Two-channel photopic/scotopic luminance meter
Optical layout

- Off-the-shelf optical components
- 2 detection channels, weighted by $V(\lambda)$ and $V'(\lambda)$ respectively
Amplifiers: SWIFD (CMI)

- 2-channel switched integrator amplifier with 20 bit ADC
- Controlled by LabVIEW via USB
Test results

• Lowest measured luminance level: 0.005 cd/m²
• Standard deviation of the mean: 1 % with <2 s of integration
• Estimated $f'_1$ for photopic: 1.5 %; scotopic: 5 %
• Things to characterize:
  – Spectral sensitivity
  – Linearity
  – Effects of out-of-field sources
  – Environment effects (temperature, humidity)
  – Response to modulated luminance
  – Polarization
  – …