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**Ministry of Higher Education and Scientific Research**  
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**Institute of Architecture and Earth Sciences**  
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**Ferhat ABBAS University of Setif**

**thesis for the Master's Degree**

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**Optimization of lighting ambiances in the  
design of a high school**

**Project : highschool**

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## **Abstract :**

This thesis demonstrates the critical role of natural lighting in enhancing high school environments. Effective natural lighting improves student performance, health, and well-being while promoting energy efficiency. Algerian high schools can benefit significantly from innovative architectural solutions that prioritize natural light, transforming them into more supportive and dynamic educational spaces. Implementing these strategies requires collaboration and consideration of cultural, economic, and environmental constraints.

**Keywords:** Keywords natural light, visual comfort, high school, optimization design

## **Résumé :**

Cette thèse démontre le rôle crucial de l'éclairage naturel dans l'amélioration des environnements des lycées. Un éclairage naturel efficace améliore les performances des élèves, leur santé et leur bien-être tout en favorisant l'efficacité énergétique. Les lycées algériens peuvent bénéficier considérablement de solutions architecturales innovantes qui privilégient la lumière naturelle, les transformant en espaces éducatifs plus soutenant et dynamiques. La mise en œuvre de ces stratégies nécessite une collaboration et une prise en compte des contraintes culturelles, économiques et environnementales.

**Mots-clés :** lumière naturelle, confort visuel, lycée, conception optimisée

**ملخص:** هذه الرسالة الجامعية تُظهر الدور الحاسم للإضاءة الطبيعية في تعزيز بيئات المدارس الثانوية. تحسّن الإضاءة الطبيعية الفعّالة أداء الطلاب وصحتهم ورفاهيتهم، مع تعزيز الكفاءة الطاقية. يمكن للمدارس الثانوية الجزائرية الاستفادة بشكل كبير من الحلول المعمارية المبتكرة التي تعطي الأولوية للضوء الطبيعي، مما يحولها إلى مساحات تعليمية أكثر دعمًا وديناميكية. تنفيذ هذه الاستراتيجيات يتطلب التعاون والنظر في القيود الثقافية والاقتصادية والبيئية.