

Recouping the Cost of LEDs in Less Than Two Years: A Case Study of Trinity's Great Hall

Trinity Episcopal Church of Bloomington replaced fifty-two 80-watt halogen flood lights in their Great Hall with fifty-two 18-watt LEDs. Both the old and the new were PAR 38. The following calculations are based on the lights being used an average of 25 hours/week (1,000 hours/year):

\$1,529	Purchase cost (fifty-two LEDs @ \$29.40 each)*
- \$ 520	less Duke Energy rebate (52 lamps installed @ \$10 rebate each)
<u>\$1,009</u>	Cost of LEDs
<u>\$ 150</u>	Plus installation cost
\$1,159	Total investment cost (for a 20- to 40-year life)
- \$ 371/yr.	savings on electricity at \$0.115/kWh
	.062 kW saved per lamp x 1000 hrs/yr. x 52 lamps = 3224 kWh saved per yr.
	3224 kWh saved per yr. x \$0.115/kWh = \$371
- <u>\$ 335.00/yr.</u>	savings on lamp replacement [cost of replacing the old 80 W lamps every
	two years: (52 lamps x \$10 per lamp) + \$150 labor = \$670 divided by 2 years
\$ 706/yr.	in savings = \$ 59/month
\$ 1,159 cost / \$59 savings per month	= 20 months to recoup investment with savings

Trinity will recoup the total costs of its switch to LEDs in just 20 months after which it will save \$ 706 each year – more if electricity rates rise - for the next 18 to 38 years.

*Received this discount by purchasing a minimum of sixty **Toshiba 18P38/27LFL-T** lamps from Lighting Services of Indiana, 1591 North Harding Street, Indianapolis, IN 46202; contact: Travis Belden.

