



Project Friends Arena

Location Philips Lighting	Solna ArenaVision and iColorGraze with Pharos control system
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PHILIPS



"The facade lighting turned out better than we'd hoped. Peab and the architect have been very constructively active throughout the entire project. The collaboration has worked very well - they have recognized my intentions, embraced my wishes and made changes accordingly to grant us the opportunity to realize our vision."

Helena Åkerberg, lighting architect for Lighthouse AB



Friends Arena is profiling their events using LED RGB



Facts

Client

Peab AB

Location

Friends Arena, Solna

Lighting solutions

Architectural LED lighting with RGB. Pitch lighting for arena, meeting broadcasting HDTV specifications.

Lighting architect for architectural lighting

Helena Åkerberg, Lighthouse AB

Philips products

iColorGraze BCS459 med control system Pharos, ArenaVision MVF404, MVF404 featuring hot restrike.

Project realization

2013

Background

Sweden's new national arena has a capacity of 50,000 seated visitors or 65,000 standing. Both the arena itself and the exterior of the arena are illuminated by Philips lighting solutions. Lighting design agency Lighthouse AB was commissioned for designing the architectural lighting. The existing system solution could not be carried out. It was expensive and impossible to install and maintain. Construction company Peab asked me to present a functional solution for illuminating the exterior. The ambition was to give Friends Arena a living exterior which can be altered to suit the particular event being hosted - and RGB was the only possible solution, says Helena Åkerberg, lighting architect for Lighthouse AB.

Challenge

The challenge lay in finding a way to illuminate the exterior, decide where to position the luminaires and how to mount them to create a lighting experience of changing colors. I reached the conclusion that the 24 meters tall exterior benefited from being lit from above and below. The luminaires, which are 1200 mm long, were placed in increments of 3 meters. They are mounted horizontally along the length of the exterior, their light directs toward the next luminaire. It is crucial for the light attached to the exterior; hence every luminaire needs a projection distance of more than 12 meters. In collaboration with the architect, a plaster was chosen with the right color tone and surface texture to enhance and reflect the light in the best possible manner. If the plaster surface is too smooth the light color fails to reflect, and if it is too rough

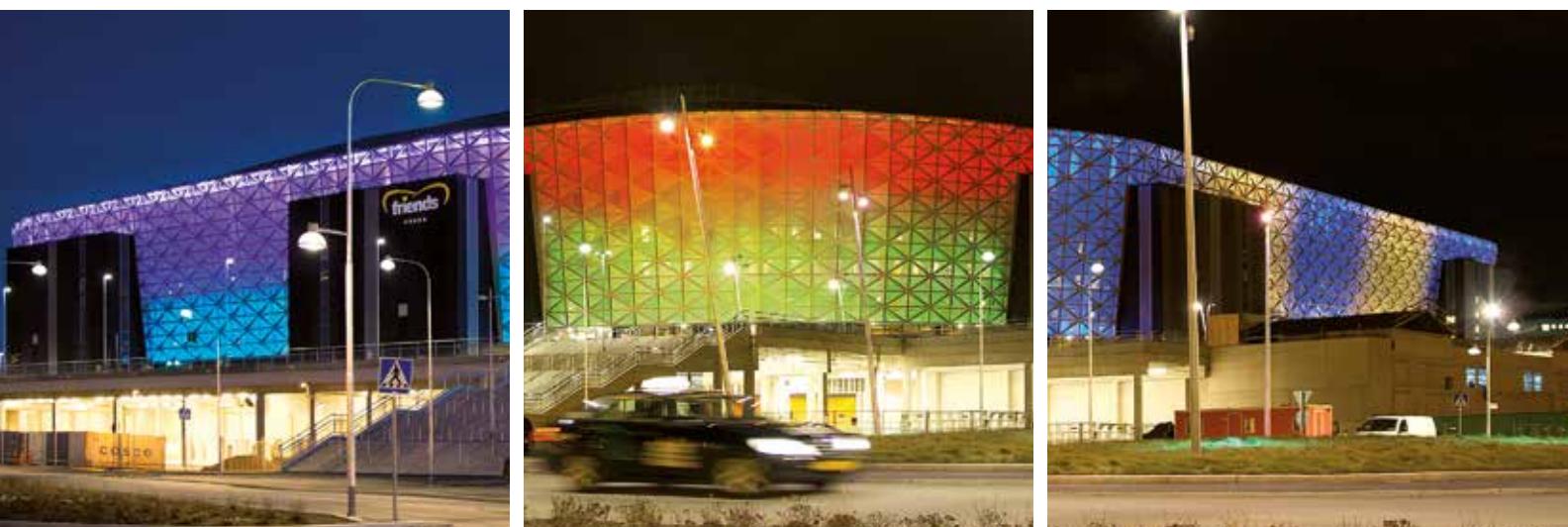
shadows will occur. We opted for a plaster of medium matte character with a texture that is not too rough, says Helena Åkerberg.

Lighting solution

The luminaires are positioned 470 mm from the wall. If placed too close to the wall they would not be able to project the light at the critical limit of 12 meters. The luminaires are slightly angled towards the wall. This lighting solution has been created for simple maintenance. Stockholm Lighting Company AB delivered and programmed the architectural lighting and acted as my partner during the design portion", says Helena Åkerberg, lighting architect for Lighthouse AB. Philip's job was to fulfill the FIFA lighting requirements to limit the number of luminaires with as low power consumption as possible. 316 ArenaVision MVF404 floodlights were installed around the rectangular shape of the arena and 16 ArenaVision floodlights featuring hot restrike were chosen as emergency lighting. The floodlights were mounted in clusters on a walkway, 42 meters up in the air. There is a total of ten luminaire clusters - three on each long side and one in each corner. Every floodlight is individually directed to fulfill the FIFA requirement, where lighting for HD television broadcast has to be below 3500 lux.

Advantages

The architectural lighting was supposed to be calm with soft color changes. The light setting needed a certain evenness to give the impression that the exterior has been painted in different colors, and that's something we've really succeeded, says Helena Åkerberg.



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