



Capital  
Markets

RBC GLOBAL INVESTMENT SOLUTIONS

# RBC Solactive Canada Utilities 160 AR Index Autocallable Securities (USD), Series 456 Non-Principal Protected Security

7.0 year term

Performance Linked  
to Solactive Canada  
Utilities 160 AR Index

22.25%, 27.25%, 32.25%,  
37.25%, 42.25%, 47.25%,  
and 52.25% potential  
fixed return

80% protection  
barrier level

Callable annually at  
105.00% of Initial Index  
Level in years 1-2  
100.00% in years 3-7

Subscriptions  
Close

on or about  
January 2, 2025

FUNDSERV

RBC12187

Autocall  
Observation Dates

December 22, 2025 and  
annually thereafter

This summary is qualified in its entirety by  
a pricing supplement (the “Pricing  
Supplement”) and the base shelf  
prospectus dated March 15, 2024.

[www.rbcnotes.com](http://www.rbcnotes.com)

## KEY TERMS

|                        |   |
|------------------------|---|
| Issuer:                | Royal Bank of Canada  |
| Issuer Credit Ratings: | Moody's: Aa1; S&P: AA-; DBRS: AA  |
| Currency:              | USD   |
| Minimum Investment:    | 50 Securities or US\$5,000  |
| Term:                  | Approximately 7.0 years   |
| Principal at Risk:     | The Securities are not principal protected.   |
| Underlying Index:      | The return on the Securities is linked to the performance of the Solactive Canada Utilities 160 AR Index (the “ <b>Underlying Index</b> ”). The Underlying Index is an adjusted return index that aims to track the gross total return performance of the Solactive Canada Utilities Index TR (the “ <b>Target Index</b> ”), subject to a reduction of a synthetic dividend of 160 index points per annum (the “ <b>Adjusted Return Factor</b> ”). <b>For the avoidance of doubt, the return on the Securities is linked to the Underlying Index and is not linked to the Target Index.</b> The Closing Level on December 17, 2024 was 3,506.47. The Adjusted Return Factor divided by the Closing Level was therefore equal to 4.5630% on December 17, 2024. If an Autocall Redemption Event does not occur, over the term of the Securities the sum of the Adjusted Return Factor will be approximately 1,120 index points, representing 31.9410% of the Closing Level on December 17, 2024. For the calculation of the level of the Target Index, any dividends or other distributions paid on the constituent securities of the Target Index are assumed to be reinvested across all of the constituent securities of the Target Index. As of December 17, 2024, the annual dividend yield on the Target Index was 4.365%, representing an aggregate dividend yield of approximately 34.860% compounded annually over the term of the Securities, on the assumption that the dividend yield remains constant. |

A final base shelf prospectus containing important information relating to the securities described in this document has been filed with the securities regulatory authorities in each of the provinces and territories of Canada. The final base shelf prospectus, any applicable shelf prospectus supplement, the Pricing Supplement and any amendment to such documents are accessible through SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com). Copies of the documents may also be obtained from [www.rbcnotes.com](http://www.rbcnotes.com). This document does not provide full disclosure of all material facts relating to the securities offered. Investors should read the final base shelf prospectus, any applicable shelf prospectus supplement, the Pricing Supplement and any amendment to such documents for disclosure of those facts, especially risk factors relating to the securities offered, before making an investment decision.

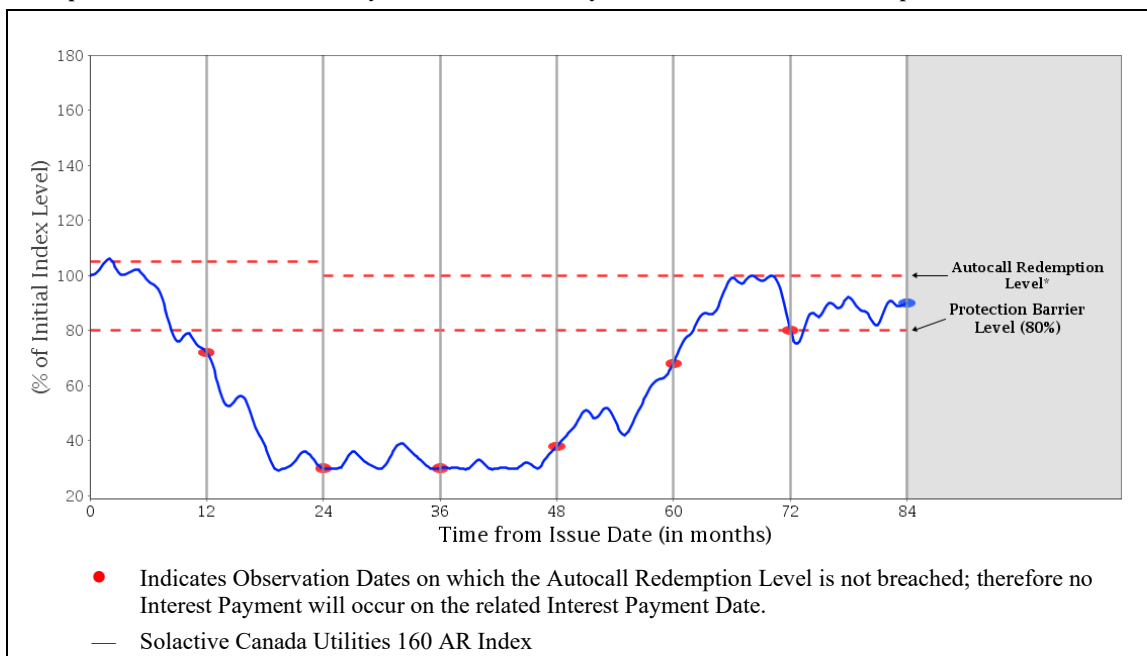
## KEY TERMS CONTINUED

|                            |  |
|----------------------------|--|
| Issue Date:                | January 3, 2025.   |
| Initial Index Level:       | The Closing Level as published by the Index Sponsor on the Initial Valuation Date.   |
| Initial Valuation Date:    | December 20, 2024.   |
| Protection Barrier Level:  | 80.00% of the Initial Index Level.   |
| Final Index Level:         | The Closing Level as published by the Index Sponsor on the Final Valuation Date.   |
| Final Valuation Date:      | December 22, 2031.   |
| Closing Level:             | The official closing level of the Underlying Index as announced by the Index Sponsor for the relevant date, as determined by RBC Dominion Securities Inc.  |
| Maturity Date:             | December 31, 2031.   |
| Observation Dates:         | The dates set out below under the heading “Observation Dates”, provided that if any Observation Date is not an Exchange Day, such Observation Date will be the next following day that is an Exchange Day, subject to the occurrence of an Extraordinary Event.  |
| Interest Payment Dates:    | The dates set out below under the heading “Interest Payment Dates”, subject to the occurrence of an Extraordinary Event, and provided that (i) the Securities are not redeemed by the Bank as described below and (ii) if any Interest Payment Date is not a Business Day, such Interest Payment Date will be the first following day that is a Business Day. For greater certainty, no Interest Payment will be made on any Interest Payment Date unless an Autocall Redemption Event occurred on the immediately preceding Observation Date.   |
| Interest Payments:         | <p>If an Autocall Redemption Event occurs, in addition to the Autocall Redemption Amount, an interest payment (the “<b>Interest Payment</b>”) on the Securities will be payable on the next succeeding Autocall Redemption Date, in arrears, as follows:</p> <p>(a) if an Autocall Redemption Event occurs on the first Observation Date, the Interest Payment payable per Security will be equal to the sum of (i) US\$22.25 and (ii) if the Index Return exceeds US\$22.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$22.25})</math>;</p> <p>(b) if an Autocall Redemption Event occurs on the second Observation Date, the Interest Payment payable per Security will be equal to the sum of (i) US\$27.25 and (ii) if the Index Return exceeds US\$27.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$27.25})</math>;</p> <p>(c) if an Autocall Redemption Event occurs on the third Observation Date, the Interest Payment payable per Security will be equal to the sum of (i) US\$32.25 and (ii) if the Index Return exceeds US\$32.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$32.25})</math>;</p> <p>(d) if an Autocall Redemption Event occurs on the fourth Observation Date, the Interest Payment payable per Security will be equal to the sum of (i) US\$37.25 and (ii) if the Index Return exceeds US\$37.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$37.25})</math>;</p> <p>(e) if an Autocall Redemption Event occurs on the fifth Observation Date, the Interest Payment payable per Security will be equal to the sum of (i) US\$42.25 and (ii) if the Index Return exceeds US\$42.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$42.25})</math>;</p> <p>(f) if an Autocall Redemption Event occurs on the sixth Observation Date, the Interest Payment payable per Security will be equal to the sum of (i) US\$47.25 and (ii) if the Index Return exceeds US\$47.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$47.25})</math>; and</p> <p>(g) if an Autocall Redemption Event occurs on the Final Valuation Date, the Interest Payment payable per Security on the Maturity Date will be equal to the sum of (i) US\$52.25 and (ii) if the Index Return exceeds US\$52.25, <math>45.00\% \times (\text{Index Return} - \text{US\\$52.25})</math>.</p> <p>If an Autocall Redemption Event does not occur on an Observation Date, no Interest Payment will be payable on the Securities on the next succeeding Autocall Redemption Date.</p> |
| Autocall Redemption Event: | <p>If the Closing Level on an Observation Date is greater than or equal to (i) 105.00% of the Initial Index Level with respect to the first and second Observation Dates and (ii) 100.00% of the Initial Index Level with respect to the third to seventh Observation Dates (the “<b>Autocall Redemption Level</b>”), an Autocall Redemption Event will occur.</p> <p>On the next succeeding Autocall Redemption Date following the occurrence of an Autocall Redemption Event, the Securities will be redeemed for an amount equal to the Principal Amount thereof (the “<b>Autocall Redemption Amount</b>”).</p>   |
| Autocall Redemption Dates: | The dates set out below under the heading “Autocall Redemption Dates”, subject to the occurrence of an Extraordinary Event and provided that if any Autocall Redemption Date is not a Business Day, such Autocall Redemption Date will be the first following day that is a Business Day.  |

|                       |   |   |
|-----------------------|---|---|
| Payment at Maturity:  | <p>If the Securities have not been previously redeemed, the amount payable on the Maturity Date (the “<b>Final Redemption Amount</b>”) for each Security will be:</p> <p>(a) if the Final Index Level is greater than or equal to the Protection Barrier Level, US\$100.00; or</p> <p>(b) if the Final Index Level is less than the Protection Barrier Level, an amount equal to the Index Return, but in any event not less than US\$1.00.</p> <p>In addition to the Final Redemption Amount, an Interest Payment will be paid on the Maturity Date if an Autocall Redemption Event occurs on the Final Valuation Date.</p> <p>For greater certainty, there will be no duplication in calculating an Autocall Redemption Amount and the Final Redemption Amount.</p> |   |
| Index Return:         | <p>(i) For the purpose of calculating the Final Redemption Amount, <math>US\\$100.00 \times (X_f / X_i)</math> and (ii) for all other purposes, <math>((X_f / X_i) - 1) \times US\\$100.00</math>.</p> <p>where:</p> <p>“<math>X_f</math>” means the Final Index Level, and</p> <p>“<math>X_i</math>” means the Initial Index Level.</p>  |   |
| Secondary Market:     | <p>Fundserv, RBC12187</p> <p>Generally, to be effective on a Business Day, a redemption request will need to be initiated by 2:00 p.m. (Toronto time) on that Business Day (or such other time as may be established by Fundserv). Any request received after such time will be deemed to be a request sent and received on the next following Business Day.</p>  |   |
| Early Trading Charge: | <p>If Sold Within the Following No. of Days from the Issue Date</p>   | <p>Early Trading Charge (% of Principal Amount)</p> |
|                       | 1 – 30 days   | 3.00%   |
|                       | 31 – 60 days  | 2.00%   |
|                       | 61 – 90 days  | 1.00%   |
|                       | Thereafter  | Nil   |

The following examples show how the return on the Securities would be calculated under different scenarios. These examples are included for illustration purposes only. The performance of the Underlying Index used in the examples is not an estimate or forecast of the performance of the Underlying Index or the Securities. The actual performance of the Underlying Index and the Securities will be different from these examples and the differences may be material. All examples assume that a holder of the Securities has purchased Securities with an aggregate Principal Amount of US\$100.00 and that no Extraordinary Event has occurred. For convenience, each vertical line in the charts below represents both a hypothetical Observation Date and the next succeeding Interest Payment Date. Where applicable, dollar amounts shown below are rounded to the nearest whole cent for ease of reading, but the amount(s) payable to an investor per Security may reflect more decimal places.

#### Example #1: Loss Scenario with Payment on the Maturity Date at Less Than the Principal Amount



\*Autocall Redemption Level: (i) 105.00% with respect to the first and second Observation Dates and (ii) 100.00% with respect to the third to seventh Observation Dates

In this scenario, the Closing Level is below the Autocall Redemption Level on all Observation Dates so the Securities would not be redeemed before the Maturity Date. On the Final Valuation Date, the Final Index Level is below the Protection Barrier Level.

##### (i) Interest Payment

No Autocall Redemption Event occurs because the Closing Level at each Observation Date is below the Autocall Redemption Level. Therefore, an Interest Payment would not be payable on any Interest Payment Date.

##### (ii) Final Redemption Amount

In this example, the Initial Index Level ( $X_i$ ) is 3,506.47 and the Final Index Level ( $X_f$ ) is 2,454.53. Therefore, the Final Redemption Amount is as follows:

$$\begin{aligned} & \text{US\$}100.00 \times (X_f / X_i) \\ & \text{US\$}100.00 \times (2,454.53 / 3,506.47) = \text{US\$}70.00 \end{aligned}$$

Therefore, the total amounts payable per Security from the Issue Date to the Maturity Date are:

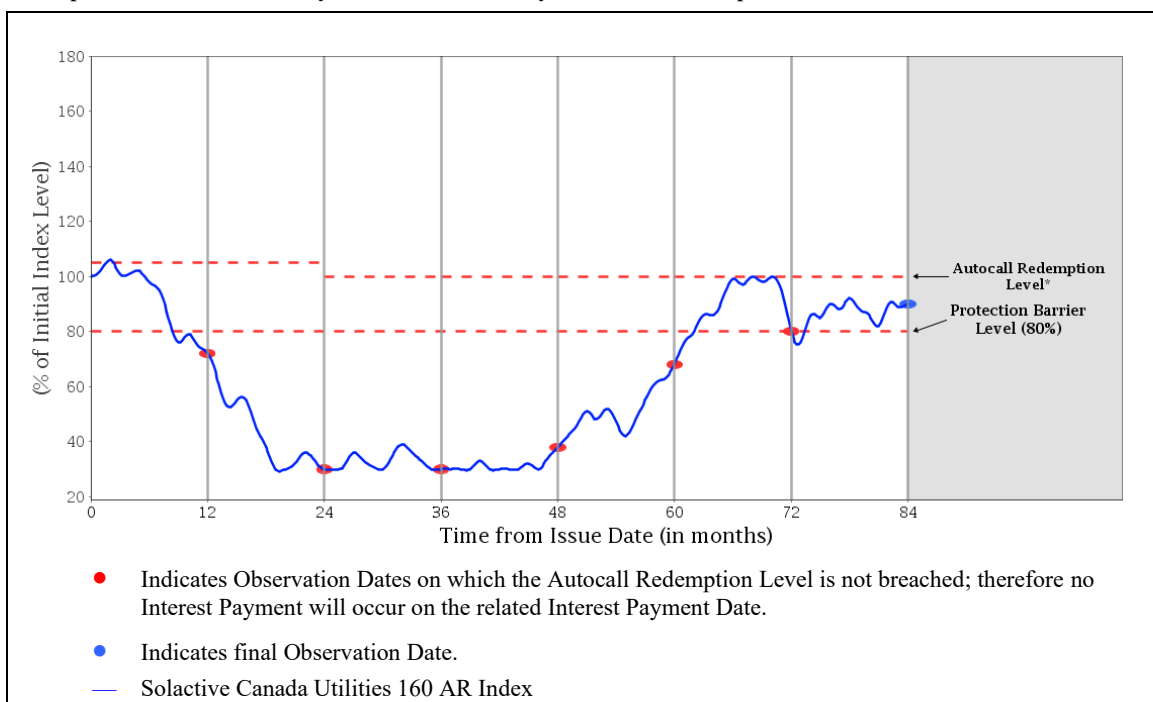
(a) Interest Payment: US\$0.00

(b) Final Redemption Amount: US\$70.00

(c) Total amount paid over the term of the Securities: US\$70.00

The equivalent annually compounded rate of return in this example is -4.97%.

## Example #2: Scenario with Payment on the Maturity Date at the Principal Amount



\*Autocall Redemption Level: (i) 105.00% with respect to the first and second Observation Dates and (ii) 100.00% with respect to the third to seventh Observation Dates

In this scenario, the Closing Level is below the Autocall Redemption Level on all Observation Dates, so the Securities would not be redeemed before the Maturity Date. On the Final Valuation Date, the Final Index Level is at or above the Protection Barrier Level but is below the Autocall Redemption Level.

### (i) Interest Payment

No Autocall Redemption Event occurs because the Closing Level at each Observation Date is below the Autocall Redemption Level. Therefore, an Interest Payment would not be payable on any Interest Payment Date.

### (ii) Final Redemption Amount

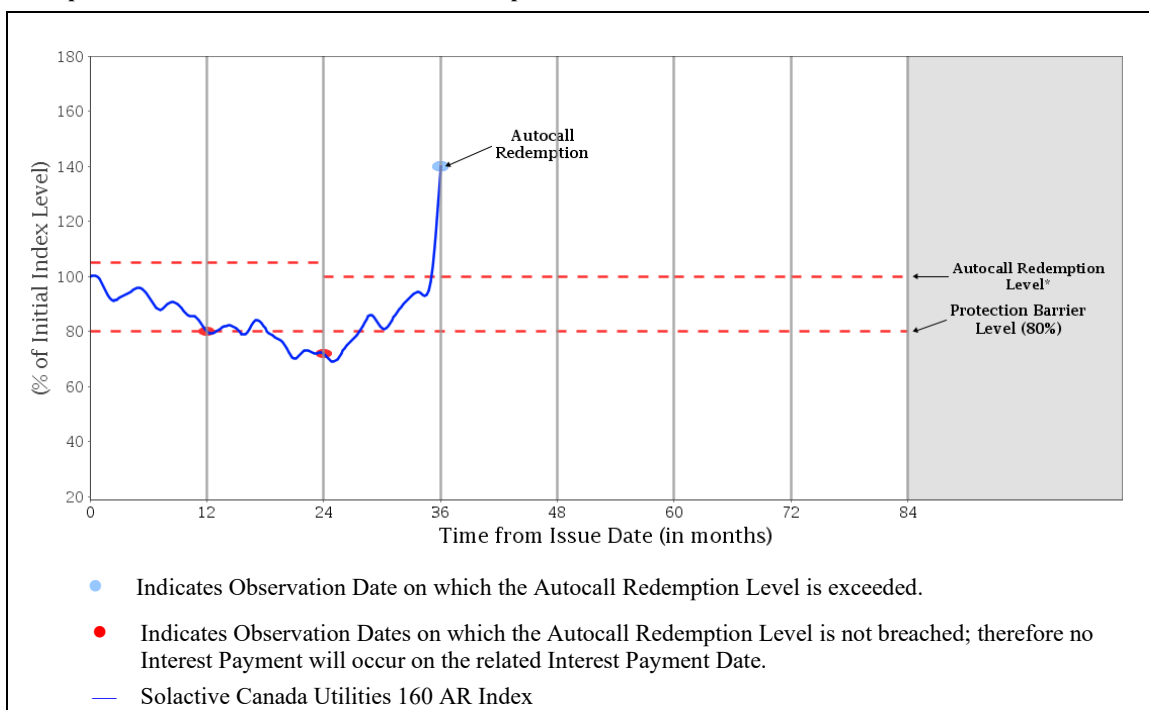
In this example, the Final Index Level is greater than or equal to the Protection Barrier Level. Therefore, the Final Redemption Amount is US\$100.00.

Therefore, the total amounts payable per Security from the Issue Date to the Maturity Date are:

- (a) Interest Payment: US\$0.00
- (b) Final Redemption Amount: US\$100.00
- (c) Total amount paid over the term of the Securities: US\$100.00

The equivalent annually compounded rate of return in this example is 0.00%.

### Example #3: Gain Scenario with Autocall Redemption Event



\*Autocall Redemption Level: (i) 105.00% with respect to the first and second Observation Dates and (ii) 100.00% with respect to the third to seventh Observation Dates

In this scenario, the Closing Level is at or above the Autocall Redemption Level on the Observation Date that falls 36 months into the term of the Securities. This would constitute an Autocall Redemption Event and the Bank would redeem the Securities on the next succeeding Autocall Redemption Date. An Interest Payment would be payable on the third Interest Payment Date.

#### (i) Interest Payment

In this example, Initial Index Level ( $X_i$ ) is 3,506.47 and the Closing Level on the third Observation Date ( $X_f$ ) is 4,909.06; therefore, there is an Autocall Redemption Event on the third Observation Date. On the first and second Observation Dates, no Autocall Redemption Event would occur because the Closing Level at each such Observation Date is below the Autocall Redemption Level. Therefore, the Interest Payment payable on the Autocall Redemption Date would be calculated as follows:

The Index Return is calculated as follows:

$$\begin{aligned} & ((X_f / X_i) - 1) \times \text{US\$}100.00 \\ & ((4,909.06 / 3,506.47) - 1) \times \text{US\$}100.00 = \text{US\$}40.00 \end{aligned}$$

Since the Index Return is greater than US\$32.25, the Interest Payment is:

$$\begin{aligned} & \text{US\$}32.25 + [45.00\% \times (\text{Index Return} - \text{US\$}32.25)] \\ & \text{US\$}32.25 + [45.00\% \times (\text{US\$}40.00 - \text{US\$}32.25)] = \text{US\$}35.74 \end{aligned}$$

#### (ii) Autocall Redemption Amount

The Autocall Redemption Amount per Security is equal to US\$100.00.

Therefore, the total amounts payable per Security from the Issue Date to the Autocall Redemption Date are:

(a) Interest Payment: US\$35.74

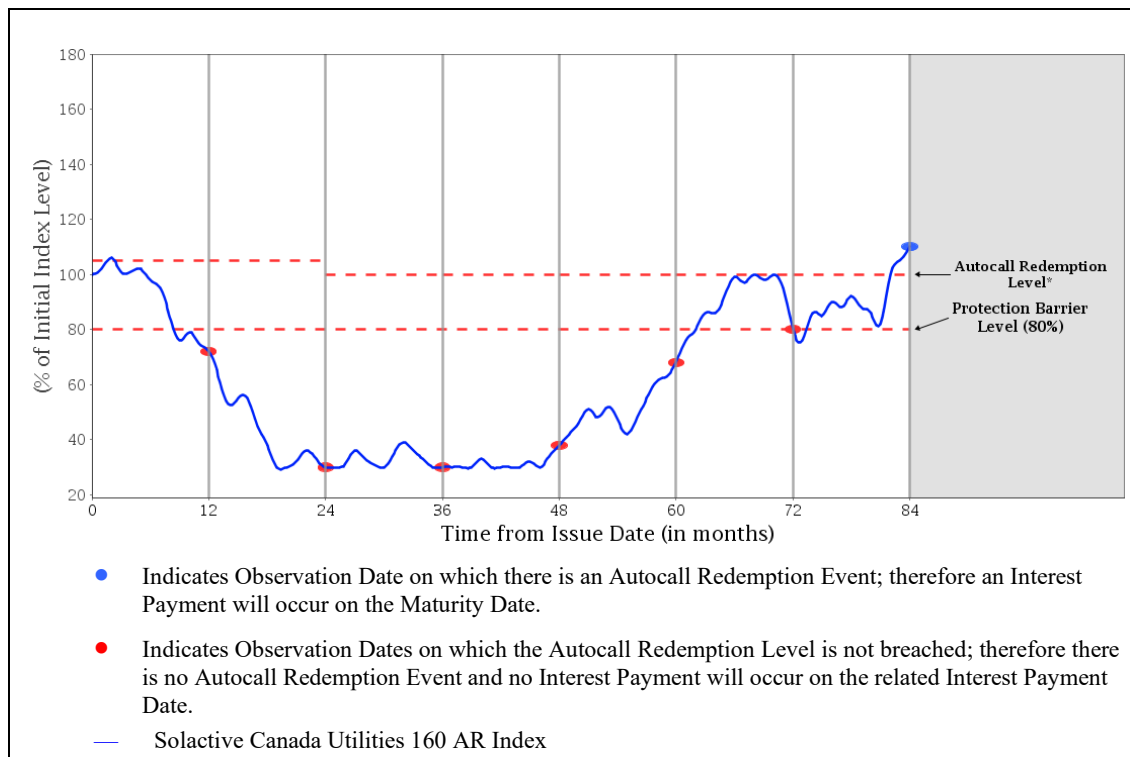
(b) Autocall Redemption Amount: US\$100.00

(c) Total amount paid over the term of the Securities: US\$135.74

The equivalent annually compounded rate of return in this example is 10.72%.

Sample Calculations:  
(continued)

#### Example #4: Gain Scenario with Autocall Redemption Event



\*Autocall Redemption Level: (i) 105.00% with respect to the first and second Observation Dates and (ii) 100.00% with respect to the third to seventh Observation Dates

In this scenario, the Closing Level is at or above the Autocall Redemption Level on the final Observation Date. This would constitute an Autocall Redemption Event and an Interest Payment would be payable on the Maturity Date (being the final Interest Payment Date).

##### (i) Interest Payment

In this example, the Initial Index Level ( $X_i$ ) is 3,506.47 and the Final Index Level ( $X_f$ ) is 3,857.12; therefore, there is an Autocall Redemption Event on the Final Valuation Date (being the final Observation Date). On the first through sixth Observation Dates, no Autocall Redemption Event would occur because the Closing Level at each such Observation Date is below the Autocall Redemption Level. Therefore, the Interest Payment payable on the Maturity Date (being the final Interest Payment Date) would be calculated as follows:

The Index Return is calculated as follows:

$$\begin{aligned} & ((X_f / X_i) - 1) \times \text{US\$}100.00 \\ & ((3,857.12 / 3,506.47) - 1) \times \text{US\$}100.00 = \text{US\$}10.00 \end{aligned}$$

Since the Index Return is less than US\$52.25, the Interest Payment is US\$52.25.

##### (ii) Final Redemption Amount

The Final Redemption Amount per Security is equal to US\$100.00.

Therefore, the total amounts payable per Security from the Issue Date to the Maturity Date are:

(a) Interest Payment: US\$52.25

(b) Final Redemption Amount: US\$100.00

(c) Total amount paid over the term of the Securities: US\$152.25

The equivalent annually compounded rate of return in this example is 6.19%.

Initial Estimated Value: The initial estimated value of the Securities on or about the date of the Pricing Supplement was US\$91.91 per Security, which is less than the price to the public and is not an indication of the actual profit to the Bank or its affiliates. The actual value of the Securities at any time will reflect many factors and may be less than this amount. The initial estimated value of the Securities is an estimate only and does not represent a minimum price at which the Bank, RBC DS or any of our affiliates would be willing to purchase the Securities in any secondary market. We describe our determination of the initial estimated value in more detail in the Pricing Supplement.

| Information Regarding the Observation Dates, Interest Payment Dates and Autocall Redemption Dates: | Observation Dates | Interest Payment Dates | Autocall Redemption Dates |
|--|-------------------|------------------------|---------------------------|
|  | December 22, 2025 | December 29, 2025      | December 29, 2025         |
|  | December 21, 2026 | December 24, 2026      | December 24, 2026         |
|  | December 20, 2027 | December 23, 2027      | December 23, 2027         |
|  | December 20, 2028 | December 27, 2028      | December 27, 2028         |
|  | December 20, 2029 | December 27, 2029      | December 27, 2029         |
|  | December 20, 2030 | December 27, 2030      | December 27, 2030         |
|  | December 22, 2031 | December 31, 2031      | December 31, 2031         |

The Underlying Index is calculated and published by Solactive AG (“**Solactive**”), and the name “**Solactive**” is a registered trademark of Solactive. The Underlying Index has been licensed for use by the Bank in connection with the Securities. The Securities are not sponsored, promoted, sold or supported in any other manner by Solactive and Solactive makes no representation or warranty, express or implied, regarding the advisability of investing in securities generally or the Securities in particular. Solactive does not guarantee the accuracy or completeness of the Underlying Index or the Target Index, any data included therein, or any data from which it is derived, nor has any liability for any errors, omissions, or interruptions therein.

All capitalized terms unless otherwise defined have the meanings ascribed to them in the Pricing Supplement.

Clients should evaluate the financial, market, legal, regulatory, credit, tax and accounting risks and consequences of the proposal before entering into any transaction, or purchasing any instrument. Clients should evaluate such risks and consequences independently of Royal Bank of Canada and the Dealers, RBC Dominion Securities Inc. (“**RBC DS**”) and Raymond James Ltd., respectively. RBC DS is a wholly-owned subsidiary of the Bank. Consequently, the Bank is a related and connected issuer of RBC DS within the meaning of applicable securities legislation.

The Securities will not constitute deposits insured under the *Canada Deposit Insurance Corporation Act* or any other deposit insurance regime. The Securities are not fixed income securities and are not designed to be alternatives to fixed income or money market instruments.

An investment in the Securities involves risks. None of Royal Bank of Canada, the Dealers or any of their respective affiliates, associates, or any other person or entity guarantees that holders of Securities will receive an amount equal to their original investment in the Securities or guarantees that any return will be paid on the Securities (subject to the minimum amount payable at maturity of US\$1.00 per Security) at or prior to maturity of the Securities. See “Risk Factors” in the base shelf prospectus and “Risk Factors” in the Pricing Supplement. Since the Securities are not principal protected and the Principal Amount will be at risk, you could lose substantially all of your investment.

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