UHD Alliance 2026 Progress Report

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When the UHD Alliance (UHDA) reported to this publication in 2024, ambient lighting compensation for Filmmaker Mode was still a proposal. The gamma-modification approach had been demonstrated at CES 2024 and to members of the American Society of Cinematographers (ASC), the Colorist Society, and Hollywood studio executives; the UHDA Technical Working Group was drafting a description of the algorithm for a possible future specification. That work is now finished. In October 2025, the UHDA published Filmmaker Mode version 1.1, which adds Ambient Light Compensation (ALC), and the first televisions supporting it are in consumers' homes.

Most of the UHDA's effort since late 2025 has gone into that transition: closing out the specification, showing the result to the creative community that helped build it, and supporting manufacturers as they bring it into their product lines.

The Problem ALC Solves

Filmmaker Mode reproduces content as it appeared in the mastering suite, a dim environment with a surround luminance of about 5 cd/m2. For viewers who watch under similar conditions, it has worked as intended. Most consumers don't. In a brighter living room, the human visual system adapts to the surround, contrast sensitivity drops, and shadow detail that was plainly visible to the colorist falls below the threshold of visibility. The picture reads as too dark. Of all the criticism Filmmaker Mode has drawn from consumers and manufacturers, that has been the most common, and ALC was developed specifically to answer it.

From Demonstration to Specification

The Technical Working Group set its ground rules before choosing any values. Because Filmmaker Mode ships on televisions at every price point, the processing had to be cheap enough for any of them to run, and it could not depend on metadata that might be missing at playback. At or below a 5 cd/m2 surround, ALC does nothing, so a viewer in a reference environment sees exactly what the original Filmmaker Mode delivers. Above that level, it applies a gamma modification as the final processing step, holding the display's black level and peak white fixed and lifting the values between them to bring shadow and mid-tone detail back into view.

For the gamma values themselves, the UHDA turned to colorists. In a test environment with stage lighting adjustable from 0 to 500 cd/m2, several colorists working for the Hollywood studios used a single gamma control in a DaVinci Resolve plug-in to adjust clips from the ASC StEM2 test content until shadow detail and mid-tone contrast matched their memory of the same material in the reference room. Their averaged settings became the lookup table published in the specification **(Table 1).**

Table 1: Compensating gamma by surround luminance, Filmmaker Mode v1.1

Surround luminance (cd/m2)	Compensating gamma
5	1.000
10	0.980
20	0.954
40	0.913
80	0.859
160	0.794
320	0.715
500	0.668

Once the table was set, the algorithm was checked on LCD and OLED displays with different screen surface characteristics, and in each case the compensated image in a brightly lit space matched how that same display looked in Filmmaker Mode under reference conditions. ALC adjusts luminance only. It does not change color or color temperature, and it applies to SDR and HDR content.

Validation with the Creative Community

Filmmaker Mode was built with filmmakers, and the UHDA held ALC to the same standard. After positive reviews from studio executives and UHDA members, the UHDA hosted an evaluation at the ASC Clubhouse in Hollywood, where 31 members of the ASC and the Colorist Society viewed the algorithm on a range of clips, including material they brought themselves, and completed a written questionnaire. On the questionnaires, the response was overwhelmingly positive, with participants concluding that ALC would substantially improve the viewing experience outside reference conditions.

On October 3, 2025, the UHDA presented the finished feature at an event on the Warner Bros. lot in Burbank. Attendees watched *A Nightmare on Elm Street 4: The Dream Master* (1988) in Filmmaker Mode with ALC on LG OLED televisions, set up in front of sunlit windows so the room was far brighter than any grading suite **(See Figs. 1 & 2).** Steven Fierberg, ASC, the film's director of photography, told Media Play News,

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Figure 1. Side-by-side comparison in daylight at the October 2025 demonstration on the Warner Bros. lot (ALC enabled on the left display).



Figure 2. Panel discussion at the October 2025 demonstration on the Warner Bros. lot.

"I'm happier with how the film looks now than I ever was."

By the UHDA's account, ALC is the first picture-correction algorithm for consumer displays that was developed with Hollywood professionals and approved for use by them.

Manufacturer Adoption

Ambient light compensation on televisions is not new, and many manufacturers have shipped their own versions for years. The UHDA's ALC gives manufacturers an easy-to-implement option: a simple gamma adjustment defined in the Filmmaker Mode specification. LG Electronics was the first to ship ALC, adding a Filmmaker Mode Ambient Light setting to select 2025 OLED models, including the C5 and G5. For 2026, LG lists Filmmaker Mode with Ambient Light Compensation among the features of its OLED evo G6, which reached retail in March 2026. Panasonic and Samsung offer their own ambient adjustments within Filmmaker Mode, so viewers on all three brands now get a Filmmaker Mode picture that responds to the light in the room, and the UHDA hopes ALC will be adopted by many more TV brands.

In practice, results depend heavily on the display's own ambient light sensor. Because sensor types vary widely, and so does their placement on the chassis, the UHDA cannot give one method that would produce accurate readings on every product. The specification therefore makes each manufacturer responsible for calibrating its sensor to measure the average illuminance of the field surrounding the display and converting that reading to the surround luminance that selects the gamma value. As a starting point, the UHDA recommends measurement that favors diffuse, average conditions over direct or specular light sources.

Looking Ahead to 2027

With the specification complete and products on the market, the UHDA's attention for 2027 shifts to ensuring Filmmaker Mode performs as the logo promises. A consumer who selects Filmmaker Mode, or sees its logo on a box or a product page, is relying on it to mean something specific: the processing that alters the image is off, and the picture appears as the creative community approved it. Protecting that reliance is the point of the UHDA's compliance work.

Two efforts carry most of it. Through third-party testing and the UHDA's interoperability group, the UHDA checks how Filmmaker Mode behaves on shipping displays, and those results feed an ongoing effort with manufacturers to improve performance across the range of displays that carry the mode. On the brand side, the UHDA has monitored use of the Filmmaker Mode trademark since launch, including how the mode is named in on-screen menus and how the logo appears in marketing materials and on websites. Neither program is new. Both will take a larger share of the UHDA's time as more products carry Filmmaker Mode and as features like ALC raise the stakes of a correct implementation.

Development of the picture itself continues alongside them. Version 1.1 leaves screen reflections out of scope, since they depend largely on each panel's anti-reflective coating, and the UHDA may address them in a later revision. The UHDA also continues to help its adopters bring ALC to more brands and model years.

About the Authors



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A contribution received from the authors for the 2026 Progress Report.
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DOI: 10.5594/JMI.2026/WDSF7654
Date of publication: 15 November 2026