
Wiring

Underground wiring outside the court area is recommended. All wiring should comply with the National Electrical Code and with applicable state and local codes. A 277/480-volt three-phase system is commonly used for large installations and a 120/208-volt single-phase system is used most often for smaller installations. Wiring for multiple court facilities should be designed so lighting for each court can be operated individually. When installing electrical wiring for light poles, it is advisable to install a duplex outlet at the base of the pole for ball machines or maintenance equipment.

Indoor Lighting

Direct and Indirect Lighting

Lighting can be direct, indirect, or a combination of the two. Direct lighting includes systems that direct the light from the source downward toward the court surface. Direct lighting produces better modeling (or 3-D definition) but has greater potential to **create glare**. For this reason, it is important to pay particular attention to the location and shielding of direct lighting fixtures so that players do not look into the light during play. Another drawback of a direct-only lighting system is that the low illumination of the ceiling surface creates a “cave” effect.

Indirect lighting, or uplighting, involving the installation of fixtures aimed at a highly reflective ceiling, provides the least amount of glare and produces very uniform illumination. However, the shadowless illumination produced by an indirect lighting system provides very little modeling, which can make it difficult for the player to detect spin and/or the direction of travel of the ball or to separate the ball from its background.

The best combination of performance characteristics is provided by a direct/indirect system.¹ At least 30% of the total light distribution should be provided as the indirect component; 40% is preferred. The indirect component of the lighting system makes the facility appear spacious and open by adding luminance to the ceiling and upper walls and enhances the uniform distribution of light. The direct component improves modeling.

¹ *Illuminating Engineering Society of North America, “Sports and Area Lighting,” Recommended Practice RP-6*