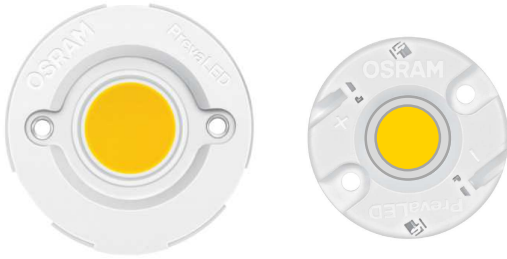


# PrevaLED® CORE Mini

## Product Specification



## Product Description

CORE Mini delivers high Quality of Light and Best Performance for spot and downlight. Flexible holder options maximize luminaire design freedom. LES 14.5mm and 9.8mm achieve wide flux range 1800-4000lm.

- Solderless or Mechanical holders
- Lifetime L80B50 >50khrs
- 5 years guarantee

## Benefits

- High quality of light, complying with IES TM30-15 standard
- Separable COB and holder to improve assembly flexibility
- LES 14.5mm/9.8mm with wide flux range to simplify optics solution
- Industrial standard package size to shorten design lead-time

## Features

- Color consistency < 3SDCM
- TM30 compliant, Rg 100, Rf 90
- Max. current > 2 x nominal current
- Luminous efficacy up to 160lm/W

## Applications

- Retail, shop, restaurant, hospitality
- Gallery and museum

Table 1. Product Performance, T<sub>j</sub> = 85°C

| Product name          | Nominal CCT (K) | Min CRI | Flux Output (lm) |      | Typical Efficacy (lm/W) | Test Current (mA) | LES (mm) |
|-----------------------|-----------------|---------|------------------|------|-------------------------|-------------------|----------|
|                       |                 |         | Min              | Typ  |                         |                   |          |
| PL-CORE-MINI-4000-830 | 3000            | 80      | 3924             | 4131 | 148                     | 800               | 14.5     |
| PL-CORE-MINI-4000-835 | 3500            | 80      | 4040             | 4252 | 152                     | 800               | 14.5     |
| PL-CORE-MINI-4000-840 | 4000            | 80      | 4120             | 4337 | 155                     | 800               | 14.5     |
| PL-CORE-MINI-4000-927 | 2700            | 90      | 3195             | 3364 | 121                     | 800               | 14.5     |
| PL-CORE-MINI-4000-930 | 3000            | 90      | 3361             | 3539 | 127                     | 800               | 14.5     |
| PL-CORE-MINI-4000-935 | 3500            | 90      | 3462             | 3644 | 131                     | 800               | 14.5     |
| PL-CORE-MINI-3000-830 | 3000            | 80      | 2530             | 2663 | 153                     | 500               | 14.5     |
| PL-CORE-MINI-3000-835 | 3500            | 80      | 2623             | 2762 | 158                     | 500               | 14.5     |
| PL-CORE-MINI-3000-840 | 4000            | 80      | 2671             | 2811 | 161                     | 500               | 14.5     |
| PL-CORE-MINI-3000-927 | 2700            | 90      | 2053             | 2162 | 124                     | 500               | 14.5     |
| PL-CORE-MINI-3000-930 | 3000            | 90      | 2176             | 2290 | 131                     | 500               | 14.5     |
| PL-CORE-MINI-3000-935 | 3500            | 90      | 2240             | 2358 | 135                     | 500               | 14.5     |
| PL-CORE-MINI-2000-830 | 3000            | 80      | 1721             | 1812 | 150                     | 350               | 9.8      |
| PL-CORE-MINI-2000-835 | 3500            | 80      | 1775             | 1868 | 155                     | 350               | 9.8      |

|                       |      |    |      |      |     |     |     |
|-----------------------|------|----|------|------|-----|-----|-----|
| PL-CORE-MINI-2000-840 | 4000 | 80 | 1807 | 1902 | 158 | 350 | 9.8 |
| PL-CORE-MINI-2000-927 | 2700 | 90 | 1398 | 1472 | 122 | 350 | 9.8 |
| PL-CORE-MINI-2000-930 | 3000 | 90 | 1464 | 1541 | 128 | 350 | 9.8 |
| PL-CORE-MINI-2000-935 | 3500 | 90 | 1516 | 1595 | 132 | 350 | 9.8 |

1. Nominal performance is measured with pulse current at  $T_j = 85^\circ\text{C}$
2. Tolerance of measurements for the luminous flux is and efficacy  $\pm 5\%$
3. Optional 940, 950, 827, 850, 865 are available upon request

Table 2. Optical Characteristics,  $T_j = 85^\circ\text{C}$

| Product name          | Nominal CCT (K) | CRI (Ra) |     | Color Coordinate |        | Color Consistency | R9 | IES TM30-15 |     |
|-----------------------|-----------------|----------|-----|------------------|--------|-------------------|----|-------------|-----|
|                       |                 |          |     | CIEx             | CIEy   |                   |    | Rf          | Rg  |
|                       |                 | Min      | Typ |                  |        |                   |    |             |     |
| PL-CORE-MINI-xxxx-830 | 3000            | 80       | 82  | 0.4338           | 0.4030 | 3SDCM             | 10 | 83          | 94  |
| PL-CORE-MINI-xxxx-835 | 3500            | 80       | 82  | 0.4073           | 0.3917 | 3SDCM             | 10 | 83          | 94  |
| PL-CORE-MINI-xxxx-840 | 4000            | 80       | 82  | 0.3818           | 0.3797 | 3SDCM             | 10 | 83          | 94  |
| PL-CORE-MINI-xxxx-927 | 2700            | 90       | 92  | 0.4578           | 0.4101 | 3SDCM             | 60 | 90          | 100 |
| PL-CORE-MINI-xxxx-930 | 3000            | 90       | 92  | 0.4338           | 0.4030 | 3SDCM             | 60 | 90          | 100 |
| PL-CORE-MINI-xxxx-935 | 3500            | 90       | 92  | 0.4073           | 0.3917 | 3SDCM             | 60 | 90          | 100 |

1. Nominal performance is measured with pulse current at  $T_j = 85^\circ\text{C}$
2. Tolerance of measurements for R9 is  $\pm 3$ , TM-30 Rf and Rg is  $\pm 3$ , Chromaticity Coordinate is  $\pm 0.005$

Table 3. Electrical Characteristics,  $T_j = 85^\circ\text{C}$

| Product name          | Forward Voltage(V) |      |      | Typical Power (W) |
|-----------------------|--------------------|------|------|-------------------|
|                       | Min                | Typ  | Max  |                   |
| PL-CORE-MINI-4000-xxx | 32.1               | 34.9 | 37.8 | 29.2              |
| PL-CORE-MINI-3000-xxx | 32.1               | 34.9 | 37.8 | 17.5              |
| PL-CORE-MINI-2000-xxx | 31.7               | 34.5 | 37.4 | 12.1              |

1. Nominal performance is measured with pulse current at  $T_j = 85^\circ\text{C}$

Table 4. Absolute Maximum Ratings

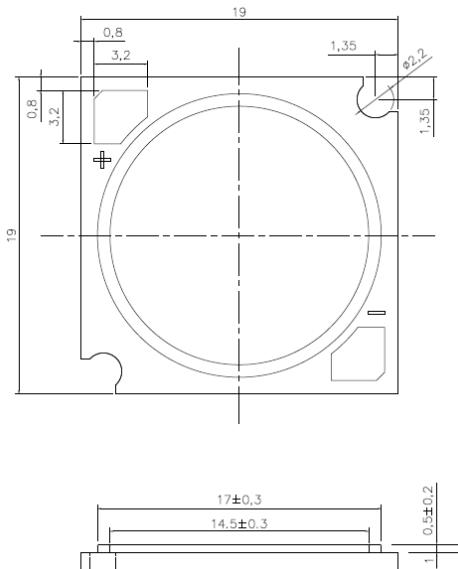
| Product name          | DC Forward Current (mA) | Case Temperature ( $T_c$ ) | Operating Temperature ( $T_a$ ) | ESD Classification | Storage Temperature        |
|-----------------------|-------------------------|----------------------------|---------------------------------|--------------------|----------------------------|
| PL-CORE-MINI-4000-xxx | 1840                    | 115                        | -40 to $105^\circ\text{C}$      | 2 kV               | -40 to $120^\circ\text{C}$ |
| PL-CORE-MINI-3000-xxx | 1150                    | 115                        | -40 to $105^\circ\text{C}$      | 2 kV               | -40 to $120^\circ\text{C}$ |
| PL-CORE-MINI-2000-xxx | 920                     | 115                        | -40 to $105^\circ\text{C}$      | 2 kV               | -40 to $120^\circ\text{C}$ |

Table 5. Lumen Maintenance

| CORE Mini 4000 | Lumen Maintenance (khrs)   | L70 |     |     | L80 |     |     | L90 |     |     |
|----------------|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                |                            | B50 | B20 | B10 | B50 | B20 | B10 | B50 | B20 | B10 |
| Nominal 800mA  | Tc 85°C                    | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 |
|                | Tc 105°C                   | >50 | >50 | >50 | >50 | >50 | >50 | 41  | 35  | 31  |
| Maximum 1840mA | Tc 85°C                    | >50 | >50 | >50 | >50 | >50 | >50 | 46  | 39  | 35  |
|                | Tc 105°C                   | >50 | >50 | >50 | >50 | >50 | 46  | 30  | 25  | 23  |
| CORE Mini 3000 | Lumen Maintenance (x khrs) | L70 |     |     | L80 |     |     | L90 |     |     |
|                |                            | B50 | B20 | B10 | B50 | B20 | B10 | B50 | B20 | B10 |
| Nominal 500mA  | Tc 85°C                    | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 |
|                | Tc 105°C                   | >50 | >50 | >50 | >50 | >50 | >50 | 43  | 36  | 33  |
| Maximum 1150mA | Tc 85°C                    | >50 | >50 | >50 | >50 | >50 | >50 | 49  | 42  | 37  |
|                | Tc 105°C                   | >50 | >50 | >50 | >50 | >50 | 49  | 32  | 27  | 24  |
| CORE Mini 2000 | Lumen Maintenance (x khrs) | L70 |     |     | L80 |     |     | L90 |     |     |
|                |                            | B50 | B20 | B10 | B50 | B20 | B10 | B50 | B20 | B10 |
| Nominal 350mA  | Tc 85°C                    | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 |
|                | Tc 105°C                   | >50 | >50 | >50 | >50 | >50 | >50 | 46  | 39  | 35  |
| Maximum 920mA  | Tc 85°C                    | >50 | >50 | >50 | >50 | >50 | >50 | 49  | 42  | 37  |
|                | Tc 105°C                   | >50 | >50 | >50 | >50 | >50 | 49  | 32  | 27  | 24  |

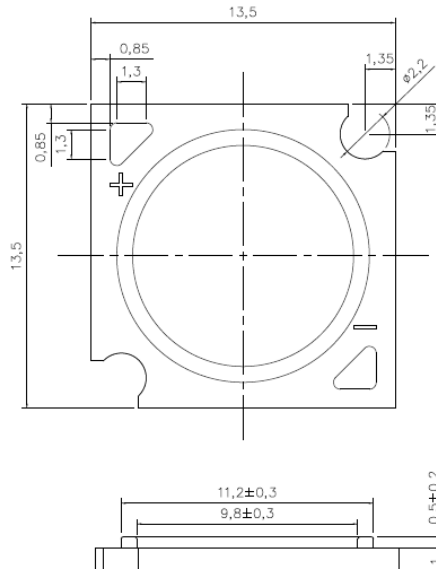
Mechanical Dimensions

PL-CORE-Mini-4000/3000



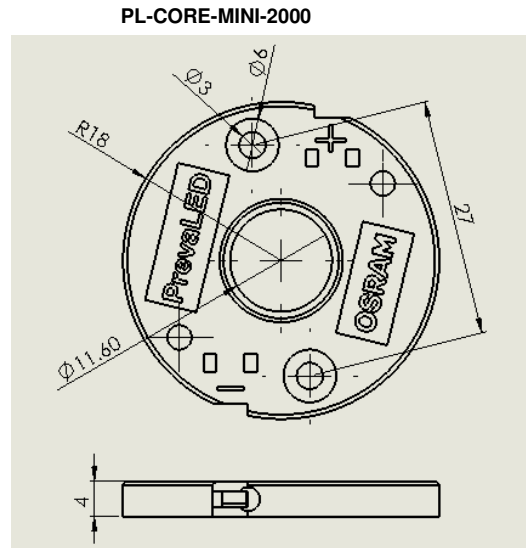
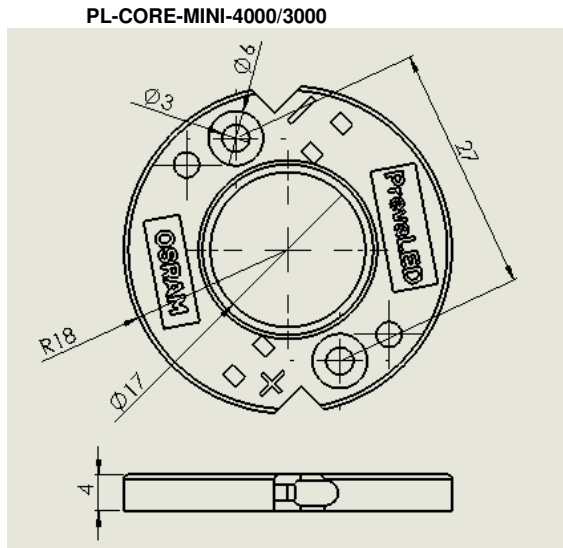
| Item   | Dimension | Tolerance | Unit |
|--------|-----------|-----------|------|
| Length | 19        | ±0.15     | mm   |
| Width  | 19        | ±0.15     | mm   |
| Height | 1.5       | ±0.20     | mm   |
| LES    | 14.5      | ±0.30     | mm   |

PL-CORE-Mini-2000

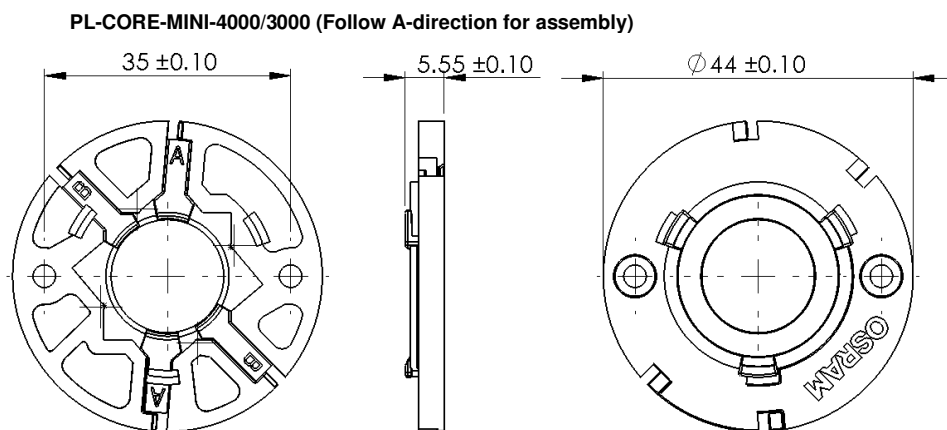
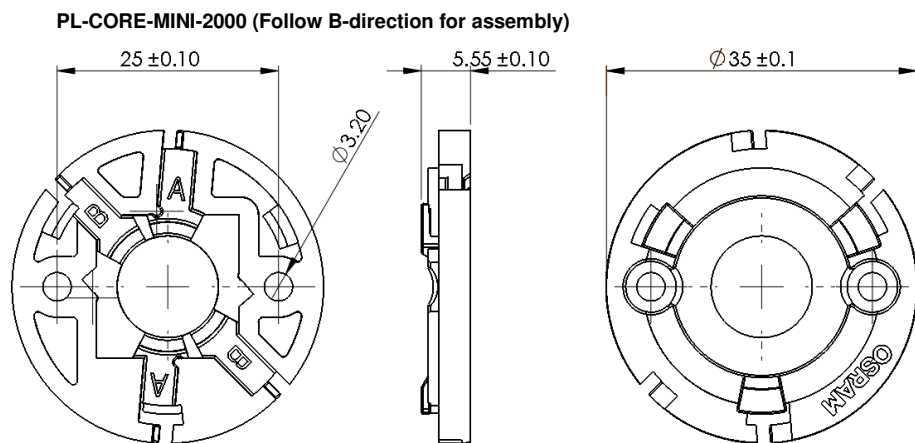


| Item   | Dimension | Tolerance | Unit |
|--------|-----------|-----------|------|
| Length | 13.5      | ±0.15     | mm   |
| Width  | 13.5      | ±0.15     | mm   |
| Height | 1.5       | ±0.20     | mm   |
| LES    | 9.8       | ±0.30     | mm   |

## Solderless holder



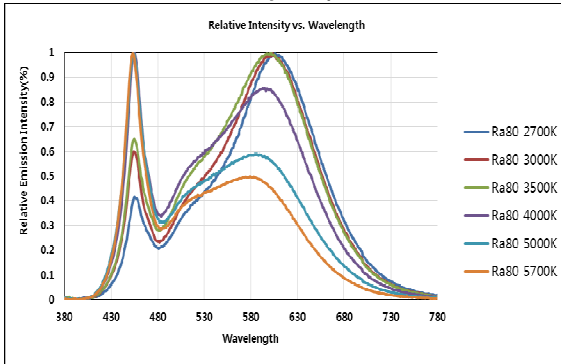
## Mechanical holder



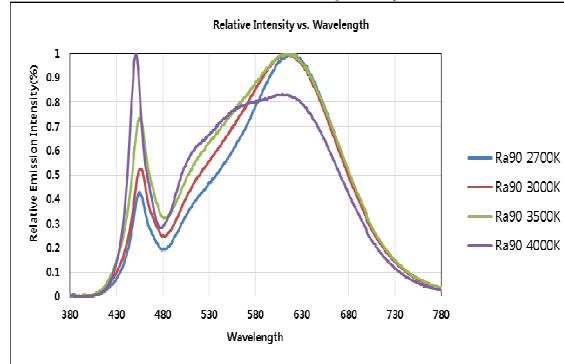
# Characteristic Curves

## 1. Spectral Power Distribution

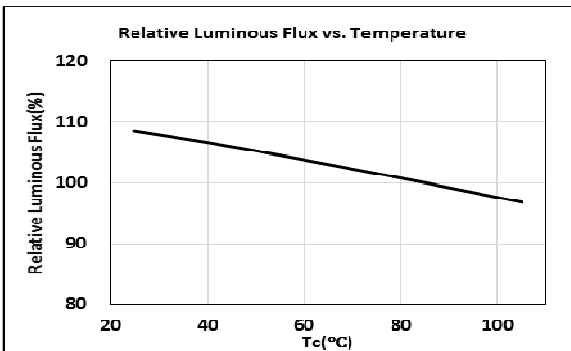
PL-CORE-MINI-xxxx-8xx (Tj 85°C)



PL-CORE-MINI-xxxx-9xx (Tj 85°C)

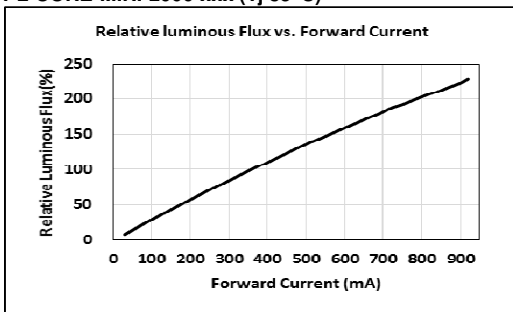


## 2. Light Output vs. Case Temperature (at nominal current)

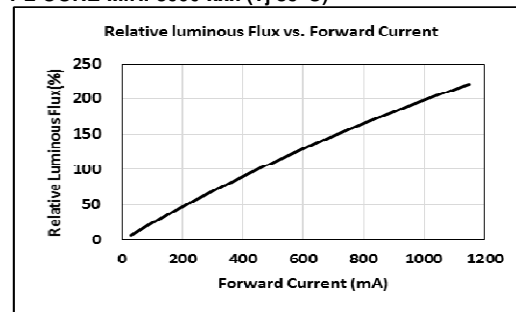


## 3. Light Output vs. Forward Current

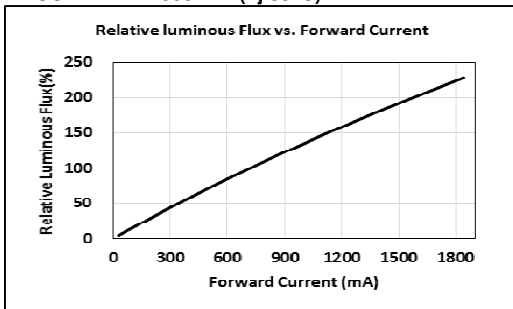
PL-CORE-MINI-2000-xxx (Tj 85°C)



PL-CORE-MINI-3000-xxx (Tj 85°C)

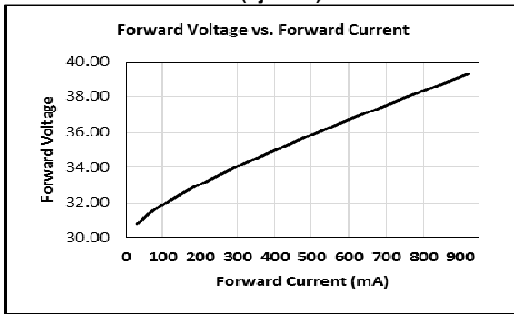


PL-CORE-MINI-4000-xxx (Tj 85°C)

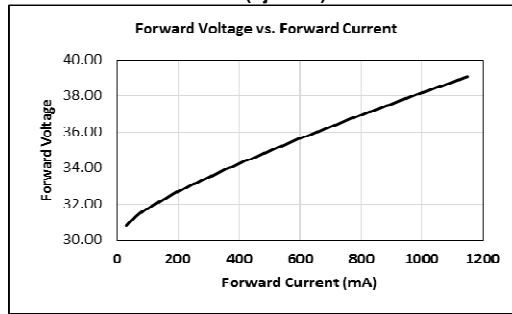


## 4. Forward Voltage vs. Forward Current

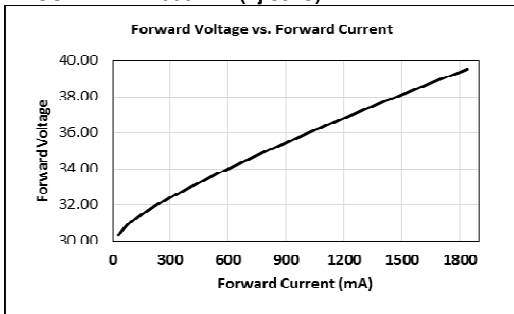
PL-CORE-MINI-2000-xxx (Tj 85°C)



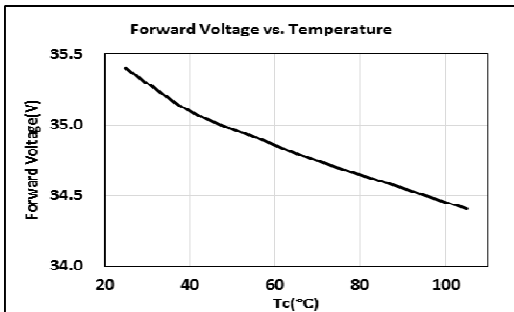
PL-CORE-MINI-3000-xxx (Tj 85°C)



PL-CORE-MINI-4000-xxx (Tj 85°C)

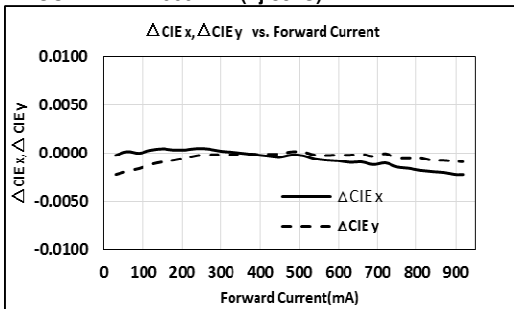


## 5. Forward Voltage vs. Case Temperature

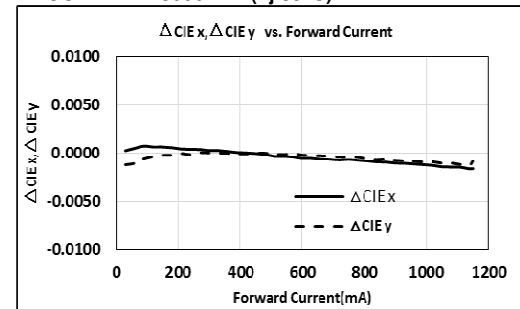


## 6. Color Shift vs. Forward Current

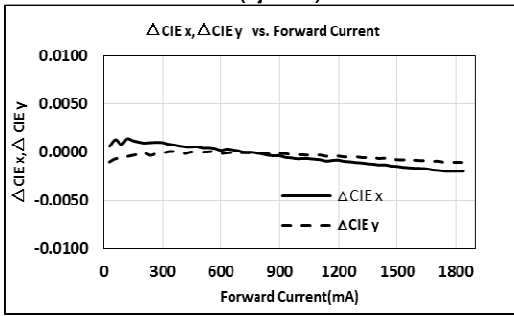
PL-CORE-MINI-2000-xxx (Tj 85°C)



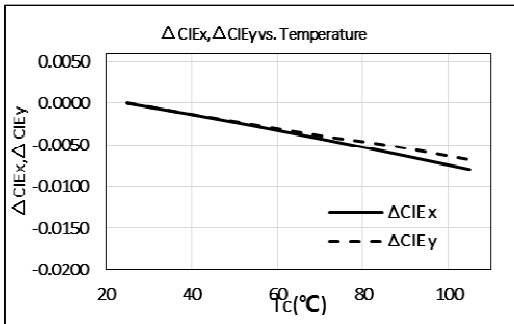
PL-CORE-MINI-3000-xxx (Tj 85°C)



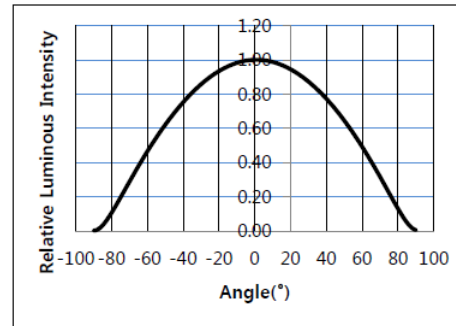
**PL-CORE-MINI-4000-xxx (Tj 85°C)**



**7. Color Shift vs. Case Temperature**



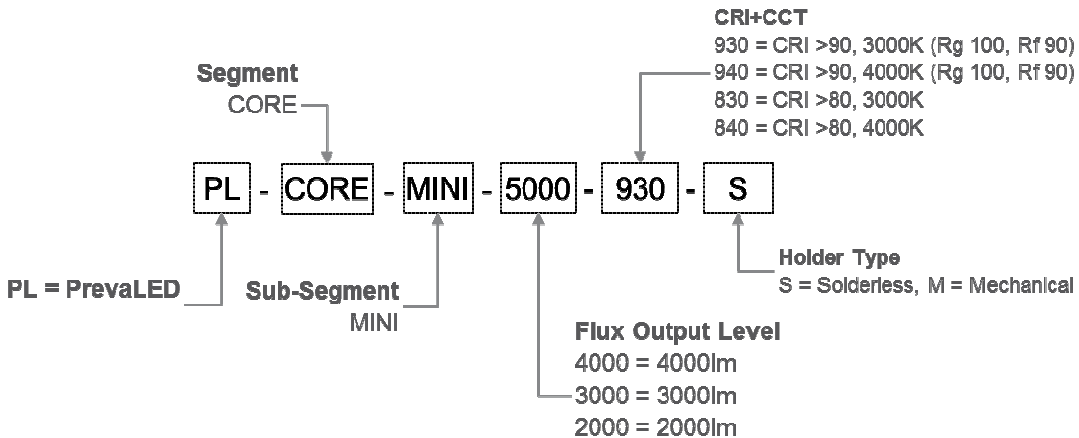
**8. Radiation Pattern**



**9. Color Bin Definition**

| CCT(K) | Color space | CIE x  | CIE y  | θ     | a      | b      |
|--------|-------------|--------|--------|-------|--------|--------|
| 2700   | 3SCDM       | 0.4578 | 0.4101 | 53.7  | 0.0081 | 0.0042 |
| 3000   | 3SCDM       | 0.4338 | 0.403  | 53.22 | 0.0083 | 0.0041 |
| 3500   | 3SCDM       | 0.4073 | 0.3917 | 54    | 0.0093 | 0.0041 |
| 4000   | 3SCDM       | 0.3818 | 0.3797 | 53.72 | 0.0094 | 0.004  |
| 5000   | 3SCDM       | 0.3447 | 0.3553 | 59.62 | 0.0082 | 0.0035 |

**Product Code Nomenclature**



## Ordering Guide

| Product Code            | EAN10         | EAN40         | Pcs per Box |
|-------------------------|---------------|---------------|-------------|
| PL-CORE-MINI-4000-830-S | 4052899547124 | 4052899547131 | 100         |
| PL-CORE-MINI-4000-835-S | 4052899547148 | 4052899547155 | 100         |
| PL-CORE-MINI-4000-840-S | 4052899547162 | 4052899547179 | 100         |
| PL-CORE-MINI-4000-927-S | 4052899547186 | 4052899547193 | 100         |
| PL-CORE-MINI-4000-930-S | 4052899547209 | 4052899547216 | 100         |
| PL-CORE-MINI-4000-935-S | 4052899547223 | 4052899547230 | 100         |
| PL-CORE-MINI-3000-830-S | 4052899547247 | 4052899547254 | 100         |
| PL-CORE-MINI-3000-835-S | 4052899547261 | 4052899547278 | 100         |
| PL-CORE-MINI-3000-840-S | 4052899547285 | 4052899547292 | 100         |
| PL-CORE-MINI-3000-927-S | 4052899547308 | 4052899547315 | 100         |
| PL-CORE-MINI-3000-930-S | 4052899547322 | 4052899547339 | 100         |
| PL-CORE-MINI-3000-935-S | 4052899547346 | 4052899547353 | 100         |
| PL-CORE-MINI-2000-830-S | 4052899547360 | 4052899547377 | 100         |
| PL-CORE-MINI-2000-835-S | 4052899547384 | 4052899547391 | 100         |
| PL-CORE-MINI-2000-840-S | 4052899547407 | 4052899547414 | 100         |
| PL-CORE-MINI-2000-927-S | 4052899547421 | 4052899547438 | 100         |
| PL-CORE-MINI-2000-930-S | 4052899547445 | 4052899547452 | 100         |
| PL-CORE-MINI-2000-935-S | 4052899547469 | 4052899547476 | 100         |
| PL-CORE-MINI-4000-830-M | 4052899547520 | 4052899547537 | 100         |
| PL-CORE-MINI-4000-835-M | 4052899547544 | 4052899547551 | 100         |
| PL-CORE-MINI-4000-840-M | 4052899547568 | 4052899547575 | 100         |
| PL-CORE-MINI-4000-927-M | 4052899547582 | 4052899547599 | 100         |
| PL-CORE-MINI-4000-930-M | 4052899547605 | 4052899547612 | 100         |
| PL-CORE-MINI-4000-935-M | 4052899547629 | 4052899547636 | 100         |
| PL-CORE-MINI-3000-830-M | 4052899547643 | 4052899547650 | 100         |
| PL-CORE-MINI-3000-835-M | 4052899547667 | 4052899547674 | 100         |
| PL-CORE-MINI-3000-840-M | 4052899547681 | 4052899547698 | 100         |
| PL-CORE-MINI-3000-927-M | 4052899547704 | 4052899547711 | 100         |
| PL-CORE-MINI-3000-930-M | 4052899547728 | 4052899547735 | 100         |
| PL-CORE-MINI-3000-935-M | 4052899547742 | 4052899547759 | 100         |
| PL-CORE-MINI-2000-830-M | 4052899547766 | 4052899547773 | 100         |
| PL-CORE-MINI-2000-835-M | 4052899547780 | 4052899547797 | 100         |
| PL-CORE-MINI-2000-840-M | 4052899547803 | 4052899547810 | 100         |
| PL-CORE-MINI-2000-927-M | 4052899547827 | 4052899547834 | 100         |
| PL-CORE-MINI-2000-930-M | 4052899547841 | 4052899547858 | 100         |
| PL-CORE-MINI-2000-935-M | 4052899547865 | 4052899547872 | 100         |