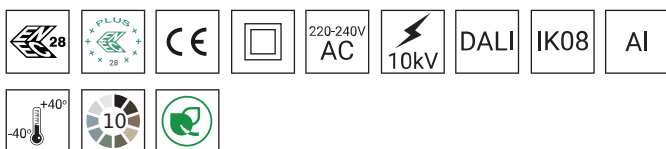


# CUDDLE II LED ALFA REG



## TECHNICAL DATA

|                                    |                                                                                                                                  |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Anodising</b>                   | 10 colours                                                                                                                       |
| <b>Assembly</b>                    | directly on column with ø 60 x 180 mm ending or on extension arm with ø 60 x 100 mm ending                                       |
| <b>Application</b>                 | motorways and expressway, urban roads, residential roads (internal), pedestrians, parkings                                       |
| <b>Ingress protection</b>          | IP 66 for the optical part and the driver                                                                                        |
| <b>Optical system</b>              | PMMA optics, interchangeable LED module, PC-UV diffuser                                                                          |
| <b>Material</b>                    | anodised aluminium alloy                                                                                                         |
| <b>Unit volume</b>                 | 0,024 m³ (48 W - 72 W)<br>0,033 m³ (96 W - 192 W)                                                                                |
| <b>Operating temperature range</b> | from -40°C to +40°C                                                                                                              |
| <b>Expected useful lifetime</b>    | L90B10 - 100 000 h                                                                                                               |
| <b>CRI</b>                         | >70                                                                                                                              |
| <b>Inrush current</b>              | 43 A / 260 µs (48 W - 72 W)<br>77 A / 150 µs (96 W - 144 W)<br>11,5 A / 1320 µs (192 W)                                          |
| <b>Input voltage frequency</b>     | 50 - 60Hz                                                                                                                        |
| <b>Power factor</b>                | ≥0,95                                                                                                                            |
| <b>Number of LED</b>               | 24 (48 W, 60 W, 72 W), 64 (96 W, 120 W, 144 W, 192 W)                                                                            |
| <b>Control system</b>              | Luminaire has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1- 10V). |



## TABLE OF VARIANTS

| Code             | Symbol                     | LED power | Luminaire power consumption | LED forward current | Colour temperature (CCT) | LEDs luminous flux¹ | Luminaire luminous flux¹ | Luminous efficacy¹ | Net weight |
|------------------|----------------------------|-----------|-----------------------------|---------------------|--------------------------|---------------------|--------------------------|--------------------|------------|
| 2223133/A/1/...² | CUDDLE II LED ALFA REG 48  | 48 W      | 55 W                        | 700 mA              | 2700 K                   | 8150 lm             | 6950 lm                  | 126 lm/W           | 6 kg       |
| 2223133/A/3/...² | CUDDLE II LED ALFA REG 48  | 48 W      | 55 W                        | 700 mA              | 3500 K                   | 8650 lm             | 7350 lm                  | 134 lm/W           | 6 kg       |
| 2223133/A/4/...² | CUDDLE II LED ALFA REG 48  | 48 W      | 55 W                        | 700 mA              | 4000 K                   | 9150 lm             | 7800 lm                  | 142 lm/W           | 6 kg       |
| 2223133/A/6/...² | CUDDLE II LED ALFA REG 48  | 48 W      | 55 W                        | 700 mA              | 5000 K                   | 9150 lm             | 7800 lm                  | 142 lm/W           | 6 kg       |
| 2223134/A/1/...² | CUDDLE II LED ALFA REG 60  | 60 W      | 67 W                        | 830 mA              | 2700 K                   | 9300 lm             | 7950 lm                  | 119 lm/W           | 6 kg       |
| 2223134/A/3/...² | CUDDLE II LED ALFA REG 60  | 60 W      | 67 W                        | 830 mA              | 3500 K                   | 9850 lm             | 8400 lm                  | 125 lm/W           | 6 kg       |
| 2223134/A/4/...² | CUDDLE II LED ALFA REG 60  | 60 W      | 67 W                        | 830 mA              | 4000 K                   | 10450 lm            | 8900 lm                  | 133 lm/W           | 6 kg       |
| 2223134/A/6/...² | CUDDLE II LED ALFA REG 60  | 60 W      | 67 W                        | 830 mA              | 5000 K                   | 10450 lm            | 8900 lm                  | 133 lm/W           | 6 kg       |
| 2223135/A/1/...² | CUDDLE II LED ALFA REG 72  | 72 W      | 79 W                        | 1000 mA             | 2700 K                   | 10700 lm            | 9100 lm                  | 115 lm/W           | 6 kg       |
| 2223135/A/3/...² | CUDDLE II LED ALFA REG 72  | 72 W      | 79 W                        | 1000 mA             | 3500 K                   | 11350 lm            | 9700 lm                  | 123 lm/W           | 6 kg       |
| 2223135/A/4/...² | CUDDLE II LED ALFA REG 72  | 72 W      | 79 W                        | 1000 mA             | 4000 K                   | 12100 lm            | 10300 lm                 | 130 lm/W           | 6 kg       |
| 2223135/A/6/...² | CUDDLE II LED ALFA REG 72  | 72 W      | 79 W                        | 1000 mA             | 5000 K                   | 12100 lm            | 10300 lm                 | 130 lm/W           | 6 kg       |
| 2223137/A/1/...² | CUDDLE II LED ALFA REG 96  | 96 W      | 105 W                       | 500 mA              | 2700 K                   | 16000 lm            | 13650 lm                 | 130 lm/W           | 9,1 kg     |
| 2223137/A/3/...² | CUDDLE II LED ALFA REG 96  | 96 W      | 105 W                       | 500 mA              | 3500 K                   | 16950 lm            | 14450 lm                 | 138 lm/W           | 9,1 kg     |
| 2223137/A/4/...² | CUDDLE II LED ALFA REG 96  | 96 W      | 105 W                       | 500 mA              | 4000 K                   | 18000 lm            | 15350 lm                 | 146 lm/W           | 9,1 kg     |
| 2223137/A/6/...² | CUDDLE II LED ALFA REG 96  | 96 W      | 105 W                       | 500 mA              | 5000 K                   | 18000 lm            | 15350 lm                 | 146 lm/W           | 9,1 kg     |
| 2223139/A/1/...² | CUDDLE II LED ALFA REG 120 | 120 W     | 129 W                       | 625 mA              | 2700 K                   | 19250 lm            | 16400 lm                 | 127 lm/W           | 9,1 kg     |
| 2223139/A/3/...² | CUDDLE II LED ALFA REG 120 | 120 W     | 129 W                       | 625 mA              | 3500 K                   | 20500 lm            | 17450 lm                 | 135 lm/W           | 9,1 kg     |
| 2223139/A/4/...² | CUDDLE II LED ALFA REG 120 | 120 W     | 129 W                       | 625 mA              | 4000 K                   | 21700 lm            | 18500 lm                 | 143 lm/W           | 9,1 kg     |
| 2223139/A/6/...² | CUDDLE II LED ALFA REG 120 | 120 W     | 129 W                       | 625 mA              | 5000 K                   | 21700 lm            | 18500 lm                 | 143 lm/W           | 9,1 kg     |
| 2223141/A/1/...² | CUDDLE II LED ALFA REG 144 | 144 W     | 154 W                       | 750 mA              | 2700 K                   | 22350 lm            | 19050 lm                 | 124 lm/W           | 9,1 kg     |
| 2223141/A/3/...² | CUDDLE II LED ALFA REG 144 | 144 W     | 154 W                       | 750 mA              | 3500 K                   | 23750 lm            | 20250 lm                 | 131 lm/W           | 9,1 kg     |
| 2223141/A/4/...² | CUDDLE II LED ALFA REG 144 | 144 W     | 154 W                       | 750 mA              | 4000 K                   | 25150 lm            | 21450 lm                 | 139 lm/W           | 9,1 kg     |
| 2223141/A/6/...² | CUDDLE II LED ALFA REG 144 | 144 W     | 154 W                       | 750 mA              | 5000 K                   | 25150 lm            | 21450 lm                 | 139 lm/W           | 9,1 kg     |
| 2223146/A/1/...² | CUDDLE II LED ALFA REG 192 | 192 W     | 205 W                       | 1000 mA             | 2700 K                   | 27850 lm            | 23750 lm                 | 116 lm/W           | 9,3 kg     |
| 2223146/A/3/...² | CUDDLE II LED ALFA REG 192 | 192 W     | 205 W                       | 1000 mA             | 3500 K                   | 29600 lm            | 25250 lm                 | 123 lm/W           | 9,3 kg     |
| 2223146/A/4/...² | CUDDLE II LED ALFA REG 192 | 192 W     | 205 W                       | 1000 mA             | 4000 K                   | 31350 lm            | 26700 lm                 | 130 lm/W           | 9,3 kg     |

|                              |                            |       |       |         |        |          |          |          |        |
|------------------------------|----------------------------|-------|-------|---------|--------|----------|----------|----------|--------|
| 2223146/A/6/... <sup>2</sup> | CUDDLE II LED ALFA REG 192 | 192 W | 205 W | 1000 mA | 5000 K | 31350 lm | 26700 lm | 130 lm/W | 9,3 kg |
|------------------------------|----------------------------|-------|-------|---------|--------|----------|----------|----------|--------|

1) tolerance +/- 5% due to LEDs accuracy

2) symbol of chosen optical system eg. 2223133/A/6/T2 is CUDDLE II LED REG 48 5000K with T2 optical system

\*For the CUDDLE II LED ALFA REG luminaire with P2 and PL optics it is possible to choose an additional light colour temperature: 5700K. The product code is then supplemented with the designation '7'. Example: 2223133/A/7/P2 -CUDDLE II LED ALFA REG 48W 5700K luminaire with P2 optics

## DIRECTIVES AND STANDARDS

**DIRECTIVES:** 2014/35/UE (Official Journal of the UE L 96/357 29.03.2014), 2014/30/UE (Official Journal of the UE L 96/79 29.03.2014), 2011/65/UE RoHS (Official Journal of the UE L 174/88 01.07.2011), 2009/125/EC (Official Journal of the UE L 285/10 31.10.2009)

**STANDARDS:** PN-EN IEC 60598-1: 2021-7, PN-EN 60598-2-3: 2006, PN-EN 60529: 2003, PN-EN 62262: 2003, PN-EN 62471:2010, PN-EN 55015: 2019, PN-EN 61547: 2009, PN-EN 61000-3-2: 2019, PN-EN 61000-3-3: 2014, PN-EN 62722-2-1 (tq=40°C)

Lighting parameters presented based on laboratory tests according to IESNA LM-79-19

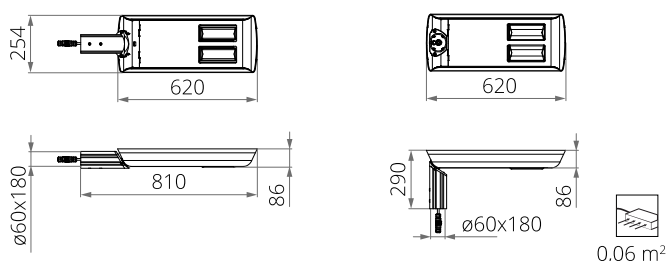
## REMOVING ELECTROSTATIC CHARGE FROM LED LUMINAIRE BODY

In order to efficient discharge the electrostatic charge from the housing of LED fitting installed on the pole from dielectric material (non-conductive) one of the following solutions is required:

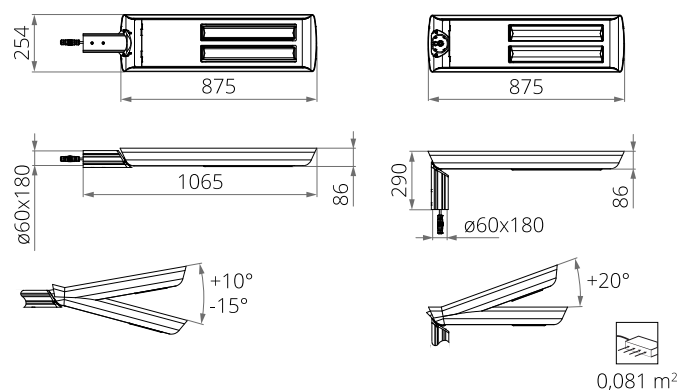
- functional grounding
- LED luminaire with an additional protection device

## TECHNICAL DRAWING

CUDDLE II LED ALFA REG 48W, 60W, 72W

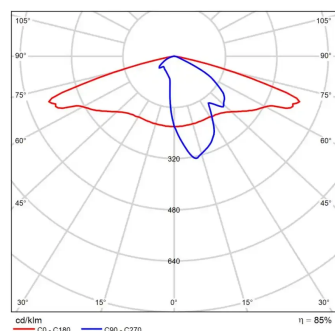


CUDDLE II LED ALFA REG 96W, 120W, 144W, 192W

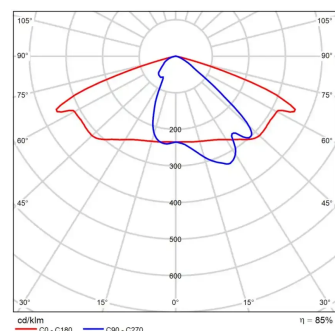


## PHOTOMETRIC CURVES

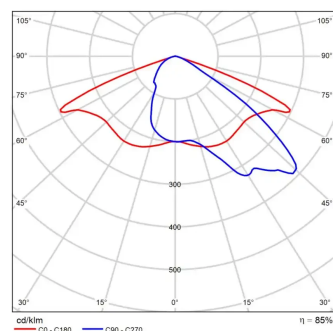
DW



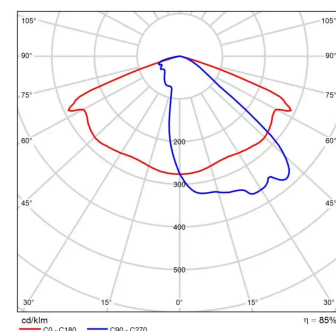
LM



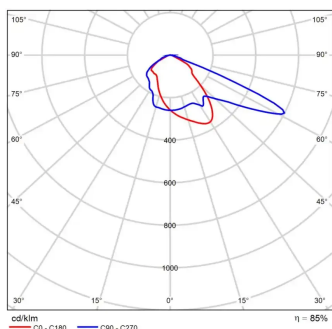
LW



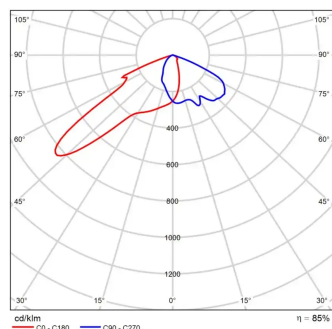
ME



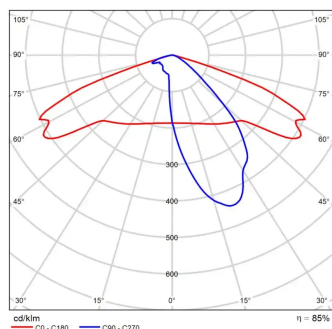
P2



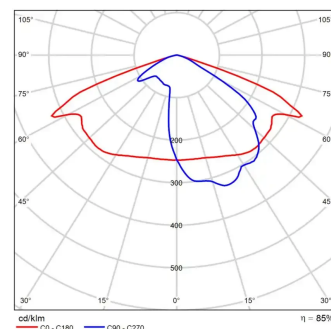
PL



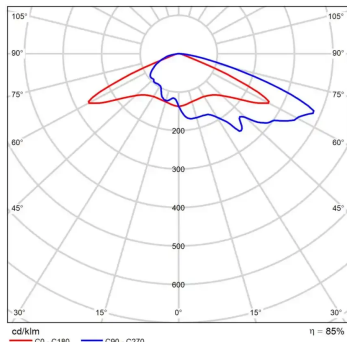
T2



T3



T4



## POWER SYSTEM FUNCTIONS

**Luminaire in standard has following functions of intelligent power supply:**

- Connection to outside control system by DALI interface (operation of analog signal 1-10V as an option),
- Possibility of programming multistage dimming of luminaire, up to 5 intervals in the range of from 10 to 100% of nominal power,
- LED module equipped with thermal protection implemented via an NTC thermistor,
- Regulation of power / luminous flux – the option of setting another value than the catalogue in the range of 30-100% of nominal one,

## ACCETABLE QUANTITY OF LUMINAIRES ON ONE CIRCUIT

Overcurrent switches MCB type B or C

| Luminaire                                    | Typ | 2A | 4A | 6A | 10A | 16A | 20A | 25A |
|----------------------------------------------|-----|----|----|----|-----|-----|-----|-----|
| CUDDLE II LED ALFA REG<br>48 W, 60 W, 72 W   | B   | 1  | 2  | 4  | 6   | 10  | 12  | 15  |
|                                              | C   | 1  | 4  | 6  | 10  | 17  | 20  | 26  |
| CUDDLE II LED ALFA REG<br>96 W, 120 W, 144 W | B   | 1  | 2  | 3  | 5   | 9   | 11  | 14  |
|                                              | C   | 1  | 3  | 5  | 9   | 15  | 18  | 23  |
| CUDDLE II LED ALFA REG<br>192 W              | B   | 1  | 2  | 4  | 6   | 10  | 12  | 15  |
|                                              | C   | 1  | 4  | 6  | 10  | 17  | 20  | 26  |

Fuse – type gG and GL

| Luminaire                                    | 2A | 4A | 6A | 10A | 16A | 20A | 25A |
|----------------------------------------------|----|----|----|-----|-----|-----|-----|
| CUDDLE II LED ALFA REG<br>48 W, 60 W, 72 W   | 0  | 4  | 8  | 11  | 22  | 31  | 44  |
| CUDDLE II LED ALFA REG<br>96 W, 120 W, 144 W | 0  | 3  | 6  | 8   | 16  | 22  | 29  |
| CUDDLE II LED ALFA REG<br>192 W              | 1  | 3  | 5  | 8   | 14  | 17  | 22  |

## CHROMATICITY

| Chromaticity | x      | y      |
|--------------|--------|--------|
| 2700K        | 0,4582 | 0,4099 |
| 3500K        | 0,4080 | 0,3916 |
| 4000K        | 0,3825 | 0,3798 |
| 5000K        | 0,3451 | 0,3554 |

## PHOTOMETRIC CODE

|       |         |
|-------|---------|
| 2700K | 727/559 |
| 3500K | 735/559 |
| 4000K | 740/559 |
| 5000K | 750/559 |