

MARS IP20



MARS

INVISIBLY BRIGHT!



MARS

The linear revolution of downlights

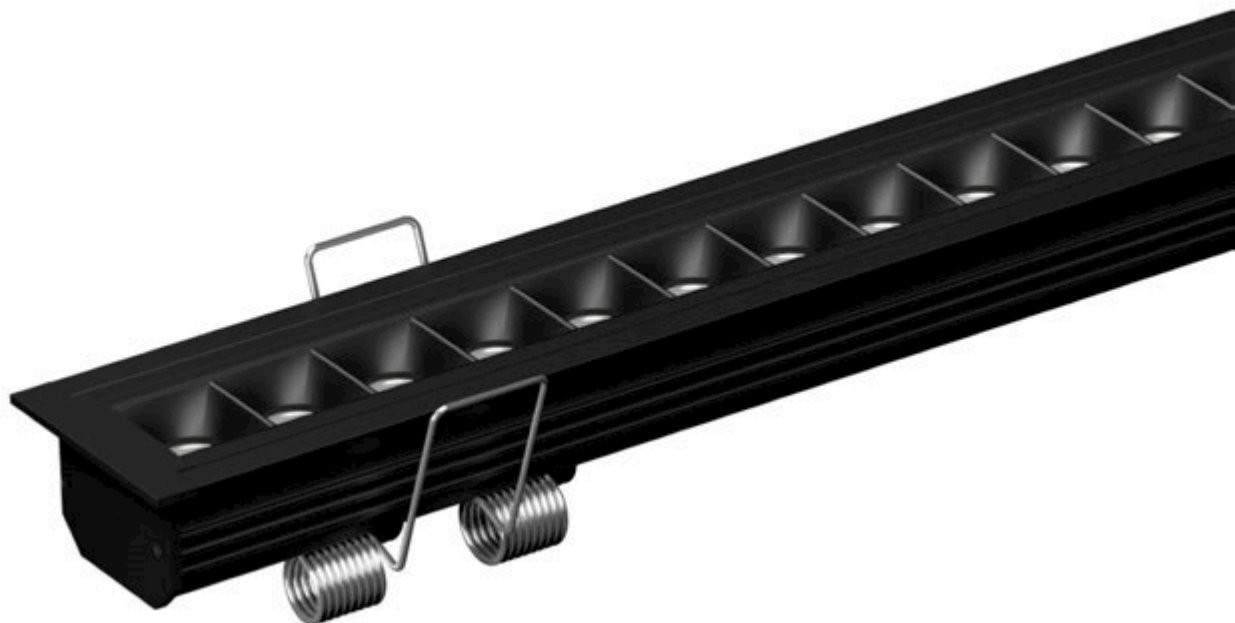
UGR < 13

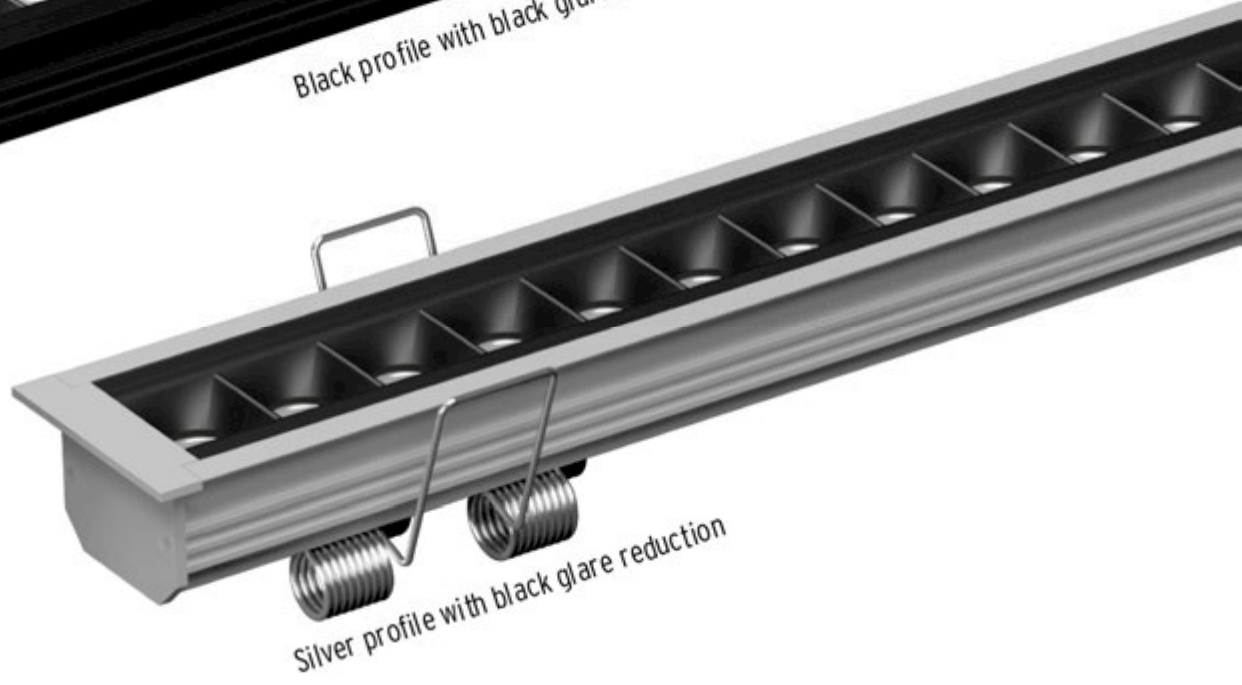
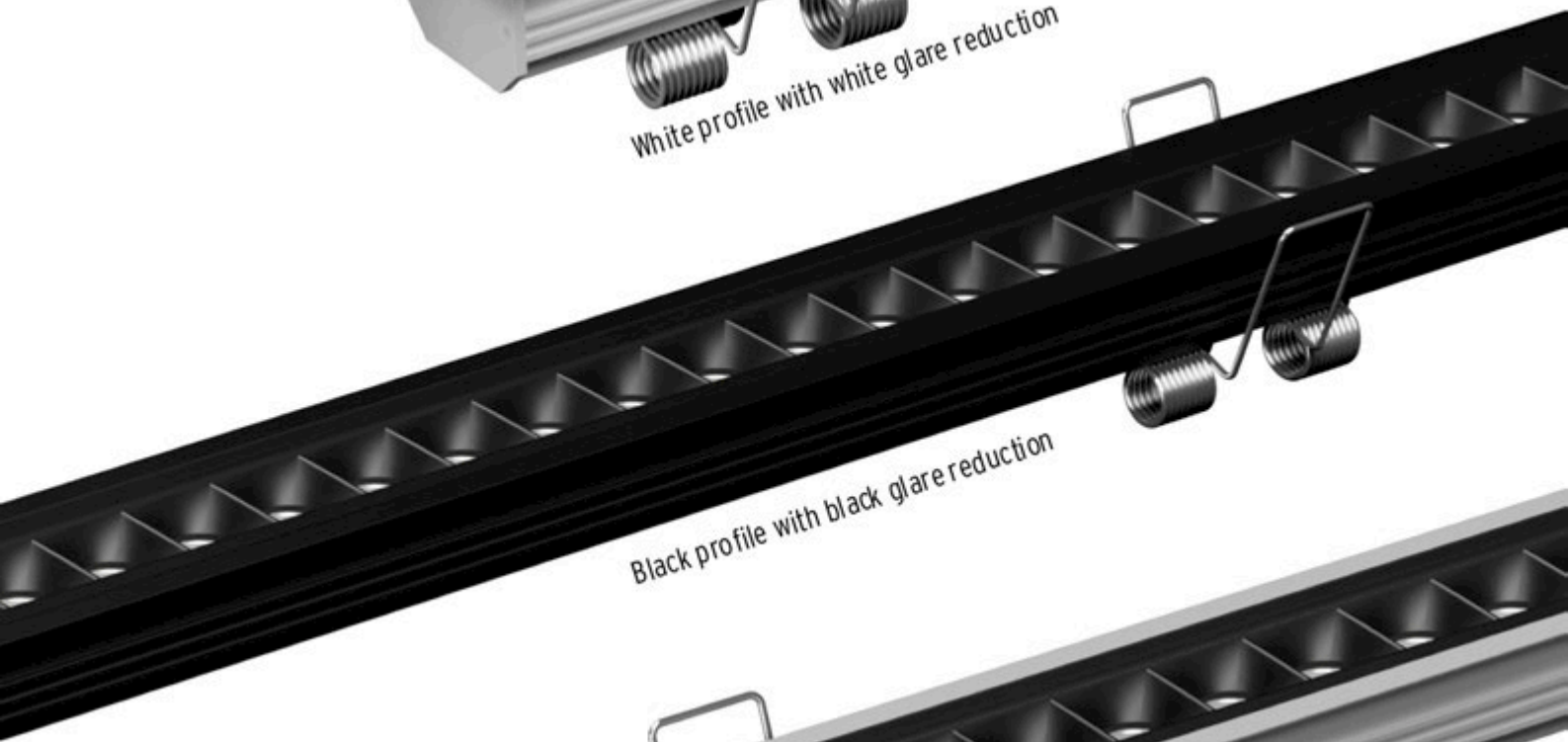
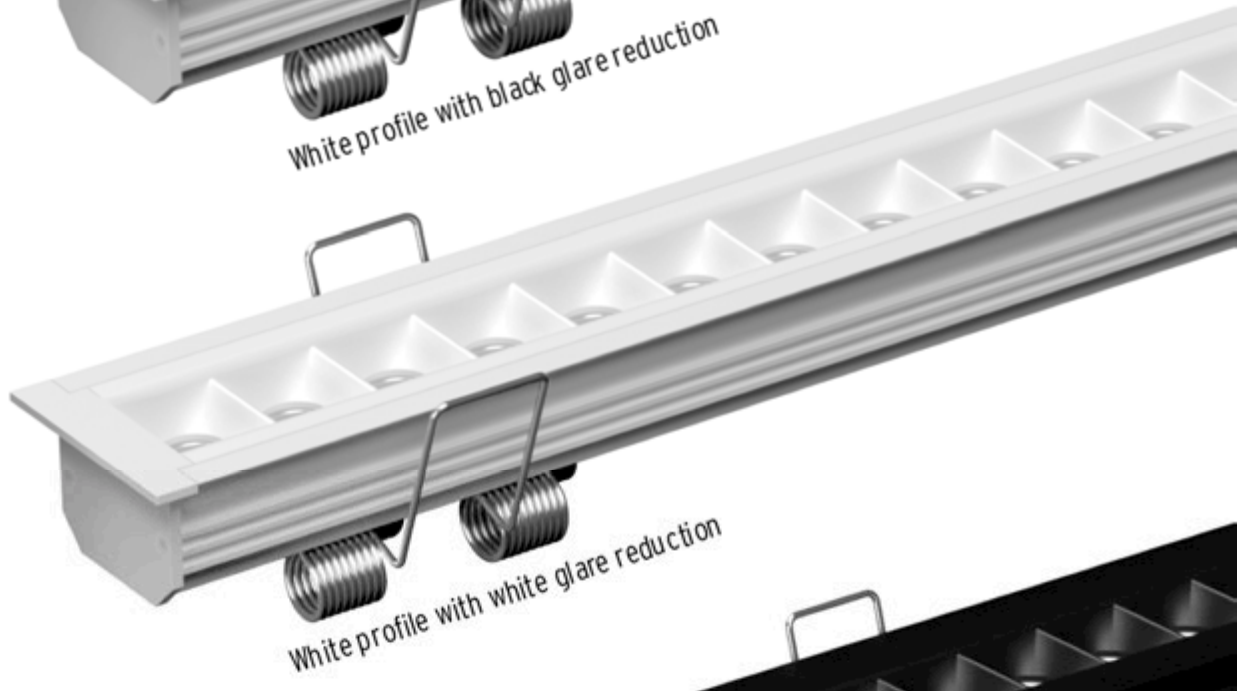
Invisible design meets brightness and high light quality: MARS is a stylish linear recessed solution for general lighting, combining minimalist design language with maximum lighting and design effects. This innovative lighting system delivers up to 6.000 lm/m at 140 lm/m (42.7 lm/ft) with a color rendering of up to CRI > 95.

Optimum glare control is achieved through a glare reduction (in black or white), which results in a UGR glare rating of UGR < 13 and a high-quality and pleasant light. From a distance, the light emission is barely visible to passers-by and they are not dazzled. The small aluminum profile with only 33 mm (1.3") mounting depth is available in black, white and silver. Especially user friendly is the simple, tool-free installation with mounting brackets.

The MARS is available as CC (constant current) or CV (constant voltage) variant and therefore offers the advantages of both systems. The CC variant is available in standard lengths and convinces with a high efficiency of up to 133 lm/W and 7,200 lm/m (2,190 lm/ft). The CV variant provides greater flexibility through scalable luminaire lengths from 250 mm (9.84") up to 4,000 mm (13.1').

MARS is particularly suitable for applications where the luminaire should be kept more in the background with the illuminated object in the foreground, such as in museums, galleries and shops. But also in other areas such as railway stations, airports, shopping malls, corridors, offices and hotels, it can score with its advantages.





MARS

Features and Benefits

Easy installation with mounting brackets



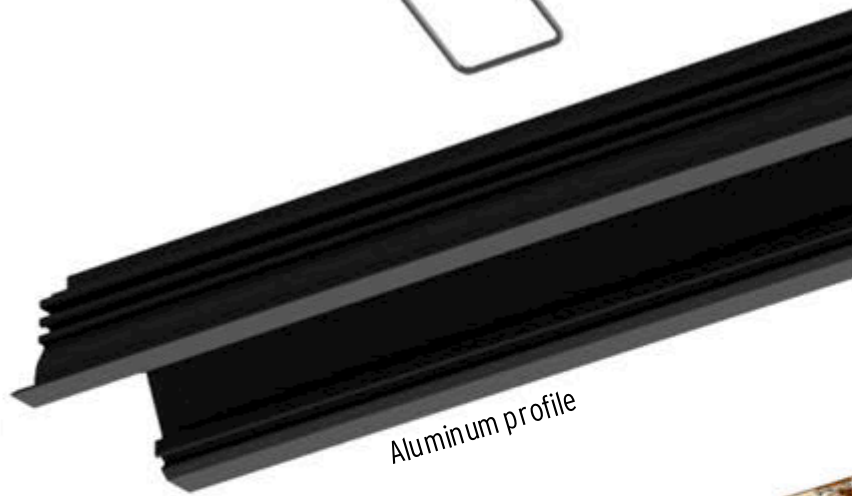
Smallest linear recessed solution for general lighting with only 33 mm (1.3") mounting depth



Efficient LED tapes offer up to 7,200 lm/m (2,190 lm/ft) @ 134 lm/W

Optimized for applications in general lighting due to two different reflector optics (25° and 65°)

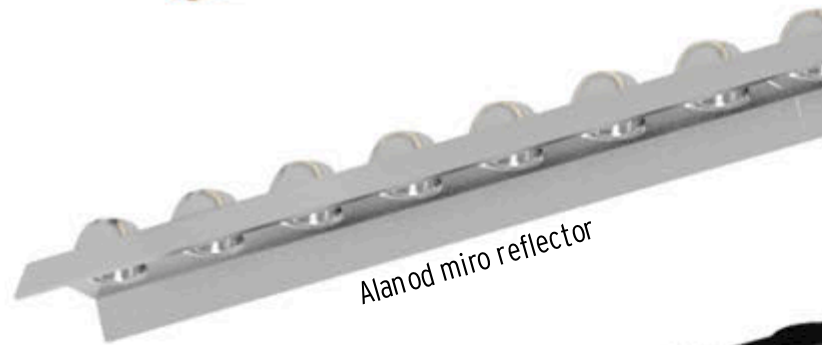
Optimized glare reduction UGR < 13



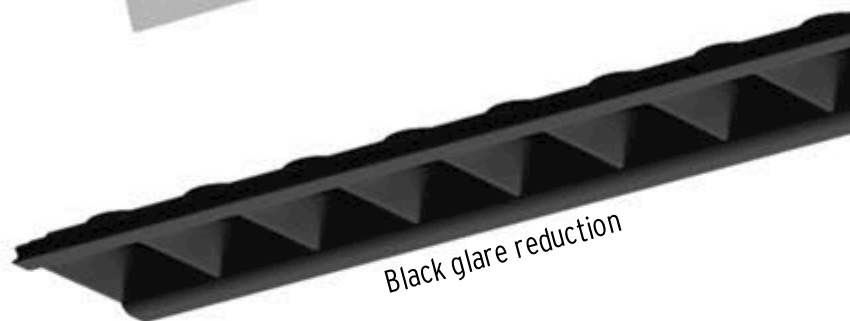
Aluminum profile



LED tape made in Germany



Anodized mirror reflector



Black glare reduction



Linear, modular and recessed LED luminaire

Cross section	41.5 mm (1.63") x 33 mm (1.3")
Length	250 mm (9.84") - 4,000 mm (13.1')
Power	5 W/m (1.52 W/ft) - 54 W/m (16.5 W/ft)
Luminous flux	350 lm/m (107 lm/ft) - 7,200 (2,190 lm/ft)
max. efficacy	140 lm/W
Beam angle / optics	25°, 65°
Color temperatures	2.000 - 5.000 K
Colors	White or IQ White
CRI	up to 95

MARS

Difference between CV and CC

MARS CV (Constant Voltage)	MARS CC (Constant Current)
Free scalable in multiples of 125 mm (4.92"), max. up to 4,014 mm (13.2')	6 standard lengths 139, 264, 389, 514, 639, 764 mm (5.47", 10.4", 15.3", 20.2", 25.2", 30.1")
Homogeneous light intensities over the whole luminaire through fine adjusted constant current regulator on every step	Homogeneous light intensities over the whole luminaire module through fine selected LED Binnings U_f and high quality PSUs
5 light intensities up to 360, 1,260, 2,010, 3,270, 3,950 lm/m (110, 384, 613, 997, 1,200 lm/ft) @ W850	Up to 7,320 lm/m (2,230 lm/ft) @ W850
Up to 134 lm/W	Up to 133 lm/W
CRI > 85 und CRI > 96	CRI > 85
R9 ~ 65	R9 > 25
IQ White 2,500 K - 4,000 K	-
Control Options (DALI, Switch-DIM, DMX, 1-10V)	Control Options (DALI, Switch-DIM)
-	Comes with PSU/Control Gear

SELV (Safety Extra Low Voltage)

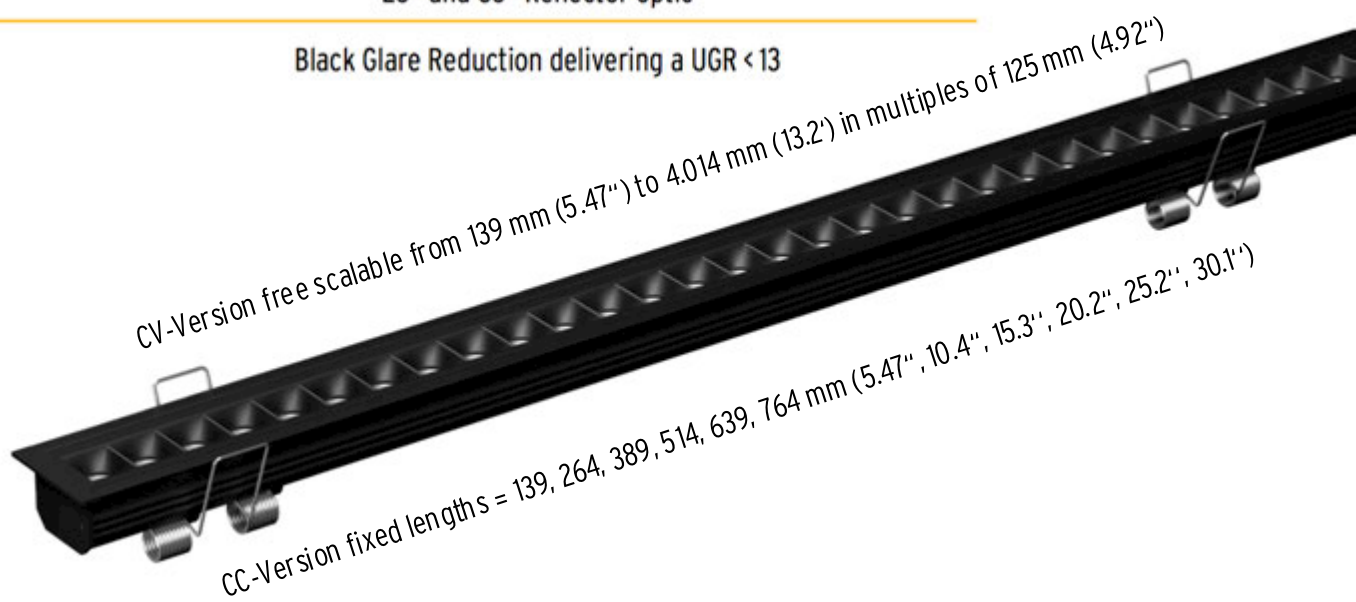
OBO - „One Bin Only“ within 3 MacAdam

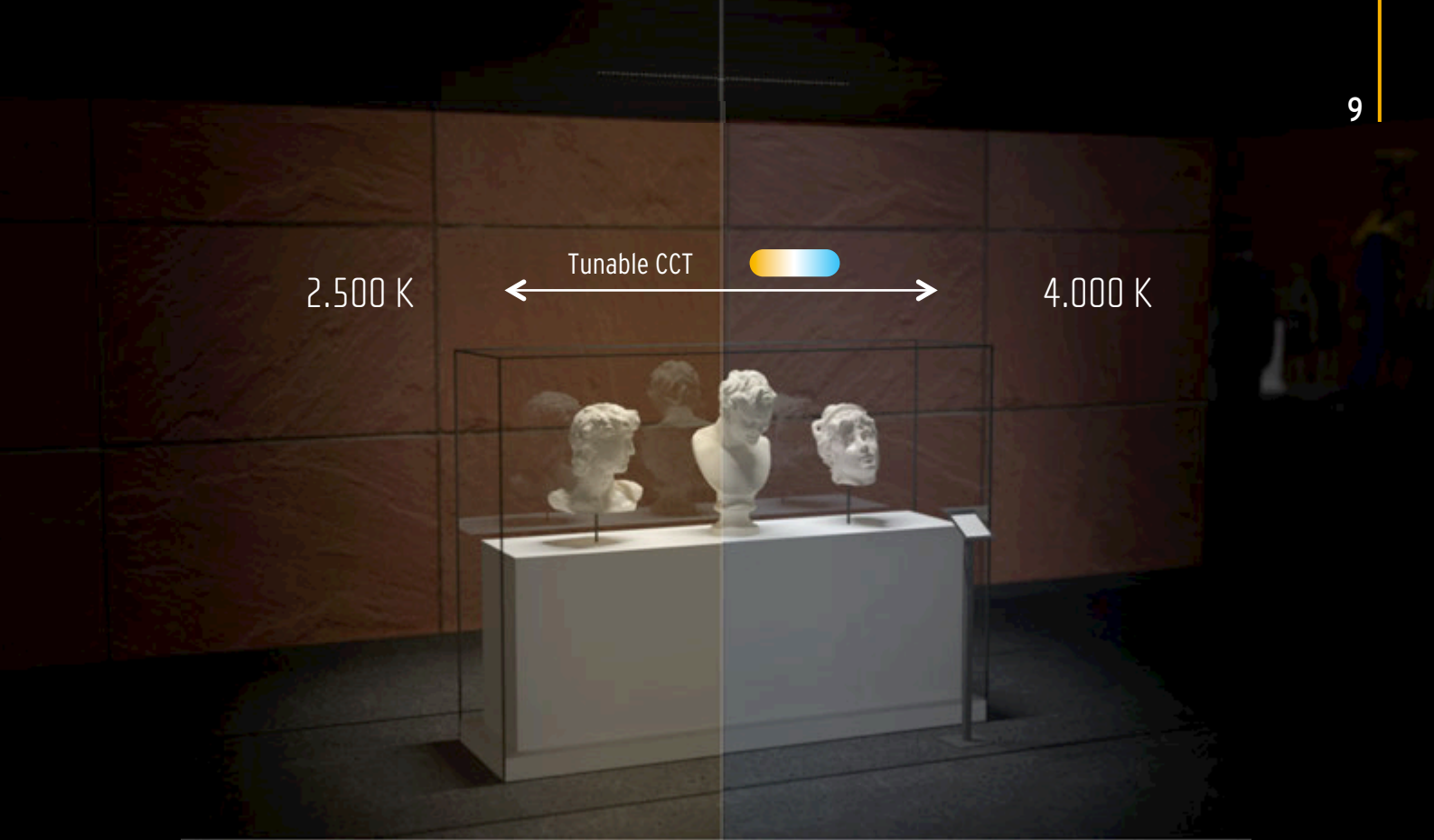
8 CCTs (2,000, 2,200, 2,500, 2,700, 3,000, 3,500, 4,000, 5,000 K)




60,000 h @ L90 B10

25° and 65° Reflector optic

Black Glare Reduction delivering a UGR < 13

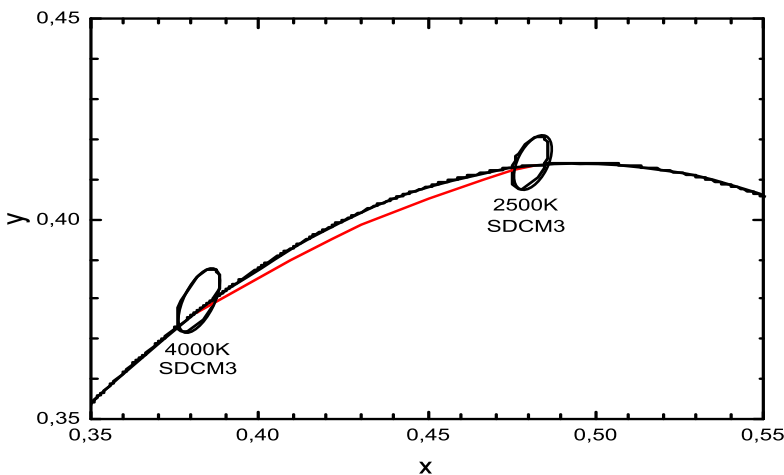




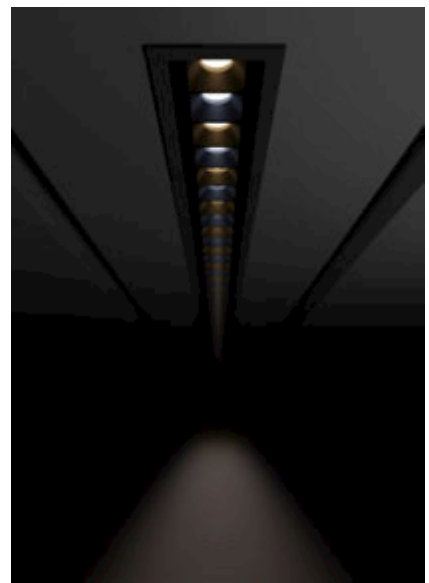
MARS CV IQ White HYDRA LD25 IP20	Lumen/m (lm/ft) @ 65° Reflector	Color Temperature CCT
W825 	1,360 (415)	2,500 K - 4,000 K
W840 	1,650 (503)	
Total (W825 + W840) 	3,010 (918)	

MARS CV IQ White – Perfect white mixing all along the line

Superior mixing of warm white (2,500 K) and neutral white (4,000 K) to stage your application is quite a new way out of the reflector optic. Every second pot-reflector optic is warm white/neutral which allows a very efficient color mixing. Homogeneous color temperature after a distance of around 10 cm (3.94") out of the luminaire gives you an inimitable new lighting experience. The combination of highly efficient reflector technology and secondary glare reduction ensures directed light with soft transitions and all around glare control at the same time.



CCT mixing right below the plankian locus with respect to the atmospheric optical window. This is the most natural and convenient method of mixing color temperatures depending on the daily course of the sun.





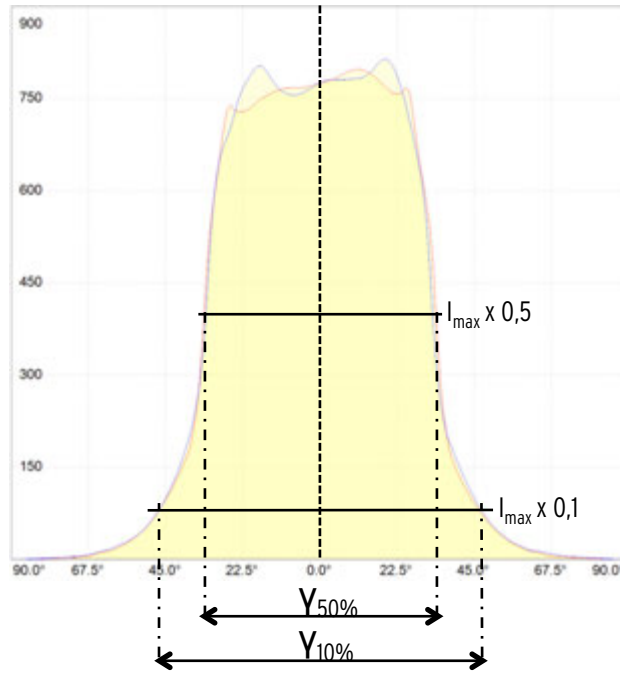
65° Reflector

For general lighting at mounting heights of up to 5 m (16.4')

The linear downlight for general lighting for mounting heights of up to 5 m (16.4'). The 65° reflector optic provides an accurate and absolutely homogeneous illumination over the entire illuminated surface. The glare limitation (UGR < 13), which is additionally attached to the reflector, provides a very low light pressure and lets the light emission surface appear almost invisible. A single luminaire with a beam angle of 32.5° along each of its sides illuminates an area of up to 32 sqm (344 sqft) @ 5 m (16.4'). Efficient light steering without glare at lumen currents of up to 7,200 lm/m (2,190 lm/ft).

MARS CC LD54
W835 65° 764 mm (30.1")

Illuminated area =
 11,4 sqm (1,230 sqft)
 Diameter = 3.8 m (12.5')
 $E_{average} = 375 \text{ lx}$
 $E_{min} = 295 \text{ lx}$
 $E_{max} = 421 \text{ lx}$
 Uniformity $U = 0,82$



$Y_{50\%}$ = Full width half maximum (FWHM) of the total emitted luminous flux for optic 65°

$Y_{10\%}$ = 90% of the total emitted luminous flux for optic 65°

E_{max} @ different light point heights

No luminosity > 60°
 avoid direct glare

UGR < 13, glare free view

$h = 3,0 \text{ m (9.84')}$

3,763 lx
 @ 1.0 m (3.28')

1,672 lx
 @ 1.5 m (4.92')

940 lx
 @ 2.0 m (6.56')

602 lx
 @ 2.5 m (8.20')

421 lx
 @ 3.0 m (9.84')

	298	301	300	
	297	366	395	407
	295	367	396	409
	298	366	395	407
	299	302	303	

Lux (lx)





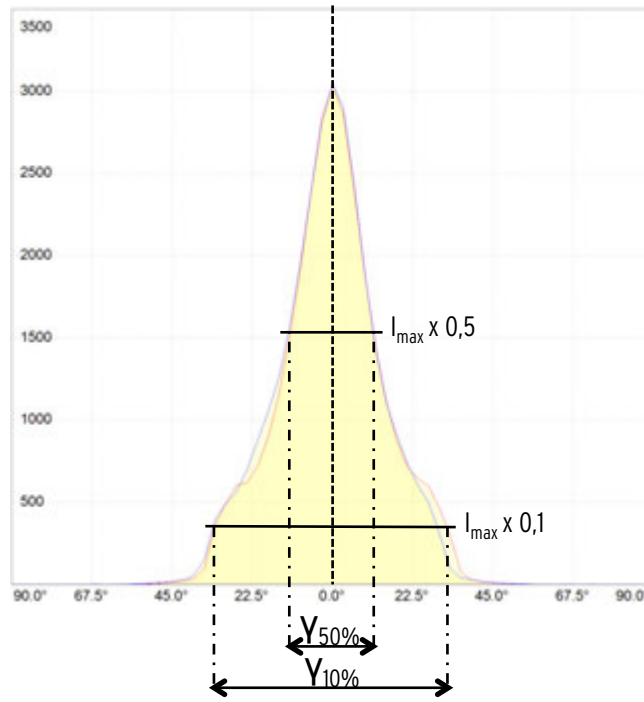
25° Reflector

For general lighting and accent lighting at mounting heights of up to 15 m (49.2')

The linear downlight for mounting heights of up to 15m (49.2') in the field of general lighting and accent lighting. The 25° reflector optic offers a very precise, deep light steering and allows homogeneous illumination from great heights (High Bay) and targeted illumination in areas of accent lighting from low heights. The glare limitation (UGR < 13) ensures a soft, glare-free light emission. Homogeneous illumination levels underscore the uniform light control of the optical system.

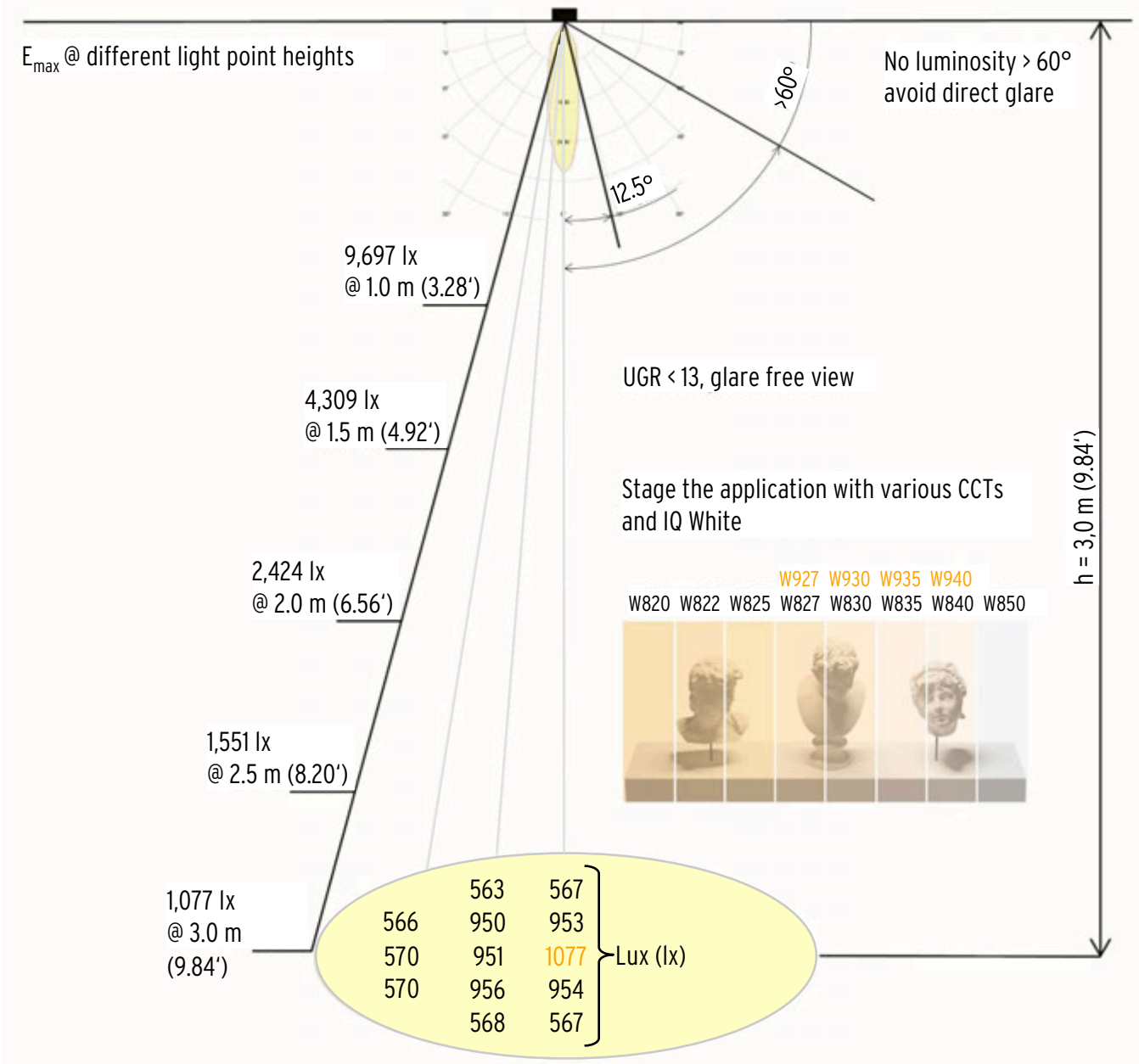
MARS CC LD54
W835 25° 514 mm (30.1")

Illuminated area =
 1.4 sqm (15.1 sqft)
 Diameter = 1.3 m (4.27')
 $E_{average} = 755 \text{ lx}$
 $E_{min} = 563 \text{ lx}$
 $E_{max} = 1077 \text{ lx}$
 Uniformity $U = 0,75$



$Y_{50\%}$ = Full width half maximum (FWHM) of the total emitted luminous flux for optic 25°

$Y_{10\%}$ = 90% of the total emitted luminous flux for optic 25°



MARS

Overview and Order Code

Color: Black profile with black glare reduction (BB)



Color: White profile with white glare reduction (WW)



MARS CV HYDRA White IP20

	Voltage (V)	CRI	Lumen/W (lm/W)	Watt/m (Watt/ft)	Lumen/m (Lumen/ft) ¹	Max. length m (ft)
MARS CV HYDRA LD5 IP20	24	95	126	5 (1.52)	630 (192)	7,5 (24.6)
MARS CV HYDRA LD10 IP20	24	85	126	10 (3.05)	1,260 (384)	5 (16.4)
MARS CV HYDRA LD15 IP20	24	85	134	15 (4.56)	2,010 (613)	4 (13.1)
MARS CV HYDRA LD25 IP20	24	85	131	25 (7.62)	3,270 (99.7)	3 (9.8)
MARS CV HYDRA LD40 IP20	24	85	99	40 (12.2)	3950 (1,200)	2 (6.6)

Your order code	MARS CV HYD	LD__	W_	__	_____	__	__	IP20
Order code example	MARS CV HYD	LD15	W8	27	1260	BB	65	IP20

LED tape

- HYDRA LD5.....LD5
- HYDRA LD10.....LD10
- HYDRA LD15.....LD15
- HYDRA LD25.....LD25
- HYDRA LD40.....LD40

Color rendering

- > 80.....8
- > 90 (only LD5).....9

Color temperature

- 2000 K.....20
- 2200 K.....22
- 2500 K.....25
- 2700 K.....27
- 3000 K.....30
- 3500 K.....35
- 4000 K.....40
- 5000 K.....50

Length

L (mm) = (Nx25mm) + 14 mm; L_{min} = 39 mm;
 L_{max} = LD5/LD10/LD15 = 4.014 mm;
 LD25 = 3.014 mm; LD40 = 2.014 mm

Color

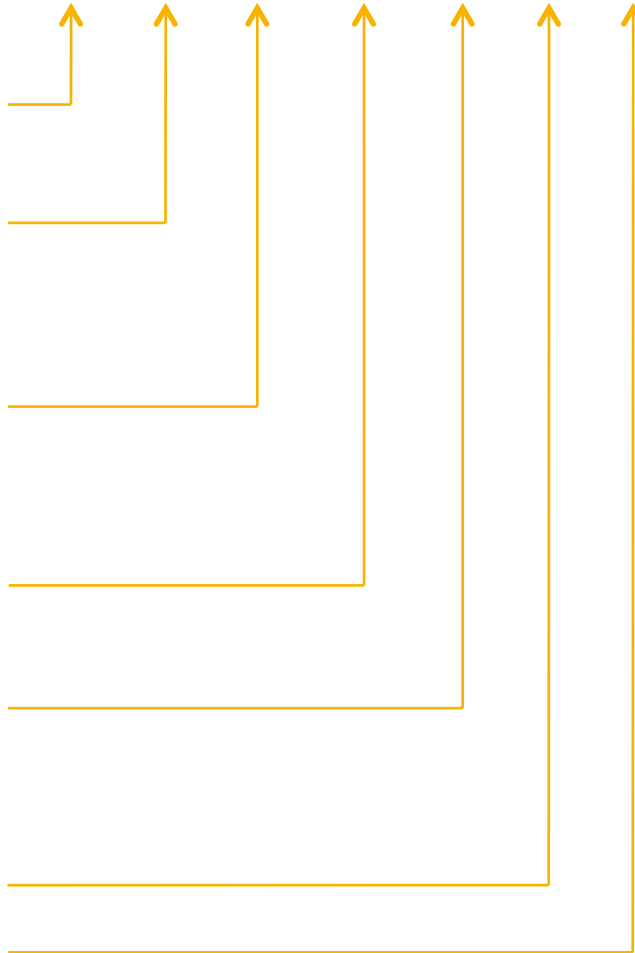
- Black profile with black glare reduction.....BB
- Silver profile with black glare reduction.....SB
- White profile with white glare reduction.....WW
- White profile with black glare reduction.....WB

Optic (DIN 5040:A60)

- 25° Reflector.....25
- 65° Reflector.....65

Ingress protection

- IP20.....IP20



¹ White @W850. At warmer light colors the luminous flux is reduced.

¹ IQ White / RGB When all channels / colors are at full power. Using single channels / colors reduces the luminous flux.



MARS CC LD54 White IP20

	Voltage (V)	CRI	Lumen/W (lm/W)	Watt/m (Watt/ft)	Lumen/m (Lumen/ft) ¹	Max. length mm (inch)
MARS CC LD54 White IP20	24	85	133	41.1 (12.5)	7,320 (2,230)	764 (301)

Your order code	MARS CC LD54	W8 __	__	__	__	__	IP20
Order code example	MARS CC LD54	W8 3 5	3 8 9	B B	6 5	E B	IP20

Color temperature

2000 K (20)	2200 K (22)	2500 K (25)
2700 K (27)	3000 K (30)	3500 K (35)
4000 K (40)	5000 K (50)	

Length

139 mm (54.7")	139
264 mm (104")	264
389 mm (153")	389
514 mm (202")	514
639 mm (252")	639
764 mm (301")	764

Color

Black profile with black glare reduction	BB
Silver profile with black glare reduction	SB
White profile with white glare reduction	WW
White profile with black glare reduction	WB

Optic (DIN 5040:A60)

25° Reflector	25
65° Reflector	65

Mains voltage

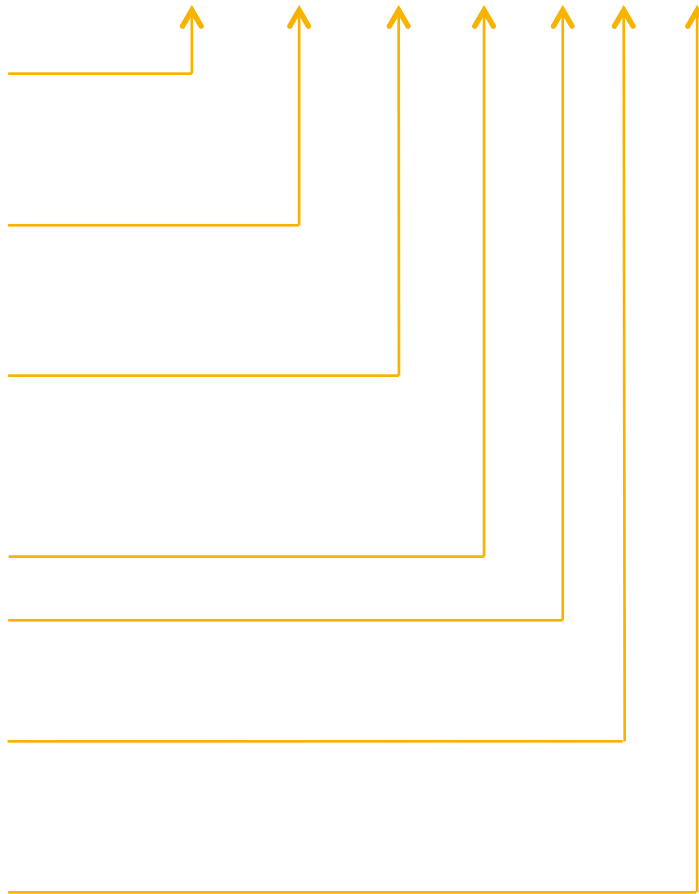
230 V	E
110 - 270 V	W

Dimming controls

On/Off	A
1 - 10 V	B
DALI	C
SwitchDIM	D
DMX	E

Ingress protection

IP20	IP20
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MARS CV IQ White HYDRA IP20

	Voltage (V)	CRI	Lumen/W (lm/W)	Watt/m (Watt/ft)	Lumen/m (Lumen/ft) ¹	Max. length m (ft)
MARS CV IQ White HYDRA LD25 IP20	24	85	110	25 (7.62)	2,720 (829)	3 (9.8)

Your order code	MARS CV IQ WHITE HYDRA LD25	__	__	__	IP20
Order code example	MARS CV IQ WHITE HYDRA LD25	2 6 4	B B	6 5	IP20

Length

L (mm) = N x 250 mm + 14 mm; N = 1 ... 12; L_{min} = 1 x 250 + 14 = 264 mm (104"); L_{max} = 12 x 250 + 14 = 3.014 m (9.8')

Color

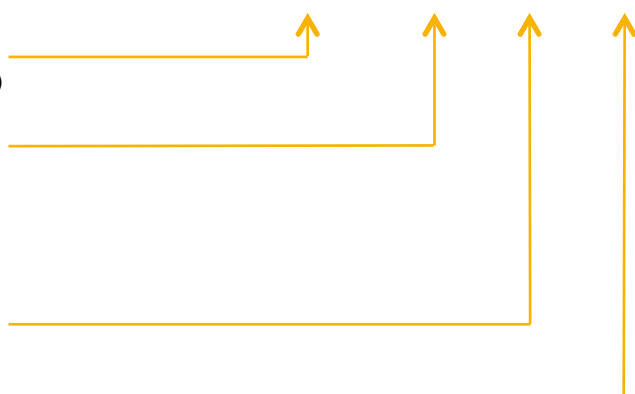
Black profile with black glare reduction	BB
Silver profile with black glare reduction	SB
White profile with white glare reduction	WW
White profile with black glare reduction	WB

Optic (DIN 5040:A60)

25° Reflector	25
65° Reflector	65

Ingress protection

IP20	IP20
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