6 47.717483
7 47.86979
8 47.917882
{3}
0 22.937859
1 28.030306
2 35.981915
3 40.556262
4 41.21356
5 41.457589
6 41.708421
7 41.953298
8 42.124991
{4}
0 41.204322
1 42.03095
2 43.102538
3 43.932267
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5 44.186961
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7 44.402585
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Boundary Surface
Radius of Sky
Data Set (Test Point)

Boundary Surface
Radius of Sky
Data (Test Point)
Test Point
Test Surface

uVSF (Test Point)
uVSF (Surface Avg)
Visible Sky Shape

QUVUE
A tool for uVSF (SkyView Ratio) Analysis

QuVue

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QuVue: A tool for uVSF(SkyView Ratio) Analysis

QuVue is a tool for uVSF(SkyView Ratio) Analysis. It is a new index for measuring visible sky ratios that overcomes the major hurdles of current methods. It calculates the actual three-dimensional projection area of obstacles onto a virtual hemisphere, considering humans' downward view.

QuVue can be used to consult design improvement, please contact us for more information. QuVue is TRADEMARKED and its a free program.

WHAT IS QUVUE ?*

The view to the outside through a window is an important factor for occupants in high density high-rise urban environments. Good views have a positive relationship with occupants' health [28] and productivity [29], and real estate values [30]. In highly dense urban environments, it is important to consider the quantitative aspect of view, due to the lack of attractive scenery and access to the sky [31]. Generally, the quantitative value of view can be measured as the visible sky ratio, which is significantly affected by the arrangement of surrounding obstructions [1]. The amount of visible sky is highly correlated to daylighting availability, and thus is prescribed by building

regulations. However, the detailed requirements have been less frequently discussed than solar access [31]. Thus, in terms of a performance-based building design process, view analysis should be integrated at the early design stages of site planning in order to provide architects with well-defined information and flexibility in the subsequent design phases, and ultimately improve occupant satisfaction.

The authors' previous research on this topic categorized the evaluation methods of quantitative visible sky into three different approaches: 1) 2D projection, 2) 3D sky segmentation, and 3) DF-based methods [14]. The major limitations of these methods include: 1) inaccuracy originating from distortion during the 2D projection process, 2) an inability to include the downward view via spherical ray-tracing, and 3) a dependency upon the sky model, geographical location, orientation of observation surface, the sun's position, and material properties and form of the surroundings (see Table 1 and Fig. 2). To overcome these limitations, uVSF was developed to calculate the visible sky ratio, using a computational numerical model. The uVSF algorithm generates a set of boundary surfaces to enclose an obstructing building by tracing the vertexes of the surrounding buildings, and creates intersection curves between the hemisphere