

June 2012 - Newsletter

Product News: FSI Machine Vision Lighting

Although sometimes overlooked, proper lighting and optics are often a key component of any successful machine vision solution. This is because lighting can highlight differentiation between products and can help the software decide between the “good parts and the “defective” ones. At FSI, we offer several families of machine vision lighting to meet our customer’s needs, including:

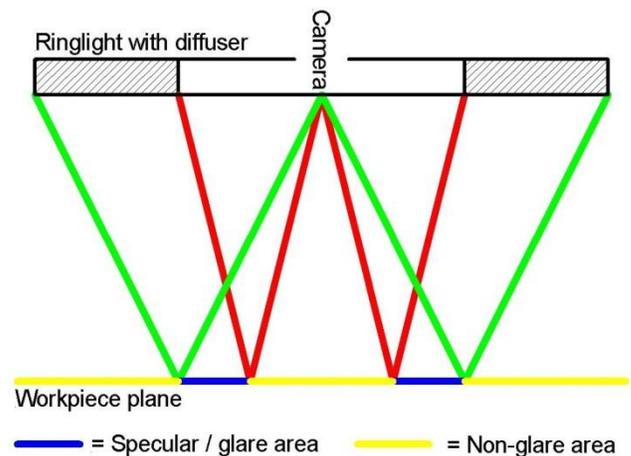
- LED Backlights
- LED Direct Bar Lights
- LED Ring Lights
- LED Low Angle Ring
- LED Square Ring
- LED Dark Field Lights
- LED Coaxial Lights
- Accessories, Cables & Power Supplies
- X-Beam Light Source
- High Frequency Florescent
- CFT Watertight Tubular Florescent
- Fiber Optic



For more information about our line of Machine Vision lighting, visit www.fsinet.com/vision-lighting.html.

Lighting Design Tips from our Experts

Contrary to what many might think, the purpose of machine vision lighting is not to “light up” the workpiece, but to differentiate the features of interest. For some types of features (such as conventional printing) this requires avoiding glare. Other types of features (such as surface damage) are better differentiated by creating glare, which is called specular lighting geometry.



Ring lights are often misapplied in this respect. The figure on the right includes a ring light with a wide emissive area such as our “LER” or “LES” series with a diffuser. For planar workpieces, here’s a trick to see if you’ll be creating the right effects in the right places. Draw two “W”s. as shown in the figure, with the angle of incidence equal to angle of reflection for each pair of legs that form a “V”. The areas shown in blue will

have glare, the areas shown in yellow will not. If you have created glare (or a lack thereof) in the right place, you have set up your lighting design correctly.

Another way to test this (for planar workpieces) is to slide a mirror in place of the workpiece and view the camera's image. The areas when you see an emitting part of the light source will have glare, the other areas will not. FSI offers lighting products, solutions and training and is ready to help with your requirements.

Reflecting on the AIA Vision Show 2012

FSI Technologies Inc., in partnership with Eye Vision Technology, hosted a booth at this year's AIA Vision Show in Boston, MA. Despite an unexpected power outage the first day, our engineers found the show to be a successful opportunity to show off our latest FSI and EVT innovations including a 3D scanner and smart camera. The event was also a chance to learn about other techniques being used in the field.



Did You Know? FSI Vision System Capabilities

FSI machine vision systems and software are designed to function for all types of application requirements, including:

- Presence verification
- Pattern recognition
- Gauging
- Bar Code and Data Matrix Code Identification
- Character Recognition
- Color Processing
- Surface Inspection
- Line-scan Camera Applications



For more information about how our vision systems might benefit your application, visit <http://www.fsinet.com/specific-applications.htm>.

FSI Assured Path to Success (APS) through Pre-planning & Engineering Services

Need guidance in integrating automatic inspection in your workplace? Let the FSI Machine Vision Engineers help you pre-plan and engineer a vision solution that has assured long-term success. Our APS solutions and Pre-planning services help you understand your application as it relates to vision. We can work with sample products, program the software and handle lighting engineering in our Vision Lab to ensure your project is both do-able and feasible enough to work on-site. Click on <http://www.fsinet.com/MV-Consulting.htm> to learn more.

Feedback: For questions about our products and services, call 630-932-9380. To discontinue receiving this newsletter, please hit "reply" and let us know to discontinue.