

LUXIONA

LUXIONA Poland Magazine

SUMMARY OF THE TECHNICAL
CONFERENCES – SEASON 2016

EVENTS

REALISATIONS

EXPERTS COMMENTS

PRODUCTS



9th edition



LUXIONA
Poland

troll

heper⁺

MOONLIGHT⁺

metalarte

Sagelux

LUXIONA Poland Official Partner



FROM THE EDITOR

With a great pleasure we give into your hands the 9th issue of LUXIONA magazine. In this edition of our magazine we would like to present our newest realizations: Railway Station in Bydgoszcz, European Specialised Medical Centre in Korfantow and lighting design of residential housing estate called Artistic Zoliborz in Warsaw. In the current edition of our magazine an architect Anna Trzebinska will illustrate the details of the lighting design which has been realised at the railway station in Bydgoszcz.

In few words we will summarise this year's season of the Technical Conferences, which took place during summer time in the hotel in Mikorzyn and we will present achievements of sportsperson-Rafal Perkowski, who represents LUXIONA in Polish Supermoto Championship class 2. In this edition we will also present a novelty product-LED Universal Line System-in our expert's comment you will find out what characteristics and features this new and innovative product has.

We wish you enjoyable reading.

Editors of LUXIONA Magazine

No 9 LUXIONA Magazine



- P.4 ● Rafal Wesolowski, General Director of LUXIONA Poland S.A.
- P.6 ● Summary of the Technical Conferences - in the summer season of 2016
- P.30 ● Rafal Perkowski in the Polish Championship of Supermoto in 2016 season

- P.18 ● LUXIONA Poland lighting: Railway Station 'Bydgoszcz Glowna'
- P.22 ● European Specialised Medical Centres-Korfantowska Orthopaedic and Rehabilitation KORT Ltd.,-Korfantow
- P.26 ● Artistic Zoliborz-Warsaw

- P.32 ● Characteristic of new product in LUXIONA's offer: Universal Line-energy saving lighting system
- P.36 ● Lighting controlling systems

str. 37 ● Recommended products from LUXIONA Poland offer

EVENTS



REALISATIONS



EXPERTS COMMENTS



PRODUCTS



We cordially invite you to visit our website www.luxiona.pl

INTRODUCTION - Rafal Wesolowski, General Director LUXIONA Poland S.A.



Rafal Wesolowski
General Director of LUXIONA Poland S.A.

DEAR CUSTOMERS,

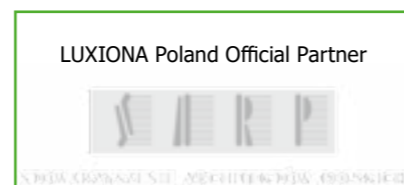
I am very delighted to meet You again in the new issue of our LUXIONA Magazine. We have just finished consecutive series of summer conferences which we organize each year for our customers and we would like to share immediately our impressions of this event with You. In this issue we are presenting our last year biggest realisation, which was lighting of Railway Station in Bydgoszcz. In the part of the Magazine devoted to product novelties, we widely introduce innovative lighting solutions such as universal line. In this issue of the magazine as usual, we present comments of our expert concerning energy saving, resulting from using lighting control system.

Traditionally, during summer time we met with our customers on Technical Conferences in Mikorzyn. Subject matter of this year trainings was targeted on newest lighting solutions of LUXIONA in LED technology exploiting modern systems of lighting control. We also showed our latest realisations and achievements in development of luminaries for clean rooms. After intensive training day there was also time for some activities and water motorsports as well as relaxation and party.

In the review of our latest realisations we would like to give You some background of our biggest design enterprise of last year that is lighting of modernised railway station in Bydgoszcz Główna. First we went through with lighting design of interiors and platforms and visualisation of elevation of the building for architectural project, compiled by company Allplan from Bydgoszcz and next we realised lighting for the whole investment. The most difficult challenge was to skillfully connect outdoor illumination of an old historic part of the station with the other buildings designed in the modern convention. Interesting lighting solutions we applied inside the building and on platforms. The final effect You can see in the further part of Magazine or when travelling by train to Bydgoszcz.



Realisation, Main Station, Bydgoszcz



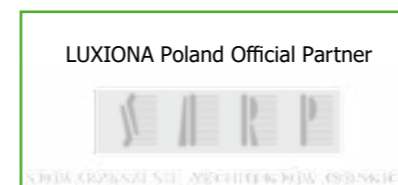
We also present few different and interesting realisations. Traditionally, these are medical buildings-this time it is European Specialised Medical Centres Korfantow. An exceptional investment which we have lit recently is residential housing estate Artistic Zoliborz, where you can live and relax surrounded by unique art.

In the part of the Magazine devoted to our new products we present functional solutions of universal line of modern design-the system built based on aluminum profiles, LED module and linear lenses, easy and quick assembly. Depending on IP level protection, the lines can be assembled indoor as well as outdoor. Universal line has a really wide range of application; we particularly recommend it for offices, industrial premises or warehouses. The solutions is also adjusted to cooperate with lighting control systems, we had an opportunity to demonstrate it for our customers during our last Technical Conference in Mikorzyn. The supplement of this part of the Magazine is an overview of recommended products from LUXIONA Poland offer-this time we recommend LED versions of luminaries such as: X, Tondo, Aruna, Rim, Harmony and Fasad Wall-all of them with a short description and an example of use.



Realisation: Artistic Zoliborz-Warsaw

In a special article our expert and Manager of Design Department Grzegorz Nowakowski talks about advantages resulting from using the light control systems. With lighting optimally adjusted to organisational needs and technical requirements energy savings might reach up to 80%. It is significant that there are circumstances connected with providing a work comfort and comfort of living, realised by using lighting control, audiovisual equipment or air-conditioning. Light control systems enable to maintain permanent, programmed norms of lighting workstations parameters in line with regulations and requirements. Practically, they give unlimited opportunity to gain various visual effects. I encourage Everybody to familiarise with possibilities which You can have thanks to lighting control. In this issue of our Magazine there is also short news coverage from Supermoto competition, in which Rafal Perkowski starts first time, the sportsperson sponsored by LUXIONA Poland S.A. and at the same time one of our best sales reps.



European Specialised Medical Centres, Korfantow



Realisation: Main Station, Bydgoszcz



Rafal Perkowski,
Supermoto rider, starting in Polish Championship of Supermoto, class S2

Summary of the summer Technical Conferences 2016 in Mikorzyn



Rafal Wesolowski
General Director LUXIONA Poland S.A.

The fourth year of Technical Conferences in Mikorzyn was exceptional from training side as well as recreational side. Once again I was able to share with our customers my passion to motor boat sports. I had a support from quite big team of employees, who I was able to enthuse with a special passion-directors Piotr Adamczyk and Michal Szybalski, sales reps Piotr Walkowiak and Dariusz Zurkowski and the Director of Design Department, Grzegorz Nowakowski. Together we tried to do our best so that our customers would remember this one of its kind day spent with us by applying them substantial kick of adrenaline and exciting fun.

This time we had really impressive stuff-three motor boats Regal 26 Express 350hp, CHAPARRAL Sunesta 244 350hp and BYLINER 215 BR 300hp and five jets ski SEA-DOO brand including RXP 300 RS, RXP-X 260 and GTX 260 Limited. Thanks to this we have guaranteed You to experience huge power and speed, possibility to soak in water on Jet Ski or admiring beautiful landscape by those who prefer sightseeing.

I believe we will meet on our conferences next year, I kindly invite you.

Michal Szybalski
Director of Production Plant

It was a great pleasure to instruct the training during Technical Conferences in terms of practical use of controlling systems in lighting projects and to present our company product novelties. Once again we hosted many interesting Customers; I conducted substantive discussions which created benefits for both sides. The greater pleasure is that in the afternoon I could take advantage of water attractions with customers. That let us to have some time of good and intensive fun together.



Piotr Adamczyk
Director of Domestic Sales

Dear all, as you know LUXIONA Poland S.A. organises Technical Conferences for its current and future customers every year. This year conferences were the fourth consecutive. 16 training series in June-August period were devoted lighting control systems. Today we all know that after installing LED luminaries the benefits are limited, retrofitting them with lighting control systems allows achieving maximum of benefits and this knowledge we were trying to pass to our Customers. We are one of the few companies, if not only one, which can comprehensively design and start basic lighting with Lighting Control System without outsourced company services. This year we have trained 850 Customers. On our Training Conferences the main customers were architectural offices, designing offices and distribution. This year distributors were present in a big number together with their key clients. We are pleased that in fact General Investors were present in a big number as well. It shows that this year subject matter of Conferences was in the focus of interest. Besides lighting control systems we presented the whole range of product novelties, taking into consideration new trends in lighting. Once again our Customers could in one place touch the luminaries; they work with on everyday basis, and exchange some experiences with the constructors and representatives from production plant. During all training panels Customers were very active it shows substantive approach towards our trainings lead by our staff. Besides substantive side our Customers participated in water sports attractions. This year the adrenaline kick was guaranteed by ski jet with power of 300 hp. At Customers disposal were also motor boats and other attractions. After water attractions we prepared Gala Dinner for our Customers. There were many surprises and rewards; one of them was barman show by World Champions. One more time I would like to thank you for so many coming. See you next year!



Bogumil Korotkiewicz
Organizator/General Director Assistant

Sixteen inimitable conferences and record number of Customers, professional technical knowledge passed on by best experts of LUXIONA Poland-professional in lighting industry. Presentation wide range of cooperation possibilities with our Customers and common benefits resulting from this, comprehensive design service supported by many lighting realisations on the highest level, lighting solutions based on newest achievements in LED technology, professional presentation of possible applications of lighting control systems on the example of LUXIONA's luminaries and unforgettable experiences during water attractions, great fun together and the evening full of surprises- I think this is the best summary of the moments that were worth to spend with us in Mikorzyn.



Eugeniusz Oleksiak
Research and Development Manager

LUXIONA's Poland Technical Conferences they are not only a mine of knowledge directly from experts. It is also exchange of experiences with people, who on daily basis install the luminaries, and also long talks with architects and lighting designers about their assortment needs. During these meeting requirements toward luminaries' producer are very high. First of all however, it is the time to establish contacts, which in the future will alleviate cooperation for both sides.



Grzegorz Grudzien
Construction Department Manager

It was for me unique pleasure to be able to hold technical based discussions, explain terms connected with the quality of LED technology among other things: LxBy, SDCM, CRI, BIN. We all know that the market is full of LED luminaries but only the knowledge of these basic concepts and technology details let us choose appropriate product. Meetings during Technical Conferences let me also talk directly with our Customers present on the market. Together we were looking for answers for striking questions which are crucial for joint projects. I thank you all for the time spent together. The Conferences in which it was pleasure to take part besides trainings and meetings I associate with sunny days and water attractions, which were under the patronage of General Director, Rafal Wesolowski as well as sightseeing picturesque surroundings. The Conferences organised by LUXIONA Poland it is also a great way to relax, de-stress, celebration and getting to know each other. Personal acquaintance alleviates later communication with business partners and helps to cooperate. All that is left are memories.

See you next year!



Grzegorz Nowakowski
Design Department Manager

I had a pleasure to introduce information related to projects standards and additional services during the presentation, which is prepared by team of Luxiona designers and who I work with every day. High interest was expressed by comparing lighting visualizations made in graphic software (3d Studio Max) and photos from realizations of these buildings. People who attended the presentations were impressed by the reflection of the lighting showed on visualizations, compared with real photos of the object which already function. All participants recognized skills and knowledge of designers from LUXIONA, quality of their work and skills to adjust proper solutions to the investment needs.



Jan Kozlowski
General Designer

The Conferences in Mikorzyn are the great opportunity to meet specialists from LUXIONA and exchange experiences with many designers, installers, constructors of luminaries as well as all of those who come to our conferences. If some of you are interested in current achievements in lighting technology and you want to learn about new trends, you should necessarily join one of the much training. After thematic parts organizers guarantee a great entertainment with a good company which allows combining business with a pleasure.



EVENTS

- 16 technical conferences
- Over 800 guests, architects, electrical designers, general contractors, distributors
- Over 50 designs of lighting luminaires
- Presentations of modern light control systems





EVENTS



EVENTS





Examples of luminaries presented at 2016 Conferences



Lighting LUXIONA Poland: Railway Station Bydgoszcz

Comments of the realisation by architect Anna Trzebinska

The project of a new building of the railway station in Bydgoszcz was a great challenge. We had to face expectations not only from Investor but also or rather first of all the main user which means residents and visitors coming to Bydgoszcz. The building was not only to be a representative function as a distinctive building but to create a correlation to existing building no 16, which was somewhat put in a form of new building.

Internal and external lighting of the building and its surrounding had to be not only functional but also aesthetic, users friendly and of course easy on the eyes. On the grounds of wide diversity projected functions it was required to apply various types of lighting (elevation, external area, representative in the part of passenger area, office on the level +3, technical); thanks to wide range of products from LUXIONA Poland it was no problem to do it.



Applied luminary: Lampas Out



Applied luminary: Lampas Out

Modern elevation, made of glass and fiber-cement panels, was irregularly crossed by linear luminaries Lampas OUT, which after the dusk give the building a lightness and character. This is strong and glamorous accent that we are pleased with.

Two-level hall of the station combines many different functions: cashier service, communication, lighting of the underground with natural light through skylight and catering part. Each of them required applying different kinds of luminaries which not only to fulfill its function but together they constitute the whole. Linear luminaries X-Line LED perfectly fit with battened suspended ceilings. In the food court (catering part with tables) among acoustic panels of suspended ceiling there are round luminaries-Rubin, which imitate further ceiling panels. On the other hand in the skylight between perforated ceiling panels we applied eye catching indirect lighting luminary VENERA MOONLIGHT. This type of luminary is usually used outside but as we can see it works also well inside.

A separate issue was to design friendly and functional external space. By the sycamore tree-a nature monument-there is a recreational part with places to rest among greenery. In the evenings, thanks to subtle use of terrain lighting and a sycamore tree, this place is getting charming and very glamorous character.

In surface finish bright light reflecting materials were applied, which additionally highlight the play between natural and artificial light in space, optically it is bigger and brighter. All of these make that interiors look modern, aesthetic and friendly at the same time.

The work on the project and next the realization of the railway station building gave us a lot of satisfaction and I think we should be proud of effects of cooperation with the Investor and the Contractor. As this year edition of the **Best Building in Pomerania and Kujawy** has shown, receiving **Grand Prix in category of public utility building/retail and service** is the proof of recognition for our work, for which we thank You. We look forward to more realizations with equally good lighting.

Anna Trzebinska
Architect



The Architecture Studio:

Enterprise of Investments
Organization AllPlan Ltd.
14 Mahoniowa Street
85-309 Bydgoszcz

Team:

Prof. Robert Barelkowski
Master of Engineering Marta Hahn
Master of Engineering Michal Beyga
Master of Engineering Wiktoria Pec



**'The Best Building of Pomerania and Kujawy' Contest
Grand Prix Award in category: of Public utility building/retail and service**

Applied luminaries: Lampas Out

●●● REALISATIONS



Applied luminaries: Tosca LED



Applied luminaries: X-Line LED, Venera



Applied luminaries: Tosca LED, Lampas Out



Applied luminaries: Flying Surface LED



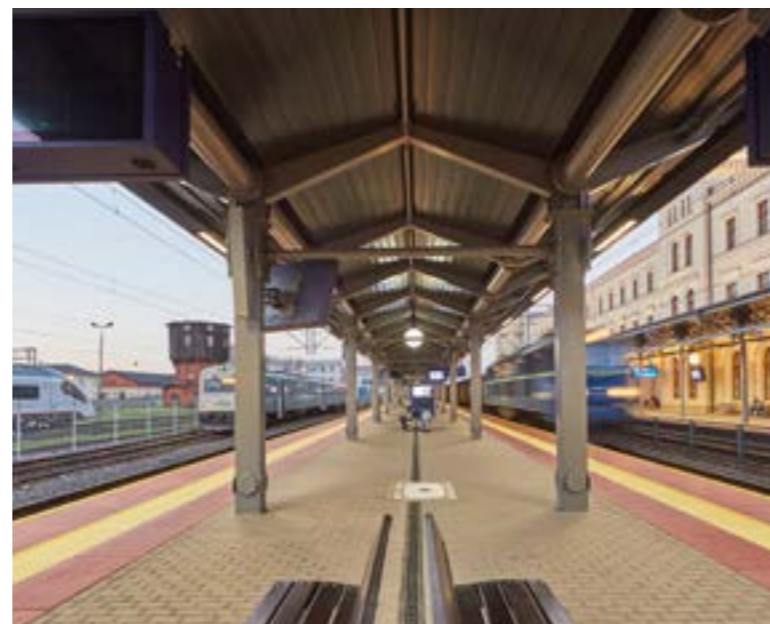
Applied luminaries: Peron Line, Lampas Out



Applied luminaries: X-Line LED, Rubin Round LED



Applied luminaries: Peron Line, Lampas Out



Applied luminaries: Peron Line



Applied luminaries: Peron Line, Lampas Out

European Specialised Medical Centres – Korfantowska Orthopaedics and Rehabilitation KORT Ltd. - Korfantow

Korfantow KORT Clinic Centre is a one of few centres in Poland, which specialises in comprehensive treatment of diseases and injuries of locomotors system. In 2015 it began its activity. Both operating rooms as well as hospital rooms are high standard of interior finish and equipment. In the operating room special luminaries well-adjusted to laparoscopy operations or with the laser use. Luminaries Agat Clean CLIP-IN PPAR SH besides classical light source they are equipped with additional fluorescent lamp emitting green light that is helpful in the mentioned surgeries.

The Centre cooperates with the most experienced specialists in the field of orthopaedics, general surgery, vascular surgery and pediatric surgery) and rheumatology. Overriding objective of KORT Clinic is to ensure the highest standards of medical health care and individual approach to every single patient.

Applied luminaries:

- AGAT CLEAN 4X18W T8 SHM E IP54 840 / TWO CIRCUITS 3+1
- AGAT CLEAN 4X18W T8 SHM ED IP54 940
- AGAT CLEAN 4X18W T8 PPAR SH E IP65 840
- X-WALL K9 1X14W T5 PLX E IP44 24 840



Applied luminaries: Agat Clean CLIP-IN PPAR SH



Applied luminaries: Agat Clean CLIP-IN PPAR SH



Applied luminaries: Agat LED



Applied luminaries: Agat Clean CLIP-IN PPAR SH



Applied luminaries: Agat LED, Beryl LED K



Applied luminaries: Agat Clean CLIP-IN PPAR SH



Applied luminaries: Agat Clean SHM



Applied luminaries: Rubin LUX PLX



Applied luminaries: Rubin, X-wall K9



Applied luminaries: Agat LED



Applied luminaries: Agat LED



Applied luminaries: Agat LED



Applied luminaries: Agat LED



Applied luminaries: Agat LED, Beryl LED K

Artistic Zoliborz – Warszawa



Applied luminaries: Kubik LED

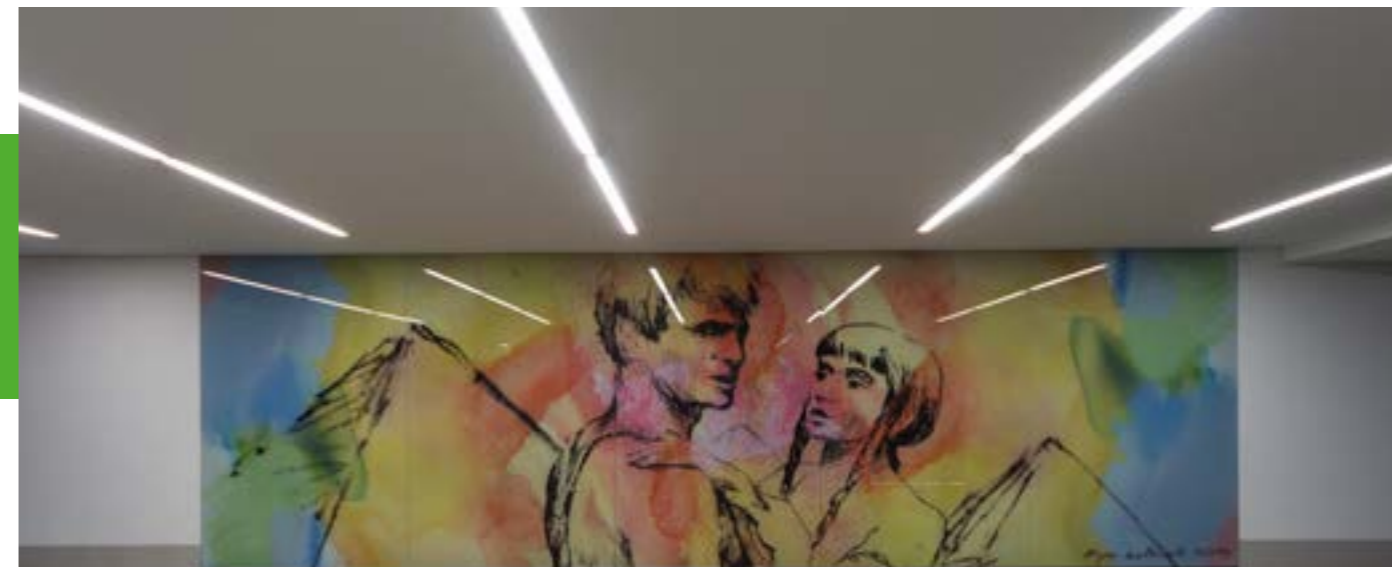
Artistic Zoliborz it is not only the square of Czeslaw Niemen but also an exclusive apartment building, eye catching idea and realization. The interior of the building is designed the way that the user feels special.

Artistic Zoliborz it is a modern residential housing estate with coherent architectural vision. Functional apartments, unique urban concept and possibility to live in the surroundings of art, created by artists from Zoliborz make this place on of its kind.

Common space is incredibly elegant and perfectly finished. 20-metres chandelier, floors are lined with soft carpeting and wallpapers on walls create exclusive and at the same time cosy interior, which can be admired from glassed lift.



Applied luminaries: X-Line G/K



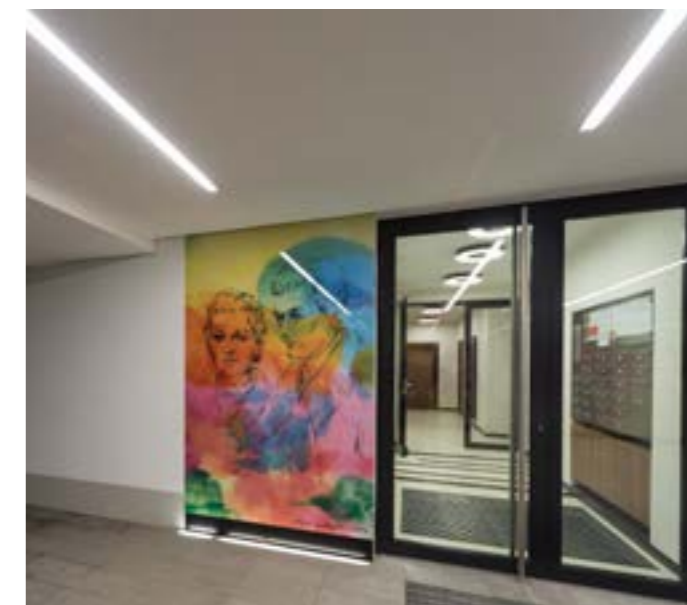
Applied luminaries: X-Line G/K



Applied luminaries: X-Line G/K, Lightmotiv



Applied luminaries: X-Line



Applied luminaries: X-Line G/K, Ring N

●●● REALISATIONS



The apartments are exceptionally sunny spaces, available in many different sizes. Regardless the size they are spacious and easy to arrange. Big windows ensure comfortable daylight.

Prestigious address, cosy neighbourhood, water, all of this surrounded by city art. This is the place where you can rest in peace, enjoying at the same time the vicinity of the city. Nearby there are shopping centres CH Kliff and CH Arkadia as well as prestigious buildings and restaurants-Defabryka, Duchnicka Street, Burakowska Street. Indispensable service-retail premises and recreational facilities are located on the estate. The vicinity of S8 Express Road and Warsaw metro station enables quick transportation in the city of Warsaw.

The apartment building was designed by well known architectural office Maka Sojka-the design and the building were awarded many times (Eurobuild Awards2012, Construction and Investment Journal, SARP) The design realizes the modernistic assumptions of designers of other part of the district. The inspi-



Applied luminaries: Kubik Pole ODB LED



Applied luminaries: Ring N, X-Wall K9



Applied luminaries: Ring N

ration were exceptional artists who lived in Zoliborz for instance, Kalina Jedrusik, Jerzy Kawalerowicz, Stanislaw Dygant. On the estate you can find sculptures, murals, paintings and photos related to their work. The name of the estate underlies historic trend of Zoliborz nomenclature and joins Officer, Clerical and Journalistic Zoliborz.

The investment began in May 2013. The finishing of the construction is planned by the year 2019. The whole project was divided into eight independent colonies as a target consisting of 13 buildings so it means 1700 apartments.



Applied luminaries: Saturn

LUXIONA Poland Luminaries Applied in the Project:
 External Lighting: Kubik LED, X-Line G/K, Kubik Pole ODB LED
 Internal Lighting: Ring N, X-Wall K9, the emergency luminary Ruta N, Saturn, X-Line



Applied luminaries: Kubik Pole ODB LED

Rafal Perkowski in Polish Championship of Supermoto 2016!

Supermoto is a kind of motor sport which connects features of motocross and street racing taking place on both kinds of surfaces. This year Rafal has been promoted to Supermoto Polish Championship in class S2. Have a look how he has managed!



Behind us there are six rounds planned for 2016. We were with Rafal twice in Bydgoszcz, Poznan and three times in Koszalin.



In General Classification of 2016, Rafal was in 11th position. Direct competitors for him were the fastest riders from Poland, Latvia, Germany and Czech.



In my debut in Polish Championship helped me not only well worked winter season but also motorbike Husqvarna FS 450 in 2016 specification, which suits me perfect. At this point I would like to thank for support which I get from LUXIONA Poland in the implementation of my dreams and passion-Rafal Perkowski.



troll

MOONLIGHT⁺

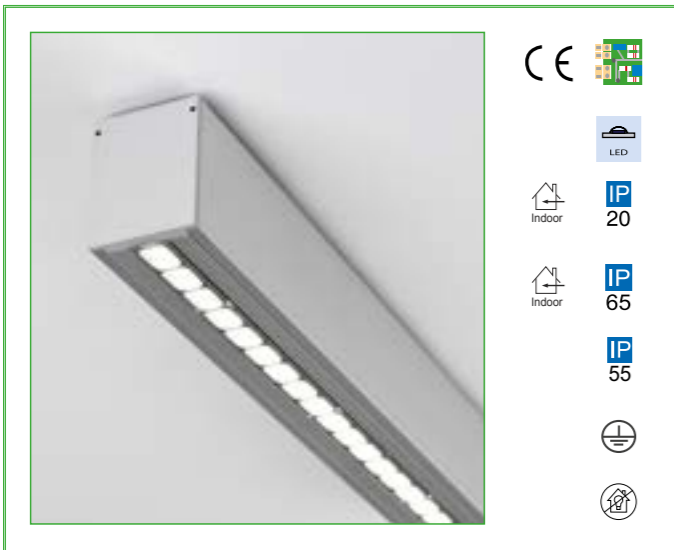
heper⁺

metalarte

Sagelux

UNIVERSAL LINE

ENERGY SAVING LIGHTING SYSTEM



LED technology has introduced to lighting industry a lot of freedom in creating new shapes of lighting luminaries by miniaturisation of light sources. Additionally, LED light sources have much better luminous efficacy than traditional light sources. These two and many more advantages of LED light sources allow creating such luminaries as Universal Line. **This lighting luminary is designed in such a way to reduce the time required to install a single luminary or to create lighting line.** It significantly allows reducing costs of lighting installation for particular investment. The luminary is available with different diffusers (PLX, MICRO-PRM, lenses of different light distribution angle), and different IP index (IP20, IP55, IP65), as well as version for surface mounted luminaries or suspended ceilings of different types. In the luminary LED light sources of 160 lm/W were applied, mounted on aluminum bases which help to dissipate heat from LED diodes. This, in turn translates to greater endurance - 60 000 h with index L70/B50. Below we present the analysis of the replacement of traditional lighting (fluorescent lamps T5) for Universal Line in high bay warehouse.

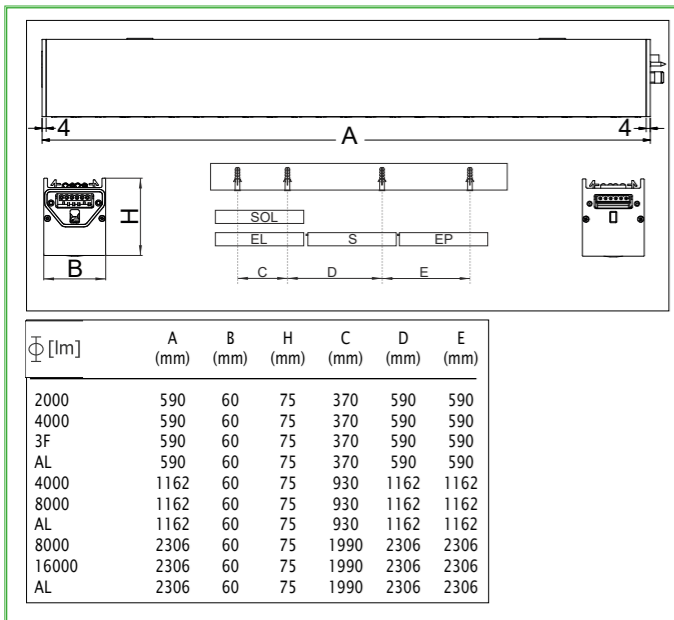
SPCIFICATIONS

TYPE	LED Power	Luminary Power	LED Flux	Available light colour: 830/840
UNIVERSAL LINE LED SOL	18 W	19 W	LED 2000	☐
UNIVERSAL LINE LED LINE-EL	18 W	19 W	LED 2000	☐
UNIVERSAL LINE LED LINE-S	18 W	19 W	LED 2000	☐
UNIVERSAL LINE LED LINE-EP	18 W	19 W	LED 2000	☐
UNIVERSAL LINE LED SOL	32 W	36 W	LED 4000	☐
UNIVERSAL LINE LED LINE-EL	32 W	36 W	LED 4000	☐
UNIVERSAL LINE LED LINE-S	32 W	36 W	LED 4000	☐
UNIVERSAL LINE LED LINE-EP	32 W	36 W	LED 4000	☐
UNIVERSAL LINE LED SOL	64 W	68 W	LED 8000	☐
UNIVERSAL LINE LED LINE-EL	64 W	68 W	LED 8000	☐
UNIVERSAL LINE LED LINE-S	64 W	68 W	LED 8000	☐
UNIVERSAL LINE LED LINE-EP	64 W	68 W	LED 8000	☐
UNIVERSAL LINE LED SOL	128 W	138 W	LED 16000	☐
UNIVERSAL LINE LED LINE-EL	128 W	138 W	LED 16000	☐
UNIVERSAL LINE LED LINE-S	128 W	138 W	LED 16000	☐
UNIVERSAL LINE LED LINE-EP	128 W	138 W	LED 16000	☐
UNIVERSAL LINE LED 3F SOL	-	-	-	☐
UNIVERSAL LINE LED 3F LINE-EL	-	-	-	☐
UNIVERSAL LINE LED 3F LINE-S	-	-	-	☐
UNIVERSAL LINE LED 3F LINE-EP	-	-	-	☐
UNIVERSAL LINE LED AL LINE-S	-	-	-	☐

Technical data and guidance to the project:

- the high bay warehouse with spanner flats of an area of 7781 m²,
- required illuminance on working surface is 200 lx,
- intelligent lighting control system,
- the height of the luminary's installation is 11m,
- the high bay warehouse consisting of 20 aisles between high bay racks; at the beginning and at the end of each aisle there are movement sensors installed in the case of movement detection luminaries brighten up to 100 % of luminous flux; in other situation luminaries shine 20 % of luminous flux,
- warehouse has eight forklifts so maximum eight aisles between racks can be illuminated by 100 % of luminous flux the rest of 12 aisles are darken up to 20 % of nominal flux,
- above spanner flats there are skylights which allow daylight into the warehouse.

DIMENSIONS



The analysis shows that time of cost return after buying Universal Line is 18 months for the existing warehouse, where traditional technology of light sources (light sources T5) are installed. The calculation is based on the cost savings of electricity and is based on costs connected with lighting system maintenance. After this period of time the lighting system will bring considerable savings for the user. This state of affairs is a consequence of radically different power installed in this building for these two solutions; traditionally based solution - 71,25 kW, instead the Universal Line system - 13,59 kW. Assuming that cost of electric energy is PLN 0,55 for 1 kW so yearly bills should be PLN 342 342,00 - traditional technology and PLN 65 292,43 respectively for Universal Line.

It looks different in the case of a new warehouse when we consider the installation of traditional lighting system (fluorescent lamps T5) or LED technology modern lighting system (Universal Line). In this situation we have to include the costs of purchasing one of these two solutions. In such situations the return of the costs of purchasing LED technology luminaries is 11 months of energy saving. In both cases the lighting is managed by control system based

on DALI protocol including movement and light sensors. It allows maintaining appropriate value of illumination intensity on working surfaces depending on part of the day and the exploitation of aisles between racks.

about economics-we use better and cheaper technology and it has positive influence on the environment. Luminaries made in LED technology thanks to low energy consumption are contributing to limit the energy production; in turn it directly influences the emission of carbon dioxide which is harmful for the environment.

Obviously, values presented here are for particular building but it allows describing certain tendency which is implemented by modern LED technology luminaries.

Furthermore, modern LED solutions are completely free from harmful substances such as mercury and they also do not emit UV and infrared radiation.

Speaking about profits we should mention that it is not only

UNIVERSAL LINE ENERGYSAVINGS CALCULATIONS/CONTROLLING/RESULTS

Description	LED DALI	STANDARD
Power installed [kW]	13,59 kW	71,25 kW
Yearly cost of energy savings [PLN]	65 292,43 PLN	342 342,00 PLN
Costs of energy during reference period [PLN]	652 924,27 PLN	3 423 420,00 PLN
Yearly cost of maintenance [PLN]	7 186,25 PLN	31 286,67 PLN
Costs of maintenance during reference period [PLN]	71 862,50 PLN	312 866,67 PLN
Purchase cost of luminaries [PLN]	455 470,00 PLN	171 760,00 PLN
Yearly savings [PLN]	301 149,99 PLN	

Time of return cost when replacing luminaries for new LED DALI light sources

18 months

Time of cost difference return between purchasing costs of LED DALI vs. STANDARD luminaries

11 months

TECHNICAL SPECIFICATIONS OF STANDARD LUMINARY:

Type of luminary	NEPTUN PC 2X80 W T5 NARROW E IP65	ATENA 400W HI-E/HS-E E40 RYFLOWANY M IP65 04
Source power [W]	80	400
System power [W]	165	450
Luminary efficiency [%]	72 %	75 %
System efficacy [lm/W]	61,09	56,67
Quantity [qty]	380	19
Power [kW]	62,7	8,55

TECHNICAL SPECIFICATIONS OF LED DALI LUMINARY:

Type of luminary	UNIVERSAL LINE LED 8000LM OPTICS-2 EDD 24 IP20 840 / L-1200	ATENA LED 30000LM SH EDD IP65 750
Source power [W]	28	33,66
System power [W]	60	227
Luminary efficiency [%]	88 %	93 %
System efficacy [lm/W]	117,33	124,51
Quantity [qty]	112	19
Power [kW]	6,72	4,313

DALI CONTROL SYSTEM

Type of device	Industrial MovementSensor	Industrial BrightnessSensor	Light Controller IP/DALI W 2CH
	186311	186370	186485
Quantity [qty]	40	5	3

INPUT DATA USED FOR CALCULATIONS

Description	LED	OTHERS
Reference period [yrs]	10	10
Daily working hours [h]	24	24
Number of days in the week [days]	7	7
Replacement period of light sources [yrs]	8	1,5
Cost of light sources [PLN]	75	50
Cost of replacement + cleaning [PLN]	20	20
Price of electric energy [PLN]	0,55	0,55
Quantity of light sources	674	779

*the high bay warehouse with spanner flats of an area of 7781 m² - required illuminance on working surface is 200 lx, intelligent lighting control system, the height of the luminaries installation is 11 m. The high bay warehouse consisting of 20 aisles between high bay racks; at the beginning and at the end of each aisle there are movement sensors installed in the case of movement detection luminaries brighten up to 100 % of luminous flux; in other situation luminary's shine 20 % of luminous flux. Warehouse has eight forklifts so maximum eight aisles between racks can be illuminated by 100 % of luminous flux the rest of 12 aisles are darken up to 20 % of nominal flux. Above the spanner flats there are skylights which allow daylight into the warehouse. There are also 5 light sensors which darken or brighten luminaries depending on how much daylight gets inside through the skylights. Standard Luminaries-Neptun PC 2x80W T5 NARROW E IP65-380 pcs, ATENA 400W HI-E/HS-E E40 TEXTURED M IP65 04-19 pcs LED DALI Luminaries-UNIVERSAL LINE LED 8000LM OPTICS-2 EDD 24 IP20 840/L-1200-280 pcs, ATENA LED 30000LM SH EDD IP65 750-19 pcs Industrial Movement Sensor-186311-40 pcs, Industrial Brightness Sensor-186370-5 pcs, Light Controller IP/DALI W 2CH-186485-3 pcs **Luminaries applied in darken aisles - 20 % of nominal flux.

Universal Line

- Classic design
- Energy saving LED module
- Possibility to expand the system
- Possibility to apply single version of luminary (solo)



Possibility to connect luminaries in line

Built on the aluminum basis

Colour-neutral anodized aluminum

Simple and quick installation of surface mounted and suspended versions of luminary



Lighting control systems

Modern lighting, especially which is exploiting LED technology nowadays cannot function without appropriate control systems. Most of produced systems work exploiting digital controllers and proper sensors.

Applying the control system ensures few basic advantages:

- obtaining significant savings of energy,
- refinement of using the lighting,
- increasing the comfort,
- adjustment of lighting to work requirements,
- meeting the requirements of people who are present or work in rooms etc.

We know the specifications relevant to excellent effects in terms of energy saving which we obtain thanks to LED lighting. Unfortunately little is spoken about energy saving by implementation of control systems.

Controlling based on motion mechanism is used commonly. One of the applications is to turn off the luminaire in the situation if there is nobody in the room. Movement sensors are also used in order to turn on the luminary as well as to sustain it in an active mode. Manual setting of the light level reduces the consumption of energy and is more adjusted to people requirements which give higher comfort of staying in rooms. It requires application of many sensors in one system equipped in infra-red mechanism as well as microwaves and ultrasounds.

Other way to save energy is exploiting natural light in premises during the day. In well designed buildings it gives savings up to 80%. Simultaneous exploitation of both mechanisms gives higher efficacy and modern controllers allow programming both functions.

Currently, applied sensors have built-in multi-sensors which allow to detect the motion and to measure the illuminance. Thanks to sending the information simultaneously, the sensors allow to increase the efficiency of lighting system operation and decreasing the number of controlling elements.

It is difficult to imagine such premises as conference rooms, lecture rooms, operating rooms and many more without appropriate lighting control systems. LED luminaries with built-in diodes are currently being more and more popular they allow colour adjustment of the light in the range 'warm-cold'. Particularly useful effects of applying this type of lighting were proven in health care (patients who permanently stay in hospitals rooms) and education (children attending schools). Hopefully, in a short time it will become a standard in modern office buildings. In a meantime, there are voices saying that there is negative influence of control system on LED light sources. The situation is different-caused by control system systematic decreasing of lighting level as a consequence is favours the extension the lifespan of LED diodes. Thereby, it increases the lifespan of the luminary giving additional economical effect.

Until recently, the problem has been to install the control systems. It required purchasing expensive controllers and extensive technical knowledge. Currently more we are offered simple and definitely cheaper controllers with universal sensors, factory fitted into luminaries.

This tendency is causing that more technologically more advanced lighting producers e.g. LUXIONA Poland, at the same time propose high quality luminaries and numerous options of control systems to choose.

Jan Kozlowski,
Chief Designer Luxiona Poland



Recommended products from LUXIONA Poland



X LED

Surface mounted luminaire or suspended equipped with highly efficient LED light sources, dedicated for interiors where the main goal is achieving incredible decorative effect. Product is characterised by very original shape and unusual universality of use. Upon request luminaires body and diffuser can be made in any colour of RAL range. Thanks to this it can suit any interior design. Perfectly even light emitting surface is made of very good light transmittance factor material as well as good diffusion characteristics. Luminaire is dedicated for galleries, museums, offices, clubs, restaurants and hotels. It gives the possibility of modern interior arrangement. Luminous flux of light source 5200 lm or 8800 lm. The colour temperature 3000 K or 4000 K.



Tondo LED

Surface mounted luminaire or suspended equipped with highly efficient LED light sources, designed for stylistic required interiors. Product is characterised by exceptional, simple and elegant form of design. Perfectly even light emitting surface is made of very good light transmittance factor material as well as good diffusion characteristics. Luminaire is dedicated for galleries, museums, offices, clubs, restaurants and hotels. It gives the possibility of modern interior arrangement. Product is available in four options of dimensions and diameters: 682, 800, 1200 and 1600 mm. Luminous flux of light source: 4400, 7200, 9700, 11700, 9200, 18400 or 25000 lm. The colour temperature 4000 K.

Recommended products from LUXIONA Poland



Aruna LED

LED luminary dedicated to be mounted on suspended modular ceilings, cardboard suspended ceilings (using adaptive frame), directly on the ceiling (using ceiling slab) or using slings. Equipped with highly efficient LED light sources. Light distribution available with modern lenses. Housing made of steel sheet. Standard colour of the luminary is white. Significant diversity of the value of luminous flux. Two variants of LED sources colour temperature are available; 3000 K (white warm) or 4000 K (white neutral). Colour rendering index CRI> 80. Thanks to its innovative optics Aruna LED perfectly fits to be used in offices-especially to work with computers.



Rim LED

Modern LED panel for installation in suspended ceilings, directly on the ceiling or using the slings. Equipped with the highly efficient LED sources. Luminaire body made from aluminum. PMMA opal diffuser. Colour of luminary - metallic light grey. Beam angle: 120°. The light stream of the LEDs used is 3800 lm. Its color temperature is 3000 K (warm white color) or 4000 K (neutral white color). CRI>80. Maximum SDCM=6. Luminary dedicated for the public use structure like offices, conference rooms, classrooms, lecture halls etc.



Harmony LED

Modern, energy saving luminary, equipped with highly efficient LED light sources. Product with high light parameters and subtle construction perfectly matches to representative facilities. Luminary adjusted to be mounted on slings (slings included). The housing of the luminary made of aluminium profile. Standard colour of the product is grey. The construction of the luminary allows distributing the light to lower and upper half-space. Luminous flux of LED light sources is: 6900, 7800, 8200 or 10000 lm. Colour temperature 3000 K or 4000 K. Colour rendering index CRI>80. The luminary equipped with ignition system adjusted to work in DIM DALI system.



Fasad Wall LED

Weather proof powder painted aluminum housing. Clear stainless steel diffuser. Luminaire is equipped with adjustment allowing proper light flux operation. LED panels are applied as light sources. RGB version of this luminary is available. The luminaries can be attributed to one group and can light the same way or they can receive distinct addresses and operate in an individual manner. Recommended for walls and solid base. Fasad Wall LED is dedicated to illuminate walls of architectural objects.



OFFICE OF THE MANAGEMENT BOARD / TRADE OFFICE:

LUXIONA Poland S.A. Macierzysz near Warsaw
ul. Sochaczewska 110, 05-850 Ozarów Mazowiecki
sekretariat@luxiona.com

www.luxiona.pl
www.luxiona.com

EXPORT DEPARTMENT:

BE, FR
+ 48 604 442 101
export@luxiona.com

NL, LU, SE, NO, DK, IS
+ 48 600 967 210
export@luxiona.com

LT, LV, EE, FI, GB, IE, ISR, HU, RO
+ 48 600 987 439
export@luxiona.com

DE, AT
+ 48 602 137 973
export@luxiona.com

DE
+ 49 172 6399922
+ 49 179 9655034
info@luxiona.de

DESIGN DEPARTMENT:
+ 48 22 721 72 29
+ 48 600 460 144
projektanci@luxiona.com

LUXIONA Poland is part of the Spanish LUXIONA Group, which for more than 80 years has been successfully operating on the international market of the lighting industry. The mission of LUXIONA Poland is to create complementary lighting solutions, in accordance with the most recent technologies as well as legal and social requirements. For that reason, an active team constantly works on innovative technical solutions, keeping in mind the need for saving energy and protecting the environment. The team does not cease to enhance the quality of our products and the efficiency of our services, permanently analyzing the needs of our Customers.

The LUXIONA Group, including LUXIONA Poland which continues to implement the Group strategy, specializes in the composition and creation of indoor and outdoor lighting systems, basing on the vast experts' experience and the broad scope of product brands. An integral part in the offer of LUXIONA Poland are comprehensive lighting solutions, which cover both the production and design services, in the widest sense of the word, delivered by high class designers and ready to meet the requirements of, among others: architectural spaces, areas in the so-called clean rooms, commercial surfaces etc. The LUXIONA Poland team specializes in implementing projects which require an individual approach and the application of modern technologies.