

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

Client		SIGNIFY NETHERLANDS B.V. Philipsweg 1 6026 RA Maarheeze Netherlands
Project No.		G104510702
Sample	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
Procedural	Engineer	Nicholas Unger
	Reviewer	Lee Moomaw
	Dates Tested	12/7/2020 – 12/29/2020
	Report Date	12/31/2020
Standard	Non-standardized Test Method: Microbial Reduction Rate Test	
Testing Facility	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

Acquisition method	Shipped to Intertek
Description	Germicidal UV Light Fixtures
Model Number	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
Arrival date	11/13/2020
Condition	New
Sample Identification No.	COL2011131556-001 and COL2011131556-002
Development Level	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 ⁹		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 ⁹		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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