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TECHNICAL NOTE

Title: 6x54W Fluorescent Highbay Vs 200W UFO Highbay [A Brief Overview](#)

[A guide for the Electrical Contractor](#)

Author: Malcolm Bentley

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Electrical Contractors are increasingly being asked to specify 6x54W Fluorescent Highbays as replacements for 400W Metal Halide fittings in a factory or warehouse situation. The current system of government subsidy for retrofitting to fluorescent/LED has initiated this push.

This is seen as an unusual occurrence as the LED highbay versions only are now the unit of choice in new builds. It is clear the re-introduction of fluorescent has nothing to do with efficacy but rather an attempt by fluorescent tube manufacturers to maintain a presence in the lighting market using these government schemes.

It should be noted that a number of Architects and Electrical Engineers are far more comfortable with fluorescent technology rather than LED and hence continue to specify it as well.

There has been a flurry of work by tube manufacturers to increase the longevity of tubes and upgrade lumen output and to a degree, this has succeeded with 30% increases in lumen output and some increase in life. Unfortunately for them, fluorescent tubes are then placed in a lighting carcass which does nothing to capture and take advantage of upgraded tubes.

I refer the reader to Technical Note – DETERMINATION OF LED FIXTURE AS REPLACEMENT FOR METAL HALIDE

While referencing Metal Halide, the comparison is almost identical to fluorescent fixtures.

It is clear that lumen output in 6x54W fluorescent highbays is reduced by up to 45% (around 20,000 to 22,000 lumen) bringing them into line with 200W UFO highbays (around 20,000 to 24,000 lumen). This is due to fluorescent tubes radiating light in all directions, unlike LED which is very directional.

Once you allow for age depreciation, dirt coating, light capture within the fitting and poor reflectors, it's generally seen that a fluorescent fitting is not more efficient. This is reinforced with substantially increased maintenance costs even though Phillips for example , have deliberately reduced the price of the high output tubes in their marketing campaign from \$10 to around \$5 each to assist in this push to fluorescent highbays.

Even allowing for this, the average tube life in an industrial environment is still only 12-24 months before light output reaches the Australian Standard minimum. Therefore every 2 years each fitting will incur a cost of \$30 plus installation. This could possibly be stretched out to 4 years but with significant light reduction.

The standard warranty for fluorescent fittings is 2 years with possibly 6 months on the tubes whereas an LED fitting can be as much as 5 years. The LED fitting does not suffer from the same levels of light depreciation and requires no ongoing maintenance or parts replacement other than dusting throughout its useful life of 10-15 years.

It is generally considered that any lighting design/quotation for an industrial space/s that will specify fluorescent fittings, is done based solely on the principle of achieving a given price point and without due regard for the clients long term maintenance/OHS obligations.

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