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www.bcrc.be

**Interuniversity Institute for Silicates, soils and Materials
Test and Research laboratory**

Non-profit-making association



Accreditation N° : 32-Test
according to ISO 17025

TEST REPORT N° 2007B COU 2868

Including 3 pages + 18 annex

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Mons, Mars 19th, 2007

REQUESTED BY :

Ms Mairy
GLAVERBEL S.A.
Bruxelles
BELGIQUE

REFERENCE OF THE REQUEST : E-mail 16/02/2007

CONCERNED MANUFACTURER:

GLAVERBEL GROUP
AGC FLAT GLASS EUROPE from the 7th September 2007
CHAUSSEE DE LA HULPE, 166
B-1170 BRUXELLES
BELGIQUE

NUMBER OF SAMPLES AND IDENTIFICATION : See page 2. PLANIBEL

PURPOSE OF THE REQUESTED : Spectrometric properties according to EN 410
(τ_v , τ_e , ρ_v & ρ_e).

SAMPLES RECEIVED ON : 26/08/05, 27/04/06, 22/11/06

TESTING DATE : 29/08/05, 28/04/06, 02/05/06, 5/12/06

REMARKS : - * Test under accreditation
- This report is based on INISMa Reports 101.106, 2005BCOU 2555AC2,
2006BCOU 2822/1C3



Notified body (Id.N°1174)
according to ART.18 of the « Construction Products Directive » CPD 89/106/EEC

DESCRIPTION OF THE MATERIAL

Name of the applicant	GLAVERBEL GROUP AGC FLAT GLASS EUROPE from the 7th September 2007 CHAUSSEE DE LA HULPE, 166 B-1170 BRUXELLES BELGIQUE
Production site (EN 572-9)	see GLAVERBEL product description
Commercial name of the product	PLANIBEL
Customer's references	/
Internal reference	CCOU1001, CCOU2555, CCOU 2822/1
Sampling	under responsibility of the applicant
Sampling information	traceability of the samples is under responsibility of the applicant
Number of samples	9
Glass Substrate	Clear and tinted float glass (EN 572-2)
Samples' dimensions	40 x 40 mm and 100 x 100 mm
Nominal Thickness	6 mm

INSTRUMENTS DESCRIPTION (*)

	For emissivity	For optical properties
Spectrophotometer	PerkinElmer PARAGON 1000	PerkinElmer LAMDA 19
Type	Single Beam (FTIR)	Double Beam
Reflectance accessory	PerkinElmer	
Type of references	SnO ₂ Coated Glass Gold Mirror	Primary surface Ag Mirrors Secondary surface Ag Mirrors
Measurement Responsible	JS	JS

Notes : Uncertainty calculated on emissivity measurement is ± 0.01
Reproducibility on emissivity measurement is estimated to ± 0.005

TESTS AND RESULTS

- Luminous transmission (τ_v) (EN 572-1 – 6.2 and EN 410).
- Luminous reflection (ρ_v) (EN 410).
- Energetic transmission (τ_e) (EN 410).
- Energetic reflection (ρ_e) (EN 410).



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Denomination of glass	Thickness (mm)	Light transmission (τ_v) NBN EN 410			Solar transmission (τ_e) NBN EN 410			Light reflection (ρ_v) NBN EN 410			Solar reflection (ρ_e) NBN EN 410		
		Declared value (1)	Calculated value (2)	Difference $ (1)-(2) $	Declared value (1)	Calculated value (2)	Difference $ (1)-(2) $	Declared value (1)	Calculated value (2)	Difference $ (1)-(2) $	Declared value (1)	Calculated value (2)	Difference $ (1)-(2) $
PLANIBEL CLEARVISION	6,0	0,91	0,91	0,00	0,90	0,90	0,00	0,08	0,08	0,00	0,08	0,08	0,00
PLANIBEL CLEAR	6,0	0,89	0,88	0,01	0,81	0,81	0,00	0,08	0,08	0,00	0,07	0,07	0,00
PLANIBEL LINEA AZZURRA	6,0	0,88	0,88	0,00	0,77	0,77	0,00	0,08	0,08	0,00	0,07	0,07	0,00
PLANIBEL GREEN	6,0	0,73	0,73	0,00	0,44	0,44	0,00	0,07	0,07	0,00	0,05	0,05	0,00
PLANIBEL AZUR	6,0	0,73	0,73	0,00	0,49	0,50	0,01	0,07	0,07	0,00	0,06	0,06	0,00
PLANIBEL DARK BLUE	6,0	0,58	0,58	0,00	0,41	0,41	0,00	0,06	0,06	0,00	0,05	0,05	0,00
PLANIBEL BRONZE	6,0	0,51	0,50	0,01	0,50	0,50	0,00	0,06	0,05	0,01	0,05	0,05	0,00
PLANIBEL GREY	6,0	0,44	0,43	0,01	0,46	0,46	0,00	0,05	0,05	0,00	0,05	0,05	0,00
PLANIBEL PRIVABLU	6,0	0,35	0,34	0,01	0,20	0,20	0,00	0,05	0,05	0,00	0,05	0,05	0,00

S. LANGE
Head of Department

Glazing & Components

D. LIBERT
Chief of Laboratory

THIS REPORT CONCERNS ONLY THE SAMPLES SUBMITTED TO TESTING.
 OUR REPORTS ARE VALID ONLY IN FULL TEXT.
 THE FINAL USE OF THE RESULTS IS UNKNOWN TO US.

Identification du vitrage

Vitrage Simple	sans couche
Planibel Clearvision	6 mm
Ug(W/°C.m2)	5.7

Propriétés Lumineuses

	nm	Trans	Refl	nm	Trans	Refl
	380	90.6%	8.5%	580	91.3%	8.1%
	390	91.0%	8.5%	590	91.2%	8.1%
	400	91.3%	8.5%	600	91.2%	8.1%
	410	91.3%	8.4%	610	91.1%	8.1%
	420	91.3%	8.4%	620	91.0%	8.0%
	430	91.2%	8.4%	630	91.0%	8.0%
	440	91.1%	8.3%	640	90.9%	8.0%
	450	91.3%	8.3%	650	90.8%	8.0%
	460	91.4%	8.3%	660	90.8%	8.0%
	470	91.3%	8.3%	670	90.7%	8.0%
	480	91.4%	8.3%	680	90.7%	8.0%
	490	91.5%	8.2%	690	90.7%	8.0%
	500	91.5%	8.2%	700	90.7%	8.0%
	510	91.4%	8.2%	710	90.6%	8.0%
	520	91.5%	8.2%	720	90.5%	8.0%
	530	91.5%	8.2%	730	90.4%	8.9%
	540	91.4%	8.2%	740	90.4%	7.9%
	550	91.5%	8.2%	750	90.1%	7.9%
	560	91.4%	8.1%	760	90.2%	7.9%
	570	91.4%	8.1%	770	90.0%	7.8%
				780	90.0%	7.8%
	Y	x	y	L*	a*	b*
TI	91.3%	0.3125	0.3293	96.5	-0.24	0.03
RI	8.1%	0.3100	0.3268	34.3	-0.11	-0.62

Identification du vitrage

Vitrage Simple	sans couche
Planibel Clearvision	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

nm	Trans	Refl	nm	Trans	Refl
300	11.6%	4.8%	950	88.9%	7.7%
320	57.8%	6.4%	1000	88.9%	7.7%
340	84.2%	8.1%	1050	88.9%	7.6%
360	90.3%	8.6%	1100	88.9%	7.6%
380	90.6%	8.5%	1150	89.0%	7.6%
400	91.3%	8.5%	1200	89.1%	7.6%
420	91.3%	8.4%	1250	89.2%	7.6%
440	91.1%	8.3%	1300	89.4%	7.6%
460	91.4%	8.3%	1350	89.6%	7.6%
480	91.4%	8.3%	1400	89.5%	7.6%
500	91.5%	8.2%	1450	89.9%	7.6%
520	91.5%	8.2%	1500	90.2%	7.6%
540	91.4%	8.2%	1550	90.4%	7.6%
560	91.4%	8.1%	1600	90.5%	7.6%
580	91.3%	8.1%	1650	90.4%	7.6%
600	91.2%	8.1%	1700	90.3%	7.6%
620	91.0%	8.0%	1750	90.1%	7.6%
640	90.9%	8.0%	1800	89.9%	7.5%
660	90.8%	8.0%	1850	89.6%	7.5%
680	90.7%	8.0%	1900	89.4%	7.5%
700	90.7%	8.0%	1950	89.2%	7.4%
720	90.5%	8.0%	2000	88.9%	7.4%
740	90.4%	7.9%	2050	88.7%	7.4%
760	90.2%	7.9%	2100	88.4%	7.3%
780	90.0%	7.8%	2200	85.1%	7.1%
800	89.7%	7.8%	2300	85.6%	7.1%
850	89.8%	7.8%	2400	85.0%	7.0%
900	89.2%	7.7%	2500	82.5%	6.8%

Te = 90.0%
Re = 7.9%

g = 90.5%
Shading coef. = 1.05

T uv = 81.2%
Ruv = 8.0%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Clear	6 mm
Ug(W/C.m2)	5.7

Propriétés Lumineuses

```

*****
WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
(nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
390 * 84.35 * 7.92 * 7.73 ** 580 * 88.02 * 7.83 * 4.15
400 * 87.46 * 8.15 * 4.40 ** 590 * 87.67 * 7.79 * 4.54
410 * 87.15 * 8.09 * 4.76 ** 600 * 87.32 * 7.75 * 4.93
420 * 86.85 * 8.03 * 5.12 ** 610 * 86.92 * 7.71 * 5.37
430 * 86.83 * 8.00 * 5.17 ** 620 * 86.52 * 7.67 * 5.81
440 * 86.82 * 7.97 * 5.21 ** 630 * 86.09 * 7.62 * 6.28
450 * 87.40 * 7.99 * 4.61 ** 640 * 85.66 * 7.58 * 6.76
460 * 87.98 * 8.02 * 4.01 ** 650 * 85.27 * 7.54 * 7.19
470 * 88.27 * 8.02 * 3.71 ** 660 * 84.88 * 7.50 * 7.62
480 * 88.57 * 8.02 * 3.40 ** 670 * 84.61 * 7.48 * 7.91
490 * 88.74 * 8.02 * 3.24 ** 680 * 84.34 * 7.45 * 8.21
500 * 88.92 * 8.02 * 3.07 ** 690 * 83.94 * 7.41 * 8.65
510 * 88.99 * 8.00 * 3.01 ** 700 * 83.54 * 7.37 * 9.09
520 * 89.06 * 7.99 * 2.95 ** 710 * 83.09 * 7.33 * 9.57
530 * 89.02 * 7.98 * 3.00 ** 720 * 82.65 * 7.29 * 10.06
540 * 88.99 * 7.96 * 3.05 ** 730 * 82.11 * 7.25 * 10.64
550 * 88.95 * 7.94 * 3.11 ** 740 * 81.58 * 7.20 * 11.22
560 * 88.92 * 7.93 * 3.16 ** 750 * 80.95 * 7.15 * 11.90
570 * 88.47 * 7.88 * 3.66 ** 760 * 80.31 * 7.10 * 12.59
*****

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Tl = 88.3 %

Rl = 7.9%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Clear	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
300	0.00	4.75	95.25	950	73.43	6.55	20.02
320	1.20	4.67	94.14	1000	72.80	6.49	20.70
340	38.87	5.35	55.78	1050	72.55	6.46	20.99
360	77.11	7.47	15.42	1100	72.59	6.45	20.95
380	81.24	7.71	11.05	1150	72.81	6.46	20.73
400	87.46	8.15	4.40	1200	73.27	6.47	20.26
420	86.85	8.03	5.12	1250	73.90	6.50	19.59
440	86.82	7.97	5.21	1300	74.83	6.55	18.62
460	87.98	8.02	4.01	1350	75.96	6.62	17.42
480	88.57	8.02	3.40	1400	76.99	6.68	16.33
500	88.92	8.02	3.07	1450	78.49	6.77	14.74
520	89.06	7.99	2.95	1500	79.88	6.86	13.26
540	88.99	7.96	3.05	1550	81.05	6.93	12.02
560	88.92	7.93	3.16	1600	81.87	6.98	11.15
580	88.02	7.83	4.15	1650	82.28	6.99	10.72
600	87.32	7.75	4.93	1700	82.46	7.00	10.55
620	86.52	7.67	5.81	1750	82.40	6.98	10.62
640	85.66	7.58	6.76	1800	82.17	6.95	10.87
660	84.88	7.50	7.62	1850	81.79	6.91	11.30
680	84.34	7.45	8.21	1900	81.57	6.89	11.54
700	83.54	7.37	9.09	1950	81.68	6.88	11.44
720	82.65	7.29	10.06	2000	81.59	6.87	11.54
740	81.58	7.20	11.22	2050	81.63	6.86	11.51
760	80.31	7.10	12.59	2100	81.63	6.85	11.52
780	79.27	7.01	13.71	2200	79.16	6.65	14.19
800	78.03	6.92	15.05	2300	79.83	6.68	13.49
850	75.61	6.73	17.67	2400	79.55	6.64	13.82
900	74.55	6.64	18.81	2500	77.01	6.45	16.54

Te = 80.8%
Re = 7.3%

g = 83.8%
Shading coef. = 0.96

T uv = 50.6%
Ruv = 6.2%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Linea Azzurra	6 mm
Ug(W/°C.m2)	5.7

Propriétés Lumineuses

```

*****
* WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
* (nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
* 390 * 84.74 * 7.95 * 7.31 ** 580 * 88.01 * 7.83 * 4.17
* 400 * 88.30 * 8.22 * 3.48 ** 590 * 87.39 * 7.77 * 4.85
* 410 * 87.90 * 8.15 * 3.95 ** 600 * 86.76 * 7.71 * 5.53
* 420 * 87.51 * 8.08 * 4.41 ** 610 * 86.13 * 7.65 * 6.23
* 430 * 87.63 * 8.06 * 4.31 ** 620 * 85.49 * 7.59 * 6.92
* 440 * 87.75 * 8.05 * 4.21 ** 630 * 84.74 * 7.52 * 7.74
* 450 * 88.36 * 8.07 * 3.57 ** 640 * 83.99 * 7.45 * 8.56
* 460 * 88.97 * 8.10 * 2.93 ** 650 * 83.23 * 7.39 * 9.38
* 470 * 89.23 * 8.10 * 2.67 ** 660 * 82.48 * 7.32 * 10.20
* 480 * 89.50 * 8.10 * 2.40 ** 670 * 81.64 * 7.25 * 11.11
* 490 * 89.59 * 8.09 * 2.32 ** 680 * 80.80 * 7.18 * 12.02
* 500 * 89.69 * 8.08 * 2.24 ** 690 * 79.80 * 7.10 * 13.10
* 510 * 89.66 * 8.06 * 2.28 ** 700 * 78.80 * 7.02 * 14.18
* 520 * 89.64 * 8.04 * 2.31 ** 710 * 77.96 * 6.96 * 15.09
* 530 * 89.48 * 8.01 * 2.51 ** 720 * 77.12 * 6.89 * 15.99
* 540 * 89.32 * 7.99 * 2.70 ** 730 * 76.19 * 6.82 * 16.99
* 550 * 89.10 * 7.95 * 2.95 ** 740 * 75.27 * 6.75 * 17.98
* 560 * 88.88 * 7.92 * 3.20 ** 750 * 74.40 * 6.69 * 18.91
* 570 * 88.44 * 7.87 * 3.68 ** 760 * 73.54 * 6.63 * 19.84
*****

```

TI = 88.3 %
RI = 7.9%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Linea Azzurra	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

```

*****
* WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
* (nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
* 300 * 0.02 * 4.75 * 95.23 ** 950 * 62.91 * 5.90 * 31.19
* 320 * 1.49 * 4.67 * 93.84 ** 1000 * 62.22 * 5.85 * 31.93
* 340 * 43.33 * 5.53 * 51.14 ** 1050 * 61.89 * 5.82 * 32.29
* 360 * 79.53 * 7.66 * 12.81 ** 1100 * 61.84 * 5.81 * 32.36
* 380 * 81.18 * 7.70 * 11.12 ** 1150 * 62.13 * 5.81 * 32.05
* 400 * 88.30 * 8.22 * 3.48 ** 1200 * 62.48 * 5.82 * 31.70
* 420 * 87.51 * 8.08 * 4.41 ** 1250 * 63.58 * 5.87 * 30.54
* 440 * 87.75 * 8.05 * 4.21 ** 1300 * 65.23 * 5.96 * 28.82
* 460 * 88.97 * 8.10 * 2.93 ** 1350 * 66.77 * 6.04 * 27.19
* 480 * 89.50 * 8.10 * 2.40 ** 1400 * 68.42 * 6.13 * 25.45
* 500 * 89.69 * 8.08 * 2.24 ** 1450 * 70.52 * 6.25 * 23.23
* 520 * 89.64 * 8.04 * 2.31 ** 1500 * 72.53 * 6.36 * 21.11
* 540 * 89.32 * 7.99 * 2.70 ** 1550 * 74.48 * 6.48 * 19.04
* 560 * 88.88 * 7.92 * 3.20 ** 1600 * 75.48 * 6.53 * 17.99
* 580 * 88.01 * 7.83 * 4.17 ** 1650 * 76.28 * 6.58 * 17.14
* 600 * 86.76 * 7.71 * 5.53 ** 1700 * 76.77 * 6.60 * 16.64
* 620 * 85.49 * 7.59 * 6.92 ** 1750 * 76.67 * 6.58 * 16.75
* 640 * 83.99 * 7.45 * 8.56 ** 1800 * 76.24 * 6.54 * 17.22
* 660 * 82.48 * 7.32 * 10.20 ** 1850 * 76.11 * 6.52 * 17.37
* 680 * 80.80 * 7.18 * 12.02 ** 1900 * 75.84 * 6.49 * 17.67
* 700 * 78.80 * 7.02 * 14.18 ** 1950 * 75.83 * 6.48 * 17.69
* 720 * 77.12 * 6.89 * 15.99 ** 2000 * 75.61 * 6.46 * 17.93
* 740 * 75.27 * 6.75 * 17.98 ** 2050 * 75.67 * 6.45 * 17.87
* 760 * 73.54 * 6.63 * 19.84 ** 2100 * 75.89 * 6.46 * 17.65
* 780 * 71.69 * 6.50 * 21.81 ** 2200 * 73.02 * 6.25 * 20.72
* 800 * 70.14 * 6.39 * 23.47 ** 2300 * 74.43 * 6.32 * 19.25
* 850 * 67.33 * 6.19 * 26.48 ** 2400 * 73.95 * 6.27 * 19.78
* 900 * 64.51 * 6.01 * 29.48 ** 2500 * 72.08 * 6.13 * 21.78
*****

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Te = 76.6%
Re = 7.0%

g = 80.7%
Shading coef. = 0.93

T uv = 52.7%
Ruv = 6.4%

Identification du vitrage

Vitrage Simple	sans couche
Planibel Green	6 mm
Ug(W/C.m2)	5.7

Propriétés Lumineuses

```

*****
WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
(nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
390 * 50.26 * 5.69 * 44.05 ** 580 * 71.47 * 6.61 * 21.93
400 * 63.86 * 6.42 * 29.73 ** 590 * 69.51 * 6.47 * 24.02
410 * 64.32 * 6.42 * 29.27 ** 600 * 67.55 * 6.34 * 26.12
420 * 64.78 * 6.42 * 28.80 ** 610 * 65.25 * 6.19 * 28.57
430 * 65.26 * 6.43 * 28.31 ** 620 * 62.94 * 6.05 * 31.01
440 * 65.74 * 6.44 * 27.82 ** 630 * 60.58 * 5.90 * 33.52
450 * 69.01 * 6.63 * 24.37 ** 640 * 58.21 * 5.77 * 36.03
460 * 72.27 * 6.82 * 20.91 ** 650 * 55.78 * 5.64 * 38.58
470 * 73.89 * 6.92 * 19.20 ** 660 * 53.36 * 5.51 * 41.13
480 * 75.50 * 7.01 * 17.49 ** 670 * 50.88 * 5.38 * 43.74
490 * 76.15 * 7.04 * 16.80 ** 680 * 48.40 * 5.27 * 46.33
500 * 76.81 * 7.07 * 16.12 ** 690 * 45.89 * 5.15 * 48.95
510 * 77.06 * 7.08 * 15.87 ** 700 * 43.39 * 5.05 * 51.56
520 * 77.31 * 7.08 * 15.61 ** 710 * 41.08 * 4.95 * 53.96
530 * 76.86 * 7.03 * 16.11 ** 720 * 38.78 * 4.87 * 56.35
540 * 76.41 * 6.99 * 16.60 ** 730 * 36.61 * 4.79 * 58.60
550 * 75.43 * 6.91 * 17.66 ** 740 * 34.44 * 4.71 * 60.85
560 * 74.45 * 6.83 * 18.72 ** 750 * 32.58 * 4.65 * 62.76
570 * 72.96 * 6.72 * 20.33 ** 760 * 30.73 * 4.60 * 64.67
*****

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Tl = 72.6 %

Rl = 6.7%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Green	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
300	0.00	4.75	95.25	950	14.68	4.22	81.10
320	0.00	4.67	95.33	1000	13.77	4.20	82.03
340	0.43	4.59	94.98	1050	13.38	4.19	82.43
360	27.13	4.90	67.98	1100	13.40	4.18	82.42
380	36.66	5.14	58.20	1150	13.77	4.18	82.05
400	63.86	6.42	29.73	1200	14.36	4.18	81.46
420	64.78	6.42	28.80	1250	15.45	4.18	80.37
440	65.74	6.44	27.82	1300	17.01	4.20	78.79
460	72.27	6.82	20.91	1350	19.15	4.23	76.63
480	75.50	7.01	17.49	1400	22.03	4.27	73.70
500	76.81	7.07	16.12	1450	25.36	4.33	70.31
520	77.31	7.08	15.61	1500	29.07	4.42	66.52
540	76.41	6.99	16.60	1550	32.50	4.50	63.00
560	74.45	6.83	18.72	1600	35.40	4.58	60.02
580	71.47	6.61	21.93	1650	37.35	4.64	58.02
600	67.55	6.34	26.12	1700	38.42	4.66	56.92
620	62.94	6.05	31.01	1750	38.82	4.67	56.51
640	58.21	5.77	36.03	1800	38.82	4.66	56.52
660	53.36	5.51	41.13	1850	38.83	4.66	56.52
680	48.40	5.27	46.33	1900	38.76	4.66	56.60
700	43.39	5.05	51.56	1950	39.50	4.66	55.83
720	38.78	4.87	56.35	2000	39.87	4.67	55.46
740	34.44	4.71	60.85	2050	40.77	4.69	54.53
760	30.73	4.60	64.67	2100	41.72	4.72	53.57
780	27.13	4.50	68.37	2200	43.30	4.76	51.93
800	24.51	4.43	71.06	2300	44.29	4.78	50.93
850	19.35	4.31	76.33	2400	45.29	4.81	49.91
900	16.77	4.26	78.97	2500	46.28	4.83	48.89

Te = 43.6%
Re = 5.4%

g = 56.5%
Shading coef. = 0.65

T uv = 15.1%
Ruv = 4.8%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Azur	6 mm
Ug(W/C.m2)	5.7

Propriétés Lumineuses

```

*****
* WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
* (nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
390 * 66.51 * 6.61 * 26.88 ** 580 * 70.81 * 6.56 * 22.63
400 * 76.71 * 7.29 * 16.00 ** 590 * 68.61 * 6.41 * 24.98
410 * 76.54 * 7.25 * 16.22 ** 600 * 66.41 * 6.27 * 27.32
420 * 76.36 * 7.21 * 16.43 ** 610 * 64.82 * 6.16 * 29.02
430 * 76.36 * 7.18 * 16.46 ** 620 * 63.22 * 6.06 * 30.72
440 * 76.36 * 7.16 * 16.48 ** 630 * 61.13 * 5.94 * 32.93
450 * 78.09 * 7.26 * 14.65 ** 640 * 59.04 * 5.81 * 35.15
460 * 79.81 * 7.37 * 12.82 ** 650 * 57.39 * 5.72 * 36.89
470 * 80.15 * 7.37 * 12.47 ** 660 * 55.74 * 5.63 * 38.64
480 * 80.49 * 7.38 * 12.13 ** 670 * 54.70 * 5.57 * 39.73
490 * 80.07 * 7.33 * 12.60 ** 680 * 53.66 * 5.51 * 40.83
500 * 79.65 * 7.28 * 13.07 ** 690 * 52.38 * 5.45 * 42.18
510 * 78.82 * 7.20 * 13.98 ** 700 * 51.10 * 5.38 * 43.52
520 * 77.99 * 7.13 * 14.88 ** 710 * 49.25 * 5.29 * 45.46
530 * 77.33 * 7.07 * 15.60 ** 720 * 47.39 * 5.20 * 47.40
540 * 76.67 * 7.01 * 16.32 ** 730 * 45.43 * 5.12 * 49.45
550 * 76.25 * 6.97 * 16.78 ** 740 * 43.48 * 5.04 * 51.49
560 * 75.83 * 6.92 * 17.25 ** 750 * 41.60 * 4.96 * 53.44
570 * 73.32 * 6.74 * 19.94 ** 760 * 39.73 * 4.89 * 55.39
*****

```

TI = 73.4 %

RI = 6.8%

Identification du vitrage

Vitrage Simple	sans couche
Planibel Azur	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

```

*****
WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
(nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
300 * 0.00 * 4.75 * 95.25 ** 950 * 22.07 * 4.34 * 73.59
320 * 0.39 * 4.67 * 94.94 ** 1000 * 20.92 * 4.31 * 74.77
340 * 4.71 * 4.60 * 90.68 ** 1050 * 20.42 * 4.29 * 75.29
360 * 49.20 * 5.73 * 45.07 ** 1100 * 20.44 * 4.29 * 75.27
380 * 56.30 * 6.03 * 37.66 ** 1150 * 20.56 * 4.28 * 75.16
400 * 76.71 * 7.29 * 16.00 ** 1200 * 21.46 * 4.29 * 74.25
420 * 76.36 * 7.21 * 16.43 ** 1250 * 22.65 * 4.31 * 73.04
440 * 76.36 * 7.16 * 16.48 ** 1300 * 24.38 * 4.33 * 71.28
460 * 79.81 * 7.37 * 12.82 ** 1350 * 26.97 * 4.39 * 68.65
480 * 80.49 * 7.38 * 12.13 ** 1400 * 29.84 * 4.45 * 65.71
500 * 79.65 * 7.28 * 13.07 ** 1450 * 33.31 * 4.54 * 62.15
520 * 77.99 * 7.13 * 14.88 ** 1500 * 37.08 * 4.65 * 58.27
540 * 76.67 * 7.01 * 16.32 ** 1550 * 40.40 * 4.75 * 54.85
560 * 75.83 * 6.92 * 17.25 ** 1600 * 43.36 * 4.86 * 51.79
580 * 70.81 * 6.56 * 22.63 ** 1650 * 45.02 * 4.91 * 50.06
600 * 66.41 * 6.27 * 27.32 ** 1700 * 45.92 * 4.94 * 49.13
620 * 63.22 * 6.06 * 30.72 ** 1750 * 46.30 * 4.95 * 48.75
640 * 59.04 * 5.81 * 35.15 ** 1800 * 46.44 * 4.95 * 48.61
660 * 55.74 * 5.63 * 38.64 ** 1850 * 46.34 * 4.93 * 48.73
680 * 53.66 * 5.51 * 40.83 ** 1900 * 46.55 * 4.93 * 48.52
700 * 51.10 * 5.38 * 43.52 ** 1950 * 46.93 * 4.94 * 48.13
720 * 47.39 * 5.20 * 47.40 ** 2000 * 47.60 * 4.96 * 47.44
740 * 43.48 * 5.04 * 51.49 ** 2050 * 48.40 * 4.99 * 46.62
760 * 39.73 * 4.89 * 55.39 ** 2100 * 49.44 * 5.02 * 45.54
780 * 36.26 * 4.76 * 58.98 ** 2200 * 49.98 * 5.03 * 44.99
800 * 33.32 * 4.66 * 62.02 ** 2300 * 52.21 * 5.11 * 42.68
850 * 27.12 * 4.48 * 68.40 ** 2400 * 53.25 * 5.14 * 41.61
900 * 23.92 * 4.39 * 71.68 ** 2500 * 52.29 * 5.08 * 42.62
*****

```

Te = 49.9%
Re = 5.6%

g = 61.1%
Shading coef. = 0.70

T uv = 27.0%
Ruv = 5.2%

Identification du vitrage

Vitrage Simple	sans couche
Planibel Dark Blue	6 mm
Ug(W/°C.m2)	5.7

Propriétés Lumineuses

WL (nm)	* TOTAL * TRANS	* TOTAL * REFLE	* TOTAL * ABSORB	**	WL (nm)	* TOTAL * TRANS	* TOTAL * REFLE	* TOTAL * ABSORB	**
390	* 61.89	* 6.33	* 31.79	**	580	* 52.41	* 5.51	* 42.08	**
400	* 72.39	* 6.98	* 20.63	**	590	* 49.36	* 5.36	* 45.28	**
410	* 71.99	* 6.92	* 21.09	**	600	* 46.31	* 5.22	* 48.46	**
420	* 71.59	* 6.87	* 21.54	**	610	* 45.52	* 5.18	* 49.30	**
430	* 71.18	* 6.81	* 22.01	**	620	* 44.72	* 5.14	* 50.14	**
440	* 70.77	* 6.76	* 22.47	**	630	* 42.78	* 5.06	* 52.16	**
450	* 72.10	* 6.83	* 21.07	**	640	* 40.85	* 4.98	* 54.17	**
460	* 73.43	* 6.90	* 19.67	**	650	* 40.16	* 4.95	* 54.89	**
470	* 72.44	* 6.82	* 20.74	**	660	* 39.47	* 4.92	* 55.61	**
480	* 71.46	* 6.73	* 21.81	**	670	* 40.89	* 4.97	* 54.14	**
490	* 69.36	* 6.58	* 24.06	**	680	* 42.31	* 5.01	* 52.68	**
500	* 67.26	* 6.43	* 26.31	**	690	* 43.35	* 5.05	* 51.60	**
510	* 64.80	* 6.26	* 28.94	**	700	* 44.40	* 5.09	* 50.51	**
520	* 62.33	* 6.10	* 31.56	**	710	* 43.32	* 5.04	* 51.64	**
530	* 61.64	* 6.05	* 32.31	**	720	* 42.24	* 4.99	* 52.77	**
540	* 60.94	* 6.00	* 33.06	**	730	* 40.39	* 4.92	* 54.69	**
550	* 61.61	* 6.03	* 32.36	**	740	* 38.54	* 4.85	* 56.61	**
560	* 62.29	* 6.06	* 31.66	**	750	* 36.67	* 4.78	* 58.54	**
570	* 57.35	* 5.77	* 36.88	**	760	* 34.80	* 4.72	* 60.48	**

Tl = 57.6 %
Rl = 5.8 %

Identification du vitrage

Vitrage Simple	sans couche
Planibel Dark Blue	6 mm
Ug(W/C.m2)	5.7

Propriétés Energétiques

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
300	0.00	4.75	95.25	950	17.31	4.26	78.43
320	1.68	4.67	93.66	1000	16.20	4.23	79.57
340	3.48	4.60	91.92	1050	15.71	4.22	80.07
360	44.28	5.50	50.22	1100	15.46	4.21	80.33
380	51.38	5.77	42.84	1150	15.44	4.20	80.37
400	72.39	6.98	20.63	1200	15.85	4.20	79.95
420	71.59	6.87	21.54	1250	16.78	4.20	79.02
440	70.77	6.76	22.47	1300	18.38	4.22	77.40
460	73.43	6.90	19.67	1350	20.59	4.25	75.16
480	71.46	6.73	21.81	1400	23.33	4.30	72.37
500	67.26	6.43	26.31	1450	26.33	4.36	69.31
520	62.33	6.10	31.56	1500	29.72	4.43	65.85
540	60.94	6.00	33.06	1550	33.13	4.52	62.35
560	62.29	6.06	31.66	1600	35.77	4.59	59.64
580	52.41	5.51	42.08	1650	37.73	4.65	57.62
600	46.31	5.22	48.46	1700	38.71	4.67	56.62
620	44.72	5.14	50.14	1750	38.99	4.68	56.33
640	40.85	4.98	54.17	1800	39.16	4.67	56.17
660	39.47	4.92	55.61	1850	39.34	4.67	55.99
680	42.31	5.01	52.68	1900	39.40	4.67	55.93
700	44.40	5.09	50.51	1950	40.52	4.70	54.78
720	42.24	4.99	52.77	2000	41.24	4.72	54.04
740	38.54	4.85	56.61	2050	42.16	4.74	53.10
760	34.80	4.72	60.48	2100	43.17	4.77	52.06
780	31.45	4.61	63.94	2200	44.23	4.80	50.97
800	28.51	4.53	66.96	2300	46.88	4.89	48.24
850	22.64	4.38	72.98	2400	47.78	4.91	47.32
900	19.50	4.31	76.20	2500	46.64	4.84	48.51

Te = 41.4%
Re = 5.2%

g = 54.9%
Shading coef. = 0.63

T uv = 24.4%
Ruv = 5.1%

Identification du vitrage

Vitrage Simple	sans couche
Planibel Bronze	6 mm
Ug(W/°C.m2)	5.7

Propriétés Lumineuses

```

*****
WL * TOTAL * TOTAL * TOTAL ** WL * TOTAL * TOTAL * TOTAL
(nm) * TRANS * REFLE * ABSORB ** (nm) * TRANS * REFLE * ABSORB
*****
390 * 40.91 * 5.28 * 53.81 ** 580 * 53.15 * 5.55 * 41.30
400 * 48.06 * 5.56 * 46.38 ** 590 * 52.75 * 5.52 * 41.73
410 * 47.55 * 5.51 * 46.94 ** 600 * 52.35 * 5.50 * 42.15
420 * 47.03 * 5.47 * 47.50 ** 610 * 53.20 * 5.53 * 41.27
430 * 45.77 * 5.39 * 48.83 ** 620 * 54.05 * 5.57 * 40.38
440 * 44.51 * 5.32 * 50.17 ** 630 * 53.60 * 5.54 * 40.86
450 * 44.12 * 5.29 * 50.60 ** 640 * 53.16 * 5.51 * 41.33
460 * 43.72 * 5.25 * 51.03 ** 650 * 53.39 * 5.52 * 41.09
470 * 42.84 * 5.20 * 51.96 ** 660 * 53.63 * 5.52 * 40.85
480 * 41.95 * 5.16 * 52.89 ** 670 * 55.78 * 5.62 * 38.60
490 * 41.82 * 5.14 * 53.04 ** 680 * 57.93 * 5.73 * 36.34
500 * 41.69 * 5.12 * 53.19 ** 690 * 59.93 * 5.83 * 34.23
510 * 42.52 * 5.14 * 52.33 ** 700 * 61.94 * 5.94 * 32.12
520 * 43.35 * 5.17 * 51.48 ** 710 * 61.83 * 5.93 * 32.24
530 * 45.72 * 5.25 * 49.03 ** 720 * 61.72 * 5.92 * 32.37
540 * 48.09 * 5.35 * 46.57 ** 730 * 60.84 * 5.86 * 33.30
550 * 51.32 * 5.49 * 43.19 ** 740 * 59.96 * 5.81 * 34.23
560 * 54.55 * 5.64 * 39.81 ** 750 * 58.93 * 5.75 * 35.32
570 * 53.85 * 5.59 * 40.56 ** 760 * 57.89 * 5.69 * 36.41
*****

```

Tl = 49.8 %

Rl = 5.4%



Identification du vitrage

Vitrage Simple	sans couche
Planibel Bronze	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
300	0.00	4.75	95.25	950	47.14	5.12	47.74
320	0.00	4.67	95.33	1000	46.29	5.08	48.63
340	1.44	4.59	93.97	1050	45.65	5.04	49.31
360	24.35	4.83	70.83	1100	45.35	5.02	49.63
380	33.76	5.04	61.19	1150	45.22	5.00	49.77
400	48.06	5.56	46.38	1200	45.49	5.01	49.51
420	47.03	5.47	47.50	1250	46.43	5.04	48.53
440	44.51	5.32	50.17	1300	48.14	5.10	46.77
460	43.72	5.25	51.03	1350	50.33	5.19	44.49
480	41.95	5.16	52.89	1400	52.63	5.28	42.09
500	41.69	5.12	53.19	1450	55.07	5.39	39.54
520	43.35	5.17	51.48	1500	57.64	5.51	36.85
540	48.09	5.35	46.57	1550	60.17	5.63	34.20
560	54.55	5.64	39.81	1600	62.22	5.73	32.05
580	53.15	5.55	41.30	1650	63.52	5.79	30.69
600	52.35	5.50	42.15	1700	63.95	5.81	30.24
620	54.05	5.57	40.38	1750	64.11	5.81	30.08
640	53.16	5.51	41.33	1800	63.94	5.79	30.27
660	53.63	5.52	40.85	1850	64.20	5.79	30.01
680	57.93	5.73	36.34	1900	64.56	5.81	29.63
700	61.94	5.94	32.12	1950	65.14	5.83	29.03
720	61.72	5.92	32.37	2000	65.35	5.83	28.82
740	59.96	5.81	34.23	2050	66.08	5.86	28.06
760	57.89	5.69	36.41	2100	66.77	5.89	27.34
780	56.25	5.60	38.15	2200	67.05	5.89	27.06
800	54.18	5.49	40.34	2300	66.70	5.85	27.45
850	51.29	5.33	43.37	2400	66.34	5.81	27.85
900	49.20	5.23	45.58	2500	65.98	5.77	28.24

Te = 49.7%
Re = 5.4%

g = 61.0%
Shading coef. = 0.70

T uv = 14.1%
Ruv = 4.7%

Identification du vitrage

Vitrage Simple	sans couche
Planibel Grey	6 mm
Ug(W/°C.m2)	5.7

Propriétés Lumineuses

WL (nm)	* TOTAL * TRANS	* TOTAL * REFLE	* TOTAL * ABSORB	** WL (nm)	* TOTAL * TRANS	* TOTAL * REFLE	* TOTAL * ABSORB
390	* 45.94 *	* 5.49 *	* 48.57 **	580	* 43.40 *	* 5.12 *	* 51.48
400	* 53.35 *	* 5.82 *	* 40.83 **	590	* 41.93 *	* 5.05 *	* 53.02
410	* 51.60 *	* 5.71 *	* 42.69 **	600	* 40.46 *	* 4.99 *	* 54.55
420	* 49.86 *	* 5.60 *	* 44.54 **	610	* 41.27 *	* 5.01 *	* 53.72
430	* 48.01 *	* 5.49 *	* 46.50 **	620	* 42.07 *	* 5.04 *	* 52.90
440	* 46.15 *	* 5.39 *	* 48.45 **	630	* 41.43 *	* 5.01 *	* 53.57
450	* 45.73 *	* 5.36 *	* 48.91 **	640	* 40.79 *	* 4.98 *	* 54.24
460	* 45.31 *	* 5.32 *	* 49.37 **	650	* 41.57 *	* 5.00 *	* 53.43
470	* 44.20 *	* 5.26 *	* 50.54 **	660	* 42.35 *	* 5.03 *	* 52.62
480	* 43.10 *	* 5.20 *	* 51.70 **	670	* 46.39 *	* 5.18 *	* 48.42
490	* 42.13 *	* 5.15 *	* 52.72 **	680	* 50.44 *	* 5.36 *	* 44.20
500	* 41.17 *	* 5.10 *	* 53.73 **	690	* 54.65 *	* 5.56 *	* 39.80
510	* 40.70 *	* 5.07 *	* 54.23 **	700	* 58.86 *	* 5.77 *	* 35.37
520	* 40.22 *	* 5.04 *	* 54.74 **	710	* 59.50 *	* 5.80 *	* 34.71
530	* 41.58 *	* 5.09 *	* 53.34 **	720	* 60.13 *	* 5.83 *	* 34.04
540	* 42.94 *	* 5.13 *	* 51.93 **	730	* 59.28 *	* 5.78 *	* 34.94
550	* 45.93 *	* 5.24 *	* 48.82 **	740	* 58.44 *	* 5.73 *	* 35.83
560	* 48.93 *	* 5.37 *	* 45.70 **	750	* 57.17 *	* 5.66 *	* 37.17
570	* 46.17 *	* 5.24 *	* 48.60 **	760	* 55.90 *	* 5.59 *	* 38.51

Tl = 43.3 %

Rl = 5.1%

Identification du vitrage

Vitrage Simple	sans couche
Planibel Grey	6 mm
Ug(W/C.m2)	5.7

Propriétés Energétiques

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
300	0.00	4.75	95.25	950	42.55	4.94	52.52
320	0.00	4.67	95.33	1000	41.17	4.88	53.96
340	1.47	4.59	93.94	1050	40.36	4.84	54.80
360	28.52	4.94	66.54	1100	39.72	4.80	55.47
380	38.54	5.21	56.25	1150	39.32	4.78	55.90
400	53.35	5.82	40.83	1200	39.26	4.77	55.97
420	49.86	5.60	44.54	1250	40.09	4.79	55.12
440	46.15	5.39	48.45	1300	41.84	4.85	53.32
460	45.31	5.32	49.37	1350	44.18	4.93	50.89
480	43.10	5.20	51.70	1400	46.39	5.01	48.60
500	41.17	5.10	53.73	1450	48.71	5.10	46.19
520	40.22	5.04	54.74	1500	51.38	5.21	43.42
540	42.94	5.13	51.93	1550	54.03	5.32	40.65
560	48.93	5.37	45.70	1600	56.22	5.42	38.36
580	43.40	5.12	51.48	1650	57.49	5.47	37.04
600	40.46	4.99	54.55	1700	58.03	5.49	36.47
620	42.07	5.04	52.90	1750	58.28	5.50	36.22
640	40.79	4.98	54.24	1800	58.17	5.48	36.35
660	42.35	5.03	52.62	1850	58.56	5.49	35.95
680	50.44	5.36	44.20	1900	58.98	5.51	35.51
700	58.86	5.77	35.37	1950	59.95	5.55	34.50
720	60.13	5.83	34.04	2000	60.37	5.56	34.07
740	58.44	5.73	35.83	2050	61.30	5.60	33.10
760	55.90	5.59	38.51	2100	61.14	5.58	33.28
780	53.55	5.46	40.99	2200	63.19	5.67	31.14
800	51.51	5.36	43.12	2300	63.69	5.68	30.63
850	47.10	5.15	47.75	2400	64.19	5.69	30.11
900	44.58	5.03	50.39	2500	64.70	5.70	29.60

Te = 45.7%
Re = 5.2%

g = 58.1%
Shading coef. = 0.67

T uv = 16.2%
Ruv = 4.8%



Identification du vitrage

Vitrage Simple	sans couche
Planibel PrivaBlue	6 mm
Ug(W/°C.m2)	5.7

Propriétés Lumineuses

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
390	42.65	5.35	52.00	580	27.32	4.59	68.09
400	53.68	5.84	40.49	590	23.91	4.50	71.58
410	52.13	5.73	42.14	600	20.50	4.43	75.07
420	50.58	5.63	43.78	610	19.40	4.40	76.20
430	49.00	5.54	45.46	620	18.30	4.38	77.32
440	47.41	5.45	47.14	630	16.57	4.34	79.08
450	48.80	5.49	45.71	640	14.85	4.31	80.84
460	50.18	5.54	44.28	650	14.22	4.30	81.48
470	49.43	5.49	45.08	660	13.58	4.29	82.13
480	48.68	5.44	45.88	670	14.60	4.30	81.10
490	46.72	5.34	47.94	680	15.61	4.31	80.08
500	44.76	5.25	49.99	690	16.22	4.31	79.46
510	42.12	5.13	52.75	700	16.83	4.32	78.85
520	39.48	5.02	55.51	710	16.09	4.30	79.61
530	38.78	4.98	56.24	720	15.35	4.29	80.36
540	38.09	4.95	56.96	730	14.03	4.27	81.70
550	38.73	4.96	56.31	740	12.71	4.25	83.04
560	39.37	4.98	55.65	750	11.44	4.23	84.33
570	33.35	4.77	61.88	760	10.17	4.22	85.62

Tl = 33.8 %

Rl = 4.8%

Identification du vitrage

Vitrage Simple	sans couche
Planibel PrivaBlue	6 mm
Ug(W/°C.m2)	5.7

Propriétés Energétiques

WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB	WL (nm)	TOTAL TRANS	TOTAL REFLE	TOTAL ABSORB
300	0.02	4.75	95.22	950	1.82	4.13	94.06
320	0.52	4.67	94.81	1000	1.62	4.12	94.27
340	0.34	4.59	95.07	1050	1.47	4.11	94.42
360	22.93	4.79	72.28	1100	1.35	4.10	94.55
380	31.62	4.97	63.40	1150	1.36	4.09	94.55
400	53.68	5.84	40.49	1200	1.38	4.09	94.54
420	50.58	5.63	43.78	1250	1.72	4.08	94.20
440	47.41	5.45	47.14	1300	2.18	4.07	93.74
460	50.18	5.54	44.28	1350	2.90	4.07	93.04
480	48.68	5.44	45.88	1400	4.15	4.06	91.79
500	44.76	5.25	49.99	1450	5.53	4.06	90.41
520	39.48	5.02	55.51	1500	7.31	4.07	88.63
540	38.09	4.95	56.96	1550	9.23	4.07	86.69
560	39.37	4.98	55.65	1600	11.24	4.09	84.67
580	27.32	4.59	68.09	1650	12.63	4.09	83.27
600	20.50	4.43	75.07	1700	13.35	4.10	82.55
620	18.30	4.38	77.32	1750	13.60	4.09	82.31
640	14.85	4.31	80.84	1800	13.66	4.09	82.25
660	13.58	4.29	82.13	1850	13.92	4.08	82.00
680	15.61	4.31	80.08	1900	14.02	4.08	81.90
700	16.83	4.32	78.85	1950	14.79	4.08	81.13
720	15.35	4.29	80.36	2000	15.62	4.09	80.30
740	12.71	4.25	83.04	2050	16.49	4.09	79.42
760	10.17	4.22	85.62	2100	17.55	4.10	78.35
780	8.20	4.19	87.61	2200	19.50	4.12	76.38
800	6.67	4.18	89.15	2300	22.20	4.15	73.65
850	3.85	4.15	92.00	2400	22.85	4.15	72.99
900	2.85	4.14	93.01	2500	23.76	4.16	72.08

Te = 20.1%
Re = 4.5%

g = 39.1%
Shading coef. = 0.45

T uv = 13.0%
Ruv = 4.7%