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## 1. Description

High-quality LED's combined with the patented reflector technology creates the pre-condition of illuminating the operating or examination field. The perfect arrangement of LED reflectors facilitates the maximum efficiency of the light emitting surface. The LED light sources mainly emit visible light without any infrared components.

The Sim.LED 4500 operating light is made of high-end materials such as aluminum and safety glass. The housing made of aluminum favors a well-established heat management. This offers two important advantages. First, it avoids heat accumulation by direct heat sink function which leads to an extremely long lifetime of the LEDs. Second, the optimized heat management and the very low power consumption creates a perfect hygienic environment under laminar flow ceiling conditions.

The Sim.LED 4500 has a hygiene-optimized design, which is supported by the seamlessly closed construction and the use of ESG safety glass. In addition, the ESG safety glass offers the advantage of a consistently high illumination over the entire service life of the LED light.

The movement of the light head is possible with a sterile handle. The handling of the light is managed by an on / off switch.

The Sim.LED 4500 convinces with the innovative antibacterial coating Anti.BAC<sup>®</sup>. Anti.BAC<sup>®</sup> reduces germs by 99.99% and is completely free of physiologically harmful nano-silver or free silver ions.

## 2. Technical Data

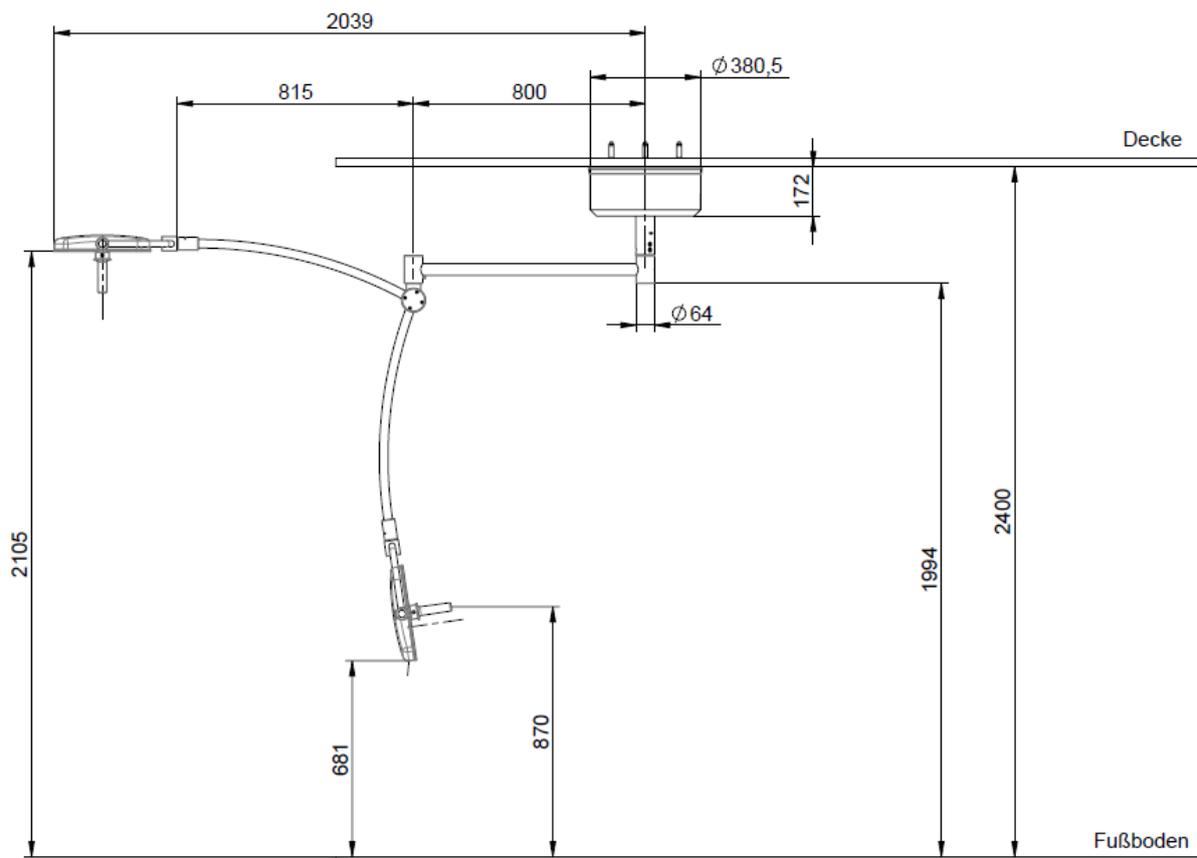
<b>Photometrical datas:</b>		<b>Sim.LED 4500</b>
Central Illumination Ec (1m)	[lx]	100,000
Dimming Capability from/to	[lx]	25,000-100,000
Light Field Diameter d <sub>10</sub> at a Distance of 1m	[mm]	170
Color Temperature	[K]	4,500
Color Rendering Index	Ra (1-8)	96
Red Rendering Index	R <sub>9</sub>	96
Total Irradiance	[W/m <sup>2</sup> ]	386
Illumination Depth Without Additional Focusing L1+L2 (20%)	[mm]	1,610
Illumination Depth Without Additional Focusing L1+L2 (60%)	[mm]	1,560
Working Area from /to	[mm]	150-1,680
Light Emitting Surface	[cm <sup>2</sup> ]	622
Temperature Increase at Surgeon´s Head	[°C]	< 1
Temperature Increase at Operation Area	[°C]	< 5
LED – Light Source	[pieces]	6 x 3 = 18
Residual Illumination With 1 Shadow-Caster	[%]	incapable of measurement
Residual Illumination With 2 Shadow-Caster	[%]	44
Residual Illumination With 1 Tube	[%]	100
Residual Illumination With 1 Tube and 1 Shadow-Caster	[%]	incapable of measurement
Residual Illumination With 1 Tube and 2 Shadow-Caster	[%]	43
Efficiency of max. Light Intensity to max. Power Consumption (100,000 lx / 28 W)	[lx/W]	3,571

<b>Electrical Data:</b>		<b>Sim.LED 4500</b>
Power Supply incl. Mounting Plate (LxWxH)	[mm]	92x60x31
Power Supply – Primary Voltage	[V]	90-240
Input Voltage at Light Head	[V]	20-33
Typical Input Voltage	[V]	24
Maximum Current Consumption	[A]	1
Typical Current Consumption	[A]	1.16
Power Consumption with 24 V	[W]	28
Life Time of Light Source	[h]	> 60,000
Classification According MDD		I
Protection Class According IEC 60601		I
Suspension Protection Class	IP	IP 30
Light Housing Protection Class	IP	IP 42
Certificate		CE
<b>Mechanical Data:</b>		<b>Sim.LED 4500</b>
Minimum Room Height With Full Cardanic Suspension (Power Supply at the Ceiling Tube / Pass Line Height 2.25 m)	[mm]	2,400
Minimum Room Height With Full Cardanic Suspension (Power Supply External / Pass Line Height 2.25 m)	[mm]	2,400
Operating Range	[mm]	2,039
Adjustment of the Spring Arm	[mm]	1,235
Approx. Weight of a Standard Ceiling Tube	[kg]	10.5
Approx. Weight of the Suspension	[kg]	5.3
Approx. Weight of the Spring Arm Swing	[kg]	4.5
Approx. Weight of the Power Supply	[kg]	0.5
Approx. Weight of the Light Head	[kg]	3
Total Weight	[kg]	23.8
Vertical Force	[N]	ca. 324
Moment of torque	[Nm]	ca. 130
Ceiling Cover Measurements	[mm]	Ø380x160 (80)
Height of the Light Head Without Sterile Handle	[mm]	ca. 57
Measurement Light Head	[mm]	335x298

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<b>Mobile stand with battery:</b>		<b>Sim.LED 4500</b>
Single Battery runtime at maximum intensity	[h]	7.7
Battery charging time	[h]	2.5
Estimated amount of charging cycles		1000
Optional power supply:		
Primary Voltage AC	[V]	100-240
Power frequency	[Hz]	47-63
Current Consumption	[A]	2.5-1.2

### 3. Technical drawing



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