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SEPTEMBER 2012

OCCUPANT RESPONSIVE LIGHTING

OPPORTUNITY

How much electricity is used for lighting in U.S. commercial buildings?

39%

OF ELECTRICITY

goes to lighting[1]

1%

OF BUILDINGS

have advanced lighting controls[2]

TECHNOLOGY

How does Occupant Responsive Lighting save energy?

USES 3 CONTROL STRATEGIES

occupancy sensing, timer scheduling, and dimming

M&V

Where did Measurement and Verification occur?

LAWRENCE BERKELEY NATIONAL LABORATORY assessed the use of responsive lighting systems in 5 federal buildings in California

RESULTS

How did Occupant Responsive Lighting perform in M&V?

27%-63%

ENERGY SAVINGS[3]

savings vary depending on operating hours & occupancy[4]

IMPROVED

SATISFACTION

better quality light with less glare within p100 standards[5]

6

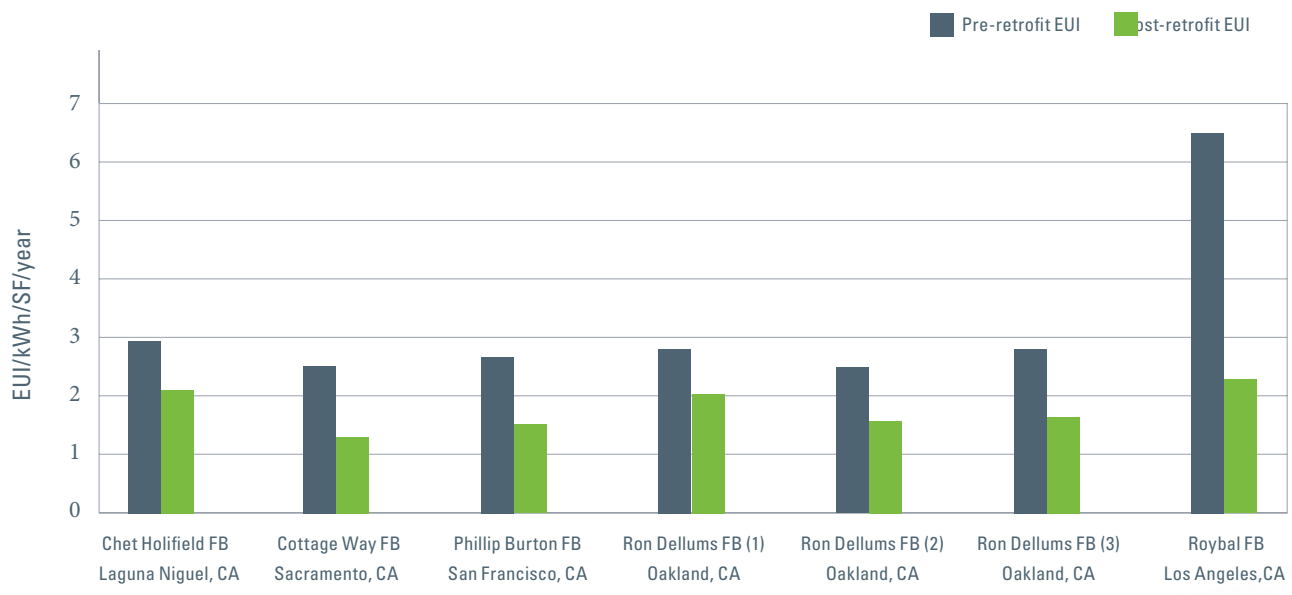
YEARS

payback for call centers

Lit 18 hours a day 7 days a week[6]

Annual Energy Savings By Site

Energy savings ranged from 27% to 63%



DEPLOYMENT

Where does M&V recommend deploying Occupant Responsive Lighting?

LONG OPERATING HOURS

Buildings with operating hours > 14 hours
Utility costs > $.11 kwh
And variable occupancy patterns

[1]Responsive Lighting Solutions. Joy Wei, Abby Enscoe, Francis Rubenstein (LBNL), September 2012, p.17 [2]Ibid, p.17 [3]Ibid, p.34 [4]Ibid, p.12 [5]Ibid, p.13 [6]Ibid, p.12

GSA

The Center for Emerging Building Technologies enables GSA to make sound investment decisions in next-generation building technologies based on their real-world performance. **www.gsa.gov/cebt**