



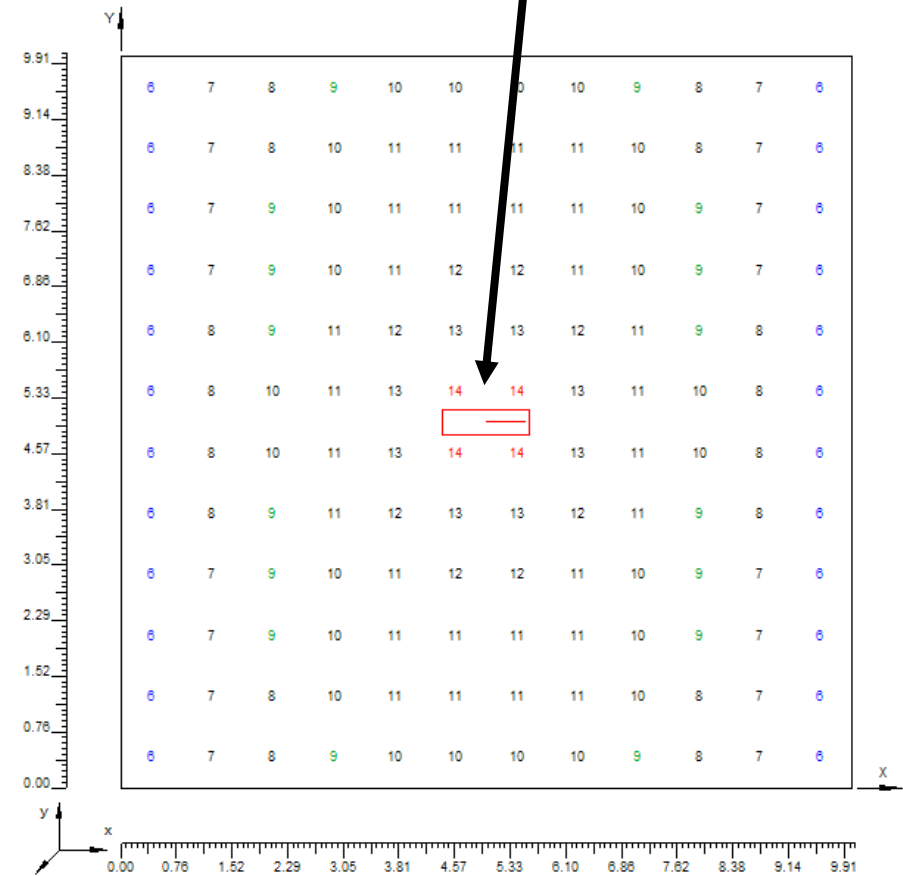
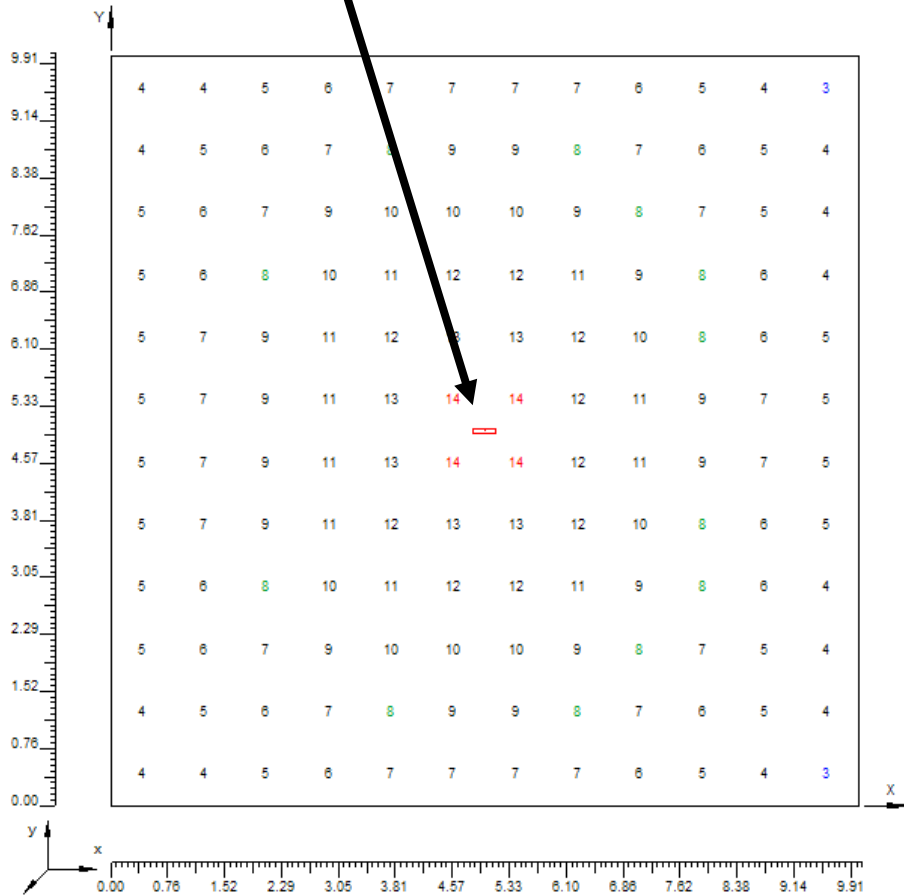
LED replacement (code: B22-24)

VS

Philip LPS 55W (code: SOX 55W T17)



Lux level (lighting level) at ground, light install at 6 meter height.



Details:

- The above results were calculated by OxyTech LITESTAR 10, following the IESNA standard.
- The data are .IES format, where LPS-SOX 55W were acquire from <http://sitelighting.com/ProductIES.cfm?Style=lps&Brand=gar&ProLine=LPS> and LED replacement (code: B22-24) were test by BACL LAB. Under IESNA-LM79 standard.
- The light fixture settings are at 6.00 meter. In the area 10x10meter, with maintain co-efficient 0.8.

Conclusion:

- As a result, LPS SOX give similar Lux level compare to LED Light @ 6 meter.
- The total power consumption of LED version are 24W (22W LED + 2W LED Transformer) vs 80W LPS (55W the bulb + 25W the ballast transformer) .
- With about 70% electricity consumption save, in monetary term, assuming 12hours a days, 365days, 12Cent/KWH, each replacement will save \$29.43 / years. Where LED is well know for it's longevity.
- At the same time, each bulb replace, will reduce CO2 consumption by 93KG /bulb/year.
- With higher CRI, LED light will improve visibility even with the same amount of Lux level.

Q&A

- The LPS-SOX gave much higher lumen, why is the LED replacement performance similar to LPS SOX.

LPS bulb is rated 7800 Lumen vs 24W LED replacement only 2280 lumen.

If only comparing this two data, then is not seeing the whole picture, first of all, let's explain about the term lumen and lux.

Lumen is the measurement of total output from bulb, lux level is the lighting level perceive by human eye at given distance/environment.

So higher lumen will give higher lux, which is true, but only in the case where other factor are constant (same light source), in other word, comparing LED and LPS with only lumen level is like comparing Apple and Orange.

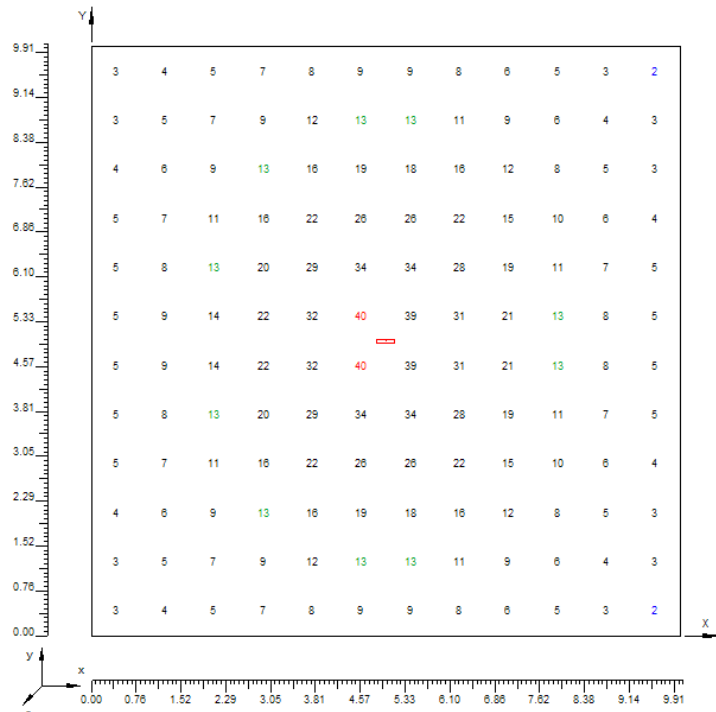
There is quite a number of factors needed to consider, but the most important difference in LED & LPS is CD (candles Density), basically, it mean how efficient the light can travel.

Comparatively, LED replacement can transmit further then LPS.

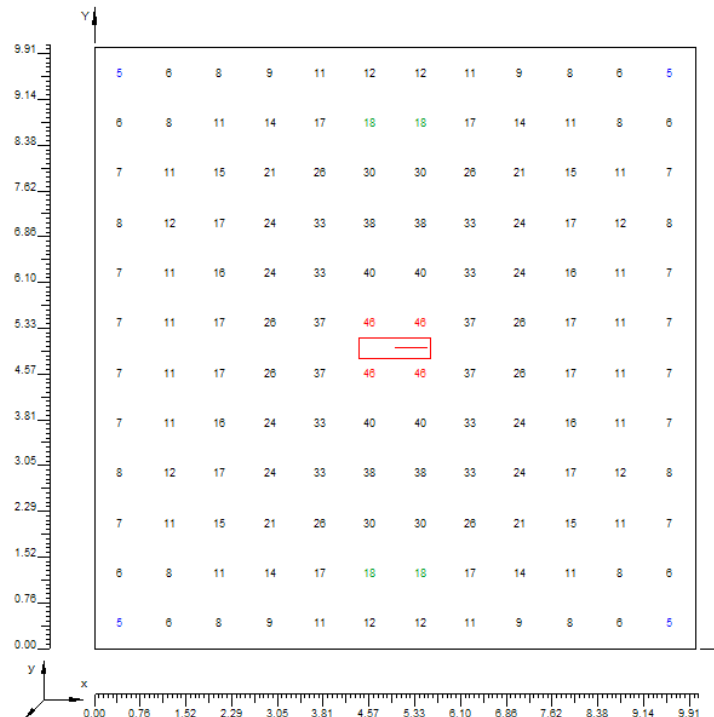
(see below fig) at 2.5 meter, LPS out-perform the LED replacement by about 10%, but at 10 meter, LED replacement, out-perform LPS by about 20%.

(where 4-6 meter, performance will be similar).

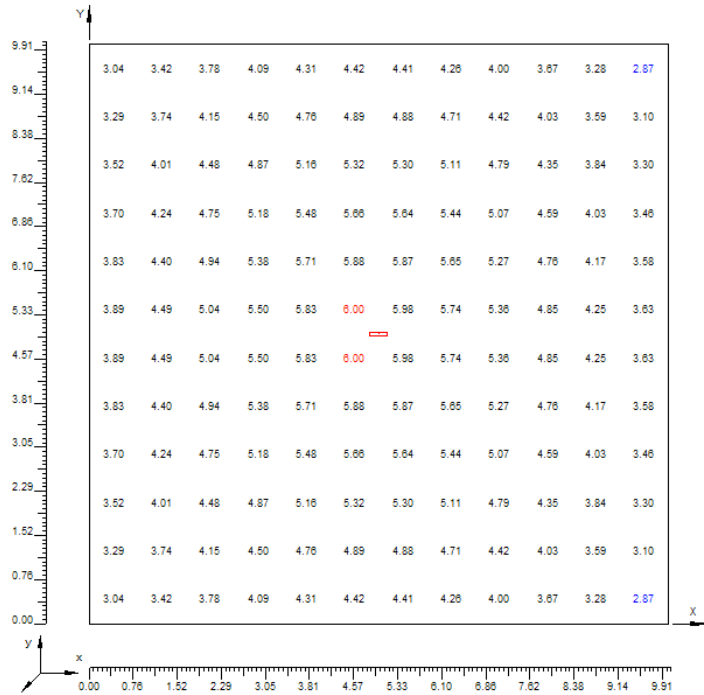
LED replacement @ 2.5Meter



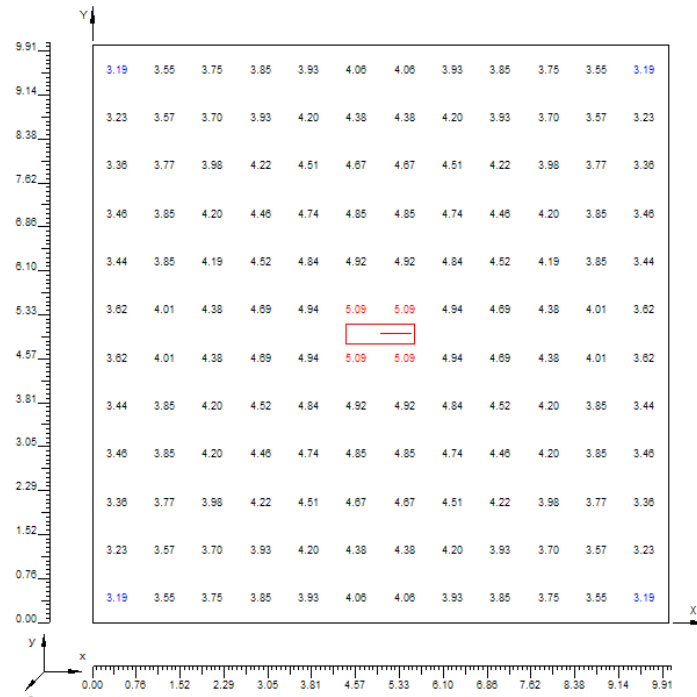
LPS @ 2.5Meter



LED replacement @ 10Meter



LPS @ 10 Meter



- What is CRI.

CRI stand for Color rendering index, it is referring to how good the light reflect the true color of the object, the higher the CRI, the better visibility it provide.

Sun's CRI is 100Ra

LED's CRI is >70Ra

LPS's CRI is <40Ra