General information

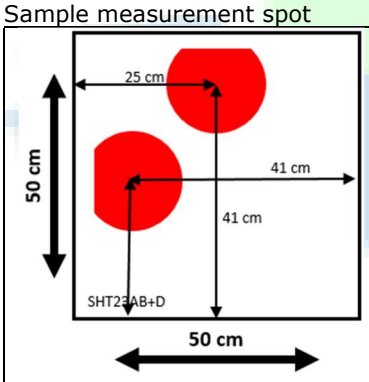
Client	Shandong glass tech industrial co.,ltd
Client address	No 63, haier road, qingdao , Shandong 266000, China
Measurement date	9/1/2024, 11/1/2024
Laboratory	WUR LightLab
Operator	BB(Transvision, IS-SA, PerkinElmer Lambda950)
Equipment	Hemispherical transmittance: Transvision Perpendicular transmittance: PerkinElmer Lambda950 Hortiscatter: IS-SA
Measurement norm	Conform NEN 2675:2018+C1
Measurement conditions	The measurements have been carried out at an ambient temperature of 15-25ºC and a relative air humidity of 40-60%
Metrological traceability	Calibration of equipment with metrological traceable reference materials
Reliability of results	Standard deviation (StdDev) of all measurement results is conform requirements in NEN2675:2018+C1, with a maximum allowed StdDev of ±1%-point for hemispherical transmittance, ±5%-point for Hortiscatter and ±0.2%-point for perpendicular transmittance.
Report made by	BB
Report controlled by	VM

Sample information

Client ID	*WUR ID*	*Size [mm]*	*Remarks*
4mm low iron diffused 70 haze 2AR	SHT23A	500 x 500 x4	
4mm low iron diffused 50 haze 2AR	SHT23B	500 x 500 x4	
4mm low iron Diffused 20 haze 2AR	SHT23D	500 x 500 x4	

Sample preparation Conform NEN 2675:2018+C1

Sample measurement spot



Measurement spot

Measurements are carried out on the samples delivered by the Client as described above. It is the responsibility of the client to select representative samples for a material batch.

Measurements are carried out on a randomly chosen spot on the sample as indicated at the left. It is the responsibility of the Client to deliver uniform samples.

Test results

Mean values hemispherical transmittance and Hortiscatter in % for all orientations (NEN 2675:2018+C1)

	Hemispherical transmittance	*Hortiscatter*
Uncertainty in %-points	*±0.5%*	*±5%*
4mm low iron diffused 70 haze 2AR	88.4	37
4mm low iron diffused 50 haze 2AR	90.5	14
4mm low iron Diffused 20 haze 2AR	90.4	12

Mean values perpendicular transmittance for UV, PAR, NIR and Solar in % for all orientations (NEN 2675:2018+C1)

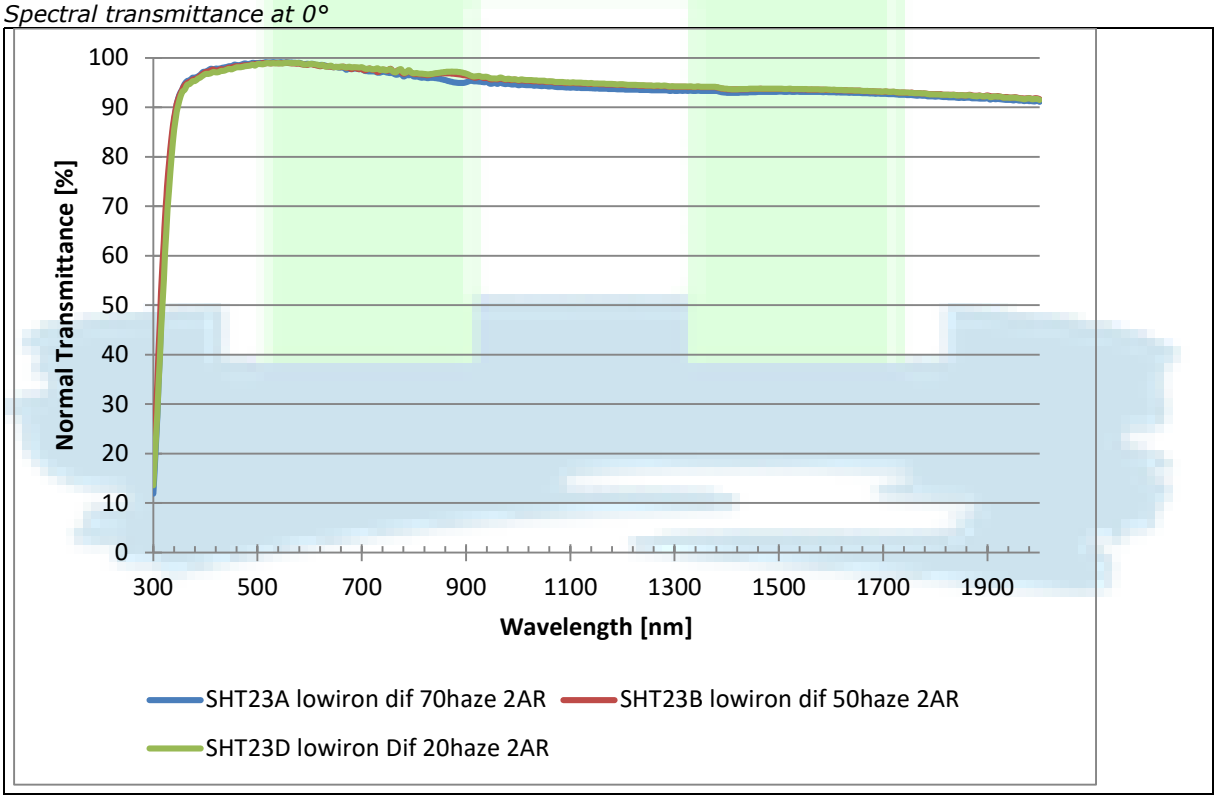
	UV transmittance perpendicular	*PAR transmittance perpendicular*	*NIR transmittance perpendicular*	*Solar transmittance perpendicular*
Uncertainty in %-points	*±0.5%*	*±0.5%*	*±0.5%*	*±0.5%*
4mm low iron diffused 70 haze 2AR	89.0	98.4	94.9	96.2
4mm low iron diffused 50 haze 2AR	89.5	98.4	95.7	96.5
4mm low iron Diffused 20 haze 2AR	87.8	98.2	95.8	96.5

Mean values angular transmittance in % for all orientations (NEN 2675:2018+C1)

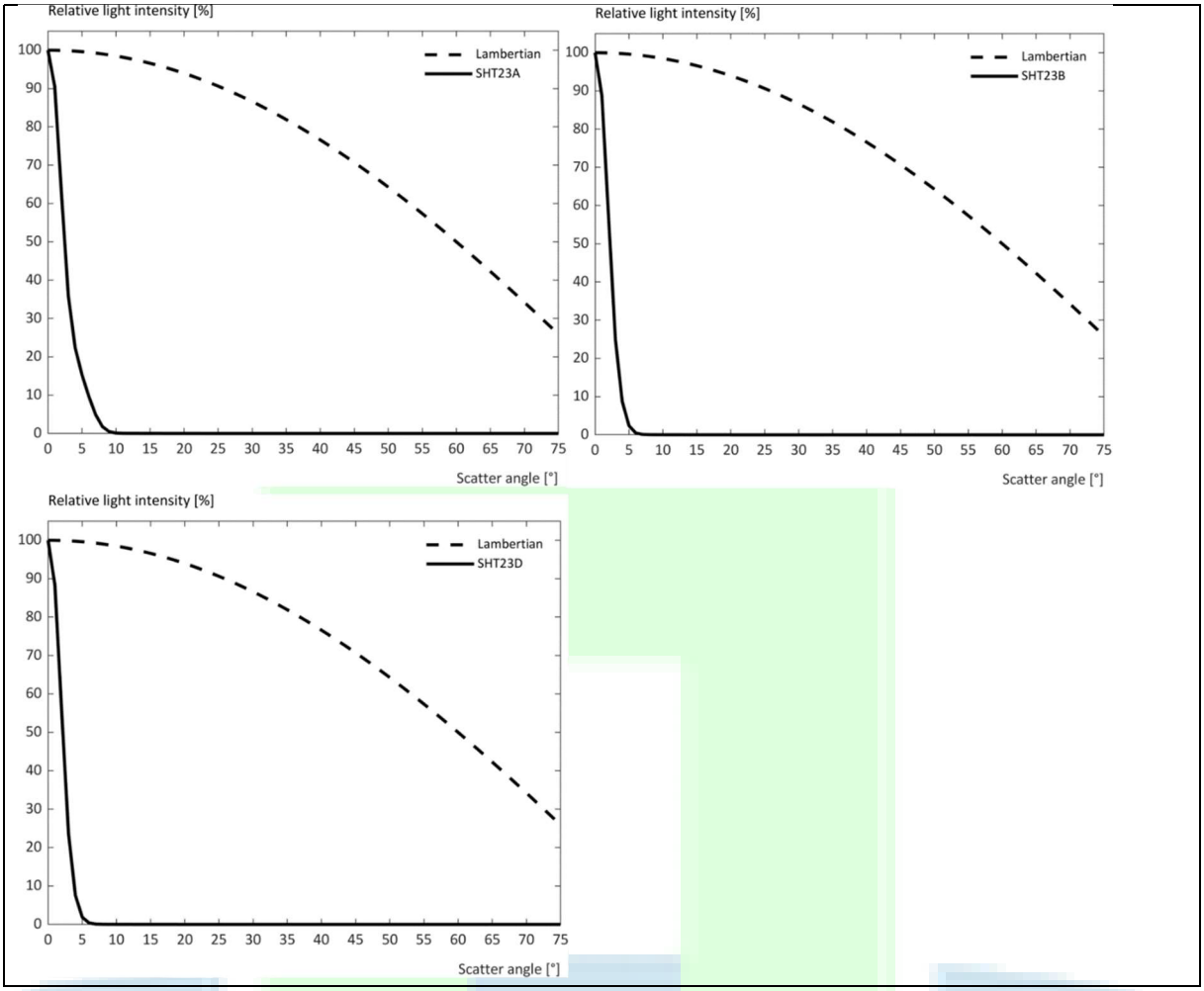
Angle of incidence	*0°*	*15°*	*30°*	*40°*	*45°*	*50°*	*60°*	*75°*
4mm low iron diffused 70 haze 2AR	98.4	98.2	97.8	97.3	96.7	94.6	84.2	59.7
4mm low iron diffused 50 haze 2AR	98.4	98.3	98.0	97.6	97.3	96.2	91.3	62.2
4mm low iron Diffused 20 haze 2AR	98.2	98.2	98.0	97.5	96.9	96.1	91.4	61.9

Figures

Spectral transmittance at 0°



Hortiscatter



Disclaimer

© 2024 Wageningen, Foundation Stichting Wageningen Research (WR), research institute Wageningen Plant Research. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of WR, research institute Wageningen Plant Research, WUR LightLab.

The Foundation WR is not responsible for any damage caused by using the content of this report.

Location of WUR LightLab

Stichting Wageningen Research, Wageningen Plant Research, WUR LightLab
WUR Klima (building number 109)
Bornsesteeg 48
6708 PE Wageningen
The Netherlands
lightlab@wur.nl

WUR LightLab is accredited as ISO 17025 Test Laboratory (registration no. L655) to carry out measurements under NEN 2675:2018+C1