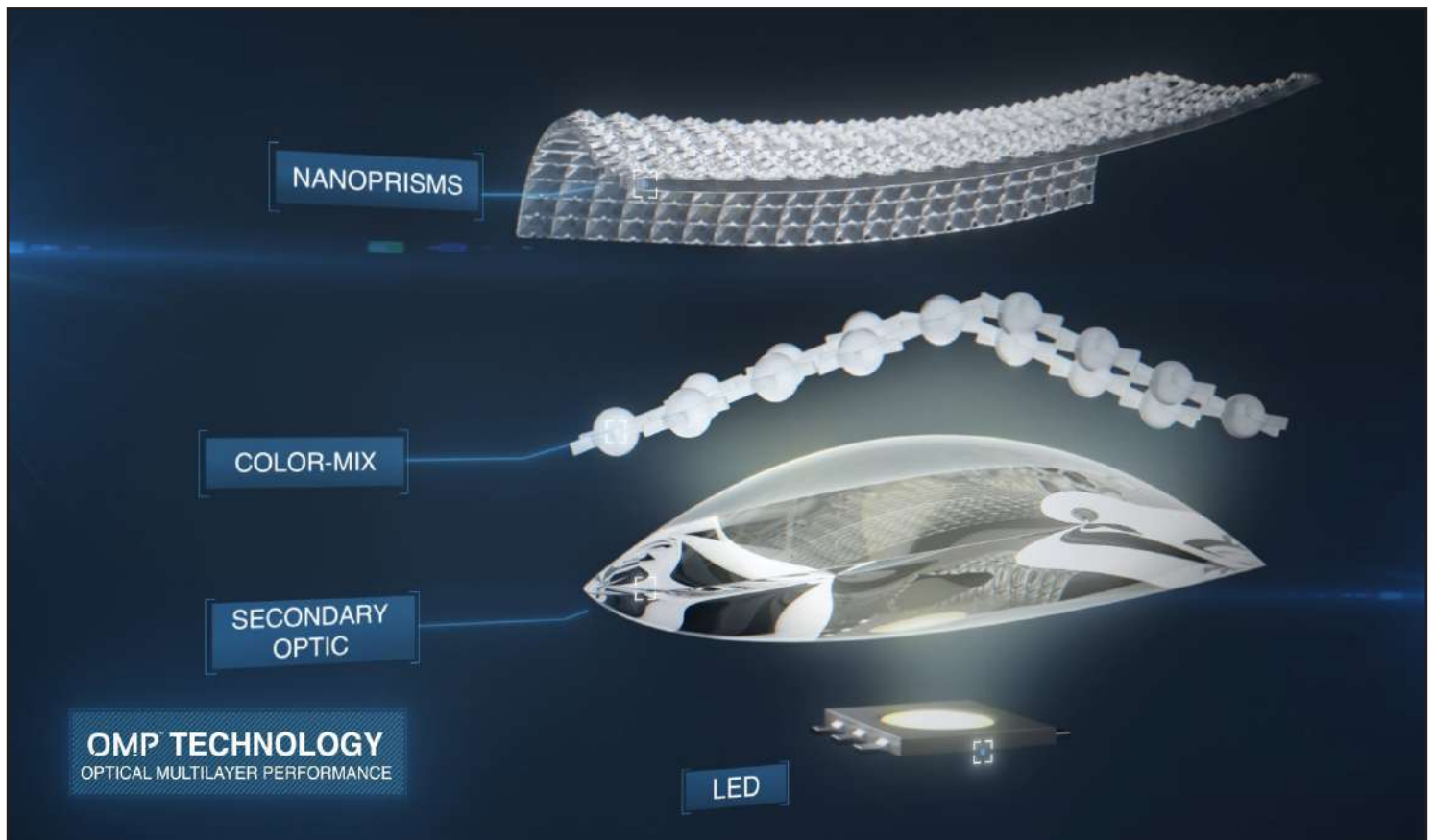


## OMP™ (Optical Multilayer Performance) Technology

**SAGITTARIO** is the new family of linear optics, made by Khatod: ideal for all indoor environments, like supermarkets, warehouses and offices.

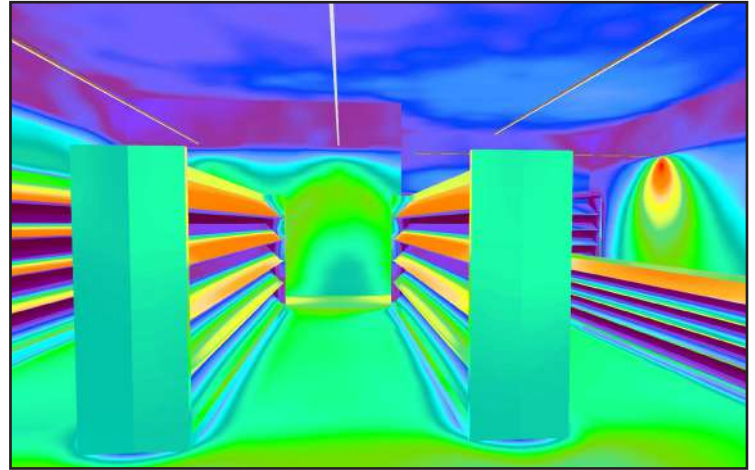
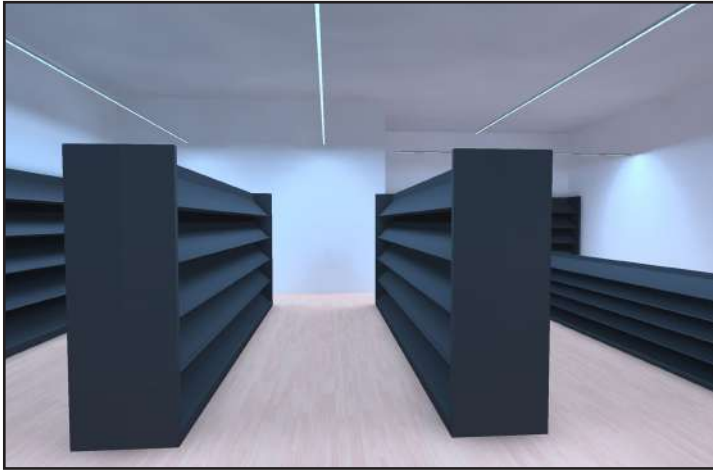
At the core, lies the new **OMP™ (Optical Multilayer Performance) Technology**, an innovative production method that combines different optical layers in one piece, to achieve highest efficiencies, reduces color-over-angle and optimizes distribution. Light enters a first secondary optic and passes through a layer of color-mixing nanostructures, before leaving SAGITTARIO through an additional layer of nanoprisms.



## Supermarket Application Examples & Comparison

The optical features are targeted to bring light, right there where it's needed.

For example, in supermarket applications, one can achieve peak lux on the shelves at eye level, while maintaining an uniform illuminance at on the ground: this means contrast ratios of 2.4:1, without spilling any light, with a single optic.



Example: supermarket application with SAGIT/M1/AX/3050 using double asymmetric for long distances beam lens, simulated with Dialux. Light is distributed on the shelves, with peaks at customer's eye-level. On the ground, light is evenly distributed, allowing visual comfort.

### General lighting, shelves and ground

	SAGIT/M1/UW/XXXX	Market Benchmark 90°
Efficiency	96%	87%
Lumen output	4.498 lm/m	4.498 lm/m
Uniformity on vertical target	0,75	0,6
Uniformity on horizontal target	0,9	0,7
Vertical average Lux levels	336	315
Horizontal average Lux levels	1.018	961

### Lighting on shelves (POS) and corridors

	SAGIT/M1/AX/XXXX	Market Benchmark Double Asymmetric
Efficiency	93%	87%
Lumen output	4.498 lm/m	4.498 lm/m
Uniformity on vertical target	0,6	0,5
Uniformity on ground	0,91	0,8
Vertical average Lux levels	554	519
Vertical Max Lux	896	782
Horizontal average Lux levels	376	376
Contrast Ratio (Max vertical Lux compared to average horizontal Lux)	2.4:1	2.0:1

## Warehouse Application Examples & Comparison

In warehousing and wide area lighting, instead, the balance is achieved between Space-Height-Ratio (SHR) and uniformity.



A typical warehouse packaging area, where high illuminance with high uniformity is needed to allow visual tasks to be performed.

### Warehouse - Packaging Area - SHR 1.0

	SAGIT/M1/UW/XXXX	Market Benchmark 90°
Efficiency	96%	87%
Lumen output	4.498 lm/m	4.498 lm/m
Uniformity on vertical target	0,7	0,6
Uniformity on horizontal target	0,9	0,8
Vertical average Lux levels	280	257
Horizontal average Lux levels	495	446

### Warehouse - General Application - SHR comparison - Height 5 meters - Luminaire length 3.360mm

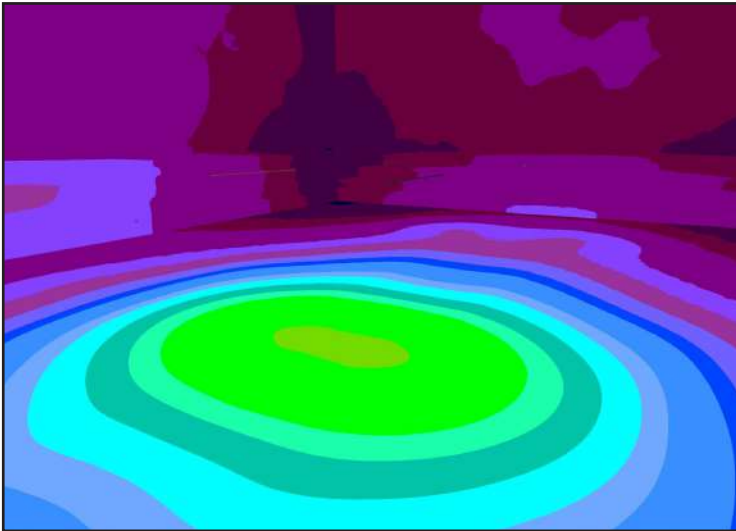
SHR	1 - 25 m2	1.2 - 36 m2	1.5 - 56.25 m2
<b>SAGIT/M1/UW/XXXX</b>			
Lumen output	13.494	13.494	13.494
Horizontal Average Lux Values	197	173	131
Uniformity	0,81	0,82	0,6
<b>Market Benchmark 90°</b>			
Lumen output	13.494	13.494	13.494
Horizontal Average Lux Values	184	159	119
Uniformity	0,77	0,81	0,55

## Light Distribution of the Beam Angles

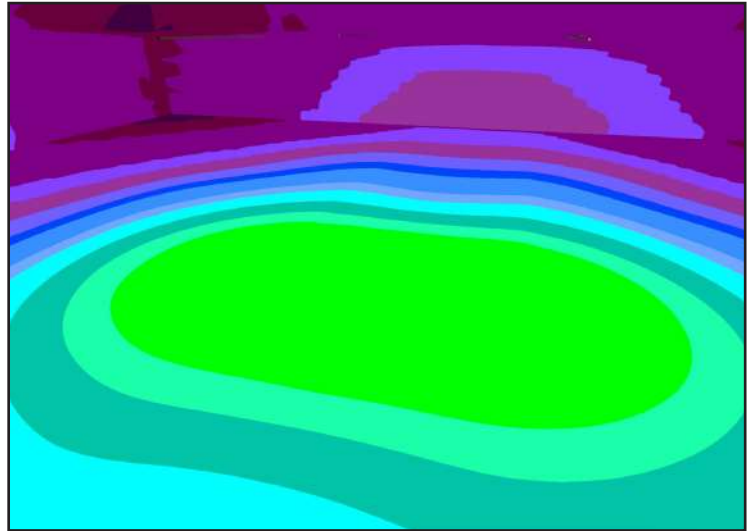
A good optical solution takes into account that large spaces consume a lot of energy. It is a responsibility towards the environment to create solutions that need less emitting flux, less lamps to achieve the same lux levels and that take into account worker's wellbeing at the same time.

In this example, a FWHM 90° linear SAGITTARIO is taken and its values at different SHRs is explored (mounting height is 5 meters):

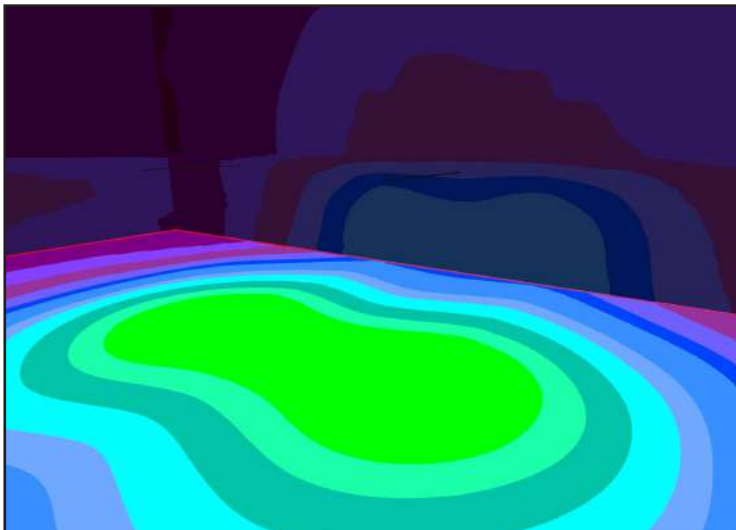
SHR 1.0: The optics are spaced 5 meters and the uniformity values are 0.8



SHR 1.2: The optics are spaced 6 meters and the uniformity values are 0.8



SHR 1.5: The optics are spaced 7.5 meters and the uniformity values are 0.6



The uniformity is preserved on levels higher than 0.6 and thus allows a much higher spacing between the lamps, resulting in a net energy saving. The optic shown has an efficiency of 96%, allowing all light from the LED to reach the ground.