

# INTEMATIX LED PHOSPHORS

## Yellow Garnet (NYAG) Product Family



Intematix Yellow Garnets (NYAG) are among the highest efficiency phosphors in the industry. The high brightness, high thermal stability and high reliability make them a standard in phosphor-converted LEDs. These features make NYAG ideal for every application from mobile devices to general lighting. Intematix makes garnets in different particle size ranges so you can choose the particle size that best fits your deposition process and packaging requirements.

### Features

- High efficiency, >95%
- Uniform particle morphology
- Choice of particle sizes, 6-14 $\mu$ m
- Resistant to heat and humidity

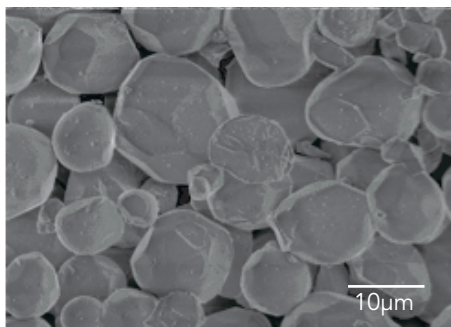
### Benefits

- High lumens/watt cool white
- High yield LED package manufacturing
- Application design freedom
- Proven solution for general lighting

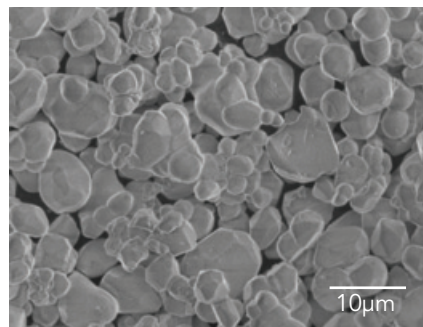
### Applications

- Mobile display –high brightness
- General lighting
  - Replacement lamps
  - Commercial/industrial
  - Street lighting
- Automotive lighting

## Superior Particle Morphology



Large particle, 13 $\mu$ m



Small particle, 8 $\mu$ m

## Intematix Garnet Phosphor Product Line

Large particle NYAGs for high-power LED packages

| Product      | Peak Wavelength  | Color Point      |                  | Particle Size   |
|--------------|------------------|------------------|------------------|-----------------|
|              | $\lambda_p$ (nm) | CIE <sub>x</sub> | CIE <sub>y</sub> | D50V ( $\mu$ m) |
| NYAG 4156-L  | 545              | 0.400            | 0.560            | 11              |
| NYAG 4355-L  | 551              | 0.426            | 0.548            | 13              |
| NYAG 4354-L  | 554              | 0.433            | 0.543            | 13              |
| NYAG 4454-L  | 558              | 0.444            | 0.536            | 13              |
| NYAG 4454-EL | 560              | 0.448            | 0.533            | 14              |
| NYAG 4653-L  | 562              | 0.458            | 0.526            | 12              |
| NYAG 4752-L  | 564              | 0.465            | 0.521            | 13              |

Small particle NYAGs for small packages or conformal deposition

|              |     |       |       |    |
|--------------|-----|-------|-------|----|
| NYAG 4156-S  | 545 | 0.403 | 0.558 | 8  |
| NYAG 4355-S  | 551 | 0.426 | 0.548 | 10 |
| NYAG 4355-ES | 551 | 0.425 | 0.548 | 6  |
| NYAG 4454-S  | 558 | 0.444 | 0.536 | 8  |

For more information or full product details please contact [phosphor@Intematix.com](mailto:phosphor@Intematix.com) or your sales representative.

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