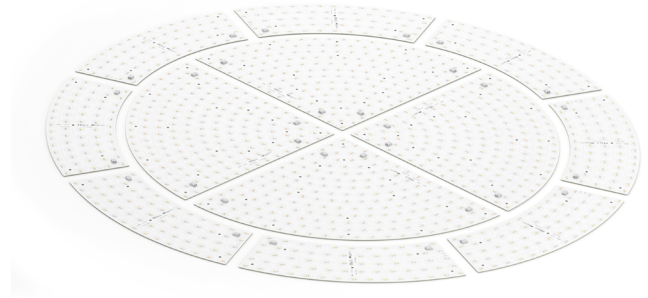


## Round LED modules 1/4 800mm & 1/8 RING 820-1080mm

### Product description

- Long life-time
- Built-in, constant current LED module
- Re-workable push-in terminals enabling easy connection
- Compliance and approval: CE, ENEC
- Available CCT from 2700K to 6500K and CRI 80, 90



### RdLED CRI 80 Optimum G2

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
RdLED 1/4 800mm 3000lm 830 33V Opt G2	1010 117 87846	3000	540	2893	2984	29	16	185	160	2500	C
RdLED 1/8 RING 820-1080mm 1100lm 830 24V Opt G2	1010 117 88046		270	1052	1085	21	5.7	185	80	2500	C
RdLED 1/4 800mm 3000lm 840 33V Opt G2	1010 117 87946	4000	540	3134	3232	29	16	200	160	2500	B
RdLED 1/8 RING 820-1080mm 1100lm 840 24V Opt G2	1010 117 88146		270	1140	1175	21	5.7	200	80	2500	B

### RdLED CRI 80 Optimum

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
RdLED 1/4 800mm 3000lm 830 33V Optimum	1010 117 23246	3000	560	3047	3152	30	17	183	160	2400	C
RdLED 1/8 RING 820-1080mm 1100lm 830 24V Optimum	1010 117 23446		280	1108	1146	22	6.1	183	80	1200	C
RdLED 1/4 800mm 3000lm 840 33V Optimum	1010 117 23346	4000	560	3201	3311	30	17	192	160	2400	C
RdLED 1/8 RING 820-1080mm 1100lm 840 24V Optimum	1010 117 23546		280	1164	1204	22	6.1	192	80	1200	C

### RdLED CRI 90 Optimum

Product name	Ordering code	Colour temperature [K]	Current nominal If nom [mA]	Luminous flux <sup>1</sup> φ [lm]	Useful luminous flux <sup>2</sup> [lm]	Voltage <sup>1</sup> Vf [V]	Power <sup>1</sup> P [W]	Efficacy <sup>1</sup> [lm/W]	Current minimum If min <sup>3</sup> [mA]	Current maximum If max [mA]	Energy Efficiency Class
RdLED 1/4 800mm 3000lm 930 33V Optimum	1010 117 46446	3000	600	2831	2964	30	18	157	160	2400	D
RdLED 1/8 RING 820-1080mm 1100lm 930 24V Optimum	1010 127 07146		300	1040	1078	22	6.6	158	80	1200	D
RdLED 1/4 800mm 3000lm 940 33V Optimum	1010 117 30946	4000	600	3027	3169	30	18	167	160	2400	C
RdLED 1/8 RING 820-1080mm 1100lm 940 24V Optimum	1010 127 07246		300	1112	1152	22	6.6	169	80	1200	C

<sup>1</sup>At nominal current and T<sub>p</sub>

<sup>2</sup>At nominal current and 25°C

<sup>3</sup>It is recommended not to operate below minimum current in order to avoid un-even brightness

Tolerance range for optical and electrical ±10%

### Temperature & humidity

Specification item	Unit	Value
T <sub>p</sub>	[°C]	45
T <sub>p rated</sub>	[°C]	65
T <sub>c</sub>	[°C]	85
Relative humidity (non-condensing)	[%]	5 ... 85
Storage ambient temperature	[°C]	-25 ... +85
Storage relative humidity (non-condensing)	[%]	5 ... 85

T<sub>p</sub> - Temperature related to the performance parameters of the LED modules

T<sub>p rated</sub> - Maximum operating temperature to which the rated performance characteristics are declared

T<sub>c</sub> - Highest permissible value for safe operation

## Round LED modules 1/4 800mm & 1/8 RING 820-1080mm

### Technical data

Specification item	Unit	RdLED 1/4 800mm	RdLED 1/8 RING 820-1080mm
Classification acc. to IEC 62031		built-in	built-in
Working voltage	[Vdc]	400	340
Beam angle	[deg]	120	120
Initial color consistency	[SDCM]	3	3
Photobiological safety		RG1 unlimited	RG1 unlimited

### Color coordinates

According to CIE 1931

Specification item	CIEx	CIEy
2700K	0.4578	0.4101
3000K	0.4338	0.4030
4000K	0.3818	0.3797
6500K	0.3123	0.3282

### Certificates & standards

Specification item	Compliant
ENEC	Yes
CE	Yes
RoHS	Yes
REACH	Yes
Zhaga	No
IP rating	No IP rating

### Lumen maintenance

#### RdLED CRI 80

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>100 000	>100 000	>100 000	>100 000	80 000	70 000
	55°C	>100 000	>100 000	>100 000	>100 000	80 000	70 000
	65°C	>100 000	>100 000	>100 000	>100 000	78 000	70 000
	75°C	>100 000	>100 000	>100 000	>100 000	78 000	69 000
	85°C	>100 000	>100 000	>100 000	>100 000	77 000	69 000
If max	45°C	>100 000	>100 000	>100 000	>100 000	51 000	39 000
	55°C	>100 000	>100 000	>100 000	>100 000	51 000	39 000
	65°C	>100 000	>100 000	>100 000	>100 000	48 000	37 000
	75°C	>100 000	>100 000	>100 000	>100 000	45 000	35 000
	85°C	>100 000	>100 000	>100 000	69 000	43 000	34 000

calculated data based on LM80 LED data (@65mA 17000h / @160mA & 200mA 12000h)

#### RdLED CRI 90

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>100 000	>100 000	>100 000	>100 000	79 000	>60 000
	65°C	>100 000	>100 000	>100 000	>100 000	>60 000	>60 000
	85°C	>100 000	>100 000	>100 000	95 000	49 000	43 000
If max	45°C	82 000	69 000	52 000	49 000	29 000	28 000
	65°C	73 000	63 000	47 000	44 000	25 000	24 000
	85°C	64 000	58 000	41 000	38 000	22 000	19 000

calculated data based on LM80 LED data 10 000h

#### RdLED CRI 80

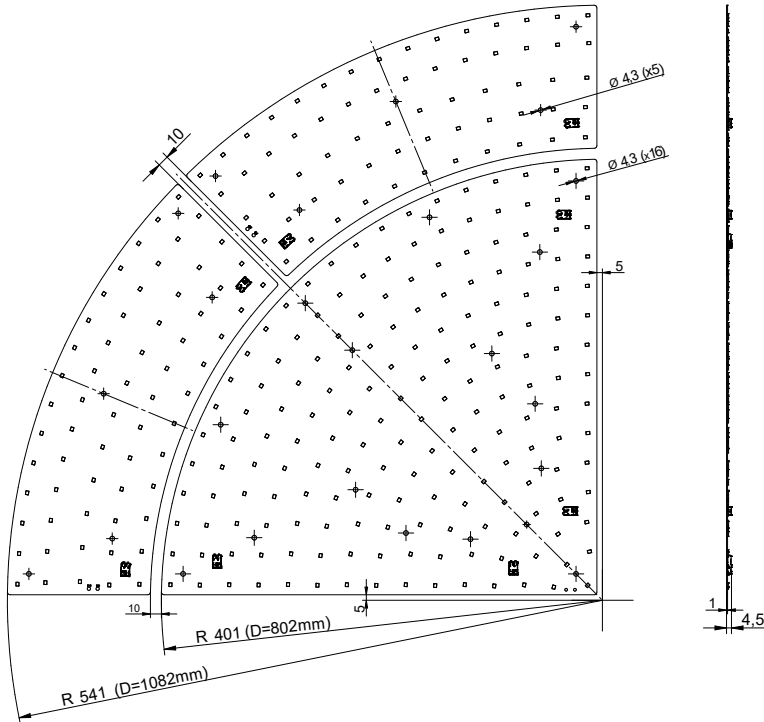
only for RdLED CRI 80 Optimum G2

Forward current	Tp temp.	L70 [h]		L80 [h]		L90 [h]	
		B50	B10	B50	B10	B50	B10
If nom	45°C	>100 000	>100 000	>100 000	94 000	46 000	44 000
	65°C	>100 000	>100 000	85 000	72 000	36 000	31 000
	85°C	>100 000	>100 000	73 000	61 000	31 000	25 000

calculated data based on LM80 LED data 10 000h

## Round LED modules 1/4 800mm & 1/8 RING 820-1080mm

### Dimensions



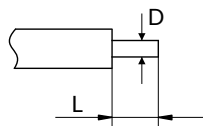
### Mounting

LED Modules cannot be exposed to tensile or compressive stresses. For this purpose it is necessary that the modules are assembled to a flat surface by only rounded head screws. Additionally plastic flat washer should be used to ensure creepage distance between screw's head and surface of the pcb. Max. torque for fixing: 0,5Nm.

LED modules are sensitive to electrostatic discharge (ESD). Follow safety regulations according to IEC 61340-5-1.

### Wiring

Wire cross section and strip length:



D - wire cross section (solid and flexible wires)	Min	Max
	0.2mm <sup>2</sup>	0.75mm <sup>2</sup>
	AWG 24	AWG 18

L - strip length	Min	Max
	8mm	9mm

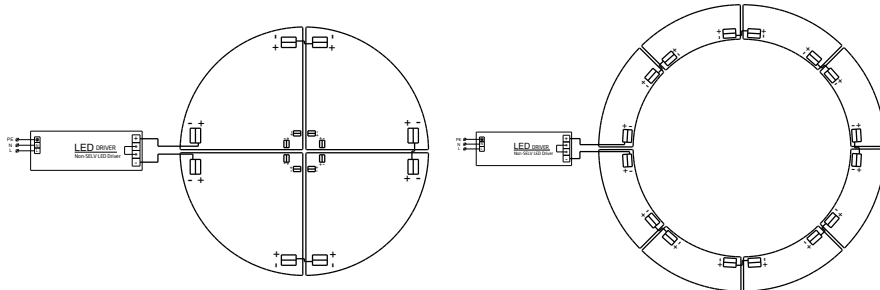
Opening for the release of wires from the top with release pin Electroterminal art. 881 167 884:



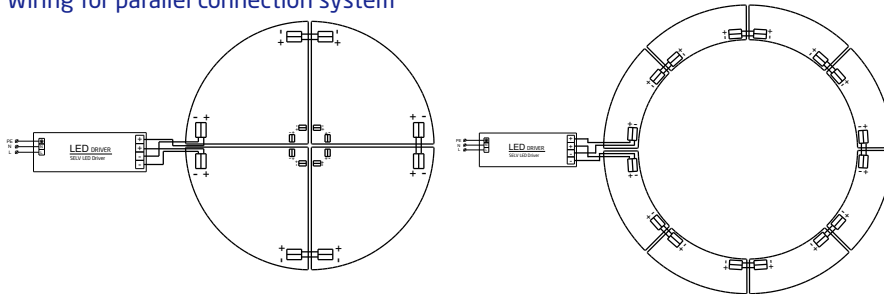
## Round LED modules 1/4 800mm & 1/8 RING 820-1080mm

### Connections

#### Wiring for series connection system



#### Wiring for parallel connection system



To prevent irregular luminous intensity in parallel connection use only LED modules from the same V-code group.  
V-code (e.g. "A", "B", "AB") is printed on the LED module and box label. Naming is not adequate to efficacy or luminous flux.

### Energy Label / EPREL database

To obtain Energy Label for this product visit <https://eprel.ec.europa.eu/> and enter model identifier

Model identifier consists of 10 digits XXXX XXX XXX. It is printed directly on the LED module or on product label. This is the number you can see in EPREL database.

Ordering code consist of 12 digits XXXX XXX XXX46. Additional last two digits means packaging of the product.

### Ordering codes

Product name	Ordering code	Pieces per box	Pieces per pallet	Box dimensions [mm]
RdLED 1/4 800mm 3000lm 830 33V Opt G2	1010 117 87846	12	336	413 x 413 x 58
RdLED 1/8 RING 820-1080mm 1100lm 830 24V Opt G2	1010 117 88046	24	672	413 x 413 x 58
RdLED 1/4 800mm 3000lm 840 33V Opt G2	1010 117 87946	12	336	413 x 413 x 58
RdLED 1/8 RING 820-1080mm 1100lm 840 24V Opt G2	1010 117 88146	24	672	413 x 413 x 58
RdLED 1/4 800mm 3000lm 830 33V Optimum	1010 117 23246	12	336	413 x 413 x 58
RdLED 1/8 RING 820-1080mm 1100lm 830 24V Optimum	1010 117 23446	24	672	413 x 413 x 58
RdLED 1/4 800mm 3000lm 840 33V Optimum	1010 117 23346	12	336	413 x 413 x 58
RdLED 1/8 RING 820-1080mm 1100lm 840 24V Optimum	1010 117 23546	24	672	413 x 413 x 58
RdLED 1/4 800mm 3000lm 930 33V Optimum	1010 117 46446	12	336	413 x 413 x 58
RdLED 1/8 RING 820-1080mm 1100lm 930 24V Optimum	1010 127 07146	24	672	413 x 413 x 58
RdLED 1/4 800mm 3000lm 940 33V Optimum	1010 117 30946	12	336	413 x 413 x 58
RdLED 1/8 RING 820-1080mm 1100lm 940 24V Optimum	1010 127 07246	24	672	413 x 413 x 58