# Phase One NimbusQA Image Analysis Report

Image name: MS_SN_152.tif

NIMBUSQA

PHASEONE

Creation time: 2026 October 18, 20:17

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# 1 Image Data

**Target info:**

Target type: Object Level Target

Target serial number: M001655

**Image metadata:**

Image name: MS_SN_152.tif

Image size: 4521x763

Resolution horizontal: 444

Resolution vertical: 444

Bit depth: 16 16 16 16-bit

Color space: sRGB IEC 61966-2.1, D65, observer CIE 1931, 2°

File size: 28 MB

File format: TIFF

**Camera information:**

Camera manufacturer: N/A

Camera model: N/A

Lens model: N/A

ISO: N/A

Aperture: 1/N/A

Exposure time: N/A

Flash: N/A

# 2 Analysis results

## 2.1 Selected Guidelines

FADGI 3.4 - Documents (Unbound): General Collections

### 2.1.1 Overall scores

| | score |
|---|---|
| Noise | ★ ★ ★ ★ |
| SFR10 | ★ ★ ★ |
| SFR50 | ★ ★ ★ |
| Bit depth | ★ ★ ★ ★ |
| Color mode | ★ ★ ★ ★ |
| Resolution | ★ ★ ★ ★ |
| Sharpening | ★ ★ ★ |
| Color space | ★ ★ ★ ★ |
| Tone response | ★ ★ ★ ★ |
| White balance | ★ ★ ★ |
| Color accuracy 90 | ★ ★ ★ |
| Master file format | ★ ★ ★ ★ |
| Lightness uniformity | ★ ★ ★ ★ |
| Reproduction scale accuracy | ★ ★ ★ ★ |
| Color channel misregistration | ★ ★ ★ ★ |

Table 1: Scores of selected guideline

### 2.1.2 Calculated values

| | value |
|---|---|
| SFR 50(max) | 0.67 |
| SFR 50(min) | 0.47 |
| SFR 10 | 0.81 |
| Oversharpening | 1.05 |
| Color channel misregistration | 0.06 |
| Sampling efficiency | 82.01 |
| Distortion | 0.02 |
| Lightness uniformity | 0.00 |

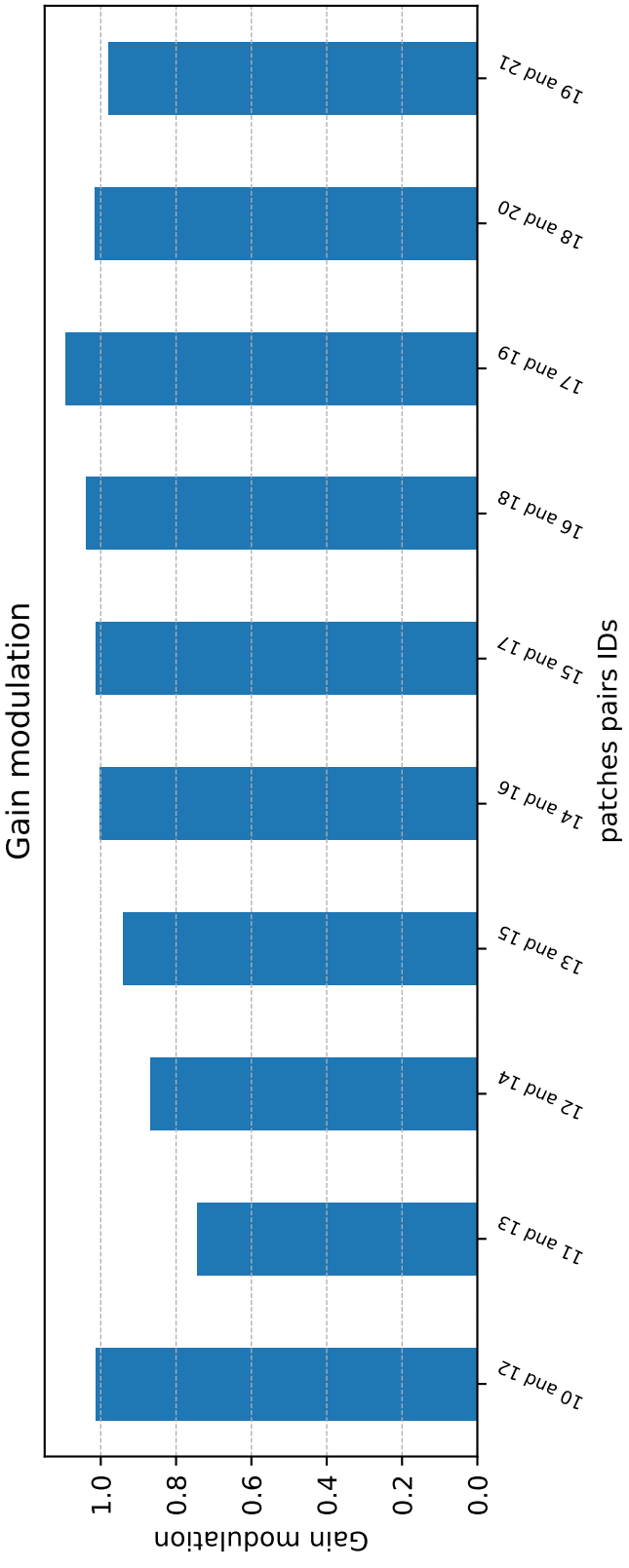
Table 2: Single value parameters

| | $\sigma$ | $\mu$ | max | min | 90th percentile |
|---|---|---|---|---|---|
| Noise | 0.21 | 0.45 | 1.11 | 0.24 | 0.52 |
| Color error | 1.61 | 2.72 | 5.67 | 0.34 | 4.83 |
| Tone response | 0.50 | 0.72 | 1.57 | 0.12 | 1.35 |
| White balance | 1.65 | 2.24 | 5.21 | 0.16 | 4.54 |

Table 3: Statistical values parameters

## 2.2 Additional graphs and parameters

### 2.2.1 Gain modulation graph



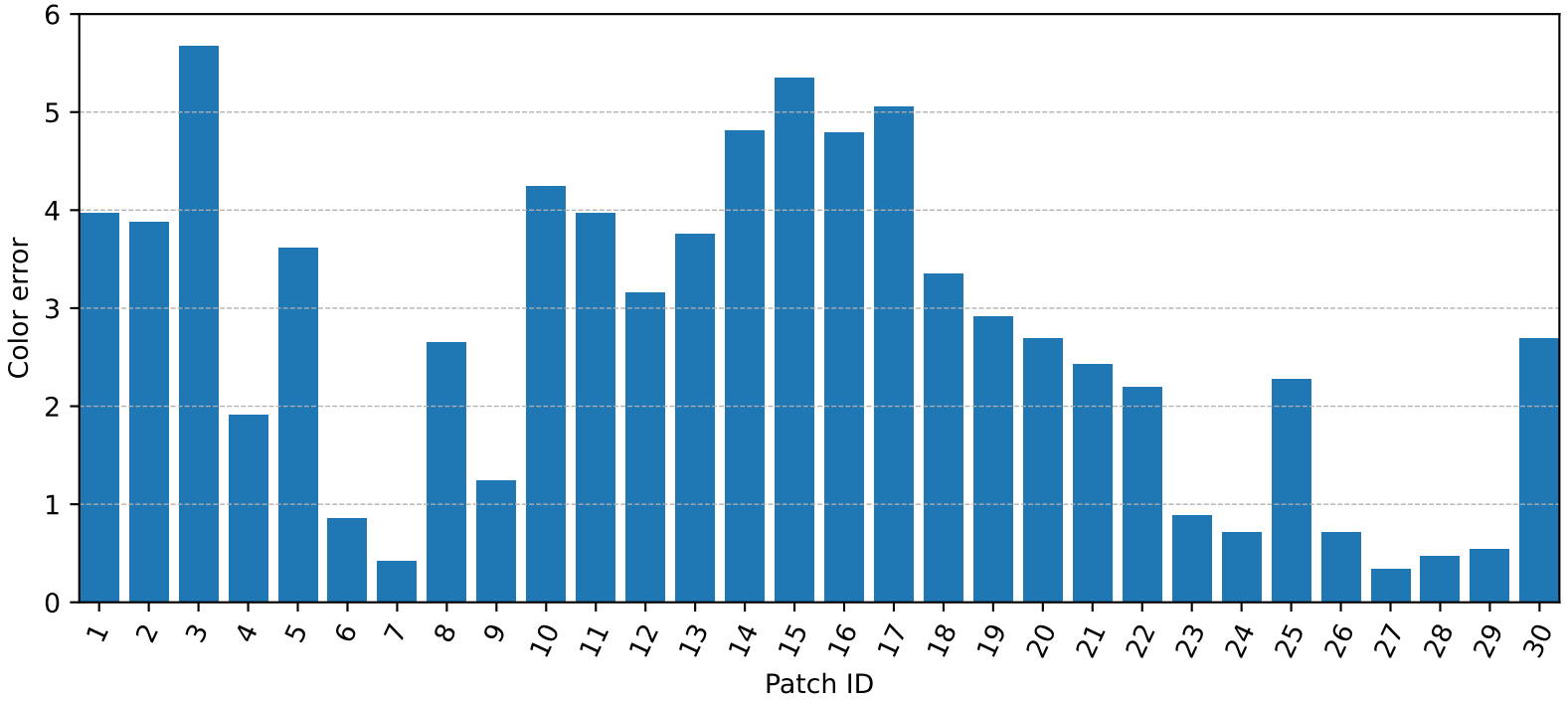
### 2.2.2 measured and aim values for color patches

| | $R_{mea}$ | $G_{mea}$ | $B_{mea}$ | $L^*_{mea}$ | $a^*_{mea}$ | $b^*_{mea}$ | $L^*_{aim}$ | $a^*_{aim}$ | $b^*_{aim}$ | $\Delta E_{2000}$ | $\Delta E^{S_L=1}_{2000}$ | $\Delta E_{76}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30301.83 | 22981.94 | 18184.84 | 40.63 | 10.07 | 15.57 | 38.76 | 13.81 | 14.69 | 3.97 | 4.07 | 4.27 |
| 2 | 54331.57 | 40549.94 | 35216.25 | 69.83 | 18.55 | 19.08 | 65.15 | 19.21 | 17.92 | 3.88 | 4.80 | 4.87 |
| 3 | 22500.20 | 34354.47 | 43009.91 | 53.50 | -9.11 | -23.18 | 49.61 | -4.20 | -21.33 | 5.67 | 5.69 | 6.53 |
| 4 | 23238.52 | 28973.09 | 16951.29 | 44.81 | -15.22 | 23.14 | 43.54 | -12.89 | 22.66 | 1.91 | 1.97 | 2.70 |
| 5 | 36418.90 | 35821.33 | 47384.93 | 59.46 | 8.32 | -23.36 | 55.52 | 8.78 | -24.31 | 3.62 | 3.97 | 4.08 |
| 6 | 22505.65 | 48244.69 | 44157.69 | 69.88 | -33.62 | -1.33 | 70.42 | -32.39 | -0.48 | 0.86 | 0.92 | 1.59 |
| 7 | 58177.44 | 32567.72 | 12364.86 | 63.59 | 35.47 | 57.47 | 63.13 | 35.43 | 57.84 | 0.42 | 0.49 | 0.60 |
| 8 | 17963.19 | 25151.25 | 45718.52 | 42.44 | 9.11 | -46.63 | 40.08 | 10.25 | -44.77 | 2.65 | 2.85 | 3.21 |
| 9 | 52100.53 | 22630.47 | 25529.61 | 52.96 | 47.18 | 17.51 | 51.75 | 47.36 | 16.93 | 1.24 | 1.26 | 1.36 |
| 10 | 60216.55 | 62570.60 | 60525.45 | 95.14 | -4.20 | 2.74 | 95.34 | -0.90 | 1.90 | 4.24 | 4.25 | 3.41 |
| 11 | 56634.76 | 58642.99 | 56725.54 | 89.89 | -3.72 | 2.69 | 92.09 | -0.92 | 1.46 | 3.97 | 4.32 | 3.77 |
| 12 | 54156.12 | 56238.01 | 54912.48 | 86.60 | -3.54 | 1.54 | 86.92 | -1.12 | 0.97 | 3.16 | 3.17 | 2.51 |
| 13 | 50775.20 | 53483.41 | 53067.87 | 82.67 | -3.94 | -0.50 | 82.37 | -1.12 | 0.56 | 3.76 | 3.76 | 3.03 |
| 14 | 44263.57 | 47313.98 | 46448.64 | 73.81 | -4.75 | 0.22 | 72.17 | -1.05 | -0.04 | 4.81 | 4.93 | 4.06 |
| 15 | 37210.64 | 40461.60 | 39374.69 | 63.78 | -5.30 | 0.59 | 62.32 | -1.10 | -0.01 | 5.35 | 5.41 | 4.49 |
| 16 | 29056.38 | 32002.81 | 31144.50 | 51.18 | -4.94 | 0.30 | 49.61 | -1.29 | -0.10 | 4.79 | 4.80 | 3.99 |
| 17 | 22452.41 | 24759.31 | 24181.78 | 40.03 | -3.98 | 0.03 | 38.89 | -0.23 | -0.48 | 5.06 | 5.09 | 3.96 |
| 18 | 16229.10 | 18211.96 | 17657.89 | 29.33 | -3.64 | 0.17 | 28.60 | -1.09 | 0.07 | 3.35 | 3.38 | 2.66 |
| 19 | 10072.29 | 11064.96 | 10764.62 | 17.13 | -2.00 | 0.14 | 17.97 | 0.04 | 0.09 | 2.92 | 2.99 | 2.20 |
| 20 | 6451.36 | 7145.82 | 7361.62 | 9.90 | -1.15 | -1.04 | 9.50 | 0.45 | 0.25 | 2.69 | 2.70 | 2.10 |
| 21 | 2456.12 | 3659.03 | 3858.67 | 3.76 | -1.32 | -0.88 | 4.33 | 0.32 | -0.47 | 2.43 | 2.47 | 1.78 |
| 22 | 25668.64 | 16797.42 | 27487.46 | 33.03 | 21.24 | -18.21 | 30.32 | 22.13 | -19.02 | 2.20 | 2.76 | 2.96 |
| 23 | 40729.00 | 49001.54 | 17584.83 | 73.04 | -24.30 | 55.54 | 72.50 | -22.92 | 56.08 | 0.89 | 0.96 | 1.57 |
| 24 | 60303.09 | 42099.27 | 10792.11 | 72.96 | 20.09 | 68.08 | 72.10 | 19.51 | 67.85 | 0.72 | 0.92 | 1.06 |
| 25 | 7497.56 | 17225.34 | 38146.32 | 29.69 | 11.34 | -49.65 | 29.51 | 13.42 | -47.69 | 2.28 | 2.28 | 2.86 |
| 26 | 16649.24 | 38753.92 | 19489.01 | 55.81 | -39.42 | 31.15 | 55.60 | -38.46 | 32.19 | 0.72 | 0.72 | 1.43 |
| 27 | 46273.48 | 15078.03 | 14994.66 | 43.54 | 49.78 | 29.05 | 43.48 | 50.74 | 29.13 | 0.34 | 0.35 | 0.96 |
| 28 | 61689.60 | 51728.06 | 8518.24 | 82.64 | 3.56 | 78.20 | 82.02 | 3.28 | 78.75 | 0.47 | 0.66 | 0.88 |
| 29 | 50278.37 | 22845.95 | 38844.11 | 53.23 | 48.66 | -12.93 | 52.85 | 49.90 | -12.86 | 0.54 | 0.55 | 1.30 |
| 30 | 0.00 | 35073.67 | 43770.77 | 52.10 | -22.66 | -27.26 | 50.86 | -27.78 | -27.68 | 2.69 | 2.70 | 5.28 |

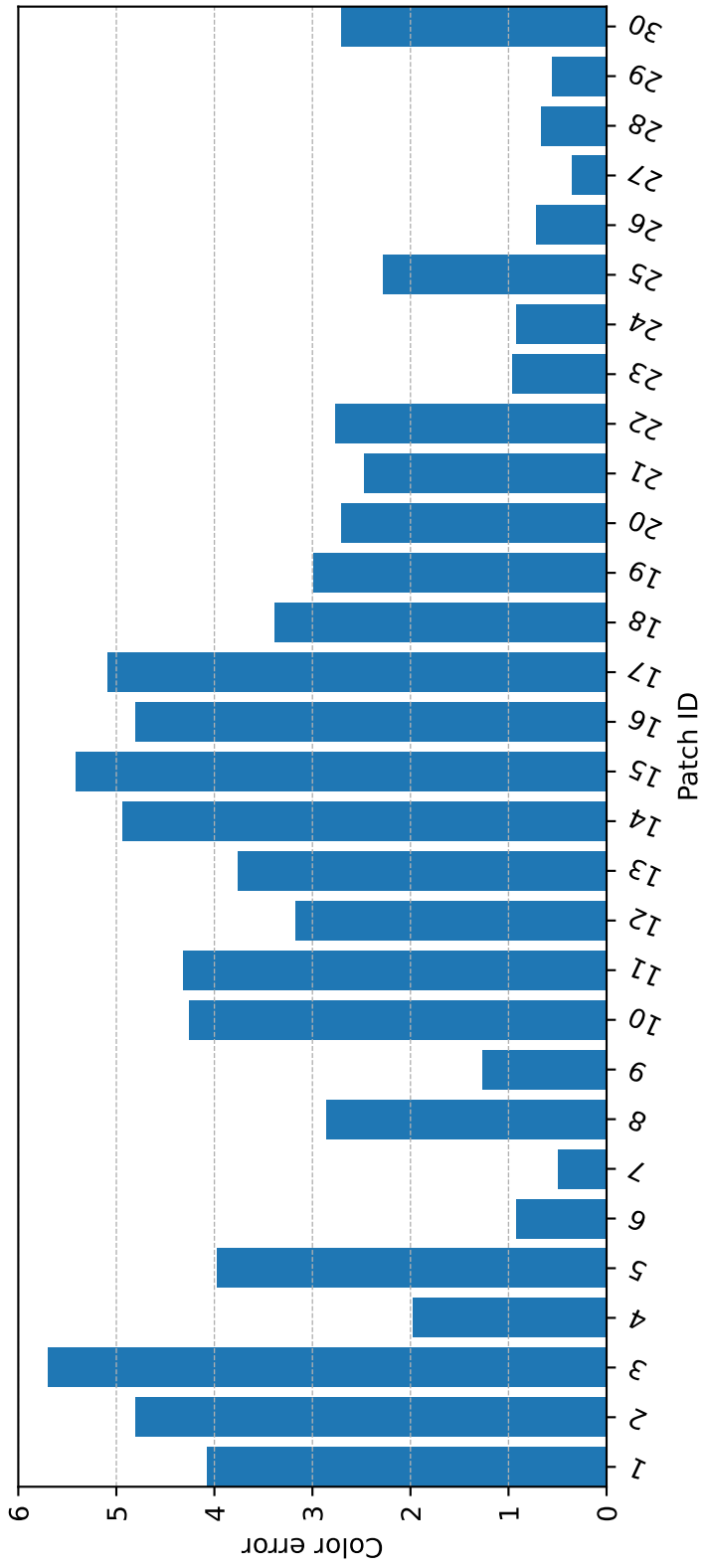
Table 4: Color values for patches

### 2.2.3 Plots of color error.

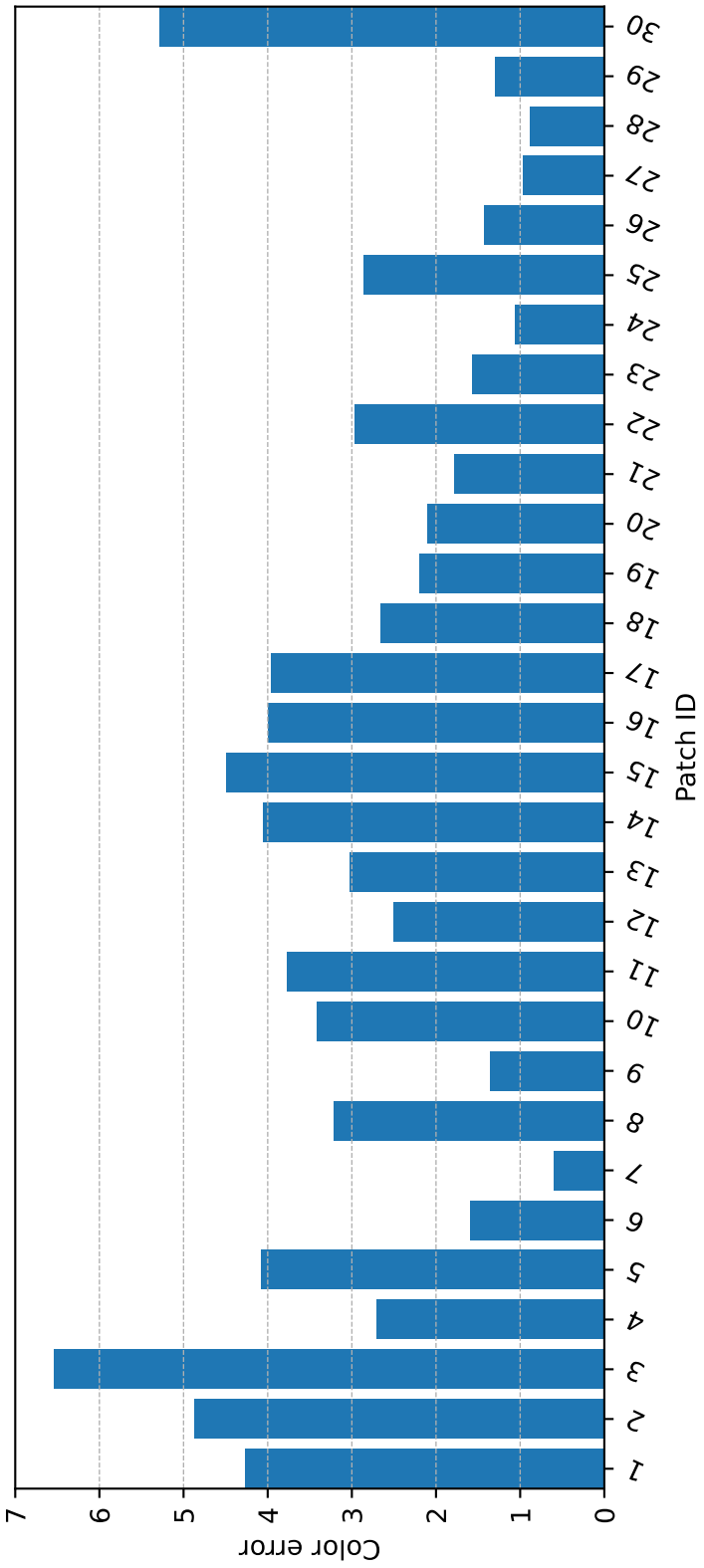
#### 2.2.3.1 Plot of $\Delta E_{2000}$ for patches



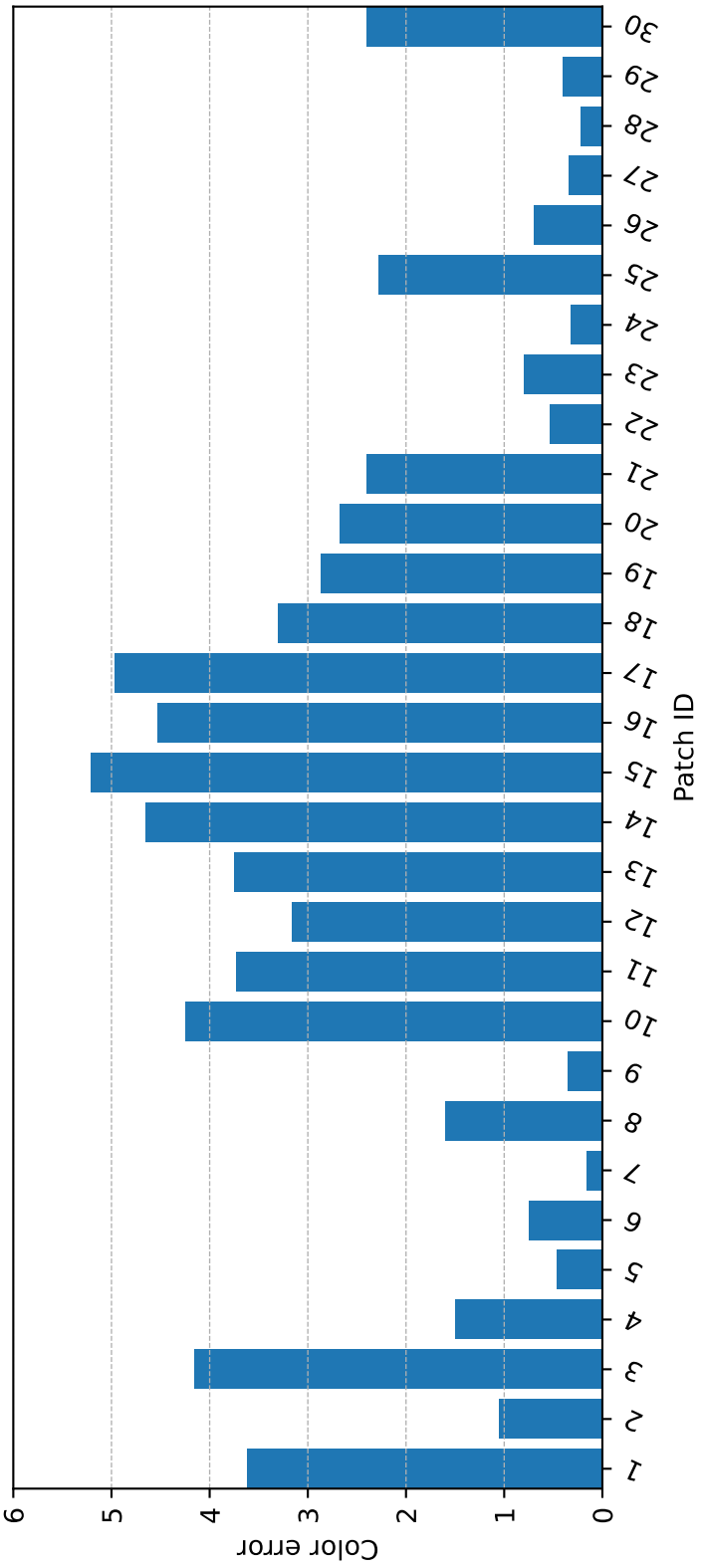

#### 2.2.3.2 Plot of $\Delta E_{2000}(S_L = 1)$ for patches


Color error
0
1
2
3
4
5
6
Patch ID
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
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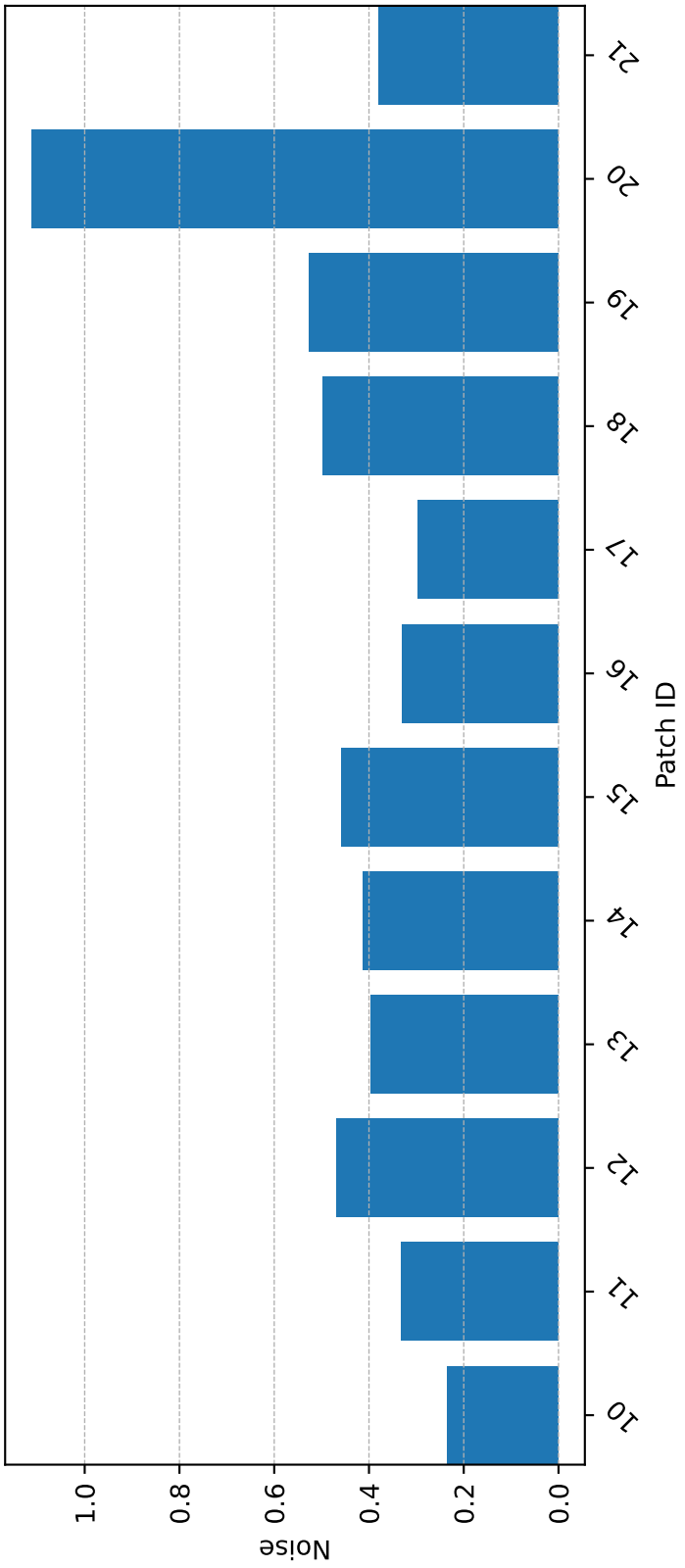
### 2.2.4 Plot of $\Delta E_{76}$ for patches



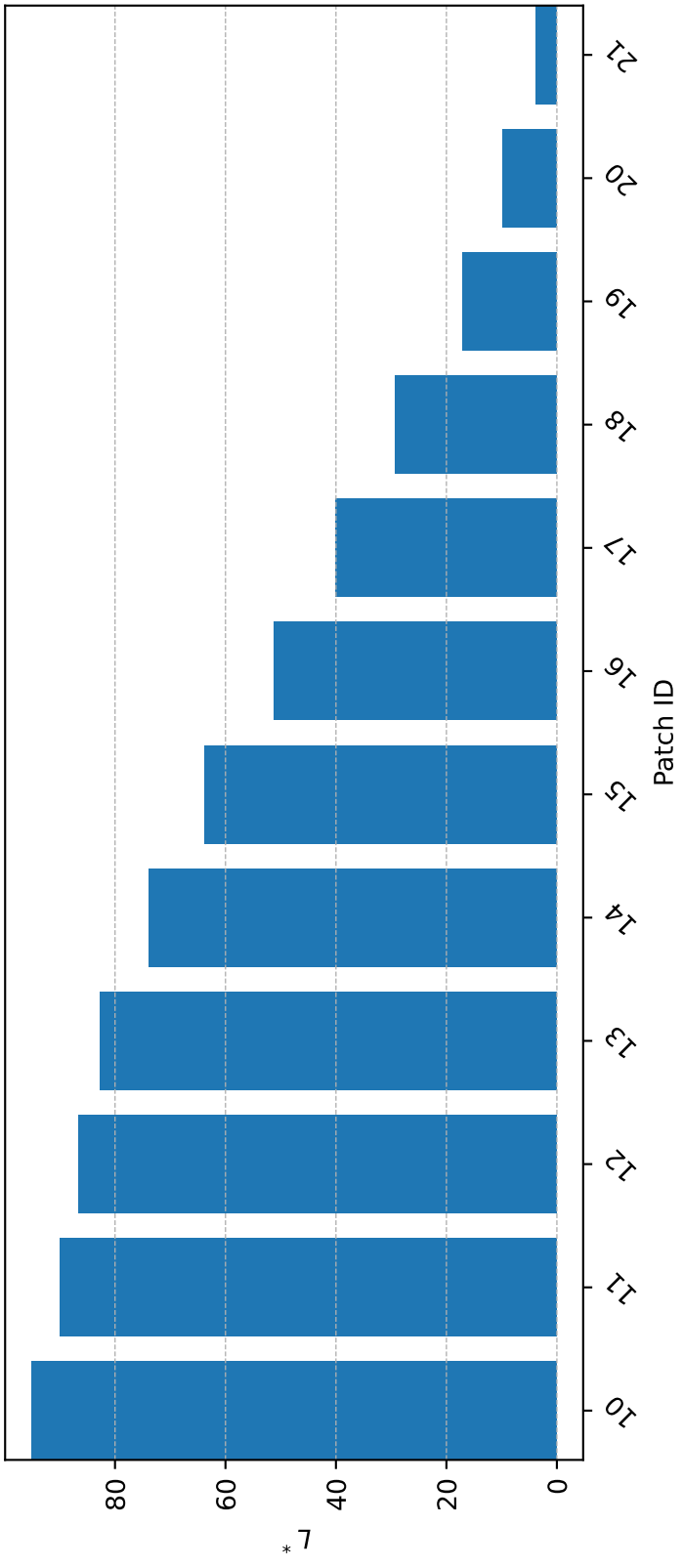
### 2.2.5 Plot of white balance for patches



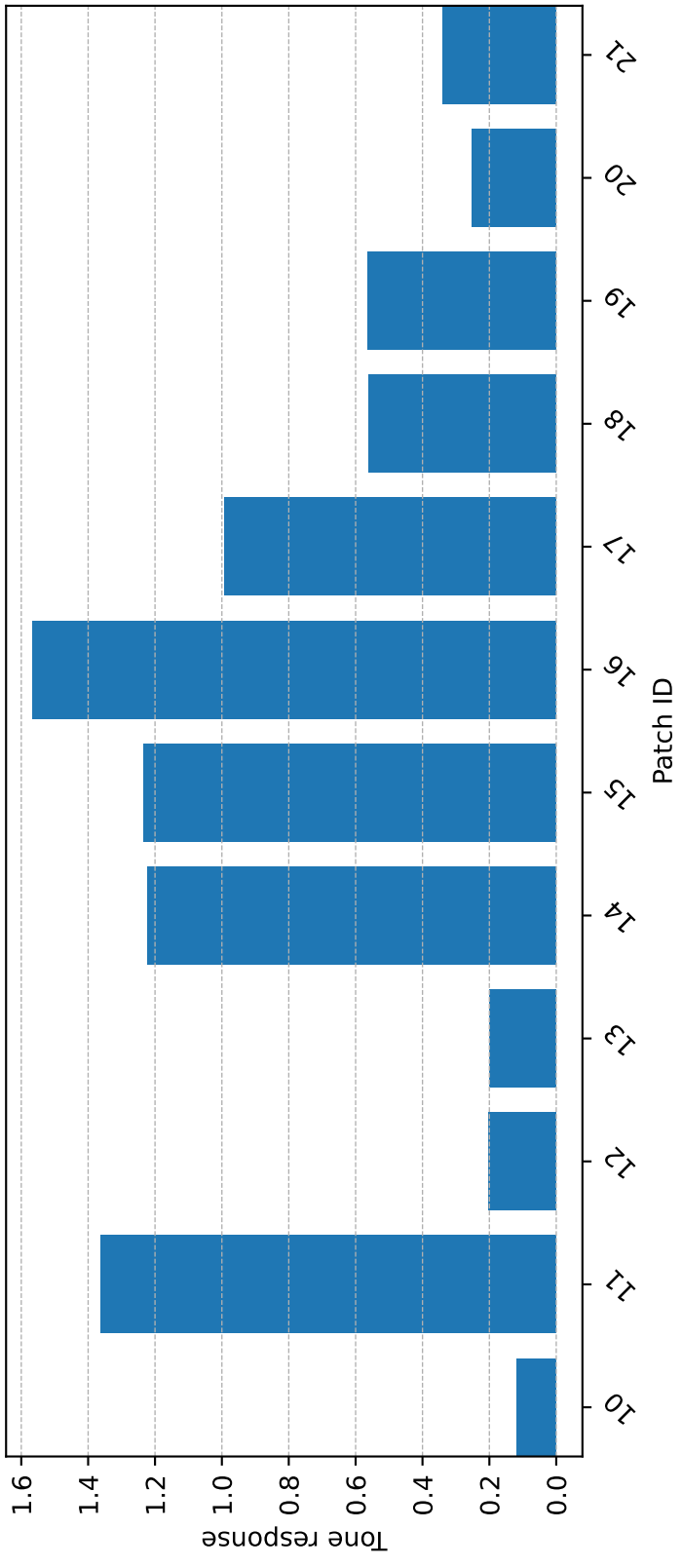
### 2.2.6 Plot of noise for patches



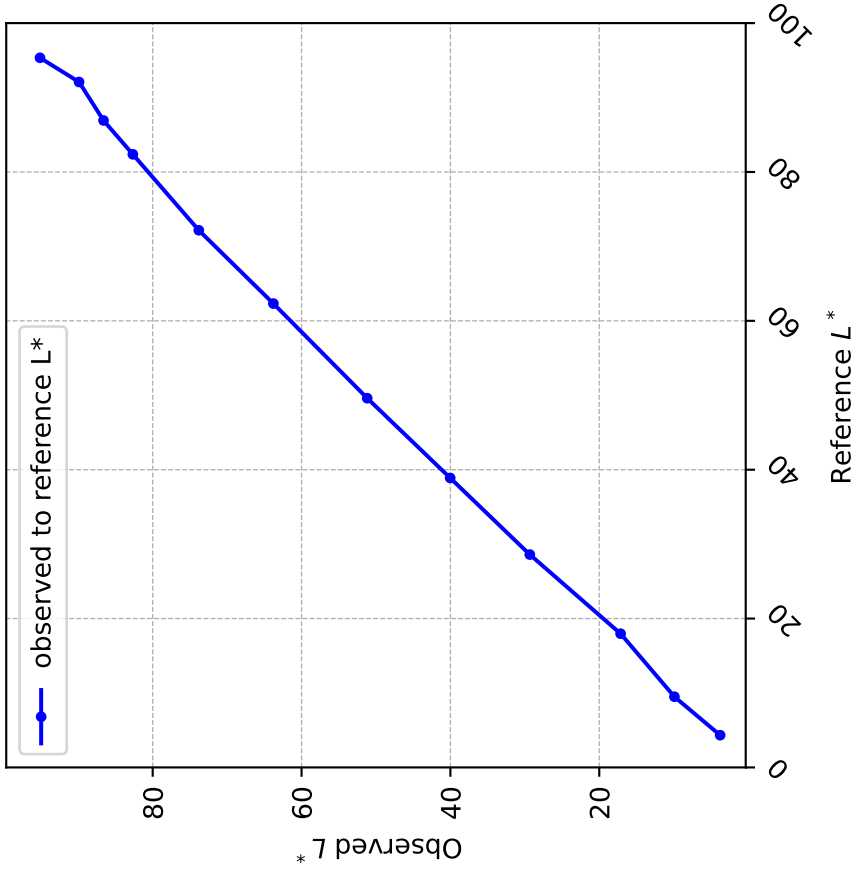
### 2.2.7 Plot of $L^*$ for grayscale patches



### 2.2.8 Plot of Tone response

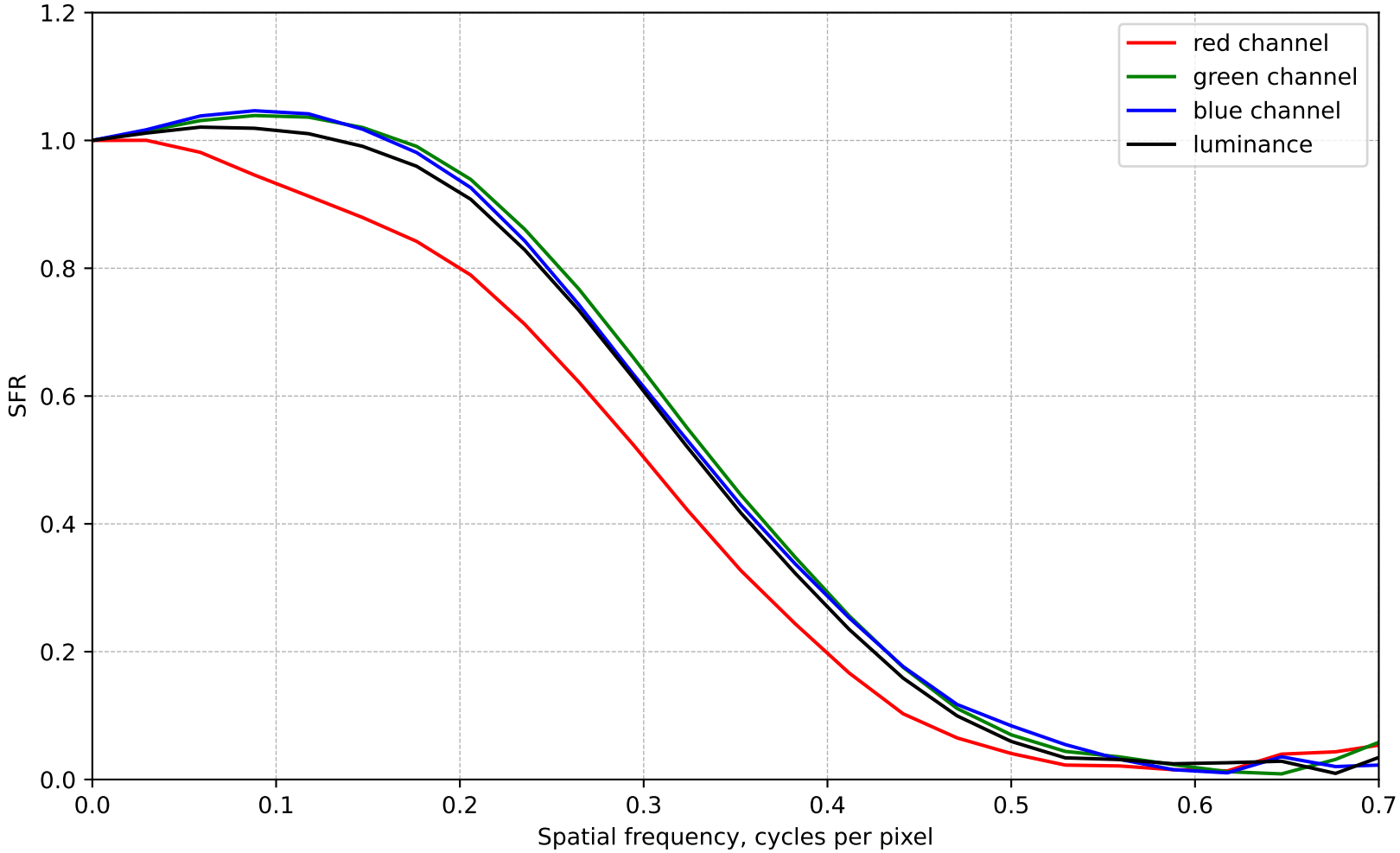


### 2.2.9 $L^*$ measured to $L^*$ reference plot

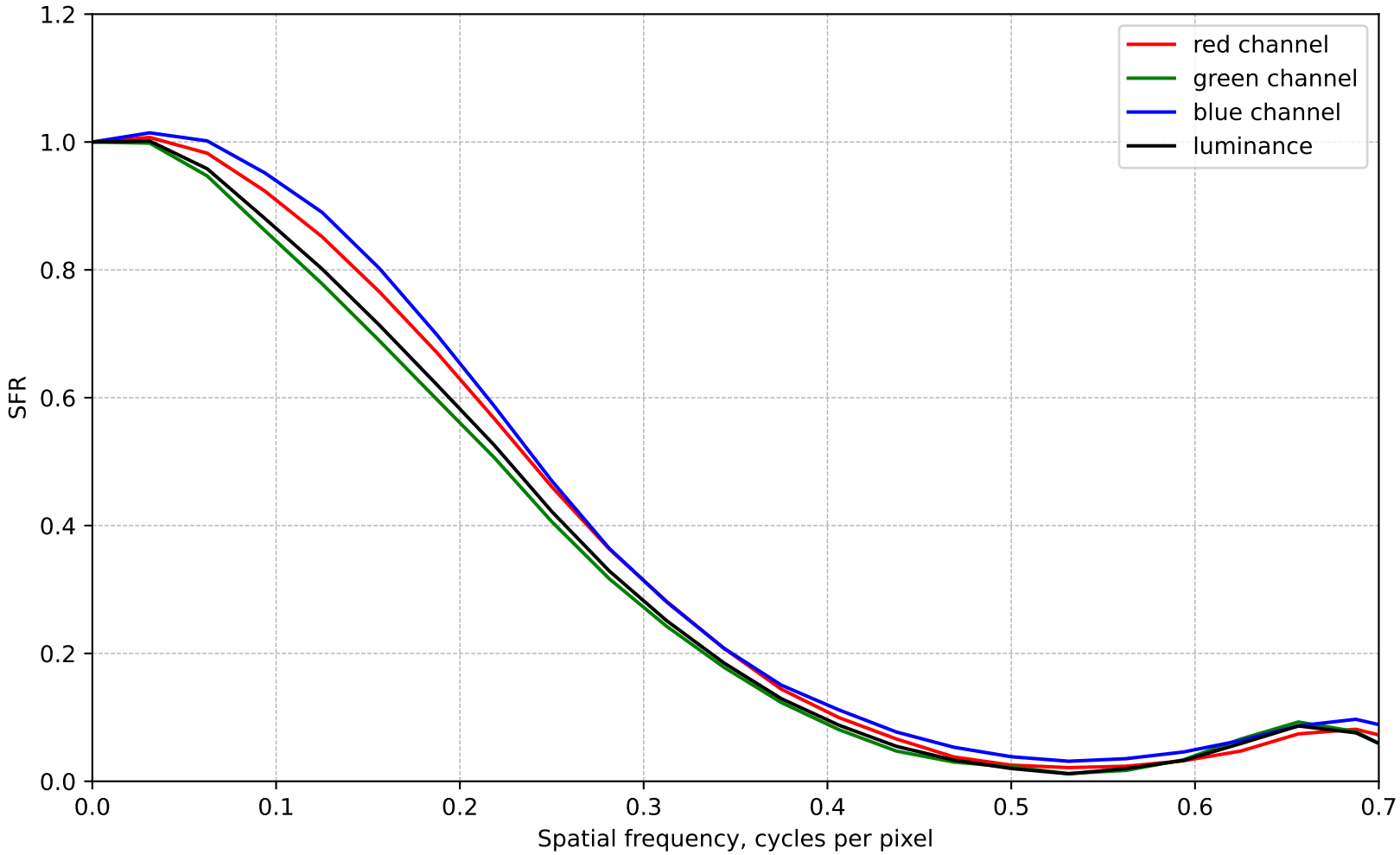


## 2.3 Plots of SFR for edges

### 2.3.1 Plot for edge no. 1



### 2.3.2 Plot for edge no. 2



# 3 Reference values for selected target

## 3.1 User target name:\

Target name: Object Level Target

## 3.2 Aim values for target:

| | $L^*_{\text{aim}}$ | $a^*_{\text{aim}}$ | $b^*_{\text{aim}}$ |
|---|---|---|---|
| 1 | 38.76 | 13.81 | 14.69 |
| 2 | 65.15 | 19.21 | 17.92 |
| 3 | 49.61 | -4.20 | -21.33 |
| 4 | 43.54 | -12.89 | 22.66 |
| 5 | 55.52 | 8.78 | -24.31 |
| 6 | 70.42 | -32.39 | -0.48 |
| 7 | 63.13 | 35.43 | 57.84 |
| 8 | 40.08 | 10.25 | -44.77 |
| 9 | 51.75 | 47.36 | 16.93 |
| 10 | 95.34 | -0.90 | 1.90 |
| 11 | 92.09 | -0.92 | 1.46 |
| 12 | 86.92 | -1.12 | 0.97 |
| 13 | 82.37 | -1.12 | 0.56 |
| 14 | 72.17 | -1.05 | -0.04 |
| 15 | 62.32 | -1.10 | -0.01 |
| 16 | 49.61 | -1.29 | -0.10 |
| 17 | 38.89 | -0.23 | -0.48 |
| 18 | 28.60 | -1.09 | 0.07 |
| 19 | 17.97 | 0.04 | 0.09 |
| 20 | 9.50 | 0.45 | 0.25 |
| 21 | 4.33 | 0.32 | -0.47 |
| 22 | 30.32 | 22.13 | -19.02 |
| 23 | 72.50 | -22.92 | 56.08 |
| 24 | 72.10 | 19.51 | 67.85 |
| 25 | 29.51 | 13.42 | -47.69 |
| 26 | 55.60 | -38.46 | 32.19 |
| 27 | 43.48 | 50.74 | 29.13 |
| 28 | 82.02 | 3.28 | 78.75 |
| 29 | 52.85 | 49.90 | -12.86 |
| 30 | 50.86 | -27.78 | -27.68 |

Table 5: User aim values