

# Case Study

## Lighting for a Multi-family & Hospitality

Enlighten Solutions

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## Case Study

### Lighting for Multi-Family & Hospitality

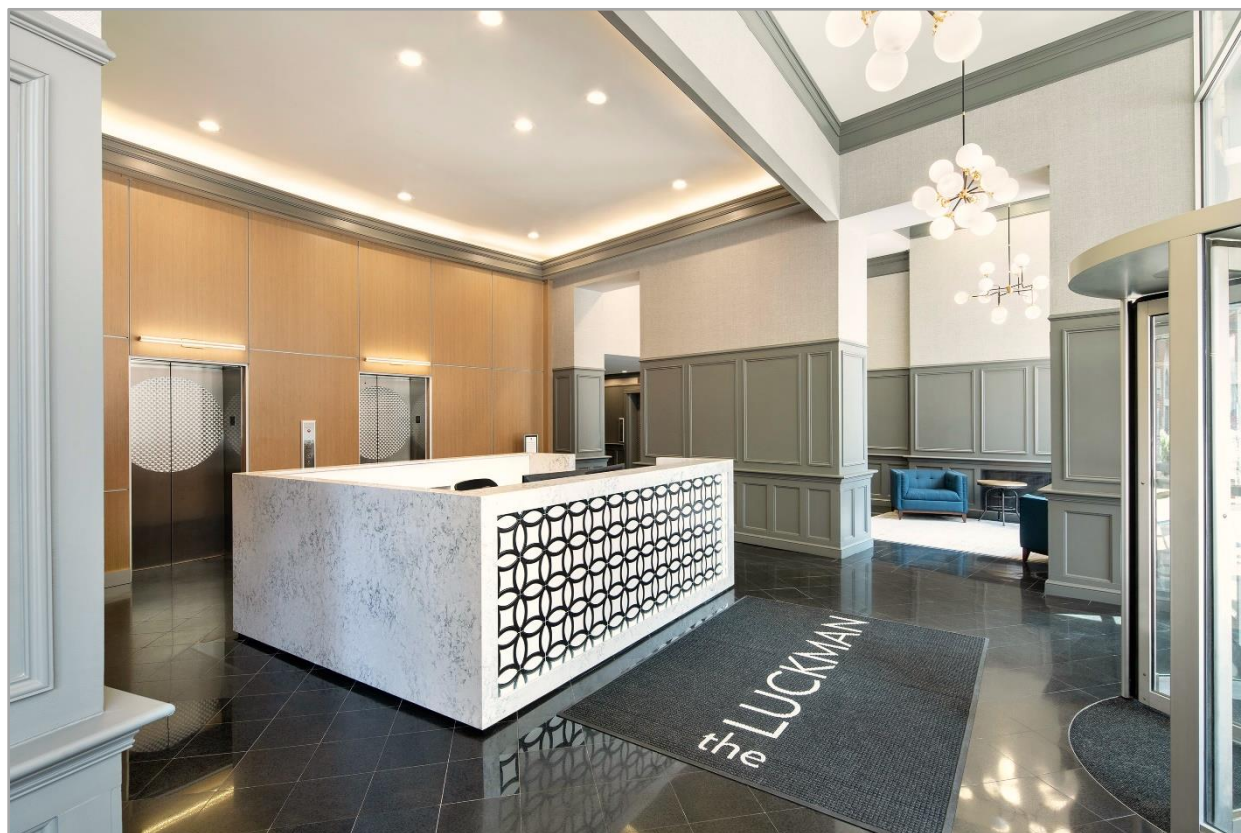
## Executive Summary

With the re-urbanization trend of the last decade, many downtown neglected buildings are now being renewed. In the multi-family world, renovation is often the foundation for a rent-growth and/or disposition strategy. It's quite remarkable what can be done with new paint, finishes, and lights.

This case study follows the process and outcome of designing and implementing a new LED lighting system as part of the renovation effort of this multi-family high-rise. This project shows the many capabilities and benefits of working with a partner such as Enlighten.

We will review the following areas, and the key factors to implementing a high value lighting system in each:

- a) Units
- b) Parking Garage
- c) Halls & Stairwells
- d) Lobby & Amenity Areas



Lobby

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### Units

*Complement Design Aesthetic / Minimize Capital Cost*



Model Unit Kitchen

Unit lighting in multi-family communities tends to be simple. There is most often a light at the entry, in the kitchen, near the dining area, and in the bathroom. Rooms are of basic geometry and small, so estimating illumination is easy. Much of the task for the units comes in fulfilling the design aesthetic at a good value and then ensuring timely delivery to support project pace. Value is likely the most important aspect as the cost of even a competitive lighting system adds up over the span of several hundred units. Thanks to Enlighten's wide selection of residential lighting lines, we were able to provide the client with not only a series of fixtures that matched the design aesthetic but also saved a significant amount of money over the designer specified models. The fixture manufacturing field is actually a very competitive arena. However, there are only a few large fixture manufacturers who aggressively maintain relationships with architects and designers. Consequentially, these few lines exert a quasi-monopolistic influence. Often being the only ones specified, these manufacturers take advantage of the reluctance of architects and designers to explore other options. Clients with limited lighting knowledge are often hesitant to deviate from their architects' recommendations and end up paying a substantial premium as a result. Below is a table showing the difference in material cost for this project between the specified models and the alternatively supplied models. What's more (and as was the case for this project), there is often very little, if any, difference in aesthetic design, build quality, or illumination performance between the "premium" and regular fixture. Not even a lighting expert could tell the difference in many cases if the manufacturers' labels were removed.

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### Lighting for Multi-Family & Hospitality

Fixture	Enlighten Cost	Spec'd Cost	Material Savings	Elec. Savings
LED Entry	\$19,507	\$50,540	\$31,032	\$398
LED Vanity Lg	\$36,149	\$64,367	\$28,218	\$7,918
LED Kitchen	\$38,974	\$44,874	\$5,900	\$921
LED Dining	\$18,766	\$44,563	\$25,797	\$728
LED Bath Can	\$4,407	\$10,517	\$6,111	\$6,014
LED Closet	\$4,635	\$14,023	\$9,389	\$1,152
Totals	\$122,438	\$228,884	\$106,447	\$17,131
Rebate	\$4,429	Net Material Savings		\$110,876

The above table summarizes the material savings as well as the electric savings. In all, over \$100,000 or 47% was saved by utilizing an Enlighten recommended alternate fixture set. An additional estimated \$17,000 in electric savings were realized annually as well by converting away from inefficient incandescent and fluorescent lights.



Left: Model Unit Bathroom | Right: Model Unit Living Room

## Parking Garage

### Maximize Security

One of the top security concerns for residents of multi-family communities surrounds the parking area. For this reason, the improvement of illumination in the parking area was ultra-critical. The pictures below show the before and after illumination status of the parking garage. As can be seen, the previous lighting system was in a state of disrepair. This is not an uncommon situation as the lamps for older non-LED technologies rapidly decrease in brightness making it costly and difficult to maintain good illumination.



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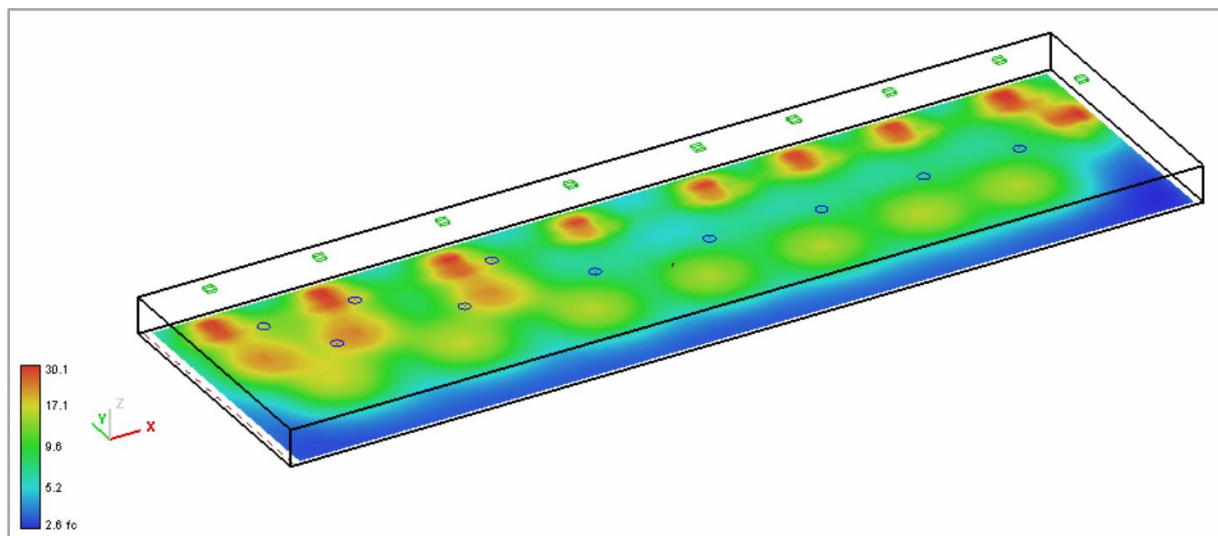
### Lighting for Multi-Family & Hospitality



Parking Garage: Left – Before | Right – After.

Enlighten's ability to provide lighting layouts helped to predict illuminance levels under a new LED system and thus ensured the proper solution was implemented. Overall brightness more than tripled, and minimum illuminance levels rose from near zero to almost 3 foot candles. Perhaps more than the foot candle statistics a statement from one young tenant best describes the drastic improved feel of the garage: "My girlfriend will now come to visit me." In addition, Enlighten was able to achieve a cost offset of over 40% via the utility rebate program. (The client's designer did not specify any lighting models for the garage so Enlighten acted as the sole consultant.)

Area	Enlighten Cost	Spec'd Cost	Materials Savings	Rebate	Annual Elec. Savings
Garage	\$18,508	\$18,508	\$0	\$7,533	\$25,361



Computer rendering of a garage segment showing potential illuminance of the new system.

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### Lighting for Multi-Family & Hospitality

## Halls & Stairwells

### *Minimize Energy / Maximize Rebate*

Similar to the units, strategic value engineering is important in the lighting system for the hallways of any mid or high-rise apartment complex. In a high rise, hallways account for one of the largest portions of electricity spend for the owner as well. It is therefore also important to put forth the most energy efficient solution as possible. In the stairwells, a motion triggered system was recommended that minimized energy use in the infrequently occupied space. Moreover, Enlighten identified a rebate program that further offset the cost of the lighting system to the client. Finally, Enlighten identified and provided a solution for a missing emergency lighting system in order to bring the building into modern code compliance. The below table summarizes the final materials cost from Enlighten versus the cost that would have been incurred under the originally specified models as well as the additional material cost offset realized by the utility rebate. Between Enlighten's strategic value engineering and rebate management, the client was able to achieve almost 50% material cost savings in addition to over \$13,000 in annual electric savings.

*"The client was able to achieve almost 50% material cost savings in addition to over \$13,000 in annual electric savings."*

Area	Enlighten Cost	Spec'd Cost	Materials Savings	Rebate	Annual Elec. Savings
Halls, Stairwell, BOH	\$66,359	\$123,363	\$57,004	\$8,626	\$13,292



Elevator Landing and Hallway

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### Lobby & Amenity Areas

#### Maximize Marketing



Lobby Seating Area

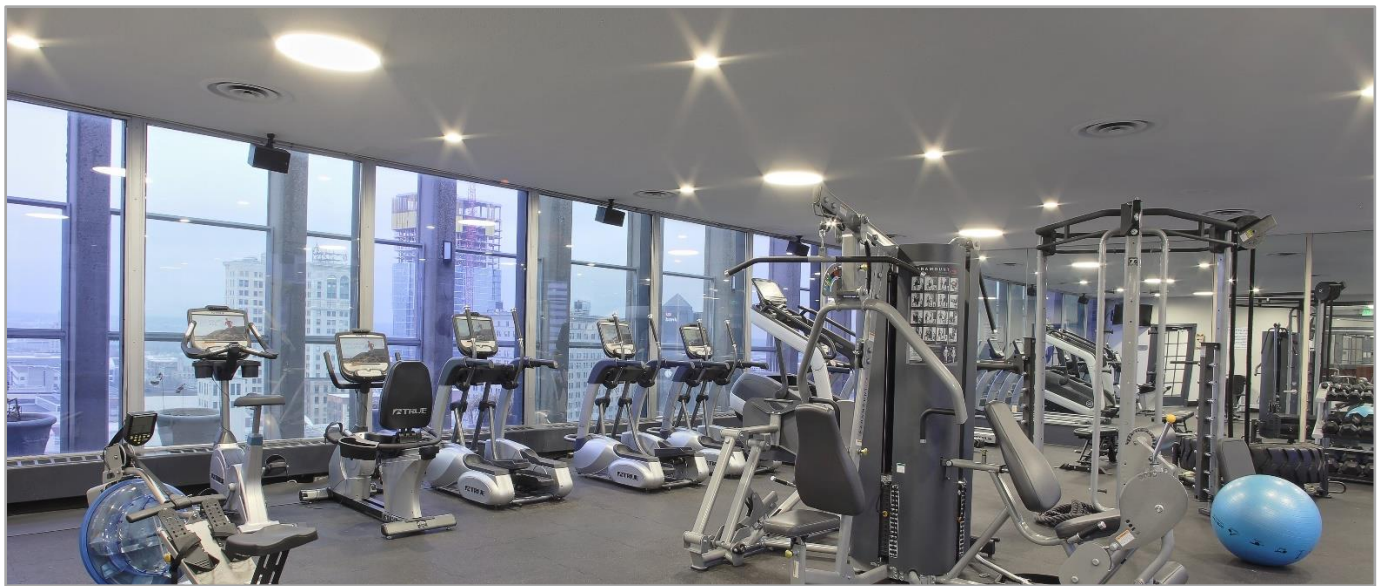
The lobby area as well as the amenity areas are one of the key deciding factors for prospective tenants. Most apartment units at a given rent level are quite similar in size, finishes, and layout. Therefore, many owners and developers use the amenity spaces to differentiate their tenant offering against the competition. All of the amenity spaces at this location were outdated, and Enlighten provided key assistance in refining the lighting package and space illumination in each area. Furthermore, at this site, the lobby was highly visible to passerby's and prospective tenants. It was therefore of the utmost importance that the lobby achieve a superior aesthetic and marketing appeal. Thanks to Enlighten's wide line card, this was easily realized. We were also able to integrate emergency lighting into the lobby and bring the space up to modern code. In addition to the lobby, amenity spaces Enlighten helped design and supply lighting systems for included a fitness center, a rooftop pool deck, an outdoor courtyard, and a tennis court. In all, Enlighten was able to achieve over \$6,500 in utility rebates for the lobby and amenities areas and a materials savings of over \$15,000 in the exterior courtyard area.

Area	Enlighten Cost	Spec'd Cost	Materials Savings	Rebate	Annual Elec. Savings
Exterior Courtyard	\$15,610	\$30,732	\$15,122	\$0	\$225
Lobby & Amenity	\$35,147	\$35,147	\$0	\$6,577	\$10,035



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Fitness Center

## Project Summary

Enlighten's three main strengths are its technical expertise, its diverse line card, and its commitment to client goals. This project took patience and persistence to help the client realize their vision as well as find significant capital cost savings. In all, over \$200,000 was saved in comparison to originally specified items. Adding in the annual electric savings from a more efficient lighting system, the added asset value comes in at over a million dollars!<sup>1</sup>

### Project Stats

**Net Materials Savings: \$205,738**

**Est. Annual Elec. Savings: \$66,044**

**Assumed Capitalization Rate: 5%**

**Added Asset Sale Value: \$1,320,880**

Enlighten Cost	Spec'd Cost	Rebate	Net Material Savings	Annual Elec. Savings
\$258,061	\$436,634	\$27,166	\$205,738	\$66,044

## Contact

For questions on this case study or general lighting and control services contact the below. Enlighten is an LED lighting and advanced controls wholesaler and consultant. We partner with clients to provide and implement lighting solutions for commercial and industrial locations.

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<sup>1</sup> 5% capitalization rate assumed: <https://apartmentloanstore.com/cleveland/ohio/cap-loan-rates>