

# EN 12464 Report

## Audit Header

Project	ugr_reference_room
Project Revision	5
Job ID	job_radiosity
Job Hash	ad2a56240c936103628e504b329e78d4f7e5fc45955cbea3c325695ee87592e2
Solver Version	0.2.0
Git Commit	unknown
Photometry Hashes	{'asset_1': '245f0cc1b86391d18aabaa1a3e8ffb98667b0c568deef18406298e763fc7ee57'}
Coordinate Convention	Local luminaire frame: +Z up, nadir is -Z; C=0 toward +X, C=90 toward +Y
Units	{'angles': 'deg', 'illuminance': 'lux', 'length': 'm', 'luminous_flux': 'lm', 'luminous_intensity': 'cd'}

## Inputs

Room	UGR Reference Room
Dimensions	6.0 x 8.0 x 3.0 m
Floor reflectance	0.2
Wall reflectance	0.5
Ceiling reflectance	0.7

## Luminaire Schedule

Rotation/Aim	LLF
{'type': 'euler_zyx', 'euler_deg': (0.0, 0.0, 0.0), 'aim': None, 'up': None, 'matrix': None}	1.0

## Per-Grid Statistics

No per-grid stats.

## Calculation Tables

No calculation tables available.

## Zone Compliance Tables

No zone compliance data available.

## Worst-Case Summary

global_worst_min_lux	None
global_worst_uniformity_ratio	None

global_highest_ugr	29.55489560744117
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Compliance

pass_fail_reasons	[]
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UGR Summary

UGR Worst Case	29.55489560744117
UGR Views	1

	view_dir	ugr
	[1.0, 0.0, 0.0]	26.511836

UGR Debug Appendix

mode	default_grid
observer	(2.0, 2.0) +X
max_ugr	29.55489560744117
top_n	2

luminance_est	position_index
3964.6000591699394	2.091270959852448
4195.759135635339	1.9907180065867436

Assumptions

A1	Coordinate convention: local luminaire frame +Z up, nadir -Z; Type C C=0 toward +X, C=90 toward
A2	Supported photometric types: Type C only.
A3	TILT ordering: base photometry interpolation -> TILT factor in local gamma frame -> luminaire/world
A4	TILT factor lookup uses gamma + luminaire tilt_deg offset; out-of-range angles are clamped.
A5	Radiosity uses diffuse reflectance model with iterative convergence.
A6	Specular reflectance is treated in direct-only pathways; radiosity secondary bounce is diffuse-only.
A7	Material transmittance is currently not included in radiosity energy exchange.
A8	UGR view results use explicit observer/view definitions from glare_views.
A9	UGR excludes luminaires behind observer view direction and uses a simplified Guth position-index
A10	UGR luminance/solid-angle terms use luminous opening dimensions for apparent area estimation.
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M11	TILT applied: no
M12	TILT application angle: gamma (vertical angle)
M13	Units contract: {'angles': 'deg', 'illuminance': 'lux', 'length': 'm', 'luminous_flux': 'lm', 'luminous_intensi
M14	Occlusion mode: disabled
M15	Supported photometric types: Type C only.
M16	Backend version: cpu@0.2.0

### Photometry Warnings

asset/luminaire	message
asset_1	Missing recommended [MANUFAC] keyword.
asset_1	Missing recommended [LUMCAT] keyword.