



Project Summary

New Brunswick Public Schools, located in Middlesex County, New Jersey, is a comprehensive, community public school district serving students from kindergarten through 12th grade. In an effort to reduce energy usage, the district converted 10 locations fully to energy efficient LED lighting and chose over 30,000 of RVLT's Generation 3 LED tube lights. A significant energy efficiency rebate from New Jersey's SmartStart Building Program increased the benefits of the LED lighting retrofit.

End User: New Brunswick Public Schools, New Brunswick, NJ

Application: Classrooms and gyms for 10 locations

Products: RVLT LED tubes, fixtures, and high bays

Benefits: ■ Over 50% reduction in lighting costs

Overall annual cost savings of approximately 25%

Immediate savings from LED lighting helped schools allocate additional funds where needed

Achieved lighting standards required by school system at much lower cost

Elimination of fluorescent ballasts delivered ongoing maintenance cost reductions

Project Overview



Back in 2013, New Brunswick Public Schools began to consider a lighting upgrade after a consultant's study indicated a lighting upgrade would meet the "go forward" criteria defined as "medium payback" at between 5-10 years. An LED lighting retrofit provided the solution. New Brunswick chose Johnson Controls (JCI), a global diversified technology and industrial leader serving customers in more than 150 countries, as their energy contractor. They manage all aspects of sustainability projects, are

experts in schools, and have implemented solid state lighting technology with prior projects.

JCI chose to partner with Tri-State LED, located in Greenwich, CT, a division of Revolution Lighting Technologies (NASDQ: RVLT), to upgrade the New Brunswick school system to LED. Tri-State LED provided detailed audits, samples, financial models, and onsite services to support Johnson Controls and their affiliates. Because JCI was involved in several sustainability





Project Overview (con't)

projects for New Brunswick, other than the lighting upgrades, they needed a dependable contractor, experienced with all electrical components, to include LED lighting, so they chose Facility Solutions Group, (FSG).

Total energy and maintenance savings to the district is estimated at \$3.5 million over 10 years. The New Brunswick project is a wonderful example of teamwork and success.

"This project will make our schools more energy efficient, eco-friendly and better for our students to learn and grow," said Richard Kaplan, Superintendent of New Brunswick Public Schools.



New Brunswick Mayor Jim Cahill stated, "This innovative project will upgrade the school district's energy systems without any impact to our taxpayers and will reduce our carbon footprint immensely. Our school community embraces change, and I congratulate Superintendent Kaplan and the Board of Education for taking on this remarkable task."

Cost Analysis

Annual LED Life-Cycle Cost Analysis

2' T8 Fluorescents 627 73,612.82 \$ 0.13 \$ 9,569.67 3' T8 Fluorescents 18 1,931.29 \$ 0.13 \$ 251.07 4' T8 Fluorescents 12,704 2,276,431.94 \$ 0.13 \$ 295,936.15 MH 175W Lamps 12 11,300.40 \$ 0.13 \$ 1,469.05 MH 250W Lamps 234 34,343.59 \$ 0.13 \$ 4,464.67 MH 400W Lamps 46 251,457.65 \$ 0.13 \$ 32,689.49 Total Costs for Period RVLT Fixture Number Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Savings Energy Savings \$	Existing Fixture	Fixtures	Energy Use (kWh)	Cost/Unit	Total Cost
4' T8 Fluorescents 12,704 2,276,431.94 \$ 0.13 \$ 295,936.15 MH 175W Lamps 12 11,300.40 \$ 0.13 \$ 1,469.05 MH 250W Lamps 234 34,343.59 \$ 0.13 \$ 4,464.67 MH 400W Lamps 46 251,457.65 \$ 0.13 \$ 32,689.49 Total Costs for Period RVLT Fixture Number Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 14,373.95 Total Costs for Period \$ 14,373.95 Total Costs for Period \$ 280,002.00 Savings Energy Savings \$ 217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	2' T8 Fluorescents	627	73,612.82	\$ 0.13	\$ 9,569.67
MH 175W Lamps 12 11,300.40 \$ 0.13 \$ 1,469.05 MH 250W Lamps 234 34,343.59 \$ 0.13 \$ 4,464.67 MH 400W Lamps 46 251,457.65 \$ 0.13 \$ 32,689.49 Total Costs for Period RVLT Fixture Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Energy Savings \$ 217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	3' T8 Fluorescents	18	1,931.29	\$ 0.13	\$ 251.07
MH 250W Lamps 234 34,343.59 \$ 0.13 \$ 4,464.67 MH 400W Lamps 46 251,457.65 \$ 0.13 \$ 32,689.49 Total Costs for Period \$ 344,380.10 RVLT Fixture Number Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period \$ 5avings \$ 217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	4' T8 Fluorescents	12,704	2,276,431.94	\$ 0.13	\$ 295,936.15
MH 400W Lamps 46 251,457.65 \$ 0.13 \$ 32,689.49 Total Costs for Period \$ 344,380.10 RVLT Fixture Number Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period \$ 159,559.80 Savings \$ 2217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	MH 175W Lamps	12	11,300.40	\$ 0.13	\$ 1,469.05
Total Costs for Period \$ 344,380.10 RVLT Fixture Number Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Energy Savings \$ 217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	MH 250W Lamps	234	34,343.59	\$ 0.13	\$ 4,464.67
RVLT Fixture Number Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Energy Savings \$ 217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	MH 400W Lamps	46	251,457.65	\$ 0.13	\$ 32,689.49
EVET Fixture Lamps Energy Use (kWh) Cost/Unit Total Cost 2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$ 127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Energy Savings \$ 217,192.00 Maintenance Savings (materials only, est.) \$ 123,002.00	Total Costs for Period				\$ 344,380.10
2' 9W G3 Tubes 1591 32,820.39 \$ 0.13 \$,266.65 3' 12W G2 Tubes 36 927.02 \$ 0.13 \$ 120.51 4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Energy Savings \$217,192.00 Maintenance Savings (materials only, est.) \$123,002.00	RVLT Fixture		Energy Use (kWh)	Cost/Unit	Total Cost
4' 15W G3 Tubes 29,933 980,426.73 \$ 0.13 \$127,455.47 HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period \$159,559.80 Savings Energy Savings \$217,192.00 Maintenance Savings (materials only, est.)	2' 9W G3 Tubes	1591	32,820.39	\$ 0.13	\$,266.65
HP 22W Bulbs 12 1,156.32 \$ 0.13 \$ 150.32 HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period \$159,559.80 Savings Savings \$217,192.00 Maintenance Savings \$123,002.00	3' 12W G2 Tubes	36	927.02	\$ 0.13	\$ 120.51
HP 200W 5000K 120° High Bays 46 110,568.83 \$ 0.13 \$ 14,373.95 Total Costs for Period Savings Energy Savings \$217,192.00 Maintenance Savings (materials only, est.) \$123,002.00	4' 15W G3 Tubes	29,933	980,426.73	\$ 0.13	\$127,455.47
Total Costs for Period \$159,559.80 Savings Savings Energy Savings \$217,192.00 Maintenance Savings \$123,002.00 (materials only, est.)	HP 22W Bulbs	12	1,156.32	\$ 0.13	\$ 150.32
Savings Energy Savings Maintenance Savings (materials only, est.) Savings \$217,192.00 \$123,002.00	HP 200W 5000K 120° High Bays	46	110,568.83	\$ 0.13	\$ 14,373.95
Energy Savings \$217,192.00 Maintenance Savings \$123,002.00	Total Costs for Period				\$159,559.80
Maintenance Savings \$123,002.00 (materials only, est.)	Savings				Savings
(materials only, est.) \$123,002.00					\$217,192.00
Total Savings LED Fixtures \$340,194.00	_				\$123,002.00
	Total Savings LED Fixtures				\$340,194.00

Visit www.rvlti.com for more information.

Numbers are calculated at the time of installation and may not reflect current upgrades to lighting fixture components.