

## UNIVERSAL LIGHTPROBE™ S2 SPECTRA SENSOR

Universal LightProbe S2 Spectra Sensors test a wide range of LED intensity, and any color in the visual spectrum, plus white. Universal LightProbe S2 Spectra Sensors are well-suited for the test of “boundary” color LEDs, as they allow the user to set their own PASS/FAIL limits for color.

### CHARACTERISTICS

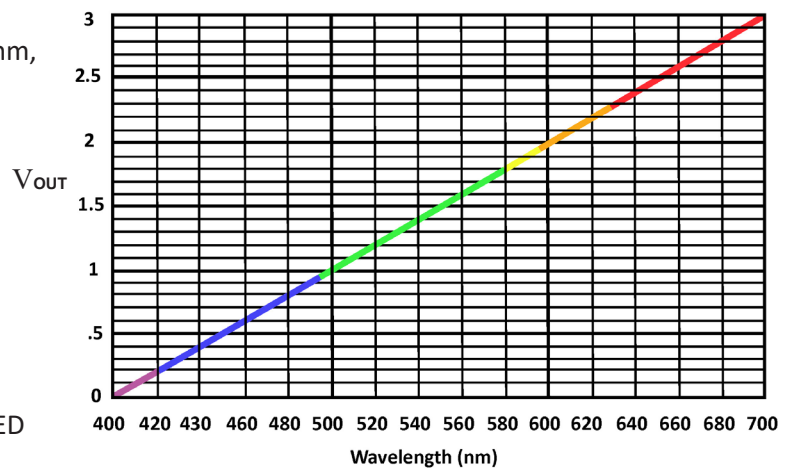
- Typical response time: <10mS capture time; <100mS overall response time for color and intensity simultaneously
- Output Loads: ‘Int.’ & ‘Color’ - 2Kohms min., 100pF, max.
- Further details on Page 2



ULP-S2 WBI/V

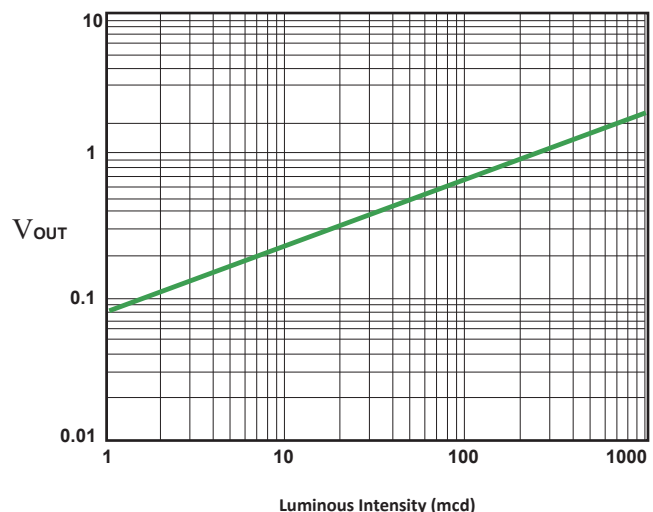
### COLOR RESPONSE

- Test any LED color wavelength from 400 to 700nm, plus white
- Unambiguous and stable analog voltage output proportional to LED wavelength
- LED Wavelength =  $[100(V_{out} + 4)nm]$
- For white, the voltage output is 3.5volts
- Enables user to set their own PASS/FAIL limits
- Color output is independent of LED intensity
- Eliminates need to convert LED wavelength as a pulse rate
- Improves the overall response time to test an LED



### INTENSITY RESPONSE :

- Analog output ranging from 0 to 4 volts
- Corresponds to LED’s luminous intensity in millicandelas
- C.I.E. photopic-curve-corrected
- Tests LEDs from 1 mcd to 20,000 mcd
- Available in Low and Very-Low Sensitivity models for extremely bright LEDs up to 315,000 mcd
- Available in High-Sensitivity models for very dim LEDs
- Read-out < 50mV indicates under-ranging - LED is too dim
- Read-out > 4 volts indicates over-ranging - the LED is too bright
- Intensity response depends on size of LED, the aperture of the fiber-optic probe and the distance between the probe tip and the LED emitter; for more information on Sensor Sensitivity Responses please see Application Note 35



Typical response for PLCC green LED tested with Universal LightProbe Spectra Sensor and Small-Aperture Fiber-Optic Probe

## UNIVERSAL LIGHTPROBE™ S2 SPECTRA SENSOR

All Universal LightProbe S2 Sensors share the same form, and are pre-programmed to suit specific LED test requirements. The small size and non-conductive housing is specifically designed to accommodate today's high-density test fixtures.

### SPECTRA SENSOR CHARACTERISTICS:

**Operating temperature range:** 0°C to 70°C

**Power consumption:** Operates between +5 and 28 volts D.C., at 6mA max. Less than 4.75 volts is not recommended

**Voltage protection:** Withstands up to +40 volts, & reverse polarity to -18 volts

**Output Pins:** 4 gold-plated standard wire-wrap pins (0.025 in. sq.)

**Output Loads:** 'Int.' & 'Color' - 2Kohms min., 100pF max.

**Sensor Size:** 0.560 in. dia x 1.38 in. long.

**Typical response time:** Typical response time: <10mS capture time; <100mS overall response time for color and intensity simultaneously

**Fiber-Optic Probes:** Can be paired with any Universal LightProbe Fiber-Optic Probe

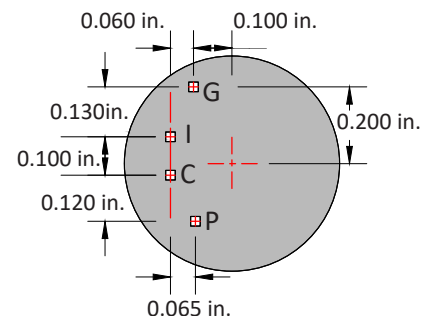
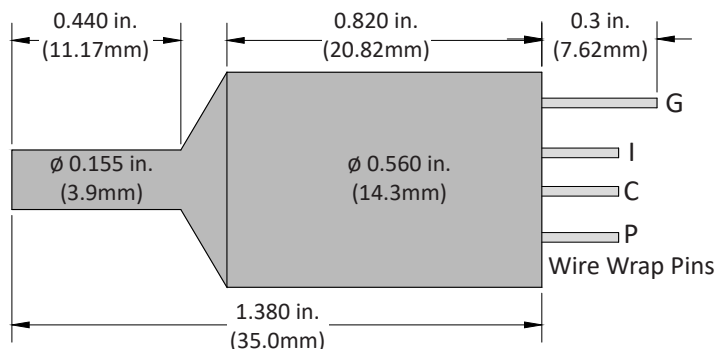
### SPECTRA SENSORS: Four standard wire-wrap pins

**G - Ground** - common for analog output and power input

**I - Intensity** of LED under test (relative)

**C - Color** of LED under test

**P - DC Power Input:** Between +5 and 28 volts; less than 4.75 volts is not recommended



## UNIVERSAL LIGHTPROBE™ S2 SPECTRA SENSOR

SPECTRA SENSOR ANALOG VOLTAGE OUTPUT CORRESPONDS TO WAVELENGTH ON THE C.I.E CHROMATICITY DIAGRAM

