Project: Thomas Jefferson University - Edison Building North Tower
Highlights: 24 Story Stair Tower LED Retrofit with Delamping
Address: 130 S. 9th Street, Philadelphia, PA 19107
Owner: Thomas Jefferson University (www.jefferson.edu)
LED Installation: Q2 2014

Opportunity
Lighting consumes a significant amount of electricity for a multi-story building. Like similar structures, the North Stair Tower at the Thomas Jefferson University Edison Building had inefficient T8 fluorescent fixtures lighting the stairwells. With a 24/7 run time, totaling 8,760h/year, the existing fixtures used 52,560 kWh per year. The $.08/kWh electricity rate resulted in a lighting cost of $4,204 per year, and an annual replacement maintenance cost of $1,600.

Solution
Independence LED provided a delamping strategy to replace the existing 100 fixtures, each using 60w of energy (after ballast factor), with 50 fixtures using 32w each, resulting in a savings of 74%. The external driver and aircraft grade deep fin aluminum heat sinks on the LED tubes provide the robust thermal management to provide a 7-year lifetime at the 24/7 run time, versus the 2.3 lifetime of the existing fluorescents. The new LED’s also created a brighter, cleaner light as shown in the photos below.

Results
By reducing the fixture wattage from 60w to 32w, and cutting the number of fixtures in half from 100 to 50, the total annual savings is 38,544 kWh and $3,084 per year. Over the 60,000 hour 7 year life of the LEDs at 24h/day the lifetime energy savings is $21,584. The project also earned a $3,854 rebate from the local energy provider. Thomas Jefferson plans to retrofit the South Stair Tower with our LED products based on the success of this project.