



# Case Study

## The Background

**Marvel Stadium is a 52,000 seat multi-purpose facility designed to cater for major sporting and entertainment events, as well as social, business and private functions. The venue hosts as many as 80 arena sports and entertainment events and 600 non-event day functions annually in its 15 different function spaces.**

In 2012, Honeywell was tasked with reviewing the Emergency and Exit Lighting within the stadium. With the existing system reaching the end of its serviceable life the maintenance costs which were already high had reached a level which was not sustainable at \$1,083,000 in costs over a 7 year period.

## The Challenge

With the stadium receiving such a high level of foot traffic, Emergency & Exit escape lighting is of utmost importance and the quality and performance of the emergency lighting is critical to ensure compliance is always achieved. Emergency and exit lighting also represented a major ongoing maintenance and energy cost for the stadium, and as time passed these costs grew exponentially as products had failed.

The biggest challenge was to firstly achieve 100% compliance and ensure safety for the customers and staff at the stadium and ensure the reliability could be improved and therefore reduce the overall maintenance costs over a 7 year period.

## The Solution

Following the consideration of various options, Honeywell was introduced to the Clevertronics L10 Nanophosphate® Lithium powered lighting range which had just been launched after 12 months of extensive testing. The Honeywell Victoria TAM Operations Manager who was managing the project said "The L10 Lithium range is the way of the future. I believe the move away from NiCd batteries will be quite swift as building owners and facility managers become aware of the numerous advantages that L10 product offers.

### Project Name

Marvel Stadium

### Location

Melbourne, VIC, Australia

### Industry Application

Stadia

### Project Type

New Emergency Lighting Installation

### Year

2012

### Number of Fittings

2756

### Contractor

Honeywell

### Product Range

L10 Lithium Nanophosphate

### Testing System

Zoneworks

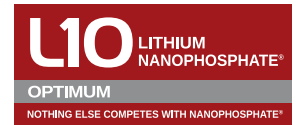


**September 2022 marked ten years since the original installation, and the results have far exceeded expectations.**

**After ten years in service, 97.4% of the original fittings are still operating as installed without any maintenance required."**



The added advantage of low environmental impact and also less waste through longer replacement intervals also makes it a far more sustainable technology compared to existing practice.” In September 2012, the installation of 2,650 Clevertronics L10 Nanophosphate® exit and emergency lighting fittings and a Zoneworks computer monitoring system began and was commissioned in early 2013. Honeywell estimated that switching from traditional Ni-Cd fittings to the Clevertronics L10 Nanophosphate® fittings would see its total energy and maintenance costs for emergency lighting reduced from \$1,083,830 to \$178,867 over a seven-year period, representing a saving of 83.5% which was beyond expectations before the project began.



## The Result

September 2022 marked ten years since the original installation, and the results have far exceeded expectations. After ten years in service, 97.4% of the original fittings are still operating as installed without any maintenance required.

### Marvel Stadium fitting status after 10 years service:

|                                    |      |       |
|------------------------------------|------|-------|
| Original Fittings Still in Service | 2580 | 97.4% |
| Node fail                          | 36   | 1.4%  |
| Battery fail                       | 16   | 0.6%  |
| Fitting fail                       | 14   | 0.5%  |
| EM driver fail                     | 4    | 0.2%  |



## L10 Battery Performance

When it comes to the actual battery performance, the results are outstanding. The site’s average battery capacity loss was 5.5% over a 10 year period.

An example of this from a single fitting is shown below in the table. This Lifelight fitting tested back during the installation with a duration time of 181min, and ten years later is still achieving a duration time of 172min.

### Individual fitting example:

| ID  | Fitting       | Result | Test 1 | Test 20 | Loss % |
|-----|---------------|--------|--------|---------|--------|
| 654 | L10 Lifelight | PASS   | 181min | 172min  | -5.2%  |



The required duration time for emergency and exit lighting in Australia and NZ is 90 min which shows the L10 Nanophosphate batteries will last well and truly past the lifetime of the total fitting.

These latest results have provided a huge insight into the lifetime of L10 Nanophosphate Exit and Emergency luminaires. The original L10 service design life of 12 years is also on track to exceed expectations in regard to component and total fitting reliability.

The 10 year warranty offered on L10 Nanophosphate, when coupled with a Zoneworks XT HIVE system, is backed by real onsite data obtained directly from the Zoneworks system.

**It is true, nothing else competes with L10 Nanophosphate**

**Marvel Stadium  
After 10 years**

**2,650 exit & emergency  
light fittings**

**94.5% battery capacity**

**97.4% of original fittings  
are still in service**