

## How Bright is Bright Enough for TV?

Written by Marco Attard  
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A wise man once asked-- how bright should the room I watch TV in be? Now the CEA and CEDIA shine a light on the question with the "Home Illumination Study, CEA-TR-1."

The technical report carries the results of a global joint survey measuring home illumination "for the purpose of optimising power measurement of TVs including Automatic Brightness Control (ABC)."

The results? The survey suggests one should measure ABC for 0 lux (dark room), 12 lux (nighttime viewing) and 300 lux (daytime viewing). It also recommends TV makers should set TVs to initiate ABC levels within 3 points of those light levels.

Key findings include:

- Overall, the geometric mean is 14.8 lux and the median is 14 lux.
- In nighttime conditions, the geometric mean is 12.4 lux and the median is 13 lux.
- In daytime conditions, the geometric mean is 35.5 lux and the median is 23 lux with noteworthy occurrences beyond 100 lux.
- There is significant nighttime viewing near 0 lux.

The report also has interesting information on when, where and how our customers watch their TVs-- with details including TV size, weather patterns, time of day, time of year, amount of natural/artificial lighting in the room, type of room and seating distance.

Here are some of the more interesting findings:

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- Around 14% of homeowners watch nighttime TV in complete darkness.
- Kitchens have the highest amount of ambient light, averaging between 32 and 64 lux.
- 30% of all bedroom TV watching occurs in complete darkness, the most of any room in a home by far.
- Only around 8% of living room TV watching occurs in complete darkness.
- Typical bedrooms have 8 to 16 lux of light.
- Homeowners are most likely to watch a medium-sized TV (32-49") in a room with average levels of ambient light (8-16 lux).
- The average seating distance for watching TV (all sizes) is 3.4m.
- The average seating distance for a small TV (0 to 31 inches) is 2.9m.
- The average seating distance for a medium-sized TV (32 to 49 inches) is 3.6m.
- The average seating distance for a large TV (50+ inches) is 3.7m.

The entire study makes for interesting reading, and might help you with the setup of lighting control scenes for your customers.

Go [CEA Technical Report CEA-TR-1 Home Illumination Study](#)