

# Color Uniformity Analysis Report

Report Generated: 2025-11-07 16:52:40

Generated By: Olufemi Balogun

Company: Photonics QC Lab

## Measurement Information

Parameter	Value
Device Serial	WAVEGUIDE-GOOD-001
Operator	Olufemi Balogun
Instrument	Minolta CS-2000
Instrument Serial	Cs2000-12345
Calibration Date	2025-10-15
Temperature	23.5 °C
Humidity	45.0 %
Ambient Light	0.3 lux

## QC Test Results

Overall Result: PASS

### Uniformity Metrics

Metric	Value	Specification	Status
Mean $\Delta E^*00$	0.51	< 3.0	✓
Max $\Delta E^*00$	1.33	< 5.0	✓
Std Dev $\Delta E^*00$	0.31	< 2.0	✓
Median $\Delta E^*00$	0.43	-	-

**Color Statistics (CIELAB)**

Component	Mean	Std Dev	Min	Max
L* (Lightness)	100.7	0.5	100.0	102.0
a* (Red-Green)	-0.01	0.10	0.00	0.00
b* (Yellow-Blue)	-0.28	0.16	0.00	0.00

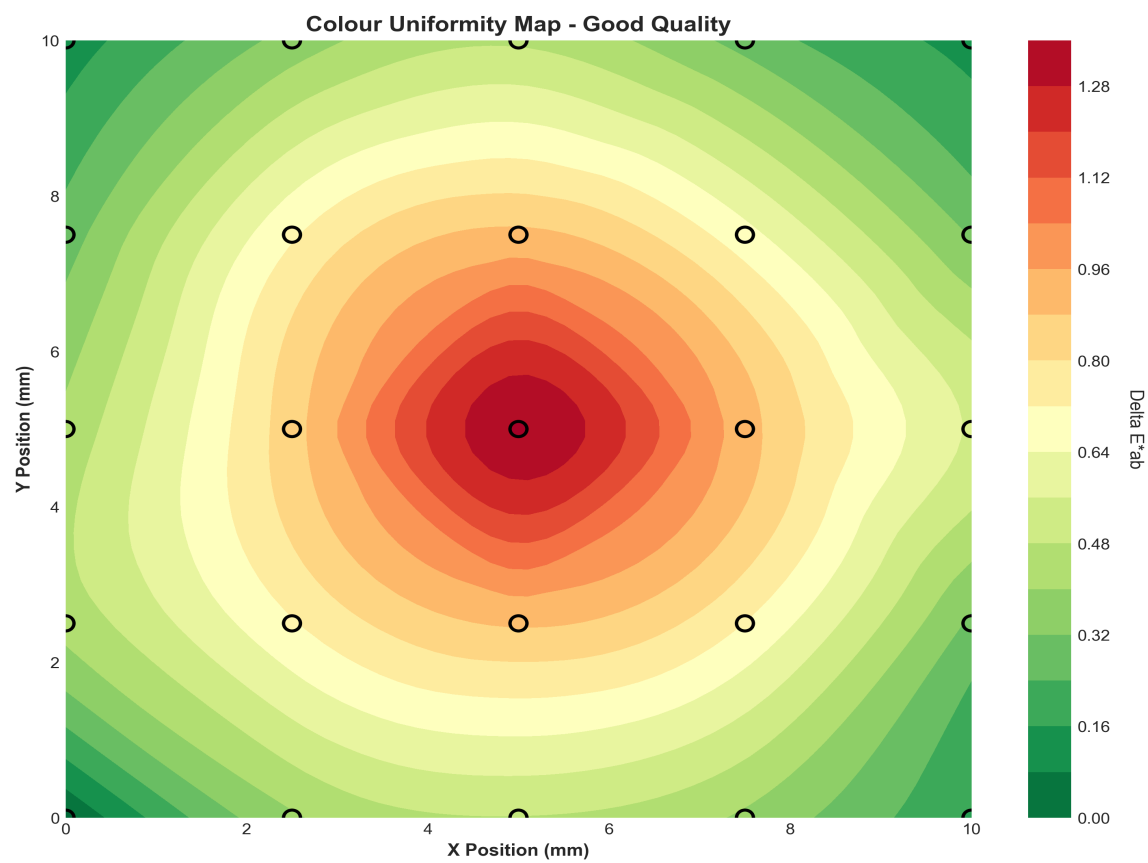
**Chromaticity Uniformity (CIE 1931 xy)**

Metric	Value	Specification	Status
Mean xy Deviation	0.0007	< 0.01	✓
Max xy Deviation	0.0015	< 0.01	✓

**Worst Position:** (5.0, 5.0) mm with  $\Delta E = 1.33$

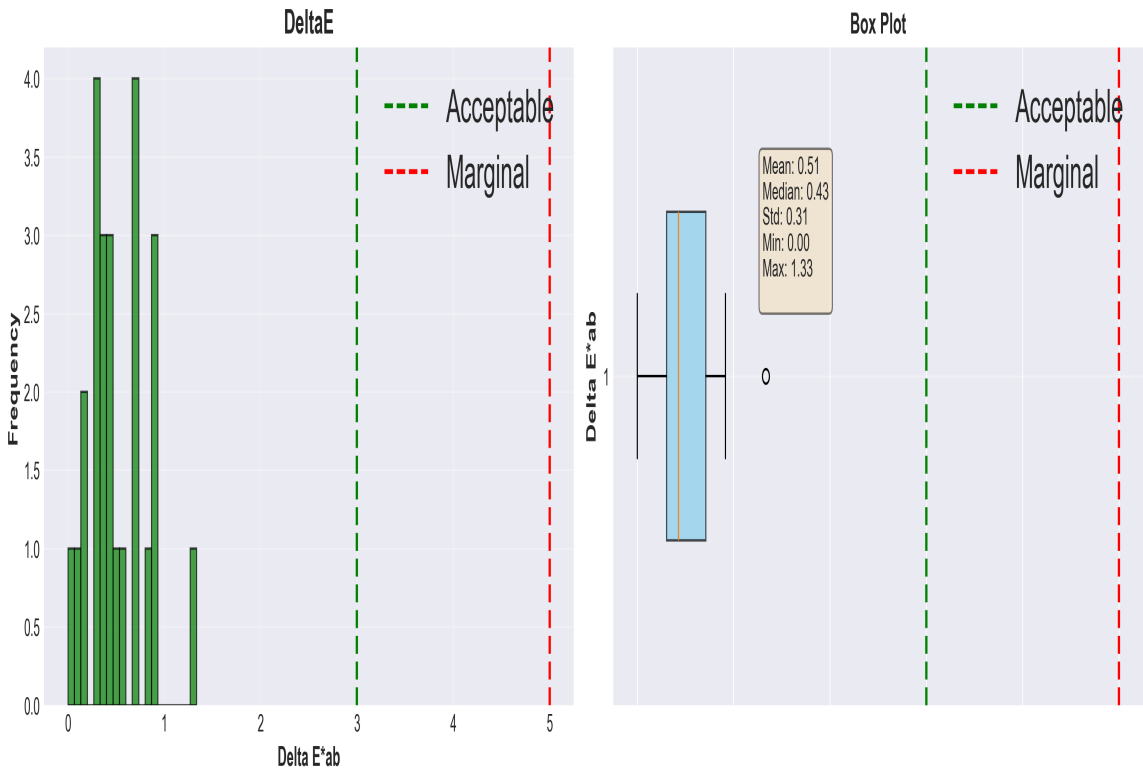
# Uniformity Visualizations

## Uniformity Heatmap

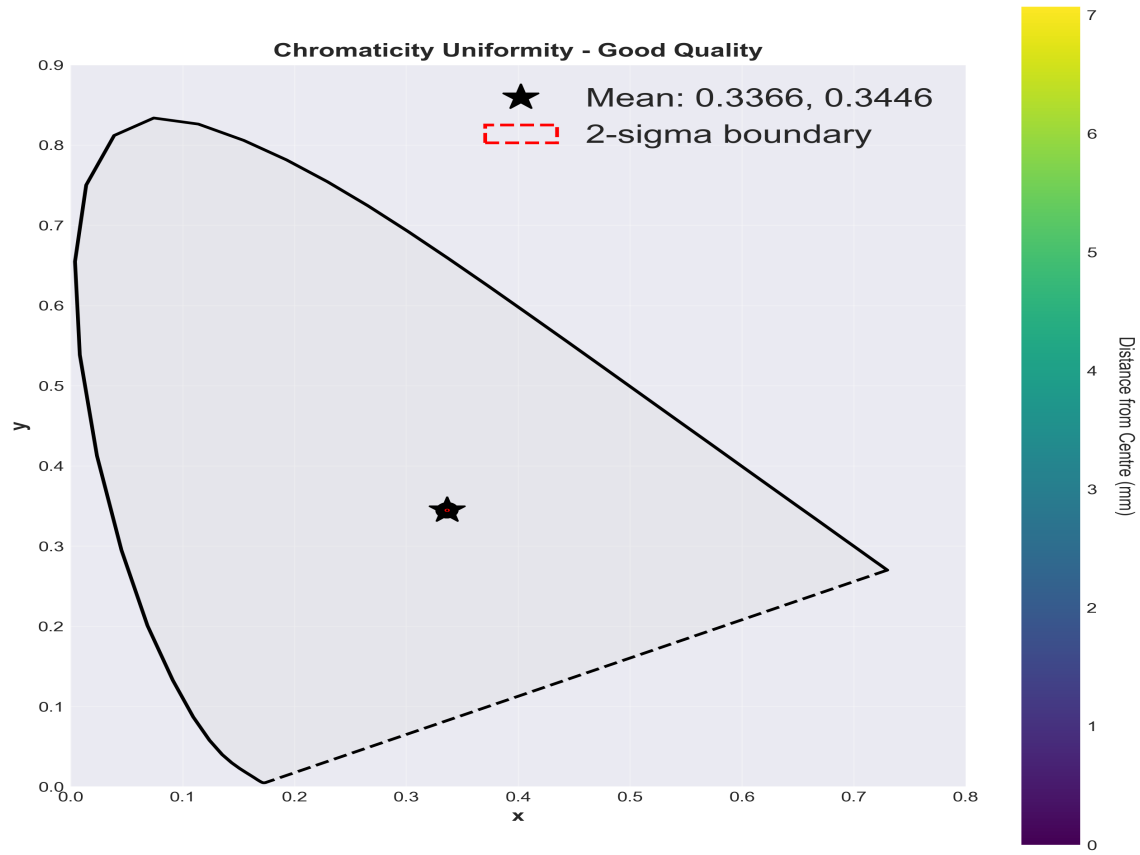


## $\Delta E$ Distribution

DeltaE Distribution - Good Quality



Chromaticity Diagram



## Notes

Simulated good quality waveguide for testing

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