Epilogue

“Beauty is in the Eye of the Beholder”
an optimized LED illumination system for OptoClones® (Optical Clones of art objects)

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HoLoFoS v.4

- An illuminant fitted with a multi-chip RGBW LED with independent precision current control per channel and two biconvex lenses for shaping beam.

- The white channel of the HoLoFoS v.4 is used to fill in the “gaps” of color shifting due to development and drying processes of a hologram. Similarly, it allows corrective illumination of digital holographic prints recorded by pulse lasers.
Pure white target, **HoLoFoS v.4** RGBW illumination.

Spectrum and corresponding CIE point close to the CIE white point.
HoLoFoS v4 - Hologram
CONCLUSIONS

• The HoLoFoS v3 and HoLoFoS v4 hologram illuminating devices reconstruct deep single beam color holograms with enhanced contrast and saturated colors.
• The dominant wavelengths of the selected RGB LEDs can match commonly used sets of recording wavelengths and thus provide enhanced color reconstruction.
• Color balance can be easily adjusted by the precise control of the LEDs driving currents.
• The narrow band emissions of the LEDs and the small dimensions of the LED chips minimize the chromatic blur and the source size blur.
• Depth detail reconstruction is obtained at acceptable level thus enhancing the realistic viewing experience.
The HoLoFoS v4 radiance (as reflected from white target) is approx the same or better to the one from the 50W spot at the wavelengths 440, 532, 638 nm. The rest of the spectrum of the 50w spotlight does not contribute to image brilliance, but rather increases scatter and image blur, reduces contrast and de-saturates color.
The overall light intensity of the HoLoFoS v4 can be further increased (within manufacturer’s limits) but this introduces heating considerations.
Industrial design prototype hand-sculpted and aluminum-cast.
Vertical wall-mounted OR horizontal desk-top
Compact electronic control fan-cooled compartment, adjustable colour mixing
Adjustable display stand
Zooming biconvex lenses, heat-sink + fan-cooled
Modular, travel-case
The Development Team