



# TT-NIRI™ System Requirements

- NIR Intensity Lens solution
- Windows® 10, 64 bit
- 16-32 GB RAM
- Additional system requirements vary by camera. See hardware specification sheet for more information.

## Test Library

TT-NIRI includes tests for near-infrared (NIR) laser and LED measurement:

- Total Flux (mW or W)
- POI Total Power
- Max Power
- Pixel Solid Angle
- Inclination Solid Angle
- Dot Source Analysis
- Flood Source Analysis
- Points of Interest
- Image Export

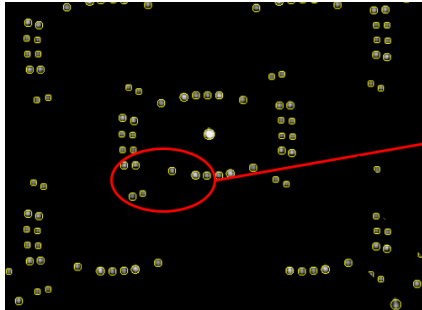
Captures highly accurate emission measurements reported in radiant intensity (as a function of angle). Dot Source Analysis automatically outputs CSV reporting data for the entire sample, data for each region of interest, and data for each dot.

## Examples of TT-NIRI analyses:

Use “Dot Source Analysis” test to output uniformity, max intensity, and flux statistics on a dot patterns produced by NIR laser light diffracted through a diffractive optical element (DOE). This test can analyze individual dots or regions of dots to ensure the patterns are projected in the correct angle (inclination, azimuth) and with the correct intensity (W/sr).



Before analysis

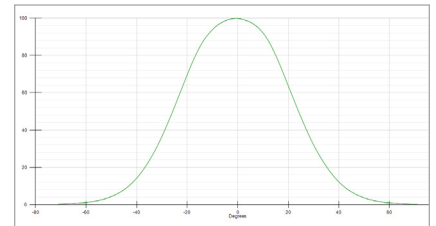
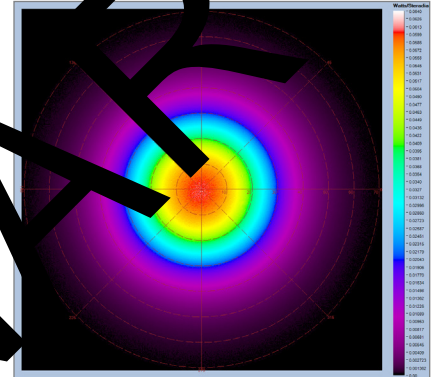


After analysis

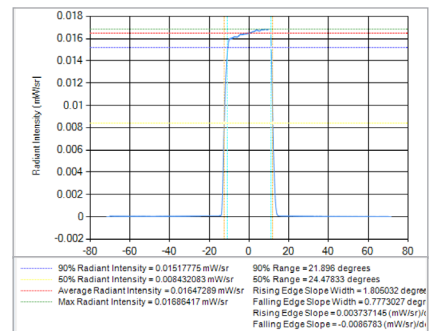


### Example data output

| Result                              | Value                          |
|-------------------------------------|--------------------------------|
| Maximum Peak Location (X)           | 1502 pixel columns             |
| Maximum Peak Location (Y)           | 1628 pixel rows                |
| Maximum Peak Location, Azimuth      | 0.3449 degrees, 5.1281 degrees |
| Maximum Peak Average Intensity      | 492.1149 mW/sr                 |
| Maximum Peak Solid Angle            | 0.024 milli steradians         |
| Number of pixels Maximum Peak point | 18 pixels                      |
| Dot power uniformity                | 31.57%                         |
| Total Flux                          | 50.3492 mW                     |
| DOE Flux (Subtract Background Peak) | 15.4358 mW                     |



Polar and cross-section radar plot showing radiant intensity (as a function of angle) of a NIR LED source distribution.



Some NIR systems use flood illumination to measure Time of Flight (ToF) for proximity sensing. Flood Source Analysis measures distributions of diffuse “flood” NIR light sources for uniformity across angular emissions (intensity at each degree), center values, angular fall-off, and hot-spots.