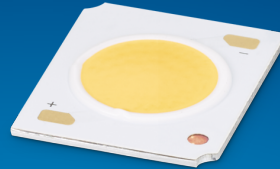


**PHILIPS**

**Fortimo**

**LED**

Fortimo SLM PW  
1205 L13 2024 G7



Datasheet

# Experience bright and vivid colors

## Fortimo LED SLM PW 1205 L13 2024 G7

Fortimo LED SLM Gen7 continues to focus on the combination of Quality of Light and performance. By offering the CoB separate from the holder, even more flexibility in possible system combinations and specifications is achieved. This results in an extensive portfolio of lumen ranges, CCTs and spectra. Please also check the online Easy Design-in Tool for your perfect system combination ([www.easydesignintool.com](http://www.easydesignintool.com))

### Key features and benefits

- Best quality of light available for all applications
- Extensive range of CCTs
- Small LES for narrow beam angles and small reflector designs
- Flexibility to select a different lumen output between 800 and 10000 lm
- State of the art Chip-on-Board (CoB) technology, enabling highest system efficacy
- System proposition (CoB + Holder + driver)
- Flexibility to optimize luminaire performance (lm/W or high lm output)
- Xitanium window drivers with SimpleSet for maximum flexibility
- Mini drivers for smallest possible luminaire designs
- Five years system warranty with over 50,000 hours lifetime
- Instant full light

November 2019



## Ordering data

| Commercial product name               | EOC               | 12NC           | Box quantity |
|---------------------------------------|-------------------|----------------|--------------|
| Fortimo SLM C 830 PW 1205 L13 2024 G7 | 8718696 845875 00 | 9290 015 88606 | 20           |
| Fortimo SLM C 835 PW 1205 L13 2024 G7 | 8718699 720469 00 | 9290 021 38706 | 20           |
| Fortimo SLM C 930 PW 1205 L13 2024 G7 | 8718696 845905 00 | 9290 015 88706 | 20           |
| Fortimo SLM C 935 PW 1205 L13 2024 G7 | 8718696 845936 00 | 9290 015 88806 | 20           |
| Fortimo SLM C 940 PW 1205 L13 2024 G7 | 8718696 845967 00 | 9290 015 88906 | 20           |

Not all products are globally available by default.

Please contact your local Philips Lighting representative for local availability and activation.

## Drive currents

| Parameter                       | Nominal* | Life**                 | Max*** | Unit |
|---------------------------------|----------|------------------------|--------|------|
| Fortimo SLM PW 1205 L13 2024 G7 | 500      | see performance window | 1050   | mA   |

## Module temperatures

| Parameter   | Nominal* | Life**                 | Max*** | Unit |
|---|----------|------------------------|--------|------|
| T <sub>c</sub> (case temperature at T <sub>c</sub> point) | 85       | see performance window | 95     | °C   |

\* Nominal value at which typical performance is specified

\*\* Value at which life time is specified

\*\*\* Maximum value for safe operation, do not operate above this value

## Optical characteristics - table per color (CCT)

### Fortimo SLM C 830 PW 1205 L13 2024 G7

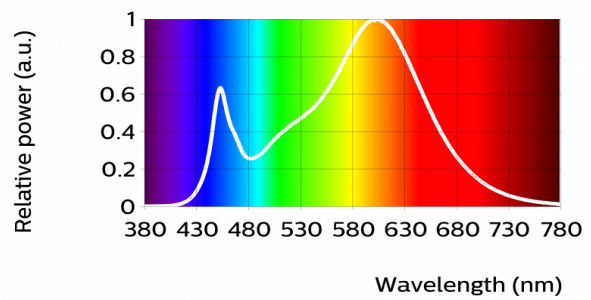
| Parameter                          | Min  | Typ            | Max           | Unit |
|------------------------------------|------|----------------|---------------|------|
| Luminous flux                      | 2313 | 2570           | 2827          | lm   |
| Module efficacy                    | 135  | 150            |               | lm/W |
| Correlated color temperature (CCT) |      | 3000           |               | K    |
| Color coordinates (CIEx, CIEy)     |      | (0.422, 0.386) |               | -    |
| Color consistency                  |      |                | 3             | SDCM |
| CRI                                | 80   | 82             |               |      |
| Photometric code                   |      | 830/359        |               |      |
| Photobiological safety             |      |                | RG1 unlimited |      |



At currents higher than 991 mA the module might be classified as RG2

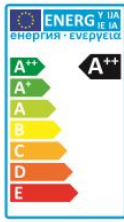
Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5

| Operation point | 830          | lm   | lm/W |
|-----------------|--------------|------|------|
| 80% I-nom 400mA | Tc 25 °C     | 2304 | 167  |
|                 | Tc-nom 85 °C | 2115 | 157  |
|                 | Tc-max 95 °C | 2082 | 155  |
| I-nom 500mA     | Tc 25 °C     | 2822 | 161  |
|                 | Tc-nom 85 °C | 2570 | 150  |
|                 | Tc-max 95 °C | 2526 | 148  |
| I-max 1050mA    | Tc 25 °C     | 5276 | 131  |
|                 | Tc-nom 85 °C | 4707 | 120  |
|                 | Tc-max 95 °C | 4608 | 117  |



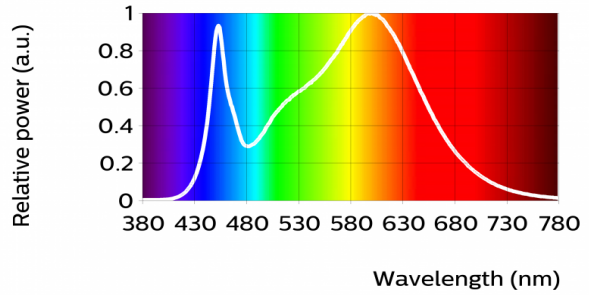
| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| 83 | 95 | 92 | 80 | 84 | 93 | 80 | 58 | 10 | 88  | 79  | 79  | 86  | 96  |

| Parameter                          | Min  | Typ            | Max           | Unit |
|------------------------------------|------|----------------|---------------|------|
| Luminous flux                      | 2421 | 2690           | 2959          | lm   |
| Module efficacy                    | 141  | 157            |               | lm/W |
| Correlated color temperature (CCT) |      | 3500           |               | K    |
| Color coordinates (CIEx, CIEy)     |      | (0.398, 0.376) |               | -    |
| Color consistency                  |      |                | 3             | SDCM |
| CRI                                | 80   | 92             |               |      |
| Photometric code                   |      | 835/359        |               |      |
| Photobiological safety             |      |                | RG1 unlimited |      |



Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

| Operation point | 835          | lm   | lm/W |
|-----------------|--------------|------|------|
| 80% I-nom 400mA | Tc 25 °C     | 2411 | 175  |
|                 | Tc-nom 85 °C | 2214 | 164  |
|                 | Tc-max 95 °C | 2180 | 162  |
| I-nom 500mA     | Tc 25 °C     | 2953 | 169  |
|                 | Tc-nom 85 °C | 2690 | 157  |
|                 | Tc-max 95 °C | 2645 | 155  |
| I-max 1050mA    | Tc 25 °C     | 5524 | 137  |
|                 | Tc-nom 85 °C | 4929 | 125  |
|                 | Tc-max 95 °C | 4825 | 123  |



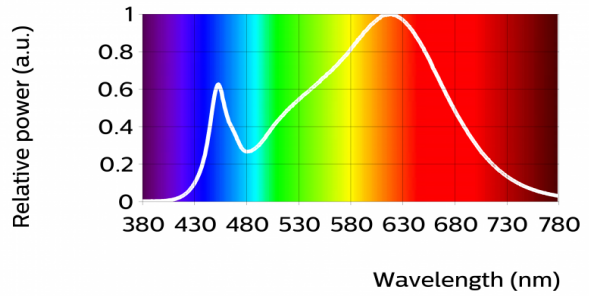
| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| 85 | 94 | 95 | 83 | 85 | 91 | 83 | 64 | 18 | 85  | 82  | 73  | 88  | 98  |

| Parameter                          | Min  | Typ            | Max           | Unit |
|------------------------------------|------|----------------|---------------|------|
| Luminous flux                      | 1971 | 2190           | 2409          | lm   |
| Module efficacy                    | 115  | 128            |               | lm/W |
| Correlated color temperature (CCT) |      | 3000           |               | K    |
| Color coordinates (CIEx, CIEy)     |      | (0.422, 0.386) |               | -    |
| Color consistency                  |      |                | 3             | SDCM |
| CRI                                | 90   | 92             |               |      |
| R9                                 | 50   |                |               |      |
| Photometric code                   |      | 930/359        |               |      |
| Photobiological safety             |      |                | RG1 unlimited |      |



Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

| Operation point | 930          | lm   | lm/W |
|-----------------|--------------|------|------|
| 80% I-nom 400mA | Tc 25 °C     | 1963 | 143  |
|                 | Tc-nom 85 °C | 1803 | 134  |
|                 | Tc-max 95 °C | 1775 | 132  |
| I-nom 500mA     | Tc 25 °C     | 2404 | 137  |
|                 | Tc-nom 85 °C | 2190 | 128  |
|                 | Tc-max 95 °C | 2153 | 126  |
| I-max 1050mA    | Tc 25 °C     | 4493 | 112  |
|                 | Tc-nom 85 °C | 4008 | 102  |
|                 | Tc-max 95 °C | 3924 | 100  |



| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| 93 | 97 | 97 | 91 | 93 | 95 | 90 | 80 | 58 | 93  | 91  | 83  | 95  | 99  |

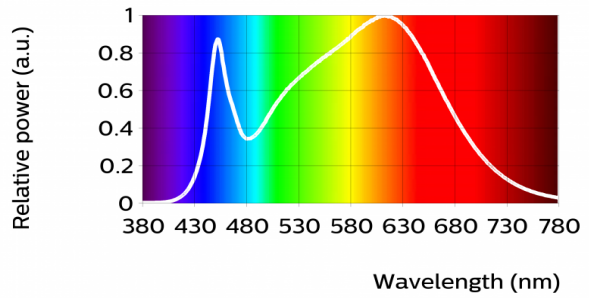
| Parameter                          | Min  | Typ            | Max           | Unit |
|------------------------------------|------|----------------|---------------|------|
| Luminous flux                      | 2070 | 2300           | 2530          | lm   |
| Module efficacy                    | 121  | 134            |               | lm/W |
| Correlated color temperature (CCT) |      | 3500           |               | K    |
| Color coordinates (CIEx, CIEy)     |      | (0.398, 0.376) |               | -    |
| Color consistency                  |      |                | 3             | SDCM |
| CRI                                | 90   | 92             |               |      |
| R9                                 | 50   |                |               |      |
| Photometric code                   |      | 935/359        |               |      |
| Photobiological safety             |      |                | RG1 unlimited |      |



At currents higher than 916 mA the module might be classified as RG2

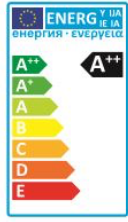
Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5

| Operation point | 935          | lm   | lm/W |
|-----------------|--------------|------|------|
| 80% I-nom 400mA | Tc 25 °C     | 2062 | 150  |
|                 | Tc-nom 85 °C | 1893 | 141  |
|                 | Tc-max 95 °C | 1864 | 139  |
| I-nom 500mA     | Tc 25 °C     | 2525 | 144  |
|                 | Tc-nom 85 °C | 2300 | 134  |
|                 | Tc-max 95 °C | 2261 | 132  |
| I-max 1050mA    | Tc 25 °C     | 4720 | 117  |
|                 | Tc-nom 85 °C | 4211 | 107  |
|                 | Tc-max 95 °C | 4122 | 105  |



| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| 93 | 96 | 97 | 91 | 92 | 93 | 92 | 82 | 59 | 89  | 91  | 77  | 94  | 98  |

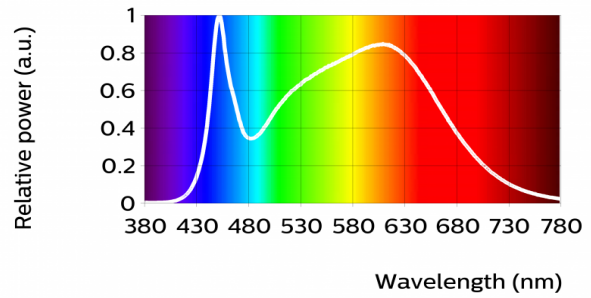
| Parameter                          | Min  | Typ            | Max           | Unit |
|------------------------------------|------|----------------|---------------|------|
| Luminous flux                      | 2124 | 2360           | 2596          | lm   |
| Module efficacy                    | 124  | 138            |               | lm/W |
| Correlated color temperature (CCT) |      | 4000           |               | K    |
| Color coordinates (CIEx, CIEy)     |      | (0.374, 0.364) |               | -    |
| Color consistency                  |      |                | 3             | SDCM |
| CRI                                | 90   | 92             |               |      |
| R9                                 | 50   |                |               |      |
| Photometric code                   |      | 940/359        |               |      |
| Photobiological safety             |      |                | RG1 unlimited |      |



At currents higher than 745 mA the module might be classified as RG2

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5

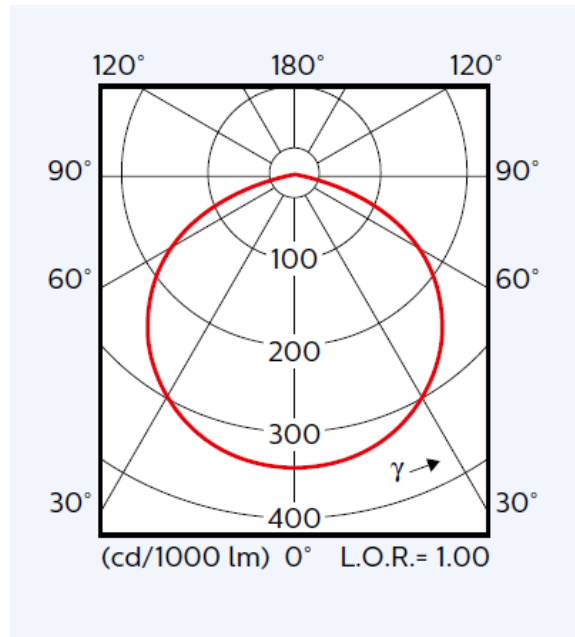
| Operation point | 940          | lm   | lm/W |
|-----------------|--------------|------|------|
| 80% I-nom 400mA | Tc 25 °C     | 2115 | 154  |
|                 | Tc-nom 85 °C | 1942 | 144  |
|                 | Tc-max 95 °C | 1912 | 143  |
| I-nom 500mA     | Tc 25 °C     | 2591 | 148  |
|                 | Tc-nom 85 °C | 2360 | 138  |
|                 | Tc-max 95 °C | 2320 | 136  |
| I-max 1050mA    | Tc 25 °C     | 4844 | 121  |
|                 | Tc-nom 85 °C | 4322 | 110  |
|                 | Tc-max 95 °C | 4231 | 108  |



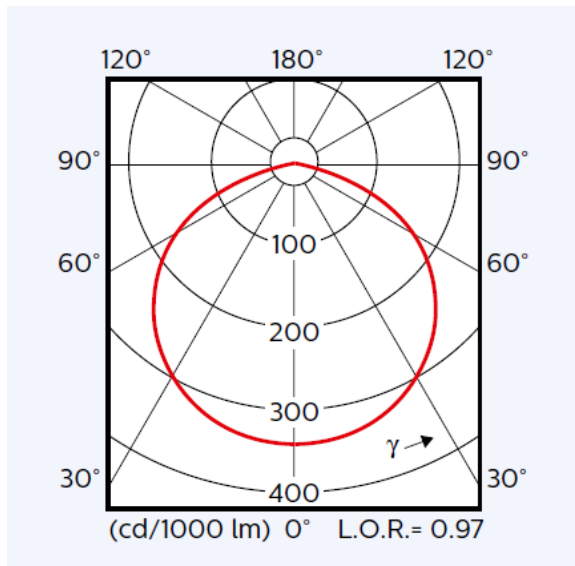
| R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 | R13 | R14 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| 92 | 96 | 96 | 91 | 92 | 92 | 92 | 83 | 60 | 88  | 90  | 72  | 94  | 97  |

## Beam shape

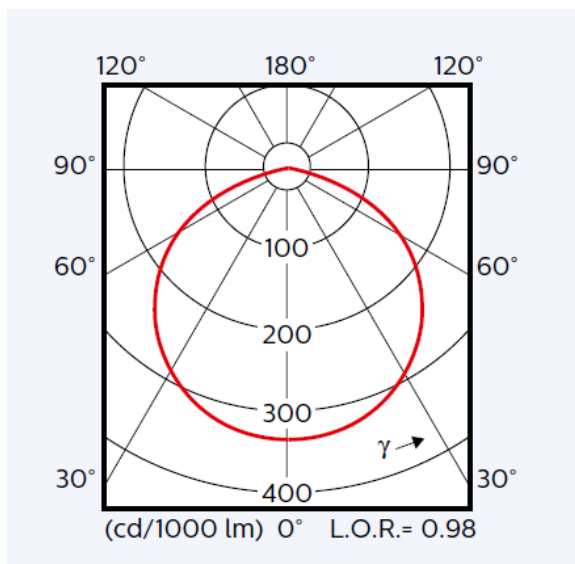
Bare CoB



CoB with a standard/ down-light/ Zhaga poke-in holder



CoB with a poke-in holder





## Electrical characteristics

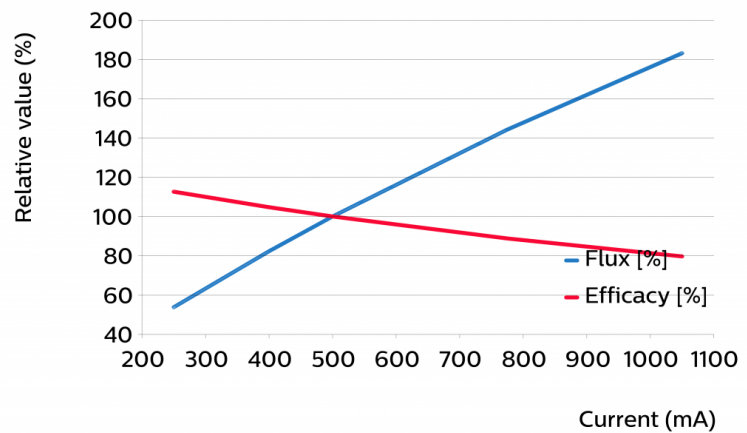
| Parameter                               | Min  | Typ  | Max  | Unit          |
|---|------|------|------|---------------|
| Forward voltage                         | 31.8 | 34.3 | 36.8 | V             |
| Power consumption                       | 15.9 | 17.2 | 18.4 | W = kWh/1000h |
| Number of modules in series per chain   |      |      | 1    |               |
| Number of modules in parallel per chain |      |      | 1    |               |
| Number of modules in parallel           |      |      | 1    |               |

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

## Tuning information

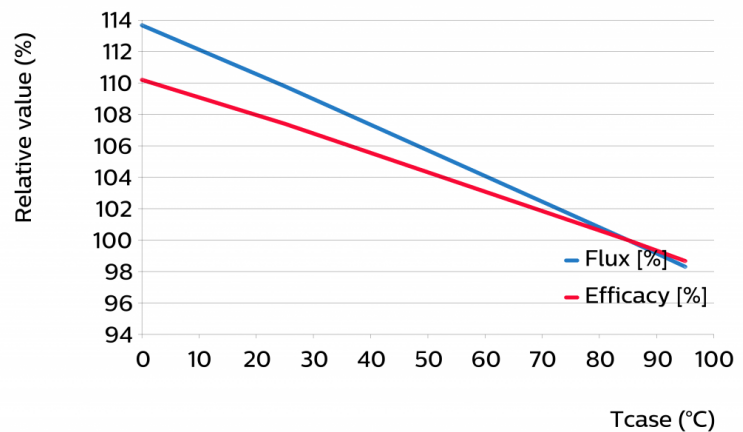
Flux and efficacy versus current (at Tc nominal)

| I [mA] | Flux [%] | Efficacy [%] |
|--------|----------|--------------|
| 1050   | 183      | 80           |
| 775    | 144      | 89           |
| 500    | 100      | 100          |
| 400    | 82       | 105          |
| 250    | 54       | 113          |



Flux and efficacy versus temperature at Tc (at I nominal)

| Tc [°C] | Flux [%] | Efficacy [%] |
|---------|----------|--------------|
| 95      | 98       | 99           |
| 85      | 100      | 100          |
| 25      | 110      | 107          |
| 0       | 114      | 110          |



## Lumen maintenance

| Operation point | Lumen maintenance<br>x 1000 hours | L70 |     |     | L80 |     |     | L90 |     |     |
|-----------------|-----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 |                                   | B50 | B20 | B10 | B50 | B20 | B10 | B50 | B20 | B10 |
| 80% I nom 400mA | Tc 65°C                           | >50 | >50 | >50 | >50 | >50 | >50 | >50 | >50 | 41  |
|                 | Tc nom 85°C                       | >50 | >50 | >50 | >50 | 48  | 39  | 35  | 23  | 18  |
|                 | Tc max 95°C                       | >50 | >50 | 42  | >50 | 33  | 26  | 24  | 16  | 12  |
| I nom 500mA     | Tc 65°C                           | >50 | >50 | >50 | >50 | >50 | >50 | >50 | 47  | 38  |
|                 | Tc nom 85°C                       | >50 | >50 | >50 | >50 | 44  | 35  | 32  | 21  | 17  |
|                 | Tc max 95°C                       | >50 | 48  | 39  | 46  | 30  | 24  | 22  | 13  | 11  |
| I max 1050mA    | Tc 65°C                           | >50 | >50 | >50 | >50 | >50 | 42  | 38  | 25  | 20  |
|                 | Tc nom 85°C                       | >50 | 40  | 32  | 38  | 25  | 20  | 18  | 12  | 9   |
|                 | Tc max 95°C                       | 43  | 28  | 23  | 27  | 18  | 14  | 13  | 8   | 7   |

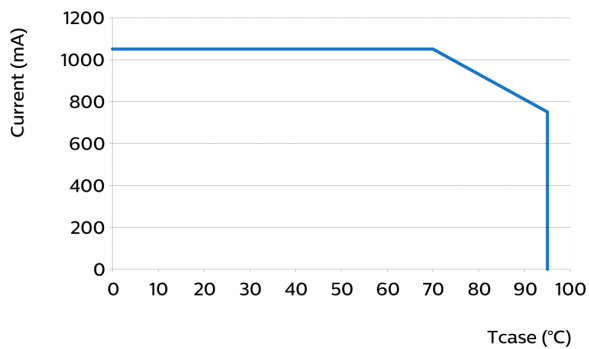
## Lifetime

| Parameter      | Value  | Unit  |
|----------------|--------|-------|
| C10 at Tc life | 50000  | hours |
| M70F50 nominal | >50000 | hours |
| M70F50 life    | >50000 | hours |

Switching cycles in accordance to EU 1194/2012: >15000

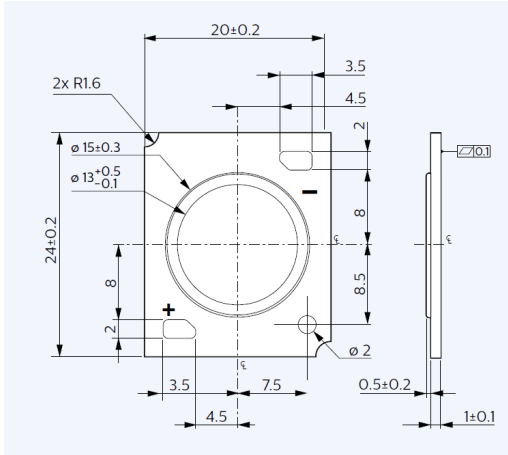
Charts presenting module's lumen maintenance data are available via your sales representative.

## Performance Window



## Mechanical characteristics

| Parameter            | Min  | Typ | Max  | Unit |
|----------------------|------|-----|------|------|
| Length               | 23.8 | 24  | 24.2 | mm   |
| Width                | 19.8 | 20  | 20.2 | mm   |
| Height PCB           | 0.9  | 1   | 1.1  | mm   |
| Height including dam | 1.2  | 1.5 | 1.8  | mm   |
| Product mass         |      | 1.2 |      | gram |



## Absolute ratings

| Parameter                              | Min | Max  | Unit |
|--|-----|------|------|
| Current through the LED module (I-max) |     | 1050 | mA   |
| Case temperature (Tc-max)              |     | 95   | °C   |
| Power at rated Vf-max and I-max        |     | 42   | W    |
| ESD (direct contact)                   |     | 8    | kV   |
| Ambient temperature                    | -20 | 40   | °C   |
| Storage temperature                    | -40 | 80   | °C   |

## Application information

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### Certificates and Standards

IEC 62031:2008/A1:2012/A2:2014

EN 62031:2008/A1:2013/A2:2015

Relevant clauses of IEC 62471:2006 (Incl. IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)

Relevant clauses of IEC 60838-1:2004/A1:2008/A2:2011 with IEC 60838-2-2:2006 /A1:2012

Relevant clauses of EN 62471:2008 (With IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)

Relevant clauses of EN 60838-1:2004/A1:2008/A2:2011 with EN 60838-2-2:2006/A1:2012

UL 8750

ENEC+

CE

### Environmental

RoHS/REACH

### Application

|                        |                          |
|------------------------|--------------------------|
| IP rating              | No IP-rating             |
| Overheating protection | No                       |
| Luminaire class        | IEC Class I and Class II |
| Dimming                | Yes                      |



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