



## Tube

### RECESSED SPOTLIGHTS | NON-DALI SERIES

Tube is our adjustable spotlight with a concentrated beam that creates a bright light effect. Spotlight is highly flexible: rotates through 350° and pivots through 90°. Modern housing that enhances the architectural spaces. Directional beam is perfect for retail shops and commercial spaces, art and exhibition galleries and showrooms.

The modern touch is given by the aluminum housing and three color options: signal white, jet black and white aluminum.

Available in two series, with different add-ons and controls:

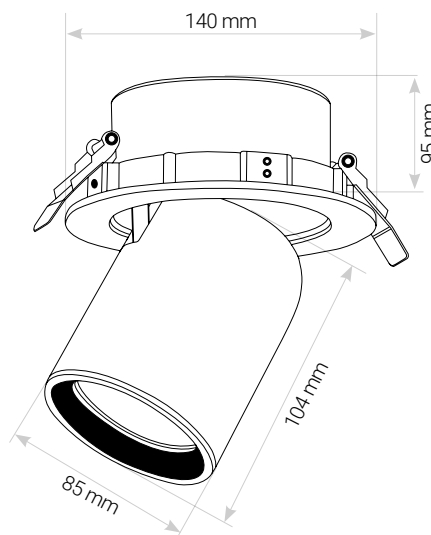
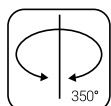
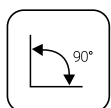
- Tube Non-DALI – the standard for any project in the retail sector
- Tube DALI – with DALI controls for illumination adjustments

### Applications

High End Grocery & Supermarkets | Fashion Retailers | Hospitality | Art & Exhibitions

### Features & Benefits

- CRI 80 as standard, 93 and 95 available
- 9 color temperatures: 2700K, 3000K, 3500K, 4000K, FAS, AGI3000, AGI3500, AGI4000, AMB2200
- Long rated life: L90/B10@50.000h
- Luminaire efficiency: 91lm/W @4000K
- Dimmable (only for DALI Series)



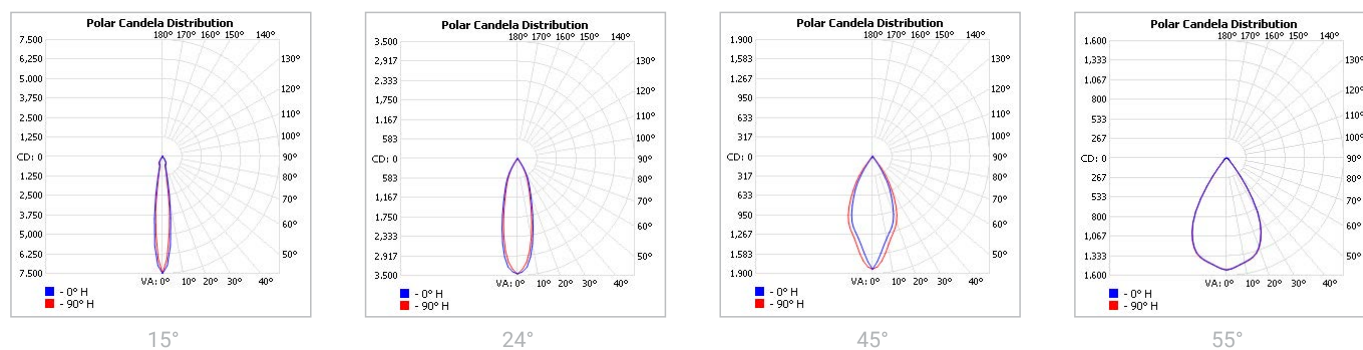
Specifications

Power consumption	14W, 20W
Dimensions	Ø140 x Ø85 x 104 ± 1mm
Weight	0,8 Kg
Housing materials	Aluminium, Glass
IK code	IK02
THD (at 230V, 50Hz, Full load)	<8%
Protection class	Safety class 1
Operating temperature [°C]	-20 ... +45 °C / -4F ... +113F
Operating humidity [%]	10 ÷ 85
Power factor	≥0.95
AC Input [Vac]	220 - 240 VAC
Lens angle [°]	15°, 24°, 45°, 55°
Lifespan [h]	50,000
Housing color	○ RAL9003 - Signal white, ● RAL9005 - Jet black, ● RAL9006 White aluminium
Lumen maintenance	L90/B10@50.000h at 25°C
IP factor	IP20
Control optional	-
Warranty [years]	5
Storage temperature range [°C]	-20...+55°C / -4F ... +131F
Emergency option	-

#	Standard	Fashion	AGI	AMB
CRI	CRI80	CRI95	CRI93	CRI80
CCT [K]	2700 / 3000 / 3500 / 4000	FAS	AGI 3000 / 3500 / 4000	2200
MacAdam	3	3	3	3

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

Light Distribution



**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
8-20W	Non-DALI	62	50	31	104	85	52
23-35W	Non-DALI	24	20	10	47	40	20
42W	Non-DALI	20	16	8	38	32	16
8-20W	DALI	62	50	31	104	85	52
23-27W	DALI	25	21	13	50	42	26
34-42W	DALI	17	14	9	34	28	18

**RISK GROUP**

<b>Standard (CRI80)</b>	RG1
<b>FOOD (BVF, FBS, FSM)</b>	RG1
<b>FOOD ≤35W (FZM, FSH)</b>	RG1
<b>FOOD &gt;35W (FZM, FSH)</b>	RG2
<b>FAS</b>	RG1
<b>AMB2200</b>	RG1
<b>ART</b>	RG1
<b>AGI</b>	RG1
<b>CRI90</b>	RG1
<b>CRI95</b>	RG1
<b>ENT</b>	RG1

**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.

**RG2**

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 "Moderate Risk (RG2)". 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.

## SKU SPECIFICATIONS

Product Code	Dimensions (mm)	CCT (K)	Lumens (lm)	Power (W)	Eff. (lm/watt)	Lens Angle (°)
<b>CRI 80</b>						
193000 Tube R31015/2700/14W/80/A15	Ø140 x Ø85 x 104 ± 1mm	2700	1200	14W	86	15°
193001 Tube R31015/3000/14W/80/A15	Ø140 x Ø85 x 104 ± 1mm	3000	1215	14W	87	15°
193002 Tube R31015/3500/14W/80/A15	Ø140 x Ø85 x 104 ± 1mm	3500	1245	14W	89	15°
193003 Tube R31015/4000/14W/80/A15	Ø140 x Ø85 x 104 ± 1mm	4000	1270	14W	91	15°
193004 Tube R31015/2700/14W/80/A24	Ø140 x Ø85 x 104 ± 1mm	2700	1200	14W	86	24°
193005 Tube R31015/3000/14W/80/A24	Ø140 x Ø85 x 104 ± 1mm	3000	1215	14W	87	24°
193006 Tube R31015/3500/14W/80/A24	Ø140 x Ø85 x 104 ± 1mm	3500	1245	14W	89	24°
193007 Tube R31015/4000/14W/80/A24	Ø140 x Ø85 x 104 ± 1mm	4000	1270	14W	91	24°
193008 Tube R31015/2700/14W/80/A45	Ø140 x Ø85 x 104 ± 1mm	2700	1200	14W	86	45°
193009 Tube R31015/3000/14W/80/A45	Ø140 x Ø85 x 104 ± 1mm	3000	1215	14W	87	45°
193010 Tube R31015/3500/14W/80/A45	Ø140 x Ø85 x 104 ± 1mm	3500	1245	14W	89	45°
193011 Tube R31015/4000/14W/80/A45	Ø140 x Ø85 x 104 ± 1mm	4000	1270	14W	91	45°
193012 Tube R31015/2700/14W/80/A55	Ø140 x Ø85 x 104 ± 1mm	2700	1200	14W	86	55°
193013 Tube R31015/3000/14W/80/A55	Ø140 x Ø85 x 104 ± 1mm	3000	1215	14W	87	55°
193014 Tube R31015/3500/14W/80/A55	Ø140 x Ø85 x 104 ± 1mm	3500	1245	14W	89	55°
193015 Tube R31015/4000/14W/80/A55	Ø140 x Ø85 x 104 ± 1mm	4000	1270	14W	91	55°
193016 Tube R31015/2700/20W/80/A15	Ø140 x Ø85 x 104 ± 1mm	2700	1650	20W	83	15°
193017 Tube R31015/3000/20W/80/A15	Ø140 x Ø85 x 104 ± 1mm	3000	1665	20W	84	15°
193018 Tube R31015/3500/20W/80/A15	Ø140 x Ø85 x 104 ± 1mm	3500	1710	20W	86	15°
193019 Tube R31015/4000/20W/80/A15	Ø140 x Ø85 x 104 ± 1mm	4000	1745	20W	88	15°
193020 Tube R31015/2700/20W/80/A24	Ø140 x Ø85 x 104 ± 1mm	2700	1650	20W	83	24°
193021 Tube R31015/3000/20W/80/A24	Ø140 x Ø85 x 104 ± 1mm	3000	1665	20W	84	24°
193022 Tube R31015/3500/20W/80/A24	Ø140 x Ø85 x 104 ± 1mm	3500	1710	20W	86	24°
193023 Tube R31015/4000/20W/80/A24	Ø140 x Ø85 x 104 ± 1mm	4000	1745	20W	88	24°
193024 Tube R31015/2700/20W/80/A45	Ø140 x Ø85 x 104 ± 1mm	2700	1650	20W	83	45°
193025 Tube R31015/3000/20W/80/A45	Ø140 x Ø85 x 104 ± 1mm	3000	1665	20W	84	45°
193026 Tube R31015/3500/20W/80/A45	Ø140 x Ø85 x 104 ± 1mm	3500	1710	20W	86	45°
193027 Tube R31015/4000/20W/80/A45	Ø140 x Ø85 x 104 ± 1mm	4000	1745	20W	88	45°
193028 Tube R31015/2700/20W/80/A55	Ø140 x Ø85 x 104 ± 1mm	2700	1650	20W	83	55°
193029 Tube R31015/3000/20W/80/A55	Ø140 x Ø85 x 104 ± 1mm	3000	1665	20W	84	55°
193030 Tube R31015/3500/20W/80/A55	Ø140 x Ø85 x 104 ± 1mm	3500	1710	20W	86	55°
193031 Tube R31015/4000/20W/80/A55	Ø140 x Ø85 x 104 ± 1mm	4000	1745	20W	88	55°
193032 Tube R31015/AMB2200/14W/80/A15	Ø140 x Ø85 x 104 ± 1mm	AMB2200	915	14W	66	15°
193033 Tube R31015/AMB2200/14W/80/A24	Ø140 x Ø85 x 104 ± 1mm	AMB2200	915	14W	66	24°
193034 Tube R31015/AMB2200/14W/80/A45	Ø140 x Ø85 x 104 ± 1mm	AMB2200	915	14W	66	45°
193035 Tube R31015/AMB2200/14W/80/A55	Ø140 x Ø85 x 104 ± 1mm	AMB2200	915	14W	66	55°
193036 Tube R31015/AMB2200/20W/80/A15	Ø140 x Ø85 x 104 ± 1mm	AMB2200	1270	20W	64	15°
193037 Tube R31015/AMB2200/20W/80/A24	Ø140 x Ø85 x 104 ± 1mm	AMB2200	1270	20W	64	24°
193038 Tube R31015/AMB2200/20W/80/A45	Ø140 x Ø85 x 104 ± 1mm	AMB2200	1270	20W	64	45°
193039 Tube R31015/AMB2200/20W/80/A55	Ø140 x Ø85 x 104 ± 1mm	AMB2200	1270	20W	64	55°
<b>CRI 93</b>						
193040 Tube R31015/AGI3000/14W/93/A15	Ø140 x Ø85 x 104 ± 1mm	AGI3000	835	14W	60	15°
193041 Tube R31015/AGI3500/14W/93/A15	Ø140 x Ø85 x 104 ± 1mm	AGI3500	885	14W	64	15°
193042 Tube R31015/AGI4000/14W/93/A15	Ø140 x Ø85 x 104 ± 1mm	AGI4000	940	14W	68	15°
193043 Tube R31015/AGI3000/14W/93/A24	Ø140 x Ø85 x 104 ± 1mm	AGI3000	835	14W	60	24°
193044 Tube R31015/AGI3500/14W/93/A24	Ø140 x Ø85 x 104 ± 1mm	AGI3500	885	14W	64	24°
193045 Tube R31015/AGI4000/14W/93/A24	Ø140 x Ø85 x 104 ± 1mm	AGI4000	940	14W	68	24°
193046 Tube R31015/AGI3000/14W/93/A45	Ø140 x Ø85 x 104 ± 1mm	AGI3000	835	14W	60	45°
193047 Tube R31015/AGI3500/14W/93/A45	Ø140 x Ø85 x 104 ± 1mm	AGI3500	885	14W	64	45°

## SKU SPECIFICATIONS

Product Code	Dimensions (mm)	CCT (K)	Lumens (lm)	Power (W)	Eff. (lm/watt)	Lens Angle (°)
<b>CRI 93</b>						
193048 Tube R31015/AGI4000/14W/93/A45	Ø140 x Ø85 x 104 ± 1mm	AGI4000	940	14W	68	45°
193049 Tube R31015/AGI3000/14W/93/A55	Ø140 x Ø85 x 104 ± 1mm	AGI3000	835	14W	60	55°
193050 Tube R31015/AGI3500/14W/93/A55	Ø140 x Ø85 x 104 ± 1mm	AGI3500	885	14W	64	55°
193051 Tube R31015/AGI4000/14W/93/A55	Ø140 x Ø85 x 104 ± 1mm	AGI4000	940	14W	68	55°
193052 Tube R31015/AGI3000/20W/93/A15	Ø140 x Ø85 x 104 ± 1mm	AGI3000	1080	20W	54	15°
193053 Tube R31015/AGI3500/20W/93/A15	Ø140 x Ø85 x 104 ± 1mm	AGI3500	1145	20W	58	15°
193054 Tube R31015/AGI4000/20W/93/A15	Ø140 x Ø85 x 104 ± 1mm	AGI4000	1220	20W	61	15°
193055 Tube R31015/AGI3000/20W/93/A24	Ø140 x Ø85 x 104 ± 1mm	AGI3000	1080	20W	54	24°
193056 Tube R31015/AGI3500/20W/93/A24	Ø140 x Ø85 x 104 ± 1mm	AGI3500	1145	20W	58	24°
193057 Tube R31015/AGI4000/20W/93/A24	Ø140 x Ø85 x 104 ± 1mm	AGI4000	1220	20W	61	24°
193058 Tube R31015/AGI3000/20W/93/A45	Ø140 x Ø85 x 104 ± 1mm	AGI3000	1080	20W	54	45°
193059 Tube R31015/AGI3500/20W/93/A45	Ø140 x Ø85 x 104 ± 1mm	AGI3500	1145	20W	58	45°
193060 Tube R31015/AGI4000/20W/93/A45	Ø140 x Ø85 x 104 ± 1mm	AGI4000	1220	20W	61	45°
193061 Tube R31015/AGI3000/20W/93/A55	Ø140 x Ø85 x 104 ± 1mm	AGI3000	1080	20W	54	55°
193062 Tube R31015/AGI3500/20W/93/A55	Ø140 x Ø85 x 104 ± 1mm	AGI3500	1145	20W	58	55°
193063 Tube R31015/AGI4000/20W/93/A55	Ø140 x Ø85 x 104 ± 1mm	AGI4000	1220	20W	61	55°
<b>CRI 95</b>						
193064 Tube R31015/FAS/14W/95/A15	Ø140 x Ø85 x 104 ± 1mm	FAS	1045	14W	75	15°
193065 Tube R31015/FAS/14W/95/A24	Ø140 x Ø85 x 104 ± 1mm	FAS	1045	14W	75	24°
193066 Tube R31015/FAS/14W/95/A45	Ø140 x Ø85 x 104 ± 1mm	FAS	1045	14W	75	45°
193067 Tube R31015/FAS/14W/95/A55	Ø140 x Ø85 x 104 ± 1mm	FAS	1045	14W	75	55°
193068 Tube R31015/FAS/20W/95/A15	Ø140 x Ø85 x 104 ± 1mm	FAS	1430	20W	72	15°
193069 Tube R31015/FAS/20W/95/A24	Ø140 x Ø85 x 104 ± 1mm	FAS	1430	20W	72	24°
193070 Tube R31015/FAS/20W/95/A45	Ø140 x Ø85 x 104 ± 1mm	FAS	1430	20W	72	45°
193071 Tube R31015/FAS/20W/95/A55	Ø140 x Ø85 x 104 ± 1mm	FAS	1430	20W	72	55°