

# Test Report



Report No	247/7068257 BSI Digital copy	This Report consists of 3 pages
Client	Certikin International Limited Witan Park Avenue 2 Station Road Industrial Estate Witney Oxfordshire OX28 4FJ	
Authority & date	BSI Estimate Acceptance No 0000089726 dated 17 May 2007 Equipment Record Number 10089712 dated 29 June 2007 and 10089905 dated 11 July 2007	
Items tested	Seven samples of underwater swimming pool luminaires, all with an LED light source of various colour output Type references: As detailed within this Test Report	
Specification	Client's own requirements	
Results	As detailed within this Test Report	
Prepared by	P R Overington Project Leader	
Authorized by	C Stratford Principal Engineer – Section Head, Lighting Technology	
Issue Date	13 July 2007	
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## Introduction

Seven samples of underwater swimming pool luminaires with LED light sources were submitted on 29 June 2007 for the determination of the light output in lumens. An associated test lead for the Astral sample was submitted on the 11<sup>th</sup> of July 2007.

The swimming pool luminaires were all of the same basic design, with the LED module installed in a white plastic moulded body, white circular front face and a clear domed round diffuser. Two models differed from this design as they were provided without a body.

As the luminaires were of a LED type, the Client requested that they are measured when immersed in water to provide cooling.

Each luminaire type was operated in turn from the same Certikin transformer, operated at an input voltage of 230V~.

The luminaires all had a fixed colour of LED light output with the exception of the T K Colour that could be changed by a remote control device provided. In this situation, the Client requested test with a white and blue light output.

## Type references of samples submitted

The luminaires submitted were assigned the following type references:

Midas

T K Colour

T K White

Topline

Certikin

T K Blue

Astral

## Test method applied

The measurements were performed within an integrator that was maintained at a nominal ambient temperature of 25°C throughout the applied tests.

A calibration of the integrator was made at the start and completion of the test programme, by the use of BSI Standard Luminous Flux lamps. These lamps when operated at a known lamp current will provide a known lumens value.

The luminaire under test was connected to the transformer and immersed in a water container placed on the floor of the integrator, ensuring that there is no direct light falling on the photocell.

After a test period of 20 minutes the photocell reading was compared with the reading for the average of the standard lamps and the resultant lumens value calculated.

A correction was also made for the obscuration difference between the test set up and calibration with the Standard lamps.

The results of the measurements performed between the 10<sup>th</sup> and 11<sup>th</sup> of July 2007 can be found on the following page of this Test Report.

**RESULTS OF TESTS CONDUCTED**

<b>Luminaire type reference:</b>	<b>Colour of LED light output:</b>	<b>Calculated lumens:</b>
Midas	Blue	147
T K White	White	439
T K Blue	Blue	58
T K Colour	Blue	53
T K Colour	White	415
Topline	White	352
Certikin	White	945
Astral	White	617

**Note:**

The uncertainty of measurement is estimated as  $\pm 2.2\%$  for a level of confidence of approximately 95%.