Claims

1. A light emitting unit for 1) reducing the microbial pressure, and 2) stimulating the production of natural vitamin D3, the light emitting unit comprising
   - at least a first UV-B LED configured for emitting monochromatic UV-B light having a maximum intensity between 292-302 nm, more preferably between 295-299 nm, most preferably at 297 nm,
     and
   - at least a second UV-B LED configured for emitting monochromatic UV-B light having a maximum intensity between 275-290 nm, preferably between 278-288 nm, more preferably between 281-285 nm, most preferably at 283 nm

     and
   - at least a first UV-C LED configured for emitting monochromatic UV-C light having a maximum intensity between 228-238 nm, preferably between 231-235 nm, most preferably at 233 nm.

2. The light emitting unit according to claim 1, wherein at least the first and the second monochromatic UV-B LED light have a full width half max (FWHM) spectral bandwidth of less than less than or equal to 20 nm, more preferably less than or equal to 15 nm, most preferably less than or equal to 10 nm or even 8 nm.

3. The light emitting unit according to claim 1, wherein the at least second monochromatic UV-B LED light has a full width half max (FWHM) spectral bandwidth of at least 30 nm, more preferably at least 35 nm, most preferably at least 40 nm.

4. The light emitting unit according to any of the preceding claims, wherein a ratio of light emittance between the at least second UV-B LED and the at least first UV-B LED is more than 2, more preferably more than 2.5, most preferably

around or more than 3.

5. The light emitting unit according to any of preceding claims, comprising
    - at least a second UV-C LED configured for emitting monochromatic UV-C light having a maximum intensity between 217-227 nm, preferably between 220-224 nm, most preferably at 222 nm.

6. The light emitting unit according to any of preceding claims,
    - at least a third UV-C LED configured for emitting monochromatic UV-C light having a maximum intensity between 255-265 nm, preferably between 258-262 nm, most preferably at 260 nm.

7. The light emitting unit according to any of preceding claims, wherein the monochromatic UV-C LED light has a full width half max (FWHM) spectral bandwidth of less than or equal to 20 nm, more preferably less than or equal to 15 nm, most preferably less than or equal to 10 nm or even 8 nm.

8. The light emitting unit according to any of the preceding claims, configured to control a ratio of light emittance between at least one of the UV-B LED and the at least one UV-C LED.

9. The light emitting unit according to any of the preceding claims, comprising at least one visible light LED configured for emitting polychromatic visible light, preferably with wavelengths in the range of 380 nm - 750 nm.

10. The light emitting unit according to any of the preceding claims, configured for not emitting light below 270 nm, except emittance of monochromatic UV-C light in a range of 215-240 nm.

11. The light emitting unit according to claim 9 or 10, configured for emittance of the polychromatic visible light for a first predefined period of time of less than 16 hours per day, and configured for emittance of the monochromatic non-visible UV-B and UV-C light, for a second predefined period time of at least 22 hours per day.

12. The light emitting unit according to any of the preceding claims, comprising at least one light sensor for measuring the light exposure from the light emitting unit.

13. The light emitting unit according to any of the preceding claims, configured to turn off the UV-B LED(s) and/or the UV-C LED(s) when activity is detected in vicinity of the light emitting unit.

14. The light emitting unit according to any one of the preceding claims, comprising a housing, preferably metallic, preferably having cooling fins, the housing accommodating all LEDs of the light emitting unit.

15. A system for any one of a) providing working light, b) reducing the microbial pressure, and c) stimulating the production of natural vitamin D3, in a room for accommodating humans, such as a classroom, a hospital ward, an office space, or an assembly hall, or in an animal farm production facility, the system comprising:
    - at least one of the light emitting units according to any of the preceding claims, and
    - a control system adapted for managing
        - light exposure time, and/or
        - light exposure intensity, such as total light emittance

      in selected wavelength ranges of the at least one light emitting unit.

16. The system of claim 15, comprising at least one light sensor for measuring the light exposure from the at least one light emitting unit.

17. The system according to claim 15 or 16, configured for maintaining emittance of a predefined light exposure intensity in selected wavelength ranges of the light emitting unit(s) based on measurements of the light exposure from the at least one light emitting unit.

18. The system according to any of claims 15 to 17, configured such that the light emitting units only emit UV-C light when humans and/or animals are not present in vicinity of the light emitting unit(s), such as in a corresponding room

containing the light emitting system.

19. The system according to any of claims 15-18, configured to control a ratio of light emittance, such as based on input from sensor(s), between the at least first UV-B LEDs and the at least second UV-B LED(s) such that the ratio of total light emittance of 283 ± 5 nm light relative to total light emittance of 297 ± 5 nm light can be selected, and wherein the system is configured to control a ratio of light emittance, such as based on input from sensor(s), between the at least first UV-B LEDs and the at least first UV-C LED(s) such that the ratio of total light emittance of 297 ± 5 nm light relative to total light emittance of 233 ± 5 nm light can be selected.