P&B Pesetsky & Bookman

Broome Hotel Owner LLC and Broome Hotel FB LLC

Community Board SLA License Questionnaire

Pesetsky & Bookman
Applicant's Alcoholic Beverage Counsel
325 Broadway, Suite 501
New York, NY 10007
www.pb.law | (212) 513-1988 | hello@pb.law

Meeting Date: _____

APPLICANT INFORMATION:

Name of applicant(s):
Broome Hotel Owner, LLC and Broome Hotel FB LLC

Trade name (DBA):
The Broome Hotel

Premises address:
431 Broome St, New York, NY 10013

Cross Streets and other addresses used for building/premise:

Between Broadway and Crosby Street

CONTACT INFORMATION:

Principal(s) Name(s):
Tom Intrator, Managing Member

Office or Home Address: 431 Broome St.

City, State, Zip: New York, NY 10013

Telephone #: [redacted]

Landlord Name / Contact:
Same as above

Landlord's Telephone and Fax: _____

NAMES OF ALL PRINCIPAL(s):	NAMES / LOCATIONS OF PAST / CURRENT LICENSES HELD
Tom Intrator	Broome Hotel Owner LLC ; legacy serial # 6037173

Briefly describe the proposed operation (i.e. "We are a family restaurant that will focus on..."):

We are building a full-service French Mediterranean restaurant on the ground floor of the Broome Hotel, and are seeking a Hotel Liquor license to cover the entire hotel.

WHAT TYPE(S) OF LICENSE(S) ARE YOU APPLYING FOR (MARK ALL THAT APPLY):

__ a new liquor license (__ Restaurant __ Tavern / On premise liquor ___ Other)

__ an UPGRADE of an existing Liquor License

__ an ALTERATION of an existing Liquor License

__ a TRANSFER of an existing Liquor License

X a HOTEL Liquor License

__ a DCA CABARET License

__ a CATERING / CABARET Liquor License

__ a BEER and WINE License

__ a RENEWAL of an existing Liquor License

__ an OFF-PREMISE License (retail)

__ OTHER : _____

If upgrade, alteration, or transfer, please describe specific nature of changes:
(Please include physical or operational changes including hours, services, occupancy, ownership, etc.)

_____

_____

_____

If this is for a new application, please list previous use of location for the last 5 years:

Broome Hotel Owner LLC d/b/a Wine on Broome, legacy serial # 6037173, 2024 - Present

No license prior to the above referenced licensee

Is any license under the ABC Law currently active at this location? __X__ yes _____ no

If yes, what is the name of current / previous licensee, license # and expiration date: _____

Broome Hotel Owner LLC d/b/a Wine on Broome, legacy serial # 6037173, 2024 - Present, expiring 8/31/2026

Have any other licenses under the ABC Law been in effect in the last 10 years at this location?
___ yes X no

If yes, please list DBA names and dates of operation:

_____

_____

PREMISES:

By what right does the applicant have possession of the premises?

_x_ Own ___ Lease ___ Sub-lease ___ Binding Contract to acquire real property ___ other: _____

Type of Building: ___ Residential ___ Commercial ___Mixed (Res/Com) X Other: Hotel

Number of floor: 6 Year Built : 2014

Describe neighboring buildings: Mixed

Zoning Designation: M1-5/R9X

Zoning Overlay or Special Designation (applicable) _____

Block and Lot Number: 473 / 17

Does the premise occupy more than one building, zoning lot, tax lot or more than one floor? __ yes X no

Is the premise located in a historic district? X yes ____ no

(if yes, have all exterior changes or changes governed by the Landmarks Preservation Commission (LPC) been approved by the LPC? _____ yes _____ no, please explain : N/A - No exterior changes

Will any outside area or sidewalk café be used for the sale or consumption of alcoholic beverages? (including sidewalk, roof and yard space) ____ no __x__ yes : explain interior courtyard

What is the proposed Occupancy? 30

Does the premise currently have a valid Certificate of Occupancy (C of O) and all appropriate permits?

___no __x__ yes

If yes, what is the maximum occupancy for the premises? 92

If yes, what is the use group for the premises? 5, 6

If yes, is proposed occupancy permitted? __x__ yes ____ no, explain : _____

If your occupancy is 75 or greater, do you plan to apply for Public Assembly permit? ___ yes X no

Do you plan to file for changes to the Certificate of Occupancy? _____ yes __x__ no
(if yes, please provide copy of application to the NYC DOB)

Will the façade or signage be changed from what currently exist at the premise? __x__ no ____ yes

(if yes, please describe: _____

INTERIOR OF PREMISES:

What is the total licensed square footage of the premises? 14,000 sq.ft.

If more than one floor, please specify square footage by floors: 2,300 sq. ft. per floor

If there is a sidewalk café, rear yard, rooftop, or outside space, what is the square footage of the area?

500 sq. ft.

If more than one floor, what is the access between floors? stairs and elevators

How many entrances are there? 2 How many exits? 2 How many bathrooms ? 2

Is there access to other parts of the building? x no ____ yes, explain: _____

OVERALL SEATING INFORMATION:

Total number of tables? 21 Total table seats? 44

Total number of bars? 1 Total bar seats? 6

Total number of "other" seats? 8 please explain : Lounge for hotel guests

Total OVERALL number of seats in Premises : 58

BARS:

How many *stand-up bars / bar seats are being applied for on the premises? Bars 1 Seats 0

How many service bars are being applied for on the premises? 1

Any food counters? x no ___ yes, describe : _____

For Alterations and Upgrades:

Please describe all current and existing bars / bar seats and specific changes: _____

_____

* A stand-up bar is any bar or counter (whether seating or not) over which a member of the public can order, pay for and receive food and alcoholic beverages.

PROPOSED METHOD OF OPERATION:

What type of establishment will this be? (check all that apply)

___ Bar ___Bar & Food ___Restaurant ___Club/ Cabaret x Hotel ___Other: _____

What are the Hours of Operation?

Sunday: Monday: Tuesday: Wednesday: Thursday: Friday: Saturday:

7am to 1am 7am to 1am 7am to 1am 7am to 1am 7am to 1am 7am to 1am 7am to 1am

Will the business employ a manager? ___ no _x_ yes, name / experience if known : Liron Sanado - multiple restaurant in Tel Aviv

Will there be security personnel? _x_ no ___ yes(if yes, what nights and how many?) _____
Do you have or plan to install French doors, accordion doors or windows that open? _x_ no ___ yes

If yes, please describe : _____

Will you have TV's ? _x_ no ___ yes (how many?) _____

Type of MUSIC / ENTERTAINMENT: ___ Live Music ___Live DJ ___Juke Box _x_ Ipod / CDs ___none

Expected Volume level: _x_ Background (quiet) ___ Entertainment level ___ Amplified Music
(check all that apply)

Do you have or plan to install soundproofing? ___no _x_ yes

IF YES, will you be using a professional sound engineer? yes

Please describe your sound system and sound proofing: surround sound system, pergola with acoustic modifications

_____

Will you be permitting: ___ promoted events ___ scheduled performances ___ outside promoters

___ any events at which a cover fee is charged? _x_ private parties

Do you have plans to manage or address vehicular traffic and crowd control on the sidewalk caused by your establishment? _x_ no ___ yes (if yes, please attach plans)

Will you be utilizing ___ ropes ___ movable barriers ___other outside equipment (describe) ____

No

Are your premises within 200 feet of any school, church or place of worship? _x_ no ___ yes

If there is a school, church or place of worship within 200 feet of your premises or on the same block, please submit a block plot diagram or area map showing its' location in proximity to your applicant premises (no larger than 8 ½ " x 11").

Indicate the distance in feet from the proposed premise:

Name of School / Church: _____

Address: _____ Distance: _____

Name of School / Church: _____

Address: _____ Distance: _____

Name of School / Church: _____

Address: _____ Distance: _____

Please provide contact information for Residents / Community Board and confirm that if complaints are made you will address it immediately.

Contact Person: Liron Sanado Phone: [redacted]

Address: 431 Broome St. New York, NY 10013

Email : [redacted]

Application submitted on
behalf of the applicant by:

_____
Signature

Print or Type Name Tom Intrator

Title Managing Member

Thank you for your cooperation. Please return this questionnaire along with the other required documents as soon as you can. This will expedite your application and avoid any unnecessary delays. Use additional pages if necessary.

Community Board 2,
Manhattan SLA Licensing
Committee Donna Raftery, Chair

Community Board No. 2, Manhattan
3 Washington Square Village
NEW YORK, NY 10012-1899
www.manhattancb2.org
P: 212-979-2272 **F:** 212-254-5102 **E:** info@manhattancb2.org
Greenwich Village ❖ Little Italy ❖ SoHo ❖ NoHo ❖ Hudson Square ❖ Chinatown ❖ Gansevoort Market

COMMUNITY BOARD 2 APPLICATION FOR A STATE LIQUOR AUTHORITY LICENSE

ADDENDUM FOR OUTDOOR SEATING

For a Liquor License Application that includes any outdoor areas, please complete the following:

- Submit a diagram of outdoor seating indicating length and width of area(s) and location of all tables and chairs. Include all obstructions (trees, fire hydrants, proximity to bus stops, bike racks, signs, etc.).
- Submit photos of the premises where the sidewalk café and/or roadbed will be located. Required photos show one frontal, one left and one right side view of proposed sidewalk café and/or roadbed.
  - Photos must show complete sidewalk and/or roadway area where sidewalk café and/or roadbed will be including views to curb and neighboring properties.
  - For rear yard, show photos of yard and surrounding area, including upper view of adjacent buildings.

Name of Applicant: Broome Hotel Owner, LLC

Address of Premises: 431 Broome St, New York, NY 10013

Sidewalk café will have no more than *(If premises is located on a corner please indicate for both streets)*:
_____ tables and _____ seats on _____ Street
N/A _____ tables and _____ seats on _____ Street
Hours of sidewalk café: _____ to _____ .

Describe any obstructions (trees, fire hydrant, proximity to bus stop, etc):_____
_____

Roadbed will have no more than *(If premises is located on a corner please indicate for both streets)*:
_____ tables and _____ seats on _____ Street
N/A _____ tables and _____ seats on _____ Street
Hours of roadbed: _____ to _____ .

Describe any obstructions (trees, fire hydrant, proximity to bus stop, etc):_____
_____

* **Rear yard / Rooftop** (circle) will have no more than 14 tables and 30 seats *Interior Courtyard
Hours of rear yard / rooftop: 7am to 1am .

Does seating extend beyond the business frontage? X No ___ Yes

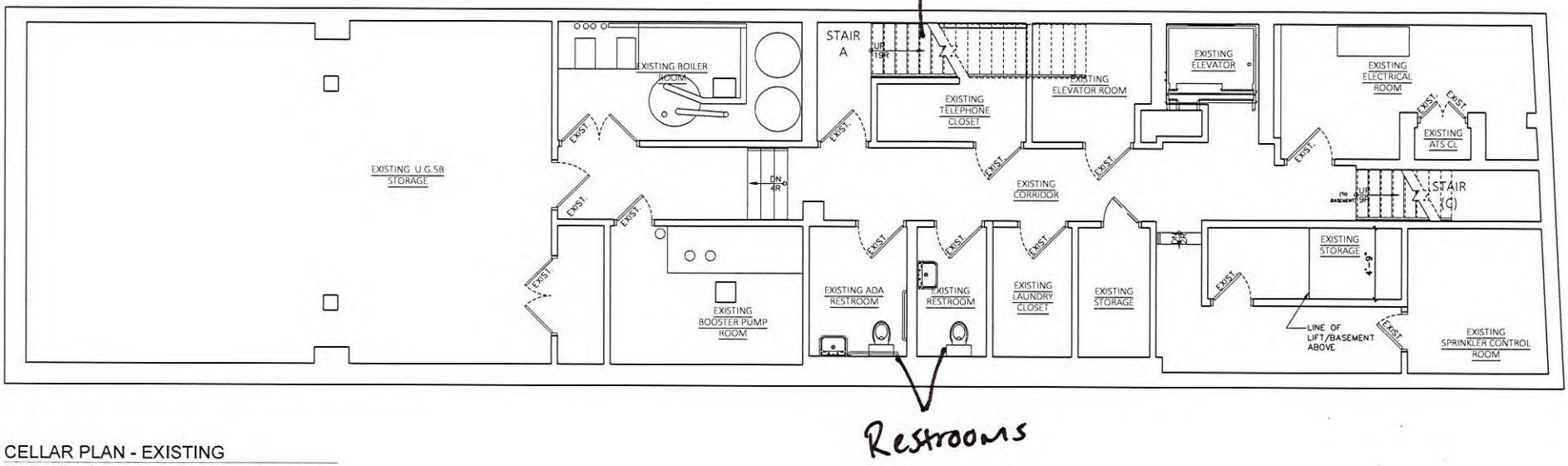
Will outdoor dining structures **on the sidewalk** be enclosed on three (3) or more sides? ___No ___ Yes N/A

Will outdoor dining structures **on the roadbed** be enclosed on three (3) or more sides? ___No ___ Yes N/A

Is there any outdoor music, speakers or TVs? ___No X Yes, please describe: interior courtyard

Will heating elements be used? ___No X Yes, please describe: interior courtyard

Broome Hotel Owner LLC

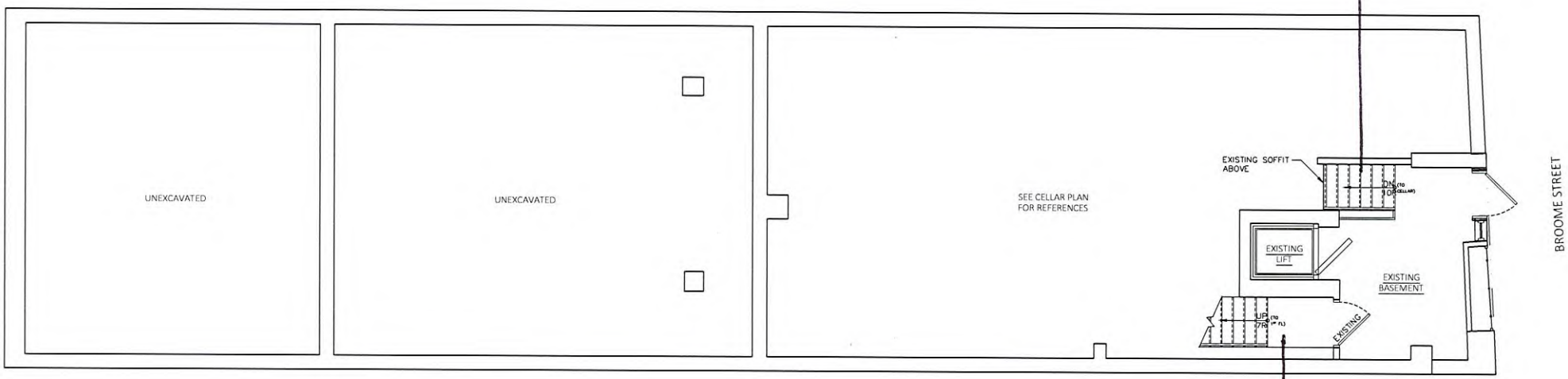


CELLAR PLAN - EXISTING

SCALE: 1/4" = 1'-0"

Cellar

Broome Hotel Owner LLC



Stairs to cellar

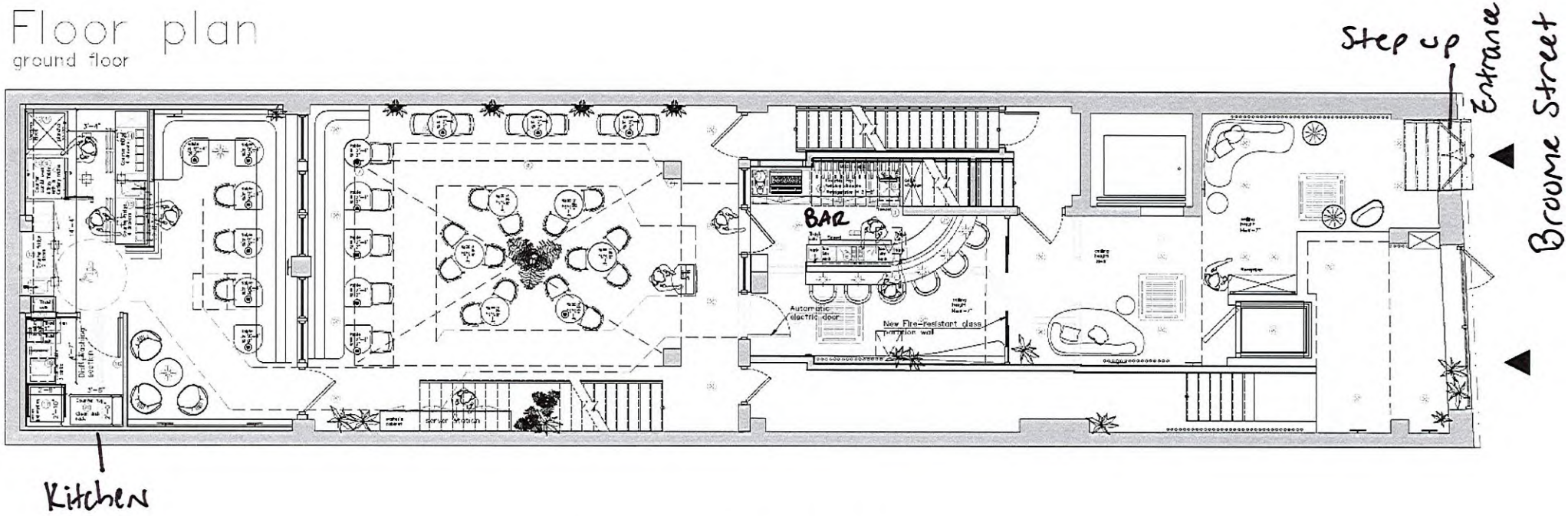
Stairs to ground floor

BASEMENT PLAN - EXISTING

SCALE: 1/4" = 1'-0"

Basement

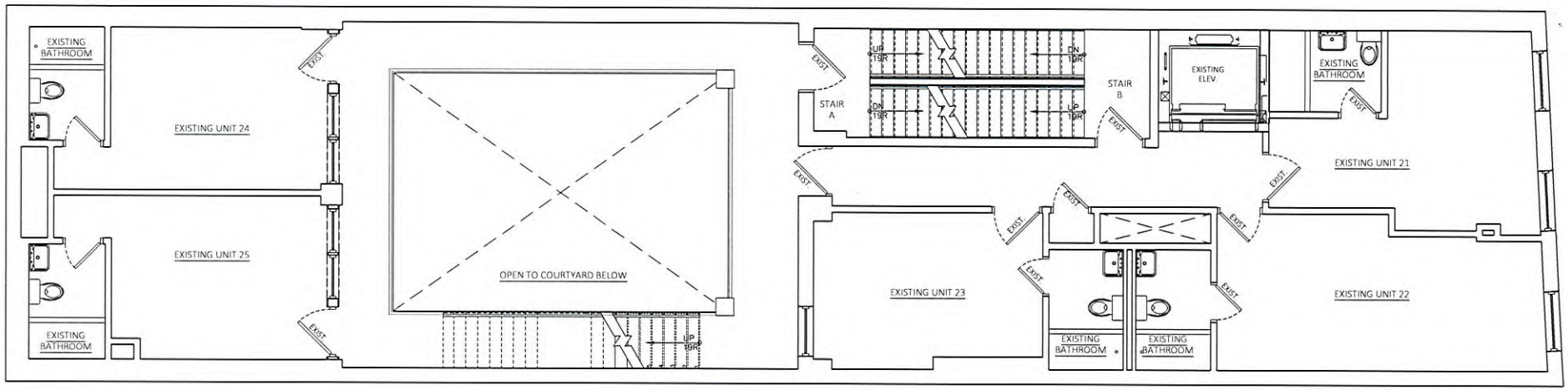
Broome Hotel Owner LLC



Ground Floor

1st Floor

Broome Hotel Owner LLC



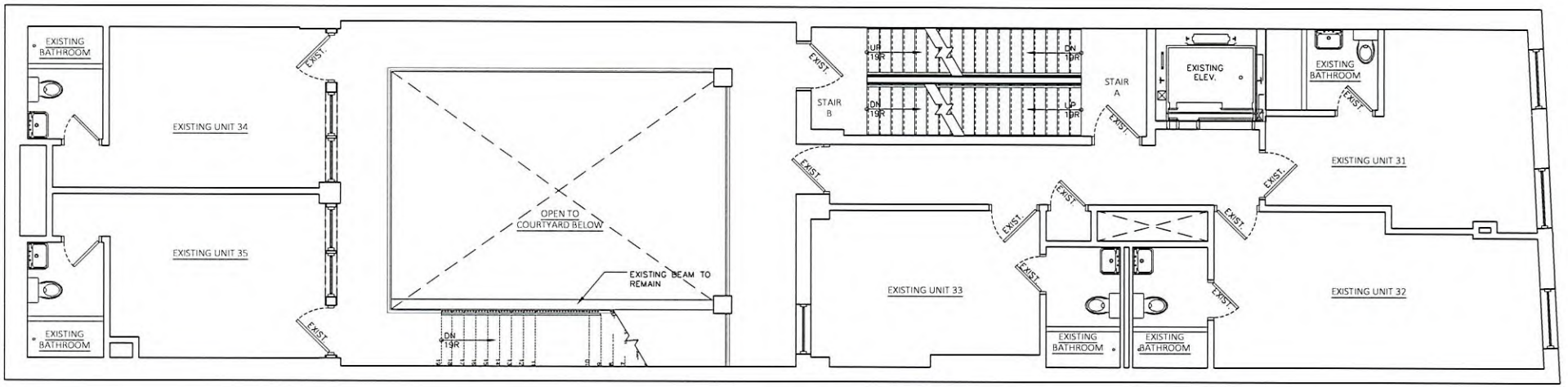
SECOND FLOOR - EXISTING PLAN

SCALE: 1/4" = 1'-0"

Second Floor

Hotel Rooms

Broome Hotel Owner LLC



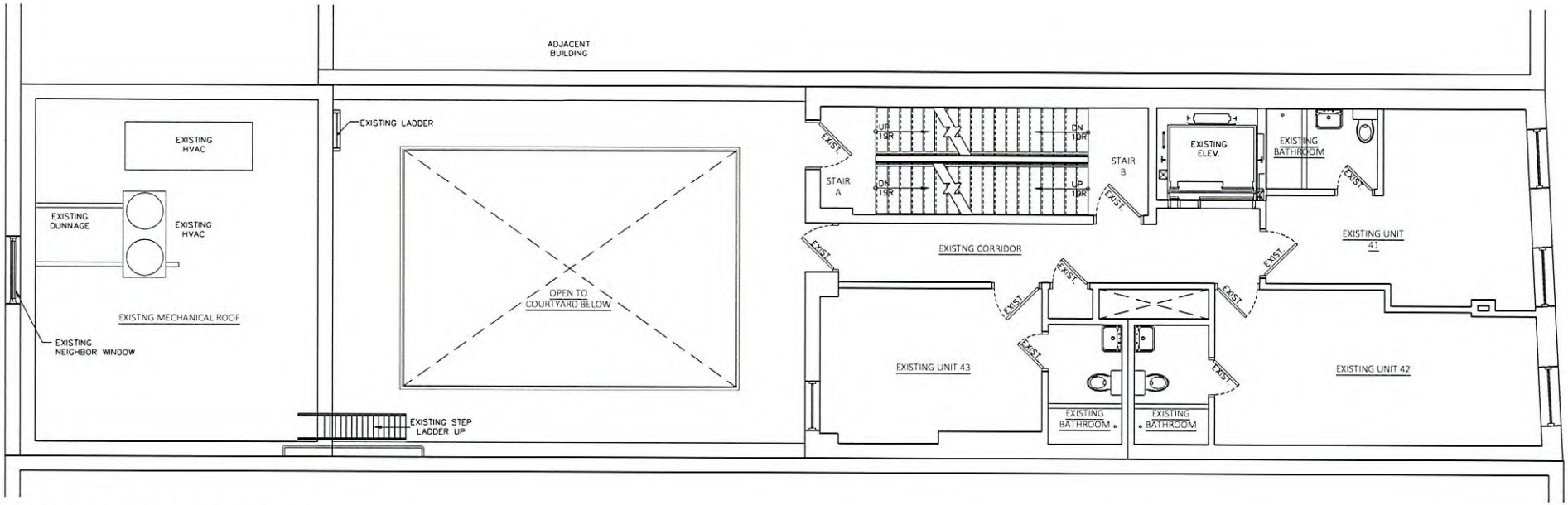
THIRD FLOOR - EXISTING PLAN

SCALE: 1/4" = 1'-0"

Third Floor

Hotel Rooms

Broome Hotel Owner LLC



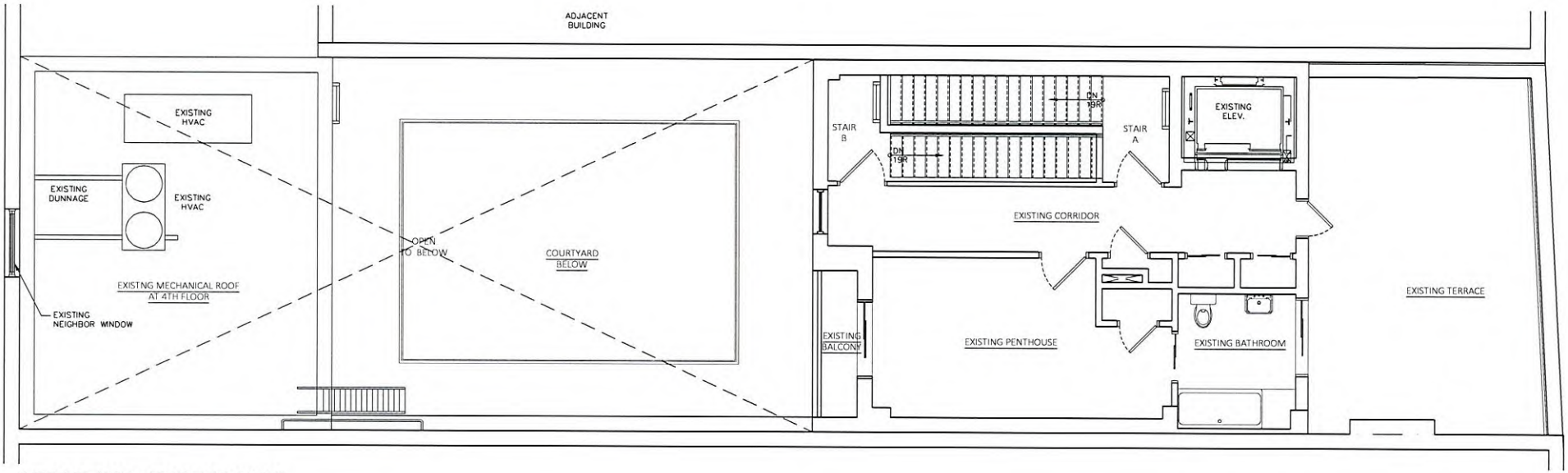
FOURTH FLOOR - EXISTING PLAN

SCALE: 1/4" = 1'-0"

Fourth Floor

Hotel Rooms

Broome Hotel Owner LLC



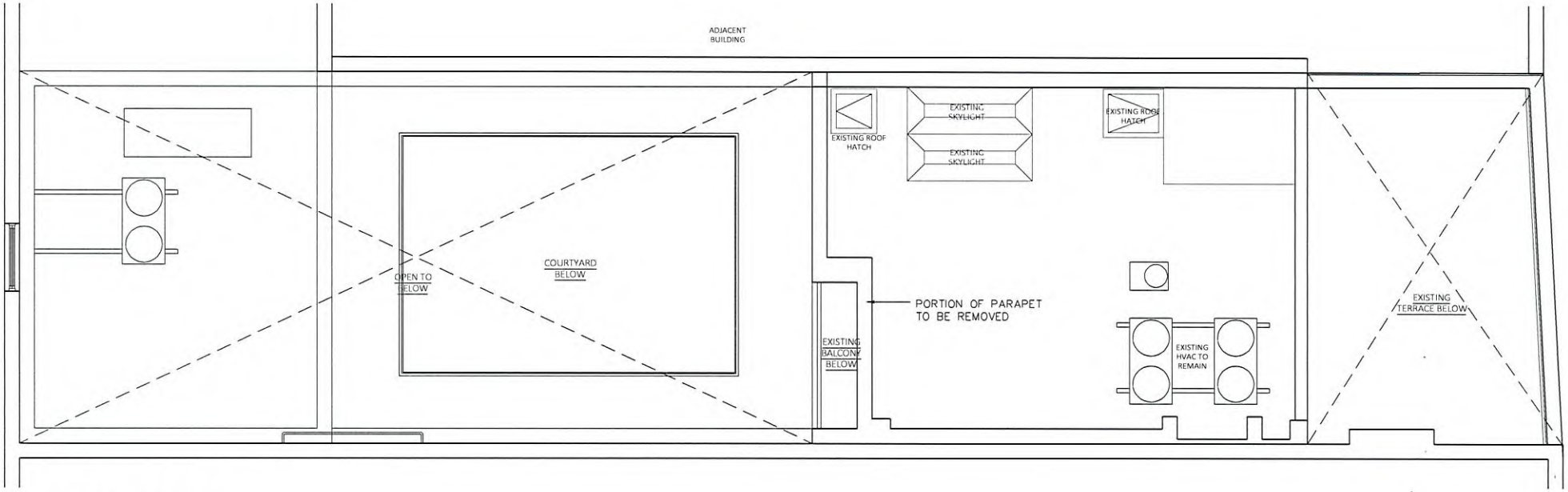
FIFTH FLOOR - EXISTING PLAN

SCALE: 1/4" = 1'-0"

Fifth Floor

Penthouse Hotel Room

Broome Hotel Owner LLC



ROOF - EXISTING PLAN

SCALE: 1/4" = 1'-0"

Rooftop

Broome Hotel Owner LLC – Menu

Starters

Baby Kale Salad – baby kale, goat cheese, toasted walnuts, sliced pear, lemon-honey vinaigrette
Fennel & Orange Salad – shaved fennel, orange segments, kalamata olives, arugula, olive oil, white wine vinegar
Tuna Tartare – sushi-grade tuna, shallots, capers, lemon zest, olive oil, chives, sea salt
Beef Tartare – hand-chopped beef tenderloin, egg yolk, cornichons, capers, shallots, Dijon mustard, lemon juice, parsley
Mini Ratatouille Bites – zucchini, eggplant, bell peppers, tomato, garlic, onion, thyme, olive oil
Seafood Bruschetta – toasted baguette, marinated shrimp, tomato concasse, garlic, parsley, lemon zest, olive oil
Cheese Board – brie, goat cheese, Comté, Roquefort, grapes, fig jam, Marcona almonds, crostini
Bread Service – baguette, olive bread, sourdough, butter, sea salt, olive oil with herbs

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Main Courses

Seared Sea Bass – sea bass fillet, olive oil, sea salt, green beans, garlic, parsley, lemon zest
Stuffed Bell Peppers – bell peppers, couscous, zucchini, eggplant, tomato, onion, garlic, herbs de Provence
Tagliatelle with Wild Mushrooms – fresh tagliatelle, wild mushrooms, shallots, garlic, white wine, butter, truffle oil, parmesan
Duck Breast with Cherry Reduction – duck breast, cherries, red wine, shallots, thyme, butter
Provencal Bouillabaisse – chicken thighs or mixed seafood, fennel, leek, tomato, garlic, saffron, fish stock, white wine, rouille, crostini

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Desserts

Strawberries & Crème Fraîche – strawberries, crème fraîche, mint, demerara sugar
Chocolate Biscuit Cake – dark chocolate, butter, crushed biscuits, cream, orange zest
Lavender Honey Panna Cotta – cream, milk, lavender, honey, gelatin, lemon zest

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Breakfast

3-Tier Stand – mini croissants, pain au chocolat, baguette, brioche, butter, apricot jam, fig jam, Comté, goat cheese, cured meats, fresh fruit

Eggs Benedict – poached eggs, brioche, hollandaise, smoked salmon or ham
Shakshuka – eggs, tomatoes, peppers, onion, garlic, olive oil, cumin, paprika
Japanese Pancakes – eggs, milk, flour, sugar, baking powder, maple syrup, berry compote, mascarpone
Socca with Grilled Veg – chickpea flour, water, olive oil, grilled zucchini, eggplant, peppers, tahini or pesto

Photo 1: Noise Meter on Rooftop of 431 Broome Street

Photo 2: Noise Meter on Broome Street

2. NYC NOISE CODE

The local noise code is set forth in Title 24, Chapter 2 of the New York City Administrative Code.

3.1 § 24-218 General Prohibitions

Section §24-218 addresses unreasonable noise that is not covered by another section of the code. The following sound levels are prohibited by this section:

- Non-impulsive sound measured at 7 dB(A) or more above the ambient sound level at the receiver between the hours of 10:00 P.M. and 7:00 A.M.
- Non-impulsive sound measured at 10 dB(A) or more above the ambient sound level at the receiver between the hours of 7:00 A.M. and 10:00 P.M.
- Impulsive sound measured at 15 dB(A) or more above the above the ambient sound level at the receiver.

2.3 § 24-231 Commercial Music

Section §24-231 addresses music originating from commercial establishments, when measured inside dwelling units. The following limits are provided in this section:

- 42 dB(A) overall sound level.
- 45 dB(A) sound level in any one-third octave band from 65 hertz to 500 hertz.
- 6 dB(C) increase over ambient level, provided that ambient is in excess of 62 dB(C).

3. ACOUSTICAL INVESTIGATION

The proposed licensed spaces are to be located on the ground floor facing Broome Street. The bar portion of the restaurant is behind an entry way and the hotel lobby - about 28 feet from the front door, and the internal courtyard is behind the bar. External walls will be unchanged and typically offer 20-30 dB(A) of attenuation via transmission loss. Sound Transmission Class (STC) is a single number metric used to identify transmission loss performance and can be found readily online for typical wall construction. Without detailed construction plans of existing walls, a conservative estimate is STC 40, assuming for some insulation of external walls. Exact performance cannot be determined without detailed construction notes, but this conservative STC approximation is very likely to mitigate a 10-20dB(A) increase in noise from the proposed restaurant area, so that adjacent properties on the first floor will not notice this change in use. There are no windows beyond the front lobby area, so the key possible noise paths to residences are through the windows and front door, and through the pergola roof in the internal courtyard, in both cases where it could be retracted or extended.

4.1 Ambient Sound Measurements

To establish existing baseline ambient sound levels, measurements were performed on the rooftop of the building at 431 Broome Street (Noise Monitoring Location 1) as well as outside on the sidewalk along Broome Street (Noise Monitoring Location 2). The noise monitoring locations are shown as **Figure 3** below.

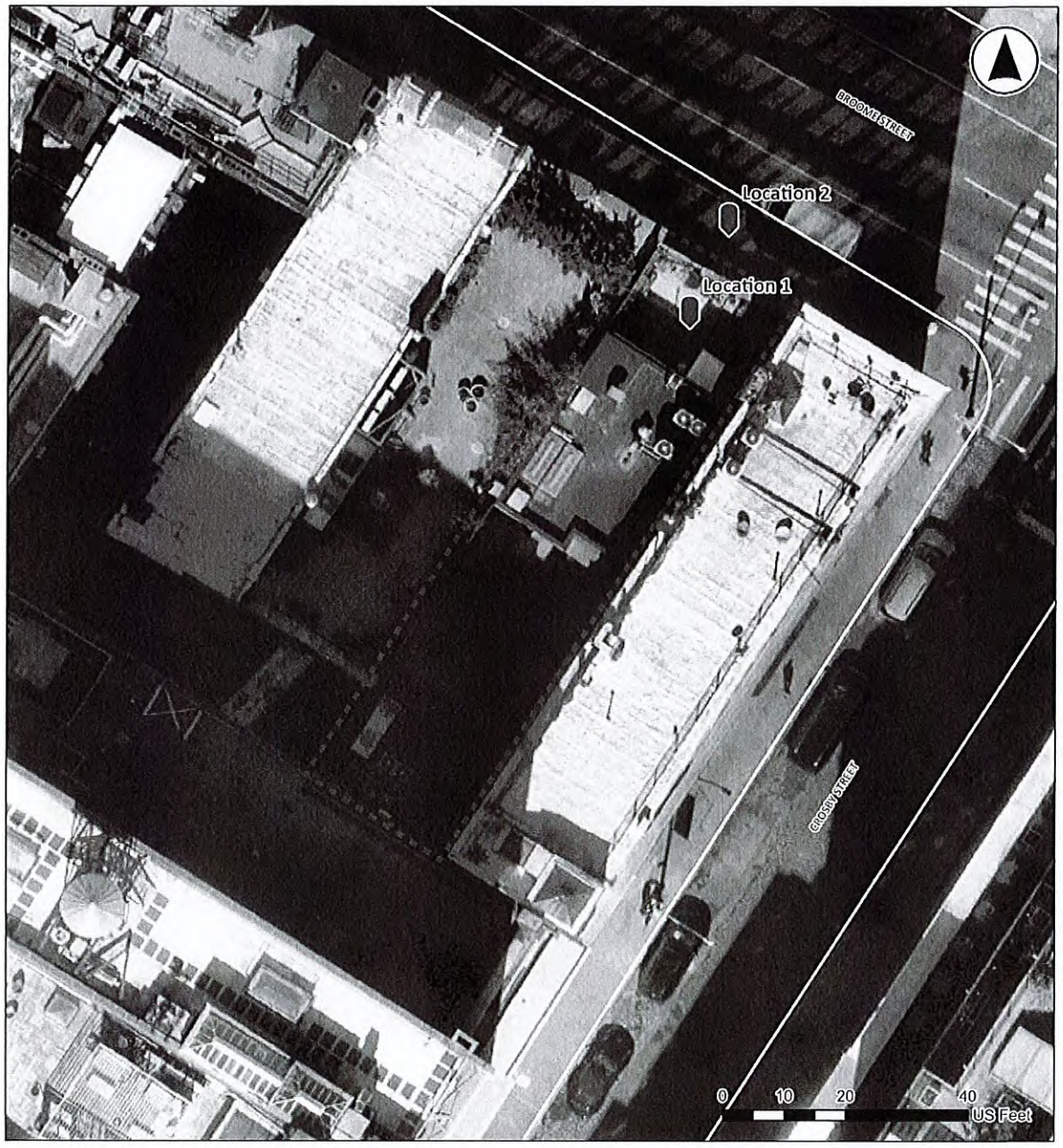
Table 1 below shows the results of the noise monitoring.

Table 1 – Evening Ambient Noise Monitoring Results

Monday, May 12, 2025		
Location	**1 (Rooftop)**	**2 (Street-Level)**
Duration	**00:20:00**	**00:20:00**
L_{max}	86.5	94.8
L_{10}	60.0	70.5
L_{eq}	58.9	71.5
L_{50}	57.0	64.0
L_{90}	54.5	59.5
L_{min}	51.5	56.5

These noise readings were collected during evening operating hours to represent the ambient noise conditions during the proposed hours of operation. It is expected that the sound levels will increase above the recorded nighttime levels by approximately 10 dB(A) during daytime hours.

Figure 3 – Ambient Noise Monitoring Locations



LEGEND

431 BROOME STREET

NOISE MONITORING LOCATION

4.2 Measurement Equipment

Measurements of the airborne sound pressure levels were performed using a Type 1 Casella CEL-633 sound level meter with wind screen. The monitor was placed on a tripod at a height of approximately five feet above the ground, away from any other noise-reflective surfaces. The monitor was calibrated prior to and following the monitoring session. Noise meter calibration certification and backup data can be provided upon request.

4.3 Internal Courtyard and Restaurant Evaluation Results

The restaurant and internal courtyard will have light background music and normal restaurant ambience from patrons. The pergola roof will only be retracted (open) in good weather and will be extended (closed) each night at 10pm. The hours of operation of the bar and courtyard are specified in **Table 2** below.

Table 2 – Internal Hours of Operation

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hotel	24 Hours	24 Hours	24 Hours	24 Hours	24 Hours	24 Hours	24 Hours
Restaurant	7:00 am – 1:00 am	7:00 am – 1:00 am	7:00 am – 1:00 am	7:00 am – 1:00 am	7:00 am – 1:00 am	7:00 am – 1:00 am	7:00 am – 1:00 am
Pergola Retracted (if nice weather)	7:00 am – 10:00 pm	7:00 am – 10:00 pm	7:00 am – 10:00 pm	7:00 am – 10:00 pm	7:00 am – 10:00 pm	7:00 am – 10:00 pm	7:00 am – 10:00 pm

It is assumed that the courtyard and restaurant noise paths will be unchanged including floors, windows, and external walls. As stated in Section 3 above, an external wall with any insulation is likely to have a minimum of STC 40, and will likely provide adequate attenuation to adjacent neighbors even with the increase in noise generated in the restaurant.

However, there is an elevated risk of increasing ambient noise levels at nearby sensitive receivers through the path to the lobby and through the proposed louvered pergola roof, shown in **Figure 4**. Based on NYC Zoning and visual identification with map tools, it is believed that the nearest sensitive receiver is on the 4th floor of 487 Broadway. The figure shows the shortest path distance to the nearest residential receiver in feet, and the grade to reach that story from the top opening of the courtyard roof. Two cases are considered for the pergola roof, retracted and extended. The proposed pergola is a Sunset Skyfree Pergola consisting of aluminum panel. The product specification is attached. The specification does not provide acoustic performance specifications. Without manufacturer acoustic performance specifications for the door and louvered pergola roof, conservative estimates were made to approximate transmission loss characteristics based on standard assemblies and known material properties. The predicted sound levels at the sidewalk outside the front door are shown in **Table 3**. The composite transmission loss of the roof reflects an assumed 95% opening with the roof retracted case and the predicted sound levels at the nearest residential window to the roof opening are shown in **Table 4** below. It is very likely this is an underestimation of the sound isolation properties of both the roof and door, and the overall ambient increase for both cases would decrease when implemented.

Figure 4 – Distance to Sensitive Noise Receptor: 478 Broadway from Site

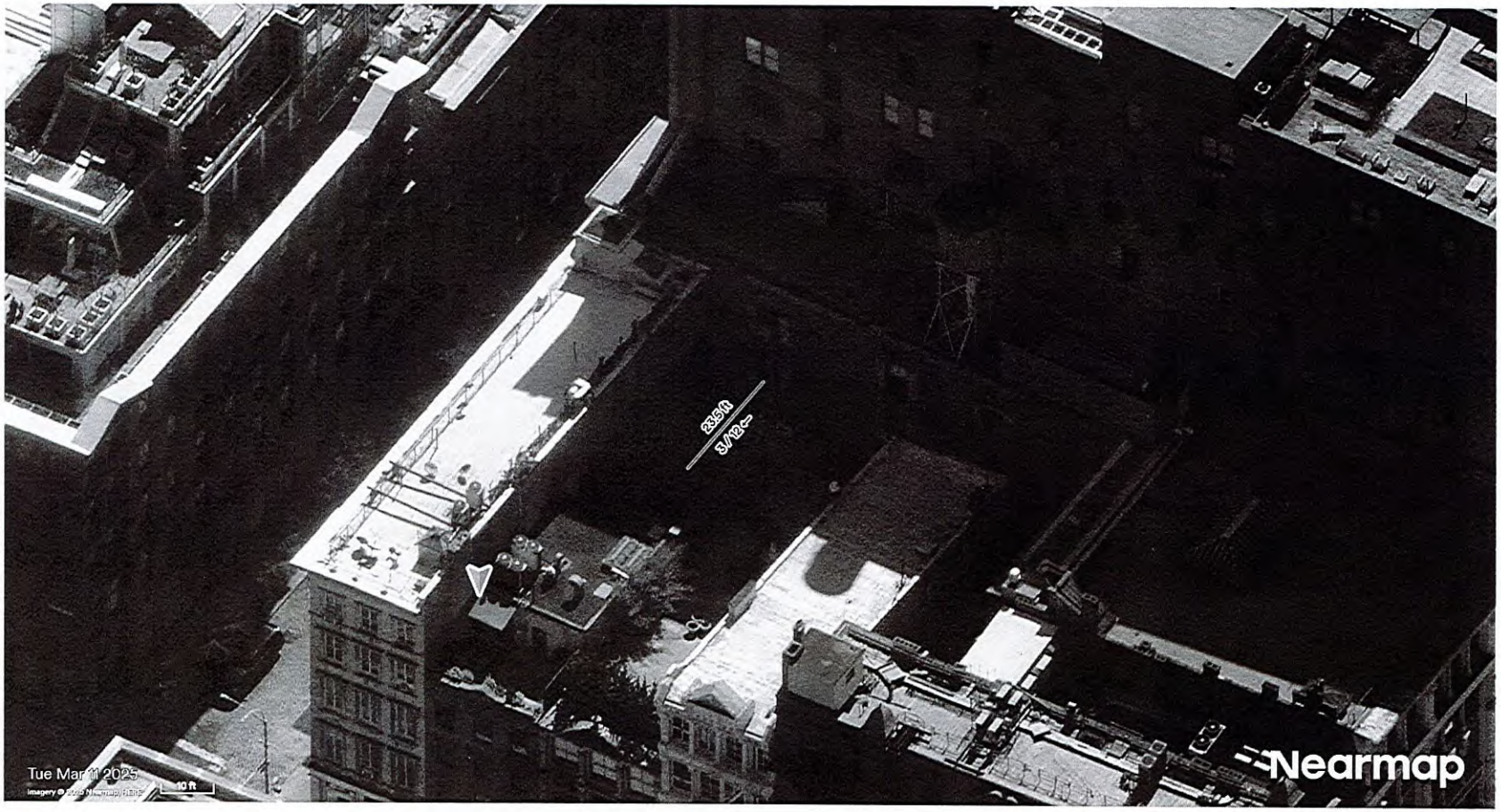


Table 3: Expected Outdoor Sound Levels at Front Door – Broome Street

Description	Sound Pressure Level (Lp) in dB(A)	Attenuation or Transmission Loss (TL) in dB(A)
Ambient on Sidewalk	71.5	-
Level in Restaurant Area	81.8	-
Distance Attenuation	-	15.0
Door Transmission Loss	-	20
Distance Corrected with Door Attenuation + Ambient	71.5	-
Total dB(A) Increase	0.01	-

Referencing the noise monitoring data and typical sound pressure levels of New York City bars/restaurants[1] and a distance of 28 feet from the restaurant area to the front door, the increase over ambient sound level expected at the front sidewalk was calculated. The noise from the restaurant is nearly negligible at the sidewalk and will not increase overall ambient levels at street level.

Table 4: Expected Outdoor Sound Levels at Nearest Residential Window – 478 Broadway

Description	Sound Pressure Level (L_P) in dB(A)	Attenuation or Transmission Loss (TL) in dB(A)
Ambient on Roof	58.9	-
Level in Restaurant Area	81.8	-
Distance Attenuation	-	16.5
Pergola Transmission Loss - Retracted	-	0.2
Pergola Transmission Loss - Extended	-	20.0
Distance Corrected with Pergola Retracted TL + Ambient	66.0	-
Distance Corrected with Pergola Extended TL + Ambient	59.1	-
Total dB(A) Increase with Pergola Retracted	7.10	-
Total dB(A) Increase with Pergola Extended	0.2	-

The nearest residential window to the courtyard area is located at 478 Broadway and is approximately 33.5 feet from the restaurant area – an assumed 10-foot height of the first floor and another 23.5 feet from the opening of the roof to the nearest residential window. The Transmission Loss was considered with the pergola retracted (95% open area) and extended (0% open area) for the two use cases. Attenuation from spreading was considered for the straight-line distance from the interior courtyard and restaurant floor to the nearest residential window, about 33.5 feet. In combination, when the roof is closed, there is a negligible change in ambient level. With the pergola retracted, the overall increase is below the allowed limit of 10dB(A) increase during the daytime. The venue will close (extend) the pergola roof at 10 pm each night. With the pergola roof extended, the overall increase is significantly below the allowed limit of 7 dB(A) during nighttime hours. Therefore, there is no expected noise impact related to the indoor courtyard and restaurant renovations. As stated above, the transmission loss from the pergola retracted does not fully encompass likely reflective and absorptive qualities of the pergola roof, which

would likely result in greater attenuation, and a further reduction in sound generated over ambient from the proposed restaurant area.

4.4 Conclusion

The results of the acoustic monitoring and simulation of potential noise generation associated with the proposed renovation including a restaurant and internal courtyard indicated that even under worst case noise generation assumptions, the proposed renovations would not result in exceedances of the New York City Noise Code at varying distances from the Project Site with given operation hours and roof closure plans. The evaluation of potential noise impact was developed on a worst-case basis to assess potential impact, i.e. the combination of the lowest outdoor ambient noise monitored and the consideration of continuous noise levels that are well above comparable establishments.

The proposed hotel renovations are expected to result in no exceedances of the noise levels set in the New York City Administrative Code.

If you have any questions, please do not hesitate to contact me at gene.bove@gza.com or (973-534-4090).

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Ethan Wagner
Acoustic Project Manager

Gene Bove
Senior Project Manager

Kevin Willians, AICP, PP
Associate Principal

James Heineman, PP
Consultant Reviewer

Attachments:

Limitations
Noise Meter Calibration Certificates

USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) has prepared this report on behalf of, and for the exclusive use of Client for the stated purpose(s) and location(s) identified in the Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. The conclusions presented in this report were based solely upon the services described in this report, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. Conditions at the facility are subject to change, therefore the compliance status at any given time could differ from the status at the time of ourreport.

3. This report describes the compliance status with respect to the environmental regulatory program(s) outlined in the report. Compliance with regulatory programs or specific regulatory requirements other than the program(s) outlined in this report have not been evaluated.

4. Information pertaining to the facility, structures, and operations and activities conducted at the facility was provided to GZA by Client as indicated within the report. In performing the services described oin the report, GZA has relied on the information provided by Client, including the accuracy and completeness thereof.

5. The purpose of this study was to review the regulatory compliance of current operations and activities conducted at the facility within the limits of the objective and scope of work described in our proposal and/or report. We did not attempt to assess the compliance status of present or past owners or operators of the facility.

6. Unless otherwise specified in the report, GZA did not perform testing or analyses to determine the presence or concentration of any chemicals, oils, asbestos, or polychlorinated biphenyls at the site, within site buildings, or in the environment at the site. Where such analyses have been conducted by an outside laboratory, GZA has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.

COMPLIANCE WITH CODES AND REGULATIONS

7. The regulatory compliance status described in this report has been evaluated based on our interpretation of regulations, and where appropriate, the interpretations provided by the applicable regulatory authority personnel at the time of our study. In some cases, these interpretations require subjective judgment and we cannot guarantee that all applicable regulatory authority personnel will interpret the regulations in the same manner as we have, or in the manner that the agency personnel we may have spoken to have. Applicable regulatory authorities' interpretations, requirements, and enforcement policies vary from district office to district office, from state to state, and between federal and state agencies. In addition, statues, rules, standards, and regulations may be legislatively changed and inter-agency and intra-agency policies may be changed from present practices from time to time.

8. In preparing this report, GZA has relied on certain information provided by federal, State, or local applicable regulatory authorities and other parties referenced herein, and on information contained in the files of federal, State, and/or local applicable regulatory authorities available to GZA at the time of our compliance study. Although there may have been some degree of overlap in the information provided by these various sources, GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of the study. Where information provided by Client was not complete, representations regarding the regulatory compliance of such operations and activities has not been made.

INTERPRETATION OF DATA

9. GZA's work was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and GZA observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. GZA's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No warranty, express or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by an applicable regulatory authority.

NEW INFORMATION

10. In the event that the Client or others authorized to use this report obtain information on environmental regulatory compliance issues at the facility not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this study, may modify the conclusions stated in this report.

SUNSET

Four Seasons Comfort

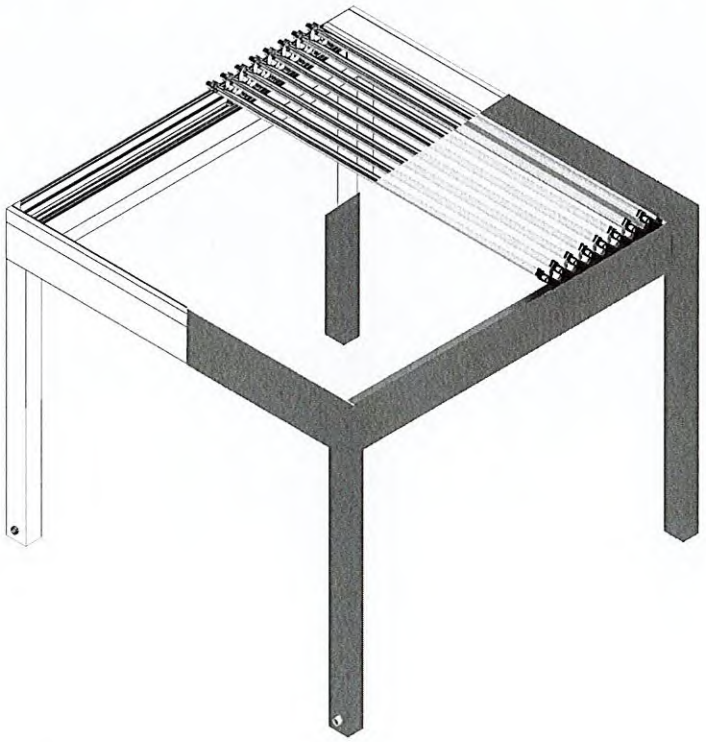
TECHNICAL DATASHEET

DOCUMENTS • TECHNICAL • DETAILS • PRESENTATION

CE

SYSTEM CERTIFICATION ISO 9001:2000 SGS

ift ROSENHEIM

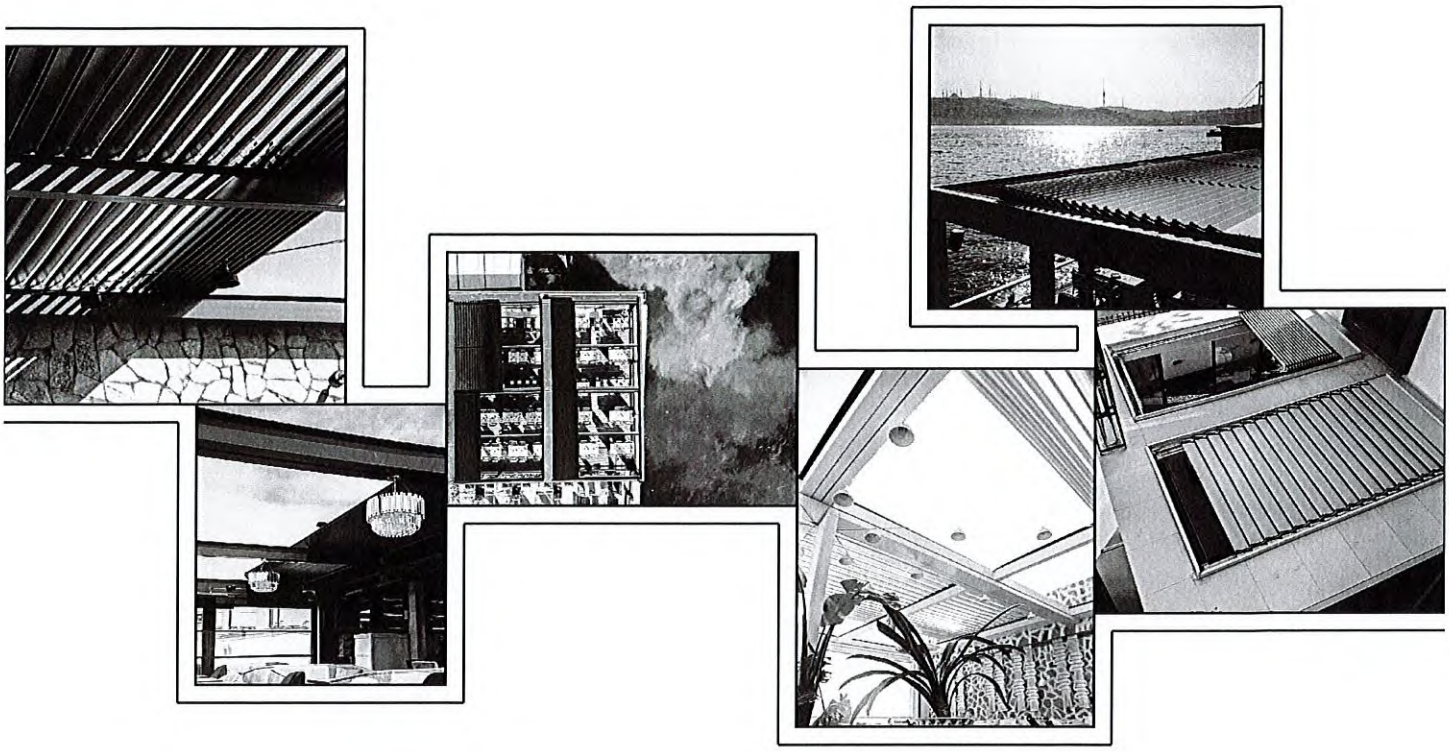


PARTS | MATERIAL | CERTIFICATES

www.sunsetpergola.com.tr

CONTENT

SkyFree



About Us

Since the year of 2004, Sunset A.S. presents its innovative designs enhanced with high quality-affordable price policies, to the taste of its customers. Today, both domestically and abroad, the company is in a position as the only company that is able to deliver the most economical, secure and fast sales/technical maintenance service via the professional authorized dealers that are positioned as "local. Sunset A.S. provides basic services like design, planning, selection of appropriate and affordable materials, resolution of the technical details and conduction of manufacturing with the architect, engineer, designer employees in its payroll each of whom are certified and specialists in their respective fields. The company has executed its studies with its understanding that takes the customer satisfaction as the basis and it has realized its progress with the power of this satisfaction. We pay our respects to you with the desire and wish of seeing you among our satisfied customer portfolio...

I. Description of the product and features

a. SkyFree is a first class product designed to be used with confidence and comfort in all four seasons.

b. SkyFree offers a usage opportunity where the ceiling area can be opened completely and closed completely when desired.

c. SkyFree consists of fully back-to-back panels made of aluminum, which are mounted on an aluminum construction carrier body modularly.

d. SkyFree Ceiling Panels make the retracting movement to reach an angle of 65 degrees to the final assembly point. The mechanism that enables the assembly movement is created by using first class and extremely long-lasting materials such as bearings integrated on the Stainless Steel Body, high-quality copper alloy bushings and bolts, UV-resistant ABS plastics.

e. The "Tensioned Scissor System", which provides the movement, has been developed to make a unique silence, smooth gather-closure movement smoothly for years. The "Torsion Nut" used in the system ensures that the connections are provided perfectly without requiring any special adjustment.

f. Various types of heat and UV protected rubber gaskets and Brush Insulation Wicks are used in all of the SkyFree panel and construction combinations. These seals prevent water and air passage; perfects the performance of the product with the understanding of "4 Seasons Comfort".

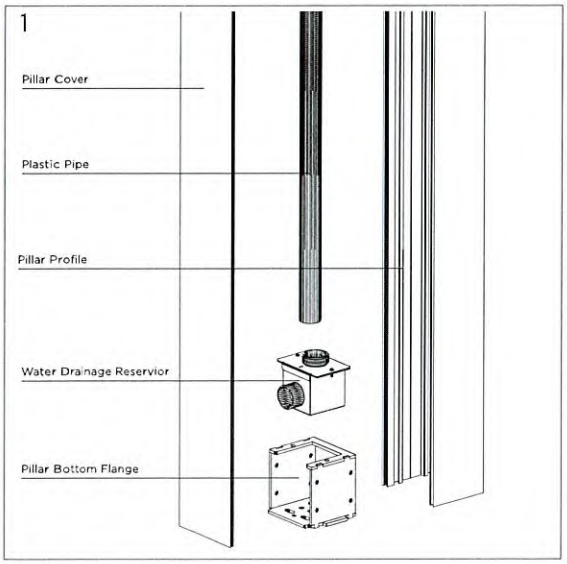
g. The system has been designed in accordance with the customer's request for the assembly of complementary products such as curtains, glass systems, doors, sensors.

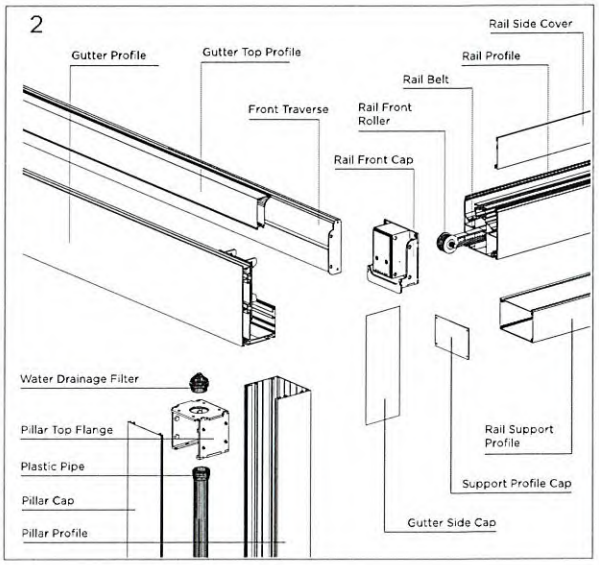
h. The system makes the water it collects through "GUTTER" and "DISCHARGE" profiles integrated into the system. The PVC pipes used in the drain posts ensure that the water is thrown out in the fastest and quietest way. The values regarding the water discharge capacity are given below with a detailed table (***Check: Static Calculation Tables***)

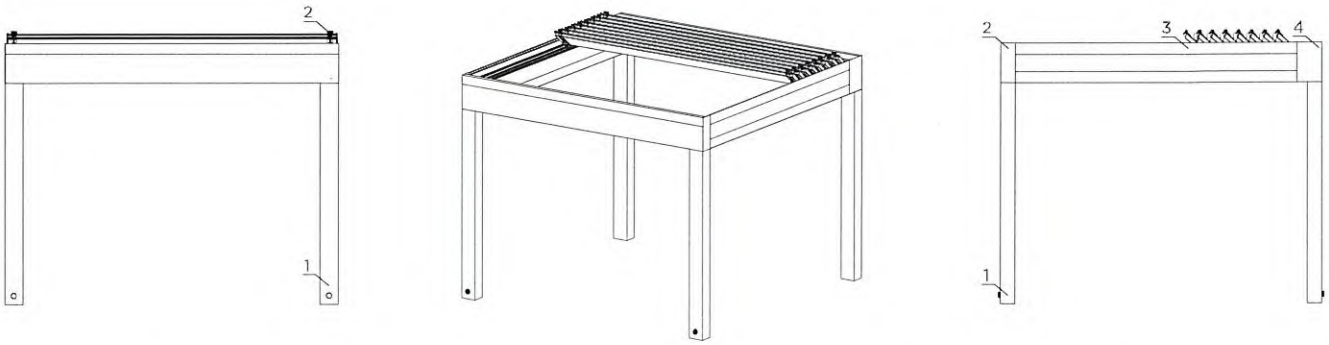
i. SkyFree's resistance to wind loads is given in a detailed table below.
(***Check: Static Calculation Tables***)

j. SkyFree's resistance to snow loads is given in a detailed table below.
(***Check: Static Calculation Tables***)

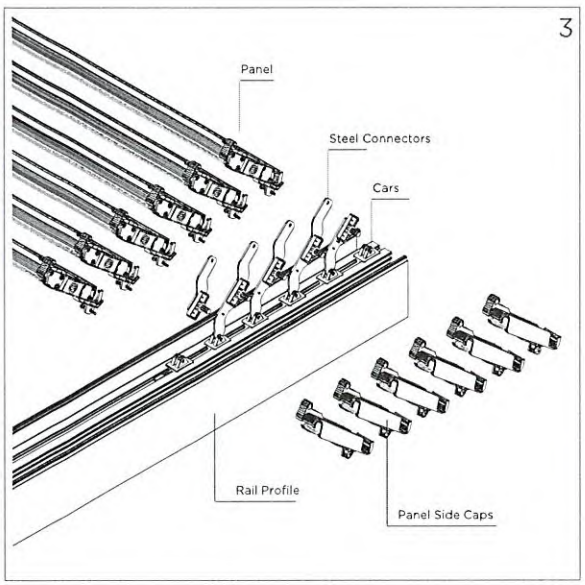
II. Connection Points Details

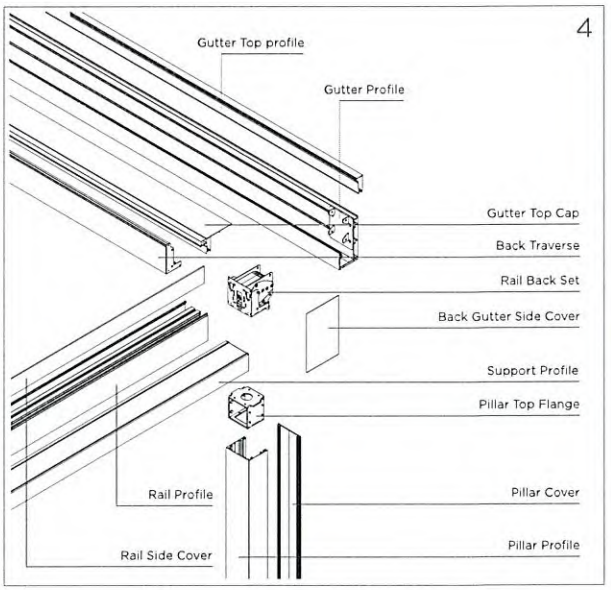






1. Pillar-Ground 2. Front Pillar-Rail-Gutter 3. Panel-Rail 4. Back Pillar-Rail

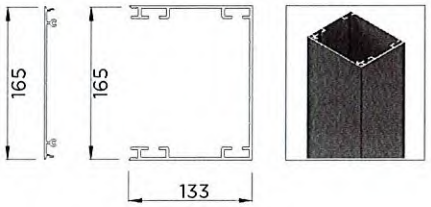




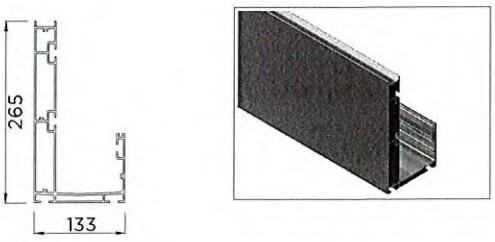
III. Aluminum profiles, sections and properties

Sunset guarantees that all aluminum profiles used in its products are of **DIN6060**, **DIN6061** and **DIN6062** quality, depending on where they are used.

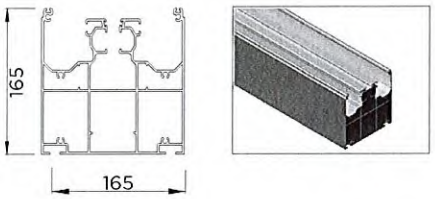
Pillar Profile and Cap



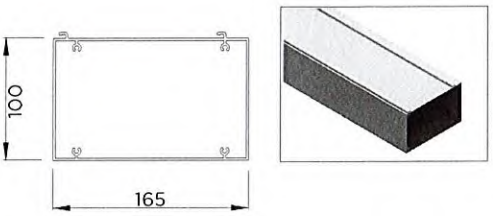
Gutter Profile



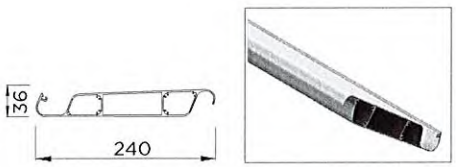
Rail Profile



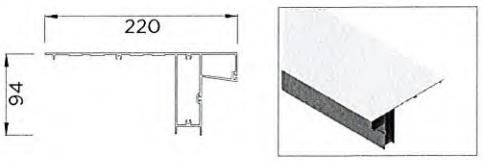
Box Profile



Panel Profile

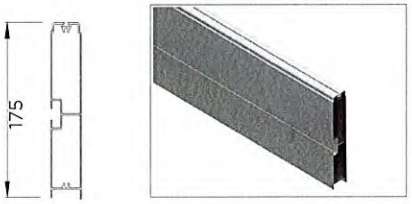


Back Gutter Cap



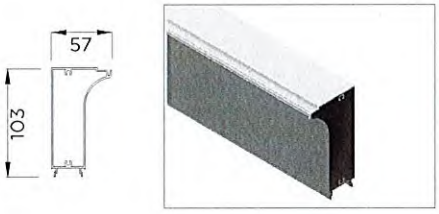
Panel

Traverse Profile

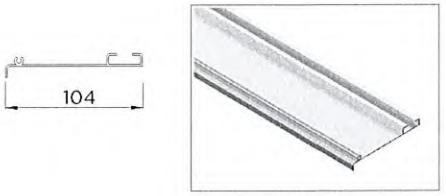


Rail Side Cap

Gutter Top Profile



Back Traverse Support Profile



Chemical Compositions - EN573-3 (EN - AW %)

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Other		Al
									Each	Total	
6060	0,30-0,60	0,10-0,30	0,10	0,10	0,35-0,60	0,05	0,15	0,10	0,05	0,15	Total

Mechanical Properties EN 755-2

Alloy	Temper	Wall Thickness e mm*	Tensile Strength Rm Mpa min	Test Resistance Rpo,2 Mpa min	Elongation		Brinell Hardness HB**
					A50mm % min	A % min	
EN -AW 6060	T4	e ≤ 25	120	60	14	16	45
	T5	e ≤ 5	160	120	6	8	55
	T6	e ≤ 3	190	150	6	8	65
		3 < e ≤ 25	170	140	6	8	60
	T66	e ≤ 3	215	160	6	8	70
		3 < e ≤ 25	195	150	6	8	65

Physical Properties	
Alloy EN - AW	6060
Metallic Range °C	585-650
Density g/cm³	2,70
Electrical Conductivity MS/m	34-38
Thermal Cond. W/(m K)	200-220
Essence J/(Kg K)	898
Thermal expansion values	
-50 to 20 °C (10^{-6}K)	21,8
20 to 100 °C (10^{-6}K)	23,4
20 to 200 °C (10^{-6}K)	24,5
20 to 300 °C (10^{-6}K)	25,6
Elasticity Coefficient Mpa	69500
Shear Coefficient Mpa	26100

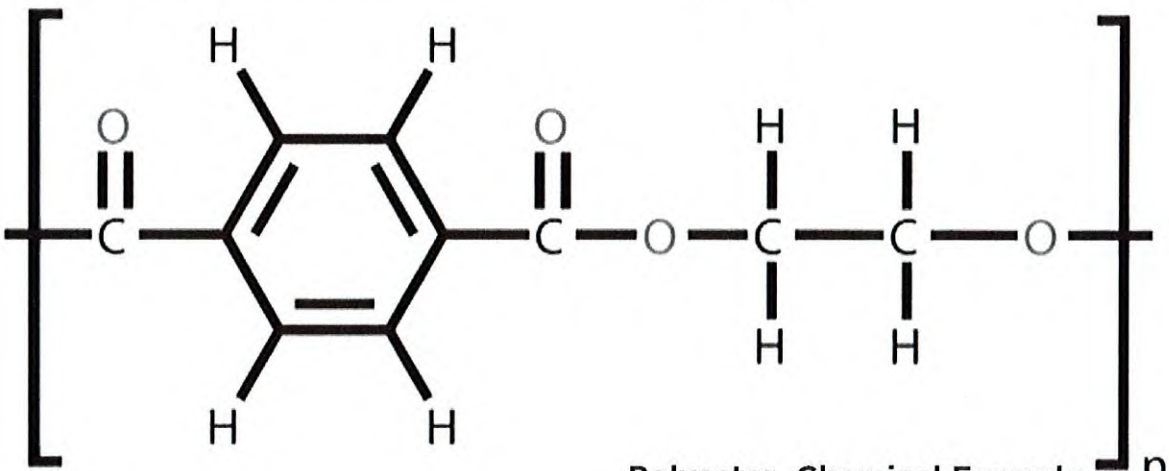
IV. Powder coating and Process properties

Sunset gives a 5-year paint warranty for its powder coated products. All aluminum and steel materials used in Sunset products are manufactured by painting with PE Electrostatic Powder Paint. Sunset is a manufacturer company that has chemical purification and abrasion facilities, which are an important part of the powder coating process. Sunset, uses on all products, Europe and Turkey's finest manufacturers Powder JOTA's, PULVE and IBA brand's 1.Quality Polyester Powder Coating. Sunset paint quality complies with QUALICOAT standards. Every project produced in the Sunset factory goes through a quality control process based on the experiment and observation staff determined by QUALICOAT.A special "Quality Certificate" is prepared for each order and delivered to our customers. Sunset delivers to its customers test plates and test reports showing that these tests have been performed together with the products.

Test Standards :
Within the QUALICOAT admissions, all tests listed below must be passed:

- **Adhesion Test (EN ISO 2409)**
- **Bending Test (EN ISO 1519)**
- **Impact Test (ASTM D2794)**
- **Cupping Test (EN ISO 1520)**

- **Surface Treatment Baths**
  - There are 5 5m3 bathrooms
  - Acidic degreasing
  - Mains rinse
  - DI rinse
  - Passivation Bath
  - DI rinse



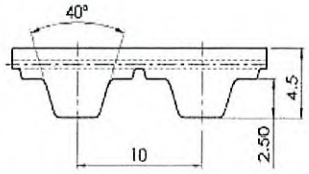
Polyester Chemical Formula

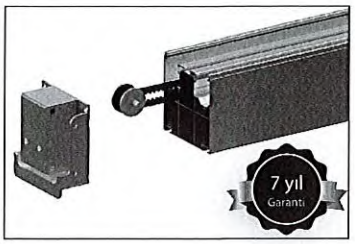
V. Tension / Drive Belt

SkyFree provides the movement it takes from the Tubular-based engine to aluminum panels with ELATEC (Italy), the world's number 1 manufacturer, with 16mm drive belts. Tension belts are in "HIDDEN" and "PROTECTED" condition within the Rail Profiles. Invisible from the outside and the system The drive belt and system, which is an important movement system part, are guaranteed for 7 years.

Belt Product Specification **16 TT10**

Profile	**TT10**
Width	**16**
Cord	**Galvanized Steel**





Dimensional characteristics

Width	16	± 0.5 [mm]
Thickness	4,5	± 0.2 [mm]
Length		± 0.5 [mm/m]
Measuring Preload	28,6	[N]
Weight	0,05	[Kg/m]

Material characteristics TPU 92 Sh.A

Colour WHITE

Tension member

Diameter	0,63
n.	11

Technical characteristics

Allowable Tensile load Type M [N]:	1265
Allowable Tensile load Type V [N]:	632,5
Breaking load FBr [N]:	4620
Specific spring rate Cspez [N]:	316250

Flexibility

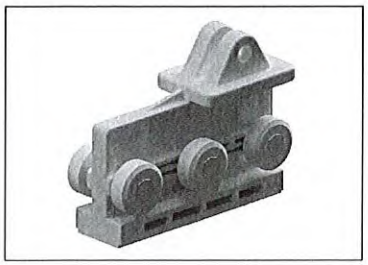
Drive without reverse bending	Z_min	12
	d_min Ildler	60 [mm]
Drive with reverse bending	Z_min	20
	d_min Ildler	60 [mm]

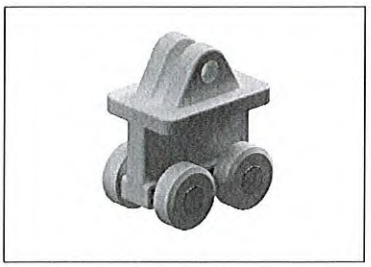
Working Temperature range -10 ÷ +80 ° C

Branding Elatech ® - 16TT10A - batch nbr - Made in Italy

VI Carriages Standards

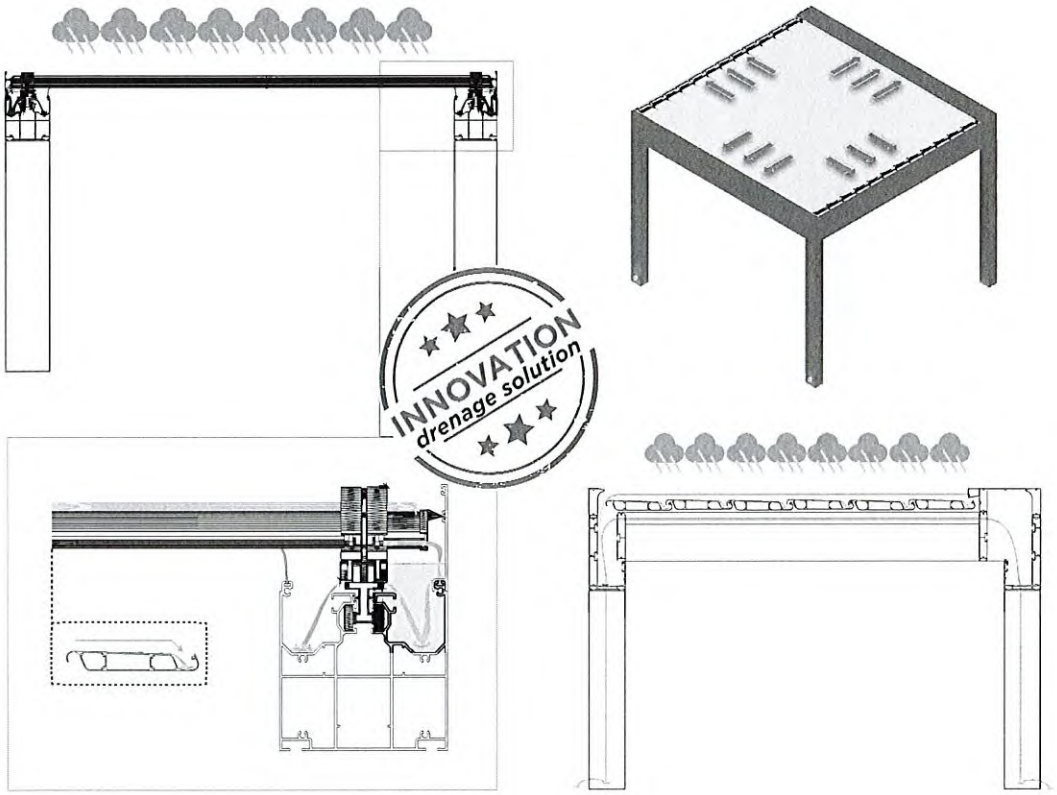
Sunset uses the highest quality principles in PVC cars and carriers, which are important parts of the movement system. In addition to the body made of ABS-added high-strength Polyster, the carrier wheels are made of DERLIN, which is not affected by liquid and dust and does not require lubrication. BRASS and / or STAINLESS steel bushings, screws and bolts are used at all connection points. Main Carrier Trolleys are "6", Secondary Carrier Trolleys are "4" wheels. Compression and conveying surface area and number make the system's fluidity perfect

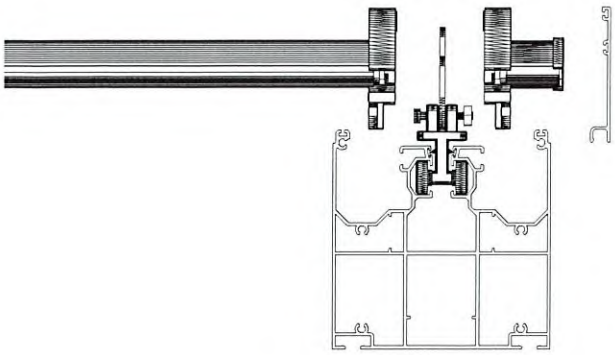




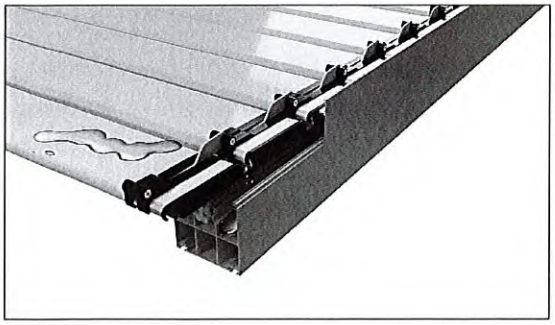
VI Water Drainage System

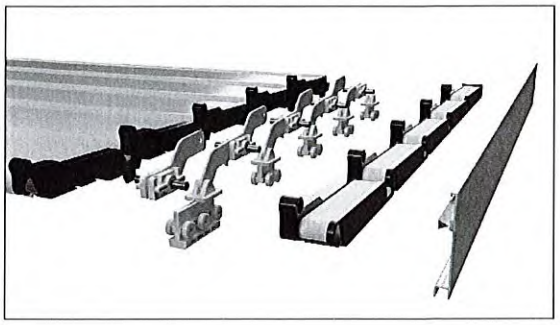
SkyFree provides the fastest and quietest discharge of the water accumulated on it, as detailed below. Water discharge capacity is 0.98 liters per second for each pillar.
This value guarantees problem-free use of the product in all precipitation conditions, except in disaster situations.

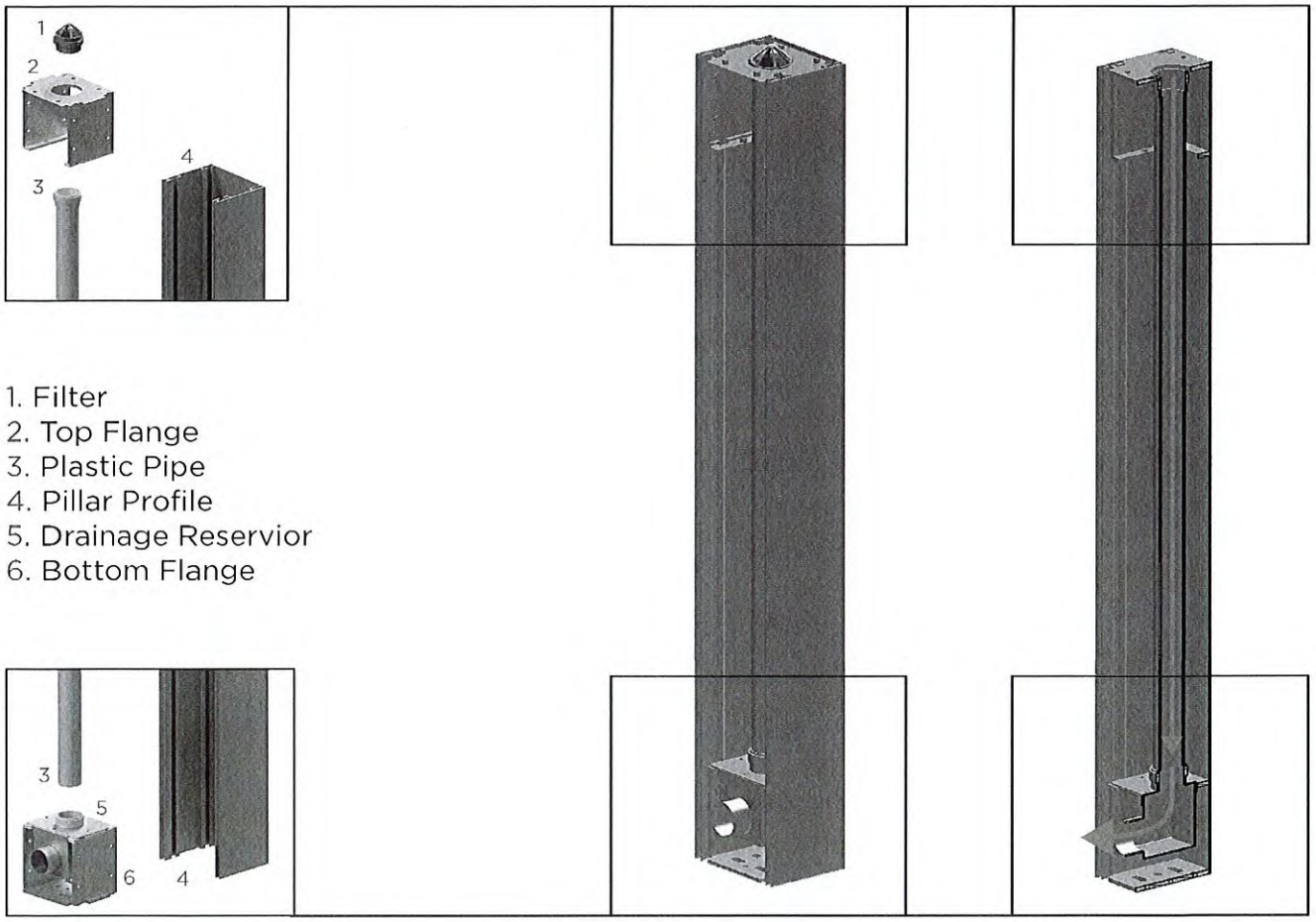




In the exploded section view on the side, you can see the rail-panel junction details. In the cars on the rail, the continuity of the panels is broken. With this type of technical design solution, the flow of water moving towards the rails on the panel is interrupted at the top of the carriages and the water is prevented from flowing out of the sides of the system. From the junction point of the panel and panel side covers on the car, the water moves towards the dead on the rails and is directed to the required drainage channel.



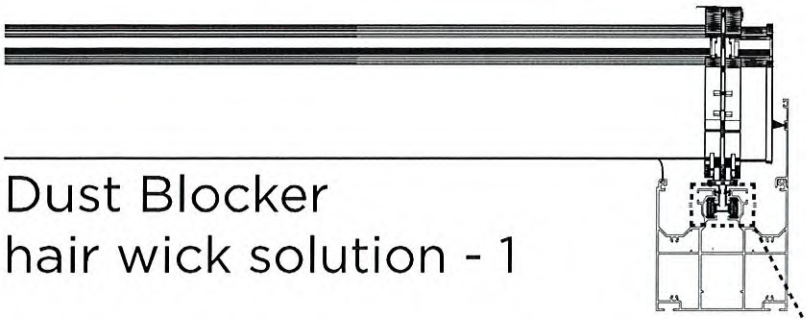




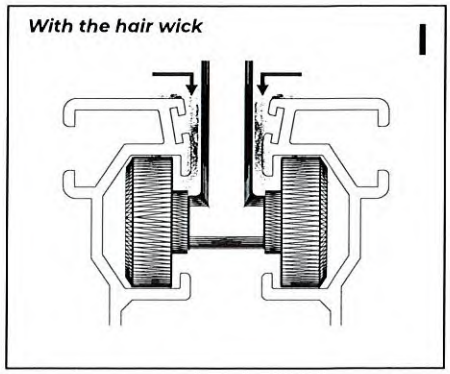
1. Filter
2. Top Flange
3. Plastic Pipe
4. Pillar Profile
5. Drainage Reservior
6. Bottom Flange

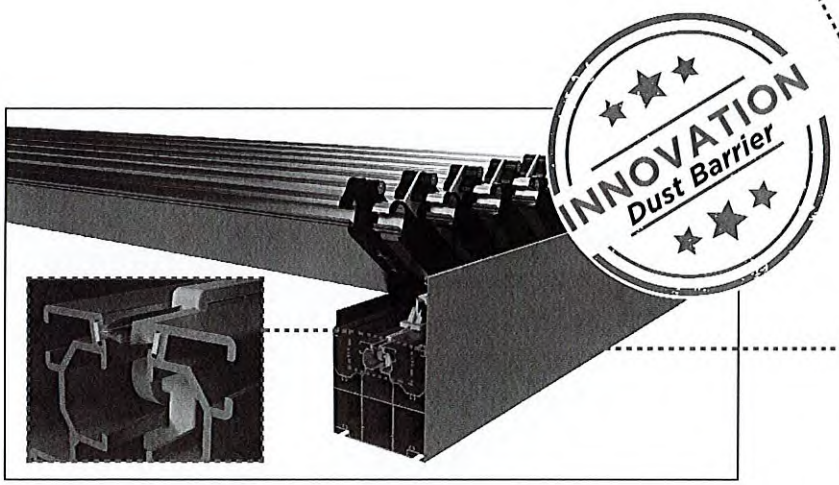
The water, which is included in the drainage path shown on the previous page, is transferred to the front and rear struts of the system at the last stage. The water passing through the filter is transferred to the water reservoir mounted on the lower flange, including the lower pimaş pipe. And it is evacuated from here. The column drain system with a diameter of 50 mm has a drainage capacity of 0.98 l / s.

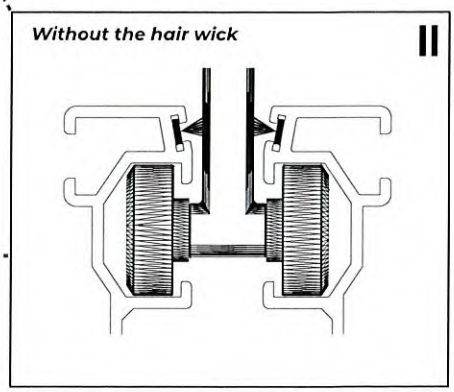
VII Dust Blocking Solution

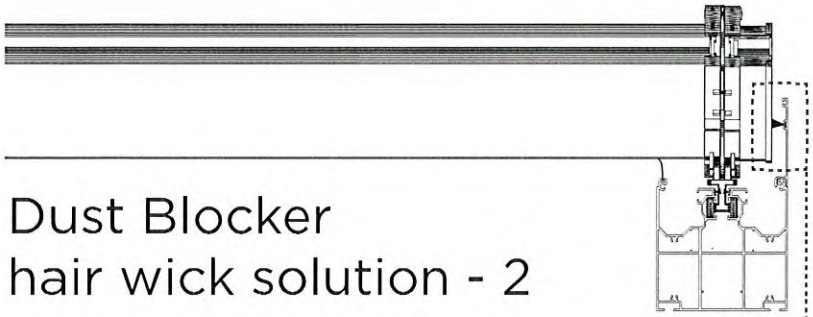


Dust Blocker
hair wick solution - 1

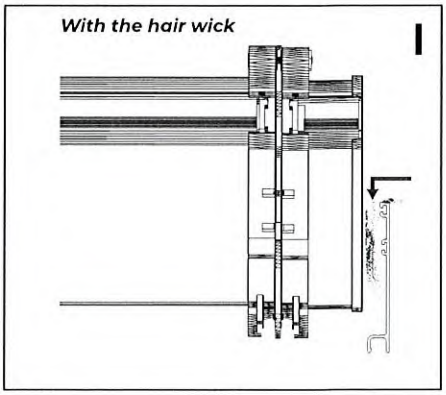


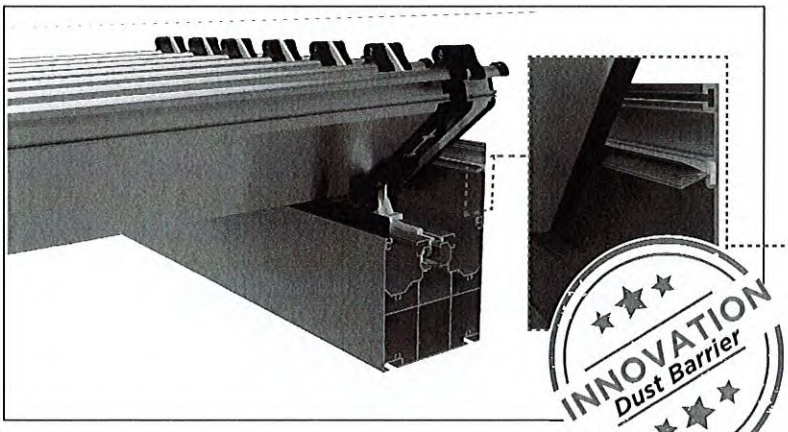


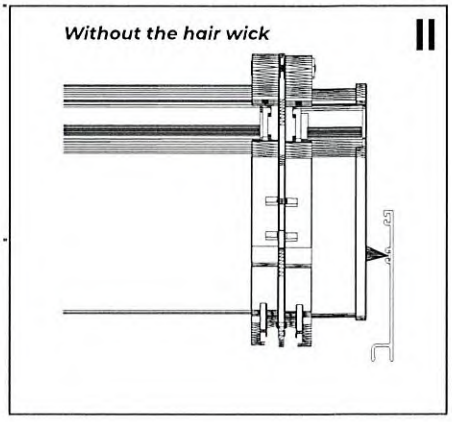




Dust Blocker
hair wick solution - 2



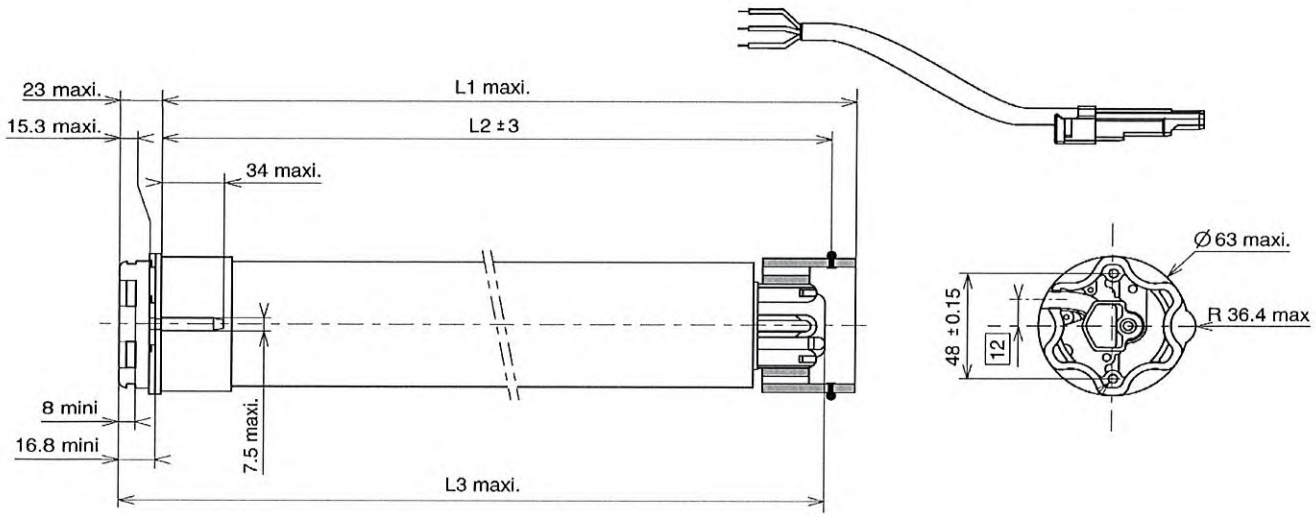




VIII Motor ve Remote Control

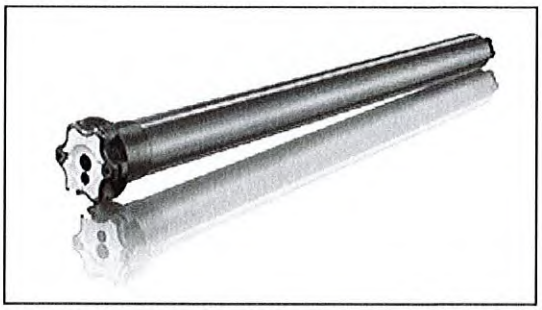
Movement must be provided for each product with one 85/17 Somfy Altus Motor. The motor is also controlled by Somfy RTS Telis Remote Control.

Somfy Motor Section View



Somfy Motor Technical Specifications

Type of head	Star Head
Nominal voltage	230 V 50 Hz
Power supply tolerances	207 - 253 V AC
Thermal time	4 minutes
Number of wires of the cable	3
Wire section	0,75 mm²
Type of limit switch unit	Electronic
Capacity of the LSU	200 turns
Repeatability	< ± 3°
System of protection	IP 44
Interface drawings	Wheel interface LT60 206801-Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802-Interface drawing star head LT60 206803-Interface drawing LT50&60 buttons 206817.
Radio frequency	433,42 MHz
Coding	Rolling code 16million of possibilities
Capacity of memory	12 different transmitters plus 3 wireless sensors
Antenna	Integrated
Range	20 m with 2 reinforced concrete walls to be passed through
R&TTE (Radio Equipement and Telecommunications Terminal Equipement Directive)	Dir 1999/5/CE
Safety Security	EN 60335 - 2 - 97
Electromagnetic compatibility	EN 301489 - 3
Radio frequency	EN 300 - 220 - 3
Application	
Principle	
Basic crown for tube Ø	63 x 1,5 mm
Temperature working range	Normal use: -10°C to +40°C Exceptional use (20% of the life time not simultaneous): -20°C to +70°C
Noise level	According to SOMFY measures (for information only). Worse value: in load up direction during 10 seconds.

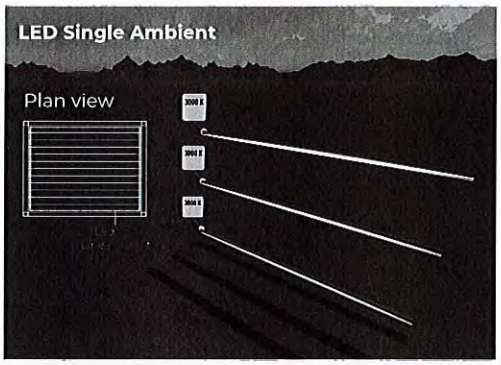


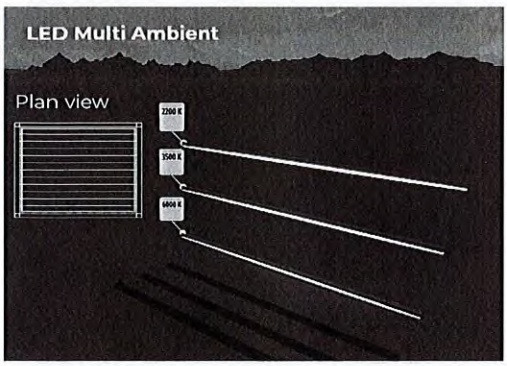
IX Aydınlatma Sistemi

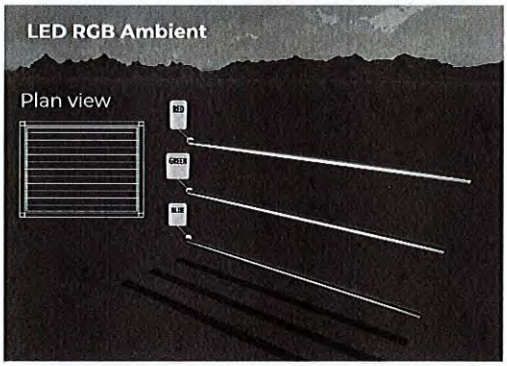
Our pergola lighting fixtures have 3 pieces, each with 1 Watt power, min. It is manufactured with Samsung or Ostram LED lenses that provide 250 Lumens of light. This system, which is produced by arranging on aluminum PCB, is protected by a transparent plastic cover surrounding the electronic system. All electrical connections are manufactured with SOCKET PASS system with CE certification in IP65 / IP66 and IP67 standards. There are no bare-end connection details. All cables used by Sunset are made of 1st Class, 100% Copper. Sunset cooperates with the world's number 1 manufacturer "Mean Well" as an AC-DC adapter. LPV 100 Series 12V transformers in IP67 standard are used in our products. Sunset AS offers you the unique and most comprehensive lighting options in the sector, taking into account the value that lighting adds to the visuality of the product.
Lighting fixtures used in our products are environmentally friendly LED modules are originating in Turkey.

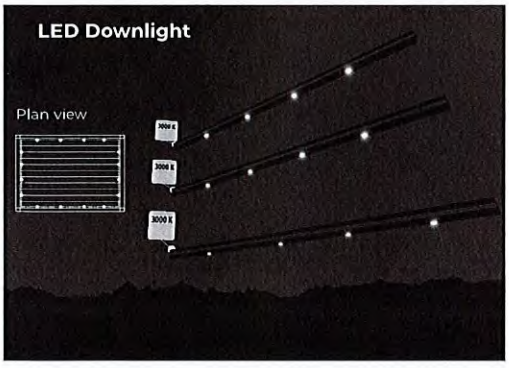
With Triple Light, Sunset AS offers the opportunity to choose one of the lighting models that will best suit your living space. Your choice will further help you customize your product. In Turkey and in the world "3" option chance only in AS SUNSET.

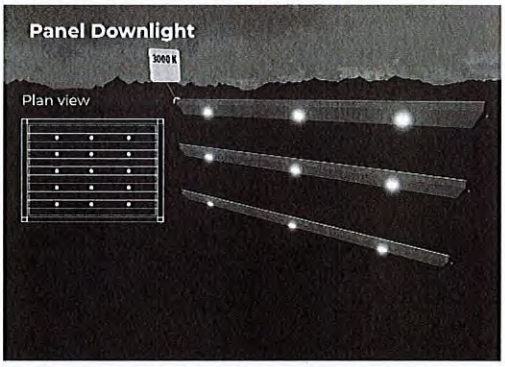
Right of DIM - Sunset AS is proud to offer you the Dimmer option as a standard.
You no longer have to pay hundreds of Euros for your Dimmer needs











X About Company

The company that produces the product is required to have an ISO 9001 Quality certificate. The manufacturer must have a CE certificate showing that it works with CE norms. The manufacturer must be in a manufacturer profile that specializes in pergola manufacturing and operates in an area of at least 3000 m2 and above, with machinery / equipment and employee profile that can do this job. The manufacturer should be able to declare at least 5 "company" and "country" names from the European continent, contact information and at least 3 invoices issued to these companies, where the company can refer to its worldwide work experience. The buyer should be able to make inquiries by talking to these companies.

ISO 9001:2008

Sunset AS guarantees that it will provide world-class products to its customers, which has ISO 9001: 2008 quality certificate.

CE ATTESTATION OF COMPLIANCE

Sunset AS, " CE ATTESTATION OF COMPLIANCE "
TRC-20-1311 /02
TRC-20-1311 /03

"5" years warranty

Sunset AS provides a "5" year warranty for all products it manufactures.

SUNSET
Four Seasons Comfort

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.51763

Instrument:	**Acoustical Calibrator**
Model:	**120_1**
Manufacturer:	**CEL**
Serial number:	**1090999**
Class (IEC 60942):	**1**
Barometer type:	
Barometer s/n:	
Customer:	**GZA**
Tel/Fax:	**973-774-3300**

Date Calibrated: **8/13/2024** *Cal Due:* **8/13/2025**

Status:	**Received**	**Sent**
In tolerance:	**X**	**X**
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No

Address: **55 Lane Road Suite 407**
Fairfield, NJ 07004

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., Rev. 10/1/2010

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Nov 10, 2023	Scantek, Inc./ NVLAP	Nov 10, 2024
DS-360-SRS	Function Generator	88077	Dec 21, 2022	ACR Env./ A2LA	Dec 21, 2024
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	May 1, 2024	ACR Env. / A2LA	May 1, 2025
PTU300-Vaisala	EnvironmentalMonitor	P5011262	Sept 20, 2023	ACR Env./ A2LA	Sept 20, 2024
140-Norsonic	Real Time Analyzer	1406423	Nov 10, 2023	Scantek / NVLAP	Nov 10, 2024
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
4134-Brüel&Kjær	Microphone	173368	Jan 3, 2024	Scantek, Inc. / NVLAP	Jan 3, 2025
1203-Norsonic	Preamplifier	14059	March 7, 2024	Scantek, Inc./ NVLAP	March 7, 2025

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Bailey Partoza	**Authorized signatory:**	Lydon Dawkins
Signature		Signature	Lydon Dawkins
Date	8/13/24	Date	8/19/2024

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES[1] FROM STANDARDS REFERENCED IN PROCEDURES:	MET[2]	NOT MET	COMMENTS
Manufacturer specifications			
Manufacturer specifications: Sound pressure level	X		
Manufacturer specifications: Frequency	X		
Manufacturer specifications: Total harmonic distortion	X		
Current standards			
ANSI S1.40:2006 B.3 / IEC 60942: 2003 B.2 - Preliminary inspection	X		
ANSI S1.40:2006 B.4.4 / IEC 60942: 2003 B.3.4 - Sound pressure level	X		
ANSI S1.40:2006 A.5.4 / IEC 60942: 2003 A.4.4 - Sound pressure level stability	-	-	
ANSI S1.40:2006 B.4.5 / IEC 60942: 2003 B.3.5 - Frequency	X		
ANSI S1.40:2006 B.4.6 / IEC 60942: 2003 B.3.6 - Total harmonic distortion	X		

1 The results of this calibration apply only to the instrument type with serial number identified in this report.

2 The tests marked with (*) are not covered by the current NVLAP accreditation.

Main measured parameters [3]:

Measured[4]/Acceptable[5] Tone frequency (Hz):	Measured[4]/Acceptable[5] Total Harmonic Distortion (%):	Measured [4]/Acceptable Level[5] (dB):
1000.01 ± 1.0/1000.0 ± 10.0	0.20 ± 0.10/ < 3	94.07 ± 0.12/94.0 ± 0.4
999.99 ± 1.0/1000.0 ± 10.0	0.36 ± 0.10/ < 3	114.12 ± 0.12/114.0 ± 0.4

3 The stated level is valid at reference conditions.

4 The above expanded uncertainties for frequency and distortion are calculated with a coverage factor k=2; for level k=2.00

5 Acceptable parameters values are from the current standards

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.6 ± 1.0	100.44 ± 0.000	48.6 ± 2.0

Tests made with following attachments to instrument:

Calibrator ½" Adaptor Type:
Other:

Adjustments: Unit was not adjusted.
Comments: The instrument was tested and met all specifications found in the referenced procedures.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. The measurement results are reported as Pass / Fail simple acceptance; measured values are in the tolerance interval.

Measured Data: in Acoustical Calibrator Test Report # 51763 of two pages.

Place of Calibration: Scantek, Inc.
6430 Dobbin Road, Suite C
Columbia, MD 21045 USA
Ph/Fax: 410-290-7726/ -9167
callab@scantekinc.com

Test Report No.:51763

Manufacturer: CEL
Type: 120_1
Serial no: 1090999

Customer: GZA
Department:
Address: 55 Lane Road Suite 407 Fairfield, NJ 07004
Order No:
Contact Person: Gene Bove
Phone No.: 973-774-3300
eMail: gene.bove@gza.com

Measurement Results:

	Level: (dB)	P. Stab : (dB)	Frequency: (Hz)	F. Stab : (%)	Distortion: (% TD)
1:	94.08	0.04	1000.02	0.01	0.20
2:	94.07	0.05	1000.03	0.01	0.20
3:	94.07	0.03	999.99	0.01	0.20
Result (Average):	**94.07**	**0.04**	**1000.01**	**0.01**	**0.20**
Expanded Uncertainty:	0.12	0.02	1.00	0.01	0.10
Degree of Freedom:	>100	32	>100	9	>100
Coverage Factor:	2.00	2.13	2.00	2.37	2.00

The stated levels are relative to 20µPa.

The following correction factors have been applied during the measurement:
Pressure:0.004 dB/kPa Temperature: None Relative humidity: None
Reference microphone: 4134-173368. Volume correction: 0.012 dB
Records:Y:\Calibration Lab\Cal 2024\CEL120-1_1090999_M1.nmf

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA publication EA-4/02.

Environmental conditions:

Pressure:	Temperature:	Relative humidity:
100.440 ± 0.020 kPa	23.6 ± 1.0 °C	48.6 ± 2.0 %RH

Date of calibration: 8/13/2024
Date of issue: 8/13/2024

Supervisor : Lydon Dawkins
Measurements performed by:

Bailey Partoza
Software version: 6.1T

Scantek, Inc.
6430 Dobbin Rd., Suite C, Columbia, MD 21045
Ph: 410-290-7726 eMail: callab@scantekinc.com

Test Report No.:51763

Manufacturer:	**CEL**
Type:	**120_1**
Serial no:	**1090999**

Customer:	**GZA**
Department:	
Address:	**55 Lane Road Suite 407 Fairfield, NJ 07004**
Order No:	
Contact Person:	**Gene Bove**
Phone No.:	**973-774-3300**
eMail:	**gene.bove@gza.com**

Measurement Results:

	Level: (dB)	P. Stab : (dB)	Frequency: (Hz)	F. Stab : (%)	Distortion: (% TD)
1:	114.12	0.01	1000.00	0.00	0.36
2:	114.12	0.02	999.99	0.00	0.35
3:	114.12	0.02	999.99	0.00	0.36
Result (Average):	**114.12**	**0.02**	**999.99**	**0.00**	**0.36**
Expanded Uncertainty:	0.12	0.02	1.00	0.01	0.10
Degree of Freedom:	>100	>100	>100	>100	>100
Coverage Factor:	2.00	2.00	2.00	2.00	2.00

The stated levels are relative to 20µPa.

The following correction factors have been applied during the measurement:
Pressure:0.004 dB/kPa Temperature: None Relative humidity: None
Reference microphone: 4134-173368. Volume correction: 0.012 dB
Records:Y:\Calibration Lab\Cal 2024\CEL120-1_1090999_M2.nmf

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA publication EA-4/02.

Environmental conditions:

Pressure:	Temperature:	Relative humidity:
100.440 ± 0.020 kPa	23.6 ± 1.0 °C	48.6 ± 2.0 %RH

Date of calibration: 8/13/2024
Date of issue: 8/13/2024

Supervisor : Lydon Dawkins
Measurements performed by:

Bailey Partoza
Software version: 6.1T

Scantek, Inc.
6430 Dobbin Rd., Suite C, Columbia, MD 21045
Ph: 410-290-7726 eMail: callab@scantekinc.com

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.51749

Instrument: **Sound Level Meter**
Model: **63X**
Manufacturer: **CEL**
Serial number: **5086866**
Tested with: **Microphone 251 s/n 05784**
Preamplifier 495 s/n 003987
Type (class): **1**
Customer: **GZA**
Tel/Fax: **973-774-3300**

Date Calibrated: **8/14/2024** *Cal Due:* **8/14/2025**

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No
Calibration service: __ Basic _X_ Standard
Address: **55 Lane Road Suite 407**
Fairfield, NJ 07004

Tested in accordance with the followng procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/26/2015
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Nov 10, 2023	Scantek, Inc./ NVLAP	Nov 10, 2024
DS-360-SRS	Function Generator	88077	Dec 21, 2022	ACR Env./ A2LA	Dec 21, 2024
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	May 1, 2024	ACR Env. / A2LA	May 1, 2025
PTU300-Vaisala	EnvironmentalMonitor	P5011262	Sept 20, 2023	ACR Env./ A2LA	Sept 20, 2024
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	30878	Oct 6, 2023	Scantek, Inc./ NVLAP	Oct 6, 2024

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.6	100.63	48.5

Calibrated by:	Bailey Partoza	**Authorized signatory:**	Lydon Dawkins
Signature		Signature	Lydon Dawkins
Date	8/14/24	Date	8/19/2024

Results summary: Device complies with following clauses of mentioned specifications:

CLAUSES [1] FROM IEC/ANSI STANDARDS REFERENCED IN PROCEDURES:	RESULT[2,3]	EXPANDED UNCERTAINTY (coverage factor 2) [dB]
INDICATION AT THE CALIBRATION CHECK FREQUENCY - IEC61672-3 ED.2 CLAUSE 10	Passed	0.15
SELF-GENERATED NOISE - IEC 61672-3 ED.2 CLAUSE 11	*Passed	0.30
FREQUENCY WEIGHTINGS: A NETWORK - IEC 61672-3 ED.2.0 CLAUSE 13	Passed	0.20
FREQUENCY WEIGHTINGS: C NETWORK - IEC 61672-3 ED.2.0 CLAUSE 13	Passed	0.20
FREQUENCY WEIGHTINGS: Z NETWORK - IEC 61672-3 ED.2.0 CLAUSE 13	Passed	0.20
FREQUENCY AND TIME WEIGHTINGS AT 1 KHZ IEC 61672-3 ED.2.0 CLAUSE 14	Passed	0.20
LEVEL LINEARITY ON THE REFERENCE LEVEL RANGE - IEC 61672-3 ED.2 CLAUSE 16	Passed	0.25
TONEBURST RESPONSE - IEC 61672-3 ED.2.0 CLAUSE 18	Passed	0.30
PEAK C SOUND LEVEL - IEC 61672-3 ED.2.0 CLAUSE 19	Passed	0.35
OVERLOAD INDICATION - IEC 61672-3 ED.2.0 CLAUSE 20	Passed	0.25
HIGH LEVEL STABILITY TEST - IEC 61672-3 ED.2.0 CLAUSE 21	Passed	0.10
LONG TERM STABILITY TEST - IEC 61672-3 ED.2.0 CLAUSE 15	Passed	0.10
FILTER TEST 1/1OCTAVE: RELATIVE ATTENUATION - IEC 61260, CLAUSE 4.4 & #5.3	Passed	0.25
FILTER TEST 1/3OCTAVE: RELATIVE ATTENUATION - IEC 61260, CLAUSE 4.4 & #5.3	Passed	0.25
COMBINED ELECTRICAL AND ACOUSTICAL TEST - IEC 61672-3 ED.2.0 CLAUSE 13	Passed	See test report

1 The results of this calibration apply only to the instrument type with serial number identified in this report.

2 Parameters are certified at actual environmental conditions.

3 The tests marked with (*) are not covered by the current NVLAP accreditation.

Comments: The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2, to demonstrate that the model of sound level meter fully conforms to the requirements in the IEC 61672-2, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1.

Note: The instrument was tested for the parameters listed in the table above, using the test methods described in the listed standards. All tests were performed around the reference conditions. The test results were compared with the manufacturer's or with the standard's specifications, whichever are larger. The measurement results are reported as Pass / Fail simple acceptance; measured values are in the tolerance interval.

Tests made with the following attachments to the instrument:

Microphone: CEL 251 s/n 05784 for acoustical test
Preamplifier: CEL 495 s/n 003987 for all tests
Other: line adaptor ADP005 (18pF) for electrical tests
Accompanying acoustical calibrator: CEL 120_1 s/n 2045304
Windscreen: none

Measured Data: in Test Report # 51749 of 9 +1 pages.

Place of Calibration: Scantek, Inc.
6430 Dobbin Road, Suite C
Columbia, MD 21045 USA

Ph/Fax: 410-290-7726/ -9167
callab@scantekinc.com

Summary of Test Report No.:51749

CEL Type: 63X Serial no: 5086866

Customer:	**GZA**
Address:	**55 Lane Road Suite 407 Fairfield, NJ 07004**
Contact Person:	**Gene Bove**
Phone No.:	**973-774-3300**
eMail:	**gene.bove@gza.com**

Instrument software version: 006-05

Microphone:	CEL	Type: 251	Serial no: 05784	Sens:-27.08dB
Preamplifier	CEL	Type: 495	Serial no: 003987	
Calibrator:	CEL	Type: 120_1	Serial no: 2045304	Level:114.10dB

Measurement Results:

Indication at the calibration check frequency - IEC61672-3 Ed.2 Clause 10	Passed
Self-generated noise - IEC 61672-3 Ed.2 Clause 11	Passed
Frequency weightings: A Network - IEC 61672-3 Ed.2.0 Clause 13	Passed
Frequency weightings: C Network - IEC 61672-3 Ed.2.0 Clause 13	Passed
Frequency weightings: Z Network - IEC 61672-3 Ed.2.0 Clause 13	Passed
Frequency and time weightings at 1 kHz IEC 61672-3 Ed.2.0 Clause 14	Passed
Level linearity on the reference level range - IEC 61672-3 Ed.2 Clause 16	Passed
Toneburst response - IEC 61672-3 Ed.2.0 Clause 18	Passed
Peak C sound level - IEC 61672-3 Ed.2.0 Clause 19	Passed
Overload indication - IEC 61672-3 Ed.2.0 Clause 20	Passed
High level stability test - IEC 61672-3 Ed.2.0 Clause 21	Passed
Long term stability test - IEC 61672-3 Ed.2.0 Clause 15	Passed
Filter Test 1/1octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3	Passed
Filter Test 1/3octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3	Passed
Combined electrical and acoustical test - IEC 61672-3 Ed.2.0 Clause 13	Passed

Environmental conditions:

Pressure:	Temperature:	Relative humidity:
100.63	23.6	48.5

Date of calibration: 8/14/2024
Date of issue: 8/14/2024
Supervisor: Lydon Dawkins
Measurements performed by:

Bailey Partoza

Software version: 6.1 T

Scantek, Inc.
6430 Dobbin Rd., Suite C, Columbia, MD 21045
Ph: 410-290-7726 eMail: callab@scantekinc.com

Test Report No.:51749

Manufacturer:	CEL
Instrument type:	63X
Serial no:	5086866
Customer:	GZA
Department:	
Order No:	
Contact Person:	Gene Bove
Address:	55 Lane Road Suite 407 Fairfield, NJ 07004

Environmental conditions:

Pressure:	100.63
Temperature:	23.6
Relative humidity:	48.5

Supervisor	Lydon Dawkins
Engineer	Bailey Partoza
Date:	8/14/2024

Measurement Results:

Indication at the calibration check frequency - IEC61672-3 Ed.2 Clause 10

Reference Calibrator: WSC4 - NOR1251-30878
Reference calibrator level: 113.95
Before calibration:
  Environmental corrections: 0.00
  Other corrections: -0.08
  Notional level: 113.87
Reference calibrator level before calibration: 114.2
After calibration:
  Environmental corrections: 0.00
  Other corrections: -0.08
  Notional level: 113.87
Reference calibrator level after calibration: 113.9
Associated Calibrator: CEL - 120_1 - 2045304
Associated calibrator level: 114.10
Initial level check:
  Environmental corrections: 0.00
  Other corrections: -0.08
  Notional level: 114.02
Indicated level before calibration: 114.3
Final level statement:
  Environmental corrections after calibration: 0.00
  Other corrections: -0.08
  Notional level: 114.02
Indicated level after calibration: 114.0
This value shall be used for adjusting the sound level meter in the future.
Test Passed

Self-generated noise - IEC 61672-3 Ed.2 Clause 11

Network	Level (dB)	Max (dB)	Uncert. (dB)	Result	Comment
A	14.0	17.5	0.3	P	Equivalent capacity
C	16.3	21.0	0.3	P	Equivalent capacity
Z	21.7	26.5	0.3	P	Equivalent capacity

Test Passed

Frequency weightings: A Network - IEC 61672-3 Ed.2.0 Clause 13

Freq (Hz)	Ref. (dB)	Meas. (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
63.1	95.0	94.9	1.0	-1.0	0.2	-0.1	P
125.9	95.0	94.9	1.0	-1.0	0.2	-0.1	P
251.2	95.0	94.9	1.0	-1.0	0.2	-0.1	P
501.2	95.0	94.9	1.0	-1.0	0.2	-0.1	P
1000.0	95.0	95.0	0.7	-0.7	0.2	0.0	P
1995.3	95.0	94.9	1.0	-1.0	0.2	-0.1	P

Frequency weightings: A Network - IEC 61672-3 Ed.2.0 Clause 13

Freq (Hz)	Ref. (dB)	Meas. (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
3981.1	95.0	94.8	1.0	-1.0	0.2	-0.2	P
7943.3	95.0	94.7	1.5	-2.5	0.2	-0.3	P
15848.9	95.0	92.2	2.5	-16.0	0.2	-2.8	P

Test Passed

Frequency weightings: C Network - IEC 61672-3 Ed.2.0 Clause 13

Freq (Hz)	Ref. Level (dB)	Meas. Value (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
63.1	95.0	94.9	1.0	-1.0	0.2	-0.1	P
125.9	95.0	95.0	1.0	-1.0	0.2	0.0	P
251.2	95.0	94.9	1.0	-1.0	0.2	-0.1	P
501.2	95.0	95.0	1.0	-1.0	0.2	0.0	P
1000.0	95.0	95.0	0.7	-0.7	0.2	0.0	P
1995.3	95.0	95.0	1.0	-1.0	0.2	0.0	P
3981.1	95.0	94.9	1.0	-1.0	0.2	-0.1	P
7943.3	95.0	94.6	1.5	-2.5	0.2	-0.4	P
15848.9	95.0	92.2	2.5	-16.0	0.2	-2.8	P

Test Passed

Frequency weightings: Z Network - IEC 61672-3 Ed.2.0 Clause 13

Freq (Hz)	Ref. Level (dB)	Meas. Value (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
63.1	95.0	95.0	1.0	-1.0	0.2	0.0	P
125.9	95.0	95.0	1.0	-1.0	0.2	0.0	P
251.2	95.0	94.9	1.0	-1.0	0.2	-0.1	P
501.2	95.0	94.9	1.0	-1.0	0.2	-0.1	P
1000.0	95.0	95.0	0.7	-0.7	0.2	0.0	P
1995.3	95.0	94.9	1.0	-1.0	0.2	-0.1	P
3981.1	95.0	94.9	1.0	-1.0	0.2	-0.1	P
7943.3	95.0	94.9	1.5	-2.5	0.2	-0.1	P
15848.9	95.0	94.7	2.5	-16.0	0.2	-0.3	P

Test Passed

Frequency and time weightings at 1 kHz IEC 61672-3 Ed.2.0 Clause 14

Weightings Time	Netw	Ref. (dB)	Measured (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
Fast	A	114.0	114.0	0.1	-0.1	0.2	0.0	P
Fast	C	114.0	114.0	0.1	-0.1	0.2	0.0	P
Fast	Z	114.0	114.0	0.1	-0.1	0.2	0.0	P
Slow	A	114.0	114.0	0.1	-0.1	0.2	0.0	P
Leq	A	114.0	114.0	0.1	-0.1	0.2	0.0	P
SEL	A	124.0	124.0	0.1	-0.1	0.2	0.0	P

Test Passed

Frequency and time weightings at 1 kHz IEC 61672-3 Ed.2.0 Clause 14

Weightings		Ref.	Measured	Tol.		Uncert.	Dev.	Result
Time	Netw	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	

Level linearity on the reference level range - IEC 61672-3 Ed.2 Clause 16

Ref. (dB)	Measured (dB)	Tol. (dB)	(dB)	Uncert. (dB)	Dev. (dB)	Result
Full scale setting: 140dB						
The following measurements are SPL measurements						
Measured at 31.5 Hz						
94.0	94.0	0.8	-0.8	0.25	0.0	P
96.6	96.6	0.8	-0.8	0.25	0.0	P
97.6	97.6	0.8	-0.8	0.25	0.0	P
98.6	98.6	0.8	-0.8	0.25	0.0	P
99.6	99.6	0.8	-0.8	0.25	0.0	P
94.0	94.0	0.8	-0.8	0.25	0.0	P
89.0	89.0	0.8	-0.8	0.25	0.0	P
84.0	84.0	0.8	-0.8	0.25	0.0	P
79.0	79.0	0.8	-0.8	0.25	0.0	P
74.0	74.0	0.8	-0.8	0.25	0.0	P
69.0	69.0	0.8	-0.8	0.25	0.0	P
64.0	64.1	0.8	-0.8	0.25	0.1	P
59.0	59.1	0.8	-0.8	0.25	0.1	P
54.0	54.4	0.8	-0.8	0.25	0.4	P
49.0	49.7	0.8	-0.8	0.25	0.7	P
44.0	44.1	0.8	-0.8	0.25	0.1	P
43.0	43.0	0.8	-0.8	0.25	0.0	P
42.0	42.0	0.8	-0.8	0.25	0.0	P
41.0	41.0	0.8	-0.8	0.25	0.0	P
40.0	40.0	0.8	-0.8	0.25	0.0	P
Measured at 1 kHz						
114.0	114.0	0.8	-0.8	0.25	0.0	P
119.0	119.0	0.8	-0.8	0.25	0.0	P
124.0	124.0	0.8	-0.8	0.25	0.0	P
129.0	129.0	0.8	-0.8	0.25	0.0	P
134.0	134.0	0.8	-0.8	0.25	0.0	P
136.0	136.0	0.8	-0.8	0.25	0.0	P
137.0	137.0	0.8	-0.8	0.25	0.0	P
138.0	138.0	0.8	-0.8	0.25	0.0	P
139.0	139.0	0.8	-0.8	0.25	0.0	P
140.0	140.0	0.8	-0.8	0.25	0.0	P
114.0	114.0	0.8	-0.8	0.25	0.0	P
109.0	109.0	0.8	-0.8	0.25	0.0	P
104.0	104.0	0.8	-0.8	0.25	0.0	P
99.0	99.0	0.8	-0.8	0.25	0.0	P
94.0	94.0	0.8	-0.8	0.25	0.0	P
89.0	89.0	0.8	-0.8	0.25	0.0	P
84.0	84.0	0.8	-0.8	0.25	0.0	P
79.0	79.0	0.8	-0.8	0.25	0.0	P
74.0	74.0	0.8	-0.8	0.25	0.0	P
69.0	69.0	0.8	-0.8	0.25	0.0	P
64.0	64.0	0.8	-0.8	0.25	0.0	P
59.0	59.0	0.8	-0.8	0.25	0.0	P
54.0	54.0	0.8	-0.8	0.25	0.0	P
49.0	49.0	0.8	-0.8	0.25	0.0	P
44.0	44.0	0.8	-0.8	0.25	0.0	P

Level linearity on the reference level range - IEC 61672-3 Ed.2 Clause 16

Ref. (dB)	Measured (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
43.0	43.0	0.8	-0.8	0.25	0.0	P
42.0	42.0	0.8	-0.8	0.25	0.0	P
41.0	41.0	0.8	-0.8	0.25	0.0	P
40.0	40.0	0.8	-0.8	0.25	0.0	P
Measured at 8 kHz						
114.0	114.0	0.8	-0.8	0.25	0.0	P
119.0	119.0	0.8	-0.8	0.25	0.0	P
124.0	124.0	0.8	-0.8	0.25	0.0	P
129.0	129.0	0.8	-0.8	0.25	0.0	P
134.9	134.9	0.8	-0.8	0.25	0.0	P
135.9	135.9	0.8	-0.8	0.25	0.0	P
136.9	136.9	0.8	-0.8	0.25	0.0	P
137.9	137.9	0.8	-0.8	0.25	0.0	P
138.9	138.9	0.8	-0.8	0.25	0.0	P
114.0	114.0	0.8	-0.8	0.25	0.0	P
109.0	109.0	0.8	-0.8	0.25	0.0	P
104.0	104.0	0.8	-0.8	0.25	0.0	P
99.0	98.9	0.8	-0.8	0.25	-0.1	P
94.0	94.0	0.8	-0.8	0.25	0.0	P
89.0	89.0	0.8	-0.8	0.25	0.0	P
84.0	84.0	0.8	-0.8	0.25	0.0	P
79.0	79.0	0.8	-0.8	0.25	0.0	P
74.0	74.0	0.8	-0.8	0.25	0.0	P
69.0	68.9	0.8	-0.8	0.25	-0.1	P
64.0	64.0	0.8	-0.8	0.25	0.0	P
59.0	59.0	0.8	-0.8	0.25	0.0	P
54.0	54.0	0.8	-0.8	0.25	0.0	P
49.0	48.9	0.8	-0.8	0.25	-0.1	P
44.0	44.0	0.8	-0.8	0.25	0.0	P
43.0	43.0	0.8	-0.8	0.25	0.0	P
42.0	42.0	0.8	-0.8	0.25	0.0	P
41.0	41.0	0.8	-0.8	0.25	0.0	P
40.0	40.0	0.8	-0.8	0.25	0.0	P

Test Passed

Toneburst response - IEC 61672-3 Ed.2.0 Clause 18

Burst type	Ref. (dB)	Measured (dB)	Tol. (dB)	Tol. (dB)	Uncert. (dB)	Dev. (dB)	Result
Fast 200 mSec	137.0	136.9	0.5	-0.5	0.3	-0.1	P
Fast 2.0 mSec	120.0	119.8	1.0	-1.5	0.3	-0.2	P
Fast 0.25 mSec	111.0	110.7	1.0	-3.0	0.3	-0.3	P
Slow 200 mSec	130.6	130.5	0.5	-0.5	0.3	-0.1	P
Slow 2.0 mSec	111.0	110.9	1.0	-3.0	0.3	-0.1	P
SEL 200 mSec	131.0	130.9	0.5	-0.5	0.3	-0.1	P
SEL 2.0 mSec	111.0	110.9	1.0	-1.5	0.3	-0.1	P
SEL 0.25 mSec	102.0	101.8	1.0	-3.0	0.3	-0.2	P

Test Passed

Peak C sound level - IEC 61672-3 Ed.2.0 Clause 19

Pulse Type	Pulse Freq. (Hz)	Ref. RMS (dB)	Ref. Peak (dB)	Measured Value (dB)	Tol. (+/-dB)	Uncert. (dB)	Dev. (dB)	Result
1 cycle	8k	129.0	132.4	132.2	2.0	0.35	-0.2	P
Pos 1/2 cycle	500	132.0	134.4	134.5	1.0	0.35	0.1	P
Neg 1/2 cycle	500	132.0	134.4	134.5	1.0	0.35	0.1	P

Test Passed

Overload indication - IEC 61672-3 Ed.2.0 Clause 20

	Measured (dB)	Tol. (+/-dB)	Uncert. (dB)	Result
Level difference of positive and negative pulses:	0.1	1.5	0.25	P
Positive 1/2 cycle 4 kHz. Overload occurred at:	141.3			
Negative 1/2 cycle 4 kHz. Overload occurred at:	141.2			

Test Passed

High level stability test - IEC 61672-3 Ed.2.0 Clause 21

Test signal: Sine wave at 1 kHz

Initial level (dB)	Final level (dB)	Diff (dB)	Tol. value (dB)	Uncert. (dB)	Result
139.0	139.0	0.0	0.1	0.10	P

Test Passed

Long term stability test - IEC 61672-3 Ed.2.0 Clause 15

Test signal: Sine wave at 1 kHz

Time inteval (mm:SS)	StartLevel (dB)	StopLevel (dB)	Difference (dB)	Tolerence (dB)	Result
26:02	114.0	114.0	0.0	0.1	P

Test Passed

Filter Test 1/1octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

Test 1/1 octave filter X= 3 fexact=8000.000Hz class 0

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
500.000	58.0	0.0	63.0	P
1000.00	75.2	0.0	76.0	P
2000.00	94.4	0.0	95.5	P
4000.00	117.8	0.0	120.0	P
5656.85	134.3	133.5	135.7	P
6168.84	137.0	136.9	138.2	P

Filter Test 1/1octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

6727.17	137.8	137.6	138.2	P
7336.03	137.9	137.8	138.2	P
8000.00	137.9	137.9	138.2	P
8724.06	137.9	137.8	138.2	P
9513.66	137.8	137.6	138.2	P
10374.7	137.1	136.9	138.2	P
11313.7	134.1	133.5	135.7	P
16000.0	113.6	0.0	120.0	P
32000.0	50.5	0.0	95.5	P
64000.0	14.8	0.0	76.0	P
128000	20.7	0.0	63.0	P

Test 1/1 octave filter X= 4 fexact=16000.000Hz class 0

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
1000.00	58.0	0.0	63.0	P
2000.00	63.4	0.0	76.0	P
4000.00	84.6	0.0	95.5	P
8000.00	114.3	0.0	120.0	P
11313.7	134.0	133.5	135.7	P
12337.7	137.0	136.9	138.2	P
13454.3	137.8	137.6	138.2	P
14672.1	137.9	137.8	138.2	P
16000.0	137.9	137.9	138.2	P
17448.1	137.8	137.8	138.2	P
19027.3	137.9	137.6	138.2	P
20749.4	137.7	136.9	138.2	P
22627.4	134.1	133.5	135.7	P
32000.0	55.8	0.0	120.0	P
64000.0	18.9	0.0	95.5	P
128000	38.1	0.0	76.0	P
200000	55.4	0.0	63.0	P

Test Passed

Filter Test 1/3octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

Test 1/3 octave filter X= 12 fexact=16000.000Hz class 0

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
2944.02	59.8	0.0	63.0	P
5212.50	64.7	0.0	76.0	P
8479.30	79.8	0.0	95.5	P
12349.0	110.3	0.0	120.0	P
14254.4	134.1	133.5	135.7	P
14709.1	137.3	136.9	138.2	P
15152.4	137.8	137.6	138.2	P
15583.0	137.8	137.8	138.2	P
16000.0	137.9	137.9	138.2	P
16428.1	137.8	137.8	138.2	P
16895.0	137.8	137.6	138.2	P
17404.2	137.4	136.9	138.2	P
17959.4	133.8	133.5	135.7	P
20730.4	102.9	0.0	120.0	P
30191.2	47.1	0.0	95.5	P
49112.7	40.0	0.0	76.0	P
86955.9	44.5	0.0	63.0	P

Test 1/3 octave filter X= 13 fexact=20158.737Hz class 0

Filter Test 1/3octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
3709.24	61.6	0.0	63.0	P
6567.33	67.4	0.0	76.0	P
10683.2	82.8	0.0	95.5	P
15558.8	111.9	0.0	120.0	P
17959.4	134.0	133.5	135.7	P
18532.3	137.2	136.9	138.2	P
19090.8	137.8	137.6	138.2	P
19633.4	137.8	137.8	138.2	P
20158.7	137.9	137.9	138.2	P
20698.2	137.8	137.8	138.2	P
21286.4	137.8	137.6	138.2	P
21927.9	137.5	136.9	138.2	P
22627.4	133.6	133.5	135.7	P
26118.7	97.1	0.0	120.0	P
38038.5	62.6	0.0	95.5	P
61878.2	41.5	0.0	76.0	P
109558	33.0	0.0	63.0	P

Test Passed

Combined electrical and acoustical test - IEC 61672-3 Ed.2.0 Clause 13

A-Weighted results: Free field

Frequency	SLM Val (dB)	SLM U (dB)	Microphone Val (dB)	Microphone U (dB)	Case Val (dB)	Refl. U (dB)	Wind Screen Val (dB)	Screen U (dB)	Uncert (dB)	Tol (dB)	Result (dB)	
63 Hz	-0.1	0.2	0.0	0.1					0.2	+-1.0	-0.1	P
125 Hz	-0.1	0.2	-0.2	0.1					0.2	+-1.0	-0.3	P
250 Hz	-0.1	0.2	-0.3	0.1					0.2	+-1.0	-0.4	P
500 Hz	-0.1	0.2	-0.2	0.1					0.2	+-1.0	-0.3	P
1 kHz	0.0	0.2	0.1	0.1					0.2	+-0.7	0.1	P
2 kHz	-0.1	0.2	0.2	0.2					0.3	+-1.0	0.1	P
4 kHz	-0.2	0.2	0.1	0.2					0.3	+-1.0	-0.1	P
8 kHz	-0.3	0.2	0.7	0.4					0.5	+1.5/-2.5	0.4	P
16 kHz	-2.8	0.2	0.3	0.7					0.7	+2.5/-16.0	-2.5	P

C-Weighted results: Free field

Frequency	SLM Val (dB)	SLM U (dB)	Microphone Val (dB)	Microphone U (dB)	Case Val (dB)	Refl. U (dB)	Wind Screen Val (dB)	Screen U (dB)	Uncert (dB)	Tol (dB)	Result (dB)	
63 Hz	-0.1	0.2	0.0	0.1					0.2	+-1.0	-0.1	P
125 Hz	0.0	0.2	-0.2	0.1					0.2	+-1.0	-0.2	P
250 Hz	-0.1	0.2	-0.3	0.1					0.2	+-1.0	-0.4	P
500 Hz	0.0	0.2	-0.2	0.1					0.2	+-1.0	-0.2	P
1 kHz	0.0	0.2	0.1	0.1					0.2	+-0.7	0.1	P
2 kHz	0.0	0.2	0.2	0.2					0.3	+-1.0	0.2	P
4 kHz	-0.1	0.2	0.1	0.2					0.3	+-1.0	0.0	P
8 kHz	-0.4	0.2	0.7	0.4					0.5	+1.5/-2.5	0.3	P
16 kHz	-2.8	0.2	0.3	0.7					0.7	+2.5/-16.0	-2.5	P

Z-Weighted results: Free field

Frequency	SLM Val (dB)	SLM U (dB)	Microphone Val (dB)	Microphone U (dB)	Case Val (dB)	Refl. U (dB)	Wind Screen Val (dB)	Screen U (dB)	Uncert (dB)	Tol (dB)	Result (dB)	
63 Hz	0.0	0.2	0.0	0.1					0.2	+-1.0	0.0	P
125 Hz	0.0	0.2	-0.2	0.1					0.2	+-1.0	-0.2	P
250 Hz	-0.1	0.2	-0.3	0.1					0.2	+-1.0	-0.4	P

Combined electrical and acoustical test - IEC 61672-3 Ed.2.0 Clause 13

500 Hz	-0.1	0.2	-0.2	0.1	0.2	+-1.0	-0.3	P
1 kHz	0.0	0.2	0.1	0.1	0.2	+-0.7	0.1	P
2 kHz	-0.1	0.2	0.2	0.2	0.3	+-1.0	0.1	P
4 kHz	-0.1	0.2	0.1	0.2	0.3	+-1.0	0.0	P
8 kHz	-0.1	0.2	0.7	0.4	0.5	+1.5/-2.5	0.6	P
16 kHz	-0.3	0.2	0.3	0.7	0.7	+2.5/-16.0	0.0	P

The actual frequency response of CEL / 251 05784 has been used for the calculations.
Test Passed
The overall frequency response of the sound level meter and microphone response has shown to conform with the requirements in IEC 61672-3 for a class 1 sound level meter.

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.51750

Instrument: **Microphone**
Model: **251**
Manufacturer: **CEL**
Serial number: **05784**
Composed of:

Date Calibrated: **8/14/2024** *Cal Due:* **8/14/2025**

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No

Customer: **GZA**
Tel/Fax: **973-774-3300**

Address: **55 Lane Road Suite 407**
Fairfield, NJ 07004

Tested in accordance with the following procedures and standards:
Calibration of Measurement Microphones, Scantek, Inc., Rev. 2/25/2015

Instrumentation used for calibration: N-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Nov 10, 2023	Scantek, Inc./ NVLAP	Nov 10, 2024
DS-360-SRS	Function Generator	88077	Dec 21, 2022	ACR Env./ A2LA	Dec 21, 2024
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	May 1, 2024	ACR Env. / A2LA	May 1, 2025
PTU300-Vaisala	EnvironmentalMonitor	P5011262	Sept 20, 2023	ACR Env./ A2LA	Sept 20, 2024
PC Program 1017 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1253-Norsonic	Calibrator	28326	Oct 6, 2023	Scantek, Inc./ NVLAP	Oct 6, 2024
1203-Norsonic	Preamplifier	14059	March 7, 2024	Scantek, Inc./ NVLAP	March 7, 2025
4180-Brüel&Kjær	Microphone	2246115	Dec 11, 2023	DPLA / DANAK	Dec 11, 2025

Instrumentation and test results are traceable to SI - BIPM through standards maintained by NPL (UK) and NIST (USA)

Calibrated by:	Bailey Partoza	Authorized signatory:	Lydon Dawkins
Signature		Signature	Lydon Dawkins
Date	8/14/24	Date	8/19/2024

Document stored as: Y:\Calibration Lab\Mic 2024\CEL251_05784_M1.doc

Results summary: Device was tested and complies with following clauses of mentioned specifications:

CLAUSES / METHODS[1] FROM PROCEDURES		MET[2,3]	NOT MET	NOT TESTED	MEASUREMENT EXPANDED UNCERTAINTY (coverage factor 2)
Open circuit sensitivity (Insert voltage method, 250 Hz)		X			See below
Frequency response	Actuator response	X			63 – 200Hz: 0.3 dB 200 – 8000 Hz: 0.2 dB 8 – 10 kHz: 0.5 dB 10 – 20 kHz: 0.7 dB 20 – 50 kHz: 0.9 dB 50 – 100 kHz: 1.2 dB
	FF/Diffuse field responses	X			63 – 200Hz: 0.3 dB 200 – 4000 Hz: 0.2 dB 4 – 10 kHz: 0.6 dB 10 – 20 kHz: 0.9 dB 20 – 50 kHz: 2.2 dB 50 – 100 kHz: 4.4 dB
	Scantek, Inc. acoustical method			X	31.5 – 125 Hz: 0.16 dB 250, 1000 Hz: 0.12 dB 2 – 8 kHz: 0.8 dB 12.5 – 16 kHz: 2.4 dB

[1] The results of this calibration apply only to the instrument type with serial number identified in this report.

[2] Results are normalized to the reference conditions.

[3] The tests marked with (*) are not covered by the current NVLAP accreditation.

Note: The free field/diffuse field characteristics were calculated based on the measured actuator response and adjustment coefficients as provided by the manufacturer. The measurement results are reported as Pass / Fail simple acceptance; measured values are in the tolerance interval.

Comments: The instrument was tested and met all specifications found in the referenced procedures.

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
22.4 ± 1.0	100.63 ± 0.020	49.7 ± 2.0

Main measured parameters:

Tone frequency (Hz)	Measured[4] /Nominal Open circuit sensitivity (dB re 1V/Pa)	Sensitivity (mV/Pa)
250	-27.08 ± 0.12/ -26.0	44.26

[4] The reported expanded uncertainty is calculated with a coverage factor k=2.00

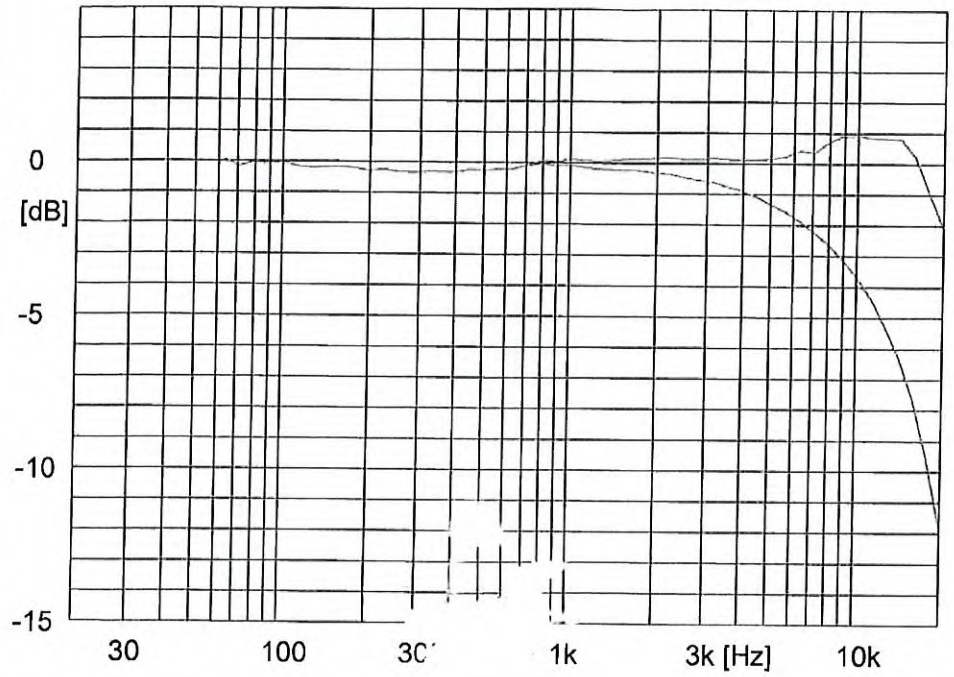
Tests made with following attachments to instrument and auxiliary devices:

Protection grid mounted for sensitivity measurements
Actuator type: Nor265CC-grid type

Measured Data: Found on Microphone Test Report # 51750 of one page.

Place of Calibration: Scantek, Inc.
6430 Dobbin Road, Suite C
Columbia, MD 21045 USA
Ph/Fax: 410-290-7726/ -9167
callab@scantekinc.com

Microphone Test Report No.:51750



CEL
Type: 251

Serial no: 05784

Sensitivity: 44.26 mV/Pa
-27.08 ±0.12 dB re. 1 V/Pa

Date: 8/14/2024

Signature:

Measurement conditions:

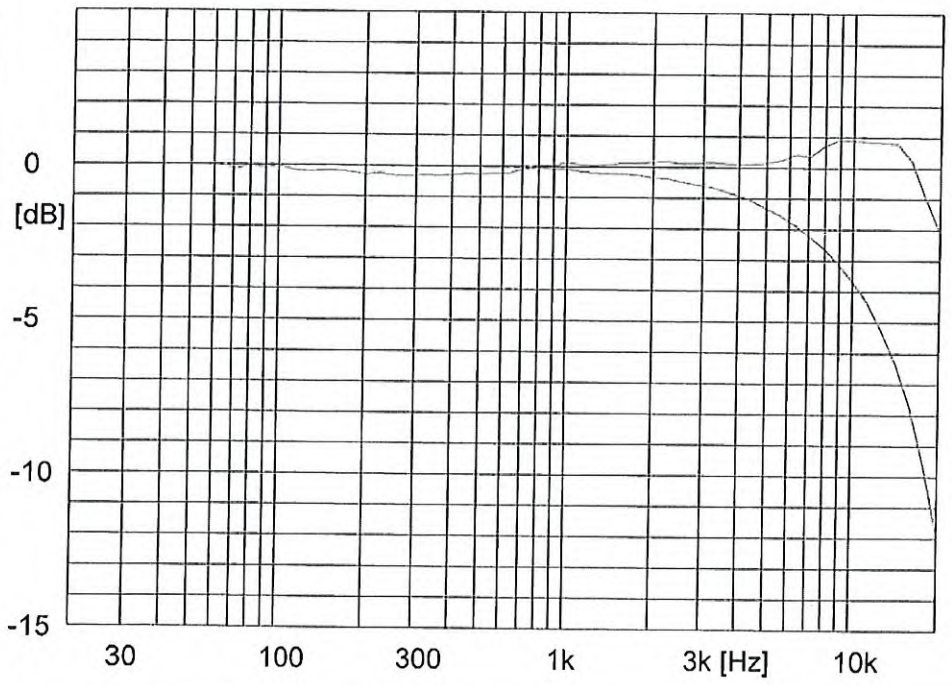
Polarisation voltage:	0.0 V
Pressure:	100.63 ±0.02 kPa
Temperature:	22.4 ±1.0 °C
Relative humidity:	49.7 ±2.0 %RH

Results are normalized to the reference conditions.

Free field response
Pressure response

Scantek, Inc.
6430 Dobbin Rd., Suite C, Columbia, MD 21045
Ph: 410-290-7726 eMail: callab@scantekinc.com

Microphone Test Report No.:51750



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Free field response
Pressure response

Scantek, Inc.
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Ph: 410-290-7726 eMail: callab@scantekinc.com

Comment:
(Y:\Calibration Lab\Mic 2024\CEL251_05784_M1.nmf)