



The background of the catalog cover features a large, abstract graphic element composed of numerous thin, light gray lines. These lines are arranged in a radial, fan-like pattern that originates from the center of the page and extends towards the edges, creating a sense of depth and motion.

PREMIUM
LED LIGHTING
CATALOG 2015



PREMIUM
LED LIGHTING
CATALOG 2015

ABOUT THE COMPANY

BORN OF INFALLIBLE SPANISH PEDIGREE THE FRATER BRAND IS RENOWNED WORLD OVER FOR QUALITY, CONSISTENCY AND VALUE FOR MONEY.

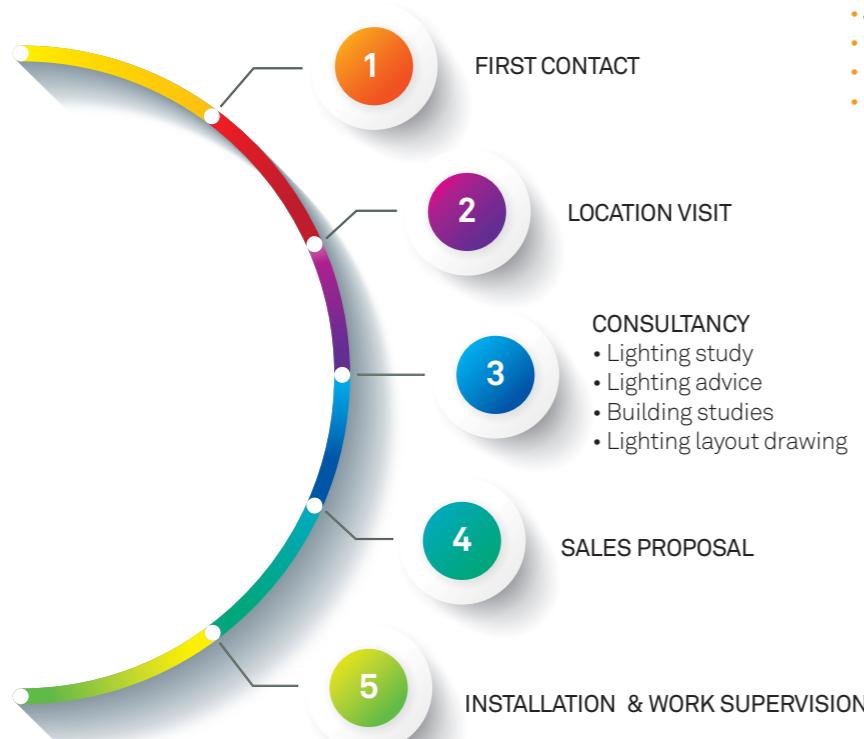
WE CATER TO THE MIDDLE EAST, AFRICA AND PAN ARAB MARKET AND LEND OUR EXPERTISE TO PROJECTS RANGING FROM FIVE STAR HOTELS TO MALLS, OFFICES, RESIDENTIAL TOWERS AND VILLAS. YOU CAN EXPERIENCE OUR LIGHTING SOLUTIONS AT THE FINEST LOCATIONS IN THE REGION.



GEOGRAPHICAL REACH



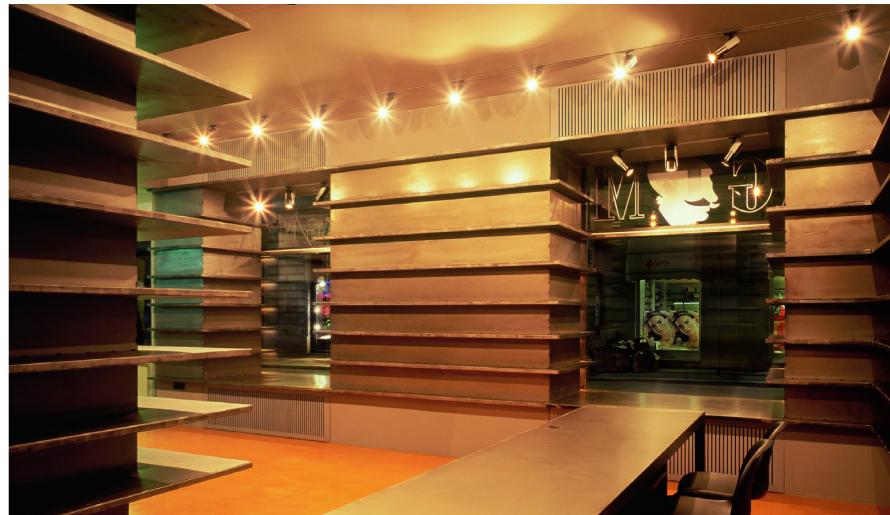
TOTAL LIGHTING SOLUTIONS APPROACH



FRATER®

AT FRATER, **CUSTOMERS** ARE THE TOP PRIORITY.
WE WILL DEMONSTRATE OUR **COMMITMENT** TO YOU IN EVERYTHING WE DO BY LIVING OUR **VALUES**.

CONTENT



INDOOR

DOWN LIGHTS	14
SPOT LIGHTS	21
PANELS EDGE LIGHTS	24
TRACK LIGHTS	27
CEILING LIGHTS	34
BULK HEADS	38
LINEAR FLEX	43
HIGH BAYS	48

OUTDOOR

CEILING LIGHTS	58
WALL PACK LIGHTS	65
FLOOD LIGHTS	70
BURIED LIGHTS	76
SPIKES	79
BOLLARDS	84

INDOOR**PRODUCT INDEX****DOWN LIGHTS**JLS Series 1
Page No. 15JLS Series 2
Page No. 16JLS Series 3
Page No. 17JLC Series 1
Page No. 18JLC Series 2
Page No. 19JLC Series 3
Page No. 20**SPOT LIGHTS**JLT Series 1
Page No. 22JLT Series 2
Page No. 23**PANELS EDGE LIGHTS**PLE Series 1
Page No. 25PLE Series 2
Page No. 26**TRACK LIGHTS**TR Series 1
Page No. 28TR Series 2
Page No. 29TR Series 3
Page No. 30TR Series 4
Page No. 31TR Series 5
Page No. 32TR Series 6
Page No. 33**CEILING LIGHTS**CLI Series 1
Page No. 35CLI Series 2
Page No. 36CLI Series 3
Page No. 37**BULK HEADS**BD Series 1
Page No. 39BD Series 2
Page No. 40BD Series 3
Page No. 41BD Series 4
Page No. 42**LINEAR FLEX**LF Series 1
Page No. 44LF Series 2
Page No. 45LF Series 3
Page No. 46LF Series 4
Page No. 47**HIGH BAYS**HB Series 1
Page No. 49HB Series 2
Page No. 50HB Series 3
Page No. 51HB Series 4
Page No. 52HB Series 5
Page No. 53HB Series 6
Page No. 54**OUTDOOR****PRODUCT INDEX****CEILING LIGHTS**CLO Series 1
Page No. 59CLO Series 2
Page No. 60CLO Series 3
Page No. 61CLO Series 4
Page No. 62CLO Series 5
Page No. 63CLO Series 6
Page No. 64**WALL PACK LIGHTS**WP Series 1
Page No. 66WP Series 2
Page No. 67WP Series 3
Page No. 68WP Series 4
Page No. 69**FLOOD LIGHTS**FL Series 1
Page No. 71FL Series 2
Page No. 72FL Series 3
Page No. 73FL Series 4
Page No. 74FL Series 5
Page No. 75**BURRIED LIGHTS**BL Series 1
Page No. 77BL Series 2
Page No. 78**SPIKES**Spikes Series 1
Page No. 80Spikes Series 2
Page No. 81Spikes Series 3
Page No. 82Spikes Series 4
Page No. 83**BOLLARDS**GB Series 1
Page No. 85GB Series 2
Page No. 86

INDOOR

DOWN LIGHTS	14
SPOT LIGHTS	21
PANELS EDGE LIGHTS	24
TRACK LIGHTS	27
CEILING LIGHTS	34
BULK HEADS	38
LINEAR FLEX	43
HIGH BAYS	48

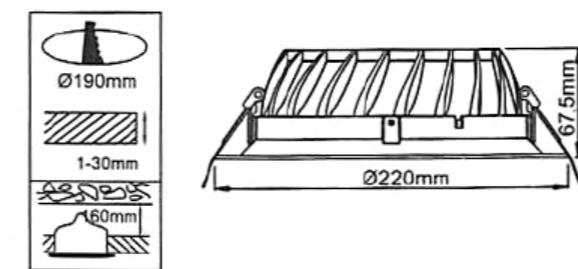
DOWN LIGHT



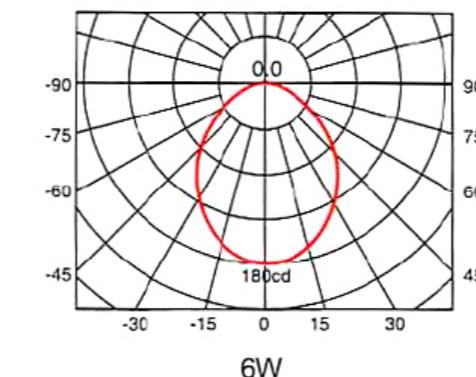
JLS Series-1

Technical Specification

- Cyclone type aluminium die-cast heat sink.
- Die-cast aluminium trim.
- High transmit Acrylic diffuser with no glare.
- SMD LED power: 6W, 9W, 15W, 20W, 24W
- Color Temp. (options): 3000K - 5000K
- CRI: ≥80

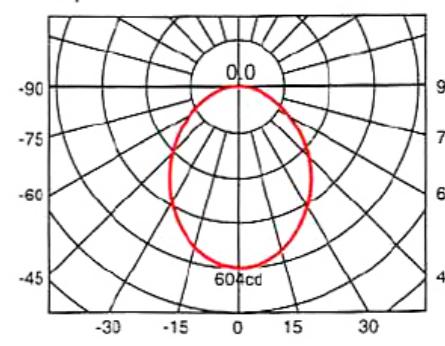


The light intensity distribution curve of polar coordinate



6W

The light intensity distribution curve of polar coordinate



24W

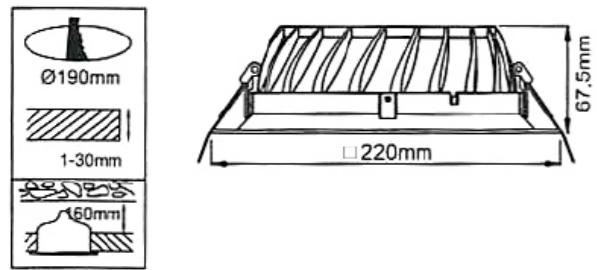
Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
DLS-06-12-JL3001	6W	120°	450	0110x38	095
DLS-09-12-JL4001	9W		630	0140x53.8	0120
DLS-15-12-JL5001	15W		1050	0180x56	0150
DLS-20-12-JL6001	20W		1400	0200x61.7	0175
DLS-24-12-JL8001	24W		1680	0220x67.5	0190



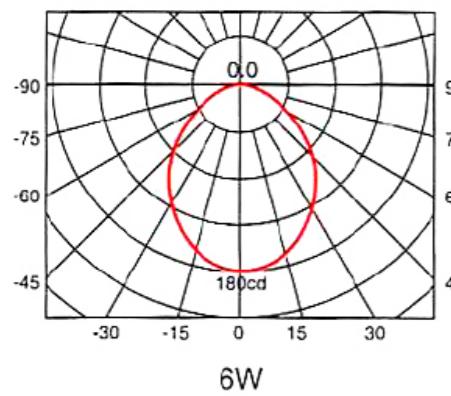
JLS Series-2

Technical Specification

- Cyclone type aluminium die-cast heat sink.
- Die-cast aluminium trim.
- High transmit Acrylic diffuser with no glare.
- SMD LED power: 6W, 9W, 15W, 20W, 24W
- Color Temp. (options): 3000K - 5000K
- CRI: ≥80

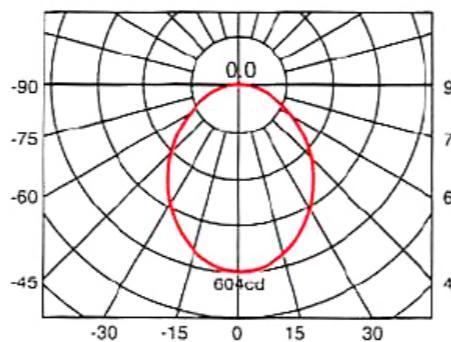


The light intensity distribution curve of polar coordinate



6W

The light intensity distribution curve of polar coordinate



24W

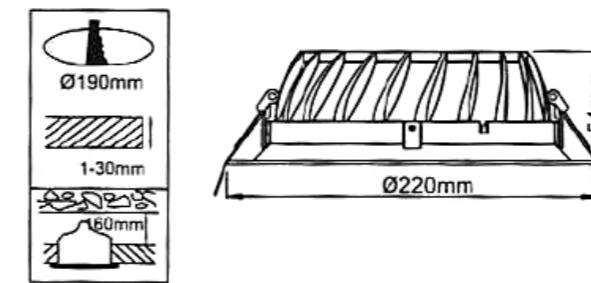
Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
DLS-06-12-JL3001S	6W	120°	450	110x10x38	095
DLS-09-12-JL4001S	9W		630	140x140x53.8	0120
DLS-15-12-JL5001S	15W		1050	180x180x56	0150
DLS-20-12-JL6001S	20W		1400	200x200x61.7	0175
DLS-24-12-JL8001S	24W		1680	220x220x67.5	0190



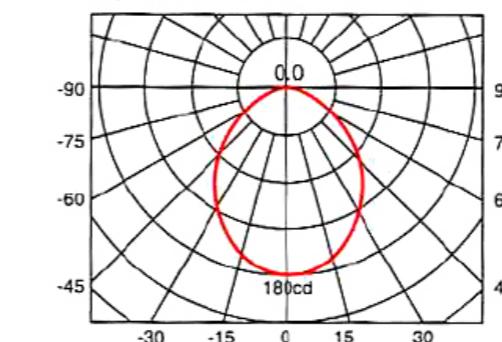
JLS Series-3

Technical Specification

- Cyclone type aluminium die-cast heat sink.
- Die-cast aluminium trim.
- High transmit Acrylic diffuser with no glare.
- SMD LED power: 6W, 9W, 15W, 20W, 24W
- Color Temp. (options): 3000K - 5000K
- CRI: ≥80

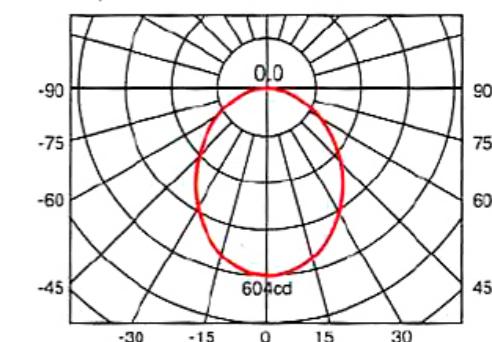


The light intensity distribution curve of polar coordinate



6W

The light intensity distribution curve of polar coordinate



24W

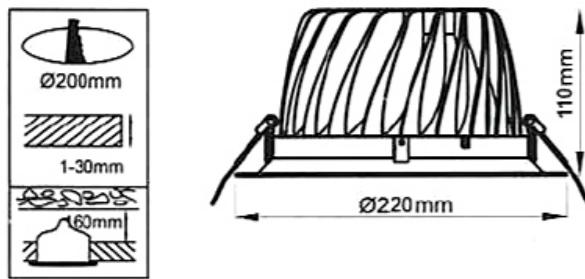
Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
DLS-06-12-JL3001R	6W	120°	450	0110x30.7	095
DLS-09-12-JL4001R	9W		630	0140x46.3	0120
DLS-15-12-JL5001R	15W		1050	0180x44.2	0150
DLS-20-12-JL6001R	20W		1400	0200x51.7	0175
DLS-24-12-JL8001R	24W		1680	0220x54	0190



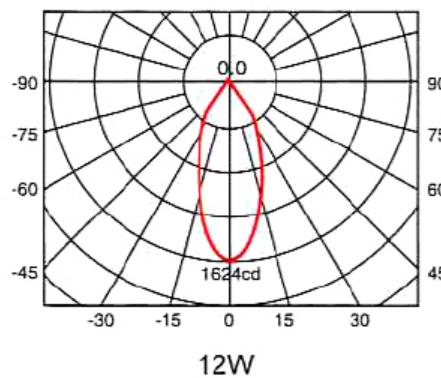
JLC Series-1

Technical Specification

- Cyclone type aluminium die-cast heat sink.
- Die-cast aluminium trim.
- Clear toughened tempered glass.
- COB LED power: 12W, 15W, 22W, 30W, 36W
- Color Temp. (options): 3000K - 5000K
- CRI: ≥80

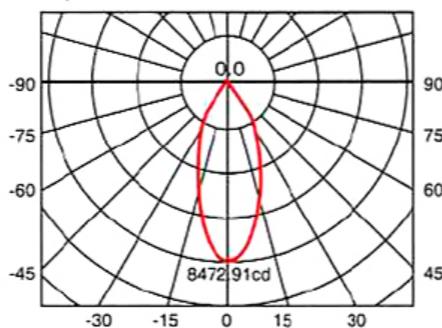


The light intensity distribution curve of polar coordinate



12W

The light intensity distribution curve of polar coordinate



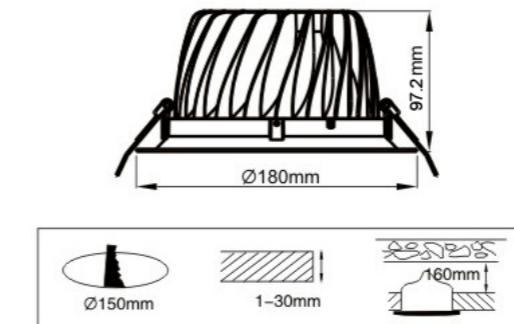
36W



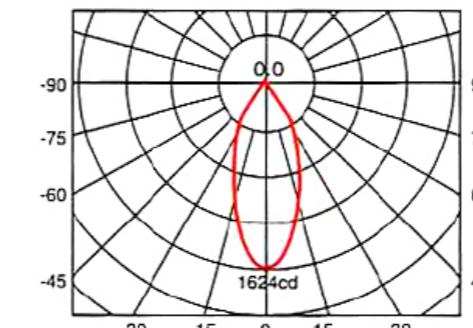
JLC Series-2

Technical Specification

- Cyclone type aluminium die-cast heat sink.
- Die-cast aluminium trim.
- Clear toughened tempered glass.
- COB LED power: 12W, 15W, 22W, 30W, 36W
- Color Temp. (options): 3000K - 5000K
- CRI: ≥80

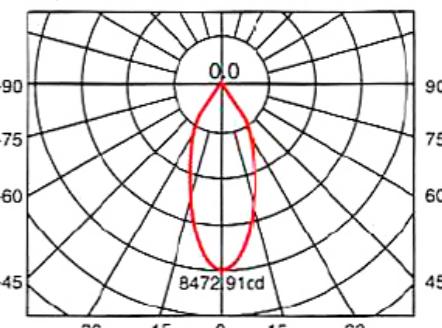


The light intensity distribution curve of polar coordinate



12W

The light intensity distribution curve of polar coordinate



36W

Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
DLC-12-38-JL3002	12W	38°	950	0110x67.2	095
DLC-15-38-JL4002	15W		1300	0140x76	0120
DLC-22-38-JL5002	22W		1800	0180x97.2	0150
DLC-30-38-JL6002	30W		2300	0200x104	0175
DLC-36-38-JL8002	36W		2900	0220x110	0190

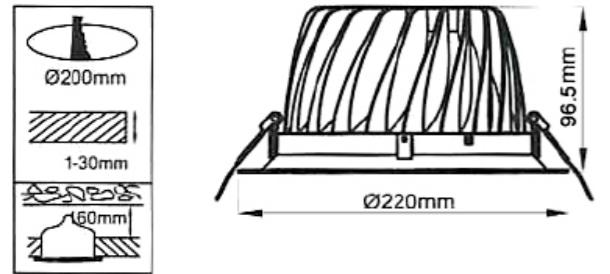
Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
DLC-12-38-JL3002S	12W	38°	950	110x110x67.2	095
DLC-15-38-JL4002S	15W		1300	140x140x76	0120
DLC-22-38-JL5002S	22W		1800	180x180x97.2	0150
DLC-30-38-JL6002S	30W		2300	200x200x104	0175
DLC-36-38-JL8002S	36W		2900	220x220x110	0190



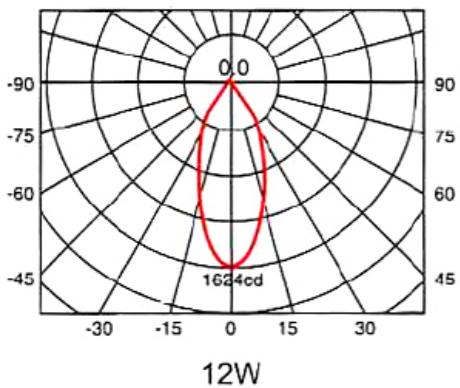
JLC Series-3

Technical Specification

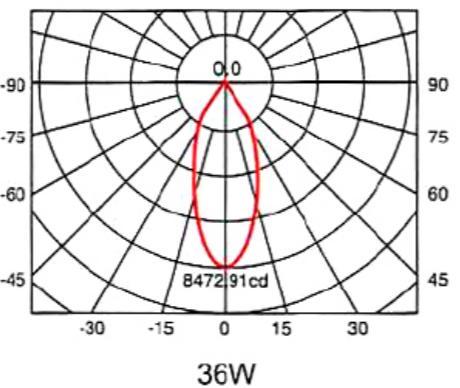
- Cyclone type aluminium die-cast heat sink.
- Die-cast aluminium trim.
- Clear toughened tempered glass.
- COB LED power: 12W, 15W, 22W, 30W, 36W
- Color Temp. (options): 3000K - 5000K
- CRI: ≥80



The light intensity distribution curve of polar coordinate



The light intensity distribution curve of polar coordinate



Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
DLC-12-38-JL3002R	12W	38°	950	0110x59.4	095
DLC-15-38-JL4002R	15W		1300	0140x68.5	0120
DLC-22-38-JL5002R	22W		1800	0180x85.4	0150
DLC-30-38-JL6002R	30W		2300	0200x94	0175
DLC-36-38-JL8002R	36W		2900	0220x96.5	0190

SPOT LIGHT

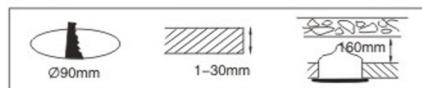




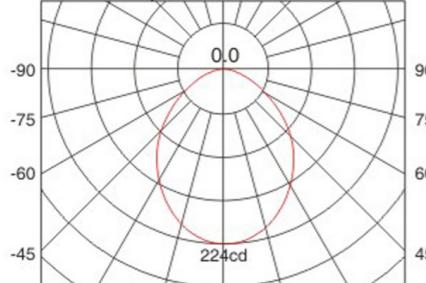
JLT Series-1

Technical Specification

Input Voltage: 85V~265V AC
 Luminous Efficiency: 70lm/W
 Movable Angle: Movable
 Color Temp.: 3000K/4000K/6000K
 CRI: ≥75
 Material: Die-cast aluminium.
 Finishing Color: Ivory White, Black

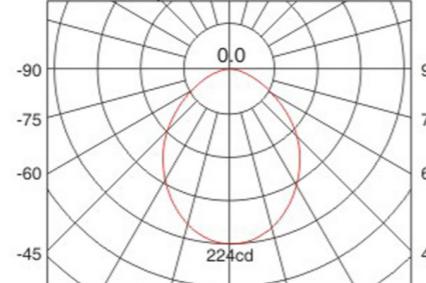


the light intensity distribution curve of polar coordinate



7W

the light intensity distribution curve of polar coordinate



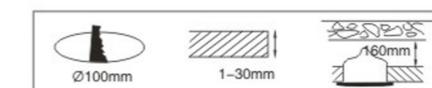
9W



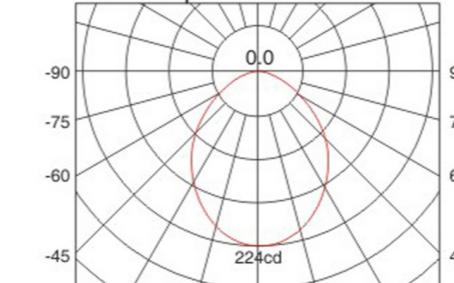
JLT Series-2

Technical Specification

Input Voltage: 85V~265V AC
 Luminous Efficiency: 70lm/W
 Movable Angle: Fixed
 Color Temp.: 3000K/4000K/6000K
 CRI: ≥70
 Material: Die-cast aluminium.
 Finishing Color: Ivory White

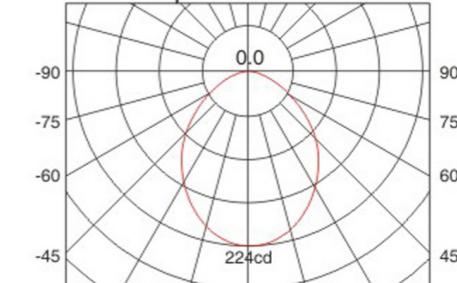


the light intensity distribution curve of polar coordinate



10W

the light intensity distribution curve of polar coordinate



20W

Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
STC-03-JLT2003	3W	24°/36°	200	085x52	070
STC-0-JLT2005	5W		300	0108x55	090
STC-07-JLT2007	7W		450	0108x55	090
STC-09-JLT2009	9W		500	0136x55	0120
STC-12-JLT2012	12W		680	0136x55	0120

Model	Wattage	Beam Angle	Lumen	Dimension (mm)	Cut Out (mm)
STC-05-JLD1005	5W	24°/36°	300	073x50	060
STC-10-JLD1010	10W		650	0110x70	0100
STC-15-JLD1015	15W		1000	0150x77	0130
STC-20-JLD1020	20W		1300	0180x90	0160
STC-30-JLD1030	30W		2000	0230x98	0200

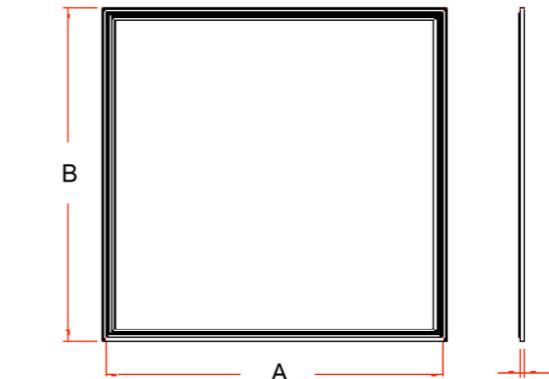
PANELS EDGE LIGHT



PLE Series-1

Technical Specification

12.5mm Ultra-thin Design
Pb Free
CE & ROHS Compatible
LED - SMD2835
CRI: ≥80
Color - 3000K / 4000K / 5000K / 6000K
Beam Angle: 120°
Class II Insulation
Working environment: 10~80%RH, -20°C~40°C
Life: 30000 Hrs.



Model	A (mm)	B (mm)	C (mm)
PLE-12-SW3030	295	295	12.5
PLE-20-SW6030	595	295	12.5
PLE-36-SW3012	1195	295	12.5
PLE-36-SW6060	595	595	12.5
PLE-60-SW6012	1195	595	12.5

Model	Color	CCT	Lumen	LED Chips	Power
PLE-12-SW3030	Cool White	5500-6500K	960lm	60pcs 2835smd	12W
	Natural White	4250-4750K	900lm		
	Warm White	2800-3200K	820lm		
PLE-20-SW6030	Cool White	5500-6500K	1600lm	96pcs 2835smd	20W
	Natural White	4250-4750K	1480lm		
	Warm White	2800-3200K	1350lm		
PLE-36-SW3012	Cool White	5500-6500K	2880lm	192pcs 2835smd	36W
	Natural White	4250-4750K	2750lm		
	Warm White	2800-3200K	2620lm		
PLE-36-SW6060	Cool White	5500-6500K	2880lm	192pcs 2835smd	36W
	Natural White	4250-4750K	2750lm		
	Warm White	2800-3200K	2620lm		
PLE-60-SW6012	Cool White	5500-6500K	4800lm	300pcs 2835smd	60W
	Natural White	4250-4750K	4560lm		
	Warm White	2800-3200K	4250lm		



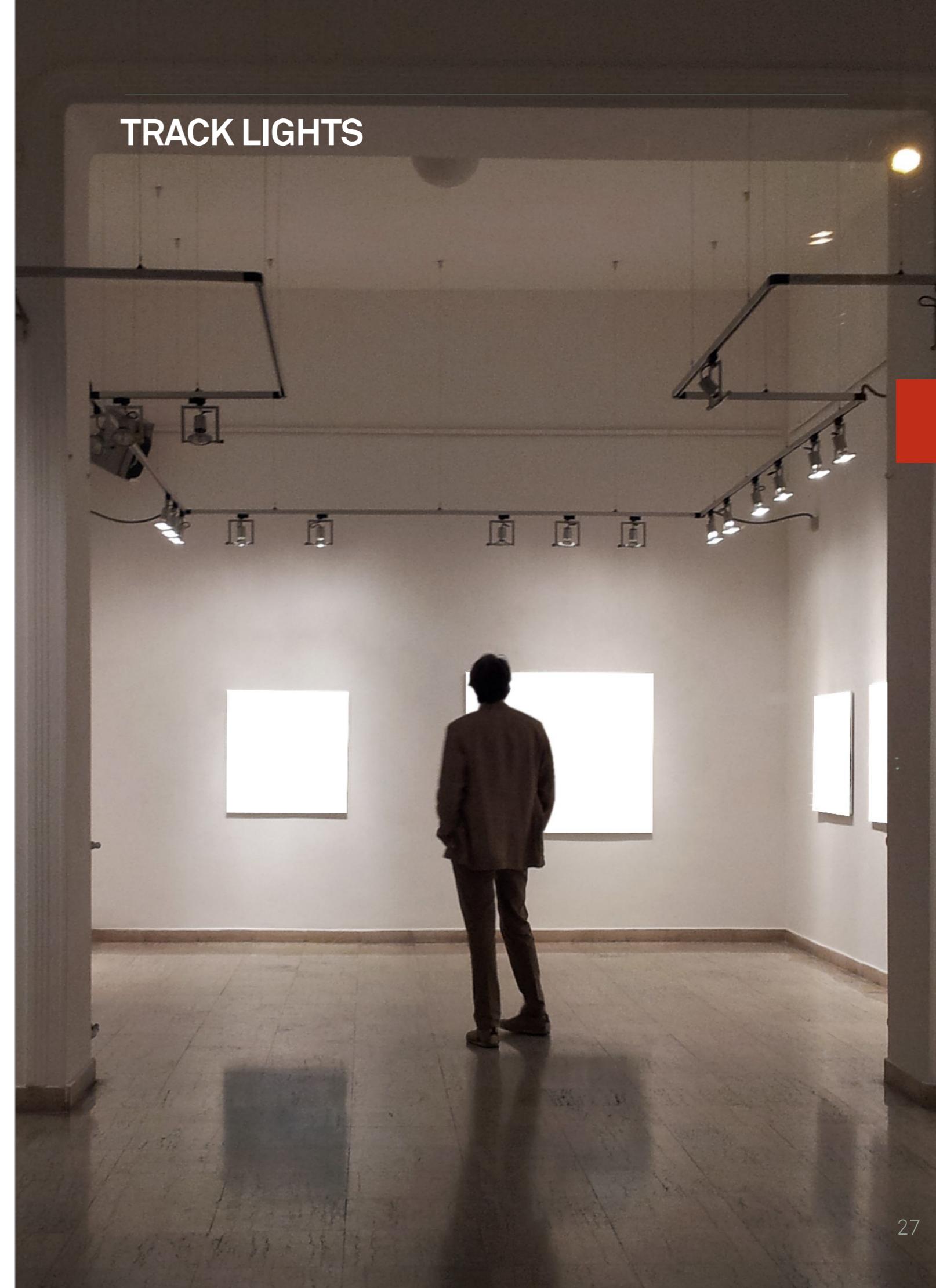
PLE Series-2

Technical Specification

Size: 595x595x12(mm)
 Material: Aluminium +PMMA+PS+PET
 LED Type: SMD 2835
 Qty of LED chip: 216 PCS
 Output current: 30~42V/1000mA
 Luminous flux: 2800lm
 Luminous efficacy: 75-80lm/W
 Operating temperature: -20°C~40°C
 Operating humidity: 30~90%
 Life: 30,000 h

Model	Power	Input Voltage	Color Temperature	CRI	PF	Net Weight
PLE-36-SH6060	36W	AC 100-240V 50/60Hz 0.6A (MAX)	WW 2800-3200K NW 4000-4500K CW 6000-6500K	≥80	≥0.9	0.71kg

TRACK LIGHTS

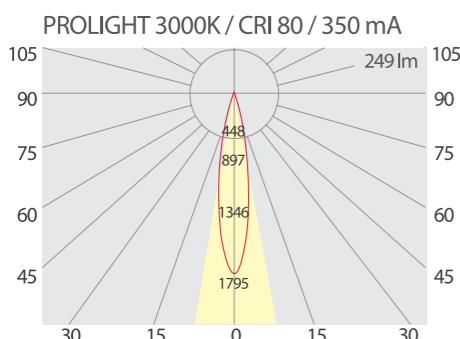
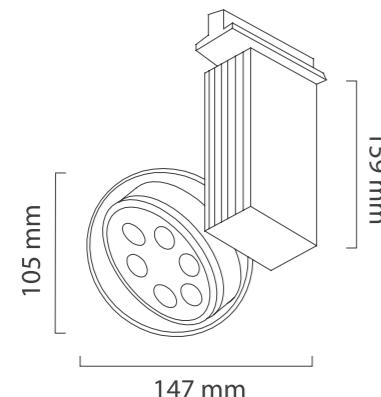




TR Series-1

Technical Specification

Material: Aluminium
Include 15/38/60D Lens, LED Driver, 2/3 Wire Track Adaptor, LED 1W*6
Finish: Painted
Size: 147 x 147 x 159mm
Luminous efficacy: 75-80lm/W
Operating temperature: -20°C~40°C
Operating humidity: 30~90%
Life: 30,000 h



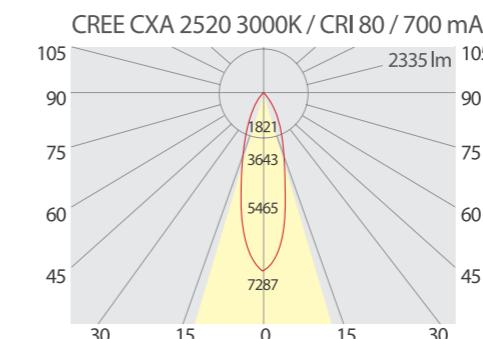
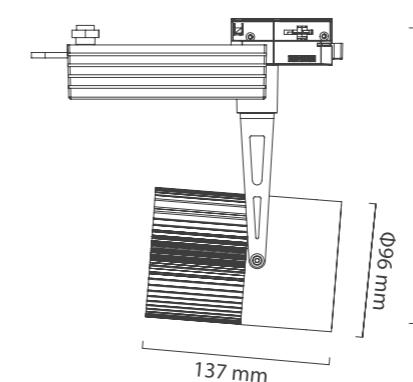
Model	LED	Beam Angle	LED Power	For. Current	For. Voltage	CRI	Finish
TLS-7.2-15-EVS6-1	EDISON EDEX-1LA5 6 PCS/PROLIGHT PM2B-1LVE 6 PCS	15°	7.2 W	350 mA	21 V	≥ 80	Black White Grey
TLS-7.2-38-EVS6-1		38°					
TLS-7.2-60-EVS6-1		60°					



TR Series-2

Technical Specification

Material: Aluminium
Include 3 Wire Track Adaptor, 20W LED, 24D Reflector, LED Driver
LED: Cree CXA 2520
Size: 096 x 194 x 225mm
Finish: Painted
Luminous efficacy: 75-80lm/W
Operating temperature: -20°C~40°C
Operating humidity: 30~90%
Life: 30,000 h



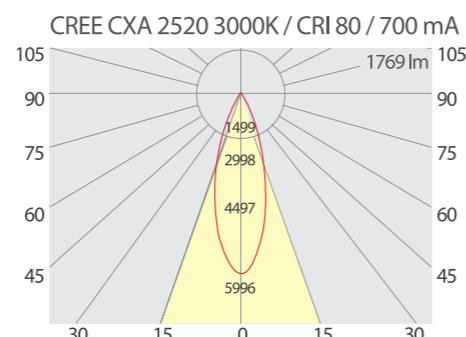
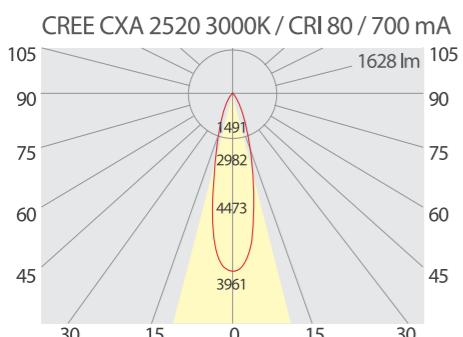
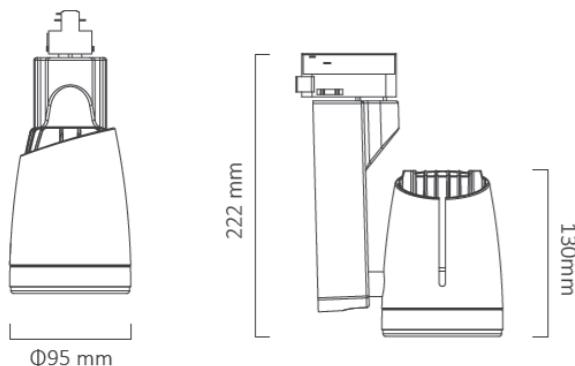
Model	LED	Beam Angle	LED Power	For. Current	For. Voltage	CRI	Finish
TLS-26-24-EVS22-1	CREE CXA 2520 1 PCS	24°	26 W	700 mA	37 V	≥ 80	Matt White



TR Series-3

Technical Specification

Material: Aluminium+PC
Include 20W LED X 1PC, 3 Wire Track Adaptor, LED Driver, 22/30D Lens
Size: 222mm, Head size: 095x130mm
Finish: White
Luminous efficacy: 75-80lm/W
Operating temperature: -20°C~40°C
Operating humidity: 30~90%
Life: 30,000 h



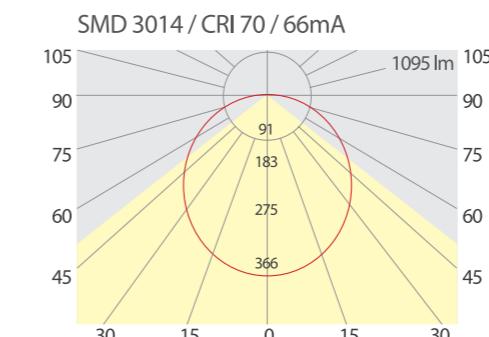
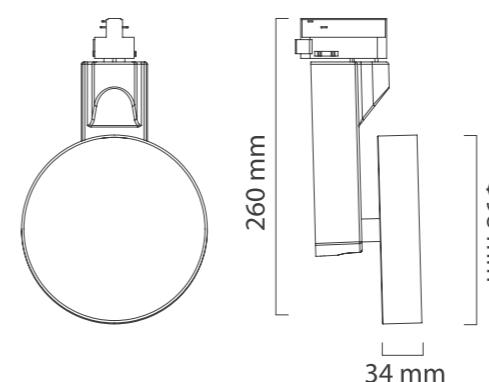
Model	LED	Beam Angle	LED Power	For. Current	For. Voltage	CRI	Finish
TLC-26-22-EVS37	CREE CXA 2520 1 PCS	22°	26 W	700 mA	37 V	≥ 80	Matt White
TLC-26-30-EVS37		30°					
TLC-33-19-EVS38	CREE CXA 1830 / 2530 1 PCS	19°	33 W	900 mA	220 V	≥ 70	
TLC-33-27-EVS38		27°					



TR Series-4

Technical Specification

Material: Aluminium+PC
Include SMD3014 x 110PCS, 3 Wire Track Adaptor/Gear Box (LED Driver)
Size: 260mm, Head size: 098 x 34mm
Finish: White
Luminous efficacy: 75-80lm/W
Operating temperature: -20°C~40°C
Operating humidity: 30~90%
Life: 30,000 h



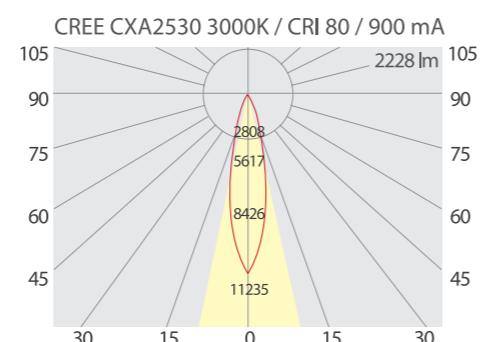
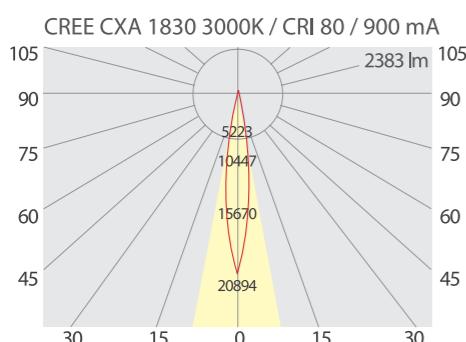
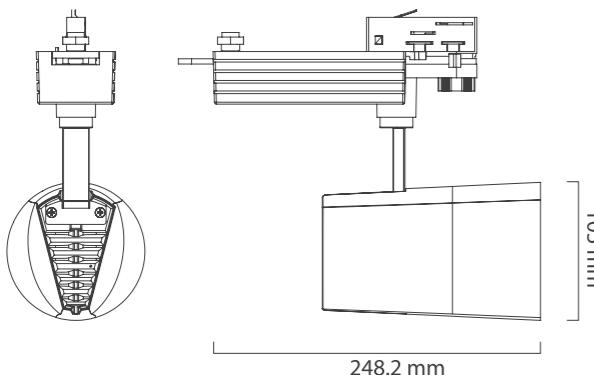
Model	LED	Beam Angle	LED Power	For. Current	For. Voltage	CRI	Finish
TLS-15-11-EVS40-1	SMD 3014	110°	15 W	65 mA	220 V	≥ 70	Matt White
TLS-12-24-EVS40-2							



TR Series-5

Technical Specification

Material: Aluminium
 Include 15/25/40D Lens, AC Driver, 2/3 Wire Track Adaptor, LED 1W*12Pcs
 Size: 158 x 120 x 159mm
 Finish: Painted
 Luminous efficacy: 75-80lm/W
 Operating temperature: -20°C~40°C
 Operating humidity: 30~90%
 Life: 30,000 h

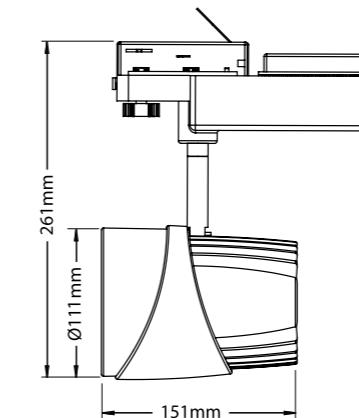


Model	LED	Beam Angle	LED Power	For. Current	For. Voltage	CRI	Finish
TLC-33-15-EVS42-1	CREE CXA 1830 / 2530 1 PCS	15°	35 W	900 mA	37 V	≥ 80	Matt White
TLC-33-24-EVS42-2		24°					

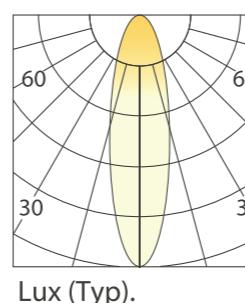
TR Series-6

Technical Specification

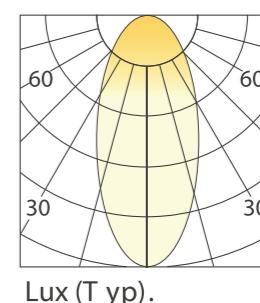
Size: 108.6 x149 x198mm
 Finish: White color
 Luminous efficacy: 75-80lm/W
 Operating temperature: -20°C~40°C
 Operating humidity: 30~90%
 Life: 30,000 h



B.A.25° (F.A.60°)



B.A.45° (F.A.80°)



Model	Power	Beam Angles	Field Angles	CCT(Typ.)	Lux*@1m (Typ.)	Lm (Typ.)
TLC-40-25-LN4061	40W	25°	60°	5700K	10000	3500
TLC-40-25-LN4062				4000K		
TLC-40-25-LN4063				3000K		
TLC-40-45-LN4081	40W	45°	60°	5700K	4500	3500
TLC-40-45-LN4082				4000K		
TLC-40-45-LN4083				3000K		

CEILING LIGHTS



CLI Series-1



Technical Specification

Size: 0290mm x Height 100mm/
0290mm x Height 100mm/
0340mm x Height 85mm

Input current: 0.048A (230V)/0.096A(230V)/
0.057A(230V)

Output current: 0.33A/0.32A/ 0.36A

Power factor: >0.9

Efficiency: >85%

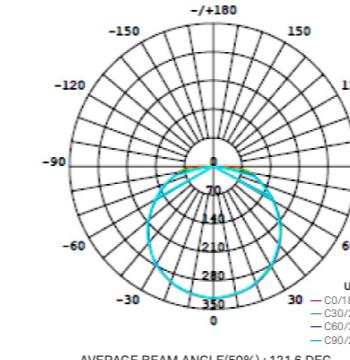
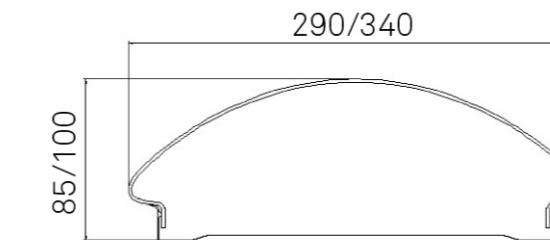
Light Intensity: 620cd/ 578.74cd/479.89cd

Luminous flux: 8001lm/1650lm/1722lm

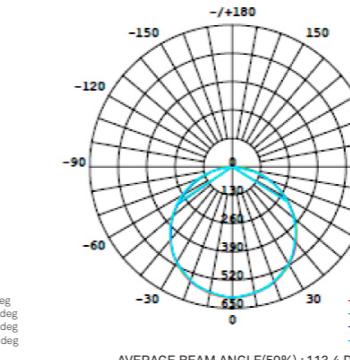
Net weight: 0.75kg/1.665kg/1.4kg

Mild Steel Body

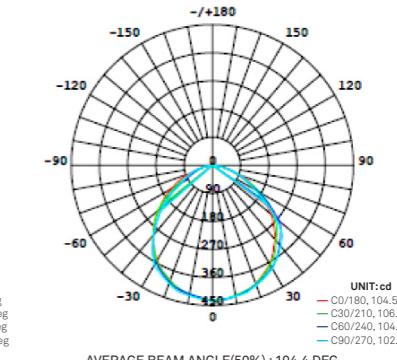
Glass Cover



20W



20W



10W

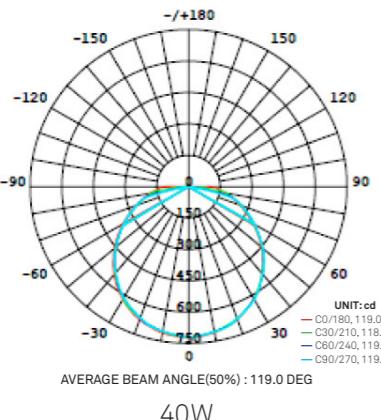
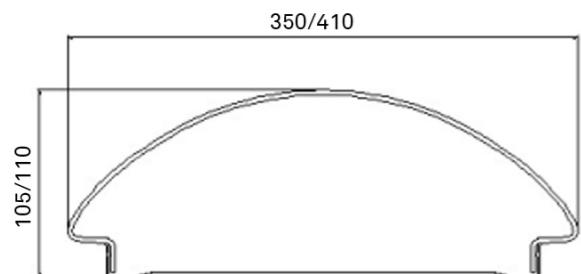
Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
CLS-10-LSY290GB	10W			104°	2800-3200K/ 4000-4500K/ 5500-6000K	>75 RA
CLS-20-LSY290GB	20W	85-265VAC 47-63HZ	30V	113°		
CLS-20-LSY340GB	20W			127°		



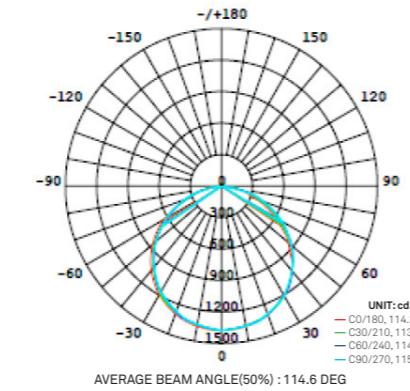
CLI Series-2

Technical Specification

Size: 0350mm x Height 105mm/
0410mm x Height 110mm
Input current: 0.096A(230V)/0.192A(230V)
Output current: 0.648A/0.98A
Power factor: >0.9
Efficiency: >85%
Light Intensity: 760cd/ 1100cd
Luminous flux: 16001lm/3200lm
Net weight: 1kg/1.5kg
Mild Steel / Die-cast Aluminium Body
PMMA Cover



40W



20W

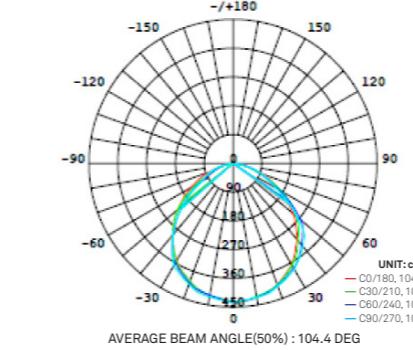
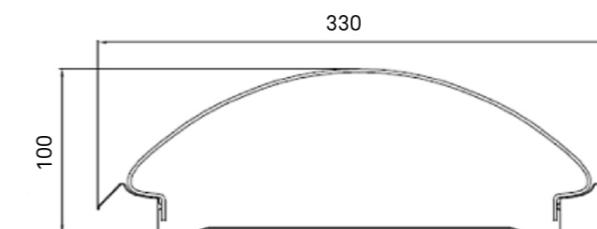
Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
CLS-20-LSY350YB	20W	85-265VAC 47-63HZ	31V	114°	2800-3200K/ 4000-4500K/ 5500-6000K	>75 RA
CLS-40-LSY410YB	40W			119°		



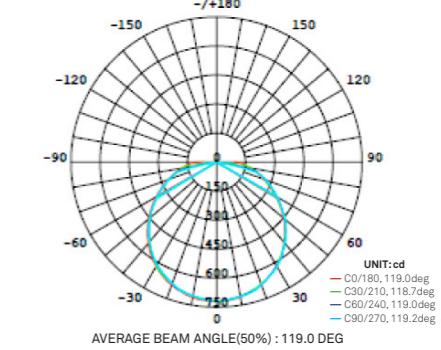
CLI Series-3

Technical Specification

Size: 0330mm x Height 100mm/
0330mm x Height 100mm/
Input current: 0.057A(230V)/0.101A(230V)/
0.106A(230V)
Output current: 0.32A
Power factor: >0.9
Efficiency: >85%
Light Intensity: 479.89cd/578.74cd
Luminous flux: 10201lm/1806lm/18081lm
Net weight: 1.216kg/1.5kg/1.2kg
Mild Steel Body
Glass Cover



10W



20W

Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
CLS-10-LSN330GB	10W	85-265VAC 47-63HZ	30V	104°	2800-3200K/ 4000-4500K/ 5500-6000K	>75 RA
CLS-20-LSN330GB	20W			119°		

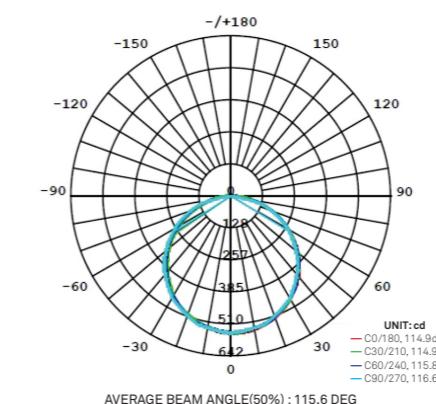
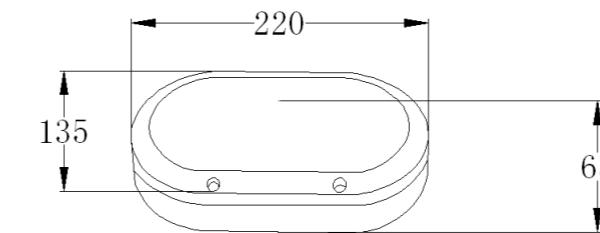
BULK HEADS



BD Series-1

Technical Specification

Size: L220 x W135 x H 65mm
Input current: 0.058A(230V)
Output current: 0.34A
Power factor: >0.9
Efficiency: ≥85%
Light Intensity: 274cd
Luminous flux: 800lm
Net weight: 445g
Die Cast Aluminium Body
PC diffuser



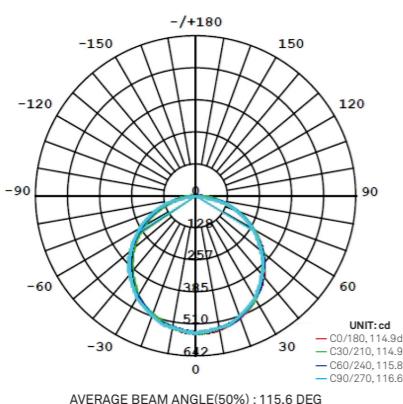
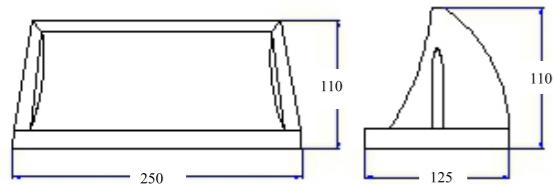
Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
BDS-10-LSPT10PE	10W	90-265VAC 47-63HZ	30V	115°	2800-3200K/ 4000-4500K/ 5500-6000K	≥75 RA



BD Series-2

Technical Specification

Size: L250 x W125 x H 110mm
Input current: 0.114A(230V)
Output current: 0.67A
Power factor: >0.9PF
Efficiency: ≥85%
Light Intensity: 514cd
Luminous flux: 1600lm
Net weight: 982g
Die Cast Aluminium Body
PC diffuser
Working Temp: -40°C to 60°C



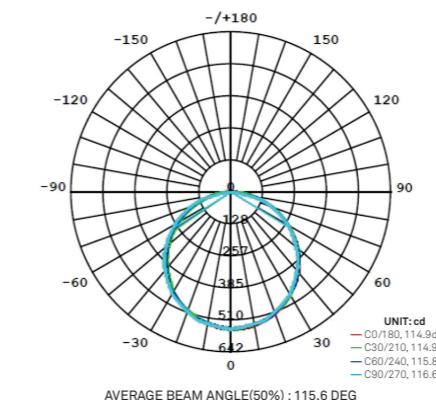
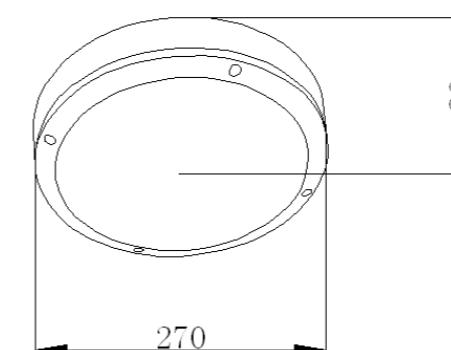
Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
BDS-20-LSPT20PS	20W	85-265V 47-63HZ	30V	115°	2800-3200K/ 4000-4500K/ 5500-6000K	≥75 RA



BD Series-3

Technical Specification

Size: 0270mm x H 80mm
Input current: 0.114A(230V)
Output current: 0.67A
Power factor: >0.9PF
Efficiency: ≥85%
Light Intensity: 514cd
Luminous flux: 1600lm
Net weight: 1.4kg
Die Cast Aluminium Body
PC diffuser
Working Temp: -40°C to 60°C



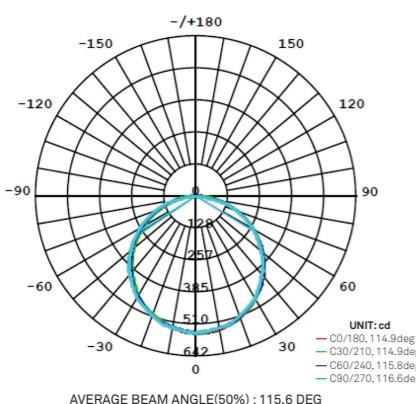
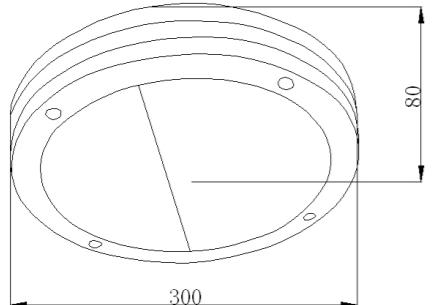
Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
BDS-20-LSPT20PC	20W	90-265V 47-63HZ	30V	115°	2800-3200K/ 4000-4500K/ 5500-6000K	≥75 RA



BD Series-4

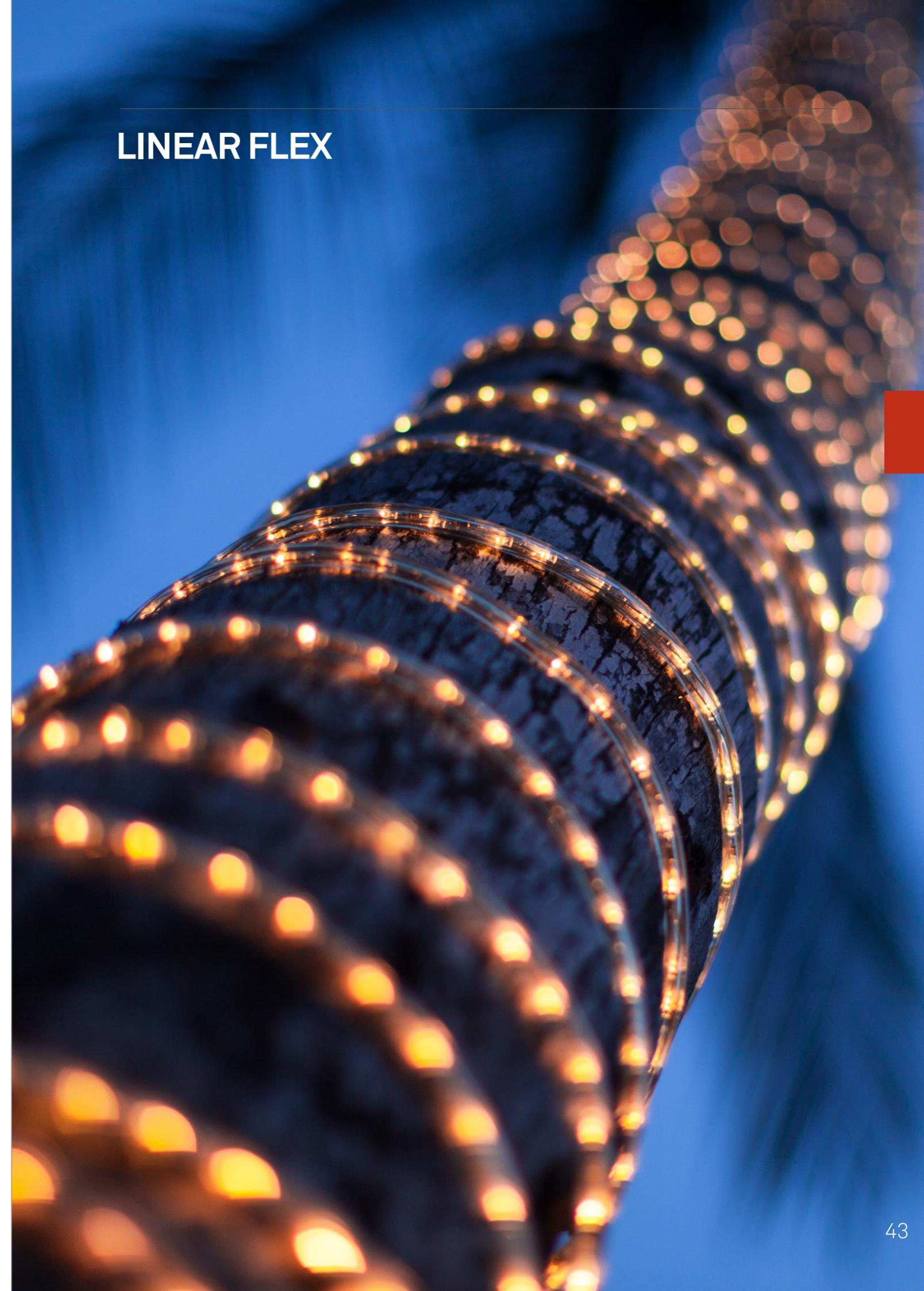
Technical Specification

Size: L300 x W300 x H 80mm
 Input current: 0.114A(230V)
 Output current: 0.67A
 Power factor: >0.9PF
 Efficiency: ≥85%
 Light Intensity: 514cd
 Luminous flux: 1600lm
 Net weight: 1.82g
 Die Cast Aluminium Body
 PC diffuser
 Working Temp: -40°C to 60°C



Model	Power	Input Voltage	Output voltage	Beam Angle	Color Temperature	CRI
BDS-20-LSPT20PCA	20W	90-265V 47-63HZ	30V	115°	2800-3200K/ 4000-4500K/ 5500-6000K	≥75 RA

LINEAR FLEX

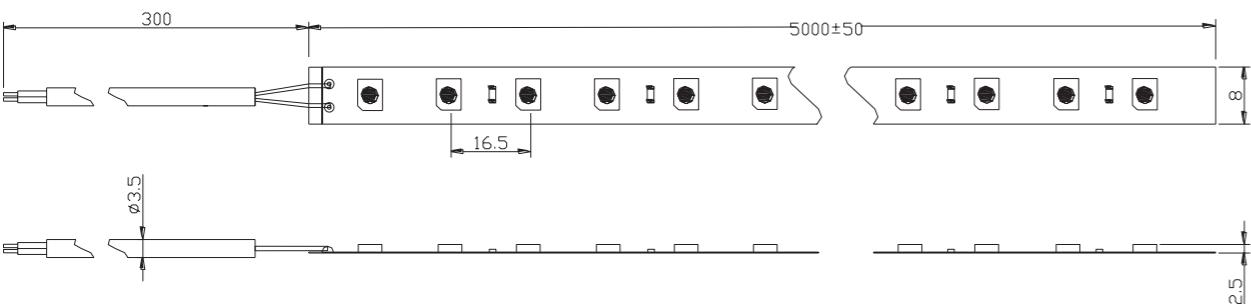




LF Series-1

Product Features

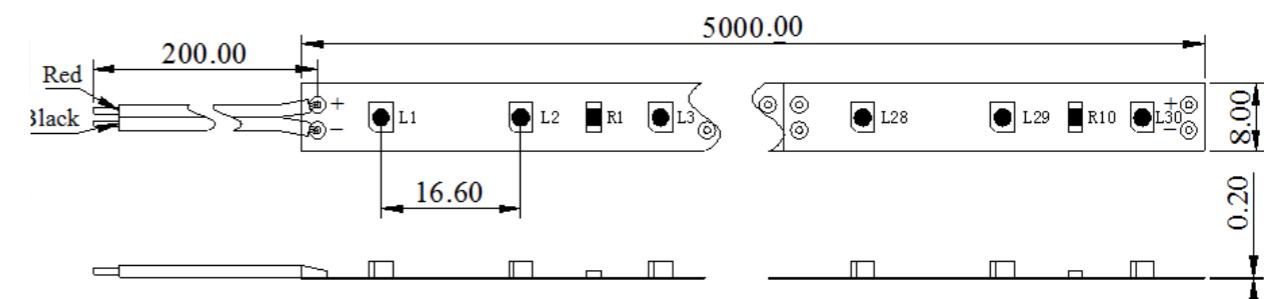
Dimensions (D x w): 5000mm x 12mm / Reel
Weight: 120g
Storage temperature: 0 °C ~ +60 °C
Humidity: 40% ~ 70% R
Operating temperature: -20 °C ~ +45 °C
Fire Retardant, Anti-UV
LED Life: 30,000 hrs
Other IP ratings available on request



LF Series-2

Product Features

Dimensions (D x w): 5000mm x 8mm / Reel
Storage temperature: 0 °C ~ +60 °C
Humidity: 40% ~ 70% R
Operating temperature: -20 °C ~ +45 °C
LED Life: 30,000 hrs
Other IP ratings available on request



Model No.	Color	Color Temperature	Luminous Flux	# LEDs	Voltage [V DC]	Power [W / M]	Packaging
LFS-WW-FLS103T53 FW120B-24(WCP)	RGB + Warm White	2700k 3000k	720lm/m	600	24	19.2	5M / Reel
LFS- WW-FLS103T53 FN120B-24(WCP)	RGB + Neutral White	3800k 4400k					
LFS- WW-FLS103T53 FS120B-24(WCP)	RGB + White	5500k 6500k					

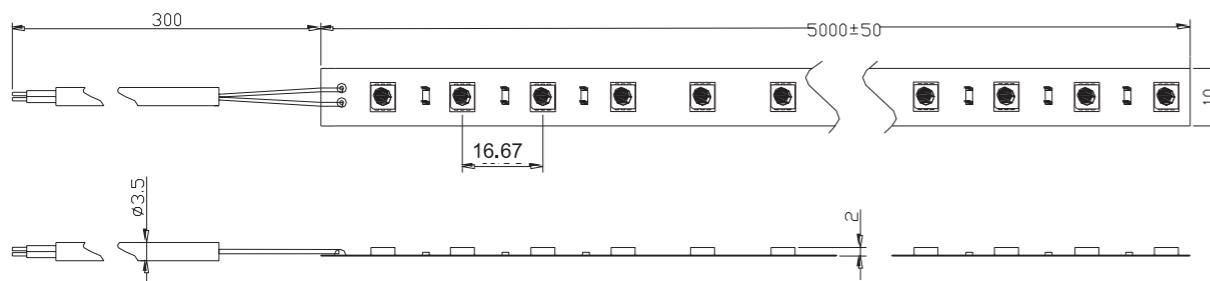
Model No.	Color	Color Temperature	Luminous Flux	# LEDs	Voltage [V DC]	Power [W / M]	Packaging
LFS- WW-FLS102T35 SW060B-24(WCP)	White	5500 - 6500k	360lm/m	300	24	4.8W	5M / Reel
LFS- WW-FLS102T35 NW060B-24(WCP)	Neutral White	3800 - 4400k					
LFS- WW-FLS102T35 WW060B-24(WCP)	Warm White	2700 – 3000k					



LF Series-3

Product Features

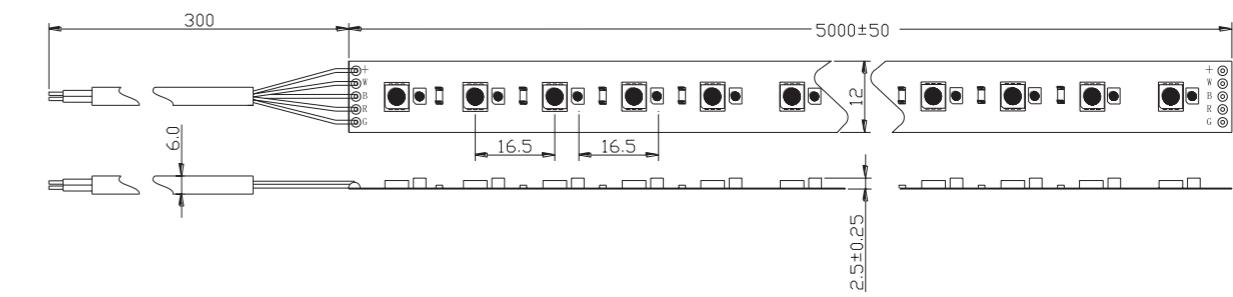
Dimensions (D x w): 5000mm x 10mm / Reel
 Weight: 125g
 Storage temperature: 0 °C ~ +60 °C
 Humidity: 40% ~ 70% R
 Operating temperature: -20 °C ~ +45 °C
 LED Life: 30,000 hrs
 Other IP ratings available on request



LF Series-4

Product Features

Dimensions (D x w): 5000mm x 12mm / Reel
 Weight: 120g
 Storage temperature: 0 °C ~ +60 °C
 Humidity: 40% ~ 70% R
 Operating temperature: -20 °C ~ +45 °C
 Fire Retardant, Anti-UV
 LED Life: 30,000 hrs
 Other IP ratings available on request



Model No.	Color	Color Temperature	Luminous Flux	# LEDs	Voltage [V DC]	Power [W / M]	Packaging
LFS- WW-FLS102T50 SW060B-24(WCP)	White	5500K 6500K	1080lm/m	300	24	14.4	5M / Reel
LFS- WW-FLS102T50 NW060B-24(WCP)	Neutral White	3800k 4400k					
LFS- WW-FLS102T50 WW060B-24(WCP)	Warm White	2700K 3000K					

Model No.	Color	Color Temperature	Luminous Flux	# LEDs	Voltage [V DC]	Power [W / M]	Packaging
LFS- WW-FLS103T53 FW120B-24(WCP)	RGB + Warm White	2700 – 3000k	720lm/m	600	24	19.2W	5M / Reel
LFS- WW-FLS103T53 FN120B-24(WCP)	RGB + Neutral White	3800 – 4400k					
LFS- WW-FLS103T53 FS120B-24(WCP)	RGB + White	5500 – 6500k					



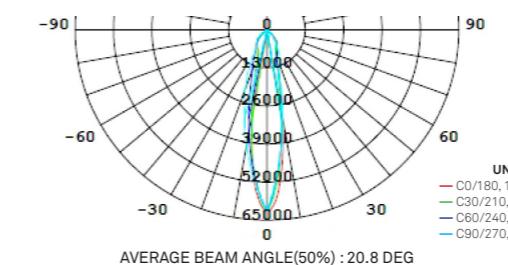
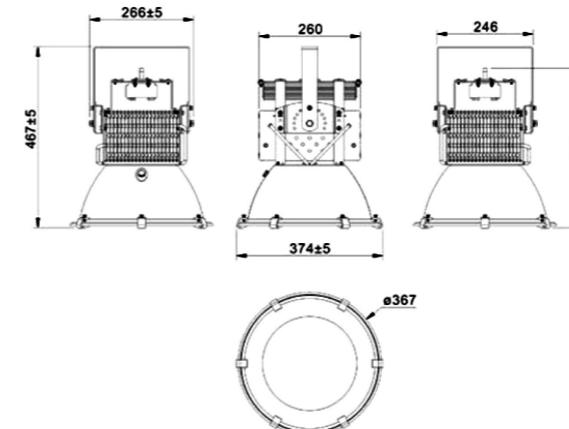
HIGH BAYS

HIGH BAYS – CATALOGUE 2015

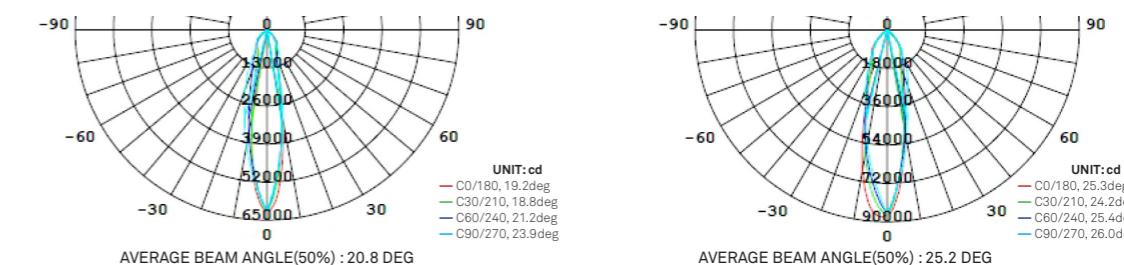
HB Series-1

Technical Specification

Size: 0375 x H410mm / 0375 x H450mm
 Input Current: 0.97A(230V) / 1.93A(230V)
 Output current: 6A / 12A
 Luminous flux: 18000lm / 36000lm
 Luminous efficacy: ≥90%
 Peak intensity: 65000cd / 90000cd
 working temperature: -40°- 60°



200W



400W

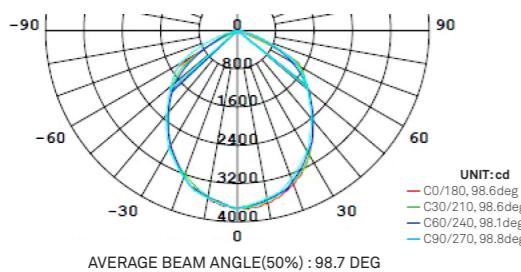
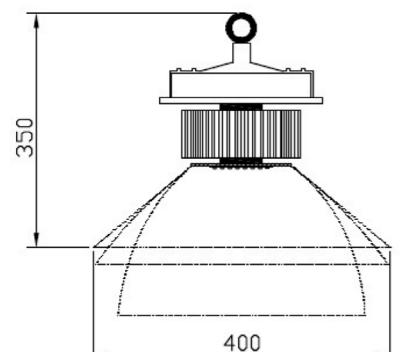
Model	Power	Input Voltage	Beam angle	Color Temperature	CRI	PF
HBC-200-LS410PAH	200W	90-305VAC 47-63Hz	30°/45°/ 60°/90°	2800-3200K 4000-4500K 5500-6000K	>70Ra	>0.9
HBC-400-LS410PAH	400W					



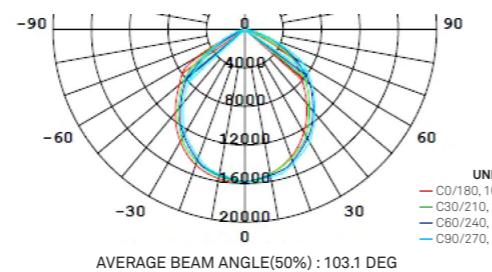
HB Series-2

Technical Specification

Size: 0400 / 0400 / 0310mm
H350 / H350 / H350mm/
0500 / 0500 / 0420mm
H595 / H615 / H725mm
Input Current: 0.39A(230V) / 1.93A(230V)
Output current: 2.4A / 12A
Luminous flux: 7200lm / 33000lm
Luminous efficacy: ≥90%
Peak intensity: 4000cd/6000cd/8000cd
16000cd/24000cd/42000cd
working temperature: -40° - 60°



80W



400W

Model	Power	Input Voltage	Beam angle	Color Temperature	CRI	PF
HBC-80-LS500PA	80W	90-305VAC 47-63Hz	120°/ 90°/ 45°	2800-3200K 4000-4500K 5500-6000K	>70Ra	>0.9
HBC-400-LS500PA	400W					

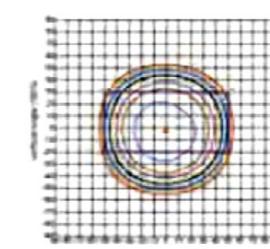
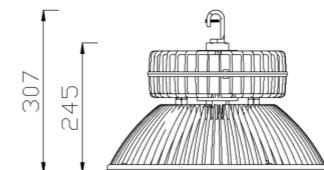
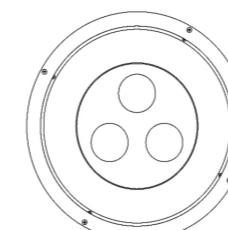


HB Series-3

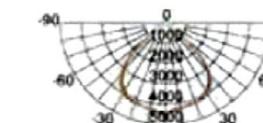
Technical Specification

Luminous flux: 6500Lm / 7650Lm
7500Lm / 9000Lm
Power Factor: >0.95PF
Operating Temperature: -20°~+45°C
Storage Temperature: -20°~+45°C
Consumption per hour: 0.09KW.H / 0.11KW.H
Mounting Height: 4~7m / 4~10m
4~8m / 4~10m
Light Source: COB / SMD3535
Total current harmonics:<20%
Number of LED: 3 / 56 / 70
LED'S Operating Life: >50000 Hours

Φ430



60°



90°



120°

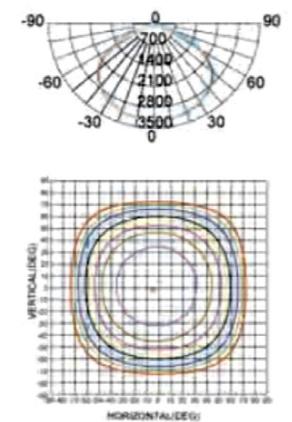
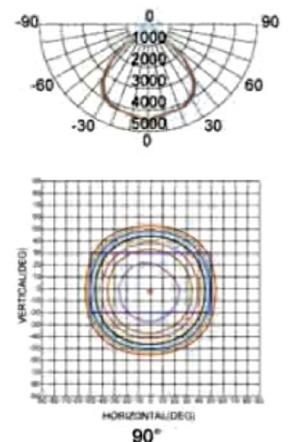
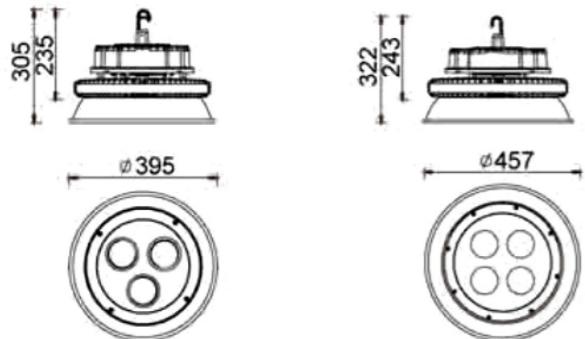
Model	Power	Rated Voltage	Beam Angle	Color Temperature	CRI	Light Efficiency
HBC-75-YS531A	75W					
HBC-90-YS531A	90W	AC 100~240V	60°/90°	3000-6000K	>70RA	770
HBC-85-YS531B	85W					
HBC-100-YS531B	100W					



HB Series-4

Technical Specification

Luminous flux: 6500Lm / 8000Lm
8700Lm / 10200Lm
Power Factor: >0.95PF
Operating Temperature: -20°~+45°C
Storage Temperature: -20°~+45°C
Light Source: COB
Total current harmonics:<20%
Number of LED: 3 / 5
LED'S Operating Life:>50000 Hours



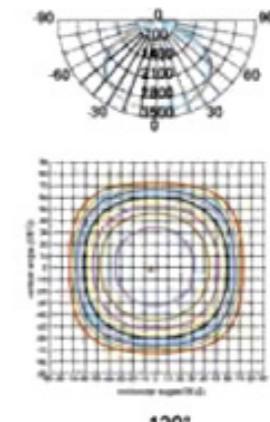
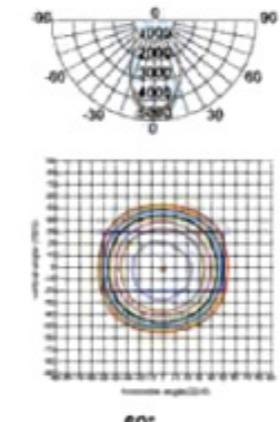
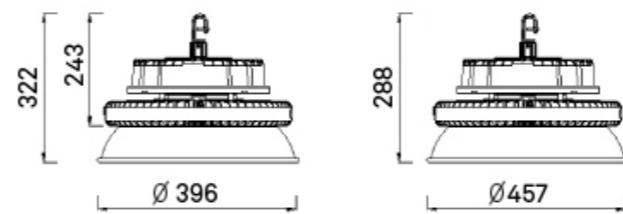
Model	Power	Rated Voltage	Beam Angle	Color Temperature	CRI	Light Efficiency
HBC-75-YS535A	75W					
HBC-90-YS535A	90W	AC 100~270 V				
HBC-100-YS536A	100W		90°/120°	3000-6000K	>75RA	85LM/W
HBC-120-YS536A	120W	AC 100~240 V				



HB Series-5

Technical Specification

Luminous flux: 11200Lm / 14400Lm
6500Lm / 8000Lm
Power Factor: >0.95PF
Operating Temperature: -20°~+45°C
Storage Temperature: -20°~+45°C
Consumption per hour: 0.09KW.H
Light Source: SMD3535
Total current harmonics:<20%
Number of LED: 98
LED'S Operating Life:>50000 Hours



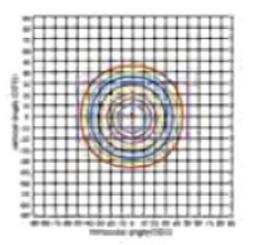
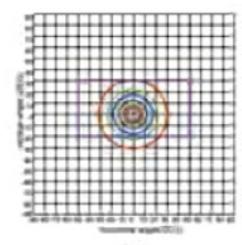
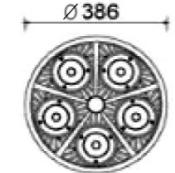
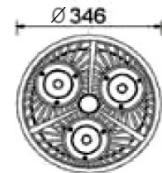
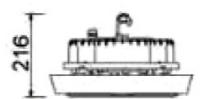
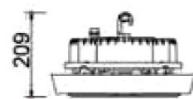
Model	Power	Rated Voltage	Beam Angle	Color Temperature	CRI	Light Efficiency
HBC-75-YS535B	75W	AC 100~270 V	60°/90°/120°	2700-6000K	>70RA	80LM/W
HBC-95-YS535B	95W					
HBC-140-YS536B	140W					
HBC-180-YS536B	180W					85LM/W



HB Series-6

Technical Specification

Luminous flux: 7140Lm / 11953.2LM
 Power Factor: >0.95PF
 Operating Temperature: -20°~+45°C
 Storage Temperature: -20°~+45°C
 Light Source: CREE/Philips
 Total current harmonics:<20%
 Number of LED: 3/5
 LED'S Operating Life: >50000 Hours



Model	Power	Rated Voltage	Beam Angle	Color Temperature	CRI	Light Efficiency
HBC-84-YS537A	84W	AC 100~270 V	24°/ 36° / 60°	5000K	>75RA	85LM/W
HBC-140-YS537B	140W	AC 100~240 V				

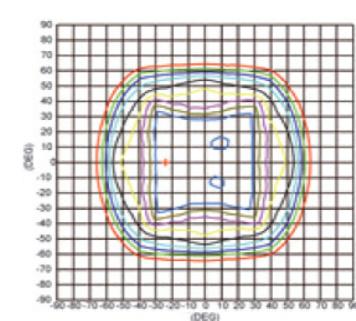
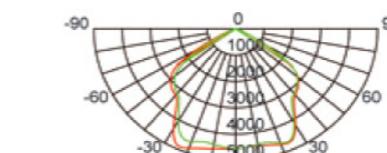
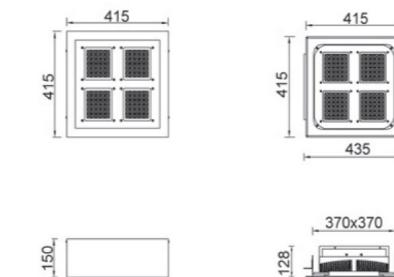


OUTDOOR



CEILING LIGHTS	58
WALL PACK LIGHT	65
FLOOD LIGHTS	70
BURIED LIGHTS	76
SPIKES	79
BOLLARDS	84

CEILING LIGHT



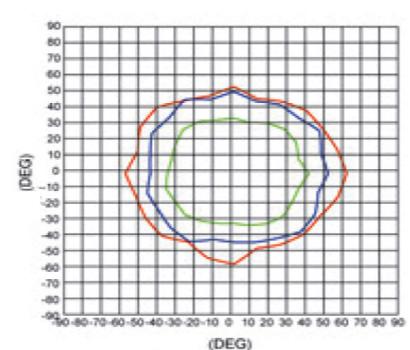
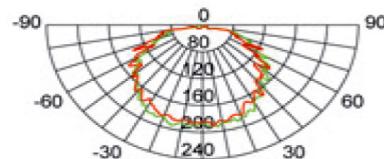
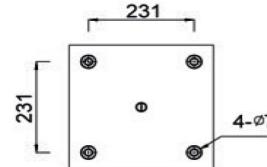
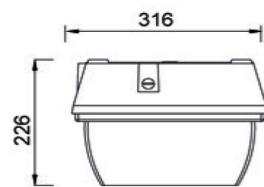
Type	Model	Power	Input Voltage	No. of LED	Color Temperature	CRI	Light Efficiency
Surface	CLS-140-YS117A	140/180W	AC 100~240V	30x4	4000/5000/6000K	>70RA	90LM/W
	CLS-180-YS117A						80LM/W
Recessed	CLS-140-YS117B						90LM/W
	CLS-180-YS117B						80LM/W



CLO Series-2

Technical Specification

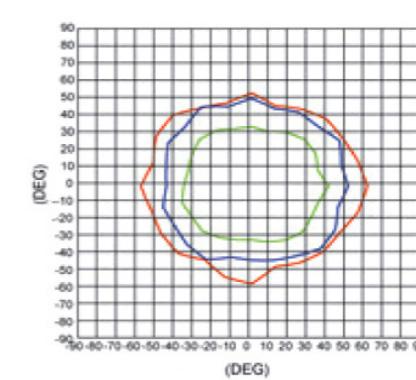
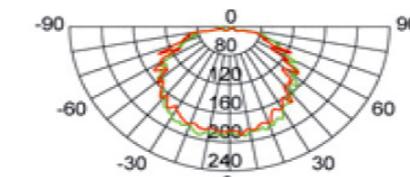
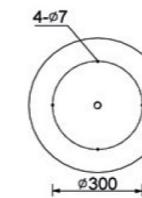
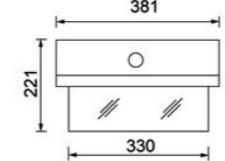
35W/45W
Lumen: 2700LM / 3400LM/
3780LM / 4760LM
Beam Angle: 130°
Movable Angle: Fixed
Power Factor: >0.95PF
Operating Temperature: -20~+45°
Light Source: LED
Aluminium die cast body
PC diffuser with prismatic pattern with no glare



CLO Series-3

Technical Specification

35W/45W
Lumen: 2700LM / 3400LM/
3780LM / 4760LM
Beam Angle: 130°
Movable Angle: Fixed
Light efficiency: >75°
Power Factor: >0.95PF
Operating Temperature: -20~+45°
Light Source: LED
Aluminium die cast body
PC diffuser with prismatic pattern with no glare

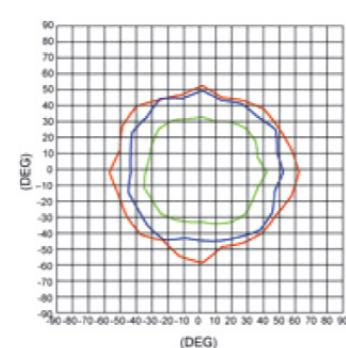
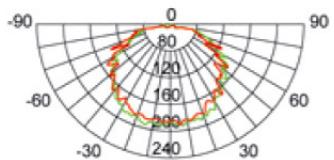
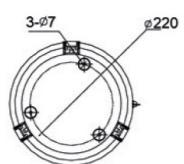


Model	Power	Input Voltage	Frequency	Color Temperature	CRI	Light Efficiency
CLS-35-YS132	35W	AC100V~240V	50~60Hz	4000 / 5000 / 6000K	>70RA	85LM/W
CLS-45-YS132	45W					75LM/W

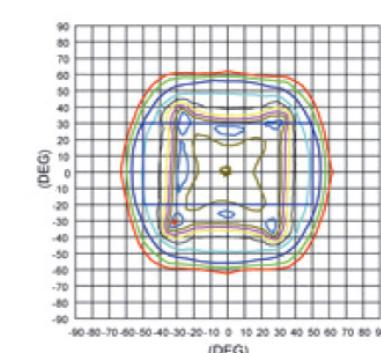
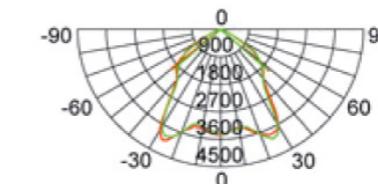
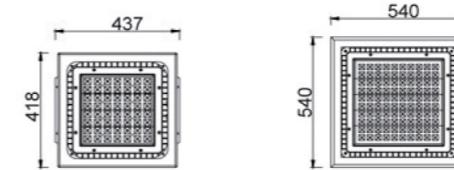
Model	Power	Input Voltage	Frequency	Color Temperature	CRI	Light Efficiency
CLS-35-YS133	35W	AC100V~240V	50~60Hz	4000 / 5000 / 6000K	>70RA	85LM/W
CLS-45-YS133	45W					75LM/W

**CLO Series-4****Technical Specification**

35W/45W
Lumen: 3780LM / 4760LM /
2700 LM / 3400LM
Beam Angle: 130°
Movable Angle: Fixed
Power Factor: >0.95PF
Operating Temperature: -20~+45°
Light Source: LED
Aluminium die cast body
PC diffuser

**CLO Series-5****Technical Specification**

Lumen: 5800LM / 8100LM /
5250 LM / 7500LM /
12600 LM / 16500LM /
11500 LM / 14600LM
Beam Angle: 100° / 95°
Movable Angle: Fixed
Power Factor: >0.95PF
Operating Temperature: -20~+45°
Light Source: LED
Aluminium die cast body



Model	Power	Input Voltage	Frequency	Color Temperature	CRI	Light Efficiency
CLS-35-YS134	35W	AC100V~240V	50~60Hz	4000 / 5000 / 6000K	>70RA	85LM/W
CLS-45-YS134	45W					75LM/W

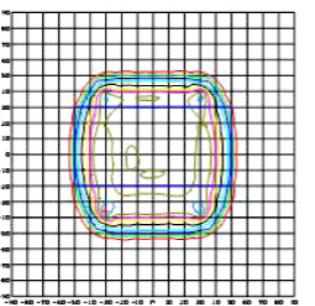
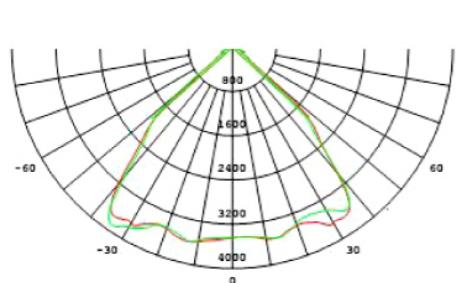
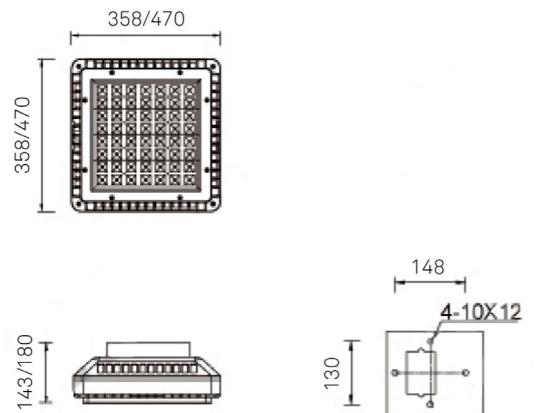
Model	Power	Input Voltage	Frequency	Color Temperature	CRI	Light Efficiency
CLS-70-YS136A	70W	AC100V~240V	50~60Hz	4000 / 5000 / 6000K	>70RA	85LM/W
CLS-100-YS136A	100W					
CLS-140-YS136B	140W					
CLS-180-YS136B	180W					75LM/W



CLO Series-6

Technical Specification

Beam Angle: 100° / 95°
 Movable Angle: Fixed
 Power Factor: >0.95PF
 Operating Temperature: -20~+45°
 Light Source: LED
 Aluminium die cast body



Model	Power	Input Voltage	Frequency	Color Temperature	CRI	Light Efficiency
CLS-70-YS137A	70W					85LM/W
CLS-100-YS137A	100W					75LM/W
CLS-140-YS137B	140W					90LM/W
CLS-180-YS137B	180W					80LM/W



WALL PACK LIGHT





WP Series-1

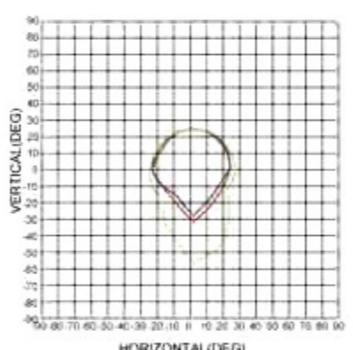
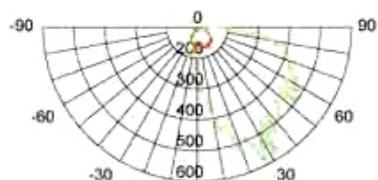
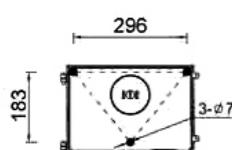
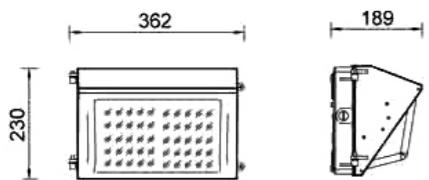
Product Characteristic:

Base and cover: Die-casting aluminium door frame rigidly secure the glass fixed and attached to the housing with stainless steel screws, the precisely designed rotating shaft for quick maintenance security G1/2" cable gland on the housing for conduit and easy installation of button photocell.

The heat proof silicon gasket positively seal around the whole housing and whole glass ensuring high performance of protection against moisture and contaminant.

With the high specular anodized aluminium reflector and refracted through the borosilicate prismatic glass provides soft light and uniform distribution

Lumen: 3690LM / 4050LM/
4920 LM /5400LM



WP Series-2

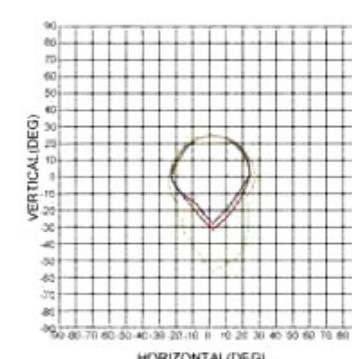
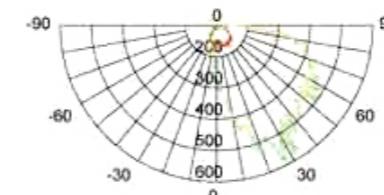
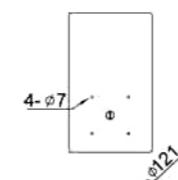
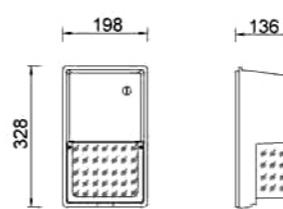
Product Characteristic:

Base and cover: Die-casting aluminium door frame rigidly secure the glass fixed and attached to the housing with stainless steel screws, the precisely designed rotating shaft for quick maintenance security G1/2" cable gland on the housing for conduit and easy installation of button photocell.

The heat proof silicon gasket positively seal around the whole housing and whole glass ensuring high performance of protection against moisture and contaminant.

With the high specular anodized aluminium reflector and refracted through the borosilicate prismatic glass provides soft light and uniform distribution

Lumen: 2870LM / 3150LM



Model	Power	Input Voltage	Color Temperature	Replacement of HID	Light Efficiency
WLS-45-YS160	45W	AC90V~277V	4000 / 5000 / 6000K	100W-150W	100LM/W
WLS-60-YS160	60W				

Model	Power	Input Voltage	Color Temperature	Replacement of HID	Light Efficiency
WLS-35-YS161	35W	AC90V~277V	4000 / 5000 / 6000K	70W	100LM/W



WP Series-3

Product Characteristic:

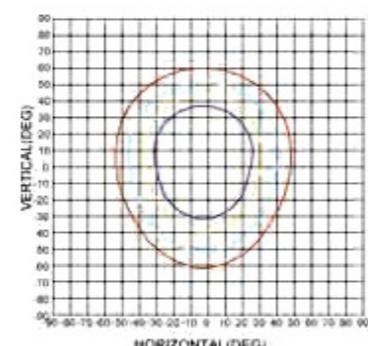
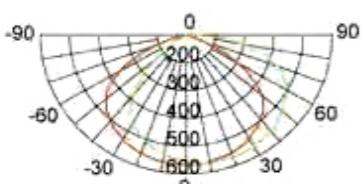
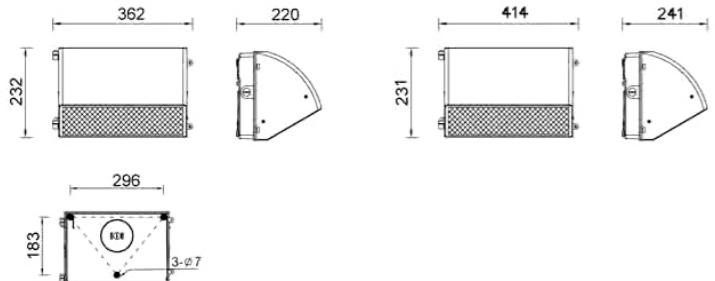
Housing: Die-casting aluminium

Glass: Unique non-glare tempered safety glass enclosure

Sealing gasket: Silicon gasket

Multiple Sizes available

Lumen: 4200LM / 5000LM/
4920 LM /5400LM



WP Series-4

Product Characteristic:

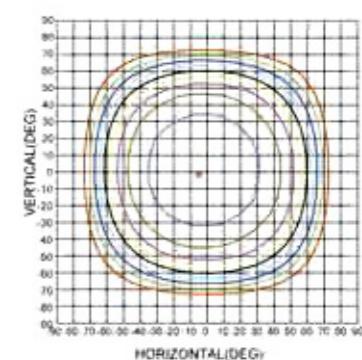
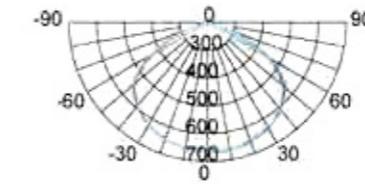
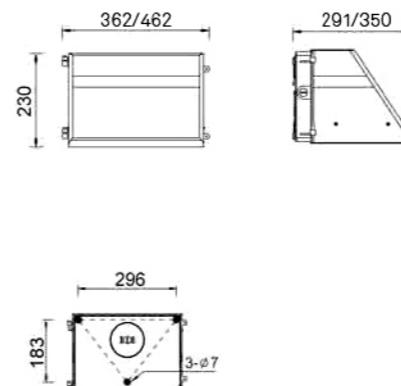
Housing: Die-casting aluminium

Glass: Unique non-glare tempered safety glass enclosure

Sealing gasket: Silicon gasket

Multiple Sizes available

Lumen: 2870LM / 3150LM/
4200LM / 5000LM/
4920 LM /5400LM



Model	Power	Input Voltage	Color Temperature	Replacement of HID	Light Efficiency
WLS-45-YS165A	45W	AC90V~277V	4000 / 5000 / 6000K	100W-150W	100LM/W
WLS-60-YS165B	60W				

Model	Power	Input Voltage	Color Temperature	Replacement of HID	Light Efficiency
WLS-35-YS166A	35W	AC100V~240V	4000 / 5000 / 6000K	70W / 100W / 150W	90LM / W
WLS-45-YS166B	45W				
WLS-60-YS166B	60W				

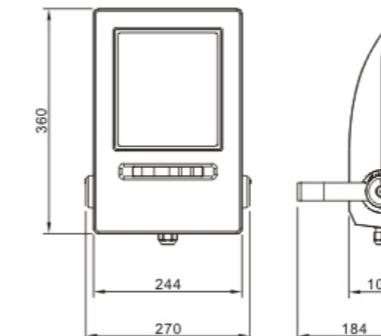
FLOOD LIGHTS



FL Series-1

Technical Specification

Total Lighting output: 3000 / 4500 / 6000LM
 Power Factor:>0.95PF
 Operating Temperature: -25°~45°
 Life Time: 30000hrs
 Die cast aluminium body
 High purity Aluminium reflector
 Tempered glass



Model	Power	Input Voltage	Color Temperature	CRI	Luminaire efficiency
FLC-40-SS3100A	40W	90-260V/ 50Hz	3000 / 6000K	>70RA	75LM/W
FLC-60-SS3100A	60W				
FLC-80-SS3100A	80W				



FL Series-2

Technical Specification

Total Lighting output: 700 LM/1400 LM/2100 LM/
3500 LM/7000 LM/8400 LM

Power Factor: >0.95PF

Operating Temperature: -30°~50°

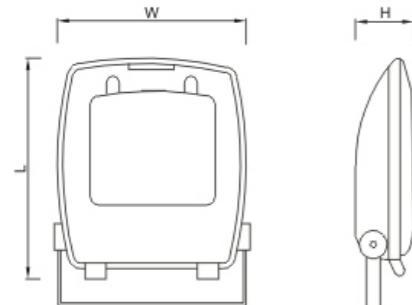
Protection Level: 65 IP

Life Time: 30000hrs

Die cast aluminium body

Aluminium reflector

Tempered glass

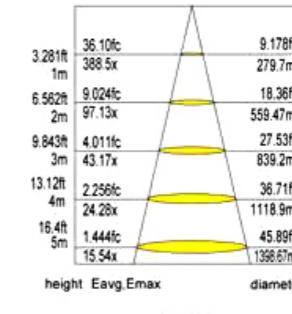
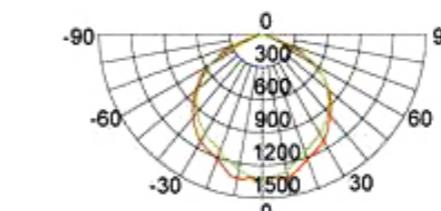
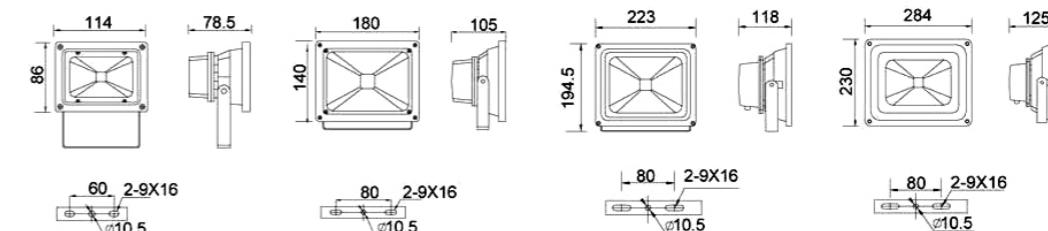


Sl	Model	L (mm)	W (mm)	H (mm)
1	10W	184	167	55
2	30W	293	240	82
3	50W	358	320	106
4	100/120W	422	380	128
5	200W	620	480	155

FL Series-3

Product Characteristic:

- High pressure die-casting aluminium housing, with the capability of impact resistance and long lifetime, just need to loosen the screws of the frames to open the light fixture and maintain the light source;
- Sealing gasket: heatproof silicon sealing gasket surround the slots of whole housing providing high performance of protection against moisture and contaminant;
- Reflector: high purity mirror aluminium symmetric reflector by external anodic oxidation treatment, with good performance of reflecting effect;
- Installation: heavy-duty stainless steel bracket suitable for pendant mounted or ceiling mounted, optional for kinds of projection angle adjustment.



108.87°

Model	Power	Input Voltage	Color Temperature	CRI	Luminaire efficiency
FLC-10-SS2157	10W	90-260V/ 50Hz	3000 / 6000K	>70RA	75LM/W
FLC-20-SS2157	20W				
FLC-30-SS2157	30W				
FLC-50-SS2157	50W				
FLC-100-SS2157	100W				
FLC-120-SS2157	120W				
FLC-200-SS2157	200W				



Model	Power	Light Efficiency	Color Temperature
FLC-10-YS306A	10W/AC90-277V	>100lm/W	4000K, 5000K, 6000K
FLC-20-YS306B	20W/AC90-277V		
FLC-30-YS306C	30W/AC90-277V		
FLC-50-YS306D	50W/AC90-277V		

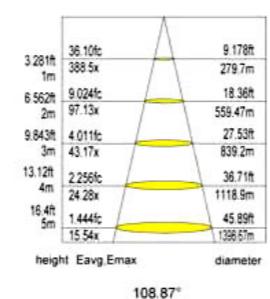
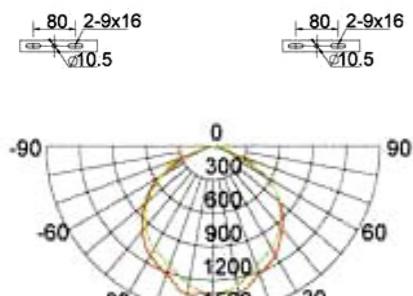
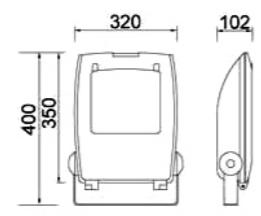
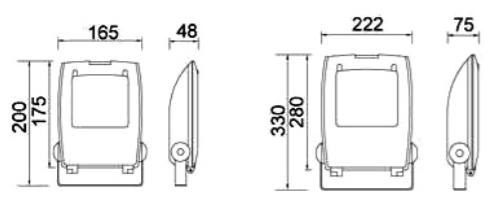




FL Series-4

Product Characteristic:

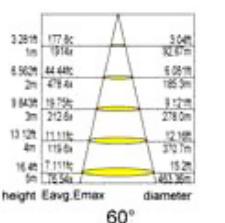
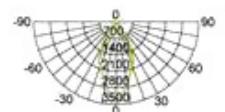
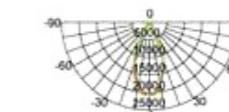
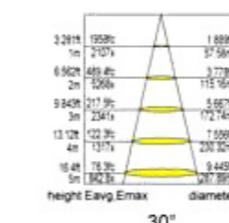
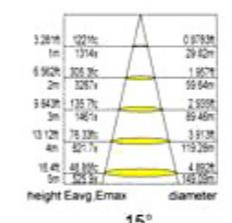
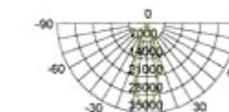
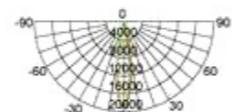
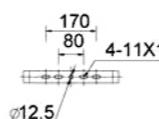
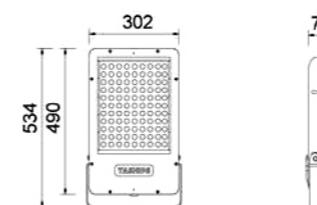
- High pressure die-casting aluminium housing, with the capability of impact resistance and long lifetime, just need to loosen the screws of the frames to open the light fixture and maintain the light source;
- Sealing gasket: heatproof silicon sealing gasket surround the slots of whole housing providing high performance of protection against moisture and contaminant;
- Reflector: high purity mirror aluminium symmetric reflector by external anodic oxidation treatment, with good performance of reflecting effect;
- Installation: heavy-duty stainless steel bracket suitable for pendant mounted or ceiling mounted, optional for kinds of projection angle adjustment.



FL Series-5

Product Characteristic:

- High pressure die-casting aluminium housing and frame, treated by external electrostatic powder spraying, corrosion resistance. The frame fixed onto the body by stainless steel screws. The back side of the body adopts heat releasing slice design, prolong surface life;
- Sealing gasket: heatproof silicon sealing gasket surrounded the slots of whole housing providing high performance of protection against moisture and contaminant;
- Power: available for 42pcs, 56pcs or 70pcs individual LED, range 48~125W;
- Reflector: professional reflector design, could supply the accurate light distribution and high light efficiency;
- Surroundings Temperature Ta:-20°C~45°C;
- Installation Bracket: galvanized steel bracket, treated by external electrostatic powder spraying, corrosion resistance, fixed by stainless steel outer hexagonal screws at two sides, convenient for adjusting the projection angle; heavy-duty stainless steel bracket suitable for pendant mounted, wall mounted or ceiling mounted, optional for kids or projection angle adjustment.



Model	Power	Input Voltage	Light Efficiency	Color Temperature
FLC-10-YS307A	10W			
FLC-30-YS307B	30W	AC90-277V	>100lm/W	4000K/5000K/6000K
FLC-50-YS307C	50W			

Model	Power	Light Efficiency	Color Temperature	Light color
FLS-70-YS731	70W AC90-277V			
FLS-100-YS731	95W AC90-277V			
FLS-120-YS731	120W AC90-277V			

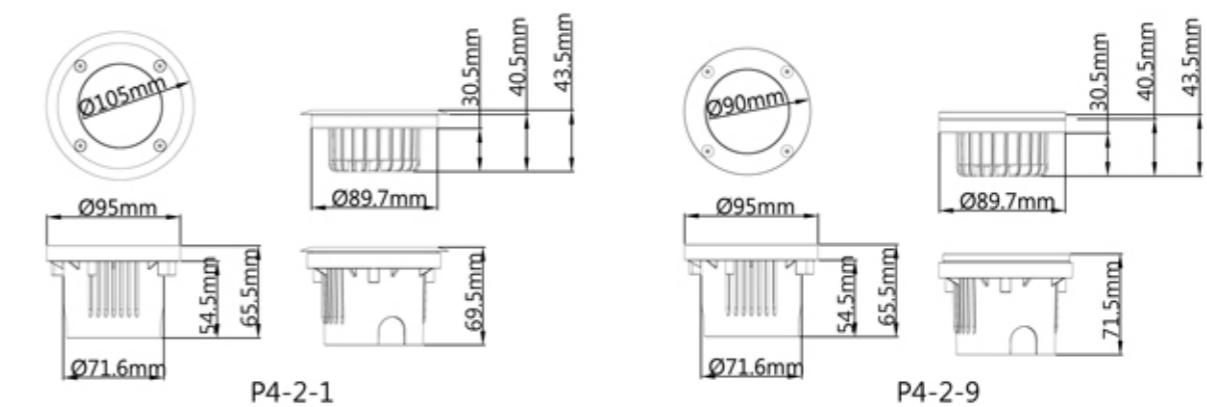
BURIED LIGHTS



BL Series-1

Technical Specification

LED Cree, CRI > 80.
Die casting Aluminium powder coating.
Stainless Steel Bezel.
T=6mm Tempered Glass.
External Auto addressing DMX512 decoder available.
Standard DMX Interface: Common +.
Mounting Sleeve: POM
Transparent glass or Diffused glass
Ø 10.5cm Stainless Steel Chamfered Bezel.



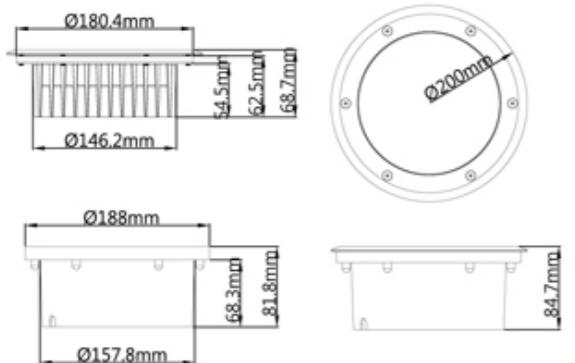
Product	Dimension (mm)	LED Quality	Watt (W)	Voltage (V)	Beam Angle
BLC-P4-2-1-L18/02	Ø105x43.4	Lamp x 18	2 / 4	DC24V/AC100~230V	30°/60°/100°
BLC-P4-2-1-S06/02		SMD x 6			120°
BLC-P4-2-1-H03/03	Ø105x43.4	1WHP x 3	3	DC12V	15°/25°/45°/65°/120°
BLC-P4-2-1-H03/03					
BLC-P4-2-9-L18/02	Ø90x43.4	Lamp x 18	2 / 4	DC24V/AC100~230V	30°/60°/100°
BLC-P4-2-9-S06/02		SMD x 6			120°
BLC-P4-2-9-H03/03	Ø90x43.4	1WHP x 3	3	DC12V	15°/25°/45°/65°/120°
BLC-P4-2-9-H03/03					



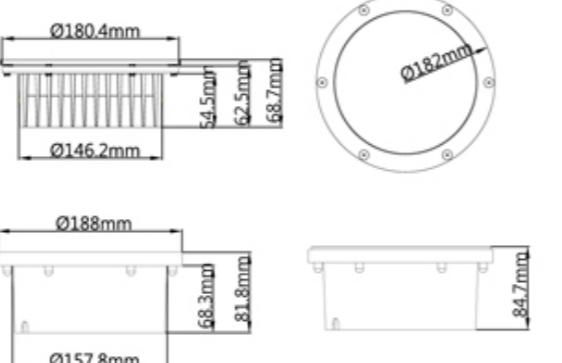
BL Series-2

Technical Specification

HIGH POWER LED
Cree High Power.
Die casting Aluminium.
Stainless Steel Bezel.
T=8mm Tempered Glass.
External Auto addressing DMX512 decoder available.
Standard DMX Interface: Common +.
Mounting Sleeve: POM
Transparent glass or Diffused glass
Ø20cm Stainless Steel Chamfered Bezel.



P14-1



P14-9

Product	Dimension (mm)	LED Quality	Watt (W)	Voltage (V)	Beam Angle
BLC-P14-1-H18/20	Ø182x68.7	1W x 18	20	DC24V/AC100~230V	15°/25°/45°/60°/120°
BLC-P14-1-H18/30		1.5W x 18	30	DC24V	
BLC-P14-9-H18/20		1W x 18	20	DC24V/AC100~230V	
BLC-P14-9-H18/30		1.5W x 18	30	DC24V	

SPIKES

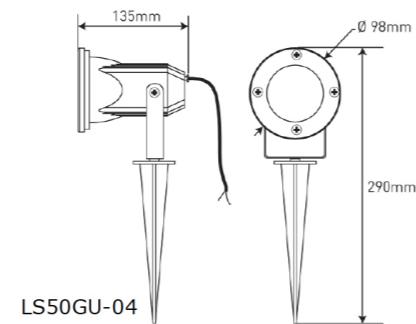
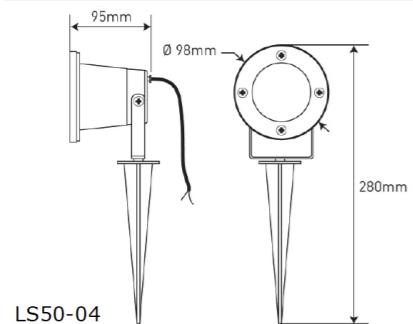




Spikes Series-1

Features

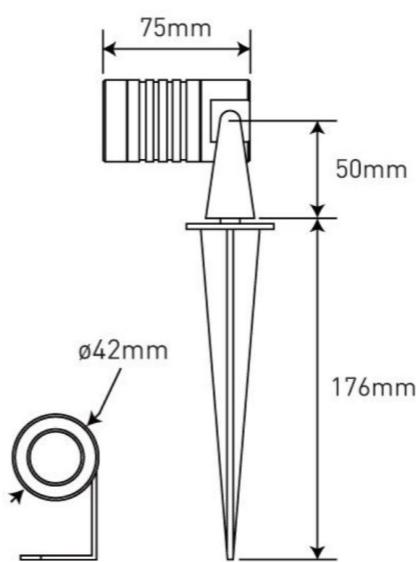
- Complete with stirrup bracket
- Adjustable head
- Die-cast aluminium construction
- Mains or low voltage options allow a choice of lamps up to 50W
- Pre-glanded and wired with 1m cable
- Trim and waterproof seal secured with 4 screws to body



Spikes Series-2

Features

- 2 in 1 features
- Wall bracket with predrilled hole
- Garden Spike
- Single high powered 3W LED
- 50,000 hour average lamp life
- Cool running
- No UV
- Integral driver
- Die-cast aluminium body
- Toughened glass



Model	Diameter	Depth	Height	Max Power	Weight	Color Finish
SLS-LS50-04	98 mm	95 mm	280 mm	50 W	0.4 Kg	Black
SLS-LS50GU-04		135 mm	290 mm		0.5 Kg	

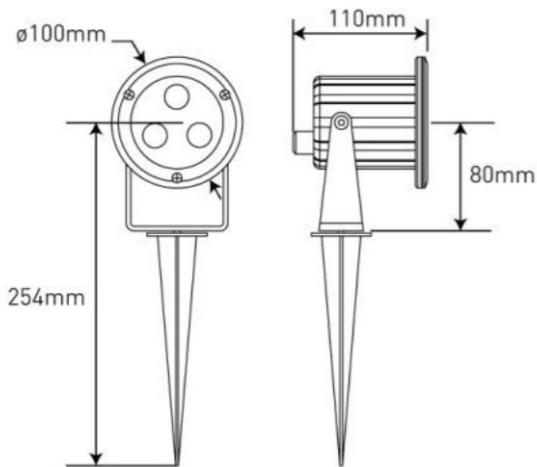
Model	Diameter	Depth	Height	Max Power
SLS-R2IN13W-13	42 mm	75 mm	226 mm	3 W



Spikes Series-3

Features

- 3 in 1 features
- Wall bracket with predrilled hole
- Garden Spike
- Recessed Sleeve
- Single high powered 3W LED
- 50,000 hour average lamp life
- Cool running
- No UV
- Integral driver
- Die-cast aluminium body
- Toughened glass



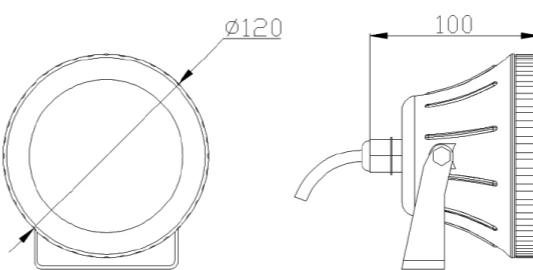
Model	Diameter	Depth	Height	Max Power	Weight
SLS-R3IN13W	100 mm	110 mm	264 mm	3 W	0.3 Kg



Spikes Series-4

Features

- 2 in 1 features
- Wall bracket with predrilled hole
- Garden spike
- 50 x 0.06 watt (3 watt) warm white Led's
- 50,000 hour average lamp life
- Cool running
- No UV
- Integral driver
- Completely Nylon Body
- Toughened glass



Model	Width	Height	Depth	Power	Weight
SLS-R503LED-23	120 mm	140 mm	100 mm	3 W	0.5 Kg

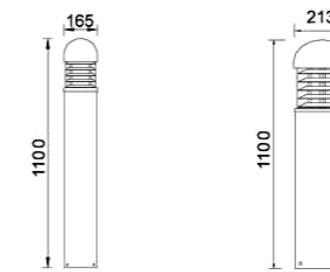
BOLLARDS



GB Series-1

Product Characteristic:

- Extruded aluminium housing with corrosion-resistant polyester powder coat finished.
- Easy replacement on lamp by unscrewing the top cover.
- Light source: SMD.



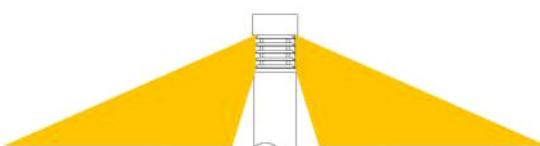
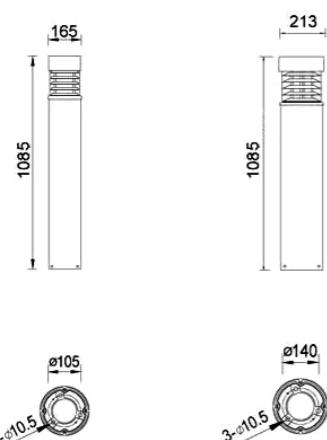
Model	Power	Color Temperature
GBS-25-YS811A	25W / AC90-277V	4000 / 50000 / 6000K
GBS-35-YS812A	35W / AC90-277V	



GB Series-2

Product Characteristic:

- Extruded aluminium housing with corrosion-resistant polyester powder coat finished.
- Easy replacement on lamp by unscrewing the top cover.
- Light source: SMD.



Model	Power	Color Temperature
GBS-25-YS811C	25W / AC90-277V	4000 / 50000 / 6000K
GBS-35-YS812C	35W / AC90-277V	

Glossary

Electrical power supply

The term electrical power supply refers to a system capable of supplying electricity to elements which require this energy to function. The properties of a power supply are defined in current, voltage and frequency.

Beam Angle

The light ray diffusion angle designates the angle of at which the lighting element illuminates. A narrow angle (30° degree for example) illuminates a limited surface and is suitable for illuminating small zones. A wide diffusion angle will be required to illuminate large surfaces.

Classes I, II, III

Electrocution protection classes.

Class I: The unit possesses a functional insulation with earth terminal and earth bonding link. The plug of these elements is foreseen with an earth pin to which all metal parts are connected.

Class II: The units are foreseen with enhanced insulation preventing access to metal parts. The plugs of class II elements do not have an earth pin.

Class III: The unit functions with a safety extra low voltage (SELV) (50V maximum). The voltage reduction must be achieved with an isolation transformer ensuring galvanic isolation between the primary and secondary windings.

Lamp base

A lamp base is the metal end enabling the lamp's attachment in a socket. There are several types of sockets, available in several sizes. Different socket types include the screw base, bayonet base, pin base and socket composed of two connectors.

WEEE

Waste from Electric and Electronic Equipment (abbreviation WEEE) refers to the waste coming from equipment functioning with electrical current or electromagnetic field, i.e. all equipment powered via an electrical power socket, battery or accumulator. This includes lighting elements.

Low Voltage Directive 73/23/CEE

European Directive imposing a certain number of rules concerning electrical safety for lighting device: EN60598-1 (General conditions), EN60598 2-1 (fixed lighting for general usage) and EN60598 2-2 (recessed lighting).

RoHS Directive 2006/95/EC

The RoHS European Directive (Restriction of the use of certain Hazardous Substance in electrical and electronic equipment) restricts the use of certain hazardous substances in electrical and electronic equipment: lead, mercury, cadmium, hexavalent chromium, polybromobiphenyls (PBB), polybromodiphenylethers (PBDE).

Operating life (of a lamp)

The operating life of a LED indicates the duration after which it starts to emit a luminous flux lower than 70% of its initial flux. Each operating life expressed on the technical data sheet corresponds to operate at 25°C.

Lighting efficiency (lumen per watt: lm/W)

This defines the capacity of lighting element to generate a large flux from one electrical Watt (W) absorbed. The higher efficiency, the less electricity the lamp will consume.

IP Protection rating.

The IP index expresses the degree of protection from the penetration of solid bodies (1st number - protection increasing from 0 to 6) and from penetration by water (2nd number - protection increasing from 0 to 8).

CRI (or Ra): Colour Rendering Index

This index defines the ability of a light to avoid deforming the colored appearance of the object it illuminates. For example, sunlight has a CRI of 100. This index ranges from 0 to 100, and CRI < 60 = poor; 60 < CRI < 80 = correct; 80 = good, CRI > 95 = excellent.

Lumen (Lm)

Quality of light produced by a source: light emission.

The light emission value expressed in the technical data sheets corresponds to the light in lumens leaving the lighting element.

Luminance (candela per square meter: cd/m²)

The light intensity produced or reflected on a given surface. It enables estimation of the glare.

Lux (lx)

Quantity of light reaching a surface: lighting of this surface.

EC marking

Indicates the conformity of a product to the requirement of applicable European directives.

LED recycling

The “Barred bin” symbol must be applied to all light packaging since 2005 and indicates that it must not be disposed of in the household waste bin.

Disused LED lamps are classified as WEEE (waste from electrical and electronic equipment).

A LED lamp is almost entirely recyclable. Its main advantage over the fluocompact lamp is that its contains no mercury or fluorescent powder.

Disused lamps may therefore be returned to the retailer, supermarket, DIY shop or wholesaler where they may be placed in a “public” container in the same way as one does with batteries.

Disused LED lamps may also be disposed of in public waste disposal centres. Many local councils have placed lamp disposal containers in their waste disposal centres. Some waste disposal centres also allow professionals to dispose of disused lamps free of charge.

Colour temperature: Kelvin (K)

Characterizes the apparent colour of the light emitted by a light source, and is expressed in Kelvin. The colour temperature is low for warm lights and high for cold lights:

<3300K = warm tones; between 3300 and 5300K = natural tones; > 5300K = cold tones.

Glow wire test

This test enables observation of the behaviour of lamp composition materials when exposed to high temperature (650°, 750°, 850° and 960°). Measurement of the lighting element's fire resistance.

Watt (W)

Unit of electrical power. The power consumed over a given period represents the energy used.



SPAIN OFFICE

Frater Euro-Electricals. S.A.

Passeig de Garcia, 103, 7a planta,
08008 Barcelona, Spain

T: +34 934 150 088

F: +34 934 152 051