



RTTV Summary Sheet

Notes:
 ER = External Reflectance
 SC = Shading Coefficient
 VLT = Visible Light Transmittance
 Window and skylight data should represent the major proportion of its use in the development.

PNAP
APP-156
 Appendix **A**

Address: <u>138 Carpenter Road</u>		BD Ref. No.
Building Type:	Residential	
RTTV calculated by	<input checked="" type="checkbox"/> 1. Registered Professional Engineers <input type="checkbox"/> 2. Architect <input type="checkbox"/> 3. Others, please specify:	
No. of Storeys (Residential Units)	<u>19</u>	

Table 1

Deemed to Satisfy RTTV _{Wall}									
Facade Orientation Facing	E	N	W	S					
Average Absorptivity	0.68	0.83	0.69	0.64					
Average Window to Wall Ratio	0.54	0.24	0.54	0.64					
Shading Coefficient of Glazing	0.47/0.65	0.47/0.65	0.47/0.65	0.47/0.65					
Average Shading Coefficient of Facade	0.56	0.5	0.56	0.53					
Visible Light Transmittance	50/52 %	50/52 %	50/52 %	50/52 %	%	%	%	%	%
External Reflectance	17/4 %	17/4 %	17/4 %	17/4 %	%	%	%	%	%

Table 2

RTTV _{Wall}																	
Facade Orientation Facing		E				N				W				S			
Wall Orientation Factor		1.072				0.79				1.131				0.975			
Total External Wall Area (Residential Units)		1407.74 m ²				664.62 m ²				1407.74 m ²				979.06 m ²			
Total Window Factor		763 m ² = 0.54				161.13 m ² = 0.24				755.33 m ² = 0.54				627.55 m ² = 0.64			
Heat Conduction	Opaque Wall	2.74 W/m ²				4.46 W/m ²				2.95 W/m ²				1.73 W/m ²			
	Window	1.32 W/m ²				0.30 W/m ²				1.38 W/m ²				1.17 W/m ²			
Window	Glass Type	<input type="checkbox"/> Reflective	Area= m ²	SC=	VLT= %	ER= %	<input type="checkbox"/> Reflective	Area= m ²	SC=	VLT= %	ER= %	<input type="checkbox"/> Reflective	Area= m ²	SC=	VLT= %	ER= %	
		<input checked="" type="checkbox"/> Tinted	Area= 367 m ²	SC= 0.47	VLT= 52 %	ER= 17 %	<input checked="" type="checkbox"/> Tinted	Area= 133 m ²	SC= 0.47	VLT= 52 %	ER= 17 %	<input checked="" type="checkbox"/> Tinted	Area= 364 m ²	SC= 0.47	VLT= 52 %	ER= 17 %	
		<input checked="" type="checkbox"/> Clear	Area= 396 m ²	SC= 0.65	VLT= 50 %	ER= 4 %	<input checked="" type="checkbox"/> Clear	Area= 29 m ²	SC= 0.65	VLT= 50 %	ER= 4 %	<input checked="" type="checkbox"/> Clear	Area= 392 m ²	SC= 0.65	VLT= 50 %	ER= 4 %	
	Double Glazing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
External Shading	Overhang	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
	Sidefin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Solar Radiation through Glazing		10.36 W/m ²				3.99 W/m ²				10.82 W/m ²				10.81 W/m ²			
Average Absorptivity		0.68				0.85				0.69				0.64			
RTTV _{Wall} at each facade		14.42 W/m ²				8.75 W/m ²				15.74 W/m ²				13.72 W/m ²			
Overall RTTV _{Wall}		13.65 W/m ²															

Table 3

RTTV _{Roof}											
Roof Orientation Factor		2.16									
Total Roof Area (Residential Units)		196.2 m ²									
Total Skylight Area		0 m ²									
Heat Conduction	Roof	2.89 W/m ²									
	Skylight	0 W/m ²									
Skylight	Glass Type	<input type="checkbox"/> Reflective	Area= m ²	SC=	VLT= %	ER= %	<input type="checkbox"/> Reflective	Area= m ²	SC=	VLT= %	ER= %
		<input type="checkbox"/> Tinted	Area= m ²	SC=	VLT= %	ER= %	<input type="checkbox"/> Tinted	Area= m ²	SC=	VLT= %	ER= %
		<input type="checkbox"/> Clear	Area= m ²	SC=	VLT= %	ER= %	<input type="checkbox"/> Clear	Area= m ²	SC=	VLT= %	ER= %
Double Glazing		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
External Shading		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Solar Radiation through Glazing		0 W/m ²									
Average Absorptivity (roof)		0.7									
Overall RTTV _{Roof}		2.89 W/m ²									