



## Module LLE 16mm 1250lm HV ADV6

Modules LLE advanced

### Product description

- Ideal for compact linear luminaires designs
- Homogenous illumination thanks to small package distance
- 2 terminals for serial wiring
- Perfectly uniform light, even if several LED modules are used together in a line
- Push terminals for quick and simple wiring of LED module to LED module
- Min. order quantity LLE 16x70mm QTY4: 36 pcs. The LLE 16x70mm QTY4 module contains 4 single 16x70mm modules which have to be separated.
- HE ... High Efficiency, NM ... Nominal Mode, HO ... High Output
- Long lifetime: 72,000 hours
- 5 years guarantee (conditions at [www.tridonic.com](http://www.tridonic.com))

### Optical properties

- Colour temperatures 2,700 K, 3,000 K, 3,500 K, 4,000 K, 5,000 K and 6,500 K
- Useful luminous flux 1,241 lm at Irated and tp = 25 °C
- Efficacy of the LED module 205 lm/W at Irated and tp = 25 °C
- High colour rendering index CRI > 80
- High colour consistency (MacAdam 3)<sup>®</sup>
- Small luminous flux tolerances

### Mechanical properties

- Module dimension 16 x 70 mm, 24 x 140 mm, 16 x 280 mm and 16 x 560 mm
- Simple installation (e.g. clips or screws)

### System solution

- Combine Tridonic`s LED modules and dimmable drivers to achieve an outstanding system efficacy (configuration possible via <https://setbuilder.tridonic.com/>)



**Standards**, page 11

**Colour temperatures and tolerances**, page 17



LLE 16x70mm 325lm HV ADV6



LLE 16x140mm 650lm HV ADV6



LLE 16x280mm 1250lm HV ADV6



LLE 16x560mm 2400lm HV ADV6





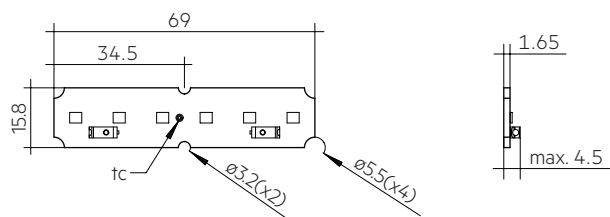
#### Module LLE 16mm 1250lm HV ADV6

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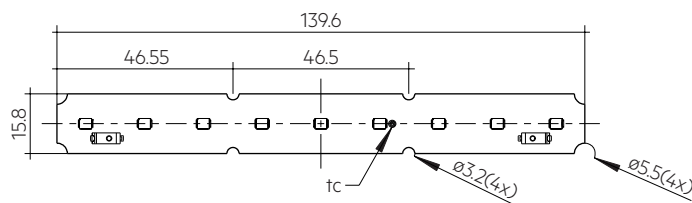
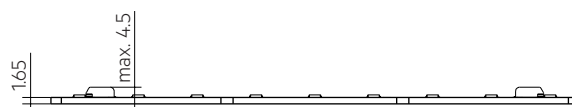
#### Technical data

|                                  |                  |
|----------------------------------|------------------|
| Colour consistency <sup>①</sup>  | 3 SDCM           |
| ESD classification               | severity level 2 |
| Classification acc. to IEC 62031 | Built-in         |
| Type of protection               | IP00             |
| Lumen maintenance L70B50         | 72,000 h         |
| Guarantee                        | 5 year(s)        |

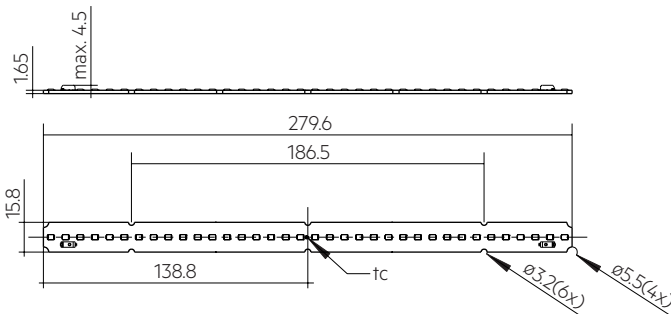
<sup>①</sup> Integral measurement over the complete module.



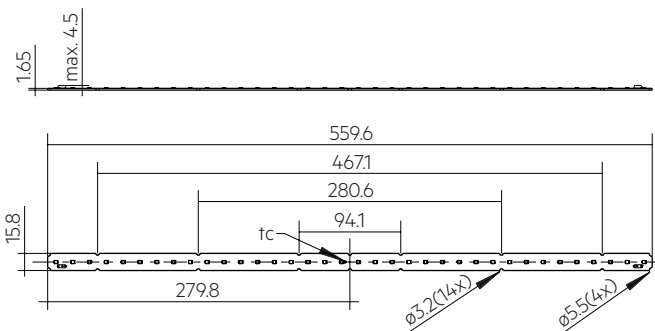
LLE 16x70mm 325lm HV ADV6



LLE 16x140mm 650lm HV ADV6



LLE 16x280mm 1250lm HV ADV6



LLE 16x560mm 2400lm HV ADV6

**Module LLE 16mm 1250lm HV ADV6**

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**Ordering data**

| Type                               | Article number | Article status | Packaging carton | Weight per pc. |
|------------------------------------|----------------|----------------|------------------|----------------|
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 28004980       | Standard       | 144 pc(s).       | 0.017 kg       |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 28004981       | Standard       | 144 pc(s).       | 0.017 kg       |
| LLE 16x140mm 650lm 827 HV ADV6     | 28004984       | Standard       | 144 pc(s).       | 0.007 kg       |
| LLE 16x140mm 650lm 830 HV ADV6     | 28004989       | Standard       | 144 pc(s).       | 0.007 kg       |
| LLE 16x140mm 650lm 835 HV ADV6     | 28004990       | Standard       | 144 pc(s).       | 0.007 kg       |
| LLE 16x140mm 650lm 840 HV ADV6     | 28004991       | Standard       | 144 pc(s).       | 0.007 kg       |
| LLE 16x140mm 650lm 850 HV ADV6     | 28004992       | Standard       | 144 pc(s).       | 0.007 kg       |
| LLE 16x140mm 650lm 865 HV ADV6     | 28004993       | Standard       | 144 pc(s).       | 0.007 kg       |
| LLE 16x280mm 1250lm 827 HV ADV6    | 28004998       | Standard       | 144 pc(s).       | 0.014 kg       |
| LLE 16x280mm 1250lm 830 HV ADV6    | 28004999       | Standard       | 144 pc(s).       | 0.014 kg       |
| LLE 16x280mm 1250lm 835 HV ADV6    | 28005002       | Standard       | 144 pc(s).       | 0.014 kg       |
| LLE 16x280mm 1250lm 840 HV ADV6    | 28005003       | Standard       | 144 pc(s).       | 0.014 kg       |
| LLE 16x280mm 1250lm 850 HV ADV6    | 28005004       | Standard       | 144 pc(s).       | 0.014 kg       |
| LLE 16x280mm 1250lm 865 HV ADV6    | 28005005       | Standard       | 144 pc(s).       | 0.014 kg       |
| LLE 16x560mm 2400lm 827 HV ADV6    | 28005010       | Standard       | 144 pc(s).       | 0.028 kg       |
| LLE 16x560mm 2400lm 830 HV ADV6    | 28005011       | Standard       | 144 pc(s).       | 0.028 kg       |
| LLE 16x560mm 2400lm 835 HV ADV6    | 28005012       | Standard       | 144 pc(s).       | 0.028 kg       |
| LLE 16x560mm 2400lm 840 HV ADV6    | 28005013       | Standard       | 144 pc(s).       | 0.028 kg       |
| LLE 16x560mm 2400lm 850 HV ADV6    | 28005014       | Standard       | 144 pc(s).       | 0.028 kg       |
| LLE 16x560mm 2400lm 865 HV ADV6    | 28005015       | Standard       | 144 pc(s).       | 0.028kg        |

## Photometric data

| Type                               | Colour temperature | Photometric Code <sup>①</sup> | Useful luminous flux at tp = 25 °C <sup>②</sup> | Luminous flux at tp rated <sup>③</sup> |          |          | Efficacy of the module at tp = 25 °C | Expected efficacy of the module at tp rated | Beam characteristic | Colour rendering index CRI |
|------------------------------------|--------------------|-------------------------------|-------------------------------------------------|----------------------------------------|----------|----------|--------------------------------------|---------------------------------------------|---------------------|----------------------------|
|                                    |                    |                               |                                                 | Min.                                   | Typ.     | Max.     |                                      |                                             |                     |                            |
| Operating mode HE                  |                    |                               |                                                 |                                        |          |          |                                      |                                             |                     |                            |
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 3,000 K            | 830/359                       | –                                               | 94 lm                                  | 104 lm   | 115 lm   | –                                    | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 4,000 K            | 840/359                       | –                                               | 99 lm                                  | 110 lm   | 122 lm   | –                                    | 209 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 827 HV ADV6     | 2,700 K            | 827/359                       | –                                               | 183 lm                                 | 203 lm   | 224 lm   | –                                    | 193 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 830 HV ADV6     | 3,000 K            | 830/359                       | –                                               | 187 lm                                 | 208 lm   | 229 lm   | –                                    | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 835 HV ADV6     | 3,500 K            | 835/359                       | –                                               | 194 lm                                 | 215 lm   | 237 lm   | –                                    | 204 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 840 HV ADV6     | 4,000 K            | 840/359                       | –                                               | 199 lm                                 | 221 lm   | 243 lm   | –                                    | 209 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 850 HV ADV6     | 5,000 K            | 850/359                       | –                                               | 197 lm                                 | 219 lm   | 241 lm   | –                                    | 208 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 865 HV ADV6     | 6,500 K            | 865/359                       | –                                               | 195 lm                                 | 216 lm   | 238 lm   | –                                    | 205 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 827 HV ADV6    | 2,700 K            | 827/359                       | –                                               | 366 lm                                 | 407 lm   | 448 lm   | –                                    | 193 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 830 HV ADV6    | 3,000 K            | 830/359                       | –                                               | 375 lm                                 | 416 lm   | 458 lm   | –                                    | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 835 HV ADV6    | 3,500 K            | 835/359                       | –                                               | 387 lm                                 | 430 lm   | 474 lm   | –                                    | 204 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 840 HV ADV6    | 4,000 K            | 840/359                       | –                                               | 397 lm                                 | 442 lm   | 486 lm   | –                                    | 209 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 850 HV ADV6    | 5,000 K            | 850/359                       | –                                               | 395 lm                                 | 439 lm   | 483 lm   | –                                    | 208 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 865 HV ADV6    | 6,500 K            | 865/359                       | –                                               | 389 lm                                 | 433 lm   | 476 lm   | –                                    | 205 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 827 HV ADV6    | 2,700 K            | 827/359                       | –                                               | 732 lm                                 | 814 lm   | 895 lm   | –                                    | 193 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 830 HV ADV6    | 3,000 K            | 830/359                       | –                                               | 749 lm                                 | 832 lm   | 916 lm   | –                                    | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 835 HV ADV6    | 3,500 K            | 835/359                       | –                                               | 775 lm                                 | 861 lm   | 947 lm   | –                                    | 204 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 840 HV ADV6    | 4,000 K            | 840/359                       | –                                               | 795 lm                                 | 883 lm   | 971 lm   | –                                    | 209 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 850 HV ADV6    | 5,000 K            | 850/359                       | –                                               | 790 lm                                 | 877 lm   | 965 lm   | –                                    | 208 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 865 HV ADV6    | 6,500 K            | 865/359                       | –                                               | 779 lm                                 | 866 lm   | 952 lm   | –                                    | 205 lm/W                                    | 360°                | >80                        |
| Operating mode NM                  |                    |                               |                                                 |                                        |          |          |                                      |                                             |                     |                            |
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 3,000 K            | 830/359                       | 293 lm                                          | 253 lm                                 | 281 lm   | 309 lm   | 193 lm/W                             | 187 lm/W                                    | 360°                | >80                        |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 4,000 K            | 840/359                       | 310 lm                                          | 268 lm                                 | 298 lm   | 328 lm   | 205 lm/W                             | 198 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 827 HV ADV6     | 2,700 K            | 827/359                       | 572 lm                                          | 494 lm                                 | 549 lm   | 604 lm   | 188 lm/W                             | 183 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 830 HV ADV6     | 3,000 K            | 830/359                       | 585 lm                                          | 505 lm                                 | 562 lm   | 618 lm   | 193 lm/W                             | 187 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 835 HV ADV6     | 3,500 K            | 835/359                       | 605 lm                                          | 523 lm                                 | 581 lm   | 639 lm   | 199 lm/W                             | 193 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 840 HV ADV6     | 4,000 K            | 840/359                       | 621 lm                                          | 536 lm                                 | 596 lm   | 655 lm   | 205 lm/W                             | 198 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 850 HV ADV6     | 5,000 K            | 850/359                       | 617 lm                                          | 533 lm                                 | 592 lm   | 651 lm   | 203 lm/W                             | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 865 HV ADV6     | 6,500 K            | 865/359                       | 608 lm                                          | 525 lm                                 | 584 lm   | 642 lm   | 201 lm/W                             | 194 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 827 HV ADV6    | 2,700 K            | 827/359                       | 1,144 lm                                        | 988 lm                                 | 1,098 lm | 1,207 lm | 188 lm/W                             | 183 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 830 HV ADV6    | 3,000 K            | 830/359                       | 1,170 lm                                        | 1,011 lm                               | 1,123 lm | 1,235 lm | 193 lm/W                             | 187 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 835 HV ADV6    | 3,500 K            | 835/359                       | 1,210 lm                                        | 1,045 lm                               | 1,161 lm | 1,277 lm | 199 lm/W                             | 193 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 840 HV ADV6    | 4,000 K            | 840/359                       | 1,241 lm                                        | 1,072 lm                               | 1,191 lm | 1,310 lm | 205 lm/W                             | 198 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 850 HV ADV6    | 5,000 K            | 850/359                       | 1,233 lm                                        | 1,065 lm                               | 1,183 lm | 1,302 lm | 203 lm/W                             | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 865 HV ADV6    | 6,500 K            | 865/359                       | 1,219 lm                                        | 1,051 lm                               | 1,168 lm | 1,284 lm | 201 lm/W                             | 194 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 827 HV ADV6    | 2,700 K            | 827/359                       | 2,287 lm                                        | 1,976 lm                               | 2,195 lm | 2,415 lm | 189 lm/W                             | 183 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 830 HV ADV6    | 3,000 K            | 830/359                       | 2,340 lm                                        | 2,021 lm                               | 2,246 lm | 2,471 lm | 193 lm/W                             | 187 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 835 HV ADV6    | 3,500 K            | 835/359                       | 2,420 lm                                        | 2,090 lm                               | 2,322 lm | 2,555 lm | 199 lm/W                             | 193 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 840 HV ADV6    | 4,000 K            | 840/359                       | 2,482 lm                                        | 2,144 lm                               | 2,382 lm | 2,620 lm | 205 lm/W                             | 198 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 850 HV ADV6    | 5,000 K            | 850/359                       | 2,466 lm                                        | 2,130 lm                               | 2,367 lm | 2,604 lm | 203 lm/W                             | 197 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 865 HV ADV6    | 6,500 K            | 865/359                       | 2,433 lm                                        | 2,102 lm                               | 2,335 lm | 2,569 lm | 201 lm/W                             | 194 lm/W                                    | 360°                | >80                        |

<sup>①</sup> The detailed explanation, see data sheet section 1.1.

<sup>②</sup> Tolerance of useful light flux - 0 % / + 15 %. Measurement uncertainty ± 10 %.

<sup>③</sup> Measurement uncertainty ± 10 %. Based on calculation.

## Photometric data

| Type                               | Colour temperature | Photometric Code <sup>①</sup> | Useful luminous flux at tp = 25 °C <sup>②</sup> | Luminous flux at tp rated <sup>③</sup> |          |          | Efficacy of the module at tp = 25 °C | Expected efficacy of the module at tp rated | Beam characteristic | Colour rendering index CRI |
|------------------------------------|--------------------|-------------------------------|-------------------------------------------------|----------------------------------------|----------|----------|--------------------------------------|---------------------------------------------|---------------------|----------------------------|
|                                    |                    |                               |                                                 | Min.                                   | Typ.     | Max.     |                                      |                                             |                     |                            |
| Operating mode HO                  |                    |                               |                                                 |                                        |          |          |                                      |                                             |                     |                            |
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 3,000 K            | 830/359                       | –                                               | 525 lm                                 | 583 lm   | 642 lm   | –                                    | 170 lm/W                                    | 360°                | >80                        |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 4,000 K            | 840/359                       | –                                               | 557 lm                                 | 619 lm   | 680 lm   | –                                    | 180 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 827 HV ADV6     | 2,700 K            | 827/359                       | –                                               | 1,026 lm                               | 1,140 lm | 1,254 lm | –                                    | 166 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 830 HV ADV6     | 3,000 K            | 830/359                       | –                                               | 1,050 lm                               | 1,166 lm | 1,283 lm | –                                    | 170 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 835 HV ADV6     | 3,500 K            | 835/359                       | –                                               | 1,085 lm                               | 1,206 lm | 1,327 lm | –                                    | 176 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 840 HV ADV6     | 4,000 K            | 840/359                       | –                                               | 1,113 lm                               | 1,237 lm | 1,361 lm | –                                    | 180 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 850 HV ADV6     | 5,000 K            | 850/359                       | –                                               | 1,106 lm                               | 1,229 lm | 1,352 lm | –                                    | 179 lm/W                                    | 360°                | >80                        |
| LLE 16x140mm 650lm 865 HV ADV6     | 6,500 K            | 865/359                       | –                                               | 1,091 lm                               | 1,213 lm | 1,334 lm | –                                    | 177 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 827 HV ADV6    | 2,700 K            | 827/359                       | –                                               | 2,052 lm                               | 2,280 lm | 2,508 lm | –                                    | 166 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 830 HV ADV6    | 3,000 K            | 830/359                       | –                                               | 2,099 lm                               | 2,333 lm | 2,566 lm | –                                    | 170 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 835 HV ADV6    | 3,500 K            | 835/359                       | –                                               | 2,171 lm                               | 2,412 lm | 2,653 lm | –                                    | 176 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 840 HV ADV6    | 4,000 K            | 840/359                       | –                                               | 2,227 lm                               | 2,474 lm | 2,722 lm | –                                    | 180 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 850 HV ADV6    | 5,000 K            | 850/359                       | –                                               | 2,212 lm                               | 2,458 lm | 2,704 lm | –                                    | 179 lm/W                                    | 360°                | >80                        |
| LLE 16x280mm 1250lm 865 HV ADV6    | 6,500 K            | 865/359                       | –                                               | 2,183 lm                               | 2,425 lm | 2,668 lm | –                                    | 177 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 827 HV ADV6    | 2,700 K            | 827/359                       | –                                               | 4,104 lm                               | 4,560 lm | 5,016 lm | –                                    | 166 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 830 HV ADV6    | 3,000 K            | 830/359                       | –                                               | 4,199 lm                               | 4,666 lm | 5,132 lm | –                                    | 170 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 835 HV ADV6    | 3,500 K            | 835/359                       | –                                               | 4,342 lm                               | 4,824 lm | 5,307 lm | –                                    | 176 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 840 HV ADV6    | 4,000 K            | 840/359                       | –                                               | 4,453 lm                               | 4,948 lm | 5,443 lm | –                                    | 180 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 850 HV ADV6    | 5,000 K            | 850/359                       | –                                               | 4,425 lm                               | 4,917 lm | 5,408 lm | –                                    | 179 lm/W                                    | 360°                | >80                        |
| LLE 16x560mm 2400lm 865 HV ADV6    | 6,500 K            | 865/359                       | –                                               | 4,365 lm                               | 4,851 lm | 5,336 lm | –                                    | 177 lm/W                                    | 360°                | >80                        |

<sup>①</sup> The detailed explanation, see data sheet section 1.1.

<sup>②</sup> Tolerance of useful light flux - 0 % / + 15 %. Measurement uncertainty ± 10 %.

<sup>③</sup> Measurement uncertainty ± 10 %. Based on calculation.

## Electrical data

| Type                               | Forward current | Min. forward voltage at tp rated | Typ. forward voltage at tp rated | Max. forward voltage at tp = 25 °C | Power consumption Pon at tp = 25 °C <sup>®</sup> | Energy classification | Energy consumption | Type of light source |
|------------------------------------|-----------------|----------------------------------|----------------------------------|------------------------------------|--------------------------------------------------|-----------------------|--------------------|----------------------|
| <b>Operating mode HE</b>           |                 |                                  |                                  |                                    |                                                  |                       |                    |                      |
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 100 mA          | 5.0 V                            | 5.3 V                            | 5.5 V                              | –                                                | –                     | –                  | –                    |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 100 mA          | 5.0 V                            | 5.3 V                            | 5.5 V                              | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 827 HV ADV6     | 100 mA          | 10.1 V                           | 10.6 V                           | 11.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 830 HV ADV6     | 100 mA          | 10.1 V                           | 10.6 V                           | 11.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 835 HV ADV6     | 100 mA          | 10.1 V                           | 10.6 V                           | 11.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 840 HV ADV6     | 100 mA          | 10.1 V                           | 10.6 V                           | 11.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 850 HV ADV6     | 100 mA          | 10.1 V                           | 10.6 V                           | 11.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 865 HV ADV6     | 100 mA          | 10.1 V                           | 10.6 V                           | 11.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 827 HV ADV6    | 100 mA          | 20.2 V                           | 21.1 V                           | 22.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 830 HV ADV6    | 100 mA          | 20.2 V                           | 21.1 V                           | 22.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 835 HV ADV6    | 100 mA          | 20.2 V                           | 21.1 V                           | 22.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 840 HV ADV6    | 100 mA          | 20.2 V                           | 21.1 V                           | 22.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 850 HV ADV6    | 100 mA          | 20.2 V                           | 21.1 V                           | 22.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 865 HV ADV6    | 100 mA          | 20.2 V                           | 21.1 V                           | 22.0 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 827 HV ADV6    | 100 mA          | 40.3 V                           | 42.2 V                           | 43.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 830 HV ADV6    | 100 mA          | 40.3 V                           | 42.2 V                           | 43.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 835 HV ADV6    | 100 mA          | 40.3 V                           | 42.2 V                           | 43.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 840 HV ADV6    | 100 mA          | 40.3 V                           | 42.2 V                           | 43.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 850 HV ADV6    | 100 mA          | 40.3 V                           | 42.2 V                           | 43.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 865 HV ADV6    | 100 mA          | 40.3 V                           | 42.2 V                           | 43.9 V                             | –                                                | –                     | –                  | –                    |
| <b>Operating mode NM</b>           |                 |                                  |                                  |                                    |                                                  |                       |                    |                      |
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 275 mA          | 5.2 V                            | 5.5 V                            | 5.7 V                              | 1.5 W                                            | C                     | 2 kWh / 1,000 h    | non-directional      |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 275 mA          | 5.2 V                            | 5.5 V                            | 5.7 V                              | 1.5 W                                            | B                     | 2 kWh / 1,000 h    | non-directional      |
| LLE 16x140mm 650lm 827 HV ADV6     | 275 mA          | 10.4 V                           | 10.9 V                           | 11.4 V                             | 3.0 W                                            | C                     | 4 kWh / 1,000 h    | non-directional      |
| LLE 16x140mm 650lm 830 HV ADV6     | 275 mA          | 10.4 V                           | 10.9 V                           | 11.4 V                             | 3.0 W                                            | C                     | 4 kWh / 1,000 h    | non-directional      |
| LLE 16x140mm 650lm 835 HV ADV6     | 275 mA          | 10.4 V                           | 10.9 V                           | 11.4 V                             | 3.0 W                                            | B                     | 4 kWh / 1,000 h    | non-directional      |
| LLE 16x140mm 650lm 840 HV ADV6     | 275 mA          | 10.4 V                           | 10.9 V                           | 11.4 V                             | 3.0 W                                            | B                     | 4 kWh / 1,000 h    | non-directional      |
| LLE 16x140mm 650lm 850 HV ADV6     | 275 mA          | 10.4 V                           | 10.9 V                           | 11.4 V                             | 3.0 W                                            | B                     | 4 kWh / 1,000 h    | non-directional      |
| LLE 16x140mm 650lm 865 HV ADV6     | 275 mA          | 10.4 V                           | 10.9 V                           | 11.4 V                             | 3.0 W                                            | B                     | 4 kWh / 1,000 h    | non-directional      |
| LLE 16x280mm 1250lm 827 HV ADV6    | 275 mA          | 20.9 V                           | 21.9 V                           | 22.7 V                             | 6.1 W                                            | C                     | 7 kWh / 1,000 h    | non-directional      |
| LLE 16x280mm 1250lm 830 HV ADV6    | 275 mA          | 20.9 V                           | 21.9 V                           | 22.7 V                             | 6.1 W                                            | C                     | 7 kWh / 1,000 h    | non-directional      |
| LLE 16x280mm 1250lm 835 HV ADV6    | 275 mA          | 20.9 V                           | 21.9 V                           | 22.7 V                             | 6.1 W                                            | C                     | 7 kWh / 1,000 h    | non-directional      |
| LLE 16x280mm 1250lm 840 HV ADV6    | 275 mA          | 20.9 V                           | 21.9 V                           | 22.7 V                             | 6.1 W                                            | B                     | 7 kWh / 1,000 h    | non-directional      |
| LLE 16x280mm 1250lm 850 HV ADV6    | 275 mA          | 20.9 V                           | 21.9 V                           | 22.7 V                             | 6.1 W                                            | B                     | 7 kWh / 1,000 h    | non-directional      |
| LLE 16x280mm 1250lm 865 HV ADV6    | 275 mA          | 20.9 V                           | 21.9 V                           | 22.7 V                             | 6.1 W                                            | B                     | 7 kWh / 1,000 h    | non-directional      |
| LLE 16x560mm 2400lm 827 HV ADV6    | 275 mA          | 41.8 V                           | 43.7 V                           | 45.4 V                             | 12.1 W                                           | C                     | 13 kWh / 1,000 h   | non-directional      |
| LLE 16x560mm 2400lm 830 HV ADV6    | 275 mA          | 41.8 V                           | 43.7 V                           | 45.4 V                             | 12.1 W                                           | C                     | 13 kWh / 1,000 h   | non-directional      |
| LLE 16x560mm 2400lm 835 HV ADV6    | 275 mA          | 41.8 V                           | 43.7 V                           | 45.4 V                             | 12.1 W                                           | B                     | 13 kWh / 1,000 h   | non-directional      |
| LLE 16x560mm 2400lm 840 HV ADV6    | 275 mA          | 41.8 V                           | 43.7 V                           | 45.4 V                             | 12.1 W                                           | B                     | 13 kWh / 1,000 h   | non-directional      |
| LLE 16x560mm 2400lm 850 HV ADV6    | 275 mA          | 41.8 V                           | 43.7 V                           | 45.4 V                             | 12.1 W                                           | B                     | 13 kWh / 1,000 h   | non-directional      |
| LLE 16x560mm 2400lm 865 HV ADV6    | 275 mA          | 41.8 V                           | 43.7 V                           | 45.4 V                             | 12.1 W                                           | B                     | 13 kWh / 1,000 h   | non-directional      |

<sup>®</sup> Tolerance of power consumption Pon ± 10 %. Measurement uncertainty ± 5 %.

## Electrical data

| Type                               | Forward current | Min. forward voltage at tp rated | Typ. forward voltage at tp rated | Max. forward voltage at tp = 25 °C | Power consumption Pon at tp = 25 °C <sup>①</sup> | Energy classification | Energy consumption | Type of light source |
|------------------------------------|-----------------|----------------------------------|----------------------------------|------------------------------------|--------------------------------------------------|-----------------------|--------------------|----------------------|
| <b>Operating mode HO</b>           |                 |                                  |                                  |                                    |                                                  |                       |                    |                      |
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 600 mA          | 5.5 V                            | 5.7 V                            | 5.9 V                              | –                                                | –                     | –                  | –                    |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 600 mA          | 5.5 V                            | 5.7 V                            | 5.9 V                              | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 827 HV ADV6     | 600 mA          | 11.0 V                           | 11.4 V                           | 11.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 830 HV ADV6     | 600 mA          | 11.0 V                           | 11.4 V                           | 11.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 835 HV ADV6     | 600 mA          | 11.0 V                           | 11.4 V                           | 11.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 840 HV ADV6     | 600 mA          | 11.0 V                           | 11.4 V                           | 11.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 850 HV ADV6     | 600 mA          | 11.0 V                           | 11.4 V                           | 11.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x140mm 650lm 865 HV ADV6     | 600 mA          | 11.0 V                           | 11.4 V                           | 11.9 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 827 HV ADV6    | 600 mA          | 21.9 V                           | 22.9 V                           | 23.8 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 830 HV ADV6    | 600 mA          | 21.9 V                           | 22.9 V                           | 23.8 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 835 HV ADV6    | 600 mA          | 21.9 V                           | 22.9 V                           | 23.8 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 840 HV ADV6    | 600 mA          | 21.9 V                           | 22.9 V                           | 23.8 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 850 HV ADV6    | 600 mA          | 21.9 V                           | 22.9 V                           | 23.8 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x280mm 1250lm 865 HV ADV6    | 600 mA          | 21.9 V                           | 22.9 V                           | 23.8 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 827 HV ADV6    | 600 mA          | 43.9 V                           | 45.8 V                           | 47.5 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 830 HV ADV6    | 600 mA          | 43.9 V                           | 45.8 V                           | 47.5 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 835 HV ADV6    | 600 mA          | 43.9 V                           | 45.8 V                           | 47.5 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 840 HV ADV6    | 600 mA          | 43.9 V                           | 45.8 V                           | 47.5 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 850 HV ADV6    | 600 mA          | 43.9 V                           | 45.8 V                           | 47.5 V                             | –                                                | –                     | –                  | –                    |
| LLE 16x560mm 2400lm 865 HV ADV6    | 600 mA          | 43.9 V                           | 45.8 V                           | 47.5 V                             | –                                                | –                     | –                  | –                    |

<sup>①</sup> Tolerance of power consumption Pon ± 10 %. Measurement uncertainty ± 5 %.

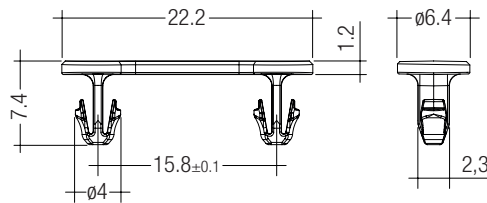
**Specific technical data**

| Type                                      | Irated | I <sub>max</sub> | Max. permissible LF<br>current ripple | Max. permissible peak<br>current / max. pulse<br>width | Max. working voltage<br>for insulation <sup>①</sup> | Electrical strength | ta             | tp rated | tc    |
|-------------------------------------------|--------|------------------|---------------------------------------|--------------------------------------------------------|-----------------------------------------------------|---------------------|----------------|----------|-------|
| <b>LLE 16x70mm 325lm 830 HV ADV6 QTY4</b> | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x70mm 325lm 840 HV ADV6 QTY4</b> | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x140mm 650lm 827 HV ADV6</b>     | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x140mm 650lm 830 HV ADV6</b>     | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x140mm 650lm 835 HV ADV6</b>     | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x140mm 650lm 840 HV ADV6</b>     | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x140mm 650lm 850 HV ADV6</b>     | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x140mm 650lm 865 HV ADV6</b>     | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x280mm 1250lm 827 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x280mm 1250lm 830 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x280mm 1250lm 835 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x280mm 1250lm 840 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x280mm 1250lm 850 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x280mm 1250lm 865 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x560mm 2400lm 827 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x560mm 2400lm 830 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x560mm 2400lm 835 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x560mm 2400lm 840 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x560mm 2400lm 850 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |
| <b>LLE 16x560mm 2400lm 865 HV ADV6</b>    | 275 mA | 700 mA           | 800 mA                                | 1,350 mA / 10 ms                                       | 440 V                                               | 1.88 kV             | -40 ... +65 °C | 50 °C    | 85 °C |

<sup>①</sup> If mounted with M3 screws with 6 mm head diameter and plastic washer.

**Product description**

- Clip for fixation for LLE16
- Fast snap on mounting (for sheet thickness 0.5 – 1.0 mm)
- For drilling hole 3 mm
- Clip made of polycarbonate
- Minimum sales quantity 200 pcs.

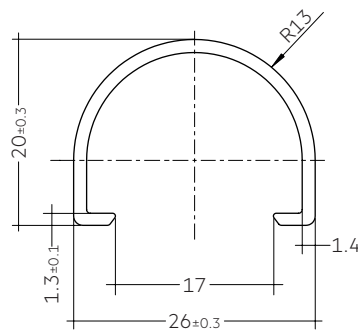


**Ordering data**

| Type                      | Article number | Colour | Packaging bag | Weight per pc. |
|---------------------------|----------------|--------|---------------|----------------|
| ACL BRIDGE LLE16 PUSH-FIX | 28001035       | White  | 200 pc(s).    | 0.001 kg       |

**Product description**

- LINEAR COVER for LLE 16
- Protection against direct touch for non-SELV applications (recommendation: use all fixing points)<sup>①</sup>
- Fast snap on mounting on to LLE 16 with clips or plastic washers
- High transmission: transparent 94 %, semi-transparent 87 %, diffuse 76 %
- Linear lense made of PMMA
- Tolerances LINEAR COVER: + 10 mm for 1,600 / 1,200 mm length (ends raw)



**Ordering data**

| Type                               | Article number | Colour           | Length   | Packaging carton | Weight per pc. |
|------------------------------------|----------------|------------------|----------|------------------|----------------|
| ACL LINEAR COVER 16x1600mm FROSTED | 28000950       | Semi-transparent | 1,600 mm | 24 pc(s).        | 0.147 kg       |
| ACL LINEAR COVER 16x1200mm FROSTED | 28002827       | Semi-transparent | 1,200 mm | 24 pc(s).        | 0.117 kg       |
| ACL LINEAR COVER 16x1600mm DIFFUSE | 28000951       | Diffuse          | 1,600 mm | 24 pc(s).        | 0.147 kg       |
| ACL LINEAR COVER 16x1200mm DIFFUSE | 28002828       | Diffuse          | 1,200 mm | 24 pc(s).        | 0.117 kg       |

<sup>①</sup> Ends must be covered by the luminaire construction.

## 1. Standards

IEC 62031  
IEC 62471  
IEC 61000-4-2  
IEC 62778  
IEC 61547

### 1.1 Photometric code

Key for photometric code, e. g. 830 / 349

| 1 <sup>st</sup> digit | 2 <sup>nd</sup> + 3 <sup>rd</sup> digit | 4 <sup>th</sup> digit              | 5 <sup>th</sup> digit                         | 6 <sup>th</sup> digit                               |
|-----------------------|-----------------------------------------|------------------------------------|-----------------------------------------------|-----------------------------------------------------|
| Code                  | CRI                                     | Colour temperature in Kelvin x 100 | MacAdam after 25% of the lifetime (max.6000h) | Luminous flux after 25% of the lifetime (max.6000h) |
| 7                     | 70 – 79                                 | MacAdam initial                    | (max.6000h)                                   | Code                                                |
| 8                     | 80 – 89                                 |                                    |                                               | Luminous flux                                       |
| 9                     | ≥90                                     |                                    |                                               |                                                     |
|                       |                                         |                                    |                                               | 7 ≥ 70 %                                            |
|                       |                                         |                                    |                                               | 8 ≥ 80 %                                            |
|                       |                                         |                                    |                                               | 9 ≥ 90 %                                            |

### 1.2 Risk group

| Forward current       | Risk group (IEC 62471) |
|-----------------------|------------------------|
| ≤ 280 mA              | RG0                    |
| > 280 – 700 mA (Imax) | RG1                    |

### 1.3 Energy classification

| Type                               | Colour temperature | Forward current | Energy classification | Energy consumption |
|------------------------------------|--------------------|-----------------|-----------------------|--------------------|
| LLE 16x70mm 325lm 830 HV ADV6 QTY4 | 3,000 K            | 275 mA          | C                     | 2 kWh / 1,000 h    |
| LLE 16x70mm 325lm 840 HV ADV6 QTY4 | 4,000 K            | 275 mA          | B                     | 2 kWh / 1,000 h    |
| LLE 16x140mm 650lm 827 HV ADV6     | 2,700 K            | 275 mA          | C                     | 4 kWh / 1,000 h    |
| LLE 16x140mm 650lm 830 HV ADV6     | 3,000 K            | 275 mA          | C                     | 4 kWh / 1,000 h    |
| LLE 16x140mm 650lm 835 HV ADV6     | 3,500 K            | 275 mA          | B                     | 4 kWh / 1,000 h    |
| LLE 16x140mm 650lm 840 HV ADV6     | 4,000 K            | 275 mA          | B                     | 4 kWh / 1,000 h    |
| LLE 16x140mm 650lm 850 HV ADV6     | 5,000 K            | 275 mA          | B                     | 4 kWh / 1,000 h    |
| LLE 16x140mm 650lm 865 HV ADV6     | 6,500 K            | 275 mA          | B                     | 4 kWh / 1,000 h    |
| LLE 16x280mm 1250lm 827 HV ADV6    | 2,700 K            | 275 mA          | C                     | 7 kWh / 1,000 h    |
| LLE 16x280mm 1250lm 830 HV ADV6    | 3,000 K            | 275 mA          | C                     | 7 kWh / 1,000 h    |
| LLE 16x280mm 1250lm 835 HV ADV6    | 3,500 K            | 275 mA          | C                     | 7 kWh / 1,000 h    |
| LLE 16x280mm 1250lm 840 HV ADV6    | 4,000 K            | 275 mA          | B                     | 7 kWh / 1,000 h    |
| LLE 16x280mm 1250lm 850 HV ADV6    | 5,000 K            | 275 mA          | B                     | 7 kWh / 1,000 h    |
| LLE 16x280mm 1250lm 865 HV ADV6    | 6,500 K            | 275 mA          | C                     | 7 kWh / 1,000 h    |
| LLE 16x560mm 2400lm 827 HV ADV6    | 2,700 K            | 275 mA          | C                     | 13 kWh / 1,000 h   |
| LLE 16x560mm 2400lm 830 HV ADV6    | 3,000 K            | 275 mA          | C                     | 13 kWh / 1,000 h   |
| LLE 16x560mm 2400lm 835 HV ADV6    | 3,500 K            | 275 mA          | B                     | 13 kWh / 1,000 h   |
| LLE 16x560mm 2400lm 840 HV ADV6    | 4,000 K            | 275 mA          | B                     | 13 kWh / 1,000 h   |
| LLE 16x560mm 2400lm 850 HV ADV6    | 5,000 K            | 275 mA          | B                     | 13 kWh / 1,000 h   |
| LLE 16x560mm 2400lm 865 HV ADV6    | 6,500 K            | 275 mA          | B                     | 13 kWh / 1,000 h   |

Energy label and further information at [www.tridonic.com](http://www.tridonic.com) in the certificates tab of the corresponding product page and at the EPREL data base <https://eprelec.europa.eu/>

## 2. Thermal details

### 2.1 tc point, ambient temperature and lifetime

The temperature at tp reference point is crucial for the light output and lifetime of a LED product.

For LLE a tp temperature of 50 °C has to be complied in order to achieve an optimum between heat sink requirements, light output and lifetime.

Compliance with the maximum permissible reference temperature at the tc point must be checked under operating conditions in a thermally stable state. The maximum value must be determined under worst-case conditions for the relevant application.

The tc and tp temperature of LED modules from Tridonic are measured at the same reference point.

### 2.2 Storage and humidity

|                     |                |
|---------------------|----------------|
| Storage temperature | -40 ... +85 °C |
|---------------------|----------------|

Operation only in non condensing environment.

Humidity during processing of the module should be between 30 to 70 %.

### 2.3 Heat sink values

#### LLE 16x70mm 325lm ADV6

| ta    | tp    | Forward current | R <sub>th, hs-a</sub> | Cooling area |
|-------|-------|-----------------|-----------------------|--------------|
| 25 °C | 50 °C | 275 mA          | 3775 K/W              | 18 cm²       |
| 25 °C | 50 °C | 600 mA          | 9.59 K/W              | 70 cm²       |
| 35 °C | 50 °C | 275 mA          | 20.94 K/W             | 32 cm²       |
| 35 °C | 50 °C | 600 mA          | 4.04 K/W              | 165 cm²      |
| 40 °C | 50 °C | 275 mA          | 12.53 K/W             | 53 cm²       |
| 40 °C | 50 °C | 600 mA          | 1.26 K/W              | 528 cm²      |
| 45 °C | 50 °C | 275 mA          | 4.12 K/W              | 162 cm²      |

#### LLE 16x140mm 650lm ADV6

| ta    | tp    | Forward current | R <sub>th, hs-a</sub> | Cooling area |
|-------|-------|-----------------|-----------------------|--------------|
| 25 °C | 50 °C | 275 mA          | 18.88 K/W             | 35 cm²       |
| 25 °C | 50 °C | 600 mA          | 4.79 K/W              | 139 cm²      |
| 35 °C | 50 °C | 275 mA          | 10.47 K/W             | 64 cm²       |
| 35 °C | 50 °C | 600 mA          | 2.02 K/W              | 330 cm²      |
| 40 °C | 50 °C | 275 mA          | 6.26 K/W              | 106 cm²      |
| 40 °C | 50 °C | 600 mA          | 0.63 K/W              | 1056 cm²     |
| 45 °C | 50 °C | 275 mA          | 2.06 K/W              | 324 cm²      |

#### LLE 16x280mm 1250lm ADV6

| ta    | tp    | Forward current | R <sub>th, hs-a</sub> | Cooling area |
|-------|-------|-----------------|-----------------------|--------------|
| 25 °C | 50 °C | 275 mA          | 9.44 K/W              | 71 cm²       |
| 25 °C | 50 °C | 600 mA          | 2.40 K/W              | 278 cm²      |
| 35 °C | 50 °C | 275 mA          | 5.23 K/W              | 127 cm²      |
| 35 °C | 50 °C | 600 mA          | 1.01 K/W              | 661 cm²      |
| 40 °C | 50 °C | 275 mA          | 3.13 K/W              | 213 cm²      |
| 40 °C | 50 °C | 600 mA          | 0.32 K/W              | 2,111 cm²    |
| 45 °C | 50 °C | 275 mA          | 1.03 K/W              | 647 cm²      |

#### LLE 16x560mm 2400lm ADV6

| ta    | tp    | Forward current | R <sub>th, hs-a</sub> | Cooling area |
|-------|-------|-----------------|-----------------------|--------------|
| 25 °C | 50 °C | 275 mA          | 4.72 K/W              | 141 cm²      |
| 25 °C | 50 °C | 600 mA          | 1.20 K/W              | 556 cm²      |
| 35 °C | 50 °C | 275 mA          | 2.62 K/W              | 255 cm²      |
| 35 °C | 50 °C | 600 mA          | 0.50 K/W              | 1.321 cm²    |
| 40 °C | 50 °C | 275 mA          | 1.57 K/W              | 426 cm²      |
| 40 °C | 50 °C | 600 mA          | 0.16 K/W              | 4,223 cm²    |
| 45 °C | 50 °C | 275 mA          | 0.52 K/W              | 1,294 cm²    |

#### Notes

The actual cooling surface can differ because of the material, the structural shape, outside influences and the installation situation. Depending on the heat sink a heat conducting paste or heat conducting film might be necessary to keep the specified tp temperature.

For applications with a small distance between LED module and lens or operating currents higher than 500 mA, screw mounting is recommended to ensure a reliable thermal connection between LED module and cooling surface.

### 3. Installation / wiring

#### 3.1 Electrical supply/choice of LED driver

LLE modules from Tridonic are not protected against overvoltages, overcurrents, overloads or short-circuit currents. Safe and reliable operation can only be guaranteed in conjunction with a LED driver which complies with the relevant standards. The use of LED driver from Tridonic in combination with LLE modules guarantees the necessary protection for safe and reliable operation.

If a LED driver other than Tridonic is used, it must provide the following protection:

- Short-circuit protection
- Overload protection
- Overtemperature protection



LLE modules must be supplied by a constant current LED driver. Operation with a constant voltage LED driver will lead to an irreversible damage of the module.

Wrong polarity can damage the LLE.

The LLE module is designed for serial wiring.

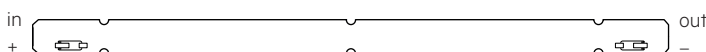
LLE can be operated either from SELV LED drivers or from LED drivers with LV output voltage.



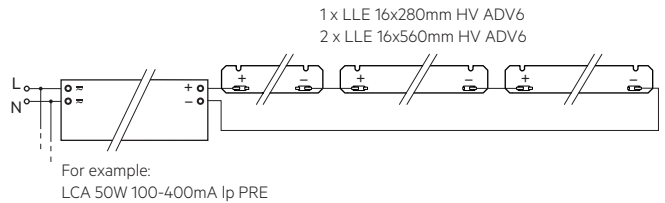
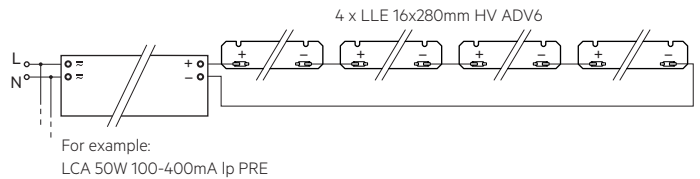
LLE are basic insulated up to 440 V (if mounted with M3 screws with head diameter 6 mm in combination with plastic washers) against ground and can be mounted directly on earthed metal parts of the luminaire. If the max. output voltage of the LED driver (also against earth) is above 440 V, an additional insulation between LED module and heat sink is required (for example by insulated thermal pads) or by a suitable luminaire construction.

At voltages > 60 V an additional protection against direct touch (test finger) to the light emitting side of the module has to be guaranteed. This is typically achieved by means of a non removable light distributor over the module.

#### 3.2 Wiring



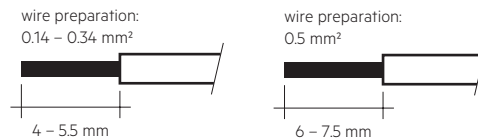
#### Wiring examples for serial wiring



#### 3.3 Wiring type and cross section

For wiring use solid wire from 0.14 to 0.5 mm².

No reconnection with smaller diameters possible if used with >0.34 mm².



To remove the wires use a suitabel tool (Wago 206-859) or through twist and pull.

### 3.4 Mounting instruction



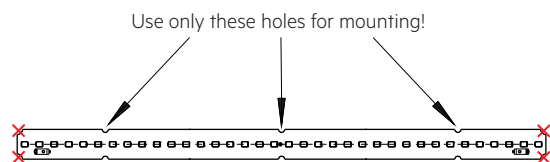
None of the components of the LLE (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses.

Max. torque for fixing: 0.5 Nm.

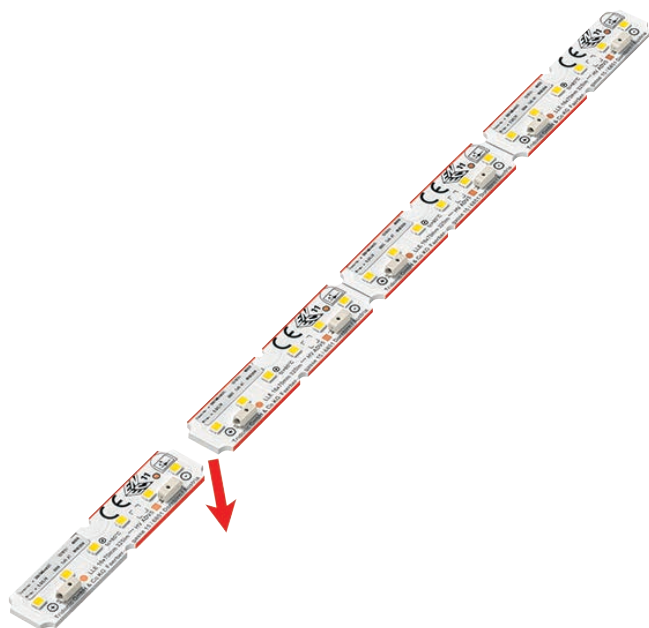
The LED modules are mounted onto a heat sink with M3 screws with plastic washers or ACL BRIDGE LLE16 PUSH-FIX.

All fastening point must be used for mounting.

The cut-outs on the end faces must not be used for fastening.



Only touch the module at the edge to separate the modules (see marking below).



Chemical substance may harm the LED module. Chemical reactions could lead to colour shift, reduced luminous flux or a total failure of the module caused by corrosion of electrical connections.

Materials which are used in LED applications (e.g. sealings, adhesives) must not produce dissolver gas. They must not be condensation curing based, acetate curing based or contain sulfur, chlorine or phthalate.

Avoid corrosive atmosphere during usage and storage.

### 3.5 EOS/ESD safety guidelines



The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board not possible), just normal installation practice. Please note the requirements set out in the document EOS / ESD guidelines (Guideline\_EOS\_ESD.pdf) at: <http://www.tridonic.com/esd-protection>

## 4. Lifetime

### 4.1 Lifetime, lumen maintenance and failure rate

The light output of an LED module decreases over the lifetime, this is characterized with the L value.  
L70 means that the LED module will give 70 % of its initial luminous flux.  
This value is always related to the number of operation hours and therefore defines the lifetime of an LED module.

As the L value is a statistical value and the lumen maintenance may vary over the delivered LED modules.

The B value defines the amount of modules which are below the specific L value, e.g. L70B10 means 10 % of the LED modules are below 70 % of the initial luminous flux, respectively 90 % will be above 70 % of the initial value.  
In addition the percentage of failed modules (fatal failure) is characterized by the C value.

The F value is the combination of the B and C value. That means for F degradation and complete failures are considered, e.g. L70F10 means 10 % of the LED modules may fail or be below 70 % of the initial luminous flux.

### 4.2 Lumen maintenance for LLE 16mm HV ADV6

| Forward current | tp<br>temperature | L90 / B10 | L90 / B50 | L80 / B10 | L80 / B50 | L70 / B10 | L70 / B50 |
|-----------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 100 mA          | 40 °C             | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 50 °C             | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 60 °C             | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 70 °C             | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 80 °C             | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 85 °C             | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
| 275 mA          | 40 °C             | 61k h     | >72k h    | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 50 °C             | 53k h     | 71k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 60 °C             | 39k h     | 51k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 70 °C             | 37k h     | 48k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 80 °C             | 35k h     | 45k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 85 °C             | 34kh      | 44k h     | 70k h     | >72k h    | >72k h    | >72k h    |
| 700 mA          | 40 °C             | 48k h     | 62k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 50 °C             | 45k h     | 59k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 60 °C             | 42k h     | 55k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 70 °C             | 40k h     | 52k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 80 °C             | 37k h     | 49k h     | >72k h    | >72k h    | >72k h    | >72k h    |
|                 | 85 °C             | 36k h     | 47k h     | >72k h    | >72k h    | >72k h    | >72k h    |

L0C10 >72k h. At tp rated, based on 10 swichting cycles per day.

### 4.3 Switching capability

100,000 cycles

Tridonic test according to IEC 62717 Cl 10.3.3  
30 s on / 30 s off at I<sub>max</sub>

## 5. Electrical values

### 5.1 Declaration of electrical parameters

I<sub>rated</sub> ... Nominal operating current the module is designed for.

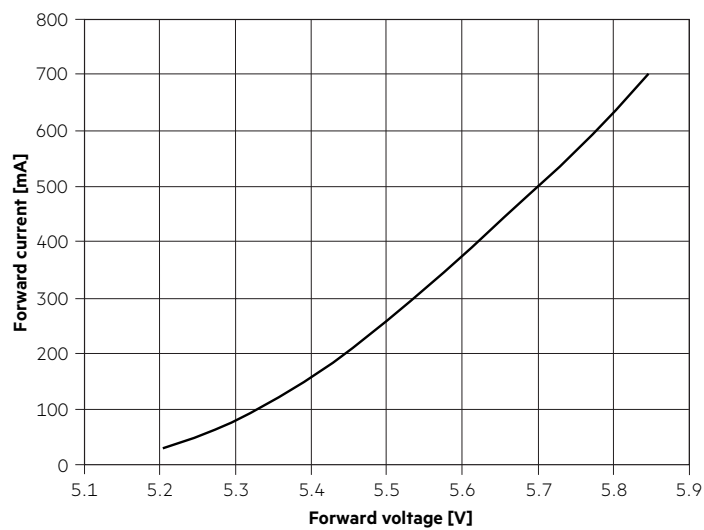
I<sub>max</sub> ... Max. permissible continuous operating current incl. The tolerances of the LED driver.

Max. permissible LF current ripple ... Max. output current of the LED driver incl. Tolerances and LF current ripple must not exceed this value.

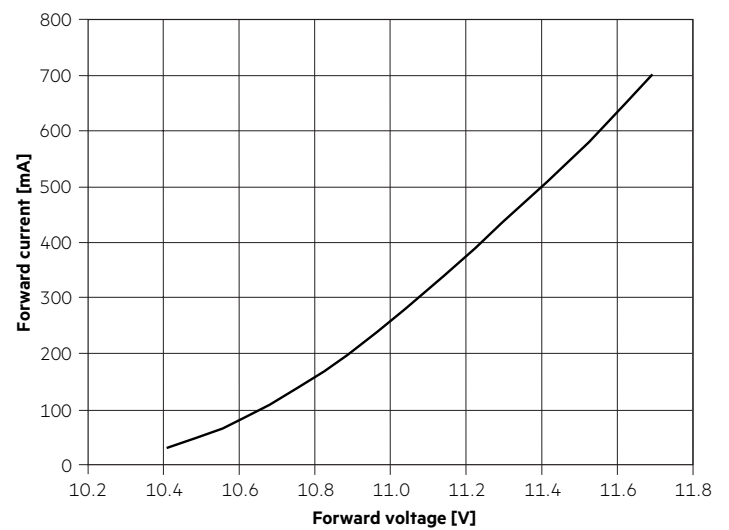
Max. permissible peak current ... The max. output peak current of the LED driver must not exceed this value.

### 5.2 Typ. forward voltage vs. forward current

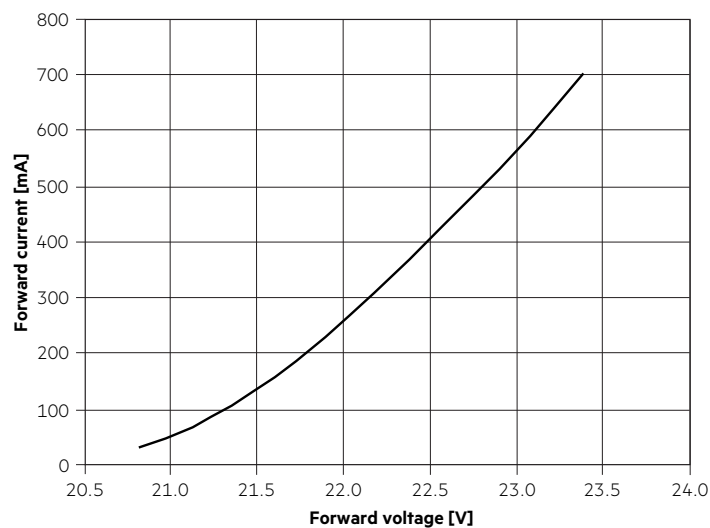
**LLE 16x70mm 325lm 8xx HV ADV6**



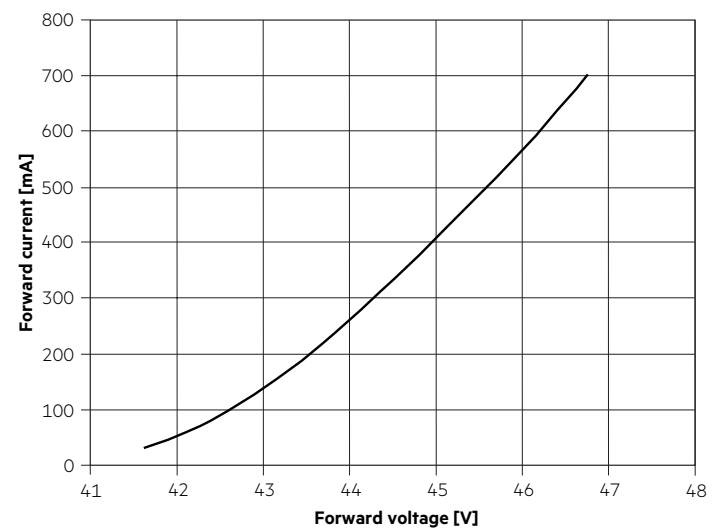
**LLE 16x140mm 650lm 8xx HV ADV6**



**LLE 16x280mm 1250lm 8xx HV ADV6**

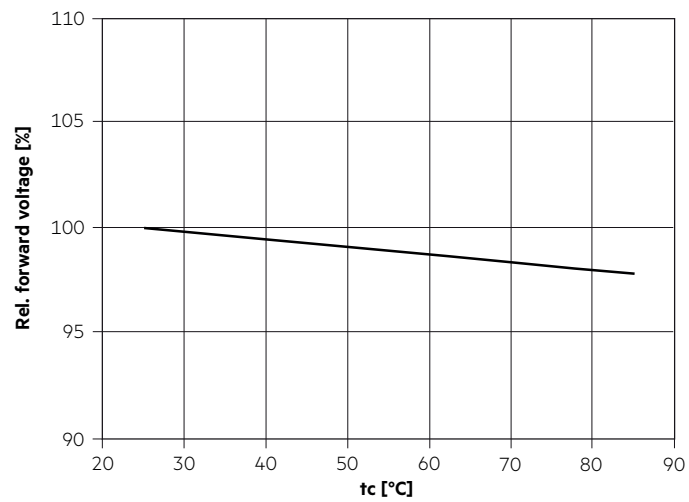


**LLE 16x560mm 2400lm 8xx HV ADV6**



The diagrams are based on statistic values.  
The real values can be different.

### 5.3 Forward voltage vs. $t_c$ temperature



The diagrams are based on statistic values.  
The real values can be different.

## 6. Photometric characteristics

### 6.1 Coordinates and tolerances according to CIE 1931

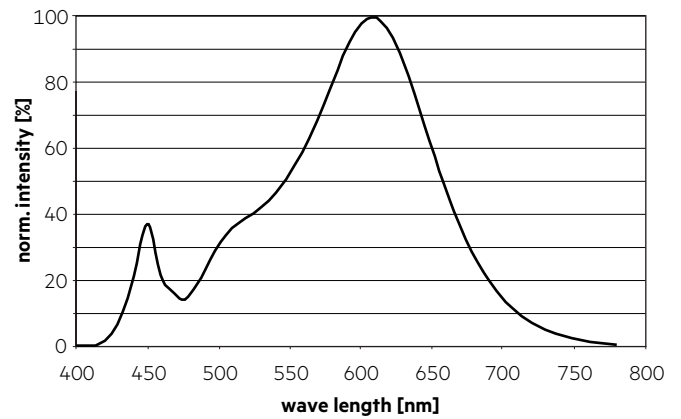
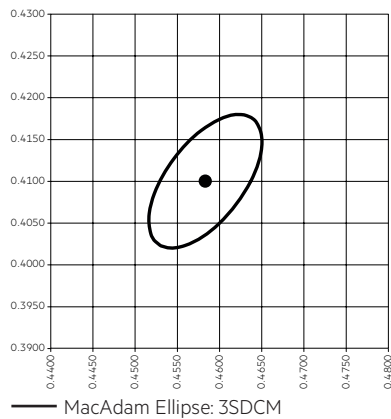
The specified colour coordinates are integral measured by current impulse of 195 mA and a duration of 100 ms.

The ambient temperature of the measurement is  $t_a = 25^\circ\text{C}$ .

The measurement tolerance of the colour coordinates are  $\pm 0.01$ .

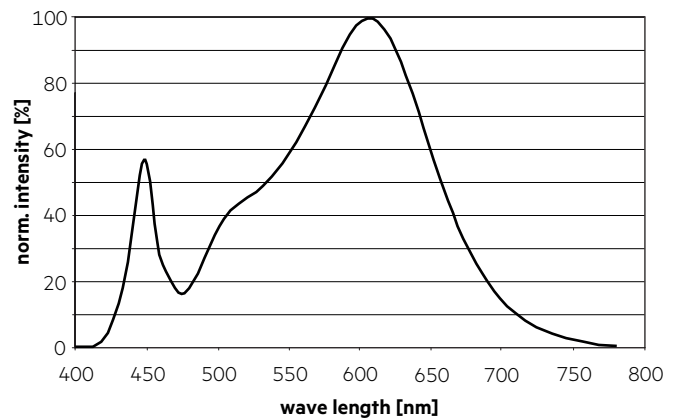
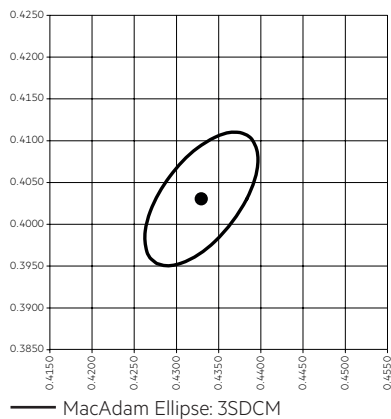
#### 2,700 K

|        | x0     | y0     |
|--------|--------|--------|
| Centre | 0.4578 | 0.4101 |



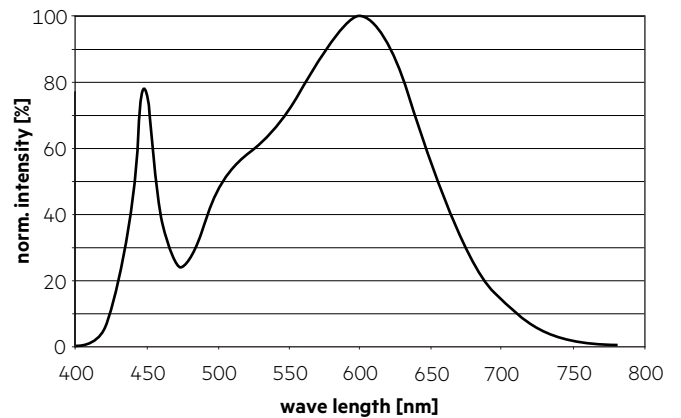
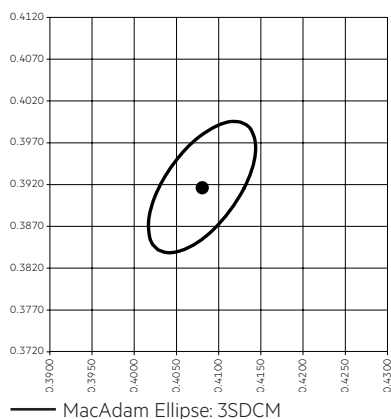
#### 3,000 K

|        | x0     | y0     |
|--------|--------|--------|
| Centre | 0.4338 | 0.4030 |



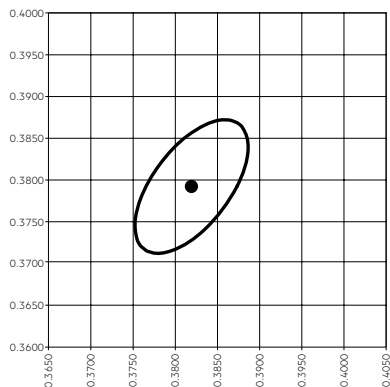
#### 3,500 K

|        | x0     | y0     |
|--------|--------|--------|
| Centre | 0.4073 | 0.3917 |

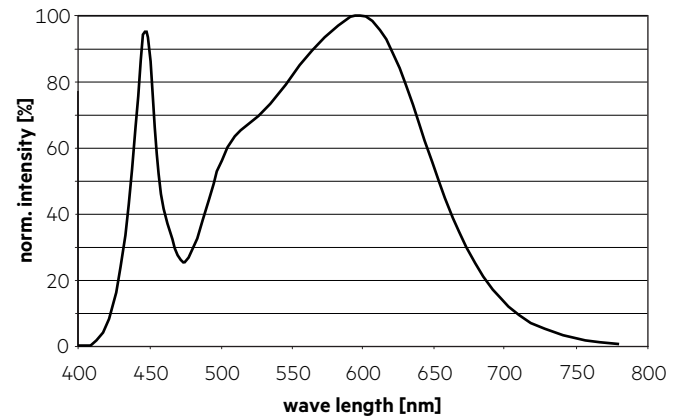


#### 4,000 K

|        | x0     | y0     |
|--------|--------|--------|
| Center | 0.3818 | 0.3797 |

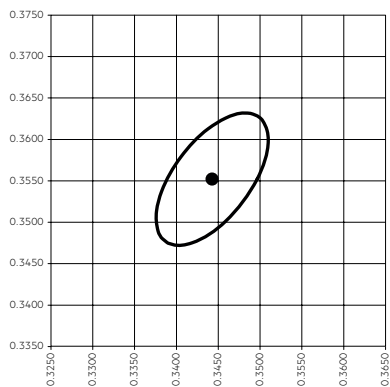


— MacAdam Ellipse: 3SDCM

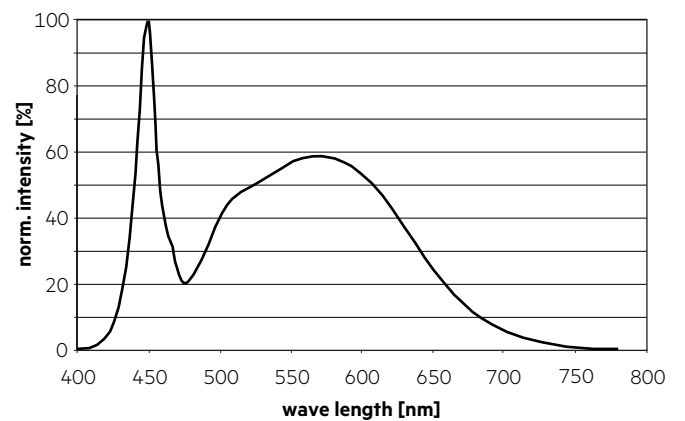


#### 5,000 K

|        | x0     | y0     |
|--------|--------|--------|
| Center | 0.3447 | 0.3553 |

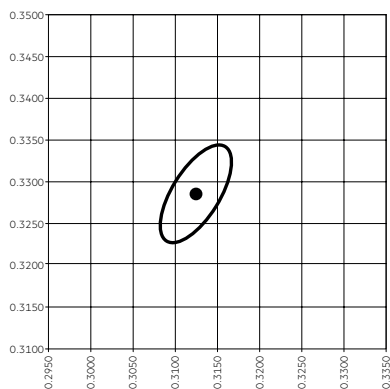


— MacAdam Ellipse: 3SDCM

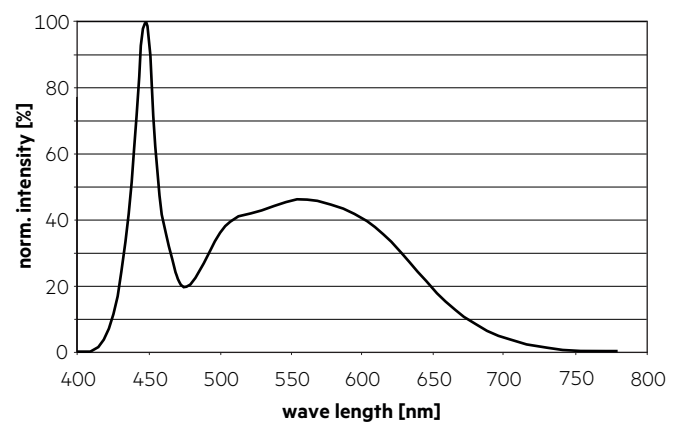


#### 6,500 K

|        | x0     | y0     |
|--------|--------|--------|
| Center | 0.3123 | 0.3282 |

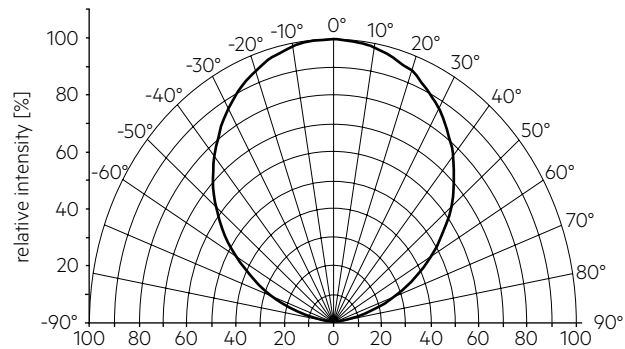


— MacAdam Ellipse: 3SDCM



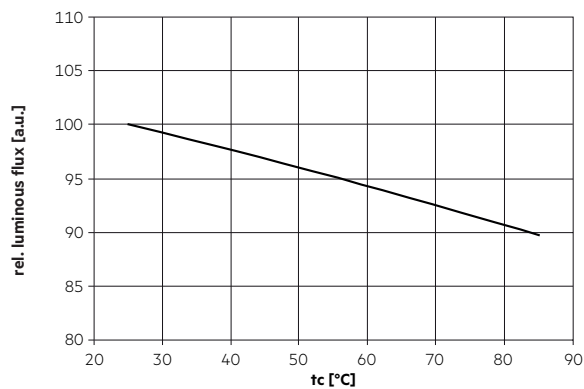
## 6.2 Light distribution

The optical design of the LLE product line ensures optimum homogeneity for the light distribution.

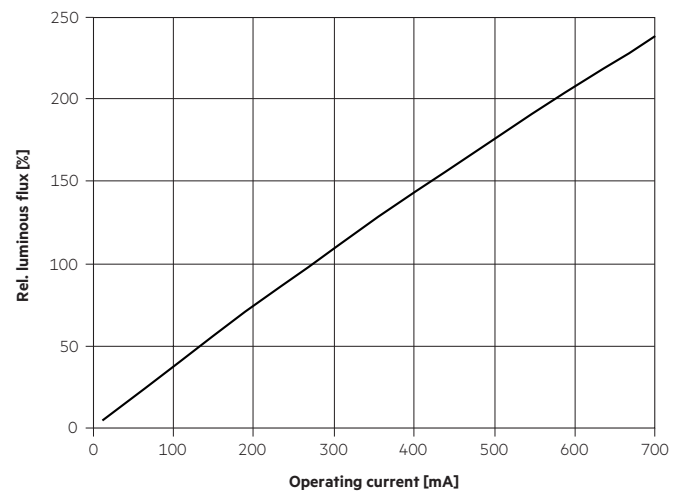


The colour temperature is measured integral over the complete module. The single LED light points can have deviations in the colour coordinates within MacAdam 5. To ensure an ideal mixture of colours and a homogeneous light distribution a suitable optic (e. g. PMMA diffuser) and a sufficient spacing between module and optic (typ. 4 cm) should be used.

## 6.3 Relative luminous flux vs. tc temperature



## 6.4 Relative luminous flux vs. operating current



The diagrams are based on statistic values.  
The real values can be different.

## 7. Miscellaneous

### 7.1 Additional information

Additional technical information at [www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at [www.tridonic.com](http://www.tridonic.com) → Services

Lifetime declarations are informative and represent no warranty claim.