Re: Slightly OT. Heat and a Bench Light ...

Source: http://sci.tech−archive.net/Archive/sci.electronics.repair/2008−07/msg00118.html

- *From*: Baron <baron.nospam@xxxxxxxxxxxxxxxxxxxxx>

- *Date*: Fri, 04 Jul 2008 16:27:39 +0100

Arfa Daily Inscribed thus:

> For twenty odd years, I have had the same Terry's Anglepoise bench lamp in service. I have always used perfectly normal 60 watt incandescent lamps in it, without any problem at all. Although the metal shade used to get quite warm, it was never enough to actually burn you when your forehead accidentally connected with it.
>
> Recently, the light bulbs I've been seeing and buying, seem to have reduced in size from the old 'tennis ball' size, to something closer to a snooker or pool ball (but not as small as the established 'golf ball' types often used in multibranch ceiling lights and light / fan fittings.)
>
> I have noticed that these new smaller bulbs run a whole quantum leap hotter than the older larger size, and they hot up the shade on the bench light until it is unbearably hot to touch. Today, I left the workshop for a while, and when I came back, the air was full of that 'fishy' sort of smell you get when something like a wall socket or the plug that's in it, is burning. A hunt around for the source, brought me to the bench lamp, which was still alight. When I moved it, it went off. When it had cooled down a bit, I took the bulb out (a UK bi−pad bayonet cap rather than a U.S. edison screw type) and I was horrified to see that one of the solder pads had just about burnt away completely, and the black insulation material in the base had started to burn as well. Fortunately, the brass lampholder was undamaged.

Don't count on the lampholder being undamaged ! The springs in the holder that apply pressure to the contact pads on the bulb, weaken with both age and heat. It would be wise to replace the lamp holder.

> So, has anyone else noticed how hot these smaller bulbs run ? Are we talking dangerous here if they are used in any fitting where they hang downwards ? Any suggestions as to why there is such a large increase in temperature ? Yes, I can see that the glass envelope is closer to the filament, and that it has somewhat less surface area to radiate

> the heat away from, but I'm not sure that either of those are enough
> to account for just how much hotter they seem to run. And why had one
> pad burnt away?Anything to do with the solder being lead−free and less
> malleable than before, reducing the spring loaded contact area maybe ?

Yes the smaller glass envelope does increase the heat considerably !
The bulb produces a little more light as well. I don't know that being
lead free makes a lot of difference, the heat sure does though !

> A bit worrying as I'm sure that there will be many situations where a
> fitting that has previously been quite happy with a 60 watt bulb in
> it, will now overheat, with possibly catastrophic consequences ...
>
> Arfa

Yes I agree, overheating is a problem. I enlarged the vent holes on my
desk lamp for that reason. I used a nibbling tool that I bought at
Radio Shack when I was in the USA a few years ago.

––
Best Reagrds:
Baron.
.