



Yateks P-UV Series Industrial Videoscope 6mm UV output and resolution measurements

14 JAN 2021

Stephen Evans

Abstract

The Yateks P-UV Scope is a portable UV video scope with an 8-inch monitor and 360° (4 way) articulation. This model scope is 6 mm diameter x 1.5 m length and has a UV LED at the tip. The UV output at 2.25" distance to target is 1086 $\mu\text{W}/\text{cm}^2$. At 1.75" a UV indication of 0.005" on a Transparent Crack Comparator is clearly visible.

Introduction

This study measured the UV output and resolution of the model P-UV articulated flexible borescope at various distances. The UV output was measured in 0.25" increments from 0.25" to 2.25". Tam Panels and USAF 1951 Test Chart were used for determining the resolution of UV indications.



Table of Contents

Apparatus	3
Results	5
Yateks Scope UV Output	5
UV Indicator Resolution	6
Equipment	13

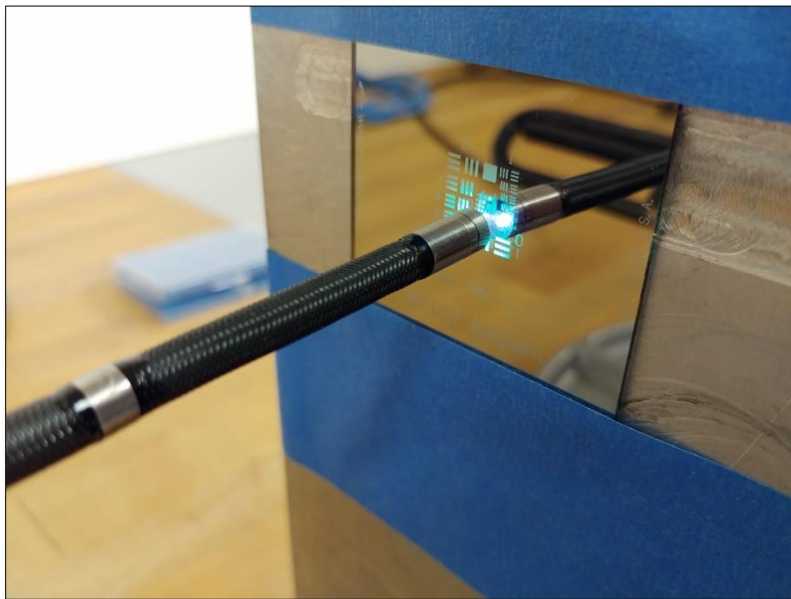


Apparatus

Fig 1. Bench Top Setup



Fig 2. 1951 USAF Resolution Test Target

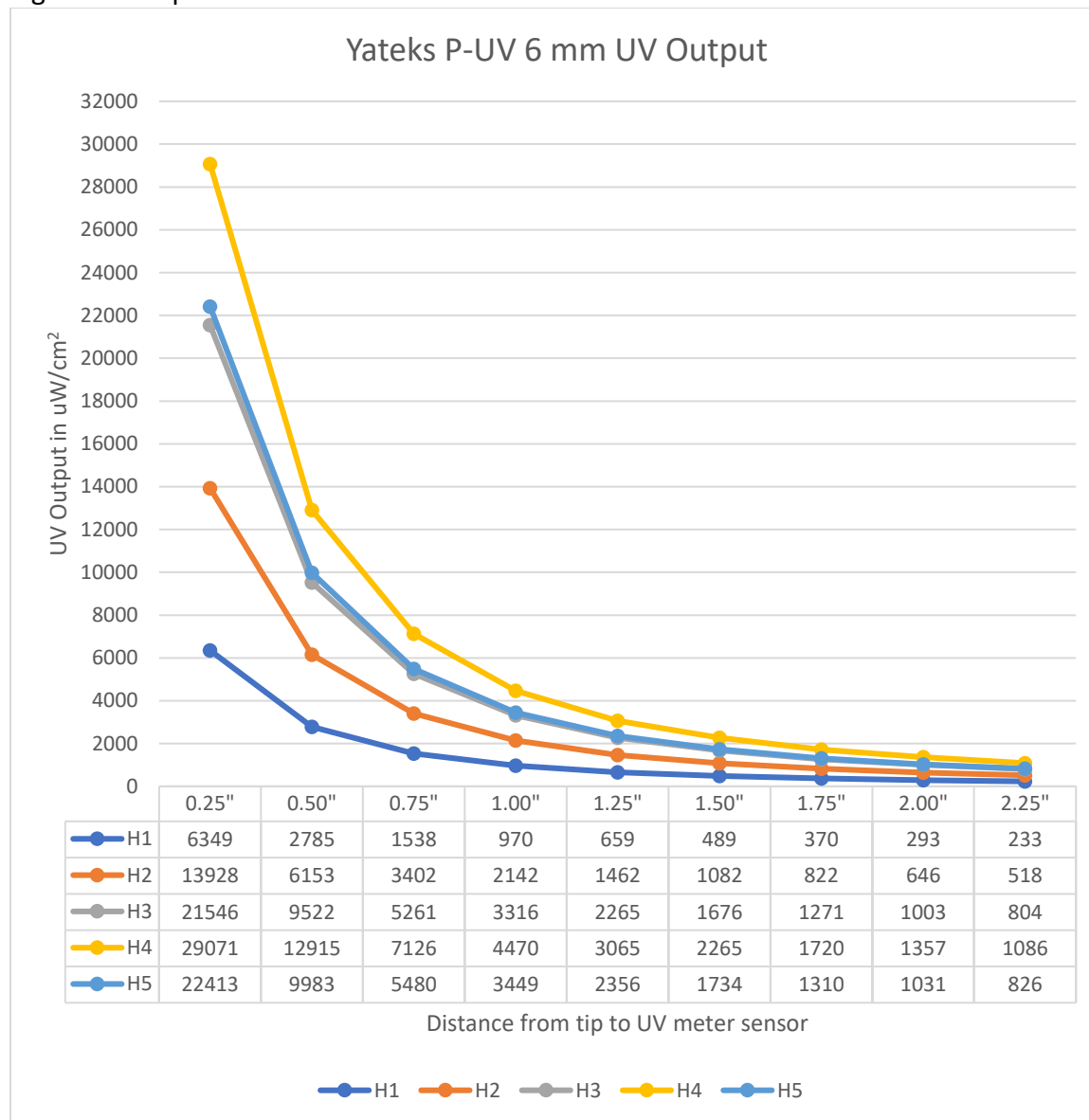




Results

The following chart and table show UV Output in $\mu\text{W}/\text{cm}^2$ of the Yateks scope at its 5 different UV Output settings.

Fig 3. UV Output at Distance



Note: H1 through H5 are the 5 UV power settings on the scope.



UV Indications

USAF 1951 Resolution Chart

Fig 4. USAF 1951 Resolution Chart at 0.25"

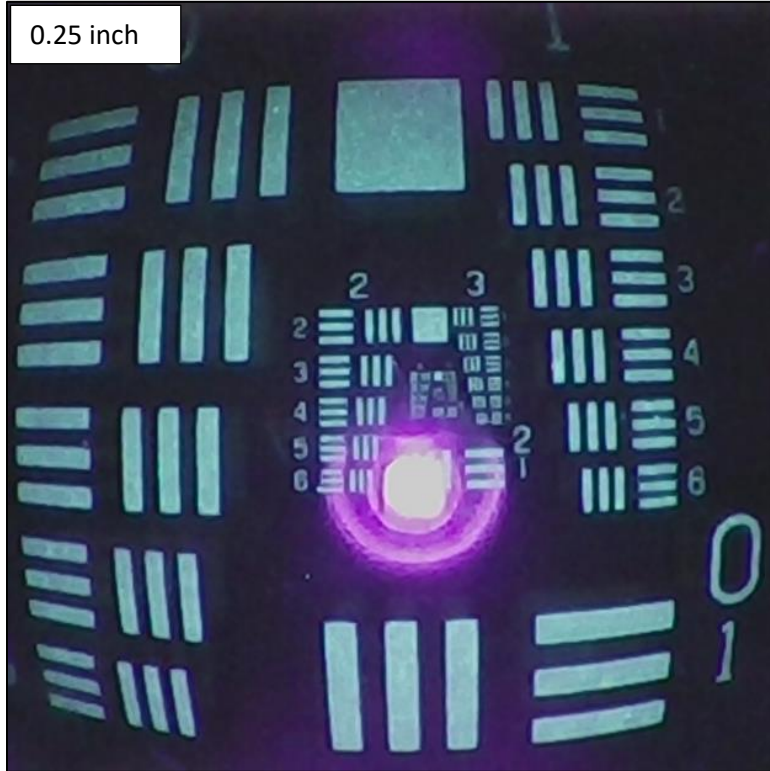




Fig 5. USAF 1951 Resolution Chart at 0.50"

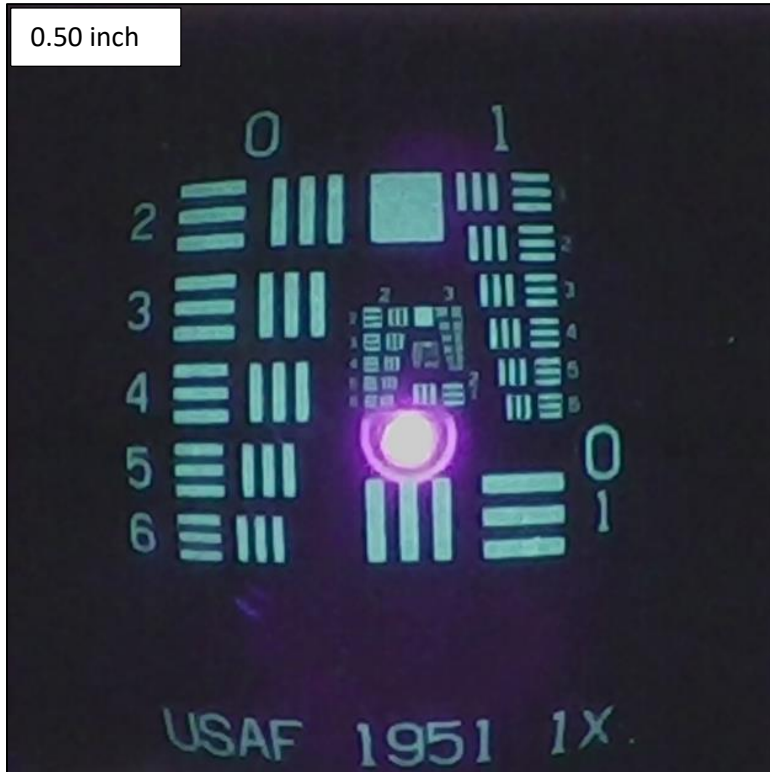


Fig 6. USAF 1951 Resolution Chart at 0.75"

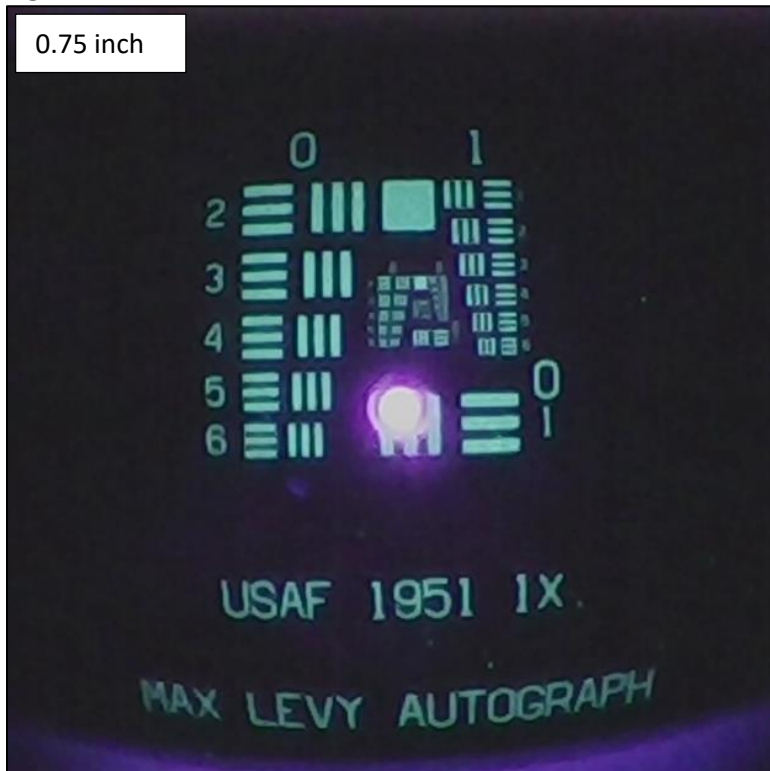




Fig 7. USAF 1951Resolution Chart at 1.00"

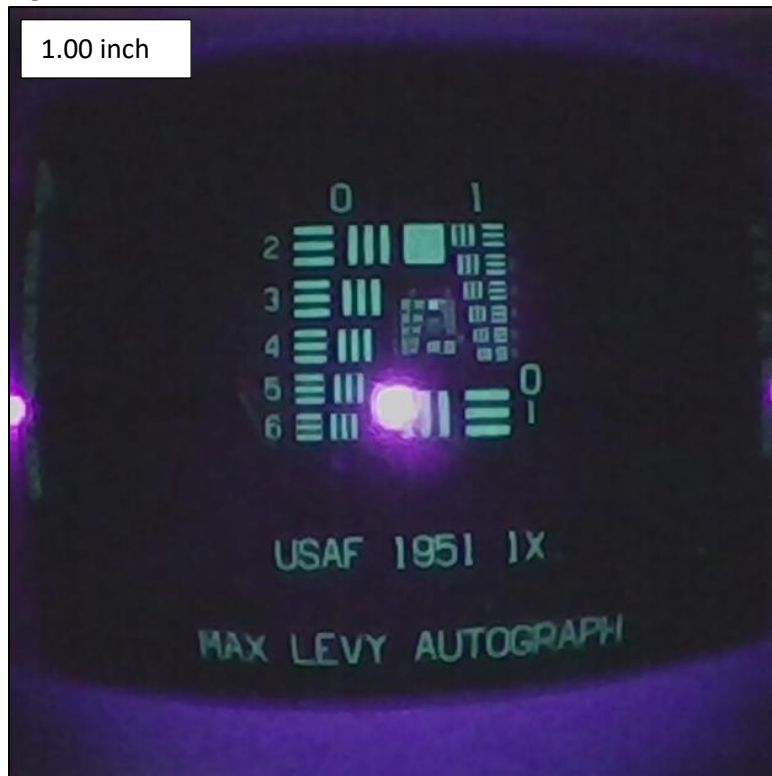


Fig 8. USAF 1951Resolution Chart at 1.25"

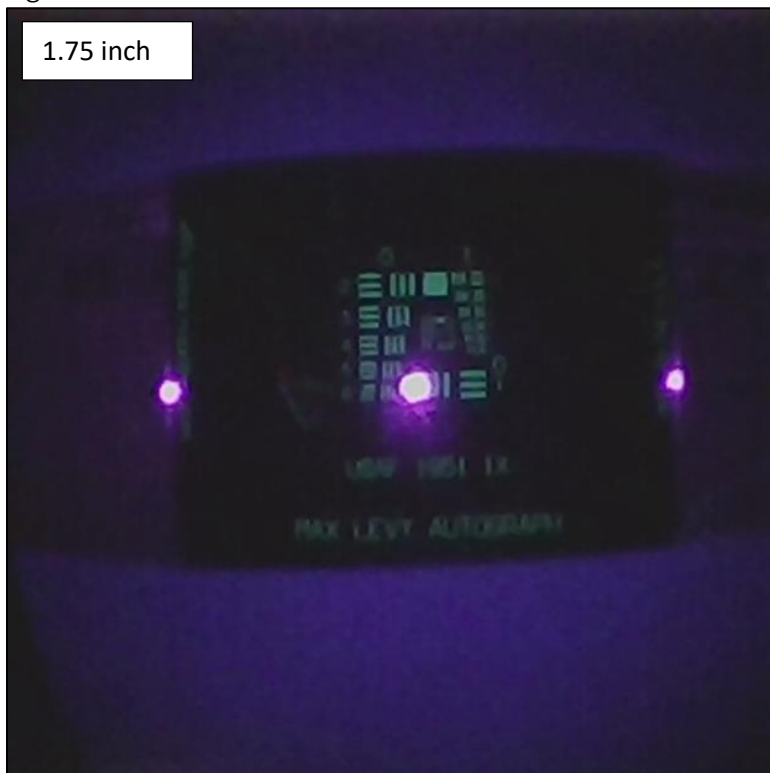




Fig 9. USAF 1951Resolution Chart at 1.50"



Fig 10. USAF 1951Resolution Chart at 1.75"





Tam Panels

Fig 11. Tam Panel at 0.50"

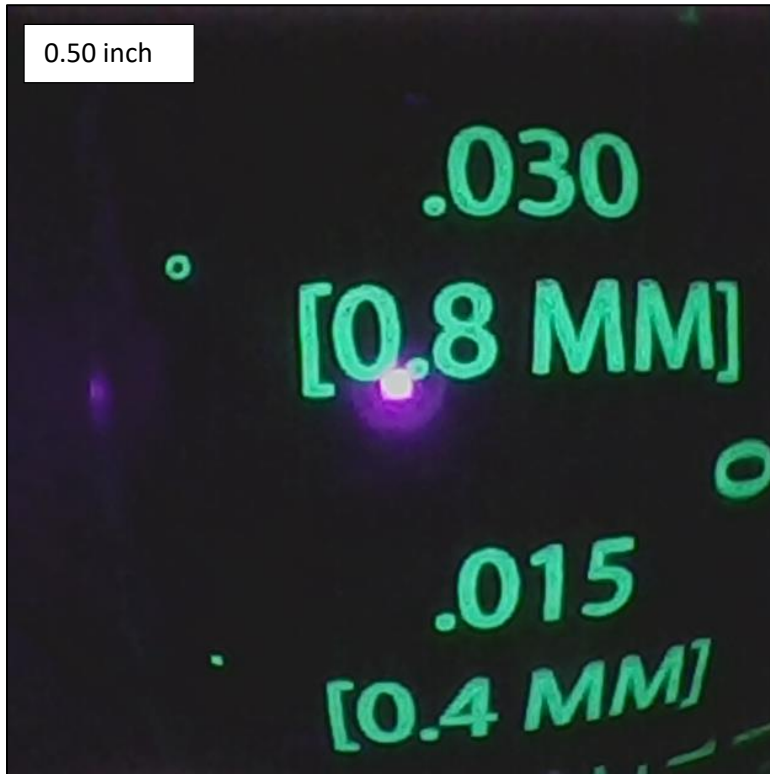




Fig 12. Tam Panel at 0.75"



Fig 13. Tam Panel at 1.00"





Fig 13. Tam Panel at 1.00"

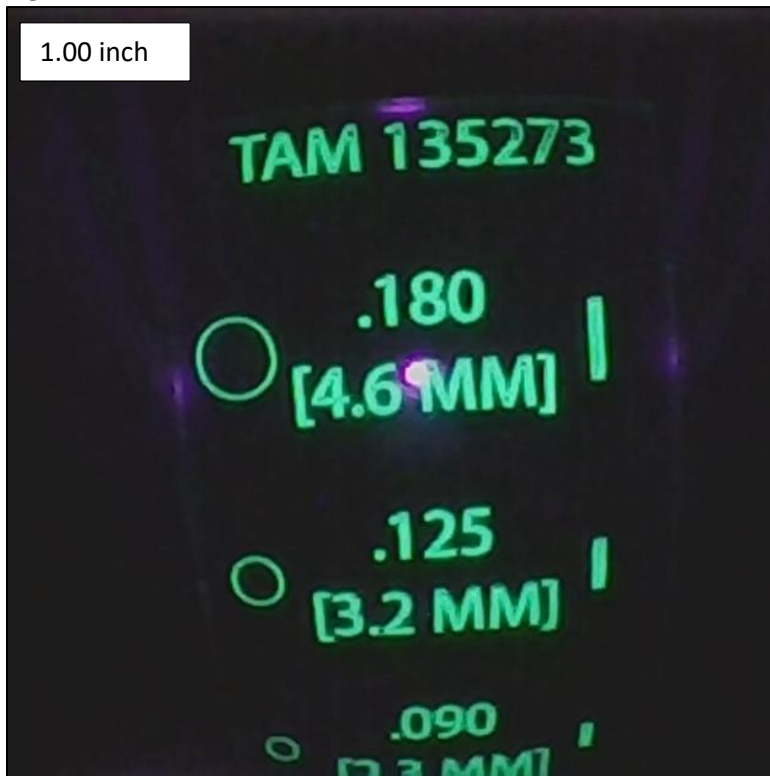


Fig 14. Tam Panel at 1.25"





Equipment

Spectronics Corporation Spectroline XP-2000 Radiometer S/N: 1965534

Yateks P615FM-UV S/N: PUV2003270702AB

USAF 1951 Resolution Chart

Tam Panel 135273