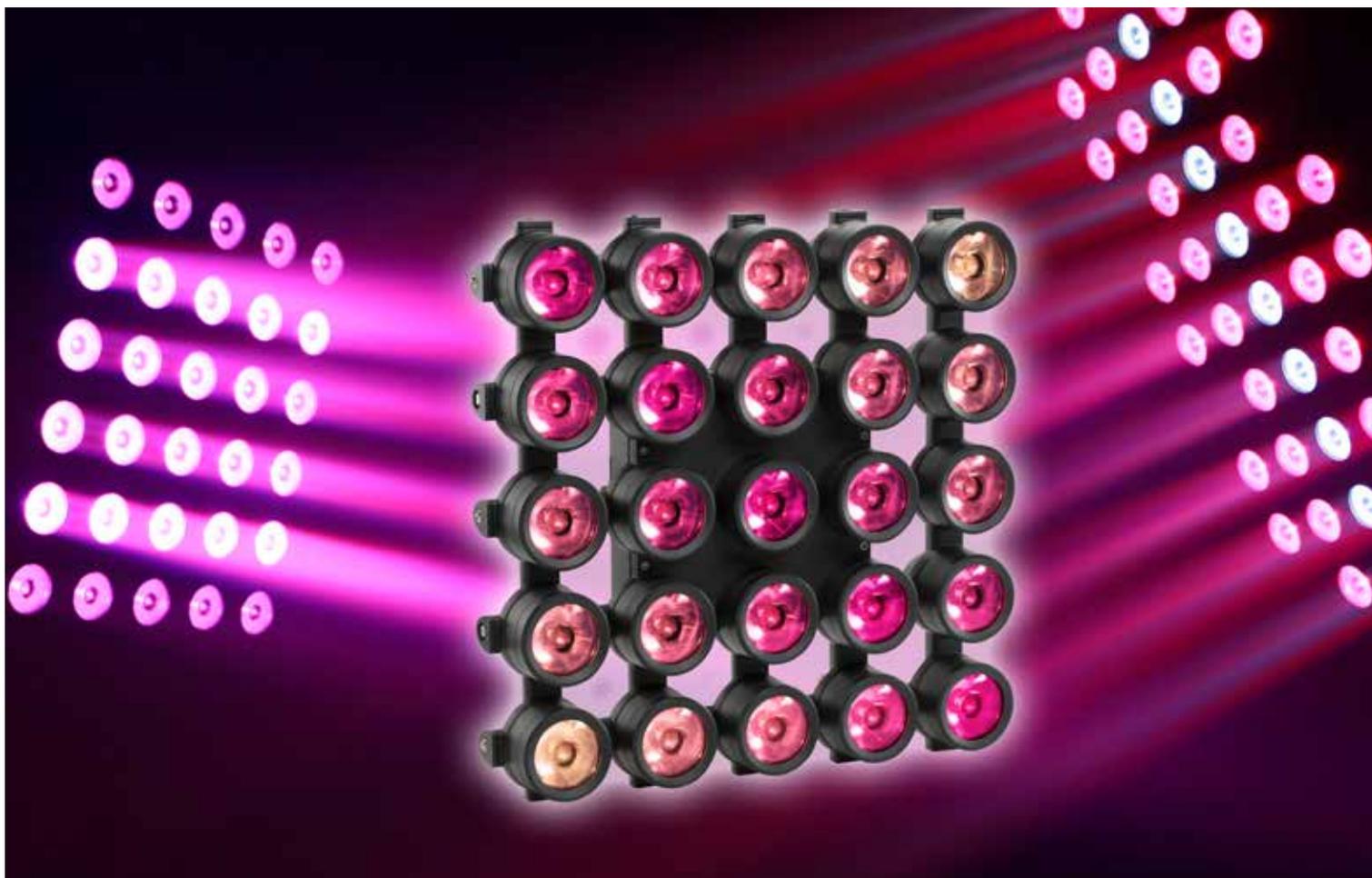


Semi-transparent LED control panel AYRTON INTELLIPIX-R, ENTER THE MATRIX!



Launched at LDI 2013, IntelliPix™-R is a semi-transparent panel accommodating 25 LED RGBW 15 W sources linked to a new collimator, which will be available across the entire “RADICAL” range from this French manufacturer. An exclusively orientated effect, with its 25 narrow beams and profile spots to create relief in space. The IntelliPix™-R acts as a link between the light and the video, which will allow designers to give free rein to their imaginations. Just like the toy Meccano, the system of panels allows an infinite range of possibilities at set-up level.

So-called 33

It is Yvan Peard, managing director of Ayrton who told us the story of the origin of his project bearing the number A 33 even though the last one was numbered A 98.

IntelliPix™-R is a project conceived in 2007, the objective of which being the creation of colour graphic and volumetric effects, whilst maintaining the greatest transparency with two essential criteria, such as the correct mixing of LED source colours and a

sufficiently narrow beam to obtain the most accurate volume definition possible. Project A33 began with a collection of Moduled, but the monochip LEDs and the collimators did not allow for the desired results to be achieved.

It would mean waiting 6 years to be able to combine LEDs and optics capable of satisfying Ayrton's quality requirements. The last link was discovered in May 2013 on a desk of their optician partner: a 67mm collimator, permitting a narrow beam with an angle less than 5°, whilst multiplying the intensity in the axis by three.

From shadow to light

It is clear that the development of the IntelliPix™-R has not been straightforward, which is what makes it a unique product. Pure design, semi-transparency and sealing to enable exterior use and passive cooling: a spec list worthy of the brand's reputation. The use of the 25 15 W RGBW LEDs determined the choice of

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materials used for the framework. Since the latter had to serve both as the structure and the heat-sink, aluminium appeared to be the best choice.

Two different manufacturing processes were selected; injected aluminium for the panel casing, which had to be perfectly flat and extruded aluminium for the cylindrical body of the light sources. They are screwed and glued to the frame with a waterproof adhesive for perfect watertightness.

To achieve semi-transparency, Ayrton was compelled to develop a special electronic circuit in the form of a trellis to receive the LEDs, whilst limiting the risks of faulty contacts and complicated wiring. To guarantee the insulation of the PCB against humidity, it is immersed in resin and then inserted between the two moulded sections of the panel framework. Assembly is a very delicate stage that requires attention to detail and great care.

The power supply was also the subject of specific development as it is located in a waterproof housing. Its 500 W support the 375 W consumed by the sources in a confined, unventilated space and is also in contact with the frame, ensuring thermal dissipation. It supported our 2 hours of photometric measurements without showing the least sign of weakness, which is remarkable for an effects projector.

The electronics element ensures control, allocation and the selection of options located in the same housing as the power supply. The four sides of this housing receive connectivity. Neutrik powerCON TRUE1 connector on the upper face, which is replicated on the opposite side and etherCON (RJ45) connectors on the lateral sides.

The power and network cables run from panel to panel very neatly without complications.

The 67 millimetre collimators are positioned on their support by the lugs situated at the base and the polarising slots at the top. The lugs ensure that the optic is centred in relation to the LEDs; all the sources have the same flux and the same colour mix.

Installation

The panels are easy to assemble. Each one of them is equipped with four bolts, two on the right and two at the bottom and four latches situated on the upper left hand side. It is then no problem to extend the latches at the bottom, which insert into the element underneath and are then locked into place by a half-turn of the safety catch.

A clever system of spring balls between the bolts allows the dismantling or reassembly of a panel located in the IntelliPix™-R screen, without dismantling one or more rows of panels.

Each panel weighs approximately 17.5 kg, therefore it is clearly easier to leave the elements vertically in the transport cases positioned under the panels already rigged, than to carefully lower the truss whilst guiding the elements until the ends of the bolts are in line with their housing. Only a small effort is then required to raise the panel and secure the safety catches.



1



2



3

1. Wild gamble : semi transparency, passive cooling and IP65
2. The aluminium chassis and optical support together with a collimator, the waterproof joint and the cap.
3. The impressive 67 mm collimator, which has enabled the completion of the project.



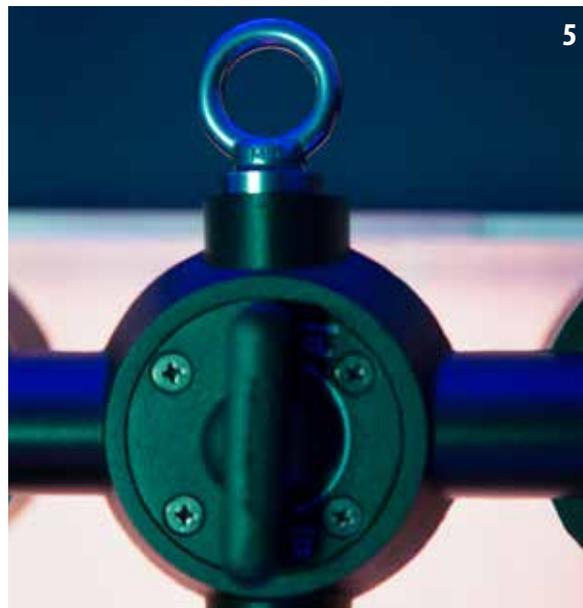
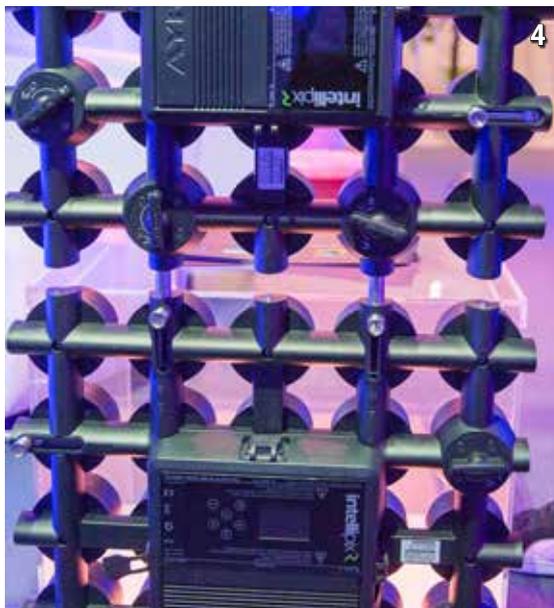
- The lighting power
- The tight angle of each beam
- The modularity
- The creative opportunities



- The locking powerCON & etherCON connectors on the frame side

4. First stage of assembly, inserting the bolts into their housing.

5. Once the panel is in place, secure the safety catch. The rings take the place of the bolts and allow the panels to be suspended.



The IntelliPix™-R can be used in any position, wall or ceiling, thanks to its dedicated accessories.

To suspend an IntelliPix™-R screen, Ayrton has developed a forged stainless steel ring to support heavy loads. It is positioned like a bolt, secured by a shackle in the ring with a collar on the support.

The second system is a cradle, which allows the panels to be positioned horizontally. Its four feet are height-adjustable in order to cope with floors that are not level but it is advisable to place them on risers. The support consists of platforms that cross the panel, on which a glazed surface is placed, capable of supporting people or objects.

On the menu

There are three control modes for the IntelliPix™-R panels: Basic, Standard or Extend, each comprising 6, 10 and 109 control channels. Clearly, the last mode is the most interesting and the most logical as it allows the light sources to be matrixed and to inject a video source via a console or a media server. It is for this reason that the decision was taken to skip the DMX connectors that require too much cabling, (1 DMX universe for 4 panels) and also because the design office had favoured a control solution via network protocols such as Art-Net and Kling-Net. In order to

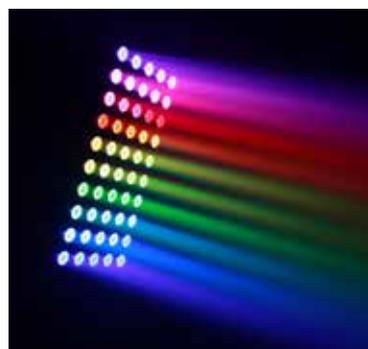
be able to control a large number of sources without reduction in speed, a new 32-bit control card offers the possibility of controlling several hundred IntelliPix™-R units on the same network.

On this projector the very comprehensive Ayrton equipment menu can be found, with items in the following order: address, control mode selection and options including: IP address, RDM PID, control protocol selection, Art-Net universe selection. The menu also provides access to information, test commands and to «Presets» for automatic restoration.

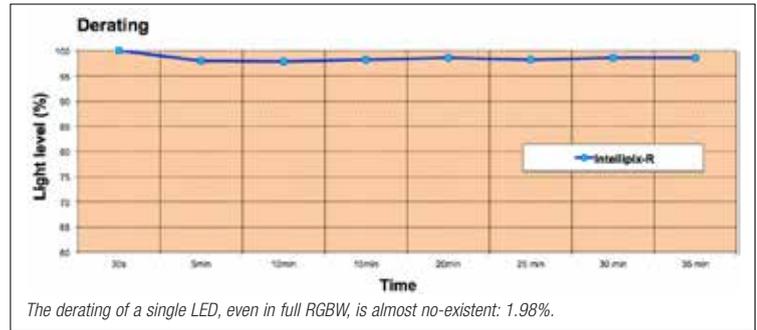
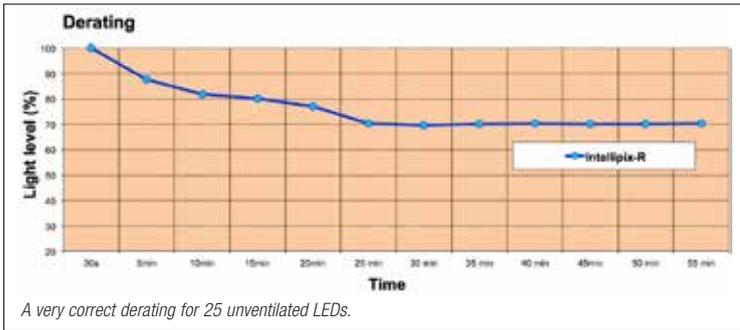
Functions

Once assembled and configured it is time to get started with this new toy!

The number of different parameters being quite limited, getting started is very quick and easy. Borrowed from MagicPanel™ 602, a mini-generator with internal effects on three channels provides the selection of chase, speed and fade. This option fulfilled its purpose and can get you off the hook, but as the same effect is identical for each panel, it does not give you the best rendition of this product's possibilities, especially if all of the panels are combined in a single element.



The vast range of colours and the surprise of the good uniformity of the colour mix.



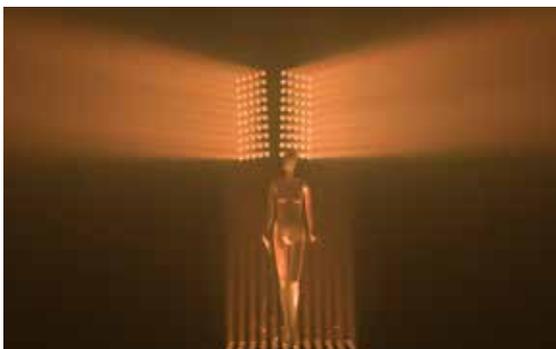
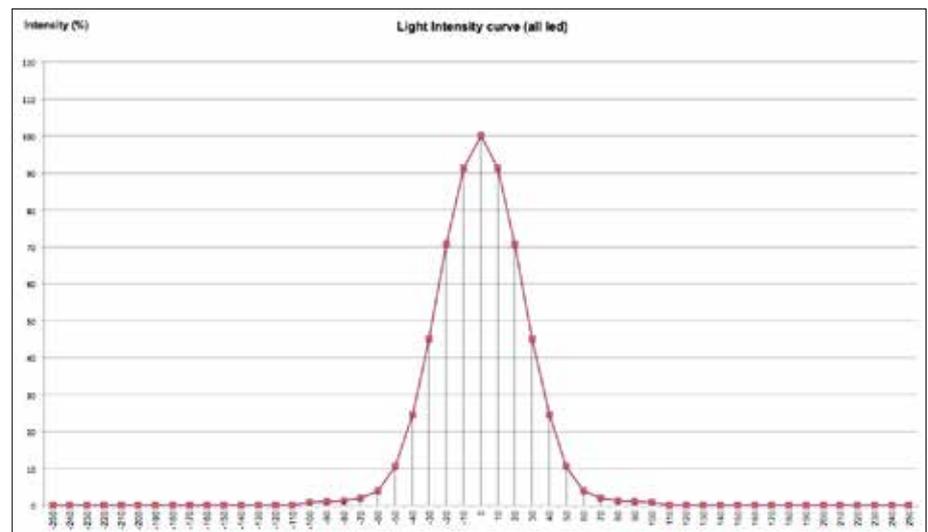
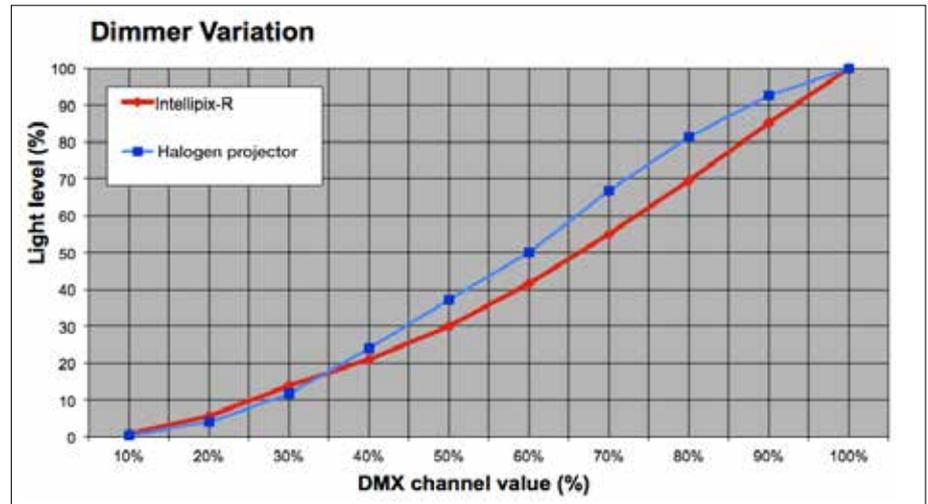
There is another «preset» colour function, in particular with six temperature options of varying whites, which will interest photographic directors. A second colour function, "Color Macro", offers various automatic colour sequences with the RGBW parameters obviously permitting the control of the four chips in the LED. This is one of the greatest surprises of this test: with a narrow angle, we expected a fairly average mix of colours. In fact, this was not the case; although it was not perfect, the result was rather good, or even very good.

If you are face-on or look at the beams one by one, except for a few minor defects in the colours, the mix is uniform. Obviously we are not talking about projection here; the appliance was not developed for that purpose. One of the other very pleasant surprises is the full RGBW white. It is uniform and of a temperature that can be easily used with other types of projectors (neither too blue nor too pink). The last two functions, shutter and dimmer, are parameters that are perfectly controlled by Ayrton.

The biggest, and the only, difficulty is related to the number of panels installed, but it is easily surmountable with the latest generation consoles that have a matrix function and media servers. The door is now open to the wildest of dreams!

Towards infinity and beyond

I have kept the best for last, the rendition! It is mind-blowing: the light beam emitted from each source is of truly superlative precision and power. This allows a beam to reach far whilst remaining completely materialised. It is this which gives this light source its magic. Images in relief come to life in space at the whim of the programming and videos.



Distance does not scare the powerful beams of the Intellipix™-R.

MEASUREMENT AT 1/2 (Light output at the center/2). ALL LEDs AT FULL POWER	
Beam diameter	0,56 m
Corresponding angle	6,41°
Light output at the center when switching On	20 470 lux
Light output at the center after derating	14 330 lux
Flux when switching On	7 000 lm
Flux after derating	4 900 lm

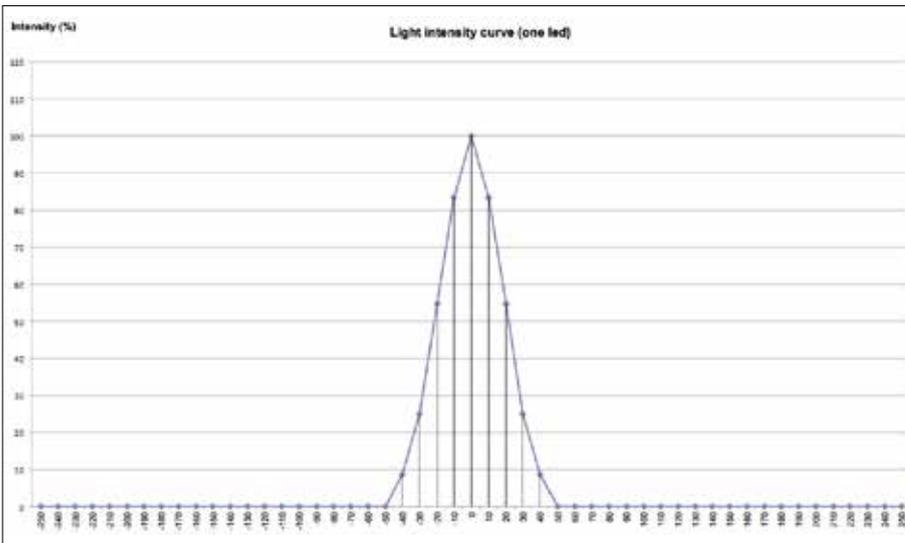
MEASUREMENTS AT 1/2 (Light output at the center/2) . ALL LEDs AT FULL POWER	
Beam diameter	1,00 m
Corresponding angle	11,48°
Light output at the center when switching On	20 470 lux
Light output at the center after derating	14 330 lux
Flux when switching On	7 700 lm
Flux after derating	5 390 lm

MEASUREMENTS AT 1/2 (Light output at the center/2) ONLY ONE LED AT FULL POWER

Beam diameter	0,42 m
Corresponding angle	4,8°
Light output at the center when switching On	1 298 lux
Light output at the center after derating	1 280 lux
Flux when switching On	182 lm
Flux after derating	180 lm

MEASUREMENTS AT 1/2 (Light output at the center/2) ONLY ONE LED AT FULL POWER

Beam diameter	0,79 m
Corresponding angle	9°
Light output at the center when switching On	1 298 lux
Light output at the center after derating	1 280 lux
Flux when switching On	284 lm
Flux after derating	280 lm



INTELLIPIX-R CHARACTERISTICS

Dimensions and weight	
Length	60,5 cm
Height	60,5 cm
Depth	22,5 cm
Weight	17,5 kg
General Characteristics	
Type of projector	25 LED Control Panel
Voltage and power consumption	110-240 V / 50-60 Hz - 375 W max
Protection class	IP 65
Cooling	Natural
Control	Art Net, Kling-Net
Number of DMX channels and DMX Modes	6/13/109
Lamp	25 RGBW Led 15 W Ostar Osram
Type of ballast/driver	Electronic
Optical system	67 mm optics
Software update	Yes
Connectors	etherCON RJ 45 + powerCON True1 Neutrik
Control panel	Colour screen + 4 keys
Fixing brackets	Forged stainless steel rigging ring
Transport handles	No
Supplied Accessories	Power cable
Functions	
Pan et Til	No
Zoom	No
Dimmer / Shutter	Electronic
Colours	RGBW
Manufacturer	
Developed in	France/China
Assembled in	China
Warranty period	1 year
Use	Shows, TV, Event

IntelliPix™-R is a projector, screen, set and scene, all at the same time. It can be used individually, in combinations of two or more, in-line or vertically, in square blocks of 2X2, 3X3, 4X4 or more. In a rectangle, pyramid, diamond... Imagination is the only limit.

Measurements

Derating

The required and unofficial derating measurement to which we expose every LED projector consists of lighting all the LEDs in the projector to full power and taking readings of the light value in the centre every five minutes. As and when the LED warms up, the light level diminishes then stabilises when the projector achieves its thermal equilibrium. This is an indicator of the quality of the appliance's temperature control. This test is therefore very useful for a projector that is intended to be switched on for a long time, an architectural luminaire, a wash or a profile projector on a television set. For an effects projector, interest is obviously very debatable, that is a given, but how to carry out reliable photometric measurements if the light is not stabilised when there is no opportunity to use an integration sphere for an instant measurement?

With 25 15 W RGBW LEDs at full power, without active cooling, one would expect an abysmal derating. In reality it does not exceed 30%, which is remarkable. The aluminium mesh fulfils its role as heat-sink perfectly. We also checked the derating of a single source, 4 colours in full. It was almost zero. It is obvious that these LEDs will never be this stressed.

Photometric measures

The measures taken into account for this projector are light value at the centre of 20470 lux and a flux of 7700 lm.

A single illuminated LED, this is the angle of projection announced by Ayrton: less than 5°.

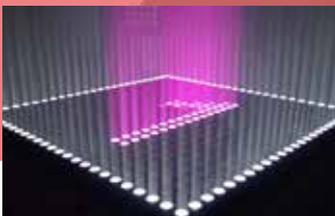
Seven years of reflection

IntelliPix™-R is a radically innovative concept.

The quality is assured, as good in terms of panel construction as light rendition. It was not the simplest idea to put into practice and the challenge of creating a powerful beam of less than 5° with a uniform colour mix was a long way off, but the objective was achieved! This new product has its place in numerous applications: lighting, video, sets both in events and for television and quite obviously in all scenarios where silent operation is a must. ■

Colours	Relative %
WHITE RGBW	100 %
RED	21,5 %
GREEN	36,45 %
BLUE	4,41 %
ONLY WHITE	50,57 %

A CONSTRUCTION GAME



INTELLIPIX-R IMAGING DISPLAY

Versatile IP65 volumetric high-power semi-transparent screen, IntelliPix™-R is a modular beam projection panel which puts 25 independently controllable 4.5° beam into a 5 x 5 array that projects graphics and media far into the air with power never before imagined. It can be installed on the floor with a specific kit. An Ethernet connection and an ultra-fast secure fastening system allows the connection of a large number of luminaires. Contact us at : contact@ayrton.eu

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