IR Sensor Cards work on a principle known as “Electron Trapping” where phosphor-based compounds are employed to absorb and "trap" incoming light energy from a short wavelength, and release that stored light in the form of visible light upon stimulation from a longer IR wavelength. The visible result is a localized glow, which is relative in intensity to the amount of stored light and IR power levels exciting the active area.

Exposure of our up-converting materials to IR will produce a diffuse localized visible glow for detection and location of IR sources. These IR sensor screens provide a low-cost alternative to laser beam finders and beam profile instruments by providing the user with an instant visible pattern for determining beam location and approximate beam size. In addition, the high sensitivity of the IR sensor screens provides users of various IR sources and components (e.g., IR emitting diodes, optical fibers, etc.) an effective tool for determining the presence or absence of IR.

ET PHOSPHOR	PEAK EMISSION WAVELENGTH (nm) / color	IR WAVELENGTH RANGE (• m)	APPROX. MIN IR INTENSITY (IN THE DARK)	APPROX. MIN IR INTENSITY (IN ROOM LIGHT)	PUMP WAVELENGTH	RESOLUTION (TYPICAL)
Q-11	625 / orange	0.7 - 1.4	12 • W/cm^2	500 • W/cm^2	visible....UV	3 Lp/mm
Q-16	485 / blue-green	0.7 - 1.4	10 • W/cm^2	500 • W/cm^2	visible....UV	3 Lp/mm
Q-32	650 / red	0.8 - 1.7	8 • W/cm^2	500 • W/cm^2	visible....UV	3 Lp/mm
Q-42	640 / deep orange	0.7 - 1.6	3 • W/cm^2	100 • W/cm^2	visible....UV	3 Lp/mm
F-16 (ceramic only)	640 / deep orange	10.6	100mW/cm^2	500mW/cm^2	visible....UV	3 Lp/mm
L-IR	550 / green	0.9-1.1	NA	NA	Not Required	NA

PHOSPHOR SENSITIVITY CHART