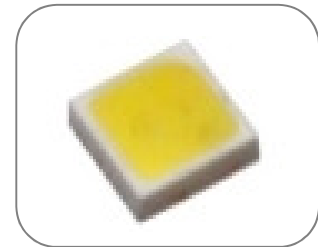


LM-80 Test Results

LED Package: Samsung 2323



1) Introduction

- I. The LM80 test was performed at an accredited lab.
- II. This is not a full LM80 report.
- III. Customers who need the full report should request individually.

2) Test Results

| Current (mA) | T _s (°C) | T _a (°C) | Average lumen maintenance at 6000hrs | Maximum Chromaticity shift ($\Delta u'v'$) at 6000hrs |
|--------------|---------------------|---------------------|--------------------------------------|---|
| 50 | 55 | 55 | 98.9% | 0.0018 |
| | 85 | 85 | 96.8% | 0.0020 |
| | 105 | 105 | 89.5% | 0.0019 |
| 100 | 55 | 55 | 98.4% | 0.0038 |
| | 85 | 85 | 91.6% | 0.0023 |
| | 105 | 105 | 81.3% | 0.0027 |

3) Energy Star Application

The measured *in situ* TMP_{LED} temperature may not exceed the below value to meet the Energy Star requirements.

| Category | At or below 50mA | At or below 100mA |
|---|------------------|-------------------|
| Indoor luminaries (≥91.8%) | ≤ 98.6°C | ≤ 83.8°C |
| Outdoor/Commercial luminaries (≥94.1%) | ≤ 92.3°C | ≤ 73.9°C |