

Liwa

DAMP-PROOF | TEC 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:

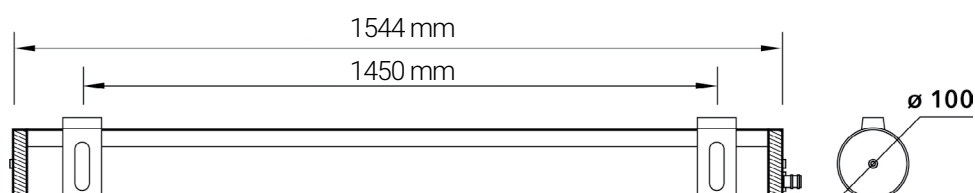
- Liwa TEC – the standard for any project in the retail sectors
- [Liwa TEC EM - series with emergency lighting kit](#)
- Liwa ECO-DALI– with DALI controls for dimming

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



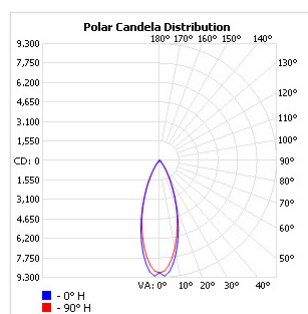
SPECIFICATIONS

Power consumption	33W, 42W, 51W, 60W
Dimensions	Ø100 x 1544± 1mm
Weight	4.3 - 4.4Kg
Housing materials	Polycarbonate & Stainless steel
IK code	IK10
THD (at 230V, 50Hz, Full load)	<8%
Protection class	Safety class 1
Operating temperature [°C]	+5C...+45C/+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	○ white
Lumen maintenance	L90/B10@50.000h at 25°C
IP factor	IP68
Control optional	-
Warranty [years]	5
Storage temperature range [°C]	+5...+25°C /+41F ... +77F
Emergency option	EM1H, EM3H

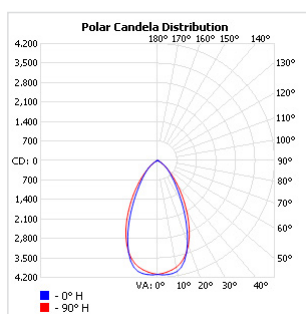
Light application	Standard
CRI	CRI 80
CCT [K]	3000K/4000K/5000K/6500K
MacAdam	4

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

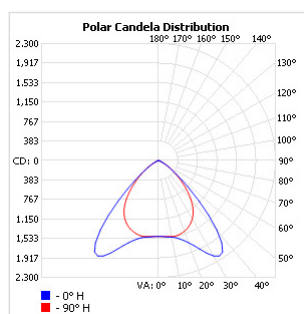
LIGHT DISTRIBUTION



A30



A60



A90

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 TEC | -/+ 10% for TEC & KIT EM | -/+ 10% for ECO-DALI | -/+ 15% for ECO-DALI & KIT EM

BATTERY WARRANTY

TEC EM & ECO EM: 12 months warranty

TEC & ECO: -

MAXIMUM NO. OF LUMINAIRES ON A CIRCUIT

Power	Driver type	Control type	Circuit Breaker Type						
			Amperage	B			C		
				20	16	10	20	16	10
< 50W		TEC	37	30	18	62	51	31	
≥ 50W		TEC	37	30	18	62	51	31	
< 80W		ECO	27	21	13	45	35	21	

SKU SPECIFICATIONS

Product Code	Dimensions (mm)	CCT (K)	Lumens (lm)	Power (W)	Eff. (lm/watt)	Lens Angle (°)
CRI 80						
129192 Liwa 150/3000/33W/80/A30/EM3H	Ø100 x 1544± 1mm	3000	4715	33W	143	30°
129193 Liwa 150/4000/33W/80/A30/EM3H	Ø100 x 1544± 1mm	4000	4915	33W	149	30°
129194 Liwa 150/5000/33W/80/A30/EM3H	Ø100 x 1544± 1mm	5000	5045	33W	153	30°
129195 Liwa 150/6500/33W/80/A30/EM3H	Ø100 x 1544± 1mm	6500	4915	33W	149	30°
129196 Liwa 150/3000/33W/80/A60/EM3H	Ø100 x 1544± 1mm	3000	4680	33W	142	60°
129197 Liwa 150/4000/33W/80/A60/EM3H	Ø100 x 1544± 1mm	4000	4875	33W	148	60°
129198 Liwa 150/5000/33W/80/A60/EM3H	Ø100 x 1544± 1mm	5000	5010	33W	152	60°
129199 Liwa 150/6500/33W/80/A60/EM3H	Ø100 x 1544± 1mm	6500	4875	33W	148	60°
129200 Liwa 150/3000/33W/80/A90/EM3H	Ø100 x 1544± 1mm	3000	4700	33W	143	90°
129201 Liwa 150/4000/33W/80/A90/EM3H	Ø100 x 1544± 1mm	4000	4900	33W	149	90°
129202 Liwa 150/5000/33W/80/A90/EM3H	Ø100 x 1544± 1mm	5000	5030	33W	153	90°
129203 Liwa 150/6500/33W/80/A90/EM3H	Ø100 x 1544± 1mm	6500	4900	33W	149	90°
129204 Liwa 150/3000/42W/80/A30/EM3H	Ø100 x 1544± 1mm	3000	6285	42W	150	30°
129205 Liwa 150/4000/42W/80/A30/EM3H	Ø100 x 1544± 1mm	4000	6555	42W	157	30°
129206 Liwa 150/5000/42W/80/A30/EM3H	Ø100 x 1544± 1mm	5000	6730	42W	161	30°
129207 Liwa 150/6500/42W/80/A30/EM3H	Ø100 x 1544± 1mm	6500	6555	42W	157	30°
129208 Liwa 150/3000/42W/80/A60/EM3H	Ø100 x 1544± 1mm	3000	6240	42W	149	60°
129209 Liwa 150/4000/42W/80/A60/EM3H	Ø100 x 1544± 1mm	4000	6505	42W	155	60°
129210 Liwa 150/5000/42W/80/A60/EM3H	Ø100 x 1544± 1mm	5000	6680	42W	160	60°
129211 Liwa 150/6500/42W/80/A60/EM3H	Ø100 x 1544± 1mm	6500	6505	42W	155	60°
129212 Liwa 150/3000/42W/80/A90/EM3H	Ø100 x 1544± 1mm	3000	6270	42W	150	90°
129213 Liwa 150/4000/42W/80/A90/EM3H	Ø100 x 1544± 1mm	4000	6535	42W	156	90°
129214 Liwa 150/5000/42W/80/A90/EM3H	Ø100 x 1544± 1mm	5000	6710	42W	160	90°
129215 Liwa 150/6500/42W/80/A90/EM3H	Ø100 x 1544± 1mm	6500	6535	42W	156	90°
129216 Liwa 150/3000/51W/80/A30/EM3H	Ø100 x 1544± 1mm	3000	7400	51W	146	30°
129217 Liwa 150/4000/51W/80/A30/EM3H	Ø100 x 1544± 1mm	4000	7710	51W	152	30°
129218 Liwa 150/5000/51W/80/A30/EM3H	Ø100 x 1544± 1mm	5000	7920	51W	156	30°
129219 Liwa 150/6500/51W/80/A30/EM3H	Ø100 x 1544± 1mm	6500	7710	51W	152	30°
129220 Liwa 150/3000/51W/80/A60/EM3H	Ø100 x 1544± 1mm	3000	7345	51W	145	60°
129221 Liwa 150/4000/51W/80/A60/EM3H	Ø100 x 1544± 1mm	4000	7655	51W	151	60°
129222 Liwa 150/5000/51W/80/A60/EM3H	Ø100 x 1544± 1mm	5000	7860	51W	155	60°
129223 Liwa 150/6500/51W/80/A60/EM3H	Ø100 x 1544± 1mm	6500	7655	51W	151	60°
129224 Liwa 150/3000/51W/80/A90/EM3H	Ø100 x 1544± 1mm	3000	7380	51W	145	90°
129225 Liwa 150/4000/51W/80/A90/EM3H	Ø100 x 1544± 1mm	4000	7690	51W	151	90°
129226 Liwa 150/5000/51W/80/A90/EM3H	Ø100 x 1544± 1mm	5000	7895	51W	155	90°
129227 Liwa 150/6500/51W/80/A90/EM3H	Ø100 x 1544± 1mm	6500	7690	51W	151	90°
129228 Liwa 150/3000/60W/80/A30/EM3H	Ø100 x 1544± 1mm	3000	8220	60W	137	30°
129229 Liwa 150/4000/60W/80/A30/EM3H	Ø100 x 1544± 1mm	4000	8570	60W	143	30°
129230 Liwa 150/5000/60W/80/A30/EM3H	Ø100 x 1544± 1mm	5000	8800	60W	147	30°
129231 Liwa 150/6500/60W/80/A30/EM3H	Ø100 x 1544± 1mm	6500	8570	60W	143	30°
129232 Liwa 150/3000/60W/80/A60/EM3H	Ø100 x 1544± 1mm	3000	8160	60W	136	60°
129233 Liwa 150/4000/60W/80/A60/EM3H	Ø100 x 1544± 1mm	4000	8510	60W	142	60°
129234 Liwa 150/5000/60W/80/A60/EM3H	Ø100 x 1544± 1mm	5000	8735	60W	146	60°
129235 Liwa 150/6500/60W/80/A60/EM3H	Ø100 x 1544± 1mm	6500	8510	60W	142	60°
129236 Liwa 150/3000/60W/80/A90/EM3H	Ø100 x 1544± 1mm	3000	8200	60W	137	90°
129237 Liwa 150/4000/60W/80/A90/EM3H	Ø100 x 1544± 1mm	4000	8545	60W	143	90°
129238 Liwa 150/5000/60W/80/A90/EM3H	Ø100 x 1544± 1mm	5000	8775	60W	147	90°
129239 Liwa 150/6500/60W/80/A90/EM3H	Ø100 x 1544± 1mm	6500	8545	60W	143	90°
129096 Liwa 150/3000/33W/80/A30/EM1H	Ø100 x 1544± 1mm	3000	4715	33W	143	30°
129097 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 (°)
CRI 80						
129098 Liwa 150/5000/33W/80/A30/EM1H	Ø100 x 1544± 1mm	5000	5045	33W	153	30°
129099 Liwa 150/6500/33W/80/A30/EM1H	Ø100 x 1544± 1mm	6500	4915	33W	149	30°
129100 Liwa 150/3000/33W/80/A60/EM1H	Ø100 x 1544± 1mm	3000	4680	33W	142	60°
129101 Liwa 150/4000/33W/80/A60/EM1H	Ø100 x 1544± 1mm	4000	4875	33W	148	60°
129102 Liwa 150/5000/33W/80/A60/EM1H	Ø100 x 1544± 1mm	5000	5010	33W	152	60°
129103 Liwa 150/6500/33W/80/A60/EM1H	Ø100 x 1544± 1mm	6500	4875	33W	148	60°
129104 Liwa 150/3000/33W/80/A90/EM1H	Ø100 x 1544± 1mm	3000	4700	33W	143	90°
129105 Liwa 150/4000/33W/80/A90/EM1H	Ø100 x 1544± 1mm	4000	4900	33W	149	90°
129106 Liwa 150/5000/33W/80/A90/EM1H	Ø100 x 1544± 1mm	5000	5030	33W	153	90°
129107 Liwa 150/6500/33W/80/A90/EM1H	Ø100 x 1544± 1mm	6500	4900	33W	149	90°
129108 Liwa 150/3000/42W/80/A30/EM1H	Ø100 x 1544± 1mm	3000	6285	42W	150	30°
129109 Liwa 150/4000/42W/80/A30/EM1H	Ø100 x 1544± 1mm	4000	6555	42W	157	30°
129110 Liwa 150/5000/42W/80/A30/EM1H	Ø100 x 1544± 1mm	5000	6730	42W	161	30°
129111 Liwa 150/6500/42W/80/A30/EM1H	Ø100 x 1544± 1mm	6500	6555	42W	157	30°
129112 Liwa 150/3000/42W/80/A60/EM1H	Ø100 x 1544± 1mm	3000	6240	42W	149	60°
129113 Liwa 150/4000/42W/80/A60/EM1H	Ø100 x 1544± 1mm	4000	6505	42W	155	60°
129114 Liwa 150/5000/42W/80/A60/EM1H	Ø100 x 1544± 1mm	5000	6680	42W	160	60°
129115 Liwa 150/6500/42W/80/A60/EM1H	Ø100 x 1544± 1mm	6500	6505	42W	155	60°
129116 Liwa 150/3000/42W/80/A90/EM1H	Ø100 x 1544± 1mm	3000	6270	42W	150	90°
129117 Liwa 150/4000/42W/80/A90/EM1H	Ø100 x 1544± 1mm	4000	6535	42W	156	90°
129118 Liwa 150/5000/42W/80/A90/EM1H	Ø100 x 1544± 1mm	5000	6710	42W	160	90°
129119 Liwa 150/6500/42W/80/A90/EM1H	Ø100 x 1544± 1mm	6500	6535	42W	156	90°
129120 Liwa 150/3000/51W/80/A30/EM1H	Ø100 x 1544± 1mm	3000	7400	51W	146	30°
129121 Liwa 150/4000/51W/80/A30/EM1H	Ø100 x 1544± 1mm	4000	7710	51W	152	30°
129122 Liwa 150/5000/51W/80/A30/EM1H	Ø100 x 1544± 1mm	5000	7920	51W	156	30°
129123 Liwa 150/6500/51W/80/A30/EM1H	Ø100 x 1544± 1mm	6500	7710	51W	152	30°
129124 Liwa 150/3000/51W/80/A60/EM1H	Ø100 x 1544± 1mm	3000	7345	51W	145	60°
129125 Liwa 150/4000/51W/80/A60/EM1H	Ø100 x 1544± 1mm	4000	7655	51W	151	60°
129126 Liwa 150/5000/51W/80/A60/EM1H	Ø100 x 1544± 1mm	5000	7860	51W	155	60°
129127 Liwa 150/6500/51W/80/A60/EM1H	Ø100 x 1544± 1mm	6500	7655	51W	151	60°
129128 Liwa 150/3000/51W/80/A90/EM1H	Ø100 x 1544± 1mm	3000	7380	51W	145	90°
129129 Liwa 150/4000/51W/80/A90/EM1H	Ø100 x 1544± 1mm	4000	7690	51W	151	90°
129130 Liwa 150/5000/51W/80/A90/EM1H	Ø100 x 1544± 1mm	5000	7895	51W	155	90°
129131 Liwa 150/6500/51W/80/A90/EM1H	Ø100 x 1544± 1mm	6500	7690	51W	151	90°
129132 Liwa 150/3000/60W/80/A30/EM1H	Ø100 x 1544± 1mm	3000	8220	60W	137	30°
129133 Liwa 150/4000/60W/80/A30/EM1H	Ø100 x 1544± 1mm	4000	8570	60W	143	30°
129134 Liwa 150/5000/60W/80/A30/EM1H	Ø100 x 1544± 1mm	5000	8800	60W	147	30°
129135 Liwa 150/6500/60W/80/A30/EM1H	Ø100 x 1544± 1mm	6500	8570	60W	143	30°
129136 Liwa 150/3000/60W/80/A60/EM1H	Ø100 x 1544± 1mm	3000	8160	60W	136	60°
129137 Liwa 150/4000/60W/80/A60/EM1H	Ø100 x 1544± 1mm	4000	8510	60W	142	60°
129138 Liwa 150/5000/60W/80/A60/EM1H	Ø100 x 1544± 1mm	5000	8735	60W	146	60°
129139 Liwa 150/6500/60W/80/A60/EM1H	Ø100 x 1544± 1mm	6500	8510	60W	142	60°
129140 Liwa 150/3000/60W/80/A90/EM1H	Ø100 x 1544± 1mm	3000	8200	60W	137	90°
129141 Liwa 150/4000/60W/80/A90/EM1H	Ø100 x 1544± 1mm	4000	8545	60W	143	90°
129142 Liwa 150/5000/60W/80/A90/EM1H	Ø100 x 1544± 1mm	5000	8775	60W	147	90°
129143 Liwa 150/6500/60W/80/A90/EM1H	Ø100 x 1544± 1mm	6500	8545	60W	143	90°

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