



Shenzhen Belling Efficiency Testing Laboratory Co.,Ltd.
www.bellingeel.com

Tel:0755-21038430

Address:Rm. 108, No.1 Building, Meibaohe industrial park, No.14 Shilongzi Road, Dalang street, Longhua district, Shenzhen, China

Client:

LumCAT:

Luminaire:

Report No:

Ballast type:

Test No:

Voltage(V): 120.02

LampCAT:

Current(A): 0.2680

Lamp flux(lm): 2068.0

Power (W): 31.66

Number of Lamps: 1

PF: 0.9860

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2067.56, Efficiency(%): 99.98% , Luminous Efficacy(lm/W): 65.30

Central intensity(cd): 632.548, Maximum intensity(cd): 645.361

Angle of maximum intensity: C=270.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=110.5

[C90/270]Total=109.3

Field angle(10%Imax): [C0/180]Total=191.6

[C90/270]Total=190.8

Maximum s/h(1/2): C0_180=1.20 C90_270=1.20

Maximum s/h(1/4): C0_180=1.34 C90_270=1.34

Up flux rate of lamp(%): 6.88%

Down flux rate of lamp(%): 93.10%

Up flux rate of LUM(%): 6.88%

Down flux rate of LUM(%): 93.12%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 66.502%

Equipment: GMS-3000
Temperature(°C): 25

Date:
Humidity(%): 59%

Operator: jarvis

Zonal flux distribution table

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| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 632.548 | 0.000 | 0 | 0.00% | 0.00% |
| 5.0 | 631.461 | 15.111 | 15.111 | 0.73% | 0.73% |
| 10.0 | 615.477 | 44.607 | 59.718 | 2.16% | 2.89% |
| 15.0 | 587.317 | 71.349 | 131.067 | 3.45% | 6.34% |
| 20.0 | 562.066 | 94.725 | 225.792 | 4.58% | 10.92% |
| 25.0 | 539.620 | 115.546 | 341.338 | 5.59% | 16.51% |
| 30.0 | 513.339 | 133.253 | 474.591 | 6.44% | 22.95% |
| 35.0 | 481.087 | 146.436 | 621.027 | 7.08% | 30.04% |
| 40.0 | 444.561 | 154.437 | 775.465 | 7.47% | 37.51% |
| 45.0 | 404.844 | 157.274 | 932.739 | 7.61% | 45.11% |
| 50.0 | 361.394 | 154.830 | 1087.568 | 7.49% | 52.60% |
| 55.0 | 321.703 | 148.528 | 1236.096 | 7.18% | 59.79% |
| 60.0 | 279.128 | 138.880 | 1374.977 | 6.72% | 66.50% |
| 65.0 | 243.632 | 127.084 | 1502.061 | 6.15% | 72.65% |
| 70.0 | 207.416 | 114.208 | 1616.269 | 5.52% | 78.17% |
| 75.0 | 173.644 | 99.603 | 1715.872 | 4.82% | 82.99% |
| 80.0 | 143.348 | 84.818 | 1800.69 | 4.10% | 87.09% |
| 85.0 | 110.632 | 69.012 | 1869.702 | 3.34% | 90.43% |
| 90.0 | 92.408 | 55.594 | 1925.296 | 2.69% | 93.12% |
| 95.0 | 66.127 | 43.408 | 1968.704 | 2.10% | 95.22% |
| 100.0 | 46.101 | 30.495 | 1999.199 | 1.47% | 96.69% |
| 105.0 | 29.885 | 20.332 | 2019.531 | 0.98% | 97.68% |
| 110.0 | 18.250 | 12.582 | 2032.112 | 0.61% | 98.29% |
| 115.0 | 12.767 | 7.854 | 2039.966 | 0.38% | 98.67% |
| 120.0 | 9.884 | 5.507 | 2045.472 | 0.27% | 98.93% |
| 125.0 | 9.884 | 4.569 | 2050.042 | 0.22% | 99.15% |
| 130.0 | 8.803 | 4.063 | 2054.105 | 0.20% | 99.35% |
| 135.0 | 7.954 | 3.386 | 2057.491 | 0.16% | 99.51% |
| 140.0 | 6.796 | 2.731 | 2060.222 | 0.13% | 99.65% |
| 145.0 | 6.358 | 2.195 | 2062.417 | 0.11% | 99.75% |
| 150.0 | 5.663 | 1.770 | 2064.187 | 0.09% | 99.84% |
| 155.0 | 5.019 | 1.352 | 2065.539 | 0.07% | 99.90% |
| 160.0 | 4.299 | 0.977 | 2066.516 | 0.05% | 99.95% |
| 165.0 | 3.269 | 0.624 | 2067.14 | 0.03% | 99.98% |
| 170.0 | 1.828 | 0.302 | 2067.442 | 0.01% | 99.99% |
| 175.0 | 0.901 | 0.098 | 2067.539 | 0.00% | 100.00% |
| 180.0 | 0.916 | 0.022 | 2067.561 | 0.00% | 100.00% |

Equipment: GMS-3000
Temperature($^{\circ}$ C): 25

Date:
Humidity(%): 59%

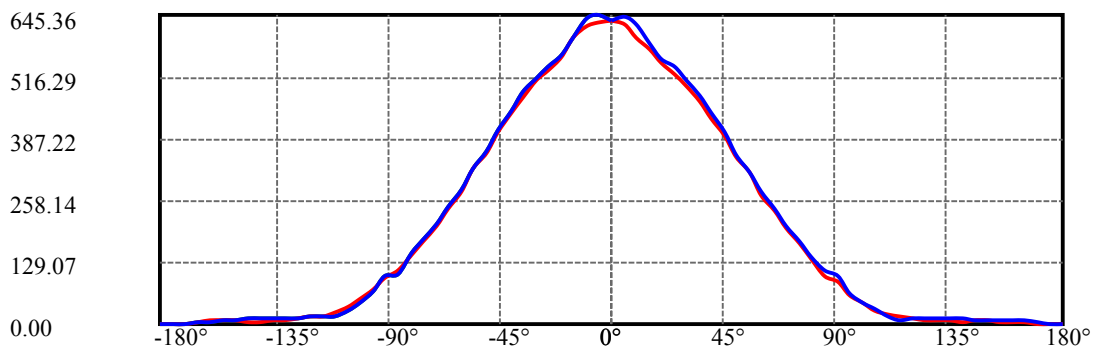
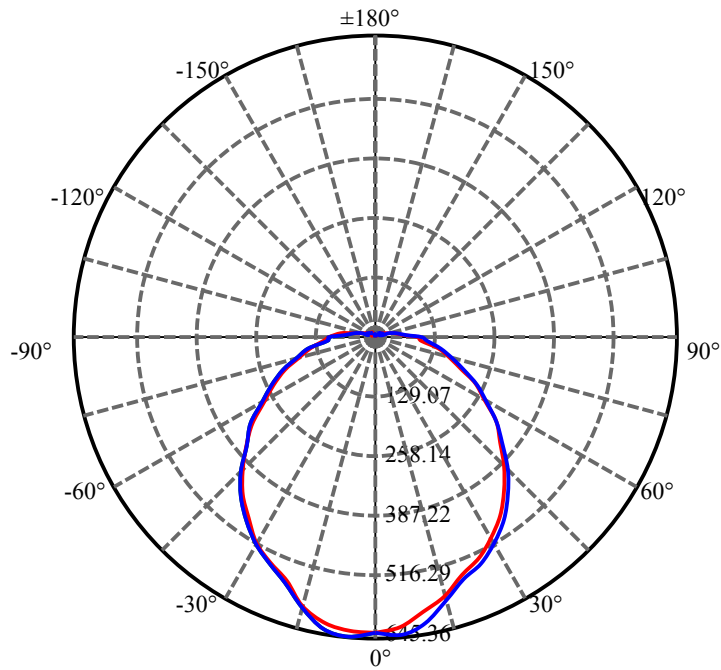
Operator: jarvis

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|---------|--------|---------|
| 0-30 | 474.59 | 22.95% | 22.95% |
| 0-40 | 775.46 | 37.50% | 37.51% |
| 0-60 | 1374.98 | 66.49% | 66.50% |
| 0-90 | 1925.30 | 93.10% | 93.12% |
| 0-120 | 2045.47 | 98.91% | 98.93% |
| 0-180 | 2067.56 | 99.98% | 100.00% |
| 60-90 | 550.32 | 26.61% | 26.62% |
| 90-120 | 120.18 | 5.81% | 5.81% |
| 90-130 | 128.81 | 6.23% | 6.23% |
| 90-150 | 138.89 | 6.72% | 6.72% |
| 90-180 | 142.24 | 6.88% | 6.88% |
| 0-71.90 | 1654.05 | 79.98% | 80.00% |

ZONAL LUMEN SUMMARY

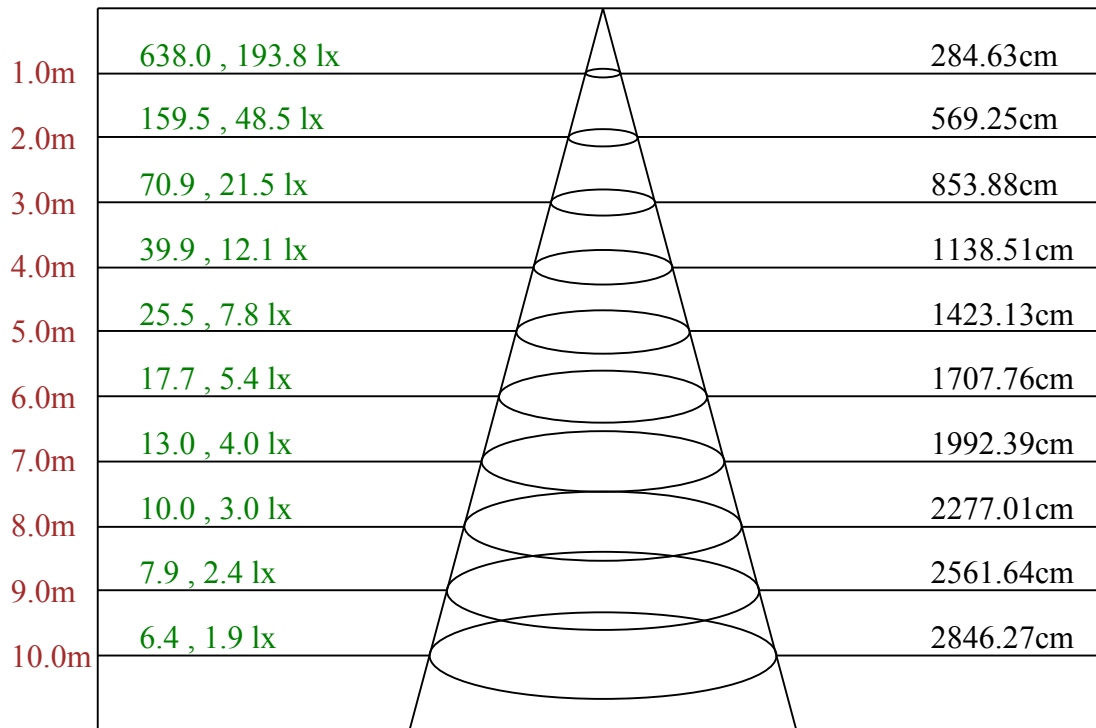
| | |
|---------|--------|
| 0-10 | 59.72 |
| 10-20 | 166.07 |
| 20-30 | 248.80 |
| 30-40 | 300.87 |
| 40-50 | 312.10 |
| 50-60 | 287.41 |
| 60-70 | 241.29 |
| 70-80 | 184.42 |
| 80-90 | 124.61 |
| 90-100 | 73.90 |
| 100-110 | 32.91 |
| 110-120 | 13.36 |
| 120-130 | 8.63 |
| 130-140 | 6.12 |
| 140-150 | 3.96 |
| 150-160 | 2.33 |
| 160-170 | 0.93 |
| 170-180 | 0.10 |



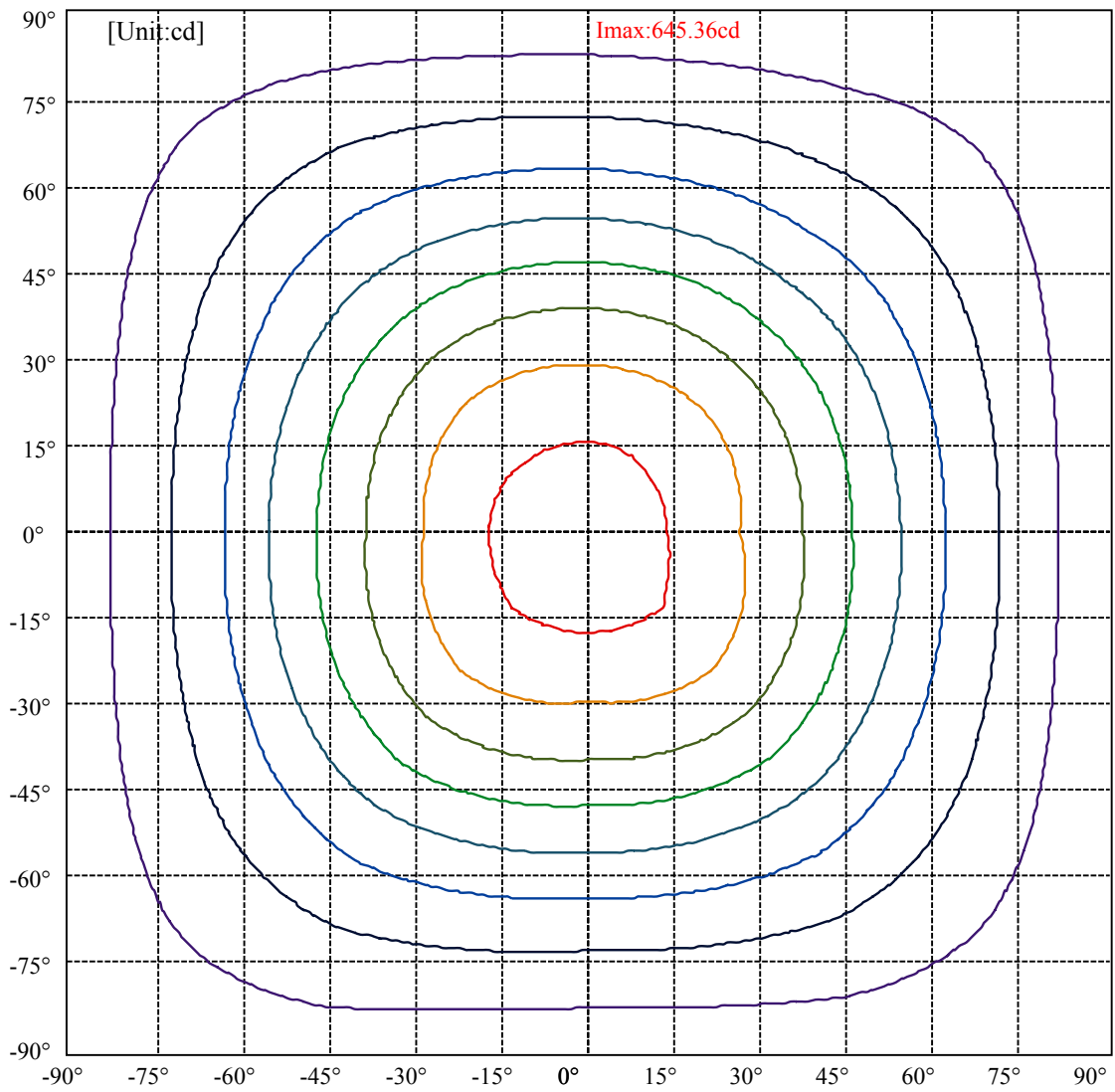
C270(Max): ———
 C0/C180: ———
 C90/C270: ———

Field angle(10%Imax):C0/180Left:97.1 Right:94.5
 :C90/270Left:95.8 Right:95.0

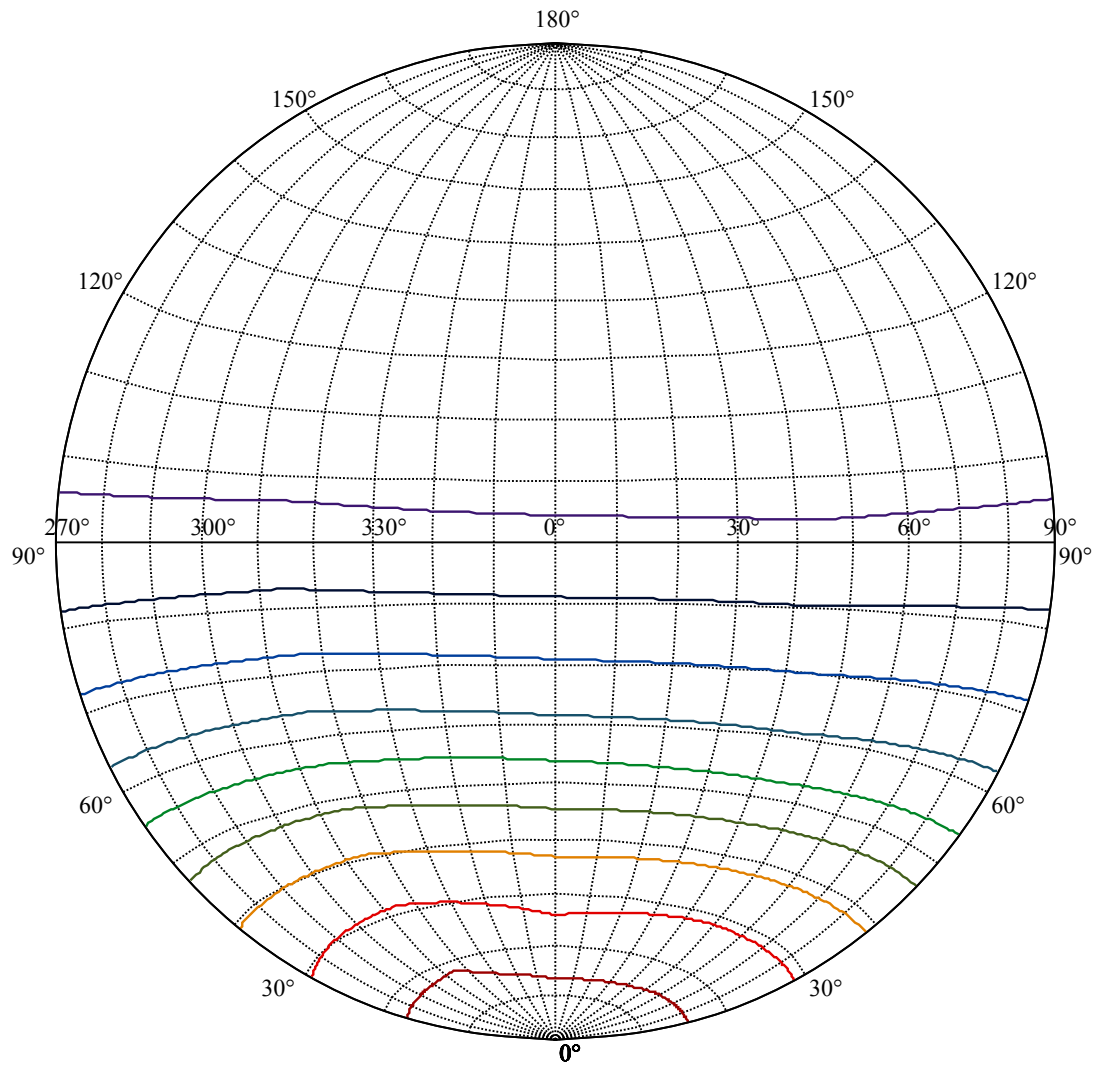
Beam Angle(50%Imax):C0/180Left:55.7 Right:54.8
 :C90/270Left:55.3 Right:54.0



Max , Ave Beam angle of C270 plane 109.81



| | |
|-------------------|---|
| (10%Imax) 129.072 | — |
| (20%Imax) 193.608 | — |
| (30%Imax) 258.144 | — |
| (40%Imax) 322.681 | — |
| (50%Imax) 387.217 | — |
| (60%Imax) 451.753 | — |
| (70%Imax) 516.289 | — |
| (80%Imax) 580.825 | — |












House

[Unit:cd]

Road

I_{max}:645.36

| | |
|--------------------------------|---|
| (10%I _{max}) 64.5361 |  |
| (20%I _{max}) 129.072 |  |
| (30%I _{max}) 193.608 |  |
| (40%I _{max}) 258.144 |  |
| (50%I _{max}) 322.681 |  |
| (60%I _{max}) 387.217 |  |
| (70%I _{max}) 451.753 |  |
| (80%I _{max}) 516.289 |  |
| (90%I _{max}) 580.825 |  |

Intensity data(cd)

| | | | | | | | | | |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| C/ γ (°) | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 |
| 0.0 | 632.55 | 623.33 | 597.79 | 573.08 | 543.43 | 521.60 | 497.30 | 466.00 | 429.55 |
| 45.0 | 632.55 | 612.21 | 592.65 | 579.05 | 561.96 | 536.63 | 507.19 | 473.21 | 434.09 |
| 90.0 | 632.55 | 641.04 | 623.33 | 583.58 | 552.70 | 535.40 | 509.25 | 478.15 | 440.26 |
| 135.0 | 632.55 | 632.80 | 612.62 | 584.61 | 569.17 | 545.49 | 517.07 | 483.30 | 447.26 |
| 180.0 | 632.55 | 630.54 | 622.71 | 597.18 | 557.23 | 530.25 | 508.01 | 473.62 | 439.44 |
| 225.0 | 632.55 | 629.09 | 625.39 | 592.65 | 575.76 | 558.26 | 529.02 | 497.92 | 462.50 |
| 270.0 | 632.55 | 645.36 | 636.10 | 599.24 | 559.49 | 535.19 | 512.54 | 483.51 | 446.23 |
| 315.0 | 632.55 | 637.33 | 613.24 | 589.14 | 576.79 | 554.14 | 526.34 | 492.98 | 457.15 |
| 360.0 | 632.55 | 623.33 | 597.79 | 573.08 | 543.43 | 521.60 | 497.30 | 466.00 | 429.55 |
| C/ γ (°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 391.67 | 348.83 | 314.86 | 268.52 | 234.55 | 198.92 | 166.80 | 137.14 | 98.23 |
| 45.0 | 392.28 | 347.60 | 303.94 | 263.58 | 229.19 | 193.98 | 159.18 | 130.56 | 102.76 |
| 90.0 | 400.31 | 353.98 | 314.86 | 276.76 | 240.11 | 203.25 | 170.71 | 142.09 | 112.23 |
| 135.0 | 405.87 | 364.07 | 322.48 | 283.35 | 248.96 | 211.89 | 178.12 | 144.76 | 114.08 |
| 180.0 | 401.96 | 357.69 | 322.89 | 277.38 | 240.31 | 205.31 | 172.15 | 142.70 | 113.46 |
| 225.0 | 423.58 | 383.63 | 339.98 | 296.32 | 259.26 | 223.43 | 188.42 | 156.09 | 124.58 |
| 270.0 | 406.08 | 362.01 | 325.36 | 280.06 | 244.84 | 207.98 | 174.62 | 146.82 | 102.55 |
| 315.0 | 416.99 | 373.34 | 329.27 | 287.06 | 251.84 | 214.57 | 179.15 | 146.62 | 117.17 |
| 360.0 | 391.67 | 348.83 | 314.86 | 268.52 | 234.55 | 198.92 | 166.80 | 137.14 | 98.23 |
| C/ γ (°) | 90.0 | 95.0 | 100.0 | 105.0 | 110.0 | 115.0 | 120.0 | 125.0 | 130.0 |
| 0.0 | 89.58 | 60.54 | 42.21 | 28.21 | 20.39 | 16.27 | 12.56 | 9.47 | 8.03 |
| 45.0 | 78.25 | 57.66 | 38.71 | 22.86 | 13.18 | 6.59 | 4.94 | 8.24 | 6.59 |
| 90.0 | 98.43 | 64.25 | 45.92 | 30.48 | 17.92 | 9.68 | 12.97 | 12.36 | 10.91 |
| 135.0 | 86.90 | 64.66 | 45.10 | 28.42 | 17.50 | 12.56 | 7.62 | 5.56 | 7.62 |
| 180.0 | 97.40 | 72.49 | 50.86 | 34.39 | 23.06 | 17.71 | 15.03 | 13.59 | 9.27 |
| 225.0 | 96.37 | 72.07 | 50.86 | 33.15 | 19.36 | 12.15 | 4.32 | 8.03 | 7.62 |
| 270.0 | 100.70 | 67.95 | 45.92 | 28.62 | 16.27 | 16.68 | 15.44 | 13.80 | 12.97 |
| 315.0 | 91.64 | 69.40 | 49.22 | 32.95 | 18.33 | 10.50 | 6.18 | 8.03 | 7.41 |
| 360.0 | 89.58 | 60.54 | 42.21 | 28.21 | 20.39 | 16.27 | 12.56 | 9.47 | 8.03 |
| C/ γ (°) | 135.0 | 140.0 | 145.0 | 150.0 | 155.0 | 160.0 | 165.0 | 170.0 | 175.0 |
| 0.0 | 6.18 | 5.77 | 7.41 | 6.80 | 5.97 | 5.56 | 4.12 | 1.65 | 0.62 |
| 45.0 | 5.56 | 4.74 | 4.32 | 3.71 | 2.88 | 1.85 | 1.65 | 1.03 | 0.82 |
| 90.0 | 10.50 | 10.09 | 9.27 | 8.44 | 7.21 | 6.80 | 6.18 | 4.53 | 0.82 |
| 135.0 | 6.59 | 5.56 | 4.74 | 3.50 | 2.88 | 2.27 | 1.85 | 1.24 | 0.82 |
| 180.0 | 9.27 | 5.15 | 5.15 | 6.18 | 6.80 | 7.00 | 5.56 | 1.65 | 1.03 |
| 225.0 | 6.59 | 5.97 | 4.94 | 4.32 | 3.71 | 2.68 | 1.65 | 1.44 | 1.03 |
| 270.0 | 12.77 | 11.53 | 10.71 | 8.86 | 7.62 | 5.77 | 3.50 | 1.85 | 1.44 |
| 315.0 | 6.18 | 5.56 | 4.32 | 3.50 | 3.09 | 2.47 | 1.65 | 1.24 | 0.62 |
| 360.0 | 6.18 | 5.77 | 7.41 | 6.80 | 5.97 | 5.56 | 4.12 | 1.65 | 0.62 |
| C/ γ (°) | 180.0 | | | | | | | | |
| 0.0 | 0.92 | | | | | | | | |
| 45.0 | 0.92 | | | | | | | | |
| 90.0 | 0.92 | | | | | | | | |
| 135.0 | 0.92 | | | | | | | | |
| 180.0 | 0.92 | | | | | | | | |
| 225.0 | 0.92 | | | | | | | | |
| 270.0 | 0.92 | | | | | | | | |
| 315.0 | 0.92 | | | | | | | | |
| 360.0 | 0.92 | | | | | | | | |