

Technological Seeds

Department of Computer and Human Intelligence

As of Aug.30, 2007

• **Topic**

Color Recovery Lighting System for Elderly

• **Keywords**

Elderly Vision, Cataract, Barrier-Free, Universal Design, Psychophysics, Color Science, Visual Information Processing, Illuminating Engineering

• **Abstract**

A novel lighting method named Color-Recovery-System, CRS[®], was invented to prevent the perceptive color loss for cataractous elderly. It has been installed to a fitting room's lighting at a number of department stores and was awarded GOOD DESIGN AWARD by Japan Industrial Design Promotion Organization in 2005.



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Society Membership: Optical Society of America, The International Commission on Illumination (CIE), The Japan Society of Applied Physics, Optical Society of Japan, The Vision Society of Japan, The Illuminating Engineering Institute of Japan, The Color Science Association of Japan

• Around 80 % of elderly get cataracts. Their hazy crystalline lens increases the scattering light in the eye. The scattering light overlaps the color images on the retina and causes great loss of colorfulness.

• In the new lighting system, two illuminations for objects and an environment are independently operated. To reduce the scattering light and to recover colorfulness, the intensity of the ambient illumination is reduced while that for objects illumination is increased.

• The lighting system was implemented to a fitting room as Color-Recovery-System, CRS[®], in cooperation with YOSHICHU MANNEQUIN Co., Ltd. and KUROI ELECTRIC Co., Ltd.

• The performance of CRS[®] was evaluated by colorimetric measurements, psychophysical experiments, and a questionnaire by customers. All the results showed the significant increase in colorfulness and proved its effectiveness for elderly color vision.

• In 2005, CRS[®] was awarded GOOD DESIGN AWARD by Japan Industrial Design Promotion Organization.

Good Design 2005-2006
グッドデザイン賞受賞

フィッティングルーム用
高齢者対応照明システム

CRS
COLOR RECOVERY SYSTEM

真色再現
キレイな色・見えてますか？

フィッティングルームもUDの時代へ。
必要なのは色柄選びの不安を解消させること。
若者から高齢者までのあらゆる人へ
商品の色彩印象・色彩品質を
高いレベルでお届けします。

■高齢者の低下した視力を最適な光環境で補正
■4種類の光によるTPOシミュレート機能搭載

<高齢者の視覚イメージ>

修正前 → 修正後

* 実際には個人差があります

Research Field	
Comment/Message	
Patents	Patent Publication No. 2005-302500