Public lighting in our streets and districts is changing at a very fast pace. The evolution is apparent if we compare pictures taken before and after a change in lighting has been made. That's why it is highly interesting to photograph periodically our urban nightscape, in order to record and compare the old and new situations. Should you wish to cooperate with this campaign, here you have some basic tips.

1. How and where to take pictures?
The differences turn out to be more noticeable when the pictures are taken from the same location and, if possible, with the same camera. A high vantage point provides a better view of the street lights and the lighting of places and monuments. Ideally we can even have a panoramic view of our town in a single image.

2. Photographic equipment
Qualitative changes in lighting can be assessed by visually inspecting a pair of "before/after" images. This information is in itself very interesting since we easily can, for instance, to record the variation in the number of visible street lamps. A compact digital camera (and even that of a smartphone), working in automatic mode, should be enough to achieve this goal. In these pictures the images of the streetlights will usually be saturated.

Digicams use light detectors that are linear over a wide range of conditions, so that doubling the exposure one gets double signal. This linearity is extremely useful when it comes to measuring differences. Unfortunately most of the cheap cameras available in the market modify to a certain extent the original image data to convert them into JPEG images, and this linearity is lost. To determine quantitatively the changes in illumination we should use slightly more sophisticated cameras, able to record the images into what is called the RAW or native format, thus preserving linearity.

3. Camera settings
With simple digicams it is advisable not to use the zoom, because when repeating the shots at a later time it may be difficult to set the focal length to the exact value used before and hence to record the same field of view. For these cameras, setting the exposure to "night mode" should be enough.

Using a DSLR cam, besides recording the images in RAW format, you may want to determine the best camera settings and keep them constant in future shots. Nightscapes are usually best recorded opening the diaphragm (i.e. using low f/numbers) and selecting the appropriate exposure time after some trials. In general no high sensitivity values are required. You may want to try with ISO 400, f/4 or f/5.6 and several different time exposures (about 1/2, 1, 5, 10... seconds). This time ramp will produce progressively more exposed images: whereas those recorded with short time exposures allow to measure the brightness of the unsaturated images of the streetlamps, those with longer exposures are useful to measure the illumination level of the pavements and walls at the darkest areas of the nightscape.

Low-grade DSLR cams usually include a zoom lens of focal range 18-55 mm, providing a maximum field of view (for f=18 mm) of about 70 degrees which is more than enough for our purposes. Experienced users of high-grade DLSRs with larger detectors do not need many complementary instructions.
4. Additional remarks
- Nighttime photography generally requires the use of a tripod. Even a simple one will do. You may want to hold your camera on another kind of support, if there is no wind. It is useful to have a fixed place where the camera could be set up always in the same position as if for recoding a time lapse. To avoid vibrations after pressing the shutter it is advisable to use a timer to delay a few seconds the shot.
- If required, several pictures can be taken from different vantage points in order to record the whole landscape, or to get different perspectives of the same particular area.
- It is advisable to keep record of the direction at which we aim the camera, to ensure that it is the same in future pictures. Recording date and time is always a must. Usually these data are included in the file info (Exif, Exchangeable image file format) but it is worth checking that the camera has the correct time and date settings.
- If lighting does change throughout the night because all or part of the streetlamps are turned off or switched to low intensity at some definite time, we should document both situations. Photographs taken at dusk may be useful to see the landscape details and to locate the sources of light.
- The first time a given location is photographed it is advisable to record a series of pictures with a wide range of exposures, to be sure that some of them are valid. They can be carefully analyzed later at home to decide the best settings to use.

5. Suggestions
Every person or group should select, to carry out the project at the chosen neighborhood:

(a) The best available camera. The recommended option is a DSLR camera with RAW option to save the images.
(b) The best settings to take the photographs, keeping them for future shots.
(c) The location (or locations) where the pictures will be taken from.

Checklist:
(a) Mount the camera onto the tripod at the chosen location and aim it in the appropriate direction.
(b) Make sure the camera settings are correct.
(c) Take the picture using the timer to avoid vibrations.
(d) Check the results and repeat the shot if not enough satisfying or in case of doubt.

To organize the images for archival purposes one may use the procedure that best suits his/her needs. The selected images can be stored in folders containing the historical record, and the files be renamed in order to be able to find at a glance the pictures corresponding to a given time and place, using names as e.g. 20131118_2153_Brighttown_SW_a, or similar.