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Predictions Based on Munsell Notation: I. Perceptual Color Differences
Tarow Indow

For each pair of colors (j, k), the observers selected such a pair of Nunsell grays (NaNb) that the lightness difference matched in size with the color difference, and the scaled value of color difference was defined as djk = ½Va-Vb½. On the basis of these data where (j, k) are limited in the range that can be matched by djk <4.0V, the procedure was presented to define predicted values <4.0V, the procedure was presented to define predicted values for Munsell colors (j, k) between 4V and 7V directly from Euclidean distances points Pj and Pk in the current Munsell solid. The procedure is more practical than the multidimensional scaling representation. Inter-point distances are measured by the unit of C in the (H, C) plane and the contributions to of 1C and 1V differences are assumed to be 1 and 2.3. Precision of Predictions, RMS = {mean of (d jk -)2}0.5 , is 0.3 V (0,8 c) for 2-D color differences Vj = Vk. For the set of data on 3-D color differences used in the present study (Vj (Vk), RMS = 0,6 V (1.7 C). These were compared with precision of predictions by CIE 1976(L*,u*,v*), Judd, and Adams-Nickerson formulae. Key Words: Munsell color system, color difference, Multidimensional scaling.