

# Digital Billboard Lighting Measurement

## How to Measure Footcandles in the Field– Without Sign Company Knowledge

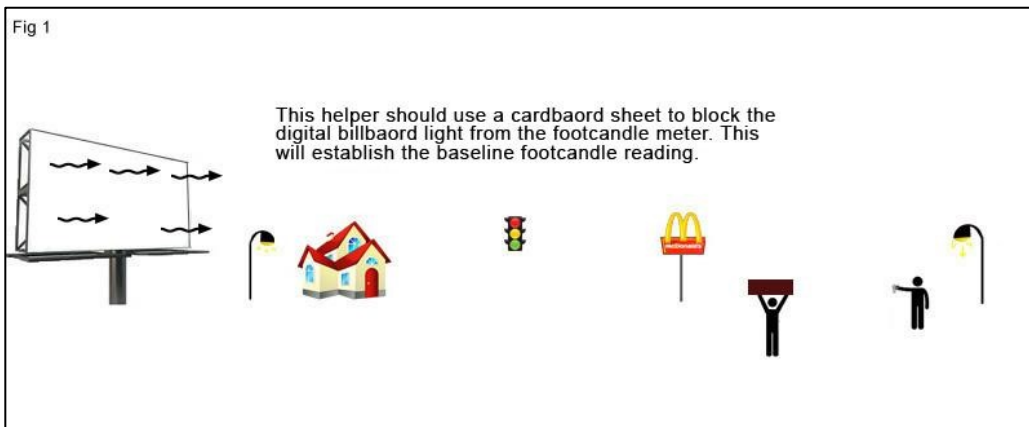
After a digital billboard is installed, there will be instances where it is desired to evaluate the billboard illumination to ensure that it does not exceed the brightness levels recommend by the OAAA. This procedure is extremely simple and requires only a footcandle meter and a piece of cardboard cut to the proper size.

The billboard illumination test is based on ensuring that a certain footcandle (fc) level, created by the digital billboard, is not exceeded at a chosen distance. What is needed to test this illumination level is to block the digital billboard light to establish a baseline reading. Remove the block and measure again while the digital billboard is operating. If the difference between the baseline illuminance level and the subsequent illuminance readings is 0.3 fc, or less, then the billboard luminance is in compliance.

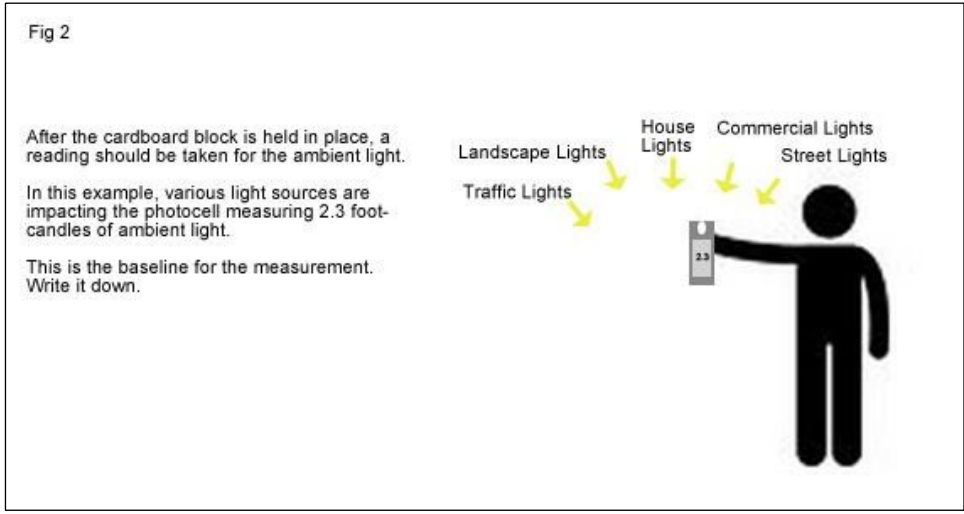
### Steps

1. Based on the size of the digital display, the person conducting the test should position themselves as close to directly in front of the digital display as practical, at the following distances:

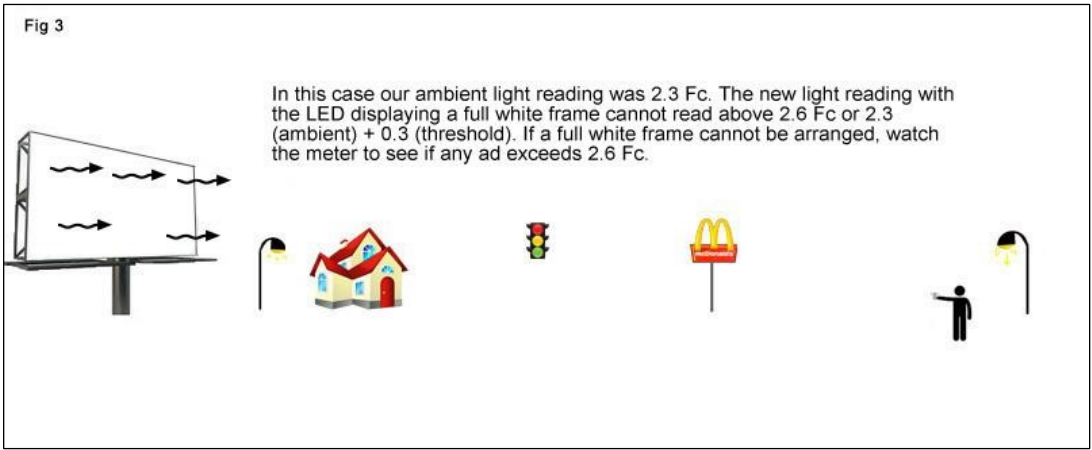
Billboard Nominal Face Dimensions (ft.)	Distance in (ft.)
11 x 22	150
10.5 x 36	200
14 x 48	250
20 x 60	350



2. A helper should position themselves about 7' to 10' in front of the light meter and hold up an opaque, black sheet of material that is roughly 12" high by 40" wide. (Regular cardboard painted black works well for this.) The sheet should be positioned so it blocks all light from the digital billboard but still allows the remaining ambient light to register on the footcandle meter.



3. The footcandle meter should be held at a height of about 5 ft. (which is approximately eye level) and aimed directly at the digital billboard. The footcandle meter will account for surrounding sources of light or the absence there of.



4. At this point, readings should be taken from the footcandle meter to establish a baseline illumination level. (It is recommended that the footcandle meter is capable of levels to 2 decimal places 0.00).
5. Once the baseline level is established, add 0.3 fc to the baseline level to calculate the max brightness limit. (For example: Baseline reading is 3.15 fc. The Max brightness level is 3.45 fc.)
6. Remove the opaque sheet from blocking the digital billboard.
7. Watch the footcandle meter for 3 to 5 minutes to see if the max brightness level is exceeded by any of the images on the digital billboard.
  - a. If the readings do not exceed the max brightness levels, then the billboard illumination is in compliance.
  - b. If any of readings consistently exceed the max brightness level, the lighting level is not in compliance.

For additional information, visit <http://www.oaaa.org/OAAAGuidelines> for the Explanation of OAAA Recommended Brightness Guidelines