# BELLA LED



## TECHNICAL DATA

| | |
|---|---|
| **Anodising** | 10 colours |
| **Assembly** | on extension arms, columns with extension arms with ⌀ 60 x 50 mm ending |
| **Application** | surrounding office buildings, parks, pedestrians, parkings |
| **Colour** | black / champagne |
| **Ingress protection** | IP 66 |
| **Optical system** | PMMA optics, interchangeable LED module |
| **Material** | top cover and body – formed anodized aluminum sheet<br>diffuser – tempered glass |
| **Unit volume** | 0,17 m³ |
| **Operating temperature range** | from -40°C to +40°C |
| **Expected useful lifetime** | L90B10 - 100 000 h |
| **CRI** | >70 |
| **Inrush current** | 18 A / 280 µs (24 W - 36 W)<br>43 A / 260 µs (48 W)<br>96 A / 120 µs (60 W)<br>77 A / 150 µs (72 W - 96 W)<br>192 A / 120 µs (120 W) |
| **Input voltage frequency** | 50 - 60Hz |
| **Power factor** | ≥0,95 |
| **Number of LED** | 16 (24 W, 36 W, 48 W, 60 W) 32 (72 W, 96 W, 120 W) |
| **Control system** | 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 flux[1] | Luminaire luminous flux[1] | Luminous efficacy[1] | Net weight |
|---|---|---|---|---|---|---|---|---|---|
| 212330/1/...[2] | BELLA LED 48 | 24 W | 26 W | 250 mA | 2700 K | 4250 lm | 3550 lm | 137 lm/W | 7 kg |
| 212330/3/...[2] | BELLA LED 48 | 24 W | 26 W | 250 mA | 3500 K | 4450 lm | 3700 lm | 142 lm/W | 7 kg |
| 212330/4/...[2] | BELLA LED 48 | 24 W | 26 W | 250 mA | 4000 K | 4600 lm | 3800 lm | 146 lm/W | 7 kg |
| 212330/6/...[2] | BELLA LED 48 | 24 W | 26 W | 250 mA | 5000 K | 4500 lm | 3750 lm | 144 lm/W | 7 kg |
| 212332/1/...[2] | BELLA LED 48 | 36 W | 39 W | 375 mA | 2700 K | 6200 lm | 5150 lm | 132 lm/W | 7 kg |
| 212332/3/...[2] | BELLA LED 48 | 36 W | 39 W | 375 mA | 3500 K | 6500 lm | 5400 lm | 138 lm/W | 7 kg |
| 212332/4/...[2] | BELLA LED 48 | 36 W | 39 W | 375 mA | 4000 K | 6650 lm | 5500 lm | 141 lm/W | 7 kg |
| 212332/6/...[2] | BELLA LED 48 | 36 W | 39 W | 375 mA | 5000 K | 6550 lm | 5450 lm | 140 lm/W | 7 kg |
| 212333/1/...[2] | BELLA LED 48 | 48 W | 55 W | 500 mA | 2700 K | 7950 lm | 6600 lm | 120 lm/W | 7 kg |
| 212333/3/...[2] | BELLA LED 48 | 48 W | 55 W | 500 mA | 3500 K | 8300 lm | 6900 lm | 125 lm/W | 7 kg |
| 212333/4/...[2] | BELLA LED 48 | 48 W | 55 W | 500 mA | 4000 K | 8550 lm | 7100 lm | 129 lm/W | 7 kg |
| 212333/6/...[2] | BELLA LED 48 | 48 W | 55 W | 500 mA | 5000 K | 8450 lm | 7000 lm | 127 lm/W | 7 kg |
| 212334/1/...[2] | BELLA LED 60 | 60 W | 67 W | 625 mA | 2700 K | 9650 lm | 8000 lm | 119 lm/W | 7 kg |
| 212334/3/...[2] | BELLA LED 60 | 60 W | 67 W | 625 mA | 3500 K | 10100 lm | 8400 lm | 125 lm/W | 7 kg |
| 212334/4/...[2] | BELLA LED 60 | 60 W | 67 W | 625 mA | 4000 K | 10350 lm | 8600 lm | 128 lm/W | 7 kg |
| 212334/6/...[2] | BELLA LED 60 | 60 W | 67 W | 625 mA | 5000 K | 10250 lm | 8500 lm | 127 lm/W | 7 kg |
| 212335/1/...[2] | BELLA LED 72 | 72 W | 79 W | 375 mA | 2700 K | 12400 lm | 10300 lm | 130 lm/W | 7,2 kg |
| 212335/3/...[2] | BELLA LED 72 | 72 W | 79 W | 375 mA | 3500 K | 13000 lm | 10800 lm | 137 lm/W | 7,2 kg |
| 212335/4/...[2] | BELLA LED 72 | 72 W | 79 W | 375 mA | 4000 K | 13300 lm | 11000 lm | 139 lm/W | 7,2 kg |
| 212335/6/...[2] | BELLA LED 72 | 72 W | 79 W | 375 mA | 5000 K | 13100 lm | 10900 lm | 138 lm/W | 7,2 kg |
| 212337/1/...[2] | BELLA LED 96 | 96 W | 105 W | 500 mA | 2700 K | 15900 lm | 13200 lm | 126 lm/W | 7,2 kg |
| 212337/3/...[2] | BELLA LED 96 | 96 W | 105 W | 500 mA | 3500 K | 16600 lm | 13800 lm | 131 lm/W | 7,2 kg |
| 212337/4/...[2] | BELLA LED 96 | 96 W | 105 W | 500 mA | 4000 K | 17100 lm | 14200 lm | 135 lm/W | 7,2 kg |
| 212337/6/...[2] | BELLA LED 96 | 96 W | 105 W | 500 mA | 5000 K | 16900 lm | 14000 lm | 133 lm/W | 7,2 kg |
| 212339/1/...[2] | BELLA LED 120 | 120 W | 129 W | 625 mA | 2700 K | 19300 lm | 16000 lm | 124 lm/W | 7,4 kg |



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# BELLA LED

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|---|---|---|---|---|---|---|---|---|---|
| 212339/3/...[2] | BELLA LED 120 | 120 W | 129 W | 625 mA | 3500 K | 20200 lm | 16800 lm | 130 lm/W | 7,4 kg |
| 212339/4/...[2] | BELLA LED 120 | 120 W | 129 W | 625 mA | 4000 K | 20700 lm | 17200 lm | 133 lm/W | 7,4 kg |
| 212339/6/...[2] | BELLA LED 120 | 120 W | 129 W | 625 mA | 5000 K | 20500 lm | 17000 lm | 132 lm/W | 7,4 kg |

**1) tolerance +/- 5% due to LEDs accuracy**
2) symbol of chosen optical system eg. 2108033/6/T3 is BELLA LED 48 5000K with T3 optical system

## DIRECTIVES AND STANDARDS

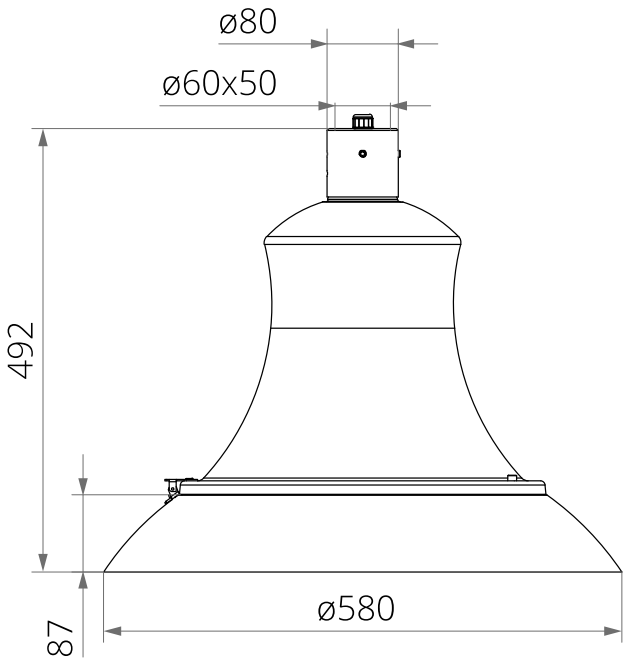
**DIRECTIVES:** 2014/35/UE (Official Journal of the UE L 96/357 29.03.2014), 2014/30/UE (Official Journal of the UE L 96/79 29.03.2014), 2011/65/UE RoHS (Official Journal of the UE L 174/88 01.07.2011), 2009/125/EC(Official Journal of the UE L 285/10 31.10.2009)
**STANDARDS:** PN-EN IEC 60598-1: 2021-7, 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

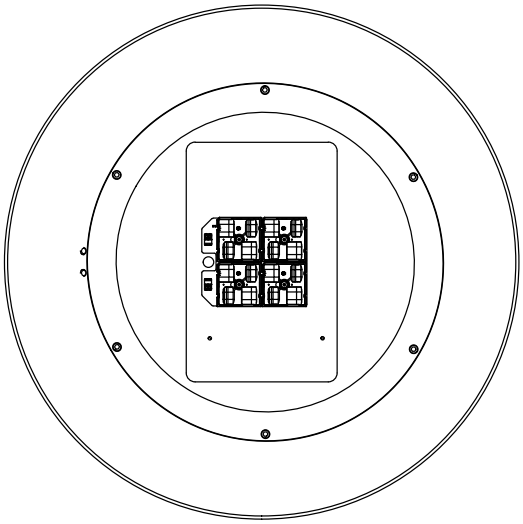
Lighting parameters presented based on laboratory tests according to IESNA LM-79-19

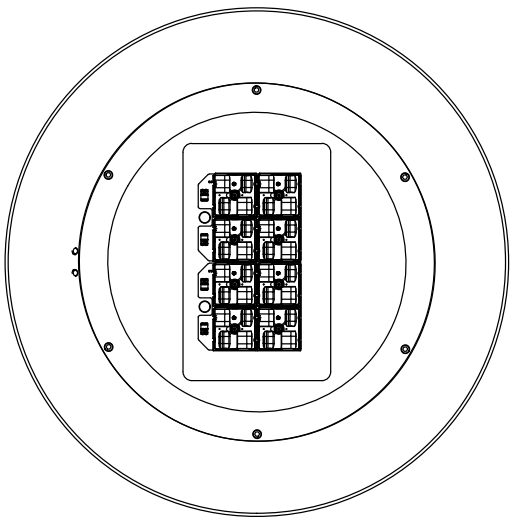
## REMOVING ELECTROSTATIC CHARGE FROM LED LUMINAIRE BODY

**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





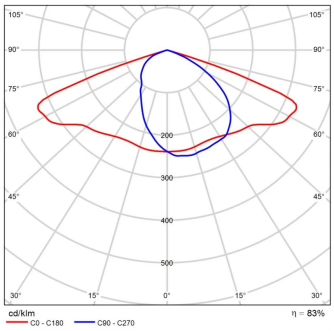
## PHOTOMETRIC CURVES



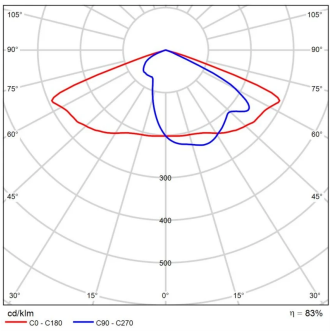
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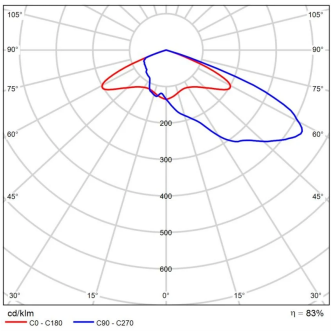
DW



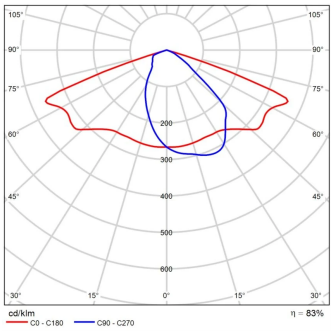

T3



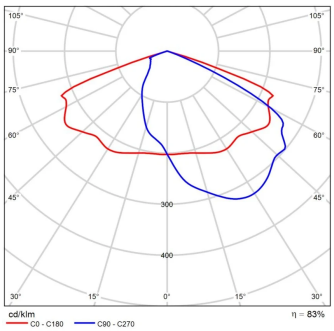

T4



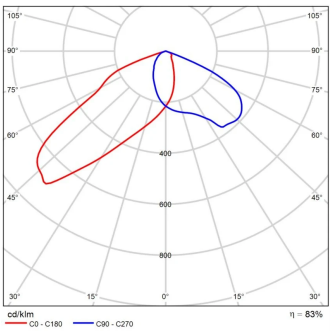

LN



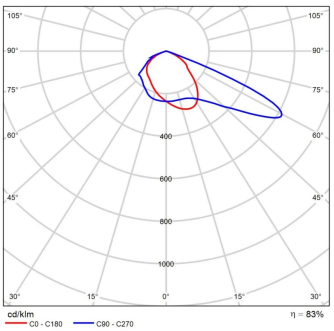

LW



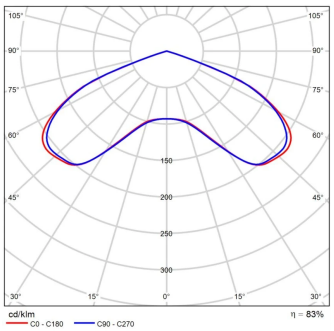

PL




P2




VS




## 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

Miniature circuit breakers (MCB), type B or C

| Luminaire | Type | 2A | 4A | 6A | 10A | 16A | 20A | 25A |
|---|---|---|---|---|---|---|---|---|
| BELLA LED 24 - 36 W | B | 4 | 7 | 12 | 18 | 30 | 37 | 46 |
| | C | 4 | 12 | 18 | 31 | 51 | 62 | 78 |
| BELLA LED 48 - 60 W | B | 1 | 2 | 4 | 6 | 10 | 12 | 15 |
| | C | 1 | 4 | 6 | 10 | 17 | 20 | 26 |
| BELLA LED 72 - 96 W | B | 1 | 2 | 3 | 5 | 9 | 11 | 14 |
| | C | 1 | 3 | 5 | 9 | 15 | 18 | 23 |
| BELLA LED 120 W | B | 0 | 1 | 2 | 3 | 5 | 6 | 7 |
| | C | 0 | 2 | 3 | 5 | 8 | 10 | 13 |

Fuses—type gG and gL

| Luminaire | 2A | 4A | 6A | 10A | 16A | 20A | 25A |
|---|---|---|---|---|---|---|---|
| BELLA LED 24 - 36 W | 1 | 10 | 20 | 26 | 52 | 71 | 101 |
| BELLA LED 48 W | 0 | 4 | 8 | 11 | 22 | 31 | 44 |
| BELLA LED 60 W | 0 | 3 | 5 | 7 | 15 | 20 | 29 |
| BELLA LED 72 - 96 W | 0 | 3 | 6 | 8 | 16 | 22 | 32 |
| BELLA LED 120 W | 0 | 1 | 2 | 3 | 7 | 10 | 14 |



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