



# LED Downlight D2



## Product information

Tungsrang introduces the LED Diffuser Downlighters second generation. There are a selection of sizes and colour temperature options to meet customer requirements. With this new range, lighting can be upgraded in key segments such as offices, commercial buildings, retail back of house areas and hospitality.

## Features

- Power: 10W, 12W, 18W and 22W versions
- Luminous flux: from 1100 to 2800 lm
- High efficiency: up to 127 lm/W
- 50 000 hours lifetime at 25°C (L70/B50)
- Nominal Voltage: 220-240V
- Operating frequency: 50-60Hz
- 3 colour temperatures: 3000, 4000 and 6000K
- High color rendering: CRI>80
- Beam angle: 90° or 100°
- Operation temperature: -20°C to 40°C
- Luminaire storage: -40°C to 85°C
- Direct replacement for compact fluorescent lamp downlights
- Easy installation with fast connection
- Integrated polycarbonate reflector and white aluminum housing for good heat dissipation
- Wire spring leaf for secure installation

## Application areas



Retail



Hospitality



Office



General illumination



Stairways,  
corridors

- Toilets, bathrooms, kitchens

## Specification summary

Parameters below are the same for all luminaires in the range:

Light Technology used	LED
Light source	Non-removable light source
Mains / Non-mains	Non-mains light source
Directional / Non-directional	Directional
Colour-tuneable	No
Anti-glare shield	No
Correlated color temperature (CCT)	3000K, 4000K, 6000K
Colour rendering index (CRI) (Ra) min	80
R9 colour rendering index value	0
SDCM (Standard Deviation or Color Maintenance)	≤6
Beam angle	10W - 90° 12W/18W/22W - 100°
Flicker metric	<1
Stroboscopic effect metric	<0.4

Input Voltage & Frequency	220-240V(AC), 50/60Hz
Power factor	≥0.9
Displacement factor	>0.9
Lifetime (L70B50)	50000
Survival factor at 3000h	1
Lumen maintenance at 3000h	0.96
Ingress protection (IP)	IP44
Protection Class	Class II
IK Rating	IK02
Color of Housing (RAL)	Signal White - RAL 9003
Materials (housing)	PC / Aluminium

Parameters below are specific for each of the product codes:

Product code	Description	ELECTRICAL DATA					PHOTOMETRICAL DATA			DIMENSIONS & WEIGHTS		
		Luminaire power (W)	Light source On-mode power (W)	Lightsource output voltage (V (DC))	Light source input current (mA)	Dimm.	Luminaire lumen (lm)	Light source Useful lumen (90°) (lm)	Luminaire Efficiency (lm/W)	UGR	Dimensions (DxH) (mm)	Product weight (kg)
<b>STATIC RANGE</b>												
93120914	LED Downlight D2 TU4 IP44 10W 830 S	10	8,8	33	48	No (Static)	1100	700	110	25,9	132x63	0,185
93120915	LED Downlight D2 TU4 IP44 10W 840 S	10	8,8	33	48	No (Static)	1150	750	115	25,9	132x63	0,185
93120946	LED Downlight D2 TU4 IP44 10W 860 S	10	8,8	33	48	No (Static)	1150	750	115	25,9	132x63	0,185
93120947	LED Downlight D2 TU6 IP44 12W 830 S	12	9,8	33	52	No (Static)	1300	1140	108	25,5	185x63	0,250
93120948	LED Downlight D2 TU6 IP44 12W 840 S	12	9,8	33	52	No (Static)	1400	1200	117	25,5	185x63	0,250
93120949	LED Downlight D2 TU6 IP44 12W 860 S	12	9,8	33	52	No (Static)	1400	1200	117	25,5	185x63	0,250
93120950	LED Downlight D2 TU6 IP44 18W 830 S	18	15,1	33	80	No (Static)	2000	1750	111	26,8	185x63	0,250
93120951	LED Downlight D2 TU6 IP44 18W 840 S	18	15,1	33	80	No (Static)	2100	1800	117	26,8	185x63	0,250
93120952	LED Downlight D2 TU6 IP44 18W 860 S	18	15,1	33	80	No (Static)	2100	1800	117	26,8	185x63	0,250
93120953	LED Downlight D2 TU8 IP44 22W 830 S	22	19,9	33	103	No (Static)	2700	2300	123	26,9	230x63	0,380
93120954	LED Downlight D2 TU8 IP44 22W 840 S	22	19,9	33	103	No (Static)	2800	2400	127	26,9	230x63	0,380
93120955	LED Downlight D2 TU8 IP44 22W 860 S	22	19,9	33	103	No (Static)	2800	2400	127	26,9	230x63	0,380
93120956	LED Downlight D2 TU4 IP44 10W 830 S DS	10	8,8	33	48	No (Static)	1100	700	110	25,9	132x63	0,185
93120961	LED Downlight D2 TU4 IP44 10W 840 S DS	10	8,8	33	48	No (Static)	1150	750	115	25,9	132x63	0,185
93120962	LED Downlight D2 TU4 IP44 10W 860 S DS	10	8,8	33	48	No (Static)	1150	750	115	25,9	132x63	0,185
93120963	LED Downlight D2 TU6 IP44 12W 830 S DS	12	9,8	33	52	No (Static)	1300	1140	108	25,5	185x63	0,250
93120964	LED Downlight D2 TU6 IP44 12W 840 S DS	12	9,8	33	52	No (Static)	1400	1200	117	25,5	185x63	0,250
93120965	LED Downlight D2 TU6 IP44 12W 860 S DS	12	9,8	33	52	No (Static)	1400	1200	117	25,5	185x63	0,250
93120966	LED Downlight D2 TU6 IP44 18W 830 S DS	18	15,1	33	80	No (Static)	2000	1750	111	26,8	185x63	0,250
93120959	LED Downlight D2 TU6 IP44 18W 840 S DS	18	15,1	33	80	No (Static)	2100	1800	117	26,8	185x63	0,250
93120957	LED Downlight D2 TU6 IP44 18W 860 S DS	18	15,1	33	80	No (Static)	2100	1800	117	26,8	185x63	0,250
93120967	LED Downlight D2 TU8 IP44 22W 830 S DS	22	19,9	33	103	No (Static)	2700	2300	123	26,9	230x63	0,380
93120960	LED Downlight D2 TU8 IP44 22W 840 S DS	22	19,9	33	103	No (Static)	2800	2400	127	26,9	230x63	0,380
93120958	LED Downlight D2 TU8 IP44 22W 860 S DS	22	19,9	33	103	No (Static)	2800	2400	127	26,9	230x63	0,380

## Energy efficiency class (A-G)\*

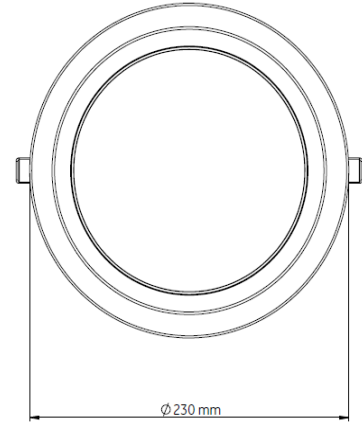
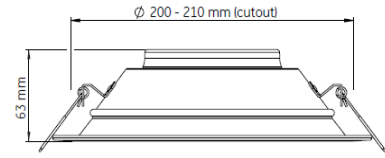
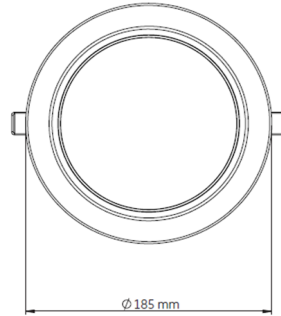
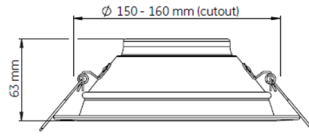
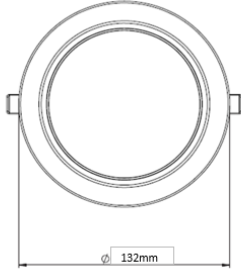
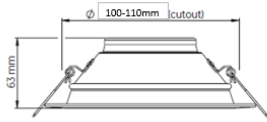


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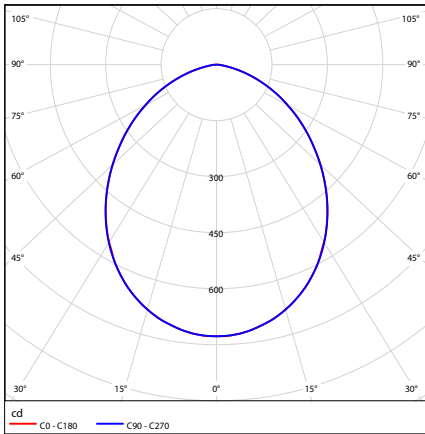
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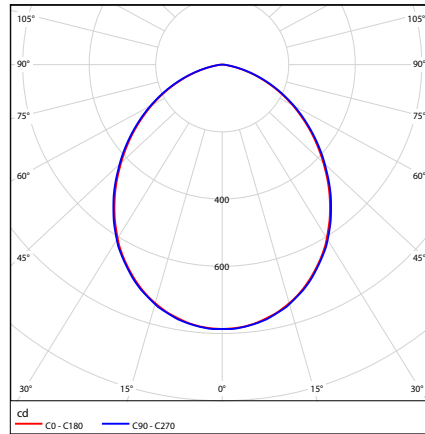
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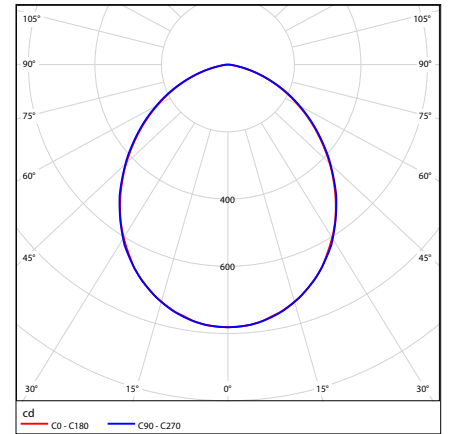
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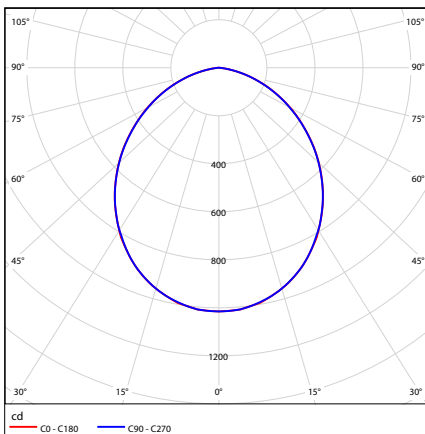
6 inch - 18W 3000K



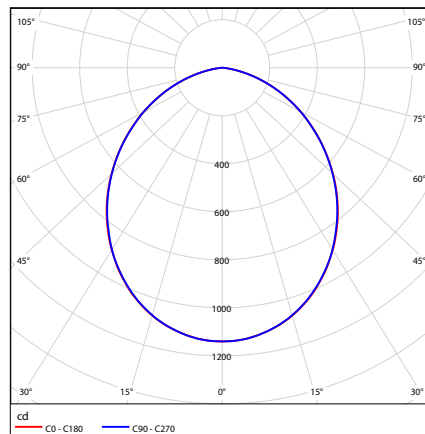
6 inch - 18W 4000K



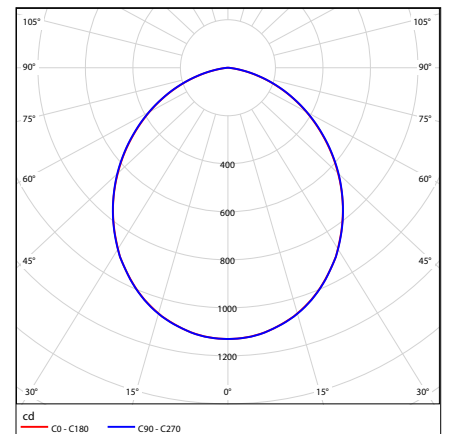
6 inch - 18W 6000K



6 inch - 22W 3000K



6 inch - 22W 4000K



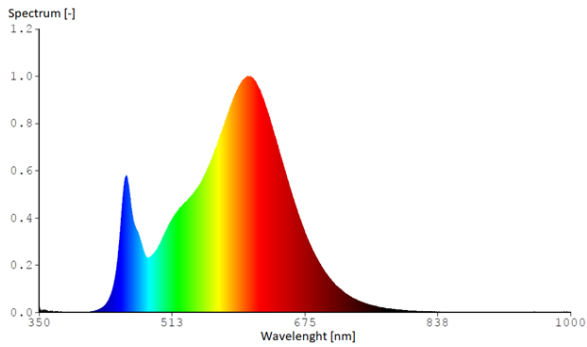
6 inch - 22W 6000K

Photometry is based on LM79

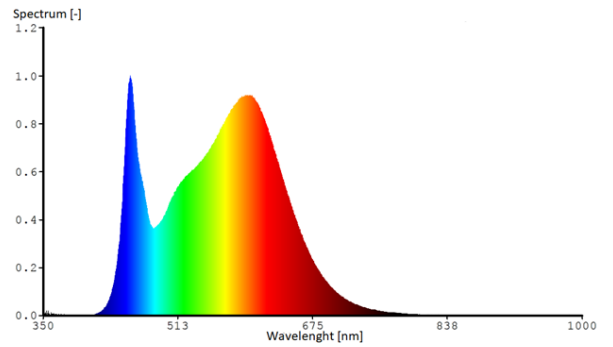
# Order logic

Internal Code	Range	Generation	Brand	Size (diameter)	"IP rating"	Wattage	CRI	CCT	Control	Shipment
LED Downlight	D - Diffuser	2 - Generation 2	TU - Tungsram	4 - 4" inch 6 - 6" inch 8 - 8" inch	IP44	10W 12W 18W 22W	8 - 80 CRI	30 - 3000K 40 - 4000K 60 - 6000K	S - Static	DS - Direct Shipment

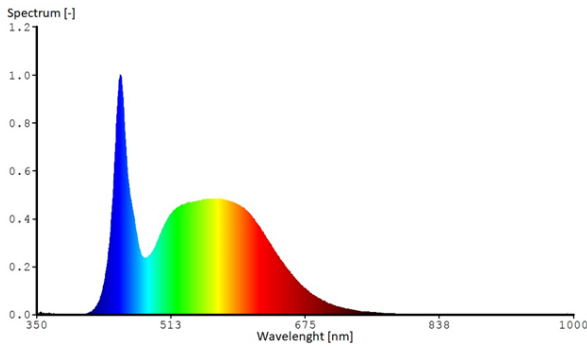
## Spectral power distribution



3000K



4000K



6000K

## Regulatory and standards

**Regulatory mark:** CE, UKCA, Morocco

**Regulations:** 2014/35/EU, 2014/30/EU, 2011/65/EU, (framework 2009/125/EC) EU 2019/2020, (framework EU/2017/1369) EU 2019/2015\*

**Harmonized standards:** EN 60598, EN 62493, EN 61547, EN55015, EN 61000, look for CE Declaration of Conformity and Technical File for details

Photobiological risk assessment is maximum group 1. The product is considered safe, does not pose any photobiological hazard

\*not on DOC