



# Case Study

Palace of Culture  
and Science

Warsaw \_ Poland

 **GRIVEN**  
world lighting challenge

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## Warsaw Palace of Culture and Science



- > **Category:** Architectural
- > **Location:** Warsaw, Poland
- > **Event:** Switch from a static warm white light configuration to a dynamic colour changing concept
- > **Client:** PROLIGHT sp. z o.o.
- > **Project manager:** Michał Kaczmarek - Prolight sp. z o.o
- > **Lighting Design:** GRIVEN S.r.l.
- > **Completion date:** 2012

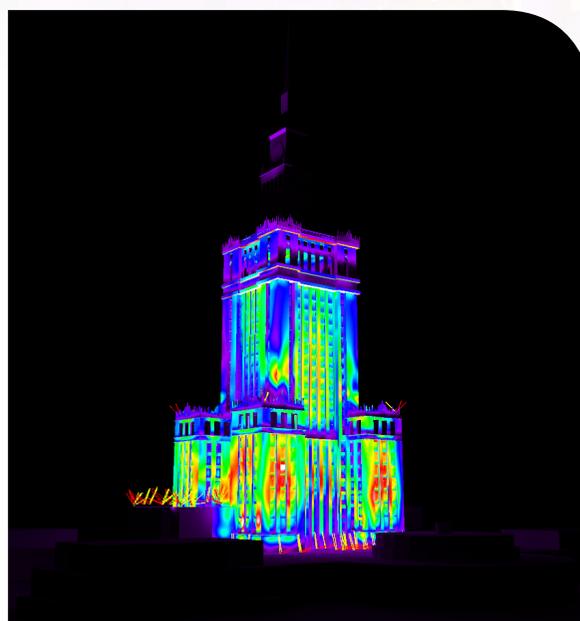
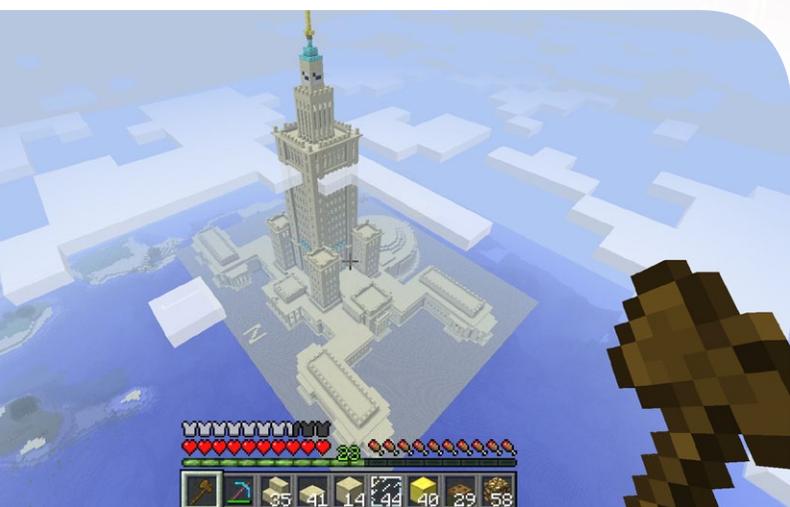
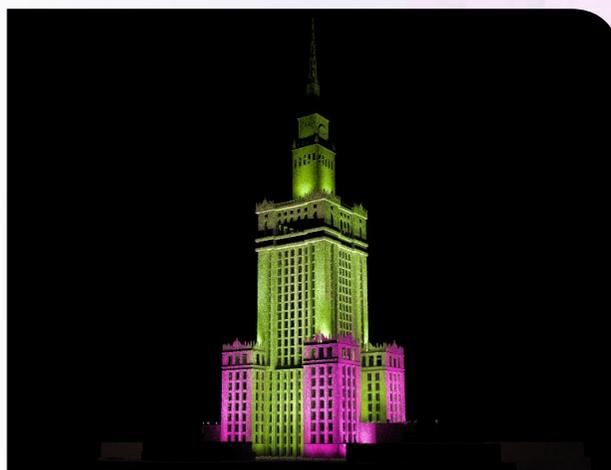
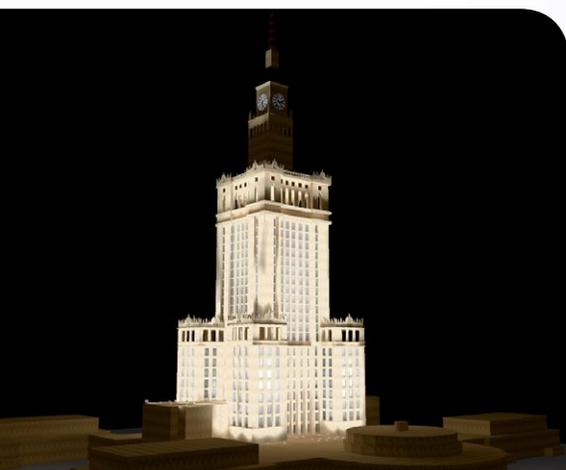
## BACKGROUND

Raised after the Second World War during the Soviet domination, Warsaw Palace of Culture and Science (in Polish: Pałac Kultury i Nauki, also abbreviated PKiN), still stands as the highest structure in Warsaw and in Poland. With its 42 floors, the 231 metres tall building currently serves as an exhibition hall and office complex and as a radio and television broadcasting centre, also hosting cinemas, theatres, museums, bookshops along with a huge conference hall accommodating 3,000 people.

## PROJECT REQUIREMENTS

In order to revive Warsaw skyline with a brush of lively colours, a challenging lighting project was developed with the EC financial support. The central tower of the building, which was previously illuminated with a white light discharge lamp system, should have been completely lit up in colours - in order to offer a more modern and dynamic lighting concept to tourists and visitors - with an energy saving, low consumption LED lighting system.

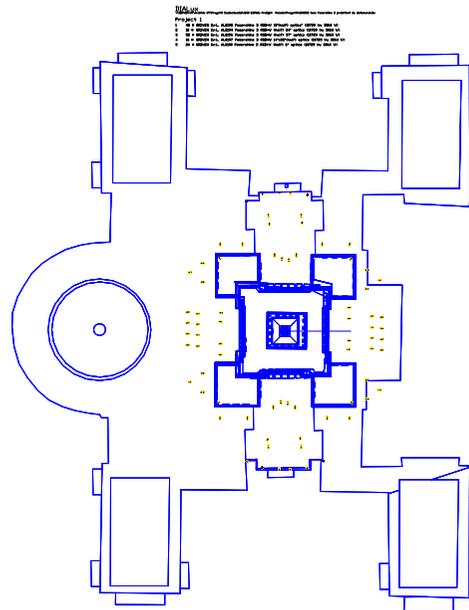
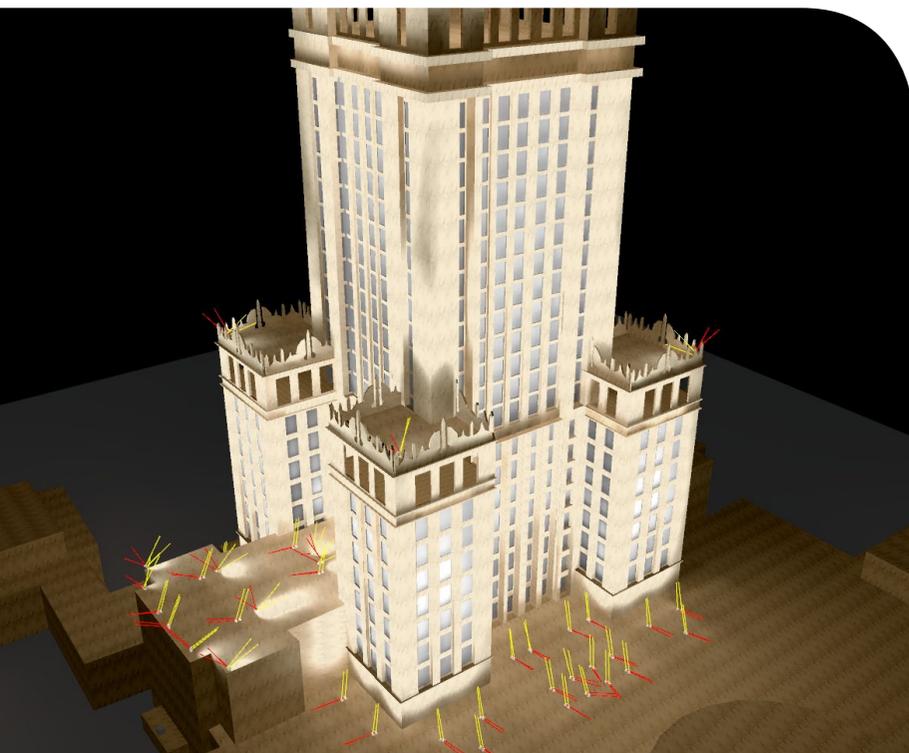
The huge lighting project was divided into two main parts, the first of which, related to the illumination of the central tower of the building, was successfully completed in February 2011, while the second part, regarding the clock spire, was completed a year after.



## LIGHTING CONCEPT

The lighting concept was developed by GRIVEN's lighting designers according to the guidelines conceived by the company in charge of the lighting installation, Prolight sp. z o.o.. In order to reach with an even colour distribution the 168 meters of the main tower building, a high power, but at the same time low consumption, eco-friendly LED lighting system was chosen, which could also endure the harsh weather conditions of the installation site.

A uniform light output was required for the main tower and side turrets, including their almost inaccessible corners. Along with a dynamic colour changing scheme in multiple rainbow colours also a single colour configuration in soft pastel tones was also recommended.



## PRODUCT INSTALLATION

When it came to selecting the ideal illumination system, which should have been capable of reaching the 168 meters of the main tower building with an even colour distribution, the choice fell undoubtedly on **Powershine D RGBW**.

A total of 55 units of Powershine D RGBW (now upgraded to the MK2 edition) were symmetrically distributed at the foundation of the main tower in order to reach the whole surface of the building on its 4 sides and on the decks of the 4 lower turrets in order to floodlight the corners of the tower that were left uncoloured owing to the physical obstacle set by the turrets themselves to the Powershine beams.

Moreover, in order to create a pleasantly unexpected light and colour contrast between the interior and exterior parts, 48 Danube 45° units were positioned within the windows of the main tower and of the four turrets.

The second part of the project, extraordinarily embellishing the upper clock turret, was finalized with an additional set of 12 Powershine S RGBW, in its dedicated Polar Edition release, combined with an array of 12 **Danube MK2 RGBW**.



OPEN VIDEO



LIGHTING FIXTURES INSTALLED

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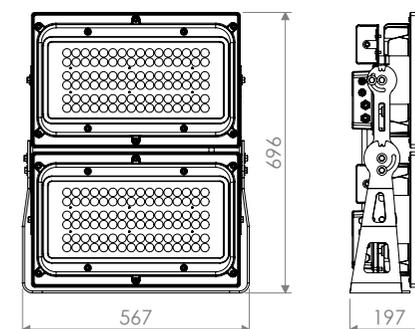
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# Powershine MK2 D RGBW

Powershine MK2 D RGBW



**Powershine MK2 D RGBW** uses a total of 192 powerful RGBW LEDs and is available with a vast choice of optics for the maximum lighting design flexibility. Owing to its double cluster configuration, which offers full independent control of each LED bank, this wall washer allows absolute freedom to create matching or divergent effects on formerly prohibitive large-scale facades and remote spots.



> **GO** TO TECHNICAL SPECIFICATIONS



# LIGHTING FIXTURES INSTALLED

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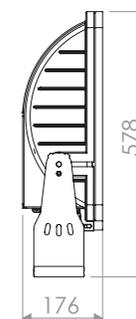
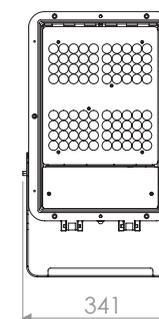
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# Danube MK2 RGBW

Danube MK2 RGBW



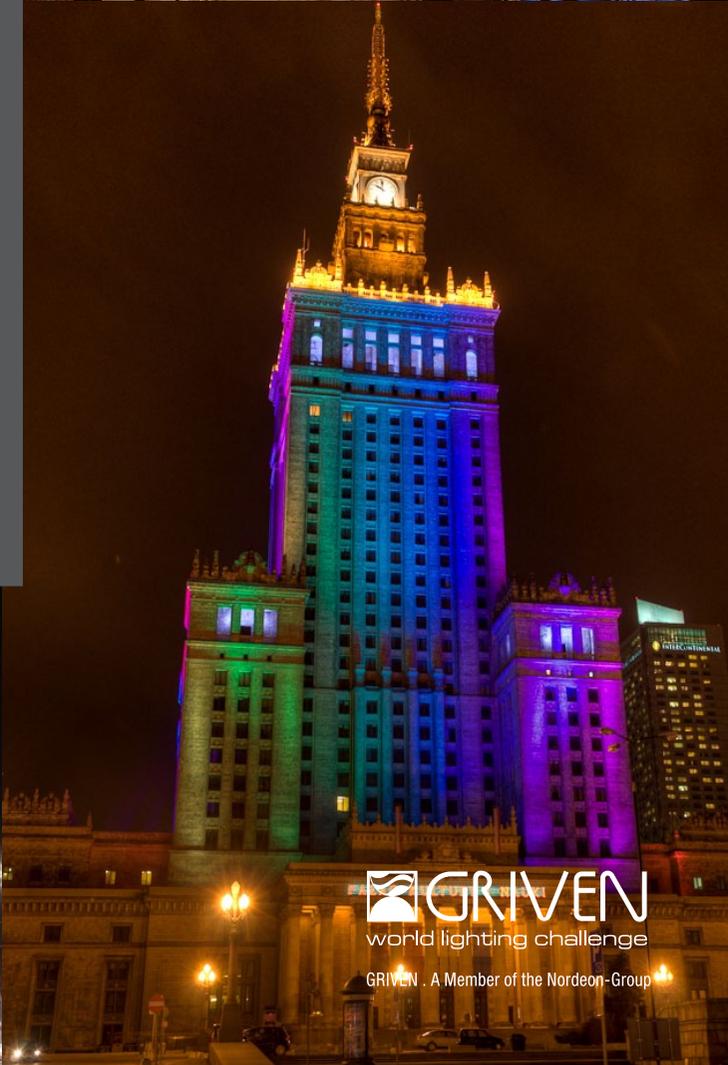
Using 80 high brightness LEDs to achieve an extremely high light output, **Danube MK2 RGBW** can be installed in any position and orientation. The combination of RGBW LEDs offers an unprecedented astonishing white light output quality, as well as a wider variety of intermediate colour hues for an even broader range of application purposes. Narrow aperture spot lenses and wide elliptical distribution are part of the wide optional selection of optics groups available in order to meet the most demanding architectural needs.





## THE KEY TO SUCCESS

- > Close cooperation between the installation company Prolight sp. z o.o. and GRIVEN lighting design department during all the project development phases.
- > Use of long throw, high power LED fixtures that could reach the top of the tower with extreme precision, even colour coverage and powerful light output.
- > Remarkable decrease in maintenance and managing costs through the installation of a low-consumption, energy saving and highly performing LED lighting system.



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