# ERS Calculation at NSR SS5 with Mitigation Measure

| Row | NSR | ASR | No. of Storey | Ground Level (mPD) | Near track? (1:Up 2:Dn) | Near Track: Angle of view (Deg) | Near Track: Hor D (m) | Far Track: Angle of view (Deg) | Far Track: Hor D (m) | Receiver Floor at (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | SS5 | B | 3 | 17.3 | 2 | 126.1 | 111.5 | 118.5 | 130.5 | 7.5 |

| Row | ERS Track Level (mPD) | Ground Level (mPD) | ERS Width (m) | Hor D Wall to track (m) | Height of Parapet (m) | Dbr (m) | Hb (mRL) | Hr (mRL) | Hard Ground (G) | Portal Effect |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | -3.5 | 15 | 25.8 | 3.4 | 1.2 | 108.1 | 19.7 | 28.3 | 0 | 0.3 |

Remark: For legend of parameters and remark for equations, please refers to the bottom of spreadsheet "SS2".

| Result: | Leq, day | Leq, night | Leq, 24h | Lmax |
|---|---|---|---|---|
| Noise Criteria | 65 | 55 | - | 85 |
| Worst | 54.0 | 49.0 | 51.3 | 69.1 |

| Concrete wall Abs Coeff | IL wall | Top Level of Abs Panel (mRL) | Bottom Level of Abs Panel (mRL) | Abs Panel Coeff | IL Abs Panel | Noise Barrier Height (m) | Noise Barrier Setback (m) | Hb2 (mRL) | Db-b2 (m) |
|---|---|---|---|---|---|---|---|---|---|
| 0.04 | 0.18 | 16 | 3 | 0.8 | 6.99 | 8 | 11 | 26.5 | 11.0 |

## Worst Far Track

| Far Track | Prop Leq at Height 3m: Leq, day | Leq, night | Leq, 24h | Wheel Leq at Height 0.3m: Leq, day | Leq, night | Leq, 24h | Hor D: Source to far wall | Hor D: Source to near wall |
|---|---|---|---|---|---|---|---|---|
| Up | 15m | 15m | 15m | 15m | 15m | 15m | m | m |
| | 71.5 | 66.7 | 69.0 | 71.2 | 66.4 | 68.6 | 3.4 | 22.4 |

Auxiliary calculation for path different geometry of noise barrier shielding effect in ERS

| Shielded Path b-b2 (m) | Shielded Path b2-r (m) | Shielded Path b-r (m) | Slope b-b2 | Slope b2-r | Slope b-r |
|---|---|---|---|---|---|
| 12.9 | 97.1 | 108.4 | 0.618 | 0.019 | 0.080 |

Legend:
s: source point
b: top of wall at near track
b2: top of noise barrier at near track
r: receiver point

### Prop at 3m (Far Track)

| Row | Mirror Source | no. of Reflect | Loss of Reflect | Dsb (m) | Hs (mRL) | Direct Path D (m) | At NSR, no shield: Leq, day | Leq, night | Leq, 24h | Path Different (m) | A barrier | IL barrier | Slope of D | H of final reflect at far wall (mRL) | Lower than far wall? (1:Yes 2:No) | At NSR, incl façade: Leq, day | Leq, night | Leq, 24h | Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 0 | 0 | 0.00 | 22.4 | 3.0 | 132.9 | 60.3 | 55.5 | 57.7 | 5.040 | 15.0 | 15.0 | 0.194 | 0 | 1 | 47.8 | 43.0 | 45.2 | 66.5 |
| 21 | 1 | 1 | 6.99 | 29.2 | 3.0 | 139.6 | 53.1 | 48.3 | 50.5 | 4.055 | 15.0 | 15.0 | 0.184 | 3.7 | 1 | 40.6 | 35.8 | 38.0 | 59.2 |
| 22 | 2 | 2 | 13.98 | 74.0 | 3.0 | 183.8 | 44.9 | 40.1 | 42.4 | 1.450 | 15.0 | 15.0 | 0.139 | 9.7 | 1 | 32.4 | 27.6 | 29.9 | 50.8 |
| 23 | 3 | 3 | 20.97 | 80.8 | 3.0 | 190.6 | 37.8 | 33.0 | 35.2 | 1.285 | 15.0 | 15.0 | 0.134 | 10.4 | 1 | 25.3 | 20.5 | 22.7 | 43.6 |
| 24 | 4 | 4 | 27.96 | 125.6 | 3.0 | 235.1 | 29.9 | 25.1 | 27.3 | 0.655 | 15.0 | 15.0 | 0.108 | 13.8 | 1 | 17.4 | 12.6 | 14.8 | 35.3 |
| 25 | 5 | 5 | 34.95 | 132.4 | 3.0 | 241.8 | 22.7 | 18.0 | 20.2 | 0.600 | 15.0 | 15.0 | 0.105 | 14.2 | 1 | 10.2 | 5.5 | 7.7 | 28.1 |
| 26 | 6 | 6 | 35.13 | 177.2 | 3.0 | 286.4 | 21.8 | 17.1 | 19.3 | 0.357 | 13.7 | 13.7 | 0.089 | 16.4 | 1 | 10.7 | 5.9 | 8.1 | 28.2 |
| 27 | 7 | 7 | 35.30 | 184.0 | 3.0 | 293.2 | 21.6 | 16.8 | 19.0 | 0.332 | 13.4 | 13.4 | 0.086 | 16.7 | 1 | 10.7 | 5.9 | 8.1 | 28.1 |
| 28 | 8 | 8 | 42.29 | 228.8 | 3.0 | 337.8 | 13.9 | 9.2 | 11.4 | 0.216 | 11.5 | 11.5 | 0.075 | 18.3 | 1 | 4.9 | 0.2 | 2.4 | 22.0 |
| 29 | 9 | 9 | 42.47 | 235.6 | 3.0 | 344.6 | 13.7 | 8.9 | 11.1 | 0.203 | 11.2 | 11.2 | 0.073 | 18.5 | 1 | 4.9 | 0.2 | 2.4 | 22.0 |
| 30 | 10 | 10 | 42.65 | 280.4 | 3.0 | 389.3 | 13.0 | 8.2 | 10.4 | 0.139 | 9.6 | 9.6 | 0.065 | 19.6 | 1 | 5.9 | 1.1 | 3.3 | 22.5 |
| 31 | 11 | 11 | 42.82 | 287.2 | 3.0 | 396.1 | 12.7 | 8.0 | 10.2 | 0.132 | 9.4 | 9.4 | 0.064 | 19.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 32 | 12 | 12 | 43.00 | 332.0 | 3.0 | 440.8 | 12.1 | 7.3 | 9.5 | 0.094 | 8.0 | 8.0 | 0.057 | 20.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 33 | 13 | 13 | 43.18 | 338.8 | 3.0 | 447.6 | 11.8 | 7.1 | 9.3 | 0.089 | 7.8 | 7.8 | 0.057 | 20.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 34 | 14 | 14 | 43.36 | 383.6 | 3.0 | 492.3 | 11.3 | 6.5 | 8.7 | 0.065 | 6.6 | 6.6 | 0.051 | 21.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 35 | 15 | 15 | 43.53 | 390.4 | 3.0 | 499.1 | 11.0 | 6.2 | 8.5 | 0.062 | 6.4 | 6.4 | 0.051 | 21.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 36 | 16 | 16 | 43.71 | 435.2 | 3.0 | 543.9 | 10.5 | 5.7 | 7.9 | 0.046 | 5.3 | 5.3 | 0.046 | 22.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 37 | 17 | 17 | 43.89 | 442.0 | 3.0 | 550.7 | 10.2 | 5.5 | 7.7 | 0.044 | 5.2 | 5.2 | 0.046 | 22.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 38 | 18 | 18 | 44.07 | 486.8 | 3.0 | 595.4 | 9.7 | 4.9 | 7.2 | 0.033 | 4.3 | 4.3 | 0.042 | 22.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 39 | 19 | 19 | 44.24 | 493.6 | 3.0 | 602.2 | 9.5 | 4.7 | 6.9 | 0.032 | 4.1 | 4.1 | 0.042 | 22.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 40 | 20 | 20 | 44.42 | 538.4 | 3.0 | 647.0 | 9.0 | 4.2 | 6.4 | 0.024 | 3.4 | 3.4 | 0.039 | 23.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 41 | 21 | 21 | 44.60 | 545.2 | 3.0 | 653.8 | 8.8 | 4.0 | 6.2 | 0.023 | 3.3 | 3.3 | 0.039 | 23.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 42 | 22 | 22 | 44.77 | 590.0 | 3.0 | 698.6 | 8.3 | 3.5 | 5.8 | 0.018 | 2.6 | 2.6 | 0.036 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 43 | 23 | 23 | 44.95 | 596.8 | 3.0 | 705.4 | 8.1 | 3.3 | 5.5 | 0.017 | 2.6 | 2.6 | 0.036 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 44 | 24 | 24 | 45.13 | 641.6 | 3.0 | 750.1 | 7.6 | 2.9 | 5.1 | 0.013 | 2.0 | 2.0 | 0.034 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 45 | 25 | 25 | 45.31 | 648.4 | 3.0 | 756.9 | 7.4 | 2.7 | 4.9 | 0.012 | 2.0 | 2.0 | 0.033 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 46 | 26 | 26 | 45.48 | 693.2 | 3.0 | 801.7 | 7.0 | 2.2 | 4.5 | 0.009 | 1.5 | 1.5 | 0.032 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 47 | 27 | 27 | 45.66 | 700.0 | 3.0 | 808.5 | 6.8 | 2.0 | 4.2 | 0.009 | 1.5 | 1.5 | 0.031 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 48 | 28 | 28 | 45.84 | 744.8 | 3.0 | 853.3 | 6.4 | 1.6 | 3.8 | 0.007 | 1.2 | 1.2 | 0.030 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 49 | 29 | 29 | 46.02 | 751.6 | 3.0 | 860.1 | 6.2 | 1.4 | 3.6 | 0.006 | 1.1 | 1.1 | 0.029 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 50 | 30 | 30 | 46.19 | 796.4 | 3.0 | 904.9 | 5.8 | 1.0 | 3.2 | 0.005 | 0.8 | 0.8 | 0.028 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 51 | 31 | 31 | 46.37 | 803.2 | 3.0 | 911.6 | 5.6 | 0.8 | 3.0 | 0.005 | 0.8 | 0.8 | 0.028 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 52 | 32 | 32 | 46.55 | 848.0 | 3.0 | 956.4 | 5.2 | 0.4 | 2.6 | 0.003 | 0.6 | 0.6 | 0.026 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 53 | 33 | 33 | 46.72 | 854.8 | 3.0 | 963.2 | 5.0 | 0.2 | 2.4 | 0.003 | 0.6 | 0.6 | 0.026 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 54 | 34 | 34 | 46.90 | 899.6 | 3.0 | 1008.0 | 4.6 | -0.2 | 2.0 | 0.002 | 0.4 | 0.4 | 0.025 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 55 | 35 | 35 | 47.08 | 906.4 | 3.0 | 1014.8 | 4.4 | -0.4 | 1.8 | 0.002 | 0.4 | 0.4 | 0.025 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 56 | 36 | 36 | 47.26 | 951.2 | 3.0 | 1059.6 | 4.0 | -0.7 | 1.5 | 0.002 | 0.3 | 0.3 | 0.024 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 57 | 37 | 37 | 47.43 | 958.0 | 3.0 | 1066.4 | 3.8 | -1.0 | 1.3 | 0.001 | 0.3 | 0.3 | 0.024 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 58 | 38 | 38 | 47.61 | 1002.8 | 3.0 | 1111.2 | 3.5 | -1.3 | 0.9 | 0.001 | 0.2 | 0.2 | 0.023 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 59 | 39 | 39 | 47.79 | 1009.6 | 3.0 | 1118.0 | 3.3 | -1.5 | 0.7 | 0.001 | 0.2 | 0.2 | 0.023 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 60 | | | | | | | | | | | | | | | Total | 48.7 | 43.9 | 46.1 | 67.3 |
| 61 | | | | | | | | | | | | | | | Noise Criteria | 65 | 55 | - | 85 |
| 62 | | | | | | | | | | | | | | | Status | OK | OK | - | OK |

Auxiliary calculation for reflection loss of each reflection in ERS

| Row | No. of reflection to hit wall | 1 | 2 | 3 | 4 | 5 | 6 | Shielded Path s-b (m) | Shielded Path s-b2 (m) | Slope s-b | Slope s-b2 | Direct Path D (m) | Path Different (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | Hor D wall to source | 3.4 | 48.2 | 55.0 | 99.8 | 106.6 | 151.4 | | | | | | |
| 20 | Height of ray | 3.7 | 12.4 | 13.7 | 22.4 | 23.7 | 32.3 | 27.9 | 40.8 | 0.743 | 0.702 | 132.9 | 5.040 |
| 21 | | 3.7 | 11.9 | 13.2 | 21.4 | 22.7 | 30.9 | 33.6 | 46.5 | 0.570 | 0.583 | 139.6 | 4.055 |
| 22 | | 3.5 | 9.7 | 10.7 | 16.9 | 17.8 | 24.0 | 75.9 | 88.2 | 0.225 | 0.276 | 183.8 | 1.450 |
| 23 | | 3.5 | 9.5 | 10.4 | 16.4 | 17.3 | 23.3 | 82.5 | 94.7 | 0.206 | 0.255 | 190.6 | 1.285 |
| 24 | | 3.4 | 8.3 | 9.0 | 13.8 | 14.6 | 19.4 | 126.7 | 138.6 | 0.133 | 0.172 | 235.1 | 0.655 |
| 25 | | 3.4 | 8.1 | 8.8 | 13.5 | 14.2 | 18.9 | 133.4 | 145.3 | 0.126 | 0.164 | 241.8 | 0.600 |
| 26 | | 3.3 | 7.3 | 7.9 | 11.9 | 12.5 | 16.4 | 178.0 | 189.7 | 0.094 | 0.125 | 286.4 | 0.357 |
| 27 | | 3.3 | 7.2 | 7.8 | 11.7 | 12.3 | 16.1 | 184.8 | 196.4 | 0.091 | 0.120 | 293.2 | 0.332 |
| 28 | | 3.3 | 6.7 | 7.2 | 10.5 | 11.0 | 14.4 | 229.4 | 240.9 | 0.073 | 0.098 | 337.8 | 0.216 |
| 29 | | 3.3 | 6.6 | 7.1 | 10.4 | 10.9 | 14.2 | 236.2 | 247.7 | 0.071 | 0.095 | 344.6 | 0.203 |
| 30 | | 3.3 | 6.2 | 6.6 | 9.5 | 10.0 | 12.9 | 280.9 | 292.3 | 0.059 | 0.080 | 389.3 | 0.139 |
| 31 | | 3.3 | 6.1 | 6.6 | 9.4 | 9.9 | 12.7 | 287.7 | 299.1 | 0.058 | 0.079 | 396.1 | 0.132 |
| 32 | | 3.2 | 5.8 | 6.2 | 8.8 | 9.2 | 11.7 | 332.4 | 343.8 | 0.050 | 0.068 | 440.8 | 0.094 |
| 33 | | 3.2 | 5.8 | 6.2 | 8.7 | 9.1 | 11.6 | 339.2 | 350.6 | 0.049 | 0.067 | 447.6 | 0.089 |
| 34 | | 3.2 | 5.5 | 5.9 | 8.2 | 8.5 | 10.8 | 384.0 | 395.3 | 0.043 | 0.059 | 492.3 | 0.065 |
| 35 | | 3.2 | 5.5 | 5.8 | 8.1 | 8.4 | 10.7 | 390.8 | 402.1 | 0.043 | 0.058 | 499.1 | 0.062 |
| 36 | | 3.2 | 5.3 | 5.6 | 7.7 | 8.0 | 10.1 | 435.5 | 446.8 | 0.038 | 0.053 | 543.9 | 0.046 |
| 37 | | 3.2 | 5.3 | 5.6 | 7.6 | 7.9 | 10.0 | 442.3 | 453.6 | 0.038 | 0.052 | 550.7 | 0.044 |
| 38 | | 3.2 | 5.1 | 5.4 | 7.3 | 7.6 | 9.5 | 487.1 | 498.4 | 0.034 | 0.047 | 595.4 | 0.033 |
| 39 | | 3.2 | 5.1 | 5.4 | 7.2 | 7.5 | 9.4 | 493.9 | 505.1 | 0.034 | 0.046 | 602.2 | 0.032 |
| 40 | | 3.2 | 4.9 | 5.2 | 6.9 | 7.2 | 9.0 | 538.7 | 549.9 | 0.031 | 0.043 | 647.0 | 0.024 |
| 41 | | 3.2 | 4.9 | 5.2 | 6.9 | 7.2 | 8.9 | 545.5 | 556.7 | 0.031 | 0.042 | 653.8 | 0.023 |
| 42 | | 3.2 | 4.8 | 5.0 | 6.7 | 6.9 | 8.5 | 590.2 | 601.5 | 0.028 | 0.039 | 698.6 | 0.018 |
| 43 | | 3.2 | 4.8 | 5.0 | 6.6 | 6.9 | 8.5 | 597.0 | 608.3 | 0.028 | 0.039 | 705.4 | 0.017 |
| 44 | | 3.2 | 4.7 | 4.9 | 6.4 | 6.6 | 8.1 | 641.8 | 653.0 | 0.026 | 0.036 | 750.1 | 0.013 |
| 45 | | 3.2 | 4.7 | 4.9 | 6.4 | 6.6 | 8.1 | 648.6 | 659.8 | 0.026 | 0.036 | 756.9 | 0.012 |
| 46 | | 3.2 | 4.6 | 4.8 | 6.2 | 6.4 | 7.8 | 693.4 | 704.6 | 0.024 | 0.033 | 801.7 | 0.009 |
| 47 | | 3.2 | 4.6 | 4.8 | 6.2 | 6.4 | 7.8 | 700.2 | 711.4 | 0.024 | 0.033 | 808.5 | 0.009 |
| 48 | | 3.1 | 4.5 | 4.7 | 6.0 | 6.2 | 7.5 | 745.0 | 756.2 | 0.022 | 0.031 | 853.3 | 0.007 |
| 49 | | 3.1 | 4.5 | 4.7 | 6.0 | 6.2 | 7.5 | 751.8 | 763.0 | 0.022 | 0.031 | 860.1 | 0.006 |
| 50 | | 3.1 | 4.4 | 4.6 | 5.8 | 6.0 | 7.3 | 796.6 | 807.7 | 0.021 | 0.029 | 904.9 | 0.005 |
| 51 | | 3.1 | 4.4 | 4.6 | 5.8 | 6.0 | 7.2 | 803.4 | 814.5 | 0.021 | 0.029 | 911.6 | 0.005 |
| 52 | | 3.1 | 4.3 | 4.5 | 5.7 | 5.9 | 7.0 | 848.2 | 859.3 | 0.020 | 0.027 | 956.4 | 0.003 |
| 53 | | 3.1 | 4.3 | 4.5 | 5.7 | 5.8 | 7.0 | 855.0 | 866.1 | 0.019 | 0.027 | 963.2 | 0.003 |
| 54 | | 3.1 | 4.3 | 4.4 | 5.5 | 5.7 | 6.8 | 899.8 | 910.9 | 0.019 | 0.026 | 1008.0 | 0.002 |
| 55 | | 3.1 | 4.2 | 4.4 | 5.5 | 5.7 | 6.8 | 906.6 | 917.7 | 0.018 | 0.026 | 1014.8 | 0.002 |
| 56 | | 3.1 | 4.2 | 4.4 | 5.4 | 5.6 | 6.7 | 951.3 | 962.5 | 0.018 | 0.024 | 1059.6 | 0.002 |
| 57 | | 3.1 | 4.2 | 4.4 | 5.4 | 5.6 | 6.6 | 958.1 | 969.3 | 0.017 | 0.024 | 1066.4 | 0.001 |
| 58 | | 3.1 | 4.1 | 4.3 | 5.3 | 5.5 | 6.5 | 1002.9 | 1014.1 | 0.017 | 0.023 | 1111.2 | 0.001 |
| 59 | | 3.1 | 4.1 | 4.3 | 5.3 | 5.5 | 6.5 | 1009.7 | 1020.9 | 0.016 | 0.023 | 1118.0 | 0.001 |

Legend:
: ray hit abs panel
: ray hit concrete wall
: ray hit nothing, no absorption loss

### Wheel at 0.3m (Far Track)

| Row | Mirror Source | no. of Reflect | Loss of Reflect | Dsb (m) | Hs (mRL) | Direct Path D (m) | At NSR, no shield: Leq, day | Leq, night | Leq, 24h | Path Different (m) | A barrier | IL barrier | Slope of D | H of final reflect at far wall (mRL) | Lower than far wall? | At NSR, incl façade: Leq, day | Leq, night | Leq, 24h | Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 0 | 0 | 0.00 | 22.4 | 0.3 | 133.5 | 59.9 | 55.2 | 57.4 | 6.210 | 20.0 | 20.0 | 0.215 | 0 | 1 | 42.4 | 37.7 | 39.9 | 61.1 |
| 68 | 1 | 1 | 0.00 | 29.2 | 0.3 | 140.1 | 59.7 | 55.0 | 57.2 | 4.978 | 20.0 | 20.0 | 0.204 | 1.0 | 1 | 42.2 | 37.5 | 39.7 | 60.9 |
| 69 | 2 | 2 | 7.17 | 74.0 | 0.3 | 184.2 | 51.4 | 46.6 | 48.8 | 1.822 | 20.0 | 20.0 | 0.154 | 7.7 | 1 | 33.9 | 29.1 | 31.3 | 52.2 |
| 70 | 3 | 3 | 14.16 | 80.8 | 0.3 | 191.0 | 44.2 | 39.5 | 41.7 | 1.618 | 20.0 | 20.0 | 0.148 | 8.5 | 1 | 26.7 | 22.0 | 24.2 | 45.0 |
| 71 | 4 | 4 | 21.15 | 125.6 | 0.3 | 235.4 | 36.3 | 31.6 | 33.8 | 0.835 | 20.0 | 20.0 | 0.120 | 12.3 | 1 | 18.8 | 14.1 | 16.3 | 36.8 |
| 72 | 5 | 5 | 28.14 | 132.4 | 0.3 | 242.1 | 29.2 | 24.4 | 26.7 | 0.766 | 20.0 | 20.0 | 0.116 | 12.7 | 1 | 11.7 | 7.0 | 9.2 | 29.6 |
| 73 | 6 | 6 | 35.13 | 177.2 | 0.3 | 286.7 | 21.5 | 16.7 | 18.9 | 0.461 | 17.8 | 17.8 | 0.098 | 15.2 | 1 | 6.2 | 1.4 | 3.7 | 23.7 |
| 74 | 7 | 7 | 35.30 | 184.0 | 0.3 | 293.4 | 21.2 | 16.4 | 18.7 | 0.430 | 17.5 | 17.5 | 0.096 | 15.5 | 1 | 6.2 | 1.5 | 3.7 | 23.7 |
| 75 | 8 | 8 | 35.48 | 228.8 | 0.3 | 338.1 | 20.4 | 15.7 | 17.9 | 0.282 | 15.6 | 15.6 | 0.083 | 17.2 | 1 | 7.3 | 2.5 | 4.7 | 24.4 |
| 76 | 9 | 9 | 35.66 | 235.6 | 0.3 | 344.8 | 20.2 | 15.4 | 17.6 | 0.266 | 15.4 | 15.4 | 0.081 | 17.4 | 1 | 7.3 | 2.5 | 4.7 | 24.3 |
| 77 | 10 | 10 | 35.83 | 280.4 | 0.3 | 389.5 | 19.5 | 14.7 | 16.9 | 0.184 | 13.8 | 13.8 | 0.072 | 18.7 | 1 | 8.2 | 3.4 | 5.6 | 24.8 |
| 78 | 11 | 11 | 36.01 | 287.2 | 0.3 | 396.3 | 19.2 | 14.4 | 16.6 | 0.175 | 13.6 | 13.6 | 0.071 | 18.8 | 1 | 8.1 | 3.4 | 5.6 | 24.8 |
| 79 | 12 | 12 | 36.19 | 332.0 | 0.3 | 441.0 | 18.6 | 13.8 | 16.0 | 0.126 | 12.1 | 12.1 | 0.064 | 19.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 80 | 13 | 13 | 36.37 | 338.8 | 0.3 | 447.8 | 18.3 | 13.5 | 15.8 | 0.120 | 11.9 | 11.9 | 0.063 | 19.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 81 | 14 | 14 | 36.54 | 383.6 | 0.3 | 492.5 | 17.7 | 13.0 | 15.2 | 0.089 | 10.6 | 10.6 | 0.057 | 20.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 82 | 15 | 15 | 36.72 | 390.4 | 0.3 | 499.3 | 17.5 | 12.7 | 14.9 | 0.085 | 10.5 | 10.5 | 0.056 | 20.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 83 | 16 | 16 | 30.09 | 435.2 | 0.3 | 544.0 | 23.8 | 19.0 | 21.2 | 0.064 | 9.3 | 9.3 | 0.052 | 21.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 84 | 17 | 17 | 30.26 | 442.0 | 0.3 | 550.8 | 23.5 | 18.7 | 21.0 | 0.062 | 9.1 | 9.1 | 0.051 | 21.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 85 | 18 | 18 | 23.63 | 486.8 | 0.3 | 595.6 | 29.8 | 25.0 | 27.3 | 0.047 | 8.0 | 8.0 | 0.047 | 22.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 86 | 19 | 19 | 23.81 | 493.6 | 0.3 | 602.4 | 29.6 | 24.8 | 27.0 | 0.045 | 7.8 | 7.8 | 0.047 | 22.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 87 | 20 | 20 | 23.98 | 538.4 | 0.3 | 647.1 | 29.1 | 24.3 | 26.5 | 0.035 | 6.8 | 6.8 | 0.043 | 22.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 88 | 21 | 21 | 24.16 | 545.2 | 0.3 | 653.9 | 28.9 | 24.1 | 26.3 | 0.034 | 6.7 | 6.7 | 0.043 | 22.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 89 | 22 | 22 | 24.34 | 590.0 | 0.3 | 698.7 | 28.4 | 23.6 | 25.9 | 0.026 | 5.8 | 5.8 | 0.040 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 90 | 23 | 23 | 24.51 | 596.8 | 0.3 | 705.5 | 28.2 | 23.4 | 25.6 | 0.025 | 5.6 | 5.6 | 0.040 | 23.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 91 | 24 | 24 | 24.69 | 641.6 | 0.3 | 750.2 | 27.8 | 23.0 | 25.2 | 0.020 | 4.8 | 4.8 | 0.037 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 92 | 25 | 25 | 24.87 | 648.4 | 0.3 | 757.0 | 27.5 | 22.8 | 25.0 | 0.019 | 4.7 | 4.7 | 0.037 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 93 | 26 | 26 | 25.05 | 693.2 | 0.3 | 801.8 | 27.1 | 22.3 | 24.6 | 0.015 | 3.9 | 3.9 | 0.035 | 23.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 94 | 27 | 27 | 25.22 | 700.0 | 0.3 | 808.6 | 26.9 | 22.1 | 24.3 | 0.014 | 3.8 | 3.8 | 0.035 | 23.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 95 | 28 | 28 | 25.40 | 744.8 | 0.3 | 853.4 | 26.5 | 21.7 | 23.9 | 0.011 | 3.2 | 3.2 | 0.033 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 96 | 29 | 29 | 25.58 | 751.6 | 0.3 | 860.2 | 26.3 | 21.5 | 23.7 | 0.011 | 3.1 | 3.1 | 0.033 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 97 | 30 | 30 | 25.76 | 796.4 | 0.3 | 904.9 | 25.9 | 21.1 | 23.3 | 0.008 | 2.6 | 2.6 | 0.031 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 98 | 31 | 31 | 25.93 | 803.2 | 0.3 | 911.7 | 25.7 | 20.9 | 23.1 | 0.008 | 2.5 | 2.5 | 0.031 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 99 | 32 | 32 | 26.11 | 848.0 | 0.3 | 956.5 | 25.3 | 20.5 | 22.7 | 0.006 | 2.0 | 2.0 | 0.029 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 100 | 33 | 33 | 26.29 | 854.8 | 0.3 | 963.3 | 25.1 | 20.3 | 22.5 | 0.006 | 1.9 | 1.9 | 0.029 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 101 | 34 | 34 | 26.47 | 899.6 | 0.3 | 1008.1 | 24.7 | 19.9 | 22.1 | 0.005 | 1.5 | 1.5 | 0.028 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 102 | 35 | 35 | 26.64 | 906.4 | 0.3 | 1014.9 | 24.5 | 19.7 | 21.9 | 0.004 | 1.5 | 1.5 | 0.028 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 103 | 36 | 36 | 20.01 | 951.2 | 0.3 | 1059.7 | 30.9 | 26.2 | 28.4 | 0.003 | 1.2 | 1.2 | 0.026 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 104 | 37 | 37 | 20.18 | 958.0 | 0.3 | 1066.5 | 30.7 | 26.0 | 28.2 | 0.003 | 1.1 | 1.1 | 0.026 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 105 | 38 | 38 | 13.55 | 1002.8 | 0.3 | 1111.3 | 37.2 | 32.4 | 34.6 | 0.002 | 0.9 | 0.9 | 0.025 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 106 | 39 | 39 | 13.73 | 1009.6 | 0.3 | 1118.1 | 37.0 | 32.2 | 34.4 | 0.002 | 0.8 | 0.8 | 0.025 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 107 | | | | | | | | | | | | | | | Total | 45.7 | 40.9 | 43.2 | 64.3 |
| 108 | | | | | | | | | | | | | | | Noise Criteria | 65 | 55 | - | 85 |
| 109 | | | | | | | | | | | | | | | Status | OK | OK | - | OK |

| Row | 1 | 2 | 3 | 4 | 5 | 6 | Shielded Path s-b (m) | Shielded Path s-b2 (m) | Slope s-b | Slope s-b2 | Direct Path D (m) | Path Different (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | 3.4 | 48.2 | 55.0 | 99.8 | 106.6 | 151.4 | | | | | | |
| 67 | 1.0 | 10.6 | 12.1 | 21.7 | 23.2 | 32.8 | 29.6 | 42.4 | 0.866 | 0.784 | 133.5 | 6.210 |
| 68 | 1.0 | 10.1 | 11.5 | 20.7 | 22.0 | 31.2 | 35.1 | 48.0 | 0.664 | 0.652 | 140.1 | 4.978 |
| 69 | 0.8 | 7.7 | 8.8 | 15.6 | 16.7 | 23.6 | 76.5 | 88.9 | 0.262 | 0.308 | 184.2 | 1.822 |
| 70 | 0.8 | 7.4 | 8.5 | 15.1 | 16.1 | 22.7 | 83.1 | 95.5 | 0.240 | 0.285 | 191.0 | 1.618 |
| 71 | 0.7 | 6.1 | 6.9 | 12.3 | 13.1 | 18.4 | 127.1 | 139.1 | 0.154 | 0.192 | 235.4 | 0.835 |
| 72 | 0.7 | 5.9 | 6.7 | 11.9 | 12.7 | 17.9 | 133.8 | 145.8 | 0.146 | 0.183 | 242.1 | 0.766 |
| 73 | 0.6 | 5.0 | 5.7 | 10.1 | 10.8 | 15.2 | 178.3 | 190.0 | 0.109 | 0.139 | 286.7 | 0.461 |
| 74 | 0.6 | 4.9 | 5.6 | 9.9 | 10.5 | 14.8 | 185.0 | 196.8 | 0.105 | 0.134 | 293.4 | 0.430 |
| 75 | 0.6 | 4.3 | 4.9 | 8.6 | 9.2 | 12.9 | 229.6 | 241.2 | 0.085 | 0.109 | 338.1 | 0.282 |
| 76 | 0.6 | 4.2 | 4.8 | 8.4 | 9.0 | 12.6 | 236.4 | 248.0 | 0.082 | 0.106 | 344.8 | 0.266 |
| 77 | 0.5 | 3.8 | 4.3 | 7.5 | 8.0 | 11.2 | 281.1 | 292.6 | 0.069 | 0.090 | 389.5 | 0.184 |
| 78 | 0.5 | 3.7 | 4.2 | 7.4 | 7.9 | 11.0 | 287.9 | 299.3 | 0.068 | 0.088 | 396.3 | 0.175 |
| 79 | 0.5 | 3.4 | 3.8 | 6.7 | 7.1 | 9.9 | 332.6 | 344.0 | 0.058 | 0.076 | 441.0 | 0.126 |
| 80 | 0.5 | 3.3 | 3.8 | 6.6 | 7.0 | 9.8 | 339.4 | 350.8 | 0.057 | 0.075 | 447.8 | 0.120 |
| 81 | 0.5 | 3.0 | 3.4 | 6.0 | 6.4 | 8.9 | 384.1 | 395.5 | 0.051 | 0.066 | 492.5 | 0.089 |
| 82 | 0.5 | 3.0 | 3.4 | 5.9 | 6.3 | 8.8 | 390.9 | 402.3 | 0.050 | 0.065 | 499.3 | 0.085 |
| 83 | 0.5 | 2.8 | 3.1 | 5.4 | 5.8 | 8.1 | 435.6 | 447.0 | 0.045 | 0.059 | 544.0 | 0.064 |
| 84 | 0.5 | 2.8 | 3.1 | 5.4 | 5.7 | 8.0 | 442.4 | 453.8 | 0.044 | 0.058 | 550.8 | 0.062 |
| 85 | 0.5 | 2.6 | 2.9 | 5.0 | 5.3 | 7.4 | 487.2 | 498.5 | 0.040 | 0.053 | 595.6 | 0.047 |
| 86 | 0.5 | 2.5 | 2.9 | 4.9 | 5.3 | 7.3 | 494.0 | 505.3 | 0.039 | 0.052 | 602.4 | 0.045 |
| 87 | 0.5 | 2.4 | 2.7 | 4.6 | 4.9 | 6.9 | 538.7 | 550.0 | 0.036 | 0.048 | 647.1 | 0.035 |
| 88 | 0.5 | 2.4 | 2.7 | 4.6 | 4.9 | 6.8 | 545.5 | 556.8 | 0.036 | 0.047 | 653.9 | 0.034 |
| 89 | 0.4 | 2.2 | 2.5 | 4.3 | 4.6 | 6.4 | 590.3 | 601.6 | 0.033 | 0.044 | 698.7 | 0.026 |
| 90 | 0.4 | 2.2 | 2.5 | 4.3 | 4.5 | 6.3 | 597.1 | 608.4 | 0.032 | 0.043 | 705.5 | 0.025 |
| 91 | 0.4 | 2.1 | 2.4 | 4.0 | 4.3 | 6.0 | 641.9 | 653.1 | 0.030 | 0.040 | 750.2 | 0.020 |
| 92 | 0.4 | 2.1 | 2.3 | 4.0 | 4.2 | 5.9 | 648.7 | 659.9 | 0.030 | 0.040 | 757.0 | 0.019 |
| 93 | 0.4 | 2.0 | 2.2 | 3.8 | 4.0 | 5.6 | 693.5 | 704.7 | 0.028 | 0.037 | 801.8 | 0.015 |
| 94 | 0.4 | 2.0 | 2.2 | 3.8 | 4.0 | 5.5 | 700.3 | 711.5 | 0.028 | 0.037 | 808.6 | 0.014 |
| 95 | 0.4 | 1.9 | 2.1 | 3.6 | 3.8 | 5.3 | 745.1 | 756.3 | 0.026 | 0.035 | 853.4 | 0.011 |
| 96 | 0.4 | 1.9 | 2.1 | 3.6 | 3.8 | 5.2 | 751.9 | 763.0 | 0.026 | 0.034 | 860.2 | 0.011 |
| 97 | 0.4 | 1.8 | 2.0 | 3.4 | 3.6 | 5.0 | 796.6 | 807.8 | 0.024 | 0.032 | 904.9 | 0.008 |
| 98 | 0.4 | 1.8 | 2.0 | 3.4 | 3.6 | 5.0 | 803.4 | 814.6 | 0.024 | 0.032 | 911.7 | 0.008 |
| 99 | 0.4 | 1.7 | 1.9 | 3.2 | 3.4 | 4.7 | 848.2 | 859.4 | 0.023 | 0.030 | 956.5 | 0.006 |
| 100 | 0.4 | 1.7 | 1.9 | 3.2 | 3.4 | 4.7 | 855.0 | 866.2 | 0.023 | 0.030 | 963.3 | 0.006 |
| 101 | 0.4 | 1.6 | 1.8 | 3.1 | 3.3 | 4.5 | 899.8 | 911.0 | 0.022 | 0.029 | 1008.1 | 0.005 |
| 102 | 0.4 | 1.6 | 1.8 | 3.1 | 3.2 | 4.5 | 906.6 | 917.8 | 0.021 | 0.029 | 1014.9 | 0.004 |
| 103 | 0.4 | 1.6 | 1.8 | 2.9 | 3.1 | 4.3 | 951.4 | 962.6 | 0.020 | 0.027 | 1059.7 | 0.003 |
| 104 | 0.4 | 1.6 | 1.7 | 2.9 | 3.1 | 4.3 | 958.2 | 969.4 | 0.020 | 0.027 | 1066.5 | 0.003 |
| 105 | 0.4 | 1.5 | 1.7 | 2.8 | 3.0 | 4.1 | 1003.0 | 1014.1 | 0.019 | 0.026 | 1111.3 | 0.002 |
| 106 | 0.4 | 1.5 | 1.7 | 2.8 | 3.0 | 4.1 | 1009.8 | 1020.9 | 0.019 | 0.026 | 1118.1 | 0.002 |

### Total of Up Track in Worst Case

| | Leq, day | Leq, night | Leq, 24h | Lmax |
|---|---|---|---|---|
| Prop at 3m | 48.7 | 43.9 | 46.1 | 67.3 |
| Wheel at 0.3m | 45.7 | 40.9 | 43.2 | 64.3 |
| Total | 50.5 | 45.7 | 47.9 | 69.1 |
| Noise Criteria | 65 | 55 | - | 85 |
| Status | OK | OK | - | OK |

## Worst Near Track

| Near Track | Prop Leq at Height 3m: Leq, day | Leq, night | Leq, 24h | Wheel Leq at Height 0.3m: Leq, day | Leq, night | Leq, 24h | Hor D: Source to far wall | Hor D: Source to near wall |
|---|---|---|---|---|---|---|---|---|
| Down | 15m | 15m | 15m | 15m | 15m | 15m | m | m |
| | 72.0 | 66.7 | 69.0 | 71.6 | 66.4 | 68.6 | 22.4 | 3.4 |

### Prop at 3m (Near Track)

| Row | Mirror Source | no. of Reflect | Loss of Reflect | Dsb (m) | Hs (mRL) | Direct Path D (m) | At NSR, no shield: Leq, day | Leq, night | Leq, 24h | Path Different (m) | A barrier | IL barrier | Slope of D | H of final reflect at far wall (mRL) | Lower than far wall? | At NSR, incl façade: Leq, day | Leq, night | Leq, 24h | Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 127 | 0 | 0 | 0.00 | 3.4 | 3.0 | 114.3 | 61.7 | 56.4 | 58.7 | 12.721 | 15.0 | 15.0 | 0.226 | 0 | 1 | 49.2 | 43.9 | 46.2 | 67.2 |
| 128 | 1 | 1 | 6.99 | 48.2 | 3.0 | 158.3 | 53.3 | 48.0 | 50.3 | 2.466 | 15.0 | 15.0 | 0.162 | 6.7 | 1 | 40.8 | 35.5 | 37.8 | 58.6 |
| 129 | 2 | 2 | 13.98 | 55.0 | 3.0 | 165.0 | 46.1 | 40.9 | 43.1 | 2.116 | 15.0 | 15.0 | 0.155 | 7.6 | 1 | 33.6 | 28.4 | 30.6 | 51.4 |
| 130 | 3 | 3 | 20.97 | 99.8 | 3.0 | 209.4 | 38.1 | 32.8 | 35.1 | 0.943 | 15.0 | 15.0 | 0.121 | 12.0 | 1 | 25.6 | 20.3 | 22.6 | 43.0 |
| 131 | 4 | 4 | 27.96 | 106.6 | 3.0 | 216.2 | 31.0 | 25.7 | 27.9 | 0.852 | 15.0 | 15.0 | 0.118 | 12.6 | 1 | 18.5 | 13.2 | 15.4 | 35.8 |
| 132 | 5 | 5 | 34.95 | 151.4 | 3.0 | 260.7 | 23.1 | 17.9 | 20.1 | 0.476 | 14.9 | 14.9 | 0.097 | 15.3 | 1 | 10.7 | 5.5 | 7.7 | 27.7 |
| 133 | 6 | 6 | 41.94 | 158.2 | 3.0 | 267.5 | 16.0 | 10.8 | 13.0 | 0.440 | 14.6 | 14.6 | 0.095 | 15.6 | 1 | 4.0 | -1.3 | 1.0 | 20.9 |
| 134 | 7 | 7 | 42.12 | 203.0 | 3.0 | 312.1 | 15.2 | 10.0 | 12.2 | 0.275 | 12.5 | 12.5 | 0.081 | 17.4 | 1 | 5.2 | -0.1 | 2.1 | 21.7 |
| 135 | 8 | 8 | 42.29 | 209.8 | 3.0 | 318.9 | 14.9 | 9.7 | 11.9 | 0.257 | 12.3 | 12.3 | 0.079 | 17.7 | 1 | 5.2 | -0.1 | 2.2 | 21.7 |
| 136 | 9 | 9 | 42.47 | 254.6 | 3.0 | 363.6 | 14.2 | 9.0 | 11.2 | 0.172 | 10.5 | 10.5 | 0.070 | 19.0 | 1 | 6.1 | 0.9 | 3.1 | 22.3 |
| 137 | 10 | 10 | 42.65 | 261.4 | 3.0 | 370.4 | 13.9 | 8.7 | 10.9 | 0.162 | 10.3 | 10.3 | 0.068 | 19.1 | 1 | 6.1 | 0.9 | 3.1 | 22.2 |
| 138 | 11 | 11 | 42.82 | 306.2 | 3.0 | 415.1 | 13.3 | 8.0 | 10.2 | 0.114 | 8.8 | 8.8 | 0.061 | 20.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 139 | 12 | 12 | 43.00 | 313.0 | 3.0 | 421.9 | 13.0 | 7.8 | 10.0 | 0.108 | 8.6 | 8.6 | 0.060 | 20.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 140 | 13 | 13 | 43.18 | 357.8 | 3.0 | 466.6 | 12.4 | 7.2 | 9.4 | 0.078 | 7.3 | 7.3 | 0.054 | 21.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 141 | 14 | 14 | 43.36 | 364.6 | 3.0 | 473.4 | 12.1 | 6.9 | 9.1 | 0.074 | 7.1 | 7.1 | 0.053 | 21.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 142 | 15 | 15 | 43.53 | 409.4 | 3.0 | 518.1 | 11.6 | 6.4 | 8.6 | 0.055 | 5.9 | 5.9 | 0.049 | 21.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 143 | 16 | 16 | 43.71 | 416.2 | 3.0 | 524.9 | 11.3 | 6.1 | 8.3 | 0.052 | 5.8 | 5.8 | 0.048 | 21.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 144 | 17 | 17 | 43.89 | 461.0 | 3.0 | 569.7 | 10.8 | 5.6 | 7.8 | 0.039 | 4.8 | 4.8 | 0.044 | 22.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 145 | 18 | 18 | 44.07 | 467.8 | 3.0 | 576.5 | 10.6 | 5.4 | 7.6 | 0.037 | 4.6 | 4.6 | 0.044 | 22.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 146 | 19 | 19 | 44.24 | 512.6 | 3.0 | 621.2 | 10.1 | 4.9 | 7.1 | 0.028 | 3.8 | 3.8 | 0.041 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 147 | 20 | 20 | 44.42 | 519.4 | 3.0 | 628.0 | 9.9 | 4.6 | 6.8 | 0.027 | 3.7 | 3.7 | 0.040 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 148 | 21 | 21 | 44.60 | 564.2 | 3.0 | 672.8 | 9.4 | 4.2 | 6.4 | 0.021 | 3.0 | 3.0 | 0.038 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 149 | 22 | 22 | 44.77 | 571.0 | 3.0 | 679.6 | 9.2 | 3.9 | 6.1 | 0.020 | 2.9 | 2.9 | 0.037 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 150 | 23 | 23 | 44.95 | 615.8 | 3.0 | 724.3 | 8.7 | 3.5 | 5.7 | 0.015 | 2.3 | 2.3 | 0.035 | 23.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 151 | 24 | 24 | 45.13 | 622.6 | 3.0 | 731.1 | 8.5 | 3.3 | 5.5 | 0.014 | 2.2 | 2.2 | 0.035 | 23.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 152 | 25 | 25 | 45.31 | 667.4 | 3.0 | 775.9 | 8.1 | 2.8 | 5.0 | 0.011 | 1.8 | 1.8 | 0.033 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 153 | 26 | 26 | 45.48 | 674.2 | 3.0 | 782.7 | 7.8 | 2.6 | 4.8 | 0.010 | 1.7 | 1.7 | 0.032 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 154 | 27 | 27 | 45.66 | 719.0 | 3.0 | 827.5 | 7.4 | 2.2 | 4.4 | 0.008 | 1.3 | 1.3 | 0.031 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 155 | 28 | 28 | 45.84 | 725.8 | 3.0 | 834.3 | 7.2 | 2.0 | 4.2 | 0.008 | 1.3 | 1.3 | 0.030 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 156 | 29 | 29 | 46.02 | 770.6 | 3.0 | 879.1 | 6.8 | 1.6 | 3.8 | 0.006 | 1.0 | 1.0 | 0.029 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 157 | 30 | 30 | 46.19 | 777.4 | 3.0 | 885.9 | 6.6 | 1.4 | 3.6 | 0.005 | 1.0 | 1.0 | 0.029 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 158 | 31 | 31 | 46.37 | 822.2 | 3.0 | 930.6 | 6.2 | 1.0 | 3.2 | 0.004 | 0.7 | 0.7 | 0.027 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |

| Row | 1 | 2 | 3 | 4 | 5 | 6 | Shielded Path s-b (m) | Shielded Path s-b2 (m) | Slope s-b | Slope s-b2 | Direct Path D (m) | Path Different (m) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 126 | 22.4 | 29.2 | 74.0 | 80.8 | 125.6 | 132.4 | | | | | | |
| 127 | 8.1 | 9.7 | 19.8 | 21.3 | 31.5 | 33.0 | 17.0 | 27.5 | 4.898 | 1.629 | 114.3 | 12.721 |
| 128 | 6.7 | 7.8 | 15.0 | 16.1 | 23.3 | 24.4 | 51.0 | 63.7 | 0.345 | 0.396 | 158.3 | 2.466 |
| 129 | 6.5 | 7.6 | 14.5 | 15.6 | 22.5 | 23.5 | 57.5 | 70.0 | 0.303 | 0.355 | 165.0 | 2.116 |
| 130 | 5.8 | 6.6 | 12.0 | 12.9 | 18.3 | 19.1 | 101.2 | 113.3 | 0.167 | 0.212 | 209.4 | 0.943 |
| 131 | 5.7 | 6.5 | 11.8 | 12.6 | 17.8 | 18.6 | 107.9 | 119.9 | 0.156 | 0.199 | 216.2 | 0.852 |
| 132 | 5.2 | 5.9 | 10.2 | 10.9 | 15.3 | 15.9 | 152.3 | 164.1 | 0.110 | 0.144 | 260.7 | 0.476 |
| 133 | 5.2 | 5.8 | 10.1 | 10.7 | 15.0 | 15.6 | 159.1 | 170.8 | 0.105 | 0.139 | 267.5 | 0.440 |
| 134 | 4.9 | 5.4 | 9.1 | 9.6 | 13.2 | 13.8 | 203.7 | 215.3 | 0.082 | 0.110 | 312.1 | 0.275 |
| 135 | 4.8 | 5.4 | 8.9 | 9.5 | 13.0 | 13.6 | 210.5 | 222.0 | 0.079 | 0.106 | 318.9 | 0.257 |
| 136 | 4.6 | 5.1 | 8.2 | 8.7 | 11.8 | 12.3 | 255.1 | 266.6 | 0.065 | 0.088 | 363.6 | 0.172 |
| 137 | 4.6 | 5.0 | 8.1 | 8.6 | 11.6 | 12.1 | 261.9 | 273.4 | 0.064 | 0.086 | 370.4 | 0.162 |
| 138 | 4.4 | 4.8 | 7.6 | 8.0 | 10.7 | 11.1 | 306.7 | 318.1 | 0.054 | 0.074 | 415.1 | 0.114 |
| 139 | 4.4 | 4.8 | 7.5 | 7.9 | 10.6 | 11.0 | 313.4 | 324.8 | 0.053 | 0.072 | 421.9 | 0.108 |
| 140 | 4.3 | 4.6 | 7.1 | 7.4 | 9.9 | 10.2 | 358.2 | 369.5 | 0.047 | 0.064 | 466.6 | 0.078 |
| 141 | 4.2 | 4.6 | 7.0 | 7.4 | 9.8 | 10.1 | 365.0 | 376.3 | 0.046 | 0.062 | 473.4 | 0.074 |
| 142 | 4.1 | 4.5 | 6.7 | 7.0 | 9.2 | 9.5 | 409.7 | 421.1 | 0.041 | 0.056 | 518.1 | 0.055 |
| 143 | 4.1 | 4.5 | 6.6 | 6.9 | 9.1 | 9.4 | 416.5 | 427.8 | 0.040 | 0.055 | 524.9 | 0.052 |
| 144 | 4.0 | 4.3 | 6.3 | 6.6 | 8.6 | 8.9 | 461.3 | 472.6 | 0.036 | 0.050 | 569.7 | 0.039 |
| 145 | 4.0 | 4.3 | 6.3 | 6.6 | 8.6 | 8.9 | 468.1 | 479.4 | 0.036 | 0.049 | 576.5 | 0.037 |
| 146 | 4.0 | 4.2 | 6.1 | 6.3 | 8.2 | 8.4 | 512.9 | 524.1 | 0.032 | 0.045 | 621.2 | 0.028 |
| 147 | 3.9 | 4.2 | 6.0 | 6.3 | 8.1 | 8.4 | 519.7 | 530.9 | 0.032 | 0.044 | 628.0 | 0.027 |
| 148 | 3.9 | 4.1 | 5.8 | 6.1 | 7.8 | 8.0 | 564.4 | 575.7 | 0.030 | 0.041 | 672.8 | 0.021 |
| 149 | 3.9 | 4.1 | 5.8 | 6.1 | 7.7 | 8.0 | 571.2 | 582.5 | 0.029 | 0.040 | 679.6 | 0.020 |
| 150 | 3.8 | 4.1 | 5.6 | 5.9 | 7.4 | 7.7 | 616.0 | 627.2 | 0.027 | 0.037 | 724.3 | 0.015 |
| 151 | 3.8 | 4.1 | 5.6 | 5.8 | 7.4 | 7.6 | 622.8 | 634.0 | 0.027 | 0.037 | 731.1 | 0.014 |
| 152 | 3.8 | 4.0 | 5.5 | 5.7 | 7.1 | 7.4 | 667.6 | 678.8 | 0.025 | 0.035 | 775.9 | 0.011 |
| 153 | 3.8 | 4.0 | 5.4 | 5.7 | 7.1 | 7.3 | 674.4 | 685.6 | 0.025 | 0.034 | 782.7 | 0.010 |
| 154 | 3.7 | 3.9 | 5.3 | 5.5 | 6.9 | 7.1 | 719.2 | 730.4 | 0.023 | 0.032 | 827.5 | 0.008 |
| 155 | 3.7 | 3.9 | 5.3 | 5.5 | 6.9 | 7.1 | 726.0 | 737.2 | 0.023 | 0.032 | 834.3 | 0.008 |
| 156 | 3.7 | 3.9 | 5.2 | 5.4 | 6.7 | 6.9 | 770.8 | 782.0 | 0.022 | 0.030 | 879.1 | 0.006 |
| 157 | 3.7 | 3.9 | 5.2 | 5.4 | 6.6 | 6.8 | 777.6 | 788.7 | 0.021 | 0.030 | 885.9 | 0.005 |
| 158 | 3.7 | 3.8 | 5.1 | 5.2 | 6.5 | 6.6 | 822.4 | 833.5 | 0.020 | 0.028 | 930.6 | 0.004 |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 159 | 32 | 32 | 46.55 | 829.0 | 3.0 | 937.4 | 6.0 | 0.8 | 3.0 | 0.004 | 0.7 | 0.7 | 0.027 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.7 | 3.8 | 5.0 | 5.2 | 6.4 | 6.6 | | 829.2 | 840.3 | 0.020 | 0.028 | 937.4 | 0.004 | | | |
| 160 | 33 | 33 | 46.72 | 873.8 | 3.0 | 982.2 | 5.6 | 0.4 | 2.6 | 0.003 | 0.5 | 0.5 | 0.026 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 5.0 | 5.1 | 6.3 | 6.5 | | 874.0 | 885.1 | 0.019 | 0.027 | 982.2 | 0.003 | | | |
| 161 | 34 | 34 | 46.90 | 880.6 | 3.0 | 989.0 | 5.4 | 0.2 | 2.4 | 0.003 | 0.5 | 0.5 | 0.026 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.9 | 5.1 | 6.3 | 6.4 | | 880.8 | 891.9 | 0.019 | 0.026 | 989.0 | 0.003 | | | |
| 162 | 35 | 35 | 47.08 | 925.4 | 3.0 | 1033.8 | 5.0 | -0.2 | 2.0 | 0.002 | 0.3 | 0.3 | 0.024 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.9 | 5.0 | 6.1 | 6.3 | | 925.5 | 936.7 | 0.018 | 0.025 | 1033.8 | 0.002 | | | |
| 163 | 36 | 36 | 47.26 | 932.2 | 3.0 | 1040.6 | 4.8 | -0.4 | 1.8 | 0.002 | 0.3 | 0.3 | 0.024 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.8 | 5.0 | 6.1 | 6.3 | | 932.3 | 943.5 | 0.018 | 0.025 | 1040.6 | 0.002 | | | |
| 164 | 37 | 37 | 47.43 | 977.0 | 3.0 | 1085.4 | 4.5 | -0.8 | 1.5 | 0.001 | 0.2 | 0.2 | 0.023 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.7 | 4.8 | 4.9 | 6.0 | 6.1 | | 977.1 | 988.3 | 0.017 | 0.024 | 1085.4 | 0.001 | | | |
| 165 | 38 | 38 | 47.61 | 983.8 | 3.0 | 1092.2 | 4.3 | -1.0 | 1.3 | 0.001 | 0.2 | 0.2 | 0.023 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.7 | 4.8 | 4.9 | 6.0 | 6.1 | | 983.9 | 995.1 | 0.017 | 0.024 | 1092.2 | 0.001 | | | |
| 166 | 39 | 39 | 47.79 | 1028.6 | 3.0 | 1137.0 | 3.9 | -1.3 | 0.9 | 0.001 | 0.1 | 0.1 | 0.022 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.5 | 3.7 | 4.7 | 4.8 | 5.8 | 6.0 | | 1028.7 | 1039.9 | 0.016 | 0.023 | 1137.0 | 0.001 | | | |
| 167 | | | | | | | | | | | | | | | **Total** | 49.9 | 44.7 | 46.9 | 67.9 | | | | | | | | | | | | | | | | | |
| 168 | | | | | | | | | | | | | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | |
| 169 | | | | | | | | | | | | | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | |
| 170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 171 | | | | **Wheel at 0.3m** | | | **At NSR, no shield** | | | | | | | | | **At NSR, incl façade** | | | | | | | | | | | | | | | | | | | | |
| 172 | **Mirror Source** | **no. of Reflect** | **Loss of Reflect** | **Dsb** | **Hs** | **Direct Path D** | **Leq, day** | **Leq, night** | **Leq, 24h** | **Path Different** | **A barrier** | **IL barrier** | **Slope of D** | **H of final reflect at far wall** | **Lower than far wall?** | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | 1 | 2 | 3 | 4 | 5 | 6 | | **Shielded Path s-b** | **Shielded Path s-b2** | **Slope s-b** | **Slope s-b2** | **Direct Path D** | **Path Different** | | | |
| 173 | | | | **m** | **mRL** | **m** | | | | **m** | | | | **mRL** | | | | | | | 22.4 | 29.2 | 74.0 | 80.8 | 125.6 | 132.4 | | **m** | **m** | | | **m** | **m** | | | |
| 174 | 0 | 0 | 0.00 | 3.4 | 0.3 | 115.0 | 61.3 | 56.1 | 58.3 | 14.779 | 20.0 | 20.0 | 0.251 | 0 | 1 | 43.8 | 38.6 | 40.8 | 61.9 | | 5.9 | 7.6 | 18.9 | 20.6 | 31.8 | 33.5 | | 19.7 | 29.9 | 5.704 | 1.819 | 115.0 | 14.779 | | | |
| 175 | 1 | 1 | 6.99 | 48.2 | 0.3 | 158.8 | 52.9 | 47.7 | 49.9 | 3.066 | 20.0 | 20.0 | 0.179 | 4.3 | 1 | 35.4 | 30.2 | 32.4 | 53.2 | | 4.3 | 5.5 | 13.6 | 14.8 | 22.8 | 24.0 | | 52.0 | 64.7 | 0.402 | 0.442 | 158.8 | 3.066 | | | |
| 176 | 2 | 2 | 13.98 | 55.0 | 0.3 | 165.5 | 45.8 | 40.5 | 42.7 | 2.640 | 20.0 | 20.0 | 0.172 | 5.3 | 1 | 28.3 | 23.0 | 25.2 | 46.0 | | 4.1 | 5.3 | 13.0 | 14.2 | 21.9 | 23.0 | | 58.3 | 71.0 | 0.353 | 0.397 | 165.5 | 2.640 | | | |
| 177 | 3 | 3 | 20.97 | 99.8 | 0.3 | 209.8 | 37.7 | 32.5 | 34.7 | 1.195 | 20.0 | 20.0 | 0.135 | 10.3 | 1 | 20.2 | 15.0 | 17.2 | 37.7 | | 3.3 | 4.2 | 10.3 | 11.2 | 17.2 | 18.1 | | 101.7 | 113.9 | 0.194 | 0.236 | 209.8 | 1.195 | | | |
| 178 | 4 | 4 | 27.96 | 106.6 | 0.3 | 216.5 | 30.6 | 25.4 | 27.6 | 1.081 | 20.0 | 20.0 | 0.130 | 10.8 | 1 | 13.1 | 7.9 | 10.1 | 30.5 | | 3.2 | 4.1 | 10.0 | 10.8 | 16.7 | 17.6 | | 108.4 | 120.5 | 0.182 | 0.223 | 216.5 | 1.081 | | | |
| 179 | 5 | 5 | 28.14 | 151.4 | 0.3 | 261.0 | 29.6 | 24.4 | 26.6 | 0.610 | 19.0 | 19.0 | 0.108 | 13.9 | 1 | 13.1 | 7.9 | 10.1 | 30.1 | | 2.7 | 3.5 | 8.3 | 9.0 | 13.9 | 14.6 | | 152.6 | 164.5 | 0.128 | 0.161 | 261.0 | 0.610 | | | |
| 180 | 6 | 6 | 35.13 | 158.2 | 0.3 | 267.8 | 22.5 | 17.3 | 19.5 | 0.565 | 18.7 | 18.7 | 0.105 | 14.2 | 1 | 6.4 | 1.1 | 3.3 | 23.3 | | 2.7 | 3.4 | 8.1 | 8.8 | 13.5 | 14.2 | | 159.4 | 171.2 | 0.123 | 0.155 | 267.8 | 0.565 | | | |
| 181 | 7 | 7 | 28.49 | 203.0 | 0.3 | 312.4 | 28.5 | 23.3 | 25.5 | 0.357 | 16.7 | 16.7 | 0.090 | 16.3 | 1 | 14.3 | 9.1 | 11.3 | 30.9 | | 2.3 | 2.9 | 7.0 | 7.6 | 11.6 | 12.2 | | 203.9 | 215.6 | 0.096 | 0.122 | 312.4 | 0.357 | | | |
| 182 | 8 | 8 | 28.67 | 209.8 | 0.3 | 319.1 | 28.2 | 23.0 | 25.2 | 0.335 | 16.4 | 16.4 | 0.088 | 16.5 | 1 | 14.3 | 9.1 | 11.3 | 30.8 | | 2.3 | 2.9 | 6.8 | 7.4 | 11.4 | 12.0 | | 210.7 | 222.3 | 0.092 | 0.119 | 319.1 | 0.335 | | | |
| 183 | 9 | 9 | 28.85 | 254.6 | 0.3 | 363.8 | 27.5 | 22.2 | 24.5 | 0.227 | 14.7 | 14.7 | 0.077 | 18.0 | 1 | 15.3 | 10.0 | 12.3 | 31.4 | | 2.0 | 2.6 | 6.0 | 6.5 | 10.0 | 10.5 | | 255.3 | 266.9 | 0.076 | 0.099 | 363.8 | 0.227 | | | |
| 184 | 10 | 10 | 29.02 | 261.4 | 0.3 | 370.6 | 27.2 | 22.0 | 24.2 | 0.214 | 14.5 | 14.5 | 0.076 | 18.2 | 1 | 15.3 | 10.0 | 12.2 | 31.4 | | 2.0 | 2.5 | 5.9 | 6.4 | 9.8 | 10.3 | | 262.1 | 273.7 | 0.074 | 0.096 | 370.6 | 0.214 | | | |
| 185 | 11 | 11 | 29.20 | 306.2 | 0.3 | 415.2 | 26.5 | 21.3 | 23.5 | 0.152 | 13.0 | 13.0 | 0.068 | 19.3 | 1 | 16.1 | 10.9 | 13.1 | 31.8 | | 1.8 | 2.3 | 5.3 | 5.8 | 8.8 | 9.3 | | 306.8 | 318.3 | 0.063 | 0.083 | 415.2 | 0.152 | | | |
| 186 | 12 | 12 | 29.38 | 313.0 | 0.3 | 422.0 | 26.3 | 21.1 | 23.3 | 0.144 | 12.7 | 12.7 | 0.066 | 19.4 | 1 | 16.1 | 10.8 | 13.0 | 31.8 | | 1.8 | 2.2 | 5.2 | 5.7 | 8.7 | 9.1 | | 313.6 | 325.1 | 0.062 | 0.081 | 422.0 | 0.144 | | | |
| 187 | 13 | 13 | 29.55 | 357.8 | 0.3 | 466.7 | 25.7 | 20.4 | 22.7 | 0.105 | 11.4 | 11.4 | 0.060 | 20.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.7 | 2.1 | 4.8 | 5.2 | 7.9 | 8.3 | | 358.3 | 369.7 | 0.054 | 0.071 | 466.7 | 0.105 | | | |
| 188 | 14 | 14 | 29.73 | 364.6 | 0.3 | 473.5 | 25.4 | 20.2 | 22.4 | 0.101 | 11.2 | 11.2 | 0.059 | 20.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.6 | 2.0 | 4.7 | 5.1 | 7.7 | 8.1 | | 365.1 | 376.5 | 0.053 | 0.070 | 473.5 | 0.101 | | | |
| 189 | 15 | 15 | 29.91 | 409.4 | 0.3 | 518.3 | 24.9 | 19.6 | 21.9 | 0.075 | 9.9 | 9.9 | 0.054 | 21.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.5 | 1.9 | 4.3 | 4.7 | 7.1 | 7.5 | | 409.9 | 421.2 | 0.047 | 0.062 | 518.3 | 0.075 | | | |
| 190 | 16 | 16 | 30.09 | 416.2 | 0.3 | 525.0 | 24.6 | 19.4 | 21.6 | 0.072 | 9.8 | 9.8 | 0.053 | 21.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.5 | 1.9 | 4.3 | 4.6 | 7.0 | 7.4 | | 416.7 | 428.0 | 0.047 | 0.061 | 525.0 | 0.072 | | | |
| 191 | 17 | 17 | 30.26 | 461.0 | 0.3 | 569.8 | 24.1 | 18.9 | 21.1 | 0.055 | 8.6 | 8.6 | 0.049 | 21.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.4 | 1.7 | 3.9 | 4.3 | 6.5 | 6.8 | | 461.4 | 472.7 | 0.042 | 0.055 | 569.8 | 0.055 | | | |
| 192 | 18 | 18 | 30.44 | 467.8 | 0.3 | 576.6 | 23.9 | 18.6 | 20.9 | 0.053 | 8.5 | 8.5 | 0.049 | 21.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.4 | 1.7 | 3.9 | 4.2 | 6.4 | 6.7 | | 468.2 | 479.5 | 0.041 | 0.055 | 576.6 | 0.053 | | | |
| 193 | 19 | 19 | 30.62 | 512.6 | 0.3 | 621.3 | 23.4 | 18.1 | 20.4 | 0.041 | 7.4 | 7.4 | 0.045 | 22.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.3 | 1.6 | 3.6 | 3.9 | 6.0 | 6.3 | | 513.0 | 524.3 | 0.038 | 0.050 | 621.3 | 0.041 | | | |
| 194 | 20 | 20 | 30.80 | 519.4 | 0.3 | 628.1 | 23.1 | 17.9 | 20.1 | 0.039 | 7.2 | 7.2 | 0.045 | 22.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.3 | 1.6 | 3.6 | 3.9 | 5.9 | 6.2 | | 519.8 | 531.0 | 0.037 | 0.049 | 628.1 | 0.039 | | | |
| 195 | 21 | 21 | 30.97 | 564.2 | 0.3 | 672.9 | 22.7 | 17.4 | 19.7 | 0.030 | 6.3 | 6.3 | 0.042 | 22.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.5 | 3.4 | 3.7 | 5.5 | 5.8 | | 564.5 | 575.8 | 0.034 | 0.046 | 672.9 | 0.030 | | | |
| 196 | 22 | 22 | 31.15 | 571.0 | 0.3 | 679.7 | 22.4 | 17.2 | 19.4 | 0.029 | 6.1 | 6.1 | 0.041 | 22.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.5 | 3.4 | 3.6 | 5.5 | 5.8 | | 571.3 | 582.6 | 0.034 | 0.045 | 679.7 | 0.029 | | | |
| 197 | 23 | 23 | 31.33 | 615.8 | 0.3 | 724.4 | 22.0 | 16.8 | 19.0 | 0.023 | 5.3 | 5.3 | 0.039 | 23.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.4 | 3.2 | 3.4 | 5.2 | 5.4 | | 616.1 | 627.3 | 0.031 | 0.042 | 724.4 | 0.023 | | | |
| 198 | 24 | 24 | 31.50 | 622.6 | 0.3 | 731.2 | 21.8 | 16.5 | 18.8 | 0.022 | 5.1 | 5.1 | 0.038 | 23.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.4 | 3.1 | 3.4 | 5.1 | 5.4 | | 622.9 | 634.1 | 0.031 | 0.041 | 731.2 | 0.022 | | | |
| 199 | 25 | 25 | 24.87 | 667.4 | 0.3 | 776.0 | 28.2 | 22.9 | 25.1 | 0.017 | 4.4 | 4.4 | 0.036 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.4 | 3.0 | 3.2 | 4.8 | 5.1 | | 667.7 | 678.9 | 0.029 | 0.039 | 776.0 | 0.017 | | | |
| 200 | 26 | 26 | 25.05 | 674.2 | 0.3 | 782.8 | 27.9 | 22.7 | 24.9 | 0.016 | 4.2 | 4.2 | 0.036 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 3.0 | 3.2 | 4.8 | 5.0 | | 674.5 | 685.7 | 0.029 | 0.038 | 782.8 | 0.016 | | | |
| 201 | 27 | 27 | 25.22 | 719.0 | 0.3 | 827.6 | 27.5 | 22.3 | 24.5 | 0.013 | 3.6 | 3.6 | 0.034 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.8 | 3.0 | 4.6 | 4.8 | | 719.3 | 730.5 | 0.027 | 0.036 | 827.6 | 0.013 | | | |
| 202 | 28 | 28 | 25.40 | 725.8 | 0.3 | 834.4 | 27.3 | 22.1 | 24.3 | 0.012 | 3.5 | 3.5 | 0.034 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.8 | 3.0 | 4.5 | 4.7 | | 726.1 | 737.3 | 0.027 | 0.036 | 834.4 | 0.012 | | | |
| 203 | 29 | 29 | 18.77 | 770.6 | 0.3 | 879.1 | 33.7 | 28.5 | 30.7 | 0.010 | 2.9 | 2.9 | 0.032 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.7 | 2.9 | 4.3 | 4.5 | | 770.8 | 782.0 | 0.025 | 0.034 | 879.1 | 0.010 | | | |
| 204 | 30 | 30 | 18.94 | 777.4 | 0.3 | 885.9 | 33.5 | 28.3 | 30.5 | 0.009 | 2.8 | 2.8 | 0.032 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.6 | 2.9 | 4.3 | 4.5 | | 777.6 | 788.8 | 0.025 | 0.033 | 885.9 | 0.009 | | | |
| 205 | 31 | 31 | 19.12 | 822.2 | 0.3 | 930.7 | 33.1 | 27.9 | 30.1 | 0.007 | 2.3 | 2.3 | 0.030 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.5 | 2.7 | 4.1 | 4.3 | | 822.4 | 833.6 | 0.024 | 0.031 | 930.7 | 0.007 | | | |
| 206 | 32 | 32 | 19.30 | 829.0 | 0.3 | 937.5 | 32.9 | 27.7 | 29.9 | 0.007 | 2.2 | 2.2 | 0.030 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.5 | 2.7 | 4.1 | 4.3 | | 829.2 | 840.4 | 0.023 | 0.031 | 937.5 | 0.007 | | | |
| 207 | 33 | 33 | 19.48 | 873.8 | 0.3 | 982.3 | 32.5 | 27.3 | 29.5 | 0.005 | 1.8 | 1.8 | 0.029 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.4 | 2.6 | 3.9 | 4.1 | | 874.0 | 885.2 | 0.022 | 0.030 | 982.3 | 0.005 | | | |
| 208 | 34 | 34 | 19.65 | 880.6 | 0.3 | 989.1 | 32.3 | 27.1 | 29.3 | 0.005 | 1.7 | 1.7 | 0.028 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.4 | 2.6 | 3.9 | 4.1 | | 880.8 | 892.0 | 0.022 | 0.029 | 989.1 | 0.005 | | | |
| 209 | 35 | 35 | 19.83 | 925.4 | 0.3 | 1033.9 | 31.9 | 26.7 | 28.9 | 0.004 | 1.3 | 1.3 | 0.027 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.3 | 2.5 | 3.7 | 3.9 | | 925.6 | 936.8 | 0.021 | 0.028 | 1033.9 | 0.004 | | | |
| 210 | 36 | 36 | 20.01 | 932.2 | 0.3 | 1040.7 | 31.7 | 26.5 | 28.7 | 0.004 | 1.3 | 1.3 | 0.027 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.3 | 2.5 | 3.7 | 3.9 | | 932.4 | 943.6 | 0.021 | 0.028 | 1040.7 | 0.004 | | | |
| 211 | 37 | 37 | 20.18 | 977.0 | 0.3 | 1085.5 | 31.4 | 26.2 | 28.4 | 0.003 | 1.0 | 1.0 | 0.026 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.2 | 2.4 | 3.5 | 3.7 | | 977.2 | 988.3 | 0.020 | 0.027 | 1085.5 | 0.003 | | | |
| 212 | 38 | 38 | 20.36 | 983.8 | 0.3 | 1092.3 | 31.2 | 25.9 | 28.2 | 0.003 | 1.0 | 1.0 | 0.026 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.2 | 2.4 | 3.5 | 3.7 | | 984.0 | 995.1 | 0.020 | 0.026 | 1092.3 | 0.003 | | | |
| 213 | 39 | 39 | 20.54 | 1028.6 | 0.3 | 1137.0 | 30.8 | 25.6 | 27.8 | 0.002 | 0.7 | 0.7 | 0.025 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.0 | 2.1 | 2.3 | 3.4 | 3.6 | | 1028.8 | 1039.9 | 0.019 | 0.025 | 1137.0 | 0.002 | | | |
| 214 | | | | | | | | | | | | | | | **Total** | 44.6 | 39.3 | 41.6 | 62.6 | | | | | | | | | | | | | | | | | |
| 215 | | | | | | | | | | | | | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | |
| 216 | | | | | | | | | | | | | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | |
| 217 | | | | **Total of Down Track in Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 218 | | | | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 219 | | | **Prop at 3m** | 49.9 | 44.7 | 46.9 | 67.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | | | **Wheel at 0.3m** | 44.6 | 39.3 | 41.6 | 62.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 221 | | | **Total** | 51.0 | 45.8 | 48.0 | 69.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 222 | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 223 | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 225 | **Total** | | **Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 226 | | | | **Total of Up and Down Track in Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 227 | | | | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 228 | | | **Total of Up Track** | 50.5 | 45.7 | 47.9 | 69.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 229 | | | **Total of Down Track** | 51.0 | 45.8 | 48.0 | 69.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | | | **Total** | 53.7 | 48.7 | 51.0 | 69.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 231 | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 232 | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 234 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 235 | | | **Legend:** | | | | | | | | **Remark for Equations:** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 236 | | | Near Track: the nearest track to the receiver in ERS | | | | | | | | (1): Define the near track noise source is up track or down track for different traffic flow | | | | | | | | | | | | | | | | | | | | | | | | | |
| 237 | | | Far Track: the furthest track to the receiver in ERS | | | | | | | | (2): Dsb is defined as distance from mirrored source to barrier (near wall). The ray would emit from source first towards far wall when the no. of reflection | | | | | | | | | | | | | | | | | | | | | | | | | |
| 238 | | | Near wall: retaining wall next to near track | | | | | | | | is odd. Otherwise, it would emit towards near wall when the no. of reflection is even. The sum of the distance of reflection between walls | | | | | | | | | | | | | | | | | | | | | | | | | |
| 239 | | | Far wall: retaining wall next to far track | | | | | | | | from the ray first hitting wall to final hitting plus the distance of first emission from source to wall plus the width of ERS is Dsb. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | | | Hor D: Horizontal distance | | | | | | | | (3): Propagation distance adjustment, ref: FRA High Speed Manual Table 5-4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 241 | | | Hb: Height of barrier which is the near wall | | | | | | | | (4): If the direct path ray D is not under shadow zone of shielding, path different P will be negative. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 242 | | | mRL: vertical level refers to datum above top of rail | | | | | | | | (5): Barrier effect, ref: FRA High Speed Manual Table 5-3. For P<=0, barrier attenuation=0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 243 | | | Dbr: Horizontal distance from barrier to receiver | | | | | | | | (6): Auxiliary calculation is used to find the total reflection loss among reflections inside ERS canyon. The first six reflection points are extracted | | | | | | | | | | | | | | | | | | | | | | | | | |
| 244 | | | Hr: Height of highest floor at receiver | | | | | | | | for detail calculation of reflection loss due to concrete wall absorption or absorption panel. The horizontal distance between the first six | | | | | | | | | | | | | | | | | | | | | | | | | |
| 245 | | | G: Ground factor, Hard ground=0 ref: FRA High Speed Manual Figure 5-3 | | | | | | | | reflection points to the mirrored source are calculated to determine the height of six reflection points hitting on walls. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 246 | | | Abs Coeff: Absorption coefficient | | | | | | | | (7): The height of reflection point would be compared with the height of absorption panel and the height of ERS to determine the IL of that reflection point. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 247 | | | IL: Reflection Loss (dB) | | | | | | | | The comparison results the assigned colour in each cell. Please refers to the legend of colours under the auxiliary calculation table for description. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 248 | | | Abs Panel: Absorption Panel | | | | | | | | (8): Loss of reflect is the total sum of IL for all reflection point from the ray emitted from source to out of ERS canyon. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 249 | | | Height of Abs Panel: base on mRL. If equal to 0, implies no panel installed. | | | | | | | | (9): To compare height of final reflection point of ray on far wall with height of far wall in order to check whether noise is reflected toward receiver. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | | | Mirror source: No. of mirrored noise source. If equal to 0, implies for real source. | | | | | | | | (10): If the checking in (9) is yes, gives the result. Otherwise, gives -99dB to represent a very small noise intensity of that mirror source that can be neglected | | | | | | | | | | | | | | | | | | | | | | | | | |
| 251 | | | no. of reflect: no. of reflection sound ray inside ERS Canyon | | | | | | | | and would not affect the summation result of all mirror source. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 252 | | | Loss of reflect: Total absorption loss due to reflection inside ERS canyon | | | | | | | | (11): Ref: Transportation Noise Reference Book equation 15.21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 253 | | | Dsb: Horizontal distance from noise source to barrier | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254 | | | Hs: Height of noise source | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255 | | | A barrier: Barrier attenuation (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 256 | | | IL barrier: Barrier reflection loss (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257 | | | Slope of D: Slope of ray of direct path D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258 | | | H of final reflect at far wall: Height of the final reflection point of ray hitting on far wall | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# ERS Calculation at NSR SS14 with Mitigation Measure

| Row | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | | NSR | | | | Near Track | | Far Track | | | | ERS | | | Hor D | | | | | | | |
| 3 | NSR | ASR | No. of | Ground Level | Near track? | Angle of view | Hor D | Angle of view | Hor D | Receiver Floor at | | Track Level | Ground Level | ERS Width | Wall to track | Height of Parapet | Dbr | Hb | Hr | Hard Ground | Portal Effect | |
| 4 | | | Storey | mPD | 1:Up 2:Dn | Deg | m | Deg | m | m | | mPD | mPD | m | m | m | m | mRL | mRL | G | | |
| 5 | SS14 | B | 3 | 17 | 2 | 150.8 | 57.2 | 141.7 | 76.2 | 7.5 | | -3.5 | 15 | 25.8 | 3.4 | 1.2 | 53.8 | 19.7 | 28.0 | 0 | 0.3 | |
| 6 | | | | | | | | | | | | Remark: For legend of parameters and remark for equations, please refers to the bottom of spreadsheet "SS2". | | | | | | | | | | |
| 7 | | | Result: | Leq, day | Leq, night | Leq, 24h | Lmax | | | | | Concrete wall Abs Coeff | IL wall | Top Level of Abs Panel | Bottom Level of Abs Panel | Abs Panel Coeff | IL Abs Panel | | Noise Barrier Height | Noise Barrier Setback | Hb2 | Db-b2 |
| 8 | | | Noise Criteria | 65 | 55 | - | 85 | | | | | | | mRL | mRL | | | | m | m | mRL | m |
| 9 | | | Worst | 57.2 | 52.1 | 54.4 | 71.7 | | | | | 0.04 | 0.18 | 16 | 3 | 0.8 | 6.99 | | 8 | 11 | 26.5 | 11.0 |

## 11 Worst — Far Track

| Row | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | | Prop Leq at Height 3m | | | Wheel Leq at Height 0.3m | | | | Hor D | Hor D |
| 13 | Far Track | Leq, day | Leq, night | Leq, 24h | Leq, day | Leq, night | Leq, 24h | | Source to far wall | Source to near wall |
| 14 | Up | 15m | 15m | 15m | 15m | 15m | 15m | | m | m |
| 15 | | 71.5 | 66.7 | 69.0 | 71.2 | 66.4 | 68.6 | | 3.4 | 22.4 |

Auxiliary calculation for path different geometry of noise barrier shielding effect in ERS

| Row | AB | AC | AD | AE | AF | AG | AH |
|---|---|---|---|---|---|---|---|
| 13 | Shielded Path b-b2 | Shielded Path b2-r | Shielded Path b-r | Slope b-b2 | Slope b2-r | Slope b-r | Legend: |
| 14 | m | m | m | | | | s: source point |
| 15 | 12.9 | 42.8 | 54.4 | 0.618 | 0.035 | 0.154 | b: top of wall at near track |
| 16 | | | | | | | b2: top of noise barrier at near track |
| 17 | | | | | | | r: receiver point |

| Row | A Mirror Source | B no. of Reflect | C Loss of Reflect | D Dsb | E Hs | F Direct Path D | G Leq, day | H Leq, night | I Leq, 24h | J Path Different | K A barrier | L IL barrier | M Slope of D | N H of final reflect at far wall | O Lower than far wall? | P Leq, day | Q Leq, night | R Leq, 24h | S Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | | | | | Prop at 3m | | At NSR, no shield | | | | | | | | | | At NSR, incl façade | | |
| 19 | | | | m | mRL | m | | | | m | | | | mRL | 1:Yes 2:No | | | | |
| 20 | 0 | 0 | 0.00 | 22.4 | 3.0 | 80.2 | 63.3 | 58.5 | 60.7 | 3.489 | 15.0 | 15.0 | 0.327 | 0 | 1 | 50.8 | 46.0 | 48.2 | 68.9 |
| 21 | 1 | 1 | 6.99 | 29.2 | 3.0 | 86.7 | 55.9 | 51.2 | 53.4 | 2.697 | 15.0 | 15.0 | 0.301 | 4.1 | 1 | 43.4 | 38.7 | 40.9 | 61.5 |
| 22 | 2 | 2 | 13.98 | 74.0 | 3.0 | 130.2 | 47.2 | 42.4 | 44.6 | 0.789 | 15.0 | 15.0 | 0.195 | 12.5 | 1 | 34.7 | 29.9 | 32.1 | 52.6 |
| 23 | 3 | 3 | 20.97 | 80.8 | 3.0 | 136.9 | 40.0 | 35.2 | 37.4 | 0.681 | 15.0 | 15.0 | 0.185 | 13.2 | 1 | 27.5 | 22.7 | 24.9 | 45.4 |
| 24 | 4 | 4 | 21.15 | 125.6 | 3.0 | 181.1 | 38.6 | 33.8 | 36.0 | 0.298 | 12.9 | 12.9 | 0.139 | 16.9 | 1 | 28.2 | 23.4 | 25.6 | 45.8 |
| 25 | 5 | 5 | 21.32 | 132.4 | 3.0 | 187.9 | 38.2 | 33.5 | 35.7 | 0.267 | 12.4 | 12.4 | 0.134 | 17.3 | 1 | 28.3 | 23.6 | 25.8 | 45.9 |
| 26 | 6 | 6 | 35.13 | 177.2 | 3.0 | 232.3 | 23.5 | 18.7 | 21.0 | 0.138 | 9.6 | 9.6 | 0.108 | 19.4 | 1 | 16.4 | 11.6 | 13.9 | 33.6 |
| 27 | 7 | 7 | 35.30 | 184.0 | 3.0 | 239.1 | 23.2 | 18.4 | 20.7 | 0.126 | 9.2 | 9.2 | 0.105 | 19.6 | 1 | 16.5 | 11.7 | 14.0 | 33.6 |
| 28 | 8 | 8 | 35.48 | 228.8 | 3.0 | 283.7 | 22.3 | 17.5 | 19.7 | 0.071 | 6.9 | 6.9 | 0.088 | 21.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 29 | 9 | 9 | 35.66 | 235.6 | 3.0 | 290.5 | 22.0 | 17.2 | 19.5 | 0.065 | 6.6 | 6.6 | 0.086 | 21.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 30 | 10 | 10 | 42.65 | 280.4 | 3.0 | 335.1 | 14.4 | 9.6 | 11.9 | 0.038 | 4.7 | 4.7 | 0.075 | 22.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 31 | 11 | 11 | 42.82 | 287.2 | 3.0 | 341.9 | 14.1 | 9.4 | 11.6 | 0.035 | 4.5 | 4.5 | 0.073 | 22.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 32 | 12 | 12 | 43.00 | 332.0 | 3.0 | 386.6 | 13.4 | 8.7 | 10.9 | 0.021 | 3.1 | 3.1 | 0.065 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 33 | 13 | 13 | 43.18 | 338.8 | 3.0 | 393.4 | 13.2 | 8.4 | 10.6 | 0.019 | 2.9 | 2.9 | 0.064 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 34 | 14 | 14 | 43.36 | 383.6 | 3.0 | 438.1 | 12.5 | 7.8 | 10.0 | 0.011 | 1.9 | 1.9 | 0.057 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 35 | 15 | 15 | 43.53 | 390.4 | 3.0 | 444.9 | 12.3 | 7.5 | 9.7 | 0.011 | 1.7 | 1.7 | 0.056 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 36 | 16 | 16 | 43.71 | 435.2 | 3.0 | 489.6 | 11.7 | 6.9 | 9.1 | 0.006 | 1.0 | 1.0 | 0.051 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 37 | 17 | 17 | 43.89 | 442.0 | 3.0 | 496.4 | 11.5 | 6.7 | 8.9 | 0.005 | 1.0 | 1.0 | 0.050 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 38 | 18 | 18 | 44.07 | 486.8 | 3.0 | 541.2 | 10.9 | 6.1 | 8.4 | 0.003 | 0.5 | 0.5 | 0.046 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 39 | 19 | 19 | 44.24 | 493.6 | 3.0 | 548.0 | 10.7 | 5.9 | 8.1 | 0.003 | 0.5 | 0.5 | 0.046 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 40 | 20 | 20 | 44.42 | 538.4 | 3.0 | 592.7 | 10.2 | 5.4 | 7.6 | 0.001 | 0.2 | 0.2 | 0.042 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 41 | 21 | 21 | 44.60 | 545.2 | 3.0 | 599.5 | 9.9 | 5.2 | 7.4 | 0.001 | 0.2 | 0.2 | 0.042 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 42 | 22 | 22 | 44.77 | 590.0 | 3.0 | 644.3 | 9.4 | 4.7 | 6.9 | 0.000 | 0.1 | 0.1 | 0.039 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 43 | 23 | 23 | 44.95 | 596.8 | 3.0 | 651.1 | 9.2 | 4.4 | 6.7 | 0.000 | 0.1 | 0.1 | 0.038 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 44 | 24 | 24 | 45.13 | 641.6 | 3.0 | 695.8 | 8.8 | 4.0 | 6.2 | 0.000 | 0.0 | 0.0 | 0.036 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 45 | 25 | 25 | 45.31 | 648.4 | 3.0 | 702.6 | 8.5 | 3.8 | 6.0 | 0.000 | 0.0 | 0.0 | 0.036 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 46 | 26 | 26 | 45.48 | 693.2 | 3.0 | 747.4 | 8.1 | 3.3 | 5.5 | 0.000 | 0.0 | 0.0 | 0.033 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 47 | 27 | 27 | 45.66 | 700.0 | 3.0 | 754.2 | 7.9 | 3.1 | 5.3 | 0.000 | 0.0 | 0.0 | 0.033 | 25.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 48 | 28 | 28 | 45.84 | 744.8 | 3.0 | 799.0 | 7.4 | 2.7 | 4.9 | 0.000 | 0.0 | 0.0 | 0.031 | 25.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 49 | 29 | 29 | 46.02 | 751.6 | 3.0 | 805.8 | 7.2 | 2.5 | 4.7 | 0.000 | 0.0 | 0.0 | 0.031 | 25.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 50 | 30 | 30 | 46.19 | 796.4 | 3.0 | 850.6 | 6.8 | 2.0 | 4.3 | -0.001 | 0.0 | 0.0 | 0.029 | 25.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 51 | 31 | 31 | 46.37 | 803.2 | 3.0 | 857.4 | 6.6 | 1.8 | 4.1 | -0.001 | 0.0 | 0.0 | 0.029 | 25.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 52 | 32 | 32 | 46.55 | 848.0 | 3.0 | 902.1 | 6.2 | 1.4 | 3.7 | -0.001 | 0.0 | 0.0 | 0.028 | 25.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 53 | 33 | 33 | 46.72 | 854.8 | 3.0 | 908.9 | 6.0 | 1.2 | 3.4 | -0.001 | 0.0 | 0.0 | 0.027 | 25.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 54 | 34 | 34 | 46.90 | 899.6 | 3.0 | 953.7 | 5.6 | 0.8 | 3.1 | -0.002 | 0.0 | 0.0 | 0.026 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 55 | 35 | 35 | 47.08 | 906.4 | 3.0 | 960.5 | 5.4 | 0.6 | 2.8 | -0.002 | 0.0 | 0.0 | 0.026 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 56 | 36 | 36 | 47.26 | 951.2 | 3.0 | 1005.3 | 5.0 | 0.3 | 2.5 | -0.002 | 0.0 | 0.0 | 0.025 | 26.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 57 | 37 | 37 | 47.43 | 958.0 | 3.0 | 1012.1 | 4.8 | 0.0 | 2.3 | -0.002 | 0.0 | 0.0 | 0.025 | 26.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 58 | 38 | 38 | 47.61 | 1002.8 | 3.0 | 1056.9 | 4.5 | -0.3 | 1.9 | -0.003 | 0.0 | 0.0 | 0.024 | 26.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 59 | 39 | 39 | 47.79 | 1009.6 | 3.0 | 1063.7 | 4.2 | -0.5 | 1.7 | -0.003 | 0.0 | 0.0 | 0.023 | 26.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 60 | | | | | | | | | | | | | | | Total | 51.7 | 46.9 | 49.1 | 69.8 |
| 61 | | | | | | | | | | | | | | | Noise Criteria | 65 | 55 | - | 85 |
| 62 | | | | | | | | | | | | | | | Status | OK | OK | - | OK |

Auxiliary calculation for reflection loss of each reflection in ERS

| Row | T No. of reflection to hit wall | U 1 | V 2 | W 3 | X 4 | Y 5 | Z 6 | AB Shielded Path s-b | AC Shielded Path s-b2 | AD Slope s-b | AE Slope s-b2 | AF Direct Path D | AG Path Different |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19 | Hor D wall to source | 3.4 | 48.2 | 55.0 | 99.8 | 106.6 | 151.4 | m | m | | | m | m |
| 20 | Height of ray | 4.2 | 18.8 | 21.1 | 35.7 | 38.0 | 52.6 | 27.9 | 40.8 | 0.743 | 0.702 | 80.2 | 3.489 |
| 21 | | 4.1 | 17.5 | 19.6 | 33.1 | 35.1 | 48.6 | 33.6 | 46.5 | 0.570 | 0.583 | 86.7 | 2.697 |
| 22 | | 3.7 | 12.5 | 13.8 | 22.5 | 23.9 | 32.6 | 75.9 | 88.2 | 0.225 | 0.276 | 130.2 | 0.789 |
| 23 | | 3.7 | 12.0 | 13.2 | 21.5 | 22.8 | 31.1 | 82.5 | 94.7 | 0.206 | 0.255 | 136.9 | 0.681 |
| 24 | | 3.5 | 9.8 | 10.7 | 16.9 | 17.9 | 24.1 | 126.7 | 138.6 | 0.133 | 0.172 | 181.1 | 0.298 |
| 25 | | 3.5 | 9.5 | 10.4 | 16.4 | 17.3 | 23.3 | 133.4 | 145.3 | 0.126 | 0.164 | 187.9 | 0.267 |
| 26 | | 3.4 | 8.3 | 9.0 | 13.8 | 14.6 | 19.4 | 178.0 | 189.7 | 0.094 | 0.125 | 232.3 | 0.138 |
| 27 | | 3.4 | 8.1 | 8.8 | 13.5 | 14.2 | 18.9 | 184.8 | 196.4 | 0.091 | 0.120 | 239.1 | 0.126 |
| 28 | | 3.3 | 7.3 | 7.9 | 11.9 | 12.5 | 16.4 | 229.4 | 240.9 | 0.073 | 0.098 | 283.7 | 0.071 |
| 29 | | 3.3 | 7.2 | 7.8 | 11.7 | 12.2 | 16.1 | 236.2 | 247.7 | 0.071 | 0.095 | 290.5 | 0.065 |
| 30 | | 3.3 | 6.6 | 7.2 | 10.5 | 11.0 | 14.4 | 280.9 | 292.3 | 0.059 | 0.080 | 335.1 | 0.038 |
| 31 | | 3.3 | 6.6 | 7.1 | 10.4 | 10.8 | 14.1 | 287.7 | 299.1 | 0.058 | 0.079 | 341.9 | 0.035 |
| 32 | | 3.3 | 6.2 | 6.6 | 9.5 | 9.9 | 12.8 | 332.4 | 343.8 | 0.050 | 0.068 | 386.6 | 0.021 |
| 33 | | 3.3 | 6.1 | 6.5 | 9.4 | 9.8 | 12.7 | 339.2 | 350.6 | 0.049 | 0.067 | 393.4 | 0.019 |
| 34 | | 3.2 | 5.8 | 6.2 | 8.7 | 9.1 | 11.7 | 384.0 | 395.3 | 0.043 | 0.059 | 438.1 | 0.011 |
| 35 | | 3.2 | 5.8 | 6.1 | 8.7 | 9.0 | 11.6 | 390.8 | 402.1 | 0.043 | 0.058 | 444.9 | 0.011 |
| 36 | | 3.2 | 5.5 | 5.9 | 8.1 | 8.5 | 10.8 | 435.5 | 446.8 | 0.038 | 0.053 | 489.6 | 0.006 |
| 37 | | 3.2 | 5.5 | 5.8 | 8.1 | 8.4 | 10.7 | 442.3 | 453.6 | 0.038 | 0.052 | 496.4 | 0.005 |
| 38 | | 3.2 | 5.3 | 5.6 | 7.7 | 8.0 | 10.0 | 487.1 | 498.4 | 0.034 | 0.047 | 541.2 | 0.003 |
| 39 | | 3.2 | 5.2 | 5.6 | 7.6 | 7.9 | 9.9 | 493.9 | 505.1 | 0.034 | 0.046 | 548.0 | 0.003 |
| 40 | | 3.2 | 5.1 | 5.4 | 7.3 | 7.5 | 9.4 | 538.7 | 549.9 | 0.031 | 0.043 | 592.7 | 0.001 |
| 41 | | 3.2 | 5.1 | 5.3 | 7.2 | 7.5 | 9.4 | 545.5 | 556.7 | 0.031 | 0.042 | 599.5 | 0.001 |
| 42 | | 3.2 | 4.9 | 5.2 | 6.9 | 7.2 | 8.9 | 590.2 | 601.5 | 0.028 | 0.039 | 644.3 | 0.000 |
| 43 | | 3.2 | 4.9 | 5.2 | 6.9 | 7.1 | 8.9 | 597.0 | 608.3 | 0.028 | 0.039 | 651.1 | 0.000 |
| 44 | | 3.2 | 4.8 | 5.0 | 6.6 | 6.9 | 8.5 | 641.8 | 653.0 | 0.026 | 0.036 | 695.8 | 0.000 |
| 45 | | 3.2 | 4.8 | 5.0 | 6.6 | 6.8 | 8.4 | 648.6 | 659.8 | 0.026 | 0.036 | 702.6 | 0.000 |
| 46 | | 3.2 | 4.7 | 4.9 | 6.4 | 6.6 | 8.1 | 693.4 | 704.6 | 0.024 | 0.033 | 747.4 | 0.000 |
| 47 | | 3.2 | 4.6 | 4.9 | 6.4 | 6.6 | 8.1 | 700.2 | 711.4 | 0.024 | 0.033 | 754.2 | 0.000 |
| 48 | | 3.2 | 4.6 | 4.8 | 6.2 | 6.4 | 7.8 | 745.0 | 756.2 | 0.022 | 0.031 | 799.0 | 0.000 |
| 49 | | 3.2 | 4.5 | 4.8 | 6.1 | 6.4 | 7.7 | 751.8 | 763.0 | 0.022 | 0.031 | 805.8 | 0.000 |
| 50 | | 3.1 | 4.5 | 4.7 | 6.0 | 6.2 | 7.5 | 796.6 | 807.7 | 0.021 | 0.029 | 850.6 | -0.001 |
| 51 | | 3.1 | 4.5 | 4.6 | 6.0 | 6.2 | 7.5 | 803.4 | 814.5 | 0.021 | 0.029 | 857.4 | -0.001 |
| 52 | | 3.1 | 4.4 | 4.6 | 5.8 | 6.0 | 7.2 | 848.2 | 859.3 | 0.020 | 0.027 | 902.1 | -0.001 |
| 53 | | 3.1 | 4.4 | 4.6 | 5.8 | 6.0 | 7.2 | 855.0 | 866.1 | 0.019 | 0.027 | 908.9 | -0.001 |
| 54 | | 3.1 | 4.3 | 4.5 | 5.7 | 5.8 | 7.0 | 899.8 | 910.9 | 0.019 | 0.026 | 953.7 | -0.002 |
| 55 | | 3.1 | 4.3 | 4.5 | 5.6 | 5.8 | 7.0 | 906.6 | 917.7 | 0.018 | 0.026 | 960.5 | -0.002 |
| 56 | | 3.1 | 4.2 | 4.4 | 5.5 | 5.7 | 6.8 | 951.3 | 962.5 | 0.018 | 0.024 | 1005.3 | -0.002 |
| 57 | | 3.1 | 4.2 | 4.4 | 5.5 | 5.7 | 6.8 | 958.1 | 969.3 | 0.017 | 0.024 | 1012.1 | -0.002 |
| 58 | | 3.1 | 4.2 | 4.3 | 5.4 | 5.6 | 6.6 | 1002.9 | 1014.1 | 0.017 | 0.023 | 1056.9 | -0.003 |
| 59 | | 3.1 | 4.2 | 4.3 | 5.4 | 5.5 | 6.6 | 1009.7 | 1020.9 | 0.016 | 0.023 | 1063.7 | -0.003 |

Legend:
: ray hit abs panel
: ray hit concrete wall
: ray hit nothing, no absorption loss

| Row | A Mirror Source | B no. of Reflect | C Loss of Reflect | D Dsb | E Hs | F Direct Path D | G Leq, day | H Leq, night | I Leq, 24h | J Path Different | K A barrier | L IL barrier | M Slope of D | N H of final reflect at far wall | O Lower than far wall? | P Leq, day | Q Leq, night | R Leq, 24h | S Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | | | | | Wheel at 0.3m | | At NSR, no shield | | | | | | | | | | At NSR, incl façade | | |
| 66 | | | | m | mRL | m | | | | m | | | | mRL | | | | | |
| 67 | 0 | 0 | 0.00 | 22.4 | 0.3 | 81.1 | 62.9 | 58.1 | 60.3 | 4.311 | 20.0 | 20.0 | 0.363 | 0 | 1 | 45.4 | 40.6 | 42.8 | 63.5 |
| 68 | 1 | 1 | 0.18 | 29.2 | 0.3 | 87.5 | 62.4 | 57.6 | 59.8 | 3.314 | 20.0 | 20.0 | 0.334 | 1.4 | 1 | 44.9 | 40.1 | 42.3 | 63.0 |
| 69 | 2 | 2 | 7.17 | 74.0 | 0.3 | 130.8 | 53.6 | 48.9 | 51.1 | 1.005 | 20.0 | 20.0 | 0.217 | 10.8 | 1 | 36.1 | 31.4 | 33.6 | 54.1 |
| 70 | 3 | 3 | 14.16 | 80.8 | 0.3 | 137.4 | 46.4 | 41.7 | 43.9 | 0.871 | 20.0 | 20.0 | 0.206 | 11.6 | 1 | 28.9 | 24.2 | 26.4 | 46.8 |
| 71 | 4 | 4 | 21.15 | 125.6 | 0.3 | 181.5 | 38.2 | 33.5 | 35.7 | 0.390 | 17.1 | 17.1 | 0.154 | 15.7 | 1 | 23.7 | 18.9 | 21.1 | 41.3 |
| 72 | 5 | 5 | 21.32 | 132.4 | 0.3 | 188.2 | 37.9 | 33.1 | 35.3 | 0.351 | 16.6 | 16.6 | 0.149 | 16.2 | 1 | 23.8 | 19.0 | 21.3 | 41.3 |
| 73 | 6 | 6 | 28.31 | 177.2 | 0.3 | 232.7 | 30.0 | 25.2 | 27.4 | 0.186 | 13.8 | 13.8 | 0.120 | 18.5 | 1 | 18.6 | 13.9 | 16.1 | 35.8 |
| 74 | 7 | 7 | 28.49 | 184.0 | 0.3 | 239.4 | 29.7 | 24.9 | 27.1 | 0.171 | 13.5 | 13.5 | 0.116 | 18.7 | 1 | 18.7 | 14.0 | 16.2 | 35.9 |
| 75 | 8 | 8 | 35.48 | 228.8 | 0.3 | 284.0 | 22.0 | 17.2 | 19.4 | 0.099 | 11.1 | 11.1 | 0.098 | 20.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 76 | 9 | 9 | 35.66 | 235.6 | 0.3 | 290.7 | 21.7 | 16.9 | 19.1 | 0.091 | 10.8 | 10.8 | 0.096 | 20.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 77 | 10 | 10 | 35.83 | 280.4 | 0.3 | 335.3 | 20.9 | 16.1 | 18.3 | 0.056 | 8.7 | 8.7 | 0.083 | 21.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 78 | 11 | 11 | 36.01 | 287.2 | 0.3 | 342.1 | 20.6 | 15.8 | 18.1 | 0.052 | 8.4 | 8.4 | 0.081 | 21.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 79 | 12 | 12 | 36.19 | 332.0 | 0.3 | 386.8 | 19.9 | 15.1 | 17.4 | 0.032 | 6.5 | 6.5 | 0.072 | 22.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 80 | 13 | 13 | 36.37 | 338.8 | 0.3 | 393.6 | 19.7 | 14.9 | 17.1 | 0.030 | 6.3 | 6.3 | 0.071 | 22.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 81 | 14 | 14 | 36.54 | 383.6 | 0.3 | 438.3 | 19.0 | 14.2 | 16.5 | 0.019 | 4.7 | 4.7 | 0.063 | 23.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 82 | 15 | 15 | 36.72 | 390.4 | 0.3 | 445.1 | 18.8 | 14.0 | 16.2 | 0.018 | 4.4 | 4.4 | 0.062 | 23.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 83 | 16 | 16 | 36.90 | 435.2 | 0.3 | 489.8 | 18.2 | 13.4 | 15.6 | 0.011 | 3.1 | 3.1 | 0.057 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 84 | 17 | 17 | 30.26 | 442.0 | 0.3 | 496.6 | 24.7 | 20.0 | 22.2 | 0.010 | 3.0 | 3.0 | 0.056 | 23.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 85 | 18 | 18 | 30.44 | 486.8 | 0.3 | 541.3 | 24.2 | 19.4 | 21.6 | 0.006 | 2.0 | 2.0 | 0.051 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 86 | 19 | 19 | 30.62 | 493.6 | 0.3 | 548.1 | 24.0 | 19.2 | 21.4 | 0.006 | 1.8 | 1.8 | 0.051 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 87 | 20 | 20 | 23.98 | 538.4 | 0.3 | 592.8 | 30.3 | 25.5 | 27.7 | 0.003 | 1.1 | 1.1 | 0.047 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 88 | 21 | 21 | 24.16 | 545.2 | 0.3 | 599.6 | 30.0 | 25.3 | 27.5 | 0.003 | 1.0 | 1.0 | 0.046 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 89 | 22 | 22 | 24.34 | 590.0 | 0.3 | 644.4 | 29.5 | 24.8 | 27.0 | 0.001 | 0.6 | 0.6 | 0.043 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 90 | 23 | 23 | 24.51 | 596.8 | 0.3 | 651.2 | 29.3 | 24.5 | 26.8 | 0.001 | 0.5 | 0.5 | 0.043 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 91 | 24 | 24 | 24.69 | 641.6 | 0.3 | 696.0 | 28.9 | 24.1 | 26.3 | 0.001 | 0.2 | 0.2 | 0.040 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 92 | 25 | 25 | 24.87 | 648.4 | 0.3 | 702.7 | 28.6 | 23.9 | 26.1 | 0.000 | 0.2 | 0.2 | 0.039 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 93 | 26 | 26 | 25.05 | 693.2 | 0.3 | 747.5 | 28.2 | 23.4 | 25.6 | 0.000 | 0.1 | 0.1 | 0.037 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 94 | 27 | 27 | 25.22 | 700.0 | 0.3 | 754.3 | 28.0 | 23.2 | 25.4 | 0.000 | 0.1 | 0.1 | 0.037 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 95 | 28 | 28 | 25.40 | 744.8 | 0.3 | 799.1 | 27.5 | 22.8 | 25.0 | 0.000 | 0.0 | 0.0 | 0.035 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 96 | 29 | 29 | 25.58 | 751.6 | 0.3 | 805.9 | 27.3 | 22.6 | 24.8 | 0.000 | 0.0 | 0.0 | 0.034 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 97 | 30 | 30 | 25.76 | 796.4 | 0.3 | 850.7 | 26.9 | 22.1 | 24.4 | 0.000 | 0.0 | 0.0 | 0.033 | 25.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 98 | 31 | 31 | 25.93 | 803.2 | 0.3 | 857.4 | 26.7 | 21.9 | 24.2 | 0.000 | 0.0 | 0.0 | 0.032 | 25.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 99 | 32 | 32 | 26.11 | 848.0 | 0.3 | 902.2 | 26.3 | 21.5 | 23.8 | 0.000 | 0.0 | 0.0 | 0.031 | 25.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 100 | 33 | 33 | 26.29 | 854.8 | 0.3 | 909.0 | 26.1 | 21.3 | 23.5 | 0.000 | 0.0 | 0.0 | 0.030 | 25.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 101 | 34 | 34 | 26.47 | 899.6 | 0.3 | 953.8 | 25.7 | 20.9 | 23.2 | -0.001 | 0.0 | 0.0 | 0.029 | 25.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 102 | 35 | 35 | 26.64 | 906.4 | 0.3 | 960.6 | 25.5 | 20.7 | 23.0 | -0.001 | 0.0 | 0.0 | 0.029 | 25.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 103 | 36 | 36 | 26.82 | 951.2 | 0.3 | 1005.4 | 25.1 | 20.4 | 22.6 | -0.001 | 0.0 | 0.0 | 0.028 | 25.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 104 | 37 | 37 | 27.00 | 958.0 | 0.3 | 1012.2 | 24.9 | 20.2 | 22.4 | -0.001 | 0.0 | 0.0 | 0.027 | 25.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 105 | 38 | 38 | 20.36 | 1002.8 | 0.3 | 1057.0 | 31.4 | 26.6 | 28.8 | -0.002 | 0.0 | 0.0 | 0.026 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 106 | 39 | 39 | 20.54 | 1009.6 | 0.3 | 1063.8 | 31.2 | 26.4 | 28.6 | -0.002 | 0.0 | 0.0 | 0.026 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 107 | | | | | | | | | | | | | | | Total | 48.5 | 43.7 | 45.9 | 66.6 |
| 108 | | | | | | | | | | | | | | | Noise Criteria | 65 | 55 | - | 85 |
| 109 | | | | | | | | | | | | | | | Status | OK | OK | - | OK |

| Row | U 1 | V 2 | W 3 | X 4 | Y 5 | Z 6 | AB Shielded Path s-b | AC Shielded Path s-b2 | AD Slope s-b | AE Slope s-b2 | AF Direct Path D | AG Path Different |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | 3.4 | 48.2 | 55.0 | 99.8 | 106.6 | 151.4 | m | m | | | m | m |
| 67 | 1.5 | 17.8 | 20.3 | 36.6 | 39.0 | 55.3 | 29.6 | 42.4 | 0.866 | 0.784 | 81.1 | 4.311 |
| 68 | 1.4 | 16.4 | 18.7 | 33.6 | 35.9 | 50.8 | 35.1 | 48.0 | 0.664 | 0.652 | 87.5 | 3.314 |
| 69 | 1.0 | 10.8 | 12.2 | 21.9 | 23.4 | 33.1 | 76.5 | 88.9 | 0.262 | 0.308 | 130.8 | 1.005 |
| 70 | 1.0 | 10.2 | 11.6 | 20.8 | 22.2 | 31.5 | 83.1 | 95.5 | 0.240 | 0.285 | 137.4 | 0.871 |
| 71 | 0.8 | 7.7 | 8.8 | 15.7 | 16.8 | 23.7 | 127.1 | 139.1 | 0.154 | 0.192 | 181.5 | 0.390 |
| 72 | 0.8 | 7.5 | 8.5 | 15.1 | 16.2 | 22.8 | 133.8 | 145.8 | 0.146 | 0.183 | 188.2 | 0.351 |
| 73 | 0.7 | 6.1 | 6.9 | 12.3 | 13.1 | 18.5 | 178.3 | 190.0 | 0.109 | 0.139 | 232.7 | 0.186 |
| 74 | 0.7 | 5.9 | 6.7 | 11.9 | 12.7 | 17.9 | 185.0 | 196.8 | 0.105 | 0.134 | 239.4 | 0.171 |
| 75 | 0.6 | 5.0 | 5.7 | 10.1 | 10.8 | 15.1 | 229.6 | 241.2 | 0.085 | 0.109 | 284.0 | 0.099 |
| 76 | 0.6 | 4.9 | 5.6 | 9.9 | 10.5 | 14.8 | 236.4 | 248.0 | 0.082 | 0.106 | 290.7 | 0.091 |
| 77 | 0.6 | 4.3 | 4.9 | 8.6 | 9.1 | 12.9 | 281.1 | 292.6 | 0.069 | 0.090 | 335.3 | 0.056 |
| 78 | 0.6 | 4.2 | 4.8 | 8.4 | 9.0 | 12.6 | 287.9 | 299.3 | 0.068 | 0.088 | 342.1 | 0.052 |
| 79 | 0.5 | 3.8 | 4.3 | 7.5 | 8.0 | 11.2 | 332.6 | 344.0 | 0.058 | 0.076 | 386.8 | 0.032 |
| 80 | 0.5 | 3.7 | 4.2 | 7.3 | 7.8 | 11.0 | 339.4 | 350.8 | 0.057 | 0.075 | 393.6 | 0.030 |
| 81 | 0.5 | 3.4 | 3.8 | 6.6 | 7.1 | 9.9 | 384.1 | 395.5 | 0.051 | 0.066 | 438.3 | 0.019 |
| 82 | 0.5 | 3.3 | 3.7 | 6.5 | 7.0 | 9.7 | 390.9 | 402.3 | 0.050 | 0.065 | 445.1 | 0.018 |
| 83 | 0.5 | 3.0 | 3.4 | 6.0 | 6.3 | 8.9 | 435.6 | 447.0 | 0.045 | 0.059 | 489.8 | 0.011 |
| 84 | 0.5 | 3.0 | 3.4 | 5.9 | 6.3 | 8.8 | 442.4 | 453.8 | 0.044 | 0.058 | 496.6 | 0.010 |
| 85 | 0.5 | 2.8 | 3.1 | 5.4 | 5.8 | 8.1 | 487.2 | 498.5 | 0.040 | 0.053 | 541.3 | 0.006 |
| 86 | 0.5 | 2.7 | 3.1 | 5.4 | 5.7 | 8.0 | 494.0 | 505.3 | 0.039 | 0.052 | 548.1 | 0.006 |
| 87 | 0.5 | 2.6 | 2.9 | 5.0 | 5.3 | 7.4 | 538.7 | 550.0 | 0.036 | 0.048 | 592.8 | 0.003 |
| 88 | 0.5 | 2.5 | 2.8 | 4.9 | 5.2 | 7.3 | 545.5 | 556.8 | 0.036 | 0.047 | 599.6 | 0.003 |
| 89 | 0.5 | 2.4 | 2.7 | 4.6 | 4.9 | 6.8 | 590.3 | 601.6 | 0.033 | 0.044 | 644.4 | 0.001 |
| 90 | 0.4 | 2.4 | 2.6 | 4.6 | 4.8 | 6.7 | 597.1 | 608.4 | 0.032 | 0.043 | 651.2 | 0.001 |
| 91 | 0.4 | 2.2 | 2.5 | 4.3 | 4.6 | 6.3 | 641.9 | 653.1 | 0.030 | 0.040 | 696.0 | 0.001 |
| 92 | 0.4 | 2.2 | 2.5 | 4.2 | 4.5 | 6.3 | 648.7 | 659.9 | 0.030 | 0.040 | 702.7 | 0.000 |
| 93 | 0.4 | 2.1 | 2.3 | 4.0 | 4.3 | 5.9 | 693.5 | 704.7 | 0.028 | 0.037 | 747.5 | 0.000 |
| 94 | 0.4 | 2.1 | 2.3 | 4.0 | 4.2 | 5.9 | 700.3 | 711.5 | 0.028 | 0.037 | 754.3 | 0.000 |
| 95 | 0.4 | 2.0 | 2.2 | 3.8 | 4.0 | 5.6 | 745.1 | 756.3 | 0.026 | 0.035 | 799.1 | 0.000 |
| 96 | 0.4 | 2.0 | 2.2 | 3.7 | 4.0 | 5.5 | 751.9 | 763.0 | 0.026 | 0.034 | 805.9 | 0.000 |
| 97 | 0.4 | 1.9 | 2.1 | 3.6 | 3.8 | 5.2 | 796.6 | 807.8 | 0.024 | 0.032 | 850.7 | 0.000 |
| 98 | 0.4 | 1.9 | 2.1 | 3.5 | 3.7 | 5.2 | 803.4 | 814.6 | 0.024 | 0.032 | 857.4 | 0.000 |
| 99 | 0.4 | 1.8 | 2.0 | 3.4 | 3.6 | 5.0 | 848.2 | 859.4 | 0.023 | 0.030 | 902.2 | 0.000 |
| 100 | 0.4 | 1.8 | 2.0 | 3.3 | 3.6 | 4.9 | 855.0 | 866.2 | 0.023 | 0.030 | 909.0 | 0.000 |
| 101 | 0.4 | 1.7 | 1.9 | 3.2 | 3.4 | 4.7 | 899.8 | 911.0 | 0.022 | 0.029 | 953.8 | -0.001 |
| 102 | 0.4 | 1.7 | 1.9 | 3.2 | 3.4 | 4.7 | 906.6 | 917.8 | 0.021 | 0.029 | 960.6 | -0.001 |
| 103 | 0.4 | 1.6 | 1.8 | 3.1 | 3.2 | 4.5 | 951.4 | 962.6 | 0.020 | 0.027 | 1005.4 | -0.001 |
| 104 | 0.4 | 1.6 | 1.8 | 3.0 | 3.2 | 4.4 | 958.2 | 969.4 | 0.020 | 0.027 | 1012.2 | -0.001 |
| 105 | 0.4 | 1.6 | 1.7 | 2.9 | 3.1 | 4.3 | 1003.0 | 1014.1 | 0.019 | 0.026 | 1057.0 | -0.002 |
| 106 | 0.4 | 1.6 | 1.7 | 2.9 | 3.1 | 4.2 | 1009.8 | 1020.9 | 0.019 | 0.026 | 1063.8 | -0.002 |

## 110 Total of Up Track in Worst Case

| Row | C | D Leq, day | E Leq, night | F Leq, 24h | G Lmax |
|---|---|---|---|---|---|
| 112 | Prop at 3m | 51.7 | 46.9 | 49.1 | 69.8 |
| 113 | Wheel at 0.3m | 48.5 | 43.7 | 45.9 | 66.6 |
| 114 | Total | 53.4 | 48.6 | 50.8 | 71.5 |
| 115 | Noise Criteria | 65 | 55 | - | 85 |
| 116 | Status | OK | OK | - | OK |

## 118 Worst — Near Track

| Row | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 119 | | Prop Leq at Height 3m | | | Wheel Leq at Height 0.3m | | | | Hor D | Hor D |
| 120 | Near Track | Leq, day | Leq, night | Leq, 24h | Leq, day | Leq, night | Leq, 24h | | Source to far wall | Source to near wall |
| 121 | Down | 15m | 15m | 15m | 15m | 15m | 15m | | m | m |
| 122 | | 72.0 | 66.7 | 69.0 | 71.6 | 66.4 | 68.6 | | 22.4 | 3.4 |

| Row | A Mirror Source | B no. of Reflect | C Loss of Reflect | D Dsb | E Hs | F Direct Path D | G Leq, day | H Leq, night | I Leq, 24h | J Path Different | K A barrier | L IL barrier | M Slope of D | N H of final reflect at far wall | O Lower than far wall? | P Leq, day | Q Leq, night | R Leq, 24h | S Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 124 | | | | | Prop at 3m | | At NSR, no shield | | | | | | | | | | At NSR, incl façade | | |
| 126 | | | | m | mRL | m | | | | m | | | | mRL | | | | | |
| 127 | 0 | 0 | 0.00 | 3.4 | 3.0 | 62.4 | 65.1 | 59.9 | 62.1 | 10.349 | 15.0 | 15.0 | 0.436 | 0 | 1 | 52.6 | 47.4 | 49.6 | 70.0 |
| 128 | 1 | 1 | 6.99 | 48.2 | 3.0 | 105.0 | 55.8 | 50.6 | 52.8 | 1.495 | 15.0 | 15.0 | 0.245 | 8.5 | 1 | 43.3 | 38.1 | 40.3 | 60.6 |
| 129 | 2 | 2 | 13.98 | 55.0 | 3.0 | 111.6 | 48.6 | 43.3 | 45.6 | 1.245 | 15.0 | 15.0 | 0.229 | 9.7 | 1 | 36.1 | 30.8 | 33.1 | 53.4 |
| 130 | 3 | 3 | 20.97 | 99.8 | 3.0 | 155.6 | 40.1 | 34.9 | 37.1 | 0.468 | 14.9 | 14.9 | 0.162 | 15.1 | 1 | 27.8 | 22.6 | 24.8 | 44.8 |
| 131 | 4 | 4 | 27.96 | 106.6 | 3.0 | 162.3 | 33.0 | 27.7 | 30.0 | 0.413 | 14.3 | 14.3 | 0.156 | 15.6 | 1 | 21.2 | 15.9 | 18.2 | 38.2 |
| 132 | 5 | 5 | 28.14 | 151.4 | 3.0 | 206.7 | 31.7 | 26.5 | 28.7 | 0.199 | 11.2 | 11.2 | 0.122 | 18.3 | 1 | 23.1 | 17.9 | 20.1 | 39.8 |
| 133 | 6 | 6 | 28.31 | 158.2 | 3.0 | 213.5 | 31.4 | 26.2 | 28.4 | 0.180 | 10.7 | 10.7 | 0.118 | 18.6 | 1 | 23.2 | 18.0 | 20.2 | 39.8 |
| 134 | 7 | 7 | 42.12 | 203.0 | 3.0 | 258.0 | 16.8 | 11.6 | 13.8 | 0.098 | 8.2 | 8.2 | 0.097 | 20.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 135 | 8 | 8 | 42.29 | 209.8 | 3.0 | 264.8 | 16.5 | 11.3 | 13.5 | 0.090 | 7.8 | 7.8 | 0.095 | 20.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 136 | 9 | 9 | 42.47 | 254.6 | 3.0 | 309.4 | 15.7 | 10.4 | 12.6 | 0.052 | 5.7 | 5.7 | 0.081 | 21.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 137 | 10 | 10 | 42.65 | 261.4 | 3.0 | 316.2 | 15.4 | 10.2 | 12.4 | 0.048 | 5.5 | 5.5 | 0.079 | 21.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 138 | 11 | 11 | 42.82 | 306.2 | 3.0 | 360.9 | 14.6 | 9.4 | 11.6 | 0.028 | 3.8 | 3.8 | 0.069 | 22.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 139 | 12 | 12 | 43.00 | 313.0 | 3.0 | 367.6 | 14.4 | 9.1 | 11.4 | 0.026 | 3.6 | 3.6 | 0.068 | 22.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 140 | 13 | 13 | 43.18 | 357.8 | 3.0 | 412.4 | 13.7 | 8.5 | 10.7 | 0.016 | 2.4 | 2.4 | 0.061 | 23.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 141 | 14 | 14 | 43.36 | 364.6 | 3.0 | 419.1 | 13.5 | 8.2 | 10.4 | 0.014 | 2.2 | 2.2 | 0.060 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 142 | 15 | 15 | 43.53 | 409.4 | 3.0 | 463.9 | 12.8 | 7.6 | 9.8 | 0.008 | 1.4 | 1.4 | 0.054 | 23.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 143 | 16 | 16 | 43.71 | 416.2 | 3.0 | 470.7 | 12.6 | 7.4 | 9.6 | 0.008 | 1.3 | 1.3 | 0.053 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 144 | 17 | 17 | 43.89 | 461.0 | 3.0 | 515.4 | 12.0 | 6.8 | 9.0 | 0.004 | 0.8 | 0.8 | 0.048 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 145 | 18 | 18 | 44.07 | 467.8 | 3.0 | 522.2 | 11.8 | 6.6 | 8.8 | 0.004 | 0.7 | 0.7 | 0.048 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 146 | 19 | 19 | 44.24 | 512.6 | 3.0 | 566.9 | 11.3 | 6.0 | 8.2 | 0.002 | 0.4 | 0.4 | 0.044 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 147 | 20 | 20 | 44.42 | 519.4 | 3.0 | 573.7 | 11.0 | 5.8 | 8.0 | 0.002 | 0.3 | 0.3 | 0.044 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 148 | 21 | 21 | 44.60 | 564.2 | 3.0 | 618.5 | 10.5 | 5.3 | 7.5 | 0.001 | 0.1 | 0.1 | 0.040 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 149 | 22 | 22 | 44.77 | 571.0 | 3.0 | 625.3 | 10.3 | 5.1 | 7.3 | 0.001 | 0.1 | 0.1 | 0.040 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 150 | 23 | 23 | 44.95 | 615.8 | 3.0 | 670.1 | 9.8 | 4.6 | 6.8 | 0.000 | 0.0 | 0.0 | 0.037 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 151 | 24 | 24 | 45.13 | 622.6 | 3.0 | 676.9 | 9.6 | 4.4 | 6.6 | 0.000 | 0.0 | 0.0 | 0.037 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 152 | 25 | 25 | 45.31 | 667.4 | 3.0 | 721.6 | 9.1 | 3.9 | 6.1 | 0.000 | 0.0 | 0.0 | 0.035 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 153 | 26 | 26 | 45.48 | 674.2 | 3.0 | 728.4 | 8.9 | 3.7 | 5.9 | 0.000 | 0.0 | 0.0 | 0.034 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 154 | 27 | 27 | 45.66 | 719.0 | 3.0 | 773.2 | 8.5 | 3.3 | 5.5 | 0.000 | 0.0 | 0.0 | 0.032 | 25.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 155 | 28 | 28 | 45.84 | 725.8 | 3.0 | 780.0 | 8.3 | 3.0 | 5.3 | 0.000 | 0.0 | 0.0 | 0.032 | 25.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 156 | 29 | 29 | 46.02 | 770.6 | 3.0 | 824.8 | 7.9 | 2.6 | 4.8 | -0.001 | 0.0 | 0.0 | 0.030 | 25.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 157 | 30 | 30 | 46.19 | 777.4 | 3.0 | 831.6 | 7.6 | 2.4 | 4.6 | -0.001 | 0.0 | 0.0 | 0.030 | 25.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 158 | 31 | 31 | 46.37 | 822.2 | 3.0 | 876.4 | 7.2 | 2.0 | 4.2 | -0.001 | 0.0 | 0.0 | 0.028 | 25.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |

| Row | U 1 | V 2 | W 3 | X 4 | Y 5 | Z 6 | AB Shielded Path s-b | AC Shielded Path s-b2 | AD Slope s-b | AE Slope s-b2 | AF Direct Path D | AG Path Different |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 126 | 22.4 | 29.2 | 74.0 | 80.8 | 125.6 | 132.4 | m | m | | | m | m |
| 127 | 12.8 | 15.8 | 35.3 | 38.3 | 57.8 | 60.8 | 17.0 | 27.5 | 4.898 | 1.629 | 62.4 | 10.349 |
| 128 | 8.5 | 10.2 | 21.2 | 22.8 | 33.8 | 35.4 | 51.0 | 63.7 | 0.345 | 0.396 | 105.0 | 1.495 |
| 129 | 8.2 | 9.7 | 20.0 | 21.6 | 31.9 | 33.4 | 57.5 | 70.0 | 0.303 | 0.355 | 111.6 | 1.245 |
| 130 | 6.7 | 7.8 | 15.1 | 16.2 | 23.5 | 24.6 | 101.2 | 113.3 | 0.167 | 0.212 | 155.6 | 0.468 |
| 131 | 6.5 | 7.6 | 14.6 | 15.6 | 22.6 | 23.6 | 107.9 | 119.9 | 0.156 | 0.199 | 162.3 | 0.413 |
| 132 | 5.8 | 6.6 | 12.0 | 12.9 | 18.3 | 19.1 | 152.3 | 164.1 | 0.110 | 0.144 | 206.7 | 0.199 |
| 133 | 5.7 | 6.5 | 11.8 | 12.6 | 17.8 | 18.6 | 159.1 | 170.8 | 0.105 | 0.139 | 213.5 | 0.180 |
| 134 | 5.2 | 5.9 | 10.2 | 10.9 | 15.3 | 15.9 | 203.7 | 215.3 | 0.082 | 0.110 | 258.0 | 0.098 |
| 135 | 5.2 | 5.8 | 10.1 | 10.7 | 14.9 | 15.6 | 210.5 | 222.0 | 0.079 | 0.106 | 264.8 | 0.090 |
| 136 | 4.9 | 5.4 | 9.0 | 9.6 | 13.2 | 13.8 | 255.1 | 266.6 | 0.065 | 0.088 | 309.4 | 0.052 |
| 137 | 4.8 | 5.4 | 8.9 | 9.4 | 13.0 | 13.5 | 261.9 | 273.4 | 0.064 | 0.086 | 316.2 | 0.048 |
| 138 | 4.6 | 5.1 | 8.2 | 8.6 | 11.8 | 12.2 | 306.7 | 318.1 | 0.054 | 0.074 | 360.9 | 0.028 |
| 139 | 4.6 | 5.0 | 8.1 | 8.5 | 11.6 | 12.1 | 313.4 | 324.8 | 0.053 | 0.072 | 367.6 | 0.026 |
| 140 | 4.4 | 4.8 | 7.5 | 7.9 | 10.7 | 11.1 | 358.2 | 369.5 | 0.047 | 0.064 | 412.4 | 0.016 |
| 141 | 4.4 | 4.8 | 7.5 | 7.9 | 10.5 | 10.9 | 365.0 | 376.3 | 0.046 | 0.062 | 419.1 | 0.014 |
| 142 | 4.3 | 4.6 | 7.0 | 7.4 | 9.8 | 10.2 | 409.7 | 421.1 | 0.041 | 0.056 | 463.9 | 0.008 |
| 143 | 4.2 | 4.6 | 7.0 | 7.3 | 9.7 | 10.1 | 416.5 | 427.8 | 0.040 | 0.055 | 470.7 | 0.008 |
| 144 | 4.1 | 4.5 | 6.6 | 7.0 | 9.1 | 9.5 | 461.3 | 472.6 | 0.036 | 0.050 | 515.4 | 0.004 |
| 145 | 4.1 | 4.4 | 6.6 | 6.9 | 9.1 | 9.4 | 468.1 | 479.4 | 0.036 | 0.049 | 522.2 | 0.004 |
| 146 | 4.0 | 4.3 | 6.3 | 6.6 | 8.6 | 8.9 | 512.9 | 524.1 | 0.032 | 0.045 | 566.9 | 0.002 |
| 147 | 4.0 | 4.3 | 6.3 | 6.6 | 8.5 | 8.8 | 519.7 | 530.9 | 0.032 | 0.044 | 573.7 | 0.002 |
| 148 | 4.0 | 4.2 | 6.0 | 6.3 | 8.1 | 8.4 | 564.4 | 575.7 | 0.030 | 0.041 | 618.5 | 0.001 |
| 149 | 3.9 | 4.2 | 6.0 | 6.3 | 8.1 | 8.3 | 571.2 | 582.5 | 0.029 | 0.040 | 625.3 | 0.001 |
| 150 | 3.9 | 4.1 | 5.8 | 6.1 | 7.7 | 8.0 | 616.0 | 627.2 | 0.027 | 0.037 | 670.1 | 0.000 |
| 151 | 3.9 | 4.1 | 5.8 | 6.0 | 7.7 | 7.9 | 622.8 | 634.0 | 0.027 | 0.037 | 676.9 | 0.000 |
| 152 | 3.8 | 4.1 | 5.6 | 5.8 | 7.4 | 7.6 | 667.6 | 678.8 | 0.025 | 0.035 | 721.6 | 0.000 |
| 153 | 3.8 | 4.0 | 5.6 | 5.8 | 7.4 | 7.6 | 674.4 | 685.6 | 0.025 | 0.034 | 728.4 | 0.000 |
| 154 | 3.8 | 4.0 | 5.4 | 5.7 | 7.1 | 7.3 | 719.2 | 730.4 | 0.023 | 0.032 | 773.2 | 0.000 |
| 155 | 3.8 | 4.0 | 5.4 | 5.6 | 7.1 | 7.3 | 726.0 | 737.2 | 0.023 | 0.032 | 780.0 | 0.000 |
| 156 | 3.7 | 3.9 | 5.3 | 5.5 | 6.8 | 7.1 | 770.8 | 782.0 | 0.022 | 0.030 | 824.8 | -0.001 |
| 157 | 3.7 | 3.9 | 5.3 | 5.5 | 6.8 | 7.0 | 777.6 | 788.7 | 0.021 | 0.030 | 831.6 | -0.001 |
| 158 | 3.7 | 3.9 | 5.2 | 5.3 | 6.6 | 6.8 | 822.4 | 833.5 | 0.020 | 0.028 | 876.4 | -0.001 |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 159 | 32 | 32 | 46.55 | 829.0 | 3.0 | 883.2 | 7.0 | 1.8 | 4.0 | -0.001 | 0.0 | 0.0 | 0.028 | 25.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.7 | 3.9 | 5.1 | 5.3 | 6.6 | 6.8 | | 829.2 | 840.3 | 0.020 | 0.028 | 883.2 | -0.001 | | | |
| 160 | 33 | 33 | 46.72 | 873.8 | 3.0 | 927.9 | 6.6 | 1.4 | 3.6 | -0.001 | 0.0 | 0.0 | 0.027 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.7 | 3.8 | 5.0 | 5.2 | 6.4 | 6.6 | | 874.0 | 885.1 | 0.019 | 0.027 | 927.9 | -0.001 | | | |
| 161 | 34 | 34 | 46.90 | 880.6 | 3.0 | 934.7 | 6.4 | 1.2 | 3.4 | -0.002 | 0.0 | 0.0 | 0.027 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 5.0 | 5.2 | 6.4 | 6.6 | | 880.8 | 891.9 | 0.019 | 0.026 | 934.7 | -0.002 | | | |
| 162 | 35 | 35 | 47.08 | 925.4 | 3.0 | 979.5 | 6.0 | 0.8 | 3.0 | -0.002 | 0.0 | 0.0 | 0.025 | 26.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.9 | 5.1 | 6.2 | 6.4 | | 925.5 | 936.7 | 0.018 | 0.025 | 979.5 | -0.002 | | | |
| 163 | 36 | 36 | 47.26 | 932.2 | 3.0 | 986.3 | 5.8 | 0.6 | 2.8 | -0.002 | 0.0 | 0.0 | 0.025 | 26.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.9 | 5.1 | 6.2 | 6.4 | | 932.3 | 943.5 | 0.018 | 0.025 | 986.3 | -0.002 | | | |
| 164 | 37 | 37 | 47.43 | 977.0 | 3.0 | 1031.1 | 5.5 | 0.2 | 2.5 | -0.003 | 0.0 | 0.0 | 0.024 | 26.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.8 | 5.0 | 6.1 | 6.3 | | 977.1 | 988.3 | 0.017 | 0.024 | 1031.1 | -0.003 | | | |
| 165 | 38 | 38 | 47.61 | 983.8 | 3.0 | 1037.9 | 5.3 | 0.0 | 2.3 | -0.003 | 0.0 | 0.0 | 0.024 | 26.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.8 | 5.0 | 6.1 | 6.2 | | 983.9 | 995.1 | 0.017 | 0.024 | 1037.9 | -0.003 | | | |
| 166 | 39 | 39 | 47.79 | 1028.6 | 3.0 | 1082.7 | 4.9 | -0.3 | 1.9 | -0.003 | 0.0 | 0.0 | 0.023 | 26.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.7 | 4.8 | 4.9 | 5.9 | 6.1 | | 1028.7 | 1039.9 | 0.016 | 0.023 | 1082.7 | -0.003 | | | |
| 167 | | | | | | | | | | | | | | | **Total** | 53.2 | 48.0 | 50.2 | 70.6 | | | | | | | | | | | | | | | | | |
| 168 | | | | | | | | | | | | | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | |
| 169 | | | | | | | | | | | | | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | |
| 170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 171 | | | | **Wheel at 0.3m** | | | **At NSR, no shield** | | | | | | | | | **At NSR, incl façade** | | | | | | | | | | | | | | | | | | | | |
| 172 | **Mirror Source** | **no. of Reflect** | **Loss of Reflect** | **Dsb** | **Hs** | **Direct Path D** | **Leq, day** | **Leq, night** | **Leq, 24h** | **Path Different** | **A barrier** | **IL barrier** | **Slope of D** | **H of final reflect at far wall** | **Lower than far wall?** | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | 1 | 2 | 3 | 4 | 5 | 6 | | **Shielded Path s-b** | **Shielded Path s-b2** | **Slope s-b** | **Slope s-b2** | **Direct Path D** | **Path Different** | | | |
| 173 | | | | **m** | **mRL** | **m** | | | | **m** | | | | **mRL** | | | | | | | 22.4 | 29.2 | 74.0 | 80.8 | 125.6 | 132.4 | | **m** | **m** | | | **m** | **m** | | | |
| 174 | 0 | 0 | 0.00 | 3.4 | 0.3 | 63.6 | 64.7 | 59.4 | 61.7 | 11.897 | 20.0 | 20.0 | 0.484 | 0 | 1 | 47.2 | 41.9 | 44.2 | 64.6 | | 11.2 | 14.4 | 36.1 | 39.4 | 61.1 | 64.4 | | 19.7 | 29.9 | 5.704 | 1.819 | 63.6 | 11.897 | | | |
| 175 | 1 | 1 | 6.99 | 48.2 | 0.3 | 105.7 | 55.5 | 50.2 | 52.5 | 1.870 | 20.0 | 20.0 | 0.272 | 6.4 | 1 | 38.0 | 32.7 | 35.0 | 55.3 | | 6.4 | 8.2 | 20.4 | 22.2 | 34.4 | 36.3 | | 52.0 | 64.7 | 0.402 | 0.442 | 105.7 | 1.870 | | | |
| 176 | 2 | 2 | 13.98 | 55.0 | 0.3 | 112.3 | 48.2 | 43.0 | 45.2 | 1.565 | 20.0 | 20.0 | 0.255 | 7.7 | 1 | 30.7 | 25.5 | 27.7 | 48.0 | | 6.0 | 7.7 | 19.1 | 20.9 | 32.3 | 34.0 | | 58.3 | 71.0 | 0.353 | 0.397 | 112.3 | 1.565 | | | |
| 177 | 3 | 3 | 20.97 | 99.8 | 0.3 | 156.1 | 39.8 | 34.6 | 36.8 | 0.604 | 18.9 | 18.9 | 0.180 | 13.6 | 1 | 23.3 | 18.1 | 20.3 | 40.4 | | 4.3 | 5.6 | 13.6 | 14.9 | 23.0 | 24.2 | | 101.7 | 113.9 | 0.194 | 0.236 | 156.1 | 0.604 | | | |
| 178 | 4 | 4 | 27.96 | 106.6 | 0.3 | 162.8 | 32.6 | 27.4 | 29.6 | 0.535 | 18.4 | 18.4 | 0.173 | 14.3 | 1 | 16.7 | 11.5 | 13.7 | 33.7 | | 4.2 | 5.3 | 13.1 | 14.3 | 22.0 | 23.2 | | 108.4 | 120.5 | 0.182 | 0.223 | 162.8 | 0.535 | | | |
| 179 | 5 | 5 | 28.14 | 151.4 | 0.3 | 207.1 | 31.4 | 26.2 | 28.4 | 0.265 | 15.4 | 15.4 | 0.135 | 17.3 | 1 | 18.5 | 13.3 | 15.5 | 35.2 | | 3.3 | 4.2 | 10.3 | 11.2 | 17.3 | 18.2 | | 152.6 | 164.5 | 0.128 | 0.161 | 207.1 | 0.265 | | | |
| 180 | 6 | 6 | 28.31 | 158.2 | 0.3 | 213.8 | 31.1 | 25.9 | 28.1 | 0.241 | 15.0 | 15.0 | 0.131 | 17.6 | 1 | 18.6 | 13.4 | 15.6 | 35.2 | | 3.2 | 4.1 | 10.0 | 10.9 | 16.7 | 17.6 | | 159.4 | 171.2 | 0.123 | 0.155 | 213.8 | 0.241 | | | |
| 181 | 7 | 7 | 35.30 | 203.0 | 0.3 | 258.3 | 23.3 | 18.0 | 20.3 | 0.134 | 12.4 | 12.4 | 0.108 | 19.4 | 1 | 13.3 | 8.1 | 10.3 | 29.6 | | 2.7 | 3.5 | 8.3 | 9.0 | 13.9 | 14.6 | | 203.9 | 215.6 | 0.096 | 0.122 | 258.3 | 0.134 | | | |
| 182 | 8 | 8 | 35.48 | 209.8 | 0.3 | 265.1 | 23.0 | 17.8 | 20.0 | 0.124 | 12.1 | 12.1 | 0.105 | 19.6 | 1 | 13.4 | 8.2 | 10.4 | 29.6 | | 2.7 | 3.4 | 8.1 | 8.8 | 13.5 | 14.2 | | 210.7 | 222.3 | 0.092 | 0.119 | 265.1 | 0.124 | | | |
| 183 | 9 | 9 | 28.85 | 254.6 | 0.3 | 309.6 | 28.9 | 23.7 | 25.9 | 0.074 | 9.9 | 9.9 | 0.090 | 20.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.3 | 2.9 | 7.0 | 7.6 | 11.6 | 12.2 | | 255.3 | 266.9 | 0.076 | 0.099 | 309.6 | 0.074 | | | |
| 184 | 10 | 10 | 29.02 | 261.4 | 0.3 | 316.4 | 28.7 | 23.4 | 25.7 | 0.069 | 9.5 | 9.5 | 0.088 | 21.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.3 | 2.9 | 6.8 | 7.4 | 11.3 | 11.9 | | 262.1 | 273.7 | 0.074 | 0.096 | 316.4 | 0.069 | | | |
| 185 | 11 | 11 | 29.20 | 306.2 | 0.3 | 361.1 | 27.9 | 22.7 | 24.9 | 0.042 | 7.6 | 7.6 | 0.077 | 21.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.0 | 2.6 | 6.0 | 6.5 | 10.0 | 10.5 | | 306.8 | 318.3 | 0.063 | 0.083 | 361.1 | 0.042 | | | |
| 186 | 12 | 12 | 29.38 | 313.0 | 0.3 | 367.8 | 27.7 | 22.4 | 24.7 | 0.039 | 7.3 | 7.3 | 0.076 | 22.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.0 | 2.5 | 5.9 | 6.4 | 9.8 | 10.3 | | 313.6 | 325.1 | 0.062 | 0.081 | 367.8 | 0.039 | | | |
| 187 | 13 | 13 | 29.55 | 357.8 | 0.3 | 412.5 | 27.0 | 21.8 | 24.0 | 0.025 | 5.6 | 5.6 | 0.067 | 22.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.8 | 2.3 | 5.3 | 5.7 | 8.8 | 9.2 | | 358.3 | 369.7 | 0.054 | 0.071 | 412.5 | 0.025 | | | |
| 188 | 14 | 14 | 29.73 | 364.6 | 0.3 | 419.3 | 26.7 | 21.5 | 23.7 | 0.023 | 5.3 | 5.3 | 0.066 | 22.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.8 | 2.2 | 5.2 | 5.7 | 8.6 | 9.1 | | 365.1 | 376.5 | 0.053 | 0.070 | 419.3 | 0.023 | | | |
| 189 | 15 | 15 | 29.91 | 409.4 | 0.3 | 464.0 | 26.1 | 20.9 | 23.1 | 0.014 | 3.9 | 3.9 | 0.060 | 23.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.6 | 2.1 | 4.7 | 5.1 | 7.8 | 8.2 | | 409.9 | 421.2 | 0.047 | 0.062 | 464.0 | 0.014 | | | |
| 190 | 16 | 16 | 30.09 | 416.2 | 0.3 | 470.8 | 25.9 | 20.7 | 22.9 | 0.013 | 3.7 | 3.7 | 0.059 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.6 | 2.0 | 4.7 | 5.1 | 7.7 | 8.1 | | 416.7 | 428.0 | 0.047 | 0.061 | 470.8 | 0.013 | | | |
| 191 | 17 | 17 | 30.26 | 461.0 | 0.3 | 515.5 | 25.3 | 20.1 | 22.3 | 0.008 | 2.5 | 2.5 | 0.054 | 23.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.5 | 1.9 | 4.3 | 4.7 | 7.1 | 7.4 | | 461.4 | 472.7 | 0.042 | 0.055 | 515.5 | 0.008 | | | |
| 192 | 18 | 18 | 30.44 | 467.8 | 0.3 | 522.3 | 25.1 | 19.8 | 22.1 | 0.008 | 2.4 | 2.4 | 0.053 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.5 | 1.9 | 4.2 | 4.6 | 7.0 | 7.3 | | 468.2 | 479.5 | 0.041 | 0.055 | 522.3 | 0.008 | | | |
| 193 | 19 | 19 | 30.62 | 512.6 | 0.3 | 567.1 | 24.5 | 19.3 | 21.5 | 0.004 | 1.5 | 1.5 | 0.049 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.4 | 1.7 | 3.9 | 4.3 | 6.4 | 6.8 | | 513.0 | 524.3 | 0.038 | 0.050 | 567.1 | 0.004 | | | |
| 194 | 20 | 20 | 30.80 | 519.4 | 0.3 | 573.9 | 24.3 | 19.1 | 21.3 | 0.004 | 1.4 | 1.4 | 0.048 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.4 | 1.7 | 3.9 | 4.2 | 6.4 | 6.7 | | 519.8 | 531.0 | 0.037 | 0.049 | 573.9 | 0.004 | | | |
| 195 | 21 | 21 | 30.97 | 564.2 | 0.3 | 618.6 | 23.8 | 18.6 | 20.8 | 0.002 | 0.8 | 0.8 | 0.045 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.3 | 1.6 | 3.6 | 3.9 | 5.9 | 6.2 | | 564.5 | 575.8 | 0.034 | 0.046 | 618.6 | 0.002 | | | |
| 196 | 22 | 22 | 31.15 | 571.0 | 0.3 | 625.4 | 23.6 | 18.4 | 20.6 | 0.002 | 0.7 | 0.7 | 0.044 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.3 | 1.6 | 3.6 | 3.9 | 5.9 | 6.2 | | 571.3 | 582.6 | 0.034 | 0.045 | 625.4 | 0.002 | | | |
| 197 | 23 | 23 | 31.33 | 615.8 | 0.3 | 670.2 | 23.1 | 17.9 | 20.1 | 0.001 | 0.4 | 0.4 | 0.041 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.5 | 3.4 | 3.6 | 5.5 | 5.8 | | 616.1 | 627.3 | 0.031 | 0.042 | 670.2 | 0.001 | | | |
| 198 | 24 | 24 | 31.50 | 622.6 | 0.3 | 677.0 | 22.9 | 17.7 | 19.9 | 0.001 | 0.3 | 0.3 | 0.041 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.5 | 3.3 | 3.6 | 5.4 | 5.7 | | 622.9 | 634.1 | 0.031 | 0.041 | 677.0 | 0.001 | | | |
| 199 | 25 | 25 | 31.68 | 667.4 | 0.3 | 721.7 | 22.4 | 17.2 | 19.4 | 0.000 | 0.1 | 0.1 | 0.038 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.4 | 3.1 | 3.4 | 5.1 | 5.4 | | 667.7 | 678.9 | 0.029 | 0.039 | 721.7 | 0.000 | | | |
| 200 | 26 | 26 | 31.86 | 674.2 | 0.3 | 728.5 | 22.2 | 17.0 | 19.2 | 0.000 | 0.1 | 0.1 | 0.038 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.4 | 3.1 | 3.4 | 5.1 | 5.3 | | 674.5 | 685.7 | 0.029 | 0.038 | 728.5 | 0.000 | | | |
| 201 | 27 | 27 | 25.22 | 719.0 | 0.3 | 773.3 | 28.6 | 23.4 | 25.6 | 0.000 | 0.0 | 0.0 | 0.036 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.4 | 3.0 | 3.2 | 4.8 | 5.0 | | 719.3 | 730.5 | 0.027 | 0.036 | 773.3 | 0.000 | | | |
| 202 | 28 | 28 | 25.40 | 725.8 | 0.3 | 780.1 | 28.4 | 23.1 | 25.4 | 0.000 | 0.0 | 0.0 | 0.036 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.9 | 3.2 | 4.8 | 5.0 | | 726.1 | 737.3 | 0.027 | 0.036 | 780.1 | 0.000 | | | |
| 203 | 29 | 29 | 25.58 | 770.6 | 0.3 | 824.9 | 28.0 | 22.7 | 24.9 | 0.000 | 0.0 | 0.0 | 0.034 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.8 | 3.0 | 4.5 | 4.8 | | 770.8 | 782.0 | 0.025 | 0.034 | 824.9 | 0.000 | | | |
| 204 | 30 | 30 | 18.94 | 777.4 | 0.3 | 831.7 | 34.6 | 29.3 | 31.5 | 0.000 | 0.0 | 0.0 | 0.033 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.8 | 3.0 | 4.5 | 4.7 | | 777.6 | 788.8 | 0.025 | 0.033 | 831.7 | 0.000 | | | |
| 205 | 31 | 31 | 19.12 | 822.2 | 0.3 | 876.4 | 34.2 | 28.9 | 31.1 | 0.000 | 0.0 | 0.0 | 0.032 | 25.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.6 | 2.9 | 4.3 | 4.5 | | 822.4 | 833.6 | 0.024 | 0.031 | 876.4 | 0.000 | | | |
| 206 | 32 | 32 | 19.30 | 829.0 | 0.3 | 883.2 | 33.9 | 28.7 | 30.9 | 0.000 | 0.0 | 0.0 | 0.031 | 25.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.6 | 2.8 | 4.2 | 4.5 | | 829.2 | 840.4 | 0.023 | 0.031 | 883.2 | 0.000 | | | |
| 207 | 33 | 33 | 19.48 | 873.8 | 0.3 | 928.0 | 33.5 | 28.3 | 30.5 | -0.001 | 0.0 | 0.0 | 0.030 | 25.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.5 | 2.7 | 4.1 | 4.3 | | 874.0 | 885.2 | 0.022 | 0.030 | 928.0 | -0.001 | | | |
| 208 | 34 | 34 | 19.65 | 880.6 | 0.3 | 934.8 | 33.3 | 28.1 | 30.3 | -0.001 | 0.0 | 0.0 | 0.030 | 25.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.5 | 2.7 | 4.0 | 4.2 | | 880.8 | 892.0 | 0.022 | 0.029 | 934.8 | -0.001 | | | |
| 209 | 35 | 35 | 19.83 | 925.4 | 0.3 | 979.6 | 33.0 | 27.7 | 29.9 | -0.001 | 0.0 | 0.0 | 0.028 | 25.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.4 | 2.6 | 3.9 | 4.0 | | 925.6 | 936.8 | 0.021 | 0.028 | 979.6 | -0.001 | | | |
| 210 | 36 | 36 | 20.01 | 932.2 | 0.3 | 986.4 | 32.8 | 27.5 | 29.7 | -0.001 | 0.0 | 0.0 | 0.028 | 25.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.4 | 2.6 | 3.8 | 4.0 | | 932.4 | 943.6 | 0.021 | 0.028 | 986.4 | -0.001 | | | |
| 211 | 37 | 37 | 20.18 | 977.0 | 0.3 | 1031.2 | 32.4 | 27.2 | 29.4 | -0.001 | 0.0 | 0.0 | 0.027 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.3 | 2.5 | 3.7 | 3.9 | | 977.2 | 988.3 | 0.020 | 0.027 | 1031.2 | -0.001 | | | |
| 212 | 38 | 38 | 20.36 | 983.8 | 0.3 | 1038.0 | 32.2 | 26.9 | 29.2 | -0.002 | 0.0 | 0.0 | 0.027 | 25.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.3 | 2.5 | 3.7 | 3.8 | | 984.0 | 995.1 | 0.020 | 0.026 | 1038.0 | -0.002 | | | |
| 213 | 39 | 39 | 20.54 | 1028.6 | 0.3 | 1082.8 | 31.8 | 26.6 | 28.8 | -0.002 | 0.0 | 0.0 | 0.026 | 26.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.2 | 2.4 | 3.5 | 3.7 | | 1028.8 | 1039.9 | 0.019 | 0.025 | 1082.8 | -0.002 | | | |
| 214 | | | | | | | | | | | | | | | **Total** | 47.8 | 42.6 | 44.8 | 65.2 | | | | | | | | | | | | | | | | | |
| 215 | | | | | | | | | | | | | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | |
| 216 | | | | | | | | | | | | | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | |
| 217 | | | | **Total of Down Track in Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 218 | | | | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 219 | | | **Prop at 3m** | 53.2 | 48.0 | 50.2 | 70.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | | | **Wheel at 0.3m** | 47.8 | 42.6 | 44.8 | 65.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 221 | | | **Total** | 54.3 | 49.1 | 51.3 | 71.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 222 | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 223 | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 225 | **Total** | | **Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 226 | | | | **Total of Up and Down Track in Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 227 | | | | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 228 | | | **Total of Up Track** | 53.4 | 48.6 | 50.8 | 71.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 229 | | | **Total of Down Track** | 54.3 | 49.1 | 51.3 | 71.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | | | **Total** | 56.9 | 51.8 | 54.1 | 71.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 231 | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 232 | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 234 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 235 | | | **Legend:** | | | | | | | | **Remark for Equations:** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 236 | | | Near Track: the nearest track to the receiver in ERS | | | | | | | | (1): Define the near track noise source is up track or down track for different traffic flow | | | | | | | | | | | | | | | | | | | | | | | | | |
| 237 | | | Far Track: the furthest track to the receiver in ERS | | | | | | | | (2): Dsb is defined as distance from mirrored source to barrier (near wall). The ray would emit from source first towards far wall when the no. of reflection | | | | | | | | | | | | | | | | | | | | | | | | | |
| 238 | | | Near wall: retaining wall next to near track | | | | | | | | is odd. Otherwise, it would emit towards near wall when the no. of reflection is even. The sum of the distance of reflection between walls | | | | | | | | | | | | | | | | | | | | | | | | | |
| 239 | | | Far wall: retaining wall next to far track | | | | | | | | from the ray first hitting wall to final hitting plus the distance of first emission from source to wall plus the width of ERS is Dsb. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | | | Hor D: Horizontal distance | | | | | | | | (3): Propagation distance adjustment, ref: FRA High Speed Manual Table 5-4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 241 | | | Hb: Height of barrier which is the near wall | | | | | | | | (4): If the direct path ray D is not under shadow zone of shielding, path different P will be negative. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 242 | | | mRL: vertical level refers to datum above top of rail | | | | | | | | (5): Barrier effect, ref: FRA High Speed Manual Table 5-3. For P<=0, barrier attenuation=0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 243 | | | Dbr: Horizontal distance from barrier to receiver | | | | | | | | (6): Auxiliary calculation is used to find the total reflection loss among reflections inside ERS canyon. The first six reflection points are extracted | | | | | | | | | | | | | | | | | | | | | | | | | |
| 244 | | | Hr: Height of highest floor at receiver | | | | | | | | for detail calculation of reflection loss due to concrete wall absorption or absorption panel. The horizontal distance between the first six | | | | | | | | | | | | | | | | | | | | | | | | | |
| 245 | | | G: Ground factor, Hard ground=0 ref: FRA High Speed Manual Figure 5-3 | | | | | | | | reflection points to the mirrored source are calculated to determine the height of six reflection points hitting on walls. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 246 | | | Abs Coeff: Absorption coefficient | | | | | | | | (7): The height of reflection point would be compared with the height of absorption panel and the height of ERS to determine the IL of that reflection point. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 247 | | | IL: Reflection Loss (dB) | | | | | | | | The comparison results the assigned colour in each cell. Please refers to the legend of colours under the auxiliary calculation table for description. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 248 | | | Abs Panel: Absorption Panel | | | | | | | | (8): Loss of reflect is the total sum of IL for all reflection point from the ray emitted from source to out of ERS canyon. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 249 | | | Height of Abs Panel: base on mRL. If equal to 0, implies no panel installed. | | | | | | | | (9): To compare height of final reflection point of ray on far wall with height of far wall in order to check whether noise is reflected toward receiver. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | | | Mirror source: No. of mirrored noise source. If equal to 0, implies for real source. | | | | | | | | (10): If the checking in (9) is yes, gives the result. Otherwise, gives -99dB to represent a very small noise intensity of that mirror source that can be neglected | | | | | | | | | | | | | | | | | | | | | | | | | |
| 251 | | | no. of reflect: no. of reflection sound ray inside ERS Canyon | | | | | | | | and would not affect the summation result of all mirror source. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 252 | | | Loss of reflect: Total absorption loss due to reflection inside ERS canyon | | | | | | | | (11): Ref: Transportation Noise Reference Book equation 15.21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 253 | | | Dsb: Horizontal distance from noise source to barrier | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254 | | | Hs: Height of noise source | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255 | | | A barrier: Barrier attenuation (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 256 | | | IL barrier: Barrier reflection loss (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257 | | | Slope of D: Slope of ray of direct path D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258 | | | H of final reflect at far wall: Height of the final reflection point of ray hitting on far wall | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# ERS Calculation at NSR SS15 with Mitigation Measure

| Row | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | | NSR | | | | Near Track | | Far Track | | | | ERS | | | Hor D | | | | | | | |
| 3 | NSR | ASR | No. of | Ground Level | Near track? | Angle of view | Hor D | Angle of view | Hor D | Receiver Floor at | | Track Level | Ground Level | ERS Width | Wall to track | Height of Parapet | Dbr | Hb | Hr | Hard Ground | Portal Effect | |
| 4 | | | Storey | mPD | 1:Up 2:Dn | Deg | m | Deg | m | m | | mPD | mPD | m | m | m | m | mRL | mRL | G | | |
| 5 | SS15 | B | 3 | 15.7 | 2 | 156.6 | 42.1 | 146.7 | 61.1 | 7.5 | | -3.5 | 15 | 25.8 | 3.4 | 1.2 | 38.7 | 19.7 | 26.7 | 0 | 0.3 | |
| 6 | | | | | | | | | | | | Remark: For legend of parameters and remark for equations, please refers to the bottom of spreadsheet "SS2". | | | | | | | | | | |
| 7 | | | Result: | Leq, day | Leq, night | Leq, 24h | Lmax | | | | | Concrete wall Abs Coeff | IL wall | Top Level of Abs Panel | Bottom Level of Abs Panel | Abs Panel Coeff | IL Abs Panel | | Noise Barrier Height | Noise Barrier Setback | Hb2 | Db-b2 |
| 8 | | | Noise Criteria | 65 | 55 | - | 85 | | | | | | | mRL | mRL | | | | m | m | mRL | m |
| 9 | | | Worst | 58.3 | 53.3 | 55.5 | 72.8 | | | | | 0.04 | 0.18 | 16 | 3 | 0.8 | 6.99 | | 8 | 11 | 26.5 | 11.0 |

## Worst Far Track

| Row | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | | Prop Leq at Height 3m | | | Wheel Leq at Height 0.3m | | | | Hor D | Hor D |
| 13 | Far Track | Leq, day | Leq, night | Leq, 24h | Leq, day | Leq, night | Leq, 24h | | Source to far wall | Source to near wall |
| 14 | Up | 15m | 15m | 15m | 15m | 15m | 15m | | m | m |
| 15 | | 71.5 | 66.7 | 69.0 | 71.2 | 66.4 | 68.6 | | 3.4 | 22.4 |

Auxiliary calculation for path different geometry of noise barrier shielding effect in ERS

| Row | AB | AC | AD | AE | AF | AG | AH |
|---|---|---|---|---|---|---|---|
| 13 | Shielded Path b-b2 | Shielded Path b2-r | Shielded Path b-r | Slope b-b2 | Slope b2-r | Slope b-r | Legend: |
| 14 | m | m | m | | | | s: source point |
| 15 | 12.9 | 27.7 | 39.3 | 0.618 | 0.007 | 0.181 | b: top of wall at near track |
| 16 | | | | | | | b2: top of noise barrier at near track |
| 17 | | | | | | | r: receiver point |

| Row | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | | | | | Prop at 3m | | At NSR, no shield | | | | | | | | | At NSR, incl façade | | | |
| 18 | Mirror Source | no. of Reflect | Loss of Reflect | Dsb | Hs | Direct Path D | Leq, day | Leq, night | Leq, 24h | Path Different | A barrier | IL barrier | Slope of D | H of final reflect at far wall | Lower than far wall? | Leq, day | Leq, night | Leq, 24h | Lmax |
| 19 | | | | m | mRL | m | | | | m | | | | mRL | 1:Yes 2:No | | | | |
| 20 | 0 | 0 | 0.00 | 22.4 | 3.0 | 65.5 | 64.3 | 59.5 | 61.7 | 3.026 | 15.0 | 15.0 | 0.387 | 0 | 1 | 51.8 | 47.0 | 49.2 | 69.8 |
| 21 | 1 | 1 | 6.99 | 29.2 | 3.0 | 71.9 | 56.9 | 52.1 | 54.3 | 2.340 | 15.0 | 15.0 | 0.348 | 4.2 | 1 | 44.4 | 39.6 | 41.8 | 62.4 |
| 22 | 2 | 2 | 13.98 | 74.0 | 3.0 | 115.2 | 47.9 | 43.1 | 45.3 | 0.722 | 15.0 | 15.0 | 0.210 | 13.2 | 1 | 35.4 | 30.6 | 32.8 | 53.2 |
| 23 | 3 | 3 | 20.97 | 80.8 | 3.0 | 121.8 | 40.6 | 35.9 | 38.1 | 0.631 | 15.0 | 15.0 | 0.198 | 13.9 | 1 | 28.1 | 23.4 | 25.6 | 45.9 |
| 24 | 4 | 4 | 21.15 | 125.6 | 3.0 | 166.0 | 39.1 | 34.3 | 36.6 | 0.306 | 13.0 | 13.0 | 0.144 | 17.4 | 1 | 28.6 | 23.8 | 26.0 | 46.2 |
| 25 | 5 | 5 | 21.32 | 132.4 | 3.0 | 172.7 | 38.8 | 34.0 | 36.2 | 0.279 | 12.6 | 12.6 | 0.138 | 17.8 | 1 | 28.7 | 23.9 | 26.1 | 46.2 |
| 26 | 6 | 6 | 35.13 | 177.2 | 3.0 | 217.2 | 24.0 | 19.2 | 21.4 | 0.165 | 10.3 | 10.3 | 0.110 | 19.6 | 1 | 16.1 | 11.3 | 13.6 | 33.3 |
| 27 | 7 | 7 | 35.30 | 184.0 | 3.0 | 224.0 | 23.7 | 18.9 | 21.1 | 0.153 | 10.0 | 10.0 | 0.106 | 19.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 28 | 8 | 8 | 35.48 | 228.8 | 3.0 | 268.5 | 22.7 | 17.9 | 20.1 | 0.101 | 8.3 | 8.3 | 0.088 | 21.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 29 | 9 | 9 | 35.66 | 235.6 | 3.0 | 275.3 | 22.4 | 17.6 | 19.8 | 0.096 | 8.1 | 8.1 | 0.086 | 21.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 30 | 10 | 10 | 42.65 | 280.4 | 3.0 | 320.0 | 14.8 | 10.0 | 12.2 | 0.068 | 6.7 | 6.7 | 0.074 | 21.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 31 | 11 | 11 | 42.82 | 287.2 | 3.0 | 326.8 | 14.5 | 9.7 | 11.9 | 0.064 | 6.5 | 6.5 | 0.073 | 22.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 32 | 12 | 12 | 43.00 | 332.0 | 3.0 | 371.5 | 13.8 | 9.0 | 11.2 | 0.048 | 5.5 | 5.5 | 0.064 | 22.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 33 | 13 | 13 | 43.18 | 338.8 | 3.0 | 378.2 | 13.5 | 8.7 | 10.9 | 0.046 | 5.3 | 5.3 | 0.063 | 22.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 34 | 14 | 14 | 43.36 | 383.6 | 3.0 | 423.0 | 12.8 | 8.1 | 10.3 | 0.035 | 4.5 | 4.5 | 0.056 | 23.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 35 | 15 | 15 | 43.53 | 390.4 | 3.0 | 429.8 | 12.6 | 7.8 | 10.0 | 0.034 | 4.3 | 4.3 | 0.055 | 23.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 36 | 16 | 16 | 43.71 | 435.2 | 3.0 | 474.5 | 12.0 | 7.2 | 9.4 | 0.027 | 3.7 | 3.7 | 0.050 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 37 | 17 | 17 | 43.89 | 442.0 | 3.0 | 481.3 | 11.7 | 7.0 | 9.2 | 0.026 | 3.6 | 3.6 | 0.049 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 38 | 18 | 18 | 44.07 | 486.8 | 3.0 | 526.0 | 11.2 | 6.4 | 8.6 | 0.021 | 3.0 | 3.0 | 0.045 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 39 | 19 | 19 | 44.24 | 493.6 | 3.0 | 532.8 | 10.9 | 6.2 | 8.4 | 0.020 | 3.0 | 3.0 | 0.044 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 40 | 20 | 20 | 44.42 | 538.4 | 3.0 | 577.6 | 10.4 | 5.6 | 7.9 | 0.017 | 2.5 | 2.5 | 0.041 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 41 | 21 | 21 | 44.60 | 545.2 | 3.0 | 584.4 | 10.2 | 5.4 | 7.6 | 0.016 | 2.5 | 2.5 | 0.041 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 42 | 22 | 22 | 44.77 | 590.0 | 3.0 | 629.1 | 9.7 | 4.9 | 7.1 | 0.013 | 2.1 | 2.1 | 0.038 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 43 | 23 | 23 | 44.95 | 596.8 | 3.0 | 635.9 | 9.5 | 4.7 | 6.9 | 0.013 | 2.1 | 2.1 | 0.037 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 44 | 24 | 24 | 45.13 | 641.6 | 3.0 | 680.7 | 9.0 | 4.2 | 6.4 | 0.011 | 1.8 | 1.8 | 0.035 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 45 | 25 | 25 | 45.31 | 648.4 | 3.0 | 687.5 | 8.8 | 4.0 | 6.2 | 0.011 | 1.7 | 1.7 | 0.034 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 46 | 26 | 26 | 45.48 | 693.2 | 3.0 | 732.3 | 8.3 | 3.6 | 5.8 | 0.009 | 1.5 | 1.5 | 0.032 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 47 | 27 | 27 | 45.66 | 700.0 | 3.0 | 739.1 | 8.1 | 3.3 | 5.6 | 0.009 | 1.5 | 1.5 | 0.032 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 48 | 28 | 28 | 45.84 | 744.8 | 3.0 | 783.9 | 7.7 | 2.9 | 5.1 | 0.008 | 1.3 | 1.3 | 0.030 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 49 | 29 | 29 | 46.02 | 751.6 | 3.0 | 790.7 | 7.5 | 2.7 | 4.9 | 0.007 | 1.3 | 1.3 | 0.030 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 50 | 30 | 30 | 46.19 | 796.4 | 3.0 | 835.4 | 7.0 | 2.3 | 4.5 | 0.006 | 1.1 | 1.1 | 0.028 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 51 | 31 | 31 | 46.37 | 803.2 | 3.0 | 842.2 | 6.8 | 2.1 | 4.3 | 0.006 | 1.1 | 1.1 | 0.028 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 52 | 32 | 32 | 46.55 | 848.0 | 3.0 | 887.0 | 6.4 | 1.7 | 3.9 | 0.005 | 1.0 | 1.0 | 0.027 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 53 | 33 | 33 | 46.72 | 854.8 | 3.0 | 893.8 | 6.2 | 1.4 | 3.7 | 0.005 | 0.9 | 0.9 | 0.026 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 54 | 34 | 34 | 46.90 | 899.6 | 3.0 | 938.6 | 5.8 | 1.1 | 3.3 | 0.005 | 0.8 | 0.8 | 0.025 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 55 | 35 | 35 | 47.08 | 906.4 | 3.0 | 945.4 | 5.6 | 0.8 | 3.1 | 0.005 | 0.8 | 0.8 | 0.025 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 56 | 36 | 36 | 47.26 | 951.2 | 3.0 | 990.2 | 5.2 | 0.5 | 2.7 | 0.004 | 0.7 | 0.7 | 0.024 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 57 | 37 | 37 | 47.43 | 958.0 | 3.0 | 997.0 | 5.0 | 0.3 | 2.5 | 0.004 | 0.7 | 0.7 | 0.024 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 58 | 38 | 38 | 47.61 | 1002.8 | 3.0 | 1041.8 | 4.7 | -0.1 | 2.1 | 0.003 | 0.6 | 0.6 | 0.023 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 59 | 39 | 39 | 47.79 | 1009.6 | 3.0 | 1048.6 | 4.5 | -0.3 | 1.9 | 0.003 | 0.6 | 0.6 | 0.023 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 60 | | | | | | | | | | | | | | | Total | 52.7 | 47.9 | 50.1 | 70.7 |
| 61 | | | | | | | | | | | | | | | Noise Criteria | 65 | 55 | - | 85 |
| 62 | | | | | | | | | | | | | | | Status | OK | OK | - | OK |

Auxiliary calculation for reflection loss of each reflection in ERS

| Row | T | U | V | W | X | Y | Z | AB | AC | AD | AE | AF | AG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | No. of reflection to hit wall | 1 | 2 | 3 | 4 | 5 | 6 | Shielded Path s-b | Shielded Path s-b2 | Slope s-b | Slope s-b2 | Direct Path D | Path Different |
| 19 | Hor D wall to source | 3.4 | 48.2 | 55.0 | 99.8 | 106.6 | 151.4 | m | m | | | m | m |
| 20 | Height of ray | 4.4 | 21.7 | 24.3 | 41.7 | 44.3 | 61.7 | 27.9 | 40.8 | 0.743 | 0.702 | 65.5 | 3.026 |
| 21 | | 4.2 | 19.8 | 22.2 | 37.8 | 40.2 | 55.8 | 33.6 | 46.5 | 0.570 | 0.583 | 71.9 | 2.340 |
| 22 | | 3.8 | 13.2 | 14.6 | 24.0 | 25.4 | 34.8 | 75.9 | 88.2 | 0.225 | 0.276 | 115.2 | 0.722 |
| 23 | | 3.7 | 12.6 | 13.9 | 22.8 | 24.1 | 33.0 | 82.5 | 94.7 | 0.206 | 0.255 | 121.8 | 0.631 |
| 24 | | 3.5 | 10.0 | 11.0 | 17.4 | 18.4 | 24.8 | 126.7 | 138.6 | 0.133 | 0.172 | 166.0 | 0.306 |
| 25 | | 3.5 | 9.7 | 10.7 | 16.8 | 17.8 | 24.0 | 133.4 | 145.3 | 0.126 | 0.164 | 172.7 | 0.279 |
| 26 | | 3.4 | 8.3 | 9.1 | 14.0 | 14.7 | 19.6 | 178.0 | 189.7 | 0.094 | 0.125 | 217.2 | 0.165 |
| 27 | | 3.4 | 8.2 | 8.9 | 13.6 | 14.4 | 19.1 | 184.8 | 196.4 | 0.091 | 0.120 | 224.0 | 0.153 |
| 28 | | 3.3 | 7.3 | 7.9 | 11.9 | 12.5 | 16.4 | 229.4 | 240.9 | 0.073 | 0.098 | 268.5 | 0.101 |
| 29 | | 3.3 | 7.2 | 7.8 | 11.7 | 12.2 | 16.1 | 236.2 | 247.7 | 0.071 | 0.095 | 275.3 | 0.096 |
| 30 | | 3.3 | 6.6 | 7.1 | 10.4 | 10.9 | 14.3 | 280.9 | 292.3 | 0.059 | 0.080 | 320.0 | 0.068 |
| 31 | | 3.3 | 6.5 | 7.0 | 10.3 | 10.8 | 14.0 | 287.7 | 299.1 | 0.058 | 0.079 | 326.8 | 0.064 |
| 32 | | 3.3 | 6.1 | 6.6 | 9.4 | 9.8 | 12.7 | 332.4 | 343.8 | 0.050 | 0.068 | 371.5 | 0.048 |
| 33 | | 3.3 | 6.1 | 6.5 | 9.3 | 9.7 | 12.5 | 339.2 | 350.6 | 0.049 | 0.067 | 378.2 | 0.046 |
| 34 | | 3.2 | 5.7 | 6.1 | 8.6 | 9.0 | 11.5 | 384.0 | 395.3 | 0.043 | 0.059 | 423.0 | 0.035 |
| 35 | | 3.2 | 5.7 | 6.1 | 8.5 | 8.9 | 11.4 | 390.8 | 402.1 | 0.043 | 0.058 | 429.8 | 0.034 |
| 36 | | 3.2 | 5.5 | 5.8 | 8.0 | 8.4 | 10.6 | 435.5 | 446.8 | 0.038 | 0.053 | 474.5 | 0.027 |
| 37 | | 3.2 | 5.4 | 5.8 | 8.0 | 8.3 | 10.5 | 442.3 | 453.6 | 0.038 | 0.052 | 481.3 | 0.026 |
| 38 | | 3.2 | 5.2 | 5.5 | 7.5 | 7.8 | 9.9 | 487.1 | 498.4 | 0.034 | 0.047 | 526.0 | 0.021 |
| 39 | | 3.2 | 5.2 | 5.5 | 7.5 | 7.8 | 9.8 | 493.9 | 505.1 | 0.034 | 0.046 | 532.8 | 0.020 |
| 40 | | 3.2 | 5.0 | 5.3 | 7.1 | 7.4 | 9.3 | 538.7 | 549.9 | 0.031 | 0.043 | 577.6 | 0.017 |
| 41 | | 3.2 | 5.0 | 5.3 | 7.1 | 7.4 | 9.2 | 545.5 | 556.7 | 0.031 | 0.042 | 584.4 | 0.016 |
| 42 | | 3.2 | 4.9 | 5.1 | 6.8 | 7.1 | 8.7 | 590.2 | 601.5 | 0.028 | 0.039 | 629.1 | 0.013 |
| 43 | | 3.2 | 4.8 | 5.1 | 6.8 | 7.0 | 8.7 | 597.0 | 608.3 | 0.028 | 0.039 | 635.9 | 0.013 |
| 44 | | 3.2 | 4.7 | 5.0 | 6.5 | 6.8 | 8.3 | 641.8 | 653.0 | 0.026 | 0.036 | 680.7 | 0.011 |
| 45 | | 3.2 | 4.7 | 4.9 | 6.5 | 6.7 | 8.3 | 648.6 | 659.8 | 0.026 | 0.036 | 687.5 | 0.011 |
| 46 | | 3.2 | 4.6 | 4.8 | 6.3 | 6.5 | 7.9 | 693.4 | 704.6 | 0.024 | 0.033 | 732.3 | 0.009 |
| 47 | | 3.2 | 4.6 | 4.8 | 6.2 | 6.5 | 7.9 | 700.2 | 711.4 | 0.024 | 0.033 | 739.1 | 0.009 |
| 48 | | 3.2 | 4.5 | 4.7 | 6.1 | 6.3 | 7.6 | 745.0 | 756.2 | 0.022 | 0.031 | 783.9 | 0.008 |
| 49 | | 3.1 | 4.5 | 4.7 | 6.0 | 6.2 | 7.6 | 751.8 | 763.0 | 0.022 | 0.031 | 790.7 | 0.007 |
| 50 | | 3.1 | 4.4 | 4.6 | 5.9 | 6.1 | 7.3 | 796.6 | 807.7 | 0.021 | 0.029 | 835.4 | 0.006 |
| 51 | | 3.1 | 4.4 | 4.6 | 5.9 | 6.0 | 7.3 | 803.4 | 814.5 | 0.021 | 0.029 | 842.2 | 0.006 |
| 52 | | 3.1 | 4.3 | 4.5 | 5.7 | 5.9 | 7.1 | 848.2 | 859.3 | 0.020 | 0.027 | 887.0 | 0.005 |
| 53 | | 3.1 | 4.3 | 4.5 | 5.7 | 5.9 | 7.1 | 855.0 | 866.1 | 0.019 | 0.027 | 893.8 | 0.005 |
| 54 | | 3.1 | 4.3 | 4.4 | 5.6 | 5.7 | 6.9 | 899.8 | 910.9 | 0.019 | 0.026 | 938.6 | 0.005 |
| 55 | | 3.1 | 4.3 | 4.4 | 5.5 | 5.7 | 6.8 | 906.6 | 917.7 | 0.018 | 0.026 | 945.4 | 0.005 |
| 56 | | 3.1 | 4.2 | 4.4 | 5.4 | 5.6 | 6.7 | 951.3 | 962.5 | 0.018 | 0.024 | 990.2 | 0.004 |
| 57 | | 3.1 | 4.2 | 4.4 | 5.4 | 5.6 | 6.6 | 958.1 | 969.3 | 0.017 | 0.024 | 997.0 | 0.004 |
| 58 | | 3.1 | 4.1 | 4.3 | 5.3 | 5.5 | 6.5 | 1002.9 | 1014.1 | 0.017 | 0.023 | 1041.8 | 0.003 |
| 59 | | 3.1 | 4.1 | 4.3 | 5.3 | 5.5 | 6.5 | 1009.7 | 1020.9 | 0.016 | 0.023 | 1048.6 | 0.003 |

Legend:
- (green) : ray hit abs panel
- (pink) : ray hit concrete wall
- (orange) : ray hit nothing, no absorption loss

| Row | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | | | | | Wheel at 0.3m | | At NSR, no shield | | | | | | | | | At NSR, incl façade | | | |
| 65 | Mirror Source | no. of Reflect | Loss of Reflect | Dsb | Hs | Direct Path D | Leq, day | Leq, night | Leq, 24h | Path Different | A barrier | IL barrier | Slope of D | H of final reflect at far wall | Lower than far wall? | Leq, day | Leq, night | Leq, 24h | Lmax |
| 66 | | | | m | mRL | m | | | | m | | | | mRL | | | | | |
| 67 | 0 | 0 | 0.00 | 22.4 | 0.3 | 66.6 | 63.9 | 59.1 | 61.3 | 3.705 | 20.0 | 20.0 | 0.432 | 0 | 1 | 46.4 | 41.6 | 43.8 | 64.4 |
| 68 | 1 | 1 | 0.18 | 29.2 | 0.3 | 72.8 | 63.3 | 58.5 | 60.8 | 2.837 | 20.0 | 20.0 | 0.389 | 1.6 | 1 | 45.8 | 41.0 | 43.3 | 63.8 |
| 69 | 2 | 2 | 7.17 | 74.0 | 0.3 | 115.7 | 54.3 | 49.5 | 51.8 | 0.896 | 20.0 | 20.0 | 0.234 | 11.6 | 1 | 36.8 | 32.0 | 34.3 | 54.7 |
| 70 | 3 | 3 | 14.16 | 80.8 | 0.3 | 122.4 | 47.1 | 42.3 | 44.5 | 0.785 | 20.0 | 20.0 | 0.221 | 12.5 | 1 | 29.6 | 24.8 | 27.0 | 47.4 |
| 71 | 4 | 4 | 14.33 | 125.6 | 0.3 | 166.4 | 45.6 | 40.8 | 43.0 | 0.383 | 17.0 | 17.0 | 0.161 | 16.3 | 1 | 31.1 | 26.3 | 28.6 | 48.6 |
| 72 | 5 | 5 | 21.32 | 132.4 | 0.3 | 173.1 | 38.4 | 33.6 | 35.9 | 0.350 | 16.6 | 16.6 | 0.154 | 16.7 | 1 | 24.3 | 19.6 | 21.8 | 41.8 |
| 73 | 6 | 6 | 28.31 | 177.2 | 0.3 | 217.5 | 30.4 | 25.7 | 27.9 | 0.207 | 14.3 | 14.3 | 0.122 | 18.8 | 1 | 18.6 | 13.9 | 16.1 | 35.8 |
| 74 | 7 | 7 | 28.49 | 184.0 | 0.3 | 224.3 | 30.1 | 25.4 | 27.6 | 0.194 | 14.0 | 14.0 | 0.119 | 19.1 | 1 | 18.6 | 13.8 | 16.1 | 35.7 |
| 75 | 8 | 8 | 35.48 | 228.8 | 0.3 | 268.8 | 22.3 | 17.6 | 19.8 | 0.128 | 12.2 | 12.2 | 0.099 | 20.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 76 | 9 | 9 | 35.66 | 235.6 | 0.3 | 275.6 | 22.1 | 17.3 | 19.5 | 0.121 | 12.0 | 12.0 | 0.096 | 20.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 77 | 10 | 10 | 35.83 | 280.4 | 0.3 | 320.2 | 21.2 | 16.5 | 18.7 | 0.086 | 10.5 | 10.5 | 0.083 | 21.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 78 | 11 | 11 | 36.01 | 287.2 | 0.3 | 327.0 | 21.0 | 16.2 | 18.4 | 0.082 | 10.3 | 10.3 | 0.081 | 21.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 79 | 12 | 12 | 36.19 | 332.0 | 0.3 | 371.6 | 20.2 | 15.5 | 17.7 | 0.061 | 9.1 | 9.1 | 0.071 | 22.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 80 | 13 | 13 | 36.37 | 338.8 | 0.3 | 378.4 | 20.0 | 15.2 | 17.4 | 0.059 | 8.9 | 8.9 | 0.070 | 22.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 81 | 14 | 14 | 36.54 | 383.6 | 0.3 | 423.1 | 19.3 | 14.5 | 16.8 | 0.045 | 7.8 | 7.8 | 0.063 | 22.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 82 | 15 | 15 | 36.72 | 390.4 | 0.3 | 429.9 | 19.1 | 14.3 | 16.5 | 0.044 | 7.7 | 7.7 | 0.062 | 22.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 83 | 16 | 16 | 30.09 | 435.2 | 0.3 | 474.6 | 25.3 | 20.5 | 22.7 | 0.034 | 6.8 | 6.8 | 0.056 | 23.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 84 | 17 | 17 | 30.26 | 442.0 | 0.3 | 481.4 | 25.0 | 20.3 | 22.5 | 0.033 | 6.6 | 6.6 | 0.055 | 23.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 85 | 18 | 18 | 30.44 | 486.8 | 0.3 | 526.2 | 24.5 | 19.7 | 21.9 | 0.027 | 5.9 | 5.9 | 0.050 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 86 | 19 | 19 | 30.62 | 493.6 | 0.3 | 533.0 | 24.2 | 19.5 | 21.7 | 0.026 | 5.8 | 5.8 | 0.050 | 23.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 87 | 20 | 20 | 23.98 | 538.4 | 0.3 | 577.7 | 30.5 | 25.8 | 28.0 | 0.022 | 5.1 | 5.1 | 0.046 | 23.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 88 | 21 | 21 | 24.16 | 545.2 | 0.3 | 584.5 | 30.3 | 25.5 | 27.7 | 0.021 | 5.0 | 5.0 | 0.045 | 23.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 89 | 22 | 22 | 24.34 | 590.0 | 0.3 | 629.3 | 29.8 | 25.0 | 27.2 | 0.017 | 4.4 | 4.4 | 0.042 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 90 | 23 | 23 | 24.51 | 596.8 | 0.3 | 636.0 | 29.6 | 24.8 | 27.0 | 0.017 | 4.3 | 4.3 | 0.042 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 91 | 24 | 24 | 24.69 | 641.6 | 0.3 | 680.8 | 29.1 | 24.3 | 26.5 | 0.014 | 3.9 | 3.9 | 0.039 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 92 | 25 | 25 | 24.87 | 648.4 | 0.3 | 687.6 | 28.9 | 24.1 | 26.3 | 0.014 | 3.8 | 3.8 | 0.038 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 93 | 26 | 26 | 25.05 | 693.2 | 0.3 | 732.4 | 28.4 | 23.7 | 25.9 | 0.012 | 3.4 | 3.4 | 0.036 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 94 | 27 | 27 | 25.22 | 700.0 | 0.3 | 739.2 | 28.2 | 23.4 | 25.7 | 0.012 | 3.3 | 3.3 | 0.036 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 95 | 28 | 28 | 25.40 | 744.8 | 0.3 | 783.9 | 27.8 | 23.0 | 25.2 | 0.010 | 2.9 | 2.9 | 0.034 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 96 | 29 | 29 | 25.58 | 751.6 | 0.3 | 790.7 | 27.6 | 22.8 | 25.0 | 0.010 | 2.9 | 2.9 | 0.033 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 97 | 30 | 30 | 25.76 | 796.4 | 0.3 | 835.5 | 27.1 | 22.4 | 24.6 | 0.009 | 2.6 | 2.6 | 0.032 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 98 | 31 | 31 | 25.93 | 803.2 | 0.3 | 842.3 | 26.9 | 22.2 | 24.4 | 0.008 | 2.5 | 2.5 | 0.031 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 99 | 32 | 32 | 26.11 | 848.0 | 0.3 | 887.1 | 26.5 | 21.8 | 24.0 | 0.007 | 2.3 | 2.3 | 0.030 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 100 | 33 | 33 | 26.29 | 854.8 | 0.3 | 893.9 | 26.3 | 21.5 | 23.8 | 0.007 | 2.2 | 2.2 | 0.030 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 101 | 34 | 34 | 26.47 | 899.6 | 0.3 | 938.7 | 25.9 | 21.2 | 23.4 | 0.006 | 2.0 | 2.0 | 0.028 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 102 | 35 | 35 | 26.64 | 906.4 | 0.3 | 945.5 | 25.7 | 21.0 | 23.2 | 0.006 | 2.0 | 2.0 | 0.028 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 103 | 36 | 36 | 20.01 | 951.2 | 0.3 | 990.3 | 32.2 | 27.4 | 29.6 | 0.005 | 1.8 | 1.8 | 0.027 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 104 | 37 | 37 | 20.18 | 958.0 | 0.3 | 997.0 | 31.9 | 27.2 | 29.4 | 0.005 | 1.7 | 1.7 | 0.026 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 105 | 38 | 38 | 20.36 | 1002.8 | 0.3 | 1041.8 | 31.6 | 26.8 | 29.0 | 0.005 | 1.6 | 1.6 | 0.025 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 106 | 39 | 39 | 13.73 | 1009.6 | 0.3 | 1048.6 | 38.2 | 33.4 | 35.6 | 0.005 | 1.5 | 1.5 | 0.025 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 107 | | | | | | | | | | | | | | | Total | 49.5 | 44.7 | 46.9 | 67.5 |
| 108 | | | | | | | | | | | | | | | Noise Criteria | 65 | 55 | - | 85 |
| 109 | | | | | | | | | | | | | | | Status | OK | OK | - | OK |

| Row | U | V | W | X | Y | Z | AB | AC | AD | AE | AF | AG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 1 | 2 | 3 | 4 | 5 | 6 | Shielded Path s-b | Shielded Path s-b2 | Slope s-b | Slope s-b2 | Direct Path D | Path Different |
| 66 | 3.4 | 48.2 | 55.0 | 99.8 | 106.6 | 151.4 | m | m | | | m | m |
| 67 | 1.8 | 21.1 | 24.1 | 43.4 | 46.4 | 65.7 | 29.6 | 42.4 | 0.866 | 0.784 | 66.6 | 3.705 |
| 68 | 1.6 | 19.0 | 21.7 | 39.1 | 41.7 | 59.2 | 35.1 | 48.0 | 0.664 | 0.652 | 72.8 | 2.837 |
| 69 | 1.1 | 11.6 | 13.2 | 23.7 | 25.3 | 35.8 | 76.5 | 88.9 | 0.262 | 0.308 | 115.7 | 0.896 |
| 70 | 1.1 | 11.0 | 12.5 | 22.3 | 23.9 | 33.7 | 83.1 | 95.5 | 0.240 | 0.285 | 122.4 | 0.785 |
| 71 | 0.9 | 8.0 | 9.1 | 16.3 | 17.4 | 24.6 | 127.1 | 139.1 | 0.154 | 0.192 | 166.4 | 0.383 |
| 72 | 0.8 | 7.7 | 8.8 | 15.7 | 16.7 | 23.7 | 133.8 | 145.8 | 0.146 | 0.183 | 173.1 | 0.350 |
| 73 | 0.7 | 6.2 | 7.0 | 12.5 | 13.3 | 18.8 | 178.3 | 190.0 | 0.109 | 0.139 | 217.5 | 0.207 |
| 74 | 0.7 | 6.0 | 6.8 | 12.1 | 12.9 | 18.2 | 185.0 | 196.8 | 0.105 | 0.134 | 224.3 | 0.194 |
| 75 | 0.6 | 5.1 | 5.7 | 10.2 | 10.8 | 15.2 | 229.6 | 241.2 | 0.085 | 0.109 | 268.8 | 0.128 |
| 76 | 0.6 | 4.9 | 5.6 | 9.9 | 10.6 | 14.9 | 236.4 | 248.0 | 0.082 | 0.106 | 275.6 | 0.121 |
| 77 | 0.6 | 4.3 | 4.9 | 8.6 | 9.1 | 12.8 | 281.1 | 292.6 | 0.069 | 0.090 | 320.2 | 0.086 |
| 78 | 0.6 | 4.2 | 4.8 | 8.4 | 8.9 | 12.6 | 287.9 | 299.3 | 0.068 | 0.088 | 327.0 | 0.082 |
| 79 | 0.5 | 3.7 | 4.2 | 7.4 | 7.9 | 11.1 | 332.6 | 344.0 | 0.058 | 0.076 | 371.6 | 0.061 |
| 80 | 0.5 | 3.7 | 4.2 | 7.3 | 7.8 | 10.9 | 339.4 | 350.8 | 0.057 | 0.075 | 378.4 | 0.059 |
| 81 | 0.5 | 3.3 | 3.7 | 6.5 | 7.0 | 9.8 | 384.1 | 395.5 | 0.051 | 0.066 | 423.1 | 0.045 |
| 82 | 0.5 | 3.3 | 3.7 | 6.4 | 6.9 | 9.6 | 390.9 | 402.3 | 0.050 | 0.065 | 429.9 | 0.044 |
| 83 | 0.5 | 3.0 | 3.4 | 5.9 | 6.2 | 8.7 | 435.6 | 447.0 | 0.045 | 0.059 | 474.6 | 0.034 |
| 84 | 0.5 | 3.0 | 3.3 | 5.8 | 6.2 | 8.6 | 442.4 | 453.8 | 0.044 | 0.058 | 481.4 | 0.033 |
| 85 | 0.5 | 2.7 | 3.1 | 5.3 | 5.7 | 7.9 | 487.2 | 498.5 | 0.040 | 0.053 | 526.2 | 0.027 |
| 86 | 0.5 | 2.7 | 3.0 | 5.3 | 5.6 | 7.8 | 494.0 | 505.3 | 0.039 | 0.052 | 533.0 | 0.026 |
| 87 | 0.5 | 2.5 | 2.8 | 4.9 | 5.2 | 7.2 | 538.7 | 550.0 | 0.036 | 0.048 | 577.7 | 0.022 |
| 88 | 0.5 | 2.5 | 2.8 | 4.8 | 5.1 | 7.1 | 545.5 | 556.8 | 0.036 | 0.047 | 584.5 | 0.021 |
| 89 | 0.4 | 2.3 | 2.6 | 4.5 | 4.8 | 6.7 | 590.3 | 601.6 | 0.033 | 0.044 | 629.3 | 0.017 |
| 90 | 0.4 | 2.3 | 2.6 | 4.4 | 4.7 | 6.6 | 597.1 | 608.4 | 0.032 | 0.043 | 636.0 | 0.017 |
| 91 | 0.4 | 2.2 | 2.4 | 4.2 | 4.4 | 6.2 | 641.9 | 653.1 | 0.030 | 0.040 | 680.8 | 0.014 |
| 92 | 0.4 | 2.2 | 2.4 | 4.1 | 4.4 | 6.1 | 648.7 | 659.9 | 0.030 | 0.040 | 687.6 | 0.014 |
| 93 | 0.4 | 2.0 | 2.3 | 3.9 | 4.1 | 5.8 | 693.5 | 704.7 | 0.028 | 0.037 | 732.4 | 0.012 |
| 94 | 0.4 | 2.0 | 2.3 | 3.9 | 4.1 | 5.7 | 700.3 | 711.5 | 0.028 | 0.037 | 739.2 | 0.012 |
| 95 | 0.4 | 1.9 | 2.2 | 3.7 | 3.9 | 5.4 | 745.1 | 756.3 | 0.026 | 0.035 | 783.9 | 0.010 |
| 96 | 0.4 | 1.9 | 2.1 | 3.6 | 3.9 | 5.4 | 751.9 | 763.0 | 0.026 | 0.034 | 790.7 | 0.010 |
| 97 | 0.4 | 1.8 | 2.0 | 3.5 | 3.7 | 5.1 | 796.6 | 807.8 | 0.024 | 0.032 | 835.5 | 0.009 |
| 98 | 0.4 | 1.8 | 2.0 | 3.4 | 3.6 | 5.1 | 803.4 | 814.6 | 0.024 | 0.032 | 842.3 | 0.008 |
| 99 | 0.4 | 1.7 | 1.9 | 3.3 | 3.5 | 4.8 | 848.2 | 859.4 | 0.023 | 0.030 | 887.1 | 0.007 |
| 100 | 0.4 | 1.7 | 1.9 | 3.3 | 3.5 | 4.8 | 855.0 | 866.2 | 0.023 | 0.030 | 893.9 | 0.007 |
| 101 | 0.4 | 1.7 | 1.9 | 3.1 | 3.3 | 4.6 | 899.8 | 911.0 | 0.022 | 0.029 | 938.7 | 0.006 |
| 102 | 0.4 | 1.7 | 1.8 | 3.1 | 3.3 | 4.5 | 906.6 | 917.8 | 0.021 | 0.029 | 945.5 | 0.006 |
| 103 | 0.4 | 1.6 | 1.8 | 3.0 | 3.1 | 4.3 | 951.4 | 962.6 | 0.020 | 0.027 | 990.3 | 0.005 |
| 104 | 0.4 | 1.6 | 1.8 | 2.9 | 3.1 | 4.3 | 958.2 | 969.4 | 0.020 | 0.027 | 997.0 | 0.005 |
| 105 | 0.4 | 1.5 | 1.7 | 2.8 | 3.0 | 4.1 | 1003.0 | 1014.1 | 0.019 | 0.026 | 1041.8 | 0.005 |
| 106 | 0.4 | 1.5 | 1.7 | 2.8 | 3.0 | 4.1 | 1009.8 | 1020.9 | 0.019 | 0.026 | 1048.6 | 0.005 |

### Total of Up Track in Worst Case

| Row | C | D | E | F | G |
|---|---|---|---|---|---|
| 111 | | Leq, day | Leq, night | Leq, 24h | Lmax |
| 112 | Prop at 3m | 52.7 | 47.9 | 50.1 | 70.7 |
| 113 | Wheel at 0.3m | 49.5 | 44.7 | 46.9 | 67.5 |
| 114 | Total | 54.4 | 49.6 | 51.8 | 72.4 |
| 115 | Noise Criteria | 65 | 55 | - | 85 |
| 116 | Status | OK | OK | - | OK |

## Worst Near Track

| Row | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 119 | | Prop Leq at Height 3m | | | Wheel Leq at Height 0.3m | | | | Hor D | Hor D |
| 120 | Near Track | Leq, day | Leq, night | Leq, 24h | Leq, day | Leq, night | Leq, 24h | | Source to far wall | Source to near wall |
| 121 | Down | 15m | 15m | 15m | 15m | 15m | 15m | | m | m |
| 122 | | 72.0 | 66.7 | 69.0 | 71.6 | 66.4 | 68.6 | | 22.4 | 3.4 |

| Row | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 124 | | | | | Prop at 3m | | At NSR, no shield | | | | | | | | | At NSR, incl façade | | | |
| 125 | Mirror Source | no. of Reflect | Loss of Reflect | Dsb | Hs | Direct Path D | Leq, day | Leq, night | Leq, 24h | Path Different | A barrier | IL barrier | Slope of D | H of final reflect at far wall | Lower than far wall? | Leq, day | Leq, night | Leq, 24h | Lmax |
| 126 | | | | m | mRL | m | | | | m | | | | mRL | | | | | |
| 127 | 0 | 0 | 0.00 | 3.4 | 3.0 | 48.3 | 66.4 | 61.1 | 63.3 | 9.339 | 15.0 | 15.0 | 0.562 | 0 | 1 | 53.9 | 48.6 | 50.8 | 71.2 |
| 128 | 1 | 1 | 6.99 | 48.2 | 3.0 | 90.1 | 56.7 | 51.4 | 53.7 | 1.316 | 15.0 | 15.0 | 0.272 | 9.1 | 1 | 44.2 | 38.9 | 41.2 | 61.4 |
| 129 | 2 | 2 | 13.98 | 55.0 | 3.0 | 96.6 | 49.4 | 44.1 | 46.4 | 1.104 | 15.0 | 15.0 | 0.252 | 10.4 | 1 | 36.9 | 31.6 | 33.9 | 54.1 |
| 130 | 3 | 3 | 20.97 | 99.8 | 3.0 | 140.5 | 40.8 | 35.5 | 37.7 | 0.450 | 14.7 | 14.7 | 0.171 | 15.7 | 1 | 28.6 | 23.3 | 25.6 | 45.5 |
| 131 | 4 | 4 | 21.15 | 106.6 | 3.0 | 147.2 | 40.4 | 35.1 | 37.4 | 0.404 | 14.2 | 14.2 | 0.163 | 16.2 | 1 | 28.7 | 23.4 | 25.6 | 45.6 |
| 132 | 5 | 5 | 28.14 | 151.4 | 3.0 | 191.6 | 32.2 | 27.0 | 29.2 | 0.220 | 11.6 | 11.6 | 0.124 | 18.7 | 1 | 23.2 | 17.9 | 20.1 | 39.8 |
| 133 | 6 | 6 | 28.31 | 158.2 | 3.0 | 198.3 | 31.9 | 26.7 | 28.9 | 0.203 | 11.2 | 11.2 | 0.120 | 19.0 | 1 | 23.2 | 17.9 | 20.2 | 39.7 |
| 134 | 7 | 7 | 35.30 | 203.0 | 3.0 | 242.9 | 24.0 | 18.8 | 21.0 | 0.127 | 9.3 | 9.3 | 0.098 | 20.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 135 | 8 | 8 | 42.29 | 209.8 | 3.0 | 249.6 | 16.9 | 11.7 | 13.9 | 0.120 | 9.0 | 9.0 | 0.095 | 20.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 136 | 9 | 9 | 42.47 | 254.6 | 3.0 | 294.3 | 16.0 | 10.8 | 13.0 | 0.082 | 7.5 | 7.5 | 0.081 | 21.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 137 | 10 | 10 | 42.65 | 261.4 | 3.0 | 301.0 | 15.8 | 10.5 | 12.8 | 0.078 | 7.3 | 7.3 | 0.079 | 21.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 138 | 11 | 11 | 42.82 | 306.2 | 3.0 | 345.7 | 15.0 | 9.8 | 12.0 | 0.056 | 6.0 | 6.0 | 0.069 | 22.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 139 | 12 | 12 | 43.00 | 313.0 | 3.0 | 352.5 | 14.7 | 9.5 | 11.7 | 0.054 | 5.9 | 5.9 | 0.067 | 22.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 140 | 13 | 13 | 43.18 | 357.8 | 3.0 | 397.2 | 14.0 | 8.8 | 11.0 | 0.041 | 4.9 | 4.9 | 0.060 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 141 | 14 | 14 | 43.36 | 364.6 | 3.0 | 404.0 | 13.8 | 8.5 | 10.8 | 0.039 | 4.8 | 4.8 | 0.059 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 142 | 15 | 15 | 43.53 | 409.4 | 3.0 | 448.7 | 13.1 | 7.9 | 10.1 | 0.031 | 4.0 | 4.0 | 0.053 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 143 | 16 | 16 | 43.71 | 416.2 | 3.0 | 455.5 | 12.9 | 7.7 | 9.9 | 0.029 | 3.9 | 3.9 | 0.052 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 144 | 17 | 17 | 43.89 | 461.0 | 3.0 | 500.3 | 12.3 | 7.1 | 9.3 | 0.024 | 3.3 | 3.3 | 0.047 | 23.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 145 | 18 | 18 | 44.07 | 467.8 | 3.0 | 507.1 | 12.1 | 6.9 | 9.1 | 0.023 | 3.3 | 3.3 | 0.047 | 23.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 146 | 19 | 19 | 44.24 | 512.6 | 3.0 | 551.8 | 11.5 | 6.3 | 8.5 | 0.019 | 2.8 | 2.8 | 0.043 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 147 | 20 | 20 | 44.42 | 519.4 | 3.0 | 558.6 | 11.3 | 6.1 | 8.3 | 0.018 | 2.7 | 2.7 | 0.042 | 24.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 148 | 21 | 21 | 44.60 | 564.2 | 3.0 | 603.4 | 10.8 | 5.6 | 7.8 | 0.015 | 2.3 | 2.3 | 0.039 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 149 | 22 | 22 | 44.77 | 571.0 | 3.0 | 610.2 | 10.6 | 5.3 | 7.6 | 0.014 | 2.3 | 2.3 | 0.039 | 24.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 150 | 23 | 23 | 44.95 | 615.8 | 3.0 | 654.9 | 10.1 | 4.9 | 7.1 | 0.012 | 1.9 | 1.9 | 0.036 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 151 | 24 | 24 | 45.13 | 622.6 | 3.0 | 661.7 | 9.9 | 4.6 | 6.9 | 0.012 | 1.9 | 1.9 | 0.036 | 24.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 152 | 25 | 25 | 45.31 | 667.4 | 3.0 | 706.5 | 9.4 | 4.2 | 6.4 | 0.010 | 1.6 | 1.6 | 0.033 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 153 | 26 | 26 | 45.48 | 674.2 | 3.0 | 713.3 | 9.2 | 4.0 | 6.2 | 0.010 | 1.6 | 1.6 | 0.033 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 154 | 27 | 27 | 45.66 | 719.0 | 3.0 | 758.1 | 8.7 | 3.5 | 5.7 | 0.008 | 1.4 | 1.4 | 0.031 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 155 | 28 | 28 | 45.84 | 725.8 | 3.0 | 764.9 | 8.5 | 3.3 | 5.5 | 0.008 | 1.4 | 1.4 | 0.031 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 156 | 29 | 29 | 46.02 | 770.6 | 3.0 | 809.6 | 8.1 | 2.9 | 5.1 | 0.007 | 1.2 | 1.2 | 0.029 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 157 | 30 | 30 | 46.19 | 777.4 | 3.0 | 816.4 | 7.9 | 2.7 | 4.9 | 0.007 | 1.2 | 1.2 | 0.029 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |
| 158 | 31 | 31 | 46.37 | 822.2 | 3.0 | 861.2 | 7.5 | 2.2 | 4.5 | 0.006 | 1.0 | 1.0 | 0.027 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 |

| Row | U | V | W | X | Y | Z | AB | AC | AD | AE | AF | AG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125 | 1 | 2 | 3 | 4 | 5 | 6 | Shielded Path s-b | Shielded Path s-b2 | Slope s-b | Slope s-b2 | Direct Path D | Path Different |
| 126 | 22.4 | 29.2 | 74.0 | 80.8 | 125.6 | 132.4 | m | m | | | m | m |
| 127 | 15.6 | 19.5 | 44.6 | 48.4 | 73.6 | 77.4 | 17.0 | 27.5 | 4.898 | 1.629 | 48.3 | 9.339 |
| 128 | 9.1 | 11.0 | 23.2 | 25.0 | 37.2 | 39.1 | 51.0 | 63.7 | 0.345 | 0.396 | 90.1 | 1.316 |
| 129 | 8.7 | 10.4 | 21.7 | 23.4 | 34.8 | 36.5 | 57.5 | 70.0 | 0.303 | 0.355 | 96.6 | 1.104 |
| 130 | 6.9 | 8.0 | 15.7 | 16.8 | 24.5 | 25.7 | 101.2 | 113.3 | 0.167 | 0.212 | 140.5 | 0.450 |
| 131 | 6.7 | 7.8 | 15.1 | 16.2 | 23.5 | 24.6 | 107.9 | 119.9 | 0.156 | 0.199 | 147.2 | 0.404 |
| 132 | 5.8 | 6.7 | 12.3 | 13.1 | 18.7 | 19.5 | 152.3 | 164.1 | 0.110 | 0.144 | 191.6 | 0.220 |
| 133 | 5.7 | 6.6 | 11.9 | 12.8 | 18.1 | 19.0 | 159.1 | 170.8 | 0.105 | 0.139 | 198.3 | 0.203 |
| 134 | 5.2 | 5.9 | 10.3 | 11.0 | 15.3 | 16.0 | 203.7 | 215.3 | 0.082 | 0.110 | 242.9 | 0.127 |
| 135 | 5.2 | 5.8 | 10.1 | 10.7 | 15.0 | 15.6 | 210.5 | 222.0 | 0.079 | 0.106 | 249.6 | 0.120 |
| 136 | 4.9 | 5.4 | 9.0 | 9.6 | 13.2 | 13.7 | 255.1 | 266.6 | 0.065 | 0.088 | 294.3 | 0.082 |
| 137 | 4.8 | 5.3 | 8.9 | 9.4 | 12.9 | 13.5 | 261.9 | 273.4 | 0.064 | 0.086 | 301.0 | 0.078 |
| 138 | 4.6 | 5.1 | 8.1 | 8.6 | 11.7 | 12.1 | 306.7 | 318.1 | 0.054 | 0.074 | 345.7 | 0.056 |
| 139 | 4.6 | 5.0 | 8.0 | 8.5 | 11.5 | 12.0 | 313.4 | 324.8 | 0.053 | 0.072 | 352.5 | 0.054 |
| 140 | 4.4 | 4.8 | 7.5 | 7.9 | 10.5 | 10.9 | 358.2 | 369.5 | 0.047 | 0.064 | 397.2 | 0.041 |
| 141 | 4.4 | 4.8 | 7.4 | 7.8 | 10.4 | 10.8 | 365.0 | 376.3 | 0.046 | 0.062 | 404.0 | 0.039 |
| 142 | 4.2 | 4.6 | 7.0 | 7.3 | 9.7 | 10.0 | 409.7 | 421.1 | 0.041 | 0.056 | 448.7 | 0.031 |
| 143 | 4.2 | 4.6 | 6.9 | 7.2 | 9.6 | 9.9 | 416.5 | 427.8 | 0.040 | 0.055 | 455.5 | 0.029 |
| 144 | 4.1 | 4.4 | 6.6 | 6.9 | 9.0 | 9.3 | 461.3 | 472.6 | 0.036 | 0.050 | 500.3 | 0.024 |
| 145 | 4.1 | 4.4 | 6.5 | 6.8 | 8.9 | 9.2 | 468.1 | 479.4 | 0.036 | 0.049 | 507.1 | 0.023 |
| 146 | 4.0 | 4.3 | 6.2 | 6.5 | 8.4 | 8.7 | 512.9 | 524.1 | 0.032 | 0.045 | 551.8 | 0.019 |
| 147 | 4.0 | 4.3 | 6.2 | 6.5 | 8.4 | 8.7 | 519.7 | 530.9 | 0.032 | 0.044 | 558.6 | 0.018 |
| 148 | 3.9 | 4.2 | 6.0 | 6.2 | 8.0 | 8.2 | 564.4 | 575.7 | 0.030 | 0.041 | 603.4 | 0.015 |
| 149 | 3.9 | 4.2 | 5.9 | 6.2 | 7.9 | 8.2 | 571.2 | 582.5 | 0.029 | 0.040 | 610.2 | 0.014 |
| 150 | 3.9 | 4.1 | 5.7 | 6.0 | 7.6 | 7.8 | 616.0 | 627.2 | 0.027 | 0.037 | 654.9 | 0.012 |
| 151 | 3.8 | 4.1 | 5.7 | 5.9 | 7.5 | 7.8 | 622.8 | 634.0 | 0.027 | 0.037 | 661.7 | 0.012 |
| 152 | 3.8 | 4.0 | 5.5 | 5.8 | 7.3 | 7.5 | 667.6 | 678.8 | 0.025 | 0.035 | 706.5 | 0.010 |
| 153 | 3.8 | 4.0 | 5.5 | 5.7 | 7.2 | 7.4 | 674.4 | 685.6 | 0.025 | 0.034 | 713.3 | 0.010 |
| 154 | 3.7 | 4.0 | 5.4 | 5.6 | 7.0 | 7.2 | 719.2 | 730.4 | 0.023 | 0.032 | 758.1 | 0.008 |
| 155 | 3.7 | 4.0 | 5.3 | 5.5 | 6.9 | 7.1 | 726.0 | 737.2 | 0.023 | 0.032 | 764.9 | 0.008 |
| 156 | 3.7 | 3.9 | 5.2 | 5.4 | 6.7 | 6.9 | 770.8 | 782.0 | 0.022 | 0.030 | 809.6 | 0.007 |
| 157 | 3.7 | 3.9 | 5.2 | 5.4 | 6.7 | 6.9 | 777.6 | 788.7 | 0.021 | 0.030 | 816.4 | 0.007 |
| 158 | 3.7 | 3.9 | 5.1 | 5.3 | 6.5 | 6.7 | 822.4 | 833.5 | 0.020 | 0.028 | 861.2 | 0.006 |

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 159 | 32 | 32 | 46.55 | 829.0 | 3.0 | 868.0 | 7.3 | 2.0 | 4.3 | 0.006 | 1.0 | 1.0 | 0.027 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.7 | 3.8 | 5.1 | 5.3 | 6.5 | 6.7 | | 829.2 | 840.3 | 0.020 | 0.028 | 868.0 | 0.006 | | | |
| 160 | 33 | 33 | 46.72 | 873.8 | 3.0 | 912.8 | 6.9 | 1.6 | 3.9 | 0.005 | 0.9 | 0.9 | 0.026 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 5.0 | 5.1 | 6.3 | 6.5 | | 874.0 | 885.1 | 0.019 | 0.027 | 912.8 | 0.005 | | | |
| 161 | 34 | 34 | 46.90 | 880.6 | 3.0 | 919.6 | 6.7 | 1.4 | 3.6 | 0.005 | 0.9 | 0.9 | 0.026 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 5.0 | 5.1 | 6.3 | 6.5 | | 880.8 | 891.9 | 0.019 | 0.026 | 919.6 | 0.005 | | | |
| 162 | 35 | 35 | 47.08 | 925.4 | 3.0 | 964.4 | 6.3 | 1.0 | 3.3 | 0.004 | 0.8 | 0.8 | 0.025 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.9 | 5.0 | 6.1 | 6.3 | | 925.5 | 936.7 | 0.018 | 0.025 | 964.4 | 0.004 | | | |
| 163 | 36 | 36 | 47.26 | 932.2 | 3.0 | 971.2 | 6.1 | 0.8 | 3.1 | 0.004 | 0.8 | 0.8 | 0.024 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.8 | 4.9 | 5.0 | 6.1 | 6.3 | | 932.3 | 943.5 | 0.018 | 0.025 | 971.2 | 0.004 | | | |
| 164 | 37 | 37 | 47.43 | 977.0 | 3.0 | 1016.0 | 5.7 | 0.5 | 2.7 | 0.004 | 0.7 | 0.7 | 0.023 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.7 | 4.8 | 4.9 | 6.0 | 6.1 | | 977.1 | 988.3 | 0.017 | 0.024 | 1016.0 | 0.004 | | | |
| 165 | 38 | 38 | 47.61 | 983.8 | 3.0 | 1022.8 | 5.5 | 0.3 | 2.5 | 0.004 | 0.7 | 0.7 | 0.023 | 25.2 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.6 | 3.7 | 4.8 | 4.9 | 6.0 | 6.1 | | 983.9 | 995.1 | 0.017 | 0.024 | 1022.8 | 0.004 | | | |
| 166 | 39 | 39 | 47.79 | 1028.6 | 3.0 | 1067.6 | 5.1 | -0.1 | 2.1 | 0.003 | 0.6 | 0.6 | 0.022 | 25.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 3.5 | 3.7 | 4.7 | 4.8 | 5.8 | 6.0 | | 1028.7 | 1039.9 | 0.016 | 0.023 | 1067.6 | 0.003 | | | |
| 167 | | | | | | | | | | | | | | | **Total** | 54.4 | 49.2 | 51.4 | 71.7 | | | | | | | | | | | | | | | | | |
| 168 | | | | | | | | | | | | | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | |
| 169 | | | | | | | | | | | | | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | |
| 170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 171 | | | | **Wheel at 0.3m** | | | **At NSR, no shield** | | | | | | | | | **At NSR, incl façade** | | | | | | | | | | | | | | | | | | | | |
| 172 | **Mirror Source** | **no. of Reflect** | **Loss of Reflect** | **Dsb** | **Hs** | **Direct Path D** | **Leq, day** | **Leq, night** | **Leq, 24h** | **Path Different** | **A barrier** | **IL barrier** | **Slope of D** | **H of final reflect at far wall** | **Lower than far wall?** | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | **1** | **2** | **3** | **4** | **5** | **6** | | **Shielded Path s-b** | **Shielded Path s-b2** | **Slope s-b** | **Slope s-b2** | **Direct Path D** | **Path Different** | | | |
| 173 | | | | **m** | **mRL** | **m** | | | | **m** | | | | **mRL** | | | | | | | 22.4 | 29.2 | 74.0 | 80.8 | 125.6 | 132.4 | | **m** | **m** | | | **m** | **m** | | | |
| 174 | 0 | 0 | 0.00 | 3.4 | 0.3 | 49.7 | 65.9 | 60.7 | 62.9 | 10.634 | 20.0 | 20.0 | 0.627 | 0 | 1 | 48.4 | 43.2 | 45.4 | 65.7 | | 14.3 | 18.6 | 46.7 | 51.0 | 79.1 | 83.3 | | 19.7 | 29.9 | 5.704 | 1.819 | 49.7 | 10.634 | | | |
| 175 | 1 | 1 | 6.99 | 48.2 | 0.3 | 90.8 | 56.3 | 51.1 | 53.3 | 1.617 | 20.0 | 20.0 | 0.304 | 7.1 | 1 | 38.8 | 33.6 | 35.8 | 56.0 | | 7.1 | 9.2 | 22.8 | 24.8 | 38.5 | 40.5 | | 52.0 | 64.7 | 0.402 | 0.442 | 90.8 | 1.617 | | | |
| 176 | 2 | 2 | 13.98 | 55.0 | 0.3 | 97.3 | 49.0 | 43.8 | 46.0 | 1.362 | 20.0 | 20.0 | 0.282 | 8.5 | 1 | 31.5 | 26.3 | 28.5 | 48.7 | | 6.6 | 8.5 | 21.2 | 23.1 | 35.7 | 37.6 | | 58.3 | 71.0 | 0.353 | 0.397 | 97.3 | 1.362 | | | |
| 177 | 3 | 3 | 20.97 | 99.8 | 0.3 | 141.0 | 40.4 | 35.2 | 37.4 | 0.562 | 18.6 | 18.6 | 0.191 | 14.4 | 1 | 24.3 | 19.0 | 21.3 | 41.2 | | 4.6 | 5.9 | 14.4 | 15.7 | 24.2 | 25.5 | | 101.7 | 113.9 | 0.194 | 0.236 | 141.0 | 0.562 | | | |
| 178 | 4 | 4 | 27.96 | 106.6 | 0.3 | 147.7 | 33.2 | 28.0 | 30.2 | 0.505 | 18.2 | 18.2 | 0.182 | 15.0 | 1 | 17.5 | 12.3 | 14.5 | 34.5 | | 4.4 | 5.6 | 13.7 | 15.0 | 23.1 | 24.4 | | 108.4 | 120.5 | 0.182 | 0.223 | 147.7 | 0.505 | | | |
| 179 | 5 | 5 | 28.14 | 151.4 | 0.3 | 191.9 | 31.9 | 26.7 | 28.9 | 0.276 | 15.6 | 15.6 | 0.139 | 17.7 | 1 | 18.8 | 13.6 | 15.8 | 35.5 | | 3.4 | 4.4 | 10.6 | 11.5 | 17.7 | 18.7 | | 152.6 | 164.5 | 0.128 | 0.161 | 191.9 | 0.276 | | | |
| 180 | 6 | 6 | 28.31 | 158.2 | 0.3 | 198.7 | 31.6 | 26.3 | 28.6 | 0.255 | 15.2 | 15.2 | 0.134 | 18.1 | 1 | 18.9 | 13.6 | 15.8 | 35.4 | | 3.3 | 4.2 | 10.2 | 11.1 | 17.1 | 18.1 | | 159.4 | 171.2 | 0.123 | 0.155 | 198.7 | 0.255 | | | |
| 181 | 7 | 7 | 35.30 | 203.0 | 0.3 | 243.1 | 23.7 | 18.5 | 20.7 | 0.161 | 13.2 | 13.2 | 0.109 | 19.7 | 1 | 13.0 | 7.8 | 10.0 | 29.2 | | 2.8 | 3.5 | 8.4 | 9.1 | 14.0 | 14.8 | | 203.9 | 215.6 | 0.096 | 0.122 | 243.1 | 0.161 | | | |
| 182 | 8 | 8 | 35.48 | 209.8 | 0.3 | 249.9 | 23.4 | 18.2 | 20.4 | 0.151 | 12.9 | 12.9 | 0.106 | 19.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.7 | 3.4 | 8.2 | 8.9 | 13.6 | 14.4 | | 210.7 | 222.3 | 0.092 | 0.119 | 249.9 | 0.151 | | | |
| 183 | 9 | 9 | 28.85 | 254.6 | 0.3 | 294.5 | 29.3 | 24.1 | 26.3 | 0.104 | 11.3 | 11.3 | 0.090 | 20.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.3 | 2.9 | 7.0 | 7.6 | 11.6 | 12.2 | | 255.3 | 266.9 | 0.076 | 0.099 | 294.5 | 0.104 | | | |
| 184 | 10 | 10 | 29.02 | 261.4 | 0.3 | 301.3 | 29.1 | 23.8 | 26.0 | 0.099 | 11.1 | 11.1 | 0.088 | 21.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.3 | 2.9 | 6.8 | 7.4 | 11.4 | 11.9 | | 262.1 | 273.7 | 0.074 | 0.096 | 301.3 | 0.099 | | | |
| 185 | 11 | 11 | 29.20 | 306.2 | 0.3 | 345.9 | 28.3 | 23.0 | 25.3 | 0.072 | 9.8 | 9.8 | 0.077 | 21.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.0 | 2.5 | 6.0 | 6.5 | 9.9 | 10.4 | | 306.8 | 318.3 | 0.063 | 0.083 | 345.9 | 0.072 | | | |
| 186 | 12 | 12 | 29.38 | 313.0 | 0.3 | 352.7 | 28.0 | 22.8 | 25.0 | 0.069 | 9.6 | 9.6 | 0.075 | 21.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 2.0 | 2.5 | 5.9 | 6.4 | 9.7 | 10.2 | | 313.6 | 325.1 | 0.062 | 0.081 | 352.7 | 0.069 | | | |
| 187 | 13 | 13 | 29.55 | 357.8 | 0.3 | 397.4 | 27.3 | 22.1 | 24.3 | 0.052 | 8.4 | 8.4 | 0.067 | 22.4 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.8 | 2.2 | 5.2 | 5.7 | 8.7 | 9.1 | | 358.3 | 369.7 | 0.054 | 0.071 | 397.4 | 0.052 | | | |
| 188 | 14 | 14 | 29.73 | 364.6 | 0.3 | 404.2 | 27.1 | 21.8 | 24.1 | 0.050 | 8.3 | 8.3 | 0.065 | 22.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.8 | 2.2 | 5.1 | 5.6 | 8.5 | 9.0 | | 365.1 | 376.5 | 0.053 | 0.070 | 404.2 | 0.050 | | | |
| 189 | 15 | 15 | 29.91 | 409.4 | 0.3 | 448.9 | 26.4 | 21.2 | 23.4 | 0.039 | 7.3 | 7.3 | 0.059 | 22.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.6 | 2.0 | 4.7 | 5.1 | 7.7 | 8.1 | | 409.9 | 421.2 | 0.047 | 0.062 | 448.9 | 0.039 | | | |
| 190 | 16 | 16 | 30.09 | 416.2 | 0.3 | 455.7 | 26.2 | 21.0 | 23.2 | 0.038 | 7.1 | 7.1 | 0.058 | 23.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.6 | 2.0 | 4.6 | 5.0 | 7.6 | 8.0 | | 416.7 | 428.0 | 0.047 | 0.061 | 455.7 | 0.038 | | | |
| 191 | 17 | 17 | 30.26 | 461.0 | 0.3 | 500.4 | 25.6 | 20.4 | 22.6 | 0.030 | 6.3 | 6.3 | 0.053 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.5 | 1.8 | 4.2 | 4.6 | 6.9 | 7.3 | | 461.4 | 472.7 | 0.042 | 0.055 | 500.4 | 0.030 | | | |
| 192 | 18 | 18 | 30.44 | 467.8 | 0.3 | 507.2 | 25.4 | 20.1 | 22.4 | 0.029 | 6.2 | 6.2 | 0.052 | 23.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.5 | 1.8 | 4.2 | 4.5 | 6.9 | 7.2 | | 468.2 | 479.5 | 0.041 | 0.055 | 507.2 | 0.029 | | | |
| 193 | 19 | 19 | 30.62 | 512.6 | 0.3 | 551.9 | 24.8 | 19.6 | 21.8 | 0.024 | 5.5 | 5.5 | 0.048 | 23.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.4 | 1.7 | 3.8 | 4.2 | 6.3 | 6.6 | | 513.0 | 524.3 | 0.038 | 0.050 | 551.9 | 0.024 | | | |
| 194 | 20 | 20 | 30.80 | 519.4 | 0.3 | 558.7 | 24.6 | 19.4 | 21.6 | 0.023 | 5.4 | 5.4 | 0.047 | 23.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.4 | 1.7 | 3.8 | 4.1 | 6.2 | 6.6 | | 519.8 | 531.0 | 0.037 | 0.049 | 558.7 | 0.023 | | | |
| 195 | 21 | 21 | 30.97 | 564.2 | 0.3 | 603.5 | 24.1 | 18.9 | 21.1 | 0.019 | 4.7 | 4.7 | 0.044 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.3 | 1.6 | 3.5 | 3.8 | 5.8 | 6.1 | | 564.5 | 575.8 | 0.034 | 0.046 | 603.5 | 0.019 | | | |
| 196 | 22 | 22 | 31.15 | 571.0 | 0.3 | 610.3 | 23.9 | 18.6 | 20.8 | 0.019 | 4.7 | 4.7 | 0.043 | 23.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.3 | 1.6 | 3.5 | 3.8 | 5.7 | 6.0 | | 571.3 | 582.6 | 0.034 | 0.045 | 610.3 | 0.019 | | | |
| 197 | 23 | 23 | 31.33 | 615.8 | 0.3 | 655.0 | 23.4 | 18.1 | 20.4 | 0.016 | 4.1 | 4.1 | 0.040 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.5 | 3.3 | 3.6 | 5.4 | 5.6 | | 616.1 | 627.3 | 0.031 | 0.042 | 655.0 | 0.016 | | | |
| 198 | 24 | 24 | 31.50 | 622.6 | 0.3 | 661.8 | 23.2 | 17.9 | 20.1 | 0.015 | 4.1 | 4.1 | 0.040 | 24.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.2 | 1.5 | 3.3 | 3.5 | 5.3 | 5.6 | | 622.9 | 634.1 | 0.031 | 0.041 | 661.8 | 0.015 | | | |
| 199 | 25 | 25 | 31.68 | 667.4 | 0.3 | 706.6 | 22.7 | 17.5 | 19.7 | 0.013 | 3.6 | 3.6 | 0.037 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.4 | 3.1 | 3.3 | 5.0 | 5.3 | | 667.7 | 678.9 | 0.029 | 0.039 | 706.6 | 0.013 | | | |
| 200 | 26 | 26 | 31.86 | 674.2 | 0.3 | 713.4 | 22.5 | 17.2 | 19.5 | 0.013 | 3.5 | 3.5 | 0.037 | 24.3 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.4 | 3.0 | 3.3 | 5.0 | 5.2 | | 674.5 | 685.7 | 0.029 | 0.038 | 713.4 | 0.013 | | | |
| 201 | 27 | 27 | 25.22 | 719.0 | 0.3 | 758.2 | 28.8 | 23.6 | 25.8 | 0.011 | 3.2 | 3.2 | 0.035 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.9 | 3.1 | 4.7 | 4.9 | | 719.3 | 730.5 | 0.027 | 0.036 | 758.2 | 0.011 | | | |
| 202 | 28 | 28 | 25.40 | 725.8 | 0.3 | 765.0 | 28.6 | 23.4 | 25.6 | 0.011 | 3.1 | 3.1 | 0.035 | 24.5 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.1 | 1.3 | 2.9 | 3.1 | 4.6 | 4.9 | | 726.1 | 737.3 | 0.027 | 0.036 | 765.0 | 0.011 | | | |
| 203 | 29 | 29 | 18.77 | 770.6 | 0.3 | 809.7 | 35.0 | 29.8 | 32.0 | 0.009 | 2.8 | 2.8 | 0.033 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.3 | 2.7 | 2.9 | 4.4 | 4.6 | | 770.8 | 782.0 | 0.025 | 0.034 | 809.7 | 0.009 | | | |
| 204 | 30 | 30 | 18.94 | 777.4 | 0.3 | 816.5 | 34.8 | 29.6 | 31.8 | 0.009 | 2.7 | 2.7 | 0.032 | 24.6 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.7 | 2.9 | 4.4 | 4.6 | | 777.6 | 788.8 | 0.025 | 0.033 | 816.5 | 0.009 | | | |
| 205 | 31 | 31 | 19.12 | 822.2 | 0.3 | 861.3 | 34.4 | 29.2 | 31.4 | 0.008 | 2.4 | 2.4 | 0.031 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.6 | 2.8 | 4.2 | 4.4 | | 822.4 | 833.6 | 0.024 | 0.031 | 861.3 | 0.008 | | | |
| 206 | 32 | 32 | 19.30 | 829.0 | 0.3 | 868.1 | 34.2 | 29.0 | 31.2 | 0.008 | 2.4 | 2.4 | 0.030 | 24.7 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.2 | 2.6 | 2.8 | 4.1 | 4.3 | | 829.2 | 840.4 | 0.023 | 0.031 | 868.1 | 0.008 | | | |
| 207 | 33 | 33 | 19.48 | 873.8 | 0.3 | 912.9 | 33.8 | 28.6 | 30.8 | 0.007 | 2.1 | 2.1 | 0.029 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 1.0 | 1.1 | 2.4 | 2.6 | 3.9 | 4.1 | | 874.0 | 885.2 | 0.022 | 0.030 | 912.9 | 0.007 | | | |
| 208 | 34 | 34 | 19.65 | 880.6 | 0.3 | 919.7 | 33.6 | 28.3 | 30.6 | 0.007 | 2.1 | 2.1 | 0.029 | 24.8 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.4 | 2.6 | 3.9 | 4.1 | | 880.8 | 892.0 | 0.022 | 0.029 | 919.7 | 0.007 | | | |
| 209 | 35 | 35 | 19.83 | 925.4 | 0.3 | 964.5 | 33.2 | 28.0 | 30.2 | 0.006 | 1.9 | 1.9 | 0.027 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.3 | 2.5 | 3.7 | 3.9 | | 925.6 | 936.8 | 0.021 | 0.028 | 964.5 | 0.006 | | | |
| 210 | 36 | 36 | 20.01 | 932.2 | 0.3 | 971.3 | 33.0 | 27.8 | 30.0 | 0.006 | 1.9 | 1.9 | 0.027 | 24.9 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.3 | 2.5 | 3.7 | 3.9 | | 932.4 | 943.6 | 0.021 | 0.028 | 971.3 | 0.006 | | | |
| 211 | 37 | 37 | 20.18 | 977.0 | 0.3 | 1016.0 | 32.6 | 27.4 | 29.6 | 0.005 | 1.7 | 1.7 | 0.026 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.2 | 2.4 | 3.6 | 3.7 | | 977.2 | 988.3 | 0.020 | 0.027 | 1016.0 | 0.005 | | | |
| 212 | 38 | 38 | 20.36 | 983.8 | 0.3 | 1022.8 | 32.4 | 27.2 | 29.4 | 0.005 | 1.6 | 1.6 | 0.026 | 25.0 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.1 | 2.2 | 2.4 | 3.5 | 3.7 | | 984.0 | 995.1 | 0.020 | 0.026 | 1022.8 | 0.005 | | | |
| 213 | 39 | 39 | 20.54 | 1028.6 | 0.3 | 1067.6 | 32.0 | 26.8 | 29.0 | 0.004 | 1.5 | 1.5 | 0.025 | 25.1 | 0 | -99.0 | -99.0 | -99.0 | -99.0 | | 0.9 | 1.0 | 2.1 | 2.3 | 3.4 | 3.6 | | 1028.8 | 1039.9 | 0.019 | 0.025 | 1067.6 | 0.004 | | | |
| 214 | | | | | | | | | | | | | | | **Total** | 49.0 | 43.7 | 45.9 | 66.2 | | | | | | | | | | | | | | | | | |
| 215 | | | | | | | | | | | | | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | |
| 216 | | | | | | | | | | | | | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | |
| 217 | | | | **Total of Down Track in Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 218 | | | | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 219 | | | **Prop at 3m** | 54.4 | 49.2 | 51.4 | 71.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 220 | | | **Wheel at 0.3m** | 49.0 | 43.7 | 45.9 | 66.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 221 | | | **Total** | 55.5 | 50.3 | 52.5 | 72.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 222 | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 223 | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 225 | **Total** | | **Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 226 | | | | **Total of Up and Down Track in Worst Case** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 227 | | | | **Leq, day** | **Leq, night** | **Leq, 24h** | **Lmax** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 228 | | | **Total of Up Track** | 54.4 | 49.6 | 51.8 | 72.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 229 | | | **Total of Down Track** | 55.5 | 50.3 | 52.5 | 72.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | | | **Total** | 58.0 | 53.0 | 55.2 | 72.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 231 | | | **Noise Criteria** | 65 | 55 | - | 85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 232 | | | **Status** | OK | OK | - | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 233 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 234 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 235 | | | **Legend:** | | | | | | | | **Remark for Equations:** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 236 | | | Near Track: the nearest track to the receiver in ERS | | | | | | | | (1): Define the near track noise source is up track or down track for different traffic flow | | | | | | | | | | | | | | | | | | | | | | | | | |
| 237 | | | Far Track: the furthest track to the receiver in ERS | | | | | | | | (2): Dsb is defined as distance from mirrored source to barrier (near wall). The ray would emit from source first towards far wall when the no. of reflection | | | | | | | | | | | | | | | | | | | | | | | | | |
| 238 | | | Near wall: retaining wall next to near track | | | | | | | | is odd. Otherwise, it would emit towards near wall when the no. of reflection is even. The sum of the distance of reflection between walls | | | | | | | | | | | | | | | | | | | | | | | | | |
| 239 | | | Far wall: retaining wall next to far track | | | | | | | | from the ray first hitting wall to final hitting plus the distance of first emission from source to wall plus the width of ERS is Dsb. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 | | | Hor D: Horizontal distance | | | | | | | | (3): Propagation distance adjustment, ref: FRA High Speed Manual Table 5-4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 241 | | | Hb: Height of barrier which is the near wall | | | | | | | | (4): If the direct path ray D is not under shadow zone of shielding, path different P will be negative. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 242 | | | mRL: vertical level refers to datum above top of rail | | | | | | | | (5): Barrier effect, ref: FRA High Speed Manual Table 5-3. For P<=0, barrier attenuation=0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 243 | | | Dbr: Horizontal distance from barrier to receiver | | | | | | | | (6): Auxiliary calculation is used to find the total reflection loss among reflections inside ERS canyon. The first six reflection points are extracted | | | | | | | | | | | | | | | | | | | | | | | | | |
| 244 | | | Hr: Height of highest floor at receiver | | | | | | | | for detail calculation of reflection loss due to concrete wall absorption or absorption panel. The horizontal distance between the first six | | | | | | | | | | | | | | | | | | | | | | | | | |
| 245 | | | G: Ground factor, Hard ground=0 ref: FRA High Speed Manual Figure 5-3 | | | | | | | | reflection points to the mirrored source are calculated to determine the height of six reflection points hitting on walls. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 246 | | | Abs Coeff: Absorption coefficient | | | | | | | | (7): The height of reflection point would be compared with the height of absorption panel and the height of ERS to determine the IL of that reflection point. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 247 | | | IL: Reflection Loss (dB) | | | | | | | | The comparison results the assigned colour in each cell. Please refers to the legend of colours under the auxiliary calculation table for description. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 248 | | | Abs Panel: Absorption Panel | | | | | | | | (8): Loss of reflect is the total sum of IL for all reflection point from the ray emitted from source to out of ERS canyon. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 249 | | | Height of Abs Panel: base on mRL. If equal to 0, implies no panel installed. | | | | | | | | (9): To compare height of final reflection point of ray on far wall with height of far wall in order to check whether noise is reflected toward receiver. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | | | Mirror source: No. of mirrored noise source. If equal to 0, implies for real source. | | | | | | | | (10): If the checking in (9) is yes, gives the result. Otherwise, gives -99dB to represent a very small noise intensity of that mirror source that can be neglected | | | | | | | | | | | | | | | | | | | | | | | | | |
| 251 | | | no. of reflect: no. of reflection sound ray inside ERS Canyon | | | | | | | | and would not affect the summation result of all mirror source. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 252 | | | Loss of reflect: Total absorption loss due to reflection inside ERS canyon | | | | | | | | (11): Ref: Transportation Noise Reference Book equation 15.21 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 253 | | | Dsb: Horizontal distance from noise source to barrier | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 254 | | | Hs: Height of noise source | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 255 | | | A barrier: Barrier attenuation (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 256 | | | IL barrier: Barrier reflection loss (dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 257 | | | Slope of D: Slope of ray of direct path D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 258 | | | H of final reflect at far wall: Height of the final reflection point of ray hitting on far wall | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## SSS Calculation at NSR SS5

| NSR | No. of | Ground Level | Hr | ASR | | | | Result: | Leq, day | Leq, night | Leq, 24hr | Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS5 | Storey | mPD | m | | | | | Launching / Arriving | 47.5 | 45.1 | 44.1 | 49.5 |
| | 3 | 17.3 | 7.5 | B | | | | Noise criteria | 65 | 55 | | 85 |
| | | | | | | | | Status | OK | OK | | OK |

### Launching / Arriving — DAY

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, day | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 146 | 29.2 | 79.5 | 61.7 | 29.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 32.2 | 46.5 | - |
| | 2 | 146 | 58.4 | 79.5 | 64.8 | 32.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 35.2 | 49.5 | - |
| | 3 | 146 | 44.9 | 79.5 | 63.6 | 31.0 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 6 | 40.0 | 48.4 | - |
| | 4 | 119 | 9.3 | 79.5 | 57.7 | 25.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 34.1 | 42.6 | - |
| Track 1 Short Train | 1 | 146 | 29.2 | 76.5 | 58.7 | 26.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 29.2 | 43.5 | - |
| | 2 | 146 | 58.4 | 76.5 | 61.8 | 29.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 32.2 | 46.5 | - |
| | 3 | 146 | 44.9 | 76.5 | 60.6 | 28.0 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 6 | 37.0 | 45.4 | - |
| | 4 | 119 | 9.3 | 76.5 | 54.7 | 22.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 31.1 | 39.6 | - |
| Track 2 Long Train | 1 | 161 | 27.3 | 79.5 | 61.0 | 28.4 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 0 | 31.4 | 45.7 | - |
| | 2 | 161 | 58.4 | 79.5 | 64.3 | 31.7 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 0 | 34.7 | 49.0 | - |
| | 3 | 161 | 44.9 | 79.5 | 63.2 | 30.6 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 6 | 39.6 | 47.8 | - |
| | 4 | 119 | 9.3 | 79.5 | 57.7 | 25.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 34.1 | 42.6 | - |
| Track 3 Long Train | 1 | 182 | 23.1 | 79.5 | 59.8 | 27.2 | - | 15 | | 182 | | | 182.3 | 9.5 | 0.0 | 0.0 | 0 | 30.2 | 44.3 | - |
| | 2 | 182 | 58.4 | 79.5 | 63.8 | 31.2 | - | 15 | | 182 | | | 182.3 | 9.5 | 0.0 | 0.0 | 0 | 34.2 | 48.3 | - |
| | 3 | 182 | 44.9 | 79.5 | 62.7 | 30.1 | - | 15 | | 182 | | | 182.3 | 9.5 | 0.0 | 0.0 | 6 | 39.1 | 47.2 | - |
| | 4 | 123 | 9.3 | 79.5 | 57.5 | 24.9 | - | 15 | | 123 | | | 123.4 | 9.4 | 0.0 | 0.0 | 6 | 33.9 | 42.4 | - |

Remark: For legend of parameters and remark for equations, please refers to the bottom of spreadsheet "SS2".

At NSR, incl façade

Daytime — Noise criteria

| Leq | ASR | Leq, day | Status | | Lmax |
|---|---|---|---|---|---|
| Total | | | | | NSR |
| 47.5 | B | 65 | OK | | 49.5 |

### Launching / Arriving — NIGHT

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, night | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 146 | 29.2 | 79.5 | 61.7 | 29.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 32.2 | 46.5 | - |
| | 2 | 146 | 58.4 | 79.5 | 64.8 | 32.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 35.2 | 49.5 | - |
| | 3 | 146 | 44.9 | 79.5 | 63.6 | 31.0 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 6 | 40.0 | 48.4 | - |
| | 4 | 119 | 9.3 | 79.5 | 57.7 | 25.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 34.1 | 42.6 | - |
| Track 2 Short Train | 1 | 161 | 27.3 | 76.5 | 58.0 | 25.4 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 0 | 28.4 | 42.7 | - |
| | 2 | 161 | 58.4 | 76.5 | 61.3 | 28.7 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 0 | 31.7 | 46.0 | - |
| | 3 | 161 | 44.9 | 76.5 | 60.2 | 27.6 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 6 | 36.6 | 44.8 | - |
| | 4 | 119 | 9.3 | 76.5 | 54.7 | 22.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 31.1 | 39.6 | - |
| Track 3 Short Train | 1 | 182 | 23.1 | 76.5 | 56.8 | 24.2 | - | 15 | | 182 | | | 182.3 | 9.5 | 0.0 | 0.0 | 0 | 27.2 | 41.3 | - |
| | 2 | 182 | 58.4 | 76.5 | 60.8 | 28.2 | - | 15 | | 182 | | | 182.3 | 9.5 | 0.0 | 0.0 | 0 | 31.2 | 45.3 | - |
| | 3 | 182 | 44.9 | 76.5 | 59.7 | 27.1 | - | 15 | | 182 | | | 182.3 | 9.5 | 0.0 | 0.0 | 6 | 36.1 | 44.2 | - |
| | 4 | 123 | 9.3 | 76.5 | 54.5 | 21.9 | - | 15 | | 123 | | | 123.4 | 9.4 | 0.0 | 0.0 | 6 | 30.9 | 39.4 | - |

At NSR, incl façade

Daytime — Noise criteria

| Leq | ASR | Leq, night | Status | | Lmax |
|---|---|---|---|---|---|
| Total | | | | | NSR |
| 45.1 | B | 55 | OK | | 49.5 |

### Launching / Arriving — 24hr

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, 24hr | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 146 | 29.2 | 79.5 | 61.7 | 29.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 32.2 | 46.5 | - |
| | 2 | 146 | 58.4 | 79.5 | 64.8 | 32.2 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 0 | 35.2 | 49.5 | - |
| | 3 | 146 | 44.9 | 79.5 | 63.6 | 31.0 | - | 15 | | 146 | | | 146.3 | 9.5 | 0.0 | 0.0 | 6 | 40.0 | 48.4 | - |
| | 4 | 119 | 9.3 | 79.5 | 57.7 | 25.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 34.1 | 42.6 | - |
| Track 2 Short Train | 1 | 161 | 27.3 | 76.5 | 58.0 | 25.4 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 0 | 28.4 | 42.7 | - |
| | 2 | 161 | 58.4 | 76.5 | 61.3 | 28.7 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 0 | 31.7 | 46.0 | - |
| | 3 | 161 | 44.9 | 76.5 | 60.2 | 27.6 | - | 15 | | 161 | | | 161.3 | 9.5 | 0.0 | 0.0 | 6 | 36.6 | 44.8 | - |
| | 4 | 119 | 9.3 | 76.5 | 54.7 | 22.1 | - | 15 | | 119 | | | 119.4 | 9.4 | 0.0 | 0.0 | 6 | 31.1 | 39.6 | - |

At NSR, incl façade

24hr

| Leq | | | | | Lmax |
|---|---|---|---|---|---|
| Total | | | | | NSR |
| 44.1 | | | | | 49.5 |

**Legend:**

- Hr: Height of highest floor at receiver
- Hor D: Horizontal distance
- Angle: Angle of View
- Hb: Height of barrier or shield
- Dsb: Horizontal distance from noise source to barrier
- Dbr: Horizontal distance from barrier to receiver
- Hs: Height of noise source
- D: Direct path
- P: Path difference=Shielded path - D
- A barrier: Barrier attenuation (dB)
- IL barrier: Barrier loss (dB)

**Remark for Equations:**

(1): plus 3dB is to adjust SEL from short train to long train.
(2): distance attenuation and angle of view adjustment.
(3): SEL conversion to Leq: Leq = SEL + 10 log V -35.6 ref: FTA Guidance Manual Table 5-2 Rail vehicle ;
plus 10log(2) is to convert Leq(30min) to Leq(1hr).
(4): Barrier effect, ref: FTA Guidance Manual, Table 6-9.
(5): Ref: Transportation Noise Reference Book equation 15.21
(6): To check whether the direct path ray is under shadow zone of shielding.
(7): Wheel Squeal is added to the required segments, such as turnout and curve.

## SSS Calculation at NSR SS14

| NSR | No. of | Ground Level | Hr | ASR | | | | Result: | Leq, day | Leq, night | Leq, 24hr | Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS14 | Storey | mPD | m | | | | | Launching / Arriving | 46.8 | 44.5 | 43.4 | 53.3 |
| | 3 | 17 | 7.5 | B | | | | Noise criteria | 65 | 55 | | 85 |
| | | | | | | | | Status | OK | OK | | OK |

### Launching / Arriving — DAY

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, day | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 92 | 63.8 | 79.5 | 67.1 | 34.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 37.6 | 52.2 | - |
| | 2 | 92 | 82.1 | 79.5 | 68.2 | 35.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 38.6 | 53.3 | - |
| | 3 | 170 | 10.3 | 79.5 | 56.6 | 24.0 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 33.0 | 41.2 | - |
| Track 1 Short Train | 1 | 92 | 63.8 | 76.5 | 64.1 | 31.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 34.6 | 49.2 | - |
| | 2 | 92 | 82.1 | 76.5 | 65.2 | 32.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 35.6 | 50.3 | - |
| | 3 | 170 | 10.3 | 76.5 | 53.6 | 21.0 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 30.0 | 38.2 | - |
| Track 2 Long Train | 1 | 107 | 61.4 | 79.5 | 66.3 | 33.7 | - | 15 | | 107 | | | 107.4 | 9.1 | 0.0 | 0.0 | 0 | 36.7 | 51.3 | - |
| | 2 | 107 | 75.4 | 79.5 | 67.2 | 34.6 | - | 15 | | 107 | | | 107.4 | 9.1 | 0.0 | 0.0 | 0 | 37.6 | 52.2 | - |
| | 3 | 170 | 17.1 | 79.5 | 58.8 | 26.2 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 35.2 | 43.4 | - |
| Track 3 Long Train | 1 | 128 | 56.2 | 79.5 | 65.2 | 32.6 | - | 15 | | 128 | | | 128.4 | 9.1 | 0.0 | 0.0 | 0 | 35.6 | 50.0 | - |
| | 2 | 128 | 69 | 79.5 | 66.0 | 33.5 | - | 15 | | 128 | | | 128.4 | 9.1 | 0.0 | 0.0 | 0 | 36.5 | 50.9 | - |
| | 3 | 196 | 23.4 | 79.5 | 59.5 | 26.9 | - | 15 | | 196 | | | 196.2 | 9.3 | 0.0 | 0.0 | 6 | 35.9 | 43.9 | - |

Remark: For legend of parameters and remark for equations, please refers to the bottom of spreadsheet "SS2".

At NSR, incl façade

| Daytime | Noise criteria | | | |
|---|---|---|---|---|
| Leq | ASR | Leq, day | Status | Lmax |
| Total | | | | NSR |
| 46.8 | B | 65 | OK | 53.3 |

### Launching / Arriving — NIGHT

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, night | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 92 | 63.8 | 79.5 | 67.1 | 34.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 37.6 | 52.2 | - |
| | 2 | 92 | 82.1 | 79.5 | 68.2 | 35.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 38.6 | 53.3 | - |
| | 3 | 170 | 10.3 | 79.5 | 56.6 | 24.0 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 33.0 | 41.2 | - |
| Track 2 Short Train | 1 | 107 | 61.4 | 76.5 | 63.3 | 30.7 | - | 15 | | 107 | | | 107.4 | 9.1 | 0.0 | 0.0 | 0 | 33.7 | 48.3 | - |
| | 2 | 107 | 75.4 | 76.5 | 64.2 | 31.6 | - | 15 | | 107 | | | 107.4 | 9.1 | 0.0 | 0.0 | 0 | 34.6 | 49.2 | - |
| | 3 | 170 | 17.1 | 76.5 | 55.8 | 23.2 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 32.2 | 40.4 | - |
| Track 3 Short Train | 1 | 128 | 56.2 | 76.5 | 62.2 | 29.6 | - | 15 | | 128 | | | 128.4 | 9.1 | 0.0 | 0.0 | 0 | 32.6 | 47.0 | - |
| | 2 | 128 | 69 | 76.5 | 63.0 | 30.5 | - | 15 | | 128 | | | 128.4 | 9.1 | 0.0 | 0.0 | 0 | 33.5 | 47.9 | - |
| | 3 | 196 | 23.4 | 76.5 | 56.5 | 23.9 | - | 15 | | 196 | | | 196.2 | 9.3 | 0.0 | 0.0 | 6 | 32.9 | 40.9 | - |

At NSR, incl façade

| Daytime | Noise criteria | | | |
|---|---|---|---|---|
| Leq | ASR | Leq, night | Status | Lmax |
| Total | | | | NSR |
| 44.5 | B | 55 | OK | 53.3 |

### Launching / Arriving — 24hr

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, 24hr | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 92 | 63.8 | 79.5 | 67.1 | 34.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 37.6 | 52.2 | - |
| | 2 | 92 | 82.1 | 79.5 | 68.2 | 35.6 | - | 15 | | 92 | | | 92.5 | 9.0 | 0.0 | 0.0 | 0 | 38.6 | 53.3 | - |
| | 3 | 170 | 10.3 | 79.5 | 56.6 | 24.0 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 33.0 | 41.2 | - |
| Track 2 Short Train | 1 | 107 | 61.4 | 76.5 | 63.3 | 30.7 | - | 15 | | 107 | | | 107.4 | 9.1 | 0.0 | 0.0 | 0 | 33.7 | 48.3 | - |
| | 2 | 107 | 75.4 | 76.5 | 64.2 | 31.6 | - | 15 | | 107 | | | 107.4 | 9.1 | 0.0 | 0.0 | 0 | 34.6 | 49.2 | - |
| | 3 | 170 | 17.1 | 76.5 | 55.8 | 23.2 | - | 15 | | 170 | | | 170.3 | 9.2 | 0.0 | 0.0 | 6 | 32.2 | 40.4 | - |

At NSR, incl façade

| 24hr | | | | |
|---|---|---|---|---|
| Leq | | | | Lmax |
| Total | | | | NSR |
| 43.4 | | | | 53.3 |

**Legend:**

- Hr: Height of highest floor at receiver
- Hor D: Horizontal distance
- Angle: Angle of View
- Hb: Height of barrier or shield
- Dsb: Horizontal distance from noise source to barrier
- Dbr: Horizontal distance from barrier to receiver
- Hs: Height of noise source
- D: Direct path
- P: Path difference=Shielded path - D
- A barrier: Barrier attenuation (dB)
- IL barrier: Barrier loss (dB)

**Remark for Equations:**

(1): plus 3dB is to adjust SEL from short train to long train.
(2): distance attenuation and angle of view adjustment.
(3): SEL conversion to Leq: Leq = SEL + 10 log V -35.6 ref: FTA Guidance Manual Table 5-2 Rail vehicle ; plus 10log(2) is to convert Leq(30min) to Leq(1hr).
(4): Barrier effect, ref: FTA Guidance Manual, Table 6-9.
(5): Ref: Transportation Noise Reference Book equation 15.21
(6): To check whether the direct path ray is under shadow zone of shielding.
(7): Wheel Squeal is added to the required segments, such as turnout and curve.

## SSS Calculation at NSR SS15

| NSR | No. of | Ground Level | Hr | ASR | | | | Result: | Leq, day | Leq, night | Leq, 24hr | Lmax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SS15 | Storey | mPD | m | | | | | Launching / Arriving | 47.3 | 44.9 | 43.9 | 55.6 |
| | 3 | 15.7 | 7.5 | B | | | | Noise criteria | 65 | 55 | | 85 |
| | | | | | | | | Status | OK | OK | | OK |

### Launching / Arriving — DAY

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, day | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 78 | 117.7 | 79.5 | 70.5 | 37.9 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 40.9 | 55.6 | - |
| | 2 | 78 | 23.8 | 79.5 | 63.6 | 31.0 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 34.0 | 48.6 | - |
| | 3 | 158 | 8.9 | 79.5 | 56.2 | 23.6 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 32.6 | 40.9 | - |
| Track 1 Short Train | 1 | 78 | 117.7 | 76.5 | 67.5 | 34.9 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 37.9 | 52.6 | - |
| | 2 | 78 | 23.8 | 76.5 | 60.6 | 28.0 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 31.0 | 45.6 | - |
| | 3 | 158 | 8.9 | 76.5 | 53.2 | 20.6 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 29.6 | 37.9 | - |
| Track 2 Long Train | 1 | 93 | 115 | 79.5 | 69.7 | 37.1 | - | 15 | | 93 | | | 93.4 | 7.8 | 0.0 | 0.0 | 0 | 40.1 | 54.7 | - |
| | 2 | 93 | 26.8 | 79.5 | 63.3 | 30.7 | - | 15 | | 93 | | | 93.4 | 7.8 | 0.0 | 0.0 | 0 | 33.7 | 48.3 | - |
| | 3 | 158 | 15 | 79.5 | 58.5 | 25.9 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 34.9 | 43.2 | - |
| Track 3 Long Train | 1 | 113 | 109.4 | 79.5 | 68.6 | 36.0 | - | 15 | | 113 | | | 113.3 | 7.9 | 0.0 | 0.0 | 0 | 39.0 | 53.5 | - |
| | 2 | 113 | 22.5 | 79.5 | 61.7 | 29.1 | - | 15 | | 113 | | | 113.3 | 7.9 | 0.0 | 0.0 | 0 | 32.1 | 46.7 | - |
| | 3 | 195 | 19.2 | 79.5 | 58.7 | 26.1 | - | 15 | | 195 | | | 195.2 | 8.0 | 0.0 | 0.0 | 6 | 35.1 | 43.1 | - |

Remark: For legend of parameters and remark for equations, please refers to the bottom of spreadsheet "SS2".

| At NSR, incl façade | | | | |
|---|---|---|---|---|
| Daytime | Noise criteria | | | |
| Leq | ASR | Leq, day | Status | Lmax |
| Total | | | | NSR |
| 47.3 | B | 65 | OK | 55.6 |

### Launching / Arriving — NIGHT

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, night | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 78 | 117.7 | 79.5 | 70.5 | 37.9 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 40.9 | 55.6 | - |
| | 2 | 78 | 23.8 | 79.5 | 63.6 | 31.0 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 34.0 | 48.6 | - |
| | 3 | 158 | 8.9 | 79.5 | 56.2 | 23.6 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 32.6 | 40.9 | - |
| Track 2 Short Train | 1 | 93 | 115 | 76.5 | 66.7 | 34.1 | - | 15 | | 93 | | | 93.4 | 7.8 | 0.0 | 0.0 | 0 | 37.1 | 51.7 | - |
| | 2 | 93 | 26.8 | 76.5 | 60.3 | 27.7 | - | 15 | | 93 | | | 93.4 | 7.8 | 0.0 | 0.0 | 0 | 30.7 | 45.3 | - |
| | 3 | 158 | 15 | 76.5 | 55.5 | 22.9 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 31.9 | 40.2 | - |
| Track 3 Short Train | 1 | 113 | 109.4 | 76.5 | 65.6 | 33.0 | - | 15 | | 113 | | | 113.3 | 7.9 | 0.0 | 0.0 | 0 | 36.0 | 50.5 | - |
| | 2 | 113 | 22.5 | 76.5 | 58.7 | 26.1 | - | 15 | | 113 | | | 113.3 | 7.9 | 0.0 | 0.0 | 0 | 29.1 | 43.7 | - |
| | 3 | 195 | 19.2 | 76.5 | 55.7 | 23.1 | - | 15 | | 195 | | | 195.2 | 8.0 | 0.0 | 0.0 | 6 | 32.1 | 40.1 | - |

| At NSR, incl façade | | | | |
|---|---|---|---|---|
| Daytime | Noise criteria | | | |
| Leq | ASR | Leq, night | Status | Lmax |
| Total | | | | NSR |
| 44.9 | B | 55 | OK | 55.6 |

### Launching / Arriving — 24hr

Remark: plus 10log(2) is for converting of Leq(30min) to Leq(1hr).

| | Segment | Hor D | Angle | SEL | SEL | Leq | Shield | Track Level | Hb | Dsb | Dbr | Hs | D | P | A barrier | IL barrier | Wheel Squeal | Leq, 24hr | Lmax | Shadow zone? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | for 30min | At NSR, no shield | | | | | | | | | | | | At NSR, incl façade | | |
| | | m | Deg | 15m | NSR | NSR | | mPD | m | m | m | m | m | m | | | dB | | NSR | |
| Track 1 Long Train | 1 | 78 | 117.7 | 79.5 | 70.5 | 37.9 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 40.9 | 55.6 | - |
| | 2 | 78 | 23.8 | 79.5 | 63.6 | 31.0 | - | 15 | | 78 | | | 78.4 | 7.8 | 0.0 | 0.0 | 0 | 34.0 | 48.6 | - |
| | 3 | 158 | 8.9 | 79.5 | 56.2 | 23.6 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 32.6 | 40.9 | - |
| Track 2 Short Train | 1 | 93 | 115 | 76.5 | 66.7 | 34.1 | - | 15 | | 93 | | | 93.4 | 7.8 | 0.0 | 0.0 | 0 | 37.1 | 51.7 | - |
| | 2 | 93 | 26.8 | 76.5 | 60.3 | 27.7 | - | 15 | | 93 | | | 93.4 | 7.8 | 0.0 | 0.0 | 0 | 30.7 | 45.3 | - |
| | 3 | 158 | 15 | 76.5 | 55.5 | 22.9 | - | 15 | | 158 | | | 158.2 | 8.0 | 0.0 | 0.0 | 6 | 31.9 | 40.2 | - |

| At NSR, incl façade | |
|---|---|
| 24hr | |
| Leq | Lmax |
| Total | NSR |
| 43.9 | 55.6 |

**Legend:**

- Hr: Height of highest floor at receiver
- Hor D: Horizontal distance
- Angle: Angle of View
- Hb: Height of barrier or shield
- Dsb: Horizontal distance from noise source to barrier
- Dbr: Horizontal distance from barrier to receiver
- Hs: Height of noise source
- D: Direct path
- P: Path difference=Shielded path - D
- A barrier: Barrier attenuation (dB)
- IL barrier: Barrier loss (dB)

**Remark for Equations:**

(1): plus 3dB is to adjust SEL from short train to long train.
(2): distance attenuation and angle of view adjustment.
(3): SEL conversion to Leq: Leq = SEL + 10 log V -35.6 ref: FTA Guidance Manual Table 5-2 Rail vehicle ; plus 10log(2) is to convert Leq(30min) to Leq(1hr).
(4): Barrier effect, ref: FTA Guidance Manual, Table 6-9.
(5): Ref: Transportation Noise Reference Book equation 15.21
(6): To check whether the direct path ray is under shadow zone of shielding.
(7): Wheel Squeal is added to the required segments, such as turnout and curve.