
Jerusalem***



***Hisham's Palace  
(Kasir Hisham)  
Jericho***



***Infermaria  
Franciscan Hospital  
– Jerusalem***

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