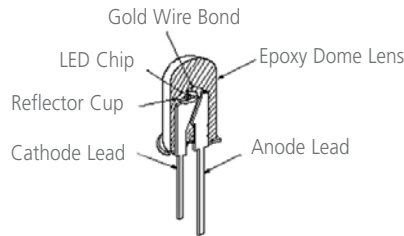
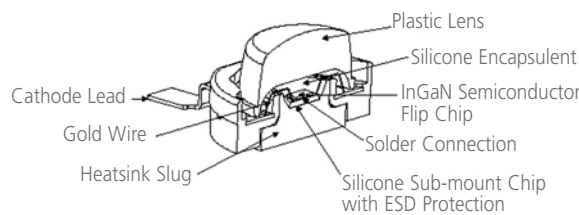
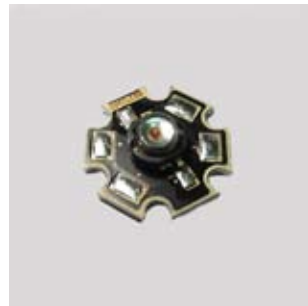


The LED luminaires in this catalogue use either a power LED, mostly one of the Luxeon® range, or in a few cases the Crescent LED module which use the original 5mm LEDs.



**Crescent LED Module**

Using 4 of the 5mm LEDs (shown sectioned), this module produces useful light for the smaller paver products.



**Luxeon® LED Module**

The section shows the structure of the device. The plastic lens contain no epoxy, which improves the lumen maintenance of this unit, when compared to conventional 5mm LEDs.

The Luxeon® K2 is an LED with superior thermal management characteristics, enabling a higher lumen output to be achieved from a luminaire without sacrificing the rated life of the LED.

| LED Outputs     |                                  |                             |                                  |                             |                              |                            |                              |               |
|-----------------|----------------------------------|-----------------------------|----------------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|---------------|
| LED Type        | Cool White Colour (K) Typical lm | White Colour (K) Typical lm | Warm White Colour (K) Typical lm | Blue Colour (nm) Typical lm | Green Colour (nm) Typical lm | Red Colour (nm) Typical lm | Amber Colour (nm) Typical lm | Power (Watts) |
| Crescent Module | n/a                              | 5500                        | n/a                              | 470                         | 525                          | 660                        | 589                          | 0.6           |
| Luxeon 1 350mA  | n/a                              | 5500                        | 3300                             | 470                         | 530                          | 625                        | 590                          | 1.2           |
|                 |                                  | 45                          | 20                               | 16                          | 53                           | 44                         | 42                           |               |
| Luxeon K2 350mA | 6500                             | 4100                        | 3000                             | 470                         | 530                          | 627                        | 590                          | 1.2           |
|                 | 45-60                            | 35-45                       | 35-45                            | 10-16                       | 45-60                        | 35-60                      | 27-45                        |               |
| Luxeon K2 700mA | 6500                             | 4100                        | 3000                             | 470                         | 530                          | 627                        | 590                          | 2.4           |
|                 | 75-100                           | 60-75                       | 60-75                            | 16-27                       | 75-100                       | 60-100                     | 46-75                        |               |

The table above shows the output of the LEDs used in Crescent products as given by the LED manufacturers.

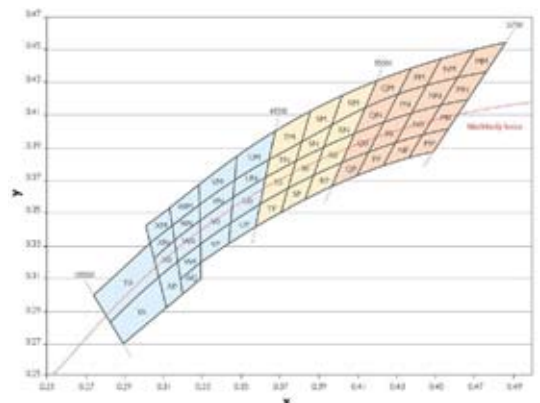
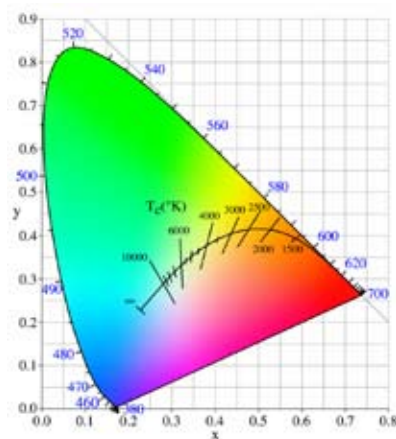
It should be noted that lumen output figures shown are based on the industry norm flash test, measured at 25°C. These outputs will not be obtained from LEDs operated within enclosed luminaires and which are running continuously. They are shown here as a comparative indication of performance. Consult the Project Design Department for details of individual luminaire outputs. We have photometric test results for most of the product range.

**Binning**

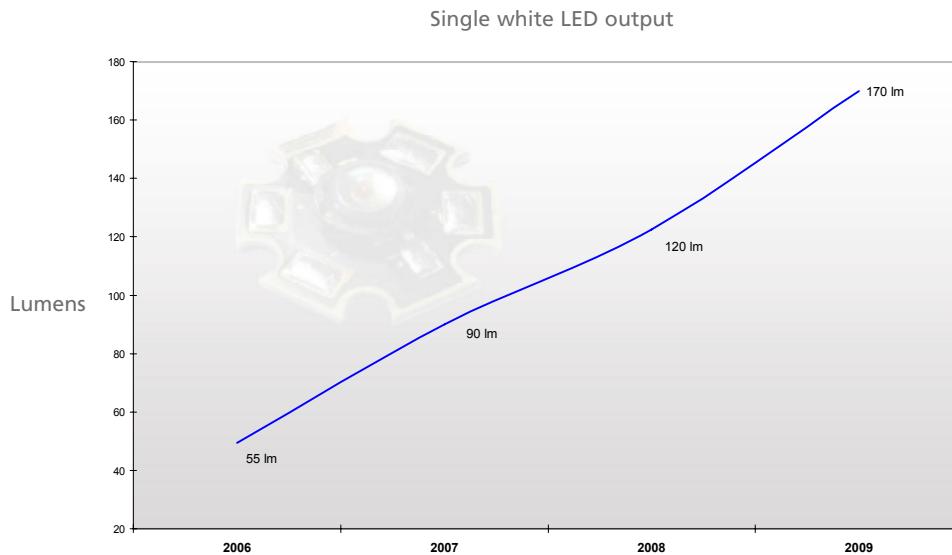
Binning and labelling is the process of separating LEDs based on their various characteristics and assigning them a specific bin code. LEDs with the same characteristics, and therefore code, are kept together. The human eye cannot generally detect a colour difference from LEDs within a single bin.

The CIE chromaticity diagram shown on the right, shows the colour tint of white light in degrees Kelvin (K).

The other diagram shows the Luxeon® binning structure through the white colour range. LEDs are also binned for differing Lumen outputs, which is why there is a range of outputs for some of the LEDs in the output table above.



The output of LEDs is increasing all the time, as a result of the huge investment in product development made by the LED manufacturers. The graph shown below gives an indication of how the manufacturers see the performance increasing over the next few years. It should be noted once again that these are free air flash test output and not necessarily what will be produced from a luminaire.



All of our photometric information is derived from tests conducted by Dial GmbH, Europe's leading photometric testing laboratory and lighting software company. Their programme Dialux has been at the forefront of lighting design since 1994. Following extensive testing, Crescent is one of the first companies to have its LED data fully available on the Dialux programme. We are members of the Dialux partner network.

It is now easy to integrate LED lighting with other lighting, and then to visualise the results on the screen, print them or export them to other programmes.

The images opposite show renderings prepared for a project, making use of the wide range of furniture that can be placed inside the space. The latest version of Dialux allows you to "walk through" the area and see the effects from all angles.

Dialux is available for downloading from the Dial web site at [www.dial.de](http://www.dial.de)

