

Saros Duo[™]

TANDEM HEALTHCARE LUMINAIRE SUPPORTING WELLNESS AND RECOVERY





Patient bed luminaire for integrative lighting

Inspired by the restorative effect of gazing at the horizon, Saros Duo[™] supports wellness and recovery through multiple research-backed lighting scenes.

This novel tandem luminaire intended for use in patient rooms, also suitable for examination rooms and ambulatory care areas, meets the needs of clinical staff while providing patients comfort and safety.

The gentle curves and indirect ambient illumination convey softness and an overall sense of calm while promoting visual comfort. Two exam modes support the critical work of clinicians while the reading and night light cater to patients' needs and safety.

Saros Duo can be used to easily implement the latest recommendations on integrative or circadian lighting, supporting the non-visual effects of light, per the CIE, ANSI/IES RP 29-22, RP-46-23, UL DG 24480, and the WELL Building Standard.



Beauty, functionality, and circadian entrainment

Saros Duo™ supports circadian entrainment by offering a selection of scenes that meet the prescribed Melanopic Equivalent Daylight Illuminance (Melanopic EDI) thresholds required during the day, before bedtime, and at nighttime per the ANSI/IES RP-46-23, UL DG 24480, and the WELL Building Standard, among others.

The result of thoughtful engineering following the latest research on how light can support physiology, sleep, and wakefulness, Saros Duo uses direct and indirect light sources to visually transition between high and low levels of illumination over the course of the day. An amber nightlight allows for visibility and safety, without blue wavelengths to minimize sleep disruptions.

Saros Duo's powerful, low-glare optics deliver a pleasant atmosphere and foster positive outcomes for patients by stimulating the natural sleep and wake cycle.

LIGHTING SCENES SUPPORTING THE HUMAN CIRCADIAN SYSTEM

As daylight shifts in color and intensity over the course of the day, lighting scenes can be programmed to transition from vibrant direct and indirect lighting, to soft and indirect only, with an option for an indirect amber nightlight.



DAYTIME



EVENING



NIGHTTIME

EXAMINATION MODES FACILITATING THE WORK OF CLINICAL STAFF

Two exam modes: Regular or High, deliver 75 or 100 foot-candles on the bed and provide a Cyanosis Observation Index (COI) of 3.3 or less.

PATIENT CONTROLLED

READING LIGHT

time of the day or night.

A comfortable reading light can be controlled by the patient via a pillow speaker, offering focused and comfortable illumination at any





~10 PM 12 AM **5 AM** ~6 PM ~6 AM NOON

REGULAR EXAM



HIGH EXAM

How to achieve ideal lighting scenes

Saros Duo[™] is an effective tool to easily achieve Melanopic EDI thresholds for circadian entrainment with individually controlled direct and indirect light sources. While the color temperature of each source is constant, each can be specified at a different color temperature, if desired. This allows for simultaneous warm and cool light temperatures, similar to that seen in direct sun and skylight.

For example, a CCT of 3500K can be selected for the direct light source, used primarily for the daytime scene and exam mode. The higher blue content will provide the bright daylight required. A warmer CCT can be specified for the indirect light source, ensuring a calming atmosphere for the evening scene. Daytime, evening, and nighttime scenes can be programmed by simply adjusting the dimming levels of the light sources.

The following pages indicate the dimming levels to achieve the recommended daytime and evening Melanopic EDI based on selected color temperatures.

DAYTIME SCENE

The daytime scene blends direct and indirect light sources to deliver a bright, cheerful ambiance during morning hours and into the afternoon.





2700K Indirect, 3500K Direct shown

Dimming percentages and Melanopic EDI

Optimal combinations of dimming percentages for different correlated color temperatures deliver 250 Melanopic EDI.

It is also possible to adjust the light output more precisely with in-situ readings post installation.

Cooler CCTs are recommended for the daytime scene.

Indirect Source					
2700K	3000K	3500K	4000K		
100%	100%	100%	100%		
88%	84%	77%	74%		
100%	100%	100%	100%		
76%	72%	66%	64%		
100%	100%	100%	100%		
63%	60%	55%	53%		
100%	100%	100%	100%		
59%	56%	51%	49%		
	2700K 100% 88% 100% 76% 100% 63% 100% 59%	Indirect 2700K 3000K 100% 100% 88% 84% 100% 100% 76% 72% 100% 100% 63% 60% 100% 56%	Indirect Source 2700K 3000K 3500K 100% 100% 100% 88% 84% 77% 100% 100% 100% 100% 100% 55% 100% 100% 55% 100% 100% 55%		

nded combinations to achieve 250 Melanopic EDI Dimming percentages based on 11000lm Direct, 5600lm Indirect output Recommended for at least 4 hours per day



Delivers Melanopic EDI of 250+ lux on a vertical plane at eye level

EVENING SCENE

The evening scene uses the indirect light source, resulting in a soothing atmosphere before bedtime.



2700K Indirec

Dimming percentages and Melanopic EDI

Optimal combinations of dimming percentages for different correlated color temperatures deliver 10 Melanopic EDI or less.

It is also possible to adjust the light output more precisely with in-situ readings post installation.

Warmer CCTs are recommended for the evening scene.

	Indirect Source				
	2700K	3000K	3500K	4000K	
2700K	15%	13%	11%	10%	
	0%	0%	0%	0%	
3000K	15%	13%	11%	10%	
	0%	0%	0%	0%	
3500K	15%	13%	11%	10%	
	0%	0%	0%	0%	
4000K	15%	13%	11%	10%	
	0%	0%	0%	0%	

Recommended combinations to achieve 10 Melanopic EDI. Dimming percentages based on 11000lm Direct, 5600lm Indirect output

Light distribution





Recommended for at least **3 hours before bedtime**



Delivers Melanopic EDI of 10 lux or less on a vertical plane at eye level

UGR 14 from the patient's perspective

Light distribution





How to achieve ideal lighting scenes

NIGHTTIME SCENE

A quiet night scene results from a dedicated nightlight source. A soft amber nightlight ensures patient safety without sleep disruption.



Narrow-band, 600nm amber light source without blue wavelengths.

SPECTRAL POWER DISTRIBUTIONS

0.0008

400

500

600

WAVELENGTH (NM)

700

800

There are several similar recommendation standards for Integrative Lighting and Human Centric Lighting. The following spectral data and melanopic efficacy is provided to support calculations relative of the Saros Duo light sources at different color temperatures.



Melanopic EDI = Illuminance (fc) * DER Melanopic EDI = 0.91EML

DER (Daylight Efficiency Ratio)



Recommended when illumination is needed during sleeping hours



Delivers Melanopic EDI of 1 lux or less on a vertical plane at eye level

UGR <6 from the patient's perspective

600 nm amber light source



WELL Building Standard

UL DG 24480

Design Guideline for P with Light for Day-Active People

ANSI/IES, RP-46-23

nded Practice: Supporting the Physiologica and Behavioral Effects of Lighting in Interior Day Environments. New York: IES; 2023

CIE S 026:2018

CIE System for Metrology of Optical Radiation for ipRGC-Influenced Responses to Light

Two examination modes

Reading light

Regular and High examination modes deliver the required illumination on the patient bed as per ANSI/IES RP 29-22.

REGULAR EXAM

A lower intensity examination mode with direct light sources illuminating the bed.





3500K Direct shown

HIGH EXAM

A higher intensity examination mode with direct and indirect light sources illuminating the bed.







Delivers at leat 75 foot-candles at 90+ CRI on the bed

Cyanosis Observation Index (COI) of 3.3 or less

Light distribution



READING LIGHT

A soft but powerful reading light focused on the reading plane.



2700K Indirect

IDEAL PATIENT ROOM LAYOUT

Saros Duo™ is designed for simple installation into grid ceilings with a three-foot on-center spacing, two feet from the head wall, and also suitable for drywall ceilings.



Delivers at least 100 foot-candles at 90+ CRI on the bed

Cyanosis Observation Index (COI) of 3.3 or less

Light distribution



Ceiling height: 9 ft. Bed surface: 3 ft AFF. Reading Light based on angled book surface. Light loss factor (LLF): 0.90. Reflectances: 80/50/20.



UGR 14 from the patient's perspective

Light distribution



Simple installation and maintenance

Saros Duo[™] is a tandem overbed luminaire designed and engineered to make installation and maintenance easy. Standard 12" x 4' dimensions and a 4"-deep housing make it ideal for installation in grid and drywall ceilings with restricted plenum space. The master and satellite configuration requires a single power feed per luminaire pair. Drivers and LED boards are accessible from the room side via a door assembly.





EASE OF MAINTENANCE

Room-side access to drivers and LED boards via drop-down diffuser door assembly



Low Voltage Controller Options

The use of low voltage controls allows for patients to control the ambient, reading, and night light via a pillow speaker while also providing flexibility for healthcare professionals to control the luminaire from a wall switch. Saros Duo is available with on/off, step or smooth dimming capabilities.

Patient room lighting solutions

Several luminaires offer solutions for patient rooms and other healthcare settings. Consult the Healthcare Design Guide at focalpointlights.com/Healthcare for more recommendations and design strategies.

SMOOTH DIMMING

Smooth dimming allows for a controlled progression of light output starting at 100% and dimming down to 1% with a simple push and continuous hold of a button.

STEP DIMMING

Step dimming allows for a controlled progression of light output in four steps with 25% increments: 100%, 75%, 50% and 25% with simple push button functionality.









Saros Duo

Apollo 8





Seem Vanity

Seem Recessed

A custom Curbell low voltage controller is designed to operate up to three separate loads. Load 1 & 2 intended to be wired to the pillow speaker allowing for patient control. Load 3 intended to default to exam light levels at a wall switch. The LVC accepts a single universal voltage input of 120-277V and is pre-installed in the luminaire. Refer to luminaire cut sheets for specification information.







Facetta



Seem Wall Mount

Zephyr



ID+ Downlights

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