



### **Lunare**

Limited edition of 12

Chandelier, 2016 - Fiber optic cable, LED, aluminium, W40cm x L120cm x H130cm

Lunare, which means "curve" or "crescent shaped" in Latin, is a continuation of artist's curvature research project. It is a lighting series that, like the Saepio series, features beautiful and subtle curvature formed in part by utilising gravity. Hand woven fiber optic cable strands were connected to LED lights to emit light. The artist then hung these strands into curves of varying lengths and allowed gravity to shape their final form. The strands settled into large and small curves, but as a whole they formed one large, natural curve.

Samsung Electronics sponsored the artist in his creation of Lunare with the latest LED modules and drivers required for this design.



## **Chandelier 137.5**

Limited edition of 12

Chandelier, 2016 – GRP, Metal parts, Fiber optic cable, LED, W110cm x L110cm x H 130cm

The top plate of Chandelier 137.5 consists of a patterned surface and holes carefully positioned 137.5 degrees from each other. In the process of designing a strong and efficient top plate to support the fiber optic cable strands in Chandelier 137.5, the artist drew inspiration from phyllotaxis, the arrangement of leaves on a plant stem. 137.5 degrees is a constant angle found between leaves coming out of certain plant stems. The artist strung fiber optic cable strands (connected to LEDs to emit light) through such holes with varying lengths of slack, allowing gravity to naturally shape the final curves and form.

The phyllotactic pattern provided the top plate the strength and structural efficiency necessary to support the entire structure. The result is a balanced, symmetrical and beautiful form.

Chandelier 137.5 introduces elements of phyllotactic patterns found in nature into the curvature research in which the artist utilises gravity and fiber optic cable strands to create designs full of natural curves. The result is a highly controlled yet chaotic design.

Samsung Electronics sponsored the artist with the latest LED modules and drivers required for this design and Altair by providing the thermodynamics calculations necessary for the design. MPI was involved with the manufacturing the main GRP shade.















## **Saepio**

Limited edition of 12

Chandelier, 2016 - Fiber optic cable, aluminums, LED, W50cm x L160cm x H160cm

Saepio, which means “to surround” or “wrap” in Latin, is a lighting series that features beautiful and subtle curvature formed in part by utilising gravity. Hand woven fiber optic cable strands were connected to LED lights positioned on two aluminium beams to emit light. The artist hung the strands in intricate patterns, and allowed gravity to shape their final form. The strands settled into large and small curves, but as a whole they formed one large, natural curve that wraps and surrounds itself, and echoes the circular top plate.

Samsung Electronics sponsored the artist in his creation of Saepio with the latest LED models and drivers required for this design and engineering company Altair sponsored the artist with thermodynamics calculations. Such support from world-class companies allowed the artist to create an innovative design utilising cutting edge technology and materials.

Saepio was unveiled for the first time at Samsung's exhibition at Light + Building in Frankfurt, Germany in March 2016.



### **FABRIC LIGHT R (FABRIC LIGHT RADIOLARIA)**

Limited edition of XX

2016, Floor light & Table lamp - GRP, Carbon fiber, LED,

Size: Forte: 60 x 60 x 230 cm, Piano 40 x 40 x 91 cm

A fabric stretching design technique developed by the artist was used to generate the light's geometries, replicating building processes found in nature. To generate these organic forms, a single piece of fabric was stretched by hand into a three-dimensional form, which was then hardened by laminating with GRP. The resulting shapes were not pre-set but allowed to generate into the final shapes, replicating building processes found in nature.

These principles have been tried and tested through the evolutionary process, resulting in a design that is lightweight, structurally optimised, extremely efficient and strictly follows the "form follows function" principle found in nature.

This design is about appreciating nature's simple, yet advanced design process.







**Nodus**

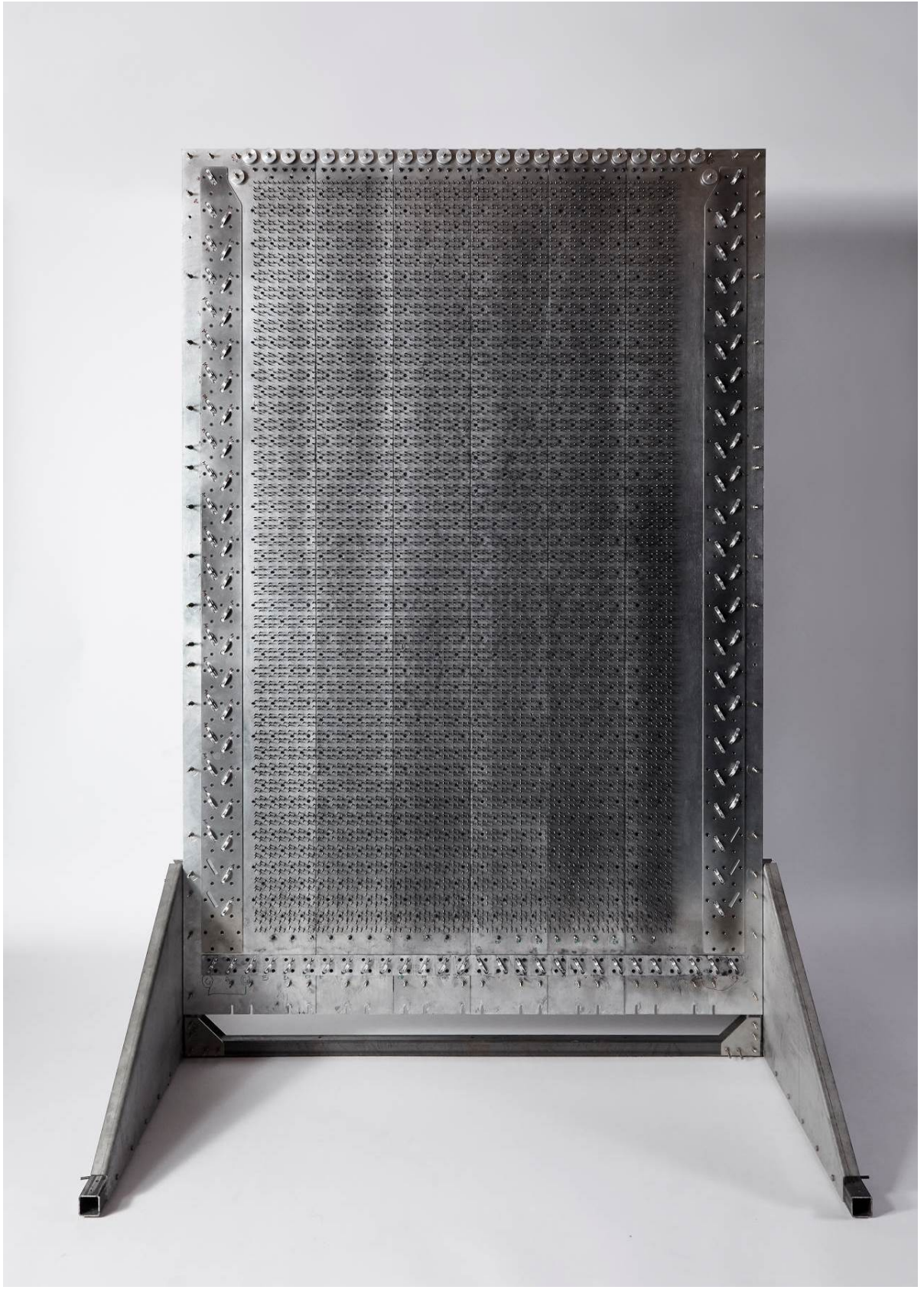
Limited edition of 20

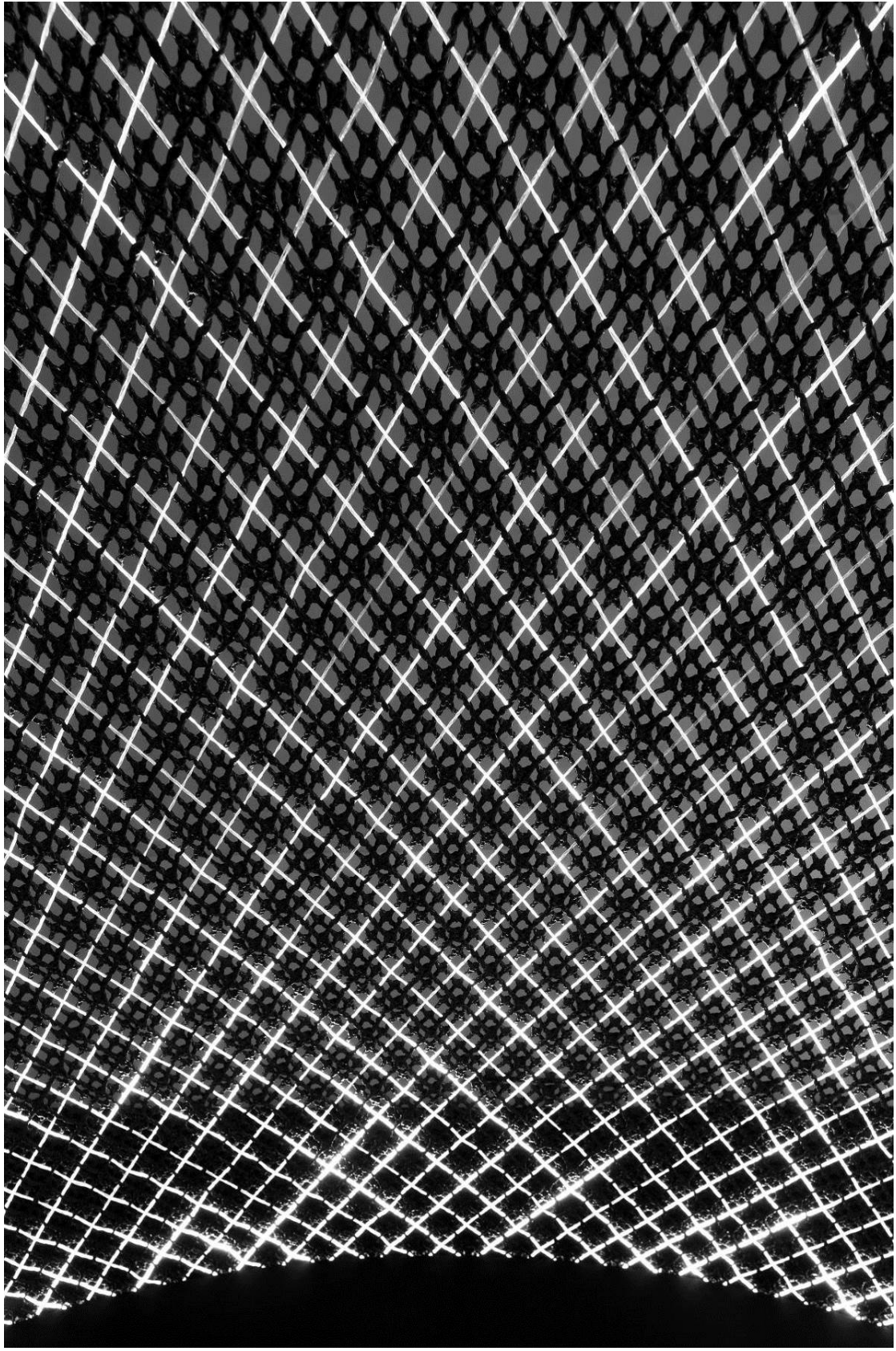
Screen light, 2014 - Carbon fibre, fiber optic cable, LED, aluminium, W30cm x L100cm x H185cm

Nodus, which means “knots” in Latin, was inspired by traditional Korean paper craft dating back to the 12th century. Nodus is made of carbon fibre strings that have been woven into over 10,000 knots using techniques employed by Korean paper craft artists from the past. Fiber optics and LEDs were added to illuminate the work. Nodus combines traditional craft techniques with modern high-tech materials and demonstrates alternate ways to utilize craft methods of the past.

It pays homage to those unknown, skilled master craftsmen who developed these beautiful, intricate techniques.









## IL HOON ROH – by Jean-Jacques Wattel

IL HOON ROH is a forerunner of a new generation of designers. Having received his architecture degree in London, he integrates the fundamentals of the Arts & Crafts movement into his work. Largely self-developed, he brings together his vast knowledge of architecture and design, both organic and architectural. He takes this knowledge and goes further by using the most innovative materials with precise and scientific methodology, exploring their technical and aesthetic limits. His imagination, constantly in search of pure and aerial forms, leans on the natural laws of physics, energy and gravity to create harmonious forms with remarkable accuracy.

The explosiveness of his approach essentially consists of composing or decomposing the material, using innovative and imaginative techniques together with the most advanced technology and materials, which are sometimes custom-made for his projects. The final outcome is high-end craftsmanship, intertwining artisanal traditions with industrial products at the highest level.

Born in South Korea, in 1978, IL HOON ROH settled in London in 1991. There he studied architecture, receiving a diploma from the Architectural Association School of Architecture and a Masters in Design Products from the Royal College of Art. He then joined Foster and Partners as an architect and later became a part of the Royal Institute of British Architects. In 2010, he decided to express his artistic desires by creating functional sculptures and established his own studio in London in order to further develop his research. Then, in 2013, he moved his studio to the heart of Seoul, within an industrial zone, where a plethora of workshops are at his disposition.

### An Imagination Guided by the Laws of Nature

To express his vision, Il Hoon has chosen matters that are found in nature, especially experimenting with those matters that are closely linked to structure. His architectural compositions are not mere representations of nature, but instead research experiments into the laws or constraints thereof - both audacious and harmonious - that incorporate its evolution. Il Hoon uses the laws of nature such as gravity, energy and other physical forces to guide the evolution of his drawings and his works – in the same way these laws guide the evolution of the plant world. His works therefore become a spatial exploration, guided by a desire for the optimal conquest of the third dimension, and by the structure of the object itself, functioning as a being that craves to express itself within a unitary vision that integrates both balance and harmony.

For the initial stages of research, Il Hoon leans on preliminary sketches. His first steps are driven by the execution of models, which allows rapid demonstration of his spatial research. Il Hoon's preferred method is to construct a transparent or open structure, which is then perforated by thousands of holes. These will become the traction points, subtly applied to the elements, which make up the internal structure, which could be strings, fine cords, or jersey -held together by number of infinitesimal articulations. In this way, his creation can, like a multi-cellular being, develop in the same way as the incubation process in a laboratory, which together with the progressive touches and impulses, contribute to a light and balanced development in space.

His approach consists of permanent research, a game of strength and lightness that takes place throughout the series of uninterrupted experimentations.

### 2/ The supreme realisation of a craft that brought an industry into its service

Il Hoon spent 23 years spent in London, passing up opportunities that were being offered to him by multiple studios, and accepting only for a time to collaborate with Norman Foster, an experience which greatly enriched his knowledge of contemporary construction and drawing techniques.

But his soul and his Asian culture predisposed him to have another vision. He remembered the art of his ancestors, vases made of knotted paper, "Korean paper vases," during the era when Korea exported paper, or the beauty found in the subtle curves of roofs and stone walls, and delicate Korean ceramic works.

It is this sophisticated craft, this improbable construction game, which he explores, utilising the most innovative techniques and materials. Therefore, while conducting his empirical investigations on the basis of natural laws, he progressively entered into supernatural and unexpected realms. In order to bring his

models to life, Il Hoon Roh believes there is nothing too complicated, too subtle, too hypothetical, too expensive, too long, or too infinite – there is nothing that can stand in his way.

In order to create such a delicate, fluid, and impalpable suspension, he chose to utilise fibre optic cable strands just 1/2 mm thick. The main use of fibre optics is to keep the light inside but Il Hoon Roh wanted to let it escape. For that reason, as one is instructed not to curve the fibre in order to prevent the light from escaping, he deliberately forced the material to generate this escaping effect. He braided a number of fibre optic cable strands together, tying them closer and closer together, in order to create splits that allow the light to break through whilst at the same time not disrupting the harmony of the hand crafted cords.

To facilitate the amplification of the light, he chose to combine different methods.

The first was to ask Samsung to put at his disposal some extremely powerful, not to mention economical, components, whose purpose is normally to illuminate bridges or buildings, but in this case serve to considerably intensify the luminosity of the fibre strings.

The second was to amplify the escaping light with pearls of glass. However, as glass is too heavy and weighs down the strands, Il Hoon Roh used PMA pearls, which he polished until they shine like glass. He also contacted Altair, an engineering company, to help him calculate thermodynamics and run the structural analysis necessary for the design, a technology that's usually used for fighter jets and F1 racing cars.

For the polished steel structure, he drew and calculated, one by one, all the components that he required. He then had the components created by industrial enterprises after which he himself assembled and did the final polishing and adjustments. The interior of the structure made out of aluminium shelters a multitude of the most recent Samsung components, tightening elements and elements to distribute and redistribute the light. The structure is mounted with a large shield, harmoniously structured and honeycombed, created out of an ultra-light and resistant resin that is usually used in aeronautics. The ultimate purpose of this is a reflector as well as creating a sort of a theatrical curtain, centered with a polished steel dagger, bringing together both efficiency and poetry.

Carbon fiber, coated in resin, is a light and resistant material, which must be refrigerated, used, and manipulated at an optimum temperature of 23 °C. It needs to be heat treated in order to acquire its ultimate characteristics of solidity and resistance, coupled with incredible lightness. Carbon fiber is presented as two large sheaths appearing as rolls of fabric which Il Hoon cuts into bands, folds in two, then twists in order to obtain filaments that he braids to create a structure that resembles a honeycomb. This braiding is executed to create a perfect tension at the heart of the structure, and designed like industrially precise steel webs, at the heart of which he will link the filaments with virtuosity and craftsmanship.

Subsequently, after having thus created the stool, the bench and the Rami table, the challenge becomes more audacious. Il Hoon decides to create the Nodus screen, in which he integrates the double challenge of tying together carbon fibers with fiber optics, following his own interpretation, utilising filaments he himself has hand crafted.

In terms of his bronze or cast aluminum designs, he hangs differing textiles in large cages, cuts them and articulates them. When, after a series of experiments he finally creates a structure that satisfies him – one that has perfect natural energy. As he holds in his hands his model, the long process for the realisation of the object commences.

Here, we assist the setup of an avant-garde language, with remarkable efficiency. Il Hoon Roh's creations express themselves through functional propositions and simple sculptures which masks considerable set-up.

Another of his character traits is in his extreme questioning: "Say it is not me that materialises and realises, step by step, the drawing that I have developed after thousands of experiments. If I leave this care to someone else at one third of the construction, whom should we consider the artist?" To leave no doubt concerning this point, Il Hoon Roh works day and night expressing proudly all those infinite hours spent in teaching him thousands of things and it is this spiral of knowledge that further amplifies his creativity.