

A P P E N D I X E

L I G H T I N G S T U D Y



**THE TERRACES OF LAFAYETTE
NIGHTTIME LIGHTING STUDY**

PlaceWorks

June 30, 2014

The proposed Project would introduce new sources of light and glare in the Project area. The Project’s conceptual lighting plan includes streetlights, pedestrian lighting, and parking lot lighting. All lighting would be installed in conformance with the City’s exterior lighting requirements. Lighting would be directed downward and shielded to minimize spill-light and glare. Table 1 presents details of the proposed lighting fixtures.

Light	Manufacturer	Model	Fixture	Pole Height	Bulb Wattage	Bulb Type
Street Lights	Spectra	Element Series LED	ELE-FLR-GR5 W/BAND-PT	12'	40W	LED
Parking Lot	McGraw-Edison	Gleon Galleon LED	Gleon-AE-02-LED-EL-5WQ	12'	60W	LED
Parking Lot	McGraw-Edison	Gleon Galleon LED	Gleon-AE-02-LED-EL-5WQ	22'	60W	LED
Pedestrian	Spectra	Seabridge LED Bollard	Spectra Bollard Cone Type V (Medium)	3'	18W	LED

Based on the Lighting Plan, 2-year Planting Plan (Appendix B), and proposed light fixtures, PlaceWorks simulated the lighting performance under nighttime conditions and predicted the illumination levels across the site and along adjacent areas. With the use of AutoCAD 2014 and SketchUp Pro Version 8, a model was created and used in Autodesk® 3ds Max® 2011 to light the study site. The information input to the model includes proposed buildings, streets, slopes, two-year trees, location and height of the light poles, as well as levels and distribution of luminaires. The analysis does not include any pedestrian lighting, interior lights or moonlight. Moreover, the impacts from dust, ground covers, or any structures that might partially or entirely block light sources does not account in the process.

A foot-candle is a measure of illuminance or light intensity. The foot-candle is equal to one lumen per square foot. The table below specifies the recommended minimum and maximum illumination levels for outdoor uses by illuminating Engineering Society of North America (IES or IESNA) (IES, Recommended Practices RP-33-99).

Area / Activity	Minimum Foot-candles	Maximum Foot-candles
Building Entrance	2.0	5.0
Sidewalks	0.2	5.0
Public Parking Lots	0.2	4.0(Ratio 20:1)
Private Parking Lots	0.13	2.6(Ratio 20:1)

The light levels shown on Figure 1 demonstrate that the proposed lighting plan meets the standards for outdoor residential uses. Light from this project drops to insignificant levels within a short distance of the property line. Based on a significance threshold of 0.5 horizontal foot-candles, the spillover light levels at the adjacent residential areas do not represent a significant impact. Therefore, no negative environmental impact (i.e. light pollution or light trespass) is associated with this plan. Figure 2, Nighttime Light Simulation – Plan View, provides a simulated aerial view of the projected lighting level.

Figure 1. Projected light spillover in Foot-candles



Figure 2, Nighttime Light Simulation – Plan View



