d) Determining remedial solutions for a system not conforming with this Standard or inadequate for the stated purpose.

Four viewing categories define the required contrast ratios relative to stated purpose or application. A viewer is defined as a person with normal/corrected vision, or normal visual acuity[2]. Visual acuity is the capacity of the eye to see fine detail measured by determining the finest detail that can be detected. The four viewing requirement categories are:

1. Passive Viewing

The viewer can recognize the displayed images and separate the text or main image from the background under typical lighting for the viewing environment. This category is for viewing non-critical content and the general intent can be understood.

2. Basic Decision Making

The viewer can make basic decisions from the displayed image. The decisions are not dependent on critical details within the image or text. This category is based on comprehending the content and is dependent on the viewer's ability to see and resolve the content's elements. The viewer is actively engaged with the content (e.g., information displays, presentations containing detailed images, classrooms, boardrooms, multi-purpose rooms, product illustrations).

3. Analytical Decision Making

The viewer can make decisions by analyzing critical details within the displayed image. The viewer is analytical and fully engaged with these details of the content (e.g., architectural/engineering drawings, image examination, forensic evidence, photographic image inspection).

4. Full Motion Video

The viewer can discern key elements present in the full motion video, including detail provided by the content creator, necessary to support their intent (e.g., business screening room, business presentation content creation).

1.4. Exclusions

This Standard is limited to image contrast ratio and its relative measurements.

This Standard does not:

a) Include related factors such as display luminance, image size, or display resolution.

b) Prescribe actual white or black luminance levels of an image since those levels should be determined relative to the ambient light level of the viewing environment. Image luminance levels should be addressed as part of the system design process.

c) Apply to specialized systems that have their own standards such as medical imaging, broadcast, military, and commercial movie theatres. In these and other specialized cases, contrast ratio criteria and measurement procedures will deviate from the requirements and guidelines in this document.

d) Address contrast ratio required for digital cinema or home theater.

~~e) Apply to installations where there are large variations of uncontrollable ambient light because the environment plays a role in the achievable contrast ratio of the system and the viewing category requirements could not be met consistently.~~

Per 3/26/20 and 12/10/20 discussions, removed to avoid misconception that standard excludes all installations in rooms with external windows that do no have full blackout blinds – which would apply to a large number of installations.

[2] International Organization for Standardization, *Colorimetry -- Part 1: CIE Standard Colorimetric Observers*, ISO/CIE 11664-1:2019 (Vienna: International Commission on Illumination (CIE), 2019).