

- Who is your LED supplier?
- Did they provide an IESNA LM-80 test report for the LEDs?
- What is the max operating temp and max Tj?
- What's the expected L70 fixture lifetime?
- Can you supply an IESNA LM-79 test report? .ies files?
- What are the delivered lumens and LPW of the fixture?
- Is the chromaticity in the ANSI C78.377A color space and is it stable over time?
- How much does the color vary from fixture to fixture?
- What is the Power Factor of your fixture?
- Have you applied for DOE Energy Star? Why/why not?
- Is your fixture RoHS compliant? Mercury free?
- What is your warranty?

Citizen, Cree, Nichia, Osram, Philips, Seoul Semiconductor. Stay with top suppliers to guarantee quality, reliability, and IP. Don't accept "that's proprietary" for an answer. You have a right to know how much technical and legal risk you are running with this purchase.

Any good LED manufacturer will supply this to the fixture maker; any that does not or can not is a huge red flag... (Note: No LED company can or will have this data until about 10/2009; interim reports are available in the mean time)

The answer the fixture maker gives should make sense for the application. The LED junction temperature (Tj) should not be typically more than 80-90°C over the entire expected operating range of the fixture.

Everybody says 50k hrs, but 1k to 100k are possible as well. Make him convince you he knows the number, and WHY. Don't forget to ask about the driver lifetime as well.

Yes. If not, RUN! This is fundamental and essential for any LED fixture. There are more than a dozen accredited labs in the US and the cost of the testing is only a few hundred dollars. This report also contains LPW and other important metrics. Don't accept no for an answer on this one.

Unlike traditional lamps, LEDs are a directional light source so raw lamp lumens are much less important with LED. Make sure the light DELIVERED in the application meets your requirements (FC/lux).

This is critical for indoor fixtures, relatively uncritical for outdoor. The ANSI standard for LED is a rough approximation for the ANSI CFL standard. Lamps outside of this could look tinted blue, green, or red.

7-step MacAdams ellipse should be acceptable for most applications, 4-step if you are picky, but many/most LED fixtures can not currently meet this (ref: ANSI CFL is 7-step). What is important is that he speaks this language, understands question, and has a well-grounded answer.

Energy Star is 0.7 and 0.9 for residential and commercial applications respectively. There is no reason a well designed driver can not deliver 0.9 – or much better – today.

The DOE Energy Star criteria is another way to screen out poor quality product. He should have a good answer for not applying for this. (Indoor applications only)

Yes. If not, RUN! This is a key question on sustainability and there is no reason that these regulations can not be met with commonly available electronic assembly processes.

DOE Energy Star requires 3yrs. Some manufacturers have longer. Point again is to make sure he understands the reliability of his system and is willing – and able – to stand behind it.