

## Liwa

### DAMP-PROOF | NON-DALI EM SERIES

Liwa is a high-impact resistance luminaire suitable for very wet or for very cold environments such as freeze warehouses. Its adjustable beam angle (30/60/90 degrees) makes it suitable for very tall warehouses where the beam can be adjusted to shine the light precisely on the shelves. With an IP68 protection factor.

Liwa damp-proof luminaires come in several series, with various add-on and controls:

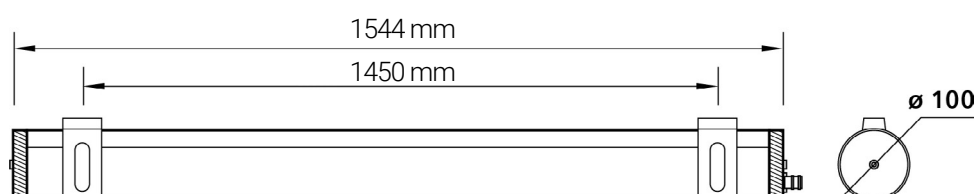
- Liwa Non-DALI – the standard for any project in the retail sectors
- Liwa Non-DALI EM – with emergency kit
- Liwa DALI – with DALI controls for dimming

### FEATURES & BENEFITS

- CRI 80 as standard
- 4 color temperatures: 3000K, 4000K, 5000K and 6500K
- Long rated life – L90/B10 at 50.000h
- High luminaire efficiency: 157 lm/W @4000K

### APPLICATION

Grocery & Supermarket | Industrial & Logistic | Parking



## SPECIFICATIONS

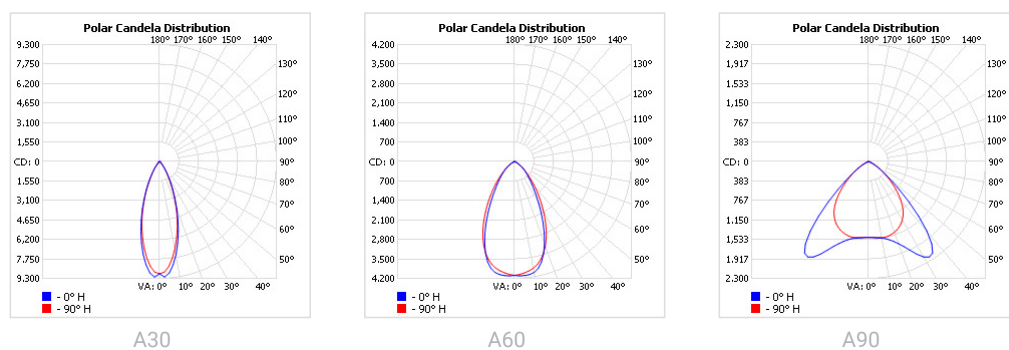
|                                |                                 |
|--------------------------------|---------------------------------|
| Power consumption              | 33W, 42W, 51W, 60W              |
| Dimensions                     | Ø100 x 1544mm±1mm               |
| Weight                         | 4.3 - 4.4Kg                     |
| Housing materials              | Polycarbonate & Stainless stell |
| IK code                        | IK10                            |
| THD (at 230V, 50Hz, Full load) | <8%                             |
| Protection class               | Safety class 1                  |
| Operating temperature [°C]     | +5°C ... +45°C / +41F ... +113F |
| Operating humidity [%]         | 10 ÷ 85                         |
| Power factor                   | ≥0.95                           |
| AC Input [Vac]                 | 220 - 240 VAC                   |
| Lens angle [°]                 | 30°, 60°, 90°                   |
| Lifespan [h]                   | 50.000                          |
| Housing color                  | ● Grey                          |
| Lumen maintenance              | L90/B10@50.000h at 25°C         |
| IP factor                      | IP68                            |
| Control optional               | -                               |
| Warranty [years]               | 5                               |
| Storage temperature range [°C] | +5°C ... +25°C / +41F ... +77F  |
| Emergency option               | EM1H, EM3H                      |

|                   |                         |
|-------------------|-------------------------|
| Light application | Standard                |
| CRI               | CRI 80                  |
| CCT [K]           | 3000K/4000K/5000K/6500K |
| MacAdam           | 4                       |

CRI - Color rendering, CCT - Color temperature, MacAdam - Color consistency

## LIGHT DISTRIBUTION



**RISK GROUP****RG1**

The evaluation of photobiological safety is carried out according to the standard IEC 62471:2008 ("Photobiological safety of lamps and lamp systems"). Following the definition of the risk grouping system of the mentioned IEC standard, the LEDs mounted on this family fall into the class "Low Risk (RG1 – No photobiological hazard under normal behavioral limitations)". Under real circumstances (regarding exposure time, pupils, observation distance), it is assumed that there is no endangerment to the eye from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect.

**TOLERANCES**

**Luminous flux tolerances:** -/+ 5%

**Consumption tolerance:** -/+ 5% for Non-DALI | -/+ 10% for Non-DALI & KIT EM | -/+ 10% for DALI | -/+ 15% for DALI & KIT EM

**BATTERY WARRANTY**

**Non-DALI EM & DALI EM:** 12 months warranty

**Non-DALI & DALI:** -

**MAXIMUM NO. OF LUMINAIRES ON A CIRCUIT**

| Luminaire Power(W) | Control type | Circuit Breaker Type |    |    |    |    |    |
|--------------------|--------------|----------------------|----|----|----|----|----|
|                    |              | B                    |    |    | C  |    |    |
|                    |              | 20                   | 16 | 10 | 20 | 16 | 10 |
| < 50W              | Non-DALI     | 37                   | 30 | 18 | 62 | 51 | 31 |
| ≥ 50W              | Non-DALI     | 37                   | 30 | 18 | 62 | 51 | 31 |
| < 80W              | DALI         | 27                   | 21 | 13 | 45 | 35 | 21 |

## SKU SPECIFICATIONS

| Product Code                         | Dimensions (mm)  | CCT (K) | Lumens (lm) | Power (W) | Eff. (lm/watt) | Lens Angle (°) |
|--------------------------------------|------------------|---------|-------------|-----------|----------------|----------------|
| <b>CRI 80</b>                        |                  |         |             |           |                |                |
| 129592 Liwa 150/3000/33W/80/A30/EM3H | Ø100 x 1544± 1mm | 3000    | 4715        | 33W       | 143            | 30°            |
| 129593 Liwa 150/4000/33W/80/A30/EM3H | Ø100 x 1544± 1mm | 4000    | 4915        | 33W       | 149            | 30°            |
| 129594 Liwa 150/5000/33W/80/A30/EM3H | Ø100 x 1544± 1mm | 5000    | 5045        | 33W       | 153            | 30°            |
| 129595 Liwa 150/6500/33W/80/A30/EM3H | Ø100 x 1544± 1mm | 6500    | 4915        | 33W       | 149            | 30°            |
| 129596 Liwa 150/3000/33W/80/A60/EM3H | Ø100 x 1544± 1mm | 3000    | 4680        | 33W       | 142            | 60°            |
| 129597 Liwa 150/4000/33W/80/A60/EM3H | Ø100 x 1544± 1mm | 4000    | 4875        | 33W       | 148            | 60°            |
| 129598 Liwa 150/5000/33W/80/A60/EM3H | Ø100 x 1544± 1mm | 5000    | 5010        | 33W       | 152            | 60°            |
| 129599 Liwa 150/6500/33W/80/A60/EM3H | Ø100 x 1544± 1mm | 6500    | 4875        | 33W       | 148            | 60°            |
| 129600 Liwa 150/3000/33W/80/A90/EM3H | Ø100 x 1544± 1mm | 3000    | 4700        | 33W       | 143            | 90°            |
| 129601 Liwa 150/4000/33W/80/A90/EM3H | Ø100 x 1544± 1mm | 4000    | 4900        | 33W       | 149            | 90°            |
| 129602 Liwa 150/5000/33W/80/A90/EM3H | Ø100 x 1544± 1mm | 5000    | 5030        | 33W       | 153            | 90°            |
| 129603 Liwa 150/6500/33W/80/A90/EM3H | Ø100 x 1544± 1mm | 6500    | 4900        | 33W       | 149            | 90°            |
| 129604 Liwa 150/3000/42W/80/A30/EM3H | Ø100 x 1544± 1mm | 3000    | 6285        | 42W       | 150            | 30°            |
| 129605 Liwa 150/4000/42W/80/A30/EM3H | Ø100 x 1544± 1mm | 4000    | 6555        | 42W       | 157            | 30°            |
| 129606 Liwa 150/5000/42W/80/A30/EM3H | Ø100 x 1544± 1mm | 5000    | 6730        | 42W       | 161            | 30°            |
| 129607 Liwa 150/6500/42W/80/A30/EM3H | Ø100 x 1544± 1mm | 6500    | 6555        | 42W       | 157            | 30°            |
| 129608 Liwa 150/3000/42W/80/A60/EM3H | Ø100 x 1544± 1mm | 3000    | 6240        | 42W       | 149            | 60°            |
| 129609 Liwa 150/4000/42W/80/A60/EM3H | Ø100 x 1544± 1mm | 4000    | 6505        | 42W       | 155            | 60°            |
| 129610 Liwa 150/5000/42W/80/A60/EM3H | Ø100 x 1544± 1mm | 5000    | 6680        | 42W       | 160            | 60°            |
| 129611 Liwa 150/6500/42W/80/A60/EM3H | Ø100 x 1544± 1mm | 6500    | 6505        | 42W       | 155            | 60°            |
| 129612 Liwa 150/3000/42W/80/A90/EM3H | Ø100 x 1544± 1mm | 3000    | 6270        | 42W       | 150            | 90°            |
| 129613 Liwa 150/4000/42W/80/A90/EM3H | Ø100 x 1544± 1mm | 4000    | 6535        | 42W       | 156            | 90°            |
| 129614 Liwa 150/5000/42W/80/A90/EM3H | Ø100 x 1544± 1mm | 5000    | 6710        | 42W       | 160            | 90°            |
| 129615 Liwa 150/6500/42W/80/A90/EM3H | Ø100 x 1544± 1mm | 6500    | 6535        | 42W       | 156            | 90°            |
| 129616 Liwa 150/3000/51W/80/A30/EM3H | Ø100 x 1544± 1mm | 3000    | 7400        | 51W       | 146            | 30°            |
| 129617 Liwa 150/4000/51W/80/A30/EM3H | Ø100 x 1544± 1mm | 4000    | 7710        | 51W       | 152            | 30°            |
| 129618 Liwa 150/5000/51W/80/A30/EM3H | Ø100 x 1544± 1mm | 5000    | 7920        | 51W       | 156            | 30°            |
| 129619 Liwa 150/6500/51W/80/A30/EM3H | Ø100 x 1544± 1mm | 6500    | 7710        | 51W       | 152            | 30°            |
| 129620 Liwa 150/3000/51W/80/A60/EM3H | Ø100 x 1544± 1mm | 3000    | 7345        | 51W       | 145            | 60°            |
| 129621 Liwa 150/4000/51W/80/A60/EM3H | Ø100 x 1544± 1mm | 4000    | 7655        | 51W       | 151            | 60°            |
| 129622 Liwa 150/5000/51W/80/A60/EM3H | Ø100 x 1544± 1mm | 5000    | 7860        | 51W       | 155            | 60°            |
| 129623 Liwa 150/6500/51W/80/A60/EM3H | Ø100 x 1544± 1mm | 6500    | 7655        | 51W       | 151            | 60°            |
| 129624 Liwa 150/3000/51W/80/A90/EM3H | Ø100 x 1544± 1mm | 3000    | 7380        | 51W       | 145            | 90°            |
| 129625 Liwa 150/4000/51W/80/A90/EM3H | Ø100 x 1544± 1mm | 4000    | 7690        | 51W       | 151            | 90°            |
| 129626 Liwa 150/5000/51W/80/A90/EM3H | Ø100 x 1544± 1mm | 5000    | 7895        | 51W       | 155            | 90°            |
| 129627 Liwa 150/6500/51W/80/A90/EM3H | Ø100 x 1544± 1mm | 6500    | 7690        | 51W       | 151            | 90°            |
| 129628 Liwa 150/3000/60W/80/A30/EM3H | Ø100 x 1544± 1mm | 3000    | 8220        | 60W       | 137            | 30°            |
| 129629 Liwa 150/4000/60W/80/A30/EM3H | Ø100 x 1544± 1mm | 4000    | 8570        | 60W       | 143            | 30°            |
| 129630 Liwa 150/5000/60W/80/A30/EM3H | Ø100 x 1544± 1mm | 5000    | 8800        | 60W       | 147            | 30°            |
| 129631 Liwa 150/6500/60W/80/A30/EM3H | Ø100 x 1544± 1mm | 6500    | 8570        | 60W       | 143            | 30°            |
| 129632 Liwa 150/3000/60W/80/A60/EM3H | Ø100 x 1544± 1mm | 3000    | 8160        | 60W       | 136            | 60°            |
| 129633 Liwa 150/4000/60W/80/A60/EM3H | Ø100 x 1544± 1mm | 4000    | 8510        | 60W       | 142            | 60°            |
| 129634 Liwa 150/5000/60W/80/A60/EM3H | Ø100 x 1544± 1mm | 5000    | 8735        | 60W       | 146            | 60°            |
| 129635 Liwa 150/6500/60W/80/A60/EM3H | Ø100 x 1544± 1mm | 6500    | 8510        | 60W       | 142            | 60°            |
| 129636 Liwa 150/3000/60W/80/A90/EM3H | Ø100 x 1544± 1mm | 3000    | 8200        | 60W       | 137            | 90°            |
| 129637 Liwa 150/4000/60W/80/A90/EM3H | Ø100 x 1544± 1mm | 4000    | 8545        | 60W       | 143            | 90°            |
| 129638 Liwa 150/5000/60W/80/A90/EM3H | Ø100 x 1544± 1mm | 5000    | 8775        | 60W       | 147            | 90°            |
| 129639 Liwa 150/6500/60W/80/A90/EM3H | Ø100 x 1544± 1mm | 6500    | 8545        | 60W       | 143            | 90°            |
| 129496 Liwa 150/3000/33W/80/A30/EM1H | Ø100 x 1544± 1mm | 3000    | 4715        | 33W       | 143            | 30°            |
| 129497 Liwa 150/4000/33W/80/A30/EM1H | Ø100 x 1544± 1mm | 4000    | 4915        | 33W       | 149            | 30°            |

## SKU SPECIFICATIONS

| Product Code                         | Dimensions (mm)  | CCT (K) | Lumens (lm) | Power (W) | Eff. (lm/watt) | Lens Angle (°) |
|--------------------------------------|------------------|---------|-------------|-----------|----------------|----------------|
| <b>CRI 80</b>                        |                  |         |             |           |                |                |
| 129498 Liwa 150/5000/33W/80/A30/EM1H | Ø100 x 1544± 1mm | 5000    | 5045        | 33W       | 153            | 30°            |
| 129499 Liwa 150/6500/33W/80/A30/EM1H | Ø100 x 1544± 1mm | 6500    | 4915        | 33W       | 149            | 30°            |
| 129500 Liwa 150/3000/33W/80/A60/EM1H | Ø100 x 1544± 1mm | 3000    | 4680        | 33W       | 142            | 60°            |
| 129501 Liwa 150/4000/33W/80/A60/EM1H | Ø100 x 1544± 1mm | 4000    | 4875        | 33W       | 148            | 60°            |
| 129502 Liwa 150/5000/33W/80/A60/EM1H | Ø100 x 1544± 1mm | 5000    | 5010        | 33W       | 152            | 60°            |
| 129503 Liwa 150/6500/33W/80/A60/EM1H | Ø100 x 1544± 1mm | 6500    | 4875        | 33W       | 148            | 60°            |
| 129504 Liwa 150/3000/33W/80/A90/EM1H | Ø100 x 1544± 1mm | 3000    | 4700        | 33W       | 143            | 90°            |
| 129505 Liwa 150/4000/33W/80/A90/EM1H | Ø100 x 1544± 1mm | 4000    | 4900        | 33W       | 149            | 90°            |
| 129506 Liwa 150/5000/33W/80/A90/EM1H | Ø100 x 1544± 1mm | 5000    | 5030        | 33W       | 153            | 90°            |
| 129507 Liwa 150/6500/33W/80/A90/EM1H | Ø100 x 1544± 1mm | 6500    | 4900        | 33W       | 149            | 90°            |
| 129508 Liwa 150/3000/42W/80/A30/EM1H | Ø100 x 1544± 1mm | 3000    | 6285        | 42W       | 150            | 30°            |
| 129509 Liwa 150/4000/42W/80/A30/EM1H | Ø100 x 1544± 1mm | 4000    | 6555        | 42W       | 157            | 30°            |
| 129510 Liwa 150/5000/42W/80/A30/EM1H | Ø100 x 1544± 1mm | 5000    | 6730        | 42W       | 161            | 30°            |
| 129511 Liwa 150/6500/42W/80/A30/EM1H | Ø100 x 1544± 1mm | 6500    | 6555        | 42W       | 157            | 30°            |
| 129512 Liwa 150/3000/42W/80/A60/EM1H | Ø100 x 1544± 1mm | 3000    | 6240        | 42W       | 149            | 60°            |
| 129513 Liwa 150/4000/42W/80/A60/EM1H | Ø100 x 1544± 1mm | 4000    | 6505        | 42W       | 155            | 60°            |
| 129514 Liwa 150/5000/42W/80/A60/EM1H | Ø100 x 1544± 1mm | 5000    | 6680        | 42W       | 160            | 60°            |
| 129515 Liwa 150/6500/42W/80/A60/EM1H | Ø100 x 1544± 1mm | 6500    | 6505        | 42W       | 155            | 60°            |
| 129516 Liwa 150/3000/42W/80/A90/EM1H | Ø100 x 1544± 1mm | 3000    | 6270        | 42W       | 150            | 90°            |
| 129517 Liwa 150/4000/42W/80/A90/EM1H | Ø100 x 1544± 1mm | 4000    | 6535        | 42W       | 156            | 90°            |
| 129518 Liwa 150/5000/42W/80/A90/EM1H | Ø100 x 1544± 1mm | 5000    | 6710        | 42W       | 160            | 90°            |
| 129519 Liwa 150/6500/42W/80/A90/EM1H | Ø100 x 1544± 1mm | 6500    | 6535        | 42W       | 156            | 90°            |
| 129520 Liwa 150/3000/51W/80/A30/EM1H | Ø100 x 1544± 1mm | 3000    | 7400        | 51W       | 146            | 30°            |
| 129521 Liwa 150/4000/51W/80/A30/EM1H | Ø100 x 1544± 1mm | 4000    | 7710        | 51W       | 152            | 30°            |
| 129522 Liwa 150/5000/51W/80/A30/EM1H | Ø100 x 1544± 1mm | 5000    | 7920        | 51W       | 156            | 30°            |
| 129523 Liwa 150/6500/51W/80/A30/EM1H | Ø100 x 1544± 1mm | 6500    | 7710        | 51W       | 152            | 30°            |
| 129524 Liwa 150/3000/51W/80/A60/EM1H | Ø100 x 1544± 1mm | 3000    | 7345        | 51W       | 145            | 60°            |
| 129525 Liwa 150/4000/51W/80/A60/EM1H | Ø100 x 1544± 1mm | 4000    | 7655        | 51W       | 151            | 60°            |
| 129526 Liwa 150/5000/51W/80/A60/EM1H | Ø100 x 1544± 1mm | 5000    | 7860        | 51W       | 155            | 60°            |
| 129527 Liwa 150/6500/51W/80/A60/EM1H | Ø100 x 1544± 1mm | 6500    | 7655        | 51W       | 151            | 60°            |
| 129528 Liwa 150/3000/51W/80/A90/EM1H | Ø100 x 1544± 1mm | 3000    | 7380        | 51W       | 145            | 90°            |
| 129529 Liwa 150/4000/51W/80/A90/EM1H | Ø100 x 1544± 1mm | 4000    | 7690        | 51W       | 151            | 90°            |
| 129530 Liwa 150/5000/51W/80/A90/EM1H | Ø100 x 1544± 1mm | 5000    | 7895        | 51W       | 155            | 90°            |
| 129531 Liwa 150/6500/51W/80/A90/EM1H | Ø100 x 1544± 1mm | 6500    | 7690        | 51W       | 151            | 90°            |
| 129532 Liwa 150/3000/60W/80/A30/EM1H | Ø100 x 1544± 1mm | 3000    | 8220        | 60W       | 137            | 30°            |
| 129533 Liwa 150/4000/60W/80/A30/EM1H | Ø100 x 1544± 1mm | 4000    | 8570        | 60W       | 143            | 30°            |
| 129534 Liwa 150/5000/60W/80/A30/EM1H | Ø100 x 1544± 1mm | 5000    | 8800        | 60W       | 147            | 30°            |
| 129535 Liwa 150/6500/60W/80/A30/EM1H | Ø100 x 1544± 1mm | 6500    | 8570        | 60W       | 143            | 30°            |
| 129536 Liwa 150/3000/60W/80/A60/EM1H | Ø100 x 1544± 1mm | 3000    | 8160        | 60W       | 136            | 60°            |
| 129537 Liwa 150/4000/60W/80/A60/EM1H | Ø100 x 1544± 1mm | 4000    | 8510        | 60W       | 142            | 60°            |
| 129538 Liwa 150/5000/60W/80/A60/EM1H | Ø100 x 1544± 1mm | 5000    | 8735        | 60W       | 146            | 60°            |
| 129539 Liwa 150/6500/60W/80/A60/EM1H | Ø100 x 1544± 1mm | 6500    | 8510        | 60W       | 142            | 60°            |
| 129540 Liwa 150/3000/60W/80/A90/EM1H | Ø100 x 1544± 1mm | 3000    | 8200        | 60W       | 137            | 90°            |
| 129541 Liwa 150/4000/60W/80/A90/EM1H | Ø100 x 1544± 1mm | 4000    | 8545        | 60W       | 143            | 90°            |
| 129542 Liwa 150/5000/60W/80/A90/EM1H | Ø100 x 1544± 1mm | 5000    | 8775        | 60W       | 147            | 90°            |
| 129543 Liwa 150/6500/60W/80/A90/EM1H | Ø100 x 1544± 1mm | 6500    | 8545        | 60W       | 143            | 90°            |

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