

## Appearance of Fashion Color with Change of Illuminance

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### I. Introduction

It is our experience that in a bright outdoors we sometime can not see objects in a shade if we instantly move our eyes to that area. Same thing happens from discrimination of color. If we are driving a car this disadvantage may cause a serious accident. The color, which comes to be used from our daily life properly, can be applied in stability and comfort appropriately. The color should be discriminated for color information to function appropriately. The appearance of color for a shade may be different from the lit place in the real environmental situations. We investigated the appearance of color for such situation.

### II. Method

A subject adapted to the room lit at one of the illuminance 0.1, 1, 3, 8, 20, 100, 500 and 2000 lx for about 10 minutes. Then the subject pressed the switch button to open the shutters to expose the fixations picture and the test target for one second. He/she judged that what color is color chip in the shade during open the shutters. Color appearance was measured when the eyes instantly moved to the place of shade after adapted at one of the 8 different environment illuminance. Judgment of color was carried out by naming color chips using one of the color terms: red, orange, yellow-green, green, blue-green, blue, purple, pink, brown, white, gray, and black. The color samples used in the experiment were systematically selected from a large number of Munsell color chips. The number of selected colors was 90 in total. A color sample was placed in shade box. The size of the color sample was 2.5 cm×4 cm.

### III. Result

The picture is a result of subject A. The line A on the left side is under environment of 8 lx, shade of 8 lx and the line B on the right side is under environment of 2000 lx, shade of 8 lx. The circle indicates the 90 colors which is used from this study. The sign in the circle is case that answer rate of same color is over 60%, the sign in thick line circle means that

