



# Case Study

Tbilisi TV Tower

Tbilisi \_ Georgia





## Tbilisi TV Tower

- > **Category:** Architectural
- > **Location:** Tbilisi, Georgia
- > **Event:** Replacement of the old lighting system
- > **Lighting designer:** Alessandro Pederzani, GRIVEN S.r.l
- > **Completion date:** 2016

## BACKGROUND

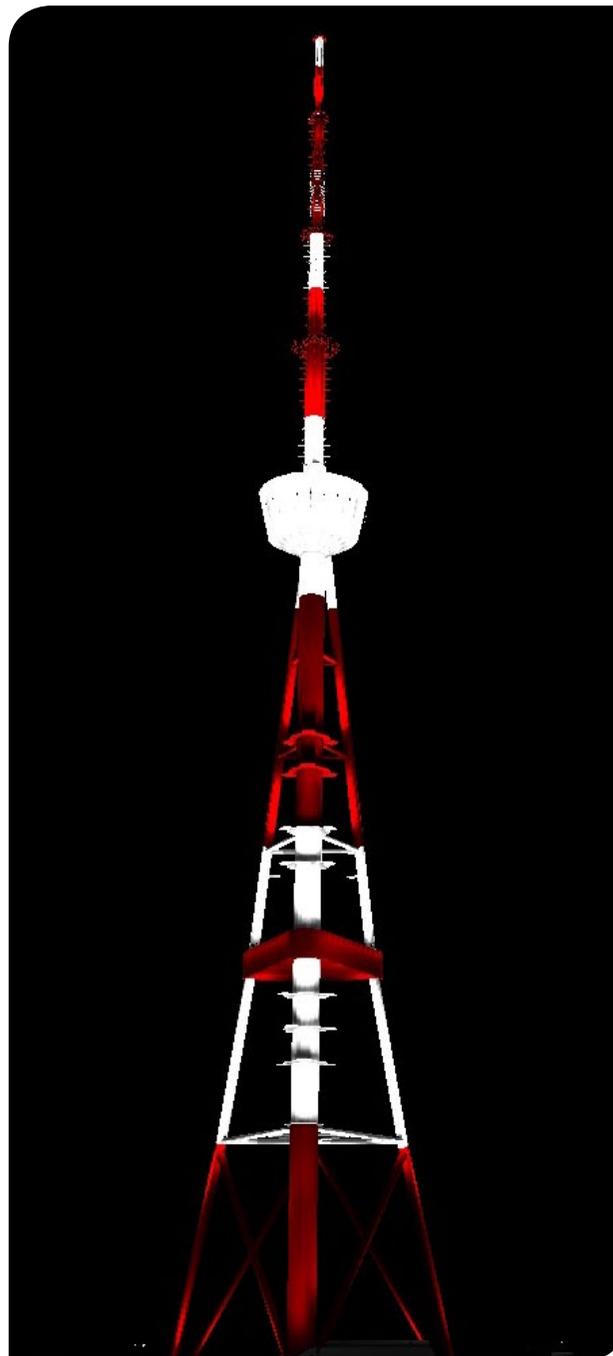
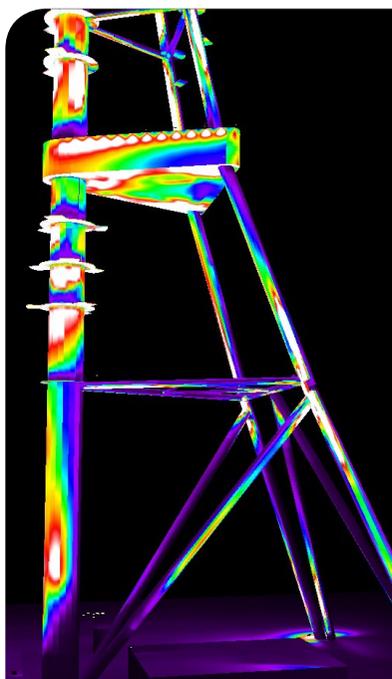
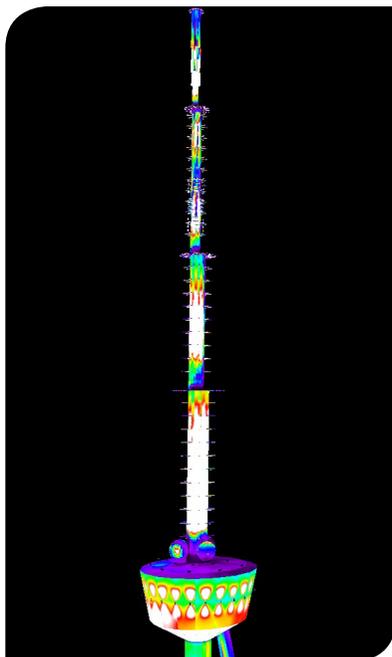
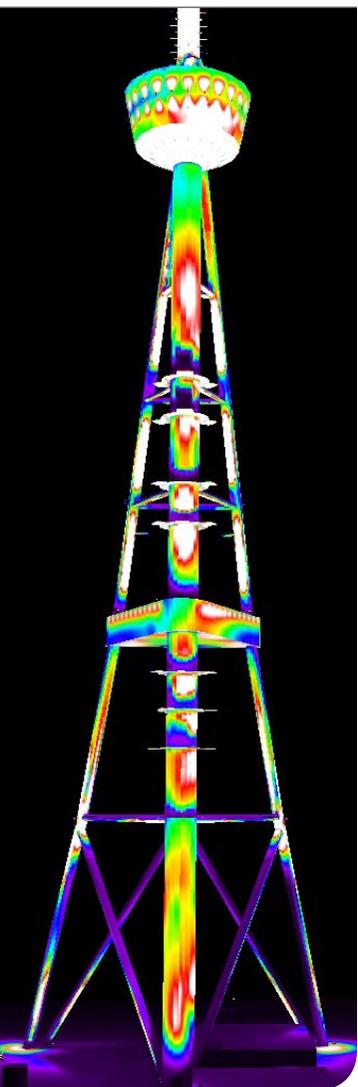
Located atop Mount Mtatsminda, Tbilisi TV tower is considered the symbol of the city and can be seen from all its main districts. Now still used for general communication and broadcasting purposes, the 274.5 m/901 ft high tower was first built in 1955 and later replaced by a new structure, which lasts since 1972.

The free-standing tower is operated by the Georgian Teleradiocenter. The communication systems installed in the control room at level 2 include regular broadcast, pager, cellular, commercial TV and amateur radio repeater transmissions even if the fast growing TV market development and the constantly increasing number of TV channels has recently caused their partial relocation to larger studios.

## PROJECT REQUIREMENTS

Tbilisi city council decided to provide the tower with a new and more effective lighting system based on LED fixtures in order to make it even more impressive and efficient at night.

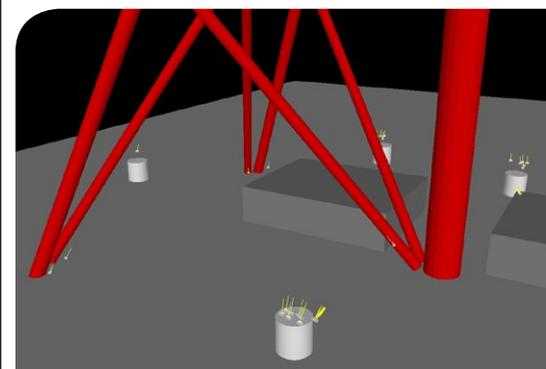
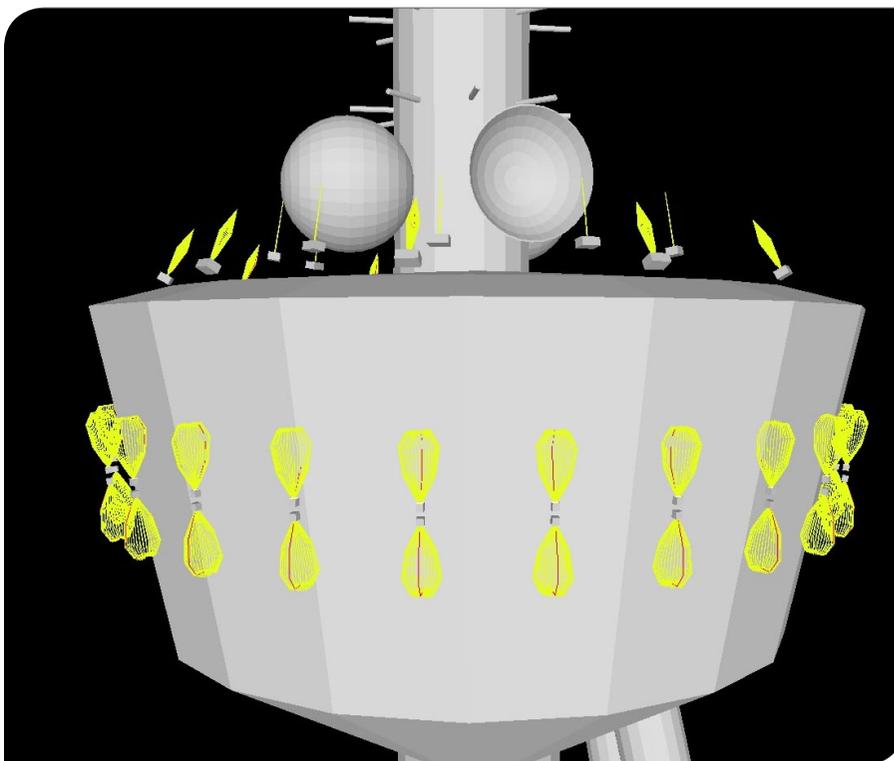
The official lighting requirements involved a highly dynamic colour changing scheme equipped with a vast choice of pre-programmed effects suitable for different social events, everyday lighting and public holidays.



## LIGHTING CONCEPT

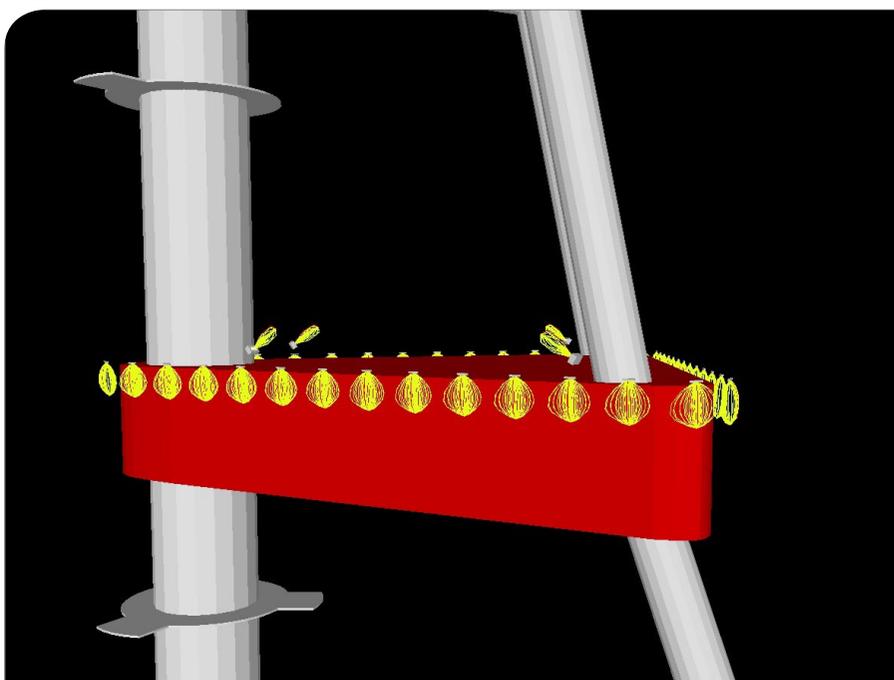
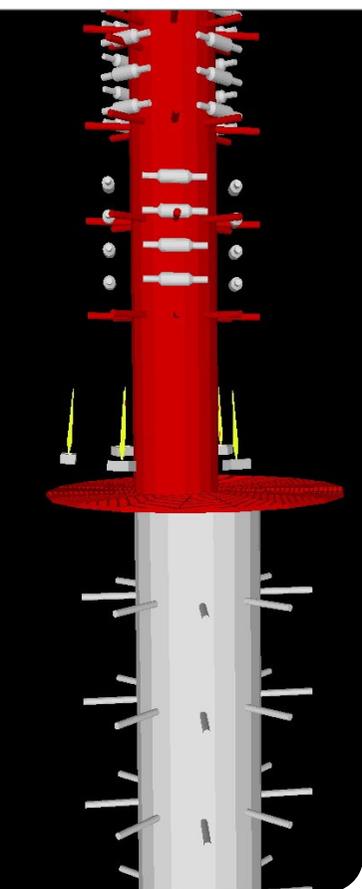
The lighting solution proposed by GRIVEN was aimed at delivering an even illumination to the metallic frame of the tower, made up of many beams and arms forming its 8 different levels.

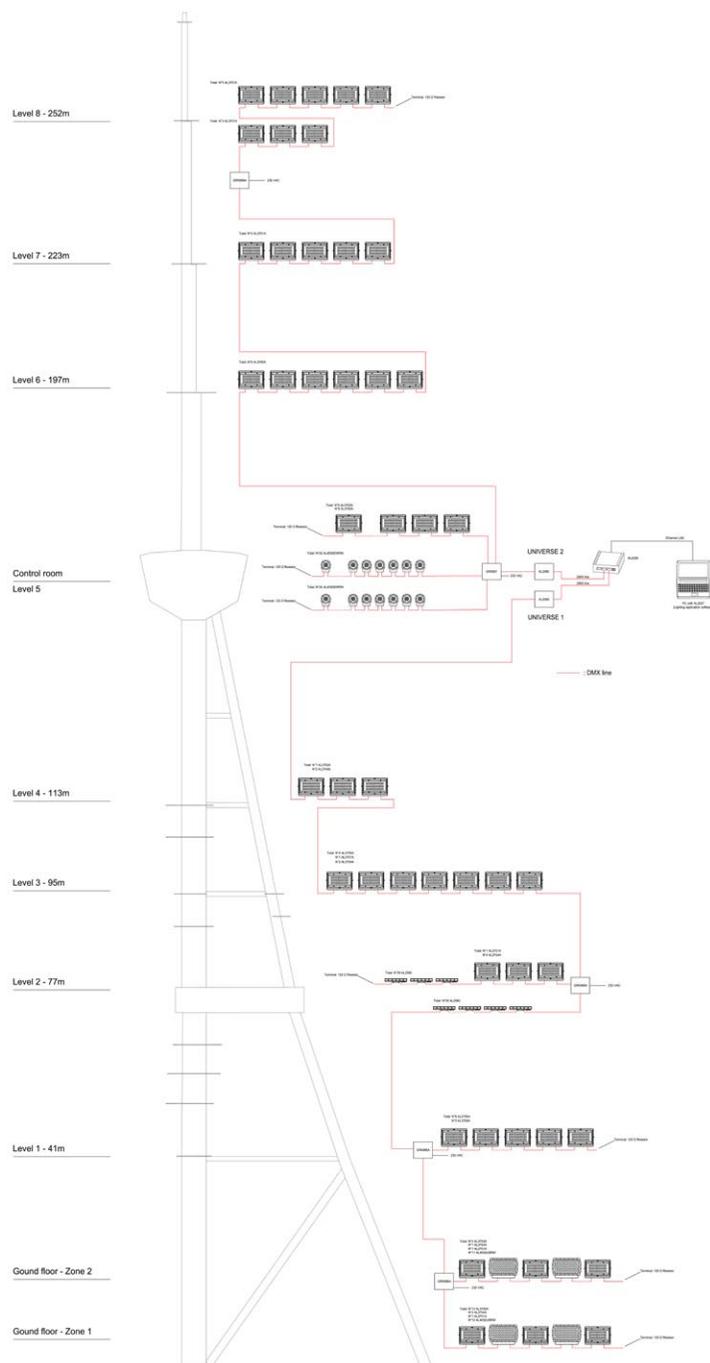
Each single metal part of the tower had to become perfectly visible at night from every point of view, lit up by a dynamic alternation of lively and bright colour scenes. After evaluating different proposals, GRIVEN's project turned out to be the best and most complete solution.



## PRODUCT INSTALLATION

83 **Powershine S MK2** in **RGBW** colour configuration, 40 **Parade S-RGBW-20**, 23 **Onyx Ultra Spot RGBW** and 48 **Jade 16 RGBW** for a total of 194 powerful LED lighting fixtures have been located both on the ground around the basement and on the 8 different levels of the tower in order to evenly light up every single part of its skeleton through a meticulous aiming job. Custom fixing brackets have been welded onto the structure in order to allow a perfect fixture disposition.





## PROGRAMMING

Along with the fixtures, we have provided also a complete programming assistance with on-site mock-ups and final installation tests. GRIVEN's lighting designers took care of the design and of the first mock-ups required to define the desired effects.

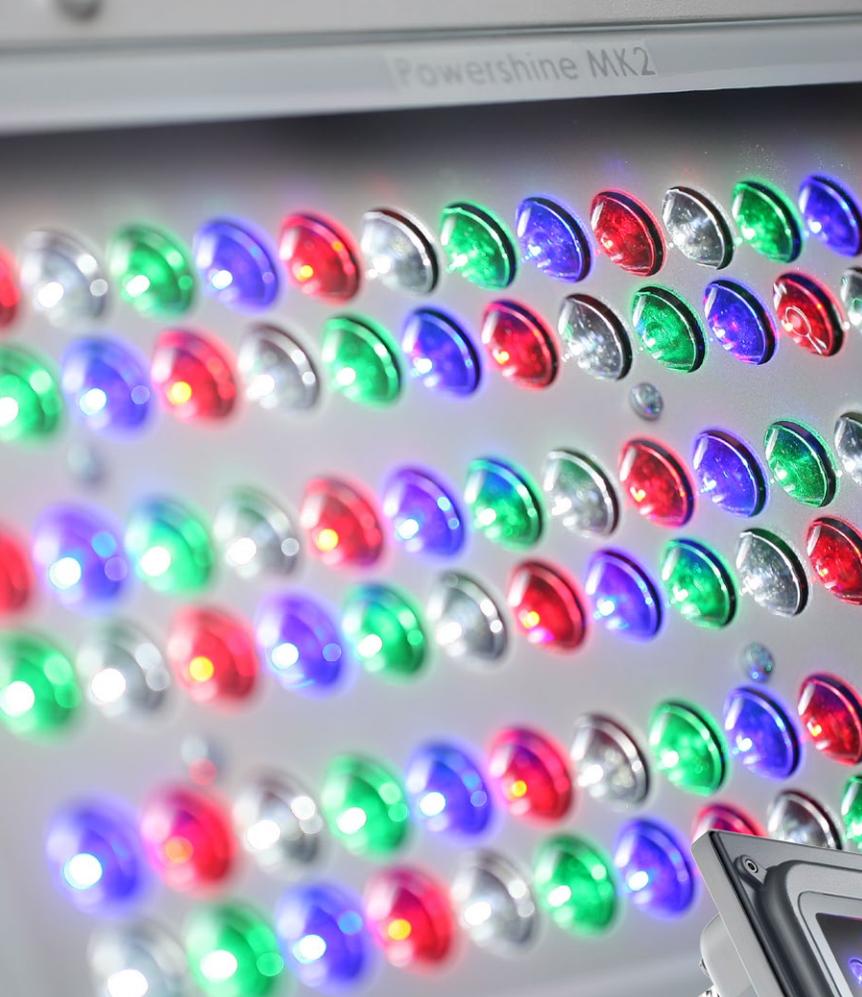
Final on-site adjustments regarding the pre-programmed colour scenes and the fine-tuning of the fixtures pointing were also necessary to allow a perfect global functioning.

Special programmes were required such as: dynamic rainbow colour scene, geometric colour changing, reproduction of national and foreign flags (of Italy to remember the cooperation with GRIVEN, and Lithuania to honor Freedom Defenders' Day Anniversary),

New Year's eve sparkling scheme, along with an alternation of fixed and dynamic colour changing effects.



# LIGHTING FIXTURES INSTALLED

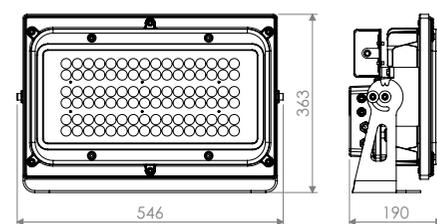


# Powershine MK2 S RGBW

Powershine MK2 S RGBW



Featuring a comprehensive selection of optics, **Powershine MK2 S** is a powerful wall washer that uses 96 RGBW, warm, cold or dynamic white LEDs. The combination of RGBW LEDs, that provides an unprecedented astonishing white light output quality plus a wide variety of intermediate colour hues, offers the maximum lighting design flexibility. The pure white light spectrum intensity management obtainable from the Dynamic White model, that adds up to the cool or warm white LEDs set-up, creates a stunning visual rendering of warm tones, natural hues and cool shades altogether, thus offering an unmatched control over the creation of a vast range of the white light chromatic scale for an even broader range of application purposes. POWERSHINE MK2 S is now available also in a new release, the Easy Edition, that comes with a light weight competitive price for budget restraint projects where DMX, colour changing and dimming options are not specified.



> **GO TO TECHNICAL SPECIFICATIONS**



# LIGHTING FIXTURES INSTALLED



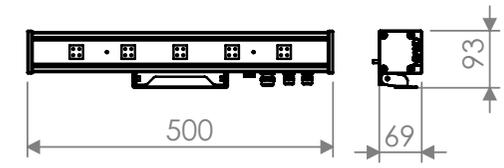
Parade S-RGBW-20



# Parade S-RGBW-20

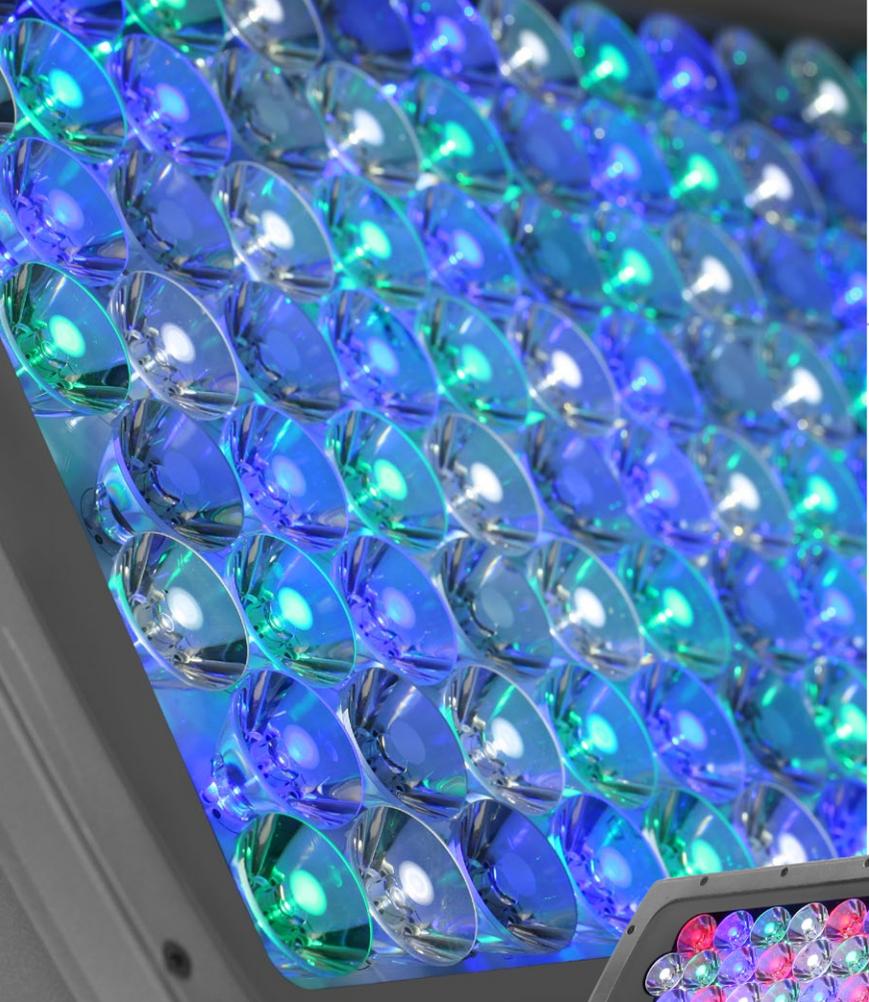
**Parade S** is a modular and adjustable super flux, high luminance bar featuring 20, 40 or 60 RGBW, warm, cold or dynamic white LEDs grouped in clusters of 4 LEDs each. Superb output with real uniform coverage even on close-up installations is provided by the newly conceived elliptical and elliptical wide optics specifically designed for true wall washing effect. The powerful luminous flux tops the standard range of similar products available on the market. 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. The pure white light spectrum intensity management obtainable from the Dynamic White configuration, that adds up to the cool or warm white temperature LEDs set-ups also available, creates a stunning visual rendering of warm tones, natural hues and cool shades altogether allowing the maximum lighting design flexibility.

> **GO TO TECHNICAL SPECIFICATIONS**





# LIGHTING FIXTURES INSTALLED



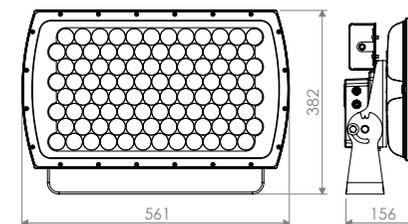
# Onyx Ultra Spot RGBW

Onyx Ultra Spot RGBW



**Onyx.** Specific for architectural projects demanding for impressive though sustainable lighting performance, the newly engineered ONYX features an incomparably functional, ultra-narrow, sharp, long-shot beam of light capable of reaching previously unthinkable distances with amazing precision and even light distribution. ONYX is fitted with a combination of 96 RGBW, cold, warm or dynamic white high brightness LEDs that provide an unprecedented astonishing light output quality. The dynamic white configuration stands out for a stunning visual rendering of warm tones, natural hues and cool shades altogether. The Polar Edition features an integrated de-icing system with electrically heated glass, which assures a comfortable functioning even in the utmost severe cold weather conditions.

> **GO** TO TECHNICAL SPECIFICATIONS

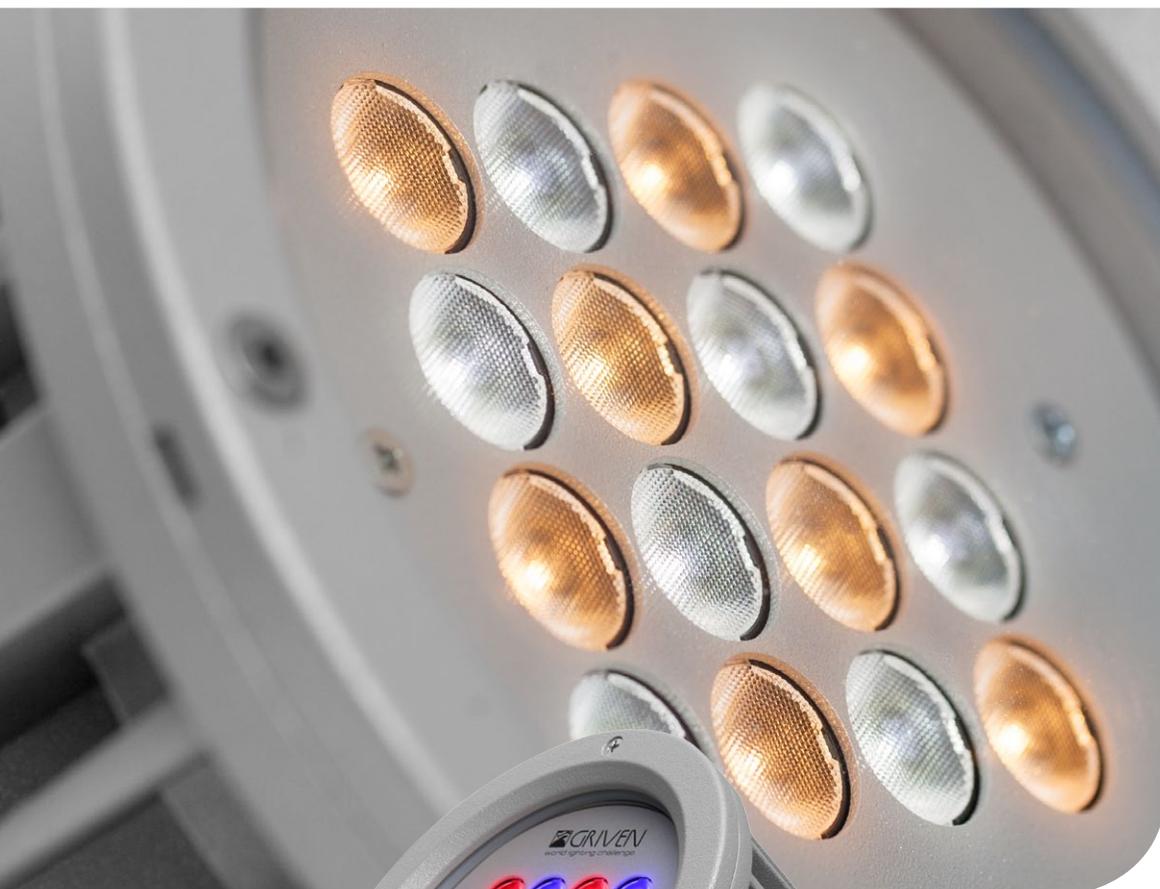




# LIGHTING FIXTURES INSTALLED

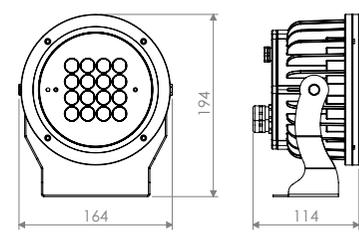


## Jade 16 RGB



JADE 16 RGB

**JADE 16** is a newly engineered rounded spotlight which houses sixteen high power RGBW, warm, cold or dynamic white LEDs, as well as in-built electronics and power supply unit. Providing a vibrant and brilliant colour palette from such a compact chassis, JADE 16 RGBW features functional efficiency whereas spectacularly dynamic lighting performance is assured by digital control of all functions, either onboard for standalone operation, with Master-Slave selectable for multiple unit synchronization, or from external DMX512 controller. The cool or warm white LEDs set-up offers an unprecedented white light output. The Dynamic White model creates a stunning visual rendering of warm tones, natural hues and cool shades altogether, thus offering an unmatched control over the creation of a vast range of the white light chromatic scale for an even broader range of application purposes. The wide choice of selectable optics groups, ranging from narrow aperture beams to elliptical wide distribution, and the aiming orientation adjustment further enhance JADE 16 maximum flexibility for any surface mount application purpose.

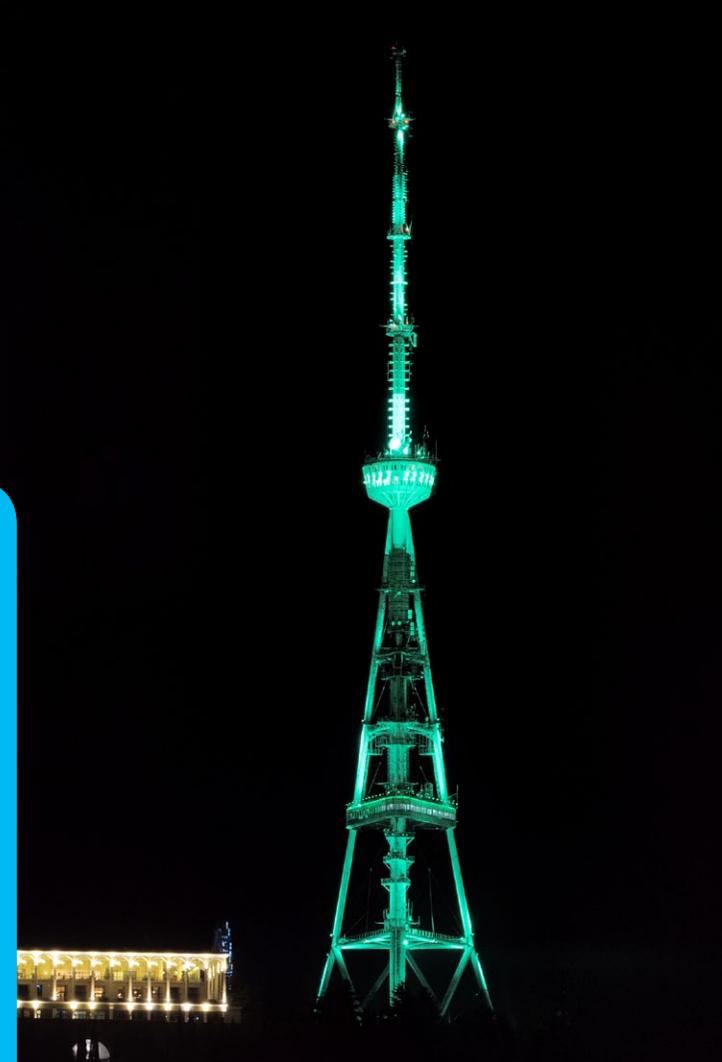


> **GO TO TECHNICAL SPECIFICATIONS JADE 16**



## THE KEY TO SUCCESS

- > Meticulous planning about the positioning and aiming of each single fixture in order to allow an even illumination of every single part of the tower.
- > Final on-site mock-ups and adjustments for a perfect final result.
- > Capability of responding in a quick and satisfying manner to all the project's prerequisites.



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