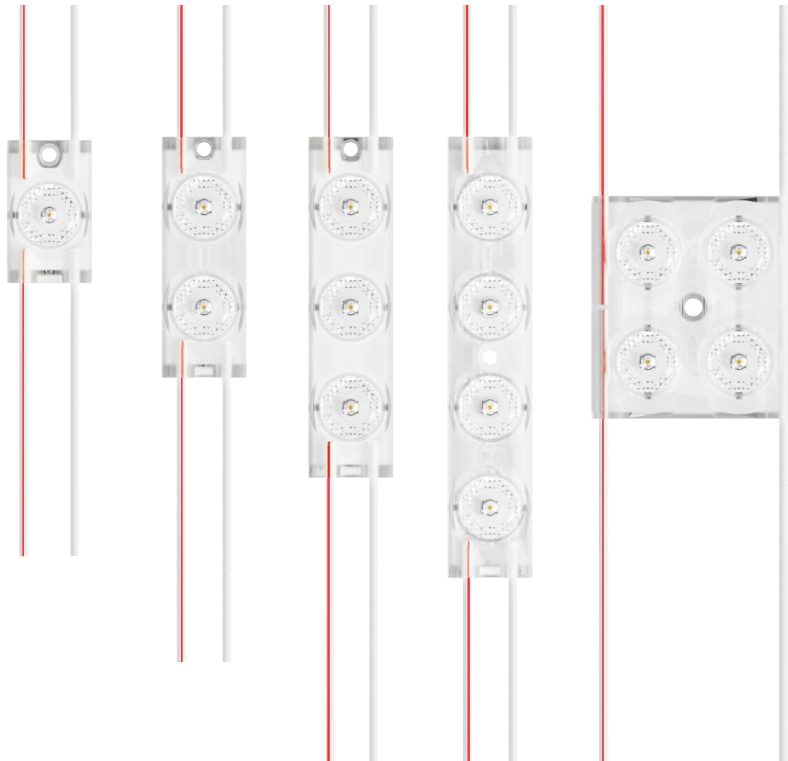


# Product datasheet

- The sign light box&channel letter gradually tends to ultra-thin and ultra-light, it is the tendencies.
- How to make the ultra-thin light box&channel letter to achieve the good uniformity become the main challenge in the sign industry.
- UT25 like as an AUROR before dawn, which completely solves the uniformity challenge in ultra-thin light box&channel letter.



## Aurora UT25 (ultra-thin 25mm)

	UT25 -3: M23GW38x
UT25 -1: M21GW38x	UT25 -4: M24GW38x
UT25 -2: M22GW38x	UT25 -4S: M24GW45x

## Areas of application

- Signage and illuminated advertising.
- Backlighting of channel letters and light box.
- Best for **25mm** to 100mm depth (1inch to 4inch).

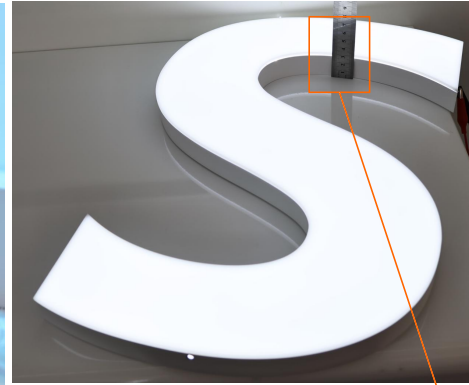
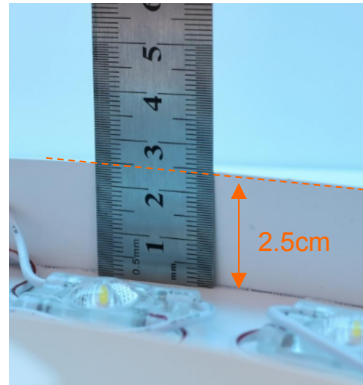
## Product main benefits

- Patent ultra-thin lens and module thin-technology system solution design can achieve 25mm light box and channel letter excellent uniformity requirement.
- New technology to get high efficiency.
- 5 years warranty.
- 170lm/W.
- IP66.

# Thin-technology system solution (patent)

Patent protection

The thin-technology system design including ultra-thin lens, special transparent injection molding materials, pattern design on PCB and customized LED, the system solution design can meet thin light box and channel ( $\geq 2.5\text{cm}$ ) application requirement, ensure the excellent uniformity performance.



(page10: d25mm, x=50mm, y=50mm module layout)

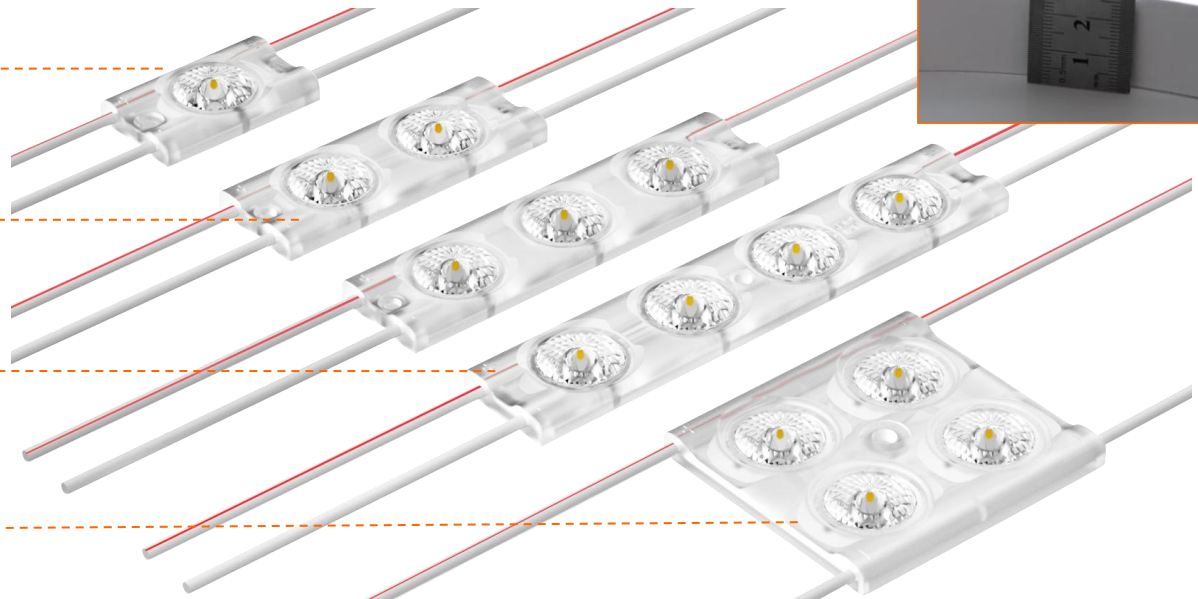


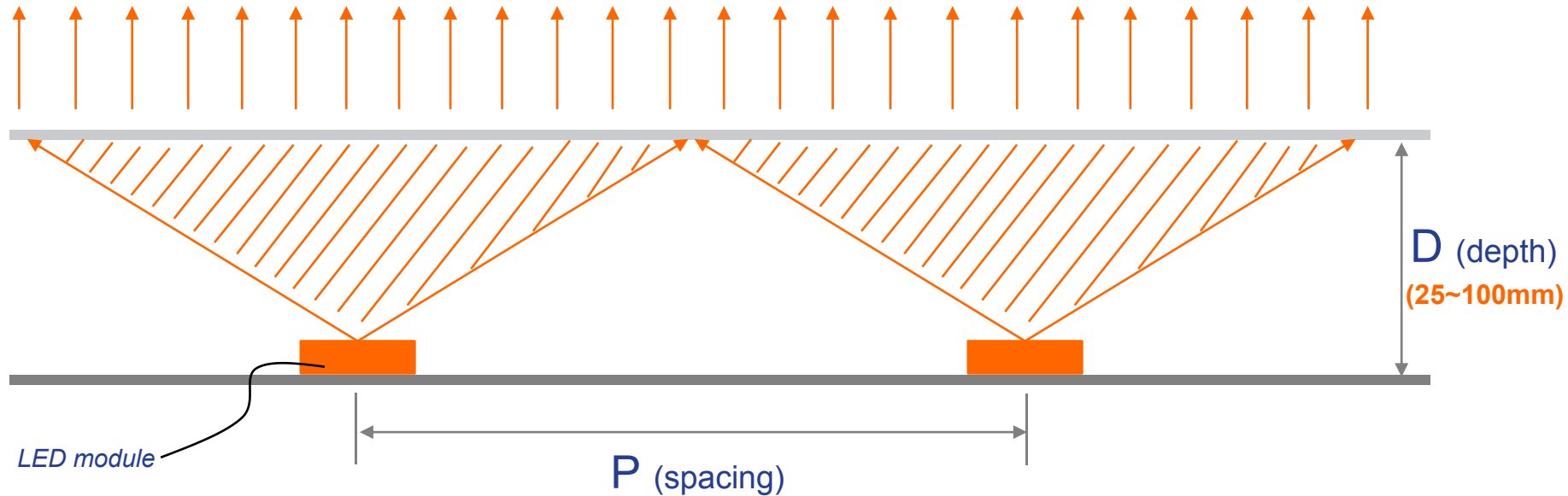
Ultra-thin lens

Special transparent injection molding materials

Special pattern design on PCB

Customized LED

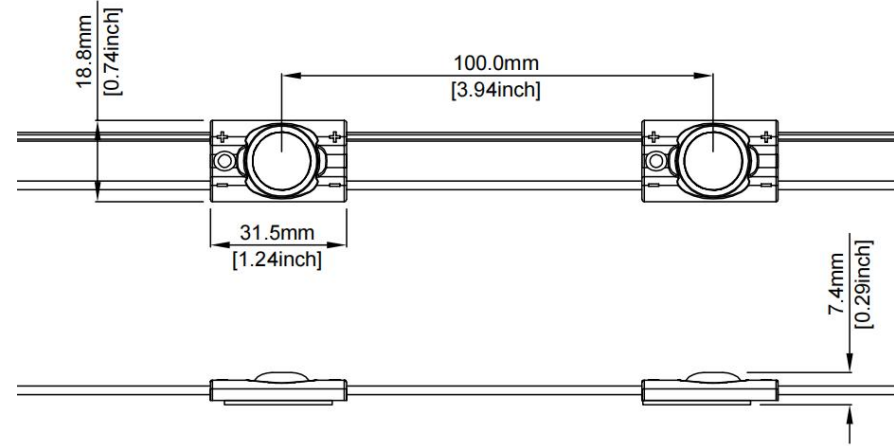




$$\text{optical performance proportion} = \frac{D(\text{depth})}{P(\text{spacing})} = 1:2.5$$

- The proportion of "P" and "D" can show the performance of lens optics design.
- The bigger proportion, the wider light spot.
- The proportion is for reference from lab, actual layout need based on real application.

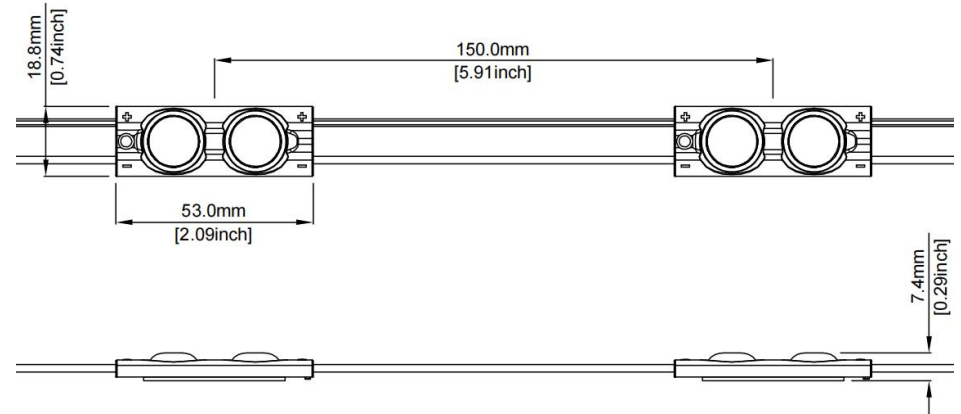
# Aurora UT25 -1



Product (6500K*)	Model	Voltage	Circuit CC: constant current CV: constant voltage	Energy Consumption			Brightness			Cascade
				W/module	W/chain	W/ft.	lm/module	lm/ft.	E. LPW	/chain
<b>UT25 -1</b>	M21GW38A-H	12VDC	CV	<b>0.36</b>	14.4	1.1	<b>61</b>	187	170	<b>40</b>
	M21GW38A	12VDC	CV	<b>0.36</b>	21.6	1.1	<b>36</b>	110	100	<b>60</b>
	M21GW38D	12VDC	CC	<b>0.36</b>	36.0	1.1	<b>36</b>	110	100	<b>100</b>
	M21GW38B-H	24VDC	CV	<b>0.36</b>	21.6	1.1	<b>54</b>	165	150	<b>60</b>
	M21GW38E-H	24VDC	CC	<b>0.36</b>	28.8	1.1	<b>54</b>	165	150	<b>80</b>

1. The tolerance of all parameters data is  $\pm 10\%$ , the brightness deviation between the 1<sup>st</sup> module and the latest module is  $< 5\%$  for constant current design.
2. \* Can be 2700K, 3000K, 4000K, 5000K, 7100K,  $> 8000K$  or other CCT.

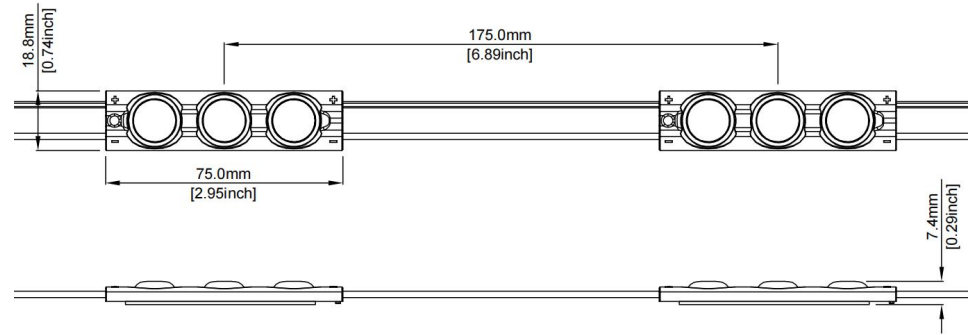
# Aurora UT25 -2



Product (6500K*)	Model	Voltage	Circuit CC: constant current CV: constant voltage	Energy Consumption			Brightness		Cascade	
				W/module	W/chain	W/ft.	lm/module	lm/ft.	E. LPW	/chain
UT25 -2	M22GW38A-H	12VDC	CV	0.72	14.4	1.5	122	249	170	20
	M22GW38D-H	12VDC	CC	0.72	14.4	1.5	122	249	170	20
	M22GW38A	12VDC	CV	0.72	28.8	1.5	72	146	100	40
	M22GW38D	12VDC	CC	0.72	43.2	1.5	72	146	100	60
	M22GW38B-H	24VDC	CV	0.72	28.8	1.5	122	249	170	40
	M22GW38E-H	24VDC	CC	0.72	43.2	1.5	122	249	170	60
	M22GW38B	24VDC	CV	0.72	43.2	1.5	72	146	100	60
	M22GW38E	24VDC	CC	0.72	86.4	1.5	72	146	100	120

- The tolerance of all parameters data is  $\pm 10\%$ , the brightness deviation between the 1<sup>st</sup> module and the latest module is  $< 5\%$  for constant current design.
- \* Can be 2700K, 3000K, 4000K, 5000K, 7100K, >8000K or other CCT.

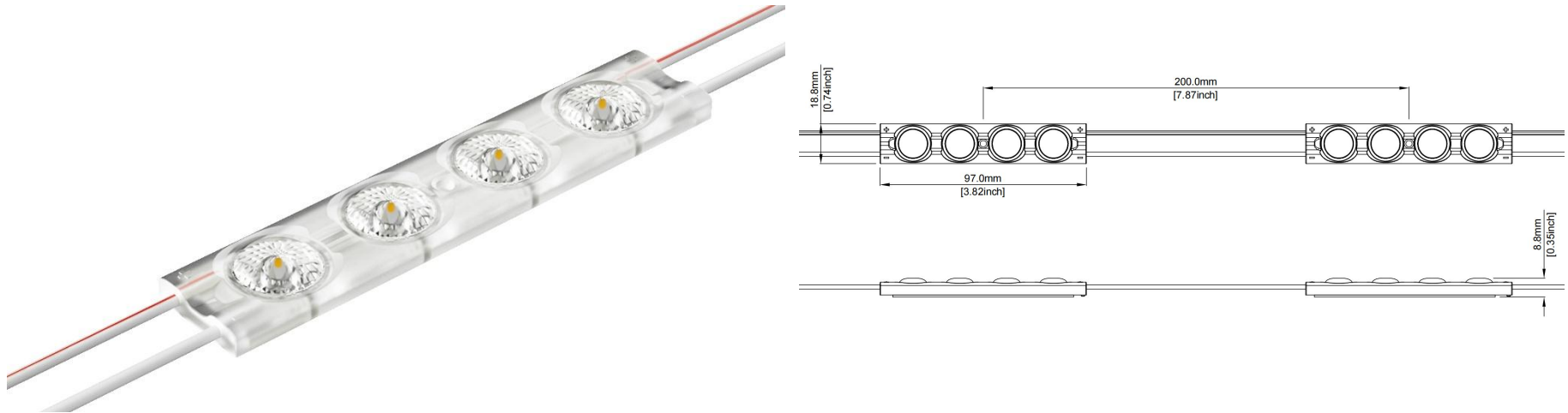
# Aurora UT25 –3



Product (6500K*)	Model	Voltage	Circuit CC: constant current CV: constant voltage	Energy Consumption			Brightness			Cascade
				W/module	W/chain	W/ft.	lm/module	lm/ft.	E. LPW	/chain
UT25 -3	M23GW38A-H	12VDC	CV	1.08	21.6	1.9	184	320	170	20
	M23GW38D-H	12VDC	CC	1.08	21.6	1.9	184	320	170	20
	M23GW38A	12VDC	CV	1.08	32.4	1.9	108	188	100	30
	M23GW38D	12VDC	CC	1.08	43.2	1.9	108	188	100	40
	M23GW38B-H	24VDC	CV	1.08	32.4	1.9	162	282	150	30
	M23GW38E-H	24VDC	CC	1.08	43.2	1.9	162	282	150	40
	M23GW38B	24VDC	CV	1.08	54.0	1.9	108	188	100	50
	M23GW38E	24VDC	CC	1.08	97.2	1.9	108	188	100	90

- The tolerance of all parameters data is  $\pm 10\%$ , the brightness deviation between the 1<sup>st</sup> module and the latest module is  $< 5\%$  for constant current design.
- \* Can be 2700K, 3000K, 4000K, 5000K, 7100K, >8000K or other CCT.

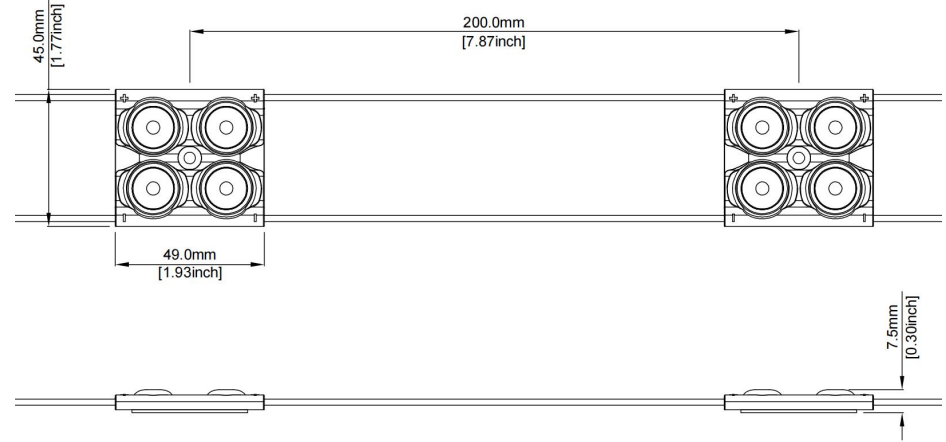
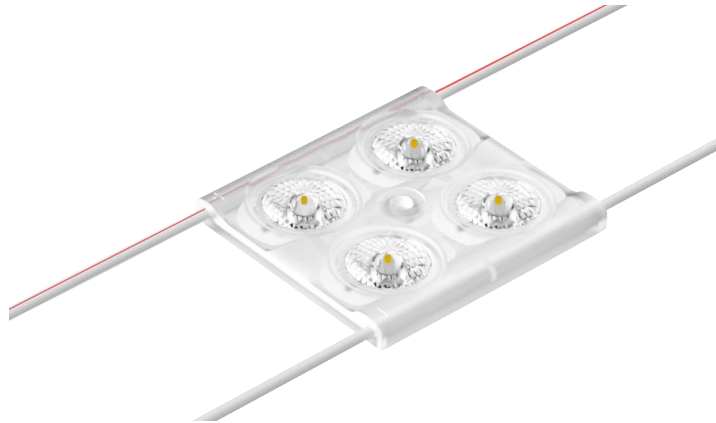
# Aurora UT25 -4



Product (6500K*)	Model	Voltage	Circuit CC: constant current CV: constant voltage	Energy Consumption			Brightness		Cascade	
				W/module	W/chain	W/ft.	lm/module	lm/ft.	E. LPW	/chain
<b>UT25 -4</b>	M24GW38A-H	12VDC	CV	1.44	28.8	2.2	245	373	170	20
	M24GW38D-H	12VDC	CC	1.44	28.8	2.2	245	373	170	20
	M24GW38A	12VDC	CV	1.44	28.8	2.2	144	220	100	20
	M24GW38D	12VDC	CC	1.44	43.2	2.2	144	220	100	30
	M24GW38B-H	24VDC	CV	1.44	28.8	2.2	245	373	170	20
	M24GW38E-H	24VDC	CC	1.44	43.2	2.2	245	373	170	30
	M24GW38B	24VDC	CV	1.44	57.6	2.2	144	220	100	40
	M24GW38E	24VDC	CC	1.44	86.4	2.2	144	220	100	60

1. The tolerance of all parameters data is ±10%, the brightness deviation between the 1<sup>st</sup> module and the latest module is <5% for constant current design.
2. \* Can be 2700K, 3000K, 4000K, 5000K, 7100K, >8000K or other CCT.

# Aurora UT25 -4S

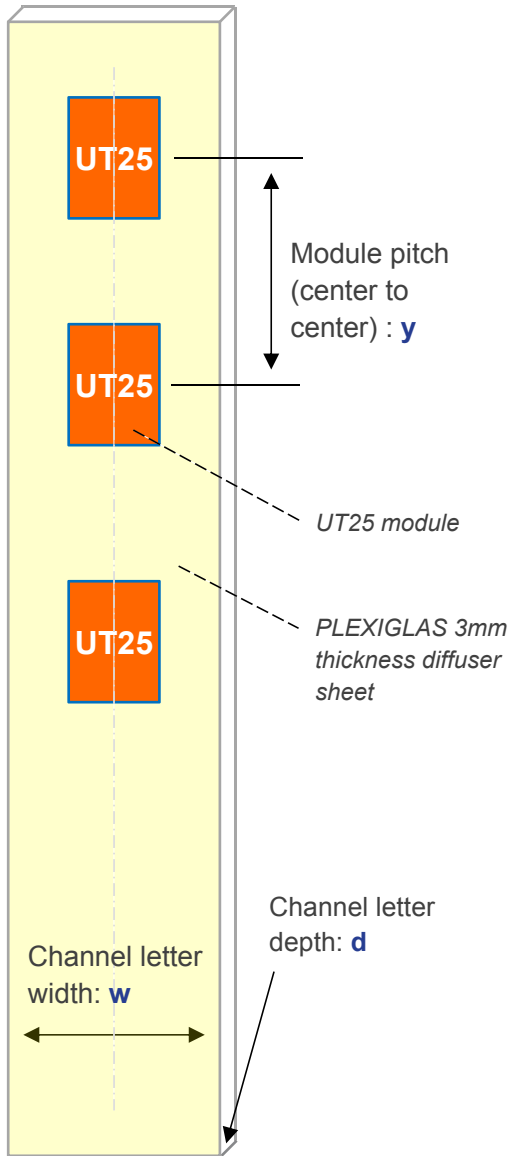


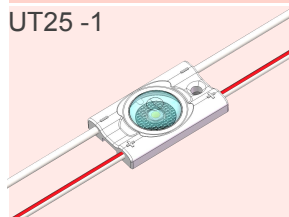
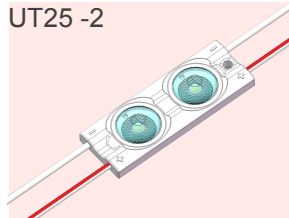
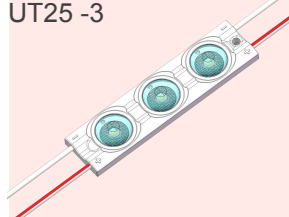
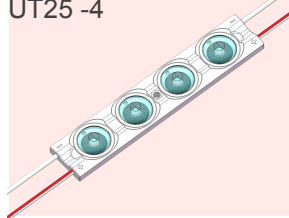
Product (6500K*)	Model	Voltage	Circuit CC: constant current CV: constant voltage	Energy Consumption			Brightness		Cascade	
				W/module	W/chain	W/ft.	lm/module	lm/ft.	E. LPW	/chain
UT25 -4S	M24GW45A-H	12VDC	CV	1.44	28.8	2.2	245	373	170	20
	M24GW45D-H	12VDC	CC	1.44	28.8	2.2	245	373	170	20
	M24GW45A	12VDC	CV	1.44	43.2	2.2	144	220	100	30
	M24GW45D	12VDC	CC	1.44	72.0	2.2	144	220	100	50
	M24GW45B-H	24VDC	CV	1.44	43.2	2.2	245	373	170	30
	M24GW45E-H	24VDC	CC	1.44	72.0	2.2	245	373	170	50
	M24GW45B	24VDC	CV	1.44	72.0	2.2	144	220	100	50
	M24GW45E	24VDC	CC	1.44	115.2	2.2	144	220	100	80

1. The tolerance of all parameters data is  $\pm 10\%$ , the brightness deviation between the 1<sup>st</sup> module and the latest module is  $< 5\%$  for constant current design.
2. \* Can be 2700K, 3000K, 4000K, 5000K, 7100K, >8000K or other CCT.

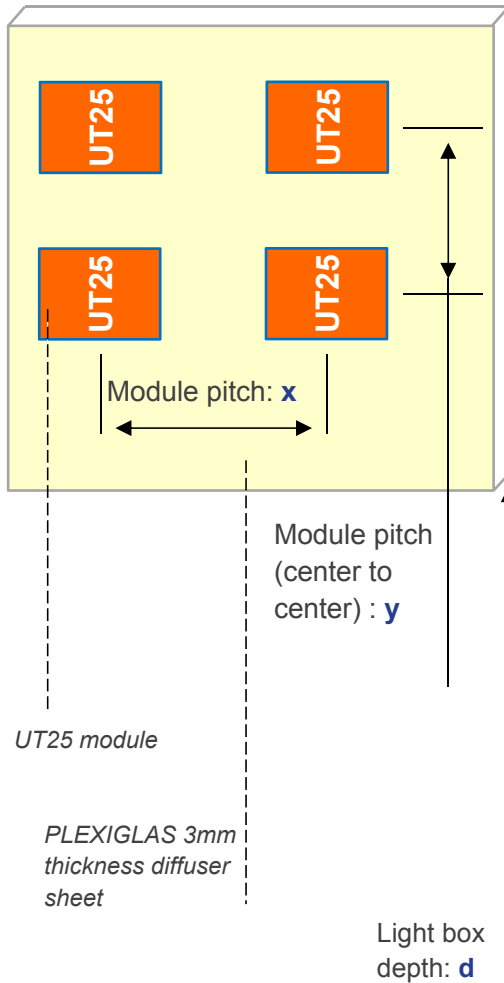


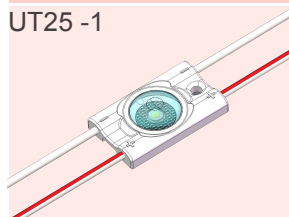
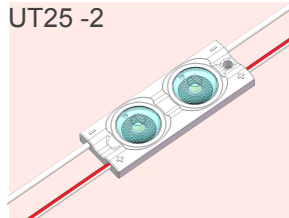
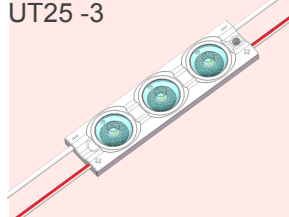
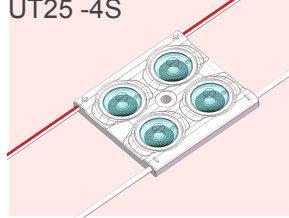
# Application guidance (channel letter)






Product	Channel letter and installation dimension (mm)			Illuminance: PLEXIGLAS WH02 (light transmission rate 44%, low light scattering)			Illuminance: PLEXIGLAS WH73 (light transmission rate 23%, high light scattering)		
	model	d	w	y	lx	nit	uniformity	lx	nit
 UT25 -1	25	50	60	9337	2521	94%	7283	1966	94%
	30	70	60	7371	1990	94%	5750	1552	94%
	40	100	75	4606	1244	94%	3592	970	94%
	50	150	100	2324	627	93%	1806	488	94%
 UT25 -2	30	70	75	11366	3069	95%	8866	2394	94%
	40	100	100	7144	1929	95%	5572	1504	94%
	50	150	100	4686	1265	94%	3642	983	94%
	60	150	150	3071	829	96%	2395	647	95%
 UT25 -3	40	100	125	8549	2308	96%	6668	1800	95%
	50	150	150	4907	1325	96%	3814	1030	95%
	60	150	175	3938	1063	97%	3071	829	96%
	70	150	175	3623	978	97%	2826	763	96%
 UT25 -4	40	100	150	9961	2689	95%	7769	2098	95%
	50	150	150	6533	1764	94%	5078	1371	95%
	60	150	175	5243	1416	95%	4090	1104	95%
	70	150	200	4020	1085	95%	3135	847	95%

# Application guidance (light box)

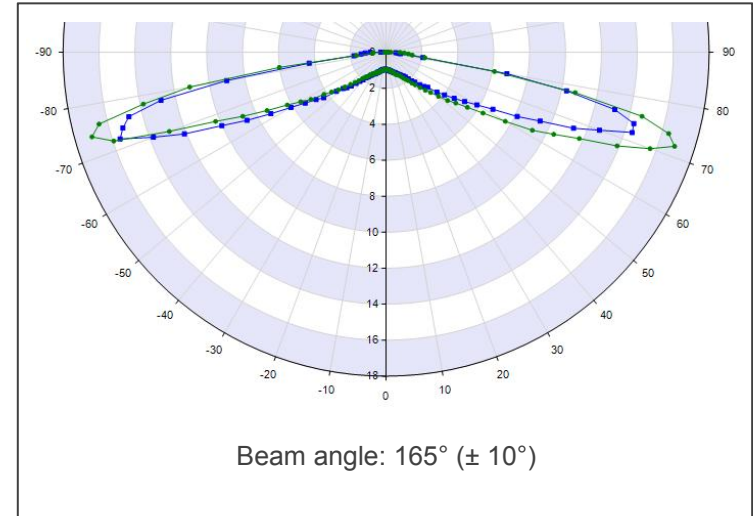


Product	Light box and installation (mm)			Illuminance: PLEXIGLAS WH02 (light transmission rate 44%, low light scattering)			Illuminance: PLEXIGLAS WH73 (light transmission rate 23%, high light scattering)		
	d	x	y	lx	nit	uniformity	lx	nit	uniformity
UT25 -1 	25	50	50	13904	3754	87%	10152	2741	87%
	30	75	75	7068	1908	87%	5188	1401	86%
	40	100	75	4799	1296	86%	3598	971	87%
	50	100	75	3612	975	87%	2699	729	87%
UT25 -2 	30	100	75	10963	2960	88%	8048	2173	87%
	40	100	75	9677	2613	87%	7254	1959	88%
	50	125	110	4034	1089	88%	3014	814	88%
	60	150	110	3169	856	89%	2399	648	89%
UT25 -3 	40	125	100	8908	2405	89%	6678	1803	90%
	50	150	115	5280	1426	89%	3945	1065	89%
	60	175	135	3160	853	91%	2392	646	91%
	70	175	135	2942	794	91%	2059	556	92%
UT25 -4S 	40	125	100	11861	3203	88%	8892	2401	89%
	50	150	125	6249	1687	88%	4670	1261	88%
	60	175	150	4208	1136	90%	3186	860	90%
	70	200	150	3264	881	90%	2285	617	91%

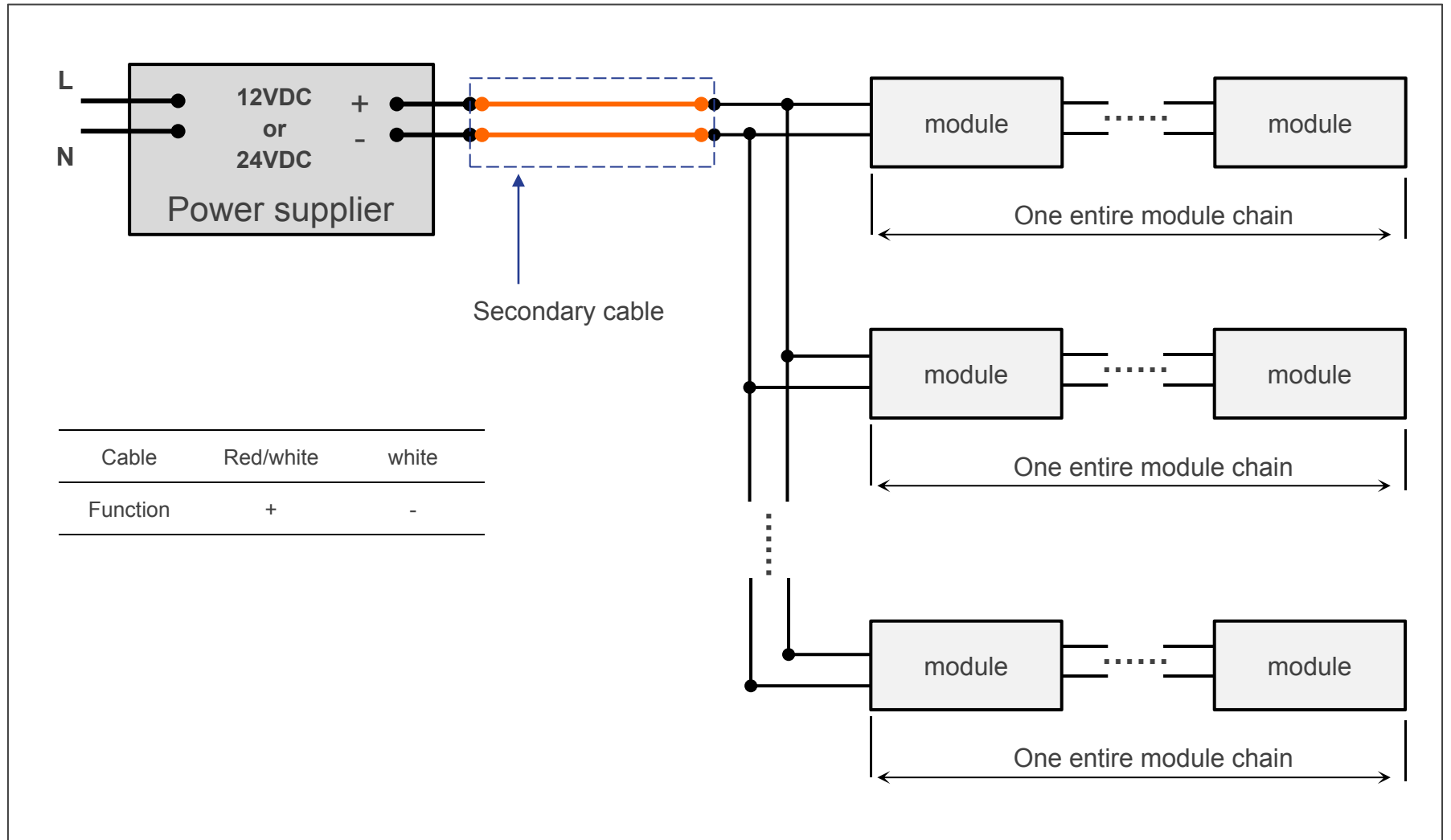
# Application Conditions and light distribution

Operating Environment ( $t_a$ )	-25°C to +60°C
Storage Temperature Range ( $t_s$ )	-40°C to +85°C
IP Rating	IP66
Lifetime Warranty (L70B50)	5 years
$t_c$ temperature	75°C
Energy Efficacy Class (170 LPW)	D ( $\eta_{TM}$ =157lm/W)
	
Energy Efficacy Class (150 LPW)	D ( $\eta_{TM}$ =139lm/W)
	
Energy Efficacy Class (100 LPW)	F ( $\eta_{TM}$ =93lm/W)
	
Dimming mode	PWM dimmable
Cutting Solution	Cut on wire between every module
Certification	UL, CE, BIS
Safety Requirements	IEC/EN 62031, IEC/EN 60598-1, IEC/EN 61347-1

Distribution Graph



# Wiring method



# Package and additional information

Product	Model	Package unit (modules/carton box)	Carton box	Dimensions (length x width x height)
UT25 -1	M21GW38x			52 x 37 x 26 cm
UT25 -2	M22GW38x			52 x 37 x 26 cm
UT25 -3	M23GW38x			52 x 37 x 26 cm
UT25 -4	M24GW38x			52 x 37 x 26 cm
UT25 -4S	M24GW45x			52 x 37 x 26 cm

## Additional information:

1. Installation of LED modules (with power supplies) needs to be made under consideration of all valid regulations and norms.
2. Installation by qualified electrician only.
3. Parallel connection is mandatory for safe electrical operation. Serial connection of LED modules is discouraged. Unbalanced voltage drop in serial connection can cause hazardous overload
4. Electrical contact is achieved with the contact cables or the terminals of the module. Please refer to the technical data for maximum number of LED modules that can be operated on one control gear.
5. To avoid mechanical damage, the LED modules have to be attached securely to the intended mounting surface. It is recommended to avoid heavy vibration.
6. LED modules are dimmable by means of PWM (pulse width modulation).