

## Outdoor LED modules

A rectangular solution for outdoor lighting. Compatible with standard 2x2 optics for example LEDIL's STRADA-2x2.

### Product description

- Long life-time
- Built-in, constant current LED module
- Re-workable push-in terminals enabling easy connection
- Compliance and approval: CE, ENEC
- Available CCT from 2700K to 6500K and CRI 70, 80, 90, 95



### RecLED 122x50mm 2x4 CRI 70 Optimum G2

| Product name                          | Ordering code  | Colour temperature [K] | Current nominal If nom [mA] | Luminous flux <sup>1</sup> Φ [lm] | Useful luminous flux <sup>2</sup> [lm] | Voltage <sup>1</sup> Vf [V] | Power <sup>1</sup> P [W] | Efficacy <sup>1</sup> [lm/W] | Current minimum If min <sup>3</sup> [mA] | Current maximum If max [mA] | Energy Efficiency Class |
|---------------------------------------|----------------|------------------------|-----------------------------|-----------------------------------|--|-----------------------------|--------------------------|------------------------------|--|-----------------------------|-------------------------|
| RecLED 122x50mm 1900lm 730 2x4 Opt G2 | 1010 117 63146 | 3000                   | 520                         | 1854                              | 1998                                   | 22                          | 11                       | 163                          | 100                                      | 1500                        | D                       |
| RecLED 122x50mm 1900lm 740 2x4 Opt G2 | 1010 117 63246 | 4000                   | 520                         | 1972                              | 2125                                   | 22                          | 11                       | 173                          | 100                                      | 1500                        | C                       |

### RecLED 173x50mm 2x6 CRI 70 Optimum G2

| Product name                          | Ordering code  | Colour temperature [K] | Current nominal If nom [mA] | Luminous flux <sup>1</sup> Φ [lm] | Useful luminous flux <sup>2</sup> [lm] | Voltage <sup>1</sup> Vf [V] | Power <sup>1</sup> P [W] | Efficacy <sup>1</sup> [lm/W] | Current minimum If min <sup>3</sup> [mA] | Current maximum If max [mA] | Energy Efficiency Class |
|---------------------------------------|----------------|------------------------|-----------------------------|-----------------------------------|--|-----------------------------|--------------------------|------------------------------|--|-----------------------------|-------------------------|
| RecLED 173x50mm 2900lm 730 2x6 Opt G2 | 1010 117 63446 | 3000                   | 520                         | 2782                              | 2997                                   | 33                          | 17                       | 163                          | 100                                      | 1500                        | D                       |
| RecLED 173x50mm 2900lm 740 2x6 Opt G2 | 1010 117 63546 | 4000                   | 520                         | 2958                              | 3187                                   | 33                          | 17                       | 173                          | 100                                      | 1500                        | C                       |

### RecLED 224x50mm 2x8 CRI 70 Optimum G2

| Product name                          | Ordering code  | Colour temperature [K] | Current nominal If nom [mA] | Luminous flux <sup>1</sup> Φ [lm] | Useful luminous flux <sup>2</sup> [lm] | Voltage <sup>1</sup> Vf [V] | Power <sup>1</sup> P [W] | Efficacy <sup>1</sup> [lm/W] | Current minimum If min <sup>3</sup> [mA] | Current maximum If max [mA] | Energy Efficiency Class |
|---------------------------------------|----------------|------------------------|-----------------------------|-----------------------------------|--|-----------------------------|--------------------------|------------------------------|--|-----------------------------|-------------------------|
| RecLED 224x50mm 3800lm 730 2x8 Opt G2 | 1010 117 63746 | 3000                   | 520                         | 3709                              | 3996                                   | 44                          | 23                       | 163                          | 200                                      | 1500                        | D                       |
| RecLED 224x50mm 3800lm 740 2x8 Opt G2 | 1010 117 63846 | 4000                   | 520                         | 3944                              | 4250                                   | 44                          | 23                       | 173                          | 200                                      | 1500                        | C                       |

### RecLED 122x50mm 2x4 CRI 70 Optimum G1

| Product name                          | Ordering code  | Colour temperature [K] | Current nominal If nom [mA] | Luminous flux <sup>1</sup> Φ [lm] | Useful luminous flux <sup>2</sup> [lm] | Voltage <sup>1</sup> Vf [V] | Power <sup>1</sup> P [W] | Efficacy <sup>1</sup> [lm/W] | Current minimum If min <sup>3</sup> [mA] | Current maximum If max [mA] | Energy Efficiency Class |
|---------------------------------------|----------------|------------------------|-----------------------------|-----------------------------------|--|-----------------------------|--------------------------|------------------------------|--|-----------------------------|-------------------------|
| RecLED 122x50mm 1900lm 730 2x4 Opt G1 | 1010 117 51246 | 3000                   | 520                         | 1796                              | 1935                                   | 22                          | 11                       | 158                          | 100                                      | 1500                        | D                       |
| RecLED 122x50mm 1900lm 740 2x4 Opt G1 | 1010 117 51346 | 4000                   | 520                         | 1913                              | 2061                                   | 22                          | 11                       | 168                          | 100                                      | 1500                        | C                       |
| RecLED 122x50mm 1900lm 765 2x4 Opt G1 | 1010 117 51446 | 6500                   | 520                         | 1913                              | 2061                                   | 22                          | 11                       | 168                          | 100                                      | 1500                        | C                       |

### RecLED 173x50mm 2x6 CRI 70 Optimum G1

| Product name                          | Ordering code  | Colour temperature [K] | Current nominal If nom [mA] | Luminous flux <sup>1</sup> Φ [lm] | Useful luminous flux <sup>2</sup> [lm] | Voltage <sup>1</sup> Vf [V] | Power <sup>1</sup> P [W] | Efficacy <sup>1</sup> [lm/W] | Current minimum If min <sup>3</sup> [mA] | Current maximum If max [mA] | Energy Efficiency Class |
|---------------------------------------|----------------|------------------------|-----------------------------|-----------------------------------|--|-----------------------------|--------------------------|------------------------------|--|-----------------------------|-------------------------|
| RecLED 173x50mm 2900lm 730 2x6 Opt G1 | 1010 117 51546 | 3000                   | 520                         | 2693                              | 2902                                   | 33                          | 17                       | 158                          | 100                                      | 1500                        | D                       |
| RecLED 173x50mm 2900lm 740 2x6 Opt G1 | 1010 117 51646 | 4000                   | 520                         | 2870                              | 3092                                   | 33                          | 17                       | 168                          | 100                                      | 1500                        | C                       |
| RecLED 173x50mm 2900lm 765 2x6 Opt G1 | 1010 117 51746 | 6500                   | 520                         | 2870                              | 3092                                   | 33                          | 17                       | 168                          | 100                                      | 1500                        | C                       |

## Outdoor LED modules

### RecLED 224x50mm 2x8 CRI 70 Optimum G1

| Product name                          | Ordering code  | Colour temperature [K] | Current nominal If nom [mA] | Luminous flux <sup>1</sup> Φ <sub>v</sub> [lm] | Useful luminous flux <sup>2</sup> [lm] | Voltage <sup>1</sup> Vf [V] | Power <sup>1</sup> P [W] | Efficacy <sup>1</sup> [lm/W] | Current minimum If min <sup>3</sup> [mA] | Current maximum If max [mA] | Energy Efficiency Class |
|---------------------------------------|----------------|------------------------|-----------------------------|--|--|-----------------------------|--------------------------|------------------------------|--|-----------------------------|-------------------------|
| RecLED 224x50mm 3800lm 730 2x8 Opt G1 | 1010 117 51846 | 3000                   | 520                         | 3591   | 3869                                   | 44                          | 23                       | 158                          | 200                                      | 1500                        | D                       |
| RecLED 224x50mm 3800lm 740 2x8 Opt G1 | 1010 117 51946 | 4000                   | 520                         | 3827   | 4123                                   | 44                          | 23                       | 168                          | 200                                      | 1500                        | C                       |
| RecLED 224x50mm 3800lm 765 2x8 Opt G1 | 1010 117 52046 | 6500                   | 520                         | 3827   | 4123                                   | 44                          | 23                       | 168                          | 200                                      | 1500                        | C                       |

<sup>1</sup>At nominal current and T<sub>p</sub>

<sup>2</sup>At nominal current and 25°C

<sup>3</sup>It is recommended not to operate below minimum current in order to avoid un-even brightness

Tolerance range for optical and electrical ±10%

### Temperature & humidity

| Specification item                         | Unit | Value       |
|--|------|-------------|
| T <sub>p</sub>                             | [°C] | 75          |
| T <sub>p</sub> rated                       | [°C] | 75          |
| T <sub>c</sub>                             | [°C] | 95          |
| Relative humidity (non-condensing)         | [%]  | 5 ... 85    |
| Storage ambient temperature                | [°C] | -25 ... +85 |
| Storage relative humidity (non-condensing) | [%]  | 5 ... 85    |

T<sub>p</sub> - Temperature related to the performance parameters of the LED modules

T<sub>p</sub> rated - Maximum operating temperature to which the rated performance characteristics are declared

T<sub>c</sub> - Highest permissible value for safe operation

### Technical data

| Specification item               | Unit   | Value                       |
|----------------------------------|--------|-----------------------------|
| Classification acc. to IEC 62031 |        | built-in                    |
| Working voltage                  | [Vdc]  | 420                         |
| Beam angle                       | [deg]  | 120                         |
| Initial color consistency        | [SDCM] | 5                           |
| Photobiological safety           |        | RG2 (RG1 at >0.5m distance) |

### Color coordinates

According to CIE 1931

| Specification item | CIE <sub>x</sub> | CIE <sub>y</sub> |
|--------------------|------------------|------------------|
| 2700K              | 0.4578           | 0.4101           |
| 3000K              | 0.4338           | 0.4030           |
| 4000K              | 0.3818           | 0.3797           |
| 6500K              | 0.3123           | 0.3282           |

### Certificates & standards

| Specification item | Compliant           |
|--------------------|---------------------|
| ENEC               | Yes                 |
| CE                 | Yes                 |
| RoHS               | Yes                 |
| REACH              | Yes                 |
| Zhaga              | Comply with Book 15 |
| IP rating          | No IP rating        |

## Outdoor LED modules

### Lumen maintenance

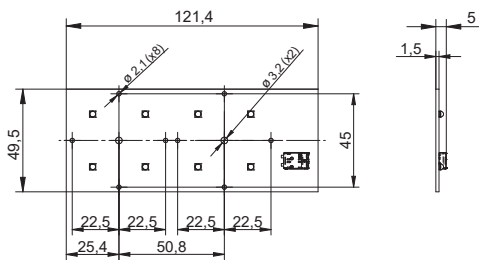
### RecLED CRI 70

| Forward current | Tp temp. | L70 [h]  |          | L80 [h]  |          | L90 [h]  |          |
|-----------------|----------|----------|----------|----------|----------|----------|----------|
|                 |          | B50      | B10      | B50      | B10      | B50      | B10      |
| If nom          | 75°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
|                 | 80°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
|                 | 85°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
|                 | 90°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
|                 | 95°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
| If max          | 45°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
|                 | 55°C     | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 | >100 000 |
|                 | 65°C     | >100 000 | >100 000 | >100 000 | >100 000 | 82 000   | 77 000   |
|                 | 75°C     | >100 000 | >100 000 | >100 000 | >100 000 | 58 000   | 54 000   |
|                 | 85°C     | >100 000 | >100 000 | >100 000 | >100 000 | 41 000   | 38 000   |

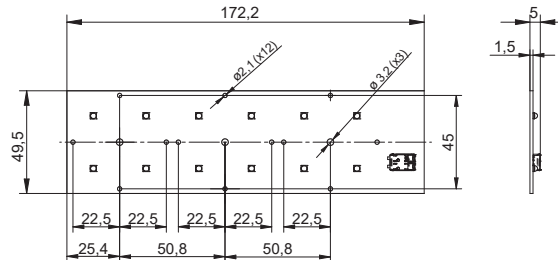
simulation based on LM80 LED data 10 000h

### Dimensions

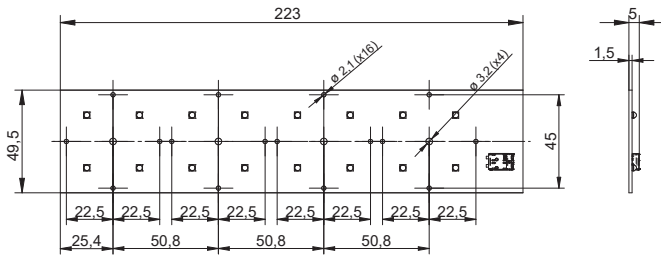
#### RecLED 122x50mm 2x4



#### RecLED 173x50mm 2x6



#### RecLED 224x50mm 2x8



### Mounting

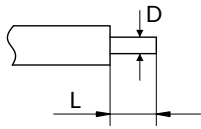
LED Modules cannot be exposed to tensile or compressive stresses. For this purpose it is necessary that the modules are assembled to a flat surface by only rounded head screws. Additionally plastic flat washer should be used to ensure creepage distance between screw's head and surface of the pcb. Max. torque for fixing: 0,5Nm.

LED modules are sensitive to electrostatic discharge (ESD). Follow safety regulations according to IEC 61340-5-1.

## Outdoor LED modules

### Wiring

Wire cross section and strip length:



| D - wire cross section<br>(solid and flexible wires) | Min                | Max                 |
|--|--------------------|---------------------|
|  | 0.2mm <sup>2</sup> | 0.75mm <sup>2</sup> |
|  | AWG 24             | AWG 18              |

| L - strip length | Min | Max |
|------------------|-----|-----|
|                  | 8mm | 9mm |

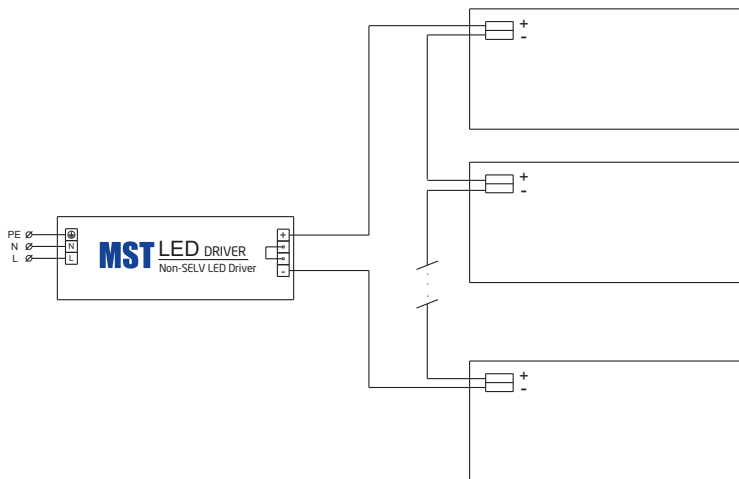
Opening for the release of wires from the top with release pin Electroterminal art. 881 167 884:



### Connections

| Max number of modules | Unit  | Series | Parallel |
|-----------------------|-------|--------|----------|
| RecLED 122x50mm 2x4   | [pcs] | 16     | -        |
| RecLED 173x50mm 2x6   | [pcs] | 11     | -        |
| RecLED 224x50mm 2x8   | [pcs] | 8      | -        |

Wiring for series connection system



### Energy Label / EPREL database

To obtain Energy Label for this product visit <https://eprel.ec.europa.eu/> and enter model identifier

Model identifier consists of 10 digits XXXX XXX XXX. It is printed directly on the LED module or on product label. This is the number you can see in EPREL database.

Ordering code consist of 12 digits XXXX XXX XXX46. Additional last two digits means packaging of the product.

## Outdoor LED modules

### Ordering codes

| Product name                          | Ordering code  | Pieces per box | Pieces per pallet | Box dimensions [mm] |
|---------------------------------------|----------------|----------------|-------------------|---------------------|
| RecLED 122x50mm 1900lm 730 2x4 Opt G2 | 1010 117 63146 | 40             | 11520             | 238 x 140 x 61      |
| RecLED 122x50mm 1900lm 740 2x4 Opt G2 | 1010 117 63246 | 40             | 11520             | 238 x 140 x 61      |
| RecLED 173x50mm 2900lm 730 2x6 Opt G2 | 1010 117 63446 | 64             | 8640              | 238 x 238 x 91      |
| RecLED 173x50mm 2900lm 740 2x6 Opt G2 | 1010 117 63546 | 64             | 8640              | 238 x 238 x 91      |
| RecLED 224x50mm 3800lm 730 2x8 Opt G2 | 1010 117 63746 | 36             | 6840              | 248 x 175 x 66      |
| RecLED 224x50mm 3800lm 740 2x8 Opt G2 | 1010 117 63846 | 36             | 6840              | 248 x 175 x 66      |
| RecLED 122x50mm 1900lm 730 2x4 Opt G1 | 1010 117 51246 | 40             | 11520             | 238 x 140 x 61      |
| RecLED 122x50mm 1900lm 740 2x4 Opt G1 | 1010 117 51346 | 40             | 11520             | 238 x 140 x 61      |
| RecLED 122x50mm 1900lm 765 2x4 Opt G1 | 1010 117 51446 | 64             | 11520             | 238 x 140 x 61      |
| RecLED 173x50mm 2900lm 730 2x6 Opt G1 | 1010 117 51546 | 64             | 8640              | 238 x 238 x 91      |
| RecLED 173x50mm 2900lm 740 2x6 Opt G1 | 1010 117 51646 | 64             | 8640              | 238 x 238 x 91      |
| RecLED 173x50mm 2900lm 765 2x6 Opt G1 | 1010 117 51746 | 64             | 8640              | 238 x 238 x 91      |
| RecLED 224x50mm 3800lm 730 2x8 Opt G1 | 1010 117 51846 | 36             | 6840              | 248 x 175 x 66      |
| RecLED 224x50mm 3800lm 740 2x8 Opt G1 | 1010 117 51946 | 36             | 6840              | 248 x 175 x 66      |
| RecLED 224x50mm 3800lm 765 2x8 Opt G1 | 1010 117 52046 | 36             | 6840              | 248 x 175 x 66      |