



November 30, 2015

Vertilux Limited  
Mr. Alexis Perry  
7300 NW 35th Terrace  
Miami, FL 33122

Subject: Project 90098, Out-of-Scope Profile Study Test Results

Dear Alexis:

Thank you for choosing UL Environment and its ISO/IEC 17025 accredited testing laboratories for your analytical needs. Please find attached your out-of-scope profile study test report. The results for the "Polyscreen Vision 365 SRC-FR, Metalized Reflective Coating" sample tested are compared to the criteria below:

	Environment	TVOC	Formaldehyde	Total Aldehydes	CREL/TLV Issues
GREENGUARD	Office	✓	✓	✓	---
GREENGUARD Gold	Office	✓	✓	✓	---
	Classroom	✓	✓	✓	---

✓ - meets criteria; ✓\* - meets within 25%; X - over criteria

For more technical information about the GREENGUARD Certification programs, please visit, [www.UL.com/GG](http://www.UL.com/GG).

Sincerely,

Allyson M. McFry  
Chemistry Laboratory Director

Attachment: Report No. 90098-26



GREENGUARD CERTIFICATION PROGRAM OUT-OF-SCOPE PROFILE STUDY TEST REPORT	
SAMPLE INFORMATION	
<b>Customer:</b>	Vertilux Limited
<b>Sample Identification:</b>	UL Environment's 90098-O0220AA
<b>Product Description:</b>	WINDOW TREATMENTS; Polyscreen Vision 365 SRC-FR, Metalized Reflective Coating (one-sided area = 0.0870 m <sup>2</sup> )
<b>Product Loading:</b>	1.01 m <sup>2</sup> /m <sup>3</sup>
<b>Test Period:</b>	11/18/2015 - 11/19/2015
<b>Test Conditions:</b>	1.00 ± 0.05 ACH 50% RH ± 5% RH 23° C ± 1° C
<b>Test Description:</b>	The product was received by UL Environment on 11/10/15 as packaged and shipped by the customer. The package was visually inspected and stored in a controlled environment immediately following sample check-in. Just prior to loading, the product was unpackaged and prepared to expose the top surface side only. The sample was placed inside the environmental chamber, and tested according to the specified protocol.
<b>ASTM Test Method:</b>	ASTM D 5116 (0.09 ± 0.007 m <sup>3</sup> chamber)

RESULTS				
Analyte	24 Hour Emission Factor (µg/m <sup>2</sup> •hr)	168 Hour Predicted Concentration		
		GREENGUARD	GREENGUARD Gold	
			Office	Classroom
TVOC	1,240	0.005 mg/m <sup>3</sup>	0.005 mg/m <sup>3</sup>	0.002 mg/m <sup>3</sup>
Formaldehyde	BQL	< 0.001 ppm	< 0.001 ppm	< 0.001 ppm
Total Aldehydes	2.5	< 0.001 ppm	< 0.001 ppm	< 0.001 ppm

MODELING PREDICTED CONCENTRATION PARAMETERS								
Certification Program	Environment Basis	Product Usage	Surface Area (m <sup>2</sup> )	Room Volume (m <sup>3</sup> )	ACH (1/hr)	Assumed Decay Parameters		
						k <sub>T</sub>	k <sub>F</sub>	k <sub>A</sub>
<b>GREENGUARD and GREENGUARD Gold Office</b>	CDPH/EHLB/Standard Method V1.1	window treatment	1.49	30.6	0.68	0.020	0.005	0.038
<b>GREENGUARD Gold Classroom</b>	CDPH/EHLB/Standard Method V1.1	window treatment	4.46	231	0.82	0.020	0.005	0.038

IDENTIFIED INDIVIDUAL VOLATILE ORGANIC COMPOUNDS AT 24 ELAPSED EXPOSURE HOURS		
CAS Number	Compound Identified	Emission Factor (µg/m <sup>2</sup> •hr)
111-90-0	Ethanol, 2-(2-ethoxyethoxy) (Diethylene glycol monoethyl ether) <sup>†</sup>	615
112-34-5	Ethanol, 2-(2-butoxyethoxy)	414

IDENTIFIED INDIVIDUAL VOLATILE ORGANIC COMPOUNDS AT 24 ELAPSED EXPOSURE HOURS		
CAS Number	Compound Identified	Emission Factor (µg/m <sup>2</sup> •hr)
111-76-2	Ethanol, 2-butoxy <sup>†</sup>	173
13429-07-7	2-Propanol, 1-(2-methoxypropoxy)- [Dipropylene glycol monomethyl ether (Salt/Mix)]	171
872-50-4	2-Pyrrolidinone, 1-methyl <sup>†</sup>	126
20324-32-7	2-Propanol, 1-(2-methoxy-1-methylethoxy)	81.3
121-44-8	Triethylamine (N,N-Diethylethanamine) <sup>†</sup>	35.8
108-61-2	1-Propanol, 2,2'-oxybis-	29.5
98-86-2	Acetophenone (Ethanone, 1-phenyl) <sup>†</sup>	12.2
540-97-6	Cyclohexasiloxane, dodecamethyl	3.3
541-02-6	Cyclopentasiloxane, decamethyl	2.8

\*Indicates NIST/EPA/NIH best library match only based on retention time and mass spectral characteristics.

<sup>†</sup>Denotes quantified using multipoint authentic standard curve. Other VOCs quantified relative to toluene.

TARGET LIST ALDEHYDES AT 24 ELAPSED EXPOSURE HOURS		
CAS Number	Compound Identified	Emission Factor (µg/m <sup>2</sup> •hr)
4170-30-3	2-Butenal	BQL
75-07-0	Acetaldehyde	BQL
100-52-7	Benzaldehyde	BQL
5779-94-2	Benzaldehyde, 2,5-dimethyl	BQL
529-20-4	Benzaldehyde, 2-methyl	BQL
620-23-5 / 104-87-0	Benzaldehyde, 3- and/or 4-methyl	BQL
123-72-8	Butanal	BQL
590-86-3	Butanal, 3-methyl	BQL
50-00-0	Formaldehyde	BQL
66-25-1	Hexanal	BQL
110-62-3	Pentanal	BQL
123-38-6	Propanal	<b>2.5</b>

Analyses based on EPA Compendium Method TO-17 and ASTM D 6196 for VOCs by thermal desorption followed by gas chromatography/mass spectrometry (TD/GC/MS), and EPA Method TO-11A and ASTM D 5197 for selected aldehydes by high performance liquid chromatography (HPLC).

BQL denotes below quantifiable level of 0.04 µg based on a standard 18 L air collection volume for TVOC and individual VOCs and 0.1 µg based on a standard 45 L air collection volume for formaldehyde and total aldehydes.

This test data is provided for general informational purposes only. The data indicate the level of emissions from the designated product and how they compare to the emission criteria of the GREENGUARD and GREENGUARD Gold standards. This data does not imply that the product has been qualified to meet the requirements of the GREENGUARD Certification program nor does it imply that the product is or is not certified by the GREENGUARD Certification program.

UL Environment, Inc. is an ISO/IEC 17025 Accredited IAQ Firm. This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation AT-1297.