# *NeoPac Light Engine*

# SD07 Series

## DESCRIPTIONS

***NeoPac*** Light Engine is an integration of thermal module, heat sink and heat pipe. As of now ***NeoPac*** Light Engine series is available in white and warm white colors, and exploration of more colors is in pipe line. It can be used as round recessed light, track light, high bay and low bay lighting, and down light. It is perfect for down lighting in offices, hotels, shopping malls, retails, hospitals, residential areas, smoking rooms and more. It can highlight important task areas and provides innovative and energy efficient solutions for the designers and end users meeting all the needs in general lighting.

***NeoPac*** Light Engines are ingeniously engineered LED light engines that are designed based on the proprietary NeoPac Universal Platform (NUP). It is core component for every NeoBulb lighting product. Empowered by this structural LED technological platform, all ***NeoPac*** Light Engines can operate at ultra-high power with high luminous flux, low junction temperature ($T_j$) and have outstanding performance with long predictable reliable life.

## FEATURE HIGHTLIGHTS

- Suitable for offices, hotels, shopping malls, retails, hospitals and show room etc.
- ***NeoPac*** System-in-Package structure
- ***NeoPac*** Emitter as the light source
- High luminous flux density
- Excellent thermal management to ensure LEDs performance
- Effective heat dissipation by back-end natural convection
- Energy efficient and power saving
- Ultra-low thermal resistance from junction to ambient
- LED Life: > 50,000hr
  (under STD driving & $T_j \leq 60^oC$)
- RoHS compliant
- 1 year warranty

| LIGHT ENGINE SPECIFICATIONS (FOR 4 CHIPS EMITTER) | | |
|---|---|---|
| Light color | White | Warm White |
| Model No | SD07W | SD07M |
| CCT / Wavelength | 5000~7000K | 2800~3200K |
| Typical power/Operating current | 7W/530mA | 7W/530mA |
| Typical Luminous Flux (Initial) | 455Lm/530mA | 315Lm/530mA |
| Typical Luminous Flux (Maintained) | 400Lm/530mA | 265Lm/530mA |
| Max. Power/ Max. Operating current | 10W/700mA | 10W/700mA |
| Max. Luminous Flux (Maintained) | 520Lm/700mA | 320Lm/700mA |
| Thermal resistance ($R_{ja}$) | 5.0℃/W | 5.0℃/W |
| Junction Temperature ($T_j$) @530mA | <60℃ | <60℃ |
| Max. Recommend ($T_j$) | ≤75℃ | ≤75℃ |
| Beam angle (2θ½) | 145° | 145° |

| General Characteristics | |
|---|---|
| Operating temperature | -30 to 40℃ / 85%RH |
| Storage temperature | -40 to 80℃/ 85%RH |
| Heat pipe / CAP / (FIN material) | Cu / Ni plated Aluminum / Aluminum |
| Dimension | See the appendix |
| Net weight | 66 ± 3g (by STD 210mm connecter wire) |

## WIRING (FOR 4 CHIPS EMITTER)

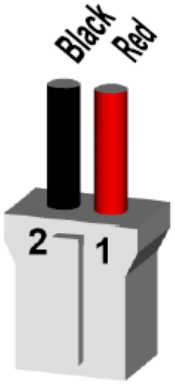
Pin definition:

| Pin # | Wire color | LED electrode |
|---|---|---|
| P1 | Red wire | Anode(+) |
| P2 | Black wire | Cathode(-) |

Remark:

* Wire: #26 AWG
* Connector: 2P/ 2.0mm pitch

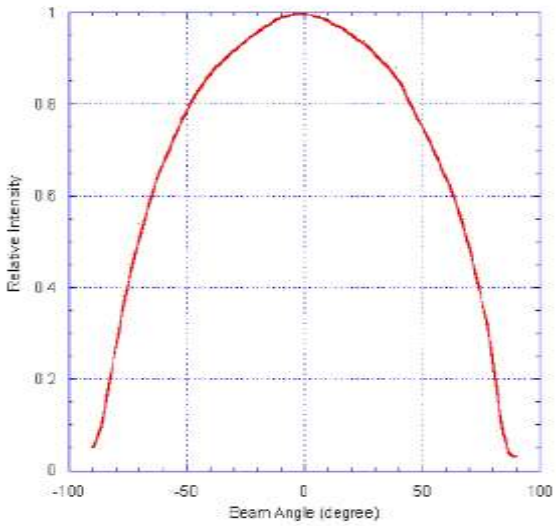
Electrical Connection:



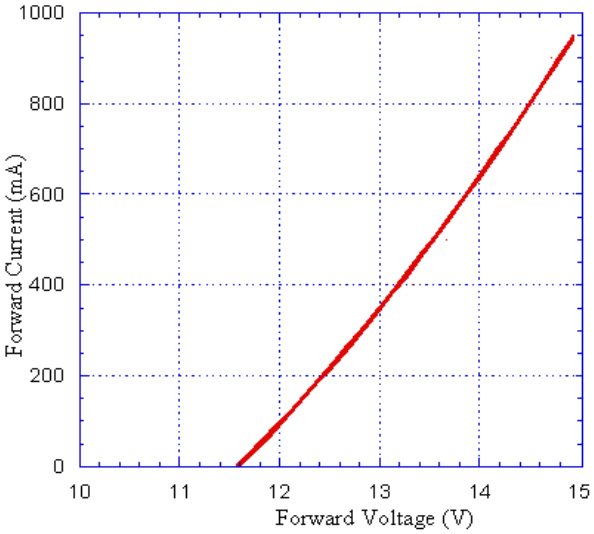

**(Unless a range is specified, a ±10% tolerance exists in the preceding values.)**

## Appendix: (All the below test data is based on ambient temperature Ta =25℃)

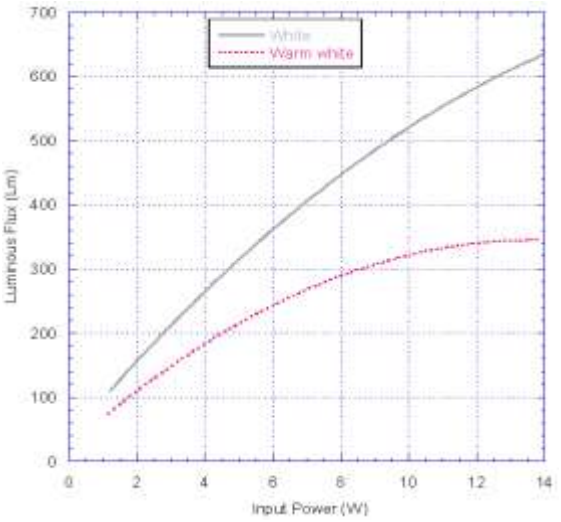
### Beam Angle



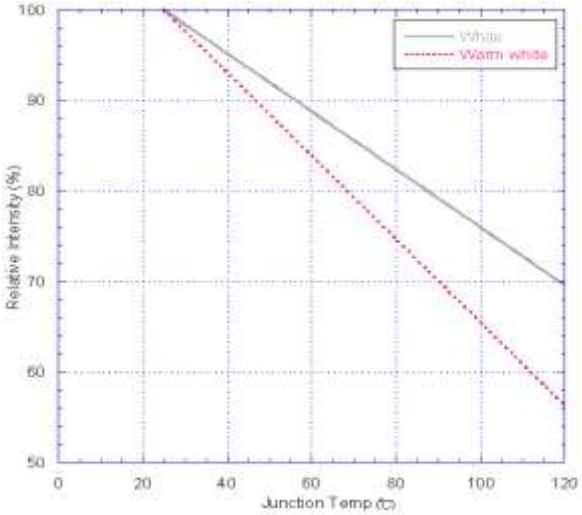

### Forward Current Vs. Forward Voltage



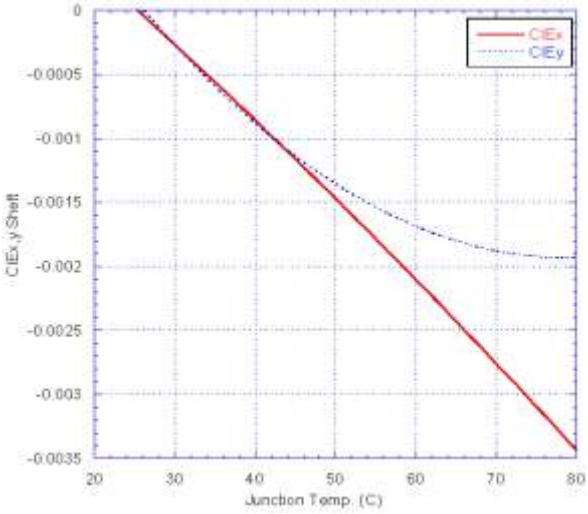

### Maintained Lm Vs. Input Power ($T_j$=60℃)



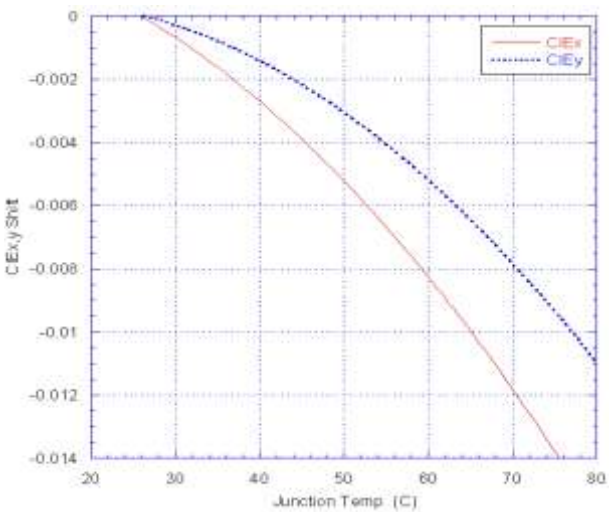

### Relative Intensity Vs. Junction Temp.




### CIEx,y Shift Vs. Junction Temp.-White




### CIEx,y Shift Vs. Junction Temp.-Warm



## Dimension