

Acer Predator XB272 Testing

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1 Introduction

Here we test a new monitor (Acer Predator XB 272) to replace the 144Hz ASUS 278 that we have been using with the DPI.

Specs:

- See full specs here: <https://www.acer.com/ac/en/GB/content/predator-model/UM.HX2EE.005>
- 1920 × 1080 resolution
- up to 240Hz

The screen size is the same as the ASUS 278 (which goes up to 2560×1440 and 144Hz) so pixel angles should be the same at the same distance.

2 Refresh Rate

The refresh rate is 200 Hz. This was measured by Janis on October 7, 2018 (results on OPUS: Z:\Monitors\ACER_XB272\PhotocellTest\test_photocell.m).

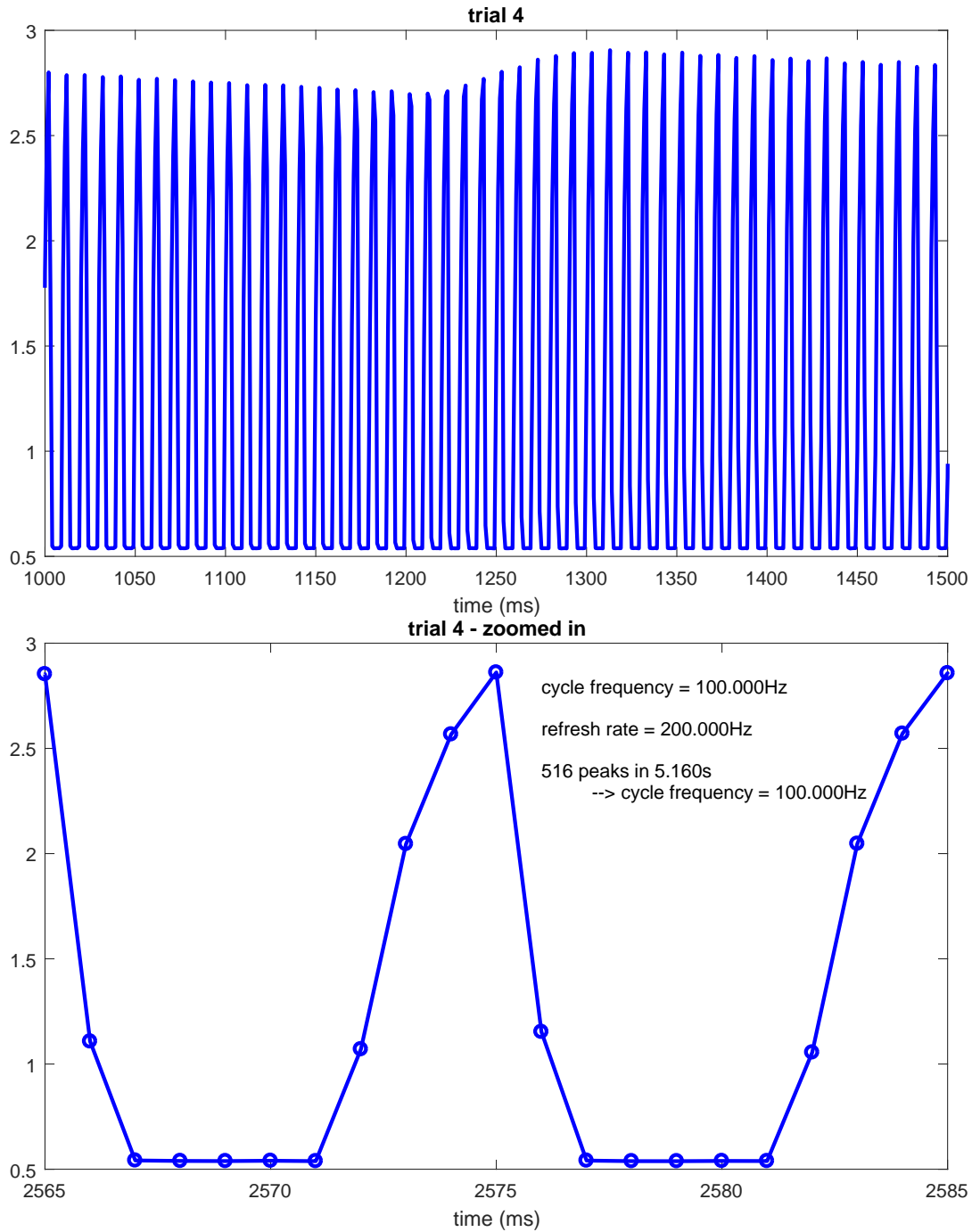


Figure 1: Photocell readings from ACER272 monitor. Y-axis are in arbitrary units. TOP shows a 500ms period. BOTTOM shows two periods of the square wave.

3 Luminance Comparisons

3.1 Non-calibrated: Exogenous Attention & Spatial Attention studies

This section compares luminances to the ASUS with settings used in a couple of experiments. (See results on OPUS: Z:\Monitors\ACER_XB272\PhotoCellTest\compareAsusAcer.m)

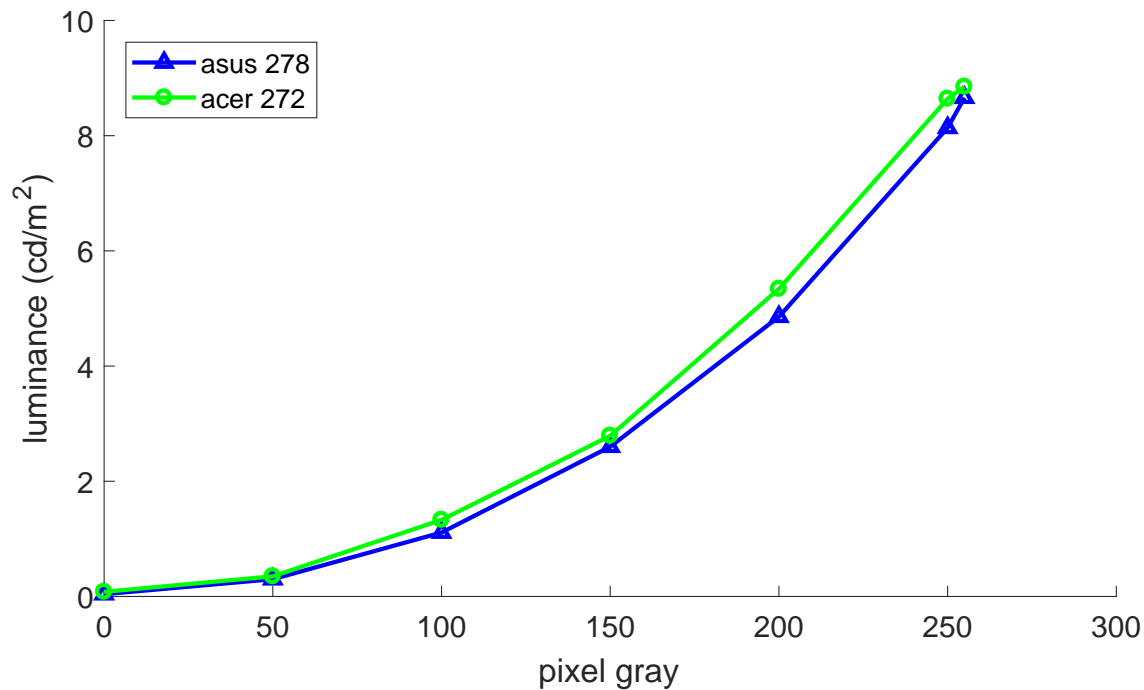


Figure 2: Comparable luminances for the two different monitors. See table below for full settings.

Comparable settings:

| | ASUS 278 | ACER 272 |
|------------------------|----------|------------|
| Monitor Brightness | 0 | 0 |
| Monitor Contrast | 0 | 0 |
| NVIDIA Brightness | 50% | 10% |
| NVIDIA Contrast | 50% | 10% |
| Gamma Correction (all) | 1.0 | 1.0 |

3.2 Calibrated for Contrast Sensitivity

Here I attempt to duplicated the ASUS 278 luminance values I have been using for experiments. I have not found a comparable setting for the ACER yet but here's the closest I have gotten. See results on OPUS: Z:\Monitors\ACER_XB272\PhotocellTest\acer272_rgbtest.m

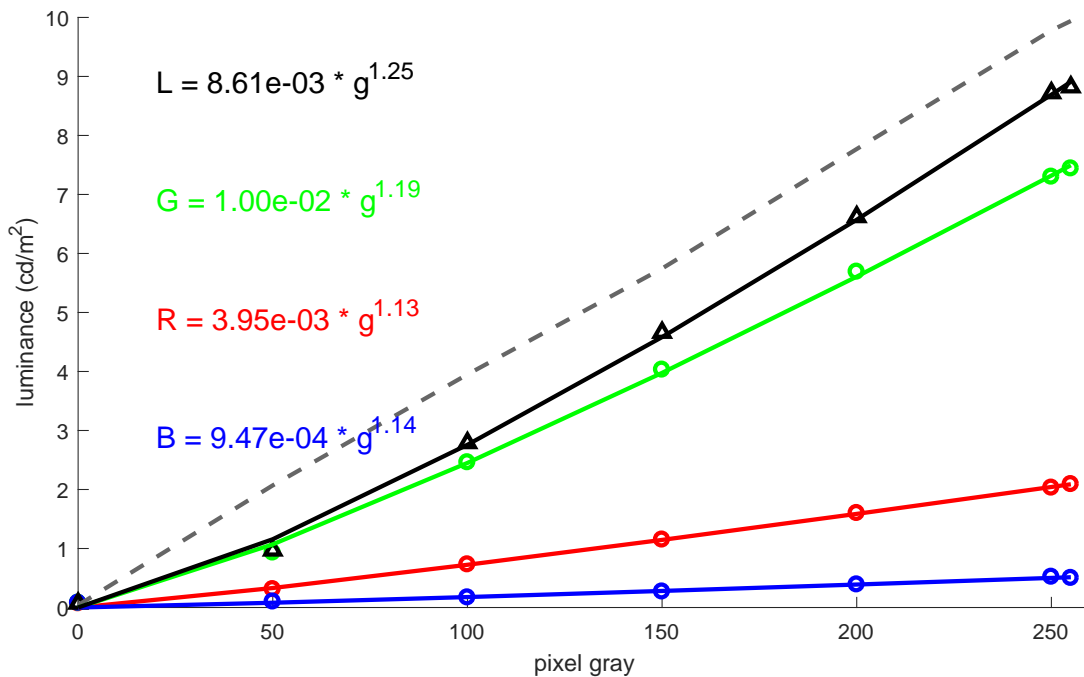


Figure 3: Comparable luminances for the two different calibrated monitors. Solid lines are different channels and total luminance for ACER 272. Dashed gray line is the luminance from the ASUS 278. See table below for full settings.

Comparable settings:

| | ASUS 278 | ACER 272 |
|------------------------|----------|----------|
| Monitor Brightness | 0 | 0 |
| Monitor Contrast | 0 | 0 |
| Red Brightness | 50% | 10% |
| Red Contrast | 50% | 10% |
| Red Gamma Correction | 2.10 | 1.95 |
| Green Brightness | 50% | 5% |
| Green Contrast | 50% | 5% |
| Green Gamma Correction | 2.17 | 2.10 |
| Blue Brightness | 50% | 10% |
| Blue Contrast | 50% | 10% |
| Blue Gamma Correction | 2.58 | 1.45 |