

**DARK** to **LIGHT**



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## **Overview of Elte Licht Ranges:**

### **Public lighting catalogue:**

- indoor lighting fixtures (functional lighting)
- outdoor lighting fixtures (standard public lighting)
- linear flexible lighting

### **Custom made items:**

- lighting fixtures for external application
- interior decorative
- furniture for exteriors



## Foreword

The ELTE Company was established in **1972** in Kleve, Germany. Three partners started a small factory to design, manufacture and import lighting fixtures of indoor and outdoor application. The production program of ELTE's range developed rapidly to include public and amenity lighting.

From 1974 onwards ELTE ensured its annual presence at the World Light Fair in Hannover. During the same period the first shipments to the Middle East also started. ELTE's program continued to develop as such the consumers' range was handed over to a partnering company. ELTE itself concentrated on planning, developing and manufacturing light fixtures exclusively for projects in the EU and some for the Middle East.

Our present goal is to re-position the ELTE brand worldwide following trends of new technologies in lighting industry and demands for energy saving. Therefore, we have developed an extensive range of lighting fixtures for internal and external applications to satisfy latest projects' and end-clients' requirements.

Having had exclusive agreements with a number of factories in several regions such as China, Germany, UK and Russia, all equipped with skilled design teams offering state of the art manufacturing facilities. ELTE is committed to provide a complete lighting solution for the interior or exterior of any project.

ELTE's quality control in manufacturing process starts from raw materials selection and ends with complete products tested and certified to comply with industry standards.

To meet specific requirements of designers and planners a division has been created specializing in design and manufacture of **custom-made** light fixtures of any shape, dimension or finish required.

All ELTE products either standard or customized are certified according to European Certification laboratories.

We specialize in LED/LES technology and receive their elements from reputed manufacturers such as **Bridgelux, OSRAM, SHARP, CREE, Nichia**, etc. The performance of LEDs rely on sophisticated designed housings made for efficient heat dissipation. Therefore, the LED drivers are provided by superior quality brands such as **Tridonic, HEP, Meanwell, Vossloh Schwabe**, etc. as such ELTE offers warranties of between 2 and 10 years in accordance with our terms and conditions, available on request.

In case traditional lamping would be required for a project we can meet our clients' requirements and supply the required light sources.

All items in ELTE's range contain IES and LDT files for easy inserting into lux calculating programs.

The ELTE lighting catalogue contains a variety of internal and external technical LED lighting solutions. We believe it will be a good companion for all specifiers, industry professionals and end users who are looking for superior and reliable luminaires. ELTE lighting stands by its reputation as one of the best and most reliable companies in its class.

(\*) Read terms and conditions.

# List of abbreviations and color codes

Description	Abbreviation	Color Codes:	
round/circular	RN	white (matte) ..01	satin nickel (stainless steel) ..17
square	SQ	white (glossy) ..02	satin chrome ..18
dark spot	DKSP	black (matte) ..11	golden (polished) ..19
with trim	TM	black (glossy) ..12	golden (matte) ..20
trimless	TML	grey (matte) ..13	brown ..21
fixed	FX	silver grey (glossy) ..14	customized color ..00
adjustable	ADJ"	silver grey (matte) ..15	RAL... RAL...
asymmetric	ASM	polished (mirror) chrome ..16	
symmetric	SYM		
recessed	RCS		
clips for recessed mounting	RCS-CLP	<b>Color Temperatures:</b>	
surface mounted	SFM	2700K	CT27
casing for surface mounting	SFM-CS	3000K	CT30
kit for surface mounting	SFM-KT	3500K	CT35
hanging (suspended)	HNG	4000K	CT40
suspension kit	HNG-KT	4500K	CT45
hanging (suspended) direct-indirect	HNG.DR/IND	5000K	CT50
hanging (suspended) direct only	HNG.DR	6000K	CT60
with switch	SWT	10000K	CT100
with socket	SCK	RGB	RGB
emergency kit	EME	RGBW	RGBW
		Red	RD
		Green	GR
		Blue	B.L
		Yellow	YL
		Amber	AMB
<b>Lens / Diffuser</b>		<b>Beam Angles:</b>	<b>Coding</b>
glass diffuser	DF.GLS	10°	BA10
polycarbonate diffuser	DF.PC	15°	BA15
opal	DF.OPL	20°	BA20
frosted	DF.FRS	24°	BA24
clear/transparent	DF.TNS	30°	BA30
semi-opal	DF.SMO	35°	BA35
prismatic	DF.PSM	45°	BA45
softening lens	DF.SFT	60°	BA60
spread lens	DF.SPR	asymmetric beam angle	ASBA...
linear spread lens	LNS	symmetric beam angle	SBA...
<b>Anti-glare attachments</b>		<b>LED Drivers:</b>	
honey comb	HYC	Non-Dimmable	ND
anti-glare grille	GRL	Phase	PH
anti-glare cap	CAP	0-10V	010V
half lid	LID	DALI-compatible	DALI
<b>Louvers:</b>		<b>drive-over lights windows:</b>	
Single Parabolic	LV.SPL	1-win	WN1
Double Parabolic	LV.DPL	2-win	WN2
Matte	LV.MTT	3-win	WN3
Polished (mirror)	LV.MRR	4-win	WN4
Example: (double parabolic matte)	LV.DPL.MTT	<b>Options:</b>	
<b>Reflectors (aluminum)</b>		Spike	SPK
Mirror Polished	RF.MRR	Aluminum spike	AL.SPK
Matte	RF.MTT	Plastic spike	PC.SPK
Diamond Faceted	RF.DM.FCT	bracket type-1	BCK1
Faceted	RF.FCT	bracket type-2	BCK2
Anti-glare baffle	RF.ANT.GL	bracket type-3	BCK3
Plain	RF.PLN	mounting box (PC/Steel/Stainless)	BX.PC (ST/SLS)
Perforated	RF.PRF	trim: die-cast aluminum	TM.DC
<b>General Abbreviations:</b>		trim: stainless steel	TM.SLS
die-cast aluminum	DC	<b>Pole</b>	
stainless steel	SLS	pole: steel	PL.STEEL
brass	BRASS	pole: aluminum	PL.ALM
polycarbonate	PLC	pole: die-cast aluminum	PL.DC.ALM
diameter	DIA	pole: galvanized steel	PL.GLV.STEEL
Ceiling Cut-Out	CO		
Lumen Output	Lm		

<b>Code</b>	<b>Range</b>
01..	Micro crystal lights
02..	Low profile spotlights
03..	Spotlights/Downlights
04..	Gypsum lighting
06..	Panel lighting
07..	Office lighting
08..	LED linear strip lightsLED
09..	linear strip lights built in aluminum channels
10..	Aluminum channels range
12..	Flexible LED reading lights
13..	Mirror lighting
14..	Utility lighting

Spotlights/downlights (page 15)



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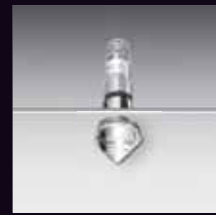
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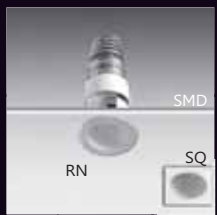
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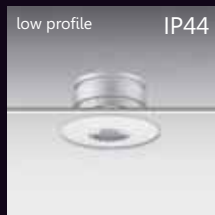
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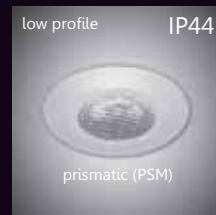
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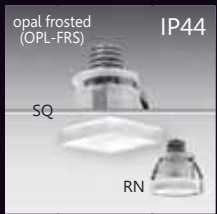
25



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31

Spotlights/downlights (page 15)

 IP44 32	 IP44 32	 IP54 RN SQ 33	 IP44 SYM ADJ ASM 33	 IP44 SYM ADJ 33	 IP44 SYM ADJ 33
 RN1-SYM 35	 RN1-ASM 35	 SQ-SYM 35	 SQ-ASM 35	 RN2-SYM 35	 RN2-ASM 35
 TM TML 36	 asymmetric RN SQ 36	 SQ SYM RN ASM RN SQ 36	 with trim (x1) (x2) 37	 trimless (x1) (x2) 37	 trimless TML 39
 RN SQ 39	 halo 39	 TM TML gold 39	 WHI/BLK TM TML WHI/WHI 40	 WHI/WHI TM TML BLK/BLK 41	 TM TML 42
 IP65 44	 IP65 44	 IP65 RN SQ 44	 IP65 SQ RN 44	 IP65 RN SQ 45	 IP65 RN SQ 45
 OPL-PC IP65 45	 SQ RN 46	 SQ RN 46	 RN SQ 46	 IP54 47	 IP44 SQ RN 47
 SQ RN 47	 SQ RN 47	 slim trim 48	 slim trim 48	 trimless 48	

Spotlights/downlights (page 15)



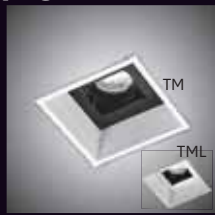
IP44

49



trimless IP44

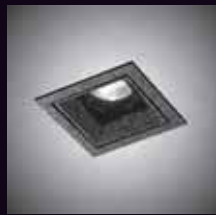
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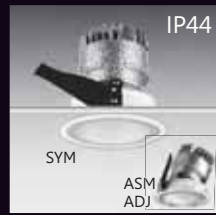
TM

TML

49



49



IP44

SYM

ASM  
ADJ

50

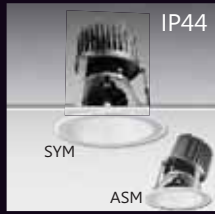


IP44

SYM

ADJ  
ASM

50



IP44

SYM

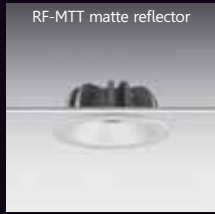
ASM

50



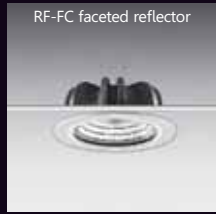
IP54

50



RF-MTT matte reflector

51



RF-FC faceted reflector

51



90° internally and externally adjustable

52



90°externally adjustable

52



40°externally adjustable

52



52



15w circular LED  
20w center LED spotlight

53



15w circular LED

53

**Gypsum lights (page 55)**



**Office lighting (page 63)**





Office lighting (page 63)



71



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71



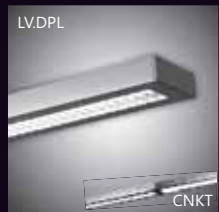
72



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73



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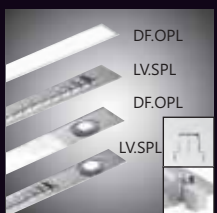
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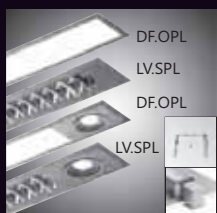
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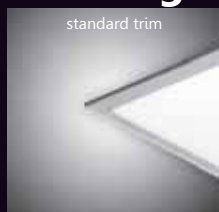


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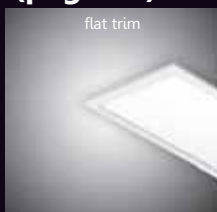


83

Panel lights (page 85)



86



87



88



88



88



88



**Utility lights (page 93)**

 <p>w-46mm</p>	 <p>w-66mm</p>	 <p>w-70mm</p>	 <p>w-120mm steel body</p>	 <p>w-200mm steel body</p>	 <p>aluminum body</p>
90	90	90	91	91	92
 <p>aluminum body</p>					
92	93	93	93	94	94
					
94	95	95	95	96	96
					
96	97	97	97	98	98
					
98	99	99			

**Reading lights (page 99)**

			
100	101	102	103

Mirror lights (page 105)



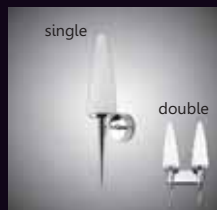
106



106



106



106



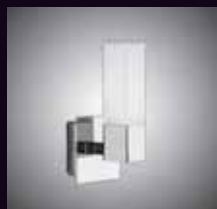
107



107



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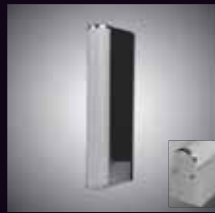
**Mirror lights (page 105)**



123



123



123



123



124



124



124



124



126



126



straight

127



left (L)

right (R)

127



double

127



127



129



mirror finish

129



129



129



with magnifying mirror

130



decorative frame

130



with magnifying mirror

130

**Strip lighting (page 131)**



08.19.001(3528-30-3.8)

133



08.19.002(3528-48-3.5)

133



08.19.003(3528-60-4.3)

133



08.19.004(3528-78-5.6)

133



08.19.005(3528-96-6.9)

134



08.19.006(3528-120-8.6)

134



08.19.007(3528-120-8.6)

134



08.19.008(3528-180-13)

134



08.19.009(3528-240-17.3)

135



08.19.010(3528-240-17.3)

135



08.19.011(3528-450-32.4)

135



08.19.012(5050-30-6.5)

136

Strip lighting (page 131)



08.19.013(5050-48-10.4)

136



08.19.014(5050-60-13)

136



08.19.015(5050-60-13)

136



08.19.016(5050-72-15.6)

137



08.19.017(5050-96-20.7)

137



08.19.018(5050-120-26)

137



08.19.019(3528-60-4.3)

138



08.19.020(5050-30-6.5)

138



08.19.021(5050-32-8)

138



08.19.022(5050-48-10.4)

138



08.19.023(5050-60-13)

139



08.19.024(5050-72-15.6)

139



08.19.025(5050-72-15.6)

139



08.19.026(5050-96-20.7)

139



08.19.026(5050-120-26)

140



08.19.027(335-60-4.3)

141



08.19.028(335-96-6.9)

141



08.19.029(2835-60-13)

142



08.19.030(2835-120-26)

142



08.19.031(5630-60-17.8)

142



08.19.032(5630-72-21.4)

142



08.19.033(5630-144-42.8)

143



08.19.034(3014-60-6)

143



08.19.035(3014-96-9.6)

143



08.19.036(3014-120-12)

143



08.19.037(3014-180-18)

144



08.19.038(3014-216-21.6)

144



08.19.039(3014-432-43.2)

144



08.19.040(3014-168-15)

146



08.19.041(3014-192-17.3)

146



08.19.042(3528-120-8.6)

146



08.19.043(3528-120-8.6)

146



08.19.044(3528-240-17.3)

147



08.19.045(3528-450-32.4)

147



08.19.046(5050-60-13)

147



08.19.047(5050-72-15.6)

148



08.19.048(5050-120-25.9)

148



08.19.049(5050-60-13)

149



08.19.050(5050-72-15.6)

149



08.19.051(5050-72-15.6)

149



08.19.052(3528-60-5)

150



08.19.053(3528-120-10)

150



**Strip lighting (page 131)**



150



150



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152



152



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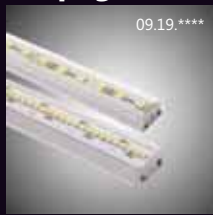
**Aluminum bar striplights (page 154)**



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154



155



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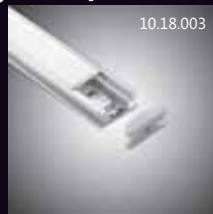
**Aluminum channels (page 161)**



162



162



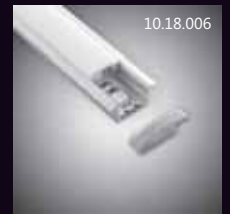
162



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163



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165



165



165



167

**Aluminum channels (page 161)**



10.18.013

167



10.18.014

167



10.18.015

167



10.18.016

169



10.18.017

169



10.18.018

169



10.18.019

169



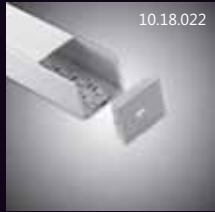
10.18.020

171



10.18.021

171



10.18.022

171



10.18.023

171



10.18.024

173



10.18.025

173



10.18.026

173



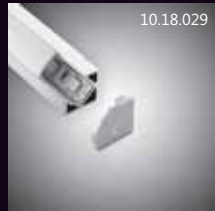
10.18.027

173



10.18.028

174



10.18.029

174



10.18.030

174



10.18.031

175



10.18.032

175



10.18.033

175



10.18.034

175



10.18.035

177



10.18.036

177



10.18.037

177



10.18.038

177



10.18.039

179



10.18.040

179



10.18.041

179



10.18.042

179



10.18.043

180



10.18.044

180



10.18.045

180



10.18.046

181



10.18.047

181

**Technical appendix (page 182)**

**Pictograms (page 201)**

**Index (page 202)**

# spot/downlights

micro-spotlights



low profile spotlights



low profile downlights



spotlights



IP65 spotlights



spot/downlights



**Mounting:** recessed into ceiling

**Housing:** aluminum

**Attachments:**

crystal glass (shapes on request)

**Trim Colors:**

01-white matte

16-polished chrome

17-satin nickel

**Note:**

\*other colors are available on request

**LED:** SMD

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

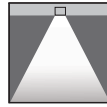
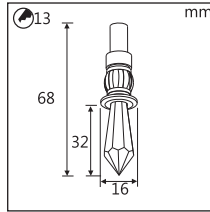
010V - 0-10V dimmable

DALI - compatible

**Ordering Guide:**

01.01.001.01.0.5+00+CT30+ND  
(item+trim color+CCT+driver)

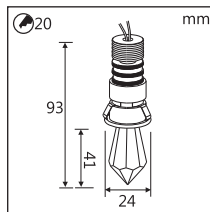
**Areas of use:** indoors:  
decorative areas (stars effect),  
lobbies, corridors, lift lobbies,  
restaurants, etc.



**Ref Code** 01.01.001.01.0.5  
**Watt** 0.5W  
**mA** 120  
**Lm(±)** 20



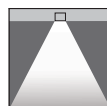
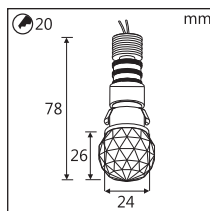
**Beam Angle:** 134°



**Ref Code** 01.01.002.01.01  
**Watt** 1W  
**mA** 350  
**Lm(±)** 88



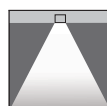
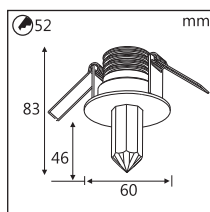
**Beam Angle:** 134°



**Ref Code** 01.01.003.01.01  
**Watt** 1W  
**mA** 350  
**Lm(±)** 88



**Beam Angle:** 11°



**Ref Code** 01.01.004.01.01  
**Watt** 1W  
**mA** 350  
**Lm(±)** 88



**Beam Angle:** 93°



**Mounting:** recessed into ceiling

**Housing:** aluminum

**Attachments:**

crystal glass (shapes on request)

**Trim Colors:**

01-white matte

16-polished chrome

17-satin nickel

**Note:**

\*other colors are available on request

**LED:** SMD

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**AC Volt:** 220-240V

**Frequency:** 50/60Hz

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010V - 0-10V dimmable

DALI - compatible

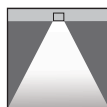
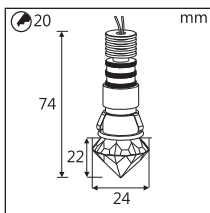
**Ordering Guide:**

01.01.005.01.01+00+CT30+ND

(item+trim color+CCT+driver)

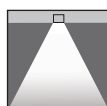
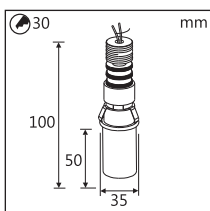
**Areas of use:**

decorative areas, indoors:  
lobbies, corridors, lift lobbies,  
restaurants, etc.



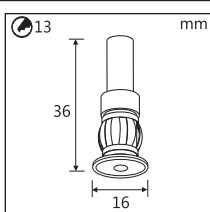
Ref Code	Watt	mA	Lm(±)
01.01.005.01.01	1W	350	88

**Beam Angle: 18°**



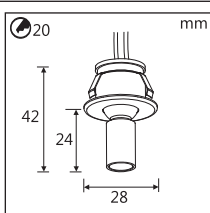
Ref Code	Watt	mA	Lm(±)
01.01.006.01.01	1W	350	88

**Beam Angle: 18°**



Ref Code	Watt	mA	Lm(±)
01.01.007.01.0.5	0.5W	15	5

**Beam Angle: 90°**



Ref Code	Watt	mA	Lm(±)
01.01.008.01.01	1W	350	75

**Beam Angle: 18°**

**Mounting:** recessed into ceiling

**Housing:** die-cast aluminum

**Trim Colors:**

- 01-white matte
- 13-grey matte
- 16-polished chrome
- 17-satin nickel

**Notes:**

\*other colors are available on request

**LED:** power LED

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data

is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Ordering Guide:**

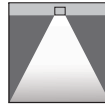
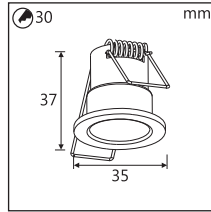
01.01.009.01.01+00+CT30+ND

(item+trim color+CCT+driver)

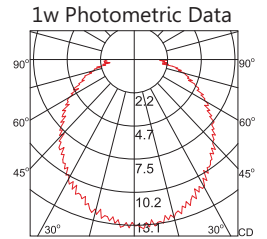
**Areas of use:**

indoors:

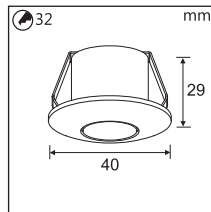
shelves, cabinet lighting



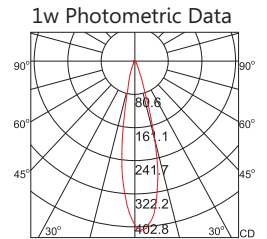
**Ref Code** 01.01.009.01.01    **Watt** 1W    **mA** 350    **Lm(±)** 88



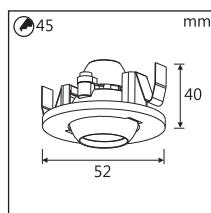
**Beam Angle:** 23°



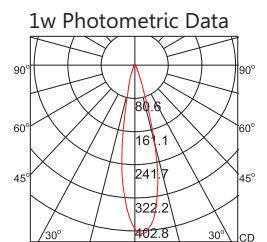
**Ref Code** 01.01.010.01.01    **Watt** 1W    **mA** 350    **Lm(±)** 88



**Beam Angle:** 23°



**Ref Code** 01.01.011.01.01    **Watt** 1W    **mA** 350    **Lm(±)** 88



**Beam Angle:** 23°



03.06.098.02.10  
10W COB LED  
Dia: 110  
H: 111  
C.O.: 100  
Beam Angle: 36°  
IP44

**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum

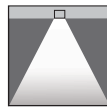
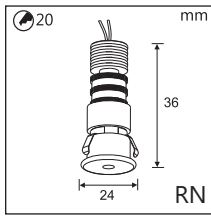
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 17-satin nickel

**Note:**  
 \*other colors are available on request

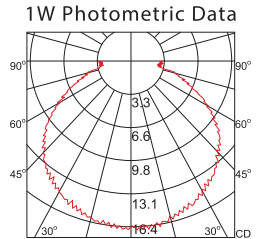
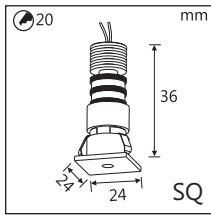
**LED:** SMD/power LED  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 01.01.012.01.01+SQ+00+CT30+ND  
 (item+shape+trim color+CCT+driver)

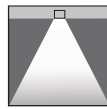
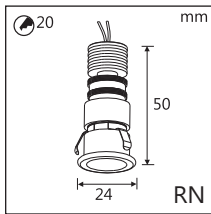
**Areas of use:**  
 indoors:  
 hotels, residential  
 lift lobbies, corridors  
 accent lighting



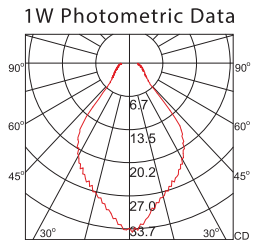
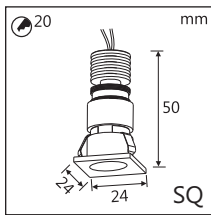
**Ref Code** 01.01.012.01.01 **Watt** 1W **mA** 350 **Lm(±)** 88



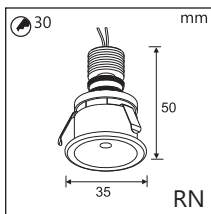
**Beam Angle: 122°**



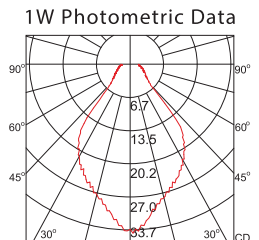
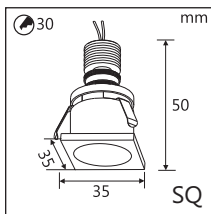
**Ref Code** 01.01.013.01.01 **Watt** 1W **mA** 350 **Lm(±)** 86



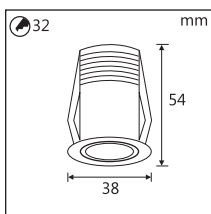
**Beam Angle: 48°**



**Ref Code** 01.01.014.01.01 **Watt** 1W **mA** 350 **Lm(±)** 86



**Beam Angle: 74°**



**Ref Code** 01.06.015.01.03 **Watt** 3W **mA** 350 **Lm(±)** 270

**Beam Angle-Code:**  
 24°-BA24  
 36°-BA36

# low profile spotlights

**Mounting:** recessed into ceiling

**Housing:** die-cast aluminum

**Trim Colors:**

01-white matte

13-grey matte

16-polished chrome

17-satin nickel

**Note:**

\*other colors are available on request

**LED:** SMD/power LED

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Ordering Guide:**

02.06.001.01.01+SQ+00+CT30+BA20+ND

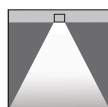
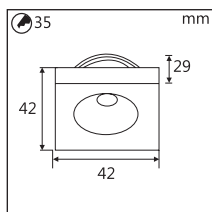
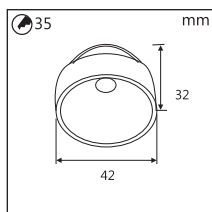
(item+shape+trim color+CCT+beam+driver)

**Areas of use:**

indoors:

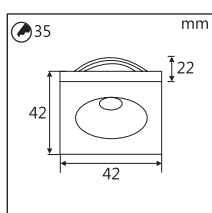
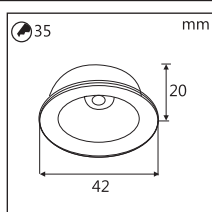
accent lighting, shelves,

cabinet lighting



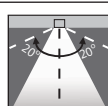
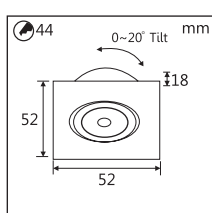
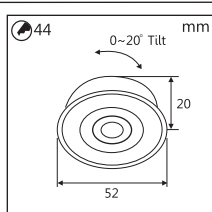
Ref Code	Watt	mA	Lm(±)
02.06.001.01.01	1W	350	90
02.06.001.02.03	3W	350	270

**Beam Angle:** 90°



Ref Code	Watt	mA	Lm(±)
02.06.002.01.01	1W	350	90
02.06.002.02.03	3W	350	270

**Beam Angle:** 90°



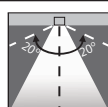
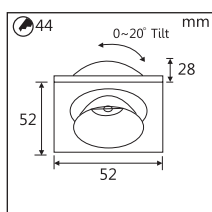
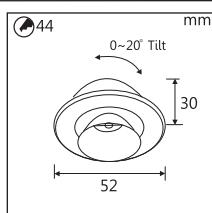
Ref Code	Watt	mA	Lm(±)
02.06.003.01.01	1W	350	90
02.06.003.02.03	3W	350	270

**Beam Angle-Code:**

20°-BA20

40°-BA40

60°-BA60



Ref Code	Watt	mA	Lm(±)
02.06.004.01.01	1W	350	90
02.06.004.02.03	3W	350	270

**Beam Angle-Code:**

20°-BA20

40°-BA40

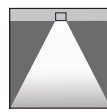
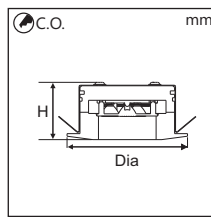
60°-BA60

**Mounting:** recessed into ceiling  
**Housing:** machined aluminum 6063  
**Diffuser:** glass lens  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
**Note:**  
 \*other colors are available on request

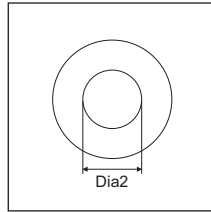
**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 02.03.005.01.02+00+CT30+BA15+ND  
 (item+trim color+CCT+beam+driver)

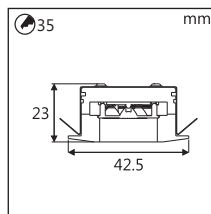
**Areas of use:**  
 indoors:  
 accent lighting, shelves,  
 cabinet lighting



Ref Code	Watt	mA	VDC	Lm(±)	DiaxH/Dia2/C.O.
02.03.005.01.02	2W	350	3V	144	42.5x29/18/35
02.03.006.01.04	4W	350	9V	290	59.5x32/33/50
02.03.007.01.07	7W	350	15V	400	70x33.5/33.5/50

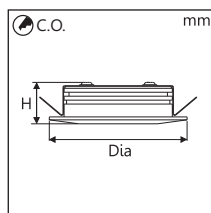


**Beam Angle-Code:**  
 15°-BA15  
 25°-BA25



Ref Code	Watt	mA	VDC	Lm(±)
02.03.008.01.02	2W	350	3V	106

**Beam Angle-Code:**  
 15°-BA15  
 25°-BA25



Ref Code	Watt	mA	VDC	Lm(±)	DiaxH/C.O.
02.03.009.01.04	4W	350	9V	290	59.5x22/50
02.03.010.01.07	7W	350	15V	400	70x21/60

**Beam Angle-Code:**  
 15°-BA15  
 25°-BA25





03.01.069.01.15  
12W COB LED  
Dia: 128  
H: 94  
C.O.: 118  
Beam Angle: 65°  
IP65

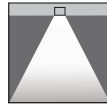
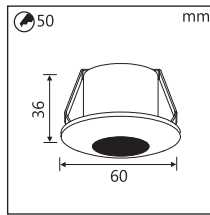
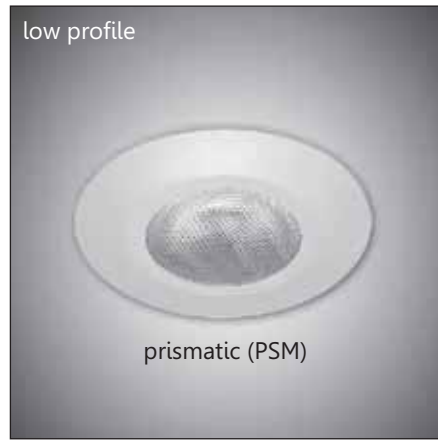


**Mounting:** recessed/surface mounted  
**Housing:** aluminum  
**Reflector:** aluminum  
**Diffuser:** glass lens  
**Trim Colors:**  
 01-white matte/13-grey matte  
 16-polished chrome/18-satin chrome  
**Note:**  
 \*other colors are available on request

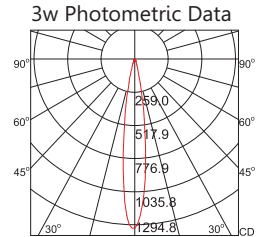
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10v dimmable  
 DALI - compatible  
**Ordering Guide:**  
 02.01.013.01.4+SFM+00+CT30+ND  
 (item+mounting+trim color+LED CCT+driver)

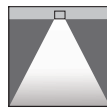
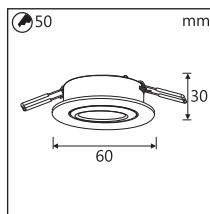
**Areas of use:**  
 indoors:  
 accent lighting, shelves,  
 cabinet lighting



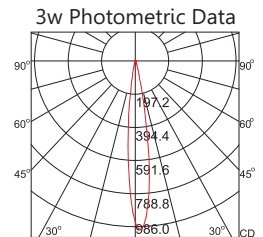
**Ref Code** 02.01.011.01.03  
**Watt** 3W  
**mA** 700  
**Lm(±)** 125



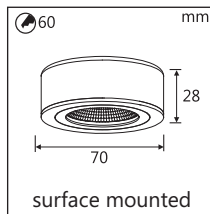
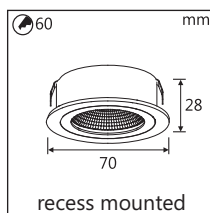
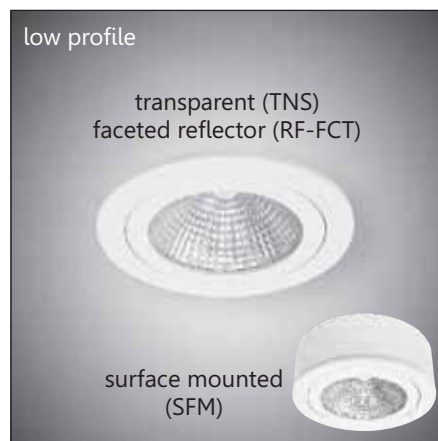
**Beam Angle:** 15°



**Ref Code** 02.01.012.01.03  
**Watt** 3W  
**mA** 350  
**Lm(±)** 230



**Beam Angle:** 14°



**Ref Code** 02.01.013.01.04  
**Watt** 4W  
**mA** 300  
**Lm(±)** 280

**Beam Angle:** 44°



# low profile downlights

**Mounting:** surface/recessed  
**Housing:** aluminum  
**Diffuser:** PMMA, opal  
**Trim Colors:** 01-white matte  
 13-grey matte  
**Note:** \*other colors are available on request

**LED:** SMD 2835  
**CRI:** 80-95  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz

**Color temperature, K:** CT27-2700K  
 CT30-3000K  
 CT35-3500K  
 CT40-4000K  
 CT60-6000K  
 CT65-6500K  
**Note:** \*Lm data given is based on 6500k

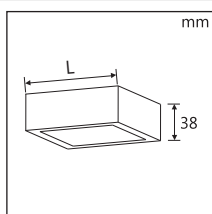
**LED driver options:** ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Ambient Temp:** -20°... +50°  
**Application:** indoors: residential, hotels, schools  
 kitchens, offices, class-rooms, corridors, lift lobbies, etc.



surface mounted

IP44



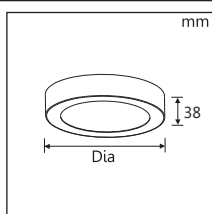
Ref Code	Watt	Lm(±)	LxL
02.01.056.01.06	6W	480	120x120
02.01.057.01.12	12W	960	170x170
02.01.058.01.18	18W	1440	225x225
02.01.059.01.20	20W	1560	240x240
02.01.060.01.24	24W	1920	300x300

**Beam Angle:** 97°  
 Used with 300mA LED driver



surface mounted

IP44



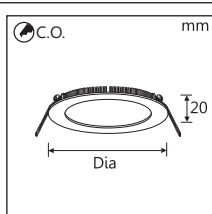
Ref Code	Watt	Lm(±)	Dia
02.01.061.01.06	6W	480	120
02.01.062.01.12	12W	960	170
02.01.063.01.18	18W	1440	225
02.01.064.01.20	20W	1560	240
02.01.065.01.24	24W	1920	300

**Beam Angle:** 97°  
 Used with 300mA LED driver



recessed

IP54



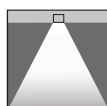
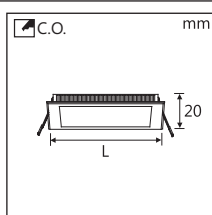
Ref Code	Watt	Lm(±)	Diax C.O.
02.01.066.01.03	3W	240	90x75
02.01.067.01.06	6W	480	120x100
02.01.068.01.09	9W	720	145x130
02.01.069.01.12	12W	960	170x150
02.01.070.01.15	15W	1200	200x180
02.01.071.01.18	18W	1480	225x205
02.01.072.01.22	22W	1560	240x220
02.01.073.01.24	24W	1920	300x280

**Beam Angle:** 97°  
 Used with 300mA LED driver



recessed

IP54



Ref Code	Watt	Lm(±)	(LxL)x(C.O.)
02.01.074.01.03	3W	240	(90x90)x(75x75)
02.01.075.01.06	6W	480	(120x120)x(100x100)
02.01.076.01.09	9W	720	(145x145)x(130x130)
02.01.077.01.12	12W	960	(170x170)x(150x150)
02.01.078.01.15	15W	1200	(200x200)x(180x180)
02.01.079.01.18	18W	1480	(225x225)x(205x205)
02.01.080.01.22	22W	1560	(240x240)x(220x220)
02.01.081.01.24	24W	1920	(300x300)x(280x280)

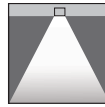
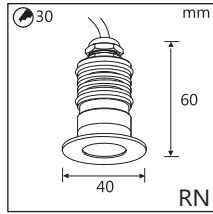
**Beam Angle:** 97°  
 Used with 300mA LED driver

**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass/PC: opal/clear/color  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 17-satin nickel  
**Note:**  
 \*other colors are available on request

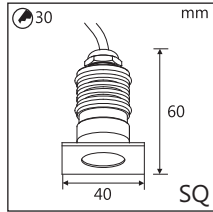
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240v  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.01.002.01.01+SQ+00+CT30+BA45+ND  
 (item+shape+trim color+CCT+beam+driver)

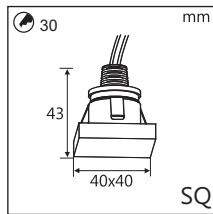
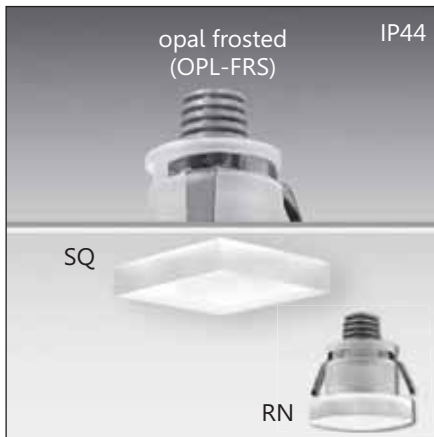
**Areas of use:**  
 indoors:  
 lift lobbies, corridors,  
 wet areas: bathroom, toilets



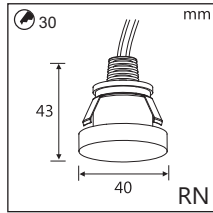
**Ref Code** 03.01.002.01.01 **Watt** 1W **mA** 350 **Lm(±)** 88



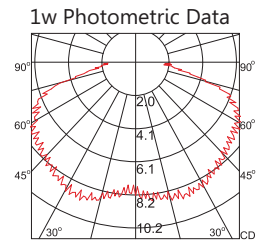
**Beam Angle:** 45°



**Ref Code** 03.01.005.01.01 **Watt** 1W **mA** 350 **Lm(±)** 82



**Beam Angle:** 156°





03.01.013.01.09  
9w COB LED  
Dia: 105  
H: 97  
C.O.: 95  
Beam Angle: 80°  
IP44



**Mounting:** recessed into ceiling  
**Housing:** machined aluminum 6063  
**Diffuser:** glass lens  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
**Note:**  
 \*other colors are available on request

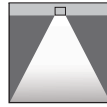
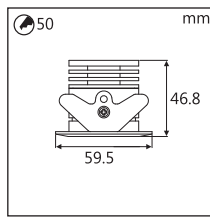
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.03.006.01.04+00+CT30+BA25+ND  
 (item+trim color+CCT+beam+driver)

**Areas of use:**  
 indoors:  
 hotels, residential  
 lift lobbies, corridors  
 accent lighting, wet areas



IP44



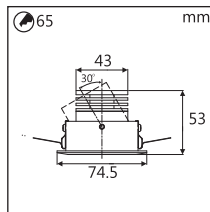
Ref Code	Watt	mA	VDC	Lm(±)
03.03.006.01.04	4W	350	9V	290
03.03.006.02.06	6W	500	9V	380

**Beam Angle-Code:**

15°-BA15  
 25°-BA25



IP44



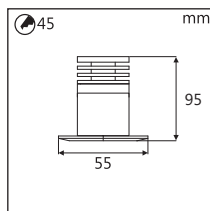
Ref Code	Watt	mA	VDC	Lm(±)
03.03.007.01.04	4W	350	9V	290
03.03.007.02.06	6W	500	9V	380

**Beam Angle-Code:**

15°-BA15  
 25°-BA25



IP54



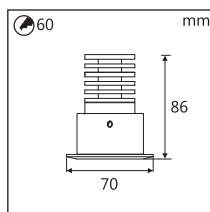
Ref Code	Watt	mA	VDC	Lm(±)
03.01.008.01.05	5W	180	24V	450
03.01.008.02.07	7W	250	24V	630

**Beam Angle-Code:**

20°-BA20  
 30°-BA30



IP54



Ref Code	Watt	mA	VDC	Lm(±)
03.01.009.01.05	5W	180	24V	450
03.01.009.02.07	7W	250	24V	630

**Beam Angle-Code:**

20°-BA20  
 30°-BA30

**Mounting:** recessed into ceiling

**Housing:** aluminum

**Diffuser:** glass lens

**Trim Colors:**

01-white matte

13-grey matte

16-polished chrome

18-satin chrome

**\*Note:**

other colors are available on request

**LED:** COB

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Ordering Guide:**

03.06.010.01.07+00+CT30+BA25+ND

(item code+trim color+CCT+beam+driver)

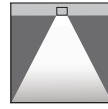
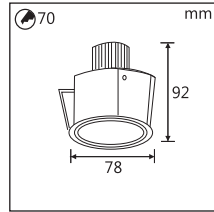
**Areas of use:**

indoors:

hotels, residential,

lift lobbies, corridors,

wet areas



Ref Code	Watt	mA	VDC	Lm(±)
03.06.010.01.07	7W	180	37V	630
03.06.010.02.10	10W	240	37V	900

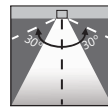
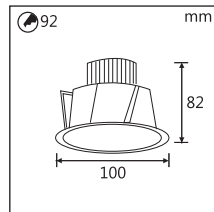
**Beam Angle-Code:**

15°-BA15

25°-BA25

36°-BA36

60°-BA60



Ref Code	Watt	mA	VDC	Lm(±)
03.06.011.01.07	7W	180	37V	630
03.06.011.02.10	10W	240	37V	900

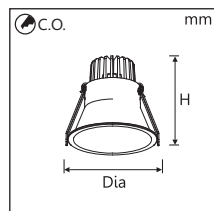
**Beam Angle-Code:**

15°-BA15

25°-BA25

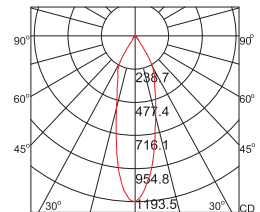
36°-BA36

60°-BA60



Ref Code	Watt	mA	Lm(±)	BA	DiaxH/C.O.
03.01.012.01.09	9W	250	660	31°	82x88/78
03.01.013.01.09	9W	250	660	80°	105x97/95

9w Photometric Data





03.06.100.02.45  
45W COB LED  
Dia:186  
H: 215  
C.O.: 175  
symmetric matte reflector  
Beam Angle: 36°  
IP44



# downlights

**Mounting:** recessed into ceiling

**Housing:** aluminum

**Diffuser:** glass lens

**Trim Colors:**

01-white matte/11-black matte

13-grey matte/16-polished chrome

18-satin chrome

**Note:**

\*other colors are available on request

**LED:** COB

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Ordering Guide:**

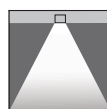
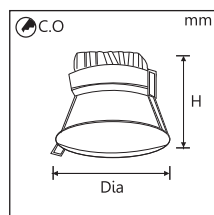
03.06.015.01.07+00+CT30+BA25+ND  
(item+trim color+CCT+beam+driver)

**Areas of use:**

indoors:

hotels, residential

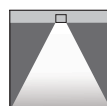
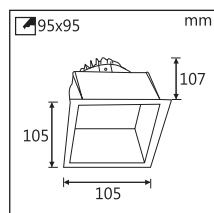
lift lobbies, corridors



Ref Code	Watt	mA	VDC	Lm(±)	DiaxH/C.O.
03.06.015.01.07	7W	180	37V	630	90x71/86
03.06.016.01.15	15W	360	37V	1350	102x88/98
03.06.017.01.30	30W	720	37V	2700	138x116/134

**Beam Angle-Code:**

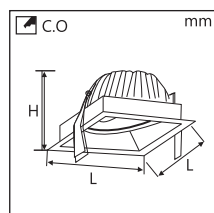
- 15°-BA15
- 25°-BA25
- 36°-BA36
- 60°-BA60



Ref Code	Watt	mA	VDC	Lm(±)
03.06.018.01.15	15W	360	37V	1350

**Beam Angle-Code:**

- 25°-BA25
- 36°-BA36
- 60°-BA60



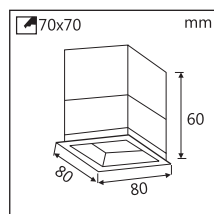
Ref Code	Watt	mA	VDC	Lm(±)
03.06.019.01.15	15W	360	37V	1350
03.06.020.01.30	30W	720	37V	2700

**Ref Code (LxL)xH/C.O.**

03.06.019.01.15	(113x113)xH50/102x102
03.06.020.01.30	(140x140)xH71/131x131

**Beam Angle-Code:**

- 25°-BA25
- 36°-BA36
- 60°-BA60



Ref Code	Watt	mA	VDC	Lm(±)
03.06.021.01.07	7W	180	37V	680

**Beam Angle-Code:**

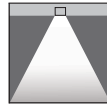
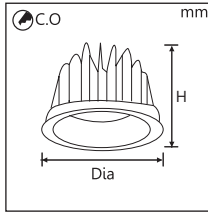
- 15°-BA15
- 25°-BA25
- 36°-BA36
- 60°-BA60

**Mounting:** recessed into ceiling  
**Housing:** machined aluminum 6063  
**Diffuser:** PC/glass lens  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.06.022.01.7+00+CT30+BA25+ND  
 (item+trim color+CCT+beam+driver)

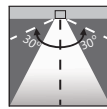
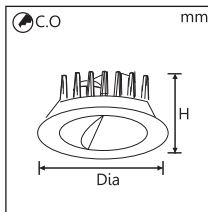
**Areas of use:**  
 indoors:  
 hotels, residential  
 lift lobbies, corridors



Ref Code	Watt	mA	VDC	Lm(±)	DiaxH/C.O.
03.06.022.01.07	7W	180	37V	630	80x35/73
03.06.023.01.15	15W	360	37V	1350	95x52/84
03.06.024.01.30	30W	720	37V	2700	123x64/114

**Beam Angle-Code:**

- 15° -BA15
- 25° -BA25
- 36° -BA36
- 60° -BA60



Ref Code	Watt	mA	VDC	Lm(±)	DiaxH/C.O.
03.06.025.01.07	7W	180	37V	630	92x35/83
03.06.026.01.15	15W	360	37V	1350	102x52/94
03.06.027.01.30	30W	720	37V	2700	135x64/124

**Beam Angle-Code:**

- 15° -BA15
- 25° -BA25
- 36° -BA36
- 60° -BA60

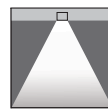
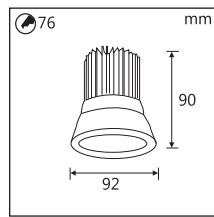


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass/PC lens  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

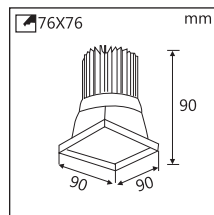
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Areas of use:**  
 indoors:  
 hotels, residential,  
 lift lobbies, corridors



Ref Code	Watt	mA	VDC	Lm(±)
03.06.031.01.07	7W	180	37V	630
03.06.031.02.10	10W	240	37V	900

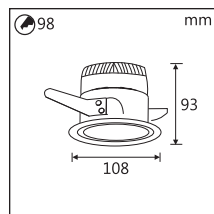


**Beam Angle-Code:**

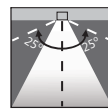
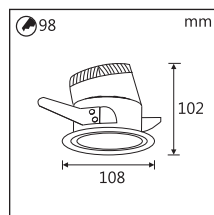
- 10°-BA10
- 24°-BA24
- 36°-BA36

**Ordering Guide:**

03.06.031.01.07+SQ+00+CT30+BA24+010V  
 (item code+trim shape+trim color+CCT+beam+driver type)



Ref Code	Watt	mA	VDC	Lm(±)
03.06.032.01.07	7W	180	37V	630
03.06.032.02.10	10W	240	37V	900

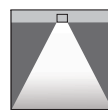
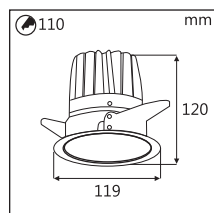


**Beam Angle-Code:**

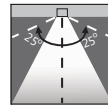
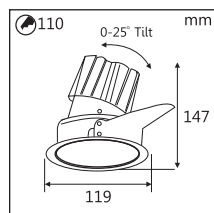
- 15°-BA15
- 24°-BA24
- 36°-BA36
- 60°-BA60

**Ordering Guide:**

03.06.032.01.07+ASM+00+CT30+BA15+DALI  
 (item code+asymmetric+trim color+CCT+beam+driver type)



Ref Code	Watt	mA	VDC	Lm(±)
03.06.033.01.15	15W	360	37V	1200
03.06.033.02.20	20W	500	37V	1800
03.06.033.03.30	30W	720	37V	2800

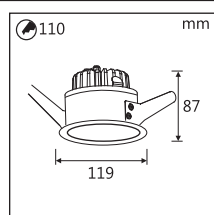
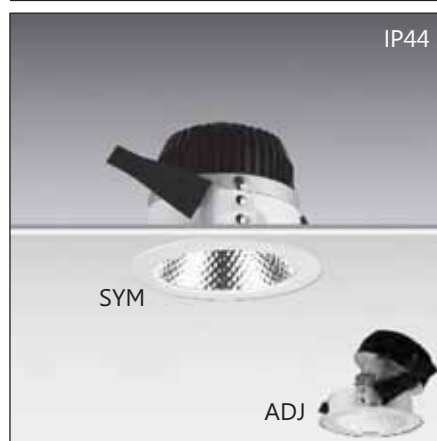


**Beam Angle-Code:**

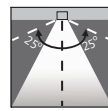
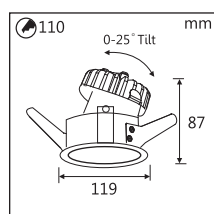
- 15°-BA15
- 36°-BA36
- 60°-BA60

**Ordering Guide:**

03.06.033.01.07+ADJ+00+CT30+BA15+DALI  
 (item code+adjustable+trim color+CCT+beam+driver type)



Ref Code	Watt	mA	VDC	Lm(±)
03.06.034.01.45	45W	1080	37V	4500



**Beam Angle-Code:**

- 15°-BA15
- 36°-BA36
- 60°-BA60

**Ordering Guide:**

03.06.034.01.07+ADJ+00+CT30+BA15+PH  
 (item code+adjustable+trim color+LED CCT+beam+driver type)



03.06.024.01.30  
30W COB LED  
Dia: 123  
H: 64  
C.O.: 114  
Beam Angle: 36°  
IP44

**Mounting:** recessed into ceiling

**Housing:** die-cast aluminum

**Diffuser:** glass/PC lens

**Trim Colors:**

01-white matte

13-grey matte

16-polished chrome

18-satin chrome

**Notes:**

\*other colors are available on request

**LED:** COB

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:**

\*Lm given in data is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Areas of use:**

indoors:

hotels, residential



Ref Code	Watt	mA	VDC	Lm(±)
03.03.035.01.08	8W	350	18V	450
03.03.035.02.12	12W	500	18V	590

**Beam Angle-Code:**

15°-BA15

20°-BA20

25°-BA25

**Ordering Guide:**

03.03.035.02.12+RN1-SM+01+CT30+BA15+ND

item code+trim type+trim color+CCT+beam angle+driver type



**Mounting:**  
recessed into ceiling

**Housing:**  
die-cast aluminum/aluminum

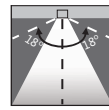
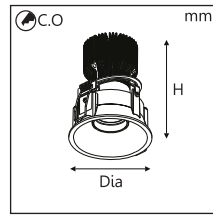
**Diffuser:**  
glass/PC lens

**Trim Colors:**  
variable as per collection given

**LED:** COB V8 Array  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
CT30-3000K  
CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
\*other CCT is available on request

**LED driver options:**  
ND - non-dimmable  
PH - phase dimmable  
010V - 0-10V dimmable  
DALI - compatible

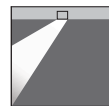
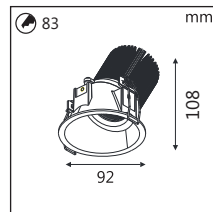
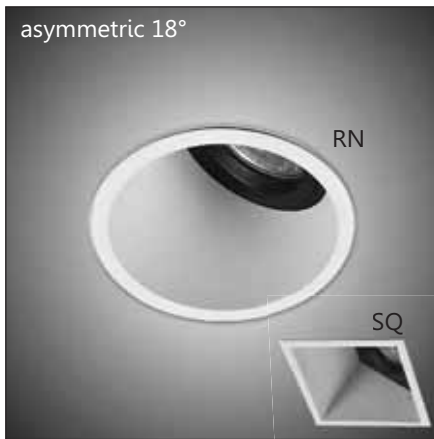
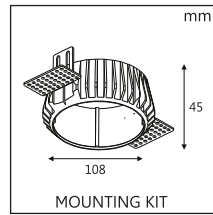
**Areas of use:**  
indoors:  
hotels, residential, offices



Ref Code	Watt	mA	Lm(±)	DiaxH/C.O.
03.08.036.01.6.2-TM	6.2W	350	635	91xH100/83
03.08.037.01.6.2-TML	6.2W	350	635	85xH100/114
03.08.038.01.9.3-TM	9.3W	500	870	91xH115/83
03.08.039.01.9.3-TML	9.3W	500	870	85xH115/114

**Beam Angle-Code:**  
23°-BA23  
34°-BA34  
50°-BA50

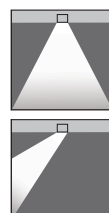
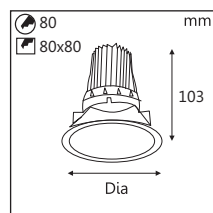
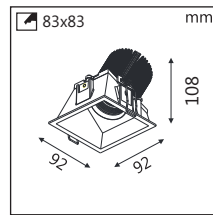
**Fitting's Color Options:**  
white-01  
black-11  
silver grey-14  
white outer trim and reflector  
with black inner trim and reflector-01/11



Ref Code	Watt	mA	Lm(±)
03.08.040.01.9.3	9.3W	500	870

**Beam Angle-Code:**  
23°-BA23  
34°-BA34  
50°-BA50

**Fitting's Color Options:**  
white-01  
black-11  
silver grey-14  
white outer trim and reflector  
with black inner trim and reflector-01/11



Ref Code	Watt	mA	VDC	Lm(±)	Di,mm
03.11.041.02.07	7W	150	36V	480	∅90/∅90x90
03.11.041.03.12	12W	300	36V	840	∅90/∅90x90

**Beam Angle-Code:**  
15°-BA15  
24°-BA24  
60°-BA60  
Used with 300mA, 21VDC LED driver

**Ordering Guide:**  
03.11.041.01.7+SQ+ASM+00+CT30+BA15+ND  
(item code+square shape+asymmetric+trim color+LED CCT+beam+driver)

**Trim color options:**  
white matte-01  
grey matte-13  
polished chrome-16  
satin chrome-18  
**Note:**  
\*other colors are available on request



03.08.038.01.9.3-TM  
9.3W COB LED  
IP20  
symmetric with trim

**Mounting:**

recessed into ceiling

**Housing:**

die-cast aluminum/aluminum

**Diffuser:** PC lens

**Trim Colors:**

variable as per collection given

**LED:** Cree XB-D

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data

is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

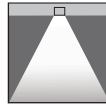
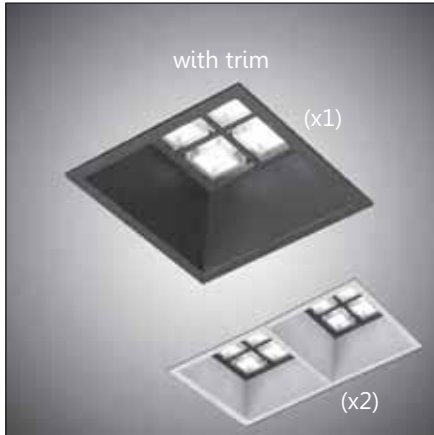
010V - 0-10V dimmable

DALI - compatible

**Areas of use:**

indoors:

hotels, residential, offices



**Ref Code**

03.08.045.01.8.8

**Watt**

4x2.2W

**mA**

700

**Lm(±)**

680

**Beam Angle-Code:**

27°-BA27

48°-BA48

60°-BA60

**Fitting's Color Options:**

Black-11

White-01

White/Black-01/11

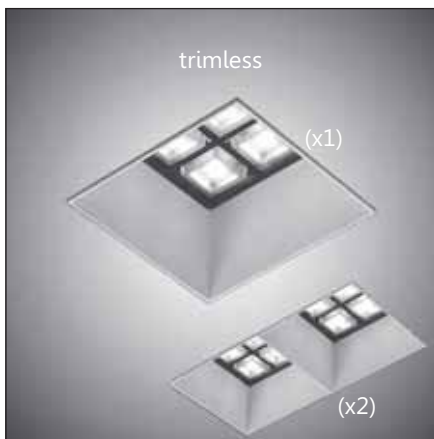
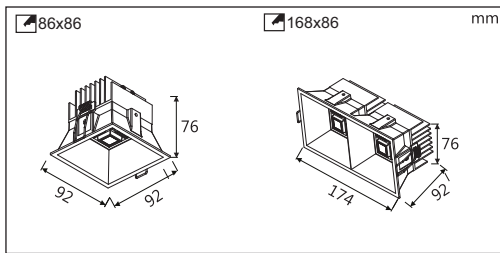
Black/Gold-11/20

Grey/Black-15/11

**Ordering Guide:**

03.08.045.01.8.8(x2)+11+BA27+CT30+ND

item (double)+color+beam+CCT+driver type



**Ref Code**

03.08.046.01.8.8

**Watt**

4x2.2W

**mA**

700

**Lm(±)**

680

**Beam Angle-Code:**

27°-BA27

48°-BA48

60°-BA60

**Fitting's Color Options:**

Black-11

White-01

White/Black-01/11

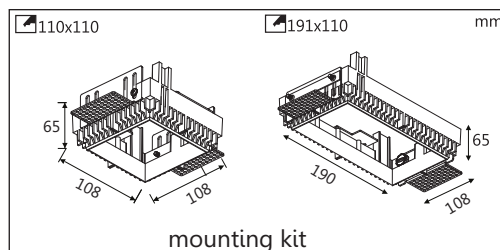
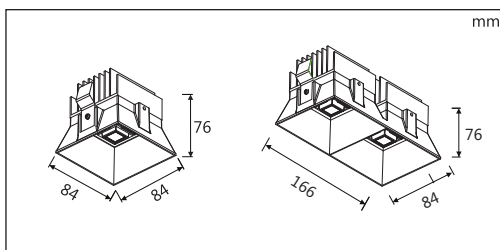
Black/Gold-11/20

Grey/Black-15/11

**Ordering Guide:**

03.08.046.01.8.8(x2)+11+BA27+CT30+ND

item (double)+color+beam+LED CCT+driver type







03.06.111.01.07  
7W COB LED  
Dia: 95  
H: 56  
C.O: 84  
Beam Angle: 36°  
IP40  
40° externally adjustable  
wall washing

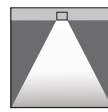
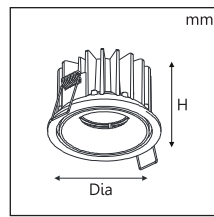


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

**LED:** COB V6 Array  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.06.031.01.07+TM+00+CT30+BA24+010V  
 (item code+with trim+color+CCT+beam+driver type)

**Areas of use:**  
 indoors:  
 hotels, residential, offices



Ref Code	Watt	mA	Lm(±)	DiaxH
03.08.047.01.6.8	6.8W	700	585	63x55
03.08.048.01.9.3	9.3W	500	870	86x60
03.08.049.01.16.2	16.2W	500	1700	122x84
03.08.049.02.23.4	23.4W	700	2200	122x84

**Beam Angle Code:**

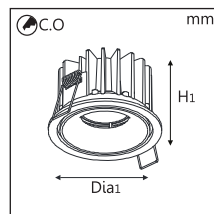
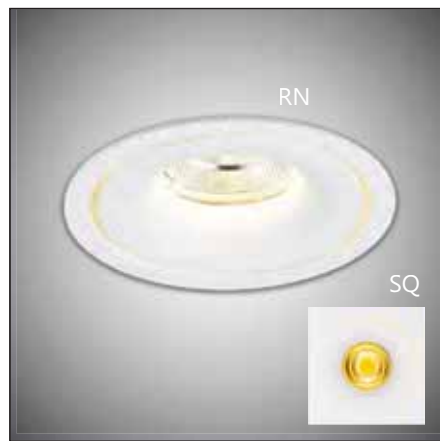
- 18°-BA18
- 29°-BA29
- 48°-BA48

**Mounting kit Ref Code**

- M.K.03.08.047.01.6.8
- M.K.03.08.048.01.9.3
- M.K.03.08.049.01.16.2
- M.K.03.08.049.02.23.4

**DiaxH/C.O.**

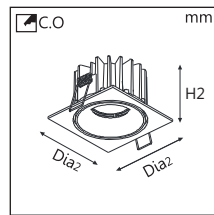
- 80xH42/139
- 106xH51/168
- 143xH52/208
- 143xH52/208



Ref Code	Watt	Lm(±)	DiaxH/C.O.(RN)
03.08.050.01.6.8	6.8W	585	75x46/68
03.08.051.01.9.3	9.3W	870	100x61/92

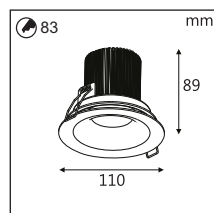
**LxH/C.O.(SQ)**

- 75x46/68
- 100x89/92



**Beam Angle Code:**

- 18°-BA18
- 29°-BA29
- 48°-BA48



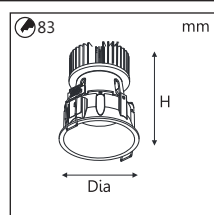
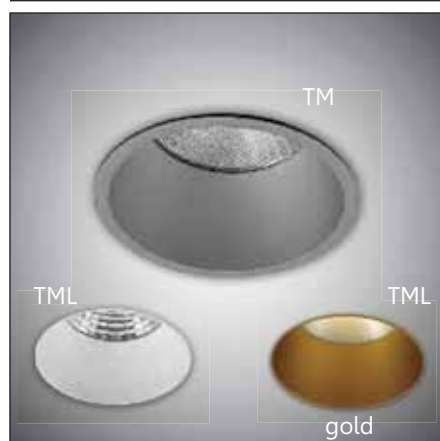
Ref Code	Watt	mA	Lm(±)
03.08.053.01.9.3	9.3W+(15x0.1W)	500	870

**Colors of halo effect:**

- red
- blue
- green
- warm white

**Beam Angle-Code:**

- 22°-BA22
- 32°-BA32
- 45°-BA45



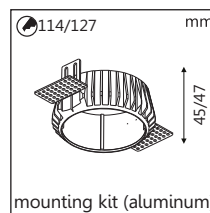
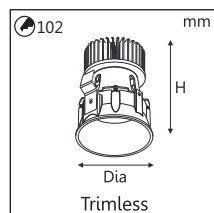
Ref Code	Watt	mA	Lm(±)	DiaxH(trim/trimless)
03.08.054.01.9.3	9.3W	350	965	91/86x120
03.08.054.02.13.8	13.8W	500	1320	91/86xH135
03.08.055.01.13.7	13.7W	500	1354	110/100xH110
03.08.055.02.16.2	16.2W	500	1697	110/100xH125

**Beam Angle Options-Code:**

9.3W/13.8W	13.7W	16.2W
22°-BA22	13°-BA13	15°-BA15
35°-BA35	31°-BA31	36°-BA38
50°-BA50	49°-BA49	51°-BA51
		72°-BA72

**Fitting's Color Options:**

- white-01
- black-11
- silver grey-15
- gold-20



**Mounting:**  
recessed into ceiling

**Housing:**  
die-cast aluminum/aluminum

**Diffuser:**  
glass lens (options)

**Reflector:**  
ribbed faceted aluminum

**Trim Colors:**  
variable as per collection given

**LED:** COB V8 Array

**CRI:** >80

**AC Volt:** 220-240V

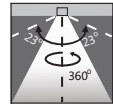
**Frequency:** 50/60Hz

**Color temperature, K:**  
CT30-3000K  
CT40-4000K

**Notes:** \*Lm given in data is based on 3000k  
\*other CCT is available on request

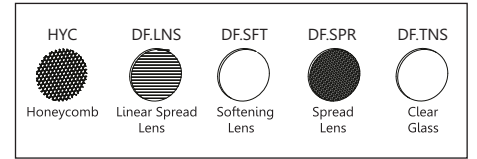
**LED driver options:**  
ND - non-dimmable  
PH - phase dimmable  
010V - 0-10V dimmable  
DALI - compatible

**Areas of use:**  
indoors:  
hotels, residential, offices,  
show-rooms

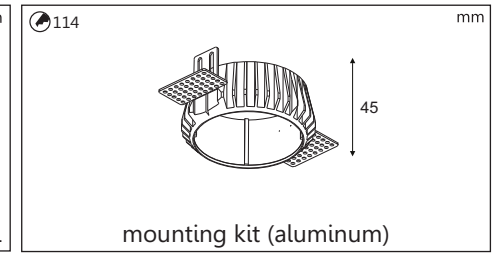
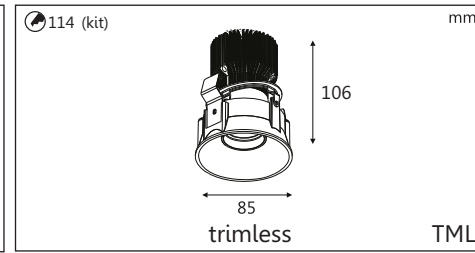
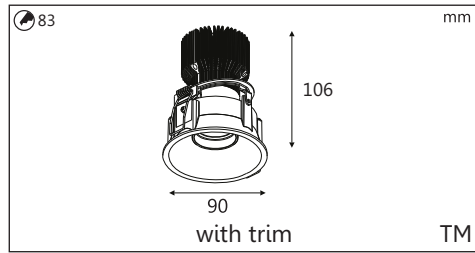


**Ref Code** 03.08.056.01.9.3    **Watt** 9.3W    **mA** 500    **Lm(±)** 870

**Beam Angle Code:**  
23°-BA13  
34°-BA34  
50°-BA50



**Ordering Guide:**  
03.08.56.01.9.3-TML+WHI/WHI+SFT+BA26+CT30+ND  
item's code+trimless+fitting's color+softening lens+beam+CCT+driver type



**Fitting's color options:**



BLK/GLD



WHI/BLK/BLK



WHI/BLK/GLD



WHI/GLD



SLV GRY/BLK/SLV GRY/BLK



SLV GRY/BLK



BLK



WHI/BLK/WHI/BLK



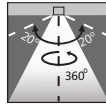
WHI/BLK

**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum/aluminum  
**Diffuser:** glass lens (options)  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 variable as per collection given

**LED:** COB V8 Array  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

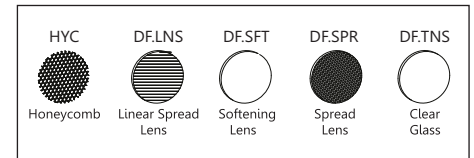
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Areas of use:**  
 indoors:  
 hotels, residential, offices,  
 show-rooms



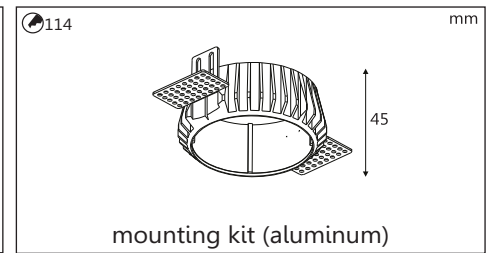
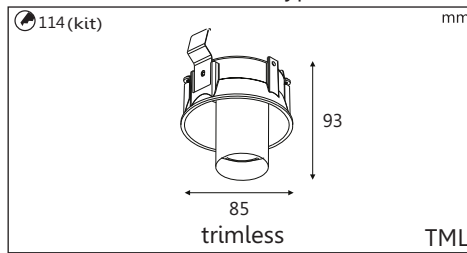
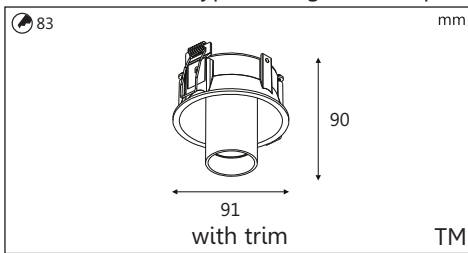
**Ref Code** 03.08.057.01.6.8    **Watt** 6.8W    **mA** 500    **Lm(±)** 585

**Beam Angle Code:**  
 23°-BA13  
 34°-BA34  
 50°-BA50



**Ordering Guide:**

03.08.57.01.6.8-TM+WHI/WHI+SPR+BA26+CT30+ND  
 item's code+trim type+fitting's color+spread lens+beam+CCT+driver type



**Fitting's color options:**



BLK/GLD



BLK



SLV GRY /BLK



WHI/GLD



WHI/BLK

**Mounting:**  
recessed into ceiling

**Housing:**  
die-cast aluminum/aluminum

**Diffuser:**  
glass lens (options)

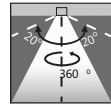
**Reflector:**  
ribbed faceted aluminum

**Trim Colors:**  
variable as per collection given

**LED:** COB V8 Array  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
CT30-3000K  
CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
\*other CCT is available on request

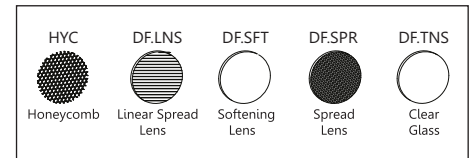
**LED driver options:**  
ND - non-dimmable  
PH - phase dimmable  
010V - 0-10V dimmable  
DALI - compatible

**Areas of use:**  
indoors:  
hotels, residential, offices,  
show-rooms



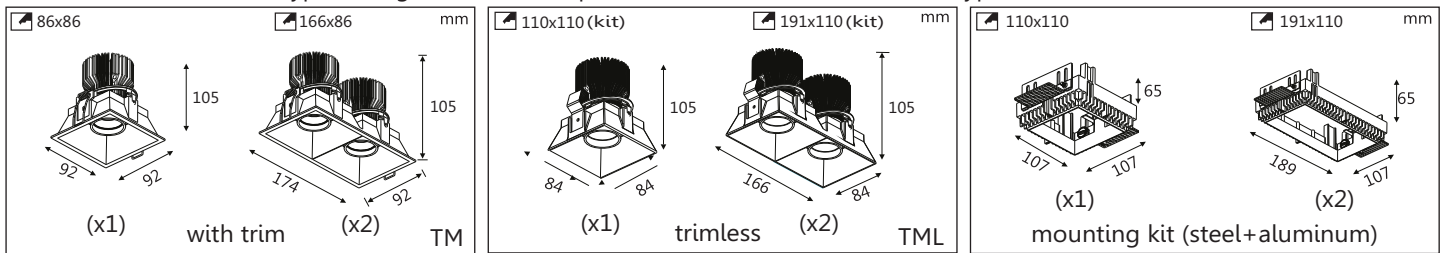
Ref Code	Watt	Lm(±)	mA
03.08.058.01.9.3	9.3W	870	500
03.08.058.01.9.3(x2)	2x9.3W	1740	500

**Beam Angle Code:**  
23°-BA13  
34°-BA34  
50°-BA50



**Ordering Guide:**

03.08.058.01.9.3(x2)-TM+WHI/BLK+LNS+BA26+CT30+ND  
item's code(double)+trim type+fitting's color+linear spread lens+beam+LED CCT+driver type



**Fitting's color options:**





03.01.078.01.26  
26W LED COB  
Dia: 190  
H: 104  
C.O.: 165  
Beam Angle: 31°  
IP54

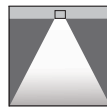
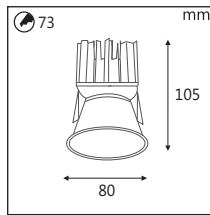
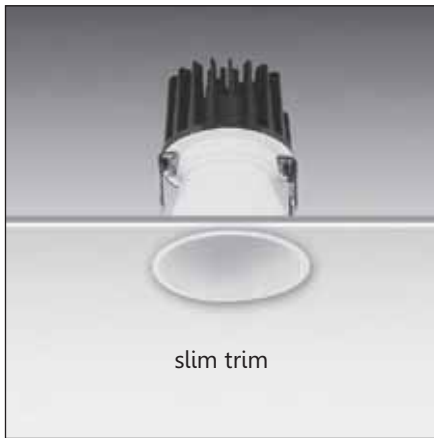




**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 11-black matte  
**Note:**  
 \*other colors are available on request

**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

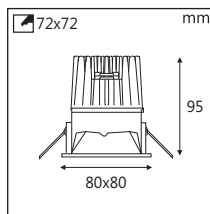
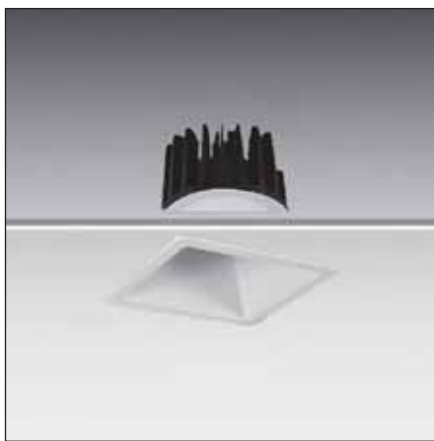
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.07.063.01.09+SQ+01+CT30+BA30+ND  
 (item+shape+trim color+CCT+beam+driver)



Ref Code	Watt	mA	VDC	Lm(±)
03.07.060.01.09	9W	350	36V	810

**Beam Angle-Code:**

- 15°-BA15
- 30°-BA30
- 60°-BA60

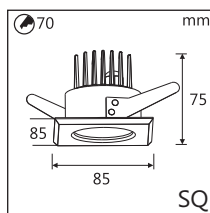


Ref Code	Watt	Lm(±)
03.07.062.01.12	12W	1080

**Beam Angle-Code:**

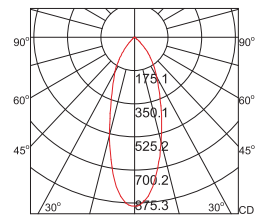
- 15°-BA15
- 30°-BA30
- 60°-BA60

12W is used with 350mA, 35.5VDC LED driver

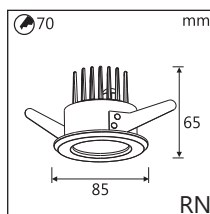


Ref Code	Watt	mA	Lm(±)
03.01.063.01.09	9W	250	750

9W Photometric Data

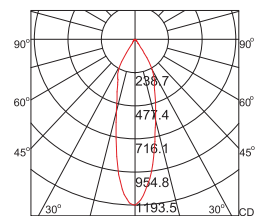


**Beam Angle:** 28°



Ref Code	Watt	mA	Lm(±)
03.01.064.01.09	9W	250	810

9W Photometric Data



**Beam Angle:** 28°

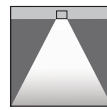
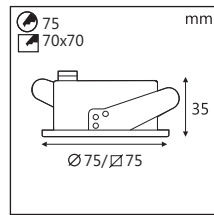


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass/PC  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.07.066.01.09+SQ+01+CT30+BA30+ND  
 (item+shape+trim color+CCT+beam+driver)

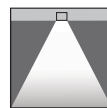
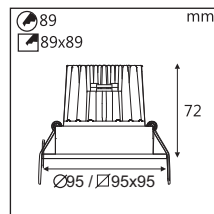
**Areas of use:**  
 indoors: wet areas  
 toilets, bathrooms,  
 indoor swimming pools,  
 above the mirrors



**Ref Code** 03.07.066.01.09  
**Watt** 9W  
**Lm(±)** 630

**Beam Angle-Code:**

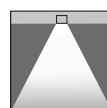
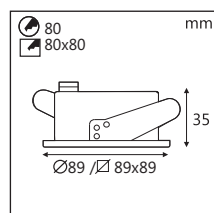
15°-BA15  
 30°-BA30  
 60°-BA60  
 9w is used with 250mA, 36VDC LED driver



**Ref Code** 03.07.061.01.10  
**Watt** 10W  
**mA** 350  
**VDC** 36V  
**Lm(±)** 900  
 03.07.067.01.12  
**Watt** 12W  
**mA** 350  
**VDC** 35.5V  
**Lm(±)** 1080

**Beam Angle-Code:**

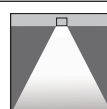
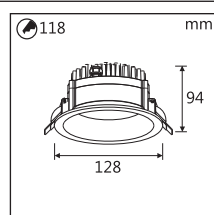
15°-BA15  
 30°-BA30  
 60°-BA60



**Ref Code** 03.07.068.01.12  
**Watt** 12W  
**mA** 350  
**VDC** 35.5V  
**Lm(±)** 1080

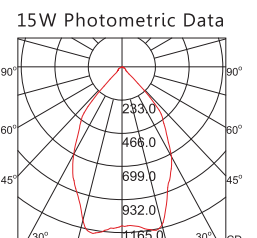
**Beam Angle-Code:**

15°-BA15  
 30°-BA30  
 60°-BA60



**Ref Code** 03.01.069.02.12  
**Watt** 12W  
**mA** 300  
**Lm(±)** 960  
 03.01.069.01.15  
**Watt** 15W  
**mA** 350  
**Lm(±)** 1290  
 03.01.069.03.20  
**Watt** 20W  
**mA** 500  
**Lm(±)** 1680

**Beam Angle: 65°**

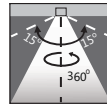
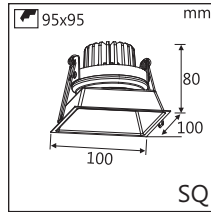


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

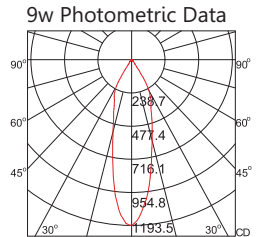
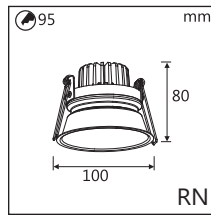
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.01.070.01.09+SQ+01+CT30+BA30+ND  
 (item+shape+trim color+CCT+beam+driver)

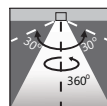
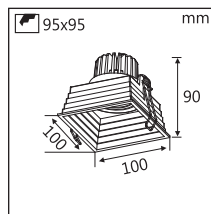
**Areas of use:**  
 indoors:  
 public, residential  
 shops, offices  
 educational buildings



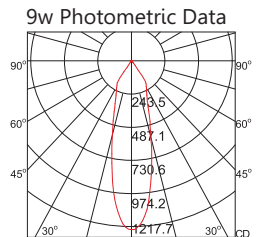
**Ref Code** 03.01.070.01.09  
**Watt** 9W  
**mA** 350  
**Lm(±)** 660



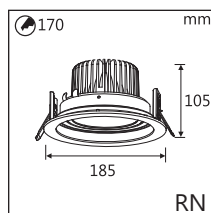
**Beam Angle:** 45°



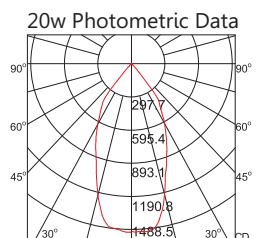
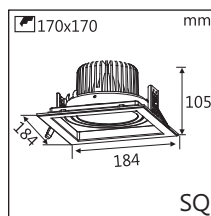
**Ref Code** 03.01.071.01.09  
 03.01.071.02.15  
**Watt** 9W / 15W  
**mA** 250 / 350  
**Lm(±)** 650 / 1020



**Beam Angle:** 27°



**Ref Code** 03.01.072.01.20  
 03.01.072.02.39  
**Watt** 20W / 39W  
**mA** 350 / 1050  
**Lm(±)** 1480 / 2986



**Beam Angle:** 50°

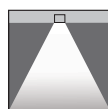
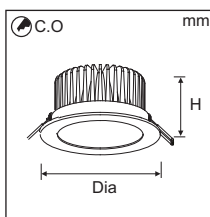
# spot/downlights

**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

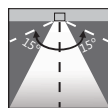
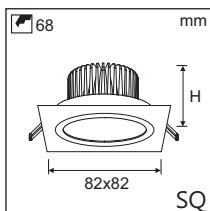
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.01.080.01.09+RN+01+CT30+BA30+ND  
 (item+shape+trim color+CCT+beam+driver)

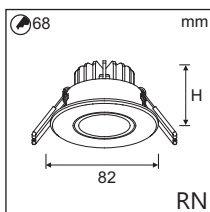
**Areas of use:**  
 indoors:  
 public, residential  
 shops, offices  
 educational buildings



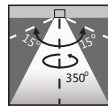
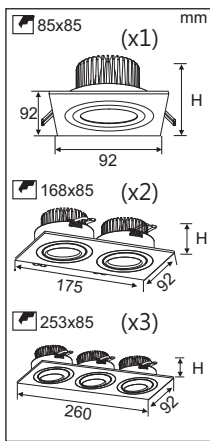
Ref Code	Watt	mA	Lm(±)	BA	DiaxH/C.O.
03.01.074.01.08	8W	250	580	32°	80x56/60
03.01.075.01.09	9W	250	672	39°	105x75/95
03.01.076.01.15	15W	350	1080	45°	120x83/105
03.01.077.01.20	20W	500	1560	48°	140x83/125
03.01.078.01.26	26W	700	1980	31°	190x104/165
03.01.078.02.33	33W	925	2640	31°	190x104/165
03.01.079.01.39	39W	1050	3120	50°	230x110/205
03.01.079.02.50	50W	1400	4250	50°	230x110/205



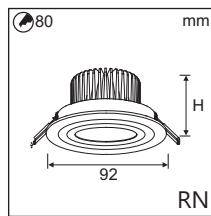
Ref Code	Watt	mA	Lm(±)	H
03.01.080.01.09	9W	250	672	60
03.01.080.02.15	15W	350	1080	90



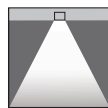
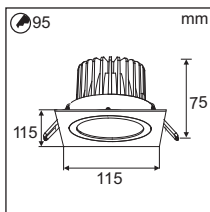
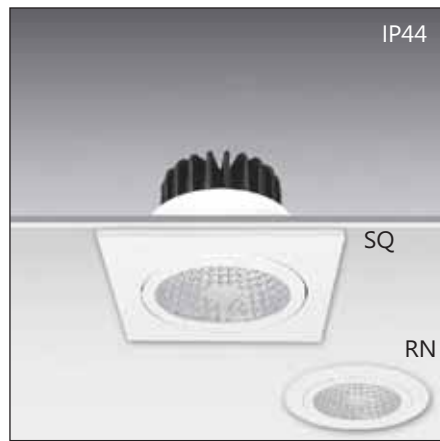
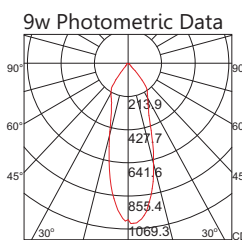
**Beam Angle: 31°**



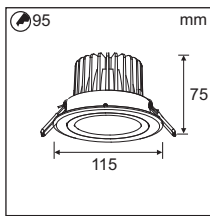
Ref Code	Watt	mA	Lm(±)	H
03.01.081.01.09	9W	250	672	65
03.01.081.02.15	15W	350	1080	95



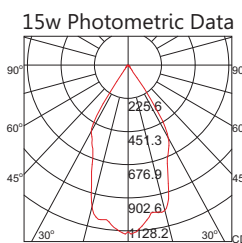
**Beam Angle: 31°**



Ref Code	Watt	mA	Lm(±)
03.01.082.01.15	15W	350	1080



**Beam Angle: 54°**

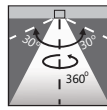
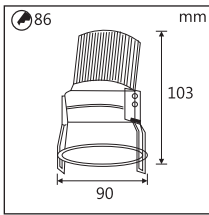


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass/PC  
**Reflector:** ribbed faceted aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:**  
 \*other colors are available on request

**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.01.080.01.09+01+CT30+BA30+ND  
 (item+trim color+CCT+beam+driver)

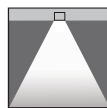
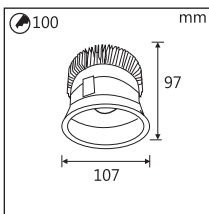
**Areas of use:**  
 indoors: residential, shops



Ref Code	Watt	mA	VDC	Lm(±)
03.06.083.01.11	11W	300	37V	990

**Beam Angle-Code:**

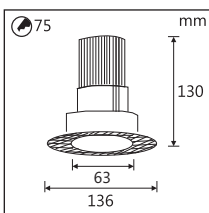
- 15°-BA15
- 25°-BA25
- 36°-BA36
- 60°-BA60



Ref Code	Watt	mA	VDC	Lm(±)
03.06.084.01.10	10W	300	37V	900

**Beam Angle-Code:**

- 25°-BA25
- 36°-BA36



Ref Code	Watt	mA	VDC	Lm(±)
03.06.085.01.15	15W	360	37V	1350

**Beam Angle-Code:**

- 25°-BA25
- 36°-BA36
- 60°-BA60

**Mounting:**  
recessed into ceiling

**Housing:**  
die-cast aluminum

**Diffuser:**  
glass/PC

**Reflector:**  
ribbed faceted aluminum

**Trim Colors:**  
variable as per given collection

**LED:** COB / Luxeon3030 2D

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

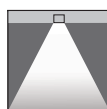
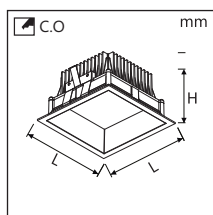
**Color temperature, K:**  
CT30-3000K  
CT40-4000K

**Notes:** \*Lm given in data is based on 3000k  
\*other CCT is available on request

**LED driver options:**  
ND - non-dimmable  
PH - phase dimmable  
010V - 0-10V dimmable  
DALI - compatible

**Ordering Guide:**  
03.01.080.01.09+01+CT30+BA30+ND  
(item+trim color+CCT+beam+driver)

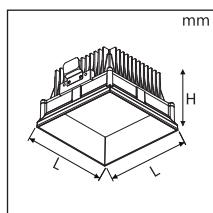
**Areas of use:**  
indoors:  
public, residential  
shops, offices  
educational buildings



Ref Code	Watt	Lm(±)	LxLxC.OxH
03.08.087.01.10	9x1.07W	950	(102x102)x(93x93)xH76
03.08.088.01.16	15x1.07W	1540	(145x145)x(130x130)xH82
03.08.089.01.22	25x0.87W	2130	(175x175)x(163x163)xH82
03.08.090.01.22	25x0.87W	2130	(200x200)x(183x183)xH82
03.08.090.02.33	35x0.95W	3258	(200x200)x(183x183)xH82

**Current:**  
(9x1.07W), (15x1.07W) - 500mA  
(25x0.87W) - 700mA  
(35x0.95W) - 1050mA

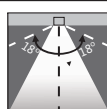
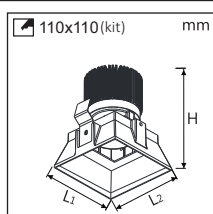
**Trim Colors:**  
01-white matte  
13-grey matte  
11-black matte  
other colors are available on request



Ref Code	Watt	mA	Lm(±)	LxLxH
03.08.091.01.10	9x1.07W	500	950	(92x92)xH77
03.08.092.01.16	15x1.07W	500	1540	(128x128)xH83
03.08.093.01.22	25x0.87W	700	2130	(159x159)xH83
03.08.094.01.22	25x0.87W	700	2130	(182x182)xH83
03.08.094.02.33	35x0.95W	1050	3258	(182x182)xH83

Ref Code	Mounting kit-SizeH/C.O.
03.08.091.01.10	(116x116)xH60/118x118
03.08.092.01.16	(152x152)xH60/154x154
03.08.093.01.22	(183x183)xH60/185x185
03.08.094.01.22	(203x203)xH60/205x205
03.08.094.01.33	(203x203)xH60/205x205

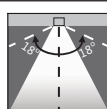
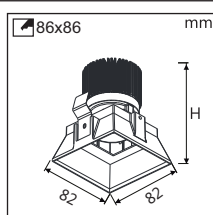
**Trim Colors:**  
01-white matte  
13-grey matte  
11-black matte/\*other colors are available on request



Ref Code	Watt	mA	Lm(±)	(L1xL2)xH
03.08.095.01.6.2	6.2W	350	635	TM(110x110)xH105
03.08.095.02.9.3	9.3W	500	870	TM(110x110)xH120
03.08.096.01.6.2	6.2W	350	635	TML(84x84)xH105
03.08.096.02.9.3	9.3W	500	870	TML(84x84)xH120

**Beam Angle Code:**  
23°-BA13  
34°-BA34  
50°-BA50

**Fitting's Color Options:**  
Black-11  
White-01  
White/Black-01/11  
Grey/Black-15/11  
White+Black/Black-01+11/11



Ref Code	Watt	mA	Lm(±)	H
03.08.097.01.6.2	6.2W	350	635	81
03.08.097.02.9.3	9.3W	500	870	96

**Beam Angle Code:**  
23°-BA13  
34°-BA34  
50°-BA50

**Fitting's Color Options:**  
Black-11  
White-01  
White/Black-01/11  
Grey/Black-15/11  
White+Black/Black-01+11/11

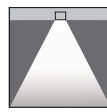
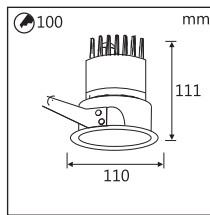


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass/PC  
**Reflector:** matte/polished aluminum  
**Trim Colors:**  
 01-white matte  
 13-grey matte  
 16-polished chrome  
 18-satin chrome  
**Note:** \*other colors are available on request

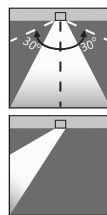
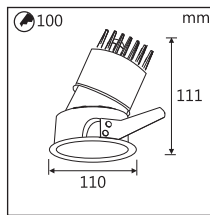
**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
 Frequency: 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.06.096.02.10+ADJ+00+BA24+CT30+ND  
 item+adjustable+trim color+beam+CCT+driver

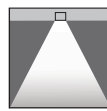
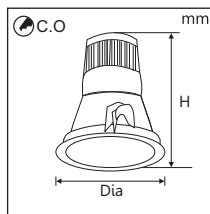
**Areas of use:**  
 indoors:  
 public, residential  
 shops, offices  
 educational buildings



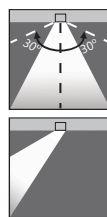
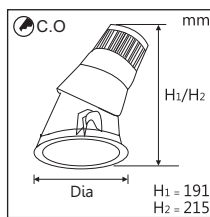
Ref Code	Watt	Lm(±)	mA	VDC
03.06.098.01.07	7W	630	180	37V
03.06.098.02.10	10W	900	240	37V



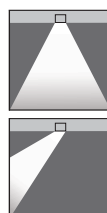
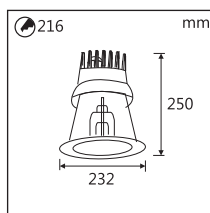
**Beam Angle-Code:**  
 15°-BA15  
 24°-BA24  
 36°-BA36  
 60°-BA60



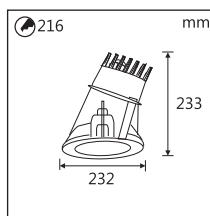
Ref Code	Watt	Lm(±)	mA	VDC	DiaxH/C.O.
03.06.099.01.15	15W	1350	360	37V	160x171/150
03.06.099.02.20	20W	1800	500	37V	160x171/150
03.06.100.01.30	30W	2700	720	37V	186x191/175
03.06.100.02.45	45W	4050	1080	37V	186x215/175



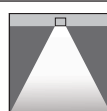
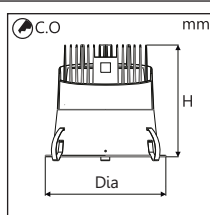
**Beam Angle-Code:**  
 10°-BA10  
 24°-BA24  
 36°-BA36  
 60°-BA60



Ref Code	Watt	Lm(±)	mA	VDC
03.06.101.01.60	60W	5400	1600	37V



**Beam Angle-Code:**  
 10°-BA10  
 24°-BA24  
 36°-BA36  
 60°-BA60



Ref Code	Watt	Lm(±)	DiaxH/C.O.
03.02.102.01.48	48W	5,000	225x195/200
03.02.102.02.76	76W	7,000	225x195/200

**Beam Angle-Code:**  
 20°-BA20  
 30°-BA30  
 60°-BA60



**Mounting:** recessed into ceiling

**Housing:** die-cast aluminum

**Diffuser:** PC lens

**Reflector:** aluminum: matte/polished/faceted

**Trim Colors:**

01-white matte

13-grey matte

16-polished chrome

18-satin chrome

**Note:** \*other colors are available on request

**LED:** COB

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

**Notes:** \*Lm given in data is based on 3000k

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

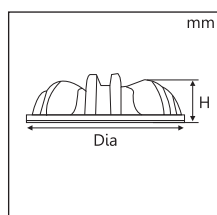
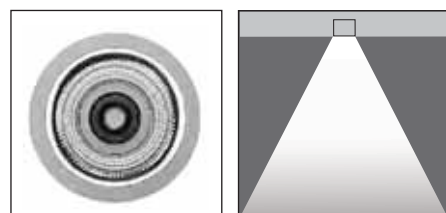
DALI - compatible

**Areas of use:**

indoors: hotels, residential, shops, high ceilings



	Ref Code	Watt	mA	VDC	BA	CCT	Lm(±)	DiaxH/C.O.
 <p>RF-MTT matte reflector</p>	03.03.104.01.08	8W	180mA	18V	50°	3000k	623	112x41/100
						4000k	676	
					75°	3000k	668	
						4000k	725	
	03.03.104.02.12	12W	280mA	18V	50°	3000k	868	112x41/100
						4000k	954	
					75°	3000k	930	
						4000k	1019	
	03.03.105.01.15	15W	350mA	27V	50°	3000k	1015	138x48/125
						4000k	1089	
					75°	3000k	1088	
						4000k	1175	
03.03.106.01.20	20W	500mA	28V	50°	3000k	1454	165x52/150	
					4000k	1508		
				75°	3000k	1566		
					4000k	1581		
 <p>RF-FC faceted reflector</p>	03.03.107.01.27	27W	700mA	34V	55°	3000k	1859	190x58/175
						4000k	2011	
					75°	3000k	2043	
						4000k	2259	
	03.03.107.02.38	38W	1000mA	34V	55°	3000k	2777	190x58/175
						4000k	2897	
					75°	3000k	3188	
						4000k	3237	
	03.03.108.01.50	50W	1000mA	34V	40°	3000k	3662	245x70/220
						4000k	3700	
					85°	3000k	3512	
						4000k	3740	
03.03.108.02.62	62W	1500mA	34V	45°	3000k	4956	245x70/220	
					4000k	5136		
				80°	3000k	4362		
					4000k	4567		



**Ordering Guide:**

03.03.104.01.08+01+RF.MTT+ANT-GL+CT30+ND  
item code+trim color+reflector+anti-glare+CCT+driver

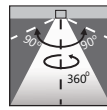
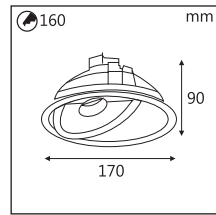


**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** glass  
**Reflector:** aluminum: matte/polished/faceted  
**Trim Colors:**  
 01-white matte/13-grey matte  
 16-polished chrome/18-satin chrome  
**Note:**  
 \*other colors are available on request

**LED:** COB  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data is based on 3000k  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.11.107.01.10+00+BA24+CT30+ND  
 item+trim color+beam+CCT+driver

**Areas of use:**  
 indoors:  
 public, residential  
 shops, offices  
 educational buildings

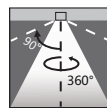
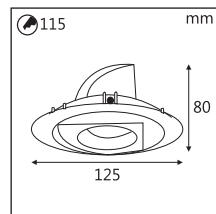


Ref Code	Watt	mA	VDC	Lm(±)
03.11.109.01.10	10W	250	36V	630



**Beam Angle-Code:**

- 15° -BA15
- 24° -BA24
- 60° -BA60



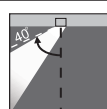
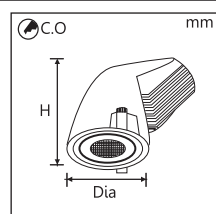
Ref Code	Watt	mA	VDC	Lm(±)
03.11.110.01.07	7W	250	36V	430

**Beam Angle-Code:**

- 24° -BA24
- 60° -BA60

**Fitting's Color Options:**

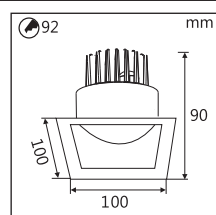
- White/Black-01/11
- White/White-01/01
- White/Black-01/11
- Black/Black-11/11



Ref Code	Watt	mA	VDC	Lm(±)	Diach/C.O.
03.06.111.01.07	7W	180	37V	630	95x56/84
03.06.112.01.15	15W	360	37V	1350	110x70/100
03.06.113.01.30	30W	720	37V	2700	127x74/115

**Beam Angle-Code:**

- 15° -BA15
- 25° -BA25
- 36° -BA36
- 60° -BA60



Ref Code	Watt	mA	Lm(±)
03.01.114.01.15	15W	350	980

**Beam Angle-Code:**

- 32° -BA32

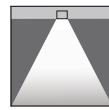
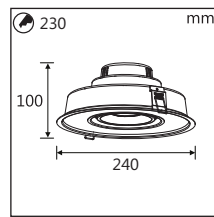
# downlights

**Mounting:** recessed into ceiling  
**Housing:** die-cast aluminum  
**Diffuser:** PC lens  
**Reflector:** matte/polished aluminum  
**Trim Colors:**  
 01-white matte/13-grey matte  
 16-polished chrome/18-satin chrome  
**Note:**  
 \*other colors are available on request

**LED:** COB+SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \*Lm given in data  
 is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 03.10.115.01.15+20+00+BA24+CT30+ND  
 (item+trim color+beam+CCT+driver)

**Areas of use:**  
 indoors:  
 public, residential  
 shops, offices  
 educational buildings



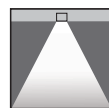
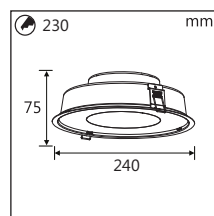
Ref Code	Watt	Lm(±)	kg
03.10.115.01.15+20	15W+20W	15W-900Lm 20W-2000Lm	1.3

**Beam Angle-Code:**

**15w spot light:**

- 15°-BA15
- 24°-BA24
- 36°-BA36

15W is used with 250mA, 50VDC LED driver  
 20W is used with 500mA, 36VDC LED driver



Ref Code	Watt	mA	VDC	Lm(±)	kg
03.10.115.02.15	15W	250	50V	900Lm	0.74



03.10.115.01.15+20  
 15W+20W  
 Dia: 240  
 H:100  
 C.O. 230  
 Beam Angle: 36°  
 Lm: 2900lm  
 IP40



square spotlights



round spotlights



square downlights



round downlights



linear cove lights



asymmetric lights



gimbals



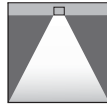
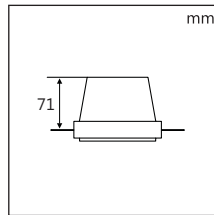
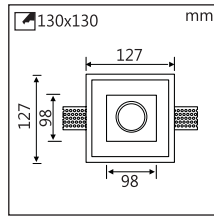
**Mounting:** recessed into plasterboard ceilings  
**Housing:** plaster/alum/zinc steel brackets  
**Diffuser:** glass (opal/transparent) (w/ever applicable)  
**Notes:**

- 1) any design or size can be produced on request.
- 2) bulbs and drivers can be used of any suitable specifications and manufacturer.
- 3) installation should be done with standard dry-walling materials and techniques

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

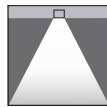
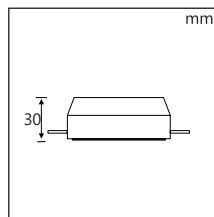
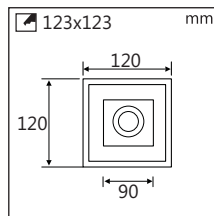
**Ordering Guide:**  
 04.13.001.01.xx+Gu5.3-7W+BA36+CT30+ND  
 (item+bulb+beam+LED CCT+driver)

**Note:** \* fittings can be painted on site



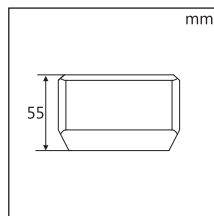
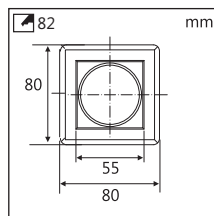
**Ref Code**  
 04.13.001.01.xx

**Lamp**  
 Gu5.3 12V  
 Gu10 220-230V



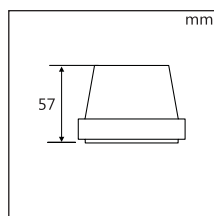
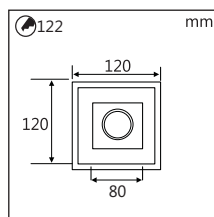
**Ref Code**  
 04.13.002.01.xx

**Lamp**  
 Gu5.3 12V  
 Gu10 220-230V



**Ref Code**  
 04.14.003.01.xx

**Lamp**  
 Gu5.3 12V  
 Gu10 220-230V



**Ref Code**  
 04.14.004.01.xx

**Lamp**  
 Gu5.3 12V  
 Gu10 220-230V



**Mounting:** recessed into plasterboard ceilings

**Housing:** plaster/alum/zinc steel brackets

**Diffuser:** glass (opal/transparent)

**Notes:**

- 1) any design or size can be produced on request.
- 2) bulbs and drivers can be used of any suitable specifications and manufacturer.
- 3) installation should be done with standard dry-walling materials and techniques

**LED driver options:**

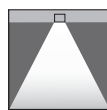
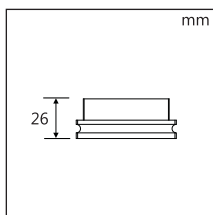
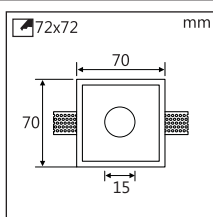
- ND - non-dimmable
- PH - phase dimmable
- 010V - 0-10V dimmable
- DALI - compatible

**Ordering Guide:**

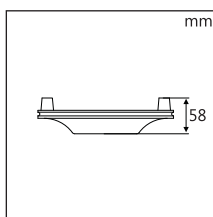
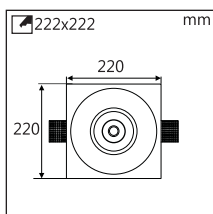
04.13.001.01.xx+Gu5.3-7W+BA36+CT30+ND  
(item+bulb+beam+LED CCT+driver)

**Note:** \* fittings can be painted on site

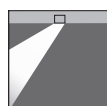
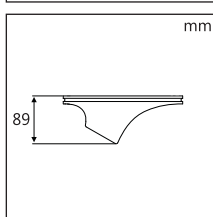
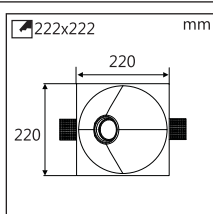
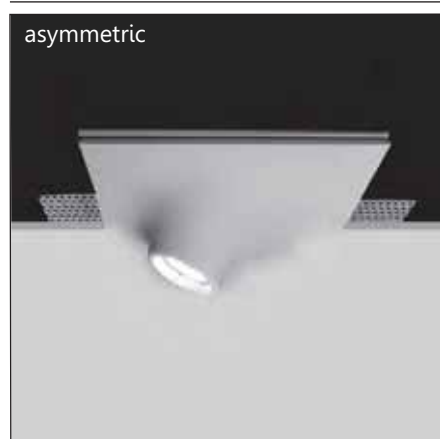
**Areas of use:** indoors:  
hotels, residential, offices  
places with seamless designs



Ref Code	LED	Lm	BA
04.13.005.01.01	1W	90	24°
04.13.005.01.02	2W	140	36°
04.13.005.01.03	3W	210	36°

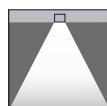
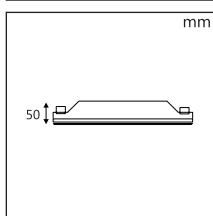
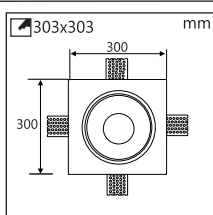


Ref Code	Lamp
04.13.006.01.xx	Gu5.3 12V Gu10 220-230V



Ref Code	Lamp
04.13.007.01.xx	Gu5.3 12V Gu10 220-230V

**Note:**  
design of symmetric fixed type is available on request



Ref Code	Lamp
04.13.008.01.6+xx	6W SMD circular LED + Gu5.3/Gu10
	<b>Lm</b> 6W SMD - 540 Lm

**Mounting:** recessed into plasterboard ceilings

**Housing:** plaster/alum/zinc steel brackets

**Diffuser:** glass (opal/transparent)

**Notes:**

- 1) any design or size can be produced on request.
- 2) bulbs and drivers can be used of any suitable specifications and manufacturer.
- 3) installation should be done with standard dry-walling materials and techniques

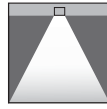
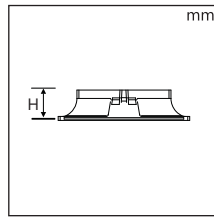
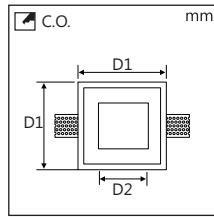
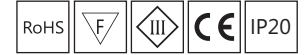
**LED driver options:**

- ND - non-dimmable
- PH - phase dimmable
- 010V - 0-10V dimmable
- DALI - compatible

**Ordering Guide:**

04.13.001.01.xx+Gu5.3-7W+BA36+CT30+ND  
(item+bulb+beam+LED CCT+driver)

**Note:** \* fittings can be painted on site



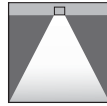
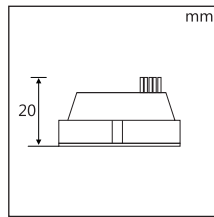
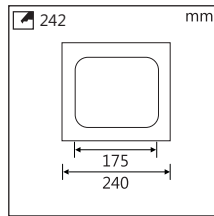
Ref Code	LED	Lm	mA	VDC
04.14.009.01.15	15W	1350	500	28V
04.14.010.01.30	30W	2700	700	37V
04.14.011.01.18	18W	1620	500	28V

**Dimensions:**

Ref Code	(D1xD1)x(D2xD2)xH/C.O.
04.14.09.01.15	(200x200)x(140x140)x130/202x202
04.14.10.01.30	(200x200)x(140x140)x130/202x202
04.14.11.01.18	(330x330)x(200x200)x76/332x332

**Beam Angle-Code:**

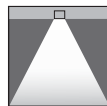
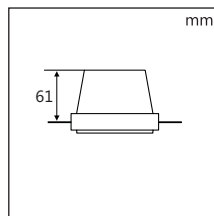
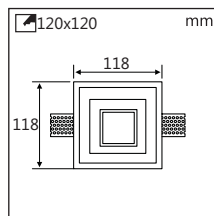
120°-BA120



Ref Code	LED	Lm	mA	VDC
04.14.012.01.18	18W	1620	500	28V

**Beam Angle-Code:**

120°-BA120



Ref Code	Lamp
04.13.013.01.xx	Gu5.3 12V Gu10 220-230V

**Mounting:** recessed into plasterboard ceilings

**Housing:** plaster/alum/zinc steel brackets

**Diffuser:** glass (opal/transparent)

**Notes:**

- 1) any design or size can be produced on request.
- 2) bulbs and drivers can be used of any suitable specifications and manufacturer.
- 3) installation should be done with standard dry-walling materials and techniques

**LED driver options:**

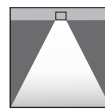
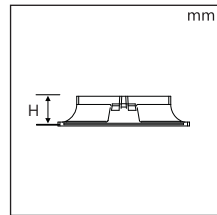
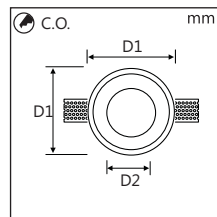
- ND - non-dimmable
- PH - phase dimmable
- 010V - 0-10V dimmable
- DALI - compatible

**Ordering Guide:**

04.13.001.01.xx+Gu5.3-7W+BA36+CT30+ND  
(item+bulb+beam+LED CCT+driver)

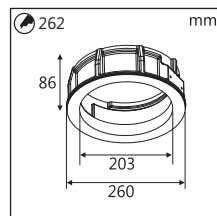
**Note:** \* fittings can be painted on site

**Areas of use:** indoors:  
hotels, residential, offices  
places with seamless designs



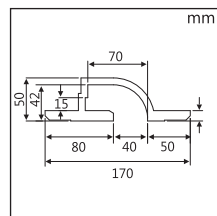
Ref Code	LED	Lm	mA	VDC	D1xD2xH/C.O.
04.14.014.01.15	15W	1350	500	28V	200x140x130/202
04.14.014.02.30	30W	2700	700	37V	200x140x130/202
04.13.015.01.18	18W	1620	500	28V	330x200x76/332

**Beam Angle-Code:**  
120°-BA120



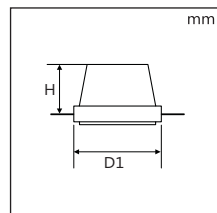
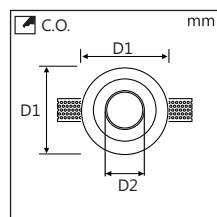
Ref Code	LED	Lm	mA	VDC
04.14.016.01.15	15W	1350	500	28V
04.14.016.02.30	30W	2700	700	37V
04.14.016.03.18	18W	1620	500	28V

**Beam Angle-Code:**  
120°-BA120



**Ref Code**  
04.14.017.01.xx

**Note:**  
SMD LED Linear strip light.  
Refer to according section (LED Strip lights) for the options.



Ref Code	Lamp	D1xD2xH/C.O.
04.14.018.01.xx	Gu5.3 12V	100x70x24/102
04.14.019.01.xx	Gu10 220-230V	130x45x70/132
	Gu5.3 12V	
	Gu10 220-230V	

**Mounting:** recessed into plasterboard ceilings

**Housing:** plaster/alum/zinc steel brackets

**Diffuser:** glass (opal/transparent)

**Notes:**

- 1) any design or size can be produced on request.
- 2) bulbs and drivers can be used of any suitable specifications and manufacturer.
- 3) installation should be done with standard dry-walling materials and techniques

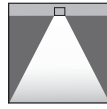
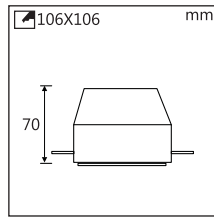
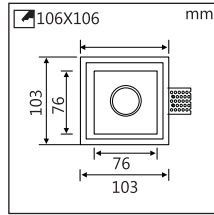
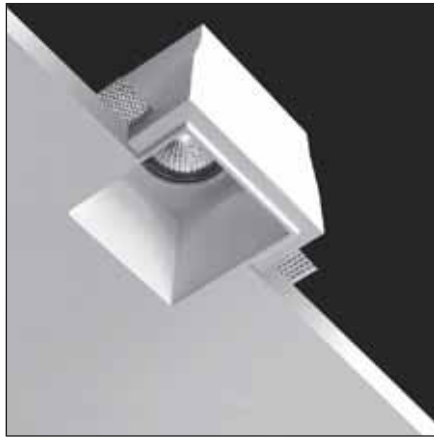
**LED driver options:**

- ND - non-dimmable
- PH - phase dimmable
- 010V - 0-10V dimmable
- DALI - compatible

**Ordering Guide:**

04.13.001.01.xx+Gu5.3-7W+BA36+CT30+ND  
(item+bulb+beam+LED CCT+driver)

**Note:** \* fittings can be painted on site

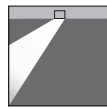
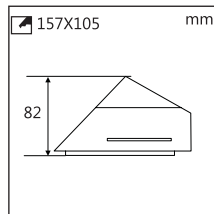


**Ref Code**  
04.15.020.01.xx

**Lamp**  
Gu5.3 12V  
Gu10 220-230V

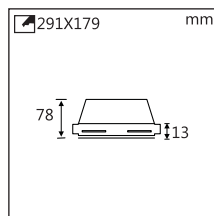
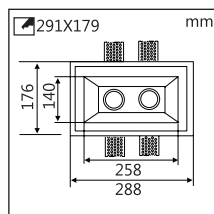


asymmetric



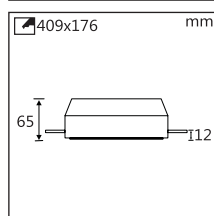
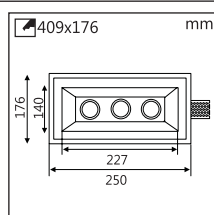
**Ref Code**  
04.15.021.01.xx

**Lamp**  
Gu5.3 12V  
Gu10 220-230V



**Ref Code**  
04.15.022.01.xx(x2)

**Lamp**  
Gu5.3 12V  
Gu10 220-230V



**Ref Code**  
04.15.023.01.xx(x3)

**Lamp**  
Gu5.3 12V  
Gu10 220-230V

# gypsum lights

**Mounting:** recessed into plasterboard ceilings

**Housing:** plaster/alum/zinc steel brackets

**Diffuser:** glass (opal/transparent)

**Notes:**

- 1) any design or size can be produced on request.
- 2) bulbs and drivers can be used of any suitable specifications and manufacturer.
- 3) installation should be done with standard dry-walling materials and techniques

**LED driver options:**

- ND - non-dimmable
- PH - phase dimmable
- 010V - 0-10V dimmable
- DALI - compatible

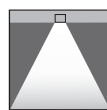
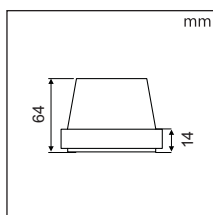
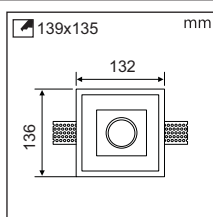
**Ordering Guide:**

04.13.001.01.xx+Gu5.3-7W+BA36+CT30+ND

(item+bulb+beam+LED CCT+driver)

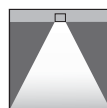
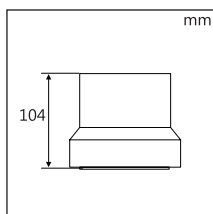
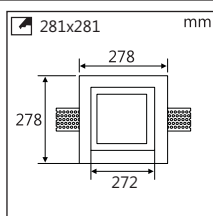
**Note:** \* fittings can be painted on site

**Areas of use:** indoors:  
hotels, residential, offices  
places with seamless designs



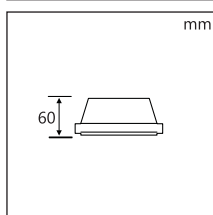
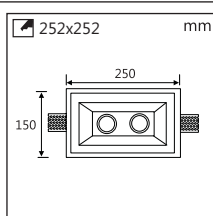
**Ref Code**  
04.15.024.01.xx

**Lamp**  
Gu5.3 12V  
Gu10 220-230V



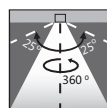
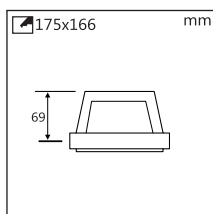
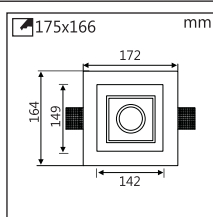
**Ref Code**  
04.15.025.01.18

**LED** 18W   **Lm** 1620   **mA** 500   **VDC** 28V



**Ref Code**  
04.15.026.01.xx(x2)

**Lamp**  
Gu5.3 12V  
Gu10 220-230V



**Ref Code**  
04.15.027.01.xx

**Lamp**  
Gu5.3 12V  
Gu10 220-230V





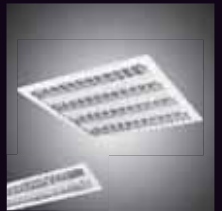
recessed



surface mounted



IP54



IP65



suspended



recessed linear



floor/table lights

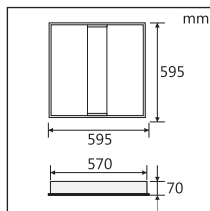


**Mounting:** recessed  
**Housing:** 0.6mm sheet steel powder coated  
**Diffuser:** PMMA  
**Reflector:**  
 - plain (RF.PLN)  
 - micro-perforated (RF.PRF)  
**Finish options:**  
 01-white matte (standard)  
**Note:** \* other RAL colors are available on request

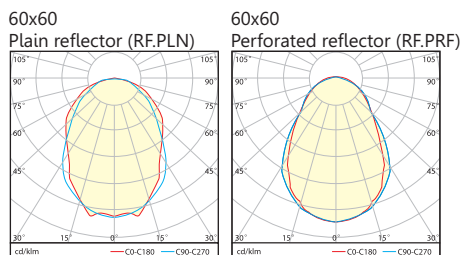
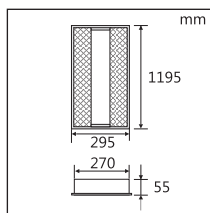
**LED:** aluminum PCB  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 07.21.001.01.38+RF.PLN+CT30+ND  
 (item+reflector type+LED CCT+driver)

**Application:** indoors:  
 public, schools  
 class-rooms, offices, etc.



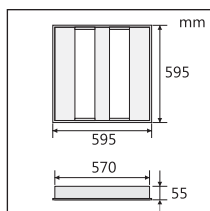
Ref Code	Watt	Lm(±)	LxWxH
07.21.001.01.38	38W	3800	595x595x70
07.21.001.02.48	48W	4800	595x595x70
07.21.002.01.38	38W	3800	1195x295x55
07.21.002.02.48	48W	4800	1195x295x55



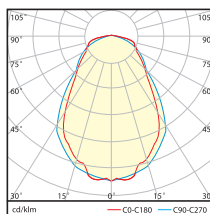
**Note:** \* other wattage is available on request

**Beam Angle:**

60x60:  
 plain reflector (RF.PLN): 80°  
 perforated reflector (RF.PRF): 120°  
 1200x300:  
 plain reflector (RF.PLN): 75°  
 perforated reflector (RF.PRF): 110°



Ref Code	Watt	Lm(±)
07.21.003.01.38	38W	3800
07.21.003.02.48	48W	4800



**Note:** \* other wattage is available on request

**Beam Angle:**

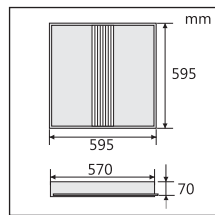
plain reflector (RF.PLN): 80°  
 perforated reflector (RF.PRF): 120°

**Mounting:** recessed  
**Housing:** 0.6mm sheet steel powder coated  
**Diffuser:** PMMA  
**Reflector:** steel, plain, white powder coated  
**Finish options:** 01-white matte (standard)  
**Note:** \* other RAL colors are available on request

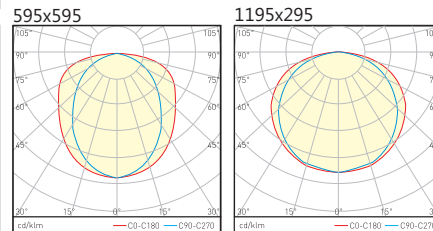
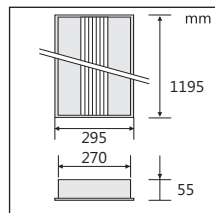
**LED:** SMD/LG innotek  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:** CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:** ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:** 07.21.005.01.38+CT30+ND  
 (item+LED CCT+driver)

**Application:** indoors:  
 public, schools  
 class-rooms, offices, etc.

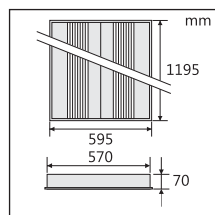


Ref Code	Watt	Lm(±)	LxWxH
07.21.005.01.38	38W	3800	595x595x70
07.21.006.01.38	38W	3800	1195x295x55

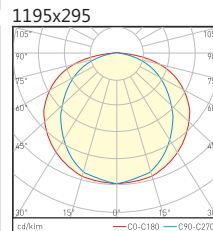
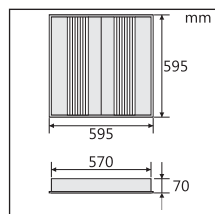


**Note:** \* other wattage is available on request

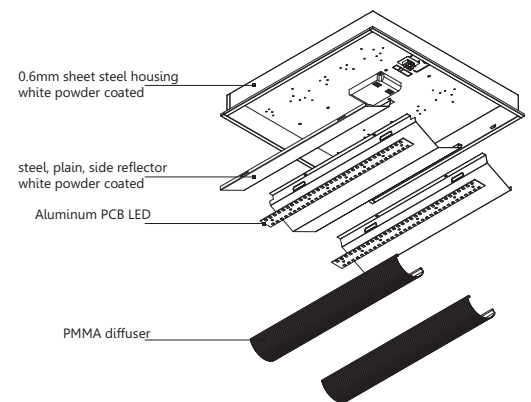
**Beam Angle:**  
 plain reflector (RF.PLN) only: 125°



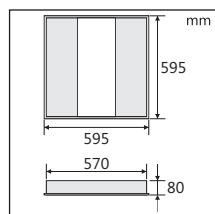
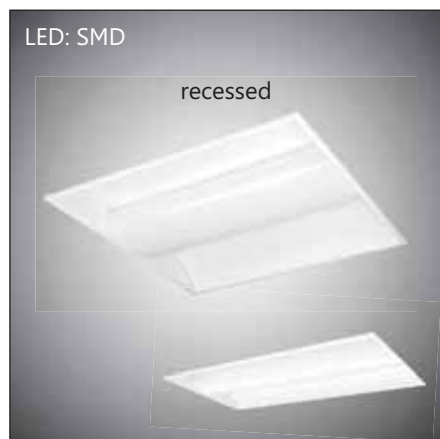
Ref Code	Watt	Lm(±)	LxWxH
07.21.007.01.38	38W	3800	595x595x70
07.21.008.01.50	50W	5000	1195x595x70



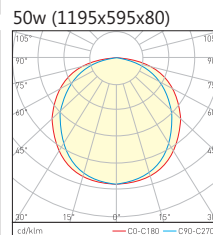
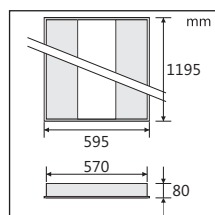
**Note:** \* other wattage is available on request



**Beam Angle:**  
 plain reflector (RF.PLN) only: 120°  
 Customized wattage is available on request



Ref Code	Watt	Lm(±)	LxWxH
07.21.014.01.38	38W	3800	595x595x80
07.21.014.02.48	48W	4800	595x595x80
07.21.015.01.50	50W	5000	1195x595x80
07.21.015.02.80	80W	8000	1195x595x80



**Note:** \* other wattage is available on request

**Beam Angle:**  
 plain reflector (RF.PLN) only: 120°

**Mounting:** surface mounted  
**Housing:** 0.6mm sheet steel powder coated  
**Diffuser:** PMMA  
**Reflector:**  
 - plain (RF.PLN)  
 - micro-perforated (RF.PRF)  
**Finish options:**  
 01-white matte (standard)  
**Note:** \* other RAL colors are available on request

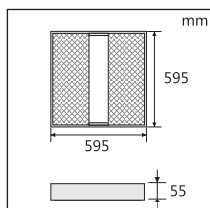
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:**  
 07.21.011.01.38+RF.PLN+CT30+ND  
 (item+reflector type+LED CCT+driver)

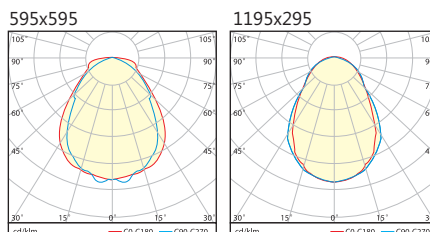
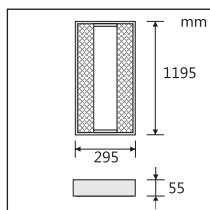
**Application:** indoors:  
 public, schools  
 class-rooms, offices, etc.



surface mounted



Ref Code	Watt	Lm(±)	LxWxH
07.21.011.01.38	38W	3800	595x595x55
07.21.011.02.48	48W	4800	595x595x55
07.21.012.01.38	38W	3800	1195x295x55
07.21.012.02.48	48W	4800	1195x295x55

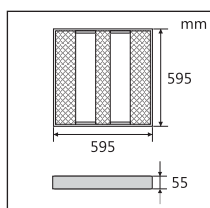


**Note:** \* other wattage is available on request

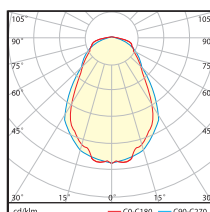
**Beam Angle:**  
 60x60:  
 plain reflector (RF.PLN): 80°  
 perforated reflector (RF.PRF): 120°  
 1200x300:  
 plain reflector (RF.PLN): 75°  
 perforated reflector (RF.PRF): 110°



surface mounted



Ref Code	Watt	Lm(±)
07.21.013.01.38	38W	3800
07.21.013.02.48	48W	4800



**Note:** \* other wattage is available on request

**Beam Angle:**  
 plain reflector (RF.PLN): 80°  
 perforated reflector (RF.PRF): 120°

07.21.024.02.48  
 48W  
 Lm: 4300  
 Length: 1195  
 Width: 295  
 Height: 80





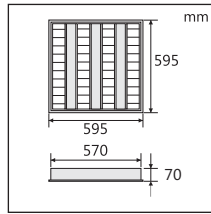
07.21.014.01.38  
38W  
Lm: 3300lm  
Size: 595x595mm  
Height: 70mm

**Mounting:** recessed  
**Housing:** 0.6mm sheet steel white powder coated with perforated steel elements  
**Reflector:**  
 - aluminum double parabolic louver  
**Finish options:**  
 01-white matte (standard)  
**Note:** \* other RAL colors are available on request

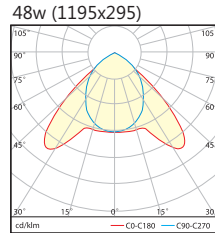
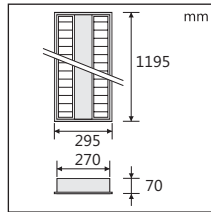
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:** indoors:  
 public, schools  
 class-rooms, offices, etc.



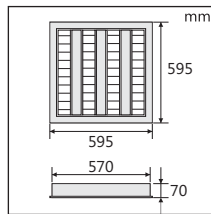
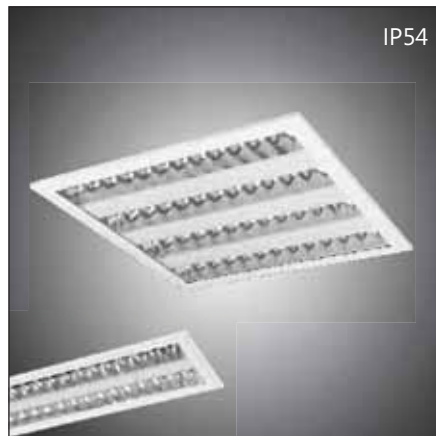
Ref Code	Watt	Lm(±)	LxWxH
07.21.016.01.38	38W	3800	595x595x70
07.21.016.02.48	48W	4800	595x595x70
07.21.017.01.38	38W	3800	1195x295x70
07.21.017.02.48	48W	4800	1195x295x70



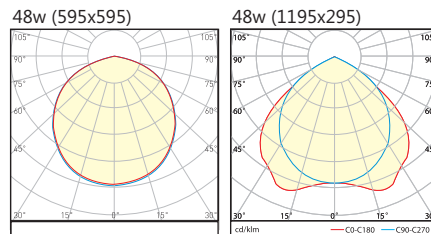
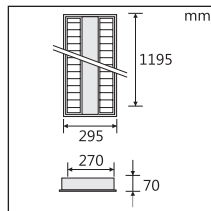
**Note:** \* other wattage is available on request

**Ordering Guide:**  
 07.21.016.01.38+LV.DPL1+CT30+ND  
 (item+reflector type+LED CCT+driver)

**Beam Angle:** 110°



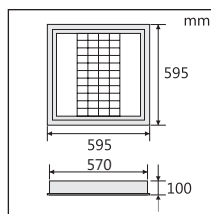
Ref Code	Watt	Lm(±)	LxWxH
07.21.018.01.38	38W	3800	595x595x70
07.21.018.02.48	48W	4800	595x595x70
07.21.019.01.38	38W	3800	1195x295x70
07.21.019.02.48	48W	4800	1195x295x70



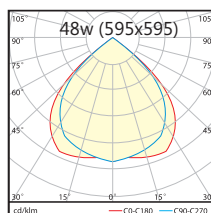
**Note:** \* other wattage is available on request

**Ordering Guide:**  
 07.21.018.01.38+CT30+ND  
 (item+LED CCT+driver)

**Beam Angle:**  
 595x595mm: 115°  
 1195x295mm: 85°



Ref Code	Watt	Lm(±)
07.21.020.01.38	38W	3800
07.21.020.02.48	48W	4800

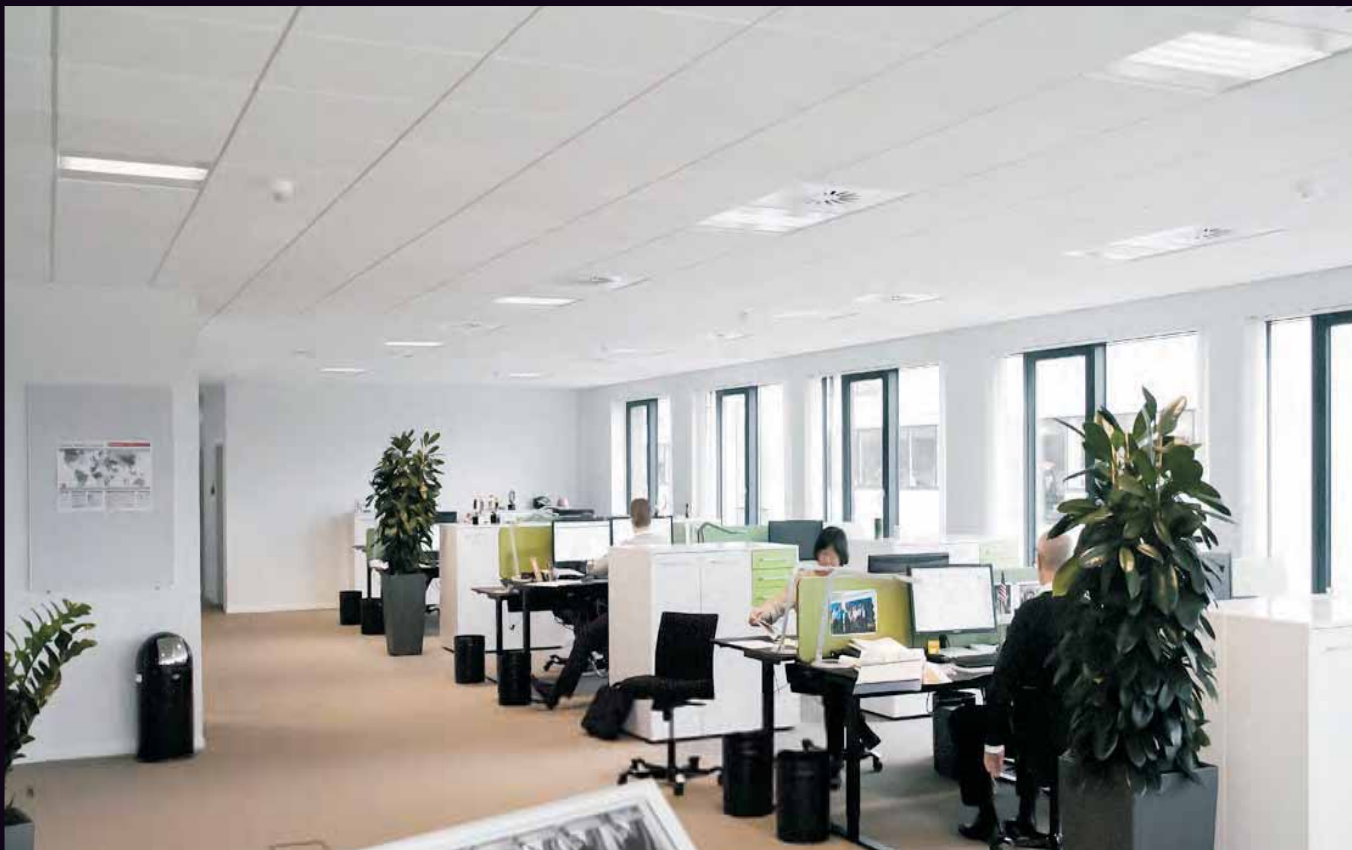


**Note:** \* other wattage is available on request

**Ordering Guide:**  
 07.21.020.01.38+CT30+ND  
 (item+LED CCT+driver)

**Beam Angle:** 95°



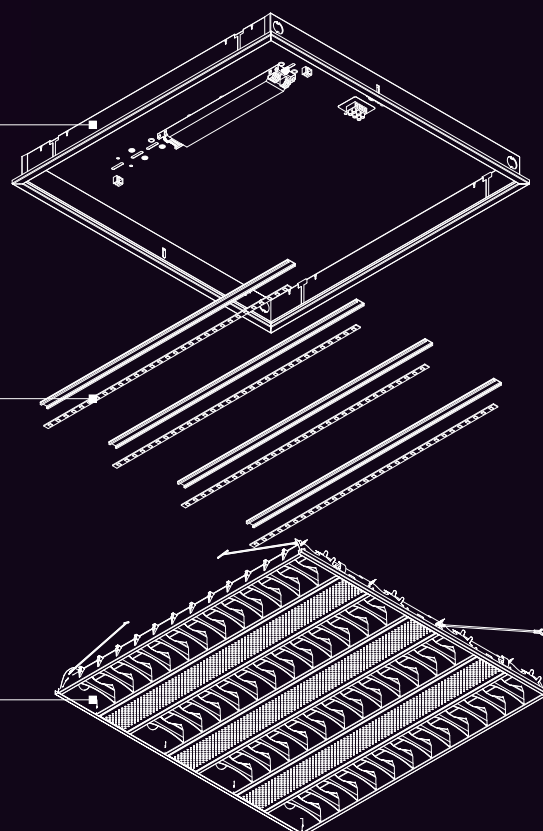


07.21.017.02.48  
 48W  
 Lm: 3500  
 Length: 1195  
 Width: 295  
 Height: 55

0.6mm sheet steel housing  
 white powder coated

aluminum PCB LED

alanod aluminum louver  
 double parabolic

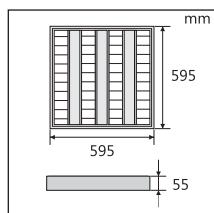


**Mounting:** surface mounted/recessed  
**Housing:** 0.6mm sheet steel white powder coated with perforated steel elements  
**Reflector:** aluminum double parabolic louver  
**Finish options:** 01-white matte (standard)  
**Note:** \* other RAL colors are available on request

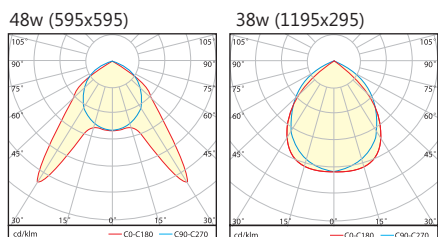
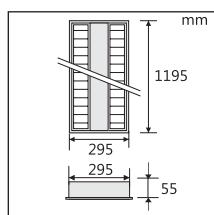
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:** CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:** ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Ordering Guide:** 07.21.021.01.38+CT30+ND (item+LED CCT+driver)

**Application:** indoors: public, schools, class-rooms, offices, etc.

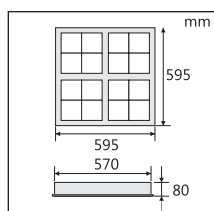


Ref Code	Watt	Lm(±)	LxWxH
07.21.021.01.38	38W	3800	595x595x55
07.21.021.02.48	48W	4800	595x595x55
07.21.022.01.38	38W	3800	1195x295x55
07.21.022.02.48	48W	4800	1195x295x55

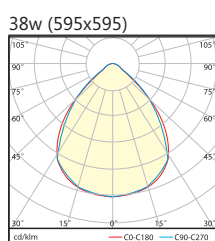
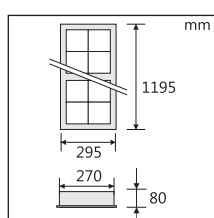


**Note:** \* other wattage is available on request

**Beam Angle:**  
 595x595mm: 98°  
 1195x295mm: 92°



Ref Code	Watt	Lm(±)	LxWxH
07.21.023.01.38	38W	3800	595x595x80
07.21.023.02.46	46W	4600	595x595x80
07.21.024.01.38	38W	3800	1195x295x80
07.21.024.02.46	46W	4600	1195x295x80



**Note:** \* other wattage is available on request

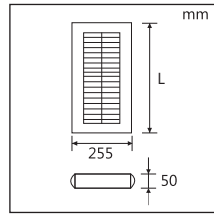
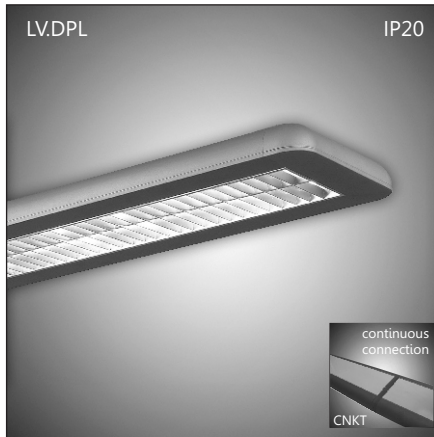
**Beam Angle:** 85°

**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

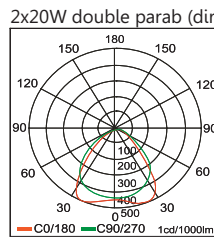
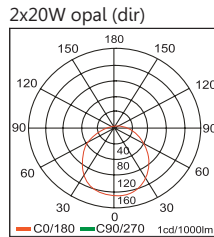
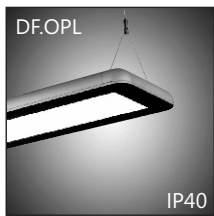
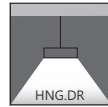
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT65-6500K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.

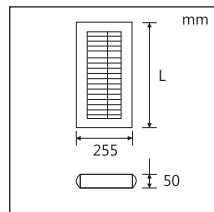


Ref Code	Watt	Lm(±)	L
07.22.029.01.40	2x20W	3000	1270
07.22.029.02.56	2x28W	4200	1270
07.22.066.01.50	2x25W	3750	1570
07.22.066.02.70	2x35W	5250	1570

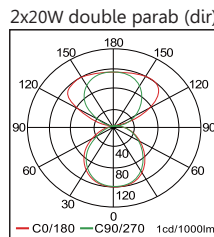
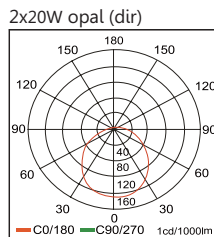
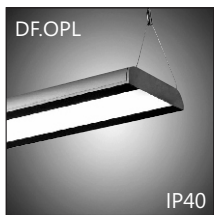
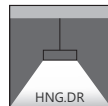


**Ordering Guide:**  
 07.22.029.01.40+LV.DPL+SFM+CNKT+CT30+ND  
 (item+louver type+mounting type+continuous connection+LED CCT+driver)

**Notes:**  
 \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used



Ref Code	Watt	Lm(±)	L
07.22.030.01.40	2x20W	3000	1195
07.22.030.02.56	2x28W	4200	1195
07.22.067.01.50	2x25W	3750	1495
07.22.067.02.70	2x35W	5250	1495



**Ordering Guide:**  
 07.22.030.01.40+LV.DPL+SFM+CT30+ND  
 (item+louver type+mounting type+LED CCT+driver)

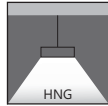
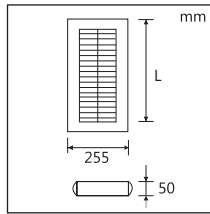
**Notes:**  
 \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

LED driver: integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

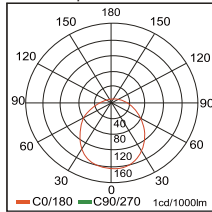
**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.



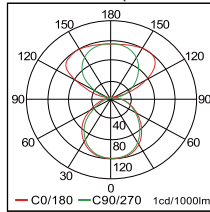
Ref Code	Watt	Lm(±)	L
07.22.031.01.40	2x20W	3000	1270
07.22.031.02.56	2x28W	4200	1270
07.22.068.01.50	2x25W	3750	1570
07.22.068.02.70	2x35W	5250	1570



2x20W opal (dir)

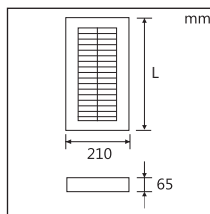


2x20W double parab (dir)

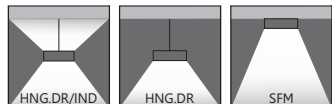


**Ordering Guide:**  
 07.22.031.01.40+DF.OPL+SFM+CNKT+CT30+ND  
 (item+opal diffuser+mounting type+continuous connection+LED CCT+driver)

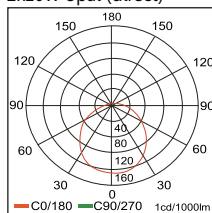
**Notes:**  
 \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used



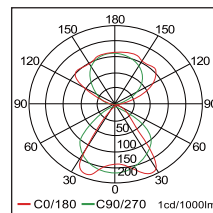
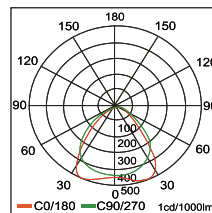
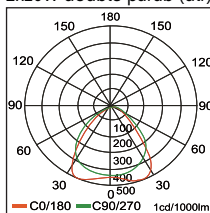
Ref Code	Watt	Lm(±)	L
07.22.032.01.40	2x20W	3000	1230
07.22.032.02.56	2x28W	4200	1230
07.22.069.01.50	2x25W	3750	1530
07.22.069.02.70	2x35W	5250	1530



2x20W opal (direct)



2x20W double parab (dir)



**Ordering Guide:**  
 07.22.032.01.40+LV.DPL+SFM+CT30+ND  
 (item+louver type+mounting type+LED CCT+driver)

**Notes:**  
 \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

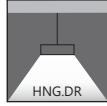
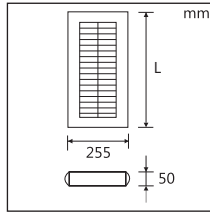


**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

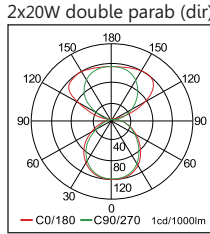
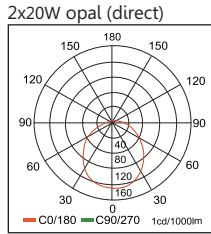
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

LED driver: integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.

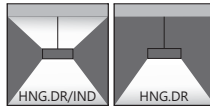
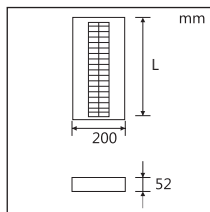


Ref Code	Watt	Lm(±)	L
07.22.033.01.40	2x20W	3000	1270
07.22.033.02.56	2x28W	4200	1270
07.22.070.01.50	2x25W	3750	1570
07.22.070.02.70	2x36W	5250	1570

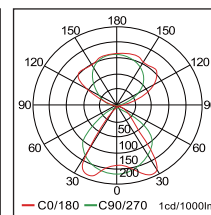
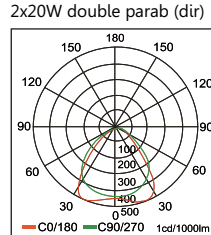
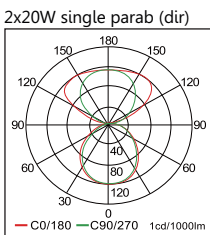
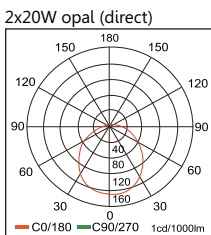
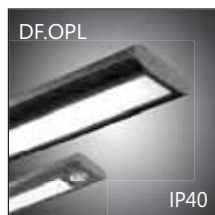


**Ordering Guide:**  
 07.22.033.01.40+LV.DPL+SFM+CNKT+CT30+ND  
 (item+louver type+mounting type+continuous connection+LED CCT+driver)

**Notes:**  
 \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used



Ref Code	Watt	Lm(±)	L	Beam direction
07.22.034.01.20	1x20W	1500	1195	Direct
07.22.034.02.40	2x20W	3000	1195	Direct/Indirect
07.22.034.03.28	1x28W	2100	1195	Direct
07.22.034.04.56	2x28W	4200	1195	Direct/Indirect
07.22.071.01.25	1x25W	1870	1495	Direct
07.22.071.02.50	2x25W	3750	1495	Direct/Indirect
07.22.071.03.35	1x35W	2650	1495	Direct
07.22.071.04.70	2x35W	5250	1495	Direct/Indirect
07.22.071.05.70	1x70W	5250	1495	Direct



**Ordering Guide:**  
 07.22.034.01.40+LV.DPL+SFM+CT30+ND  
 (item+louver type+mounting type+LED CCT+driver)

**Notes:** \* other wattage is available on request  
 \* please, mention COB as additional spotlight while ordering  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

Additional spot lights: 3W each

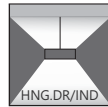
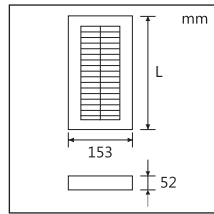


**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

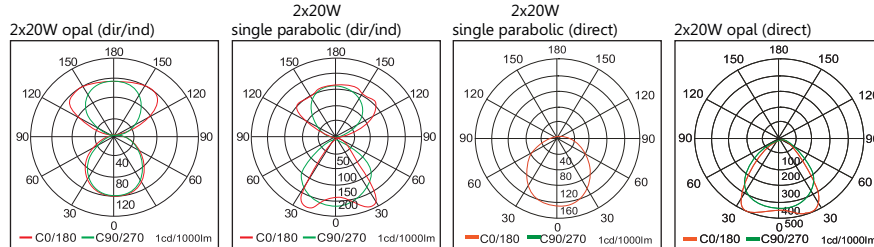
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.



Ref Code	Watt	Lm(±)	L	Beam direction
07.22.036.01.40	2x20W	3000	1198	Direct/Indirect
07.22.036.02.56	2x28W	4200	1198	Direct/Indirect
07.22.036.03.32	2x16W	2400	1198	Direct/Indirect
07.22.072.01.50	2x25W	3750	1498	Direct/Indirect
07.22.072.02.70	2x35W	5250	1498	Direct/Indirect

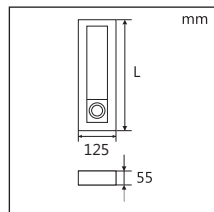
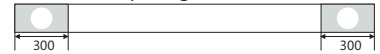


### Ordering Guide:

07.22.036.01.40+LV.DPL+HNG.DR/IND+CNKT+CT30+ND  
 (item+louver type+hanging dir./ind.+continuous connection+LED CCT+driver)

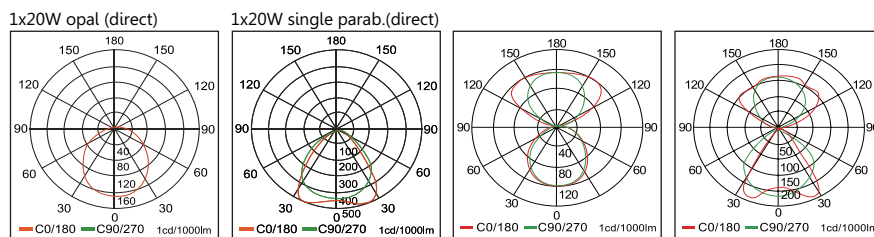
**Notes:** \* other wattage is available on request  
 \* please, mention COB as additional spotlight while ordering  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

Additional spot lights: 3W each



continuous connection (CNKT)

Ref Code	Watt	Lm(±)	L
07.22.037.01.20+2	20W+(2x3W)	1500	1498
07.22.038.01.28+2	28W+(2x3W)	2100	1498
07.22.073.01.25+2	25W+(2x3W)	1900	1798
07.22.073.02.35+2	35W+(2x3W)	2650	1798
07.22.074.01.40	40W	3000	2358
07.22.074.02.56	56W	4200	2358

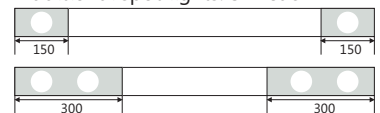


### Ordering Guide:

07.22.037.01.20+2+LV.DPL+HNG.DR+CNKT+CT30+ND  
 (item+louver type+hanging direct+continuous connection+LED CCT+driver)

**Notes:** \* other wattage is available on request  
 \* please, mention COB as additional spotlight while ordering  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

Additional spot lights: 3W each



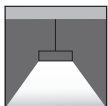
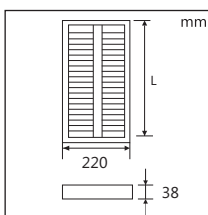


**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

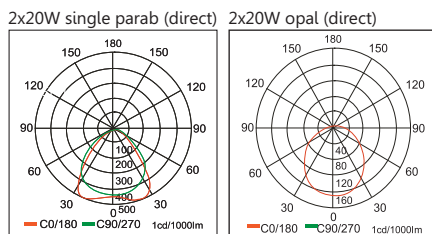
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.



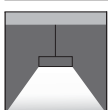
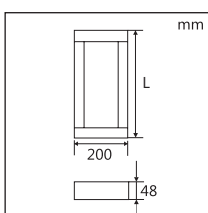
Ref Code	Watt	Lm(±)	L
07.22.039.01.40	2x20W	3000	1186
07.22.039.02.56	2x28W	4200	1186
07.22.039.03.32	2x16W	2400	1186
07.22.075.01.50	2x25W	3750	1476
07.22.075.02.70	2x35W	5250	1476
07.22.076.01.80	2x40W	6000	2346
07.22.076.02.112	2x56W	8250	2346



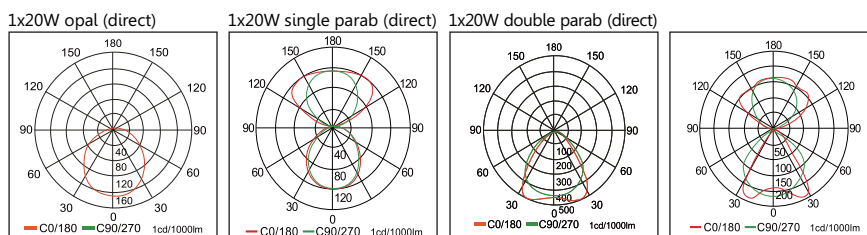
### Ordering Guide:

07.22.039.01.40+LV.DPL+SFM+CT30+ND  
 (item+louver type+mounting type+LED CCT+driver)

**Notes:** \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used



Ref Code	Watt	Lm(±)	L
07.22.040.01.20	1x20W	1500	1196
07.22.040.02.28	1x28W	2100	1196
07.22.040.03.32	2x16W	2400	1196
07.22.077.01.25	1x25W	1875	1496
07.22.077.02.35	1x35W	2650	1496



### Ordering Guide:

07.22.040.01.20+LV.DPL+SFM+CT30+ND  
 (item+louver type+mounting type+LED CCT+driver)

**Notes:**  
 \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

07.22.040.01.20

**Finish:**

16- polished chrome (mirror)

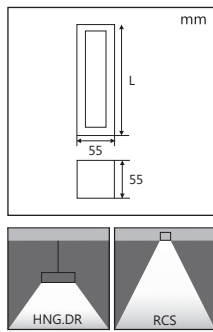


**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

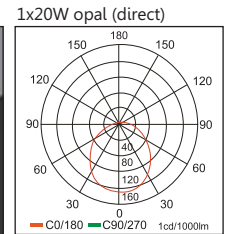
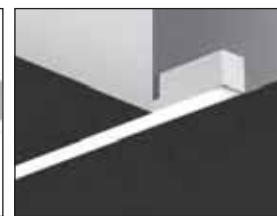
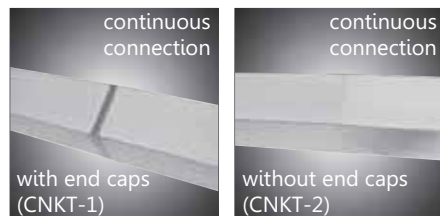
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

**Application:** indoors:  
 public, private shopping malls, show-rooms, schools, universities, class-rooms, offices, etc.



Ref Code	Watt	Lm(±)	L
07.22.041.01.20	1x20W	1500	1180
07.22.041.02.28	1x28W	2100	1180
07.22.078.01.25	1x25W	1875	1470
07.22.078.02.35	1x35W	2650	1470
07.22.079.01.40	1x40W	3000	2350
07.22.079.02.56	1x56W	4200	2350
07.22.079.03.70	1x70W	5250	2350

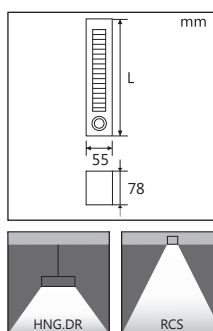
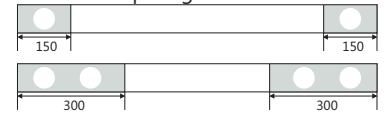


### Ordering Guide:

07.22.041.01.20+RCS+CNKT2+CT30+ND  
 (item+mounting type+continuous connection type+LED CCT+driver)

**Note:** \* other wattage is available on request  
 \* please, mention COB as additional spotlight while ordering  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

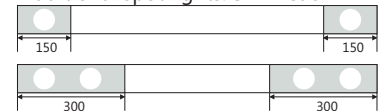
Additional spot lights: 3W each



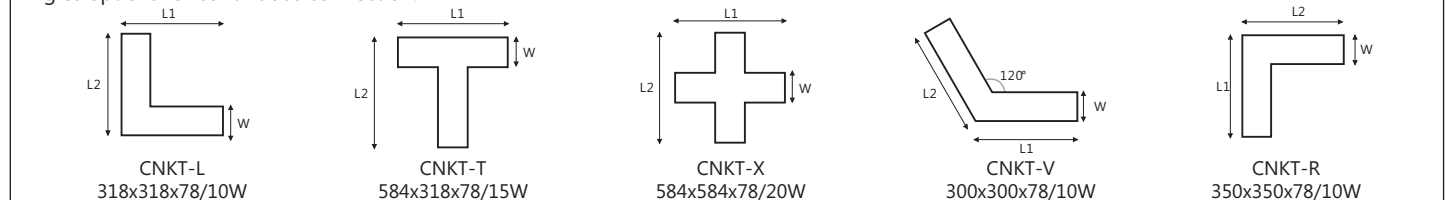
Ref Code	Watt	Lm(±)	L
07.22.046.01.20	1x20W	1500	1180
07.22.047.02.28	1x28W	2100	1180
07.22.080.01.25	1x25W	1875	1470
07.22.080.02.35	1x35W	2650	1470
07.22.081.01.40	1x40W	3000	2340
07.22.081.02.56	1x56W	4200	2340
07.22.081.03.70	1x70W	5250	2340

**Note:**  
 \* other wattage is available on request  
 \* please, mention COB as additional spotlight while ordering  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

Additional spot lights: 3W each



### Angles options for continuous connection:

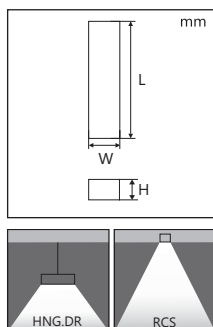


**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Options:**  
 continuous connection (CNKT)  
 (connection kit to be ordered separately)

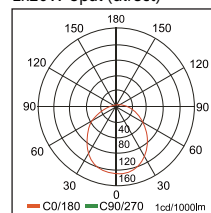
**Application:** indoors:  
 public, private shopping malls, show-rooms, schools, universities, class-rooms, offices, etc.



Ref Code	Watt	Lm(±)	LxWxH
07.22.082.01.40	2x20W	3000	1188x150x85
07.22.082.02.56	2x28W	4200	1188x150x85
07.22.083.01.50	2x25W	3750	1488x150x85
07.22.083.02.70	2x35W	5250	1488x150x85
07.22.084.01.80	2x40W	6000	2340x150x85
07.22.084.02.112	2x56W	8400	2340x150x85
07.22.085.01.20	1x20W	1500	1180x75x70
07.22.085.02.40	2x20W	3000	1180x75x70
07.22.085.03.28	1x28W	2100	1180x75x70
07.22.085.04.56	2x28W	4200	1180x75x70
07.22.086.01.25	1x25W	1875	1470x75x70
07.22.086.02.50	2x25W	3750	1470x75x70
07.22.086.03.35	1x35W	2650	1470x75x70
07.22.086.04.70	2x35W	5250	1470x75x70
07.22.087.01.40	1x40W	3000	2340x75x70
07.22.087.02.80	2x40W	6000	2340x75x70
07.22.087.03.56	1x56W	4200	2340x75x70
07.22.087.04.112	2x56W	8400	2340x75x70



1x20W opal (direct)



**Ordering Guide:**

07.22.082.01.40+HNG+CT30+ND  
 (item+mounting type+CCT+driver)

**Note:** \* other wattage is available on request



**Mounting:** recessed with trim (RCS)

**Housing:** aluminum alloy (6063)

**Louwer/diffuser:**

- opal PMMA diffuser (DF.OPL)
- matte single parabolic louver (LV.SP.MTT)
- matte double parabolic louver (LV.DPL.MTT)
- mirror double parabolic louver (LV.DPL.MRR)

**Finish options:**

15-silver grey matte /00-customized color

**LED:** aluminum PCB/SMD

**CRI:** >80-90

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

CT50-5000K

**Note:** \*other lengths/wattages are available on request

**LED driver:** integral

**LED driver options:**

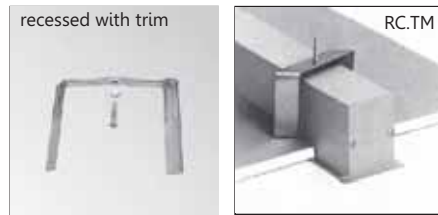
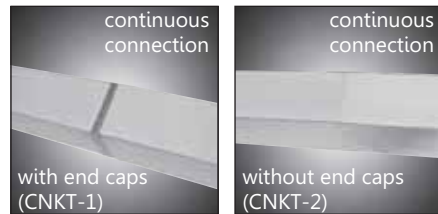
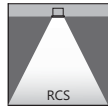
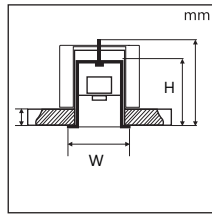
ND - non-dimmable

PH - phase dimmable

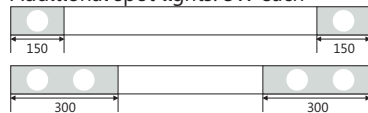
010V - 0-10V dimmable

DALI - compatible

**Note:** \* Lm given in data is based on 3000K



Additional spot lights: 3W each



Ref Code	Watt	Lm(±)	WxHxL
07.22.052.01.20	1x20W	1500	80x75x1192
07.22.052.02.28	1x28W	2100	80x75x1192
07.22.052.03.16	1x16W	1200	80x75x1192
07.22.090.01.25	1x25W	1875	80x75x1482
07.22.090.02.35	1x35W	2650	80x75x1482
07.22.108.01.20	1x20W	1500	95x70x1190
07.22.108.02.28	1x28W	2100	95x70x1190
07.22.109.01.25	1x25W	1875	95x70x1480
07.22.109.02.35	1x35W	2650	95x70x1480
07.22.110.01.40	1x40W	3000	95x70x2362
07.22.110.02.56	1x56W	4200	95x70x2362
07.22.111.01.20	1x20W	1500	100x80x1186
07.22.111.02.28	1x28W	2100	100x80x1186
07.22.112.01.25	1x25W	1875	100x80x1476
07.22.112.02.35	1x35W	2650	100x80x1476
07.22.113.01.40	1x40W	3000	100x80x2346
07.22.113.02.56	1x56W	4200	100x80x2346
07.22.113.03.70	1x70W	5250	100x80x2346
07.22.114.01.20	1x20W	1500	115x40x1189
07.22.114.02.28	1x28W	2100	115x40x1189
07.22.115.01.25	1x25W	1875	115x40x1478
07.22.115.02.35	1x35W	2650	115x40x1478
07.22.116.01.40	1x40W	3000	115x40x2348
07.22.116.02.56	1x56W	4200	115x40x2348
07.22.117.01.20	1x20W	1500	120x80x1192
07.22.117.02.28	1x28W	2100	120x80x1192
07.22.118.01.32	1x32W	2400	120x80x1200
07.22.119.01.25	1x25W	1875	120x80x1482
07.22.119.02.35	1x35W	2650	120x80x1482
07.22.120.01.40	1x40W	3000	120x80x2352
07.22.120.02.56	1x56W	4200	120x80x2352
07.22.121.01.42	2x21W+COB	3150+COB	120x80x1200
07.22.122.01.40	2x20W+COB	3000+COB	120x80x1492
07.22.122.02.56	2x28W+COB	4200+COB	120x80x1492
07.22.123.01.50	2x25W+COB	3750+COB	120x80x1782
07.22.123.02.70	2x35W+COB	5250+COB	120x80x1782

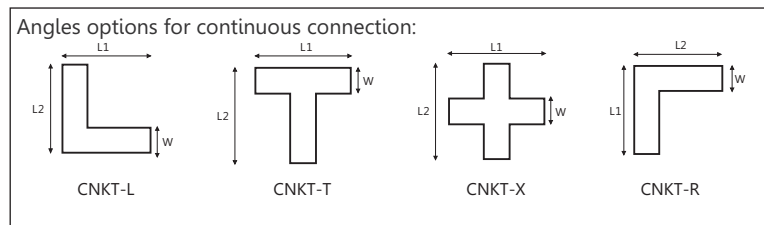
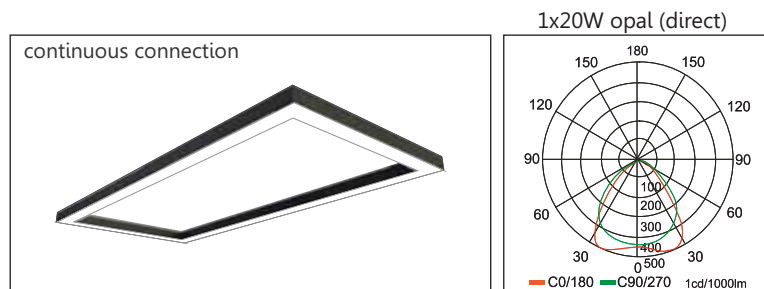
### Ordering Guide:

07.22.052.01.20+DF.OPL+CNKT2+CT30+ND  
(item+opal diffuser+continuous connection type+LED CCT+driver)

**Note:** \* other wattage is available on request

\* please, mention COB as additional spotlight while ordering

\* for Louvre type fixture (LV.DPL) only T5 LED tubes are used



### Mounting:

- recessed trimless (RCS)
- suspended (HNG) (up to 1m adjustable kit)

**Housing:** aluminum alloy (6063)

### Louwer/diffuser:

- opal PMMA diffuser (DF.OPL)
- matte single parabolic louver (LV.SP.MTT)
- matte double parabolic louver (LV.DPL.MTT)

### Finish options:

15-silver grey matte /00-customized color

**LED:** aluminum PCB/SMD

**CRI:** >80-90

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

### Color temperature, K:

CT30-3000K

CT40-4000K

CT50-5000K

**Note:** \*other lengths/wattages are available on request

**LED driver:** integral

### LED driver options:

ND - non-dimmable

PH - phase dimmable

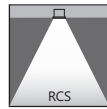
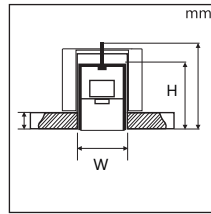
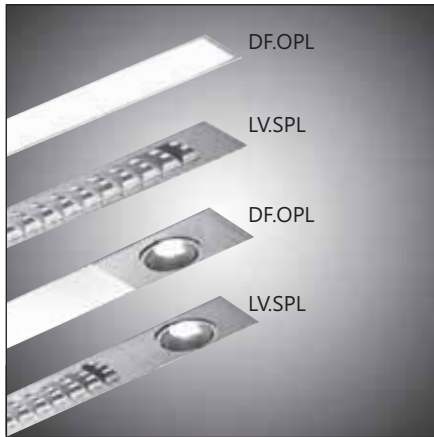
010V - 0-10V dimmable

DALI - compatible

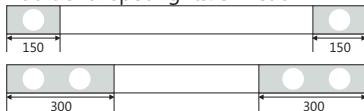
**Note:** \* Lm given in data is based on 3000K

**Application:** indoors:

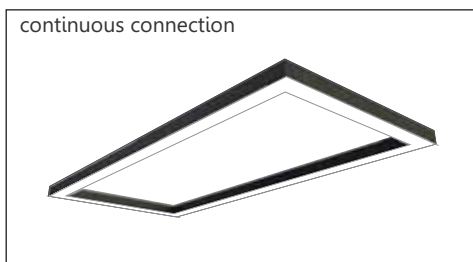
- public, private shopping malls,
- show-rooms, schools, universities
- class-rooms, offices, etc.



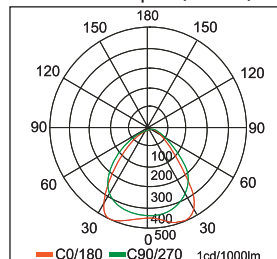
Additional spot lights: 3W each



Ref Code	Watt	Lm(±)	WxHxL
07.22.124.01.20	1x20W	1500	55x73x1180
07.22.124.02.28	1x28W	2100	55x73x1180
07.22.125.01.25	1x25W	1875	55x73x1470
07.22.125.02.35	1x35W	3650	55x73x1470
07.22.126.01.20	1x20W	2650	69x90x1180
07.22.126.02.28	1x28W	1500	69x90x1180
07.22.127.01.25	1x25W	2100	69x90x1470
07.22.127.02.35	1x35W	1875	69x90x1470
07.22.128.01.56	1x56W	2650	69x90x2340
07.22.128.02.70	1x70W	3000	69x90x2340
07.22.129.01.20	1x20W	4200	75x70x1180
07.22.129.02.28	1x28W	1500	75x70x1180
07.22.130.01.25	1x25W	2100	75x70x1470
07.22.130.02.35	1x35W	1875	75x70x1470
07.22.131.01.40	1x40W	2650	75x70x2340
07.22.131.02.56	1x56W	3000	75x70x2340
07.22.132.01.20	1x20W	4200	100x50x1180
07.22.132.02.28	1x28W	5250	100x50x1180
07.22.133.01.25	1x25W	1500	100x50x1470
07.22.133.02.35	1x35W	2100	100x50x1470
07.22.134.01.40	1x40W	1875	100x50x2340
07.22.134.02.56	1x56W	2650	100x50x2340
07.22.135.01.40	2x20W	3000	120x50x1180
07.22.135.02.56	2x28W	4200	120x50x1180
07.22.136.01.50	2x25W	3750	120x50x1470
07.22.136.02.70	2x35W	5250	120x50x1470
07.22.137.01.80	2x40W	6000	120x50x2340
07.22.137.02.112	2x56W	8400	120x50x2340
07.22.138.01.40	2x20W	3000	155x50x1180
07.22.138.02.56	2x28W	4200	155x50x1180
07.22.139.01.50	2x25W	3750	155x50x1470
07.22.139.02.70	2x35W	5250	155x50x1470
07.22.140.01.80	2x40W	6000	155x50x2340
07.22.140.02.112	2x56W	8400	155x50x2340
07.22.141.01.40	2x20W	3000	200x70x1180
07.22.141.02.56	2x28W	4200	200x70x1180
07.22.142.01.50	2x25W	3750	200x70x1470
07.22.142.02.70	2x35W	5250	200x70x1470
07.22.143.01.80	2x40W	6000	200x70x2340
07.22.143.02.112	2x56W	8400	200x70x2340



1x20W opal (direct)

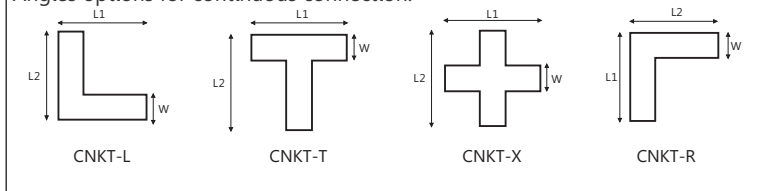


### Ordering Guide:

07.22.052.01.20+DF.OPL+CNKT2+CT30+ND  
(item+opal diffuser+continuous connection+LED CCT+driver)

- Note:** \* other wattage is available on request  
\* please, mention COB as additional spotlight while ordering  
\* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

Angles options for continuous connection:





**Mounting:**

suspended (HNG) (up to 1m adjustable kit)

**Housing:** aluminum alloy (6063), ABS end caps

**Louver/diffuser:**

- opal PMMA diffuser (DF.OPL)
- matte double parabolic louver (LV.DPL.MTT)
- mirror double parabolic louver (LV.DPL.MRR)

**Finish options:** 15-silver grey matte (standard)

**Note:** \* customized color/lengths/wattages are available on request

**LED:** aluminum PCB/SMD

**CRI:** >80-90

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

CT50-5000K

**LED driver:** integral

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

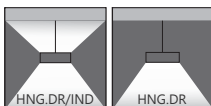
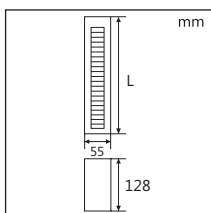
010V - 0-10V dimmable

DALI - compatible

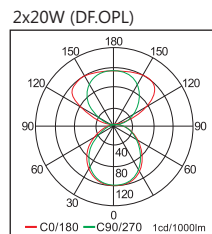
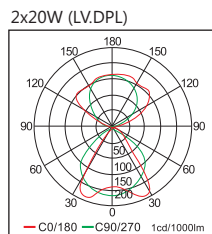
**Note:** \* Lm given in data is based on 3000K

**Application:** indoors:

- public, private
- schools, universities
- class-rooms, offices, etc.



Ref Code	Watt	Lm(±)	L	Beam direction
07.22.053.01.20	20W	1500	1216	Direct
07.22.053.02.28	28W	2100	1216	Direct
07.22.053.03.40	2x20W	3000	1216	Direct/Indirect
07.22.053.04.56	2x28W	4200	1216	Direct/Indirect
07.22.053.05.32	2x16W	-	1216	Direct/Indirect
07.22.092.01.25	25W	1875	1516	Direct
07.22.092.02.35	35W	2650	1516	Direct
07.22.092.03.50	2x25W	3750	1516	Direct/Indirect
07.22.092.04.70	2x35W	5250	1516	Direct/Indirect
07.22.093.01.40	40W	3000	2356	Direct
07.22.093.02.56	56W	4200	2356	Direct
07.22.093.03.80	2x40W	6000	2356	Direct/Indirect
07.22.093.04.112	2x56W	8400	2356	Direct/Indirect



**Ordering Guide:**

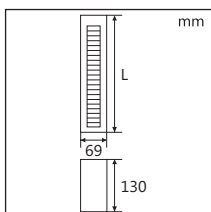
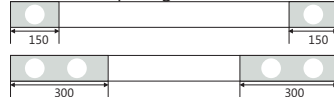
07.22.053.02.56+HNG DR/IND+CNKT2+CT30+ND  
(item+direct/indirect+continuous connection type+LED CCT+driver)

**Note:** \* other wattage is available on request

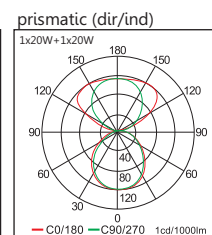
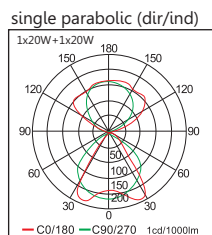
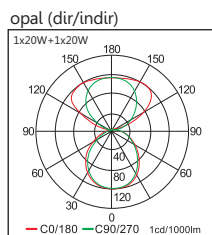
\* please, mention COB as additional spotlight while ordering

\* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

Additional spot lights: 3W each



Ref Code	Watt	Lm(±)	L	Beam direction
07.22.054.01.40	2x20W	3000	1213	Direct/Indirect
07.22.054.02.56	2x28W	4200	1213	Direct/Indirect
07.22.094.01.50	2x25W	3750	1513	Direct/Indirect
07.22.094.02.70	2x35W	5250	1513	Direct/Indirect
07.22.095.01.80	2x40W	6000	2350	Direct/Indirect
07.22.095.02.112	2x56W	8400	2350	Direct/Indirect
07.22.095.03.140	2x70W	10500	2350	Direct/Indirect



**Ordering Guide:**

07.22.091.02.70+DF.OPL+HNG.DIR/IND+CNKT2+CT30+ND  
(item+opal diffuser+direct/indirect+continuous connection (without end caps+LED CCT+driver)

**Note:** \* other wattage is available on request

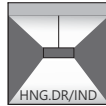
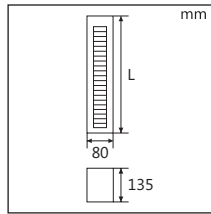
\* for Louvre type fixture (LV.DPL) only T5 LED tubes are used

**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

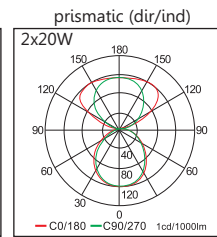
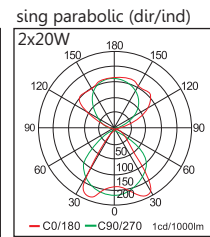
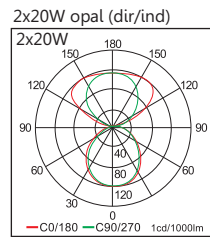
**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Note:** \* Lm given in data is based on 3000K

**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.



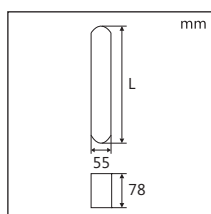
Ref Code	Wtt	Lm(±)	L	Beam direction
07.22.055.01.40	2x20W	3000	1210	Direct/Indirect
07.22.055.02.56	2x28W	4200	1210	Direct/Indirect
07.22.096.01.50	2x25W	3750	1510	Direct/Indirect
07.22.096.02.70	2x35W	5250	1510	Direct/Indirect
07.22.097.01.80	2x40W	6000	2350	Direct/Indirect
07.22.097.02.112	2x56W	8400	2350	Direct/Indirect



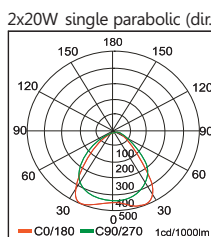
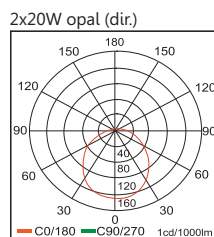
**Ordering Guide:**

07.22.055.02.56+DF.OPL+CNKT2+CT30+ND  
 (item+opal diffuser+continuous connection (without end caps+LED CCT+driver)

**Note:** \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are available



Ref Code	Watt	Lm(±)	L
07.22.056.01.20	1x20W	1500	1188
07.22.056.02.28	1x28W	2100	1188
07.22.056.03.16	1x16W	1200	1188
07.22.098.01.25	1x25W	1875	1478
07.22.098.02.35	1x35W	2650	1478
07.22.099.01.40	1x40W	3000	2348
07.22.099.02.56	1x56W	4200	2348
07.22.099.03.70	1x70W	5250	2348



**Ordering Guide:**

07.22.056.02.28+CNKT2+CT30+ND  
 (item+continuous connection (without end caps+LED CCT+driver)

**Note:** \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only 16W LED or T5 LED tubes are available



07.22.082.01.40  
 (1x20W)+(1x20W)  
 Lm: 4000  
 Lenght: 1188

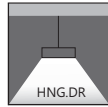
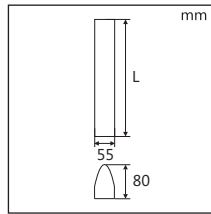




**Mounting:** -surface mounted (SFM)  
 - suspended (HNG) (up to 1m adjustable kit)  
**Housing:** aluminum alloy (6063), ABS end caps  
**Louver/diffuser:**  
 - opal PMMA diffuser (DF.OPL)  
 - matte double parabolic louver (LV.DPL.MTT)  
 - mirror double parabolic louver (LV.DPL.MRR)  
**Finish options:** 15-silver grey matte (standard)  
**Note:** \* customized color/lengths/wattages are available on request

**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K

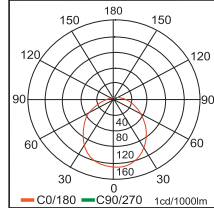
**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Note:** \* Lm given in data is based on 3000K



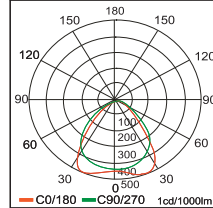
Ref Code	Watt	Lm(±)	L
07.22.057.01.20	1x20W	1500	1230
07.22.057.02.28	1x28W	2100	1230
07.22.057.03.16	1x16W	1200	1230
07.22.100.01.25	1x25W	1875	1530
07.22.100.02.35	1x35W	2650	1530
07.22.101.01.40	1x40W	3000	2380
07.22.101.02.56	1x56W	4200	2380



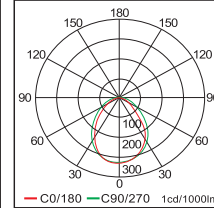
1x20W opal (dir.)



1x20W sing parabolic (dir.)



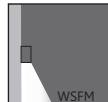
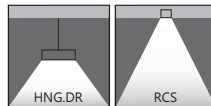
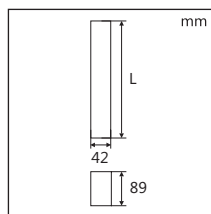
1x20Wprismatic (dir.)



**Ordering Guide:**

07.22.057.02.28+DF.OPL+CT30+ND  
 (item+diffuser+LED CCT+driver)

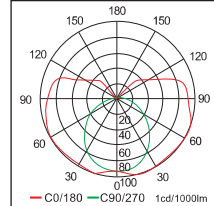
**Note:** \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used



Ref Code	Watt	Lm(±)	L
07.22.058.01.20	1x20W	1500	1184
07.22.058.02.28	1x28W	2100	1184
07.22.102.01.25	1x25W	1875	1484
07.22.102.02.35	1x35W	2650	1484
07.22.103.01.40	1x40W	3000	2340
07.22.103.02.56	1x56W	4200	2340



1x20W opal (direct)



**Ordering Guide:**

07.22.058.01.20+CT30+ND  
 (item+LED CCT+driver)

**Note:** \* other wattage is available on request  
 \* for Louvre type fixture (LV.DPL) only T5 LED tubes are used





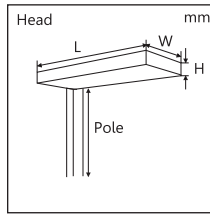
07.22.056.01.2x18  
(1x18W)+(1x18W)  
Lm: 1620=1620

**Mounting:** floor light / table light  
**Housing:** aluminum alloy (6063)  
**Louver/diffuser:**  
 opal PMMA diffuser (DF.OPL)  
**Finish options:**  
 15-silver grey matte (standard)  
 00-customized color  
**Options:** with switch (SWT)

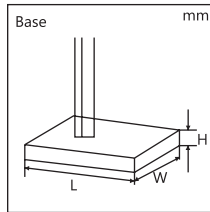
**LED:** SMD (CRI: >80)  
 Lamps: T5 fluorescent  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K

**Ballast/driver:** integral  
**Options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

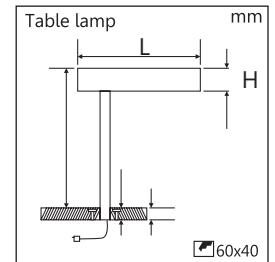
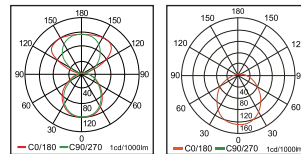
**Application:** indoors:  
 public, private  
 schools, universities  
 class-rooms, offices, etc.



Ref Code	Watt	Lm(±)	Size
07.22.059.01.40	4x10W	3000	head: 608x342x55
07.22.059.02.56	4x14W	4200	pole: 1200x40x60
07.22.059.03.72	4x18W	5400	base:428x300x10
07.22.059.04.4x24T5	4x24W T5		



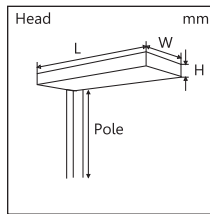
07.22.060.01.40	4x10W	3000	head: 608x342x55
07.22.060.02.56	4x14W	4200	pole: 1800x40x60
07.22.060.03.72	4x18W	5400	base:428x300x10
07.22.060.04.4x24T5	4x24W T5		



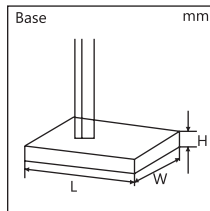
**Ordering Guide:**

07.22.059.01.40+table lamp+CT30+ND  
 (item+type of mounting+color temperature+ballast)

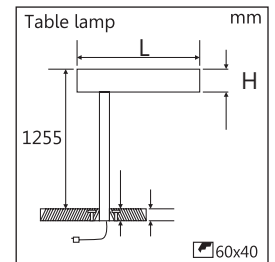
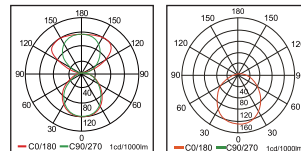
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	Size
07.22.061.01.40	4x10W	3000	head: 608x342x55
07.22.061.02.56	4x14W	4200	pole: 1200x40x60
07.22.061.03.72	4x18W	5400	base:428x300x10
07.22.061.04.4x24T5	4x24W T5		



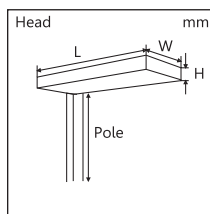
07.22.062.01.40	4x10W	3000	head: 608x342x55
07.22.062.02.56	4x14W	4200	pole: 1800x40x60
07.22.062.03.72	4x18W	5400	base:428x300x10
07.22.062.04.4x24T5	4x24W T5		



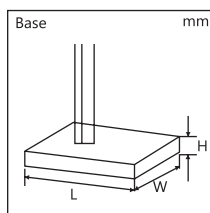
**Ordering Guide:**

07.22.062.01.40+CT30+ND  
 (item (floor light as standard)+color temperature+ballast)

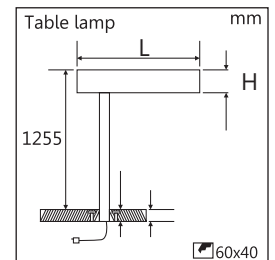
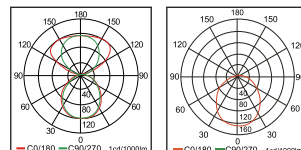
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	Size
07.22.063.01.20	2x10W	1500	head: 608x342x55
07.22.063.02.28	2x14W	2100	pole: 1200x40x60
07.22.063.03.36	2x18W	2700	
07.22.063.03.72	2x36W	5400	



0.22.064.01.20	2x10W	1500	head: 608x300x55
07.22.064.02.28	2x14W	2100	pole: 1800x40x60
07.22.064.03.36	2x18W	2700	base:428x300x10
07.22.064.03.56	2x28W	4200	

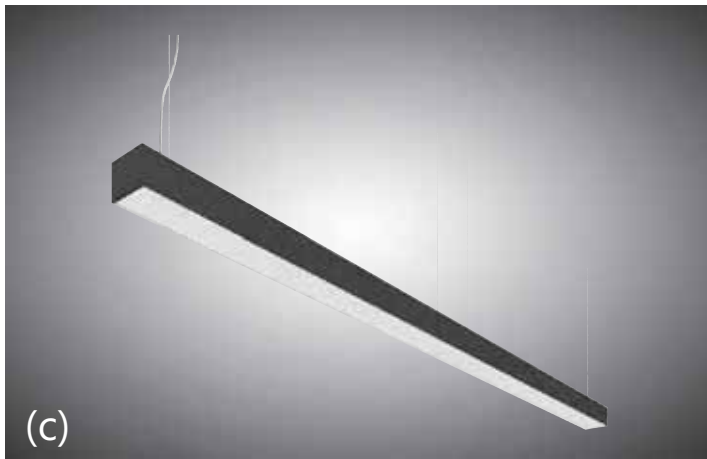


**Ordering Guide:**

07.22.063.01.20+CT30+ND  
 (item (floor light as standard)+LED CCT+driver)

**Note:** \* other wattage is available on request  
 \* option with T5 lamp is available on request







# panel lights

standard



slim trim



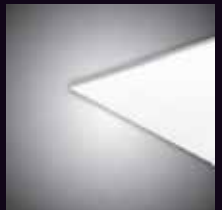
super-slim housing



circular (with trim)



trimless



**Mounting:**

- suspended (HNG)
- surface (SFM)
- recessed (RCS)

**Housing:** aluminum

**Diffuser:** PMMA, opal

**Trim Colors:**

01-white matte/13-grey matte

**Note:** \* other colors are available on request

**LED:** SMD

**CRI:** >80-90

**Efficacy:**

80/100/130 lm/W

**Bins:**

3-5 bins (±)100-250K

**Note:**

\* please, mention required Ra/efficacy/bins/CCT while ordering

**Color temperature, K:**

- CT22-2200K
- CT24-2400K
- CT27-2700K
- CT30-3000K
- CT35-3500K
- CT40-4000K
- CT45-4500K
- CT50-5000K
- CT60-6000K
- CT65-6500K

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**LED driver options:**

- ND - non-dimmable
- PH - phase dimmable
- 010V - 0-10V dimmable
- DALI - compatible

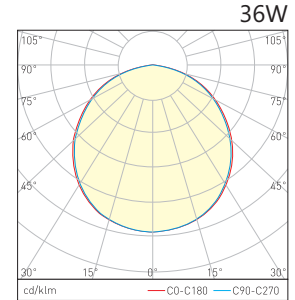
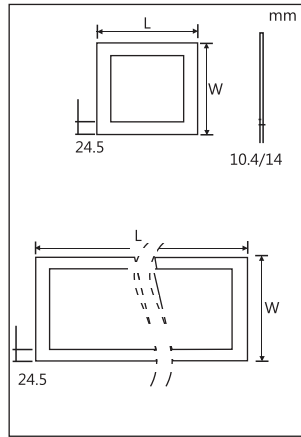
**Ambient Temp:** -20° ... +50°

**Application:** indoors:

- residential, hotels, schools
- kitchens, offices, class-rooms,
- work-shops, etc.



Beam Angle: 112°



CV (constant voltage) 24VDC

Dimmable 0-10v PWM DALI

Ref Code	Watt	Lm(±)	LxWxH
06.20.001.01.11	11W	650-1430	295x295x10.4
06.20.001.02.22	22W	1300-2860	295x295x10.4
06.20.002.01.22	22W	1300-2860	295x595x10.4
06.20.003.01.42	42W	2600-5460	295x1195x10.4
06.20.004.01.36	36W	2400-4680	595x595x10.4
06.20.004.02.42	42W	2600-5460	595x595x10.4
06.20.005.01.60	60W	3600-7800	595x1195x14
06.20.005.02.85	85W	5200-11050	595x1195x14
06.20.006.01.46	46W	2700-5980	615x615x10.4

**Ordering Guide:**

06.20.001.04.36+HNG+13+CRI90+100lmw+3bin+CT40+DALI (item code+hanging type+trim color (grey matte)+CRI+Lm/W+bin+LED CCT (4000k)+driver)

CC (constant current)

Non-Dimmable

Ref Code	Watt	mA	VDC	Lm(±)	LxWxH
06.20.007.01.11	11W	400	18-27V	650-1430	295x295x10.4
06.20.008.01.22	22W	540	30-42V	1300-2860	295x595x10.4
06.20.009.01.40	40W	1250	24-34V	2600-5200	295x1195x10.4
06.20.010.01.36	36W	1050	24-34V	2400-4680	595x595x10.4
06.20.010.02.40	40W	1250	24-34V	2600-5200	595x595x10.4
06.20.011.01.60	60W	1500	27-42V	3600-7800	595x1195x14
06.20.011.02.85	85W	2100	27-42V	5200-11050	595x1195x14

**Ordering Guide:**

06.20.010.02.40+RC+13+CRI90+100lmw+3bin+CT30+ND (item+recessed type+trim color (grey matte)+CRI+Lm/W+bin+LED CCT (3000k)+driver)

WW Bi-White Tunable

BW control Wireless

CV (constant voltage) 24VDC

Ref Code	Watt	Lm(±)	LxWxH
06.20.012.01.13	13W	0-1690	295x295x10.4
06.20.013.01.22	22W	0-2860	295x595x10.4
06.20.014.01.42	42W	0-5460	295x1195x10.4
06.20.015.01.45	45W	0-5850	595x595x10.4

**Ordering Guide:**

06.20.015.01.45+SFM+01+CRI90+100lmw+3bin (item code+surface mounted type+trim color (white matte)+CRI+Lm/W+bin)

RGB control DMX Wireless

CV (constant voltage) 24VDC

Ref Code	Watt	LxWxH
06.20.016.01.13	13W	295x295x10.4
06.20.017.01.26	26W	295x595x10.4
06.20.018.01.55	55W	295x1195x10.4
06.20.019.01.52	52W	595x595x10.4
06.20.020.01.55	55W	595x1195x14

**Ordering Guide:**

06.20.019.01.52+HNG+01+CRI90+100lmw+3bin (item code+hanging type+trim color (white matte)+CRI+Lm/W+bin)

**Mounting:**

- suspended (HNG)
- surface (SFM)
- recessed (RCS)

**Housing:** aluminum

**Diffuser:** PMMA, opal

**Trim Colors:**

01-white matte/13-grey matte

**Note:** \* other colors are available on request

**LED:** SMD

**CRI:** >80-90

**Efficacy:**

80/100/130 lm/W

**Bins:**

3-5 bins (±)100-250K

**Note:**

\* please, mention required Ra/efficacy/bins/CCT while ordering

**Color temperature, K:**

CT22-2200K

CT24-2400K

CT27-2700K

CT30-3000K

CT35-3500K

CT40-4000K

CT45-4500K

CT50-5500K

CT60-6000K

CT65-6500K

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

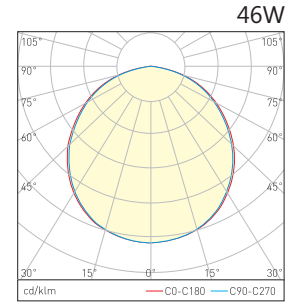
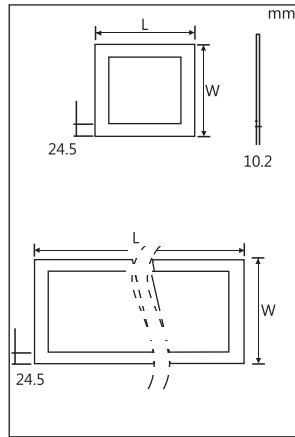
DALI - compatible

**Ambient Temp:** -20° ... +50°

**Application:** indoors:

 residential, hotels, schools  
 kitchens, offices, class-rooms,  
 work-shops, etc.


Beam Angle: 112°


 CV  
 (constant voltage)  
 24VDC

 Dimmable  
 0-10v  
 PWM DALI

Ref Code	Watt	Lm(±)	LxWxH
06.20.021.01.11	11W	650-1430	295x295x10.2
06.20.022.01.22	22W	1300-2860	295x595x10.2
06.20.023.01.42	42W	2600-5460	295x1195x10.2
06.20.024.01.42	42W	2600-5460	595x595x10.2
06.20.025.01.46	46W	2700-5980	615x615x10.2

**Ordering Guide:**

 06.20.024.01.42+HNG+13+CRI90+100lmw+3bin+CT40+DALI  
 (item code+hanging type+trim color (grey matte)+CRI+Lm/W+bin+LED CCT (4000k)+driver)

 CC  
 (constant current)

Non-Dimmable

Ref Code	Watt	mA	VDC	Lm(±)	LxWxH
06.20.026.01.11	11W	400	18-27v	650-1430	295x295x10.2
06.20.027.01.22	22W	540	30-42v	1300-2860	295x595x10.2
06.20.028.01.40	40W	1250	24-34v	2600-5200	295x1195x10.2
06.20.029.01.36	36W	1050	24-34v	2400-4680	595x595x10.2
06.20.029.02.40	40W	1250	24-34v	2600-5200	595x595x10.2

**Ordering Guide:**

 06.20.020.01.36+RC+13+CRI90+100lmw+3bin+CT30+ND  
 (item+recessed type+trim color (grey matte)+CRI+Lm/W+bin+LED CCT (3000k)+driver)

 WW  
 Bi-White Tunable

BW control Wireless

 CV  
 (constant voltage)  
 24VDC

Ref Code	Watt	Lm(±)	LxWxH
06.20.030.01.13	13W	0-1690	295x295x10.4
06.20.031.01.22	22W	0-2860	295x595x10.4
06.20.032.01.42	42W	0-5460	295x1195x10.4
06.20.033.01.45	45W	0-5850	595x595x10.4

**Ordering Guide:**

 06.20.033.01.45+SFM+01+CRI90+100lmw+3bin  
 (item code+surface mounted type+trim color (white matte)+CRI+Lm/W+bin)

RGB control DMX Wireless

 CV  
 (constant voltage)  
 24VDC

Ref Code	Watt	LxWxH
06.20.034.01.13	13W	295x295x10.2
06.20.035.01.26	26W	295x595x10.2
06.20.036.01.55	55W	295x1195x10.2
06.20.037.01.52	52W	595x595x10.2
06.20.038.01.55	55W	595x1195x10.2

**Ordering Guide:**

 06.20.037.01.52+HNG+01+CRI90+100lmw+3bin  
 (item code+hanging type+trim color (white matte)+CRI+Lm/W+bin)

 CV  
 (constant voltage)  
 24VDC

 Dimmable  
 0-10v  
 PWM DALI

IP65

Ref Code	Watt	Lm(±)	LxWxH
06.20.039.01.11	11W	650-1430	295x295x13.3
06.20.040.01.22	22W	1300-2860	295x595x13.3
06.20.041.01.42	42W	2600-5460	295x1195x13.3
06.20.042.01.42	42W	2600-5460	595x595x13.3

**Ordering Guide:**

 06.20.042.01.42+HNG+01+CRI90+100lmw+3bin  
 (item code+hanging type+trim color (white matte)+CRI+Lm/W+bin)



**Mounting:**

- suspended (HNG)
- surface (SFM)
- recessed (RCS)

**Housing:** aluminum

**Diffuser:** PMMA, opal

**Trim Colors:**

01-white matte/ 13-grey matte

**Note:** \* other colors are available on request

**LED:** SMD

**CRI:** >80-90

**Color temperature, K:**

Ct22 (2200K)-CT65 (6500K)

**Efficacy:** 80/100/130 lm/W

**Bins:** 3-5 bins (±)100-250K

**Note:**

\* please, mention required Ra/efficacy/bins/CCT while ordering

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

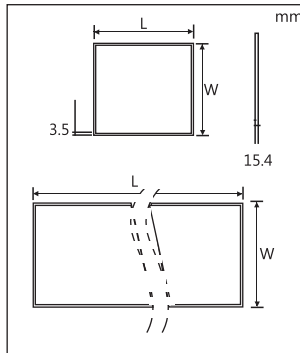
010V - 0-10V dimmable

DALI - compatible

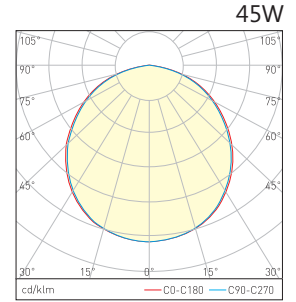
**Ambient Temp:** -20° ... +50°

**Application:** indoors:

residential, hotels, schools  
kitchens, offices, class-rooms,  
work-shops, etc.

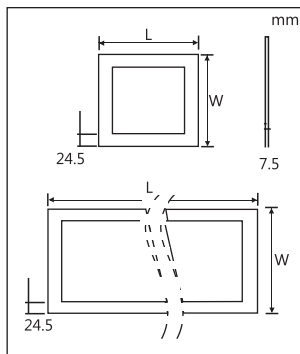


Ref Code	Watt	Lm(±)	LxWxH
06.20.043.01.13	13W	860-1300	295x295x15.4
06.20.044.01.24	24W	1650-3120	295x595x15.4
06.20.045.01.45	45W	3310-5850	295x1195x15.4
06.20.046.01.45	45W	3410-5850	595x595x15.4

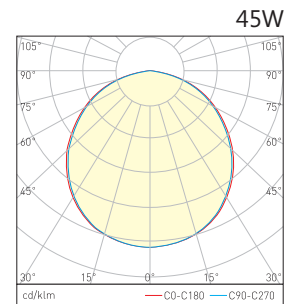


**Ordering Guide:**

06.20.046.01.45+HNG+13+CRI90+100lmw+3bin+CT40+DALI  
(item+hanging type+trim color+CRI+Lm/W+bin+LED CCT+driver)

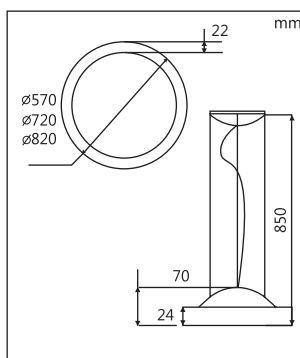


Ref Code	Watt	Lm(±)	LxWxH
06.20.047.01.11	11W	860-1430	295x295x7.5
06.20.048.01.24	24W	1650-3120	295x595x7.5
06.20.049.01.45	45W	3310-5850	595x595x7.5

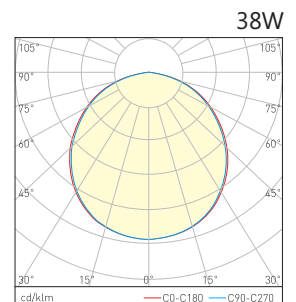


**Ordering Guide:**

06.20.047.01.11+HNG+13+CRI90+100lmw+3bin+CT40+DALI  
(item+hanging type+trim color+CRI+Lm/W+bin+LED CCT+driver)

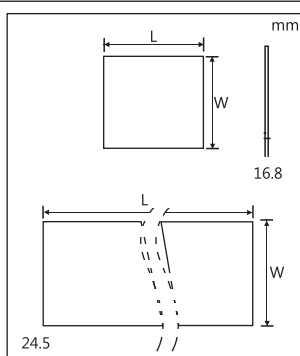


Ref Code	Watt	Lm(±)	Dia
06.20.050.01.33	33W	2100-4290	570
06.20.051.01.38	38W	2600-4940	720
06.20.052.01.85	85W	3500-11050	820

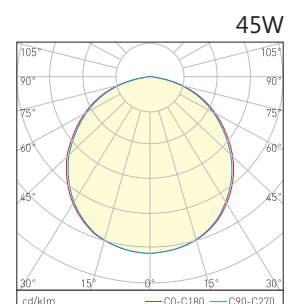


**Ordering Guide:**

06.20.050.01.33+HNG+13+CRI90+100lmw+3bin+CT40+DALI  
(item+hanging type+trim color+CRI+Lm/W+bin+LED CCT+driver)



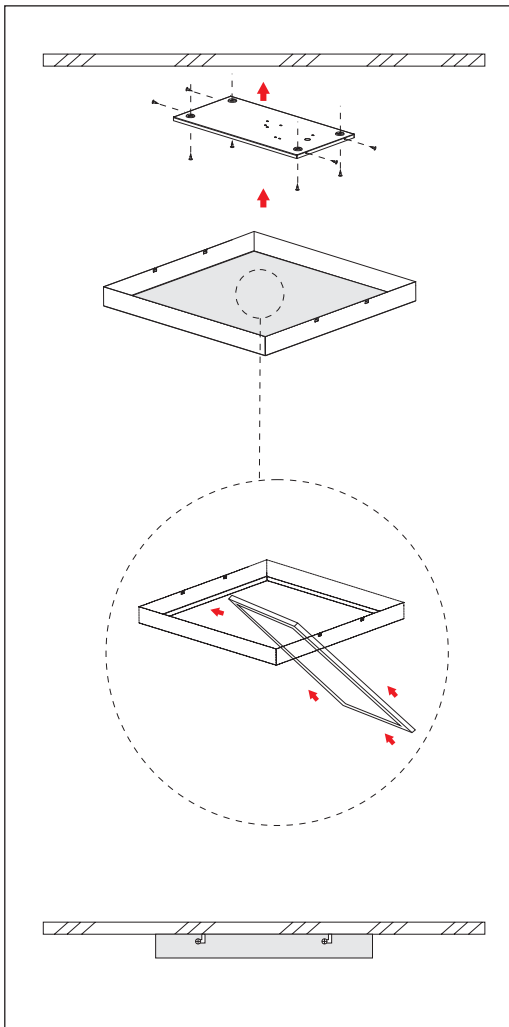
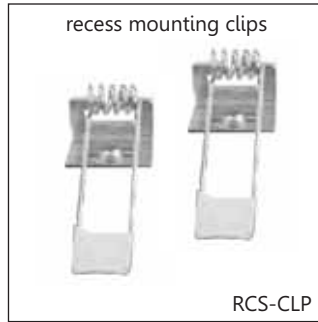
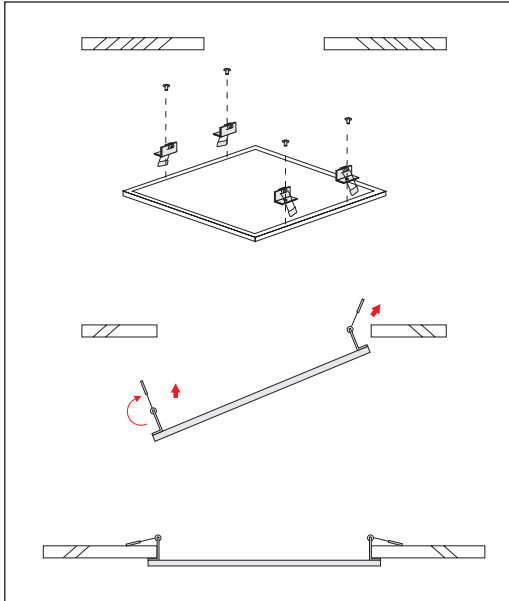
Ref Code	Watt	Lm(±)	LxWxH
06.20.053.01.13	13W	860-1300	295x295x16.8
06.20.054.01.24	24W	1650-3120	295x595x16.8
06.20.055.01.45	45W	3310-5850	595x595x16.8



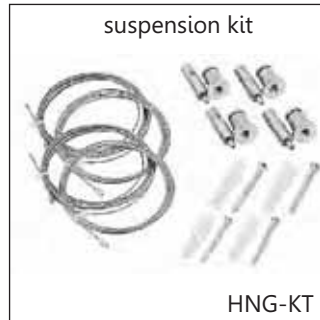
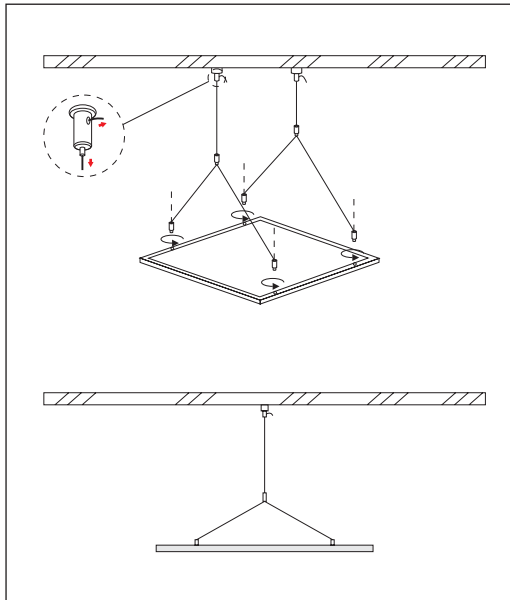
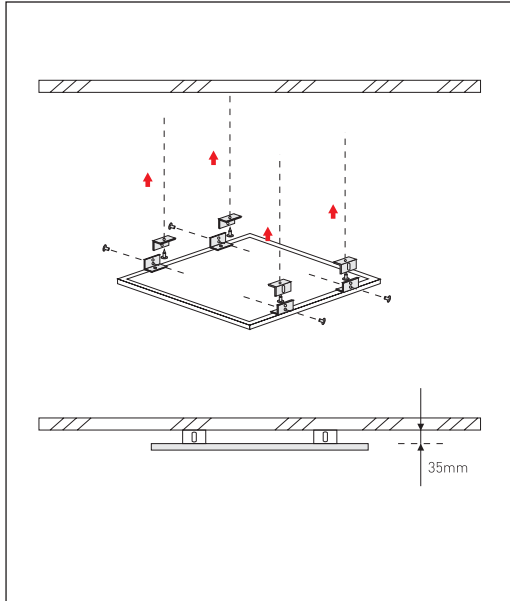
**Ordering Guide:**

06.20.053.01.13+HNG+13+CRI90+100lmw+3bin+CT40+DALI  
(item+hanging type+trim color+CRI+Lm/W+bin+LED CCT+driver)

mounting options:



mounting options:







mirror/bathroom lights



storage/laundry lights



IP65 parking/warehouse lights



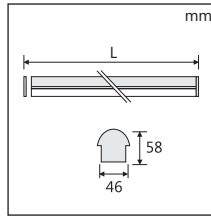


**Mounting:** surface mounted  
**Housing:** 0.6mm sheet steel powder coated  
**Diffuser:** opal PMMA  
**End caps:** plastic injection  
**Finish options:** 01-white matte (standard)

**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:** CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \* Lm given in data is based on 3000k

**LED driver:** integral  
**LED driver options:** ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

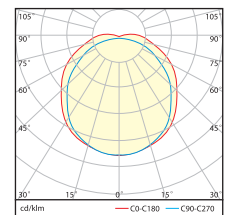
**Application:** indoors:  
 public, private storage, electric room, ware-house, parking area, garbage room, etc.



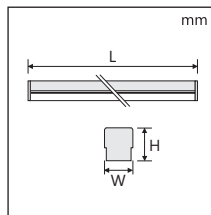
Ref Code	Watt	Lm(±)	L
14.21.001.01.23	23W	1800	630
14.21.002.01.38	38W	3000	1226
14.21.003.01.50	50W	3900	1530



**Note:** \* other wattage is available on request



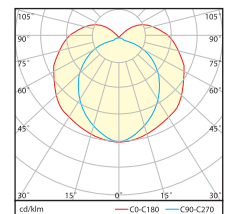
**Beam Angle:** 113°



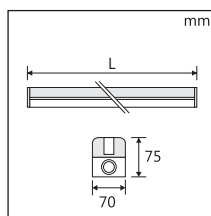
Ref Code	Watt	Lm(±)	LxWxH
14.21.004.01.09	9W	700	625x60x90
14.21.005.01.18	18W	1500	1235x60x90
14.21.006.01.27	27W	2350	1535x60x90
14.21.007.01.18	18W	1500	625x105x95
14.21.008.01.36	36W	3150	1235x105x95
14.21.009.01.54	54W	4800	1535x105x95



**Note:** \* other wattage is available on request



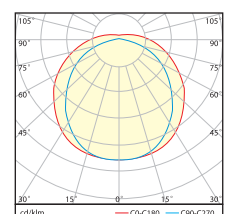
**Beam Angle:** 198°



Ref Code	Watt	Lm(±)	L
14.21.010.01.08	8W	650	670
14.21.010.02.23	23W	1800	670
14.21.011.01.15	15W	1250	1200
14.21.011.02.38	38W	3000	1200



**Note:** \* other wattage is available on request



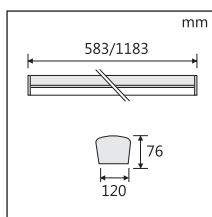
**Beam Angle:** 113°

**Mounting:** surface mounted  
**Housing:**  
 - extruded aluminum  
 - 0.6mm sheet steel powder coated  
**Diffuser:** opal PMMA  
**End caps:** plastic injection  
**Finish options:**  
 01-white matte (standard)

**LED:** aluminum PCB/SMD  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \*Lm given in data is based on 3000k

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

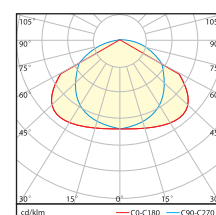
**Application:** indoors:  
 public, private storage, electric room, ware-house, parking area, garbage room, etc.



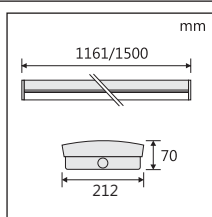
Ref Code	Watt	Lm(±)	L
14.21.012.01.26	26W	2500	583
14.21.013.01.52	52W	5100	1183



**Note:** \* other wattage is available on request



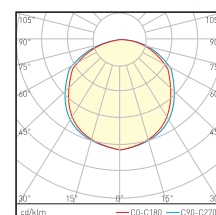
**Beam Angle: 122°**



Ref Code	Watt	Lm(±)	L
14.21.014.01.40	40W	3600	1161
14.21.014.02.50	50W	4900	1161
14.21.015.01.70	70W	6900	1500



**Note:** \* other wattage is available on request



**Beam Angle: 114°**

14.24.020.02.40  
 40w LED  
 Lm: 3000lm  
 Length: 1180mm  
 Width: 126mm  
 Height: 90mm  
 IP65



**Mounting:** surface mounted/suspended  
**Housing:** aluminum anode oxidation treated  
**Reflector:** white powder coated steel sheet  
**Diffuser:** opal polycarbonate, UV-rays stabilized  
**Clips:**  
 -stainless steel (CLP.SLS)  
 -polycarbonate (CLP.PC)  
**Fixing brackets:** stainless steel

**LED:** SMD 2835  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT40-4000K  
 CT50-5000K  
 CT65-6500K  
**Notes:**  
 \*Lm given in data is based on 4000k  
 \*other CCT is available on request

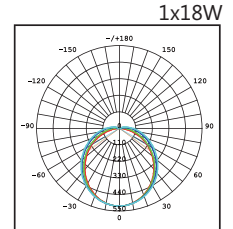
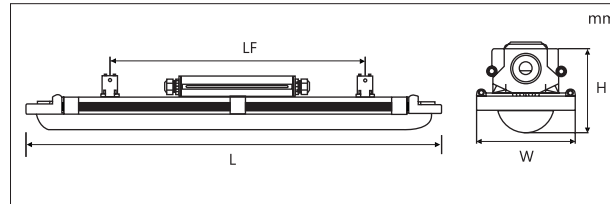
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:** indoors:  
 public, private  
 areas with high  
 humidity and dust levels  
 storage, electric room,  
 ware-house, parking area  
 garbage room, etc.

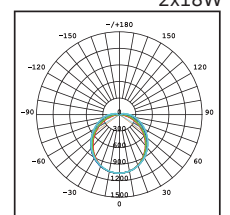


IP65

Ref Code	Watt	Lm(±)	LxWxHxLF	LED Qty	Clips Qty
14.24.017.01.18	18W	1800	666x94x78x320	48	6
14.24.018.01.36	36W	3600	1266x94x78x620	96	10



1x18W



2x18W

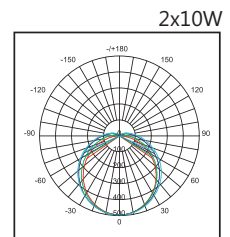
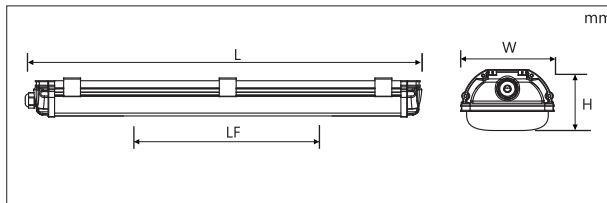


**Note:** \* other wattage is available on request

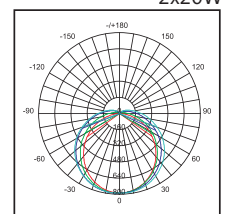


IP65

Ref Code	Watt	Lm(±)	LxWxHxLF	LED Qty	Clips Qty
14.24.019.01.20	20W	1800	620x126x90x300	88	6
14.24.020.01.40	40W	3000	1180x126x90x600	176	10



2x10W



2x20W



**Note:** \* other wattage is available on request



14.24.018.01.36  
 36W LED  
 Lm: 3600lm  
 Length: 1266mm  
 Width: 94mm  
 Height: 78mm  
 IP65

**sensitive microwave inductor (MWS)**  
 detection distance: 1-10m  
 detection angle: 360  
 hold-time: 30 sec  
 mounting height: 2-3.5m

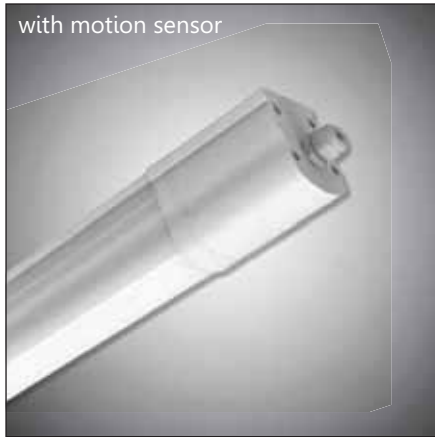


**Mounting:** surface mounted  
**Housing:** polycarbonate  
 clips-free, joints-free whole body  
**Diffuser:** opal polycarbonate,  
 UV-rays stabilized  
**Fixing brackets:** stainless steel  
**Note:**  
 \* Housing caps sealed by  
 silicon rubber gasket

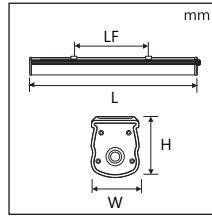
**LED:** SMD 2835  
**CRI:** >80-90  
**AC Volt:** 110-227V/220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \*Lm given in data  
 is based on 4000k

LED driver: integral  
 LED driver options:  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Nominal efficacy:**  
 90-110 lm/W

**Application:** indoors:  
 public, private  
 areas with high  
 humidity and dust levels  
 storage, electric room,  
 ware-house, parking area  
 garbage room, etc.



**Note:** \* other wattage  
 is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.021.01.18	18W	2000	72	656x64x76x300
14.24.022.01.36	36W	4200	144	1256x64x76x600
14.24.023.01.48	48W	5500	192	1556x64x76x750

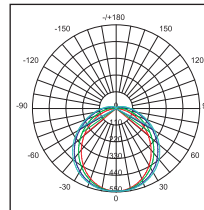
**junction box options based on connection type:**

continuous

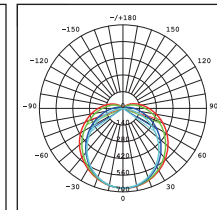
end cap



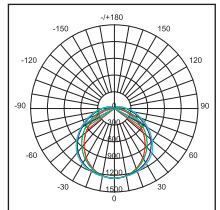
1x18W



1x40W



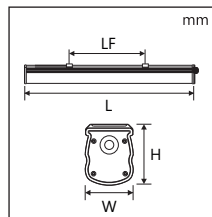
1x50W



**Note:** \* this fixture is supplied  
 with **sensitive microwave  
 inductor (MWS)**  
 detection distance: 1-10m  
 detection angle: 360  
 hold-time: 30 sec  
 mounting height: 2-3.5m

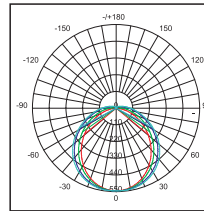


**Note:** \* other wattage  
 is available on request

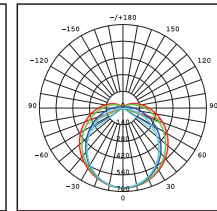


Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.024.01.22	22W	2800	108	656x64x76x300
14.24.025.01.36	36W	3960	144	1256x64x76x600
14.24.025.02.38	38W	5000	195	1256x64x76x600
14.24.026.01.58	58W	7400	312	1556x64x76x750

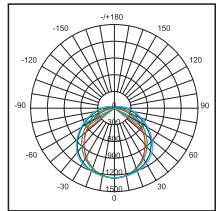
1x22W



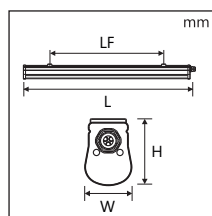
1x38W



1x58W



**Note:** \* other wattage  
 is available on request

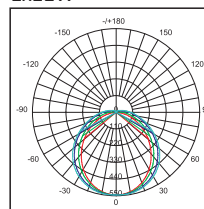


Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.027.01.11	11W	1000	66	620x48x65x300
14.24.028.01.21	21W	1900	136	1180x48x65x600
14.24.029.01.27	27W	2300	220	1460x48x65x750

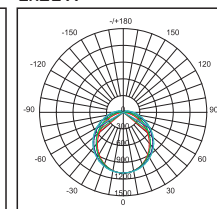
PCB LED board



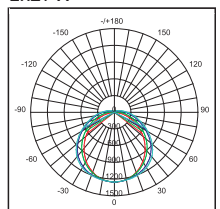
1x11W



1x21W



1x27W

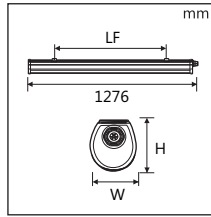


**Mounting:** surface mounted/suspended  
**Housing:** polycarbonate clips-free, joints-free whole body  
**Diffuser:** opal polycarbonate, UV-rays stabilized  
**Fixing brackets:** stainless steel  
**Note:** \* Housing caps sealed by silicon rubber gasket

**LED:** SMD 2835  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:** CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \*Lm given in data is based on 4000K

**LED driver:** integral  
**LED driver options:** ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Nominal efficacy:** 90-110 lm/W

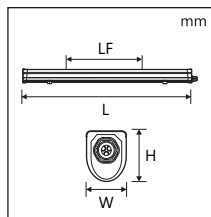
**Application:** indoors: public, private areas with high humidity and dust levels storage, electric room, ware-house, parking area garbage room, etc.



Ref Code	Watt	Lm(±)	LxWxHxLF
14.24.030.01.10	10W	900	614x67x69x300
14.24.031.01.20	20W	1800	1174x67x69x600
14.24.032.01.30	30W	2700	1454x67x69x750



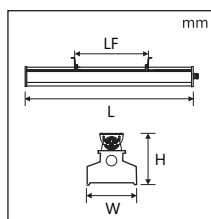
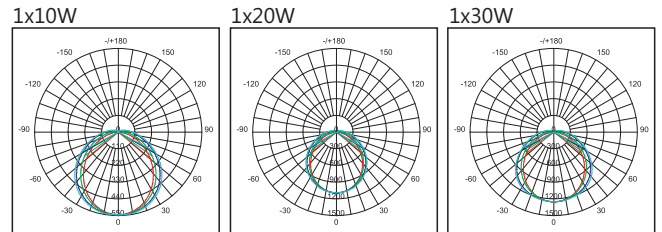
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.033.01.10	10W	900	12	613x50x66x300
14.24.034.01.20	20W	1800	12	1173x50x66x600
14.24.035.01.30	30W	2700	9	1453x50x66x750



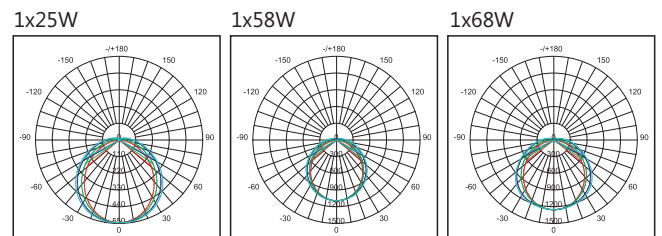
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.036.01.25	25W	2000	144	653x115x78x300
14.24.037.01.58	58W	4800	330	1253x115x78x600
14.24.038.01.68	68W	6000	396	1553x115x78x750



**Note:** \* other wattage is available on request





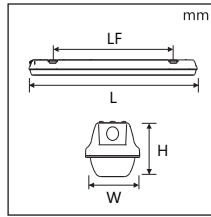
# utility lights

**Mounting:**  
-surface mounted  
-suspended  
**Housing:** polycarbonate  
**Diffuser:** opal polycarbonate,  
UV-rays stabilized  
**Fixing brackets:**  
stainless steel

**LED:** SMD 2835  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
CT30-3000K  
CT40-4000K  
CT50-5000K  
CT65-6500K  
**Note:** \*Lm given in data  
is based on 4000K

**LED driver:** integral  
**LED driver options:**  
ND - non-dimmable  
PH - phase dimmable  
010V - 0-10V dimmable  
DALI - compatible  
**Nominal efficacy:**  
90-110 lm/W

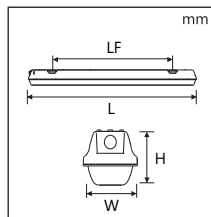
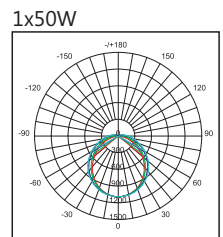
**Application:** indoors:  
public, private  
areas with high  
humidity and dust levels  
storage, electric room,  
ware-house, parking area  
garbage room, etc.



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.039.01.36	36W	3000	200	1265x90x80x600



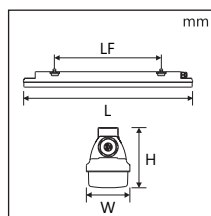
**Note:** \* other wattage  
is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.040.01.10	10W	850	52	650x60x57x350
14.24.041.01.20	20W	1700	108	1250x60x57x900
14.24.042.01.30	30W	2400	180	1550x60x57x1200



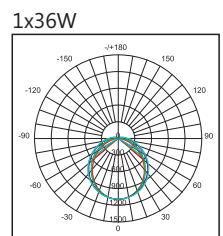
**Note:** \* other wattage  
is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.043.01.36	36W	3200	200	1277x70x75x600



**Note:** \* other wattage  
is available on request



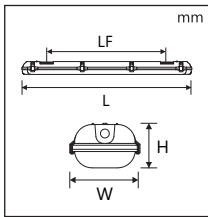


**Mounting:**  
 - surface mounted  
 - suspended  
**Housing:** polycarbonate  
**Diffuser:** opal polycarbonate, UV-rays stabilized  
**Clips:**  
 -stainless steel (CLP.SLS)  
 -polycarbonate (CLP.PC)  
**Fixing brackets:** stainless steel

**LED:** SMD 2835  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
 CT50-5000K  
**Note:** \*Lm given in data is based on 4000K

**LED driver:** integral  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible  
**Nominal efficacy:**  
 90-110 lm/W

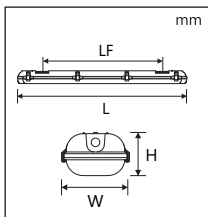
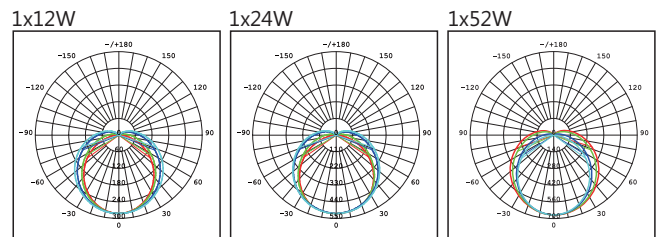
**Application:** indoors:  
 public, private areas with high humidity and dust levels  
 storage, electric room, ware-house, parking area  
 garbage room, etc.



Ref Code	Watt	Lm(±)	LxWxHxLF
14.24.044.01.12	12W	1300	650x82x86x347
14.24.045.01.23	23W	2600	650x127x86x347
14.24.046.01.18	18W	2200	1260x82x86x900
14.24.046.02.24	24W	2700	1260x82x86x900
14.24.047.01.38	38W	4200	1260x127x86x900
14.24.047.02.47	47W	5300	1260x127x86x900
14.24.048.01.26	26W	3000	1560x82x86x1200
14.24.049.01.52	52W	5800	1560x127x86x1200



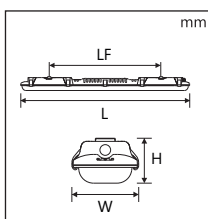
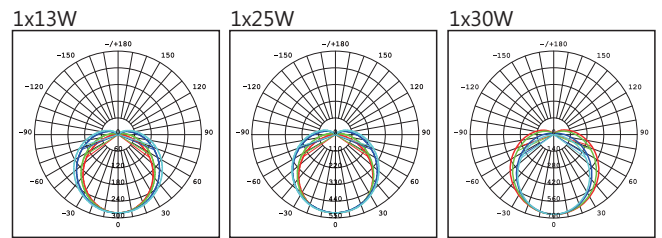
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.050.01.13	13W	1300	26	664x90x90x350
14.24.051.01.25	25W	2500	52	664x140x90x350
14.24.052.01.25	25W	2500	52	1274x90x90x900
14.24.053.01.50	50W	5000	104	1274x140x90x900
14.24.054.01.30	30W	3000	65	1574x90x90x1200
14.24.055.01.60	60W	6000	130	1574x140x90x1200



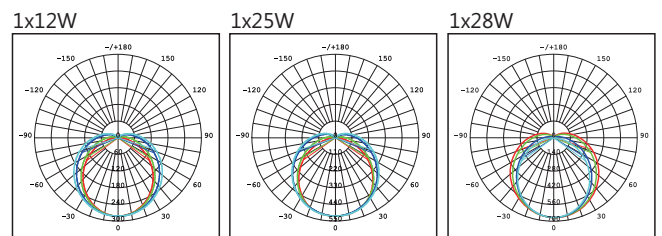
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.056.01.12	12W	1300	48	653x83x80x420
14.24.057.01.24	24W	2700	96	653x128x80x420
14.24.058.01.25	25W	2800	96	1263x83x80x835
14.24.059.01.48	48W	5500	192	1263x128x80x835
14.24.060.01.28	28W	3100	108	1563x83x80x1036
14.24.061.01.54	54W	6000	216	1563x128x80x1090



**Note:** \* other wattage is available on request



**Mounting:**

- surface mounted
- suspended

**Housing:** polycarbonate

**Diffuser:** opal polycarbonate, UV-rays stabilized

**Clips:**

- stainless steel (CLP.SLS)
- polycarbonate (CLP.PC)

**Fixing brackets:** stainless steel

**LED:** SMD 2835

**CRI:** >80-90

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

CT50-5000K

CT65-6500K

**Note:** \*Lm given in data is based on 4000K

**LED driver:** integral

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

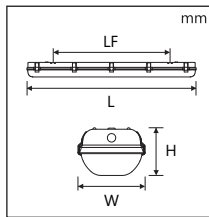
DALI - compatible

**Nominal efficacy:**

90-110 lm/W

**Application:** indoors:

- public, private areas with high humidity and dust levels
- storage, electric room, ware-house, parking area
- garbage room, etc.


**Ref Code**

14.24.062.01.25

**Watt**

25W

**Lm(±)**

2500

**LED qty**

52

**LxWxHxLF**

660x150x110x416

14.24.063.01.50

50W

5000

104

1270x150x110x880

14.24.064.01.60

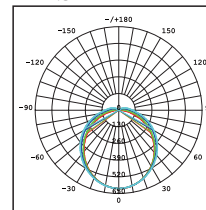
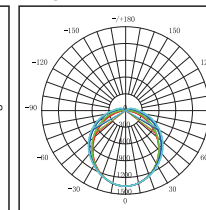
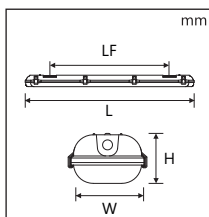
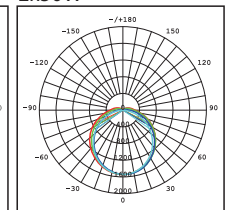
60W

6000

130

1570x150x110x1180


**Note:** \* other wattage is available on request

**2x12.5W**

**2x25W**

**2x30W**

**Ref Code**

14.24.065.01.12

**Watt**

12W

**Lm(±)**

1300

**LED qty**

48

**LxWxHxLF**

650x82x86x347

14.24.066.01.23

23W

2600

52

650x127x86x347

14.24.067.01.24

24W

2700

52

1260x82x86x900

14.24.068.01.47

47W

5300

104

1260x127x86x900

14.24.069.01.26

26W

3000

65

1560x82x86x1200

14.24.070.01.52

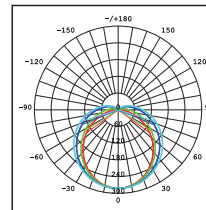
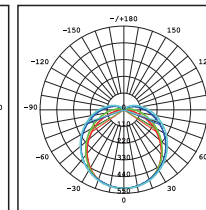
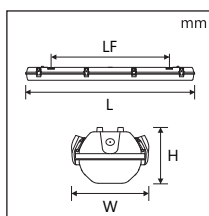
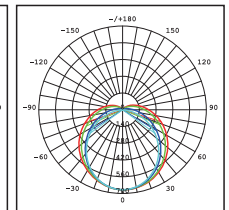
52W

5800

130

1560x127x86x1200


**Note:** \* other wattage is available on request

**1x12W**

**1x24W**

**1x26W**

**Ref Code**

14.24.071.01.25

**Watt**

25W

**Lm(±)**

2500

**LED qty**

52

**LxWxHxLFxL**

670x162x110x480

14.24.072.01.50

50W

5000

104

1274x162x110x890

14.24.073.01.60

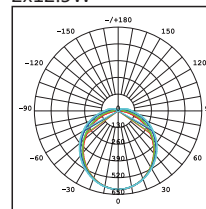
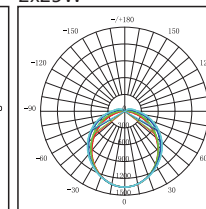
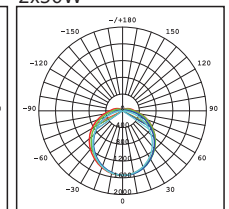
60W

6000

130

1574x162x110x1000


**Note:** \* other wattage is available on request

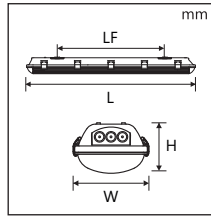
**2x12.5W**

**2x25W**

**2x30W**


**Mounting:**  
surface mounted/suspended  
**Housing:** polycarbonate  
**Diffuser:** opal polycarbonate,  
UV-rays stabilized  
**Clips:**  
-stainless steel (CLP.SLS)  
-polycarbonate (CLP.PC)  
**Fixing brackets:** stainless steel

**LED:** SMD 5630  
**CRI:** >80-90  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
CT30-3000K  
CT40-4000K  
CT50-5000K  
**Note:** \*Lm given in data  
is based on 4000K

**LED driver:** integral  
**LED driver options:**  
ND - non-dimmable  
PH - phase dimmable  
010V - 0-10V dimmable  
DALI - compatible  
**Nominal efficacy:**  
90-110 lm/W

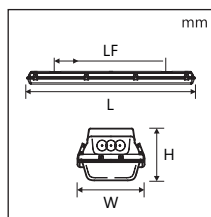
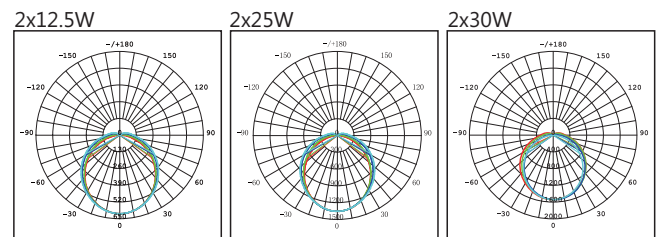
**Application:** indoors:  
public, private  
areas with high  
humidity and dust levels  
storage, electric room,  
ware-house, parking area  
garbage room, etc.



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.074.01.25	25W	2500	52	660x145x96x350
14.24.075.01.50	50W	5000	104	1270x145x96x790
14.24.076.01.60	60W	6000	130	1570x145x96x1000
14.24.077.01.70	70W	7000		1860x145x103x930



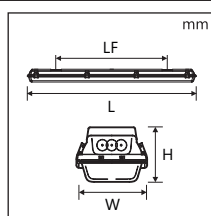
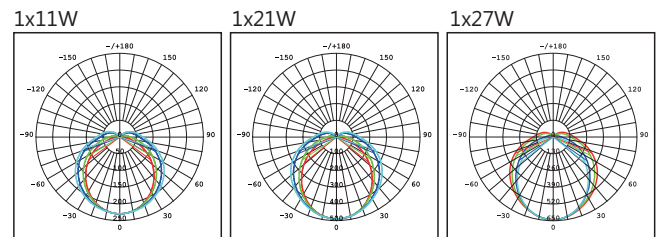
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.078.01.11	11W	1100	22	618x81x74x411
14.24.079.01.21	21W	2100	44	618x116x74x411
14.24.080.01.21	21W	2100	44	1215x81x74x800
14.24.081.01.45	45W	4500	88	1215x116x74x800
14.24.082.01.27	27W	2700	55	1515x81x74x1000
14.24.083.01.55	55W	5500	110	1515x116x74x1000



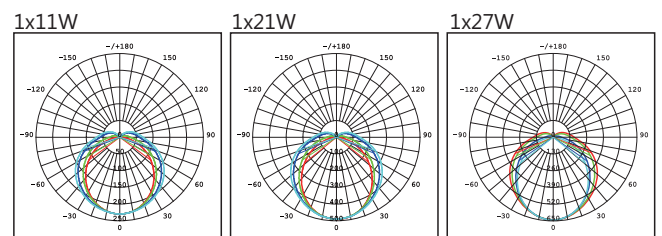
**Note:** \* other wattage is available on request



Ref Code	Watt	Lm(±)	LED qty	LxWxHxLF
14.24.084.01.11	11W	1100	22	618x81x74x411
14.24.085.01.21	21W	2100	44	618x116x74x411
14.24.086.01.21	21W	2100	44	1215x81x74x800
14.24.087.01.45	45W	4500	88	1215x116x74x800
14.24.088.01.27	27W	2700	55	1515x81x74x1000
14.24.089.01.55	55W	5500	110	1515x116x74x1000



**Note:** \* other wattage is available on request



**Mounting:**

- surface mounted
- suspended

**Housing:**

- aluminum housing with anodized surface
- polycarbonate

**Diffuser:** opal polycarbonate

**LED:** SMD2835/4014

**CRI:** >80-90

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K

CT40-4000K

CT60-6000K

**Note:** \*Lm given in data is based on 4000K

**LED driver:** integral

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

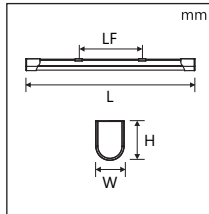
DALI - compatible

**Nominal efficacy:**

90-110 lm/W

**Application:** indoors:

- public, private
- bathroom, storage,
- above mirrors, etc.


**Ref Code**

14.24.090.01.10

**Watt**

10W

**Lm(±)**

900

**LED qty**

52

**LxWxHxLF**

615x29x45x200-300

14.24.091.01.20

20W

1800

99

915x29x45x200-500

14.24.092.01.16

16W

1500

81

1235x29x45x200-900

14.24.093.01.24

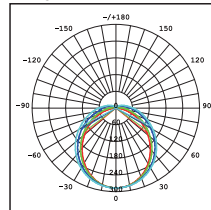
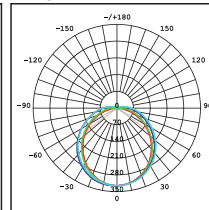
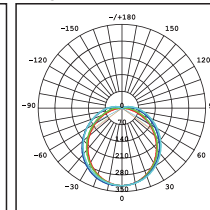
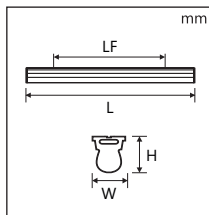
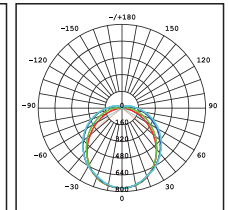
24W

2300

128

1535x29x45x200-1000


**Note:** \* other wattage is available on request

**1x10W**

**1x20W**

**1x16W**

**1x24W**

**Ref Code**

14.24.094.01.04

**Watt**

4W

**Lm(±)**

350

**LED qty**

33

**LxWxHxLF**

310x22x35x200

14.24.095.01.08

8W

650

66

610x22x35x400

14.24.096.01.12

12W

1000

100

910x22x35x600

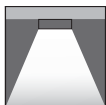
14.24.097.01.16

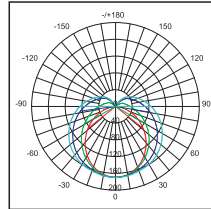
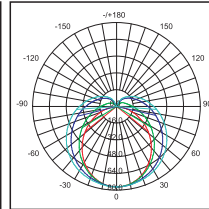
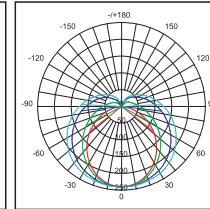
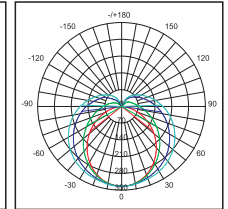
16W

1300

132

1210x22x35x600


**Note:** \* other wattage is available on request

**1x4W**

**1x8W**

**1x12W**

**1x16W**








**Mounting:** wall surface  
**Housing:** aluminum/steel  
**Diffuser:** PMMA lens  
**Housing color options:**  
 16-polished chrome

**Notes:**  
 \* other colors are available on request  
 \* rods' lengths are variable on request

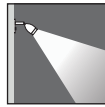
**LED:** CREE PCB high-power  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT27-2700K/CT30-3000K  
 CT40-4000K/CT60-6000K

**Notes:**  
 \* Lm given in data is based on 3000K  
 \* other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Note:**  
 \* Drivers are remote unless stated in specific cases

**Areas of use:**  
 indoors: hotels, residential  
 (sides of bed, above pictures)



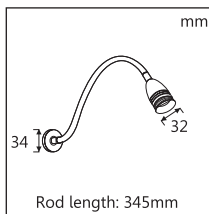
Ref Code	Watt	mA	Lm
12.04.001.01.01	1W	350	130
12.04.001.02.03	3W	700	200

**Beam Angle-Code:**

20°-BA20  
 40°-BA40



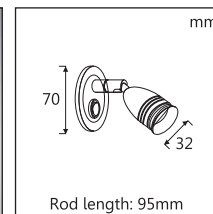
101



Rod length: 345mm



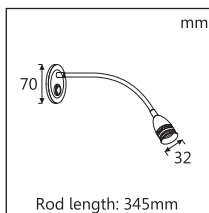
104



Rod length: 95mm



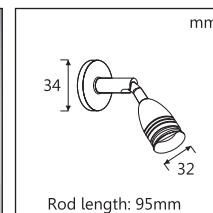
102



Rod length: 345mm



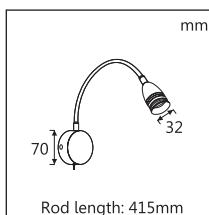
105



Rod length: 95mm



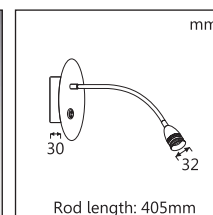
103



Rod length: 415mm



106



Rod length: 405mm

**Ordering Guide:**

12.04.001.01.01+103+16+CT30+BA20+ND  
 (item+type+housing color+LED CCT+beam+driver)

**Mounting:** wall surface  
**Housing:** aluminum/steel  
**Diffuser:** PMMA lens  
**Housing color options:**  
 16-polished chrome

**Notes:**

\* other colors are available on request  
 \* rods' lengths are variable on request

**LED:** CREE PCB high-power  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT27-2700K/CT30-3000K  
 CT40-4000K/CT60-6000K

**Notes:**

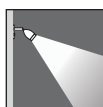
\* Lm given in data is based on 3000K  
 \* other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Note:**

\* Drivers are remote unless stated in specific cases

**Areas of use:**  
 indoors: hotels, residential  
 (sides of bed, above pictures)



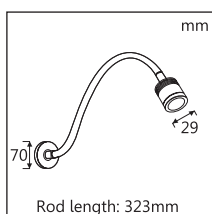
Ref Code	Watt	mA	Lm
12.04.002.01.01	1W	350	130
12.04.002.02.02	2W	350	180

**Beam Angle-Code:**

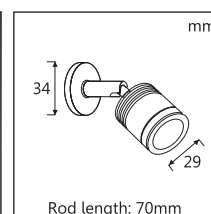
20°-BA20  
 40°-BA40  
 60°-BA60



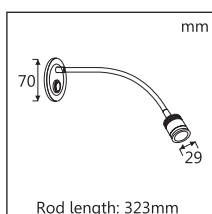
201



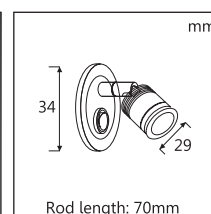
204



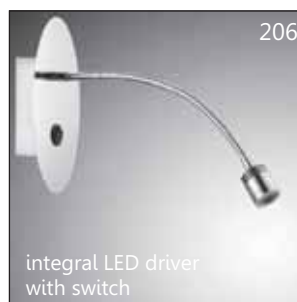
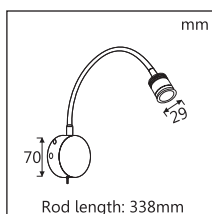
202



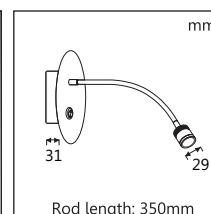
205



203



206



**Ordering Guide:**

12.04.002.01.01+203+16+CT30+BA20+ND  
 (item+type+housing color+LED CCT+beam+driver)

**Mounting:** wall surface  
**Housing:** aluminum/steel  
**Diffuser:** PMMA lens  
**Housing color options:**  
 16-polished chrome

**Notes:**  
 \* other colors are available on request  
 \* rods' lengths are variable on request

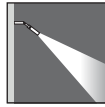
**LED:** CREE PCB high-power  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT27-2700K/CT30-3000K  
 CT40-4000K/CT60-6000K

**Notes:**  
 \* Lm given in data is based on 3000K  
 \* other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Note:**  
 \* Drivers are remote unless stated in specific cases

**Areas of use:**  
 indoors: hotels, residential  
 (sides of bed, above pictures)

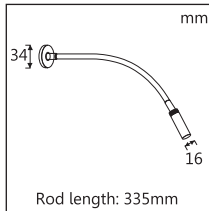


Ref Code	Watt	mA	Lm
12.04.003.01.01	1W	350	130

**Beam Angle-Code:**  
 45°-BA45



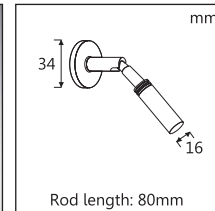
301



Rod length: 335mm



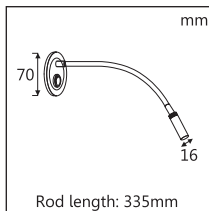
304



Rod length: 80mm



302

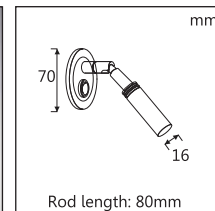


Rod length: 335mm

with switch



305

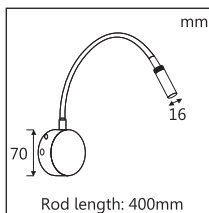


Rod length: 80mm

with switch



303

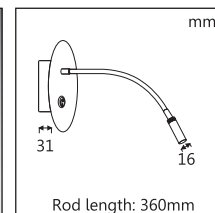


Rod length: 400mm

integral LED driver



306



Rod length: 360mm

integral LED driver  
 with switch

**Ordering Guide:**  
 12.04.003.01.01+303+16+CT30+BA20+ND  
 (item+type+housing color+LED CCT+beam+driver)

**Mounting:** wall surface  
**Housing:** aluminum/steel  
**Diffuser:** PMMA lens  
**Housing color options:**  
 16-polished chrome

**Notes:**

\* other colors are available on request  
 \* rods' lengths are variable on request

**LED:** CREE PCB high-power  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT27-2700K/CT30-3000K  
 CT40-4000K/CT60-6000K

**Notes:**

\* Lm given in data is based on 3000K  
 \* other CCT is available on request

**LED driver options:**

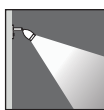
ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Note:**

\* Drivers are remote unless stated in specific cases

**Areas of use:**

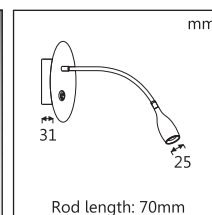
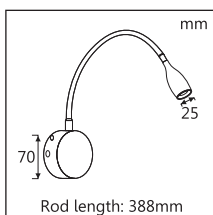
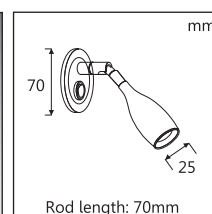
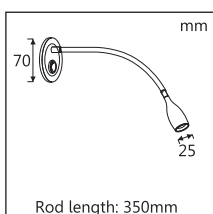
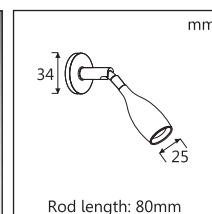
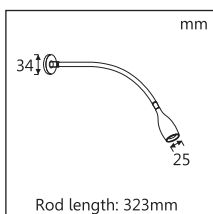
indoors: hotels, residential  
 (sides of bed, above pictures)



Ref Code	Watt	mA	Lm
12.04.004.01.01	1W	350	130
12.04.004.02.03	3W	700	200

**Beam Angle-Code:**

20°-BA20  
 40°-BA40  
 60°-BA60



**Ordering Guide:**

12.04.004.01.01+403+16+CT30+BA20+ND  
 (item+type+housing color+LED CCT+beam+driver)







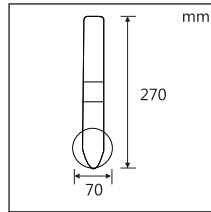
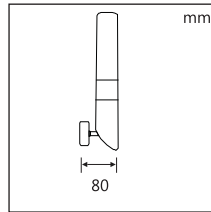
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:** switch cord (SWT)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \* Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

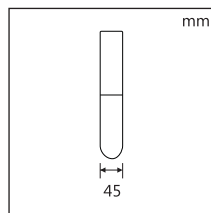
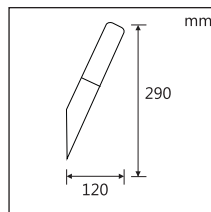
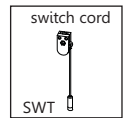
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.001.01.3.5+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



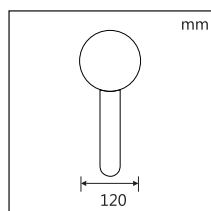
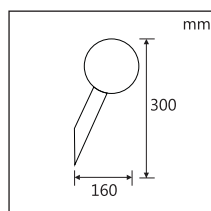
**Ref Code** 13.39.001.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



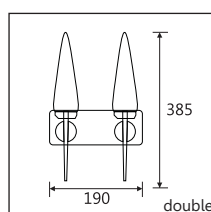
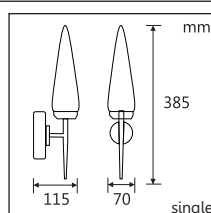
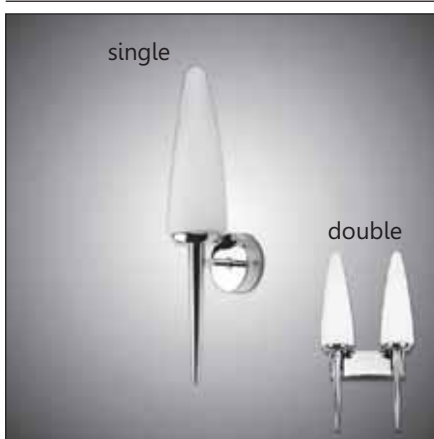
**Ref Code** 13.39.002.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



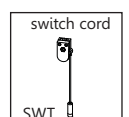
**Ref Code** 13.39.003.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



**Ref Code** 13.39.004.01.3.5    **Watt** 3.5W    **Lm(±)** 350  
 13.39.005.01.2x3.5    **Watt** 2x3.5W    **Lm(±)** 700

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



# mirror lights

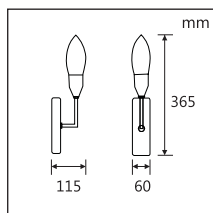
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:** switch cord (SWT)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \* Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

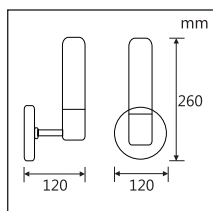
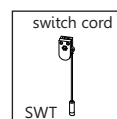
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.006.01.3.5+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



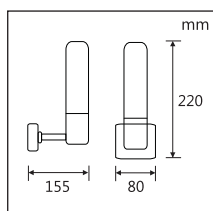
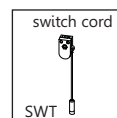
**Ref Code** 13.39.006.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



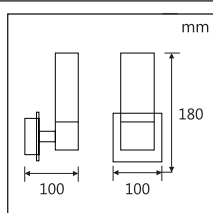
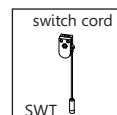
**Ref Code** 13.39.007.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



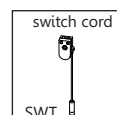
**Ref Code** 13.39.008.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



**Ref Code** 13.39.009.01.3.5    **Watt** 3.5W    **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



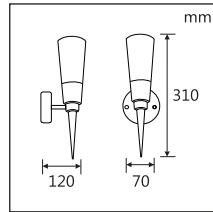
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:** switch cord (SWT)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \* Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

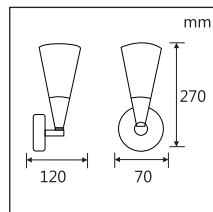
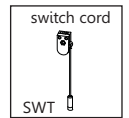
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.010.01.3.5+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



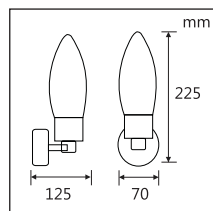
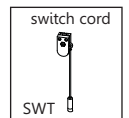
Ref Code	Watt	Lm(±)
13.39.010.01.3.5	3.5W	350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



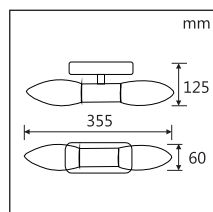
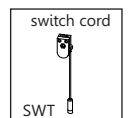
Ref Code	Watt	Lm(±)
13.39.011.01.3.5	3.5W	350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



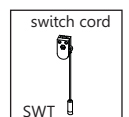
Ref Code	Watt	Lm(±)
13.39.012.01.3.5	3.5W	350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



Ref Code	Watt	Lm(±)
13.39.013.01.2x3.5	2x3.5W	700

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



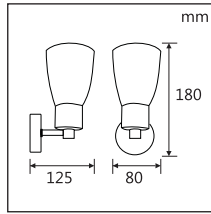
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:** switch cord (SWT)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \* Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

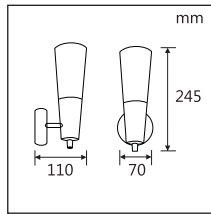
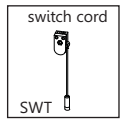
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.014.01.3.5+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



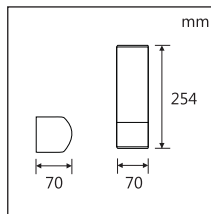
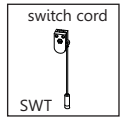
Ref Code	Watt	Lm(±)
13.39.014.01.3.5	3.5W	350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



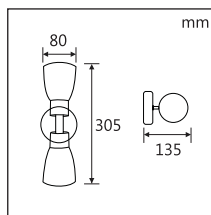
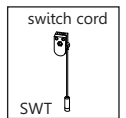
Ref Code	Watt	Lm(±)
13.39.015.01.3.5	3.5W	350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



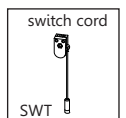
Ref Code	Watt	Lm(±)
13.39.016.01.3.5	3.5W	350
13.39.016.02.06	6W	600

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



Ref Code	Watt	Lm(±)
13.39.017.01.2x3.5	2x3.5W	700

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



# mirror lights

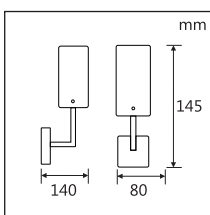
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:** switch cord (SWT)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K  
 CT40-4000K  
**Notes:** \* Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

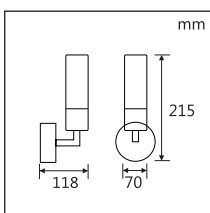
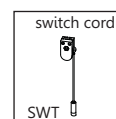
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.018.01.3.5+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



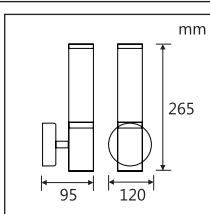
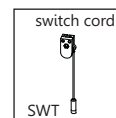
**Ref Code** 13.39.018.01.3.5     **Watt** 3.5W     **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



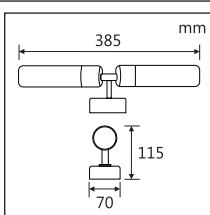
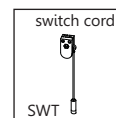
**Ref Code** 13.39.019.01.3.5     **Watt** 3.5W     **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



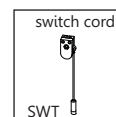
**Ref Code** 13.39.020.01.3.5     **Watt** 3.5W     **Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



**Ref Code** 13.39.021.01.2x3.5     **Watt** 2x3.5W     **Lm(±)** 700

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



13.39.021.01.2x3.5



13.39.021.01.2x3.5





# mirror lights

**Mounting:** wall surface mounted

**Housing:** steel/plastic parts

**Diffuser:** opal glass

**Optionally:**

switch cord (SWT)

socket (SCK)

**Finish options:**

16-polished chrome

**Note:**

\* other colors are available on request

**LED:** SMD

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K/CT40-4000K

**Notes:** \* Lm given in data is based on 3000K

\*other CCT is available

on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

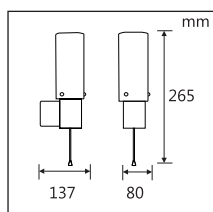
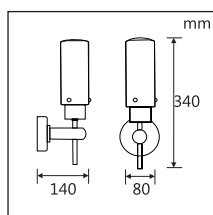
DALI - compatible

**Ordering Guide:**

13.39.022.01.3.5+CT30+ND+SWT/SCK

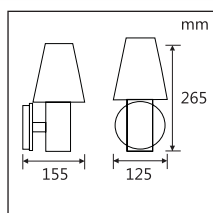
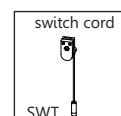
(item+LED CCT+driver+switch/socket)

**Application:** indoors:  
hotels, residential  
private, public  
bathroom, next to mirrors



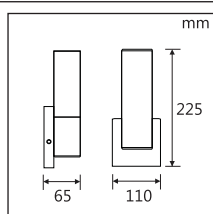
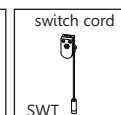
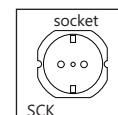
Ref Code	Watt	Lm(±)
13.39.022.01.3.5	3.5W	350

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



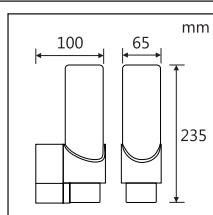
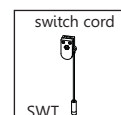
Ref Code	Watt	Lm(±)
13.39.023.01.3.5	3.5W	350
13.39.023.02.06	6W	600

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



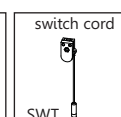
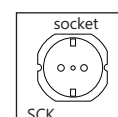
Ref Code	Watt	Lm(±)
13.39.024.01.3.5	3.5W	350

**Notes:**  
\* Other styles of base are available on request  
\* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



Ref Code	Watt	Lm(±)
13.39.025.01.3.5	3.5W	350
13.39.025.02.06	6W	600

**Note:** \* Other wattage is available on request  
**Options:** CFL 7W G9 / Qt14 40W G9



13.39.024.01.3.5



# mirror lights

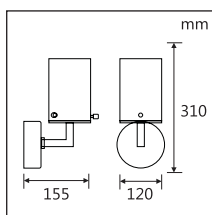
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:**  
 switch cord (SWT)  
 socket (SCK)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

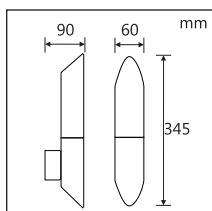
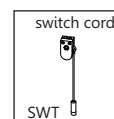
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.026.01.06+CT30+ND+SWT/SCK  
 (item+LED CCT+driver+switch/socket)



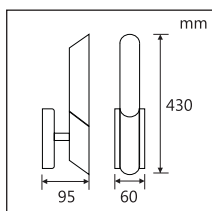
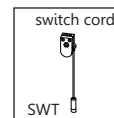
**Ref Code** 13.39.026.01.06    **Watt** 6W    **Lm(±)** 600

**Note:** \* Other wattage is available on request  
**Options:** CFL 15W E27 / PLC 18W G24q-2



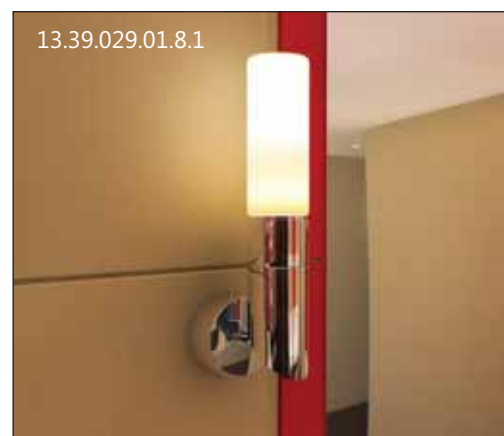
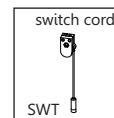
**Ref Code** 13.39.027.01.06    **Watt** 6W    **Lm(±)** 600  
 13.39.028.01.2x6    2x6W    1200

**Options:**  
 CFL 7W E14  
 PLC 18W G24q-2  
 Candle 40W E14  
**Note:** \* Other wattage is available on request



**Ref Code** 13.39.029.01.06    **Watt** 6W    **Lm(±)** 600

**Options:**  
 PLC 13W G24q-2  
 PLC 18W G24q-2  
**Note:** \* Other wattage is available on request



13.39.029.01.8.1



# mirror lights

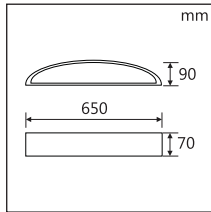
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:**  
 switch cord (SWT)  
 emergency kit (EME)  
**Finish options:**  
 16-polished chrome  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

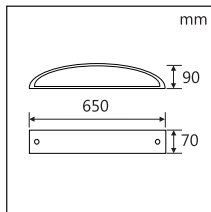
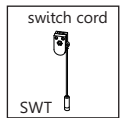
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.030.01.10+CT30+ND+SWT/EME  
 (item+LED CCT+driver+switch/emg.kit)



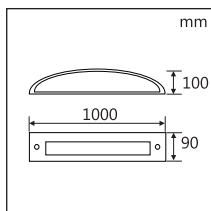
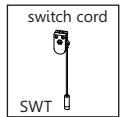
**Ref Code** 13.39.030.01.10    **Watt** 10W    **Lm(±)** 960

**Note:** \* Other wattage is available on request  
**Options:** PLL 24W 2G11



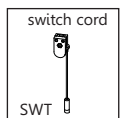
**Ref Code** 13.39.031.01.10    **Watt** 10W    **Lm(±)** 960

**Note:** \* Other wattage is available on request  
**Options:** PLL 24W 2G11



**Ref Code** 13.39.032.01.17    **Watt** 17W    **Lm(±)** 1680

**Note:** \* Other wattage is available on request  
**Options:** T5 21W G5



13.39.032.01.17



13.39.032.01.17

**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass  
**Optionally:**  
 emergency kit (EME)  
**Finish options:**  
 16-polished chrome  
 17-satin nickel (stainless steel finish)  
**Note:**  
 \* other colors are available on request

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

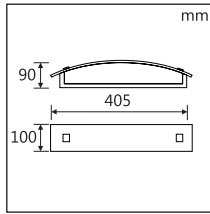
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:** indoors:  
 hotels, residential  
 private, public bathroom,  
 above or aside of mirrors

**Ordering Guide:**  
 13.39.033.01.10+CT30+ND+EME  
 (item+LED CCT+driver+emergency kit)



IP21



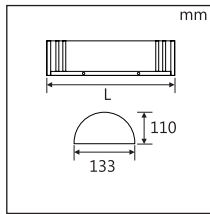
Ref Code	Watt	Lm(±)
13.39.033.01.10	10W	1100

**Note:** \* Other wattage is available on request

**Options:**  
 CFL 9W E14  
 PLC 11W G23  
 Candle 40W E14



IP21



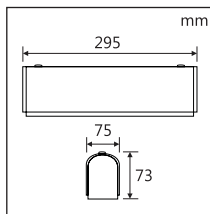
Ref Code	Watt	Lm(±)	L
13.39.034.01.13.5	13.5W	1080	438
13.39.035.01.15	15W	1200	630
13.39.036.01.26	26W	2080	1240

**Note:** \* Other wattage is available on request

**Options:**  
 PLL 24W 2G11  
 T8 18W G13  
 T8 36W G13



IP44



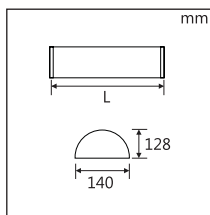
Ref Code	Watt	Lm(±)
13.39.037.01.10	10W	1100

**Note:** \* Other wattage is available on request

**Options:**  
 PLS 11W G23  
 PLC 18W G24q-2



IP44



Ref Code	Watt	Lm(±)	L
13.39.038.01.13.5	13.5W	1080	438
13.39.039.01.15	15W	1200	630
13.39.040.01.26	26W	2080	1240

**Note:** \* Other wattage is available on request

**Options:**  
 PLL 24W 2G11  
 T8 18W G13  
 T8 36W G13



**Mounting:** wall surface mounted

**Housing:** steel/plastic parts

**Diffuser:** opal glass

**Optionally:**

switch cord (SWT)

socket (SCK)

**Finish options:**

16-polished chrome

17-satin nickel (stainless steel finish)

**Note:** \* other colors are available on request

**LED:** SMD

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K/CT40-4000K

**Notes:** \* Lm given in data is based on 3000K

\*other CCT is available

on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Ordering Guide:**

13.39.041.01.10+CT30+ND+SWT/SCK

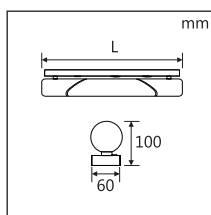
(item+LED CCT+driver+switch/socket)

**Application:** indoors:

hotels, residential

private, public

bathroom, next to mirrors



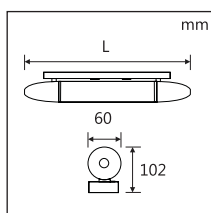
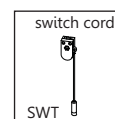
Ref Code	Watt	Lm(±)	L
13.39.041.01.10	10W	1100	369
13.39.042.01.15	15W	1600	470
13.39.043.01.23	23W	2460	700

**Note:** \* Other wattage is available on request

**Options:**

PLL 18W/24W/40W 2G11

PLC 18W G24q-2



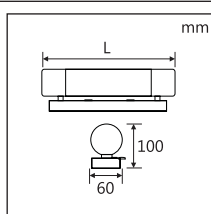
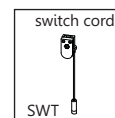
Ref Code	Watt	Lm(±)	L
13.39.044.01.10	10W	1100	485
13.39.045.01.15	15W	1600	585
13.39.046.01.23	23W	2460	825

**Note:** \* Other wattage is available on request

**Options:**

PLL 18W/24W/40W 2G11

PLC 18W G24q-2



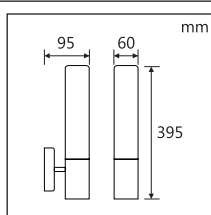
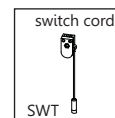
Ref Code	Watt	Lm(±)	L
13.39.047.01.10	10W	1100	369
13.39.048.01.15	15W	1600	470
13.39.049.01.23	23W	2460	700

**Note:** \* Other wattage is available on request

**Options:**

PLL 18W/24W/40W 2G11

PLC 18W G24q-2



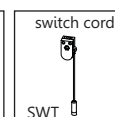
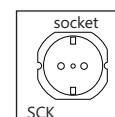
Ref Code	Watt	Lm(±)
13.39.050.01.10	10W	1100

**Note:** \* Other wattage is available on request

**Options:**

PLL 18W/24W/40W 2G11

PLC 18W G24q-2





13.39.044.01.10

13.39.050.01.10



# mirror lights

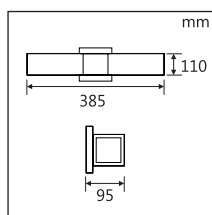
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass/PC  
**Optionally:**  
 switch cord (SWT)  
 socket (SCK)  
**Finish options:**  
 16-polished chrome  
 17-satin nickel (stainless steel finish)

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

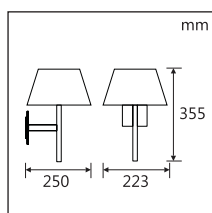
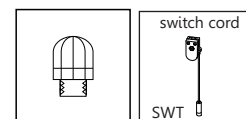
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.051.01.2x3.5+CT30+ND+SWT/SCK  
 (item+LED CCT+driver+switch/socket)



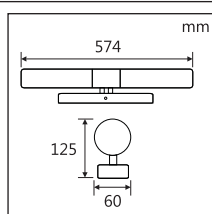
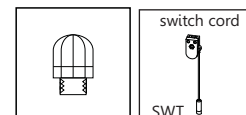
Ref Code	Watt	Lm(±)
13.39.051.01.2x3.5	2x3.5W	700
13.39.051.02.2x6	2x6W	1200

**Note:** \* Other wattage is available on request  
**Options:**  
 CFL 2x7W G9  
 Qt14 2x40W G9



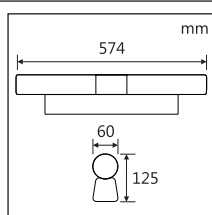
Ref Code	Watt	Lm(±)
13.39.052.01.3.5	3.5W	350
13.39.052.02.06	6W	600

**Note:** \* Other wattage is available on request  
**Options:**  
 CFL 7W G9  
 Qt14 40W G9



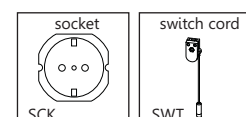
Ref Code	Watt	Lm(±)
13.39.053.01.2x10	2x10W	2200

**Note:** \* Other wattage is available on request  
**Options:**  
 PLL 2x18W 2G11  
 PLC 2x18W G24q-2



Ref Code	Watt	Lm(±)
13.39.054.01.2x10	2x10W	2200

**Note:** \* Other wattage is available on request  
**Options:**  
 PLL 2x18W 2G11  
 PLC 2x18W G24q-2





13.39.052.01.3.5

13.39.053.01.2x10



# mirror lights

**Mounting:** wall surface mounted

**Housing:** steel/plastic parts

**Diffuser:** opal glass/PC

**Optionally:**

switch cord (SWT)

**Finish options:**

16-polished chrome

17-satin nickel (stainless steel finish)

**Note:**

\* other colors are available on request

**LED:** SMD

**CRI:** >80

**AC Volt:** 220-240V

**Frequency:** 50/60Hz

**Color temperature, K:**

CT30-3000K/CT40-4000K

**Notes:** \* Lm given in data is based on 3000K

\*other CCT is available on request

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Application:** indoors:

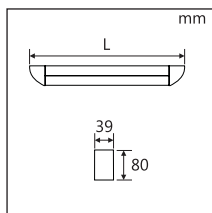
hotels, residential

private, public

bathroom, next to mirrors

**Ordering Guide:**

13.39.055.01.07+CT30+ND+SWT  
(item+LED CCT+driver+switch)

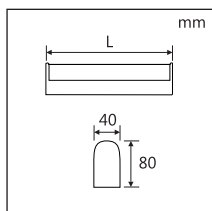
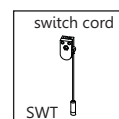


Ref Code	Watt	Lm(±)	L
13.39.055.01.07	7W	720	446
13.39.056.01.10	10W	960	706
13.39.057.01.17	17W	1680	1006

**Note:** \* Other wattage is available on request

**Options:**

T5 8W/14W/21W G5

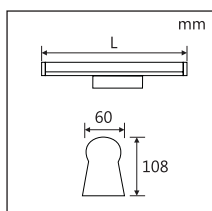
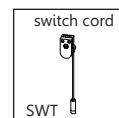


Ref Code	Watt	Lm(±)	L
13.39.058.01.07	7W	720	320
13.39.059.01.10	10W	960	580
13.39.060.01.17	17W	1680	880

**Note:** \* Other wattage is available on request

**Options:**

T5 8W/14W/21W G5

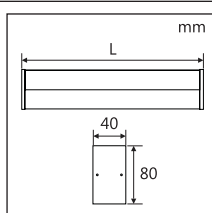
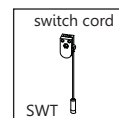


Ref Code	Watt	Lm(±)	L
13.39.061.01.07	7W	720	320
13.39.062.01.10	10W	960	580
13.39.063.01.17	17W	1680	880

**Note:** \* Other wattage is available on request

**Options:**

T5 8W/14W/21W G5

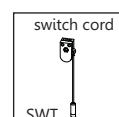


Ref Code	Watt	Lm(±)	L
13.39.064.01.07	7W	720	320
13.39.065.01.10	10W	960	580
13.39.066.01.17	17W	1680	880

**Note:** \* Other wattage is available on request

**Options:**

T5 8W/14W/21W G5



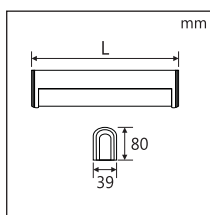
**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass/PC  
**Optionally:**  
 switch cord (SWT)  
 socket (SCK)  
**Finish options:**  
 16-polished chrome  
 17-satin nickel (stainless steel finish)

**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

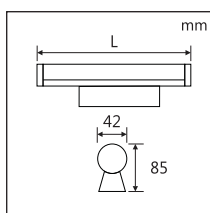
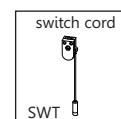
**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

**Ordering Guide:**  
 13.39.067.01.07+CT30+ND+SWT/SCK  
 (item+LED CCT+driver+switch/socket)



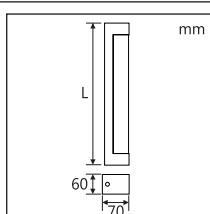
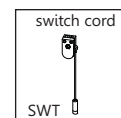
Ref Code	Watt	Lm(±)	L
13.39.067.01.07	7W	720	338
13.39.068.01.10	10W	960	598
13.39.069.01.17	17W	1680	898

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 8W/14W/21W G5



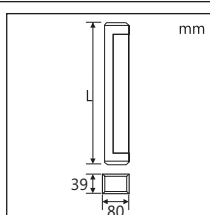
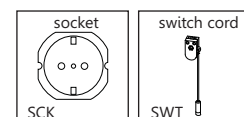
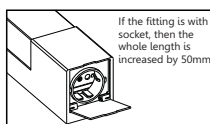
Ref Code	Watt	Lm(±)	L
13.39.070.01.07	7W	720	360
13.39.071.01.10	10W	960	620
13.39.072.01.17	17W	1680	920

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 8W/14W/21W G5

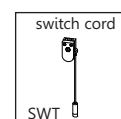


Ref Code	Watt	Lm(±)	L
13.39.073.01.10	10W	1100	300
13.39.074.01.07	7W	720	340
13.39.075.01.10	10W	1100	385
13.39.076.01.15	15W	1600	470
13.39.077.01.10	10W	960	530
13.39.078.01.23	23W	2469	615
13.39.079.01.10	10W	960	680
13.39.080.01.17	17W	1680	891
13.39.081.01.17	17W	1680	1225

**Note:** \*Other wattage is available on request  
**Options:**  
 T5 8W/14W/21W G5  
 T8 18W/36W G13  
 PLC 18W G24q-2  
 PLL 18W/24W/40W



Ref Code	Watt	Lm(±)	L
13.39.082.01.07	7W	720	338
13.39.083.01.10	10W	960	598
13.39.084.01.17	17W	1680	896





13.39.073.01.10



13.39.073.01.10



**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass/PC  
**Optionally:**  
 switch cord (SWT)

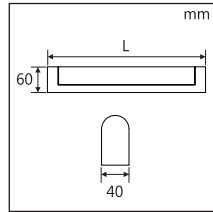
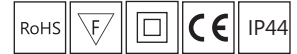
**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

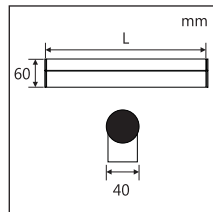
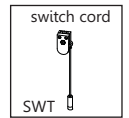
**Finish options:**  
 16-polished chrome  
 17-satin nickel (stainless steel finish)

**Ordering Guide:**  
 13.39.085.01.07+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



Ref Code	Watt	Lm(±)	L
13.39.085.01.07	7W	720	340
13.39.086.01.10	10W	960	600
13.39.087.01.17	17W	1680	900

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 8W/14W/21W G5



Ref Code	Watt	Lm(±)	L
13.39.088.01.07	7W	720	340
13.39.089.01.10	10W	960	600
13.39.090.01.17	17W	1680	900

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 8W/14W/21W G5



13.39.094.01.8.1

# mirror lights

**Mounting:** wall surface mounted  
**Housing:** steel/plastic parts  
**Diffuser:** opal glass/PC  
**Optionally:**  
 switch cord (SWT)

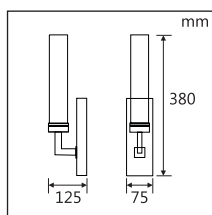
**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data  
 is based on 3000K  
 \*other CCT is available  
 on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom, next to mirrors

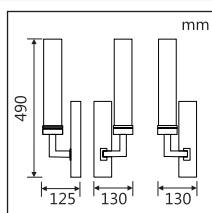
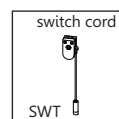
**Finish options:**  
 16-polished chrome  
 17-satin nickel (stainless steel finish)

**Ordering Guide:**  
 13.39.091.01.10+CT30+ND+SWT  
 (item+LED CCT+driver+switch)



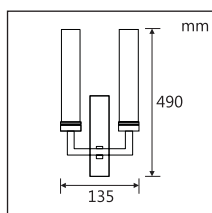
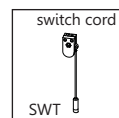
**Ref Code** 13.39.091.01.10  
**Watt** 10W  
**Lm(±)** 1100

**Note:** \* Other wattage is available on request  
**Options:**  
 PLC 18W G24q-2



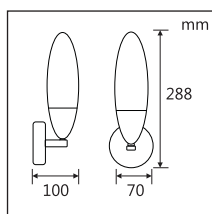
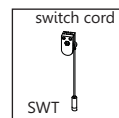
**Ref Code** 13.39.092.01.10  
**Watt** 10W  
**Lm(±)** 1100

**Note:** \* Other wattage is available on request  
**Options:**  
 PLC 18W G24q-2



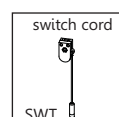
**Ref Code** 13.39.093.01.2x10  
**Watt** 2x10W  
**Lm(±)** 2200

**Note:** \* Other wattage is available on request  
**Options:**  
 2xPLC 18W G24q-2



**Ref Code** 13.39.094.01.3.5  
**Watt** 3.5W  
**Lm(±)** 350

**Note:** \* Other wattage is available on request  
**Options:**  
 CFL 7W G9  
 Qt14 40W G9





# mirrors with lights

**Mounting:** wall surface mounted  
**Housing:** steel base  
 Mirror glass with opalized areas with hidden LED strip light (any wattage)  
**Note:**  
 \* designed shapes of opalized areas can be customized on request

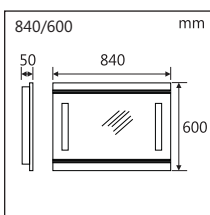
**LED:** SMD  
**CRI:** >80  
**AC Volt:** 220-240V  
**Frequency:** 50/60Hz  
**Color temperature, K:**  
 CT30-3000K/CT40-4000K  
**Notes:** \* Lm given in data is based on 3000K  
 \*other CCT is available on request

**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:** indoors:  
 hotels, residential  
 private, public  
 bathroom

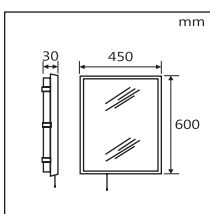
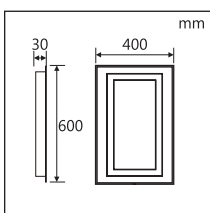
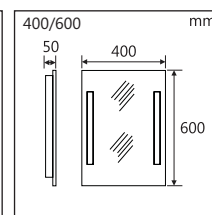
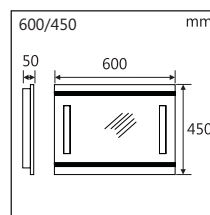
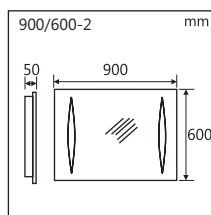
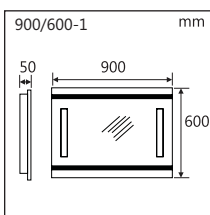
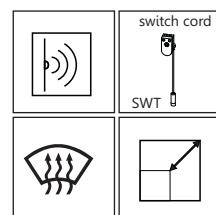
**Optionally:**  
 switch cord (SWT)

**Ordering Guide:**  
 13.39.095.01.18+840/600+CT30+ND+SWT  
 (item+size+LED CCT+driver+switch)



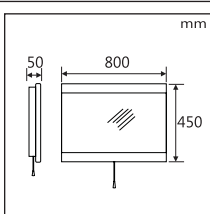
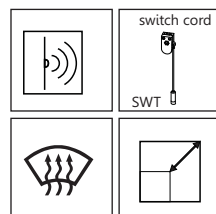
**Ref Code** 13.39.095.01.18  
**Watt** 2x9W  
**Lm(±)** 2200

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 2x14W G5



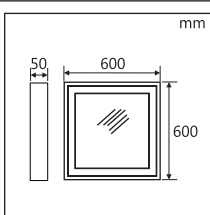
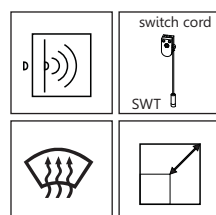
**Ref Code** 13.39.096.01.24.4  
**Watt** (2x9W)+(2x3.2W)  
**Lm(±)** 1400

**Note:**  
 \* Other wattage and sizes are available on request



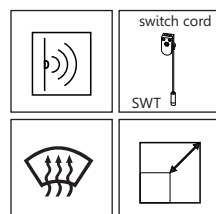
**Ref Code** 13.39.097.01.20  
**Watt** 2x10W  
**Lm(±)** 1920

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 2x14W G5  
 T8 2x18W G13



**Ref Code** 13.39.098.01.28  
**Watt** 4x7W  
**Lm(±)** 2880

**Note:** \* Other wattage is available on request  
**Options:**  
 T5 4x14W G5  
 T8 4x18W G13







## General info:

- low heat -
- low voltage (12V/24V) -
- flexible tape -
- high CRI (Ra60-95) -
- high lumen LEDs -
- high IP-rating (IP20-IP68) -
- homogeneous light distribution -
- wide beam angle -
- constant current/constant voltage -
- non-dimmable/dimmable (phase, 0-10V, DALI) -

**huge range of application:** indoors/outdoors/cove/in-ground/underwater -

LED: SMD 3528/5050  
LEDs/m: 30/48/60/78/96/120/180/240  
W/m: 3.5W/3.8W/4.3W/5.6W/6.9W/8.6W/  
13W/17.3W/32.4W



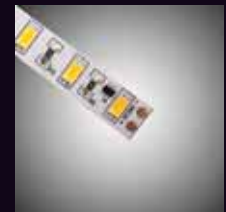
LED: RGB SMD (3528/5050)  
LEDs/m: 30/32/60/72/96/120  
W/m: 4.3W/6.5W/8W/10.4W/13W/15.6W/20.7W/26W  
RGB types: 3-channel/non-DMX



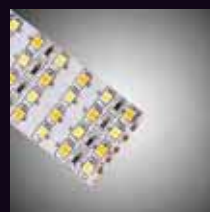
LED: side-emitting SMD (335)  
LEDs/m: 60/96  
W/m: 4.3W/6.9W



LED: high lumen SMD (2835/3014/5630)  
LEDs/m: 60/72/96/120/144/168/180/216/432  
W/m: 6W/9.6W/12W/13W/17.8W/21.4W/26W/42.8W/43.2W



LED: bi-white (tunable) (3014/3528/5050)  
LEDs/m: 60/72/120/168/192/240/450  
W/m: 8.6W/13W/15W/15.6W/  
17.3W/25.9W/32.4W



# strip lighting



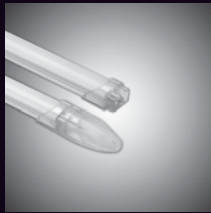
LED: RGB/RGBW/RGBWA SMD (5050)  
LEDs/m: 60/72  
W/m: 13W/15.6W



LED: constant current SMD (3014/5630)  
LEDs/m: 60/72/75/120/240  
W/m: 5W/8W/10W/16W/20W/23.8W/24.8W/32W



LED: high voltage (HV) SMD (5050/5630/2835)  
SMD/COB  
single color/RGB  
LEDs/m: 60/120/180  
W/m: 5W/7W/10W/13W/14W/15W



LED: SMD (3528/5050)  
single color/RGB  
LEDs/m: 30/48/60/72/96/120/180/240  
W/m: 4.3W/6.5W/6.9W/8.6W/10.4W/13W/15.6W/17.3W

## General features:

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**Note:** \* other LED colors are available on request

**LED:** 3528 (1210) SMD  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 5m

**Ordering guide:**  
 08.19.001(3528-30-3.8)+24v+CT35+IP65+010v  
 item+volts+LED CCT+IP-rating for strip+driver type

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting  
 underwater: fountains, swimming pools

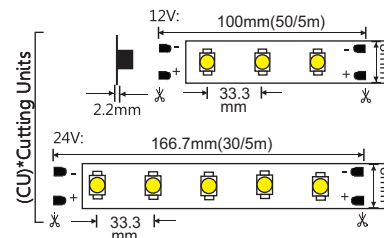
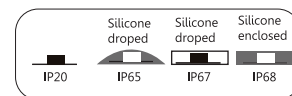


08.19.001(3528-30-3.8)

3.8W/m (± 10%)    12V / 24V    LEDs/m 30

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	216	2400K-CT24
IP65	205	2700K-CT27
IP67	210	3500K-CT35
IP68	201	4500K-CT45
		5500K-CT55
		6500K-CT65

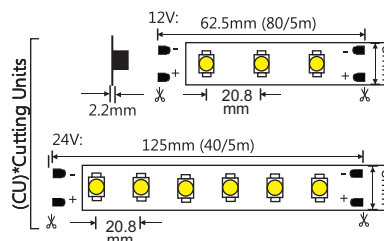
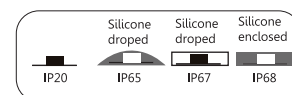


08.19.002(3528-48-3.5)

3.5W/m (± 10%)    12V / 24V    LEDs/m 48

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	346	2400K-CT24
IP65	328	2700K-CT27
IP67	335	3500K-CT35
IP68	321	4500K-CT45
		5500K-CT55
		6500K-CT65

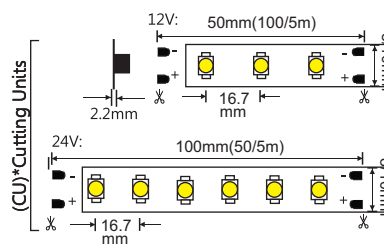
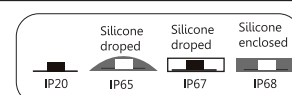


08.19.003(3528-60-4.3)

4.3W/m (± 10%)    12V / 24V    LEDs/m 60

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	432	2400K-CT24
IP65	410	2700K-CT27
IP67	419	3500K-CT35
IP68	402	4500K-CT45
		5500K-CT55
		6500K-CT65

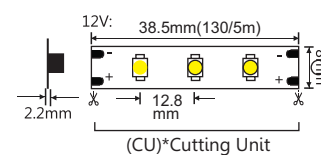
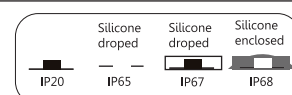


08.19.004(3528-78-5.6)

5.6W/m (± 10%)    12V    LEDs/m 78

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	562	2400K-CT24
IP65	534	2700K-CT27
IP67	545	3500K-CT35
IP68	522	4500K-CT45
		5500K-CT55
		6500K-CT65



**General features:**

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**Note:** \* other LED colors are available on request

**LED:** 3528 (1210) SMD  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 5m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools

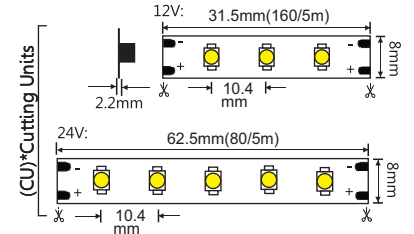
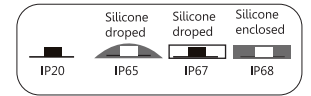


08.19.005(3528-96-6.9)

6.9W/m (± 10%)    12V 24V    LEDs/m 96

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	691	2400K-CT24
IP65	657	2700K-CT27
IP67	670	3500K-CT35
IP68	643	4500K-CT45
		5500K-CT55
		6500K-CT65

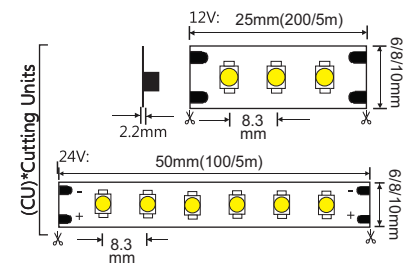
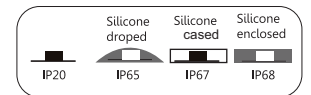


08.19.006(3528-120-8.6)

8.6W/m (± 10%)    12V 24V    LEDs/m 120

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	864	2400K-CT24
IP65	821	2700K-CT27
IP67	838	3500K-CT35
IP68	804	4500K-CT45
		5500K-CT55
		6500K-CT65

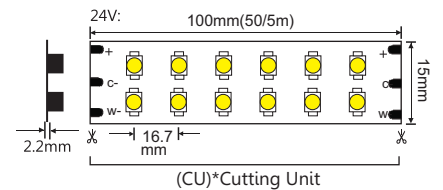
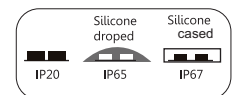


08.19.007(3528-120-8.6)

8.6W/m (± 10%)    24V    LEDs/m 120 (2linex60)

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI    2 Circuit PCB

IPXX	Lm/m(± 10%)	CCT-Code
IP20	864	2400K-CT24
IP65	821	2700K-CT27
IP67	838	3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65

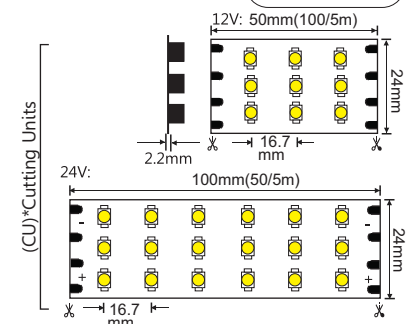
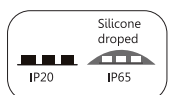


08.19.008(3528-180-13)

13W/m (± 10%)    12V 24V    LEDs/m 180

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1296	2400K-CT24
IP65	1231	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



### General features:

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP67)
- homogeneous light distribution
- wide beam angle
- Note:** \* other LED colors are available on request

**LED:** 3528 (1210) SMD  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 5m  
**Ordering guide:**  
 08.19.009(3528-240-17.3)+24v+CT35+IP65+010v  
 item+volts+LED CCT+IP-rating for strip+driver type

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting  
 underwater: fountains, swimming pools

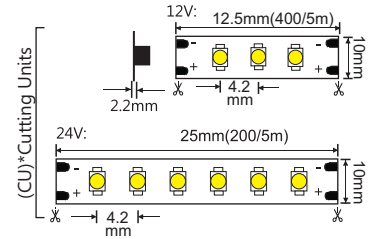
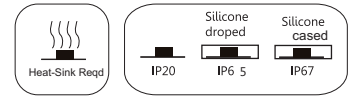


08.19.009(3528-240-17.3)

17.3W/m (± 10%)    12V 24V    LEDs/m 240

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1728	2400K-CT24
IP65	1642	2700K-CT27
IP67	1676	3500K-CT35 4500K-CT45 5500K-CT55 6500K-CT65

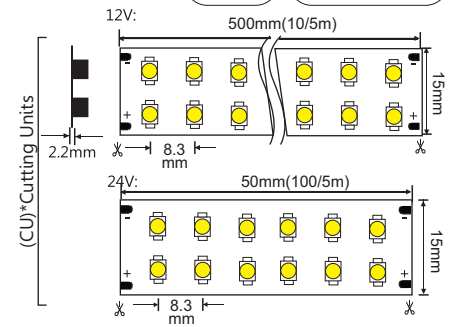


08.19.010(3528-240-17.3)

17.3W/m (± 10%)    12V 24V    LEDs/m 240 (2 x 120)

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1728	2400K-CT24
IP67	1676	2700K-CT27 3500K-CT35 4500K-CT45 5500K-CT55 6500K-CT65

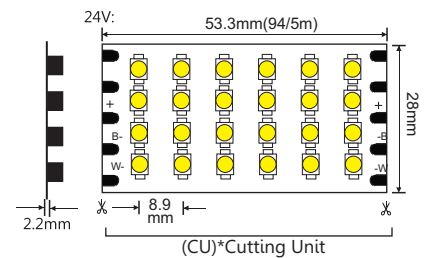
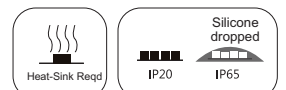


08.19.011(3528-450-32.4)

32.4W/m (± 10%)    24V    LEDs/m 450 (4 lines)

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI    2 Circuit PCB

IPXX	Lm/m(± 10%)	CCT-Code
IP20	3240	2400K-CT24
IP65	3078	2700K-CT27 3500K-CT35 4500K-CT45 5500K-CT55 6500K-CT65





**General features:**

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**Note:** \* other LED colors are available on request

**LED:** 5050 SMD

**Current:** constant voltage (CV)

**DC Volt:** 12V/24V

**CRI:** Ra60-95

**Ambient temp:** -20°~+50°

**Lm/w:** 80

**Roll:** 5m

**Ordering guide:**

08.19.012(5050-30-6.5)+24v+CT35+IP65+010v  
item+volts+LED CCT+IP-rating for strip+driver type

**LED driver:** remote

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools

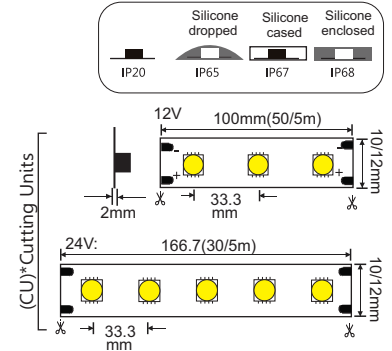


08.19.012(5050-30-6.5)

6.5W/m (± 10%)    12V / 24V    LEDs/m 30

6-BINs ±100-250K 2200-8500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	621	2400K-CT24
IP65	590	2700K-CT27
IP67	602	3500K-CT35
IP68	578	4500K-CT45
		5500K-CT55
		6500K-CT65

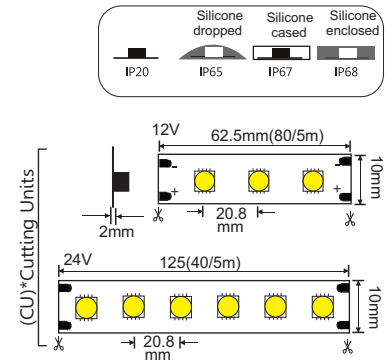


08.19.013(5050-48-10.4)

10.4W/m (± 10%)    12V / 24V    LEDs/m 48

6-BINs ±100-250K 2200-8500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	994	2400K-CT24
IP65	944	2700K-CT27
IP67	964	3500K-CT35
IP68	924	4500K-CT45
		5500K-CT55
		6500K-CT65

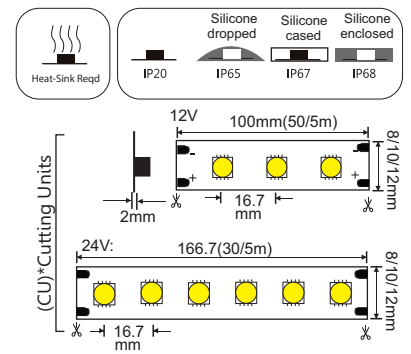


08.19.014(5050-60-13)

13W/m (± 10%)    12V / 24V    LEDs/m 60

6-BINs ±100-250K 2200-8500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1242	2400K-CT24
IP65	1180	2700K-CT27
IP67	1205	3500K-CT35
IP68	1155	4500K-CT45
		5500K-CT55
		6500K-CT65

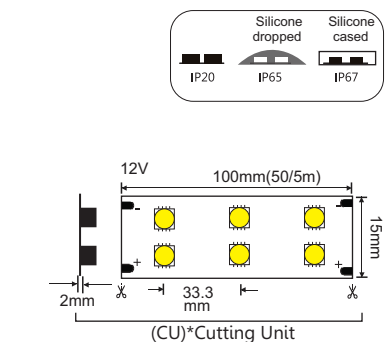


08.19.015(5050-60-13)

13W/m (± 10%)    12V    LEDs/m 60 (30x2)

6-BINs ±100-250K 2200-8500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1242	2400K-CT24
IP65	1180	2700K-CT27
IP67	1205	3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65





### General features:

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**Note:** \* other LED colors are available on request

**LED:** 5050 SMD  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20° ~ +50°  
**Lm/w:** 80  
**Roll:** 5m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting  
 underwater: fountains, swimming pools

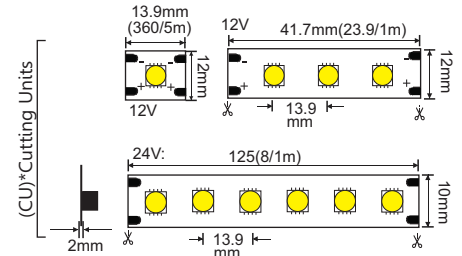
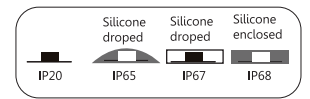


08.19.016(5050-72-15.6)

15.6W/m (± 10%)    12V 24V    LEDs/m 72

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1490	2400K-CT24
IP65	1416	2700K-CT27
IP67	1446	2900K-CT29
IP68	1386	3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65
		7000K-CT70
		9600K-CT96

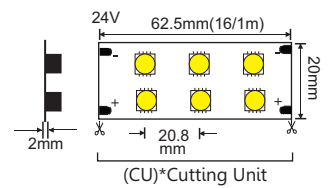


08.19.017(5050-96-20.7)

20.7W/m (± 10%)    24V    LEDs/m 48x2

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1987	2400K-CT24
IP65	1888	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65

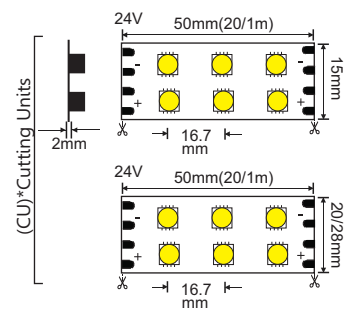
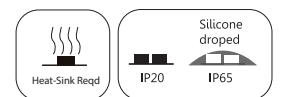


08.19.018(5050-120-26)

26W/m (± 10%)    24V    LEDs/m 120

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	2484	2400K-CT24
IP65	2360	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



**General features:**

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**LED:** RGB (3528/5050) SMD  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m  
**Ordering guide:**  
 08.19.019(3528-60-4.3)+12v+IP65  
 item+volts+IP-rating for strip

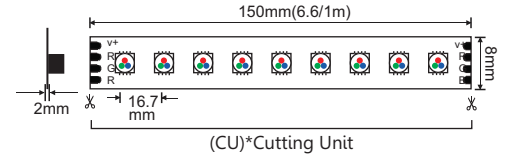
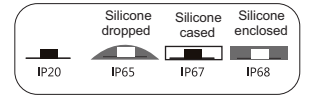
**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting  
 underwater: fountains, swimming pools



08.19.019(3528-60-4.3)

4.3W/m (± 10%)    12V    LEDs/m 60 (20x3.1 line)

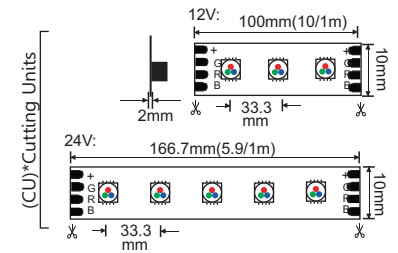
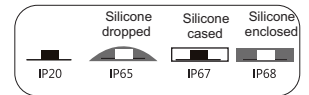
RGB Control DMX Wireless    3CH



08.19.020(5050-30-6.5)

6.5W/m (± 10%)    12V 24V    LEDs/m 30

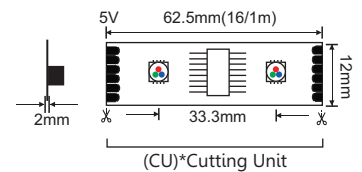
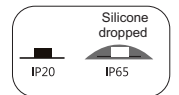
RGB Control DMX Wireless    3CH



08.19.021(5050-32-8)

8W/m (± 10%)    5V    LEDs/m 32

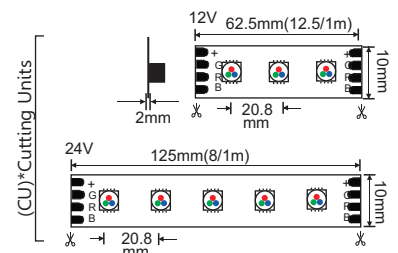
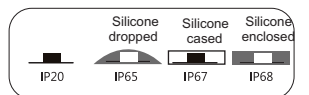
16 pixel/m 256 pixel each output    Non-DMX    83 built-in modes



08.19.022(5050-48-10.4)

10.4W/m (± 10%)    12V 24V    LEDs/m 48

RGB Control DMX Wireless    3CH



## General features:

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**LED:** RGB SMD (5050)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m  
**Ordering guide:**  
 08.19.023(5050-60-13)+12v+IP65  
 item+volts+IP-rating for strip

## Application:

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools



08.19.023(5050-60-13)

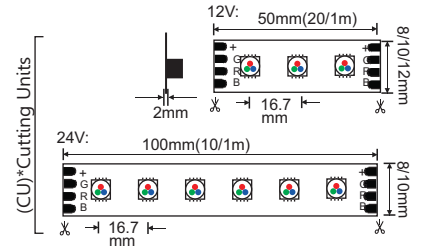
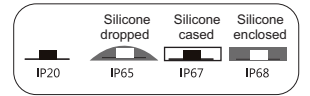
13W/m  
(± 10%)

12V  
24V

LEDs/m  
60

RGB Control  
DMX  
Wireless

3CH



08.19.024(5050-72-15.6)

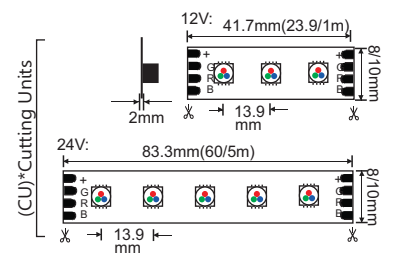
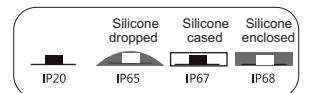
15.6W/m  
(± 10%)

12V  
24V

LEDs/m  
72

RGB Control  
DMX  
Wireless

3CH



08.19.025(5050-72-15.6)

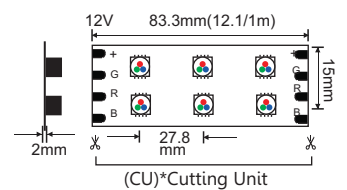
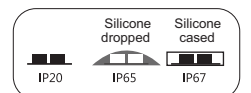
15.6W/m  
(± 10%)

12V  
24V

LEDs/m  
72  
(36x2)

RGB Control  
DMX  
Wireless

3CH



08.19.026(5050-96-20.7)

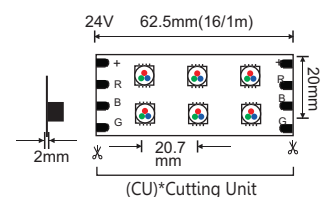
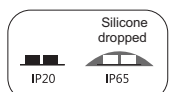
20.7W/m  
(± 10%)

24V

LEDs/m  
96  
(48x2)

RGB Control  
DMX  
Wireless

3CH



**General features:**

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP65)
- homogeneous light distribution
- wide beam angle

**LED:** RGB 5050 SMD

**Current:** constant voltage (CV)

**DC Volt:** 12V/24V

**CRI:** Ra60-95

**Ambient temp:** -20°~+50°

**Lm/w:** 80

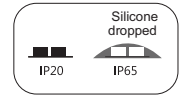
**Roll:** 1m

**Ordering guide:**

08.19.026(5050-120-26)+24v+IP65  
item+volts+IP-rating for strip

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting

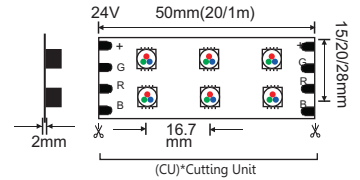


26W/m  
(± 10%)

24V

LEDs/m  
120

RGB Control  
DMX  
Wireless





## General features:

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP67)
- homogeneous light distribution
- wide beam angle

**Note:** \* other LED colors are available on request

**LED:** side-emitting SMD (335)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

## Application:

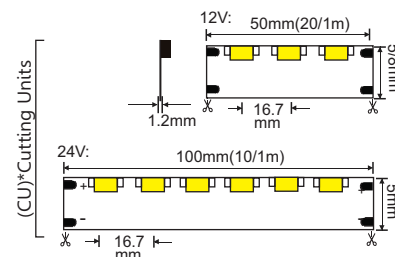
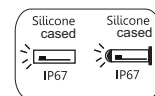
indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting



4.3W/m (± 10%)    12V/24V    LEDs/m 60

4-BINS ±100-250K 2700-5500K    Dimmable 0/1V-10V PWM DALI

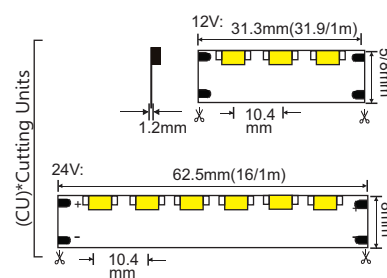
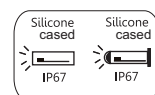
IPXX	Lm/m(± 10%)	CCT-Code
IP20	324	2700K-CT27
IP67	306	3500K-CT35
		4500K-CT45
		6500K-CT65



6.9W/m (± 10%)    12V/24V    LEDs/m 96

4-BINS ±100-250K 2700-5500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	518	2700K-CT27
IP67	492	3500K-CT35
		4500K-CT45
		6500K-CT65



**General features:**

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle
- Note:** \* other LED colors are available on request

**LED:** high lumen SMD (2835/5630)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting  
 underwater: fountains, swimming pools

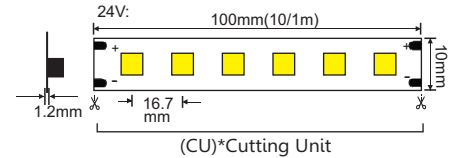
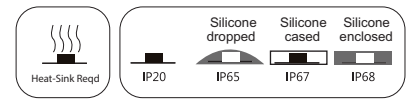


08.19.030(2835-60-13)

13W/m (± 10%)      24V      LEDs/m 60

6-BINs ±100-250K 2200-6500K      Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1350	2400K-CT24
IP65	1283	2700K-CT27
IP67	1310	3500K-CT35
IP68	1256	4500K-CT45
		5500K-CT55
		6500K-CT65

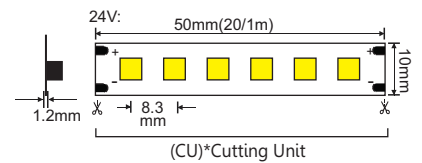
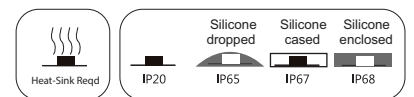


08.19.031(2835-120-26)

26W/m (± 10%)      24V      LEDs/m 120

6-BINs ±100-250K 2200-6500K      Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	2700	2400K-CT24
IP65	2565	2700K-CT27
IP67	2619	3500K-CT35
IP68	2511	4500K-CT45
		5500K-CT55
		6500K-CT65

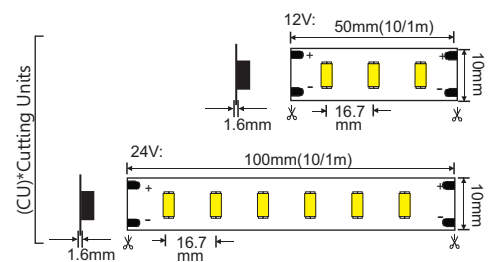
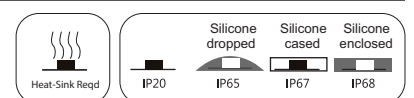


08.19.032(5630-60-17.8)

17.8W/m (± 10%)      24V      LEDs/m 60

6-BINs ±100-250K 2200-6500K      Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1620	2400K-CT24
IP65	1539	2700K-CT27
IP67	1571	3500K-CT35
IP68	1507	4500K-CT45
		5500K-CT55
		6500K-CT65

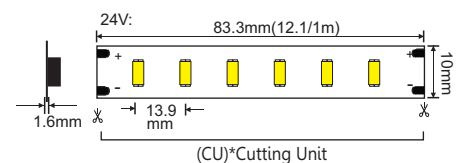
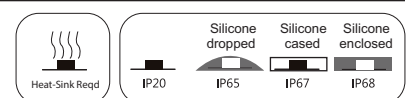


08.19.033(5630-72-21.4)

21.4W/m (± 10%)      24V      LEDs/m 72

6-BINs ±100-250K 2200-6500K      Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1944	2400K-CT24
IP65	1847	2700K-CT27
IP67	1886	3500K-CT35
IP68	1808	4500K-CT45
		5500K-CT55
		6500K-CT65





### General features:

- low voltage
  - flexible tape
  - high CRI (up to Ra95)
  - high IP-rating (up to IP68)
  - homogeneous light distribution
  - wide beam angle
- Note:** \* other LED colors are available on request

**LED:** high lumen SMD (3014/5630)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting  
 underwater: fountains, swimming pools

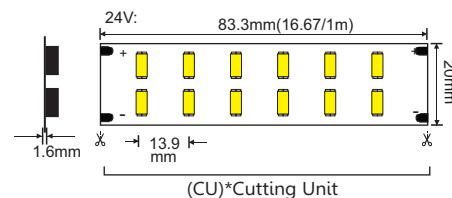
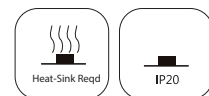


08.19.034(5630-144-42.8)

42.8W/m (± 10%)    24V    LEDs/m 144 (2Linex72)

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

**IPXX**    **Lm/m(± 10%)**    **CCT-Code**  
 IP20    3888    2400K-CT24  
 2700K-CT27  
 3500K-CT35  
 4500K-CT45  
 5500K-CT55  
 6500K-CT65

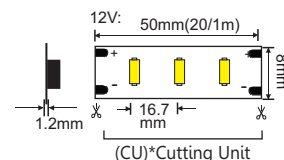
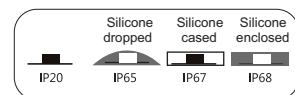


08.19.035(3014-60-6)

6W/m (± 10%)    24V    LEDs/m 60

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

**IPXX**    **Lm/m(± 10%)**    **CCT-Code**  
 IP20    648    2400K-CT24  
 IP65    616    2700K-CT27  
 IP67    629    3500K-CT35  
 IP68    603    4500K-CT45  
 5500K-CT55  
 6500K-CT65

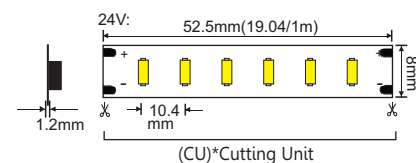
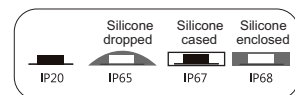


08.19.036(3014-96-9.6)

9.6W/m (± 10%)    24V    LEDs/m 96

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

**IPXX**    **Lm/m(± 10%)**    **CCT-Code**  
 IP20    1037    2400K-CT24  
 IP65    985    2700K-CT27  
 IP67    1006    3500K-CT35  
 IP68    964    4500K-CT45  
 5500K-CT55  
 6500K-CT65

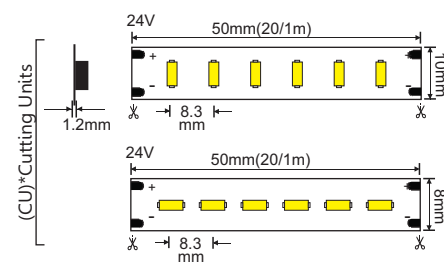
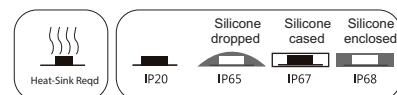


08.19.037(3014-120-12)

12W/m (± 10%)    24V    LEDs/m 120

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

**IPXX**    **Lm/m(± 10%)**    **CCT-Code**  
 IP20    1296    2400K-CT24  
 IP65    1231    2700K-CT27  
 IP67    1257    3500K-CT35  
 IP68    1205    4500K-CT45  
 5500K-CT55  
 6500K-CT65



**General features:**

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle
- Note:** \* other LED colors are available on request

**LED:** high lumen SMD (3014/5630)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools

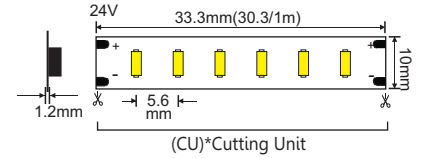
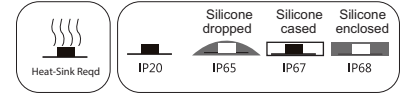


08.19.038(3014-180-18)

18W/m (± 10%)    24V    LEDs/m 180

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1944	2400K-CT24
IP65	1847	2700K-CT27
IP67	1886	3500K-CT35
IP68	1808	4500K-CT45
		5500K-CT55
		6500K-CT65

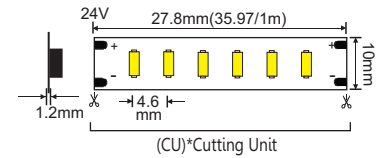
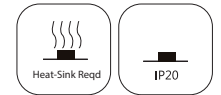


08.19.039(3014-216-21.6)

21.6W/m (± 10%)    24V    LEDs/m 216

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	2333	2400K-CT24
		2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65

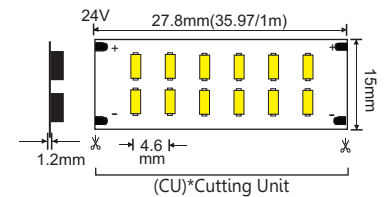


08.19.040(3014-432-43.2)

43.2W/m (± 10%)    24V    LEDs/m 432

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m(± 10%)	CCT-Code
IP20	4666	2400K-CT24
		2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65





**General features:**

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**LED:** bi-white tunable SMD (3014/3528)

**Current:** constant voltage (CV)

**DC Volt:** 12V/24V

**CRI:** Ra60-95

**Ambient temp:** -20°~+50°

**Lm/w:** 80

**Roll:** 1m

**Ordering guide:**

08.19.040(3014-168-15)+24v+CT35+IP65+DMX  
item+volts+LED CCT+IP-rating for strip+DMX control

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools

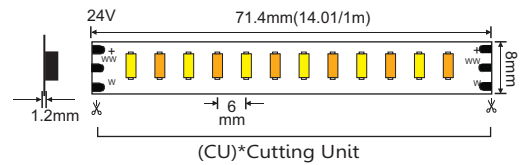
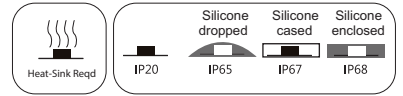


08.19.041(3014-168-15)

15W/m (± 10%)	24V	LEDs/m 168
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww BW Tunable

**IPXX Lm/m(± 10%)**

IP20	0~1613
IP65	0~1564
IP67	0~1532
IP68	0~1500



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K



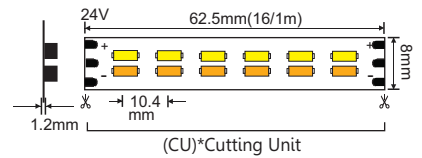
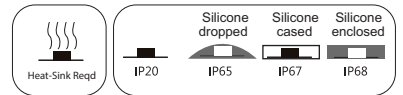
08.19.042(3014-192-17.3)

17.3W/m (± 10%)	24V	LEDs/m 192 (96x2)
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	w ww BW Tunable

No Bend

**IPXX Lm/m(± 10%)**

IP20	0~1843
IP65	0~1788
IP67	0~1751
IP68	0~1714



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K

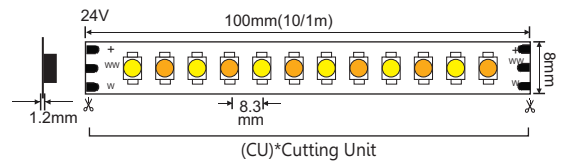
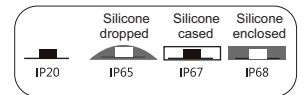


08.19.043(3528-120-8.6)

8.6W/m (± 10%)	24V	LEDs/m 120
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww BW Tunable

**IPXX Lm/m(± 10%)**

IP20	0~768
IP65	0~745
IP67	0~730
IP68	0~714



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K

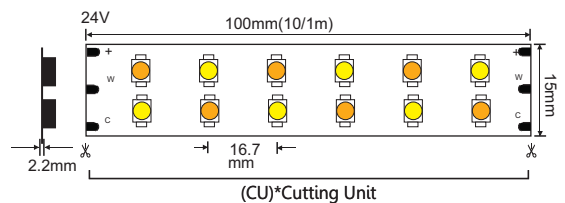
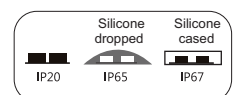


08.19.044(3528-120-8.6)

8.6W/m (± 10%)	24V	LEDs/m 120 (60x2)
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww BW Tunable

**IPXX Lm/m(± 10%)**

IP20	0~768
IP65	0~745
IP67	0~730



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K

### General features:

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**LED:** bi-white SMD (3528/5050)

**Current:** constant voltage (CV)

**DC Volt:** 12V/24V

**CRI:** Ra60-95

**Ambient temp:** -20°~+50°

**Lm/w:** 80

**Roll:** 1m

### Ordering guide:

08.19.044(3528-240-17.3)+24v+CT35+IP65+DMX  
item+volts+LED CCT+IP-rating for strip+DMX control

### Application:

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools

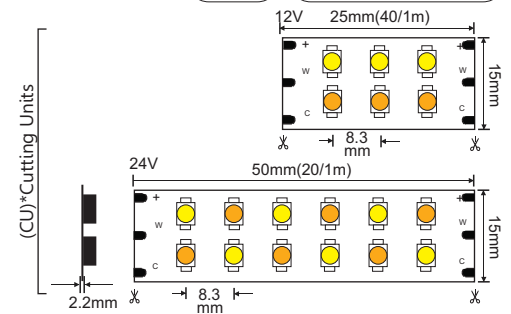
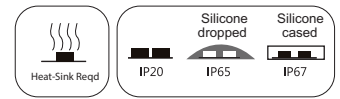


08.19.045(3528-240-17.3)

17.3W/m (± 10%)	12V 24V	LEDs/m 240 (120x2)
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww w BW Tunable

### IPXX Lm/m(± 10%)

IP20	0~1536
IP65	0~1490
IP67	0~1459



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K

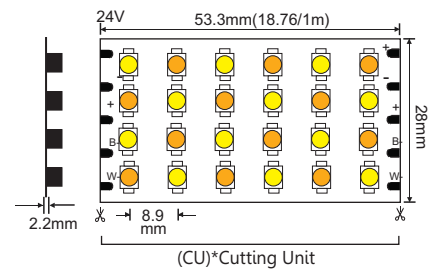
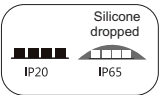


08.19.046(3528-450-32.4)

32.4W/m (± 10%)	24V	LEDs/m 450 (4line)
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww w BW Tunable

### IPXX Lm/m(± 10%)

IP20	0~2880
IP65	0~2794



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K

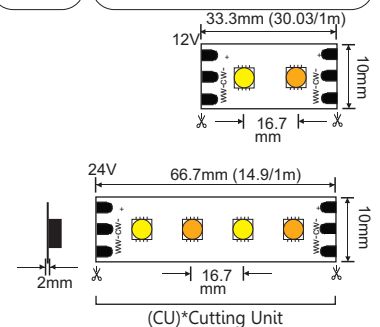
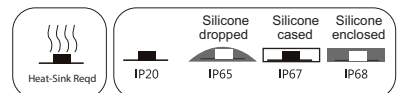


08.19.047(5050-60-13)

13W/m (± 10%)	12V 24V	LEDs/m 60
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww w BW Tunable

### IPXX Lm/m(± 10%)

IP20	0~1104
IP65	0~1071
IP67	0~1049
IP68	0~1027



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K



**General features:**

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**LED:** bi-white SMD (5050)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Roll:** 5m

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools

**Ordering guide:**

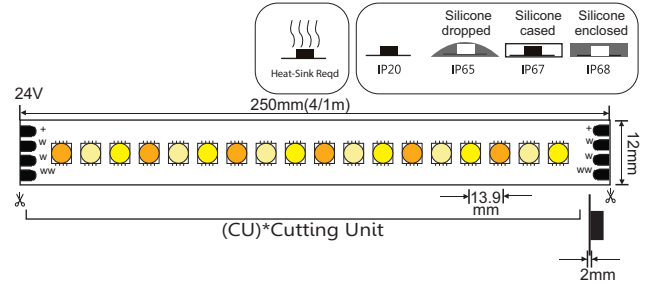
08.19.047(5050-72-15.6)+24v+CT35+IP65+DMX  
 item+volts+LED CCT+IP-rating for strip+DMX control



08.19.048(5050-72-15.6)

15.6W/m (± 10%)	24V	LEDs/m 72
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	NW 3CH ww w w TW Tunable

IPXX	Lm/m(± 10%)
IP20	0~1325
IP65	0~1285
IP67	0~1259
IP68	0~1232



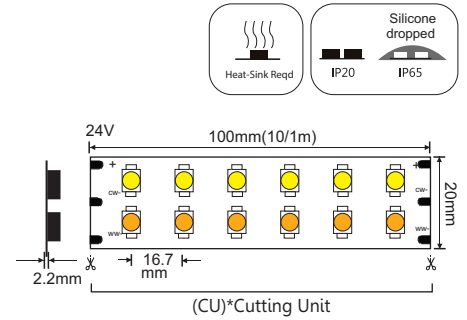
**Note:** Color Temperature (CCT) is varying from 2400K to 6500K



08.19.049(5050-120-25.9)

25.9W/m (± 10%)	24V	LEDs/m 120 (2Lines)
6-BINs ±100-250K 2200-6500K	BW Control DMX Wireless	ww w w BW Tunable

IPXX	Lm/m(± 10%)
IP20	0~2208
IP65	0~2142



**Note:** Color Temperature (CCT) is varying from 2400K to 6500K



**General features:**

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP68)
- homogeneous light distribution
- wide beam angle

**LED:** RGB/RGBW/RGBWA SMD (5050)

**Current:** constant voltage (CV)

**DC Volt:** 12V/24V

**CRI:** Ra60-95

**Ambient temp:** -20°~+50°

**Lm/w:** 80

**Roll:** 5m

**Ordering guide:**

08.19.049(5050-60-13)+24v+CT35+IP65+DMX  
item+volts+LED CCT+IP-rating for strip+DMX control

**Application:**

- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting
- underwater: fountains, swimming pools



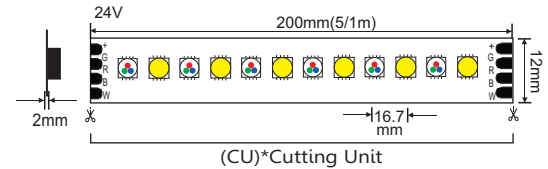
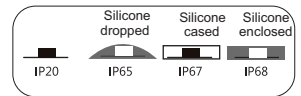
08.19.050(5050-60-13)

13W/m  
(± 10%)

24V

LEDs/m  
60

RGBW Control  
DMX  
Wireless



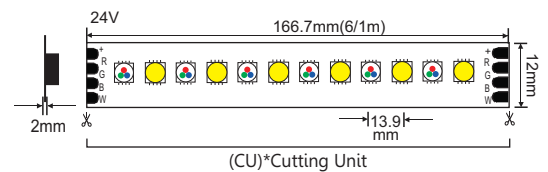
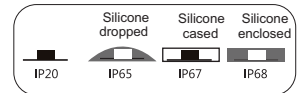
08.19.051(5050-72-15.6)

15.6W/m  
(± 10%)

24V

LEDs/m  
72

RGBW Control  
DMX  
Wireless



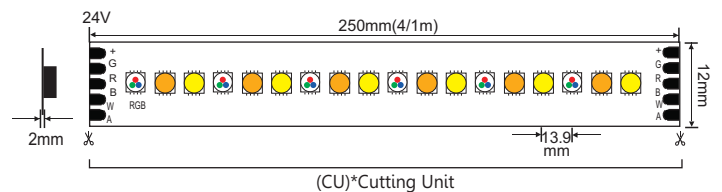
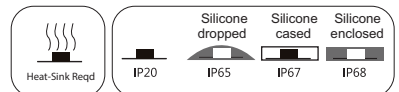
08.19.052(5050-72-15.6)

15.6W/m  
(± 10%)

24V

LEDs/m  
72

RGBWA  
Control  
DMX  
Wireless



**General features:**

- low heat
- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP67)
- homogeneous light distribution
- wide beam angle

**Note:** \* other LED colors are available on request

**LED:** SMD 3014/5630

**Current:** constant current (CC)

**DC Volt:** 12V/24V

**CRI:** Ra60-95

**Ambient temp:** -20°~+50°

**Lm/w:** 80

**Roll:** 1m

**Ordering guide:**

08.19.052(3528-60-5)+24v+CT35+IP65+010v  
item+volts+LED CCT+IP-rating for strip+driver type

**LED driver:** remote

**LED driver options:**

ND - non-dimmable

PH - phase dimmable

010V - 0-10V dimmable

DALI - compatible

**Application:**

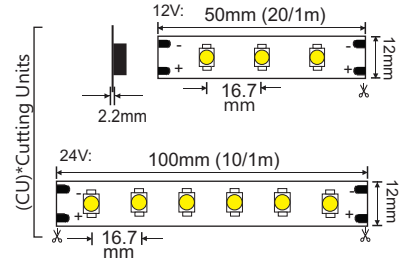
- indoors: cabinet lighting, cove, feature/accent lighting
- outdoors: cove (indirect) lighting, in-ground lighting



08.19.053(3528-60-5)

5W/m (± 10%)	Volt(DC) min-max 12V(10-15)	Volt(DC) min-max 24V(22-27)
6-BINs ±100-250K 2200-6500K	Dimmable 0/1V-10V PWM DALI	LEDs/m 60

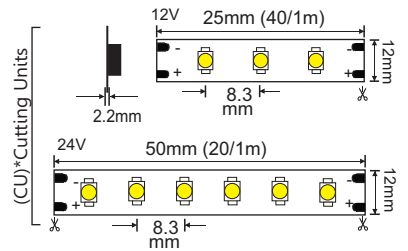
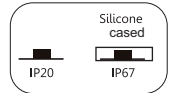
IPXX	Lm/m(± 10%)	CCT-Code
IP20	432	2400K-CT24
IP67	419	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



08.19.054(3528-120-10)

10W/m (± 10%)	12V 24V CC	LEDs/m 120
6-BINs ±100-250K 2200-6500K	Dimmable 0/1V-10V PWM DALI	

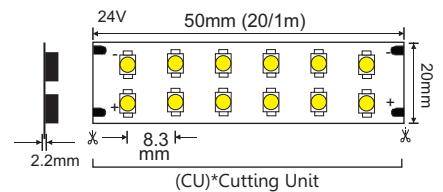
IPXX	Lm/m(± 10%)	CCT-Code
IP20	864	2400K-CT24
IP67	838	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



08.19.055(3528-240-20)

20W/m (± 10%)	24V CC	LEDs/m 240
6-BINs ±100-250K 2200-6500K	Dimmable 0/1V-10V PWM DALI	

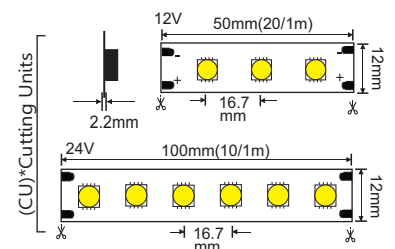
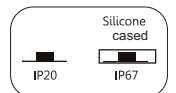
IPXX	Lm/m(± 10%)	CCT-Code
IP20	1728	2400K-CT24
		2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



08.19.056(5050-60-16)

16W/m (± 10%)	12V 24V CC	LEDs/m 60
6-BINs ±100-250K 2200-6500K	Dimmable 0/1V-10V PWM DALI	

IPXX	Lm/m(± 10%)	CCT-Code
IP20	1242	2400K-CT24
IP67	1205	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



### General features:

- low voltage
- flexible tape
- high CRI (up to Ra95)
- high IP-rating (up to IP67)
- homogeneous light distribution
- wide beam angle
- Note:** \* other LED colors are available on request

**LED:** 5050/5630 SMD  
**Current:** constant current (CC)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 1m

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 indoors: cabinet lighting, cove, feature/accent lighting  
 outdoors: cove (indirect) lighting, in-ground lighting

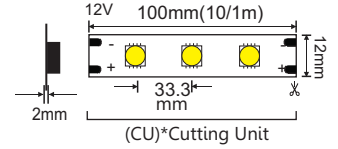


08.19.057(5050-30-8)

8W/m (± 10%)    12V CC    LEDs/m 30

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m (± 10%)	CCT-Code
IP20	621	2400K-CT24
IP67	602	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65

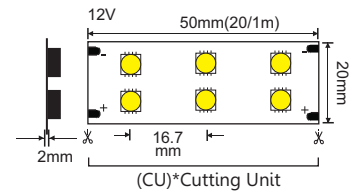


08.19.058(5050-120-32)

32W/m (± 10%)    24V CC    LEDs/m 120 (60x2)

6-BINs ±100-250K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m (± 10%)	CCT-Code
IP20	2484	2400K-CT24
IP67		2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65

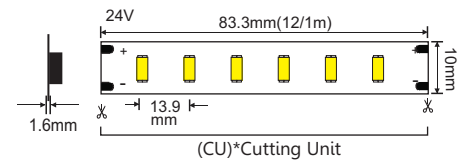


08.19.059(5630-72-23.8)

23.8W/m (± 10%)    24V CC    LEDs/m 72

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m (± 10%)	CCT-Code
IP20	1944	2400K-CT24
IP67	1886	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65

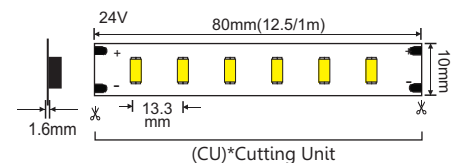


08.19.060(5630-75-24.8)

24.8W/m (± 10%)    12V 24V CC    LEDs/m 75

6-BINs ±100-250K 2200-6500K    Dimmable 0/1V-10V PWM DALI

IPXX	Lm/m (± 10%)	CCT-Code
IP20	2025	2400K-CT24
IP67	1964	2700K-CT27
		3500K-CT35
		4500K-CT45
		5500K-CT55
		6500K-CT65



**General features:**

- high voltage
- non-dimmable
- flexible
- good for external use
- homogeneous light distribution
- wide beam angle

**LED:** high voltage (HV) SMD (5050/5630/2835)

**AC Volt:** 220-240V

**CRI:** Ra60-80

**Ambient temp:** -20°~+50°

**Lm/w:** 80

**Roll:** 50m

**Note:**\* Supplied with 1 Ac plug

**Ordering guide:**

08.19.060(5050-60-13)+220v+CT35  
item+volts+LED CCT

**Application:**

outdoors: cove (indirect) lighting,  
in-ground lighting, etc.

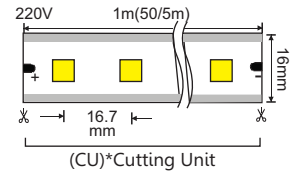
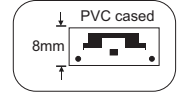


08.19.061(2835-60-5)

5W/m (± 10%)    220V direct voltage    LEDs/m 60

4-BINs ±100-250K 2600-6500K    Non-Dimmable

**IPXX** IP67    **Lm/m(± 10%)** 616    **CCT-Code**  
2700K-CT27  
3500K-CT35  
4500K-CT45  
6500K-CT65

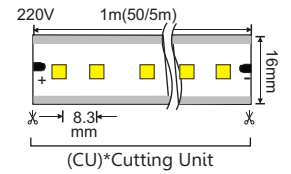
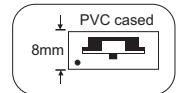


08.19.062(2835-120-10)

10W/m (± 10%)    220V direct voltage    LEDs/m 120

4-BINs ±100-250K 2600-6500K    Non-Dimmable

**IPXX** IP67    **Lm/m(± 10%)** 1231    **CCT-Code**  
2700K-CT27  
3500K-CT35  
4500K-CT45  
6500K-CT65

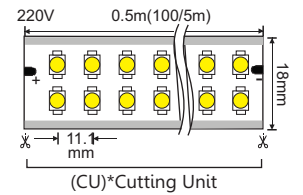
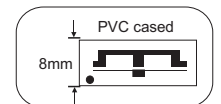


08.19.063(2835-180-15)

15W/m (± 10%)    220V direct voltage    LEDs/m 180

4-BINs ±100-250K 2600-6500K    Non-Dimmable

**IPXX** IP67    **Lm/m(± 10%)** 1847    **CCT-Code**  
2700K-CT27  
3500K-CT35  
4500K-CT45  
6500K-CT65

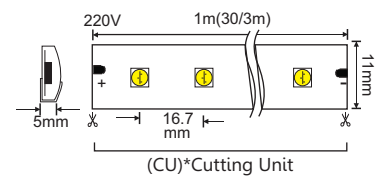
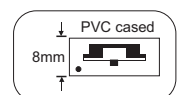


08.19.064(COB-60-15)

15W/m (± 10%)    220V direct voltage    LEDs/m 60

4-BINs ±100-250K 2600-6500K    Non-Dimmable    COB Source

**IPXX** IP67    **Lm/m(± 10%)** 1129    **CCT-Code**  
2700K-CT27  
3500K-CT35  
4500K-CT45  
6500K-CT65



30m roll

### General features:

- high voltage
- non-dimmable
- flexible
- good for external use
- homogeneous light distribution
- wide beam angle

**LED:** high voltage (HV) SMD (3528/2835/COB)  
**AC Volt:** 220-240V  
**CRI:** Ra60-80  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80  
**Roll:** 50m  
**Note:**\* Supplied with 1 Ac plug  
**Ordering guide:**  
 08.19.064(3528-120-7)+220v+CT35  
 item+volts+LED CCT

**Application:**  
 outdoors: cove (indirect) lighting,  
 in-ground lighting, etc.



08.19.065(3528-120-7)

7W/m  
(± 10%)

220V  
direct voltage

LEDs/m

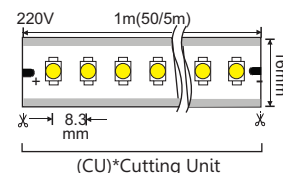
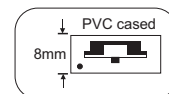
4-BINs  
±100-250K  
2600-6500K

Non-Dimmable

**IPXX** IP67

**Lm/m(± 10%)** 513

**CCT-Code**  
 2700K-CT27  
 3500K-CT35  
 4500K-CT45  
 6500K-CT65



08.19.066(5050-60-13)

13W/m  
(± 10%)

220V  
direct voltage

LEDs/m 60

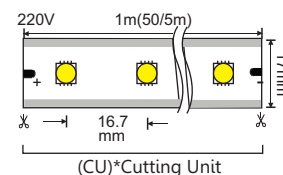
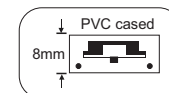
4-BINs  
±100-250K  
2600-6500K

Non-Dimmable

**IPXX** IP67

**Lm/m(± 10%)** 1026

**CCT-Code**  
 2700K-CT27  
 3500K-CT35  
 4500K-CT45  
 6500K-CT65



08.19.067(5050-60-13)

13W/m  
(± 10%)

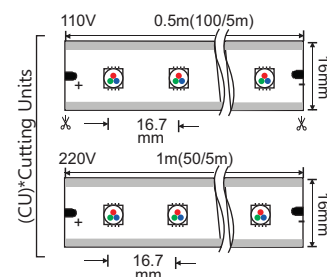
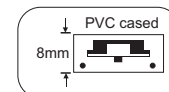
220V  
direct voltage

LEDs/m 60

Control Plug with 8 modes

3CH

RGB changing (3CH) Vt/G/R/B



08.19.068(5630-60-14)

14W/m  
(± 10%)

220V  
direct voltage

LEDs/m 60

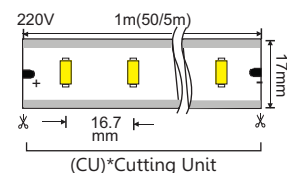
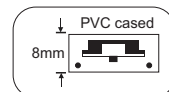
4-BINs  
±100-250K  
2600-6500K

Non-Dimmable

**IPXX** IP67

**Lm/m(± 10%)** 1231

**CCT-Code**  
 2700K-CT27  
 3500K-CT35  
 4500K-CT45  
 6500K-CT65





**General features:**

- low heat
- low voltage
- heat dissipating aluminum housing
- high CRI (up to Ra95)
- homogeneous light distribution
- wide beam angle
- various cable connection (side/end)

**LED:** RGB SMD (3528/5050)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

**Application:**  
 outdoors: cove (indirect) lighting,  
 in-ground lighting, etc.

**Ordering guide:**  
 08.19.068(3528-60-4.3)+12v+CT35+IP65+010v  
 item+volts+LED CCT+IP-rating for fitting+driver type

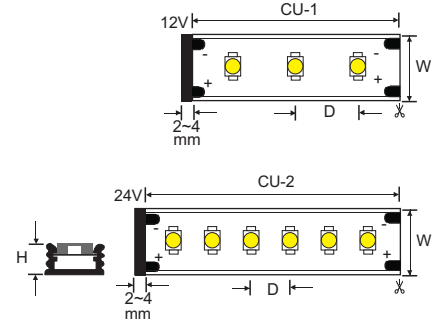
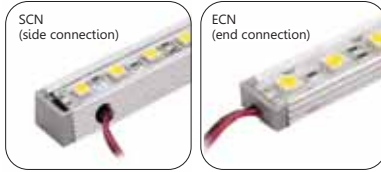


09.19.\*\*\*\*

6-BINS  
±100-250K  
2200-6500K

Dimmable  
0/1V-10V  
PWM DALI

12V  
24V



Ref Code	W/m	LEDs/m	Lm/m(±)	D,mm	W,mm	H,mm	CU1 (12V)	LEDs/CU	CU2 (24V)	LEDs/CU
068.3528-60	4.3	60	432	16.7	15	7	50	3	-	-
069.3528-96	6.9	96	691	10.4	15	7	62.5	6	-	-
070.3528-120	8.6	120	864	8.3	15	7	25	3	50	6
071.3528-180	13	180	1296	5.6	15	7	16.67	6	33.3	6
072.5050-30	6.5	30	621	33.3	15	7	100	3	166.7	6
073.5050-48	10.4	48	994	20.8	15	7	62.5	3	125	6
074.5050-60	13	60	1242	16.7	23	7	50	3	100	6
075.5050-72	15.6	72	1490	13.9	15	7	41.7	3	83.3	6
076.5050-72	15.6	72	1490	13.9	16	13	-	-	83.3	6

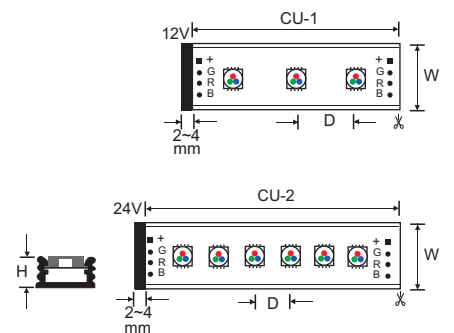
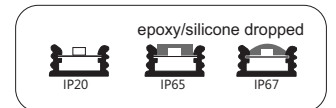
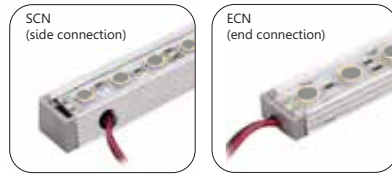


09.19.\*\*\*\*

RGB Control  
DMX  
Wireless

3CH

12V  
24V



Ref Code	W/m	LEDs/m	D,mm	W,mm	H,mm	CU1 (12V)	LEDs/CU	CU2 (24V)	LEDs/CU
077.5050-30	6.5	30	33.3	15	7	100	3	166.7	5
078.5050-60	13	60	16.7	15	7	50	3	100	6
079.5050-72	15.6	72	13.9	15	12	41.7	3	83.3	6
080.5050-72	15.6	72	13.9	16	13	-	-	83.3	6



**General features:**

- low heat
- low voltage
- heat-dissipating aluminum housing
- high CRI (up to Ra95)
- high IP-rating (up to IP67)
- homogeneous light distribution
- wide beam angle

**LED:** SMD (3528/5050)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20°~+50°  
**Lm/w:** 80

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

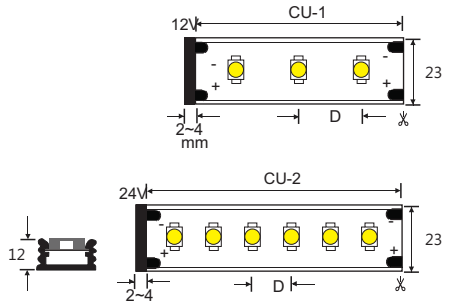
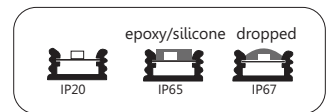
**Application:**  
 outdoors: cove (indirect) lighting,  
 in-ground lighting, etc.

**Ordering guide:**  
 08.19.081(3528-240-17.3)+24v+CT35+IP65+010v  
 item+voltage+LED CCT+IP-rating for fitting+driver type



6-BINs  
 ±100-250K  
 2200-6500K

Dimmable  
 0/1V-10V  
 PWM DALI



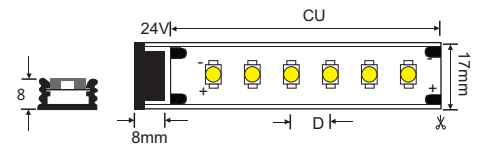
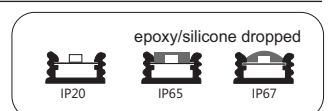
Ref Code	W/m	LEDs/m	Volt	Lm/m(±)	D,mm	CU1 (12V)	LEDs/CU	CU2 (24V)	LEDs/CU
081.3528-240	17.3	240	24V	1728	4.17	-	-	25	6
082.5050-60	13	60	12V/24V	1242	16.7	50	3	100	6
083.5050-72	15.6	72	12V/24V	1490	13.9	41.7	3	83.3	6
084.5050-72	17.3	72	24V CC	1490	13.9				



6-BINs  
 ±100-250K  
 2200-6500K

Dimmable  
 0/1V-10V  
 PWM DALI

24V



Ref Code	W/m	LEDs/m	Lm/m(±)	D,mm	CU	LEDs/CU
084.328-120	8.6	120	864	8.3	50	6
085.3528-180	13	180	1296	5.6	33.3	6
086.5050-30	6.5	30	621	33.3	166.7	5
087.5050-48	10.4	48	994	20.8	125	6
088.5050-60	13	60	1242	16.7	100	6
089.5050-72	15.6	72	1490	13.9	83.3	6

**General features:**

- low heat
- low voltage
- heat-dissipating aluminum housing
- high CRI (up to Ra95)
- high IP-rating (up to IP67)
- homogeneous light distribution
- wide beam angle
- with male/female connectors/end caps

**LED:** SMD (3528/5050)  
**Current:** constant voltage (CV)  
**DC Volt:** 12V/24V  
**CRI:** Ra60-95  
**Ambient temp:** -20° ~ +50°  
**Lm/w:** 80

**LED driver:** remote  
**LED driver options:**  
 ND - non-dimmable  
 PH - phase dimmable  
 010V - 0-10V dimmable  
 DALI - compatible

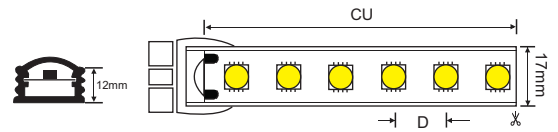
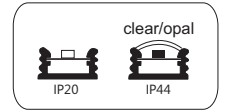
**Application:**  
 outdoors: cove (indirect) lighting,  
 in-ground lighting, etc.

**Ordering guide:**  
 08.19.90(3528-60-4.3)+12v+CT35+IP65+010v  
 item+volts+LED CCT+IP-rating for strip+driver type



**6-BINs**  
 ±100-250K  
 2200-6500K

**Dimmable**  
 0/1V-10V  
 PWM DALI

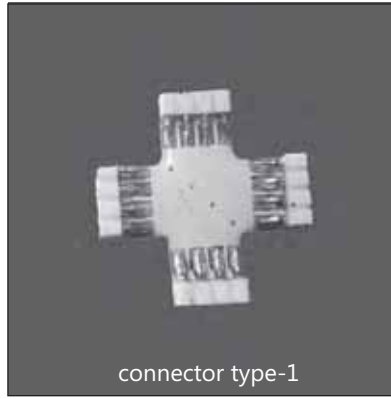


Ref Code:	W/m	Volts	LEDs/m	Lm/m(±)	D,mm	CU	LEDs/CU
090.3528-60	4.3	12V	60	432	16.7	50	6
091.3528-96	6.9	24V	96	691	10.4	62.5	6
092.3528-120	8.6	24V	120	864	8.3	50	6
093.3528-180	8.6	24V	180	1296	5.6	33.3	6
094.5050-30	6.5	24V	30	621	33.3	166.7	5
095.5050-48	10.4	24V	48	994	20.8	125	6
096.5050-60	13	24V	60	1242	16.7	100	6
097.5050-72	15.6	24V	72	1490	13.9	83.3	6





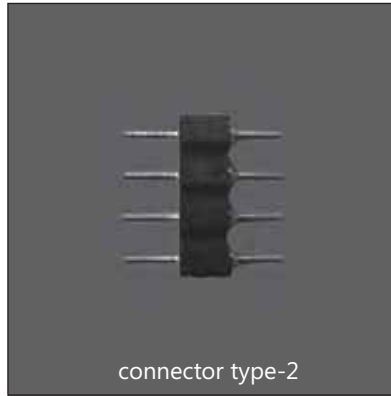
Push connectors



connector type-1



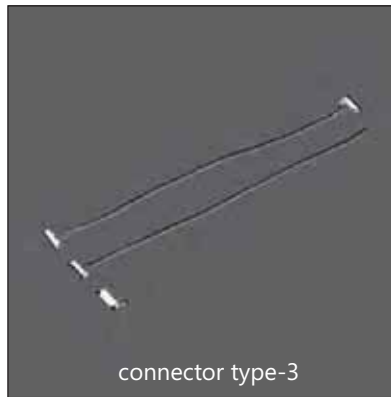
IP20 Connectors



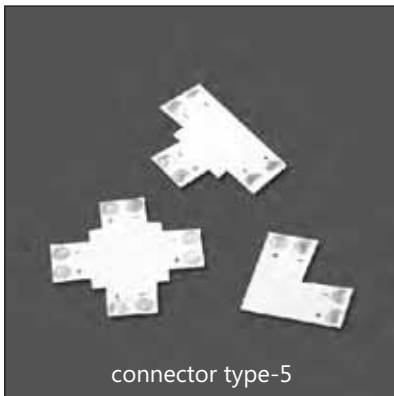
connector type-2



IPXX Connectors



connector type-3



connector type-5



connector type-4

## Assembly and Safety of ELTE's LED linear strip lights

- ELTE's LED linear strip lights are supplied in proper packaging. Proper handling instructions have to be followed. Products should remain in the packaging "as delivered" until installation or for ongoing transportation and storage.
- Inspect products carefully before installation. Do not proceed for installation if any of the products is damaged.
- Handle with care. LEDs and final products are not designed to withstand stress from tension or compression.
- The LED strip lights while in rolls should not be operated to avoid damaging LEDs.
- The circuit path should not be damaged or interrupted during installation and use.
- Operation should be done only with power supply units with the following features:
  - Short-circuit protection
  - Overload protection
  - Overheating protection
  - SELV ( Self Extra Low Voltage)
- The maximum power supply output should be observed.
- Ensure standard ESD (electrostatic discharge) protection measure are followed to avoid damaging LEDs when handling and installing the LED linear strip lights.

## Safety and warranty

- Installation has to be done by qualified personnel in accordance with installation instructions and all applicable regulations and standards. Improper installation can create electrical hazard with risk of electric shock, fire or injury.
- ELTE will not hold responsibility for any consequences raised from improper products handling, storage or installation.
- ELTE's products must be installed as supplied. Disassembling, modification or attempts of repair may invalidate warranty and may create electrical hazard.
- IP20 LED linear lights are not protected against dust or moisture. When they are to be operated in dusty or humid environment they have to be built-in some protective casing in compliance with correct IP classification or provided with corrosion protection. Damage caused by moisture and/or corrosion will not be recognized as a material or manufacturing defect.
- LED linear strip lights as well as the ones built-in aluminum channels should be precisely cut on the spotted marks, in the middle of the connection pads for wires, refer to manual instructions provided along with products.
- Expected lifetime of LEDs is 50,000 hours (L70/B10) at Ta=50° C
- ELTE's LED linear strip lights come with 3M tape on the rear side for easy installation. They have to be installed on dry and clear surfaces that are free from grease, oil, silicone or other stuff. It is recommended to clean the installation surface with isopropyl alcohol (IPA). Ensure the whole surface sticks over the whole line of the strip light avoiding gaps. The following substances are regarded as critical ones for creating adhesive bond:
  - Polyefins (polyethylene, polypropylene)
  - Rubber
  - Powder coated materials
  - Silicone rubber
  - Teflon
- For optimum adhesive bonding a temperature of approximately 27° C should be ensured during installation. In addition, some slight pressure should be exerted on the PCB (but not on the SMD, resistant, IC components).
- Taking into consideration that there are various types of surfaces as well as ambient conditions, ELTE accepts no liability for the quality of the adhesive bond achieved when mounting these products. Prior to sticking ELTE's products must be taken proper care of and checking if the material is actually suitable for the intended purpose under consideration of all possible application-relevant influences. Also, additional fixing elements like fixing clips or alike can be used for installation if necessary.
- The products have to be stored not longer than 12 months (in packed condition) at approximate temperature of 20° C and up to 50% of relative humidity in order to keep optimal adhesiveness.
- Contact are created by soldering the leads onto the soldering pads (labelled 12V +/- or 24V +/-). The soldering temperature must not exceed 260° C. the maximum soldering time is 10 seconds.
- LED linear strip lights are suitable only for mounting on rigid and solid surfaces. They should not be fixed on flexible surfaces and the LEDs can be damaged when the substrate bends.
- During installation the bending radius must not fall below 25mm. On sharp edges the ribbons may only be bent at a position where no electronic components are mounted. The module can be damaged if it is bent in a crosswise direction.

If any questions arise on installation or quality of products, please, contact ELTE's team.





# aluminum channels

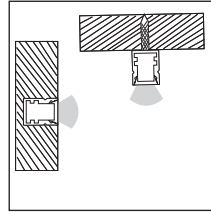
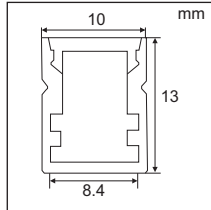


**Mounting:** recessed/surface mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove  
 feature/accent lighting  
 built in walls, shelves, ceilings, ground, etc.



10.18.001



End caps with hole or without hole (ABS material)



Aluminum profile



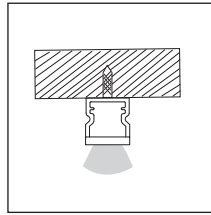
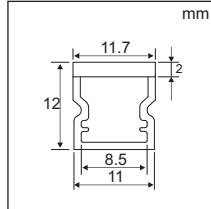
PC opal



Mounting bracket (metal)



10.18.002



End cap with hole  
End cap without hole



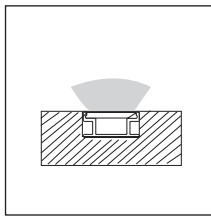
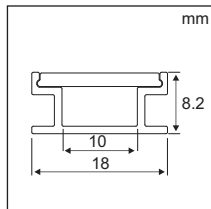
Aluminum profile



Mounting brackets (metal)



10.18.003



End cap with hole  
End cap without hole



Aluminum profile



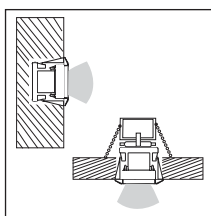
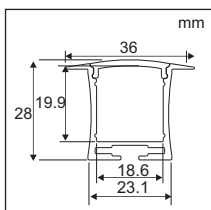
PMMA opal



Installation Steps



10.18.004



End cap with hole  
End cap without hole



Aluminum profile



PMMA clear opal  
PMMA semi-clear opal



Spring clip

# aluminum channels

**Mounting:** recessed/surface mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove  
 feature/accent lighting  
 built in walls, shelves, ceilings, ground, etc.

<p>10.18.005</p>	<p>mm</p>	<p>Aluminum profile</p>	<p>End cap with hole End cap without hole</p>	<p>Adjustable mounting clip</p>	<p>PMMA opal diffuser PMMA clear diffuser PMMA semi-opal diffuser</p>
<p>10.18.006</p>	<p>mm</p>	<p>Aluminum profile</p>	<p>End cap with hole End cap without hole</p>	<p>PMMA opal PMMA clear PMMA semi-opal</p>	<p>Installation Steps</p>
<p>10.18.007</p>	<p>mm</p>	<p>Aluminum profile</p>	<p>End cap with hole End cap without hole</p>	<p>PMMA opal PMMA clear</p>	<p>Installation Steps</p>
<p>10.18.008</p>	<p>mm</p>	<p>Aluminum profile</p>	<p>End cap with hole End cap without hole</p>	<p>PMMA opal PMMA clear PMMA semi-opal</p>	<p>Mounting brackets (metal) Mounting brackets (PC)</p>

recessed linear LED strip lighting used along with aluminum channels is the best solution for shelves illumination for goods emphasis

10.18.005



combination of recessed / surface mounted aluminum housing with appropriate LED strip lights offered in power matching required lux level


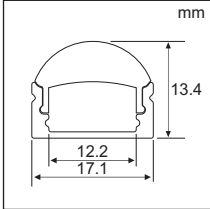
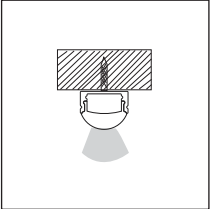



# aluminum channels


**Mounting:** surface mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove  
 feature/accent lighting, shelves


10.18.009


End cap with hole  
End cap without hole




Aluminum profile



Mounting brackets (metal)


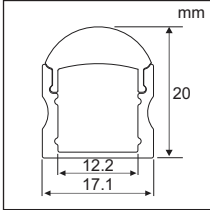
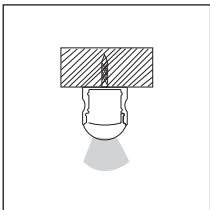



PMMA opal  
PMMA clear




Mounting brackets (PC)


10.18.010


Mounting brackets (PC)



Aluminum profile


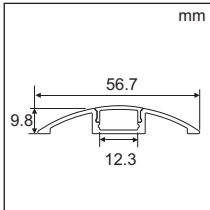
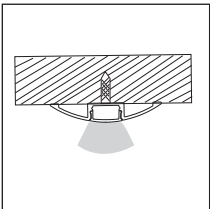



Mounting brackets (metal)




PMMA opal  
PMMA clear


10.18.011

End cap with hole  
End cap without hole



Aluminum profile



PMMA opal  
PMMA semi  
PC clear



recessed mounted into ceiling linear LED strip lighting in aluminum channels as an additional illumination of the exposed items on sale

10.18.007



combination of recessed linear LED strip lights in aluminum housing mounted in the side walls along with downlights from the ceiling increase the ambient atmosphere and emphasis on the sold items

10.18.008





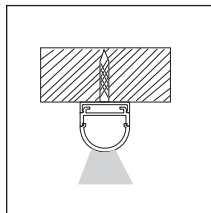
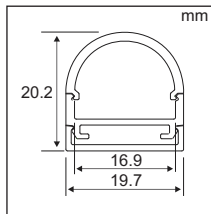
# aluminum channels

**Mounting:** surface mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove  
 feature/accent lighting, shelves



10.18.012



End cap with hole  
End cap without hole



(for strips)



Mounting profile



PMMA opal  
PMMA clear



1



2

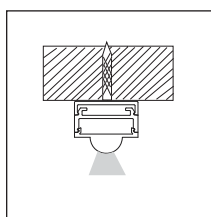
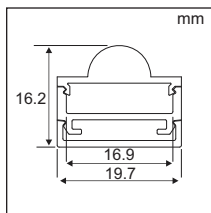


3

Installation Steps



10.18.013



End cap with hole  
End cap without hole



Aluminum profile



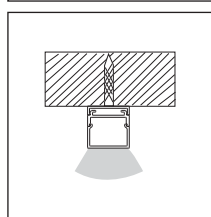
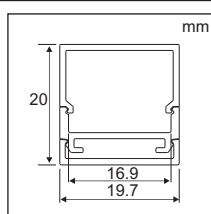
Mounting profile



PMMA clear lens  
(lens, 45 degrees)



10.18.014



End cap with hole  
End cap without hole



Aluminum profile  
(for strips)



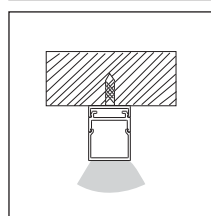
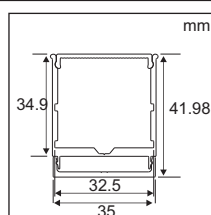
Mounting profile



PMMA opal  
PMMA clear



10.18.015



End cap with hole  
End cap without hole



Mounting profile



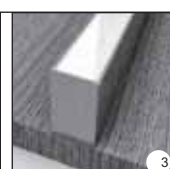
PMMA opal  
PMMA semi opal



1



2



3

Installation Steps

surface mounted continuous linear LED strip lighting in aluminum channels  
flat and bright for 4m high ceiling



under-shelf lighting with exposed opal diffuser  
to give surrounded illumination to cover wide shelf's area



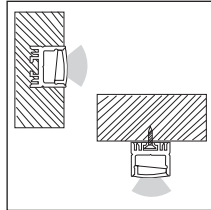
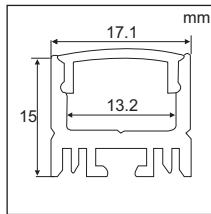
# aluminum channels

**Mounting:** surface mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

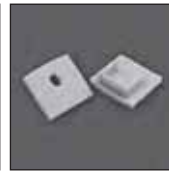
**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove, accent lighting  
 walls, ceilings, shelves



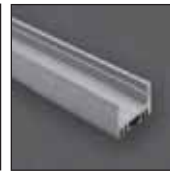
10.18.016



PMMA opal  
PMMA semi-opal



End cap with hole  
End cap without hole



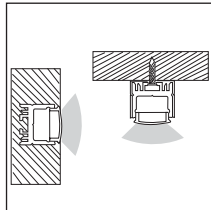
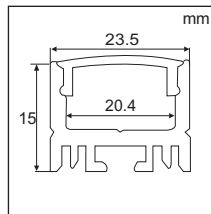
Aluminum profile



Mounting steel brackets



10.18.017



PMMA opal  
PMMA semi opal



End cap with hole  
End cap without hole



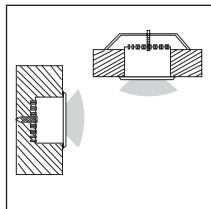
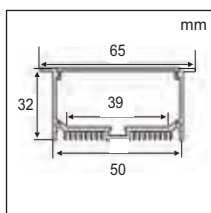
Aluminum profile



Mounting steel brackets



10.18.018



Mounting bracket



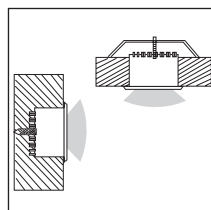
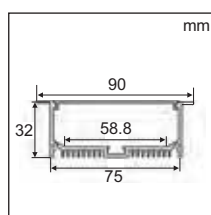
Aluminum profile



PC opal  
PC semi opal



10.18.019



Mounting bracket



End cap with hole  
End cap without hole



PC opal diffuser  
PC semi opal diffuser



Aluminum profile



recessed linear LED lights for under-shelf lighting  
flat and slim

10.18.009



suspended continuous linear LED lights  
functional areas



recessed continuous linear LED lighting for office illumination  
decorative and functional

10.18.012


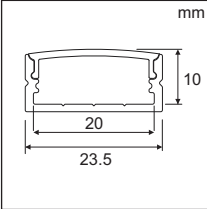
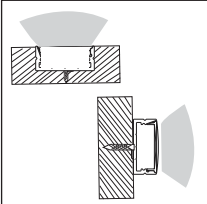

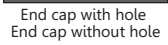



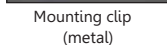


# aluminum channels

**Mounting:** recessed/surface mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove, accent lighting  
 walls, ceilings, shelves

10.18.020


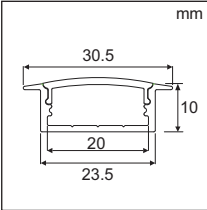
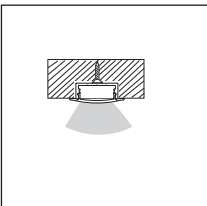

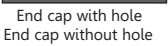



End cap with hole  
End cap without hole

Aluminum profile

PMMA opal  
PMMA semi opal

Mounting clip (metal)

10.18.021


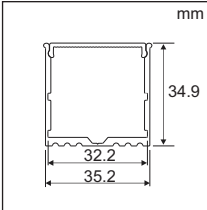
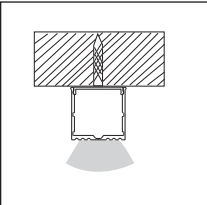

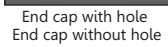












End cap with hole  
End cap without hole

Aluminum profile

PMMA opal  
PMMA semi opal

10.18.022


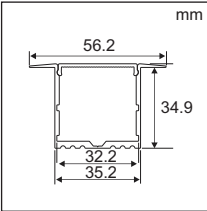
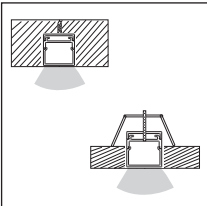

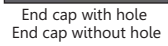



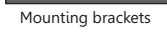
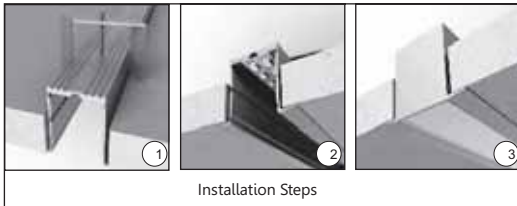









End cap with hole  
End cap without hole

Aluminum profile

PMMA opal  
PMMA semi opal

10.18.023

End cap with hole  
End cap without hole

Aluminum profile

PMMA opal  
PMMA semi

Mounting brackets

Installation Steps

recessed linear LED lights for under-shelf lighting  
flat and slim

10.18.020



suspended continuous linear LED lighting for office illumination  
decorative and functional

10.18.022





# aluminum channels

**Mounting:** surface mounted in corners

**Housing:** extruded aluminum

**Lengths:** up to 2m standard (other longer sizes are available on request)


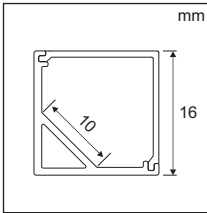
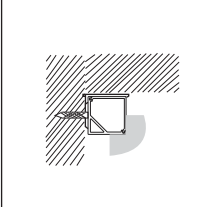




**Finish options:** standard matte grey (other colors are available on request)

**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)

**End caps:** plastic (with/without holes)

**Application:** indoors  
used with strip lights (SMD, flexible, rigid)  
cabinet lighting, cove

10.18.024


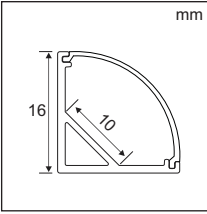
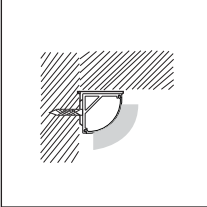

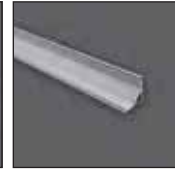

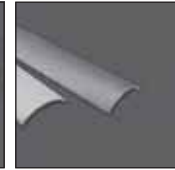


End cap with hole  
End cap without hole

Aluminum profile

Mounting steel brackets

PMMA opal  
PMMA semi-opal

10.18.025

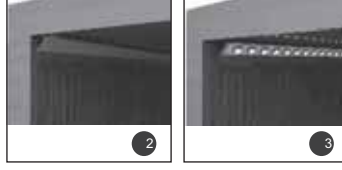
End cap with hole  
End cap without hole

Aluminum profile


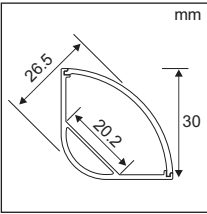
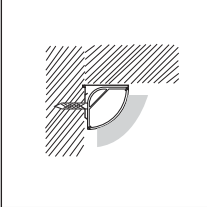



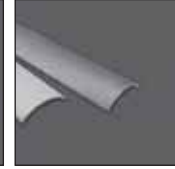



Mounting steel brackets

PMMA opal  
PMMA semi-opal

Mounting brackets (PC)



10.18.026

End cap with hole  
End cap without hole

90° Joining connector

180° Joining connector


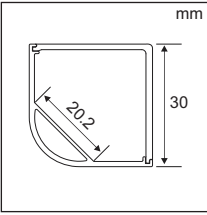
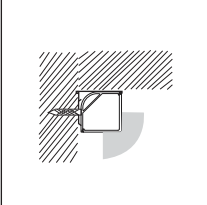





PMMA opal  
PMMA semi-opal

Aluminum profile

90° connecting

Straight connecting

10.18.027

End cap with hole  
End cap without hole

Aluminum profile

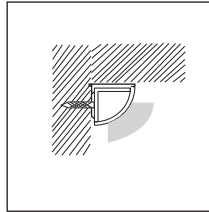
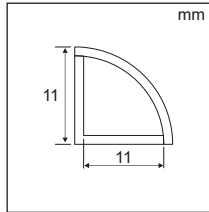
PMMA opal  
PMMA semi-opal

**Mounting:** surface mounted / suspended / wall mounted  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 cabinet lighting, cove



10.18.028



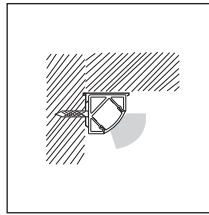
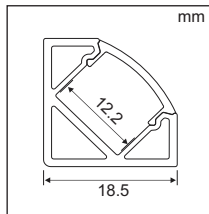
End cap with hole  
End cap without hole



Mounting steel brackets



10.18.029



Aluminum profile



End cap with hole  
End cap without hole



PMMA opal  
PMMA clear  
PMMA semi opal



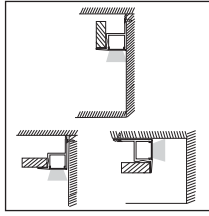
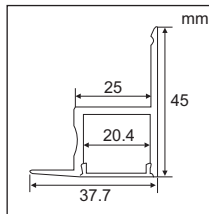
Mounting brackets (PC)



Mounting steel brackets



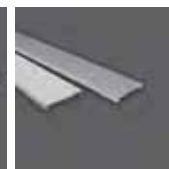
10.18.030



Aluminum profile



End cap with hole  
End cap without hole



PMMA opal  
PMMA semi-opal



recessed continuous LED lighting  
 mounted into walls and ceiling  
 decorative and functional

# aluminum channels

**Mounting:** wall mounted: recessed / surface

**Housing:** extruded aluminum


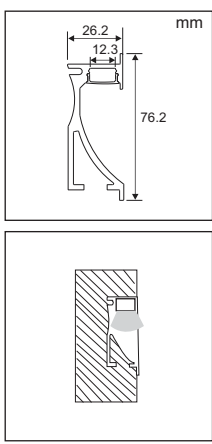




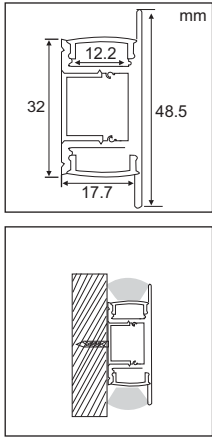





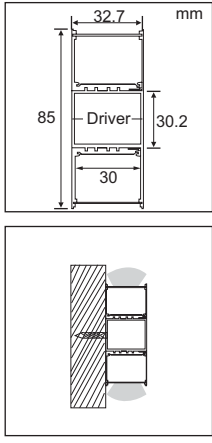

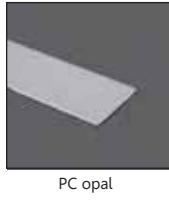



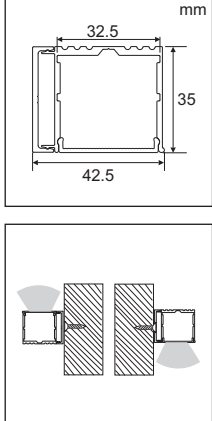




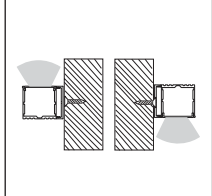

**Lengths:** up to 2m standard (other longer sizes are available on request)

**Finish options:** standard matte grey (other colors are available on request)

**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)

**End caps:** plastic (with/without holes)

**Application:** indoors  
used with strip lights (SMD, flexible, rigid)  
private, residential  
show-rooms, offices, homes, etc.

 <p>10.18.031</p>		 <p>End cap with hole End cap without hole</p>	 <p>Aluminum profile</p>	 <p>PMMA opal PMMA semi-opal</p>	
 <p>10.18.032</p>		 <p>Aluminum profile</p>	 <p>PMMA opal PMMA clear PMMA semi-opal</p>	 <p>Mounting steel clip</p>	 <p>End cap with hole End cap without hole</p>
 <p>10.18.033</p>		 <p>Aluminum profile</p>	 <p>PC opal</p>	 <p>End caps without hole</p>	 <p>Aluminum profile</p>
 <p>10.18.034</p>		 <p>End cap with hole End cap without hole</p>	 <p>Aluminum profile (for strips)</p>	 <p>Aluminum profile</p>	 <p>PMMA opal PMMA semi-opal</p>
		 <p>Mounting profile</p>			



10.18.031

recessed continuous LED lighting  
mounted into walls  
staircase areas



10.18.032

surface wall mounted, up-down  
office / home areas



10.18.033

surface wall mounted, up-down  
office / home areas

# aluminum channels

**Mounting:** recessed (in-ground) / steps mounted

**Housing:** extruded aluminum

**Lengths:** up to 2m standard (other longer sizes are available on request)

**Finish options:** standard matte grey (other colors are available on request)

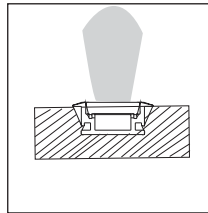
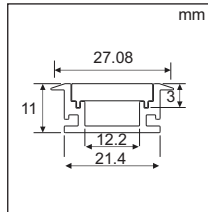
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)

**End caps:** plastic (with/without holes)

**Application:** indoors/outdoors  
used with strip lights (SMD, flexible, rigid)  
public/private  
gardens, parks, hotels,  
offices, homes, show-rooms, etc.



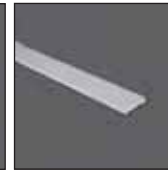
10.18.035



End cap with hole  
End cap without hole



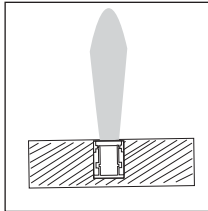
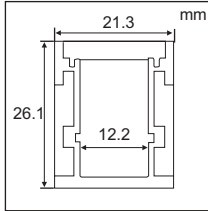
Aluminum profile



PC opal



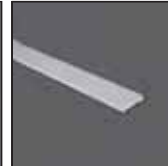
10.18.036



End cap with hole  
End cap without hole



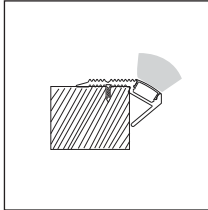
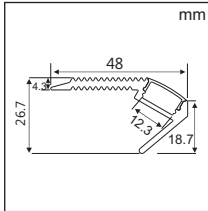
Aluminum profile



PC opal



10.18.037



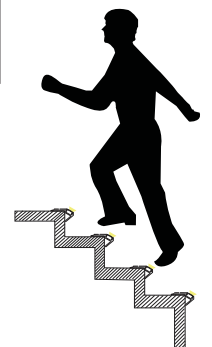
End cap without hole



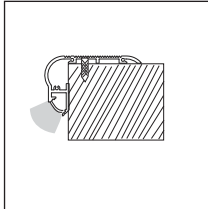
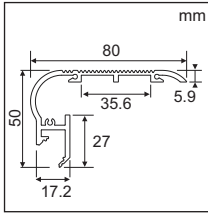
Aluminum profile



PMMA opal  
PMMA semi-opal  
PMMA clear



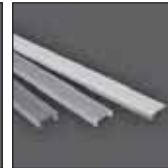
10.18.038



End cap with hole  
End cap without hole



Aluminum profile



PMMA opal  
PMMA semi-opal  
PMMA clear



10.18.036



recessed continuous LED lighting  
mounted into walls  
staircase areas



10.18.038

recessed LED lighting  
mounted into steps  
cinema theater areas



# aluminum channels

**Mounting:** suspended / surface mounted

**Housing:** extruded aluminum

**Lengths:** up to 2m standard (other longer sizes are available on request)

**Finish options:** standard matte grey (other colors are available on request)

**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)


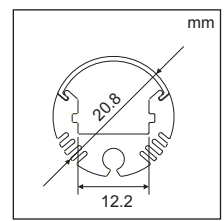



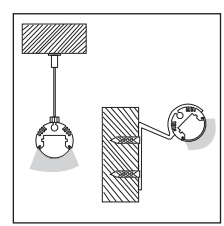



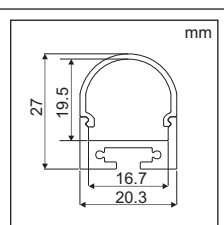



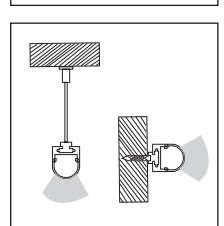


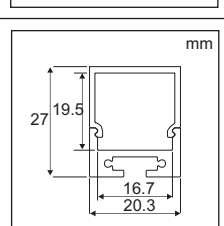


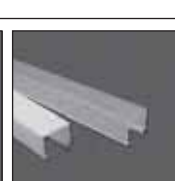
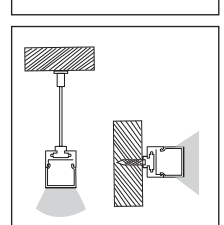

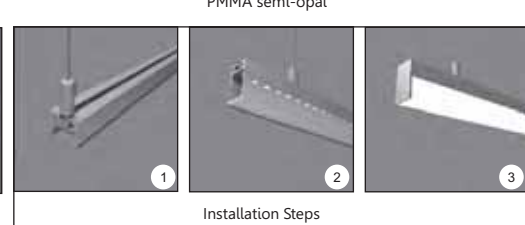

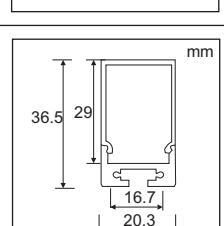
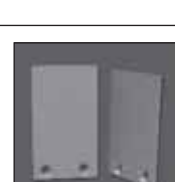


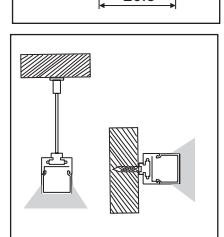
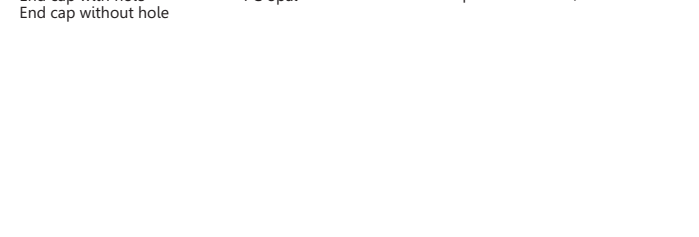
**End caps:** plastic (with/without holes)

**Application:** indoors

used with strip lights (SMD, flexible, rigid)

public/private

offices, show-rooms, etc.

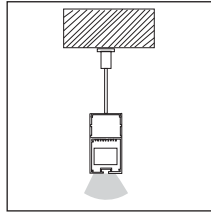
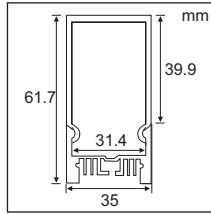
 <p>10.18.039</p>	 <p>mm</p>	 <p>Aluminum profile</p>	 <p>End cap with hole End cap without hole</p>	 <p>PMMA opal PMMA semi-opal</p>
	 <p>Mounting clip (metal)</p>	 <p>Suspension wire (2m)</p>		
 <p>10.18.040</p>	 <p>mm</p>	 <p>End cap without hole</p>	 <p>Aluminum profile</p>	 <p>PMMA opal PMMA semi-opal</p>
	 <p>Suspension wire (2m)</p>			
 <p>10.18.041</p>	 <p>mm</p>	 <p>End cap with hole End cap without hole</p>	 <p>Aluminum profile</p>	 <p>PMMA opal PMMA semi-opal</p>
	 <p>Suspension wire (2m)</p>	 <p>Installation Steps</p>		
 <p>10.18.042</p>	 <p>mm</p>	 <p>End cap with hole End cap without hole</p>	 <p>PC opal</p>	 <p>Aluminum profile</p>
	 <p>Suspension wire (2m)</p>			

**Mounting:** suspended  
**Housing:** extruded aluminum  
**Lengths:** up to 2m standard (other longer sizes are available on request)  
**Finish options:** standard matte grey (other colors are available on request)  
**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)  
**End caps:** plastic (with/without holes)

**Application:** indoors  
 used with strip lights (SMD, flexible, rigid)  
 public/private  
 offices, show-rooms, etc.



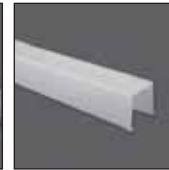
10.18.043



End cap without hole



Aluminum profile



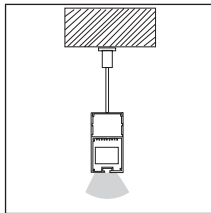
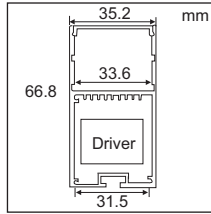
PMMA opal



Suspension wire (2m)



10.18.044



End cap without hole



Aluminum profile



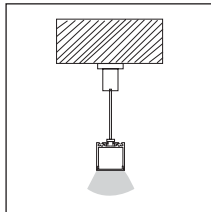
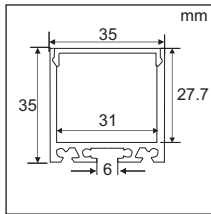
Suspension wire (2m)



PMMA semi-opal  
PMMA opal



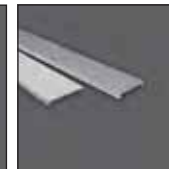
10.18.045



End cap



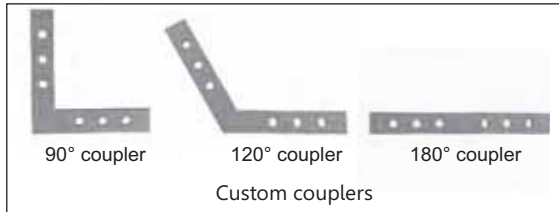
Aluminum profile



PMMA opal  
PMMA semi-opal



Suspension wire (2m)



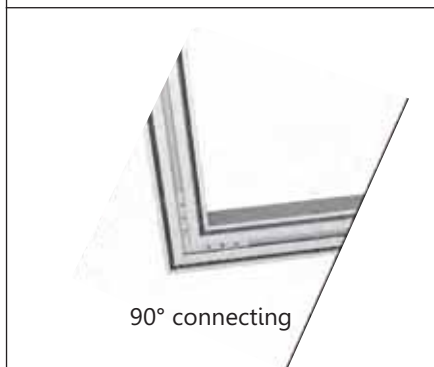
90° coupler

120° coupler

180° coupler

Custom couplers

**Custom channels**



90° connecting



120° connecting

180° connecting



# aluminum channels

**Mounting:** suspended / surface mounted

**Housing:** extruded aluminum

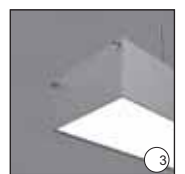
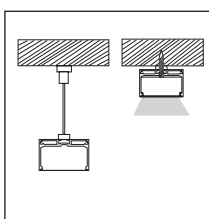
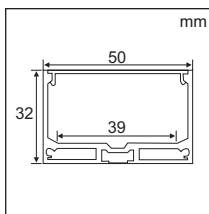
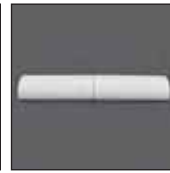
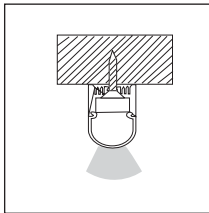
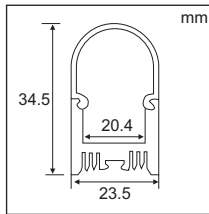
**Lengths:** up to 2m standard (other longer sizes are available on request)

**Finish options:** standard matte grey (other colors are available on request)

**Diffuser:** opal (DF.OPL) / transparent (DF.TNS) (clear)/semi-transparent/opal (DF.SMO)

**End caps:** plastic (with/without holes)

**Application:** indoors  
used with strip lights (SMD, flexible, rigid)  
public/private  
offices, show-rooms, etc.



## LED

An **LED** is a light-emitting diode (LED) product which is assembled into a lamp (or light bulb) for use in lighting fixtures. LED lamps have a lifespan and electrical efficiency which are several times longer than incandescent lamps, and significantly more efficient than most fluorescent lamps, with some chips able to emit more than 300 lumens per watt (as claimed by Cree and some other LED manufacturers). Like incandescent lamps and unlike most fluorescent lamps (e.g. tubes and compact fluorescent lamps or CFLs), LEDs come to full brightness without need for a warm-up time; the life of fluorescent lighting is also reduced by frequent switching on and off. LED chips need to be controlled by direct current (DC) electrical power; an appropriate circuit is required to convert alternating current from the supply to the regulated low voltage direct current used by the LEDs. LEDs are adversely affected by high temperature, so LED lamps typically include heat dissipation elements such as heat sinks and cooling fins.

General-purpose lighting needs white light. LEDs emit light in a very narrow band of wavelengths, emitting light of a color characteristic of the energy bandgap of the semiconductor material used to make the LED. To emit white light from LEDs requires either mixing light from red, green, and blue LEDs, or using a phosphor to convert some of the light to other colors.

One method (RGB or trichromatic white LEDs) uses multiple LED chips, each emitting a different wavelength, in close proximity to generate white light. This allows the intensity of each LED to be adjusted to change the overall color.

The second method uses LEDs in conjunction with a phosphor. The CRI (color rendering index) value can range from less than 70 to over 90, and color temperatures in the range of 2700 K (matching incandescent lamps) up to 7000 K are available.

A significant difference from other light sources is that the light is more directional, i.e., emitted as a narrower beam. LED lamps are used for both general and special-purpose lighting. Where colored light is needed, LEDs that inherently emit light of a single color require no energy-absorbing filters.

White-light LED lamps have longer life expectancy and higher efficiency (more light for the same electricity) than most other lighting when used at the proper temperature. LED sources are compact, which gives flexibility in designing lighting fixtures and good control over the distribution of light with small reflectors or lenses. Because of the small size of LEDs, control of the spatial distribution of illumination is extremely flexible, and the light output and spatial distribution of an LED array can be controlled with no efficiency loss.

LEDs using the color-mixing principle can emit a wide range of colors by changing the proportions of light generated in each primary color. This allows full color mixing in lamps with LEDs of different colors. Unlike other lighting technologies, LED emission tends to be directional (or at least lambertian), which can be either advantageous or disadvantageous, depending on requirements. For applications where non-directional light is required, either a diffuser is used, or multiple individual LED emitters are used to emit in different directions.

## Advantages

- **Efficiency:** LEDs emit more lumens per watt than incandescent light bulbs. The efficiency of LED lighting fixtures is not affected by shape and size unlike fluorescent light bulbs or tubes.
- **Color:** LEDs can emit light of an intended color without using any color filters as traditional lighting methods need. This is more efficient and can lower initial costs.
- **Size:** LEDs can be very small (smaller than 2 mm<sup>2</sup>) and are easily attached to printed circuit boards.
- **Warmup time:** LEDs light up very quickly. A typical red indicator LED will achieve full brightness in under a microsecond. LEDs used in communications devices can have even faster response times.
- **Cycling:** LEDs are ideal for uses subject to frequent on-off cycling, unlike incandescent and fluorescent lamps that fail faster when cycled often, or high-intensity discharge lamps (HID lamps) that require a long time before restarting.
- **Dimming:** LEDs can very easily be dimmed either by pulse-width modulation or lowering the forward current. This pulse-width modulation is why LED lights, particularly headlights on cars, when viewed on camera or by some people, appear to be flashing or flickering. This is a type of stroboscopic effect.
- **Cool light:** In contrast to most light sources, LEDs radiate very little heat in the form of IR that can cause damage to sensitive objects or fabrics. Wasted energy is dispersed as heat through the base of the LED.
- **Slow failure:** LEDs mostly fail by dimming over time, rather than the abrupt failure of incandescent bulbs.
- **Lifetime:** LEDs can have a relatively long useful life. One report estimates 35,000 to 50,000 hours of useful life, though time to complete failure may be longer. Fluorescent tubes typically are rated at about 10,000 to 15,000 hours, depending partly on the conditions of use, and incandescent light bulbs at 1,000 to 2,000 hours. Several DOE demonstrations have shown that reduced maintenance costs from this extended lifetime, rather than energy savings, is the primary factor in determining the payback period for an LED product.
- **Shock resistance:** LEDs, being solid-state components, are difficult to damage with external shock, unlike fluorescent and incandescent bulbs, which are fragile.
- **Focus:** The solid package of the LED can be designed to focus its light. Incandescent and fluorescent sources often require an external reflector to collect light and direct it in a usable manner. For larger LED packages total internal reflection (TIR) lenses are often used to the same effect. However, when large quantities of light are needed many light sources are usually deployed, which are difficult to focus or collimate towards the same target.

**Disadvantages**

- **Temperature dependence:** LED performance largely depends on the ambient temperature of the operating environment – or "thermal management" properties. Over-driving an LED in high ambient temperatures may result in overheating the LED package, eventually leading to device failure. An adequate heat sink is needed to maintain long life. There are some LEDs with an operating temperature range of -40 to 100 °C, which suits the LEDs for both indoor and outdoor use in applications such as lamps, ceiling lighting, street lights, and floodlights.
- **Voltage sensitivity:** LEDs must be supplied with a voltage above their threshold voltage and a current below their rating. Current and lifetime change greatly with a small change in applied voltage. They thus require a current-regulated supply (usually just a series resistor for indicator LEDs).
- **Color rendition:** Most cool-white LEDs have spectra that differ significantly from a black body radiator like the sun or an incandescent light. The spike at 460 nm and dip at 500 nm can cause the color of objects to be perceived differently under cool-white LED illumination than sunlight or incandescent sources, due to metamerism, red surfaces being rendered particularly poorly by typical phosphor-based cool-white LEDs.
- **Area light source:** Single LEDs do not approximate a point source of light giving a spherical light distribution, but rather a lambertian distribution. So LEDs are difficult to apply to uses needing a spherical light field; however, different fields of light can be manipulated by the application of different optics or "lenses". LEDs cannot provide divergence below a few degrees. In contrast, lasers can emit beams with divergences of 0.2 degrees or less.
- **Electrical polarity:** Unlike incandescent light bulbs, which illuminate regardless of the electrical polarity, LEDs will only light with correct electrical polarity. To automatically match source polarity to LED devices, rectifiers can be used.
- **Blue hazard:** There is a concern that blue LEDs and cool-white LEDs are now capable of exceeding safe limits of the so-called blue-light hazard as defined in eye safety specifications such as ANSI/IESNA RP-27.1–05: Recommended Practice for Photobiological Safety for Lamp and Lamp Systems.
- **Light pollution:** Because white LEDs, especially those with high color temperature, emit much more short wavelength light than conventional outdoor light sources such as high-pressure sodium vapor lamps, the increased blue and green sensitivity of scotopic vision means that white LEDs used in outdoor lighting cause substantially more sky glow.
- **Efficiency droop:** The efficiency of LEDs decreases as the electric current increases. Heating also increases with higher currents which compromises the lifetime of the LED. These effects put practical limits on the current through an LED in high power applications.
- **Impact on insects:** LEDs are much more attractive to insects than sodium-vapor lights, so much so that there has been speculative concern about the possibility of disruption to food webs.



A 230-volt LED filament light bulb, with an E27 base. The filament is visible as the eight yellow vertical lines.



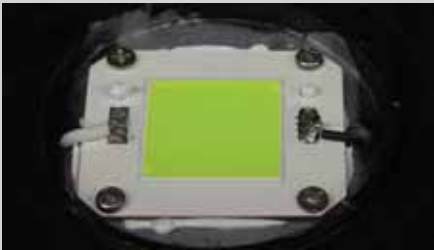
An assortment of LED lamps commercially available as of 2010 as replacements for screw-in bulbs, including floodlight fixtures (left), reading light (center), household lamps (center right and bottom), and low-power accent light (right) applications



LED spotlight using 60 individual diodes for mains voltage usage



LED light bulb to replace G24 compact fluorescent lamp



An 80W Chip-On-Board COB LED Module from an industrial light luminaire, thermally bonded to the heat sink



Some well-known HP-LEDs in this category are the Nichia 19 series, Lumileds Rebel Led, Osram Opto Semiconductors Golden Dragon, and Cree X-lamp. As of September 2009, some HP-LEDs manufactured by Cree now exceed 105 lm/W.

Examples for Haitz's law, which predicts an exponential rise in light output and efficacy of LEDs over time, are the CREE XP-G series LED which achieved 105 lm/W in 2009 and the Nichia 19 series with a typical efficacy of 140 lm/W, released in 2010.

**AC driven**

LEDs have been developed by Seoul Semiconductor that can operate on AC power without the need for a DC converter. For each half-cycle, part of the LED emits light and part is dark, and this is reversed during the next half-cycle. The efficacy of this type of HP-LED is typically 40 lm/W. A large number of LED elements in series may be able to operate directly from line voltage. In 2009, Seoul Semiconductor released a high DC voltage LED, named as 'Acrich MJT', capable of being driven from AC power with a simple controlling circuit. The low-power dissipation of these LEDs affords them more flexibility than the original AC LED design.

**Lumen (unit)**



A standard LED lamp producing 470 lumens. It consumes about one sixth the energy of an incandescent light bulb producing the same light.

The **lumen** (symbol: **lm**) is the SI derived unit of luminous flux, a measure of the total quantity of visible light emitted by a source. Luminous flux differs from power (radiant flux) in that radiant flux includes all electromagnetic waves emitted, while luminous flux is weighted according to a model of the human eye's sensitivity to various wavelengths. Lumens are related to lux in that one lux is one lumen per square meter.

The lumen is defined in relation to the candela as  $1 \text{ lm} = 1 \text{ cd}\cdot\text{sr}$ .

A full sphere has a solid angle of  $4\pi$  steradians, so a light source that uniformly radiates one candela in all directions has a total luminous flux of  $1 \text{ cd} \times 4\pi \text{ sr} = 4\pi \text{ cd}\cdot\text{sr} \sim 12.57$  lumens.

If a light source emits one candela of luminous intensity uniformly across a solid angle of one steradian, the total luminous flux emitted into that angle is one lumen ( $1 \text{ cd}\cdot 1 \text{ sr} = 1 \text{ lm}$ ). Alternatively, an isotropic one-candela light-source emits a total luminous flux of exactly  $4\pi$  lumens. If the source were partially covered by an ideal absorbing hemisphere, that system would radiate half as much luminous flux—only  $2\pi$  lumens. The luminous intensity would still be one candela in those directions that are not obscured.

The lumen can be thought of casually as a measure of the total "amount" of visible light in some defined beam or angle, or emitted from some source. The number of candelas or lumens from a source also depends on its spectrum, via the nominal response of the human eye as represented in the luminosity function.

The difference between the units lumen and lux is that the lux takes into account the area over which the luminous flux is spread. A flux of 1000 lumens, concentrated into an area of one square metre, lights up that square metre with an illuminance of 1000 lux. The same 1000 lumens, spread out over ten square metres, produces a dimmer illuminance of only 100 lux. Mathematically,  $1 \text{ lx} = 1 \text{ lm}/\text{m}^2$ .

A source radiating a power of one watt of light in the color for which the eye is most efficient (a wavelength of 555 nm, in the green region of the optical spectrum) has luminous flux of 683 lumens. So a lumen represents at least 1/683 watts of visible light power, depending on the spectral distribution.

**Comparison table**

	<b>Incandescent</b>	<b>Halogen</b>	<b>CFL</b>	<b>LED (Cree)</b>
Power Factor	1	1	0.5	0.75
Real power used (watts)	60	35	14	9.5
lumens	860	860	775	800
lumens/watt	14.3	24.6	55.4	84
Color Temperature kelvin	2700	2900	2700	2700
CRI	100	100	82	80
Lifespan (hours)	1,000	4,000	10,000	25,000
Bulb lifetime in years @ 6 hours/day	0.46	1.83	4.6	11.4

High-power LEDs (HP-LEDs) or high-output LEDs (HO-LEDs) can be driven at currents from hundreds of mA to more than an ampere, compared with the tens of mA for other LEDs. Some can emit over a thousand lumens. LED power densities up to 300 W/cm<sup>2</sup> have been achieved. Since overheating is destructive, the HP-LEDs must be mounted on a heat sink to allow for heat dissipation. If the heat from a HP-LED is not removed, the device will fail in seconds. One HP-LED can often replace an incandescent bulb in a flashlight, or be set in an array to form a powerful LED lamp.

<b>Electrical power equivalents for different lamps</b>			
<b>Minimum light output (lumens)</b>	<b>Electrical power consumption (watts)</b>		
	<b>Incandescent (non-halogen)</b>	<b>Compact fluorescent</b>	<b>LED</b>
200	25	3-5	3
450	40	9-11	5-8
800	60	13-15	9-12
1,100	75	18-20	13-16
1,600	100	24-28	18-22
2,400	150	30-52	30
3,100	200	49-75	32
4,000	300	75-100	40.5

**Lux**

The **lux** (symbol: **lx**) is the SI unit of illuminance and luminous emittance, measuring luminous flux per unit area. It is equal to one lumen per square metre. In photometry, this is used as a measure of the intensity, as perceived by the human eye, of light that hits or passes through a surface. It is analogous to the radiometric unit watts per square metre, but with the power at each wavelength weighted according to the luminosity function, a standardized model of human visual brightness perception. In English, "lux" is used in both singular and plural.



A lux meter for measuring illuminances in work places.

**Illuminance**

Illuminance is a measure of how much luminous flux is spread over a given area. One can think of luminous flux (measured in lumens) as a measure of the total "amount" of visible light present, and the illuminance as a measure of the intensity of illumination on a surface. A given amount of light will illuminate a surface more dimly if it is spread over a larger area, so illuminance (lux) is inversely proportional to area when the luminous flux (lumens) is held constant.

One lux is equal to one lumen per square metre:  $1 \text{ lx} = 1 \text{ lm/m}^2 = 1 \text{ cd}\cdot\text{sr/m}^2$

A flux of 1000 lumens, concentrated into an area of one square metre, lights up that square metre with an illuminance of 1000 lux. However, the same 1000 lumens, spread out over ten square metres, produces a dimmer illuminance of only 100 lux.

Achieving an illuminance of 500 lux might be possible in a home kitchen with a single fluorescent light fixture with an output of 12000 lumens. To light a factory floor with dozens of times the area of the kitchen would require dozens of such fixtures. Thus, lighting a larger area to the same level of lux requires a greater number of lumens.

As with other SI units, SI prefixes can be used, for example a kilolux (klx) is 1,000 lux.

Here are some examples of the illuminance provided under various conditions:

Illuminance	Surfaces illuminated by:
0.0001 lux	Moonless, overcast night sky (starlight)
0.002 lux	Moonless clear night sky with airglow
0.27–1.0 lux	Full moon on a clear night
3.4 lux	Dark limit of civil twilight under a clear sky
50 lux	Family living room lights
80 lux	Office building hallway/toilet lighting
100 lux	Very dark overcast day
320–500 lux	Office lighting
400 lux	Sunrise or sunset on a clear day.
1,000 lux	Overcast day; typical TV studio lighting
10,000–25,000 lux	Full daylight (not direct sun)
32,000–100,000 lux	Direct sunlight

The illuminance provided by a light source, on a surface perpendicular to the direction to the source, is a measure of the strength of that source as perceived from that location. For instance, a star of apparent magnitude 0 provides 2.08 microlux at the earth's surface. A barely perceptible magnitude 6 star provides 8 nanolux. The unobscured sun provides an illumination of up to 100 kilolux on the Earth's surface, the exact value depending on time of year and atmospheric conditions. This direct normal illuminance is related to the solar illuminance constant  $E_{sc}$ , equal to 128000 lux (see Sunlight).

**Luminous emittance**

The lux is also a measure of luminous emittance, the number of lumens given off by a surface per square metre, regardless of how that light is distributed in terms of the directions in which it is emitted. It differs from the luminance (measured in candela per square metre or "nits"), which does depend on the angular distribution of the emission. A perfectly white surface with one lux falling on it will emit one lux.

Residences		
Areas	General/Minimum/Spotted (reading, writing)	lux level
reception (living room)	general	150
	spotted	1,000
	minimum	500
kitchen	general	150
	spotted	500
	minimum	250
bedroom	general	150
	spotted	200
	minimum	70
corridor/staircase/garage	general	150
	spotted	500
	minimum	250

Hotels / Restaurants		
Areas	General/Minimum/Spotted (reading, writing)	lux level
bedroom	general	150
bedroom, bed area	spotted	500
	minimum	250
bedroom, office	spotted	500
	minimum	250
kitchen	general	500
	minimum	250
open areas	general	150
exhibition hall	general	500
	minimum	250
bathroom	general	150
bathroom, mirror	general	500
	minimum	250
staircase	general	150

Shops		
Areas	General/Minimum/Spotted (reading, writing)	lux level
downtown shop window	general	2,000
	minimum	1,000
	spotted (usual)	10,000
	spotted (minimum)	5,000
shop windows in other areas	general	1,000
	minimum	500
	spotted (usual)	5,000
indoor lighting for city shops	general	1,000
	minimum	500
indoor lighting for other areas	general	500
	minimum	250

Offices, business		
Areas	General/Minimum/Spotted (reading, writing)	lux level
accounting, typists	general	1,000
	minimum	500
drawing room	general	150
	spotted	1,000
	minimum	500
waiting room	general	400
	minimum	150
conference hall	general	500
	minimum	250



Hospitals		
Areas	General/Minimum/Spotted (reading, writing)	lux level
doctor's office	general	150
	working table (usual)	1,000
	working table (minimum)	500
waiting area	general	150
bathroom	general	200
	minimum	100
	mirror (usual)	400
	mirror (minimum)	200
library	general	500
	minimum	250
first aid ward	spotted (usual)	1,000
	spotted (minimum)	500
	general (usual)	20,000
	general (minimum)	10,000
corridors, staircases	general	150
kitchen	general (usual)	500
	general (minimum)	250
laboratory, research areas	general (usual)	500
	general (minimum)	250
laboratory, working table	general (usual)	1,000
	general (minimum)	500
operation room	general (usual)	1,000
	general (minimum)	500
operation room, working table	general (usual)	40,000
	general (minimum)	20,000
dentist's room	general (usual)	500
	general (minimum)	250
dentist's room (chair)	general (usual)	10,000
	general (minimum)	5,000
maternity ward	general (usual)	500
	general (minimum)	250
delivery bed	general (usual)	10,000
	general (minimum)	5,000

Educational establishments		
Areas	General/Minimum/Spotted (reading, writing)	lux level
nursery	general	200
	minimum	100
elementary school	general	400
	minimum	200
<b>high school</b>		
teaching room	general	500
	minimum	250
research area, lab	general	600
	minimum	300
auxiliary areas	general	300
	minimum	150
<b>technical school</b>		
teaching room	general	500
	minimum	250
drawing room	general	1,000
	minimum	500
lab	general	500
	minimum	250

Educational establishments		
Areas	General/Minimum/Spotted (reading, writing)	lux level
open areas	general	150
supplementary lighting for paintings	general	400
	minimum	200
supplementary lighting for sculptures and other objects	general	1,000
	minimum	500

<b>Bus, train, metro, airport stations</b>		
<b>Areas</b>	<b>General/Minimum/Spotted (reading, writing)</b>	<b>lux level</b>
waiting room	general	150
ticket booth and offices	general	1,000
	minimum	500
canteens	general	150
platforms	general	150

<b>Industrial</b>		
<b>Areas</b>	<b>General/Minimum/Spotted (reading, writing)</b>	<b>lux level</b>
<b>paper industry</b>		
final control		1,000
other works		500
warehouse		150
<b>leather factory</b>		
leather processing		2,000
<b>glass manufacturing</b>		
general lighting		500
controlling areas		2,000
<b>shoe factory</b>		
shoe processing		2,000
<b>soap factory</b>		
general lighting		2,000
packaging		2,000
<b>ceramic industry</b>		
general lighting		150
color works		1,000
<b>chemical industry</b>		
furnace, boilers, kilns, etc.		150-300
<b>food industry</b>		
cleaning, washing, conveyor belts		250-500
inspection, canning area		2,000
general lighting		250-500

<b>Parking areas</b>		
<b>Areas</b>	<b>General/Minimum/Spotted (reading, writing)</b>	<b>lux level</b>
garage	general	500
	minimum	250
	spotted (usual)	1,000
	spotted (minimum)	500
lubrication area	general	500
	minimum	250
washing area	general	500
	minimum	250
parking area	general	150

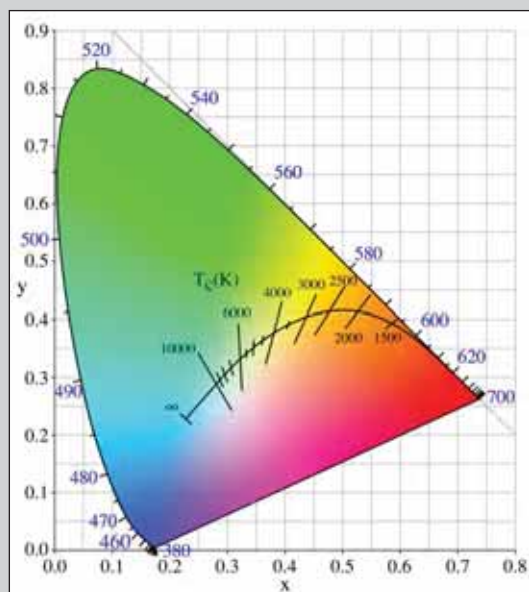
<b>Stadium</b>		
<b>Areas</b>	<b>General/Minimum/Spotted (reading, writing)</b>	<b>lux level</b>
football (handball)	general	750
basketball/volleyball	general	750
swimming pool	general	300

<b>Specific Labors areas</b>		
<b>Areas</b>	<b>General/Minimum/Spotted (reading, writing)</b>	<b>lux level</b>
laundry	general	500
	minimum	250
machine areas	general	1,000
	minimum	500
inspection areas	general	2,000
<b>bakeries</b>		
kneading, preparation areas	general	400
	minimum	200
packaging area	general	300
	minimum	150
exhibiting shelves	general	500
	minimum	250
<b>printing</b>		
press preparation, correction	general	1,000
	minimum	500
color checking	general	2,000

<b>Industrial</b>	
<b>milk industry</b>	
sterilization, cooling, cream preparation areas, etc.	500-1,000
bottle washing, bottle filling inspection	500-1,000
weighing areas	250-500
laboratories	500-1,000
<b>foundries</b>	
molding construction (operational works)	500-1,000
molding construction (heavy processing)	250-500
inspection areas for delicate works	1,000-2,000
inspection areas for other works	500-1,000
<b>silk - synthetic industry</b>	
light color fibers	200-400
very dark color fibers	750-1,500
<b>wool industry</b>	
processing areas	200-400
inspection areas	400-800
<b>tobacco industry</b>	
processing and configuration machines areas	400-800
production inspection areas	1,000-2,000
<b>automotive industry</b>	
chassis manufacturing	250-500
components preparation	500-1,000
inspection areas	1,000-2,000
<b>electricity production stations</b>	
cabinets	500-1,000
other areas	150
<b>aeronautics</b>	
aircraft workshops	500-1,000
<b>shipyards</b>	
assembly areas	250-500
transport areas, bridge cranes	150
other works areas	500-1,000
<b>industry ware-houses</b>	
bulk storage	50-100
storage of small items	100-200
storage of very small items	200-400

<b>Workshops</b>		
<b>Areas</b>	<b>General/Minimum/Spotted (reading, writing)</b>	<b>lux level</b>
<b>sewing areas</b>		
light colored fabrics		100-150
dark colored fabrics		250-1,000
<b>dyeing areas</b>		
general lighting		500-1,000
special works and control		1,000-2,000
<b>repair shops</b>		
work with bulk items		100
work with medium sized items		250-500
work with fine items		500-1,000
work with very fine items		1,000-2,000
<b>metallurgical works</b>		
general works		250-500
product control areas		500-1,000
<b>wood works</b>		
operational		500-1,000
common		250-500
<b>sugar labs</b>		
color control		1,000-2,000
centrifuges - purification		500-1,000
various works		250-500
warehouses		150

## CCT (Correlated Color Temperature, Kelvin)



The CIE 1931 x,y chromaticity space, also showing the chromaticities of black-body light sources of various temperatures (Planckian locus), and lines of constant correlated color temperature.

The **color temperature** of a light source is the temperature of an ideal black-body radiator that radiates light of comparable hue to that of the light source.

Color temperature is a characteristic of visible light that has important applications in lighting, photography, videography, publishing, manufacturing, astrophysics, horticulture, and other fields. In practice, color temperature is only meaningful for light sources that do in fact correspond somewhat closely to the radiation of some black body, i.e., those on a line from reddish/orange via yellow and more or less white to blueish white; it does not make sense to speak of the color temperature of, e.g., a green or a purple light. Color temperature is conventionally expressed in Kelvin, using the symbol K, a unit of measure for temperature based on the Kelvin scale.

Color temperatures over 5,000K are called cool colors (bluish white), while lower color temperatures (2,700–3,000 K) are called warm colors (yellowish white through red). This relation, however, is a psychological one in contrast to the physical relation implied by Wien's displacement law, according to which the spectral peak is shifted towards shorter wavelengths (resulting in a more blueish white) for higher temperatures.

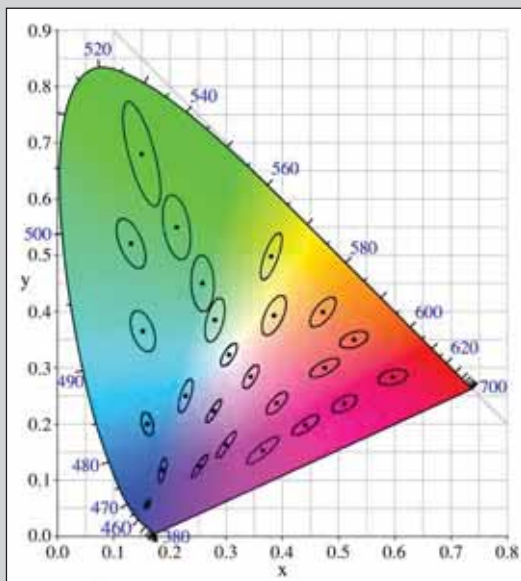
Temperature	Source
1,700 K	Match flame, low pressure sodium lamps (LPS/SOX)
1,850 K	Candle flame, sunset/sunrise
2,400 K	Standard Incandescent lamps
2,550 K	Soft White Incandescent lamps
2,700 K	"Soft White" compact fluorescent and LED lamps
3,000 K	Warm White compact fluorescent and LED lamps
3,200 K	Studio lamps, photofloods, etc.
3,350 K	Studio "CP" light
4,100–4,150 K	Moonlight
5,000 K	Horizon daylight
5,000 K	Tubular fluorescent lamps or cool white/daylight compact fluorescent lamps (CFL)
5,500–6,000 K	Vertical daylight, electronic flash
6,200 K	Xenon short-arc lamp
6,500 K	Daylight, overcast
6,500–9,500 K	LCD or CRT screen
15,000–27,000 K	Clear blue poleward sky
These temperatures are merely characteristic; considerable variation may be present.	

**SDCM and MacAdam Ellipses**

SDCM is an acronym which stands for Standard Deviation Colour Matching. SDCM has the same meaning as a “MacAdam ellipse”. A 1-step MacAdam ellipse defines a zone in the CIE 1931 2 deg (xy) colour space within which the human eye cannot discern colour difference. Most LEDs are binned at the 4-7 step level, in other words you certainly can see colour differences in LEDs that are ostensibly the same colour.

The science behind colour difference specifications was established by Dr David MacAdam in 1942 [MacAdam, D.L., Visual Sensitivities to Colour Differences in Daylight, J.Opt.Soc.Am. 32, 247 (1942)]. MacAdam’s experiments relied upon visual observation of the so-called Just Noticeable Colour Difference (JND) between two very similar coloured lights. Just Noticeable Difference is defined as the colour difference where 50% of observers see a difference and 50% of observers do not see a difference. The zones with standard deviations of colour matching (SDCM), were found to be elliptical in the CIE 1931 2 deg observer colour space. The size and orientation of the ellipses varied greatly depending upon the location in the colour space diagram. The zones were observed to be largest in the green and smaller in the red and blue.

Due to the variable nature of the colour produced by white light LEDs, a convenient metric for expressing the extent of the colour difference within a batch (or bin) or LEDs is the number of SDCM (MacAdam) ellipses steps in the CIE colour space that the LEDs fall into. If the chromaticity coordinates of a set of LEDs all fall within 1 SDCM (or a “1-step MacAdam ellipse”), most people would fail to see any difference in colour. If the colour variation is such that the variation in chromaticity extends to a zone that is twice as big (2 SDCM or a 2-step MacAdam ellipse), you will start to see some colour difference. A 2-step MacAdam ellipse is better than a 3-step zone, and so on. It should be noted that SDCM ellipses are often shown in the CIE colour space diagram at a ten times magnification (see image below) because they would otherwise be too small to be seen clearly when viewed in the complete CIE diagram.



MacAdam’s experiments demonstrated that the size of an SDCM ellipse is quite small, which means that the human vision system is very good at discriminating colour differences when viewing two light sources at the same time. If we consider the size of the 1-step SDCM ellipse at an arbitrary 3,000K colour temperature, the CCT range is  $\pm 30K$ , and the corresponding u’v’ range (the chromaticity coordinates in the 1976 CIE Uniform Colour Space) is  $\pm 0.001$ . In other words, if we view two LEDs with a CCT difference of more than 60K, the chances are that we will see a colour difference. The table below relates the number of SDCM ellipse steps to the range of CCT and chromaticity coordinates for a 3000K colour temperature light source.

SDCM	CCT @ 3000K	$\Delta U'V'$
1x	$\pm 30K$	$\pm 0.0007$
2x	$\pm 60K$	$\pm 0.0010$
4x	$\pm 100K$	$\pm 0.0020$
7-8x	$\pm 175K$	$\pm 0.0060$

Within the lighting industry, reference is often made to the standard IES LM-79-08 “Approved Method of Electrical & Photometric Measurements of Solid State Lighting Products” published by the Illuminating Engineering Society of North America (IESNA). This in turn references the American standard ANSI C78.377-2008 “Specification for the Chromaticity of Solid State Lighting Products” which places white light LEDs used for illumination into standard colour groups which all have the same “nominal” correlated colour temperatures (CCTs). The size of the ANSI C78.377 nominal CCT quadrangle is a 7-step MacAdam ellipse. A 7 to 8-step SDCM is currently representative of the variation in chromaticity of high brightness white LEDs used for illumination. So when an LED supplier proudly claims to offer you LEDs binned to a 4-step MacAdam ellipse tolerance (or 4xSDCM), keep in mind that this is better than LEDs that are binned to 5-steps but you will still see a colour difference over the range of LEDs supplied to that specification.



**IP Code**

The **IP Code, International Protection Marking**, IEC standard 60529, sometimes interpreted as **Ingress Protection Marking**, classifies and rates the degree of protection provided against intrusion (body parts such as hands and fingers), dust, accidental contact, and water by mechanical casings and electrical enclosures. It is published by the International Electrotechnical Commission (IEC). The equivalent British standard is EN 60529.

The standard aims to provide users more detailed information than vague marketing terms such as waterproof. The digits (characteristic numerals) indicate conformity with the conditions summarized in the tables below. Where there is no data available to specify a protection rating with regard to one of the criteria, the digit is replaced with the letter X. The digit 0 is used where no protection is provided.

A rating of X for one or more of the protection criteria can be erroneously misinterpreted as "no protection". To illustrate, a piece of electronic equipment rated IPX7 will almost certainly demonstrate a robust resistance to the ingress of particles, even though a rating for ingress of solids hasn't been formally assigned. Hence, an X designation shouldn't be automatically misconstrued as a lack of protection.

For example, an electrical socket rated IP22 is protected against insertion of fingers and will not be damaged or become unsafe during a specified test in which it is exposed to vertically or nearly vertically dripping water. For example, a particular cellular phone rated at IP58 is "dust resistant" and can be "immersed in 1.5 meters of freshwater for up to 30 minutes". IP22 or 2X are typical minimum requirements for the design of electrical accessories for indoor use.

The ratings for water ingress are not cumulative beyond IPX6. A device which is compliant with IPX7, covering immersion in water, need not be compliant with IPX5 or IPX6, covering exposure to water jets. A device which meets both tests is indicated by listing both tests separated by a slash, e.g. IPX5/IPX7.

**Solid particle protection**

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

Level	Object size protected against	Effective against
0	—	No protection against contact and ingress of objects
1	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	>12.5 mm	Fingers or similar objects
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, slender screws, ants etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment.
6	Dust tight	No ingress of dust; complete protection against contact (dust tight). A vacuum must be applied. Test duration of up to 8 hours based on air flow.

**Liquid ingress protection**

The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

Level	Protected against	Effective against	Details
0	Not protected	—	—
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.	Test duration: 10 minutes Water equivalent to 1 mm rainfall per minute
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.	Test duration: 10 minutes Water equivalent to 3 mm rainfall per minute
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.	Test duration: 5 minutes Water volume: 0.7 litres per minute Pressure: 50–150 kPa
4	Splashing of water	Water splashing against the enclosure from any direction shall have no harmful effect.	Test duration: 5 minutes Water volume: 10 litres per minute Pressure: 50–150 kPa
5	Water jets	Water projected by a nozzle (6.3 mm) against enclosure from any direction shall have no harmful effects.	Test duration: at least 3 minutes Water volume: 12.5 litres per minute Pressure: 30 kPa at distance of 3 m
6	Powerful water jets	Water projected in powerful jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects.	Test duration: at least 3 minutes Water volume: 100 litres per minute Pressure: 100 kPa at distance of 3 m
6K	Powerful water jets with increased pressure	Water projected in powerful jets (6.3 mm nozzle) against the enclosure from any direction, under elevated pressure, shall have no harmful effects.	Test duration: at least 3 minutes Water volume: 75 litres per minute Pressure: 1000 kPa at distance of 3 m

7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).	<p>Test duration: 30 minutes</p> <p>Tested with the lowest point of the enclosure 1000 mm below the surface of the water, or the highest point 150 mm below the surface, whichever is deeper.</p>
8	Immersion 1 m or more	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. However, with certain types of equipment, it can mean that water can enter but only in such a manner that it produces no harmful effects. The test depth and/or duration is expected to be greater than the requirements for IPx7.	<p>Test duration: continuous immersion in water</p> <p>Depth specified by manufacturer, generally up to 3 m</p>
9K	Powerful high temperature water jets	<p>Protected against close-range high pressure, high temperature spray downs.</p> <p>Smaller specimens rotate slowly on a turntable, larger specimens are tested freehand for a longer time. Smaller specimens are tested from 4 specific angles.</p> <p>There are specific requirements for the nozzle used for the testing.</p>	<p>Test duration: 30 seconds in each of 4 angles (2 minutes total)</p> <p>Water volume: 14–16 litres per minute</p> <p>Pressure: [8000–10000 kPa / 80–100 Bar] at distance of 0.1–0.15 m</p> <p>Water temperature: 80 °C</p>

**Mechanical impact resistance**

An additional number has sometimes been used to specify the resistance of equipment to mechanical impact. This mechanical impact is identified by the energy needed to qualify a specified resistance level, which is measured in joules (J). This has now been superseded by the separate 'IK code' specified in EN 62262.

Although dropped from the 3rd edition of IEC 60529 onwards, and not present in the EN version, older enclosure specifications will sometimes be seen with an optional third IP digit denoting impact resistance. Newer products are likely to be given an IK rating instead. However, there is not an exact correspondence of values between the old and new standards.

IK number	Impact energy (joules)	Equivalent impact
00	Unprotected	No test
01	0.15	Drop of 200 g object from 7.5 cm height
02	0.2	Drop of 200 g object from 10 cm height
03	0.35	Drop of 200 g object from 17.5 cm height
04	0.5	Drop of 200 g object from 25 cm height
05	0.7	Drop of 200 g object from 35 cm height
06	1	Drop of 500 g object from 20 cm height
07	2	Drop of 500 g object from 40 cm height
08	5	Drop of 1.7 kg object from 29.5 cm height
09	10	Drop of 5 kg object from 20 cm height
10	20	Drop of 5 kg object from 40 cm height

**IP20-IP68** IP-rating (ingress protection)  
 Defines levels of sealing effectiveness of electrical enclosures against intrusion from foreign bodies (tools, dirt, etc) and moisture

**CE** CE-certified. Conforms to EU health and safety standards

**IK00-IK10** IK-rating (impact protection)  
 Classifies the level of protection that electrical appliances provide against mechanic impacts from outside. It is defined by standard EN/IEC 62262

**RoHS** Lead-Free (Restriction of Hazardous Substances) restricts the use of six hazardous materials found in electrical and electronic products (Directive 2002/95/EC)

**class-I**  
 Electrically insulated. Earthing is provided

**EN 62471** Certified on Photobiological Safety of Lamps

**class-II**  
 Double insulation. No provision for earthing is provided

**TÜV** TÜV certified for safety, quality, usability

**class-III**  
 Protection against electric shock relies on Safety Extra Low Voltage (SELV). Voltages higher than those of SELV are not generated (max. 50V ac rms).

**GS** GS-certified. Free of harmful substances, safe against breakage or reliable electrics

**F** Luminaires suitable for mounting on normally combustible surfaces (ignition temperature at least 200°C)



recessed lighting fixture



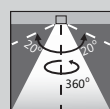
recessed lighting gimbal (modular) fixture with 3 built-in lights



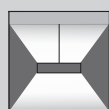
surface mounted lighting fixture



recessed lighting gimbal (modular) fixture with 2 built-in lights



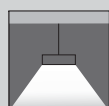
recessed lighting fixture with vertically adjustable trim (for example 20°) and rotatable 360° horizontally



suspended lighting fixture with direct/indirect light distribution



recessed lighting fixture with vertically adjustable trim (for example: 30°) and not rotatable horizontally



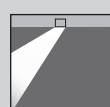
suspended lighting fixture with direct only light distribution



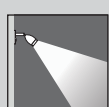
recessed lighting fixture with single-side vertically adjustable trim (for example 25°) and not rotatable horizontally



floor mounted lighting fixture with direct/indirect light distribution



recessed lighting fixture with fixed asymmetric reflector and not rotatable (neither vertically nor horizontally) (used for wall washing)



wall mounted lighting fixture (reading lights, pictures lights, etc.)

<b>ref code</b>	<b>page</b>	<b>ref code</b>	<b>page</b>	<b>ref code</b>	<b>page</b>
<b>spot/downlights</b>					
01.01.001	16	03.01.008	28	03.01.074	47
01.01.002	16	03.01.009	28	03.01.075	47
01.01.003	16	03.06.010	29	03.01.076	47
01.01.004	16	03.06.011	29	03.01.077	47
01.01.005	17	03.01.012	29	03.01.078	47
01.01.006	17	03.01.013	29	03.01.079	47
01.01.007	17	03.01.001	29	03.01.080	47
01.01.008	17	03.01.014	29	03.01.081	47
01.01.009	18	03.06.015	31	03.01.082	47
01.01.010	18	03.06.016	31	03.06.083	48
01.01.011	18	03.06.017	31	03.06.084	48
01.01.012	20	03.06.018	31	03.06.085	48
01.01.013	20	03.06.019	31	03.02.086	48
01.01.014	20	03.06.020	31	03.08.087	49
01.06.015	20	03.06.021	31	03.08.088	49
02.06.001	21	03.06.022	32	03.08.089	49
02.06.002	21	03.06.023	32	03.08.090	49
02.06.003	21	03.06.024	32	03.08.091	49
02.06.002	21	03.06.025	32	03.08.092	49
02.06.004	21	03.06.026	32	03.08.093	49
02.03.005	22	03.06.027	32	03.08.094	49
02.03.006	22	03.06.028	32	03.08.095	49
02.03.007	22	03.06.029	32	03.08.096	49
02.03.008	22	03.06.030	32	03.08.097	49
02.03.009	22	03.06.031	33	03.06.098	50
02.03.010	22	03.06.032	33	03.06.099	50
02.01.011	24	03.06.033	33	03.06.100	50
02.01.012	24	03.06.034	33	03.06.101	50
02.01.013	24	03.03.035	35	03.02.102	50
02.01.056	25	03.08.036	36	03.03.104	51
02.01.057	25	03.08.037	36	03.03.105	51
02.01.058	25	03.08.038	36	03.03.106	51
02.01.059	25	03.08.039	36	03.03.107	51
02.01.060	25	03.08.040	36	03.03.108	51
02.01.061	25	03.11.041	36	03.11.109	52
02.01.062	25	03.08.045	37	03.11.110	52
02.01.063	25	03.08.046	37	03.06.111	52
02.01.064	25	03.08.047	39	03.06.112	52
02.01.065	25	03.08.048	39	03.06.113	52
02.01.066	25	03.08.049	39	03.01.114	52
02.01.067	25	M.K.03.08.047	39	03.10.115	53
02.01.068	25	M.K.03.08.048	39		
02.01.069	25	M.K.03.08.049	39	<b>gypsum lights</b>	
02.01.070	25	M.K.03.08.050	39	04.13.001	56
02.01.071	25	03.08.050	39	04.13.002	56
02.01.072	25	03.08.051	39	04.14.003	56
02.01.073	25	03.08.052	39	04.14.004	56
02.01.074	25	03.08.053	39	04.13.005	57
02.01.075	25	03.08.054	39	04.13.006	57
02.01.076	25	03.08.055	39	04.13.007	57
02.01.077	25	03.08.056	40	04.13.008	57
02.01.078	25	03.08.057	41	04.14.009	58
02.01.079	25	03.08.058	42	04.14.010	58
02.01.080	25	03.01.063	44	04.14.011	58
02.01.081	25	03.01.064	44	04.14.012	58
03.01.002	26	03.07.066	45	04.13.013	58
03.01.003	26	03.07.067	45	04.14.014	59
03.01.004	26	03.07.068	45	04.13.015	59
03.01.005	26	03.01.069	45	04.14.016	59
03.03.006	28	03.01.070	46	04.14.017	59
03.03.007	28	03.01.071	46	04.14.018	59
03.03.007	28	03.01.072	46	04.14.019	59
03.03.007	28	03.01.073	46	04.15.020	60



<b>ref code</b>	<b>page</b>	<b>ref code</b>	<b>page</b>	<b>ref code</b>	<b>page</b>
<b>gypsum lights</b>					
04.15.021	60	07.22.083	75	06.20.030	87
04.15.022	60	07.22.084	75	06.20.031	87
04.15.023	60	07.22.051	77	06.20.032	87
04.15.024	61	07.22.085	77	06.20.033	87
04.15.025	61	07.22.086	77	06.20.034	87
04.15.026	61	07.22.052	77	06.20.035	87
04.15.027	61	07.22.087	77	06.20.036	87
		07.22.088	77	06.20.037	87
		07.22.053	78	06.20.038	87
<b>office lighting</b>		07.22.089	78	06.20.039	87
07.21.001	64	07.22.090	78	06.20.040	87
07.21.002	64	07.22.054	78	06.20.041	87
07.21.003	64	07.22.091	78	06.20.042	87
07.21.004	64	07.22.092	78	06.20.043	88
07.21.005	65	07.22.055	78	06.20.044	88
07.21.006	65	07.22.093	78	06.20.045	88
07.21.007	65	07.22.094	78	06.20.046	88
07.21.008	65	07.22.056	80	06.20.047	88
07.21.009	65	07.22.095	80	06.20.048	88
07.21.010	65	07.22.096	80	06.20.049	88
07.21.011	66	07.22.057	80	06.20.050	88
07.21.012	66	07.22.097	80	06.20.051	88
07.21.013	66	07.22.098	80	06.20.052	88
07.21.016	68	07.22.058	80	06.20.053	88
07.21.017	68	07.22.099	80	06.20.054	88
07.21.018	68	07.22.100	80	06.20.055	88
07.21.019	68	07.22.059	82		
07.21.020	68	07.22.060	82	<b>utility lights</b>	
07.21.021	70	07.22.061	82	14.21.001	94
07.21.022	70	07.22.062	82	14.21.002	94
07.21.023	70	07.22.063	82	14.21.003	94
07.21.024	70	07.22.064	82	14.21.004	94
07.22.029	71			14.21.005	94
07.22.066	71	<b>panel lights</b>		14.21.006	94
07.22.030	71	06.20.001	86	14.21.007	94
07.22.067	71	06.20.002	86	14.21.008	94
07.22.031	71	06.20.003	86	14.21.009	94
07.22.068	71	06.20.004	86	14.21.010	94
07.22.032	72	06.20.005	86	14.21.011	94
07.22.069	72	06.20.006	86	14.21.012	95
07.22.033	72	06.20.007	86	14.21.013	95
07.22.070	72	06.20.008	86	14.21.014	95
07.22.034	72	06.20.009	86	14.21.015	95
07.22.071	72	06.20.010	86	14.24.018	96
07.22.036	73	06.20.011	86	14.24.019	96
07.22.072	73	06.20.012	86	14.24.020	96
07.22.037	73	06.20.013	86	14.24.021	
07.22.038	73	06.20.014	86	14.24.022	
07.22.073	73	06.20.015	86	14.24.023	
07.22.074	73	06.20.016	86	14.24.024	
07.22.039	74	06.20.017	86	14.24.025	
07.22.075	74	06.20.018	86	14.24.026	
07.22.076	74	06.20.019	86	14.24.027	
07.22.040	74	06.20.020	86	14.24.028	
07.22.077	74	06.20.021	87	14.24.029	
07.22.041	75	06.20.022	87	14.24.030	
07.22.078	75	06.20.023	87	14.24.031	
07.22.079	75	06.20.024	87	14.24.032	
07.22.046	75	06.20.025	87	14.24.033	
07.22.047	75	06.20.026	87	14.24.034	
07.22.080	75	06.20.027	87	14.24.035	
07.22.081	75	06.20.028	87	14.24.036	
07.22.082	75	06.20.029	87	14.24.037	

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<b>utility lights</b>		<b>mirror lights</b>			
14.24.038		13.39.001	106	13.39.057	123
14.24.039		13.39.002	106	13.39.058	123
14.24.040		13.39.003	106	13.39.059	123
14.24.041		13.39.004	106	13.39.060	123
14.24.042		13.39.005	106	13.39.061	123
14.24.043		13.39.006	107	13.39.062	123
14.24.044		13.39.007	107	13.39.063	123
14.24.045		13.39.008	107	13.39.064	123
14.24.046		13.39.009	107	13.39.065	123
14.24.047		13.39.010	108	13.39.066	123
14.24.048		13.39.011	108	13.39.067	124
14.24.049		13.39.012	108	13.39.068	124
14.24.050		13.39.013	108	13.39.069	124
14.24.051		13.39.014	110	13.39.070	124
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14.24.053		13.39.016	110	13.39.072	124
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### **ORDERS:**

Every order implies full acceptance by the buyer of our current conditions of sale. Orders or markets that are referred to us whether directly or through our agents shall not be valid unless the head office, in writing, has accepted them. All our articles will be installed according to the rules of the art and valid standards. The minimum order threshold amounts to € 1000.-(\*) net of taxes. Every first order has to be accompanied by a bank identity statement and the Register Number in the trade register failing that it won't be registered.

(\*) or the value of 1000 € in other currencies as UAE-Dirhams, Pounds or Dollars

### **PRICES:**

Prices quoted in our different price lists are invoicing basic prices without VAT or any other tax. If applicable, the amount of VAT or other sales taxes, added to the invoice total amount, will be calculated according to the prevailing rate on shipment day. Unless agreed to the contrary, these prices are revisable in cases where delivery is due to occur within a delay superior to two months and in cases of quantities or specifications modification and, in general, in cases where our clients dictate when placing the order a constraint unacceptable to us. Our invoices do never contain import duties: custom duties have to be born by the client.

### **DELIVERY TIME:**

Unless an explicit agreement, times of delivery are given for information only and can absolutely not be considered as final deadlines. We accept no responsibility whatsoever for any delay or any delivery restriction. The non-observance of delivery time shall not entail any penalty or compensation. In case of part - delivery, the remaining undelivered quantity shall not delay the payment of the already delivered part of goods. If material's shipment is delayed due to the client, it will be stored and handled at the buyer's expenses. This provision does not affect whatsoever the obligation to pay the supply of goods.

### **SHIPMENT:**

The goods are dispatched at the risk of the buyer, even in cases where they are dispatched "carriage paid". Therefore, the buyer has to: (1) Check on receipt, the state and quantity of products and proceed if necessary to the opening of every dubious, outward appearance, of packages in the presence of the deliverer. (2) Formulate, in cases of damage or discrepancy, accurate reserves detailed on the transport receipt and specify namely the nature and importance of the damage, or missing packages, wet marks, breakages, etc.). Inaccurate or systematic wording of reserves such as "subject to display" or "subject to quality and quantity control" stated on the transport receipt, are null and void and have no legal validity. (2) Confirm these reserves by registered letter with acknowledgment receipt sent to the last Transport Company, within three working days following delivery. The non-compliance with these formalities will prevent any action being against the transport company. Only the buyer has the right to appeal against the transport company in cases of delays, discrepancies and/or damages.

### **DELIVERY TERMS:**

The deliveries of standard materials from our catalogue are understood to be on an ex works basis. For any order below € 1000,- a fixed contractual contribution to the cost of freight, packaging, invoicing and documents is set at € 90.- net of taxes. The client will be charged for any special transport (express, airfreight, etc.) requested by him.

### **PAYMENT:**

Custom-made items are subject to special conditions, to be negotiated between the customer and ELTE, prior to the planning of, and the start of production. In any case, the plan for payment shall be according to the progress of production and maturity of final payment. The complete plan of payment has to be safeguarded and guaranteed by a German Bank.

Our invoiced prices for catalogue items have to be paid net, and without any discount at the day when goods are ready for delivery. If payment fails to be made on this date, we retain the right to suspend the execution of our engagement after ineffective formal notice. In cases where the debtor does not pay amicably, his file will be transmitted to the legal department and the due amount will be automatically increased by 10%. In case of financial difficulties on the part of the buyer, we retain the right to claim guarantees failing which the contract can be cancelled without summons or compensations. Every order corresponding to the opening of a new client account will be paid cash when placing the order.

### **PROPERTY RIGHT:**

The ownership of the goods remains with us until the full and effective payment of corresponding invoices. Upon receipt of the goods, the buyer shall bear the risks pertaining to them and shall take great care in watching over them and preserving them.

### **RETURNED GOODS:**

Return of merchandise shall not be accepted without a previously written approval from us. We will not accept the return of any specially manufactured material or of any goods not mentioned in our catalogues or valid tariffs. In case of an authorized return due to a reason not attributable to our Company, a refund can only reach a maximum of 80% of the invoiced amount, assuming the merchandise has been kept intact and in its original packaging, and after an expert evaluation made by us. Costs of restoration, packaging and transport will also be deducted from any credit note.

### **GUARANTEES:**

The buyer will benefit from the legal guarantee against concealed defect. This guarantee is limited by explicit agreement to the complete product and only the replacement of defective parts, without any compensation for delay, assembling and dismantling. Accidental damage directly or indirectly provoked or presumed likewise, or for any other prejudice whatsoever. Every guarantee is excluded for incidents due to accidental cases or cases of Force Majeure as well as for those due to a replacement or repairing resulting from deterioration due to negligence, lack of monitoring and maintenance or faulty and non-consonant use with our specifications and our agreement.

### **SAMPLES - SPECIAL DEVICES:**

Any sample request for tender will be subject to an order. In the case where this matter cannot be attributed to us, a credit note must be issued to secure the return of the merchandise provided to the latter and assuring the good condition of the returned goods. Special devices or devices not shown in our catalogues but designed according to the technical specifications given by the buyer cannot be returned to us in any way.

### **STUDIES AND PROJECTS:**

The ownership of studies and documents, sent or handed over, shall remain with us. They cannot be copied, communicated, reproduced or executed without our explicit authorization and must be returned to us on our request.

### **MODIFICATIONS:**

As we are concerned with technical improvement, we retain the right to modify and bring improvements to our products. Dimensions indicated in our catalogues or price list can be modified without previous notice and include a certain allowance. We may also stop the production of certain products. In these cases, we shall not be obliged to supply suppressed articles or articles produced according to old specifications.

### **APPLICABLE LAW - POWER OF JURISDICTION: (\*)**

German law governs contracts. In case of dispute, litigation shall be in the Commercial Court of Kleve, which will have sole jurisdiction even in the case of multiple defendants or the introduction of a third party. Our bills of exchange, or payment acceptance, cause neither derogation nor renunciation towards the present power of jurisdiction clause.

(\*) This clause refers to sales of standard material within the EU except GB, Swiss and Norway, it refers to all material – custom or standard – made in D.

(D):1-71/1602291 Terms of trade for EU

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