

BRNO UNIVERSITY OF TECHNOLOGY

VYSOKÉ UČENÍ TECHNICKÉ V BRNĚ

FACULTY OF CIVIL ENGINEERING

FAKULTA STAVEBNÍ

INSTITUTE OF BUILDING STRUCTURES

ÚSTAV POZEMNÍHO STAVITELSTVÍ

BLOCK OF FLATS IN BRNO

BYTOVÝ DŮM, BRNO

DAYLIGHTING AND SUN EXPOSURE ASSESSMENT

BACHELOR'S THESIS

BAKALÁŘSKÁ PRÁCE

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BRNO 2024

Room 2.07

Daylight Visualizer

Calculation on zones

Project name: untitled
Simulation type: Daylight Factor
Daylight Visualizer version: 3.1

Select Country

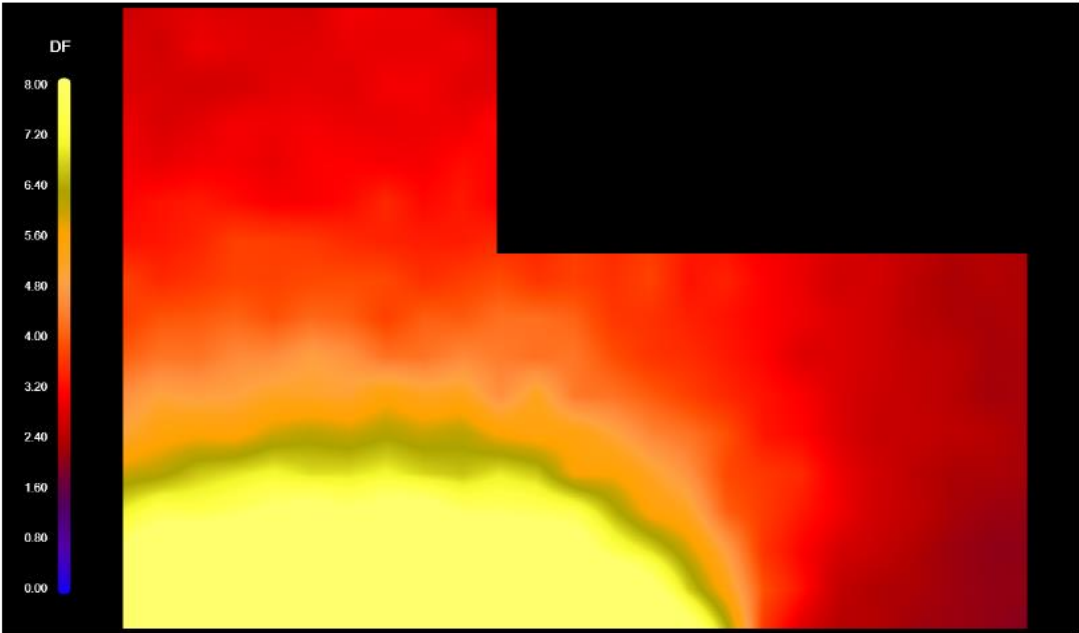
Czech Republic

Select Report Options

- ☒ EN17037
- ☒ Active House

EN17037 For Czech Republic the target daylight factors (D_T) are 2.0% (300 lux), 3.4% (500 lux) and 5.0% (750 lux). The minimum daylight factor target (D_{TM}) is 0.7%

Zone 1



Average	D	5.05%
Median	D	3.64%
Minimum	D	1.98%
Maximum	D	18.73%
Uniformity 1	D_{min}/D_{avg}	0.3923
Uniformity 2	D_{min}/D_{max}	0.1059

EN17037

$F_{plane, \%} \geq 0.7\% D_{TM}$	100%	Pass	(≥95%)
$F_{plane, \%} \geq 2.0\% D_T$	100%	Pass	(≥50%)
$F_{plane, \%} \geq 3.4\% D_T$	56%	Pass	(≥50%)
$F_{plane, \%} \geq 5.0\% D_T$	31%	Fail	(<50%)

Active House

$F_{plane, \%} \geq 2.0\% D_T$	100%
C1	Pass (≥70)
C2	Pass (≥60)
C3	Pass (≥50)
C4	Pass (≥40)

Room 2.07

Daylight Visualizer

Calculation on zones

Project name: untitled
Simulation type: Daylight Factor
Daylight Visualizer version: 3.1

Select Country

Czech Republic

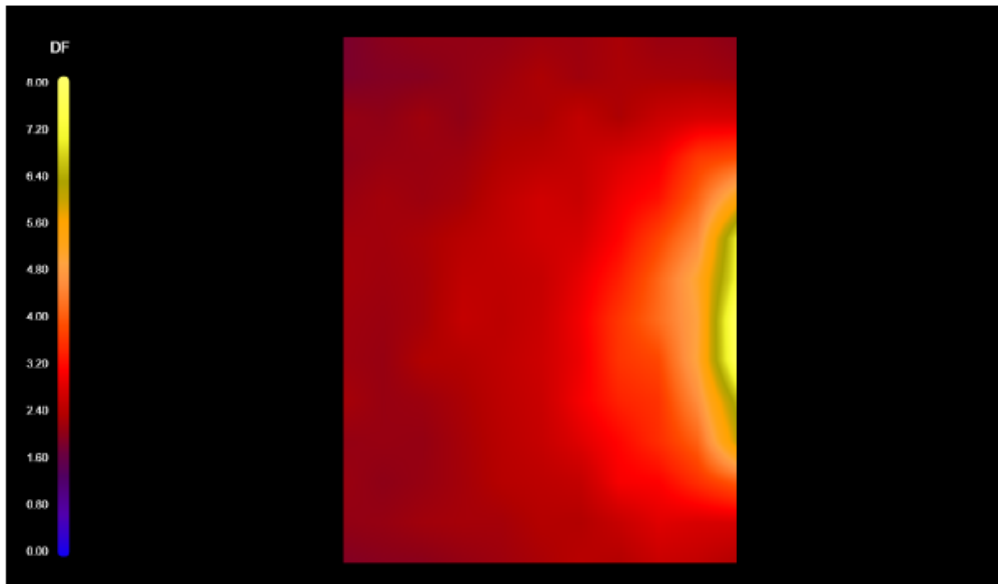
Select Report Options

- ☒ EN17037
☒ Active House

EN17037 For Czech Republic the target daylight factors (D_T) are 2.0% (300 lux), 3.4% (500 lux) and 5.0% (750 lux). The minimum daylight factor target (D_{TM}) is 0.7% (100 lux). The standard is available for purchase from the National Standardization Body in your country.

Active House For Czech Republic the target daylight factor is 2.0%.

Zone 1



Average	D	2.81%
Median	D	2.41%
Minimum	D	1.88%
Maximum	D	7.82%
Uniformity 1	D_{min}/D_{avg}	0.6670
Uniformity 2	D_{min}/D_{max}	0.2399

EN17037

$F_{plane, \%} \geq 0.7\% D_{TM}$	100%	Pass ($\geq 95\%$)
$F_{plane, \%} \geq 2.0\% D_T$	97%	Pass ($\geq 50\%$)

$F_{plane, \%} \geq 3.4\% D_T$	18%	Fail ($< 50\%$)
$F_{plane, \%} \geq 5.0\% D_T$	5%	Fail ($< 50\%$)

Active House

$F_{plane, \%} \geq 2.0\% D_T$	97%
C1	Pass (≥ 70)
C2	Pass (≥ 60)
C3	Pass (≥ 50)
C4	Pass (≥ 40)

Room 2.12

Daylight Visualizer

Calculation on zones

Project name: untitled
Simulation type: Daylight Factor
Daylight Visualizer version: 3.1

Select Country

Czech Republic

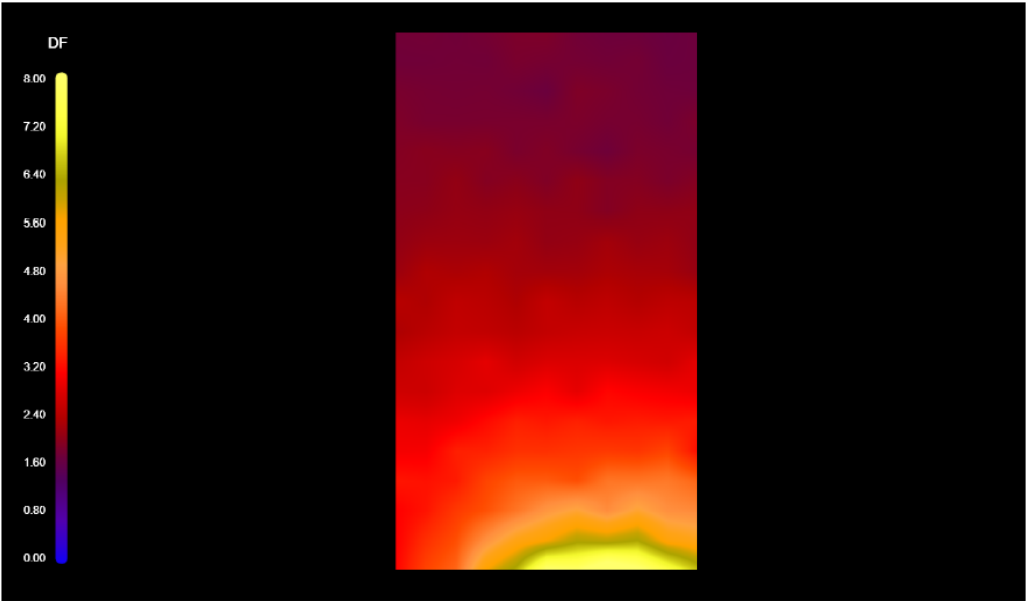
Select Report Options

- ☒ EN17037
- ☒ Active House

EN17037 For Czech Republic the target daylight factors (D_T) are 2.0% (300 lux), 3.4% (500 lux) and 5.0% (750 lux). The minimum daylight factor target (D_{TM}) is 0.7% (100 lux). The standard is available for purchase from the National Standardization Body in your country.

Active House For Czech Republic the target daylight factor is 2.0% (300 lux). The Active House specifications 3.0 are available [here](#).

Zone 1



Average	D	2.88%
Median	D	2.44%
Minimum	D	1.72%
Maximum	D	8.83%
Uniformity 1	D_{min}/D_{avg}	0.5968
Uniformity 2	D_{min}/D_{max}	0.1944

EN17037

$F_{plane, \%} \geq 0.7\% D_{TM}$ | 100% Pass (≥95%)

$F_{plane, \%} \geq 2.0\% D_T$	71% Pass (≥50%)
$F_{plane, \%} \geq 3.4\% D_T$	22% Fail (<50%)
$F_{plane, \%} \geq 5.0\% D_T$	7% Fail (<50%)

Active House

$F_{plane, \%} \geq 2.0\% D_T$	71%
C1	Pass (≥70)
C2	Pass (≥60)
C3	Pass (≥50)
C4	Pass (≥40)

Room 3.06

Daylight Visualizer

Calculation on zones

Project name: untitled
Simulation type: Daylight Factor
Daylight Visualizer version: 3.1

Select Country

Czech Republic

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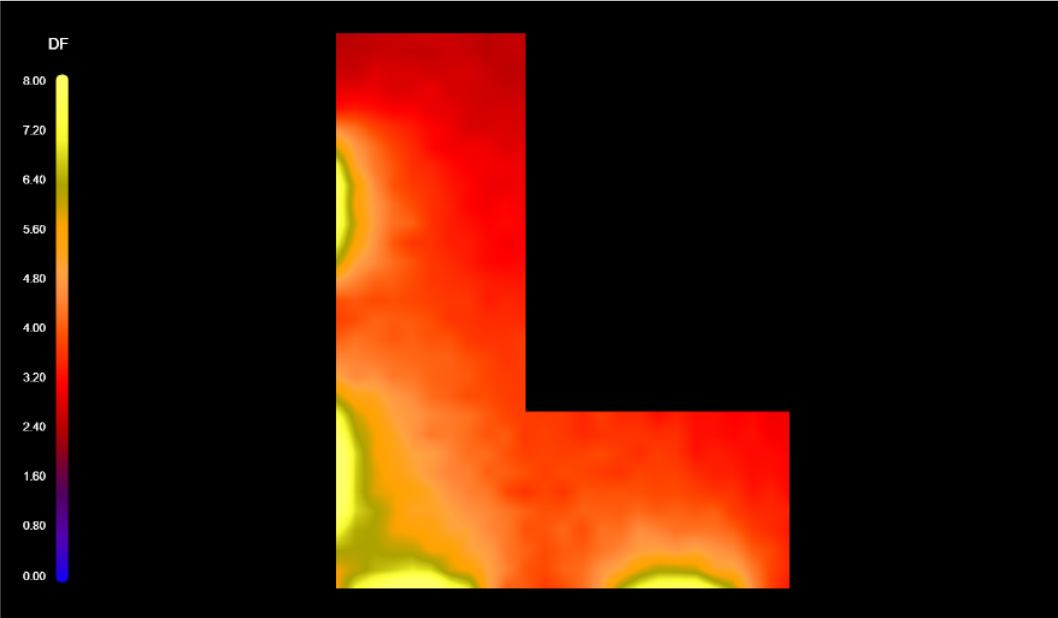
Select Report Options

- ☒ EN17037
- ☒ Active House

EN17037 For Czech Republic the target daylight factors (D_T) are 2.0% (300 lux), 3.4% (500 lux) and 5.0% (750 lux). The minimum daylight factor target (D_{TM}) is 0.7% (100 lux). The standard is available for purchase from the National Standardization Body in your country.

Active House For Czech Republic the target daylight factor is 2.0%.

Zone 1



Average	D	4.21%
Median	D	3.90%
Minimum	D	2.40%
Maximum	D	9.01%
Uniformity 1	D_{min}/D_{avg}	0.5709
Uniformity 2	D_{min}/D_{max}	0.2667

EN17037

$F_{plane, \%} \geq 0.7\% D_{TM}$	100%	Pass (≥95%)
$F_{plane, \%} \geq 2.0\% D_T$	100%	Pass (≥50%)

$F_{plane, \%} \geq 3.4\% D_T$	74%	Pass (≥50%)
$F_{plane, \%} \geq 5.0\% D_T$	19%	Fail (<50%)

Active House

$F_{plane, \%} \geq 2.0\% D_T$	100%
C1	Pass (≥70)
C2	Pass (≥60)
C3	Pass (≥50)
C4	Pass (≥40)

Room 4.04

Daylight Visualizer

Calculation on zones

Project name: untitled
Simulation type: Daylight Factor
Daylight Visualizer version: 3.1

Select Country

Czech Republic

▼

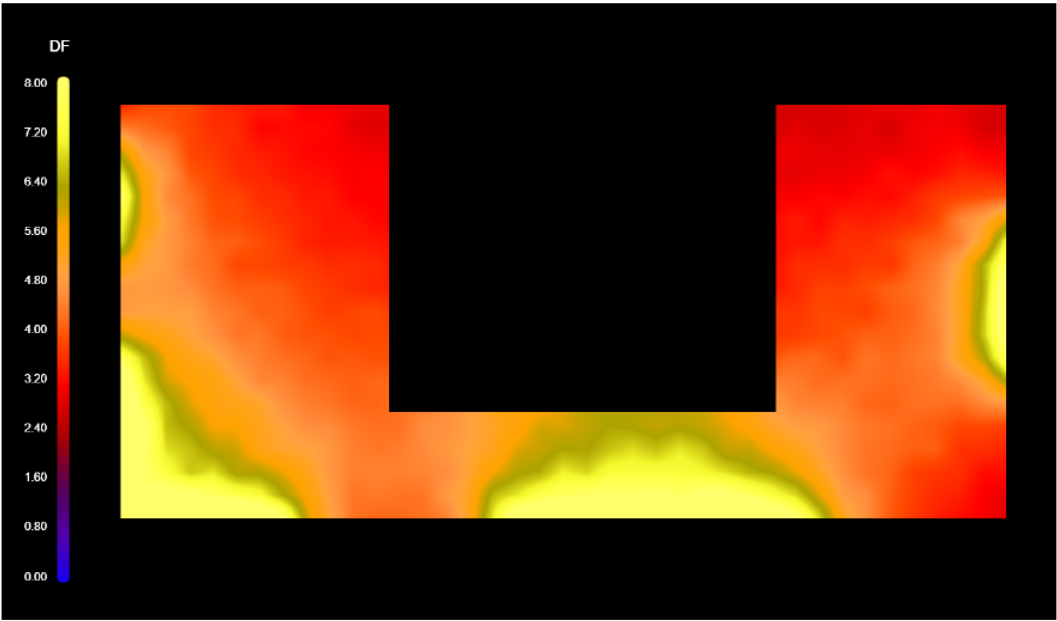
Select Report Options

- ☒ EN17037
- ☒ Active House

EN17037 For Czech Republic the target daylight factors (D_T) are 2.0% (300 lux), 3.4% (500 lux) and 5.0% (750 lux). The minimum daylight factor target (D_{TM}) is 0.7% (100 lux). The standard is available for purchase from the National Standardization Body in your country.

Active House For Czech Republic the target daylight factor is 2.0%.

Zone 1



Average	D	4.86%
Median	D	4.29%
Minimum	D	2.73%
Maximum	D	10.56%
Uniformity 1	D_{min}/D_{avg}	0.5620
Uniformity 2	D_{min}/D_{max}	0.2586

EN17037

$F_{plane, \%} \geq 0.7\% D_{TM}$	100%	Pass (≥95%)
$F_{plane, \%} \geq 2.0\% D_T$	100%	Pass (≥50%)

$F_{plane,\%} \geq 3.4\%$	D_T	82%	Pass ($\geq 50\%$)
$F_{plane,\%} \geq 5.0\%$	D_T	33%	Fail ($< 50\%$)

Active House

$F_{plane,\%} \geq 2.0\%$	D_T	100%	
	C1	Pass (≥ 70)	
	C2	Pass (≥ 60)	
	C3	Pass (≥ 50)	
	C4	Pass (≥ 40)	