

BEACON MUSE
ADJUSTABLE
LED
SPOTLIGHT

Concord

SYLVANIA



Beacon Muse is another addition to the highly successful Beacon range of spotlights.

Muse introduces an exciting new accent and display lighting concept using cutting-edge LED technology and ancient lens principles to create a fully adjustable spotlight. The new Muse's adjustable optics provides a wide flood 65° beam angle which can be adjusted to a 10° spot without the use of any additional lenses or reflectors.

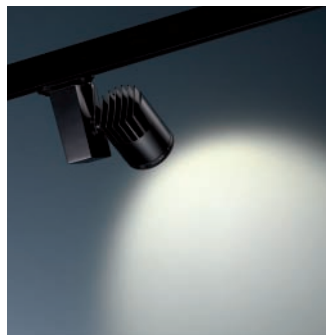
This fully adjustable spotlight provides all the benefits of LED technology, no UV / IR radiation, 50,000 hours life at 70% luminous flux, maintenance free applications and a considerable reduction in energy consumption over traditional light sources such as halogen.

Muse is available in 3000K & 4000K CCT with a high colour rendering index, typical Ra95 incorporating a discrete on board dimmer providing control from 100% to 0% and also collective track dimming options, essential requirements for museums, galleries and high end retail applications. The contemporary all die-cast aluminium design is supplied with a turned single piece aluminium front helix with engraved beam angles for simple and easy adjustment.

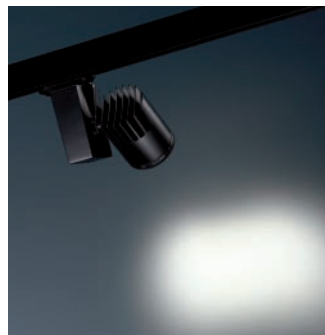
The versatility of Muse means that the designer has a completely flexible lighting tool, so for exhibitions and shop lighting applications there is no need to change spotlights, reflectors or lenses a simple adjustment to the luminaire will transform the lit space saving considerable time and money. Muse is a true revolution in accent and display spotlighting.



Beacon Muse adjustable optics providing 10 degree tight spot for accent lighting for accentuating the texture, colour and shape of exhibits.



Beacon Muse optics optimised to provide a 65 degree wide flood distribution for uniform vertical and horizontal illuminance and wall washing effects.



Beacon Muse with Elongation Lens accessory to be used with narrow beam angles for highlighting sculptures, mannequins, logos and shelving.



Beacon Muse single piece turned aluminium front helix with engraved beam angles for simple and easy adjustment.

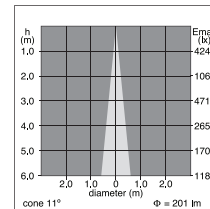
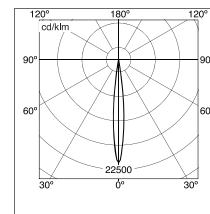
Beacon Muse with on-board dimming



- Fully adjustable spotlight using cutting-edge LED technology and ancient lens principles
- Adjustable optics provides wide flood 65° which can be adjusted to 10° spot without the need for additional lenses or reflectors
- Cast cooling fin design to maximise thermal management and reduction of LED junction temperature
- IR/UV – free light source without heat radiation
- Dimmable with on-board dimming from 100% - 0% output
- Long life 50K hours, fit and forget maintenance free lighting solution
- Choice of colour temperatures warm 3000K & neutral 4000K
- Contemporary, compact all die-cast design
- Beacon Muse offers high CRI, typical Ra95 ideal for museums, galleries and high end shop lighting applications



3000K on-board dimming		White	Silver	Black	
Muse Adj.	Single Circuit	2051064	2051065	2051066	0.96kg
Muse Adj.	Three Circuit	2051067	2051068	2051069	0.96kg
Muse Adj.	Surface Mounted	2051070	2051071	2051072	0.96kg

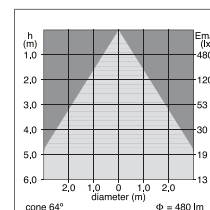
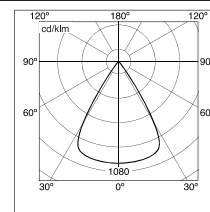


**Citizen CITED CL-L233
13w**

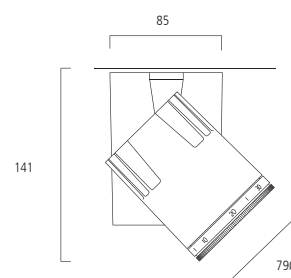
10° to 65°



4000K on-board dimming		White	Silver	Black	
Muse Adj.	Single Circuit	2051073	2051074	2051075	0.96kg
Muse Adj.	Three Circuit	2051076	2051077	2051078	0.96kg
Muse Adj.	Surface Mounted	2051079	2051080	2051472	0.96kg



Accessories		
Elongation Lens		2047193
Coloured Gel Filters (Red, Yellow and Blue)		2049498



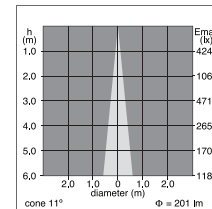
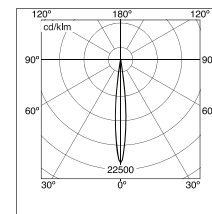
Beacon Muse for trailing edge dimming



- Fully adjustable spotlight using cutting-edge LED technology and ancient lens principles
- Adjustable optics provides wide flood 65° which can be adjusted to 10° spot without the need for additional lenses or reflectors
- Cast cooling fin design to maximise thermal management and reduction of LED junction temperature
- IR/UV – free light source without heat radiation
- Track dimmable via trailing edge dimming equipment
- Long life 50K hours, fit and forget maintenance free lighting solution
- Choice of colour temperatures warm 3000K & neutral 4000K
- Contemporary, compact all die-cast design
- Beacon Muse offers high CRI, typical Ra95 ideal for museums, galleries and high end shop lighting applications



3000K for trailing edge dimming		White	Silver	Black	
Muse Adj	Single Circuit	2051046	2051047	2051048	0.96kg
Muse Adj	Three Circuit	2051049	2051050	2051051	0.96kg
Muse Adj	Surface Mounted	2051052	2051053	2051054	0.96kg

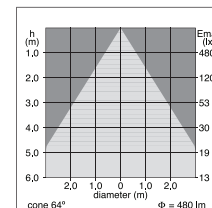
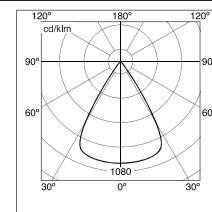


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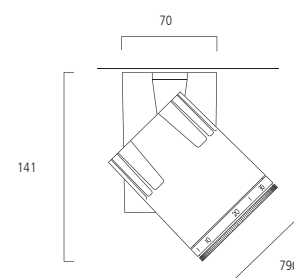
10° to 65°



4000K for trailing edge dimming		White	Silver	Black	
Muse Adj.	Single Circuit	2051055	2051056	2051057	0.96kg
Muse Adj	Three Circuit	2051058	2051059	2051060	0.96kg
Muse Adj	Surface Mounted	2051061	2051062	2051063	0.96kg



Accessories		
Elongation Lens		2047193
Coloured Gel Filters (Red, Yellow and Blue)		2049498

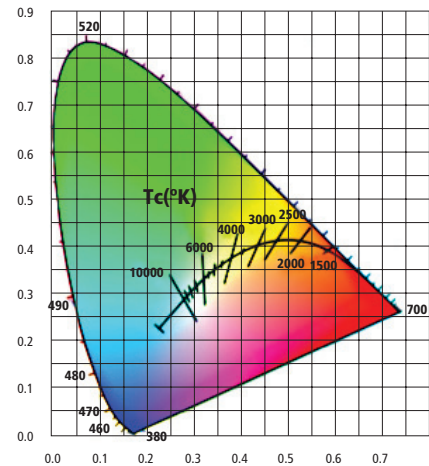


Beacon Muse LED Technology

Colour Temperature

Colour temperature is a characteristic of visible light that plays a significant role in lighting applications. The colour temperature of a light source is the temperature of a perfect black-body radiator that radiates light of a similar appearance to that of the light source. The colour temperature is measured in units of absolute temperature; Kelvin (K).

Colour temperature works paradoxically to our cultural associations with colour, red as hot and blue as cold. On the black-body curve, blue occurs at higher temperatures than red. A good example is a candle which has a warm red orange appearance but in fact has a low Kelvin temperature, 1850 K. Therefore higher colour temperatures (5000 K more) are called cool colours (blueish white); lower colour temperatures (2700 – 3000 K) are called warm colours (yellowish white through red).



The Planckian locus shows the chromaticities of black-body light sources of various colour temperatures and lines of constant correlated colour temperature shown within the CIE chromaticity diagram.

Colour Correlated Temperature (CCT)

An incandescent light bulb is very close to a perfect black-body radiator, so its colour temperature is basically the temperature of the filament. However many light sources, such as fluorescent tubes or high intensity discharge lamps, emit light by processes other than thermal radiation and therefore it is not possible to apply the black-body spectrum. For these light sources it is possible to assign what is known as a colour correlated temperature (CCT). The CCT is the colour temperature of a black-body (Planckian) radiator which most closely matches the colour of the light emitted from the lamp.



Warm White
3000K



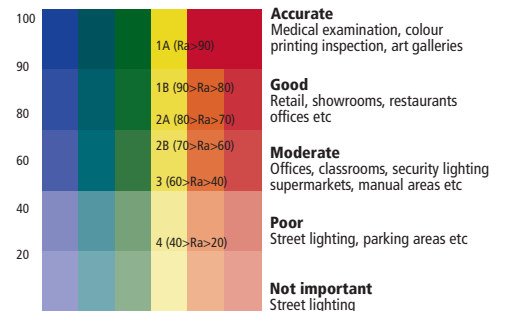
Neutral White
4000K

Typical application

Colour Rendering Index (CRI)

The colour rendering of a light source is an indicator of its ability to realistically reproduce the colour of an object. The chart illustrates our ability to accurately determine colour depending on the colour rendering properties of the light source. The higher the colour rendering index (on a scale of 0 to 100) of the source the better our ability to perceive differences in colour, which is a considerable aid to highlighting fashion products and effective display of coloured artworks.

The CIE colour rendering index (CRI) is a method to determine how well a light source's illumination of eight standardised colour patches compares to the illumination provided by a reference source. At Ra (8) the perceived colour shift of eight reference colours is measured as a percentage and averaged to give one number. However it is currently understood that due to the spectral power distribution of LED's that instead of using the standard Ra8 it is important to include 7 additional colours which include red, yellow, blue & green and use Ra14 to ensure better results.



General Colours Ra8



+ Special Colours = Ra14

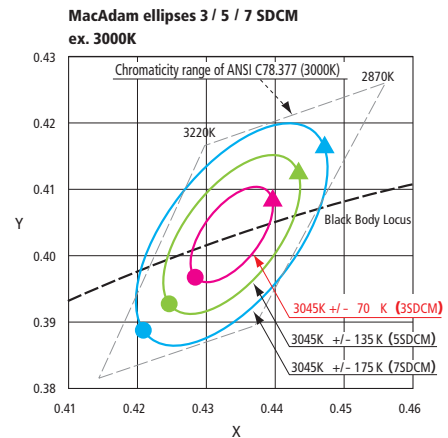


Beacon Muse LED Technology

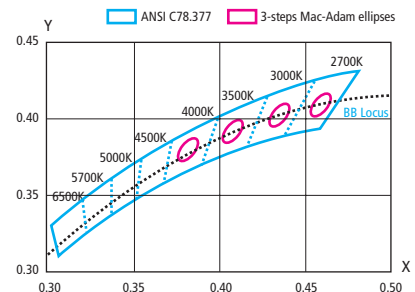
Binning

The term binning refers to the variations which occur within a single production batch of LED's such as chromaticity, lumen output and forward voltage. It is important that a specific bin has been identified and selected to ensure a uniform and constantly even lighting installation is achieved. If all the LED's were selected from one production batch and used in the same luminaire or installation, there would be a mix of colour temperatures and brightness levels. For the lighting manufacturer / designer binning is an essential part of LED specification.

MacAdam ellipses methodology was created in 1943 for mathematically constructing ellipses around target points, something which became very useful for the lamp industry. ANSI C78.377 is now the standard for chromaticity specified by the American National Standards Institute. ANSI recommends that lamp manufacturers stay within a "4-step" ellipse. This means that, given a certain target point on the CIE diagram, manufacturers are given a fairly wide range of perceptible differences. The CITELED light engine products comply with the "3-step" MacAdam ellipses, meaning the chromaticity ranges are narrowed to approximately a ninth of the ANSI standard.



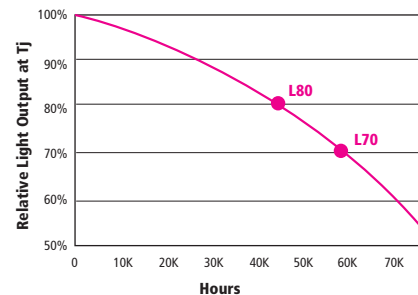
Chromaticity range chart



Lumen Maintenance

Rated Lumen Maintenance Life (Lxx): The elapsed operating time over which the LED light source will the percentage, xx, of its initial light output.

- L80 = Time to 80% lumen maintenance, in hours
 - L70 = Time to 70% lumen maintenance, in hours
- For LED lamps, lumen maintenance is often shown as curves of relative lumen output over time for the LED under various operating conditions, such as drive current and junction temperature.

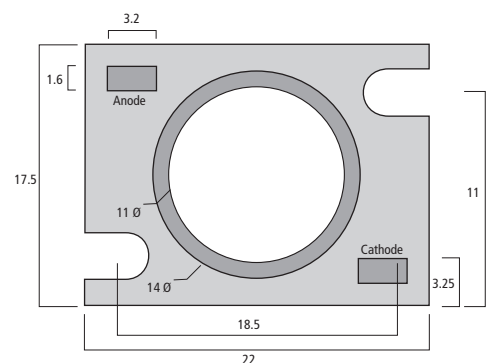


Junction Temperature (Tj)

The temperature of the Junction of the LED die inside the LED lamp. Measuring the LED die temperature by direct mechanical means is difficult and may lead to erroneous results. It is recommended that the Tj is calculated with manufacturer's data through measurement of the temperature at the solder point (Tsp).

Product specification

Trailing edge dim forward current	910mA
Total circuit power	20W
On board dim forward current	700mA
Total circuit power	15W
Typical CRI 3000K Beacon Muse	Ra 95
Typical CRI 4000K Beacon Muse	Ra 95
Maximum junction temperature (Tj)	120°C
Maximum temperature	
Solder point (Tsp)	88°C
Beacon Muse Trailing Edge Dim 910mA Tsp	67°C
Beacon Muse on board Dim 700mA Tsp	53°C



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