

**Television Lighting Consistency Index –
A New Broadcast Lighting Standard**

In November 2012 the EBU Technical Committee approved a Recommendation designed to give technical aid to broadcasters who intend to assess new lighting equipment or to re-assess the colorimetric quality of lighting in their television production environment. This recommendation was developed by the LED Lights Project Group, under the EBU Strategic Programme on Future Television Systems.

Background

The introduction of high efficiency LED lighting has given rise to a number of unintended and possibly expensive consequences for both television and film production. Studies already undertaken had shown the lighting industry colour-rendering index to be inappropriate for television because of the floating white point. The aim of the LED Lights Project Group was to show how these studies could lead to the design of a “Standard camera” model, much along the lines of the human CIE “Standard observer”.

Knowing its performance limitations in advance can help in the choice of luminaire (or light), identifying the potential extra cost of colour correction in post-production as against the cost saving in power consumption of high-efficiency luminaires, such as LED lights. An assessment of the performance limitations of a given luminaire can be based on a mathematical calculation implemented in software, the “TLCI-2012”, or Television Lighting Consistency Index, specified in EBU Tech 3355.

How does it work?

Rather than assess the performance of a luminaire directly, as is done in the Colour Rendering Index, the TLCI mimics a complete television camera and display, using only those specific features of cameras and displays which affect colour performance. The TLCI is realised in practice using software rather than real television hardware. The only hardware that is required is a spectroradiometer to measure the spectral power distribution of the test luminaire, and a computer on which to run the software analysis program to perform the calculations.

TruColor HS and LS Test Results

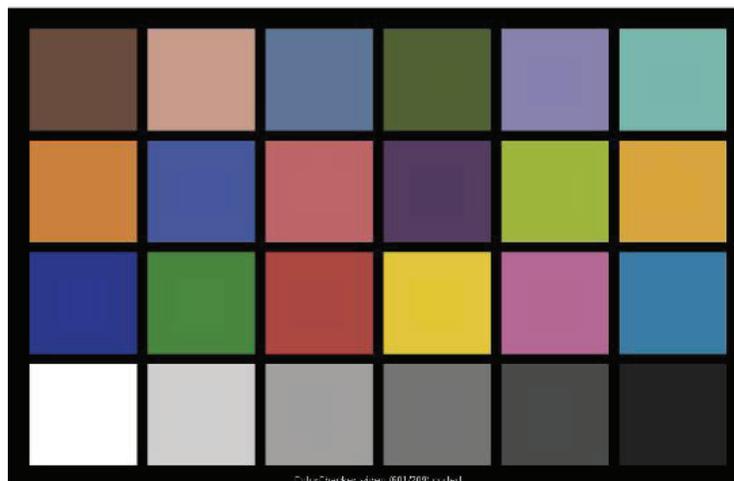
On June 24, 2013 a workshop jointly organized by the EBU and the Guild of Television Cameramen brought industry experts together at BSKyB’s Sky Studios near London to learn about the EBU’s new LED light assessment tools. Former BBC broadcast engineer and color sciences expert Alan Roberts presented the Television Lighting Consistency Index. The TLCI was developed by the EBU to address many of the issues associated with the use of LED lighting in film and television production.

Several manufacturers of lighting products brought fixtures for evaluation using the calibrated TLCI-2012 testing setup at the event. The results: TruColor HS achieved the highest TLCI rating of all LED fixtures tested, with a rating of 98 at both 3200K and 5600K, matching the ratings of HMI and surpassing those of fluorescent fixtures.

Below and on page 2 are the published results:

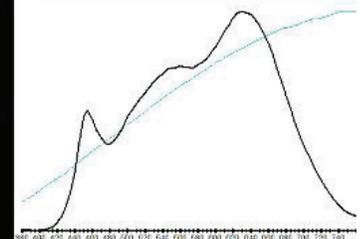
Cineo Trucolor 3200 : CCT = M3524 (-0.5)

TLCI-2012 : 98 (M3524)



Alan Roberts
BPR, Teddington, UK

Sector	Lightness	Chroma	Hue
R	0	0	0
R/Y	0	0	0
Y	0	0	0
Y/G	0	0	0
G	0	0	0
G/C	0	0	0
C	0	0	0
C/B	0	0	-
B	0	0	0
B/M	0	0	+
M	0	0	0
M/R	0	0	0

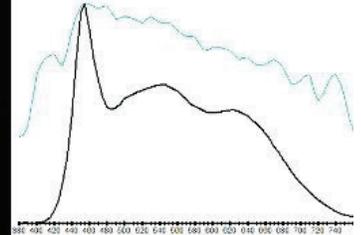


Cineo Trucolor 5600 : CCT = D6230 (-0.5)
TLCI-2012 : 98 (D6230)



Alan Roberts BPR, Teddington, UK

Sector	Lightness	Chroma	Hue
R	0	0	0
R/Y	0	0	0
Y	0	0	0
Y/G	0	0	0
G	0	0	0
G/C	0	0	0
C	0	0	0
C/B	0	0	--
B	0	-	0
B/M	0	0	0
M	0	+	0
M/R	0	0	0



Learn more about TLCI-2012 at: <http://tech.ebu.ch/tlci-2012>

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