

Your ref: P0013633  
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Date: 29 January 2010

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**SABS TEST REPORT NO: 2335/10-039**

**TESTING AND EVALUATION OF A Z-LITE.**

**1. SUBJECT**

The testing and evaluation of a Z-lite for compliance with the relevant requirements of:  
**SANS 60598 "Luminaires", Part-1: "General requirements and tests", Section-9.**  
**SANS 60079 "Explosive atmospheres", Part-0: "General requirements".**

**2. DESCRIPTION**

The Z-Lite consisted of the base and a lens assembly. The base was fitted with electronic components, batteries, three LED lights and a transformer. The lens assembly was secured to the base by means of stainless steel screws. A rubber gasket was fitted between the lens assembly and the base to uphold the required IP rating.

**3 TEST ITEM**

Z-Lite.

**3.1 Customer**

The Z-Lite for testing and evaluation was supplied by Electroweb electronics cc.

**3.2 Identification.**

The sample was allocated an E.P.T laboratory sample No: 10-039.

**3.3 Markings**

The sample was marked as follows:

ELECTROWEB  
Z-LITE  
0903001/V2 REV3

/4. PHOTOGRAPHS...

## 5. TESTS REQUESTED

At the request of Electroweb Electronics, the sample was tested in order to verify compliance with the requirements of the specification as laid out under "Test Methodology".

## 6. IP RATING TEST (IP 50 AND 65 RATING)

### 6.2 TEST METHODOLOGY

The sample was tested in accordance with sub clauses 9.2.1, 9.2.2 and 9.2.6 of section 9 "Resistance to dust, solid objects and moisture" of SANS 60598-1: 2007 "Luminaires: Part 1: General requirements and tests".

#### 6.2.1 IP 50 Rating on the back of the Z-lite.

##### 6.2.1.1 Dust Test (IP 5X): Method (SANS 60598-1, clause 9.2.1)

- The sample was operated at a supply voltage of 230V outside the dust test chamber, with doors open, until a constant temperature was established.
- Whilst operating, the sample was placed inside the dust chamber and doors were then closed.
- Talcum powder was suspended inside the dust test chamber by means of a vibration unit.
- After 1 minute the sample was switched off and allowed to cool for at least 3 hours whilst the talcum powder was kept in suspension during cooling down period.

#### 6.2.2 IP 65 Rating on the front of the Z-lite.

##### 6.2.2.1 Dust Test (IP 6X): Method (SANS 60598-1, clause 9.2.2)

- The sample was operated at a supply voltage of 230V outside the dust test chamber, with doors open, until a constant temperature was established.
- Whilst operating, the sample was placed inside the dust chamber and doors were then closed.
- Talcum powder was suspended inside the dust test chamber by means of a vibration unit.
- After 1 minute the sample was switched off and allowed to cool for at least 3 hours whilst the talcum powder was kept in suspension during cooling down period.

##### 6.2.2.2 Water test (IP X5): Method (SANS 60598-1, clause 9.2.6)

- The sample was switched off after reaching a constant temperature and was immediately subjected to a water jet test for 15 minutes from all directions by means of a hose having a nozzle of internal diameter of 6,3 mm at a delivery rate of 12,5 l/min.

## 6.3 RESULTS

Neither Dust nor Water **entered** the sample when tested in accordance with the requirements of above mentioned specification.

## 7. IP RATING TEST (AT 6J)

### 7.1 TEST METHODOLOGY

- Resistance to Impact test conducted in accordance with SANS 60079-0; 2009, clause 26.4.2 and 26.4.4.
- o The electrical equipments was submitted to the effect of a test mass of 1,5 kg falling vertically from a height of 40cm.
- o The resistance to impact was made on the electrical equipment which was completely assembled and ready for use.
- o The point of impact was the places considered to be the weakest and was done on the external parts which are exposed to impact.
- o The test was carried out at an ambient temperature of  $(20\pm 5)$  °C.

### 7.2 RESULTS

No **damage** was produced by the impact test on the sample when tested in accordance with the mentioned specifications.

## 8. CONCLUSION

The Z-lite **Complied with an Impact test of 6J and an IP 50 and IP 65 rating** during testing in accordance with the requirements of the specification as laid out under "Test Methodology" above



Tested by: **RM Radebe**  
**TEST OFFICER**



Report approved and checked by: **P Heigers**  
**SENIOR TEST OFFICER**

## EXPLOSION PREVENTION TECHNOLOGY