

Rock Chalk Park Lighting Spill Analysis

March 7, 2014

A lighting calculation was performed of Rock Chalk Park to determine the amount of spill lighting at the project boundary. This calculation was created based on the calculations previously performed by the manufacturer of the specified sports lighting fixtures. Documents used include the following:

- Base CAD file of site: 212-140 Lighting base.dwg
- CAD Calculation files performed by Qualite: 15874D1.dwg, 15874d7.dwg, 15874D14.dwg, 15874d15.dwg
- Lighting Calculation Overlay from Qualite: LD13128_1-8-14 overlay for calc.dwg and PDF version
- Spill Lighting Summary from Qualite: ROCK CHALK SPILL – QL-15874.pdf
- IES files from Qualite for sports lighting: ITL39665.IES, ITL41283.IES, ITL73611.IES, ITL73613.IES, ITL73615.IES, TILT.TLT, 45.TLT, and 60.TLT
- IES file for parking areas: ALPHA-PH1-D5-CW_LTL109768.IES
- Site Plan including building heights: AS100.pdf

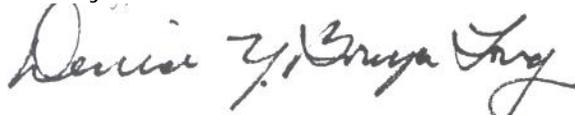
Our calculation combines the lighting at all fields and the parking areas into one calculation. The individual field calculations were compared against the Qualite calculations to verify equivalent performance. Buildings/structures that had potential for blocking spill light were added to the calculation as blocks, rather than detailed elements. The calculation shows initial light levels for all fixtures, and does not use the light loss factor that Qualite included in their calculations.

The calculation shows horizontal light level points (listed in foot-candles) across the project every 10ft. Calculation points shown in red are greater than or equal to 0.1 foot-candles. Calculation points in black are less than 0.1 foot-candles. The blue isoline indicates calculation points at 1.0 foot-candles. The red isoline indicates calculation points at 0.1 foot-candles. The light levels were not reviewed for appropriateness, but were reviewed only for light trespass.

While the results show some light beyond the project boundary line, the highest light level shown is 0.7 foot-candles at the southeast corner of the site adjacent to the overflow parking lot. This light-level is insignificant. Therefore, there is no significant light trespass at the project boundary. Please refer to the attached calculation for detailed information.

The proposed lighting system includes the use of external visors on the floodlights. The visors reduce the amount of spill light and provide some glare control. This is a typical method of shielding this type of fixture and reducing off-site glare impacts. It's our opinion that this is appropriate for use in outdoor sports lighting applications.

Sincerely,



Denise Fong
Principal

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