

## **JOINT UNIC-EDCF STATEMENT ON PROJECTOR LIGHT LEVEL SPECIFICATIONS IN CINEMA EXHIBITION**

**10 December 2013. The International Union of Cinemas (UNIC) and the European Digital Cinema Forum (EDCF) encourage cinema projector manufacturers to supplement their light level specifications with detailed information about testing circumstances. To ensure comparability of these specifications, both organisations support the work of the task force on Brightness Measurement and Specification set up by the Society of Motion Picture and Television Engineers (SMPTE).**

3D brightness is an important and often intensively debated issue for content providers, cinema exhibitors, technology providers and audiences. The projection of quality 3D images, which can only be achieved with adequate light levels, are crucial for the successful exhibition of a cinematographic works and for the long-term success of 3D.

In this context, UNIC and the EDCF are concerned that light level specifications found on certain cinema projectors could potentially be misleading. Exhibitors are currently struggling with the complexities of screening both 2D and 3D content in the same venue and inadequate specifications could have severe consequences, in particular for smaller operators with limited technical support, when trying to achieve the required brightness levels.

Recent testing by some major European operators found that certain projectors cannot achieve the light levels indicated on accompanying specifications. Even under perfect installation conditions, sufficient light output would only be achieved at maximum amperage / wattage, thus drastically reducing the lamp's lifespan. Exhibitors that have trusted such specifications are now struggling to consistently achieve the light output they require.

Both UNIC and the EDCF recognise that an accepted method of measuring illuminance or luminance needs to be found to ensure that the direct comparison of projector specifications is meaningful. Accordingly, it supports the work of the SMPTE task force on Brightness Measurement and Specification. The conclusions of this task force should ensure that the accepted method of measurement can be reliably translated to viewer-perceived "brightness" through the chosen eyewear. This will require similarly careful specification parameters for the 3D modulator, screen and eyewear at the appropriate horizontal and vertical viewing angle for the specific auditorium with its own port glass transmittivity and projection angles.

In the meantime, UNIC and the EDCF ask that projector manufacturers systematically include under what testing conditions projector specifications were achieved, similar to the following:

- Image format (in pixels) used when measuring image characteristics;
- Precision of colour calibration;
- Lens choice, focal lengths and uniformity;
- Throw ratio used during the measurement;
- The wattage of the lamp and what power it was running at – it should at least be stated at what percentage of power the lamp was running;
  
- Measurement criteria that have been achieved; including but not limited to ANSI lumen of the projector with the given lamp parameters;
- Light readings in candela per square meter and eventually in foot lamberts that were attained to justify the screen size specification;
- Whether the light was read directly from the projector or reflected from a screen surface;
- The angle/rake of the projected light in relation to the meter reading the light;
- What the screen gain surface was reflected from;
- Whether the screen was curved and at what percentage;
- The angle of the screen (ie. in case of a 170 Harkness silver);
- What type of projector glass was used - if any - when the light was read.

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