



UTICA COMMUNITY SCHOOL, BROWNING ELEMENTARY



The Utica Community Schools, north of Detroit, make up a large suburban public school district, second largest in Michigan. The district maintains a very good relationship with the local communities it serves, and receives a good deal of support in return. In 2001, district officials realized that their 28 elementary school gyms were really serving as multi-purpose rooms, more useful to the community than just physical education venues. So they made a commitment to renovating these facilities, including a dramatic overhaul of lighting.

Multi-purposes Need Multi-level Lighting

The schools' original gym designs had been primarily for gym class, along with basketball games. The ceilings were open steel structures, 20-23 ft. high. Light was provided by 400W HPS high bay luminaires. These spaces are also being utilized as lunch rooms and auditoriums. Dances, parties and other community events are also hosted in the gyms. The district needed a flexible lighting system that could provide the right levels of light for a variety of activities.

Mike Gold, of EAM Engineers in Troy, MI was given the challenge of designing lighting for the gyms that would achieve different light levels with one set of luminaires. For use as an auditorium, he needed 5-15 foot-candles. A second level, for lunchroom use, was 30-40 foot-candles. Gym classes and basketball games needed 75-80 foot-candles. Multi-level switching could achieve different levels, but it meant that Mike had to take a new look at fluorescent lighting.

HID sources, like HPS and metal halide, had become dominant for gym lighting because of high lumen values, compact size, and long life. The advent of newer fluorescent technology, like the T5 lamp, brought more lumens, smaller size for better optical control, and longer life, making it more competitive. T5 fluorescent also has much better color rendering than any HID light source. Combined with electronic controls, the T5 had the flexibility Mike needed plus the convenience of instant starting. In addition, multi-level switching adds energy savings to the mix.



Paramount's T5 Series as installed in the Utica elementary school gymnasium.

A Creative Suggestion from Paramount



FLUORESCENT LIGHTING FLEXES ITS MUSCLE IN GYM RENOVATION

To achieve the levels he was seeking, Mike wanted luminaires that could provide two levels of switching, plus a dimming circuit. He turned to Bob Halleck, with Pro-Tech Lighting in Troy, for help finding a lighting manufacturer who could produce a luminaire with more than 4 lamps.

Bob suggested Paramount Industries, because we offer custom design and manufacturing of industrial & commercial luminaires. Other manufacturers had been considered, but they were unable to produce the luminaire that the project needed.

Paramount created a 2x4 troffer that houses from five to eight 54W T5HO lamps. We also designed versions for surface or grid mounting. With eight lamps installed and lit, the unit generates up to 40% more mean lumens than standard 400W metal halide low bay or high bay luminaires.

An Eye-Opening Experience

One of the first gyms to come "online" was at Browning Elementary School in Sterling Heights. Twenty of Paramount's new troffers were installed in a new grid type ceiling, so that the ceiling would offer more reflectance than the previous exposed structure. These luminaires were configured for 5 lamps each, and contained a battery pack for emergency lighting. They were spaced out every 12x16 feet, for 3840 total square feet. As part of the renovation, a new floor was installed and the walls were painted.



The Browning Elementary gym was finished in time for the 2003 school year. When the lights came on for the first time, school personnel and district officials were impressed with the light level. It was beyond their expectations. "There were no shadows," commented John Goike, Browning's Director of Maintenance. In fact, with all the lamps switched on, it approached 100 foot-candles, out-performing the old HPS system. The light from Paramount's custom luminaires, along with the new ceiling, floor and paint, make the space more inviting and give it the flexibility it needs for various uses.

Five gyms have been completed so far with similar success, and more are underway. Mike remarked, **"These T5 luminaires have us looking at fluorescent in a whole new light."**