CASE STUDY

CHRYSLER WARREN STAMPING PLANT WARREN, MI

	Fixture	Foot Candles
Previous System	600W Sodium Vapor	15
Ephesus Solution	Visium 300	34

Energy Savings **70%**

FACILITY

The **Chrysler Warren Stamping Plant** consists of 2.1 million square feet of manufacturing space. The plant produces stampings and assemblies including hoods, roofs, liftgates, side apertures, fenders and floor pans for various Chrysler vehicles. The plant employs approximately 2,000 workers and runs around the clock.

CHALLENGE

The plant's energy costs for lighting were high due to the inefficiency of the high pressure sodium and metal halide fixtures. Maintenance costs were increasing due to the continuous need to replace bulbs and ballasts. Maintenance was disruptive to plant operations and was typically performed when equipment and staff were available, which contributed to inconsistent light levels throughout the facility. The discarded bulbs and ballasts contained hazardous substances, complicating disposal. Lastly, the light levels varied between shifts, which can adversely impact employee performance. The daylight foot-candle (FC) measurements throughout the facility were inconsistent, ranging from 14 FC to about 25 FC, with a relatively low average of 15 FC.

SCOPE & SOLUTION

The project entailed upgrading the lights over a large portion of the stamping operation. 50 Ephesus Visium 300 fixtures were installed in the high bay stamping area at a height of 42 feet. This reduced fixture count by half in the area.

RESULTS

A consistent light level of 34 foot candles was achieved, far better than the average light level of 15 foot candles generated by the old lighting. The Ephesus lighting had a color temperature of nearly 5200K, much closer to that of natural sunlight at 5600K and a major improvement over the old lighting's measurement of 3800K. Energy consumption was reduced by nearly 70% compared to the obsolete lighting. Additional savings were realized by eliminating maintenance required with the old lighting system, and plant operations were no longer disrupted by the maintenance work.

In efforts to upgrade our 600W sodium vapor overhead light fixtures, we were looking for a fixture that was more energy efficient yet provided the same or better illuminance. After reviewing Ephesus' business case with them and having a positive benefit/cost ratio with a one year pay back, we chose the Ephesus fixtures.

– Ken Szlaga, Stamping Project Manager, Chrysler Warren Stamping Plant