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照明新時代シンポジウム：5件

口頭発表：51件

ポスター発表：35件

International Symposium：6件

International Conference：23件

会場案内
プログラム

色

7/8
Sunday

協会認定 パーソナルカラーアドバイザー

2012年 7月 8日 (日)
第19回 モジュール1 (初級・中級) マークシート
第15回 モジュール2 (上級) マークシート

11/18
Sunday

2012年 11月18日 (日)
第19回 モジュール1 (初級・中級) マークシート
第15回 モジュール2 (上級) マークシート

第4回 モジュール3 (技能認定試験・一部筆記) ~ モジュール3は年1回
モジュール2合格者に向けて実施... 2012年4月1日 (日)

● 最上級資格所得者に対し協会より
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色の理論を実戦の場に活かす検定です!

日本色彩学会 第43回全国大会 京都 '12

2012年5月25日(金) - 27日(日)
京都大学吉田南キャンパス (主会場)
<そのほか 京都大学百周年時計台記念館>

25日 冷泉邸見学会
シンポジウム：照明新時代～色彩のサイエンスとデザイン

26日 研究発表：口頭・ポスター カラーデザイン発表：口頭・ポスター
国際コンファレンス：ポスター・ショートプレゼン 企業プレゼン
総会
特別講演：日本人の色彩－冷泉流歌道と年中行事をめぐって
冷泉為人氏（財団法人冷泉家時雨亭文庫 理事長）
懇親会 <関西日仏学館>

27日 国際シンポジウム：Color Science for Our Better Life
国際コンファレンス：口頭・ポスター
研究発表：口頭・ポスター
式典

◆ 企業展示・カラーデザイン作品展示・研究会特別展示：26-27日
研究発表：109件（国際コンファレンスを含む）

THE COLOR SCIENCE ASSOCIATION OF JAPAN THE 43rd ANNUAL MEETING

May 25 (Fri) - 27 (Sun), 2012
Kyoto University (Yoshida South Campus)

● International Symposium < May 27 (Sun) > "Color Science for Our Better Life"

Guest Speakers : Prof. Haisong Xu of Hangzhou University, China, Prof. Miho Saito of Waseda University, Japan, Prof. Lee Tien-Rein of Chinese Culture University, Taiwan, Prof. Young In Kim of Yonsei University, Korea, Prof. Pontawee Punggrassamee of Chulalongkorn University, Thailand, and Prof. Ken Sagawa of Japan Women's University, Japan.

● International Conference: 23 presentations

主催：日本色彩学会
運営：日本色彩学会第43回全国大会実行委員会（担当：日本色彩学会関西支部）
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日本色彩学会
THE COLOR SCIENCE ASSOCIATION OF JAPAN

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Study in human color perception on outdoor Advertising cutout

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Keywords: human, perception, outdoor advertising cutout, font size, color of font, font type.

1. Introduction

Advertising sign is an effective of communication for business. There are different advertising signs used in several purposes for example banner, building sign, cutout etc. There are recently several factor effected to viewing outdoor advertising cutout for instant viewing condition, color of font, font size including font type and viewing distance⁽¹⁻³⁾. This study will focus on font size and viewing distance of its. In the experiment different font types in Thai this experiment and will be inquire perceive color of cutout in D65 viewing condition. The results from this research would be advantageous for advertising and printing industry in order to create a suitable cutout for several viewing condition.

2. Experiment

2.1 The readability perception of Thai alphabet letters size was made up by setting the distance at 1.55 meter, 6,500 K of color temperature, tested with the Thai font round head characters size ranging from 1.6, 1.8, 1.9, 2.1, 2.3, 2.5, 2.6, 2.8, 3.0, 3.5, 3.8, 4.0, 4.2, 4.3, 4.5, 4.7, 5.0 to 5.2 mm.

2.2 Experiment of readability perception of Thai alphabet letters color was made up by setting the condition of the distance at 1.55 meter, 6,500 K of color temperature, tested with the round head characters 10 kinds of color including black, grey, yellow, pink, red, green, blue, orange, brown, and purple. Each color is divided into 3 brightness level by adding the different percentage of white color. (Level 1 means percentage of main color and white is 100% + 0%, Level 2 means 50% + 50% and Level 3 means 20% + 80%)

2.3 Experiment of readability perception of Thai alphabet letters font was made up by setting the condition of the distance at 1.55 meter, 6,500 K of color temperature, tested with the 4 different black Thai character font size ranging from 4.0, 4.2 to 4.3 mm. these 4 different fonts are including with head

fonts (Angsana New), without head fonts (Lily UPC), hand write fonts (Sarun's menorah) and display type fonts (TH Charm of AU).

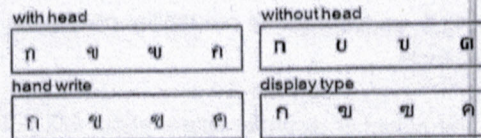


Fig.1. Thai character font

3. Result and Discussion

3.1 The result of readability perception of Thai alphabet letter size

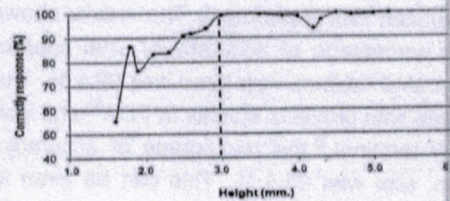


Fig.2. Thai font round head characters size

Figure 2 shows the results of this experiment showed that the more larger font size, examinee can perceive and read more accurate by the reason of, when the font size becomes larger, it will also appeared in eyes' retina larger. Thus, it was very detailed by examinee. The result of each examinee was near the average score. It was founded that the character size which was read most accurate was 3.0 mm. above, subordination score are 4.0, 4.2 and 4.3 mm. respectively. The similarity of character e.g. in this experiment accuracy percentage in the visibility of characters of any size exceeds 50 percent, though it is the smallest size of the height.

3.2 The result readability perception of color experiment in Thai character. The result of above experiment founded that nearly every color has a high percentage of accuracy, except the 90 hue angle which is yellow in the height of 4.0 mm. was comparatively low of accuracy percentage as seen in the graph.

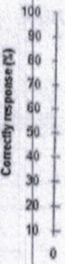
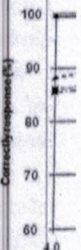


Fig.3. hue angle

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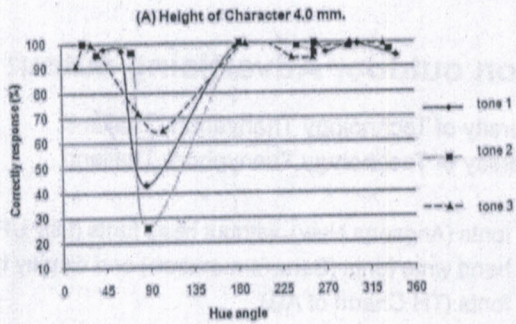


Fig.3. comparison of readability perception and hue angle

For height of alphabet letters about 4.0, 4.2 and 4.3 mm. they had shown low percentage of accuracy at 90 degree of hue angle which is represented yellow color. All results were similar which can be explained the luminance contrast of alphabet letters color and background color.

3.3 The result of readability perception of Thai character font experiment. The results showed that the percentage of accuracy of Thai character 4.0 mm. and 4.2 mm. with head was 99.6 %. The result agree with previous studies in PDA²⁾ and visual display terminal.³⁾ the percentage of accuracy of 4.3 mm. size was 98.4 %. This can be seen that the average percentage was slightly different. This means that the height of the character did not affect the visibility of the Thai alphabet. Other 3 kinds of font had the same result. As the experiment, the influence of the Thai alphabet letters indicated that rounded head font has the highest percentage of accuracy.

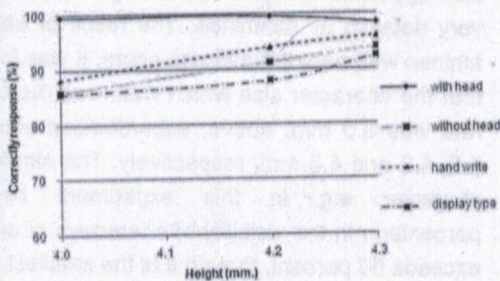


Fig.4. Thai character font size ranging

Whereas display type was less accuracy of percentage because, the head of the alphabet letter can help distinguish the different better. Display type

looks like the writing alphabet letter that makes reading difficult. All different alphabet letter types had low percentage in visual acuity because they were not clearly to see and also the results of visual acuity is similar in every size of alphabet letters and same results from all subjects.

4. Conclusion

In order to design black alphabet letter on white background color for advertising cut out printed by screen printing process it should use height of alphabet letter at 1.8 mm. (0.45 inch) or higher which is equal to 32.4 point at 960 cm. distance. However people who can usually see the advertising cutout may understand words or sentences which used the height of alphabet letter low than the results of this experiment because of understanding the sentence normally it has to consider the meaning of each word or sentence even it is not possible to recognize some of alphabet letter

Researcher suggests that selecting color of alphabet letter and background color is should be high contrast in order to clearly perceive for example black color or green color for alphabet letter on white color for background. However yellow and brown color for alphabet letter on white background is not recommended.

In conclusion round head character in Thai font was suitable for precise visual acuity and also readability. Hence designer who would like to obviously communicate or to emphasize an important sentence should select round head character and also avoid to using display type.

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