



LUMOSA LIGHTING

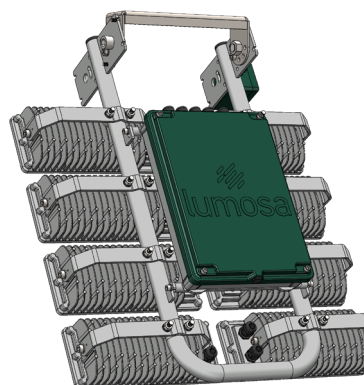
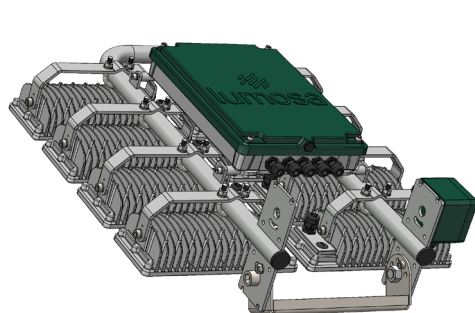
SPECSHEET CS MAX SERIES



SPECSHEET CS MAX SERIES

Specification CS8		
Parameter		Remarks
Type:	CS860 Max	
Led power [W]	1800	± 10%
Brightness [Lm]	302225	± 7%
Color temp	5700K	Other Color temp available
Color rendering	> 70 Ra	Higher rating can be ordered
Efficacy [up to Lm/W]	230	Measured acc LM-79-08; See figure 3 on page 10
Min Efficacy [Lm/W]	168	
Operating Input Voltage [Vac]	400	±10%
Input Current max [A]	6.2	Absolute maximum at minimum input voltage
Inrush Current [A]	≤ 40	
I ² t [A ² s]	≤ 5	
Frequency	50 – 60Hz	
Power Factor	0.99	At nominal load
Efficiency	0.97	
Start Up time [s]	≤ 1	
Hold Up time [ms]	10	
Flickering	< 1%	Lumen variation
Surge protection	10kV	Differential and common mode
Isolation Class	Class I	Option Class II
Control	Intelligent Lighting System	Communication over power line
Optional protocol(s):	DMX	DMX512 RDM
	DALI-2	
On/off	Stand-by	Via Intelligent Lighting System
Dimming	0-100%	Via Intelligent Lighting System
L94B10	> 64500hrs	@ Tc 85°C acc. TM-21
L90B10	> 102000hrs	@ Tc 85°C. acc. TM-21
Ambient temperature	-20 to 40°C	Operating conditions
	-30 to 85°C	Storage conditions
Standards and Safety	NEN-EN-IEC 55015:2019:2019 NEN-EN-IEC 61547:2009-IEC:2009 IEC 60598-1:2020,2-22 IEC 60598-2:2020 IEC 62717 NEN-EN-IEC 60598-2-5:2015 NEN-EN-IEC 61000-6-2:2019 UEFA Stadium Guide	Electromagnetic Compatibility Directive Equipment for general lighting purposes Fixed general purpose luminaires Limit for Harmonic current emissions Lighting (2023) and Entertainment Lighting (2020)
Installation height	5 to 100mtr	
Enclosure rating	IP66	
	IK08	
Corrosion Class	C4	Option for C5

Mechanical			
Parameter	[Standing]	[Hanging]	Remarks
Wind load	0.2 [0.17]	0.27 [0.24]	S.Cx See figure 7 [value with lightguides]
Weight [Kg]	25		
Size [LxWxH] [cm]	63x61x46		See drawing
Base size[mm]	65x270 hole size 22		
Color	Grey (RAL 7035)		Powder coating



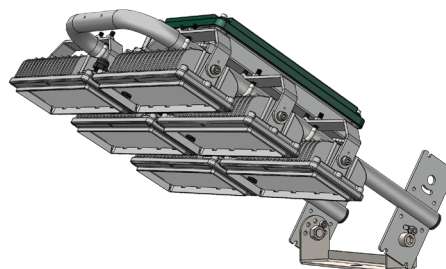
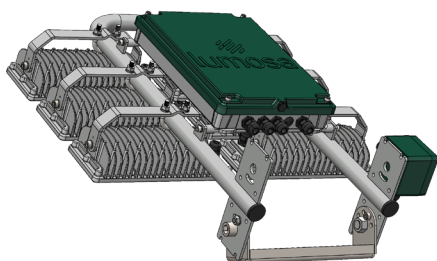
SPECSHEET CS MAX SERIES

Specification CS6

Parameter		Remarks
Type:	CS660 Max	
Led power [W]	1350	± 10%
Brightness [Lm]	226669	± 7%
Color temp	5700K	Other Color temp available
Color rendering	> 70 Ra	Higher rating can be ordered
Efficacy [up to Lm/W]	230	Measured acc LM-79-08; See figure 3 on page 10
Min Efficacy [Lm/W]	168	
Operating Input Voltage [Vac]	400	±10%
Input Current max [A]	4.7	Absolute maximum at minimum input voltage
Inrush Current [A]	≤ 40	
I ² t [A ² s]	≤ 5	
Frequency	50 – 60Hz	
Power Factor	0.99	At nominal load
Efficiency	0.97	
Start Up time [s]	≤ 1	
Hold Up time [ms]	10	
Flickering	< 1%	Lumen variation
Surge protection	10kV	Differential and common mode
Isolation Class	Class I	Option Class II
Control	Intelligent Lighting System	Communication over power line
Optional protocol(s):	DMX	DMX512 RDM
	DALI-2	
On/off	Stand-by	Via Intelligent Lighting System
Dimming	0-100%	Via Intelligent Lighting System
L94B10	> 64500hrs	@ Tc 85°C acc. TM-21
L90B10	> 102000hrs	@ Tc 85°C. acc. TM-21
Ambient temperature	-20 to 40°C	Operating conditions
	-30 to 85°C	Storage conditions
Standards and Safety	NEN-EN-IEC 55015:2019:2019 NEN-EN-IEC 61547:2009-IEC:2009 IEC 60598-1:2020,2-22 IEC 60598-2:2020 IEC 62717 NEN-EN-IEC 60598-2-5:2015 NEN-EN-IEC 61000-6-2:2019 UEFA Stadium Guide	Electromagnetic Compatibility Directive Equipment for general lighting purposes Fixed general purpose luminaires Limit for Harmonic current emissions Lighting (2023) and Entertainment Lighting (2020)
Installation height	5 to 100mtr	
Enclosure rating	IP66	
	IK08	
Corrosion Class	C4	Option for C5

Mechanical

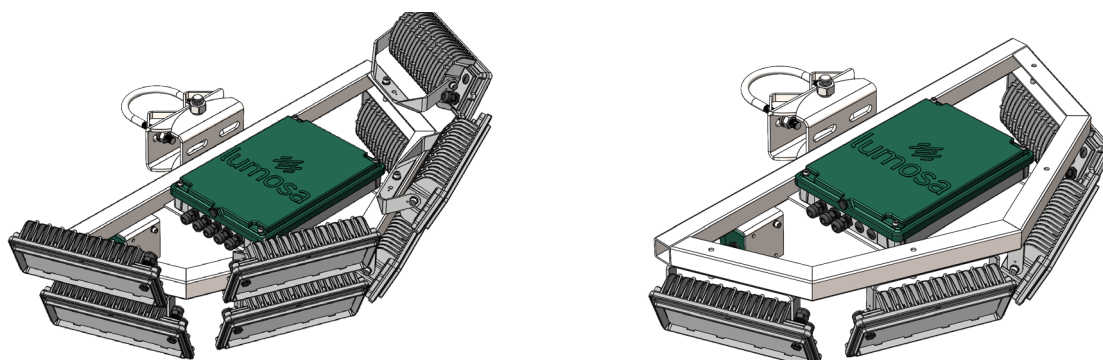
Parameter		Remarks
Wind load	0.17 [0.15]	S.Cx See figure 7 [value with lightguides]
Weight [Kg]	21	
Size (LxWxH) [cm]	64x57x48	See drawing
Base size[mm]	65x270 hole size 22	
Color	Grey (RAL 7035)	Powder coating



SPECSHEET CS MAX SERIES

Specification Corona CS			
Parameter			Remarks
Type: Corona	CS8 Max	CS4 Max	
Led power [W]	1800	900	± 10%
Brightness [Lm]	302225	151113	± 7%
Color temp	5700K		Other Color temp available
Color rendering	> 70 Ra		Higher rating can be ordered
Efficacy [up to Lm/W]	230		Measured acc LM-79-08; See figure 3 on page 10
Min Efficacy [Lm/W]	168		
Operating Input Voltage [Vac]	400	230 ... 400	±10%
Input Current max [A]	6.2	3.1...4.8	Absolute maximum at minimum input voltage
Inrush Current [A]	≤ 40		
I ² t [A²s]	≤ 5		
Frequency	50 – 60Hz		
Power Factor	0.99		At nominal load
Efficiency	0.97		
Start Up time [s]	≤ 1		
Hold Up time [ms]	10		
Flickering	< 1%		Lumen variation
Surge protection	10kV		Differential and common mode
Isolation Class	Class I		Option Class II
Control	Intelligent Lighting System		Communication over power line
Optional protocol(s):	DMX		DMX512 RDM
	DALI-2		
On/off	Stand-by		Via Intelligent Lighting System
Dimming	0-100%		Via Intelligent Lighting System
L94B10	> 64500hrs		@ Tc 85°C acc. TM-21
L90B10	> 102000hrs		@ Tc 85°C. acc. TM-21
Ambient temperature	-20 to 40°C		Operating conditions
	-30 to 85°C		Storage conditions
Standards and Safety	NEN-EN-IEC 55015:2019:2019 NEN-EN-IEC 61547:2009- IEC 60598-1:2020,2-22 IEC 60598-2:2020 IEC 62717 NEN-EN-IEC 60598-2-5:2015 NEN-EN-IEC 61000-6-2:2019 UEFA Stadium Guide		Electromagnetic Compatibility Directive Equipment for general lighting purposes Fixed general purpose luminaires Limit for Harmonic current emissions Lighting (2023) and Entertainment Lighting (2020)
Installation height	5 to 100mtr		
Enclosure rating	IP66		
	IK08		
Corrosion Class	C4		Option for C5

Mechanical			
Parameter			Remarks
Wind load	0.22 [0.23]	0.14 [0.15]	S.Cx See figure 7 [value with lightguides]
Weight [Kg]	27	21	
Size (LxWxH) [cm]	100x50x33	100x50x18	See drawing
Color	Grey (RAL 7035)		Powder coating



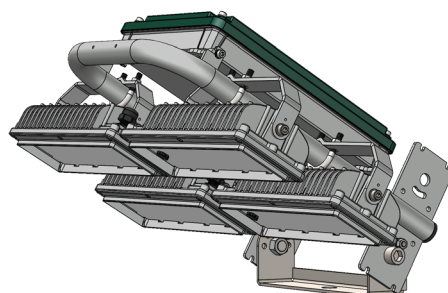
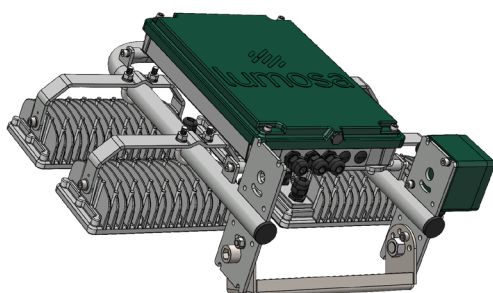
SPECSHEET CS MAX SERIES

Specification CS4

Parameter		Remarks
Type:	CS460 Max	
Led power [W]	900	± 10%
Brightness [Lm]	151113	± 7%
Color temp	5700K	Other Color temp available
Color rendering	> 70 Ra	Higher rating can be ordered
Efficacy [up to Lm/W]	230	Measured acc LM-79-08; See figure 3 on page 10
Min Efficacy [Lm/W]	168	
Operating Input Voltage [Vac]	230 ... 400	±10%
Input Current max [A]	3.1...4.8	Absolute maximum at minimum input voltage
Inrush Current [A]	≤ 40	
I ² t [A ² s]	≤ 5	
Frequency	50 – 60Hz	
Power Factor	0.99	At nominal load
Efficiency	0.97	
Start Up time [s]	≤ 1	
Hold Up time [ms]	10	
Flickering	<1%	Lumen variation
Surge Protection	10kV	Differential and common mode
Isolation Class	Class I	Option Class II
Control	Intelligent Lighting System	Communication over power line
Optional protocol(s):	DMX	DMX512 RDM
	DALI-2	
On/off	Stand-by	Via Intelligent Lighting System
Dimming	0-100%	Via Intelligent Lighting System
L94B10	> 64500hrs	@ Tc 85°C acc. TM-21
L90B10	> 102000hrs	@ Tc 85°C. acc. TM-21
Ambient temperature	-20 to 40°C	Operating conditions
	-30 to 85°C	Storage conditions
Standards and Safety	NEN-EN-IEC 55015:2019:2019 NEN-EN-IEC 61547:2009-IEC:2009 IEC 60598-1:2020,2-22 IEC 60598-2:2020 IEC 62717 NEN-EN-IEC 60598-2-5:2015 NEN-EN-IEC 61000-6-2:2019 UEFA Stadium Guide	Electromagnetic Compatibility Directive Equipment for general lighting purposes Fixed general purpose luminaires Limit for Harmonic current emissions Lighting (2023) and Entertainment Lighting (2020)
Installation height	5 to 100mtr	
Enclosure rating	IP66	
	IK08	
Corrosion Class	C4	Option for C5

Mechanical

Parameter		Remarks
Wind load	0.14 [0.13]	S.Cx See figure 7 [value with lightguides]
Weight [Kg]	15	
Size (LxWxH) [cm]	39x61x43	See drawing
Base size[mm]	65x270 hole size 22	
Color	Grey (RAL 7035)	Powder coating



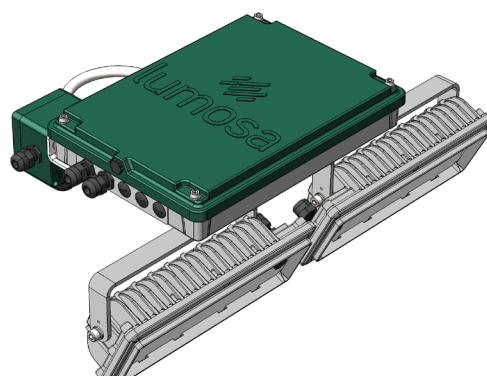
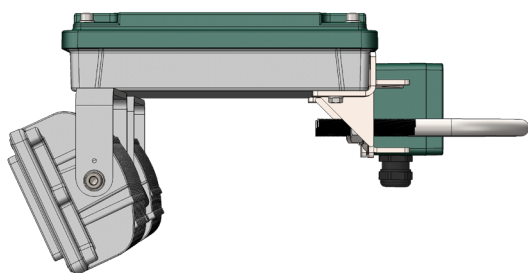
SPECSHEET CS MAX SERIES

Specification CS2

Parameter		Remarks
Type:	CS260 Max	
Led power [W]	450	± 10%
Brightness [Lm]	75556	± 7%
Color temp	5700K	Other Color temp available
Color rendering	> 70 Ra	Higher rating can be ordered
Efficacy [up to Lm/W]	230	Measured acc LM-79-08; See figure 3 on page 10
Min Efficacy [Lm/W]	168	
Operating Input Voltage [Vac]		
Input Current max [A]	1.6...2.4	Absolute maximum at minimum input voltage
Inrush Current [A]	≤ 40	
I ² t [A ² s]	≤ 5	
Frequency [Hz]	50 – 60	
Power Factor	0.99	At nominal load
Efficiency	0.97	
Start Up time [s]	≤ 1	
Hold Up time [ms]	10	
Flickering	< 1%	Lumen variation
Surge protection	10kV	Differential and common mode
Isolation Class	Class I	Option Class II
Control	Intelligent Lighting System	Communication over power line
Optional protocol(s):	DMX DALI-2	DMX512 RDM
On/off	Stand-by	Via Intelligent Lighting System
Dimming	0-100%	Via Intelligent Lighting System
L94B10	> 64500hrs	@ Tc 85°C acc. TM-21
L90B10	> 102000hrs	@ Tc 85°C. acc. TM-21
Ambient temperature	-20 to 40°C	Operating conditions
	-30 to 85°C	Storage conditions
Standards and Safety	NEN-EN-IEC 55015:2019:2019 NEN-EN-IEC 61547:2009-IEC:2009 IEC 60598-1:2020,2-22 IEC 60598-2:2020 IEC 62717 NEN-EN-IEC 60598-2-5:2015 NEN-EN-IEC 61000-6-2:2019 UEFA Stadium Guide	Electromagnetic Compatibility Directive Equipment for general lighting purposes Fixed general purpose luminaires Limit for Harmonic current emissions Lighting (2023) and Entertainment Lighting(2020)
Installation height	5 to 100mtr	
Enclosure rating	IP66	
	IK08	
Corrosion Class	C4	Option for C5

Mechanical

Parameter		Remarks
Wind load	0.09 [0.08]	S.Cx See figure 7 [value with lightguides]
Weight [Kg]	11	
Size (LxWxH) [cm]	64x57x48	See drawing
Color	Grey (RAL 7035)	Powder coating



Graphs

- Light output depends on dimming setting which can be controlled through the Smart Management System.
- Although light output will be reduced Efficacy (Lm/W) will increase.
- Efficacy of led will increase by reduced led current and driver will maintain a very high efficiency over a wide input range.

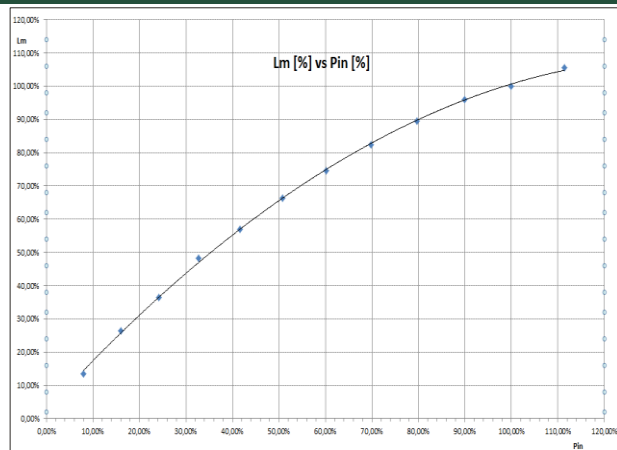


FIGURE 1 LUMEN OUTPUT VERSUS INPUT POWER

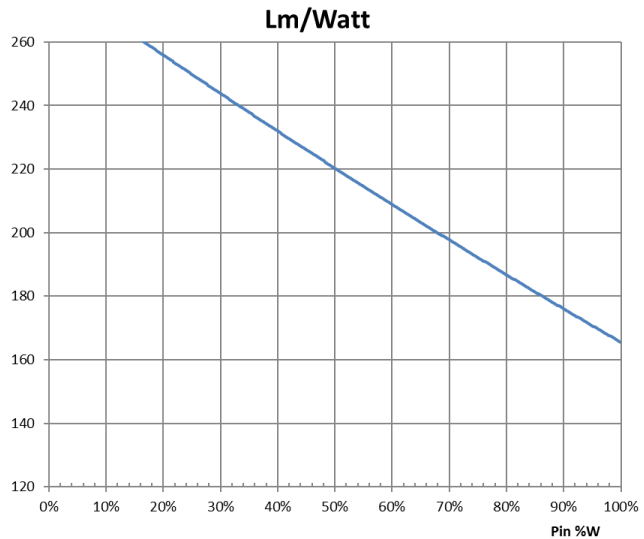


FIGURE 3 EFFICACY VERSUS INPUT POWER

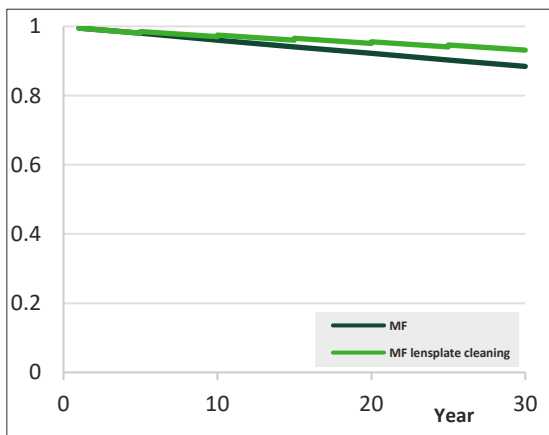


FIGURE 2 MAINTENANCE FACTOR @ 25°C

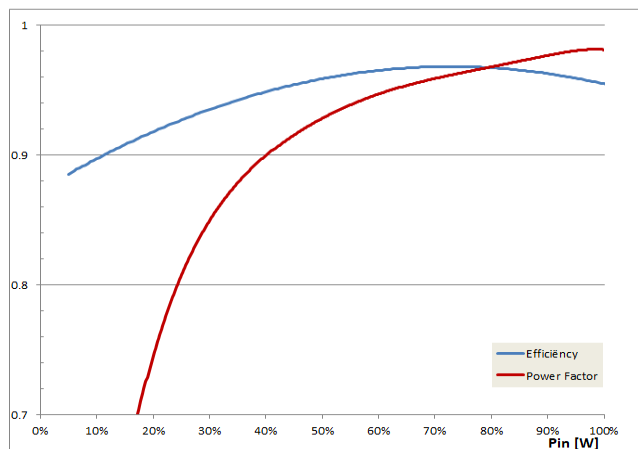


FIGURE 4 DRIVER PERFORMANCE



- The small brightness decay for led over lifetime is compensated by the driver. In This way constant Lumen output is guaranteed over life. Conventional lamps will have a large brightness decay resulting in early end of live of lamp. (Fig 5)

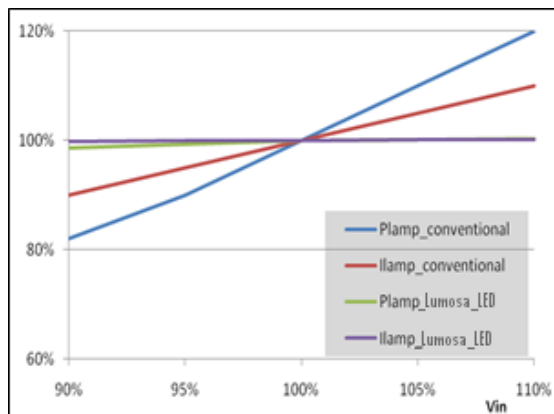


FIGURE 5 INPUT VOLTAGE DEPENDENCY

- LED give immediately light at full brightness and can be dimmed or switch off and on without any problem. Conventional lamps need to warm up and during this time an excessive current is drawn from the mains. Lamps need to cool down before they can be reignited (switch on)

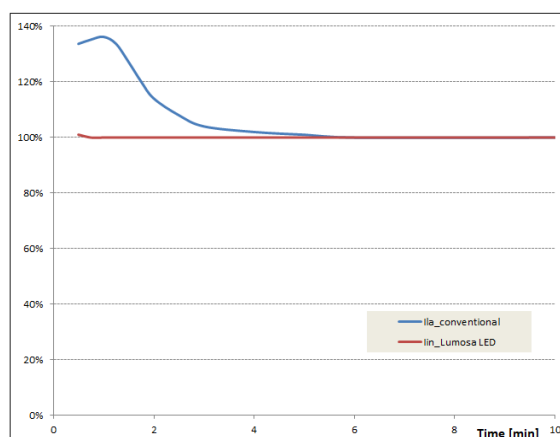


FIGURE 6 STARTUP CURRENT

- Windload [F] over 360 degree radius around Luminaire. Multiple Luminaires on one pole standing in different angle position should be added by there angle vector values

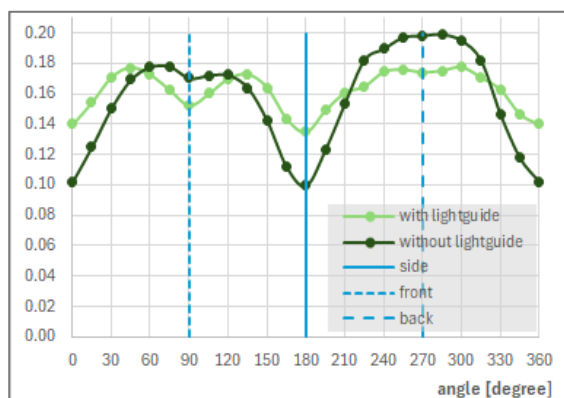


FIGURE 7 WINDLOAD

