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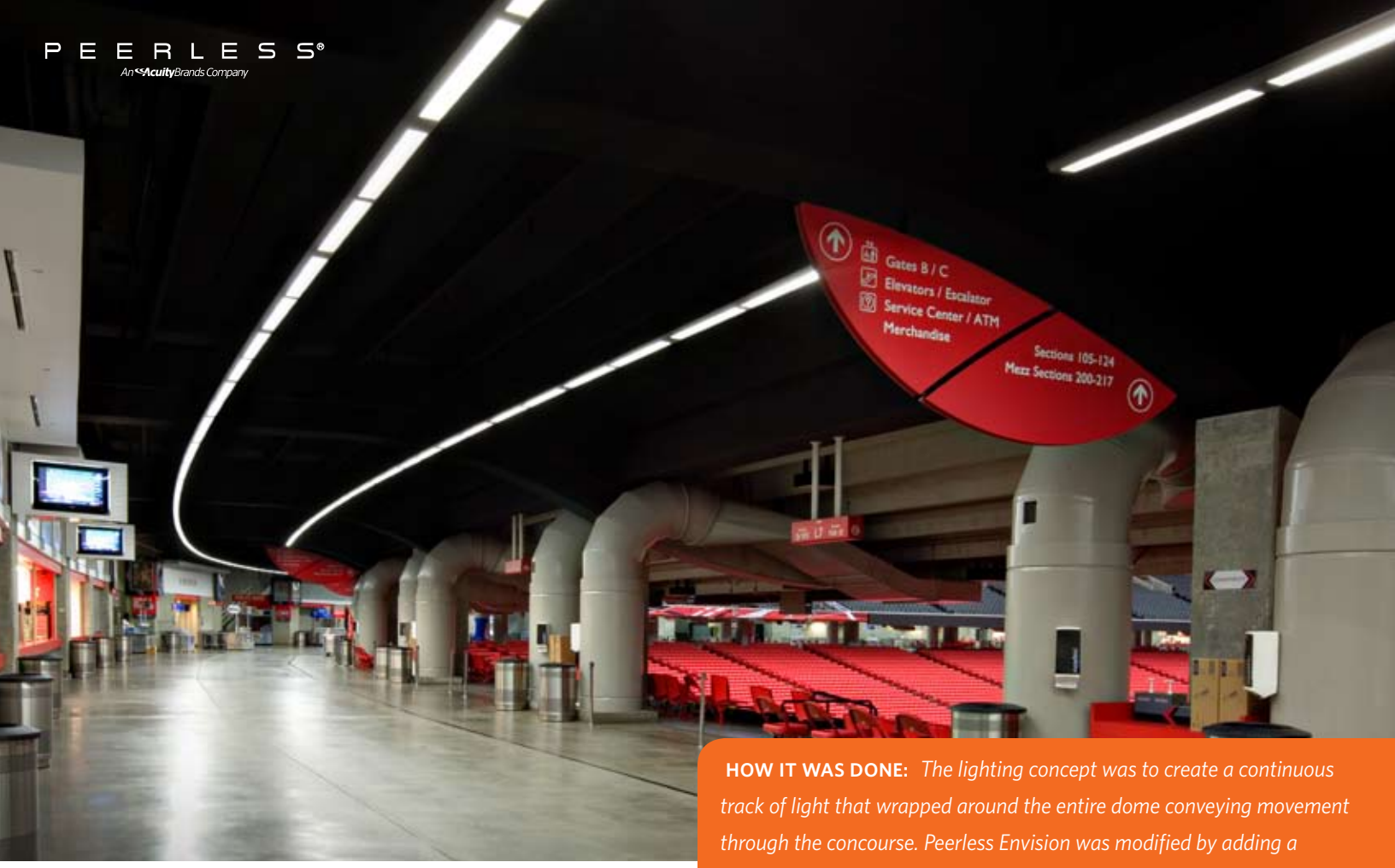
An AcuityBrands Company



HOW IT WAS DONE: *The lighting concept was to create a continuous track of light that wrapped around the entire dome conveying movement through the concourse. Peerless Envision was modified by adding a sealed top reflector to provide downlight only. The illusion of a single curving fixture was achieved by joining eight foot linear Envision sections with multiple custom precision angled wedges, ultimately joining the luminaires at both ends to make a complete circle.*

Georgia Dome

PROJECT:
Georgia World Congress Center Authority
The Falcons
Georgia Dome Phase II Renovation
Atlanta

PEERLESS PRODUCTS:
Custom Envision

ARCHITECT:
tvsdesign

LIGHTING DESIGNER:
tvsdesign, Conway & Owen, Inc.

ELECTRICAL ENGINEER:
Conway & Owen Consultant Engineers

GENERAL CONTRACTOR:
Holder Construction

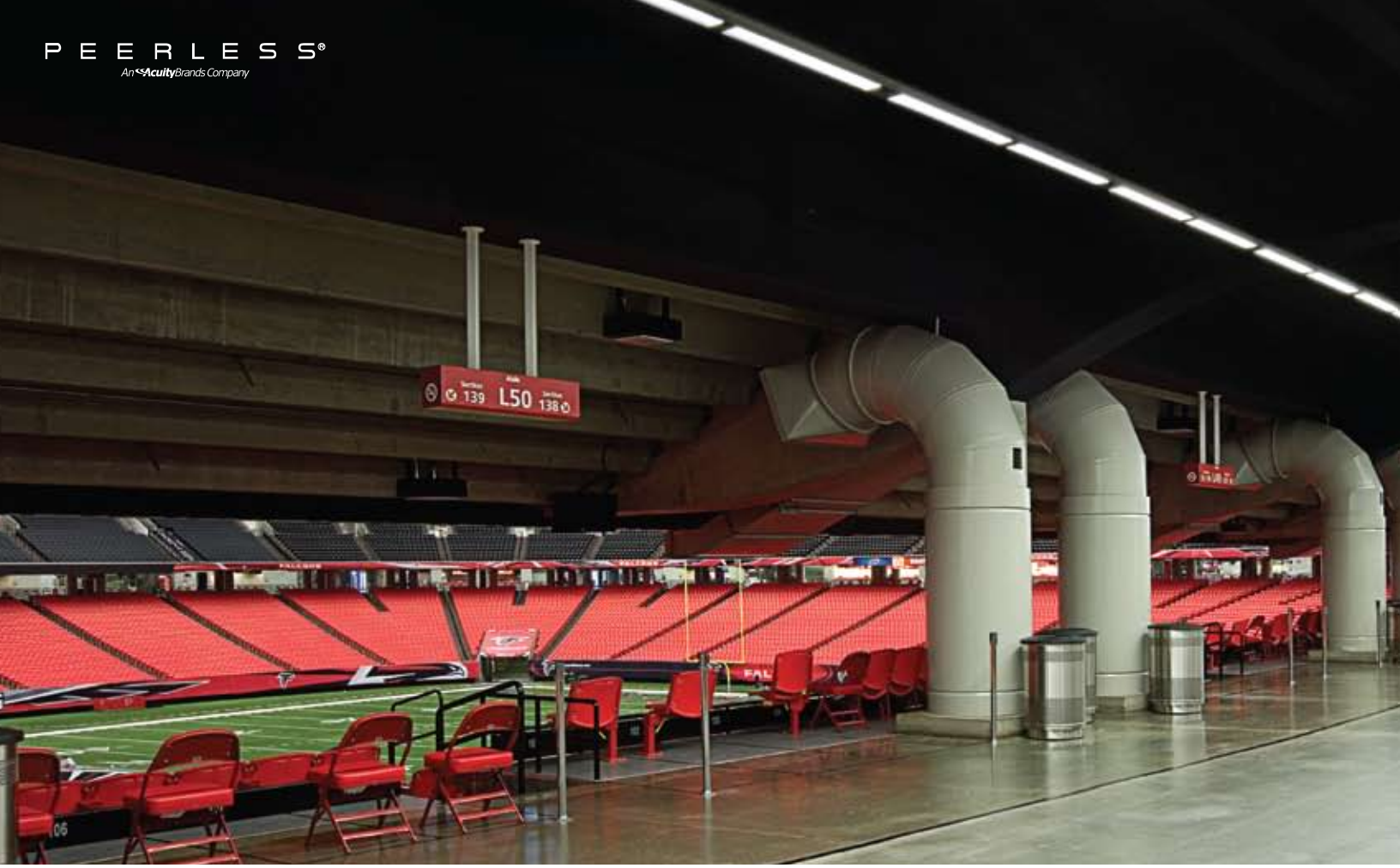
ELECTRICAL CONTRACTOR:
Inglett & Stubbs Electrical Construction
lighting representative:
Lighting Associates, Inc.

PHOTOGRAPHY:
Charlie McLarty

Located in the heart of Atlanta, the Georgia Dome is the world's largest cable-supported dome stadium. Home to the Atlanta Falcons, the Dome hosted Super Bowl XXVIII and XXXIV, the basketball and gymnastic competitions at the 1996 Olympic Games, and the NCAA Final Four. Each year, it hosts the SEC Football Championship, Bank America Atlanta Football Classic and Chick-fil-A Bowl. In addition, the Georgia Dome has provided a venue for large entertainment and religious events, from the Rolling Stones to Billy Graham.

In 2007, the Georgia World Congress Center Authority and the owner of The Falcons engaged local architectural firm tvsdesign to design the renovation of the 1.6-million-sq.ft. building, which had been built in 1992. The resulting two-year, $30 million project involved modernizing the Georgia Dome inside and out, focusing on areas that would make the biggest impact on fans, including the lower and upper concourses and mezzanine. The renovation included a new look for the space—with the red and black colors of The Falcons serving as a prominent motif—as well as new amenities such as additional suites and lounge areas, LED video boards, concession kiosks and more than 350 flat-screen televisions.

The dramatic redesign called for a dramatic lighting scheme, says Robert O'Keefe, AIA, LEED-AP, senior associate/project architect for tvsdesign.



"The existing lighting was utilitarian and inadequate and needed a complete overhaul," he says. "You can have an extremely dramatic effect on a space just by updating the lighting."

"We created a continuous track of light that would wrap around the entire dome and draw your eye around the concourse. In a way, the lighting pulls you through the space."

Conversely, poor lighting can dampen an otherwise dynamic architecture and interior design. The Dome's concourse is a large open public space, requiring particular emphasis on safety. The shape of the space is innately challenging for a lighting designer: long, curved and linear. The clients added to these challenges by demanding that the luminaires emit no light in an upward direction, which might call attention to other visible building equipment installed above the lighting system. They also maintained a zero tolerance for any potential sources of offensive glare that could be picked up by television cameras.

The lighting design team, consisting of the architects and the project's electrical engineer, saw the solution in the unique geometry of the building, which led to a design that is at once unique, dramatic and functional: a suspended continuous luminaire wrapping around the building's interior.

"The concept of the lighting was to create implied movement through the concourse," says O'Keefe. "We created a continuous track of light that would wrap around the entire dome and draw your eye around the concourse. In a way, the lighting pulls you through the space."

On the lower level where the main concourse is located, two rows of lighting, representing 452 two-lamp T5 luminaires, are installed. In the mezzanine, two rows of lighting—228 luminaires—are placed in the end-zone areas. On the upper concourse, a single row of 228 three-lamp T5 luminaires is installed. The number of new luminaires is approximately four times greater than the existing installation, improving light levels.

But this never-ending, curved luminaire is partly an illusion. The actual luminaires—from the Envision family by manufacturer Peerless Lighting—are straight, while the connectors between the luminaires

needed to be subtly curved so ensure a continuous curved string.

Noman A. Khan, PE, LEED-AP, senior electrical engineer for Conway & Owen, Inc., the project's electrical engineer, immediately saw that connecting the luminaires would be challenging.

"The luminaires were joined at both ends to make a complete circle on each level," he explains. "The luminaires chosen utilized thin-diameter fluorescent lamps, so the opportunity for creating a circle was difficult. The angle of the brackets would be different since the building is not a perfect circle. In addition, there are structures within the building that prevented mounting in certain spots."

The architects chose the Peerless luminaire as an economical lighting product offering a clean, modern aesthetic, but the company's ability to engineer a custom solution that met the design team's exact specifications clinched the deal.

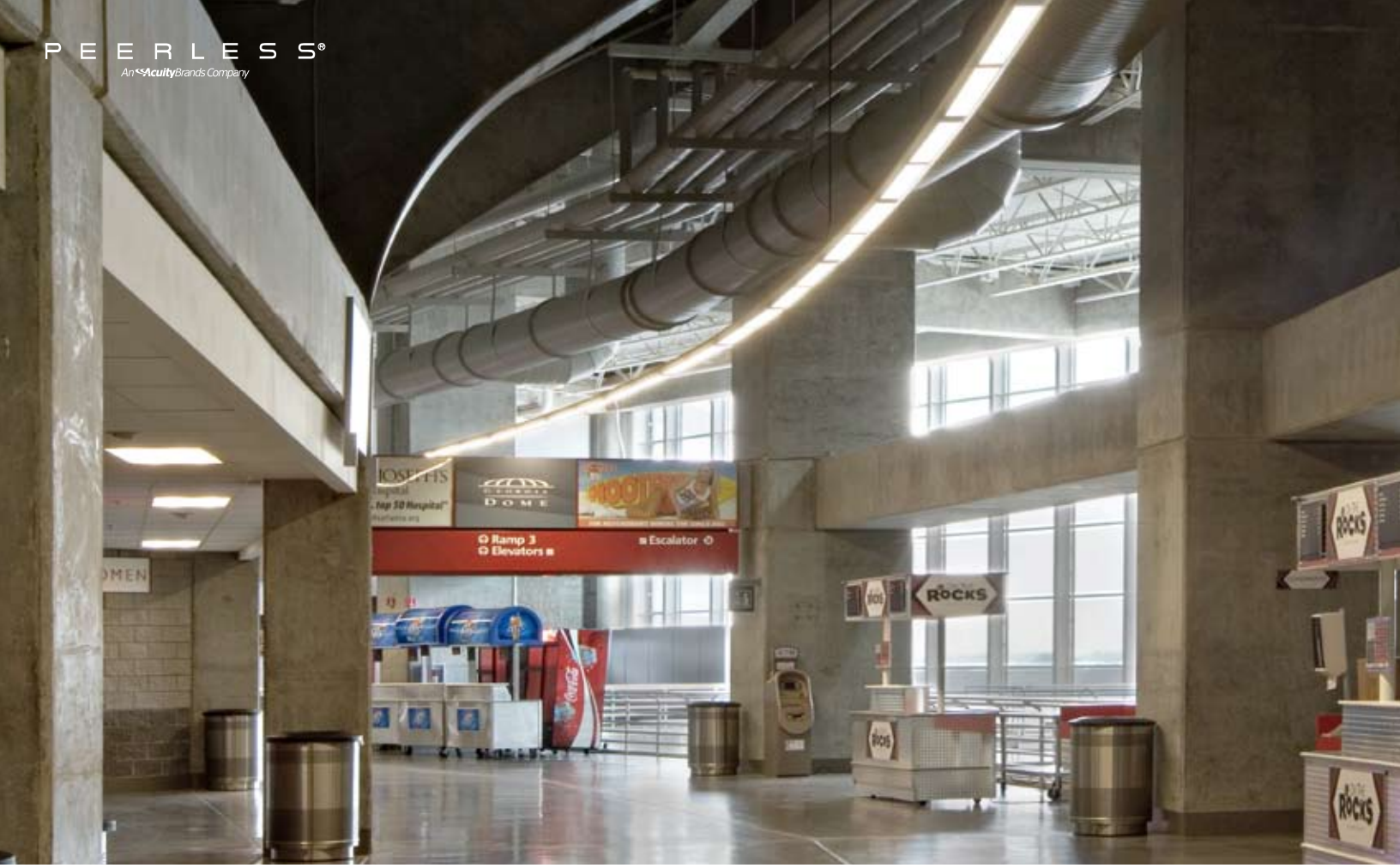
"The transition units that link the luminaires together was the tricky part," recalls Jeff Wierenga, AIA, NCIDQ Certified, senior associate/project manager for tvsdesign. "The solution involved custom brackets. Once the geometry of the building was broken down, however, we found that only five custom transition pieces were needed. The manufacturer worked out the details. Without their assistance, things might not have gone as smoothly."

Gael Pirlot, LEED-AP, project manager for Inglett & Stubbs, LLC, says Georgia Dome's event calendar demanded a stringent installation schedule, for which his company was responsible as the project's electrical contractor.

"Each series of radial connector pieces had to be identified and grouped and palletized to match the installation schedule set by our foreman, Bill Edler," he says. "The overall lighting installation schedule was not only met, but exceeded by weeks. Thanks to the combined efforts of Peerless Lighting, Lighting Associates and Inglett & Stubbs, the largest variance from the anticipated CAD design was less than an inch on approximately a quarter mile of continuous luminaires."

The luminaires themselves were modified to eliminate uplight, per the clients' specifications, and all components arrived at the jobsite clearly labeled to facilitate installation.

"A statement with lighting was made on this project," says Khan. "The original concept that we came up with was shot down by several people claiming that



it was not possible and would cost too much money. We not only prove to them that it was possible, but that it was possible within budget."

"The experience of entering the Dome today is a night to day difference," O'Keefe points out. "Before the renovation, the concourses were dark and cluttered up with visual chaos, overbearing graphics and luminaires mounted directly to the ceiling. Today, as you enter the concourses, the spaces are bright and free of visual chaos."

"With the simplicity of a single spoke of light running through the space, the entire quality of the space becomes special," Wierenga concludes. "The lighting is dramatically brighter and gives the space a more energetic feel."

ABOUT THE DESIGNER

Robert O'Keefe, AIA, LEED-AP, is a senior associate at tvsdesign. Since joining tvsdesign in 2001, he has been involved with projects in a number of design segments, gaining a variety of experience through his involvement in corporate office, convention and entertainment venues. In 2006, he worked with the Georgia Aquarium team, where he participated in all phases of schematic design, design development, construction documents and construction administration, including involvement in the building design, tank design and life support system coordination. O'Keefe is currently working on the Nashville Convention Center serving as one of the Project Architects of the 1.2 million sq.ft. project.

Jeffrey A. Wierenga, AIA, NCIDQ-Certified, is a senior associate at tvsdesign. With 20 years of experience at the firm, he has been involved in a wide variety of building types—shopping malls, restaurants, performing arts centers, academic facilities, manufacturing plants, office lobby renovations and small and large convention centers—carrying with each project a broad range of responsibilities. As Project Architect, Wierenga has provided all phases of service for projects he was responsible for; tasks have included interior design, graphics, architectural design, team leaders, field and office construction administration. Current projects that he has been involved with include convention centers ranging from new construction to expansion of existing facilities.

Noman A. Khan, PE, LEED-AP is senior electrical engineer for Conway & Owen, Inc. With more than 16 years of experience he has gained a solid reputation within such disciplines as lighting design, life cycle analysis for building systems, due diligence audits, commissioning and the LEED certification process for existing and new buildings throughout the southeast United States. A graduate of the Georgia Institute of Technology, Khan earned a Bachelor in Electrical Engineering. He is a member of IEEE.