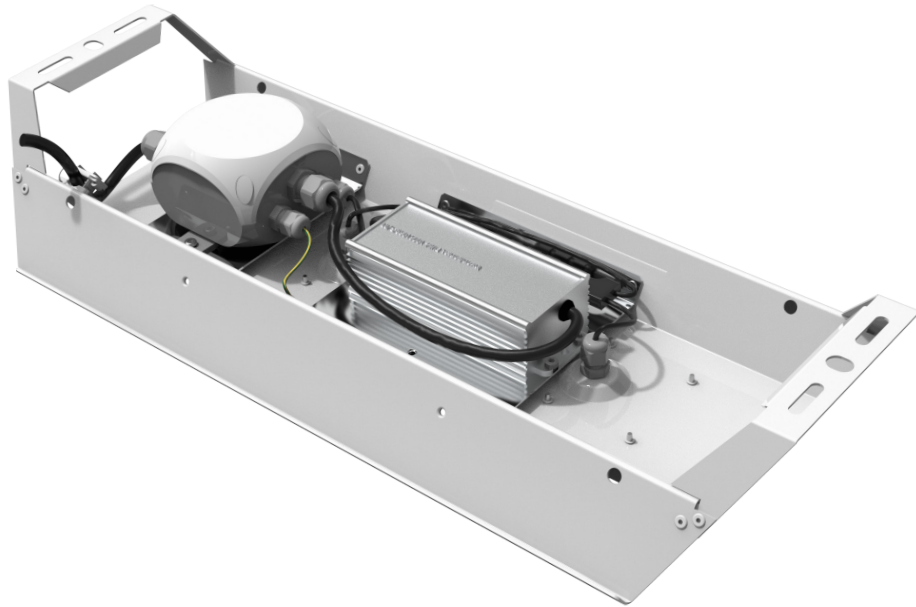


TUNGSRAM™

Innovation is our heritage
EST. 1896



DUROS

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Duros



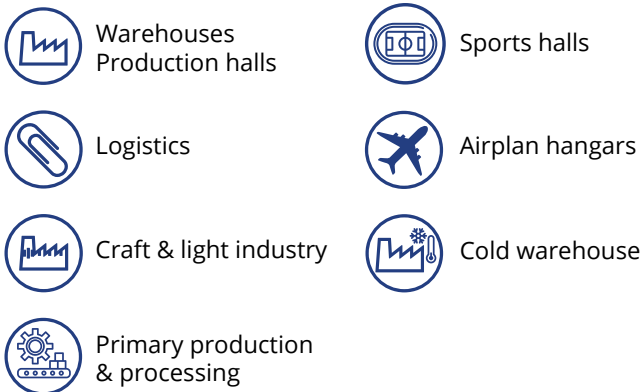
Product information

This new IP66 rated LED fixture range offers an exceptional mixture of value and performance for High Bay applications requiring high water and impact resistance. This brand new Tungsram developed range has been upgraded to reach very high efficacy up to 161 lm/W with lumen packages from 10,000 to 30,000 lumens. The range includes wide variety of alternatives for colour temperature, color rendering, beam angle and control systems to fit customer requirements. DALI and various sensor versions offer individual and grouped fixture control. Designed to replace high watt HID and T5/T8 LFL fixtures.

Applications

- Designed to meet luminance and illuminance requirements for High bay and Low bay applications where water resistance and high impact resistance is specified

Application areas



Finish

- Painted white finish with standard color: RAL 9016
- All existing RAL color is available for request

Mounting

- Two mounting options: Bracket kit for ceiling and wall mounting or Suspension holder kit

LED & Optical Assembly

- Utilising the high performing Zhaga compatible optics system to provide optimised illumination for open floor and racked aisles with photometric distributions of 24, 38, 53, 61, 84, 92, 98*33 degrees
- Lumen packages up to 30,000 lumens
- 3000K, 4000K, 5000K, 6500K versions
- 70 & 80 CRI options

Controls

- All DALI drivers use DALI2 protocol.
- Sensors working frequency is 5.8Ghz. Transmitting data on the same frequency band in close proximity to the installation of sensor products may cause potential interferences.
- SN (motion sensor) - enables standalone fixture control up to 15 m.
- RF (motion and daylight harvesting sensor) enables local lighting control system and group creation without extra wiring up to 15 m.

Housing

- Painted aluminium housing optimized for cooling efficacy and long lifetime.
- IP66 for DALI and Fixed Output, IP65 for Sensor versions. Protection level against mechanical impact IK08.

Electrical

- 220-240V/50-60Hz
- System power factor is >90% and THD <20%
- All package includes 1m long pre-cable
- Different cable sizes can be ordered on customer's request

Order Logic

Product ID	Gen.	Luminous flux ⁽¹⁾	CCT & CRI	Optic	Control ⁽²⁾	Fixing	Cover	Precable ⁽⁵⁾	Colour ⁽⁶⁾	Customer/Driver ⁽⁷⁾
DUR	1	10 - 10 klm	730 - 3000 K; CRI70	L2	FX - Fix output DL - DALI SN - Twilight and Motion (ON/OFF) RF - Daylight harvesting	BR - Standard bracket YH ⁽³⁾ - Y cable hook	C ⁽⁴⁾ - Aesthetic cover N - No cover	Pxx - Precabbling with tails PCxx - Precabbling with connector	R9016	xxx EUK
		15 - 15 klm	740 - 4000 K; CRI70	L4						
		20 - 20 klm	750 - 5000 K; CRI70	L5						
		25 - 25 klm	765 - 6500 K; CRI70	L6						
		30 - 30 klm	830 - 3000 K; CRI80	L8						
		30 - 30 klm	840 - 4000 K; CRI80	L9						
		850 - 5000 K; CRI80	L10							

Example - DUR1-10-730-L8-FX-BR-N-PC1

- (1) Lumen output can be programmed within 1 klm steps by the manufacturer.
- (2) Operating temperature range and IP protection depends on construction. FX and DL version: IP66, -25 °C to +50 °C; SN and RF version: IP65, -20 °C to +50°C.
- (3) Y cable hook available as an accessory, in four different length.
- (4) Aesthetic cover only available in Y cable hook (YH) version.
- (5) 1-10m precabbling available.
- (6) Leave it blank if it is R9016 (RAL9016). Other RAL colors available on request.
- (7) Optional customer/project/driver specific product identifier. It has no impact on technical features, except in case of EUK, which is an alternative driver option that can be programmed from 10 klm to 23 klm. Leave it blank if no value specified.

Optical performance*

Description	Nominal flux	Rated power	740 L5	L5								
	LM	W	LPW	730	740	750	765	830	840	850	865	
DUR1-10-xxx-xx-FX-xx-PC1	10000	72	149	10200	10700	10700	10200	8700	9700	9700	8700	
DUR1-15-xxx-xx-FX-xx-PC1	15000	103	157	15400	16200	16200	15400	13100	14600	14600	13100	
DUR1-20-xxx-xx-FX-xx-PC1	20000	153	141	20400	21500	21500	20400	17400	19400	19400	17400	
DUR1-25-xxx-xx-FX-xx-PC1	25000	193	140	25700	27100	27100	25700	21900	24400	24400	21900	
DUR1-30-xxx-xx-FX-xx-PC1	30000	212	137	27500	29000	29000	27500	23500	26100	26100	23500	
DUR1-10-xxx-xx-DL-xx-PC1	10000	72	149	10200	10700	10700	10200	8700	9700	9700	8700	
DUR1-15-xxx-xx-DL-xx-PC1	15000	103	157	15400	16200	16200	15400	13100	14600	14600	13100	
DUR1-20-xxx-xx-DL-xx-PC1	20000	153	141	20400	21500	21500	20400	17400	19400	19400	17400	
DUR1-25-xxx-xx-DL-xx-PC1	25000	193	140	25700	27100	27100	25700	21900	24400	24400	21900	
DUR1-30-xxx-xx-DL-xx-PC1	30000	212	137	27500	29000	29000	27500	23500	26100	26100	23500	
DUR1-10-xxx-xx-SN-xx-PC1	10000	74	145	10200	10700	10700	10200	8700	9700	9700	8700	
DUR1-15-xxx-xx-SN-xx-PC1	15000	105	154	15400	16200	16200	15400	13100	14600	14600	13100	
DUR1-20-xxx-xx-SN-xx-PC1	20000	155	139	20400	21500	21500	20400	17400	19400	19400	17400	
DUR1-25-xxx-xx-SN-xx-PC1	25000	195	139	25700	27100	27100	25700	21900	24400	24400	21900	
DUR1-30-xxx-xx-SN-xx-PC1	30000	214	136	27500	29000	29000	27500	23500	26100	26100	23500	
DUR1-10-xxx-xx-RF-xx-PC1	10000	74	145	10200	10700	10700	10200	8700	9700	9700	8700	
DUR1-15-xxx-xx-RF-xx-PC1	15000	105	154	15400	16200	16200	15400	13100	14600	14600	13100	
DUR1-20-xxx-xx-RF-xx-PC1	20000	155	139	20400	21500	21500	20400	17400	19400	19400	17400	
DUR1-25-xxx-xx-RF-xx-PC1	25000	195	139	25700	27100	27100	25700	21900	24400	24400	21900	
DUR1-30-xxx-xx-RF-xx-PC1	30000	214	136	27500	29000	29000	27500	23500	26100	26100	23500	

*all lumen values have been measured with L5 optics, in any other case please use the optical multipliers to determine the lumen value. Power consumption will remain the same.

Description	Nominal flux	Rated power	740 L5	L5							
	LM	W	LPW	730	740	750	765	830	840	850	865
DUR1-10-xxx-xx-FX-xx-xx-EUK	10000	67	161	10300	10800	10800	10300	8700	9700	9700	8700
DUR1-15-xxx-xx-FX-xx-xx-EUK	15000	106	155	15600	16400	16400	15600	13300	14700	14700	13300
DUR1-20-xxx-xx-FX-xx-xx-EUK	20000	151	144	20700	21700	21700	20700	17600	19600	19600	17600
DUR1-23-xxx-xx-FX-xx-xx-EUK	23000	164	141	21900	23100	23100	21900	18700	20700	20700	18700

*EUK version fixtures only available in 4 modules size (see below at Dimensions page)

Optical multipliers

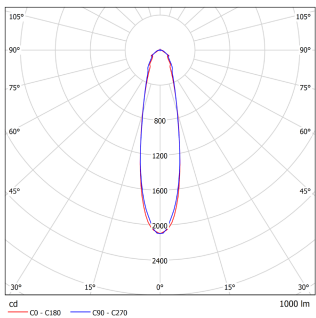
	ratio vs L5
L2	95%
L4	93%
L5	100%
L6	97%
L8	89%
L9	99%
L10	92%

UGR value

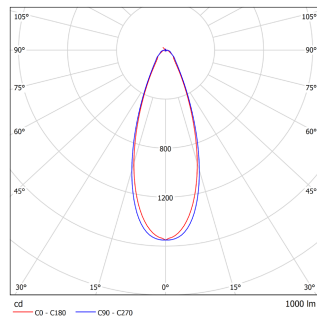
Values depending on lumen package and installation details.

Lens	UGR
L2	UGR ≤24
L4	UGR ≤22
L5	UGR ≤23
L6	UGR ≤19
L8	UGR ≤24
L9	UGR ≤22
L10	UGR ≤28

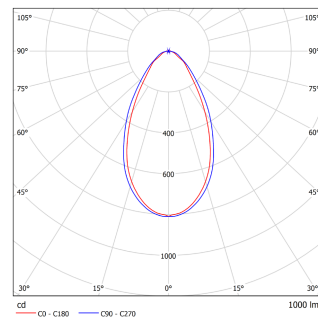
Photometric distribution



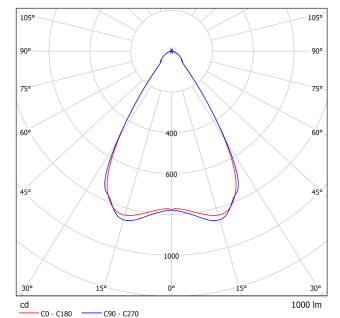
L2 - 24° Lens



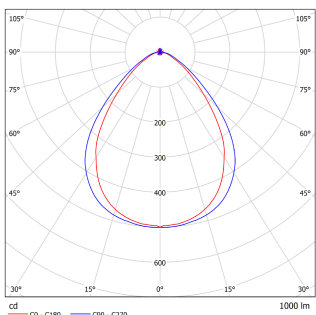
L4 - 38° Lens



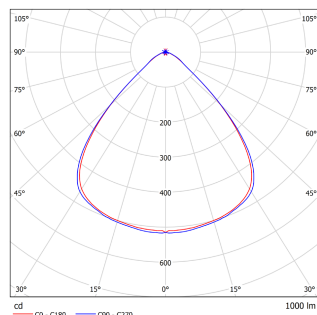
L5 - 53°



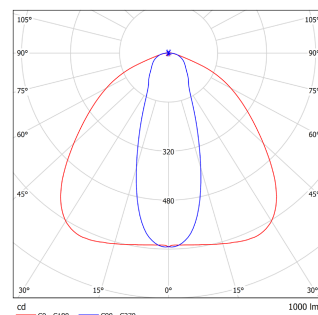
L6 - 61°



L8 - 84°



L9 - 92°



L10 - 98°*33°

Life time

	Life time [h]
L70/B50	562 000
L80/B50	345 000
L80/B10	338 000
L90/B50	153 000
L90/B10	150 000

Mounting and accessories

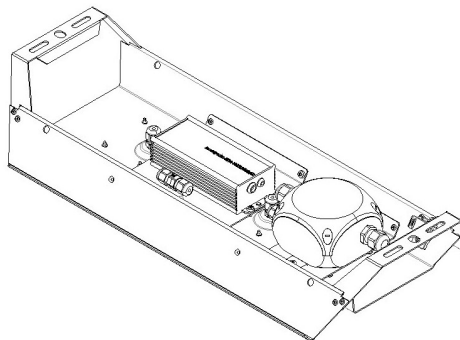
Mounting Options

Image

Accessories

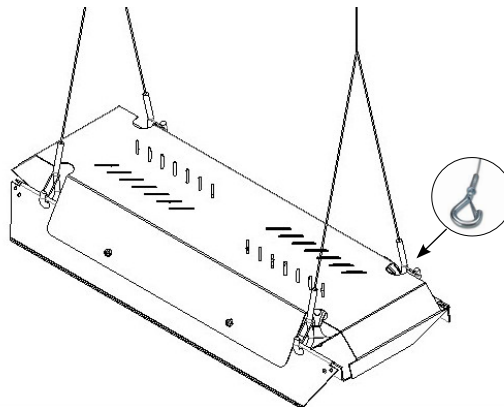
Bracket

Pre-built bracket is included in the ordered fixture.



Y-Cable w/hook (optional)

Order separately. Sold per pair - suitable for one fixture 1.5 m, 3 m, 4.5 m, 6 m lengths available.



93118332
1500MM Y-CABLE HOOK PAIR
FOR HIGH BAY 52

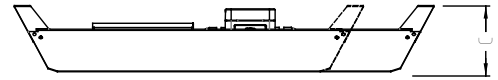
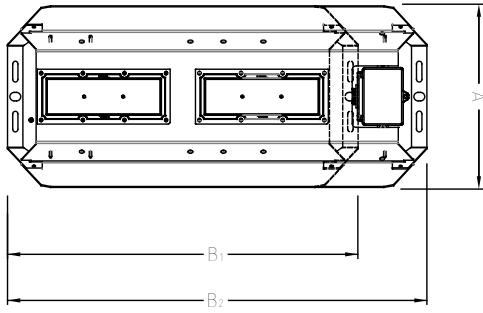
93118333
3000MM Y-CABLE HOOK PAIR
FOR HIGH BAY 52

93118334
4500MM Y-CABLE HOOK PAIR
FOR HIGH BAY 52

93118335
6000MM Y-CABLE HOOK PAIR
FOR HIGH BAY 52

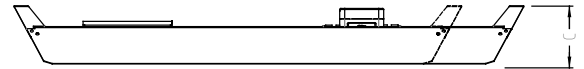
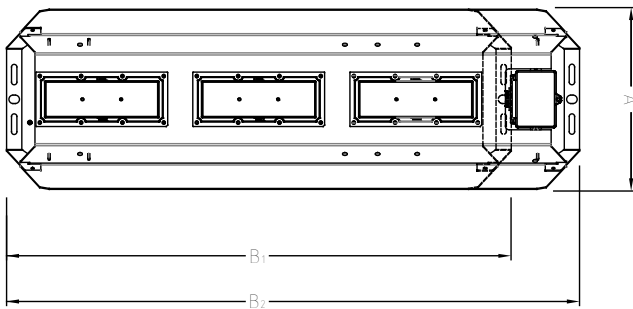
Dimensions (mm)

2 modules size



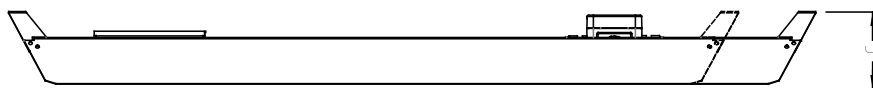
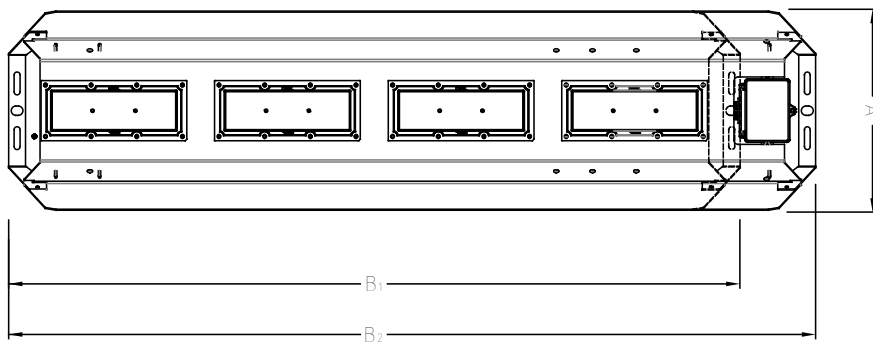
	10	kLM
	246	A
FX • DL	564	B ¹
SN • RF	595	B ²
	100	C

3 modules size



	15	20	kLM
	246		A
FX • DL	671		B ¹
SN • RF	761		B ²
	100		C

4 modules size



	25	30	kLM
	246		A
FX • DL	877		B ¹
SN • RF	967		B ²
	100		C