

FEATURES

- 4 different sharp beam angles
- Wide variety of TM30 optimized LEDs
- ENEC approved drivers
- IEEE P1789 Flickerfree driver to 1%

SPRINGS

Standard with CS springs (concrete/gyproc).
Also available as above with
WS springs (gypro/metal).

LV 18° / 37° / 60°

LV 80° (on request)

COLOURS

Available colours:

Matt white RAL 9016 (XX=MW)
Matt black RAL 9005 (XX=BL)

Linea DS-FS 120 LV(-HE)

Fixed

SPECIFICATIONS

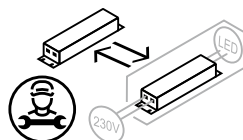
Beam angle (FWHM)	18° / 37° / 60° (80° on request)
Fixture material	Die cast aluminium / Glass
Environment	Indoor
IP rate	IP20 / IP44
IK rate	IK09
Operating temperature (Ta)	-20°C / +45°C ¹
Safety marks	EN60598 / EN62031 / EN62471
EMC compliance	EN55015
Colour consistency (SDCM)	MacAdam step 3
Warranty	7 years * (within the European Union and the countries of the Free Trade Association for products delivered after 1 May 2015)
Energy class	These products contains a light source of energy efficiency class: CR197 - F (3000K) & CR182 - E (3000K) / D (4000K)

This luminaire contains built-in LED lamps. The lamps cannot be changed in the luminaire. EU 874/2012

¹ In applications with a flat roof (fi. car showrooms) the temperatures may exceed 45°C. Please ask our sales office for a special driver.



Ask our sales department about the possibilities for:
- Tunable white 2700-6500K.
- High CRI LED options



Only when the product is installed in a closed ceiling it may be exposed to water splashes, and only on its front side.



LINEA DS-FS 120 LV(-HE) VARIATIONS

LINEA DS-FS 120 LV-HE	CRI82	3000/4000K	3575/3650Lm	incl. power supply	page 3
LINEA DS-FS 120 LV-HE	CRI82	3000/4000K	5000/5800Lm	incl. power supply	page 4
LINEA DS-FS 120 LV	CRI97	3000K	2500Lm	incl. power supply	page 5
LINEA DS-FS 120 LV	CRI97	3000K	3250/3750Lm	incl. power supply	page 6

CRI82 CHOOSE YOUR LV LUMEN OUTPUT

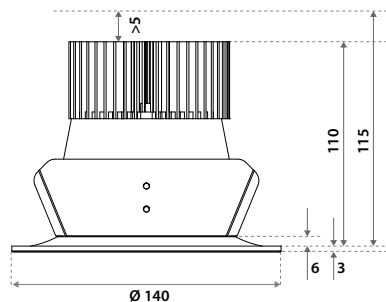
	mA	W	Lumen Output		Lumen / Watt		UGR			Driver types				
			3000K	4000K	3000K	4000K	3000K			No dim	Triac	1-10V&Push	Dali	Casambi
							18°	37°	60°					
<i>Special request</i>	250	9.2	1350	1400	147	152				CC21W150-500	x	126421	127576	x
<i>Special request</i>	350	13.1	1850	1900	141	145				CC21W150-500	x	127021	127576	127630
<i>Special request</i>	500	19.4	2525	2600	130	134				CC21W150-500	127032	127021	127576	127630
Standard	700	27.9	3575	3650	128	131	18.6	18.1	21.1	CC30W350-700	122260	127021	127576	127630
<i>Special request</i>	800	32.4	3825	4050	118	125				127484	on request	127021	127490	127630
<i>Special request</i>	900	36.8	4300	4500	117	122				127484	on request	127021	127490	127630
<i>Special request</i>	1050	43.7	4900	5100	112	117				127484	on request	127021	127490	127630
Standard	1200	51.2	5550	5800	108	113	20.1	19.6	22.6	127690	on request	123170	123170	On request

CRI97 CHOOSE YOUR LV LUMEN OUTPUT

	mA	W	Lumen Output		Lumen / Watt		UGR			Driver types				
			3000K	3000K	3000K	3000K	3000K			No dim	Triac	1-10V&Push	Dali	Casambi
							18°	37°	60°					
<i>Special request</i>	250	9.4	800		85					CC21W150-500	x	126421	127576	x
<i>Special request</i>	350	13.2	1100		83					CC21W150-500	x	127021	127576	127630
<i>Special request</i>	500	17.9	1450		81					CC21W150-500	127032	127021	127576	127630
<i>Special request</i>	700	27.0	2150		80					CC30W350-700	122260	127021	127576	127630
Standard	800	32.1	2500		78		17.3	16.8	19.8	127484	on request	127021	127490	127630
<i>Special request</i>	900	35.5	2700		76					127484	on request	127021	127490	127630
<i>Special request</i>	1050	41.7	3000		72					127484	on request	127021	127490	127630
Standard	1200	50.5	3250 ¹		64		18.2	17.7	20.7	127690	on request	123170	123170	On request
<i>Special request</i>	1400	57.2	3750 ²		66		18.7	18.2	21.2	x	on request	123170	123170	On request

¹ For large downlights CRI97 No dim. ² For large downlights CR97 1-10V and Dali.

DIMENSIONS



HOLE SIZE



Using CS springs: Ø 120 mm.
Thickness ceiling 10-115 mm & recess depth 115 mm. For plasterboard ceilings or similar harder materials thicker than 9 mm.



Using WS springs: Ø 120-130 mm.
Thickness ceiling 1-40 mm & recess depth 115 mm. For soft ceiling tiles. We recommend using a ceiling ring on the reverse side of the tile.

LINEA DS-FS 120 LV-HE

CRI82 3575/3650LM

ITEM SPECIFICATIONS (PART A)

Description	Item code		UGR	Type	mA	Vf
	CS	WS				
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 18° No dim	28N003XXCA02	28N003XXEA02	18.6	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 18° 1-10V & Push	28N003XXNA02	28N003XXQA02	18.6	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 18° Dali	28N003XXPA02	28N003XXRA02	18.6	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 37° No dim	28N003XXCB02	28N003XXEB02	18.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 37° 1-10V & Push	28N003XXNB02	28N003XXQB02	18.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 37° Dali	28N003XXPB02	28N003XXRB02	18.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 60° No dim	28N003XXCC02	28N003XXEC02	21.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 60° 1-10V & Push	28N003XXNC02	28N003XXQC02	21.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 60° Dali	28N003XXPC02	28N003XXRC02	21.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 18° No dim	28N003XXCD02	28N003XXED02	18.6	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 18° 1-10V & Push	28N003XXND02	28N003XXQD02	18.6	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 18° Dali	28N003XXPD02	28N003XXRD02	18.6	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 37° No dim	28N003XXCE02	28N003XXEE02	18.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 37° 1-10V & Push	28N003XXNE02	28N003XXQE02	18.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 37° Dali	28N003XXPE02	28N003XXRE02	18.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 60° No dim	28N003XXCF02	28N003XXEF02	21.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 60° 1-10V & Push	28N003XXNF02	28N003XXQF02	21.1	Incl. PSU	700	35,3
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 60° Dali	28N003XXPF02	28N003XXRF02	21.1	Incl. PSU	700	35,3

ITEM SPECIFICATIONS (PART B)

Description	W	Lm	Lm/W	CRI (typ.)	Pf	Ripple	Inrush current	B-16A Fuse	Safety class	Energy class
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 No dim	27,9	3575	128	82	0.95	<3%	5A 50µS	50 pcs	II	E
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 1-10V & Push	27,9	3575	128	82	0.95	<3%	5A 50µS	50 pcs	II	E
Linea DS-FS LV-HE 3575 Lm 3000K CRI82 Dali	27,9	3575	128	82	0.95	<3%	5A 50µS	50 pcs	II	E
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 No dim	27,9	3650	131	82	0.95	<3%	5A 50µS	50 pcs	II	D
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 1-10V & Push	27,9	3650	131	82	0.95	<3%	5A 50µS	50 pcs	II	D
Linea DS-FS LV-HE 3650 Lm 4000K CRI82 Dali	27,9	3650	131	82	0.95	<3%	5A 50µS	50 pcs	II	D

ITEM SPECIFICATIONS (PART C)

Description	Weight	Dimensions single carton	Quantity per carton	Expected lifespan B10 reported (25°C)		
				L70B10	L80B10	L90B10
Linea DS-FS LV-HE CRI82	622 gr	190x150x120 mm	32 pcs	>60.500 hrs	>60.500 hrs	>60.500 hrs

All values are measured at 230V (+/- 7%)

LINEA DS-FS 120 LV-HE

CRI82 5550/5800LM

ITEM SPECIFICATIONS (PART A)

Description	Item code		UGR	Type	mA	Vf
	CS	WS				
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 18° No dim	28N003XXCR02	28N003XXER02	20.1	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 18° 1-10V & Push	28N003XXNK02	28N003XXQK02	20.1	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 18° Dali	28N003XXPK02	28N003XXRK02	20.1	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 37° No dim	28N003XXCS02	28N003XXES02	19.6	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 37° 1-10V & Push	28N003XXNL02	28N003XXQL02	19.6	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 37° Dali	28N003XXPL02	28N003XXRL02	19.6	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 60° No dim	28N003XXCT02	28N003XXET02	22.6	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 60° 1-10V & Push	28N003XXNM02	28N003XXQM02	22.6	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 60° Dali	28N003XXPM02	28N003XXRM02	22.6	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 18° No dim	28N003XXCU02	28N003XXEU02	20.2	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 18° 1-10V & Push	28N003XXNN02	28N003XXQN02	20.2	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 18° Dali	28N003XXPN02	28N003XXRN02	20.2	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 37° No dim	28N003XXCV02	28N003XXEV02	19.7	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 37° 1-10V & Push	28N003XXNP02	28N003XXQP02	19.7	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 37° Dali	28N003XXPP02	28N003XXRP02	19.7	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 60° No dim	28N003XXCW02	28N003XXEW02	22.8	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 60° 1-10V & Push	28N003XXNQ02	28N003XXQQ02	22.8	Incl. PSU	1200	37,5
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 60° Dali	28N003XXPQ02	28N003XXRQ02	22.8	Incl. PSU	1200	37,5

ITEM SPECIFICATIONS (PART B)

Description	W	Lm	Lm/W	CRI (typ.)	Pf	Ripple	Inrush current	B-16A Fuse	Safety class	Energy class
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 No dim	51,2	5550	108	82	0.95	<3%	10A 200µs	30 pcs	II	E
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 1-10V & Push	51,2	5550	108	82	0.95	<3%	10A 200µs	30 pcs	I	E
Linea DS-FS LV-HE 5550 Lm 3000K CRI82 Dali	51,2	5550	108	82	0.95	<3%	10A 200µs	30 pcs	I	E
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 No dim	51,2	5800	113	82	0.95	<3%	10A 200µs	30 pcs	II	D
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 1-10V & Push	51,2	5800	113	82	0.95	<3%	10A 200µs	30 pcs	I	D
Linea DS-FS LV-HE 5800 Lm 4000K CRI82 Dali	51,2	5800	113	82	0.95	<3%	10A 200µs	30 pcs	I	D

ITEM SPECIFICATIONS (PART C)

Description	Weight	Dimensions single carton	Quantity per carton	Expected lifespan B10 reported (25°C)		
				L70B10	L80B10	L90B10
Linea DS-FS LV-HE CRI82	622 gr	190x150x120 mm	32 pcs	>60.500 hrs	>60.500 hrs	>60.500 hrs

All values are measured at 230V (+/- 7%)

LINEA DS-FS 120 LV

CRI97 2500LM

ITEM SPECIFICATIONS (PART A)

Description	Item code		UGR	Type	mA	Vf
	CS	WS				
Linea DS-FS LV 2500 Lm 3000K CRI82 18° No dim	282003XXCG02	282003XXEG02	17.3	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 18° 1-10V & Push	282003XXNG02	282003XXQG02	17.3	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 18° Dali	282003XXPG02	282003XXRG02	17.3	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 37° No dim	282003XXCH02	282003XXEH02	16.8	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 37° 1-10V & Push	282003XXNH02	282003XXQH02	16.8	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 37° Dali	282003XXPH02	282003XXRH02	16.8	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 60° No dim	282003XXCJ02	282003XXEJ02	19.8	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 60° 1-10V & Push	282003XXNJ02	282003XXQJ02	19.8	Incl. PSU	800	35,3
Linea DS-FS LV 2500 Lm 3000K CRI82 60° Dali	282003XXPJ02	282003XXRJ02	19.8	Incl. PSU	800	35,3

ITEM SPECIFICATIONS (PART B)

Description	W	Lm	Lm/W	CRI (typ.)	Pf	Ripple	Inrush current	B-16A Fuse	Safety class	Energy class
Linea DS-FS LV 2500 Lm 3000K CRI97 No dim	32,1	2500	78	97	0.95	<3%	5A 50µS	50 pcs	I	F
Linea DS-FS LV 2500 Lm 3000K CRI97 1-10V & Push	32,1	2500	78	97	0.95	<3%	5A 50µS	50 pcs	II	F
Linea DS-FS LV 2500 Lm 3000K CRI97 Dali	32,1	2500	78	97	0.95	<3%	5A 50µS	50 pcs	II	F

ITEM SPECIFICATIONS (PART C)

Description	Weight	Dimensions single carton	Quantity per carton	Expected lifespan B10 reported (25°C)		
				L70B10	L80B10	L90B10
Linea DS-FS LV 2500 Lm 3000K CRI97	622 gr	190x150x120 mm	32 pcs	>60.500 hrs	>60.500 hrs	>60.500 hrs

All values are measured at 230V (+/- 7%)

LINEA DS-FS 120 LV

CRI97 3250/3750LM

ITEM SPECIFICATIONS (PART A)

Description	Item code		UGR	Type	mA	Vf
	CS	WS				
Linea DS-FS LV 3250 Lm 3000K CRI82 18° No dim	282003XXFD02	282003XXFG02	18.2	Incl. PSU	1200	37,5
Linea DS-FS LV 3750 Lm 3000K CRI82 18° 1-10V & Push	282003XXNR02	282003XXQR02	18.7	Incl. PSU	1400	37,5
Linea DS-FS LV 3750 Lm 3000K CRI82 18° Dali	282003XXPR02	282003XXRR02	18.7	Incl. PSU	1400	37,5
Linea DS-FS LV 3250 Lm 3000K CRI82 37° No dim	282003XXFE02	282003XXFH02	17.7	Incl. PSU	1200	37,5
Linea DS-FS LV 3750 Lm 3000K CRI82 37° 1-10V & Push	282003XXNS02	282003XXQS02	18.2	Incl. PSU	1400	37,5
Linea DS-FS LV 3750 Lm 3000K CRI82 37° Dali	282003XXPS02	282003XXRS02	18.2	Incl. PSU	1400	37,5
Linea DS-FS LV 3250 Lm 3000K CRI82 60° No dim	282003XXFF02	282003XXFJ02	20.8	Incl. PSU	1200	37,5
Linea DS-FS LV 3750 Lm 3000K CRI82 60° 1-10V & Push	282003XXNT02	282003XXQT02	21.2	Incl. PSU	1400	37,5
Linea DS-FS LV 3750 Lm 3000K CRI82 60° Dali	282003XXPT02	282003XXRT02	21.2	Incl. PSU	1400	37,5

ITEM SPECIFICATIONS (PART B)

Description	W	Lm	Lm/W	CRI (typ.)	Pf	Ripple	Inrush current	B-16A Fuse	Safety class	Energy class
Linea DS-FS LV 3250 Lm 3000K CRI97 No dim	50,5	3250	64	97	0.95	<3%	10A 200µS	30 pcs	II	F
Linea DS-FS LV 3750 Lm 3000K CRI97 1-10V & Push	57,2	3750	66	97	0.95	<3%	10A 200µS	30 pcs	I	F
Linea DS-FS LV 3750 Lm 3000K CRI97 Dali	57,2	3750	66	97	0.95	<3%	10A 200µS	30 pcs	I	F

ITEM SPECIFICATIONS (PART C)

Description	Weight	Dimensions single carton	Quantity per carton	Expected lifespan B10 reported (25°C)		
				L70B10	L80B10	L90B10
Linea DS-FS LV 3250/3750 Lm 3000K CRI97	622 gr	190x150x120 mm	32 pcs	>60.500 hrs	>60.500 hrs	>60.500 hrs

All values are measured at 230V (+/- 7%)

NEW STANDARDS REQUIRE NEW LEDS

TM-30 (new color norm): The Illuminating Engineering Society (IES) has published a new Technical Memorandum – TM-30-15 entitled “IES Method for Evaluating Light Source Color Rendition” – that promises to supplant CRI as a color metric. TM-30 relies on separate fidelity and gamut metrics, as well as a set of color samples that is more representative of real-world objects, as opposed to the pastel samples that were primarily used for the baseline CRI metric that was sometimes called Ra. The new color metric is intended to fairly and accurately characterize both LED-based solid-state lighting (SSL) and legacy sources.



Desaturated

CRI = 82 / R_g = 94



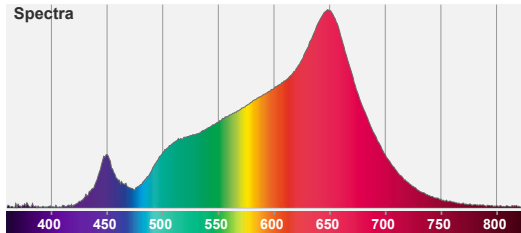
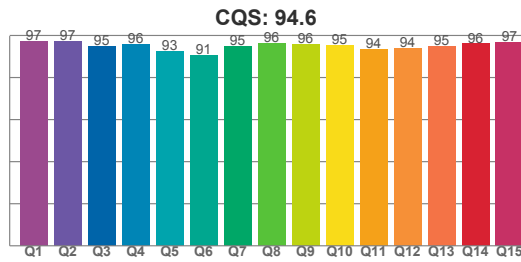
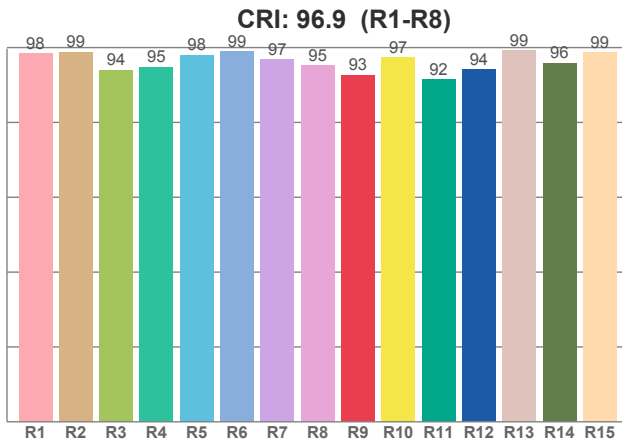
Red-Enhanced

CRI = 97 / R_g = 103

HIGH CRI LED OPTIONS

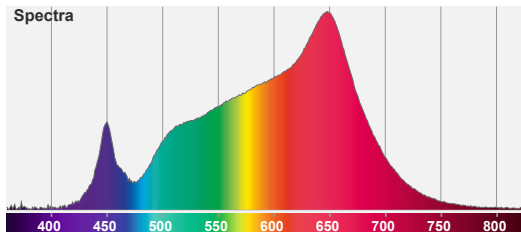
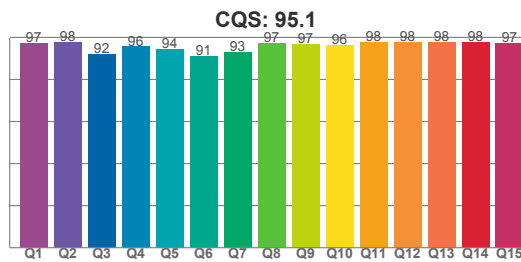
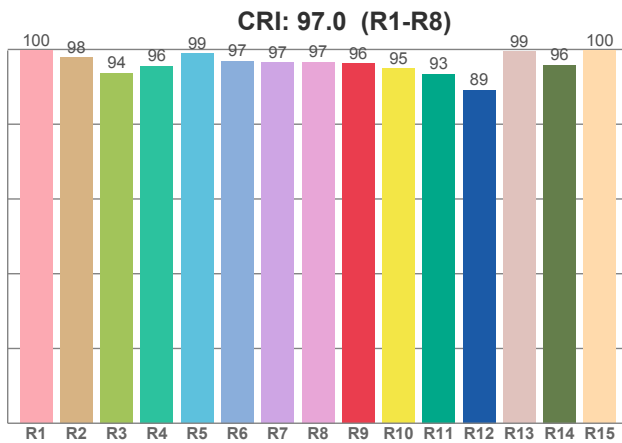
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						MA	LM	LM/W	MA	LM	MA	LM		
CRI82	2700K	82	5	83	94	350	1650	128	700	3400	1200	5300	Bridgelux ksf	51-4087-27
CRI82	3000K	82	7	86	95	350	1725	134	700	3575	1200	5550	Bridgelux ksf	51-4087-30
CRI82	4000K	82	18	84	96	350	1750	136	700	3650	1200	5800	Bridgelux ksf	51-4087-40
CRI90	2700K	92	67	88	104	350	1550	118	700	3150	1200	4700	Bridgelux ksf	51-4088-27
CRI90	3000K	92	67	92	99	350	1600	122	700	3250	1200	4850	Bridgelux ksf	51-4088-30
CRI90	4000K	92	78	92	100	350	1625	124	700	3300	1200	4925	Bridgelux ksf	51-4088-40
CRI97	2700K	97	93	96	103	350	1150	83	800	2300	1400	3425	Lumileds	50-3031-27
CRI97	3000K	97	96	95	103	350	1250	91	800	2500	1400	3750	Lumileds	50-3031-30
CRI97	4000K	97	96	95	103	350	1350	98	800	2700	1400	4050	Lumileds	50-3031-40

2700K



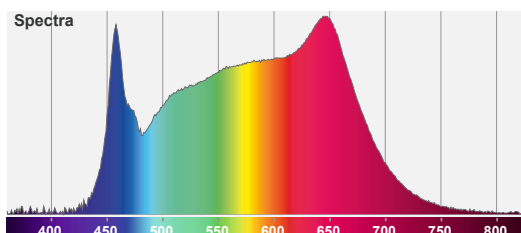
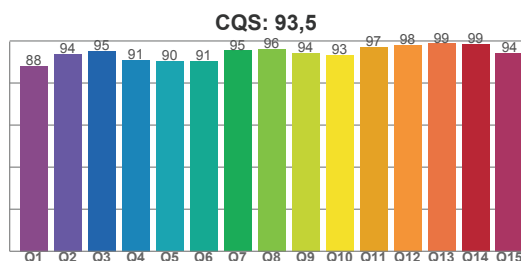
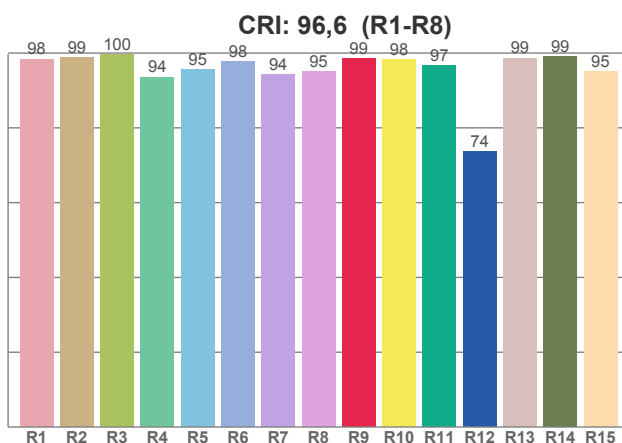
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS
2700K	96.9	92.7	96.0	102.6	94.6

3000K



CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS
3000 K	97.0	96.2	95.0	103.3	95.1

4000K



CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS
4000K	96.6	98.5	88.3	96.2	93.5