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PRELIMINARY NORMS FOR THE CAMBRIDGE COLOUR TEST

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The Mollon-Reffin Test (Mollon and Reffin, 1989) or its commercial version, Cambridge Colour Test (CCT), determines the colour discrimination of a target relative to a background in a situation of spatial and luminance noise. Purpose: A definition of normal trichromatic limits for the test parameters. Methods: subjects aged 18-30 years old with were tested in São Paulo (45 subjects, 22.5± 2.74 years old) and Belém (30 subjects, 21.82 ± 2.88 years old). Inclusion criteria: absence of ophthalmologic or neurophthalmologic pathologies and at least 20/20 Snellen acuity. The São Paulo group used the CCT v2.0, with VSG 5 card and Sony FD Trinitron colour monitor; the Belém group used a self built system for IBM RISC 6000 workstation and IBM 6091 19i colour monitor. Tests were performed mono- or binocularly in a darkened room, with the subject positioned 3m from the video monitor. Results: The results obtained in the two setups were in the same range of values. Trivector test results were: protan axis 44.6 ± 14.5; deutan 43.0 ± 14.5; tritan 71.6 ± 24.0 (u'v' distance x 103). The area for three MacAdam ellipses measured along the tritan axis were: 334 ± 209, 300 ± 165, and 429 ± 294 (x 106 u'v'). Conclusion: The Mollon-Reffin Test gives a precise, sensitive, and detailed quantitative description of colour discrimination and it is easy to operate both by the subject and the experimenter. The absence of statistical difference between the different sets of data collected in this study is an indication of its reliability and robustness. Given the importance of early diagnosis of acquired colour vision deficiencies, the establishment of norms for this test is of immediate clinical relevance.

Keywords: Cambridge Colour Test, colour vision, colour psychophysics, daltonism, cone, retina