

# Colorimetric Report

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|                  |                                         |
|------------------|-----------------------------------------|
| Date             | Thursday, April 18, 2024                |
| Tester           | Oliver Jachmann                         |
| Display          | MSI MPG 321URXDE QD-OLED                |
| Sensor           | X-Rite i1 Display Pro (Corr.: OLED, XR) |
| Testchart        | In accordance with ISO 12646:2007 (1)   |
| Target           | AdobeRGB                                |
| Display Profile  | Considered                              |
| Rendering Intent | Relative colorimetric                   |

(1) Five equally spaced code values for each channel

|                                     |                          |
|-------------------------------------|--------------------------|
| White Point (CCT)                   | 6485 Kelvin              |
| White Point XYZ (normalized)        | 95.19 100.00 108.87      |
| DeltaE to D50/ D65                  | 19.47/ 0.25              |
| Assumed Target Whitepoint (2)       | 6500 Kelvin              |
| DeltaE to Assumed Target Whitepoint | 0.31                     |
| Brightness (3)                      | 120.93 cd/m <sup>2</sup> |
| Black Point (3)                     | 0.00 cd/m <sup>2</sup>   |
| Contrast (x:1)                      | -                        |
| Gradation (Average)                 | 2.31                     |

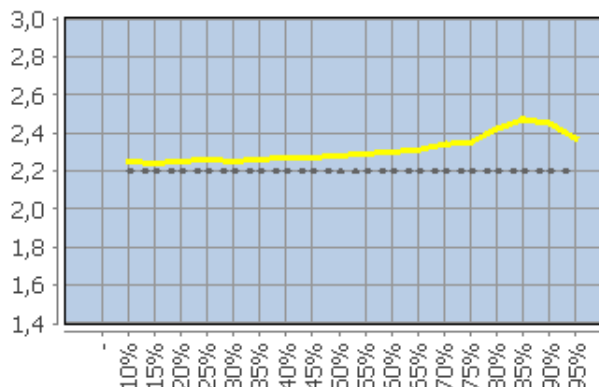
(2) Daylight (3) Measured separately

|  | Percent     | Kelvin | Delta C | Delta E | Gamma |
|--|-------------|--------|---------|---------|-------|
|  | 5           | -      | -       | -       | -     |
|  | 10          | 6628   | 1.07    | 1.24    | 2.25  |
|  | 15          | 6527   | 1.62    | 1.78    | 2.24  |
|  | 20          | 6213   | 0.87    | 1.25    | 2.25  |
|  | 25          | 6485   | 0.22    | 1.13    | 2.26  |
|  | 30          | 6383   | 0.48    | 1.12    | 2.25  |
|  | 35          | 6571   | 0.42    | 1.23    | 2.26  |
|  | 40          | 6574   | 0.36    | 1.27    | 2.27  |
|  | 45          | 6446   | 0.72    | 1.42    | 2.27  |
|  | 50          | 6471   | 0.81    | 1.51    | 2.28  |
|  | 55          | 6464   | 0.37    | 1.42    | 2.29  |
|  | 60          | 6540   | 0.49    | 1.40    | 2.30  |
|  | 65          | 6456   | 0.42    | 1.43    | 2.31  |
|  | 70          | 6478   | 0.25    | 1.46    | 2.34  |
|  | 75          | 6474   | 0.37    | 1.45    | 2.35  |
|  | 80          | 6503   | 0.13    | 1.62    | 2.42  |
|  | 85          | 6491   | 0.13    | 1.48    | 2.47  |
|  | 90          | 6503   | 0.30    | 0.98    | 2.45  |
|  | 95          | 6493   | 0.24    | 0.41    | 2.37  |
|  | 100 (4)     | 6485   | -       | -       | -     |
|  | Average (5) | -      | 0.48    | 1.31    | 2.31  |
|  | Maximum (5) | -      | 1.62    | 1.78    | -     |
|  | Range (5)   | -      | 2.29    | -       | -     |

(4) Visual adaptation to display whitepoint is assumed

(5) Only luminance > 1% considered

### Corresponding Gamma



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| Testchart        | In accordance with ISO 12646:2007 (1)   |
| Target           | AdobeRGB                                |
| Display Profile  | Considered                              |
| Rendering Intent | Relative colorimetric                   |

(1) Five equally spaced code values for each channel

|  | RGB        | Delta C | Delta H | Delta L | Delta E94 |
|--|------------|---------|---------|---------|-----------|
|  | 0 0 0      | 0.00    | 0.00    | 0.00    | 0.00      |
|  | 0 0 63     | 4.10    | 0.83    | 0.02    | 1.49      |
|  | 0 0 127    | 4.23    | 1.07    | 0.05    | 1.03      |
|  | 0 0 191    | 3.34    | 0.90    | 0.28    | 0.71      |
|  | 0 0 255    | 1.40    | 0.75    | 0.27    | 0.41      |
|  | 0 63 0     | 8.95    | 2.69    | 1.15    | 3.10      |
|  | 0 63 63    | 4.83    | 1.14    | 1.10    | 2.50      |
|  | 0 63 127   | 1.27    | 0.35    | 0.92    | 1.02      |
|  | 0 63 191   | 1.46    | 0.18    | 0.80    | 0.86      |
|  | 0 63 255   | 0.43    | 0.24    | 0.20    | 0.23      |
|  | 0 127 0    | 9.56    | 7.61    | 0.68    | 3.59      |
|  | 0 127 63   | 8.80    | 4.78    | 0.68    | 3.02      |
|  | 0 127 127  | 5.50    | 0.89    | 0.45    | 1.86      |
|  | 0 127 191  | 2.18    | 1.55    | 0.72    | 1.34      |
|  | 0 127 255  | 1.06    | 2.32    | 0.75    | 1.33      |
|  | 0 191 0    | 12.77   | 9.70    | 0.56    | 3.75      |
|  | 0 191 63   | 12.24   | 7.84    | 0.57    | 3.46      |
|  | 0 191 127  | 11.03   | 3.78    | 0.68    | 2.79      |
|  | 0 191 191  | 7.96    | 0.80    | 0.79    | 2.21      |
|  | 0 191 255  | 3.24    | 5.17    | 0.53    | 2.92      |
|  | 0 255 0    | 13.02   | 11.97   | 1.02    | 3.91      |
|  | 0 255 63   | 12.95   | 11.03   | 0.98    | 3.83      |
|  | 0 255 127  | 11.63   | 8.50    | 0.91    | 3.47      |
|  | 0 255 191  | 9.71    | 5.30    | 0.77    | 2.82      |
|  | 0 255 255  | 8.73    | 0.81    | 0.72    | 2.05      |
|  | 63 0 0     | 2.85    | 1.13    | 0.60    | 1.43      |
|  | 63 0 63    | 3.13    | 0.63    | 0.32    | 1.19      |
|  | 63 0 127   | 3.11    | 0.90    | 0.43    | 0.94      |
|  | 63 0 191   | 3.06    | 0.89    | 0.46    | 0.78      |
|  | 63 0 255   | 0.94    | 0.82    | 0.14    | 0.34      |
|  | 63 63 0    | 2.64    | 0.21    | 0.95    | 1.38      |
|  | 63 63 63   | 0.56    | 0.04    | 0.97    | 1.12      |
|  | 63 63 127  | 1.97    | 0.51    | 0.67    | 0.99      |
|  | 63 63 191  | 1.22    | 0.34    | 0.72    | 0.78      |
|  | 63 63 255  | 0.38    | 0.11    | 0.27    | 0.28      |
|  | 63 127 0   | 1.94    | 0.41    | 1.03    | 1.12      |
|  | 63 127 63  | 1.24    | 1.11    | 1.05    | 1.25      |
|  | 63 127 127 | 0.97    | 0.08    | 1.03    | 1.10      |
|  | 63 127 191 | 0.99    | 0.29    | 0.85    | 0.93      |
|  | 63 127 255 | 1.01    | 0.98    | 0.63    | 0.81      |
|  | 63 191 0   | 2.39    | 0.53    | 1.10    | 1.17      |
|  | 63 191 63  | 1.60    | 0.85    | 1.09    | 1.17      |
|  | 63 191 127 | 1.06    | 0.51    | 1.13    | 1.18      |
|  | 63 191 191 | 1.18    | 0.06    | 1.14    | 1.19      |
|  | 63 191 255 | 0.03    | 3.53    | 0.97    | 2.17      |
|  | 63 255 0   | 5.22    | 5.08    | 0.31    | 1.67      |
|  | 63 255 63  | 4.74    | 5.07    | 0.28    | 1.73      |

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| Sensor           | X-Rite i1 Display Pro (Corr.: OLED, XR) |
| Testchart        | In accordance with ISO 12646:2007 (1)   |
| Target           | AdobeRGB                                |
| Display Profile  | Considered                              |
| Rendering Intent | Relative colorimetric                   |

(1) Five equally spaced code values for each channel

|  | RGB         | Delta C | Delta H | Delta L | Delta E94 |
|--|-------------|---------|---------|---------|-----------|
|  | 63 255 127  | 3.83    | 4.43    | 0.23    | 1.69      |
|  | 63 255 191  | 2.13    | 3.77    | 0.41    | 1.65      |
|  | 63 255 255  | 2.43    | 0.26    | 0.38    | 0.69      |
|  | 127 0 0     | 2.13    | 0.05    | 0.77    | 0.93      |
|  | 127 0 63    | 1.66    | 0.85    | 0.77    | 1.01      |
|  | 127 0 127   | 2.39    | 0.20    | 0.61    | 0.84      |
|  | 127 0 191   | 2.25    | 0.38    | 0.63    | 0.77      |
|  | 127 0 255   | 0.62    | 0.90    | 0.33    | 0.46      |
|  | 127 63 0    | 1.19    | 0.42    | 0.91    | 0.99      |
|  | 127 63 63   | 1.19    | 0.61    | 0.95    | 1.11      |
|  | 127 63 127  | 1.45    | 0.41    | 0.89    | 1.02      |
|  | 127 63 191  | 1.29    | 0.16    | 0.93    | 0.98      |
|  | 127 63 255  | 0.11    | 0.48    | 0.51    | 0.54      |
|  | 127 127 0   | 1.20    | 0.64    | 1.21    | 1.29      |
|  | 127 127 63  | 0.07    | 0.17    | 1.09    | 1.10      |
|  | 127 127 127 | 0.72    | 0.07    | 1.18    | 1.39      |
|  | 127 127 191 | 1.16    | 0.80    | 0.82    | 1.06      |
|  | 127 127 255 | 1.16    | 0.03    | 0.56    | 0.62      |
|  | 127 191 0   | 1.28    | 0.44    | 1.07    | 1.11      |
|  | 127 191 63  | 0.79    | 0.27    | 1.11    | 1.13      |
|  | 127 191 127 | 0.29    | 0.01    | 1.13    | 1.13      |
|  | 127 191 191 | 0.11    | 0.65    | 1.16    | 1.25      |
|  | 127 191 255 | 1.21    | 1.95    | 0.95    | 1.58      |
|  | 127 255 0   | 0.73    | 0.46    | 0.14    | 0.23      |
|  | 127 255 63  | 1.80    | 0.32    | 0.11    | 0.31      |
|  | 127 255 127 | 1.94    | 0.78    | 0.11    | 0.48      |
|  | 127 255 191 | 2.74    | 2.10    | 0.00    | 1.17      |
|  | 127 255 255 | 0.83    | 0.49    | 0.08    | 0.36      |
|  | 191 0 0     | 1.71    | 0.14    | 1.25    | 1.29      |
|  | 191 0 63    | 1.01    | 0.94    | 1.26    | 1.35      |
|  | 191 0 127   | 1.74    | 0.51    | 1.08    | 1.17      |
|  | 191 0 191   | 1.61    | 0.70    | 1.21    | 1.28      |
|  | 191 0 255   | 0.00    | 1.60    | 0.76    | 0.96      |
|  | 191 63 0    | 1.79    | 0.06    | 1.21    | 1.27      |
|  | 191 63 63   | 0.77    | 0.90    | 1.14    | 1.23      |
|  | 191 63 127  | 1.35    | 0.61    | 1.20    | 1.28      |
|  | 191 63 191  | 1.60    | 0.33    | 1.08    | 1.14      |
|  | 191 63 255  | 0.12    | 1.55    | 0.87    | 1.05      |
|  | 191 127 0   | 1.14    | 0.01    | 1.24    | 1.27      |
|  | 191 127 63  | 0.71    | 0.07    | 1.28    | 1.30      |
|  | 191 127 127 | 0.58    | 0.39    | 1.11    | 1.17      |
|  | 191 127 191 | 0.93    | 0.32    | 1.19    | 1.25      |
|  | 191 127 255 | 1.04    | 0.86    | 1.06    | 1.16      |
|  | 191 191 0   | 1.38    | 0.34    | 1.21    | 1.25      |
|  | 191 191 63  | 0.44    | 0.50    | 1.22    | 1.25      |
|  | 191 191 127 | 0.26    | 0.71    | 1.27    | 1.36      |
|  | 191 191 191 | 0.61    | 0.08    | 1.25    | 1.39      |

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| Date             | Thursday, April 18, 2024                |
| Tester           | Oliver Jachmann                         |
| Display          | MSI MPG 321URXDE QD-OLED                |
| Sensor           | X-Rite i1 Display Pro (Corr.: OLED, XR) |
| Testchart        | In accordance with ISO 12646:2007 (1)   |
| Target           | AdobeRGB                                |
| Display Profile  | Considered                              |
| Rendering Intent | Relative colorimetric                   |

(1) Five equally spaced code values for each channel

|  | RGB             | Delta C | Delta H | Delta L | Delta E94 |
|--|-----------------|---------|---------|---------|-----------|
|  | 191 191 255     | 1.88    | 0.05    | 1.14    | 1.36      |
|  | 191 255 0       | 0.87    | 1.66    | 0.15    | 0.64      |
|  | 191 255 63      | 1.67    | 1.30    | 0.15    | 0.61      |
|  | 191 255 127     | 2.20    | 0.40    | 0.18    | 0.56      |
|  | 191 255 191     | 3.20    | 0.72    | 0.24    | 1.12      |
|  | 191 255 255     | 1.45    | 0.24    | 0.20    | 0.67      |
|  | 255 0 0         | 2.94    | 0.26    | 1.66    | 1.73      |
|  | 255 0 63        | 2.82    | 0.15    | 1.68    | 1.75      |
|  | 255 0 127       | 2.66    | 0.23    | 1.71    | 1.79      |
|  | 255 0 191       | 2.44    | 1.19    | 1.80    | 1.91      |
|  | 255 0 255       | 0.65    | 3.53    | 1.63    | 2.07      |
|  | 255 63 0        | 2.90    | 0.23    | 1.65    | 1.72      |
|  | 255 63 63       | 2.11    | 0.57    | 1.64    | 1.70      |
|  | 255 63 127      | 2.24    | 0.66    | 1.69    | 1.78      |
|  | 255 63 191      | 1.99    | 1.07    | 1.80    | 1.89      |
|  | 255 63 255      | 0.63    | 3.27    | 1.54    | 1.98      |
|  | 255 127 0       | 1.84    | 0.05    | 1.41    | 1.45      |
|  | 255 127 63      | 1.46    | 0.27    | 1.39    | 1.43      |
|  | 255 127 127     | 1.36    | 0.04    | 1.43    | 1.47      |
|  | 255 127 191     | 1.54    | 0.38    | 1.50    | 1.57      |
|  | 255 127 255     | 0.50    | 2.48    | 1.32    | 1.72      |
|  | 255 191 0       | 0.95    | 0.95    | 1.04    | 1.13      |
|  | 255 191 63      | 0.20    | 0.59    | 1.07    | 1.10      |
|  | 255 191 127     | 0.17    | 0.17    | 1.10    | 1.11      |
|  | 255 191 191     | 0.19    | 0.66    | 1.21    | 1.29      |
|  | 255 191 255     | 0.81    | 1.47    | 1.06    | 1.41      |
|  | 255 255 0       | 0.61    | 0.40    | 0.17    | 0.25      |
|  | 255 255 63      | 1.40    | 0.40    | 0.20    | 0.37      |
|  | 255 255 127     | 1.97    | 0.18    | 0.23    | 0.55      |
|  | 255 255 191     | 2.13    | 0.15    | 0.15    | 0.87      |
|  | 255 255 255 (1) | -       | -       | -       | -         |
|  | Average (2)     | 2.48    | 1.38    | 0.85    | 1.36      |
|  | Maximum (2)     | 13.02   | 11.97   | 1.80    | 3.91      |

(1) Visual adaptation to display whitepoint is assumed; CIELAB reference values are adapted (Bradford transformation) to display whitepoint  
(2) Without Black

|             |                         |
|-------------|-------------------------|
| Color Space | Gamut Volume CIELAB D50 |
| AdobeRGB    | 93%                     |

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| Target           | AdobeRGB                                |
| Display Profile  | Considered                              |
| Rendering Intent | Relative colorimetric                   |

(1) Five equally spaced code values for each channel

| Property             | Device adjustments |
|----------------------|--------------------|
| Backlight brightness |                    |
| Brightness           | 39                 |
| Contrast             | 70                 |
| RGB Gain             | 97 92 100          |
| Gradation            | n.a.               |
| Other                |                    |