



**ZUMTOBEL**



## **LIGHT WHETS THE APPETITE**

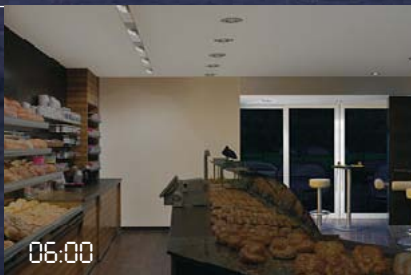
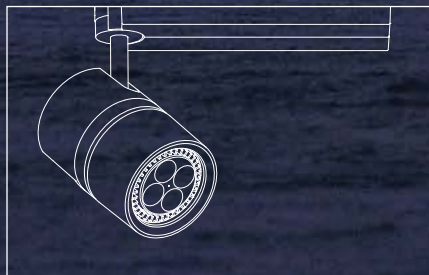
Perfect solutions for  
lighting food produce  
and delicatessens.

# HUMANERGY BALANCE

Lighting solutions for  
the balance between  
environment, energy  
and the individual.

## LED lighting quality

- Excellent colour rendition for goods on display
- Special filters and reflectors make goods look even better
- Reflection-free light for showcase lighting
- Pleasant atmosphere that invites customers to linger
- UV/IR-free light
- Light accurately aligned towards goods displayed



External effect: the brightly illuminated entrance area presents the store in the right light, even when it is dark.

Display of goods: when the store is opened, the focus of lighting is on presenting fresh goods.





LED energy efficiency

Zonal lighting

Use of efficient light sources  
(e.g. LED technology)

Targeted light direction

Integration into Lighting Management Systems



13:00



22:00

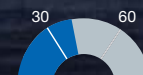
Daylight: when plenty of daylight enters the room, artificial lighting can be reduced.

Night: at night, discreet illumination of the shelves attracts people's eyes towards the depth of the store.

ELI  
Ergonomic Lighting  
Indicator



LENI  
Lighting Energy  
Numeric Indicator



Lighting quality assessed on the basis of five criteria:  
A Visual performance  
B Vista  
C Visual comfort  
D Vitality  
E Empowerment

Energy consumption in kWh per annum and per square metre, based on EN 15193.



## Light as an appetiser

in retail areas

**Good light helps to increase sales and directs the consumer's attention away from price and towards quality** The counter is a special eye-catcher. It is used for goods presentation, and is also where communication and image-building take place. A friendly and pleasant atmosphere is therefore just as important as reflection-free illumination of the showcase. Agreeable light evokes sympathy and is an effective way of creating awareness for customer orientation and proximity. Comfortable light for the corner seating invites customers to stay for a coffee or a snack.

The variety and quality of goods is presented to particularly good effect on inclined shelving surfaces. The optimal lighting supplements are recessed luminaires that direct their light efficiently onto the goods without causing glare. In addition, protection against heat and UV rays is an important factor. Infrared filters and modern lighting technologies, such as optical fibres and LEDs, reduce any negative impact to a minimum.



### **Begle Bakery, Bludenz (A)**

Architecture: Josef Begle, Bludenz (A)

**Lighting solution** The LIGHTTOOLS lighting system with its adjustable modules keeps the lighting solution up to date for the long term, while unobtrusive PANOS S downlights provide pleasant ambient brightness.





## Sunny lighting accents

For the freshest fruit and vegetables

**Eurospar, Götzis (A)** Architecture: Spar Österreich, Salzburg (A)



**Lighting solution** The 3-circuit track as a consistent element has been fitted with VIVO spotlights pivoting through 360°, SDW-T(G)/HST lamps (100 W) and gold-coloured flood reflectors.

More than any other zone, the fruit and vegetables department characterises the image of the store. This department is therefore given first priority when assigning retail areas. In many supermarkets the effect of fresh salads and colourful fruits is used to slow down customers by catching their attention, while at the same time stimulating their appetite.

Sunlight has a much better effect on fresh goods than any stop sign. Light colour and light distribution are the decisive factors of the artificial sun. Using the right lamps and reflectors, the freshness and attractiveness of the various types of fruit and vegetables are effectively highlighted.

Lighting solutions with spotlights are especially effective. They make the goods stand out, and highlight special displays with a flexible design, depending on the goods on offer.

**VIVO M spotlight****Designs**

3-circuit track | TECTON continuous-row lighting system

**Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

Silver | white

**Accessories**

Interchangeable reflectors | filters | anti-glare tube

**Benefits**

- Accurate alignment of spot thanks to “cool touch” function
- Rotates through 360° and pivots through 90°
- Interchangeable reflectors and special accessories
- Complete product solutions can be implemented using whole VIVO product range

**LIVIANO spotlight****Designs**

3-circuit track | TECTON continuous-row lighting system

**Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

Silver | white

**Accessories**

Interchangeable reflectors | filters

**Benefits**

- ECO-friendly design – less material used
- Compact, unobtrusive design
- Rotates through 360° and pivots through 90°
- “cool touch” function

**Recommendations for the correct combination of lamp, reflector and filter\*:**

- Sun-ripened produce is insensitive when subjected to high illuminance levels. This means that the sales-stimulating effect of accentuating spot reflectors can be used for fruit and vegetables departments.
- Combined with silver or gold-coloured reflectors, Philips SDW-T(G)/HST, Philips HIT Elite or Osram HIT Shoplight lamps provide pleasantly yellow light to illuminate fruits.
- Thanks to its better colour rendition properties, the HIT Shoplight has the advantage of presenting the whole range of goods with true colours – red and yellow fruit just as well as green salads and dark aubergines.
- Applies to the whole harvest: IR and UV rays should be kept to a minimum.

\* For other products, please contact your Zumtobel distributor.  
See page 14 for a list of products.

## Tone on tone

Light for cheese, bread and pastries

Interspar, Budweis (CZ) Architecture: Aspiag AG, St. Margrethen (CH)



**Lighting solution** Suspended VIVO spots bring light nearer to the products. Fitted with SDW-T(G)/HST lamps (100 W), gold-coloured reflectors and IR filters for temperature and IR protection.

Bread and pastries appear especially crusty where light takes on the warm yellow tone of the baked goods and thus multiplies its effect. The concept of colour intensification is also used for cheese specialities. The various types on offer are presented according to their individual colours.

Cheese and pastries both respond noticeably to excessive temperatures and IR radiation, and so must be protected from the effects of dehydration by appropriate lighting technology. The uniformly bright illumination of showcases requires luminaires with wide-angle distribution, pinpoint lighting accents on the other hand, liven up rear walls and heighten the long range effect.



**VIVO-P M pendant luminaire****Designs**

3-circuit track | TECTON continuous-row lighting system  
Mounted on the ceiling (with ceiling rose)

**Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

Silver | white

**Accessories**

Interchangeable reflectors | filters

**Benefits**

- Saves energy thanks to smaller distance between object lit and luminaire
- Perfect highlighting of reduced area
- Interchangeable reflectors and special accessories for flexible lighting design

**VIVO M LED spotlight****Designs**

3-circuit track | TECTON continuous-row lighting system

**Lamp(s)**

12 W und 30 W LED

**Colours**

Silver | white

**Benefits**

- IR/UV-free light for illuminating sensitive goods
- Long maintenance intervals – service life up to 50,000 hours
- Colour temperatures of 3,000 K or 4,200 K with good colour rendition (3,000 K Ra > 90)

**Recommendations for the correct combination of lamp, reflector and filter\*:**

- The inherently warm light of Philips SDW-T(G)/HST and Osram HIT Shop-light lamps is additionally intensified by gold-coloured flood reflectors.
- Thermal load however should be kept to a minimum. Reduced lamp wattages and IR blocking filters make sure that sensitive goods don't dry up.
- An exception are confectionery goods with cream. These must not be illuminated with gold-coloured reflectors as the slight yellow tone has a negative effect on the visual quality of the cream.

\* For other products, please contact your Zumtobel distributor.  
See page 14 for a list of products.

## Carefully and skilfully

Setting the stage for meat, cold meat and poultry

**Eurospar, Götzis (A)** Architecture: Spar Österreich, Salzburg (A)



**Lighting solution** As a contrast to the VIVO spots (fitted with 70 W HIT lamps), recessed PANOS S downlights mark the service area. They have been fitted with SDW-T(G)/HST lamps (100 W) and, dependant on the goods illuminated, with gold or silver coloured reflectors and IR or meat and cold meat filters.

The art of lighting meat products is closely connected to a careful tuning of light colour. Although it should set juicy freshness tantalisingly centre stage, it must still appear white in order not to unlawfully mislead customers.

Special filters, lamps and reflectors create an appealing lighting design solution: covering a wide area, free of reflections, with minimal IR and UV impact and with reduced illuminance levels to prevent meat taking on a premature greyish look.



**PANOS S 150 downlight****Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

White

**Accessories**

Interchangeable reflectors | filters

**Benefits**

- For perfect vertical illumination of shelves, surface areas and objects
- Can be swivelled in and out, rotates through 360°, with anti-glare housing
- Excellent, custom light distribution varieties thanks to spot and flood reflectors

**FD 1000 S 150 downlight****Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

White

**Accessories**

Interchangeable reflectors | filters

**Benefits**

- Easy relamping from the front; easy no-tool quick installation
- Spot and flood reflectors
- Tilting housing: rotates through 360°, pivots through 60°

**Recommendations for the correct combination of lamp, reflector and filter\*:**

- Illuminance levels in excess of 800 lx trigger a photochemical process in meat products that makes them turn grey quickly. Where this limit is observed, we recommend to use Philips SDW-T(G)/HST as well as Osram HIT Shoplight lamps.
- Ideal accessories are meat and cold meat filters. These retain a part of the blue and green colour spectrum of lamps. Silver-coloured flood reflectors distribute light uniformly within the showcase.

\* For other products, please contact your Zumtobel distributor.  
See page 14 for a list of products.

## Refrigerated and frozen

Light for fish, frozen and dairy products, delicatessen and convenience food

Top CC, Rümlang (CH) Architecture: Spar Gruppe Schweiz, St. Gallen (CH)



**Lighting solution** Suspended spots combine both design and functional qualities. Light is efficiently used when positioned near to products. The suspended luminaires have been fitted with HIT lamps (70 W) and silver-coloured flood reflectors.

### **Fish, frozen and dairy products**

Refrigerated and frozen foodstuffs gain extra freshness using very white light. HIT or fluorescent lamps are therefore recommended with high colour temperatures. Cool light colours with 6,000 Kelvin are an emotionally effective cooling device. The shelf life and freshness of foodstuffs seems intuitively greater in visually cool rooms.

### **Delicatessen and convenience food**

In terms of lighting, high-quality products are treated differently than general products. Differentiated lighting solutions “slow down” the pace of passers-by and create an inviting atmosphere. The better this works, the longer the customers stay and the greater their readiness to purchase expensive products.

Directional light from spotlights heightens the three-dimensional appeal of goods and makes the glass of bottles sparkle. Presented in strongly focused light, the costly liquids have a much more valuable appearance than in wide-area light provided by fluorescent lamps.



**FD 1000 M 150 downlight****Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

White

**Accessories**

Filters

**Benefits**

- High reflector efficiency levels, smooth metal reflector in visible area
- Balanced visual effect on ceiling thanks to combination with FD 1000 S luminaires
- Easy no-tool installation

**VIVO-SL D 150 spotlight****Lamp(s)**

HIT G8.5 | 35 W, 70 W

**Colours**

Silver | white

**Accessories**

Interchangeable reflectors | filters

**Benefits**

- 2 in 1 – downlight or spotlight, individually adjustable
- Spotlight head can be intuitively and continuously aligned or swivelled in and out
- Models in round or square design

**Recommendations for the correct combination of lamp, reflector and filter\*:****Food area: fish, frozen and dairy products**

- Smoked and fresh fish with white or reddish colours are rendered well with Philips SDW-T(G)/HST lamps and Osram HIT Shoplights. The combination of a silver coloured flood or spot reflector is decisive.
- Very often fish and seafood is displayed on ice. Here it has been found wise to use HIT lamps with a high colour temperature to emphasise the fresh character of the fish department.







**Food area: delicatessen and convenience food**

- For the wide variety of goods in the “hot” counters, the best light is created with the right combination of lamp and reflector: in combination with gold-coloured reflectors, we recommend to use Philips HIT Elite and Osram HIT Shoplight lamps with a colour temperature of around 3,000 K and a colour rendition index in excess of 90.

\* For other products, please contact your Zumtobel distributor.  
See page 14 for a list of products.

# Recommendations for application

The right light for every area

Product	Models (incl. lamp, ballast, reflector and filter)	Design*	Reflector and filter	Reflector distribu- tion characteristics	Order number		
					White	Silver	
 <p>VIVO M</p>  <p>Silver and gold-coloured interchangeable reflectors</p>  <p>IR/UVA blocking filter</p>  <p>M&amp;CM filter (special filter for meat and cold meat)</p>	VIVO M 1/35 W HIT G8.5 EVG	3-circuit (3PV)	Silver + M&CM filter	Flood (FL)	60 710 901	60 710 900	
	VIVO M 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Gold + blocking filter	Flood (FL)	60 710 903	60 710 902	
	VIVO M 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Silver + blocking filter	Flood (FL)	60 710 905	60 710 904	
	VIVO M 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Silver + M&CM filter	Flood (FL)	60 710 907	60 710 906	
	VIVO M 1/35 W HIT G8.5 EVG	TECTON (TEC)	Silver + M&CM filter	Flood (FL)	60 710 908		
	VIVO M 1/70 W HIT G8.5 EVG	TECTON (TEC)	Gold + blocking filter	Flood (FL)	60 710 909		
	VIVO M 1/70 W HIT G8.5 EVG	TECTON (TEC)	Silver + blocking filter	Flood (FL)	60 710 910		
	VIVO M 1/70 W HIT G8.5 EVG	TECTON (TEC)	Silver + M&CM filter	Flood (FL)	60 710 911		
	<b>VIVO M accessories:</b>					<b>Order number</b>	
	Interchangeable spot reflector, gold-coloured					60 700 179	
	Interchangeable flood reflector, gold-coloured					60 700 180	
	Interchangeable wideflood reflector, gold-coloured					60 700 181	
	Interchangeable spot reflector, silver-coloured					60 700 071	
	Interchangeable flood reflector, silver-coloured					60 700 072	
Interchangeable wideflood reflector, silver-coloured					60 700 073		
M&CM filter (special filter for meat and cold meat)					60 700 182		
IR/UVA blocking filter					60 700 084		
Anti-glare tube					60 700 098		
 <p>VIVO S LED</p>	VIVO S 1/30 W LED WW ETR	3-circuit (3PV)	LED lenses	Flood (FL)	60 710 815	60 710 816	
	VIVO S 1/30 W LED WW ETR	TECTON (TEC)	LED lenses	Flood (FL)	60 710 855	60 710 856	
 <p>LIVIANO</p>	LIVIANO 1/35 W HIT G8.5 EVG	3-circuit (3PV)	Silver + M&CM filter	Flood (FL)	60 710 913	60 710 912	
	LIVIANO 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Gold + blocking filter	Flood (FL)	60 710 915	60 710 914	
	LIVIANO 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Silver + blocking filter	Flood (FL)	60 710 917	60 710 916	
	LIVIANO 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Silver + M&CM filter	Flood (FL)	60 710 919	60 710 918	
	LIVIANO 1/35 W HIT G8.5 EVG	TECTON (TEC)	Silver + M&CM filter	Flood (FL)	60 710 920		
	LIVIANO 1/70 W HIT G8.5 EVG	TECTON (TEC)	Gold + blocking filter	Flood (FL)	60 710 921		
	LIVIANO 1/70 W HIT G8.5 EVG	TECTON (TEC)	Silver + blocking filter	Flood (FL)	60 710 922		
	LIVIANO 1/70 W HIT G8.5 EVG	TECTON (TEC)	Silver + M&CM filter	Flood (FL)	60 710 923		











\* 3PV: design for 3-circuit track | TEC: design for TECTON continuous-row lighting system.



Fruit and vegetables	Cheese, bread and pastries	Meat, cold meat and poultry	Fish, frozen and dairy products	Delicatessen and convenience food
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# Recommendations for application

The right light for every area

Product	Models (incl. lamp, ballast, reflector and filter)	Design*	Reflector and filter	Reflector distribu- tion characteristics	Order number		
					White	Silver	
 <p>Silver and gold-coloured interchangeable reflectors</p>  <p>IR/UVA blocking filter</p>  <p>M&amp;CM filter (special filter for meat and cold meat)</p>	<b>LIVIANO accessories:</b>						
						60 700 196	
						60 700 197	
						60 700 198	
						60 700 199	
						60 700 192	
						60 700 193	
						60 700 194	
						60 700 195	
						60 700 191	
					60 700 024		
 <p>VIVO-P M</p>  <p>Silver and gold-coloured interchangeable reflectors</p>  <p>IR/UVA blocking filter</p>  <p>M&amp;CM filter (special filter for meat and cold meat)</p>	VIVO-P M 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Silver + blocking filter	Flood (FL)	-	60 510 100	
	VIVO-P M 1/70 W HIT G8.5 EVG	3-circuit (3PV)	Silver + M&CM filter	Flood (FL)	-	60 510 101	
	VIVO-P M 1/35 W HIT G8.5 EVG	TECTON (TEC)	Silver + M&CM filter	Flood (FL)	-	60 510 103	
	VIVO-P M 1/70 W HIT G8.5 EVG	TECTON (TEC)	Gold + blocking filter	Flood (FL)	-	60 510 104	
	VIVO-P M 1/70 W HIT G8.5 EVG	TECTON (TEC)	Silver + blocking filter	Flood (FL)	-	60 510 105	
	VIVO-P M 1/70 W HIT G8.5 EVG	TECTON (TEC)	Silver + M&CM filter	Flood (FL)	-	60 510 106	
	<b>VIVO-P M accessories:</b>					<b>Order number</b>	
						60 700 180	
						60 700 181	
						60 700 072	
						60 700 073	
						60 700 182	
						60 700 084	
 <p>PANOS S 150</p>  <p>IR/UVA blocking filter</p>  <p>M&amp;CM filter (special filter for meat and cold meat)</p>	PANOS S 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + blocking filter	Spot (SP)	60 812 405	-	
	PANOS S 1/70 W HIT G8.5 EVG	ø 150 mm	Gold + blocking filter	Spot (SP)	60 812 406	-	
	PANOS S 1/35 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Spot (SP)	60 812 407	-	
	PANOS S 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Spot (SP)	60 812 408	-	
	<b>PANOS S 150 accessories:</b>					<b>Order number</b>	
						60 800 618	
						SO 526 430	











\* 3PV: design for 3-circuit track | TEC: design for TECTON continuous-row lighting system.

Fruit and vegetables	Cheese, bread and pastries	Meat, cold meat and poultry	Fish, frozen and dairy products	Delicatessen and convenience food
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# Recommendations for application

The right light for every area

Product	Models (incl. lamp, ballast, reflector and filter)	Design*	Reflector and filter	Reflector distribu- tion characteristics	Order number		
					White	Silver	
 <p>FD 1000 S 150</p>   <p>IR/UVA blocking filter      M&amp;CM filter (special filter for meat and cold meat)</p>	FD1000 S 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + blocking filter	Spot (SP)	60 812 401	-	
	FD1000 S 1/70 W HIT G8.5 EVG	ø 150 mm	Gold + blocking filter	Spot (SP)	60 812 402	-	
	FD1000 S 1/35 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Spot (SP)	60 812 403	-	
	FD1000 S 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Spot (SP)	60 812 404	-	
 <p>FD 1000 M 150</p>   <p>IR/UVA blocking filter      M&amp;CM filter (special filter for meat and cold meat)</p>	FD1000 M 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + blocking filter	Flood (FL)	60 812 413	-	
	FD1000 M 1/70 W HIT G8.5 EVG	ø 150 mm	Gold + blocking filter	Flood (FL)	60 812 414	-	
	FD1000 M 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Flood (FL)	60 812 415	-	
 <p>VIVO-SL D150</p>  <p>Silver and gold-coloured interchangeable reflectors</p>   <p>IR/UVA blocking filter      M&amp;CM filter (special filter for meat and cold meat)</p>	VIVO-SL 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + blocking filter	Spot (SP)	60 812 409	-	
	VIVO-SL 1/70 W HIT G8.5 EVG	ø 150 mm	Gold + blocking filter	Spot (SP)	60 812 410	-	
	VIVO-SL 1/35 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Spot (SP)	60 812 411	-	
	VIVO-SL 1/70 W HIT G8.5 EVG	ø 150 mm	Silver + M&CM filter	Spot (SP)	60 812 412	-	
	<b>VIVO SL 150 accessories:</b>					<b>Order number</b>	
	Interchangeable flood reflector, gold-coloured					60 700 180	
	Interchangeable widereflector, gold-coloured					60 700 181	
	Interchangeable flood reflector, silver-coloured					60 700 072	
	Interchangeable widereflector, silver-coloured					60 700 073	
	M&CM filter (special filter for meat and cold meat)					60 700 182	
IR/UVA blocking filter					60 700 084		
Anti-glare tube					60 700 098		

Fruit and vegetables	Cheese, bread and pastries	Meat, cold meat and poultry	Fish, frozen and dairy products	Delicatessen and convenience food
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## A comparison of light sources

HIT metal halide lamps –

HST sodium vapour lamps – LED

### Benefits of HIT lamps

(by reference to Osram Shoplight)

As an equivalent to Philips 100 W SDW-TG/HST-CRI, which has to date been used in all fresh food areas, major lamp manufacturers have put new 70 W HIT lamps with improved colour rendition – in particular improved rendition of red – on the market. They boast the following characteristics (benefits demonstrated on the basis of the Osram HCl Shoplight):

- Less energy consumption, 70 W instead of 100 W (– 30 % thermal output)
- More light, 6,400 lm instead of 4,900 lm (or hence fewer luminaires)
- Lower investment costs, as 70 W HIT spotlights with electronic ballasts as well as the lamps themselves are cheaper
- Longer lamp service life, up to 50 % longer
- No colour shifts towards end of service life, thanks to ceramic discharge tube technology (SDW-T(G)/HST-CRI turns green)
- Natural colour rendition in all areas, as colour rendition Ra = 90 instead of 80
- HIT Shoplight lamp is cheaper than SDW-T(G)/HST

#### Comparison of Osram HIT Shoplight and Philips SDW-TG

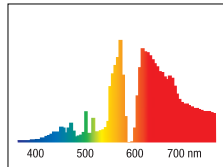
Lamp type	Light colour	Luminous flux	Service life
Philips SDW-TG 100 W GX12	LF 825	4,900 lm	8,000 h
Osram HIT-CE 70 W Shoplight	LF 930	6,400 lm	12,000 h

### Benefits of LED

- **Energy efficiency** Separate, dynamic control of all lighting components reduces energy consumption.
- **Protection** LED lighting solutions protect sensitive goods such as foodstuffs against loss of quality. Light from LEDs is free of UV/IR rays. Sensitive goods stay fresh for longer. In future, it will be possible to significantly reduce the distance between the luminaire and the goods lit.
- **Coolness** Cool light opens up new possibilities for lighting in close proximity to products. This is especially useful in showcases, furniture and cooling shelves, and where luminaires are touched or walked on and should therefore not be hot.
- **Service life** The service life of LEDs is many times that of conventional lamps. They last for 50,000 hours and more. Their long service life pays dividends with difficult-to-access locations and where luminaires are switched on 24 hours a day, e.g. nightlighting. Maintenance intervals of lighting installations can be significantly prolonged.
- **Saturated colours** Colour is an architectural tool for design and creativity. Facades, surfaces and complete interiors gain emotionality; brands emphasise their strength and identity with colours.
- **Flexibility** Dynamic colour changes make a location more attractive and address people's emotions. For optimum visual performance, the colour temperatures of white light can be adjusted to match a variety of different materials.
- **Compact designs** The light sources are compact and almost invisible, making a shop's design even clearer.

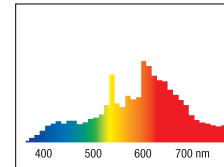


Colour rendition of light sources – a comparison



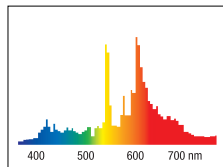
**HST LF 825 Philips SDW-T(G) sodium vapour lamps**

- warm light colour, excellent colour rendition especially in the red colour range
- good energy efficiency (45 – 50 lm/W)



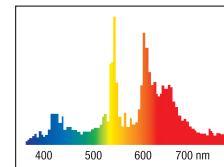
**LF 930 HIT metal halide lamps Osram HCI Powerball Shoplight**

- good colour rendition in red and green spectral area
- provides warm light
- gives products a fresh and colour-true appearance
- particularly high energy efficiency (75 – 95 lm/W)



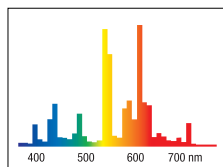
**LF 830 HIT metal halide lamps**

- high colour stability
- particularly high energy efficiency (80 – 100 lm/W)



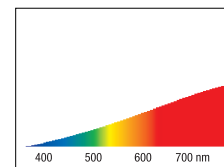
**LF 930 HIT metal halide lamps Philips MASTERColour CDM Elite**

- good colour rendition in red and green spectral area
- slightly warm radiation
- gives products a fresh and colour-true appearance
- particularly high energy efficiency (75 – 95 lm/W)



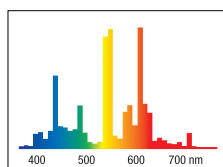
**LF 827/830/930 fluorescent lamp**

- for use in cheese counters and refrigerated counters
- highly suitable for installation in wall shelving
- high energy efficiency (75 – 95 lm/W)



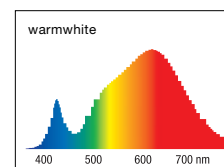
**Low-voltage halogen lamps**

- dimmable
- small size, can be focussed
- especially good warm colour rendition



**LF 840 fluorescent lamp**

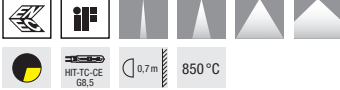
- for refrigerated counters and display cases, emphasises the impression of refrigerated areas
- high colour temperatures optimal for white goods
- high energy efficiency (75 – 95 lm/W)



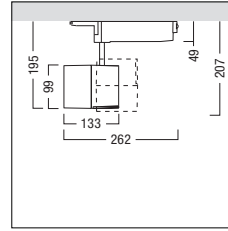
**LED (light emitting diodes)**

- smallest size
- narrow light distribution, for accent lighting
- very long service life
- dimmable
- no UV/IR radiation
- dynamism in colour and colour temperature

## VIVO M HIT-TC-CE G8.5



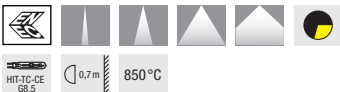
- Spotlight surround made of 2-piece die-cast aluminium; optional micro-textured finishes: white or silver
- TRACKBOX adapter made of die-cast aluminium and polycarbonate
- Spotlight head rotates through 360°, pivots through 90°
- Self-locking ball-and-socket joint, spotlight head easily adjusted using thermally insulated clip (Press & Move technique)
- Front cylinder fixed to rear housing via twist and lock bayonet mechanism (extremely easy relamping and replacement of reflector)
- Specular reflector made of anodised highest-grade aluminium, silver colour, incl. protective glass panel
- Specular reflector optic designed as exchangeable reflector, can be retro-fitted
- Protective glass panel can be replaced by blocking filter
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- With electronic ballast, in separate TRACKBOX adapter
- With ZUMTOBEL 3-circuit universal adaptor
- Lampholder: G 8.5
- Mains voltage: 220–240 V / 50/60 Hz
- Can be mounted horizontally on wall
- Not suitable for point outlets



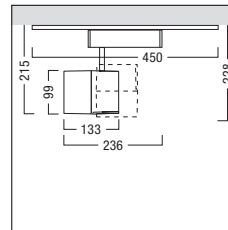
1/70 W HIT-TC-CE G8.5, SPOT (ST5858)		
Mounting height	Average illuminance	Beam Diameter
1 m	20864 lux	0.29 m
2 m	5216 lux	0.57 m
3 m	2318 lux	0.86 m
4 m	1304 lux	1.15 m
Φ=6600 lm Half beam angle=2x8° LOR=63%		

1/70 W HIT-TC-CE G8.5, WIDEFLOOD (ST5859)		
Mounting height	Average illuminance	Beam Diameter
1 m	5684 lux	0.74 m
2 m	1421 lux	1.48 m
3 m	632 lux	2.22 m
4 m	355 lux	2.96 m
Φ=6600 lm Half beam angle=2x20° LOR=66%		

## VIVO M TEC HIT-TC-CE G8.5 12 white/silver



- Spotlight surround made of 2-piece die-cast aluminium; optional micro-textured finishes: white or silver
- Box made of extruded aluminium section
- Spotlight head rotates through 360°, pivots through 90°
- Self-locking ball-and-socket joint, spotlight head easily adjusted using thermally insulated clip (Press & Move technique)
- Front cylinder fixed to rear housing via twist and lock bayonet mechanism (extremely easy relamping and replacement of reflector)
- Specular reflector made of anodised highest-grade aluminium, silver colour, incl. protective glass panel
- Specular reflector optic designed as exchangeable reflector, can be retro-fitted
- Protective glass panel can be replaced by blocking filter
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- With electronic ballast, in separate box
- Lampholder: G 8.5
- Mains voltage: 220–240 V / 50/60 Hz
- Trunking module: length 450 mm
- CLIX technology used to fix spotlight to trunking
- Spotlight cannot be fitted over input power feed, central power feed or output power feed



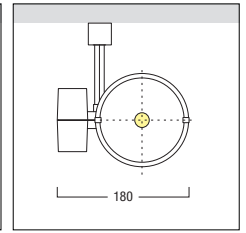
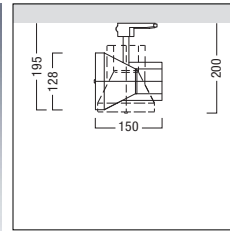
1/70 W HIT-TC-CE G8.5, SPOT (ST5858)		
Mounting height	Average illuminance	Beam Diameter
1 m	20864 lux	0.29 m
2 m	5216 lux	0.57 m
3 m	2318 lux	0.86 m
4 m	1304 lux	1.15 m
Φ=6600 lm Half beam angle=2x8° LOR=63%		

1/70 W HIT-TC-CE G8.5, WIDEFLOOD (ST5859)		
Mounting height	Average illuminance	Beam Diameter
1 m	5684 lux	0.74 m
2 m	1421 lux	1.48 m
3 m	632 lux	2.22 m
4 m	355 lux	2.96 m
Φ=6600 lm Half beam angle=2x20° LOR=66%		

LIVIANO HIT



- Optimum accent lighting, especially in retail and showroom areas
- Compact, inconspicuous design
- Housing made of rugged polycarbonate with high temperature stability
- Colour: white or titanium
- Innovative thermal design delivers COOL-TOUCH function
- Spotlight rotates through 360°
- 90° tilt of spotlight head
- Specular reflector made of highest-grade aluminium, in anodised gold- or silver-look finish; includes glass cover
- Specular reflector optic designed as exchangeable reflector, can be retro-fitted
- Glass cover and reflector fitted in spotlight head using spring clips
- Protective glass panel can be replaced by blocking filter
- Lamp and reflector can be changed easily without tools
- Includes electronic ballast fitted in spotlight housing
- With ZUMTOBEL 3-circuit universal adaptor
- Lampholder: G 8.5
- Mains voltage: 220–240 V / 50/60 Hz
- Can be mounted horizontally on wall



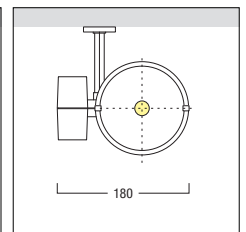
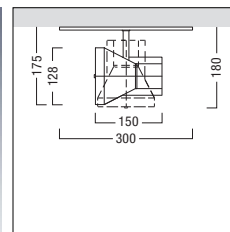
1/70 W HIT-TC-CE G8,5, SPOT (ST6221)		
Mounting height	Average illuminance	Beam Diameter
1 m	33925 lux	0.24 m
2 m	8481 lux	0.48 m
3 m	3769 lux	0.72 m
4 m	2120 lux	0.96 m
Φ=6600 lm Half beam angle=2x7° LOR=87%		

1/70 W HIT-TC-CE G8,5, FLOOD (ST6224)		
Mounting height	Average illuminance	Beam Diameter
1 m	11299 lux	0.50 m
2 m	2825 lux	1.00 m
3 m	1255 lux	1.49 m
4 m	706 lux	1.99 m
Φ=6600 lm Half beam angle=2x14° LOR=79%		

LIVIANO TEC HIT



- Optimum accent lighting, especially in retail and showroom areas
- Compact, inconspicuous design
- Housing made of rugged polycarbonate with high temperature stability
- Colour: white or silver
- Innovative thermal design delivers COOL-TOUCH function
- Spotlight rotates through 360°
- 90° tilt of spotlight head
- Specular reflector made of highest-grade aluminium, in anodised gold- or silver-look finish; includes glass cover
- Specular reflector optic designed as exchangeable reflector, can be retro-fitted
- Glass cover and reflector fitted in spotlight head using spring clips
- Protective glass panel can be replaced by blocking filter
- Lamp and reflector can be changed easily without tools
- Includes electronic ballast fitted in spotlight housing
- Lampholder: G 8.5
- Mains voltage: 220–240 V / 50/60 Hz
- Trunking module: length 300 mm
- Fixed to trunking by means of „CLIX“ mechanism
- Spotlight cannot be fitted over input power feed, central power feed or output power feed



1/70 W HIT-TC-CE G8,5, SPOT (ST6221)		
Mounting height	Average illuminance	Beam Diameter
1 m	33925 lux	0.24 m
2 m	8481 lux	0.48 m
3 m	3769 lux	0.72 m
4 m	2120 lux	0.96 m
Φ=6600 lm Half beam angle=2x7° LOR=87%		

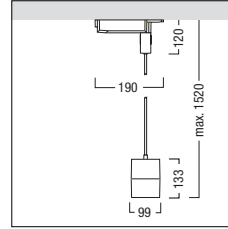
1/70 W HIT-TC-CE G8,5, FLOOD (ST6224)		
Mounting height	Average illuminance	Beam Diameter
1 m	11299 lux	0.50 m
2 m	2825 lux	1.00 m
3 m	1255 lux	1.49 m
4 m	706 lux	1.99 m
Φ=6600 lm Half beam angle=2x14° LOR=79%		



## VIVO-P M HIT-TC-CE G8.5



- Pendant luminaire in VIVO M spotlight design for integrated lighting designs
- 2-piece luminaire housing made of die-cast aluminium in silver-look, microtextured finish
- Front cylinder fixed to rear housing via twist and lock bayonet mechanism (extremely easy relamping and replacement of reflector)
- Specular reflector made of highest-grade aluminium, in anodised gold- or silver-look finish; includes glass cover
- Specular reflector optic designed as exchangeable reflector, can be retrofitted
- Protective glass panel can be replaced by blocking filter
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- With electronic ballast, in separate TRACKBOX adaptor
- With ZUMTOBEL 3-circuit universal adaptor
- Lampholder: G 8.5
- Mains voltage: 220–240 V / 50/60 Hz
- 3-phase pendant adapter with Track-box made of die-cast aluminium and polycarbonate
- Total length of luminaire including transparent suspension cord 1520 mm max.
- Customer must cut suspension cord to length at pendant adapter
- Not suitable for point outlets



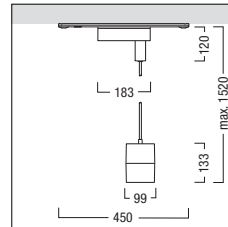
1/70 W HIT-TC-CE G8.5, FLOOD SR (ST5857)		
Mounting height	Average illuminance	Beam Diameter
1 m	11614 lux	0.46 m
2 m	2903 lux	0.93 m
3 m	1290 lux	1.39 m
4 m	726 lux	1.86 m
Φ=6600 lm Half beam angle=2x13° LOR=69%		

1/70 W HIT-TC-CE G8.5, WIDEFLOOD SR (ST5859)		
Mounting height	Average illuminance	Beam Diameter
1 m	5684 lux	0.74 m
2 m	1421 lux	1.48 m
3 m	632 lux	2.22 m
4 m	355 lux	2.96 m
Φ=6600 lm Half beam angle=2x20° LOR=66%		

## VIVO-P M TEC HIT-TC-CE G8.5 silver



- Pendant luminaire in VIVO M spotlight design for integrated lighting designs
- 2-piece luminaire housing made of die-cast aluminium in silver-look, microtextured finish
- Box made of extruded aluminium section
- Front cylinder fixed to rear housing via twist and lock bayonet mechanism (extremely easy relamping and replacement of reflector)
- Specular reflector made of highest-grade aluminium, in anodised gold- or silver-look finish; includes glass cover
- Specular reflector optic designed as exchangeable reflector, can be retrofitted
- Protective glass panel can be replaced by blocking filter
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- With electronic ballast, in separate box
- Lampholder: G 8.5
- Mains voltage: 220–240 V / 50/60 Hz
- Trunking module: length 450 mm
- CLIX technology used to fix pendant luminaire to trunking
- Total length of luminaire including transparent suspension cord 1520 mm max.
- Customer must cut suspension cord to length at pendant adapter
- Pendant luminaire cannot be fitted over incoming feeder, central feeder or outgoing feeder



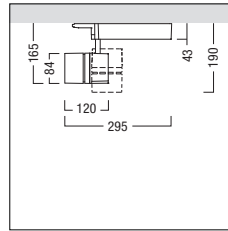
1/70 W HIT-TC-CE G8.5, FLOOD SR (ST5857)		
Mounting height	Average illuminance	Beam Diameter
1 m	11614 lux	0.46 m
2 m	2903 lux	0.93 m
3 m	1290 lux	1.39 m
4 m	726 lux	1.86 m
Φ=6600 lm Half beam angle=2x13° LOR=69%		

1/70 W HIT-TC-CE G8.5, WIDEFLOOD SR (ST5859)		
Mounting height	Average illuminance	Beam Diameter
1 m	5684 lux	0.74 m
2 m	1421 lux	1.48 m
3 m	632 lux	2.22 m
4 m	355 lux	2.96 m
Φ=6600 lm Half beam angle=2x20° LOR=66%		

VIVO S LED



- Compact LED spotlight
- 3-piece die-cast aluminium spotlight housing, surface finish: white or silver-look microtextured paint
- TRACKBOX adapter made of die-cast aluminium and polycarbonate
- Spotlight head rotates through 360°, pivots through 90°
- Self-locking ball-and-socket joint, spotlight head easily adjusted using thermically insulated clip (Press & Move technique)
- Front cylinder fixed to rear housing by twist-and-lock mechanism
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- With converter (power factor: 0.95), in separate adapter trackbox
- High-power LED module including secondary lens optic for precise, uniform light distribution
- Neutral-white model, colour rendering: RA > 80, 380 Lm (12 W) / 1150 Lm (30 W) projected light
- Warm-white model, colour rendering: RA > 90, 295 Lm (12 W) / 870 Lm (30 W) projected light
- UVA-free and IR-free light
- Service life: 50,000 h
- Mains voltage: 220–240 V / 50/60 Hz
- May be installed on wall
- Not suitable for point outlets



60 710 809 1/12 W, 15° (ST6203)			
Mounting height	Average illuminance	Beam Diameter	
1 m	2283 lux	0.26 m	
2 m	571 lux	0.52 m	
3 m	254 lux	0.78 m	
4 m	143 lux	1.04 m	
Φ=381 mm Half beam angle=2x7° LOR=100%			

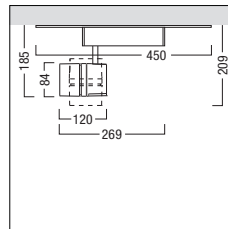
60 710 815 1/30 W, 25° (ST6204)			
Mounting height	Average illuminance	Beam Diameter	
1 m	1569 lux	0.51 m	
2 m	392 lux	1.02 m	
3 m	174 lux	1.54 m	
4 m	98 lux	2.05 m	
Φ=872 mm Half beam angle=2x14° LOR=100%			



VIVO S TEC LED



- Compact LED spotlight
- 3-piece die-cast aluminium spotlight housing, surface finish: white or silver-look microtextured paint
- Box made of extruded aluminium section
- Spotlight head rotates through 360°, pivots through 90°
- Self-locking ball-and-socket joint, spotlight head easily adjusted using thermically insulated clip (Press & Move technique)
- Front cylinder fixed to rear housing by twist-and-lock mechanism
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- With converter (power factor: 0.95), in separate box
- High-power LED module including secondary lens optic for precise, uniform light distribution
- Neutral-white model, colour rendering: RA > 80, 1150 Lm projected light
- Warm-white model, colour rendering: RA > 90, 900 Lm projected light
- UVA-free and IR-free light
- Service life: 50,000 h
- Mains voltage: 220–240 V / 50/60 Hz
- Trunking module: length 450 mm
- CLIX technology used to fix spotlight to trunking
- DALI version: for DALI-controlled TECTON system
- Spotlight cannot be fitted over input power feed, central power feed or output power feed



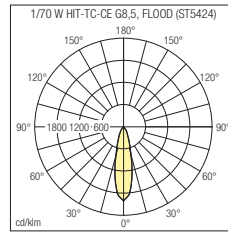
60 710 858 (ST6205)			
Mounting height	Average illuminance	Beam Diameter	
1 m	2074 lux	0.50 m	
2 m	519 lux	1.01 m	
3 m	230 lux	1.51 m	
4 m	130 lux	2.01 m	
Φ=1150 mm Half beam angle=2x14° LOR=100%			

60 710 855 (ST6204)			
Mounting height	Average illuminance	Beam Diameter	
1 m	1569 lux	0.51 m	
2 m	392 lux	1.02 m	
3 m	174 lux	1.54 m	
4 m	98 lux	2.05 m	
Φ=872 mm Half beam angle=2x14° LOR=100%			

## PANOS S 150 recessed directional spotlight HIT-TC-CE



- Flood: textured reflector made of highest-grade aluminium, anodised in a bright satin finish, silver colour, iridescence-free
- Spot: smooth reflector made of highest-grade aluminium, anodised in a bright satin finish, silver-look, low iridescence, textured head section
- Mounting ring, white
- Tilting housing rotates through 360° and pivots through 45°/60°
- Separately adjustable pivoting housing prevents direct view into luminaire
- With protective glass
- With electronic ballast
- Mains voltage: 230 V, connection: 3-pole plug-in terminal
- 1/20 W HIT-TC-CE: through-wiring possible
- Installation: recessed ring made of die-cast aluminium with spring clips for no-tool recess into ceiling for ceiling thicknesses 1–25 mm
- No-tool quick installation of reflector unit by means of bayonet fixing



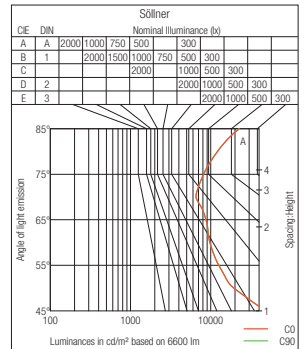
Light output ratio	
LOR	64 %
ULOR	0 %
DLOR	64 %
FFR	0.00 (0:100)
BLF	1.00

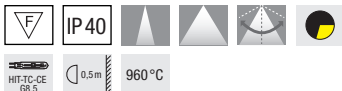
Classification	
LITG	A80
LG7	
BZ	B21
UTE	0.64 A
Flux Codes	607 630 633 636 636

Utilization Factors											
Room Reflectance			Room Index								
Ceiling	Walls	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
70	50	20	58	61	63	64	66	68	69	70	71

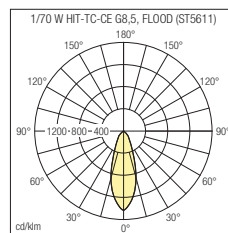
SHR Nom = NA    SHR Max = NA    SHR Max TR = NA  
According to CIBSE Technical Memorandum No. 5 1980



## FD 1000 S 150 HIT-TC-CE



- Housing made of die-cast aluminium
- Colour: White
- Structured reflector made of highest-grade aluminium, anodised in a bright satin finish, silver colour, low iridescence
- Tilting housing rotates through 360° and pivots through 60°
- With protective glass
- Including electronic ballast
- Mains voltage: 230 V, connection: 3-pole plug-in terminal
- No-tool installation
- Installation: using spring clips, ceilings 1 to 25 mm thick
- Please note that ceiling reinforcement ring is only suitable for installation on removable ceiling modules
- IP 40 when installed in closed ceilings and fitted with glass cover or filter



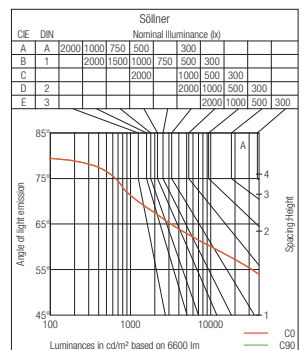
Light output ratio	
LOR	76 %
ULOR	0 %
DLOR	76 %
FFR	0.00 (0:100)
BLF	1.00

Classification	
LITG	A70
LG7	
BZ	B21
UTE	0.76 A
Flux Codes	667 757 759 759 759

Utilization Factors											
Room Reflectance			Room Index								
Ceiling	Walls	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
70	50	20	61	66	70	73	76	78	80	82	83

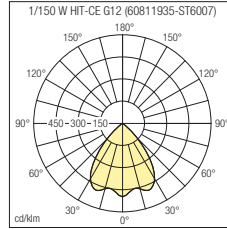
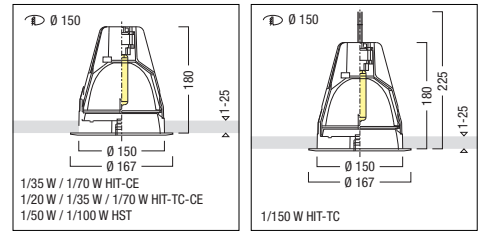
SHR Nom = 0.50    SHR Max = 0.64    SHR Max TR = 0.70  
According to CIBSE Technical Memorandum No. 5 1980



FD 1000 M 150 HIT / HST



- Textured reflector made of highest-grade aluminium, anodised for bright satin finish, silver-look
- Mounting ring, white
- Vertical lamp position
- With transparent safety glass panel
- Connecting cable with 3-pole Wieland plug, please order ballast separately
- No-tool installation
- Installation: using spring clips, ceilings 1 to 25 mm thick
- HIT-CE model can also take 1/35 W or 1/70 W HIT-CE lamp
- HIT-TC-CE models can also be fitted with 1/20 W or 1/35 W HIT-TC-CE lamp
- HST models can also take 1/50 W HST GX12 lamp
- IR/UVA filter cannot be with 1/150 W HIT-CE



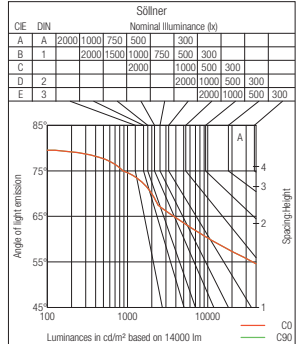
Light output ratio

LOR	75 %
ULOR	0 %
DLOR	75 %
FFR	0.00 (0.100)
BLF	1.00

Classification

LITG	A60
LG7	
BZ	B21
UTE	0.75 A

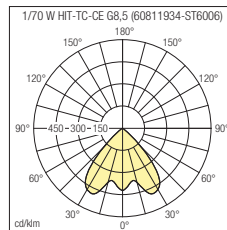
Flux Codes 635 744 746 746 746



Utilization Factors

Room Reflectance			Room Index								
Ceiling	Walls	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
70	50	20	57	63	68	70	74	77	78	80	81

SHR Nom = 1.00 SHR Max = 1.24HR Max TR = 1.59  
According to CIBSE Technical Memorandum No. 5.1980



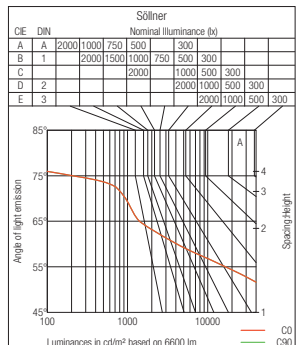
Light output ratio

LOR	80 %
ULOR	0 %
DLOR	80 %
FFR	0.00 (0.100)
BLF	1.00

Classification

LITG	A60
LG7	65°<1500cd/m²
BZ	B21
UTE	0.80 A

Flux Codes 668 802 804 804 804



Utilization Factors

Room Reflectance			Room Index								
Ceiling	Walls	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
70	50	20	64	70	74	77	81	83	85	87	88

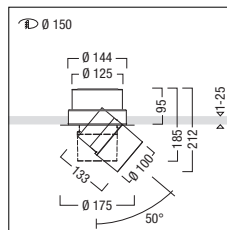
SHR Nom = 1.25 SHR Max = 1.38HR Max TR = 1.82  
According to CIBSE Technical Memorandum No. 5.1980

VIVO-SL D150 HIT-TC-CE G8.5 (round)



1.4m 850°C

- 2-piece die-cast aluminium spotlight housing, surface finish: white or silver-look microtextured paint
- Recessed housing made of extruded aluminium section/die-cast aluminium, with circular mounting frame, finish: white or silver micro-structure paint
- Spotlight head rotates through 360°, pivots through 50°
- Self-locking ball-and-socket joint, spotlight head easily adjusted using thermally insulated clip (Press & Move technique)
- Front cylinder fixed to rear housing via twist and lock bayonet mechanism (extremely easy relamping and replacement of reflector)
- Specular reflector made of anodised highest-grade aluminium, silver colour, incl. protective glass panel
- Specular reflector optic designed as exchangeable reflector, can be retrofitted
- Protective glass panel can be replaced by blocking filter
- Front cylinder also accommodates accessories of housing also acts as accessory holder
- Lampholder: G 8.5
- Connection: GST 18/3 Wieland plug
- Ceiling cut-out: Ø 150 mm
- Installation: by means of concealed screw-fixing, ceiling thickness 1-25 mm
- HIT-TC-CE models can also be fitted with 1/20 W or 1/35 W HIT-TC-CE lamp



1/70 W HIT-TC-CE G8.5, SPOT (ST5930)

Mounting height	Average illuminance	Beam Diameter
1 m	20864 lux	0.29 m
2 m	5216 lux	0.57 m
3 m	2318 lux	0.86 m
4 m	1304 lux	1.15 m

Φ=6600 lm Half beam angle=2x8° LOR=63%

1/70 W HIT-TC-CE G8.5, WIDEFLOOD (ST5932)

Mounting height	Average illuminance	Beam Diameter
1 m	5684 lux	0.74 m
2 m	1421 lux	1.48 m
3 m	632 lux	2.22 m
4 m	355 lux	2.96 m

Φ=6600 lm Half beam angle=2x20° LOR=66%

Please order electronic ballast separately







## United Kingdom

Zumtobel Lighting Ltd.  
Unit 4 - The Argent Centre,  
Pump Lane  
Hayes/Middlesex UB3 3BL  
T +44/(0)20 8589 1800  
F +44/(0)20 8756 4800  
M enquiries@zumtobel.com  
www.zumtobel.co.uk

## USA and Canada

Zumtobel Lighting Inc.  
Location Highland  
3300 Route 9W  
Highland, New York 1258-2630  
T +1/(0)845/691 62 62  
F +1/(0)845/691 62 89  
www.zumtobel.us  
www.zumtobel.ca

## Australia and New Zealand

Zumtobel Lighting Pty Ltd  
333 Pacific Highway  
North Sydney, NSW 2060  
T +61/(2)8913 5000  
F +61/(2)8913 5001  
M info@zumtobel.com.au  
www.zumtobel.com.au

## China

Zumtobel Lighting China  
Beijing Office  
T5-2-152 Tayuan  
Diplomatic Compound  
No. 1 Xin Dong Road,  
Chaoyang District  
100600 Beijing  
T +86/(10) 8532 3886  
F +86/(10) 8532 3889  
M admin@zumtobel.com.hk

## Hong Kong

Zumtobel Lighting Hong Kong  
Unit 319, Level 43,  
Tower 1, Metroplaza,  
223 Hing Fong Road,  
Kwai Chung, N.T.  
T +852/(0)2503 0466  
F +852/(0)2503 0177  
M admin@zumtobel.com.hk

## India

Zumtobel Lighting GmbH  
Branch Office India  
Manipal Centre, S-605  
Dickenson Road  
560042 Bangalore  
T +91 99 0017 0320  
M pon.kumaresh@zumtobel.com

## United Arab Emirates

Zumtobel Lighting GmbH (Branch)  
Dubai Airport Free Zone,  
Building 6W, B Block, 233  
PO Box 54302  
Dubai  
T +971/(0)4 299 3530  
F +971/(0)4 299 3531  
M info@zumtobeluae.ae

## Hungary

Zumtobel Lighting Kft  
Lomb u. 15.  
1139 Budapest  
T +36/(1) 35 00 828  
F +36/(1) 35 00 829  
M office.hu@zumtobel.com  
www.zumtobel.hu

## Croatia

Zumtobel Licht d.o.o.  
Radnicka cesta 80  
Zagrebtower  
10000 Zagreb  
T +385/(1) 64 04 080  
F +385/(1) 64 04 090  
M hrvatska@zumtobel.com  
www.zumtobel.hr

## Czech Republic and Slovak Republic

Zumtobel Lighting s.r.o.  
Jankovcova 2  
Praha 7  
170 00 Praha  
T +420/(2) 66 782 200  
F +420/(2) 66 782 201  
M praha@zumtobel.com  
www.zumtobel.cz

## Poland

Zumtobel Licht GmbH Sp.z.o.o.  
Przedstawicielstwo w Polsce  
ul. Narbutta 46/48  
02-541 Warszawa  
T +48/(22) 856 7431  
F +48/(22) 856 7432  
www.zumtobel.pl

## Slovenia

Zumtobel Licht d.o.o.  
Dunajska cesta 159  
1000 Ljubljana  
T +386/(1) 56 09 820  
F +386/(1) 56 09 866  
M bzslovenien@zumtobel.si  
www.zumtobel.si

## Russia

Zumtobel Lighting GmbH  
Official Representative Office  
Skakovaya Str. 17  
Bld. No 1, Office 1104  
125040 Moscow  
T +7/(495) 945 36 33  
F +7/(495) 945 16 94  
www.zumtobel.ru

## Norway

Zumtobel Belysning  
Pilestredet 75 C  
0354 Oslo  
Postbox 5829 Majorstuen  
0308 Oslo  
T +47 22 46 85 00  
F +47 22 46 85 02  
M firmapost@zumtobel.com  
www.zumtobel.no

## Sweden

Zumtobel Belysning  
Birger Jarlsgatan 67  
113 56 Stockholm  
T +46 8 26 26 50  
F +46 8 26 56 05  
M info.se@zumtobel.com  
www.zumtobel.se

## Denmark

Light Makers AS  
Indiavej 1  
2100 København/Copenhagen  
T +45 35 43 70 00  
F +45 35 43 54 54  
M lmsales@lightmakers.dk  
www.lightmakers.dk

## Headquarters

Zumtobel Lighting GmbH  
Schweizer Strasse 30  
Postfach 72  
6851 Dornbirn, AUSTRIA  
T +43/(0)5572/390-0  
F +43/(0)5572/22 826

Zumtobel Licht GmbH  
Grevensmarschstrasse 74-78  
32657 Lemgo, GERMANY  
T +49/(0)5261 212-0  
F +49/(0)5261 212-7777  
www.zumtobel.de

[www.zumtobel.com](http://www.zumtobel.com)

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