

# **SIGNIFY NETHERLANDS B.V.**

## **EFFICACY TEST REPORT**

### **SCOPE OF WORK**

Non-standardized Test Method: Microbial Reduction Rate Test

### **PRODUCT – Germicidal UV Light**

- MODEL** – -1. Philips UV-C disinfection upper air luminaire, ceiling mount, Philips PL-S TUV lamp included: 4x9W  
2. Philips UV-C disinfection upper air luminaire, wall mount, Philips T5 TUV lamp included: 25W

### **REPORT NUMBER**

104510702COL-001

### **ISSUE DATE**

12/31/20

### **PAGES**

5

### **DOCUMENT CONTROL NUMBER**

GFT-OP-10h (6-July-2017)

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**SECTION 1 EFFICACY STUDY SUMMARY**

<b>Client</b>		<b>SIGNIFY NETHERLANDS B.V.</b> <b>Philipsweg 1</b> <b>6026 RA Maarheeze</b> <b>Netherlands</b>
<b>Project No.</b>		G104510702
<b>Sample</b>	Product	Germicidal UV Light Fixtures
	Model	Philips UV-C disinfection upper air luminaire, ceiling mount, Philips PL-S TUV lamp included: 4x9W Philips UV-C disinfection upper air luminaire, wall mount, Philips T5 TUV lamp included: 25W
<b>Procedural</b>	Engineer	Nicholas Unger
	Reviewer	Lee Moomaw
	Dates Tested	12/7/2020 – 12/29/2020
	Report Date	12/31/2020
<b>Standard</b>	Non-standardized Test Method: Microbial Reduction Rate Test	
<b>Testing Facility</b>	Intertek Microbiological Laboratory 1717 Arlingate Ln. Columbus, OH 43228 United States	

**SECTION 2 TEST PROCEDURE**

The test chamber measured 10’x10’x10’ (1000 cubic ft) room and a microbial suspension was aspirated into the chamber. Air samples were taken from the test chamber once the unit was turned on and sampling at client specified intervals (2, 5, 10, 15, 20, 25, 30, 45 mins) and then plated. The process was then repeated without the test unit in the chamber to provide the natural decay results. All plates were incubated overnight and viral growth on the test plate was compared to that of the natural decay control. Air sampling took place using an SKC BioStage Single-stage impactor for 30 seconds at 12L/min (.424 cubic feet/min).

**SECTION 3 ORGANISMS**

Organism Name	Organism Type	ATCC Number	Source
Phi X174 bacteriophage	small, non-enveloped virus	13706-B1	Carolina Bioscience

**SECTION 3 EQUIPMENT**

Equipment Type	Equipment No.	Calibration Due Date
Micropipette	CE 2587	6/12/2021
Incubator	CE 2381	7/7/2021
Incubator	CE2427	7/7/2021
Balance	CE 1882	7/7/2021
Autoclave	CE 2376	Verify Before Use
Centrifuge	CE 2382	For Reference Only
Chamber	CE 1149	For Reference Only
Collision Nebulizer	CE 1139	For Reference Only
Refrigerator	CE 1157	For Reference Only
Pump	CE 1137	For Reference Only
Stopwatch	SW013	07/07/2021
Ambient Temperature/RH	CE 1179	For Reference Only

**SECTION 4 MEDIA AND REAGENTS**

Type	Manufacturer	Lot No	Expiration Date
Nutrient Agar	DIFCO	9346039	10/31/2024
PBS	Fisher	192736	08/01/2022

**SECTION 5 SAMPLE ACQUISITION**

<b>Acquisition method</b>	Shipped to Intertek
<b>Description</b>	Germicidal UV Light Fixtures
<b>Model Number</b>	Philips UV-C disinfection upper air luminaire, ceiling mount, Philips PL-S TUV lamp included: 4x9W Philips UV-C disinfection upper air luminaire, wall mount, Philips T5 TUV lamp included: 25W
<b>Arrival date</b>	11/13/2020
<b>Condition</b>	New
<b>Sample Identification No.</b>	COL2011131556-001 and COL2011131556-002
<b>Development Level</b>	Production

**SECTION 6 SUMMARY OF RESULTS**

Fan Speed	Optional Features
160 CFM	Unit does not have an internal fan

Philips UV-C disinfection upper air luminaire, ceiling mount, Philips PL-S TUV lamp included: 4x9W	
Organism Type	Virus
Temperature Min/Max	18°C (64°F)
Humidity Min/Max	43 % RH
Organism Name	<i>Phi-X174</i>
Percent Reduction (10 Minutes)	99.9%

Philips UV-C disinfection upper air luminaire, wall mount, Philips T5 TUV lamp included: 25W	
Organism Type	Virus
Temperature Min/Max	19°C (66°F)
Humidity Min/Max	44% RH
Organism Name	<i>Phi-X174</i>
Percent Reduction (15 Minutes)	99.9%

Test Performed by:



Nicholas Unger  
Staff Engineer  
Columbus Office

Report Approved by:



Lee Moomaw  
Engineering Team Lead  
Columbus Office

**Annex A Test Results:**

Philips UV-C disinfection upper air luminaire, ceiling mount, Philips PL-S TUV lamp included: 4x9W				
Test Parameter		Test Result (PFU)	Natural Decay (PFU)	Reduction %
Organism	Species	<i>Coliphage φX174</i>		---
	ATCC No.	13706-B1		---
	Challenge Concentration	5.0 x 10 <sup>9</sup>		PFU/mL
Samples (min.)	0	TNTC (2628)	TNTC (2628)	--
	2	95	TNTC (2628)	96.4
	5	12	TNTC (2628)	99.5
	10	2	TNTC (2628)	99.9
	15	<1	TNTC (2628)	99.9
	20	<1	TNTC (2628)	99.9
	25	<1	TNTC (2628)	99.9
	30	<1	TNTC (2628)	99.9
	45	<1	TNTC (2628)	99.9
Results	10 Minutes	99.9%		Reduction

Philips UV-C disinfection upper air luminaire, wall mount, Philips T5 TUV lamp included: 25W				
Test Parameter		Test Result (PFU)	Natural Decay (PFU)	Reduction %
Organism	Species	<i>Coliphage φX174</i>		---
	ATCC No.	13706-B1		---
	Challenge Concentration	5.0 x 10 <sup>9</sup>		PFU/mL
Samples (10min.)	0	TNTC (2628)	TNTC (2628)	--
	2	153	TNTC (2628)	94.2
	5	53	TNTC (2628)	98.0
	10	8	TNTC (2628)	99.7
	15	<1	TNTC (2628)	99.9
	20	<1	TNTC (2628)	99.9
	25	<1	TNTC (2628)	99.9
	30	<1	TNTC (2628)	99.9
	45	<1	TNTC (2628)	99.9
Results	15 Minutes	99.9%		Reduction

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