



Scientific Instruments, Inc.

Model LB-100W-OH UV 100 WATT OVERHEAD LED LAMP Certification Report- Individual Unit Testing

Unit LB-100W-OH with HOYA Model U-360, 365nm bandpass filter, 3mm thick

Date: Feb. 6, 2021

Unit Serial Number: 074081

All below tests performed at 25 degree C ambient temperature:

Beam Irradiance Profile: $\geq 9300 \mu\text{W}/\text{cm}^2$ within a 5 inch diameter circle, repeated along the length of 12.5 inches of the lamp projection area, centered such that measurement is made up to 6.25 inches on both sides of the centerline of the projected area. Lamp at a vertical distance of $15'' \pm 0.25''$ from surface.

Peak Intensity: $9500 \mu\text{W}/\text{cm}^2$

Maximum Irradiance: $9500 \text{ uW}/\text{cm}^2$

Maximum Excitation Irradiance: $8075 \text{ uW}/\text{cm}^2$

Minimum Beam Diameter at $1000 \text{ uW}/\text{cm}^2$: 32"

Minimum Beam Diameter at $200 \text{ uW}/\text{cm}^2$: 40"

Peak Wavelength: 365 nm

Full Width Half Maximum(FWHM) : 10.5 nm

Longest Wavelength at Half Maximum(LWHM): 375 nm

Minimum Working Distance: 2 inches, as determined by white paper test

Warm up time to stable intensity: 5 minutes

Change in intensity from Tzero to stable reading : 3%

Maximum Housing Temperature at ambient conditions(25 degrees c) and stabilization: 33 degrees C

Peak to peak ripple current: 1.8%

Maximum visible light emission(from 200nm to 1100nm) as measured at 38 cm from lamp face: .95 Foot candles

Elevated Ambient Temperature Test Data Results at ambient temperature of 40 degrees C

Maximum Irradiance: $9025 \text{ uW}/\text{cm}^2$

Maximum Excitation Irradiance: $7671 \text{ uW}/\text{cm}^2$

Minimum Beam Diameter at $1000 \text{ uW}/\text{cm}^2$: 31"

Minimum Beam Diameter at $200 \text{ uW}/\text{cm}^2$: 39"

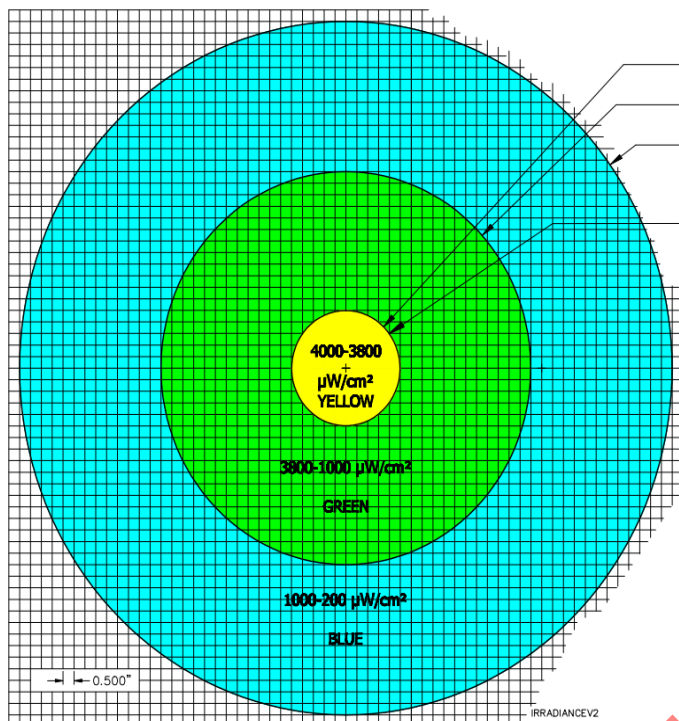
Peak Wavelength: 366.5 nm

Full Width Half Maximum(FWHM) : 10.8nm

Longest Wavelength at Half Maximum(LWHM): 376 nm

Peak to peak ripple current: 1.9%

2D Plot of Irradiance 0.5" Grid

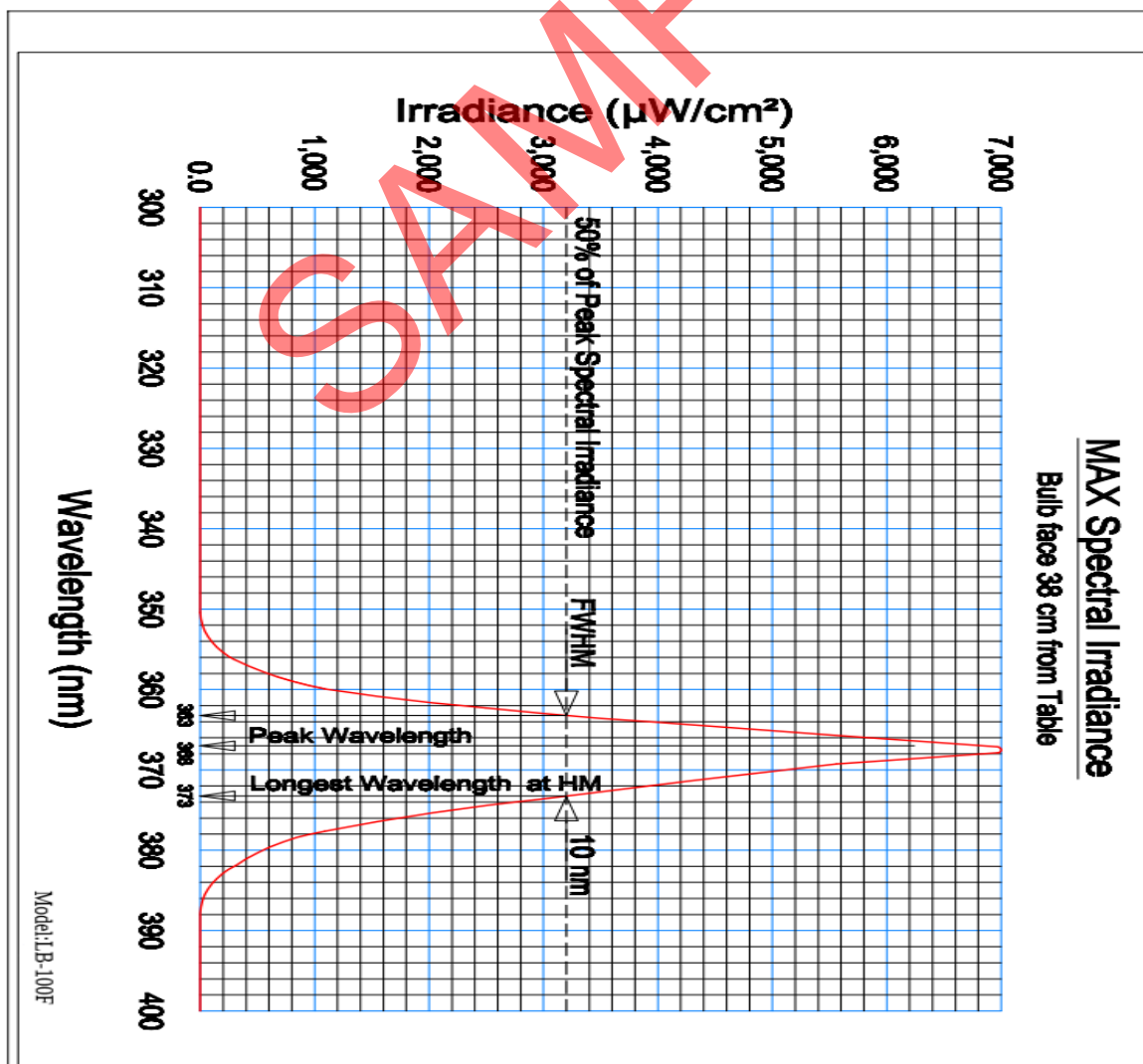


With Lamp Face at 15" vertical
Maximum Housing Temperature at
Distance from bulb ambient temperature (40°
C after stabilization): 49° C

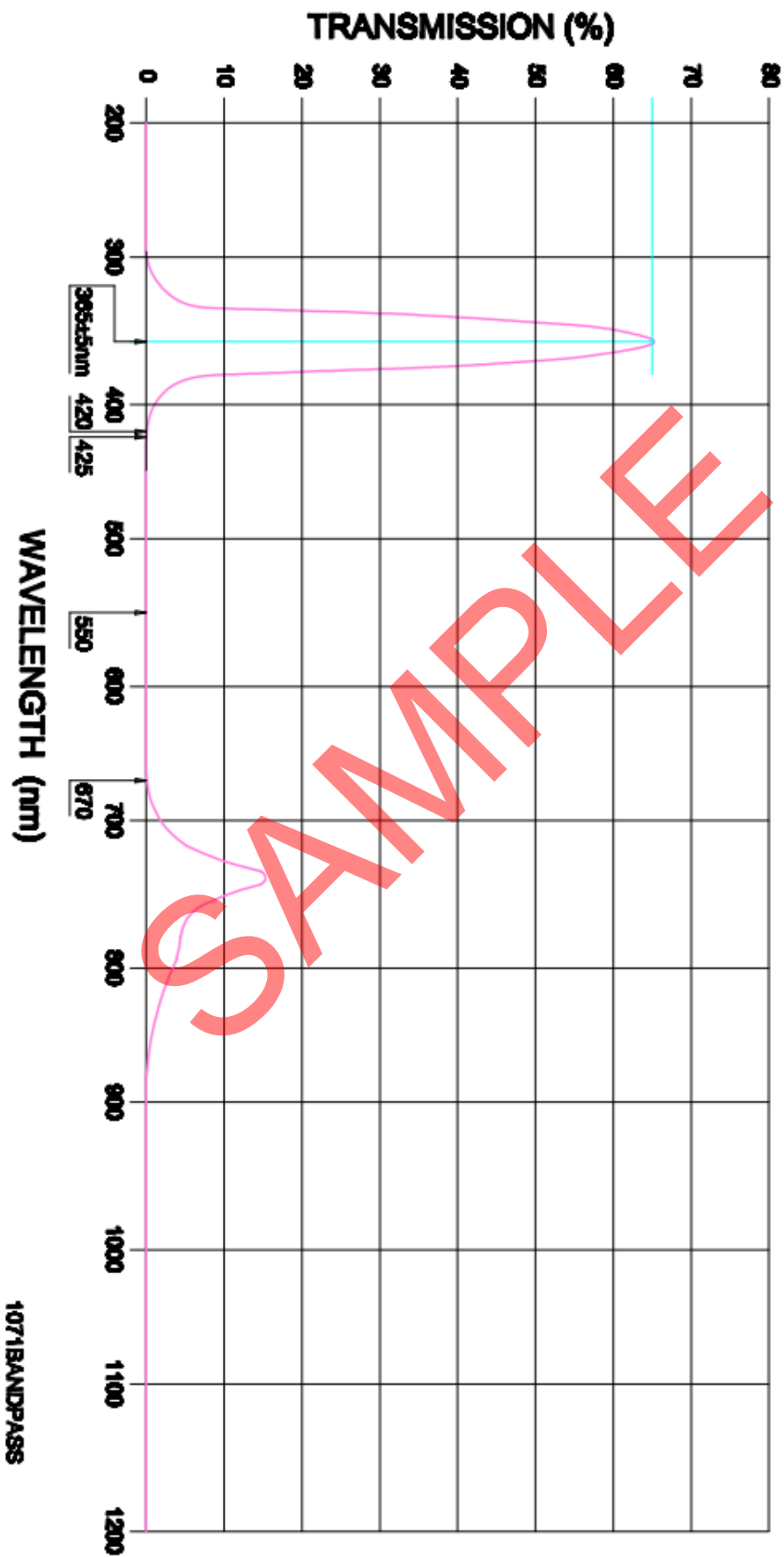
Ø5.0" at outside boundary of Yellow shaded area
Ø32.0" at outside boundary of Green shaded area
Ø40.0" at outside boundary of Blue shaded area

Max Intensity deviation is only 200 uW/cm^2
inside the 5" Dia Circle marked as Yellow e.g,
Max Intensity for 4000 uW/cm^2 at center gives
3800 uW/cm^2 @ Edge of 5" Circle

- Yellow = 9500 – 8100 uW/cm^2
- Green = 8100 - 1000 uW/cm^2
- Blue = 1000 - 200 uW/cm^2
- White = 200 – 0 uW/cm^2



1071 BANDPASS FILTER



NOTE: The 2D beam irradiance profile plot, indicates at 30" vertical height above the work table, the lamp output intensity falls off to 1000uW/cm² at the outer edge of a 32" circle. And with the same vertical 30" height , at a 24" diameter circle outer edge, the intensity falls off to 1600uW/cm². Please use this information to determine the maximum usable height for your work table area

Beam irradiance profile is measured and tested with Magnaflux UV-A Black Light meter, SN: A1504361 and all other parameters are measured and tested by Stellarnet spectral radiometer, model UVN-50, Serial Number: 19120604.

This bulb has electronic thermal protection, in case of fan failure in your hand unit, the led bulb turns off and will automatically restart when the bulb internal temperature is back in normal range, which is approx. 50 degrees C maximum on LED copper substrate. If you need to consult with the factory>please call 630-607-2800, or send email to: gregory.falk@sciinst.com

Warning: Please be sure to wear protective Head gear abd long sleeve shirt to protect yourself from the high UVA output

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