



Presumption of Life Time

Test Conditions:

If = 350mA

Tj = 90°C

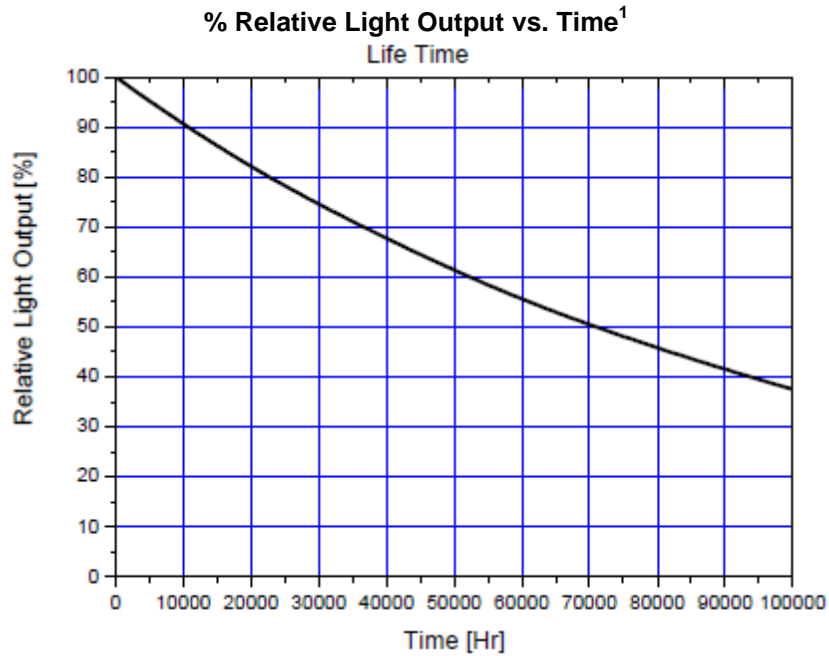


Chart 1

Test Conditions:

If = 350mA

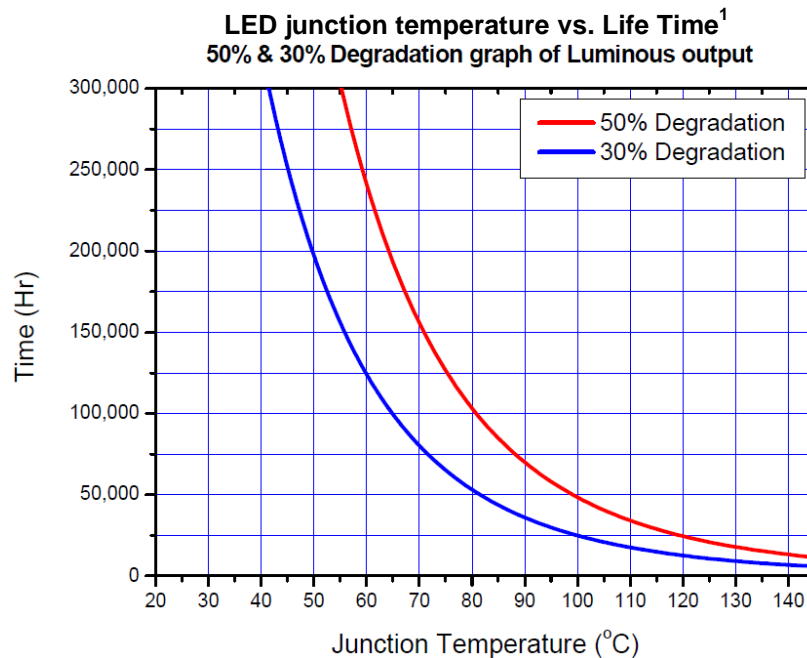


Chart 2

Pure White Monster LED Presumption of Life Data



Test Conditions:

If = 700mA

Tj = 90°C

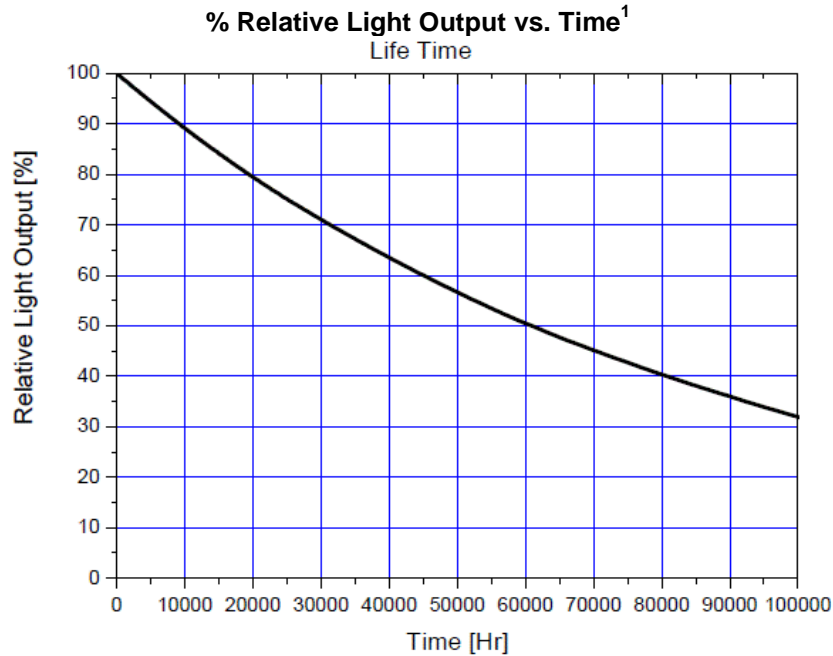


Chart 3

Test Conditions:

If = 700mA

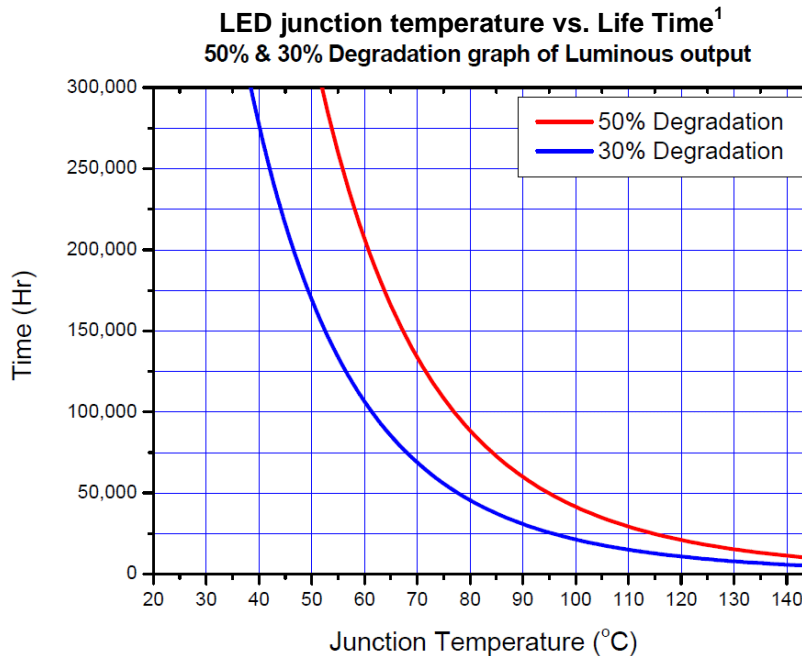


Chart 4

Relative Light output vs. Junction Temperature

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Pure White Monster LED Presumption of Life Data



Test Conditions:
If = 1000mA
Tj = 90°C

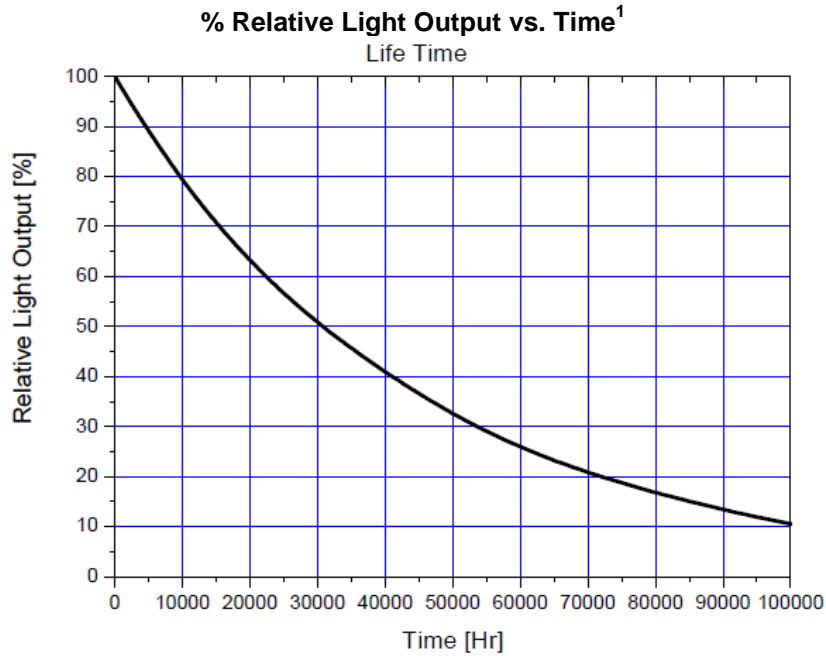


Chart 5

Test Conditions:
If = 1000mA

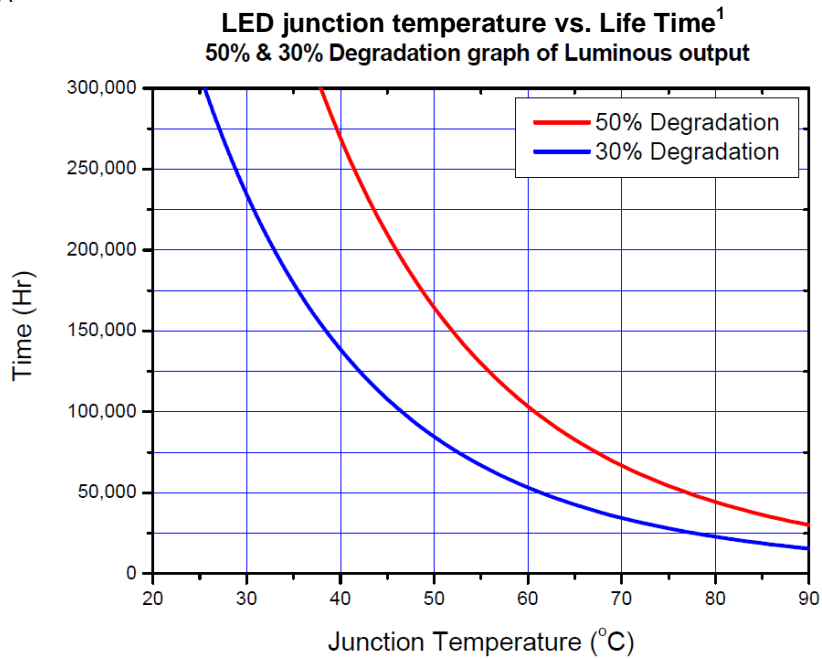


Chart 6

Pure White Monster LED Presumption of Life Data

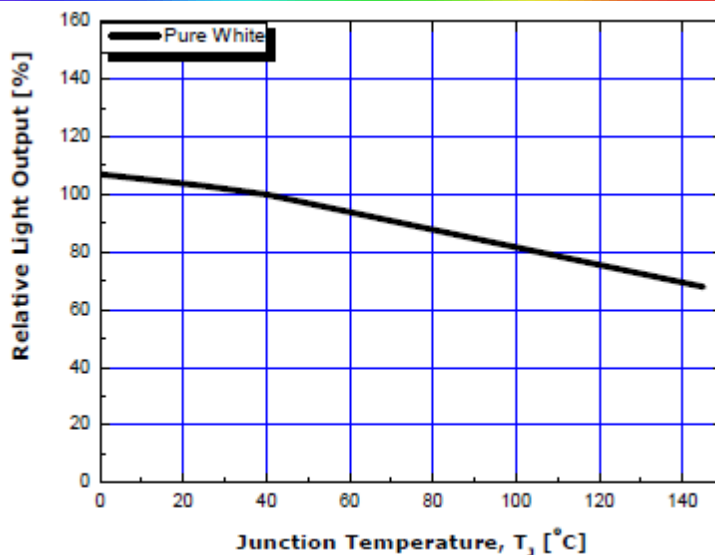


Chart 7

As seen in charts 2, 4 and 6, cooler junction temperature extends the life of LED's. Spectrum always recommends strobing when possible to extend life of LED's. Strobing keeps the light and LED junction temperature cooler, but also results in higher light output as light output is based on junction temperature as well shown in chart 7. For example:

- 350mA Continuous Operation: Light back plate at 50°C, LED junction temperature calculated at 61°C would result in 120,000+ hrs life with 30% light degradation. Light output is down overall ~7% because of junction temperature (Chart 7).
- 350mA 10% duty cycle: Light back plate at 30°C, LED junction temperature calculated at <40°C would result in 300,000 hrs LED life with 30% light degradation.
- 700mA Continuous Operation: Light extrusion³ at 50°C, LED junction temperature calculated at 74°C would result in 55,000 hrs life with 30% light degradation. Light output is down overall ~11% because of junction temperature (Chart 7).
- 700mA 10% duty cycle: Light extrusion³ at 30°C, LED junction temperature calculated at <45°C would result in 200,000+ hrs LED life with 30% light degradation.

If light is operated in continuous mode, LED life can be improved by mounting methods. Use brackets that conduct heat away from the light such as aluminum.

Notes:

1. This data is the presumption value, hence cannot make a guarantee of these characteristics. Please treat this data as the reference.
2. This data may differ depending on conditions and environments.
3. 3.1" x 3.6" extrusion

