

Photometric test report

Family
Silica® 21

Order number: 51MX33DB49WB
EAN: 4058352889060

LP number
59331_102



Version Suspended luminaire, with homogeneous illumination, prismatic cover, direct-/ indirect distribution, extremely wide distribution, $UGR \leq 16$ ($L65 \leq 3000 \text{cd/m}^2$)

Lamps LED 4000 K | CRI ≥ 80

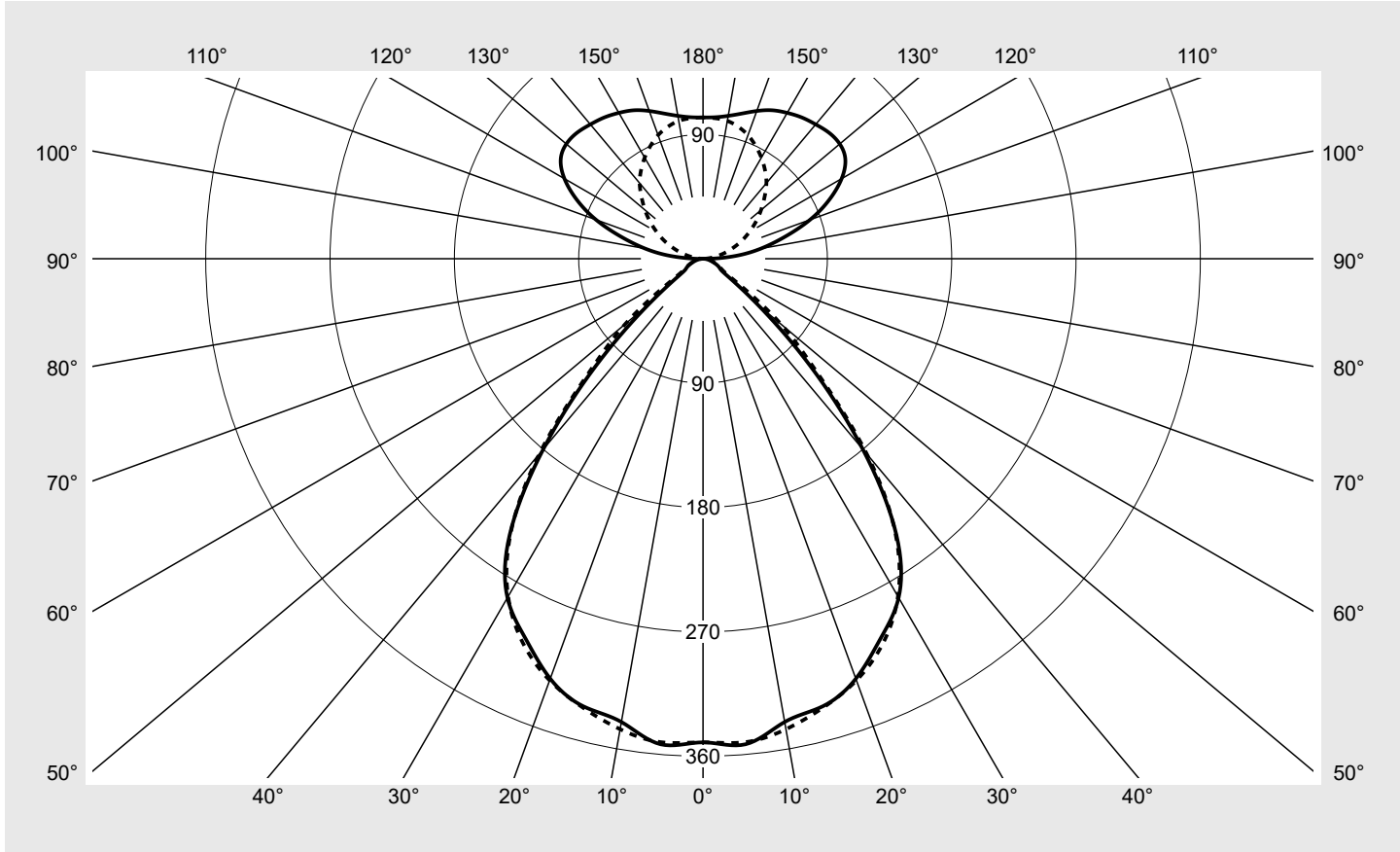
Controlgear ECG-DALI

Rated values Net luminous flux = 7390 lm
Power consumption = 48.3 W
Luminous efficacy = 153 lm/W

serial documentation
02.08.2023



Luminous intensity in cd/klm C180-0 C270-90 **Imax: 353 cd/klm**



Classifications

| | |
|----------|-----------------------------------|
| DIN 5040 | C 6 2 |
| CIE | N1=78 N2=96 N3=99 N4=55 N5=100 |

Luminaire light output ratios

| | |
|-------------|--------|
| η_{LB} | 100.0% |
| ϕ_u | 55.4% |
| ϕ_o | 44.6% |

Measurement conditions
DIN EN 13032 and DIN 5032

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| Table of values for luminous intensities | | Maximum luminous intensity |
| | | siteco |

| C-planes γ | 0° 180° | 15° | 30° | 45° | 60° | 75° | 90° 270° | Phi-zone | Total Phi-zone |
|------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|-------------|-------------------------|-------------------|
| | | 165° 195° 345° | 150° 210° 330° | 135° 225° 315° | 120° 240° 300° | 105° 255° 285° | | | |
| Luminous intensity in cd/klm | | | | | | | | Luminous flux in lm/klm | |
| 0° | 349.9 | 349.9 | 349.9 | 349.9 | 349.9 | 349.9 | 349.9 | 2.1 | 2.1 |
| 5° | 352.7 | 353.3 | 353.1 | 353.3 | 352.9 | 352.0 | 351.1 | 16.9 | 18.9 |
| 10° | 340.4 | 339.5 | 339.7 | 341.6 | 345.2 | 345.5 | 345.7 | 32.6 | 51.5 |
| 15° | 335.2 | 334.1 | 331.5 | 331.4 | 333.4 | 336.4 | 336.2 | 47.3 | 98.9 |
| 20° | 323.4 | 322.7 | 318.7 | 319.6 | 318.0 | 320.3 | 324.7 | 60.1 | 159.0 |
| 25° | 303.6 | 304.4 | 302.2 | 302.2 | 302.6 | 302.3 | 307.6 | 70.2 | 229.2 |
| 30° | 283.2 | 283.0 | 279.5 | 280.9 | 281.3 | 280.3 | 282.2 | 77.1 | 306.3 |
| 35° | 244.1 | 243.6 | 241.2 | 242.6 | 243.2 | 242.2 | 242.9 | 76.3 | 382.6 |
| 40° | 179.9 | 179.6 | 180.9 | 182.1 | 183.5 | 183.3 | 184.4 | 64.1 | 446.7 |
| 45° | 110.1 | 109.9 | 111.2 | 112.6 | 113.8 | 115.2 | 117.5 | 43.7 | 490.4 |
| 50° | 51.7 | 59.9 | 67.3 | 61.6 | 55.5 | 66.0 | 73.6 | 26.1 | 516.5 |
| 55° | 21.0 | 28.2 | 26.7 | 30.5 | 23.0 | 31.8 | 29.6 | 12.4 | 528.9 |
| 60° | 14.1 | 14.7 | 15.5 | 14.4 | 14.4 | 15.4 | 16.1 | 7.1 | 536.0 |
| 65° | 11.6 | 11.5 | 12.0 | 11.7 | 12.2 | 12.2 | 12.1 | 5.9 | 541.9 |
| 70° | 8.4 | 8.6 | 8.9 | 8.9 | 9.1 | 9.2 | 9.2 | 4.6 | 546.5 |
| 75° | 5.8 | 6.1 | 6.7 | 6.4 | 6.5 | 6.9 | 6.6 | 3.4 | 549.9 |
| 80° | 3.5 | 3.8 | 4.1 | 4.5 | 4.2 | 4.7 | 4.7 | 2.3 | 552.2 |
| 85° | 1.8 | 1.8 | 1.8 | 2.1 | 2.2 | 2.5 | 2.7 | 1.2 | 553.3 |
| 90° | 5.2 | 5.0 | 5.3 | 5.2 | 3.1 | 1.1 | 0.4 | 2.0 | 555.4 |
| 95° | 23.9 | 24.4 | 26.2 | 24.8 | 15.9 | 8.2 | 4.2 | 10.3 | 565.7 |
| 100° | 42.8 | 43.9 | 44.3 | 38.8 | 26.0 | 14.7 | 9.7 | 17.5 | 583.2 |
| 105° | 61.3 | 62.6 | 61.4 | 52.4 | 35.9 | 22.2 | 16.3 | 24.1 | 607.3 |
| 110° | 82.4 | 82.7 | 77.5 | 64.5 | 46.0 | 30.0 | 23.3 | 30.4 | 637.7 |
| 115° | 100.7 | 99.8 | 92.0 | 75.7 | 55.8 | 37.9 | 31.1 | 35.4 | 673.0 |
| 120° | 115.9 | 114.0 | 103.9 | 84.8 | 64.9 | 45.6 | 38.7 | 38.8 | 711.8 |
| 125° | 125.7 | 122.3 | 111.1 | 93.1 | 72.6 | 52.9 | 46.8 | 40.3 | 752.1 |
| 130° | 129.2 | 126.3 | 114.5 | 98.0 | 78.5 | 60.4 | 54.8 | 39.9 | 792.0 |
| 135° | 129.0 | 126.3 | 115.8 | 101.3 | 83.2 | 67.4 | 62.9 | 38.1 | 830.1 |
| 140° | 126.9 | 124.9 | 116.2 | 103.6 | 87.1 | 74.0 | 71.4 | 35.5 | 865.6 |
| 145° | 124.8 | 123.4 | 116.1 | 105.0 | 90.7 | 80.2 | 78.2 | 32.3 | 897.9 |
| 150° | 121.9 | 121.3 | 114.8 | 104.9 | 93.7 | 86.1 | 84.5 | 28.5 | 926.4 |
| 155° | 118.5 | 118.2 | 111.9 | 104.4 | 96.0 | 91.3 | 90.1 | 24.2 | 950.6 |
| 160° | 113.8 | 113.5 | 108.5 | 103.6 | 98.0 | 95.4 | 95.1 | 19.5 | 970.1 |
| 165° | 108.8 | 108.2 | 105.6 | 102.3 | 100.0 | 98.6 | 98.8 | 14.6 | 984.7 |
| 170° | 105.0 | 104.5 | 103.8 | 102.4 | 101.4 | 101.2 | 101.3 | 9.8 | 994.5 |
| 175° | 102.8 | 102.7 | 102.1 | 101.9 | 102.0 | 102.0 | 102.0 | 4.9 | 999.4 |
| 180° | 102.2 | 102.2 | 102.2 | 102.2 | 102.2 | 102.2 | 102.2 | 0.6 | 1000.0 |

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| UGR-Table | Standard room | siteco |
|------------------|----------------------|---------------|

| | | | | | | | | | | | |
|------------------------------|---------------------|------|------|------|------|--------------------|------|------|------|------|------|
| Reflection factor of ceiling | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | |
| Reflection factor of walls | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | |
| Reflection factor of floor | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | |
| Room dimensions | View crosswise (C0) | | | | | View endwise (C90) | | | | | |
| x | y | | | | | | | | | | |
| 2H | 2H | 15.4 | 16.3 | 16.3 | 17.2 | 18.3 | 15.6 | 16.5 | 16.5 | 17.4 | 18.5 |
| | 3H | 15.3 | 16.1 | 16.2 | 17.0 | 18.1 | 15.6 | 16.3 | 16.5 | 17.2 | 18.4 |
| | 4H | 15.3 | 16.0 | 16.2 | 16.9 | 18.1 | 15.6 | 16.3 | 16.5 | 17.2 | 18.4 |
| | 6H | 15.2 | 15.8 | 16.1 | 16.8 | 18.0 | 15.5 | 16.2 | 16.5 | 17.1 | 18.3 |
| | 8H | 15.1 | 15.7 | 16.1 | 16.7 | 17.9 | 15.4 | 16.0 | 16.4 | 17.0 | 18.2 |
| | 12H | 15.0 | 15.6 | 16.0 | 16.5 | 17.8 | 15.5 | 16.0 | 16.4 | 16.9 | 18.2 |
| 4H | 2H | 15.2 | 15.9 | 16.1 | 16.8 | 17.9 | 15.3 | 16.0 | 16.2 | 16.9 | 18.1 |
| | 3H | 15.2 | 15.7 | 16.1 | 16.7 | 17.9 | 15.4 | 15.9 | 16.3 | 16.9 | 18.1 |
| | 4H | 15.2 | 15.7 | 16.1 | 16.6 | 17.9 | 15.4 | 15.9 | 16.4 | 16.9 | 18.1 |
| | 6H | 15.2 | 15.6 | 16.1 | 16.6 | 17.8 | 15.5 | 15.9 | 16.4 | 16.9 | 18.1 |
| | 8H | 15.1 | 15.5 | 16.1 | 16.5 | 17.8 | 15.5 | 15.9 | 16.5 | 16.9 | 18.1 |
| | 12H | 15.0 | 15.4 | 16.1 | 16.4 | 17.7 | 15.5 | 15.8 | 16.5 | 16.8 | 18.1 |
| 8H | 4H | 15.0 | 15.4 | 16.0 | 16.4 | 17.7 | 15.2 | 15.6 | 16.2 | 16.6 | 17.9 |
| | 6H | 15.1 | 15.5 | 16.1 | 16.5 | 17.7 | 15.4 | 15.7 | 16.4 | 16.7 | 18.0 |
| | 8H | 15.1 | 15.4 | 16.1 | 16.4 | 17.7 | 15.5 | 15.8 | 16.5 | 16.8 | 18.1 |
| | 12H | 15.1 | 15.3 | 16.1 | 16.3 | 17.7 | 15.5 | 15.8 | 16.6 | 16.8 | 18.1 |
| 12H | 4H | 15.0 | 15.3 | 16.0 | 16.3 | 17.6 | 15.1 | 15.5 | 16.2 | 16.5 | 17.8 |
| | 6H | 15.1 | 15.3 | 16.1 | 16.3 | 17.6 | 15.3 | 15.6 | 16.3 | 16.6 | 17.9 |
| | 8H | 15.1 | 15.3 | 16.1 | 16.3 | 17.7 | 15.4 | 15.7 | 16.4 | 16.7 | 18.0 |

| | | | |
|------------------------|---|--------------------------------------|----------------------------------|
| Luminance table | Max. for $\gamma \geq 65^\circ$ | Photometric dimensions in mm: | L = 1500 B = 50 |
|------------------------|---|--------------------------------------|----------------------------------|

| C-planes | γ | Luminance in cd/m ² | | | | | | | |
|----------|----------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------|--|
| | | 0° 180° | 15° 165° 195° 345° | 30° 150° 210° 330° | 45° 135° 225° 315° | 60° 120° 240° 300° | 75° 105° 255° 285° | 90° 270° | |
| 45° | 45° | 15342.7 | 15309.5 | 15501.5 | 15684.2 | 15853.9 | 16056.6 | 16370.6 | |
| 50° | 50° | 7923.4 | 9179.4 | 10322.9 | 9447.5 | 8514.1 | 10111.8 | 11288.5 | |
| 55° | 55° | 3602.6 | 4852.8 | 4584.0 | 5236.6 | 3955.1 | 5461.3 | 5076.3 | |
| 60° | 60° | 2788.1 | 2893.3 | 3058.5 | 2835.0 | 2845.4 | 3026.2 | 3163.1 | |
| 65° | 65° | 2708.7 | 2687.5 | 2795.5 | 2726.9 | 2842.6 | 2838.4 | 2826.0 | |
| 70° | 70° | 2423.4 | 2468.7 | 2568.6 | 2568.6 | 2609.0 | 2638.9 | 2642.1 | |
| 75° | 75° | 2225.2 | 2309.7 | 2545.4 | 2430.8 | 2486.8 | 2613.9 | 2528.3 | |
| 80° | 80° | 2009.8 | 2129.0 | 2348.0 | 2555.7 | 2370.7 | 2644.8 | 2655.6 | |
| 85° | 85° | 1985.2 | 1997.7 | 2073.4 | 2396.8 | 2520.0 | 2873.8 | 2995.9 | |

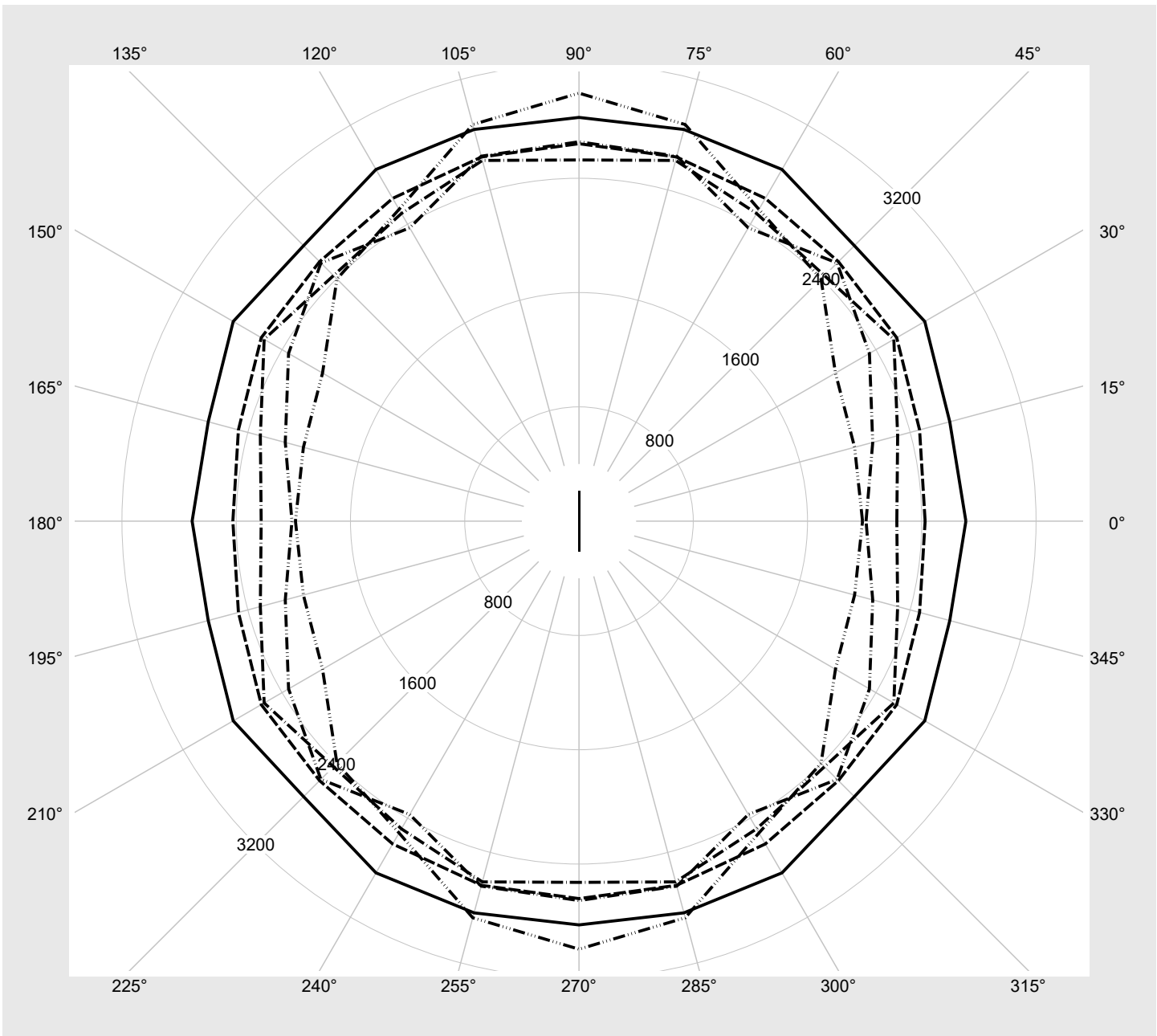
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Luminance values in cd/m² γ 65° γ 70° γ 75° γ 80° γ 85° **siteco**



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|-----------------------------|---------------------------------|---------------|
| Dimming levels table | environmental temperature: 25°C | sITeco |
|-----------------------------|---------------------------------|---------------|

| Luminous flux % | Dimming level linear | Dimming level logarithmic | Luminous flux [lm] | Power consumption [W] |
|-----------------|----------------------|---------------------------|--------------------|-----------------------|
| 100 | 254 | 254 | 7390 | 48.3 |
| 95 | 241 | 252 | 7029 | 45.9 |
| 90 | 228 | 250 | 6665 | 43.6 |
| 85 | 214 | 248 | 6271 | 41.0 |
| 80 | 201 | 245 | 5904 | 38.6 |
| 75 | 188 | 243 | 5535 | 36.2 |
| 70 | 175 | 240 | 5163 | 33.8 |
| 65 | 162 | 238 | 4790 | 31.5 |
| 60 | 150 | 235 | 4444 | 29.2 |
| 55 | 137 | 231 | 4066 | 26.9 |
| 50 | 124 | 228 | 3687 | 24.5 |
| 45 | 112 | 224 | 3336 | 22.4 |
| 40 | 99 | 219 | 2953 | 20.0 |
| 35 | 87 | 215 | 2598 | 17.9 |
| 30 | 74 | 209 | 2210 | 15.5 |
| 25 | 62 | 202 | 1853 | 13.3 |
| 20 | 49 | 194 | 1463 | 10.9 |
| 15 | 37 | 183 | 1103 | 8.8 |
| 10 | 25 | 169 | 740 | 6.7 |
| 5 | 13 | 145 | 377 | 4.8 |
| 2 | 6 | 117 | 164 | 4.2 |