

LED FLOOD LIGHTING SPORTS LIGHTING

CASE STUDY

SK SUPEX DOME

Incheon Korea



GigaTera[®]
beyond light

Installation Area : Indoor Practice Field
SK Supex Dome in SK Futures Park, Korea



SK Supex Dome

With the highest ceiling in Korea



SK Futures Park

SK Futures Park is around 26,000 pyeong in scale and is located at Gilsang-myeon, Ganghwa-gun, Incheon city and was founded to help raise the future talents of SK Wyverns and to ensure the smooth rehabilitation of players. SK Future Parks attracted 45 billion won from its parent company, SK Telecom, and began construction on April 1st, 2013 completing construction within 2 years and invited the team over. SK Futures Park consists of 4 parts; which are the main stadium, auxiliary stadium, indoor practice ground (Supex Dome), and the dormitory.

Summary

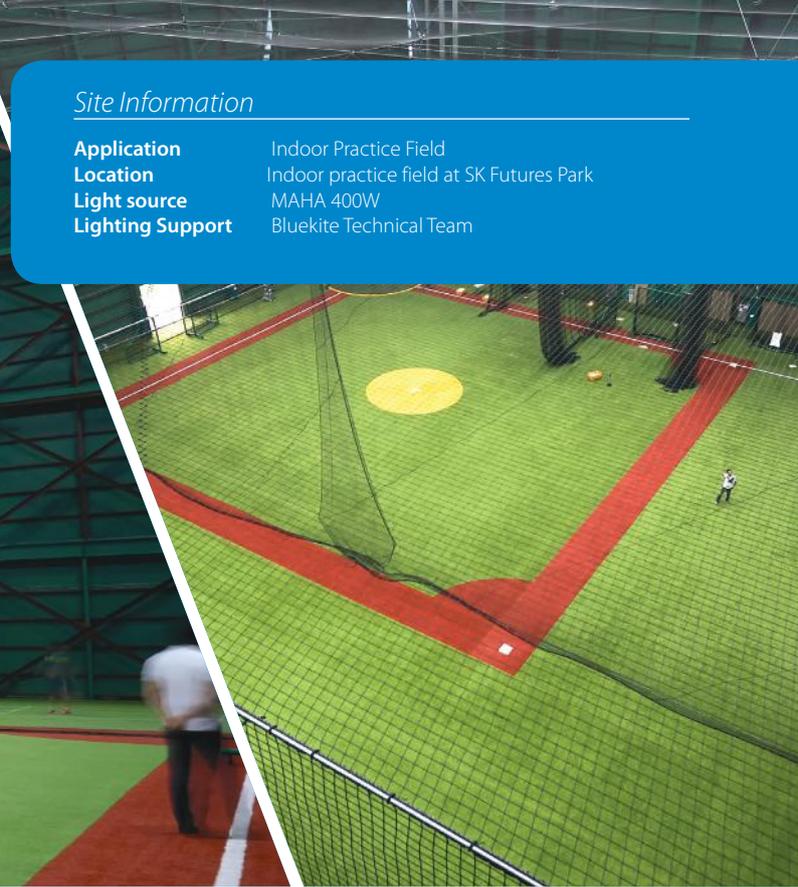
This project is an example of installing MAHA 400W flood lighting in the Supex Dome, an indoor practice ground, at SK Futures Park located in Gilsang-myeon, Ganghwa-gun, Incheon. There was an official groundbreaking ceremony for SK Futures Park on April 8th, 2013, and two years later on April 1st, 2015 there was an opening ceremony for the Supex Dome which had the indoor practice ground fitted with with 66 units of 'M' company's 1kW metal halide lighting. However, the customer wanted to achieve a better energy saving rate and replaced the metal halide lighting with MAHA LED floodlighting in July 2015, just 1 years and 3 months later. This case of installment is an example of an installation for indoors practice grounds that resulted in much satisfaction from the customer thanks to the excellence of the intensity of illumination as well as the uniformity factor, which are the benefits of the MAHA products. Also, Supex Dome is known as having the highest ceiling amongst in-country indoors practice grounds.

Project

The Supex Dome, where the project was implemented measures 56 meters wide by 51 meters high, and was constructed to provide a place where practice can take place indoors in case of bad weather. The dome consists of a practice field for infield defense, batting, a practice field for base running and other training and 4 underground pitching practice areas.

The project began with the removal of 'M' company's metal halide 1kW lighting. This was followed by the installation of MAHA floodlighting on all sides as part of a bracket structure that can turn both left and right and can also tilt up and down with 18 units on both sides starting from home base and 15 units starting from second base for the installation of a total of 66 units replaced at a 1:1 ratio.

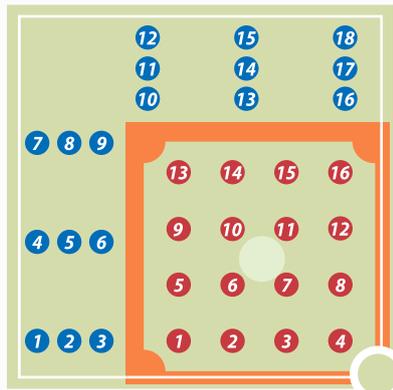
The biggest request from the customer was for the luminance to be the highest at the point between home base and third base since players will be practicing a lot in this area. It was found that the existing metal halide lighting does not concentrate lighting on one spot but rather divided lighting between the wall and ground sides. The MAHA floodlighting, which uses an asymmetric structure focuses the lighting on the ground side where it is needed, has a realized brightness of higher than 1,000 lux and produces more than enough light resulting in satisfaction by the customer. This was only possible because of MAHA product excellence in the cutoff technology that is capable of focusing lighting where it is needed. Lighting streaming in from 4 angles went through an exact aiming procedure based on the simulation section by section and the highest luminance after installation measured 1,236 lux. In addition, the infield average luminance measured 1,027 lux, and the outfield, 896 lux, which meant that a nicer stadium was constructed compared to the original environment. Basically, MAHA products have a wireless control module, the customer company did not want to adjust the brightness of lightings so the additional dimming system was not installed, however, lighting installed on the 4 sides were connected to separate on/off switches by group, therefore, allowing players to turn on a specific side of the lighting group when practicing. Since it was a newly-built building and thanks to the good natural lighting system, there was almost never a situation where the lighting was required to be turned on in the day time.



Site Information

Application	Indoor Practice Field
Location	Indoor practice field at SK Futures Park
Light source	MAHA 400W
Lighting Support	Bluekite Technical Team

Illuminance Measurement Data

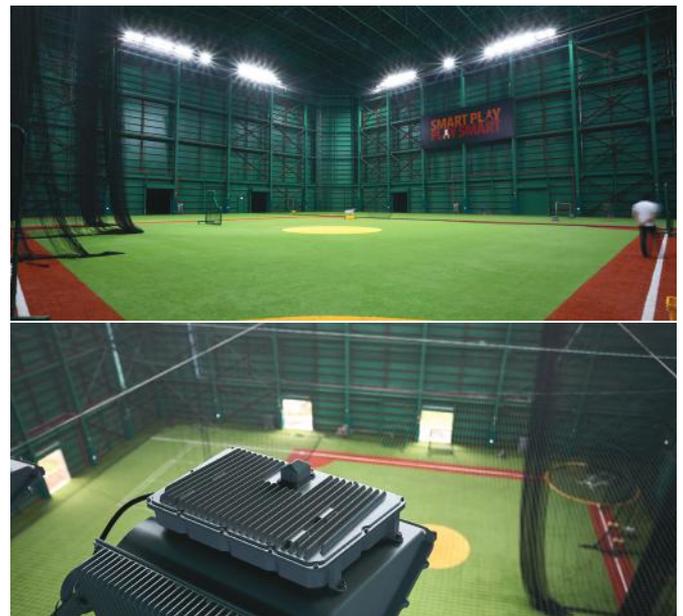


classification	#	luminance
infield	1	908
	2	915
	3	902
	4	933
	5	988
	6	1,230
	7	1,174
	8	1,236
	9	948
	10	1,146
	11	1,236
	12	968
	13	879
	14	1,076
	15	979
	16	915

average luminance 1,027

classification	#	luminance
outfield	17	833
	18	989

average luminance 896



Benefits

- Cutoff technology provides exact and specific lighting
- Realization of 60% of an energy savings rate compared to existing lighting
- Minimization of glare in the virtue of asymmetry method
- Easier to aim with the use of a bracket that allows for rotation and tilting
- Immediate response when turning lighting on/off

Installation Information

	Before	After
Model Name	MHL	MAHA
Power Consumption	1,000kW	400kW
Quantity	66ea	66ea
Total Power Consumption	66kW	26.4kW

Energy Savings 60%

Unique & Better

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MAHA 400W

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