Overview of CFL Verification Testing
Results Jan 2010-Apr 2014

ENERGY STAR Road mapping call on future verification testing of lamps: July 31st 2014
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CFL Verification Testing Summary

- 424 models tested from Jan 2010-Apr 2014
- Note products could have experienced a marginal failure on one test and a full failure on another test so they count as full failures
• Marginal failure was defined in CFL 4.0 as one sample exceed the allowable failure rate for one test.
  – E.g. 2/6 samples failed rapid cycle when the spec requires 5/6 to pass
  – Marginal failure triggers elective retesting.
Summary of failures by test & batch

- All other tests include
  - Start time
  - Power factor
  - Efficacy
  - CRI
  - ETLOR
- Very low failure rates were observed for these tests
## Interim Life Failures

<table>
<thead>
<tr>
<th></th>
<th># Models Tested</th>
<th>Passed</th>
<th>Marginal Failure</th>
<th>Full Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Models</td>
<td>424</td>
<td>363</td>
<td>14</td>
<td>47</td>
</tr>
<tr>
<td>Bare Spiral</td>
<td>258</td>
<td>226</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>Bare Specialty</td>
<td>31</td>
<td>27</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Covered</td>
<td>135</td>
<td>110</td>
<td>3</td>
<td>22</td>
</tr>
</tbody>
</table>

The interim life test looks at how many units are operational at 40% of the lamp’s rated lifetime claim. Note 1 unit failure is considered a pass and 2 unit failures is a marginal failure which allows for elective retesting.
Interim Life Failure Results

• Of the 61 models that failed interim life 27 fully failed only this test
  – 9 failed interim life and marginally failed another test
• We’ve had sample sets with 0 surviving lamps
  – (0 out of 20 in batch 4)
• 20 models had 50% or less of their samples survive
• 12 models had 25% or less of their samples survive