Requested by Idman Oy
Airfield Lighting
Kisällintie 9
01730 VANTAA

Order 25.05.2001 Toivo Ruoho

Handled by Senior Research Scientist Tapani Timonen, 09-4566410

Samples One runway centre line light IDM 4562 2x105 W. Colourless prisms were assembled in the light unit. Additional red prism was delivered with the light unit. Two lamps with markings SLi 0021499, 105 W 6,6 A was assembled in the light unit. The sample was delivered by Idman Oy.

Object Measurement of luminous intensity distribution according to ICAO International Standards and recommended Practices, Aerodromes, Annex 14 to the Convention on International Civil Aviation, Volume I, Aerodrome Design and Operations, Third edition, July 1999.

Procedure of the measurements and results

Procedure of the measurements and results are presented in pages 2...8.

Espoo, 20.06.2001

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Distribution Idman Oy 2 pc
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Procedure of the measurements and results

After measurement with white light the red prism was installed in the opening of direction I and the measurements with red light were made after that. Intensity measurements were made by illumination measurement at a distance of 10 m. The photocell was V(λ) corrected LMT no. 1286241. The diameter of the light sensitive area of the photocell was 30 mm.

During the measurement of luminous intensity distribution the supply current was DC 6,6 A (±0,1%). The estimated uncertainty of the luminous intensity measurement was ±3 %. The measured isocandela diagrams are shown in figures 1...6. In the figures the ellipses are those expressed as the minimum requirements for the lights in figures 2.6 or 2.7 in appendix 2 of the above mentioned ICAO Publication. The intensity measurement was made in horizontal and vertical steps of 0,5 °. The positive vertical direction is upwards and the positive horizontal direction is to the right from the direction when seen behind the lighting fitting.

Figure 1. Isocandela diagram for runway centre line light IDM 4562 2x105 W –White, direction I

Measurements for 30 m longitudinal spacing according to ICAO Aerodromes, Annex 14, 1999, Appendix 2, Figure 2.6.
MAIN BEAM: Average 6330 cd, minimum 2890 cd, maximum 8654 cd, ratio of the maximum and minimum 2.99.

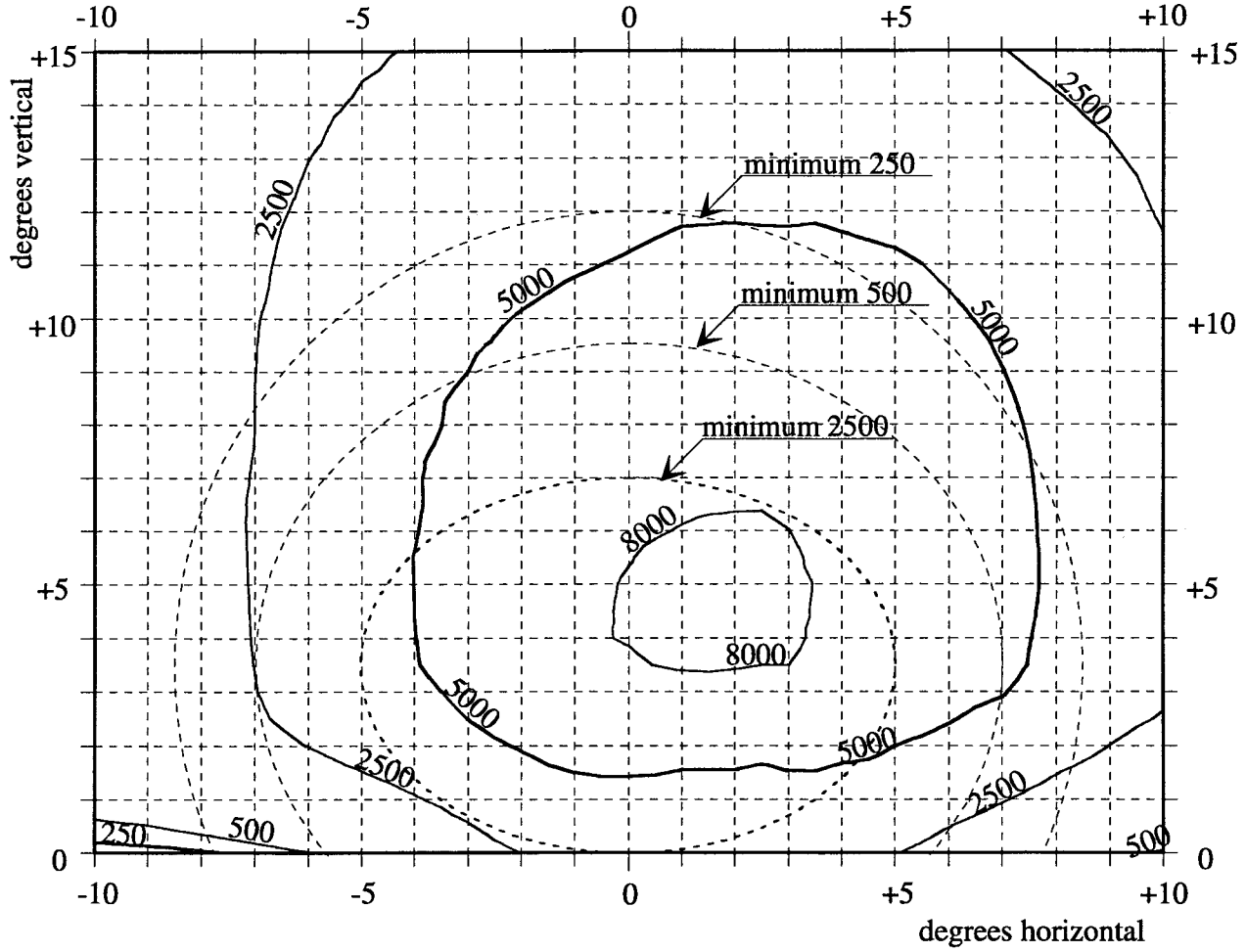

Figure 2. Isocandela diagram for runway centre line light IDM 4562 2x105 W –White, direction I

Measurements for 15 m longitudinal spacing according to ICAO Aerodromes, Annex 14, 1999, Appendix 2, Figure 2.7.

MAIN BEAM: Average 6352 cd, minimum 2890 cd, maximum 8654 cd, ratio of the maximum and minimum 2.99.

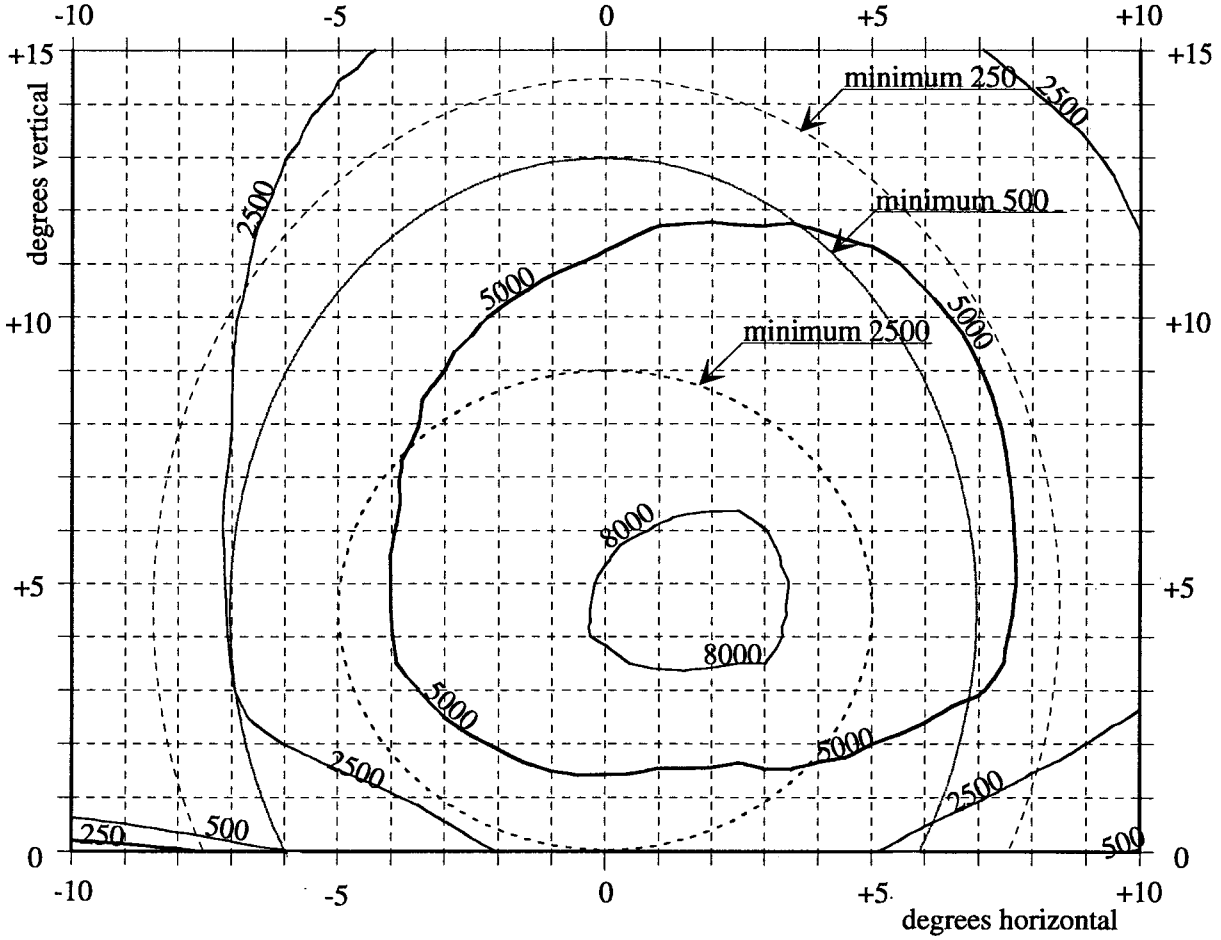

Figure 3. Isocandela diagram for runway centre line light IDM 4562 2x105 W –White, direction II

Measurements for 30 m longitudinal spacing according to ICAO Aerodromes, Annex 14, 1999, Appendix 2, Figure 2.6.

MAIN BEAM: Average 7262 cd, minimum 3468 cd, maximum 10010 cd, ratio of the maximum and minimum 2.87.

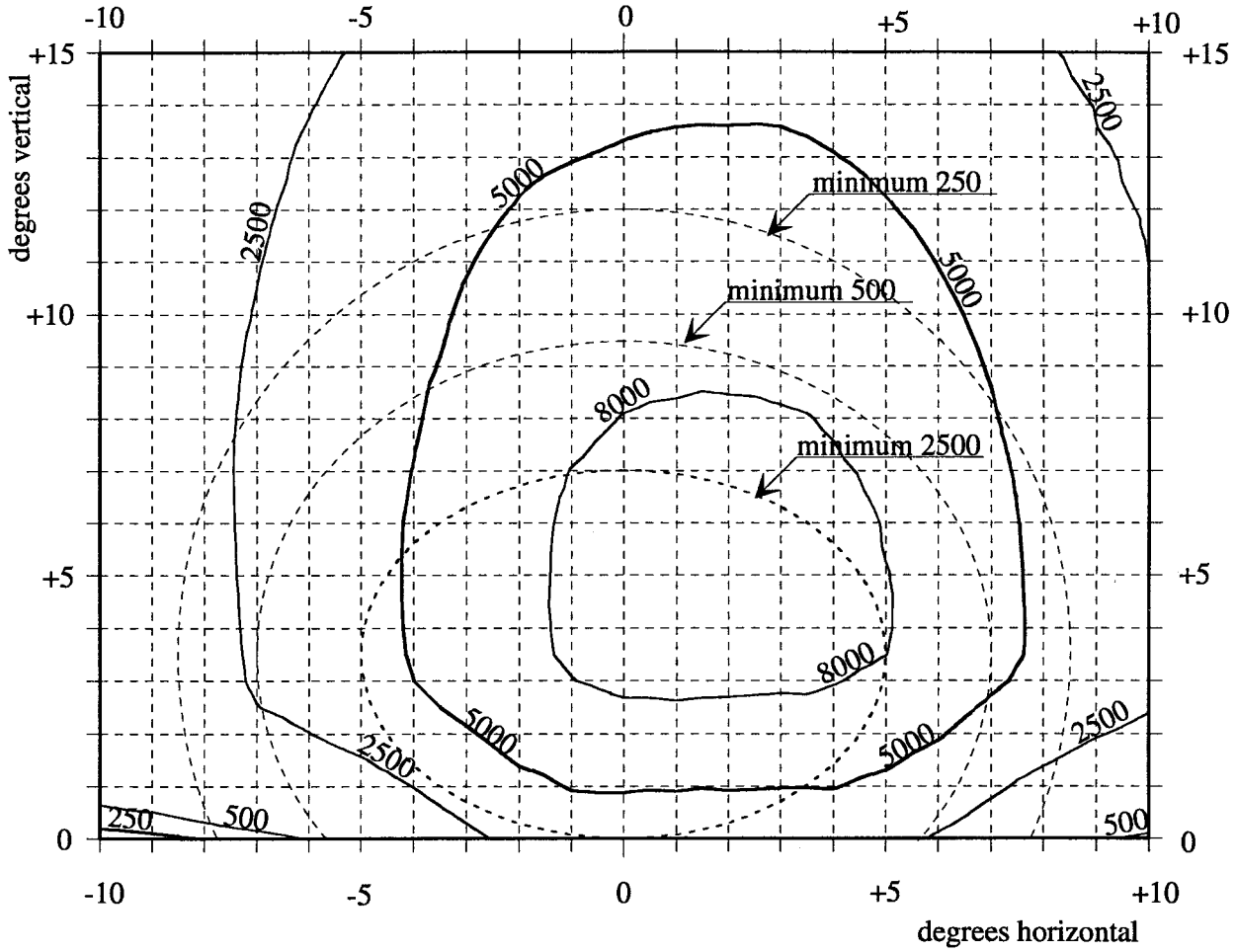

Figure 4. Isocandela diagram for runway centre line light IDM 4562 2x105 W –White, direction II

Measurements for 15 m longitudinal spacing according to ICAO Aerodromes, Annex 14, 1999, Appendix 2, Figure 2.7.

MAIN BEAM: Average 7327 cd, minimum 3468 cd, maximum 10010 cd, ratio of the maximum and minimum 2.89.

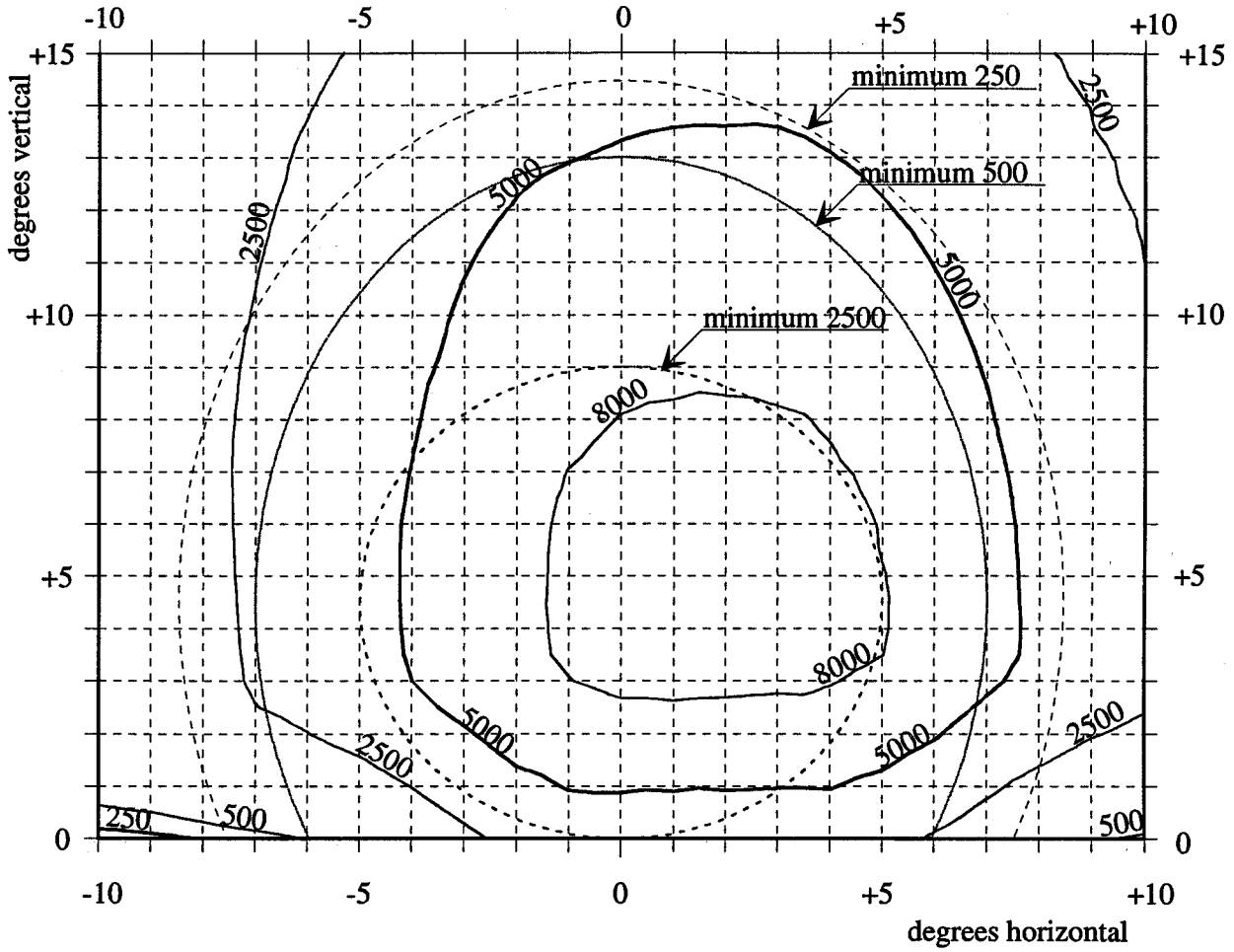

Figure 5. **Isocandela diagram for runway centre line light IDM 4562 2x105 W –Red, direction I**
Measurements for 30 m longitudinal spacing according to ICAO Aerodromes, Annex 14, 1999, Appendix 2, Figure 2.6.
MAIN BEAM: Average 2243 cd, minimum 1091 cd, maximum 2892 cd, ratio of the maximum and minimum 2.65.

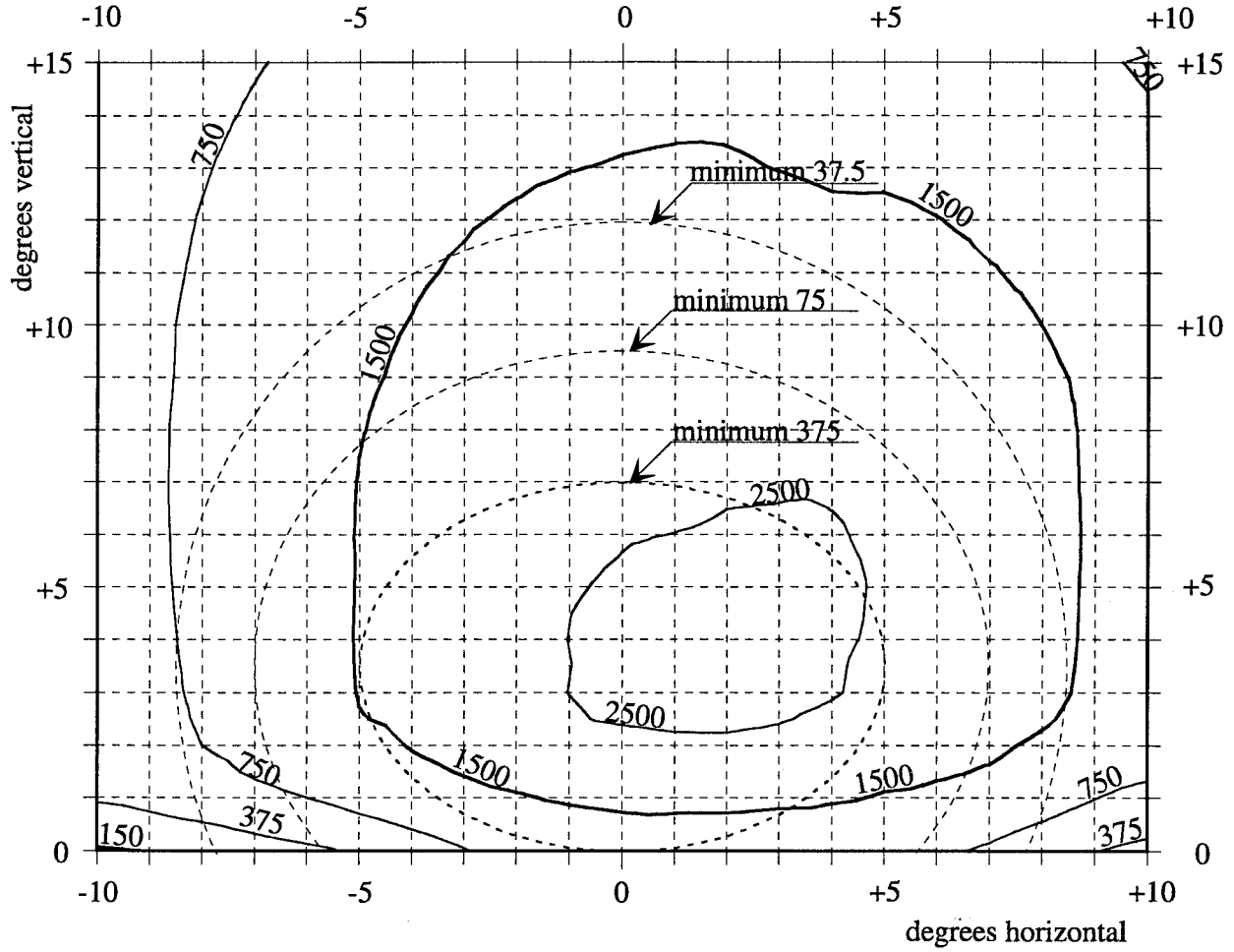

Figure 6. Isocandela diagram for runway centre line light IDM 4562 2x105 W –Red, direction I
Measurements for 15 m longitudinal spacing according to ICAO Aerodromes, Annex 14, 1999, Appendix 2, Figure 2.7.
MAIN BEAM: Average 2233 cd, minimum 1091 cd, maximum 2892 cd, ratio of the maximum and minimum 2.65.