

MINDWAVE RESEARCH

CREE LED Research

Raleigh Municipal Parking Facility Survey
Pre-Installation and Post-Installation Results



Background: LED Lighting was installed on Level 3 of the Municipal Parking Garage in Raleigh, NC

Objectives

- **The primary objective of this study is to discover if there is a significant perceived improvement in respondents' overall perceptions of the garage after the installation of LED lighting**
- **As part of this objective, CREE would like to better understand the following:**
 - Has the quality of the lighting improved?
 - Do respondents feel safe/safer?
 - Are there any changes in perception about ease of entry, maneuverability in the garage, the number of available parking spaces, and garage cleanliness?

Screening Criteria

To qualify to participate in the study, all respondents had to meet the following criteria:

- Respondents must be 18 years or older
- Surveyed respondents must park on the flat area of Level 3 of the parking garage
- Those parking on the ramps leading to and from Level 3 are not to be surveyed

Methodology

- Independent survey commissioned by CREE and executed by Mindwave Research
- Survey administered in a Raleigh, NC municipal parking garage
- One-page, self-administered survey taken upon entry/exit to the garage
 - Identical 2-3 minute survey delivered to respondents pre- and post-installation
 - Administered via intercept interviews
- **Field Dates:**
 - Pre-Installation: November 13 – 17, 2006
 - Post-Installation: February 5 – 8, 2007
- **400 total completed qualified interviews:**
 - 200 pre-installation
 - 200 post-installation

Key Findings and Recommendations



Key Findings

- Perceptions of the lighting quality improved three-fold post-installation
- Overall satisfaction with the parking facility doubled with the installation of the LED lighting solution
- Both males and females felt significantly safer after the lighting was changed
- Ratings on maneuverability, cleanliness, and number of available parking spaces also improved significantly after the installation of LED lighting

Recommendations

- Encourage the City of Raleigh and other parking facilities to install LED lighting throughout their facilities
- Focus on perceived safety improvements
- Stress benefits over traditional lighting
- Suggest LED lighting installation as an easier and more cost-effective method of addressing some of the more common parking facility issues

Detailed Findings

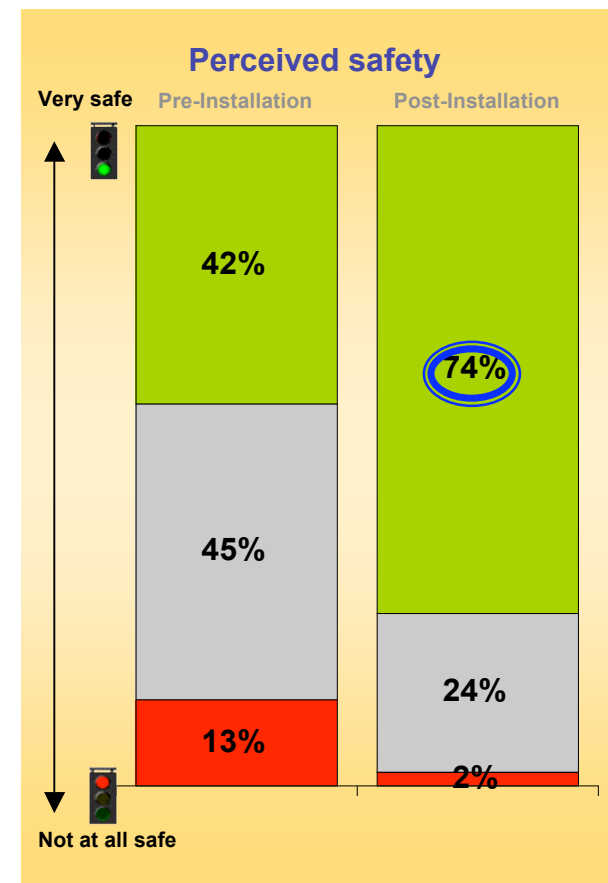
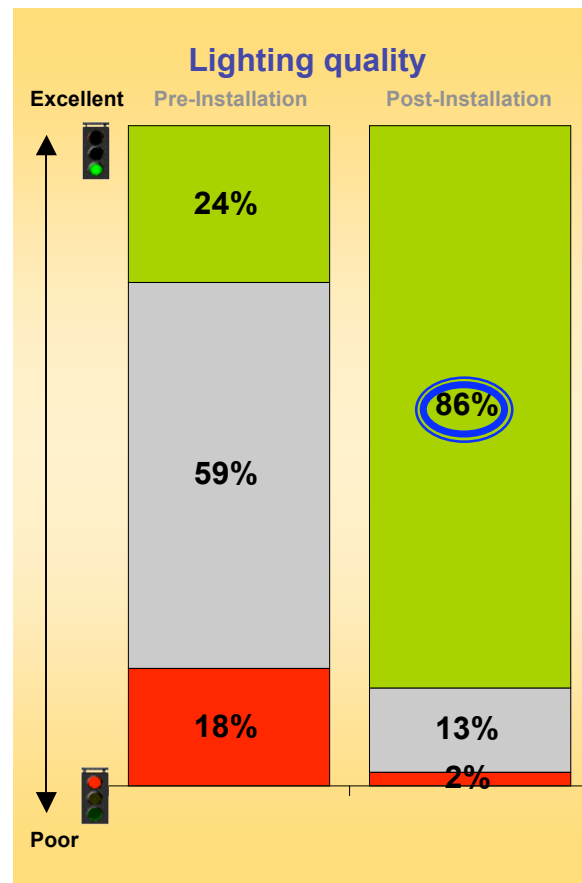
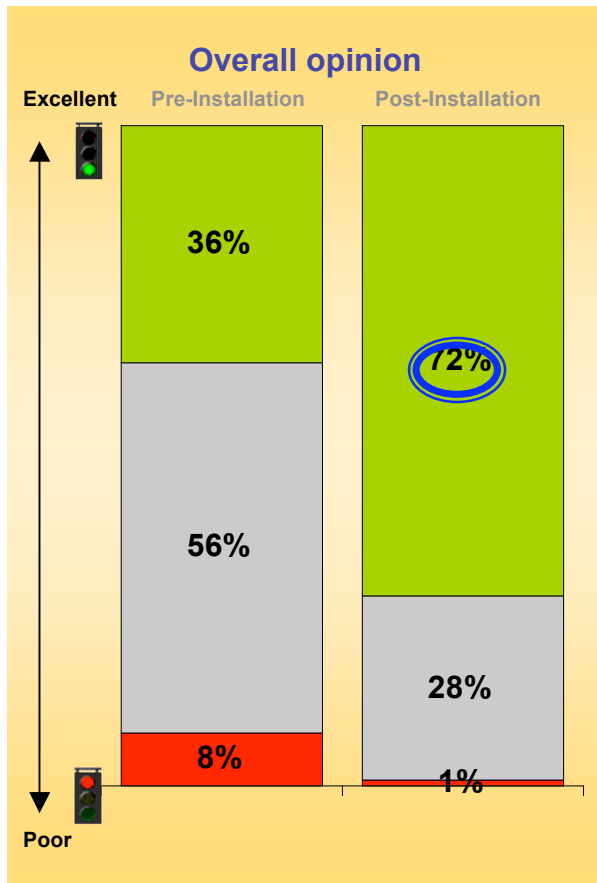
Significant improvement in the perception of lighting quality post-installation



- Positive reactions to the facility's lighting were over 3x higher post-installation
- Overall opinion of the parking facility and perceived safety also improved dramatically
- Both males and females felt significantly safer post-installation

Pre-Installation n=200
Post-Installation n=200

- Positive (Top 3 Box)
- Neutral (Middle 4 Box)
- Negative (Bottom 3 Box)



Q5. On a scale from 1 to 10, how would you rate the quality of the lighting in the parking facility?

Q6. On a scale from 1 to 10, how safe do you feel in the parking facility?

Q7. On a scale from 1 to 10, what is your overall opinion of the parking facility?

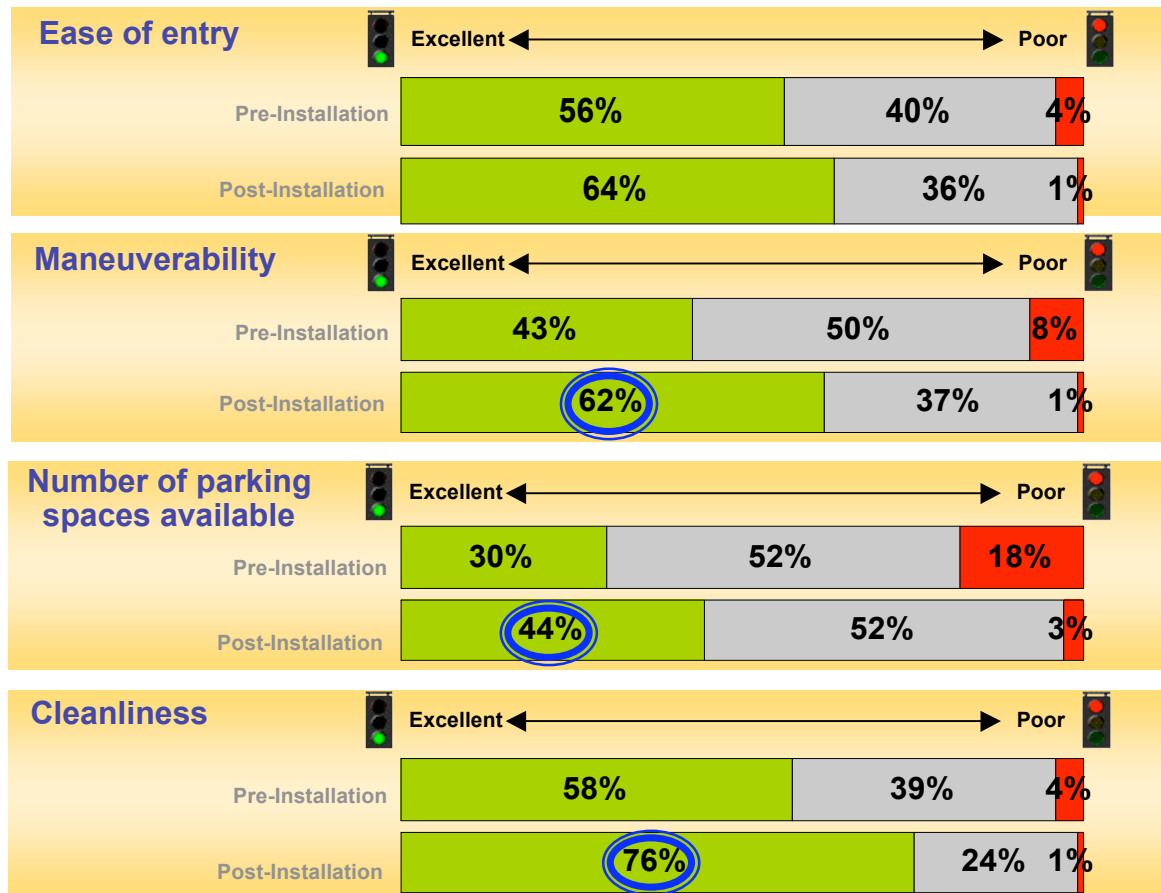
ⓘ Indicates significant differences at the 95% confidence level



Respondents react more positively to garage experience after LED installation



- Positive responses to maneuverability within the facility, the number of available parking spaces, and cleanliness were also significantly higher post-installation



Pre-Installation n=200
Post-Installation n=200

■ Positive (Top 3 Box)
■ Neutral (Middle 4 Box)
■ Negative (Bottom 3 Box)

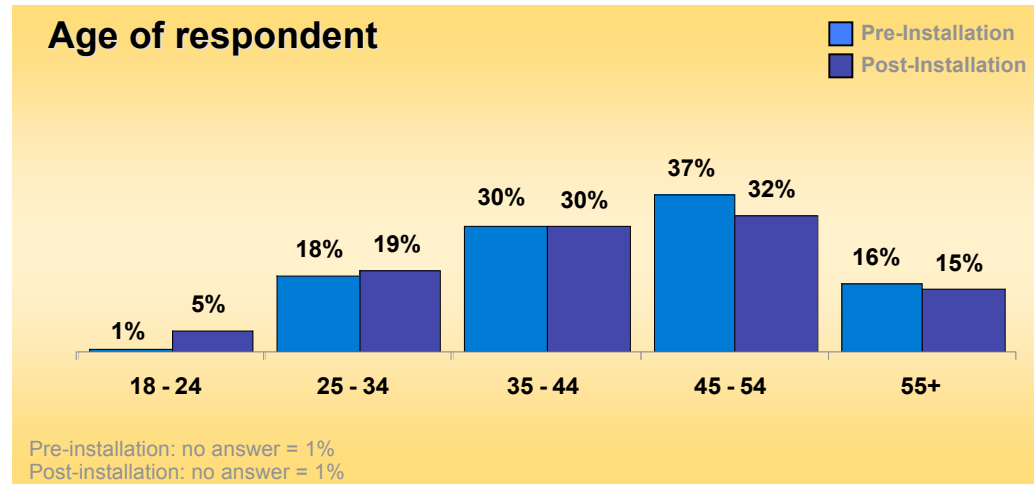
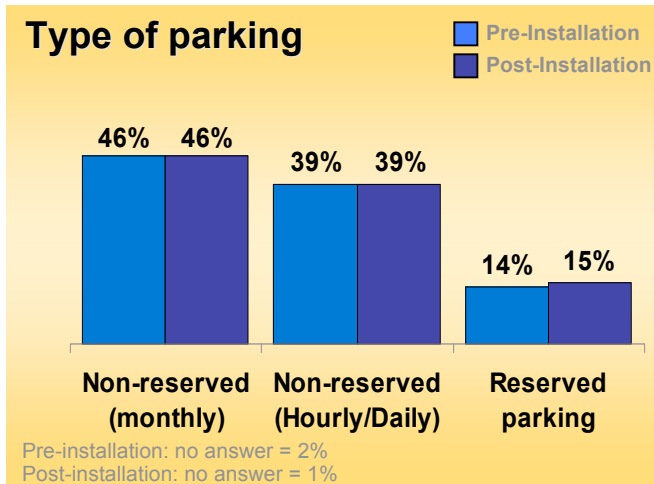
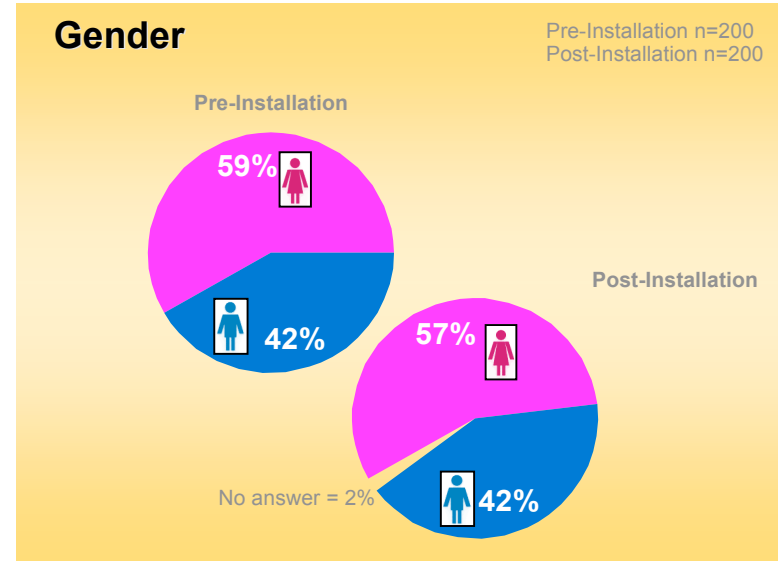
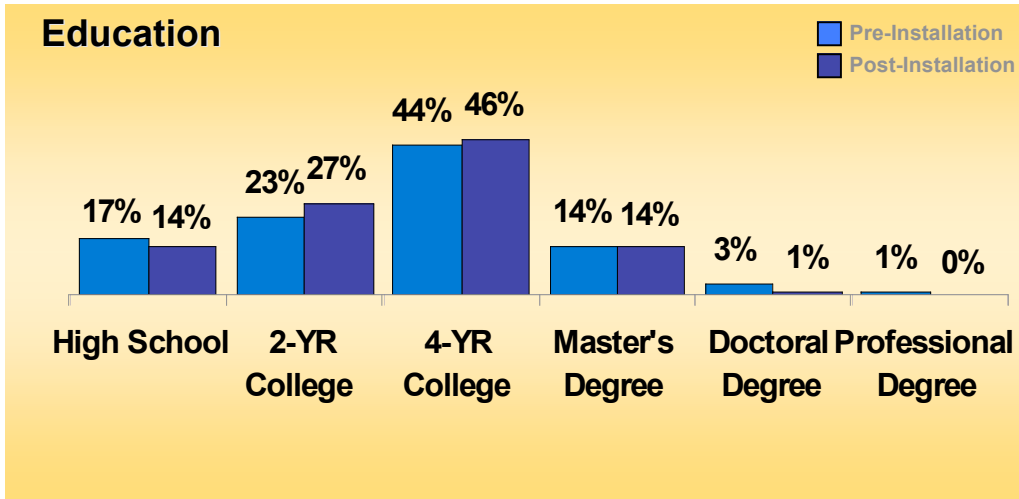
○ Indicates significant differences at the 95% confidence level

- Q1. On a scale from 1 to 10, how would you rate the ease of entry to the parking facility?
 Q2. On a scale from 1 to 10, how would you rate the maneuverability within the parking facility?
 Q3. On a scale from 1 to 10, how would you rate the number of available parking spaces for hourly/daily (non-contract) parking?
 Q4. On a scale from 1 to 10, how would you rate the cleanliness of the parking facility?



Respondent Profile

Respondent Profile



Q8. Are you currently employed by the City?
 Q9. What type of parking did you use today?
 Q10. What is your gender?
 Q11. What is your age?

