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Tentec zono / accent

Z2 Zoom



0614

“Quality is never an accident,  
it is always the result of  
intelligent effort.”

John Ruskin



# Tentec accent - The Economical Approach to Accent Lighting



**60°**  
Wide beam for uniform illumination

**40°**  
Wide beam for accenting zones

**20°**  
Narrow beam for highlighting objects

## Tilting

The inclination angle of the directional spot allows stepless adjustments from 0-30°. These adjustments can also be made retrospectively from below.

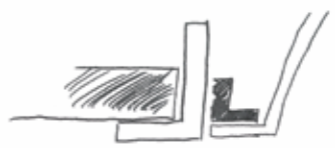


**361°**

**Ceiling Integration**  
Only 2mm visible or mounted flush with ceiling

## Rotating

The lighting module can be rotated up to 361°. A rotation lock prevents over-rotating the electrical connections and provides safety.

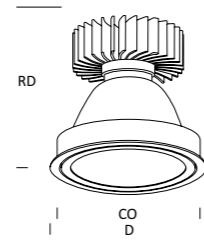


**Mounted with Ceiling Trim** - inconspicuous ceiling integration due to installed height of only 2 mm. Reflector and mounting ring flush.



**Higher Protection Rating** - flexible reflector height adjustment ensures that protective or diffusing screens are flush with the lower edge of the f3 mounting system. This increases the range of application possibilities to include the protection rating IP44 from below. The alteration is easy to do should the purpose of the room change.





**New** System photometric data

LED	$\alpha^\circ$	l <sub>m</sub>	l <sub>m</sub> /W	RD mm	kg	Article number
<b>CRI &gt; 80</b>						
<b>R08, CO 95 mm, D 102 mm</b>						
5W	20	550	92	90	0.3	TL1101501-33-30
5W	40	550	92	90	0.3	TL1101502-33-30
5W	60	550	92	90	0.3	TL1101503-33-30
11W	20	1040	80	90	0.3	TL1101501-33-30
11W	40	1040	80	90	0.3	TL1101502-33-30
11W	60	1040	80	90	0.3	TL1101503-33-30
16W	20	1390	77	90	0.3	TL1101501-33-30
16W	40	1390	77	90	0.3	TL1101502-33-30
16W	60	1390	77	90	0.3	TL1101503-33-30
23W	20	1840	71	90	0.3	TL1101501-33-30
23W	40	1840	71	90	0.3	TL1101502-33-30
23W	60	1840	71	90	0.3	TL1101503-33-30

<b>R10, CO 120 mm, D 127 mm</b>						
5W	20	590	98	120	0.3	TL1101504-33-30
5W	40	590	98	120	0.3	TL1101505-33-30
5W	60	590	98	120	0.3	TL1101506-33-30
11W	20	1110	85	120	0.3	TL1101504-33-30
11W	40	1110	85	120	0.3	TL1101505-33-30
11W	60	1110	85	120	0.3	TL1101506-33-30
16W	20	1480	82	120	0.3	TL1101504-33-30
16W	40	1480	82	120	0.3	TL1101505-33-30
16W	60	1480	82	120	0.3	TL1101506-33-30
23W	20	1960	75	120	0.3	TL1101504-33-30
23W	40	1960	75	120	0.3	TL1101505-33-30
23W	60	1960	75	120	0.3	TL1101506-33-30

Replace index -30 for 3000K by -40 for 4000K

LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
5W	83770	-	83770-DV	-
11W	83771	83771-DD	83771-DV	83771-DD-DV
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV

Concrete mounting boxes	Article number
R08	88022R08
R10	88053R10

Operation and assembly instructions can be found on page 16

**Lighting technology**

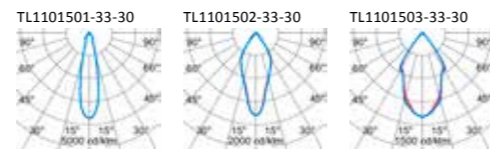
Half-peak divergence angle  $\alpha$  20°, 40° or 60°  
 Colour Rendering Index CRI > 80  
 Colour temperature 3000K, 4000K  
 Chromaticity stability <3 SDCM  
 50.000 h lifetime (L70)

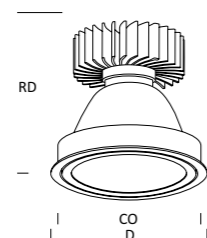
**Luminaire housing**

Inherently stable housing made of die cast aluminium and UV-resistant plastic  
 Slightly raised mounting ring of just 2 mm, white

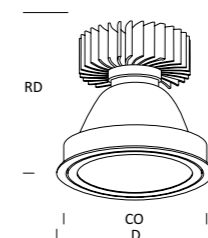
**Operation and assembly technology**

Order control gear separately  
 Screw-type multi-point fastening suitable for ceiling thicknesses of 12-25 mm (1-12 mm by using optional extension kit)  
 Reflector with safety suspension





Made of Protection IP44 in closed ceiling systems - the TSG screen protects the reflector against spray water ingress and dust.



Made of Protection IP44 in closed ceiling systems - the TSG screen protects the reflector against spray water ingress and dust.



New System photometric data							
LED	α°	Llm	Llm/W	RD mm	kg	Article number Luminaire	Safety screen
<b>CRI &gt; 80</b>							
<b>R08, CO 95 mm, D 102 mm</b>							
5W	20	510	85	95	0.4	TL1102501-30-30 + 83817R08-20	
5W	40	510	85	95	0.4	TL1102501-30-30 + 83817R08-40	
5W	60	510	85	95	0.4	TL1102501-30-30 + 83817R08-60	
11W	20	970	75	95	0.4	TL1102501-30-30 + 83817R08-20	
11W	40	970	75	95	0.4	TL1102501-30-30 + 83817R08-40	
11W	60	970	75	95	0.4	TL1102501-30-30 + 83817R08-60	
16W	20	1300	72	95	0.4	TL1102501-30-30 + 83817R08-20	
16W	40	1300	72	95	0.4	TL1102501-30-30 + 83817R08-40	
16W	60	1300	72	95	0.4	TL1102501-30-30 + 83817R08-60	
23W	20	1710	66	95	0.4	TL1102501-30-30 + 83817R08-20	
23W	40	1710	66	95	0.4	TL1102501-30-30 + 83817R08-40	
23W	60	1710	66	95	0.4	TL1102501-30-30 + 83817R08-60	
<b>R10, CO 120 mm, D 127 mm</b>							
5W	20	550	92	125	0.4	TL1102504-30-30 + 83817R10-20	
5W	40	550	92	125	0.4	TL1102504-30-30 + 83817R10-40	
5W	60	550	92	125	0.4	TL1102504-30-30 + 83817R10-60	
11W	20	1030	79	125	0.4	TL1102504-30-30 + 83817R10-20	
11W	40	1030	79	125	0.4	TL1102504-30-30 + 83817R10-40	
11W	60	1030	79	125	0.4	TL1102504-30-30 + 83817R10-60	
16W	20	1380	77	125	0.4	TL1102504-30-30 + 83817R10-20	
16W	40	1380	77	125	0.4	TL1102504-30-30 + 83817R10-40	
16W	60	1380	77	125	0.4	TL1102504-30-30 + 83817R10-60	
23W	20	1820	70	125	0.4	TL1102504-30-30 + 83817R10-20	
23W	40	1820	70	125	0.4	TL1102504-30-30 + 83817R10-40	
23W	60	1820	70	125	0.4	TL1102504-30-30 + 83817R10-60	

Replace index -30 for 3000K by -40 for 4000K

LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
5W	83770	-	83770-DV	-
11W	83771	83771-DD	83771-DV	83771-DD-DV
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV

Concrete mounting boxes	Article number
R08	88022R08
R10	88053R10

**Safety screen IP44**  
Tempered safety glass (TSG) for protection against spray water and dust, combined with mirror reflector made of aluminium, satin matt IP44 in closed ceiling systems

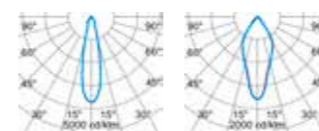
**Lighting technology**  
Half-peak divergence angle α 20°, 40° or 60°  
Colour Rendering Index CRI > 80  
Colour temperature 3000K, 4000K  
Chromaticity stability <3 SDCM  
50.000 h lifetime (L70)

**Luminaire housing**  
Inherently stable housing made of die cast aluminium and UV-resistant plastic  
Slightly raised mounting ring of just 2 mm, white

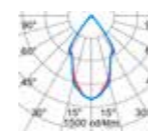
**Operation and assembly technology**  
Order control gear separately  
Screw-type multi-point fastening suitable for ceiling thicknesses of 12-25 mm (1-12 mm by using optional extension kit)  
Reflector with safety suspension



TL1102501-30-40 + 83817R08-20 TL1102501-30-40 + 83817R08-40



TL1102501-30-40 + 83817R08-60



New System photometric data						Article number	
LED	Llm	Llm/W	RD mm	kg	Luminaire	Diffusing screen	
<b>CRI &gt; 80</b>							
<b>R08, CO 95 mm, D 102 mm</b>							
5W	520	87	95	0.4	TL1102501-30-30	+	86207R08
11W	970	81	95	0.4	TL1102501-30-30	+	86207R08
16W	1300	72	95	0.4	TL1102501-30-30	+	86207R08
23W	1680	65	95	0.4	TL1102501-30-30	+	86207R08
<b>R10, CO 120 mm, D 127 mm</b>							
5W	530	88	125	0.4	TL1102504-30-30	+	86207R10
11W	980	82	125	0.4	TL1102504-30-30	+	86207R10
16W	1320	73	125	0.4	TL1102504-30-30	+	86207R10
23W	1700	65	125	0.4	TL1102504-30-30	+	86207R10

Replace index -30 for 3000K by -40 for 4000K

LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
5W	83770	-	83770-DV	-
11W	83771	83771-DD	83771-DV	83771-DD-DV
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV

Concrete mounting boxes	Article number
R08	88022R08
R10	88053R10

Operation and assembly instructions can be found on page 16

**Diffusing screen IP44**  
Made of etched tempered safety glass for soft dispersion of light in the room, combined with mirror reflector made of aluminium, satin matt IP44 in closed ceiling systems

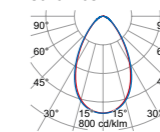
**Lighting technology**  
Half-peak divergence angle α 20°, 40° or 60°  
Colour Rendering Index CRI > 80  
Colour temperature 3000K, 4000K  
Chromaticity stability <3 SDCM  
50.000 h lifetime (L70)

**Luminaire housing**  
Inherently stable housing made of die cast aluminium and UV-resistant plastic  
Slightly raised mounting ring of just 2 mm, white

**Operation and assembly technology**  
Order control gear separately  
Screw-type multi-point fastening suitable for ceiling thicknesses of 12-25 mm (1-12 mm by using optional extension kit)  
Reflector with safety suspension



TL1102501-30-30 + 86207R08





## Tentec zono - The Economical Approach to General Lighting

### Efficiency

with up to **91 Lm/W**. Significant energy savings in the building due to the latest LED technology.



### Flexible

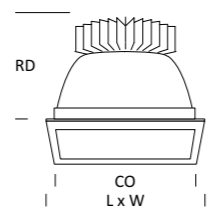
installation by selecting standard or **DALI** gear box with or without loop-in/out function.

### Reduced Recessed Depth

With the ultra shallow depth of only **120mm** the luminaire is suitable for the most difficult void situations (such as air conditioning ducts, sprinkler pipes, beams)

### Conforming to Standards

Featuring precise glare limitation for VDU applications according to LG7 (above  $\gamma$  **65°** < 1000 cd/m<sup>2</sup>).



Featuring precise glare limitation for VDU applications according to LG7 (above  $\gamma 65^\circ < 1000 \text{ cd/m}^2$ ).



**SQUARE**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	System frame
<b>CRI &gt; 80</b>								
<b>Q15, CO 170x170 mm, LxW 185x185 mm</b>								
16W	1390	77	<1000	16	160	1.3	TL2101001-03-40	+ 81001Q15
23W	1830	70	<1000	17	160	1.3	TL2101001-03-40	+ 81001Q15
<b>Q18, CO 200x200 mm, LxW 215x215 mm</b>								
16W	1460	81	<1000	16	160	1.4	TL2101002-03-40	+ 81001Q18
23W	1910	73	<1000	17	160	1.4	TL2101002-03-40	+ 81001Q18
37W	2490	61	<1000	18	170	1.4	TL2101002-03-40	+ 81001Q18
<b>New</b> 50W	3630	66	<1000	19	180	1.4	TL2101003-03-40	+ 81001Q18

Replace index -40 for 4000K by -30 for 3000K

**Lighting technology**

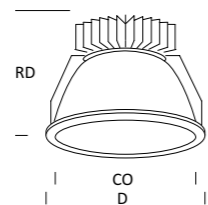
Integrated diffusor for homogeneous light distribution  
 Suitable for VDU workstations according to LG7, UGR < 19  
 Colour Rendering Index CRI > 80  
 Colour temperature 3000K, 4000K  
 Chromaticity stability < 3 SDCM  
 50.000 h lifetime (L70)  
 Mirror reflector made of aluminium, satin matt

**Luminaire housing**

Inherently stable housing made of die cast aluminium  
 Passive temperature management  
 System frame or ring, white

**Operation and assembly technology**

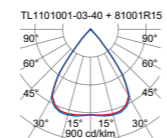
Order control gear separately  
 Screw-type multi-point fastening suitable for ceiling thicknesses of 1-25 mm



**ROUND**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	System ring
<b>CRI &gt; 80</b>								
<b>R15, CO 165 mm, D 180 mm</b>								
16W	1510	84	<1000	17	160	1.2	TL1101001-03-40	+ 81001R15
23W	1990	77	<1000	18	160	1.2	TL1101001-03-40	+ 81001R15
<b>R18, CO 195 mm, D 210 mm</b>								
16W	1550	86	<1000	15	160	1.5	TL1101002-03-40	+ 81001R18
23W	2050	79	<1000	16	160	1.5	TL1101002-03-40	+ 81001R18
37W	2550	62	<1000	17	170	1.5	TL1101002-03-40	+ 81001R18
<b>New</b> 50W	3750	68	<1000	18	180	1.5	TL1101003-03-40	+ 81001R18

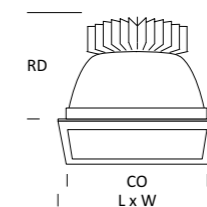
Replace index -40 for 4000K by -30 for 3000K



LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV
37W	83766	83766-DD	83766-DV	83766-DD-DV
50W	83772	83772-DD	83772-DV	83772-DD-DV

Concrete mounting boxes	Article number
Q15, 16/23W	88085Q15
Q18, 16/23W	88085Q18
Q18, 37/50W	88083Q18
R15, 16/23W	88080R15
R18, 16/23W	88080R18
R18, 37/50W	88083R18

Operation and assembly instructions can be found on page 16



Mode of Protection IP44 in closed ceiling systems - the TSG screen protects the reflector against spray water ingress and dust.



**SQUARE**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	Safety screen
<b>CRI &gt; 80</b>								
<b>Q15, CO 170x170 mm, LxW 185x185 mm</b>								
16W	1290	72	<1000	15	160	1.3	TL2101001-03-40	+ 81005Q15
23W	1690	65	<1000	16	160	1.3	TL2101001-03-40	+ 81005Q15
<b>Q18, CO 200x200 mm, LxW 215x215 mm</b>								
16W	1360	76	<1000	16	160	1.4	TL2101002-03-40	+ 81005Q18
23W	1780	68	<1000	17	160	1.4	TL2101002-03-40	+ 81005Q18
37W	2310	56	<1000	18	170	1.4	TL2101002-03-40	+ 81005Q18
<b>New</b> 50W	3300	60	<1000	19	180	1.4	TL2101003-03-40	+ 81005Q18

Replace index -40 for 4000K by -30 for 3000K

**Safety screen IP44**

Tempered safety glass (TSG) for protection against spray water and dust, combined with mirror reflector made of aluminium, satin matt IP44 in closed ceiling systems

**Lighting technology**

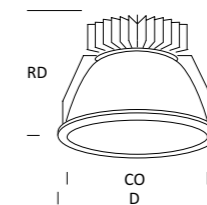
Integrated diffusor for homogeneous light distribution  
 Suitable for VDU workstations according to LG7, UGR < 19  
 Colour Rendering Index CRI > 80  
 Colour temperature 3000K, 4000K  
 Chromaticity stability < 3 SDCM  
 50.000 h lifetime (L70)  
 Mirror reflector made of aluminium, satin matt

**Luminaire housing**

Inherently stable housing made of die cast aluminium  
 Passive temperature management  
 Supporting frame or ring, white

**Operation and assembly technology**

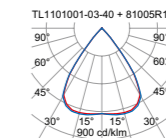
Order control gear separately  
 Screw-type multi-point fastening suitable for ceiling thicknesses of 1-25 mm  
 Tool-free changing of Liteoptics



**ROUND**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	Safety screen
<b>CRI &gt; 80</b>								
<b>R15, CO 165 mm, D 180 mm</b>								
16W	1400	78	<1000	17	160	1.3	TL1101001-03-40	+ 81005R15
23W	1850	71	<1000	18	160	1.3	TL1101001-03-40	+ 81005R15
<b>R18, CO 195 mm, D 210 mm</b>								
16W	1440	80	<1000	15	160	1.6	TL1101002-03-40	+ 81005R18
23W	1890	73	<1000	16	160	1.6	TL1101002-03-40	+ 81005R18
37W	2370	58	<1000	17	170	1.6	TL1101002-03-40	+ 81005R18
<b>New</b> 50W	3480	63	<1000	18	180	1.6	TL1101003-03-40	+ 81005R18

Replace index -40 for 4000K by -30 for 3000K

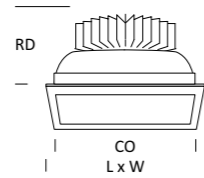


LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV
37W	83766	83766-DD	83766-DV	83766-DD-DV
50W	83772	83772-DD	83772-DV	83772-DD-DV

Concrete mounting boxes	Article number
Q15, 16/23W	88085Q15
Q18, 16/23W	88085Q18
Q18, 37/50W	88083Q18
R15, 16/23W	88080R15
R18, 16/23W	88080R18
R18, 37/50W	88083R18

Operation and assembly instructions can be found on page 16





With the ultra shallow depth of only 120mm the luminaire is suitable for the most difficult void situations (such as air conditioning ducts, sprinkler pipes, beams)

**120 mm**



**SQUARE**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	System frame
<b>CRI &gt; 80</b>								
<b>Q15, CO 170x170 mm, LxW 185x185 mm</b>								
16W	1560	87	-	22	120	1.1	TL2101101-03-40	+ 81001Q15
23W	2060	79	-	23	120	1.1	TL2101101-03-40	+ 81001Q15
<b>Q18, CO 200x200 mm, LxW 215x215 mm</b>								
16W	1600	89	-	23	120	1.3	TL2101102-03-40	+ 81001Q18
23W	2090	80	-	24	120	1.3	TL2101102-03-40	+ 81001Q18
37W	2700	66	-	25	130	1.3	TL2101102-03-40	+ 81001Q18
<b>New</b> 50W	3810	69	-	25	140	1.3	TL2101103-03-40	+ 81001Q18

Replace index -40 for 4000K by -30 for 3000K

**Lighting technology**

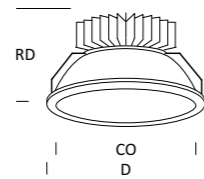
Integrated diffuser for homogeneous light distribution  
 Colour Rendering Index CRI > 80  
 Colour temperature 3000K, 4000K  
 Chromaticity stability < 3 SDCM  
 50.000 h lifetime (L70)  
 Mirror reflector made of aluminium, satin matt

**Luminaire housing**

Inherently stable housing made of die cast aluminium  
 Passive temperature management  
 System frame or ring, white

**Operation and assembly technology**

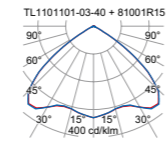
Order control gear separately  
 Screw-type multi-point fastening suitable for ceiling thicknesses of 1-25 mm



**ROUND**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	System ring
<b>CRI &gt; 80</b>								
<b>R15, CO 165 mm, D 180 mm</b>								
16W	1610	89	<3000	23	120	1.1	TL1101101-03-40	+ 81001R15
23W	2110	81	<3000	24	120	1.1	TL1101101-03-40	+ 81001R15
<b>R18, CO 195 mm, D 210 mm</b>								
16W	1630	91	-	23	120	1.3	TL1101102-03-40	+ 81001R18
23W	2130	82	-	24	120	1.3	TL1101102-03-40	+ 81001R18
37W	2750	67	-	25	130	1.3	TL1101102-03-40	+ 81001R18
<b>New</b> 50W	3960	68	-	26	140	1.3	TL1101103-03-40	+ 81001R18

Replace index -40 for 4000K by -30 for 3000K



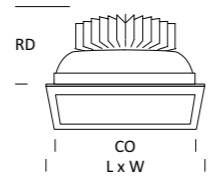
LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV
37W	83766	83766-DD	83766-DV	83766-DD-DV
50W	83772	83772-DD	83772-DV	83772-DD-DV

Concrete mounting boxes	Article number
Q15, 16/23W	88085Q15
Q18, 16/23W	88085Q18
Q18, 37/50W	88083Q18
R15, 16/23W	88080R15
R18, 16/23W	88080R18
R18, 37/50W	88083R18

Operation and assembly instructions can be found on page 16







Made of Protection IP44 in closed ceiling systems - the TSG screen protects the reflector against spray water ingress and dust.



**SQUARE**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	Safety screen
<b>CRI &gt; 80</b>								
<b>Q15, CO 170x170 mm, LxW 185x185 mm</b>								
16W	1450	81	-	22	120	1.2	TL2101101-03-40	+ 81005Q15
23W	1910	73	-	23	120	1.2	TL2101101-03-40	+ 81005Q15
<b>Q18, CO 200x200 mm, LxW 215x215 mm</b>								
16W	1490	83	-	22	120	1.5	TL2101102-03-40	+ 81005Q18
23W	1950	75	-	23	120	1.5	TL2101102-03-40	+ 81005Q18
37W	2510	61	-	24	130	1.5	TL2101102-03-40	+ 81005Q18
<b>New</b> 50W	3490	63	-	25	140	1.5	TL2101103-03-40	+ 81005Q18

Replace index -40 for 4000K by -30 for 3000K

**Safety screen IP44**

Tempered safety glass (TSG) for protection against spray water and dust, combined with mirror reflector made of aluminium, satin matt IP44 in closed ceiling systems

**Lighting technology**

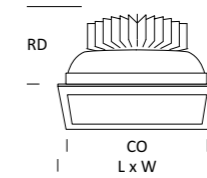
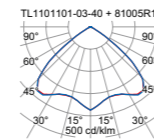
Integrated diffusor for homogeneous light distribution  
 Colour Rendering Index CRI > 80  
 Colour temperature 3000K, 4000K  
 Chromaticity stability <3 SDCM  
 50.000 h lifetime (L70)

**Luminaire housing**

Inherently stable housing made of die cast aluminium  
 Passive temperature management  
 Supporting frame or ring, white

**Operation and assembly technology**

Order control gear separately  
 Screw-type multi-point fastening for ceiling thicknesses of 1-25 mm  
 Tool-free changing of Liteoptics



Made of Protection IP44 in closed ceiling systems - the TSG screen protects the reflector against spray water ingress and dust.



**SQUARE**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	Diffusing screen
<b>CRI &gt; 80</b>								
<b>Q15, CO 170x170 mm, LxW 185x185 mm</b>								
16W	1510	84	-	25	120	1.3	TL2102001-01-40	+ 81010Q15
23W	1960	75	-	26	120	1.3	TL2102001-01-40	+ 81010Q15
<b>Q18, CO 200x200 mm, LxW 215x215 mm</b>								
16W	1560	87	-	25	120	1.6	TL2102002-01-40	+ 81010Q18
23W	2060	79	-	26	120	1.6	TL2102002-01-40	+ 81010Q18
37W	2640	64	-	27	130	1.6	TL2102002-01-40	+ 81010Q18
<b>New</b> 50W	3600	65	-	27	140	1.6	TL2102003-01-40	+ 81010Q18

Replace index -40 for 4000K by -30 for 3000K

**Diffusing screen IP44**

Made of etched tempered safety glass for soft dispersion of light in the room, combined with mirror reflector made of aluminium, satin matt IP44 in closed ceiling systems

**Lighting technology**

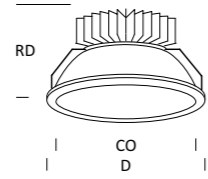
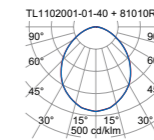
Integrated diffusor for homogeneous light distribution  
 Colour Rendering Index CRI > 80  
 Colour temperature 3000K, 4000K  
 Chromaticity stability <3 SDCM  
 50.000 h lifetime (L70)

**Luminaire housing**

Inherently stable housing made of die cast aluminium  
 Passive temperature management  
 Supporting frame or ring, white

**Operation and assembly technology**

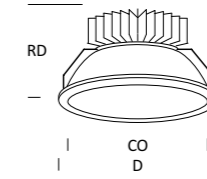
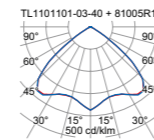
Order control gear separately  
 Screw-type multi-point fastening for ceiling thicknesses of 1-25 mm  
 Tool-free changing of Liteoptics



**ROUND**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	Safety screen
<b>CRI &gt; 80</b>								
<b>R15, CO 165 mm, D 180 mm</b>								
16W	1490	83	<3000	23	120	1.2	TL1101101-03-40	+ 81005R15
23W	1910	73	-	24	120	1.2	TL1101101-03-40	+ 81005R15
<b>R18, CO 195 mm, D 210 mm</b>								
16W	1520	84	<3000	22	120	1.4	TL1101102-03-40	+ 81005R18
23W	1990	77	-	23	120	1.4	TL1101102-03-40	+ 81005R18
37W	2540	62	-	24	130	1.4	TL1101102-03-40	+ 81005R18
<b>New</b> 50W	3370	61	-	25	140	1.4	TL1101103-03-40	+ 81005R18

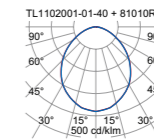
Replace index -40 for 4000K by -30 for 3000K



**ROUND**

System photometric data							Article number	
LED	Llm	Llm/W	$\gamma \geq 65^\circ \text{cd/m}^2$	UGR	RD mm	kg	Luminaire	Diffusing screen
<b>CRI &gt; 80</b>								
<b>R15, CO 165 mm, D 180 mm</b>								
16W	1460	81	-	26	120	1.2	TL1102001-01-40	+ 81010R15
23W	1900	73	-	27	120	1.2	TL1102001-01-40	+ 81010R15
<b>R18, CO 195 mm, D 210 mm</b>								
16W	1520	84	-	26	120	1.4	TL1102002-01-40	+ 81010R18
23W	2000	77	-	26	120	1.4	TL1102002-01-40	+ 81010R18
37W	2560	62	-	27	130	1.4	TL1102002-01-40	+ 81010R18
<b>New</b> 50W	3510	64	-	28	140	1.4	TL1102003-01-40	+ 81010R18

Replace index -40 for 4000K by -30 for 3000K



LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV
37W	83766	83766-DD	83766-DV	83766-DD-DV
50W	83772	83772-DD	83772-DV	83772-DD-DV

LED gear boxes	Article number			
	without loop-in/out		with loop-in/out	
	standard	DALI	standard	DALI
16W	83761	83761-DD	83761-DV	83761-DD-DV
23W	83762	83762-DD	83762-DV	83762-DD-DV
37W	83766	83766-DD	83766-DV	83766-DD-DV
50W	83772	83772-DD	83772-DV	83772-DD-DV

Concrete mounting boxes	Article number
Q15, 16/23 W	88085Q15
Q18, 16/23 W	88085Q18
Q18, 37/50 W	88083Q18
R15, 16/23 W	88080R15
R18, 16/23 W	88080R18
R18, 37/50 W	88083R18

Concrete mounting boxes	Article number
Q15, 16/23W	88085Q15
Q18, 16/23W	88085Q18
Q18, 37/50W	88083Q18
R15, 16/23W	88080R15
R18, 16/23W	88080R18
R18, 37/50W	88083R18

Operation and assembly instructions can be found on page 16

Operation and assembly instructions can be found on page 16

# Accessories

## LED Gear Boxes

All LED luminaires shown in this brochure are sold without gear boxes to provide you with the highest degree of flexibility. Two product lines with distinct characteristics are available. The colour coded LED gear boxes are coordinated with the corresponding luminaire to reduce errors during electrical installation. The electrical connection is done via a plug connector that is protected against polarity reversal, without load when switched off.

### Premium Version with Loop-in/Loop-out Function

WILA LED gear boxes, standard or DALI dimmable. High quality version with gear box housing with loop-in/loop-out function. Suitable for emergency lighting with central battery.

### Standard Version without Loop-in/Loop-out Function

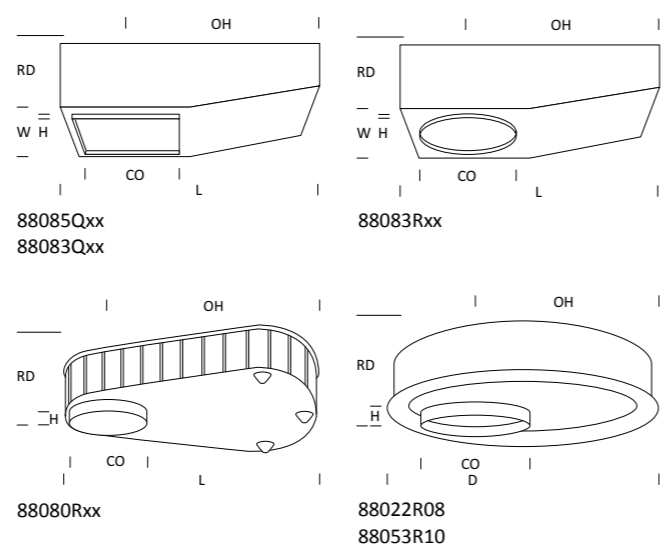
Cost effective alternative if loop-in/loop-out function is not required, standard or DALI dimmable. Suitable for emergency lighting with central battery.



## Concrete Mounting Boxes

Concrete mounting boxes allow the uninterrupted use of recessed Downlights even in exposed concrete and plastered ceilings. Thus the ceiling appearance remains clean, and alternative surface mounted luminaires are not required. The two part metal housing holds its shape and is designed for better heat transfer; it also allows accurate positioning and fast installation while meeting all legally required fire prevention regulations.

Concrete mounting boxes								
	CO	RD	D	L	B	OH	H	Article number
<b>Tentec square</b>								
Q15, 16/23 W	170	155	-	495	270	365	18	88085Q15
Q18, 16/23 W	200	175	-	510	300	365	18	88085Q18
Q18, 37/50 W	235	180	-	594	355	415	18	88083Q18
<b>Tentec round</b>								
R08	95	140	200	-	160		30	88022R08
R10	120	165	260	-	215		30	88053R10
R15, 16/23 W	165	165	-	480	-	345	35	88080R15
R18, 16/23 W	195	165	-	480	-	345	35	88080R18
R18, 37/50 W	195	180	-	594	355	415	18	88083R18



## Information and Tolerance

Many luminaires are protected by comprehensive design registrations, patents and trademark protections. We reserve the right to change material, design and programme without notice. Statements are not warranted characteristics. Photometric data is subject to a tolerance of +/- 10%. Optical attachments also impact IP values. Pictures and drawings are for illustrative purposes only. Our terms and conditions of sale and delivery apply.

## F Mark

All WILA luminaires are suitable for use in or on ceilings of normal flammability and have so far been labelled with the F marking. With the publication of the EN 60598 standard, date of issue 09/2009, this marking is no longer applicable. After the end of the transitional phase on 12.04.2012, all luminaires without labelling are suitable for use in or on a ceiling of normal flammability. Luminaires that do not fulfil the thermal requirements are marked with a new pictogram.

## Information about Maintenance

The illuminance for a room/property must satisfy the published values according to EN 12464-1 over the entire period of usage; this corresponds to the maintenance value. The electrical planner is responsible for determining the maintenance factor dependent upon the lighting system and the spatial conditions used and ensuring this with a maintenance schedule. Further details about maintenance can be found in the "Knowledge" section on our homepage [www.wila.com](http://www.wila.com)

## Guaranteed Quality

WILA guarantees for 5 years that the products of the WILA brand will be free of manufacturing and/or material defects with correct usage. This guarantee applies for all standard products listed in this brochure and their variants. You can find further details about the guarantee and the required registration on [www.wila.com](http://www.wila.com) „Service“.



# Definitions

## Luminaire Luminous Flux Llm

The luminaire luminous flux (Llm) defines the usable light of the luminaire and is the decisive value in lighting design. As opposed to the lamp luminous flux (lm), the luminaire luminous flux (Llm) accounts for losses due to the design of the luminaire and thermal losses associated with LED systems. WILA defines only the Llm value for all LED lamps at operating temperature. This value can be found both in data sheets and in the relevant EULUMDAT file.

## System Efficiency Llm/W

System efficiency defines the ratio of luminaire luminous flux (Llm) to power input (W). Efficiency losses due to gear boxes have already been taken into account by WILA in the Llm/W value.

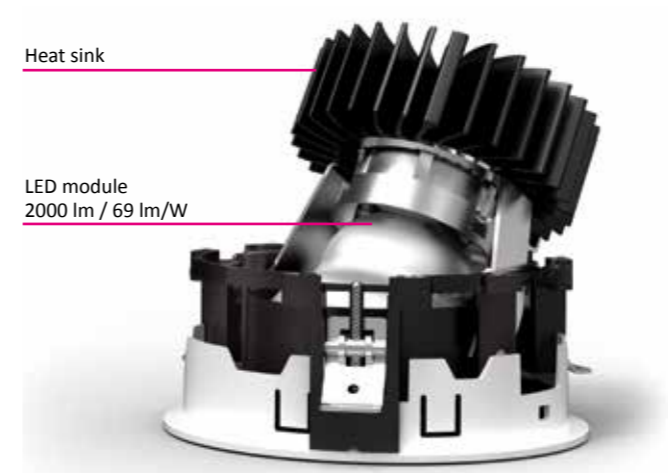
## System Photometric Data

For a qualified comparison between LED luminaires and luminaires with compact fluorescent lamps, it is important to ensure first that the products to be compared share approximately the same photometric data. Sample calculation:

**LED luminous flux 2000 lm (100%) - system losses (light output ratio) = luminaire luminous flux 1720 Llm**

**LED efficiency 2000 lm : 29 W = 69 lm/W**

**System efficiency 1720 Llm : 31 W (29 W LED module + 2 W driver) = 55 Llm**



Luminaire luminous flux 1720 Llm  
System efficiency 55 Llm/W

## Cut-off Angle

The cut-off angle of luminaires is defined as the angle between the horizontal plane and the point from which the light source is not directly visible yet. The increased visual comfort offered by shielded light sources is clearly perceivable. The Downlights of the abet zono family of products, for example, have a very good cut-off angle of 30°.

## Half-peak Divergence Angle α

For accent lighting, the half-peak divergence angle α is given rather than the beam spread angle. The half-peak divergence angle is defined as the angle of the rotationally symmetrical luminous intensity distribution at which the luminous intensity equals half of its maximum value. The half-peak divergence angle is given as a full angle.

- super spot < 10°
- spot 10° - 20°
- flood 21° - 45°
- wide flood 46° - 55°
- very wide flood > 55°

## Beam Spread Angle γ

The beam spread angle γ is defined as the angle at which the luminous intensity drops to 1% of the maximum value Imax. It is measured from the vertical (see luminous intensity distribution curve) and is an important measurement for glare reduction.

### Limits of the average luminance of screens with a beam angle of > 65°

	Screen high illuminance ≥ 200 cd/m²	Screen average illuminance ≤ 200 cd/m²
	Positive polarity and usual requirements <sup>1)</sup>	≤ 3000 cd/m²
Negative polarity and high requirements <sup>2)</sup>	≤ 1500 cd/m²	≤ 1000 cd/m²

1) Example Office programme, dark text on bright background  
2) Example CAD programme, bright lines on dark background

## UGR

The UGR method takes into account the layout of the luminaires in the room and evaluates the glare produced by the entire lighting system for a specific observers position. WILA provides UGR values where the observers position is parallel to the longitudinal axis of the luminaire and the lamp/luminaire axis is parallel to the longer side of the room. The UGR method is implemented on the basis of simple tables. A low UGR value indicates that glare is negligible or non-existent.

Suitability examples maximum UGR values:

- 16 for drafting rooms,
- 19 for offices and control rooms,
- 22 for precision industrial tasks
- 25 for light industrial tasks and
- 28 for heavy industrial tasks.

## Luminous Intensity Distribution

In order to give a clearer overview, the luminous intensity distribution curves have been divided into groups. Shown are the planes from 0° to 180° (red line) and from 90° to 270° (blue line). The 0° plane is on the right.

## Beam Chart

For accent luminaires beam charts are shown. The angle of the spread out beam corresponds to the half-peak divergence angle of the luminous intensity. Diameter and average illuminance Em [lx] can be read from the chart for each corresponding height.

## Planning Grid Room

The chart is intended as a means of calculating the approximate illuminance required for ceiling grids in rooms and corridors. For the 600 grid, the illuminances should be multiplied by a factor of 0.9.

## Index

- DV = loop-in/loop-out function
- DD = dimmable, DALI
- DD-DV = DALI dimmable with loop-in/loop-out function

## Abbreviations/Dimensions

- OH = overhang, max. length of luminaire from the centre of reflector
- W, W1 = width information
- D = diameter
- CO = ceiling, wall or floor cut-out for recessed luminaires
- CO W = width of ceiling or wall cut-out for recessed luminaires
- CO L = length of ceiling or wall cut-out for recessed luminaires
- RD = required installation depth for recessed luminaires under consideration of F conditions
- H, H1 = height information
- K = colour temperature in Kelvin
- L, L1 = length information
- Q = reflector size, square
- R = reflector size, round
- Ra = colour rendering index
- W = electrical power
- α = half-peak divergence angle
- γ = beam spread angle