
Nata

| | |
|-------------------------|---------------------|
| LumCAT: 1405-N | |
| Luminaire: 92.70.064.00 | |
| Report No: NT2018040922 | Voltage(V): 26.4000 |
| Test No: nata-0100 | Current(A): 0.3500 |
| LampCAT: BRIDGELUX V10 | Power (W): 9.2400 |
| Lamp flux(lm): 925.0 | PF: 0.0000 |
| Number of Lamps: 1 | Ballast type: DC |
| Length(mm): 39 | Width(mm): 39 |
| Phm Type: C | Height(mm): 0 |

Photometric Results

Lumens(lm): 760.45
Efficiency(%): 82.21%
Lumens(lm)/Power(W): 82.30
Central intensity(cd): 1548.048
Maximum intensity(cd): 1548.048
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=26.7
[C90/270]Total=26.7
Field angle(10%Imax): [C0/180]Total=80.4
[C90/270]Total=80.4
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.51 C90_270=0.51
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.13%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.048%

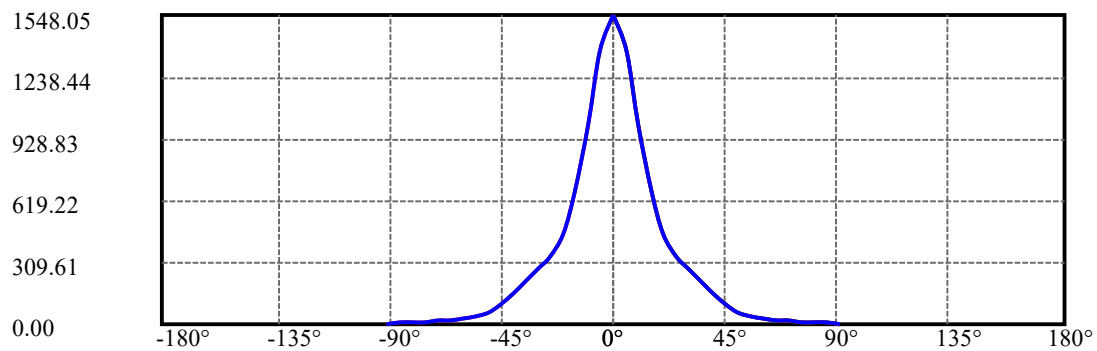
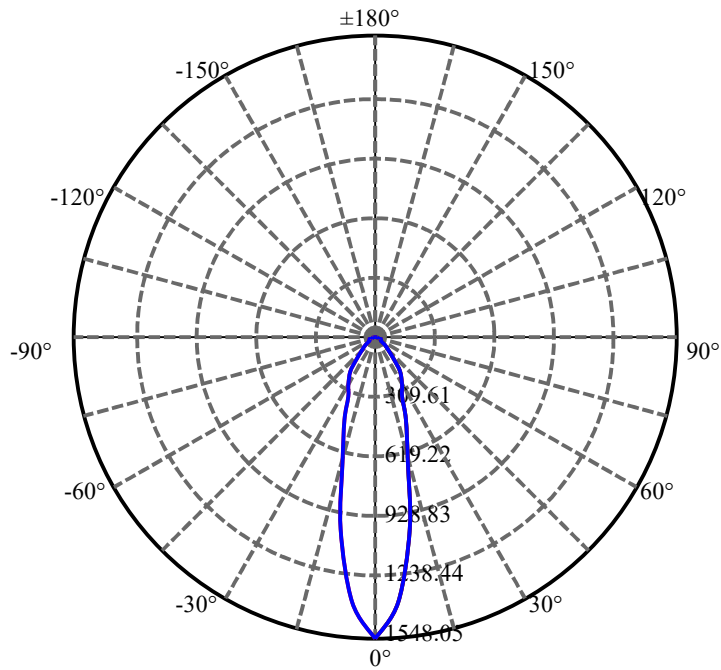
| $\gamma(^{\circ})$ | Average I(cd) | Zonal F(lm) | Sum F(lm) | Eff Flux(%) | Eff Sum(%) |
|--------------------|---------------|-------------|-----------|-------------|------------|
| 0.0 | 1548.048 | 9.258 | 9.258 | 1.001% | 1.217% |
| 5.0 | 1364.711 | 65.197 | 74.454 | 7.048% | 9.791% |
| 10.0 | 1002.956 | 95.464 | 169.919 | 10.320% | 22.344% |
| 15.0 | 662.129 | 93.935 | 263.854 | 10.155% | 34.697% |
| 20.0 | 449.659 | 84.299 | 348.153 | 9.113% | 45.782% |
| 25.0 | 338.205 | 78.346 | 426.499 | 8.470% | 56.085% |
| 30.0 | 280.760 | 76.948 | 503.447 | 8.319% | 66.204% |
| 35.0 | 215.229 | 67.668 | 571.115 | 7.315% | 75.102% |
| 40.0 | 157.262 | 55.409 | 626.524 | 5.990% | 82.388% |
| 45.0 | 100.519 | 38.960 | 665.484 | 4.212% | 87.512% |
| 50.0 | 62.455 | 26.225 | 691.709 | 2.835% | 90.960% |
| 55.0 | 40.074 | 17.994 | 709.702 | 1.945% | 93.326% |
| 60.0 | 28.471 | 13.515 | 723.218 | 1.461% | 95.104% |
| 65.0 | 21.073 | 10.469 | 733.686 | 1.132% | 96.480% |
| 70.0 | 16.262 | 8.376 | 742.063 | .906% | 97.582% |
| 75.0 | 13.916 | 7.368 | 749.43 | .797% | 98.551% |
| 80.0 | 11.837 | 6.390 | 755.82 | .691% | 99.391% |
| 85.0 | 6.937 | 3.788 | 759.608 | .410% | 99.889% |
| 90.0 | 3.076 | 0.843 | 760.451 | .091% | 100.000% |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Lamp | %Fixt |
|---------|--------|--------|---------|
| 0-30 | 503.45 | 54.43% | 66.20% |
| 0-40 | 626.52 | 67.73% | 82.39% |
| 0-60 | 723.22 | 78.19% | 95.10% |
| 0-90 | 759.61 | 82.12% | 99.89% |
| 0-120 | 759.61 | 82.12% | 99.89% |
| 0-180 | 760.45 | 82.21% | 100.00% |
| 60-90 | 49.91 | 5.40% | 6.56% |
| 90-120 | 0.00 | 0.00% | 0.00% |
| 90-130 | 0.00 | 0.00% | 0.00% |
| 90-150 | 0.00 | 0.00% | 0.00% |
| 90-180 | 0.00 | 0.00% | 0.00% |
| 0-38.36 | 608.36 | 65.77% | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 169.92 |
| 10-20 | 178.23 |
| 20-30 | 155.29 |
| 30-40 | 123.08 |
| 40-50 | 65.18 |
| 50-60 | 31.51 |
| 60-70 | 18.84 |
| 70-80 | 13.76 |
| 80-90 | 3.79 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |



C0(Max):

C0/C180:

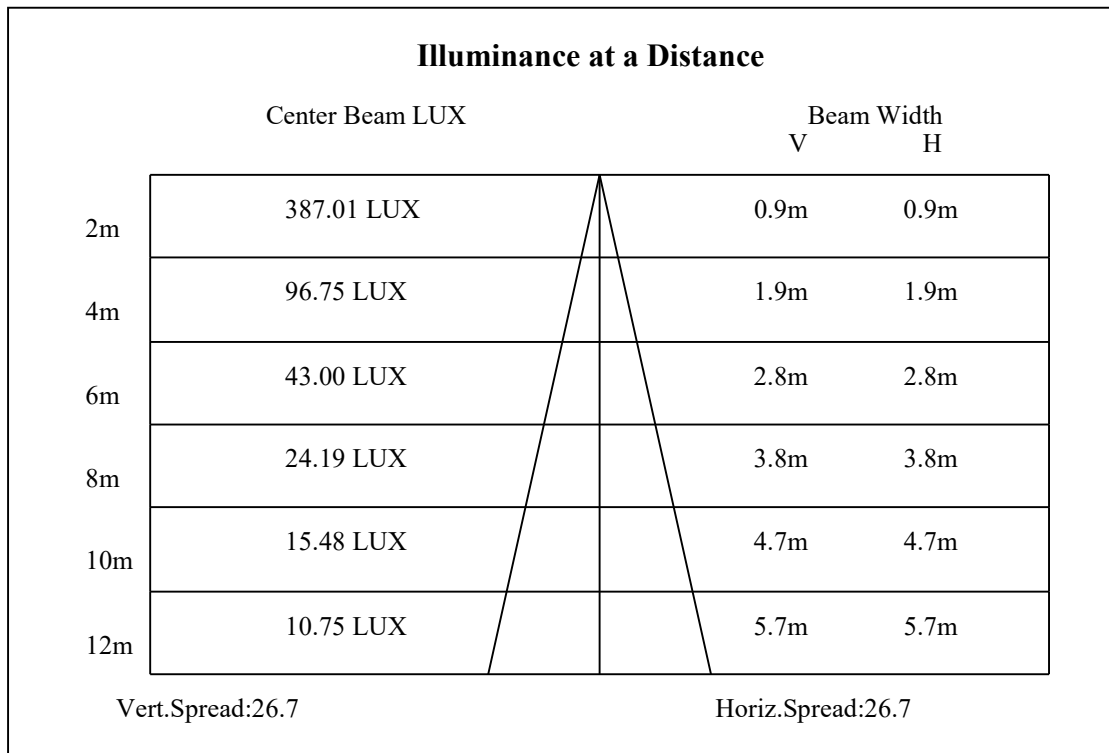
C90/C270:

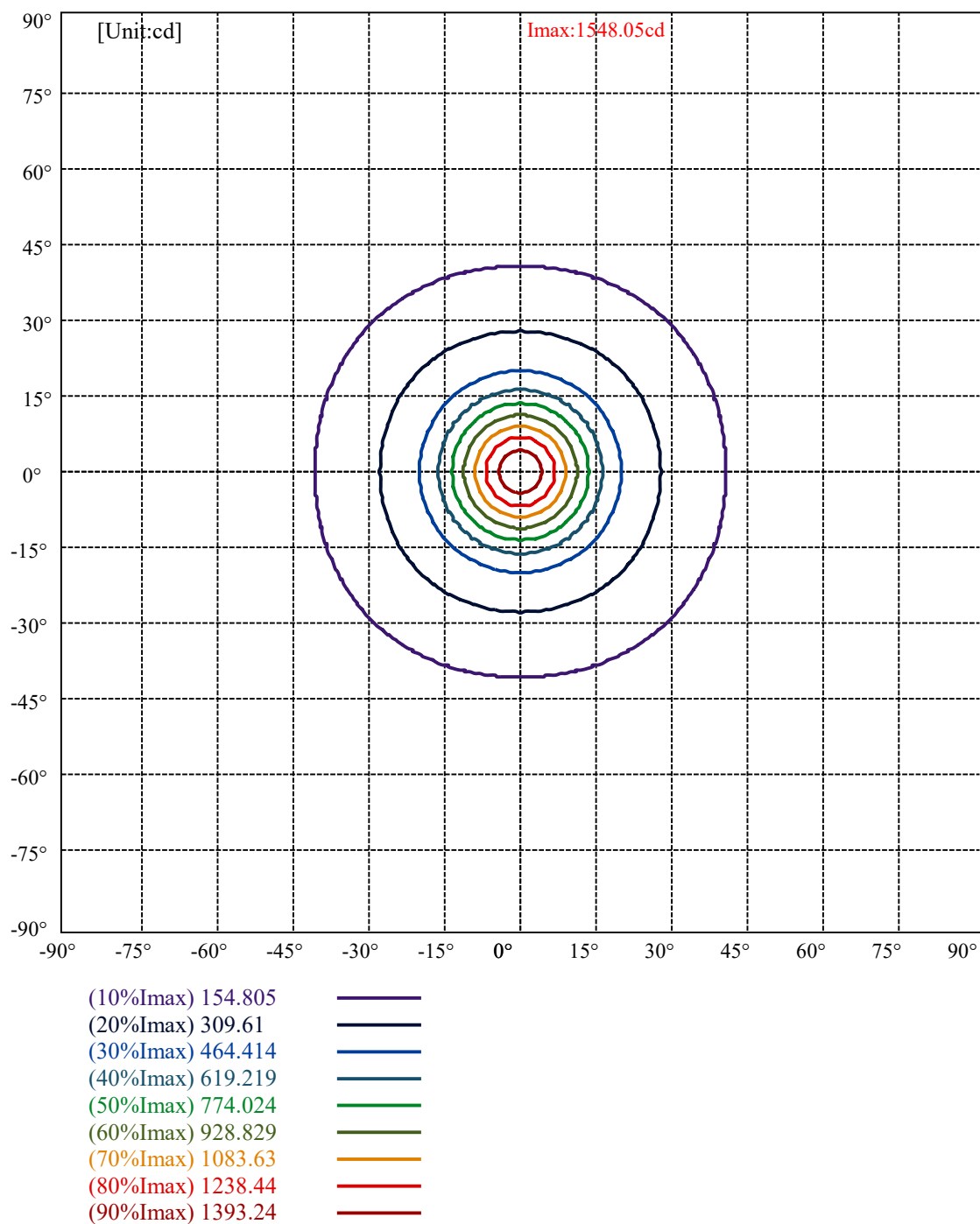
Field angle(10%Imax):C0/180Left:40.2 Right:40.2

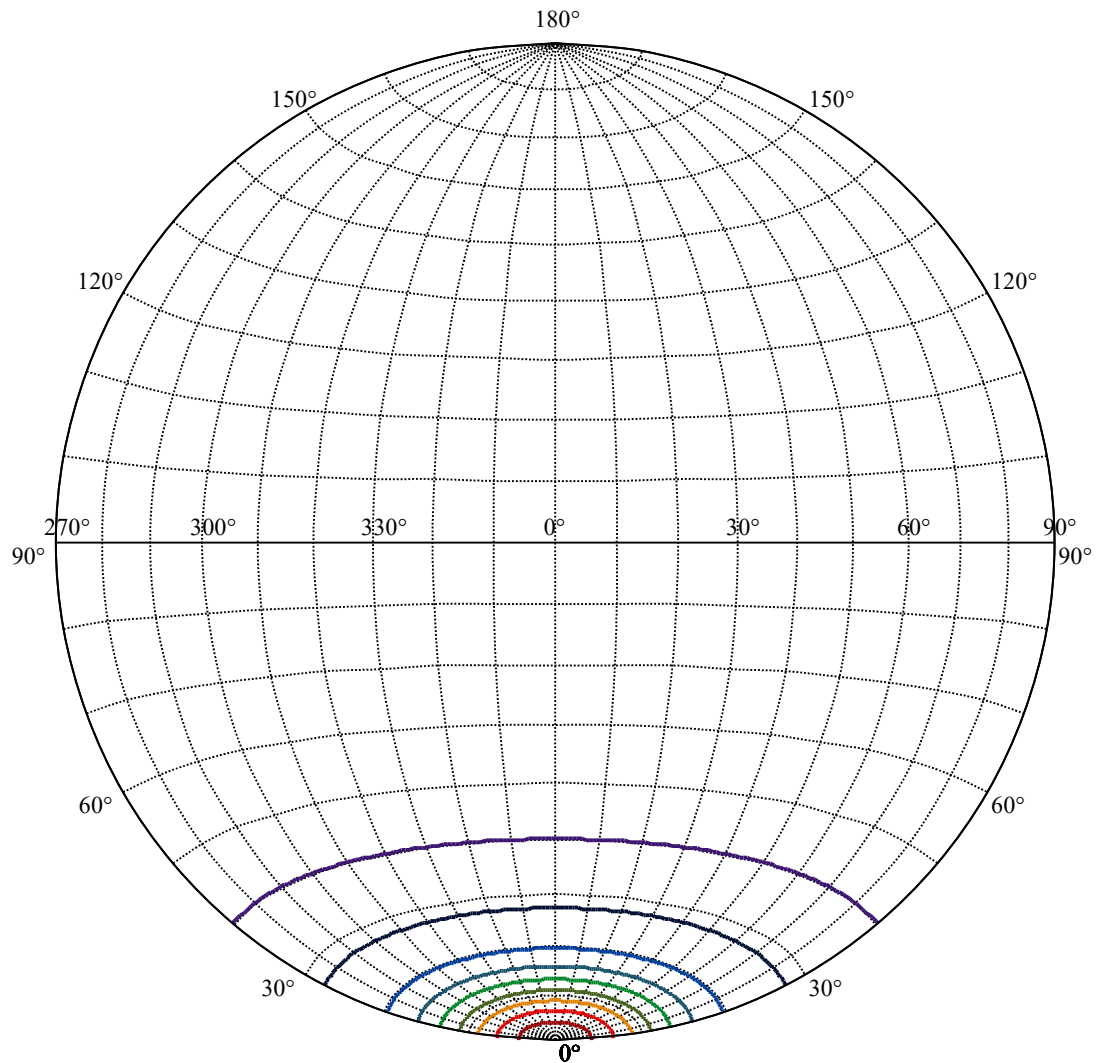
:C90/270Left:40.2 Right:40.2

Beam Angle(50%Imax):C0/180Left:13.4 Right:13.4

:C90/270Left:13.4 Right:13.4





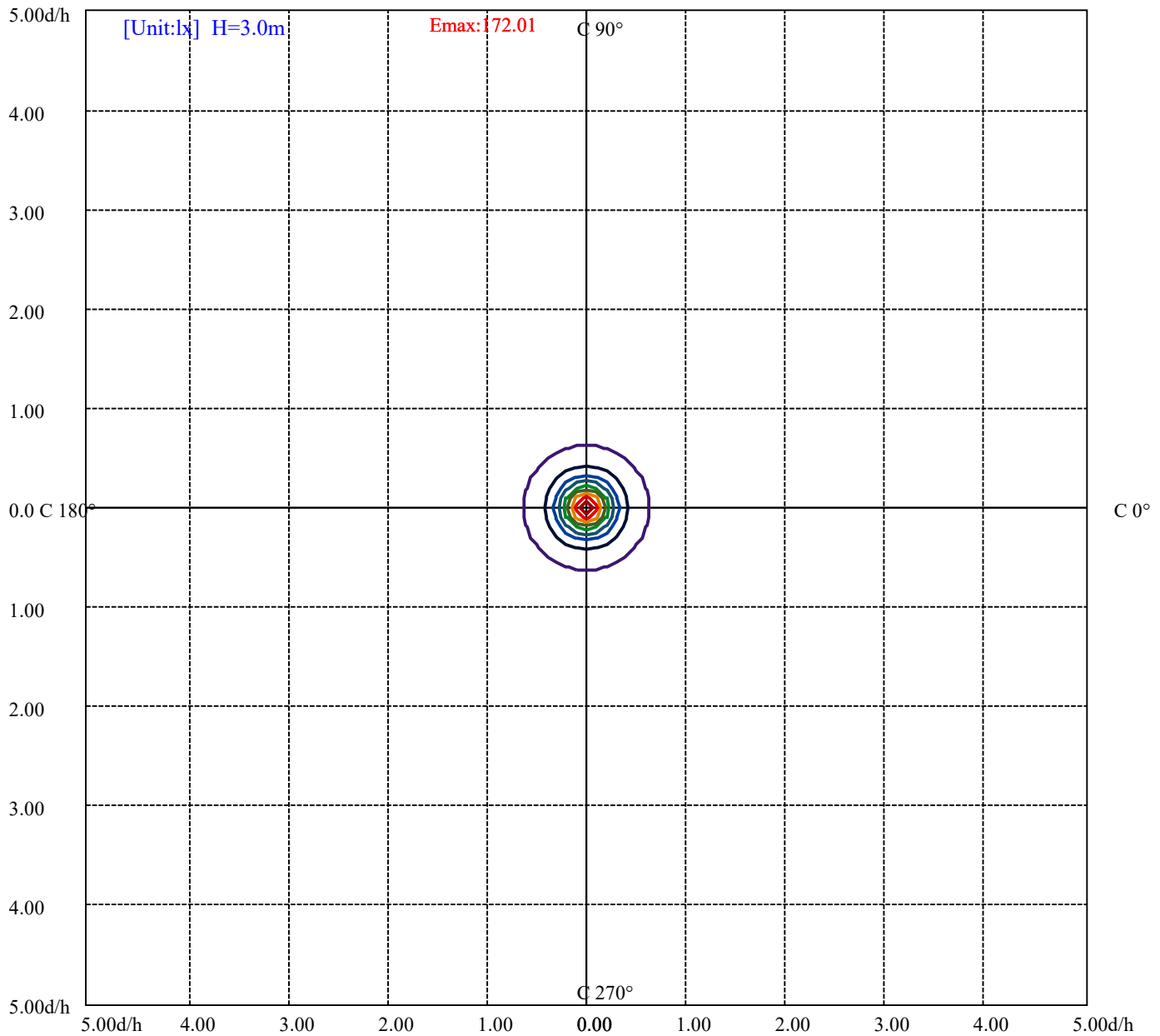


House

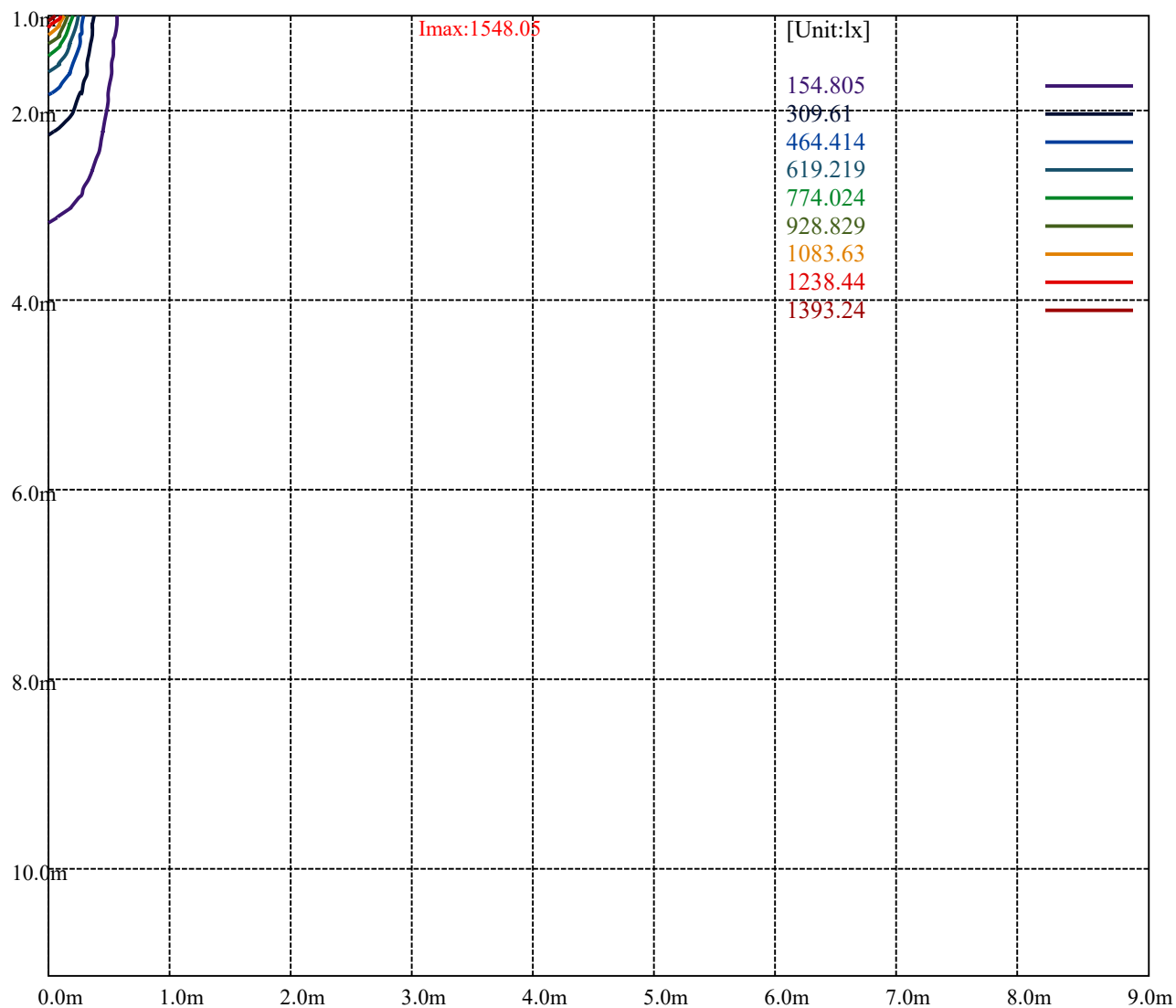
[Unit:cd]

Road

I_{max}:1548.05(10%I_{max}) 154.805(20%I_{max}) 309.61(30%I_{max}) 464.414(40%I_{max}) 619.219(50%I_{max}) 774.024(60%I_{max}) 928.829(70%I_{max}) 1083.63(80%I_{max}) 1238.44(90%I_{max}) 1393.24



| | | |
|-----------|----------|---|
| (10%Emax) | 17.20045 | — |
| (20%Emax) | 34.401 | — |
| (30%Emax) | 51.60144 | — |
| (40%Emax) | 68.80189 | — |
| (50%Emax) | 86.00233 | — |
| (60%Emax) | 103.2029 | — |
| (70%Emax) | 120.4033 | — |
| (80%Emax) | 137.6033 | — |
| (90%Emax) | 154.8044 | — |



Luminance Table

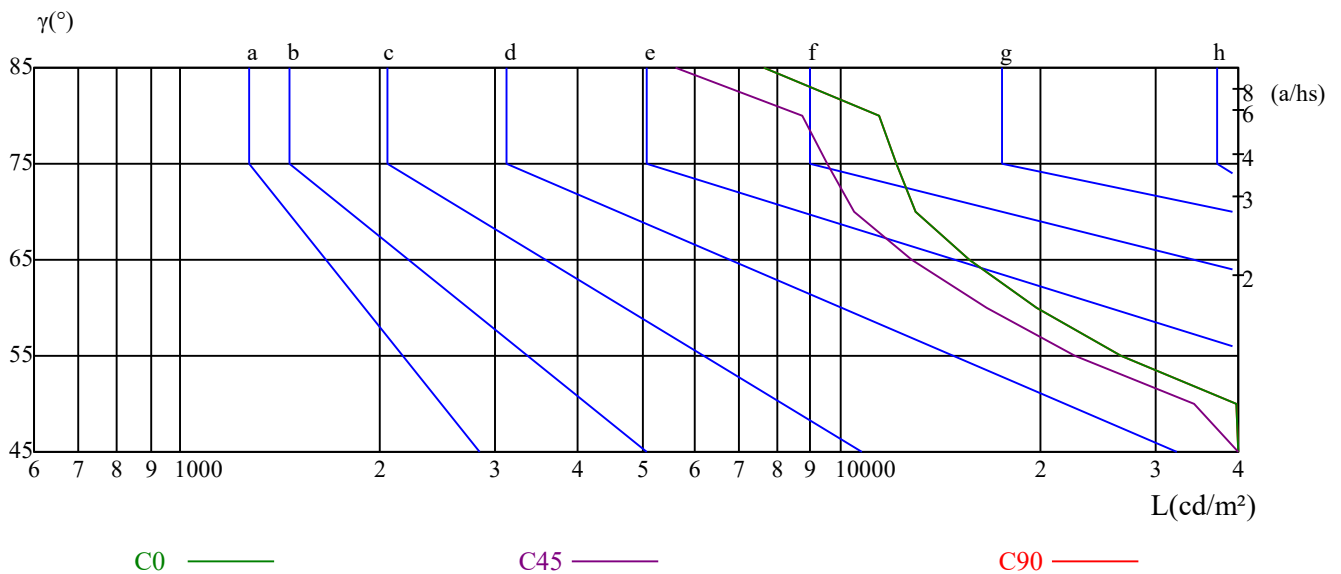
| γ | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| C0 | 61780 | 39649 | 26516 | 19827 | 15613 | 12977 | 12131 | 11467 | 7627 |
| C45 | 54173 | 34265 | 22564 | 16593 | 12829 | 10446 | 9537 | 8765 | 5633 |
| C90 | 61780 | 39649 | 26516 | 19827 | 15613 | 12977 | 12131 | 11467 | 7627 |

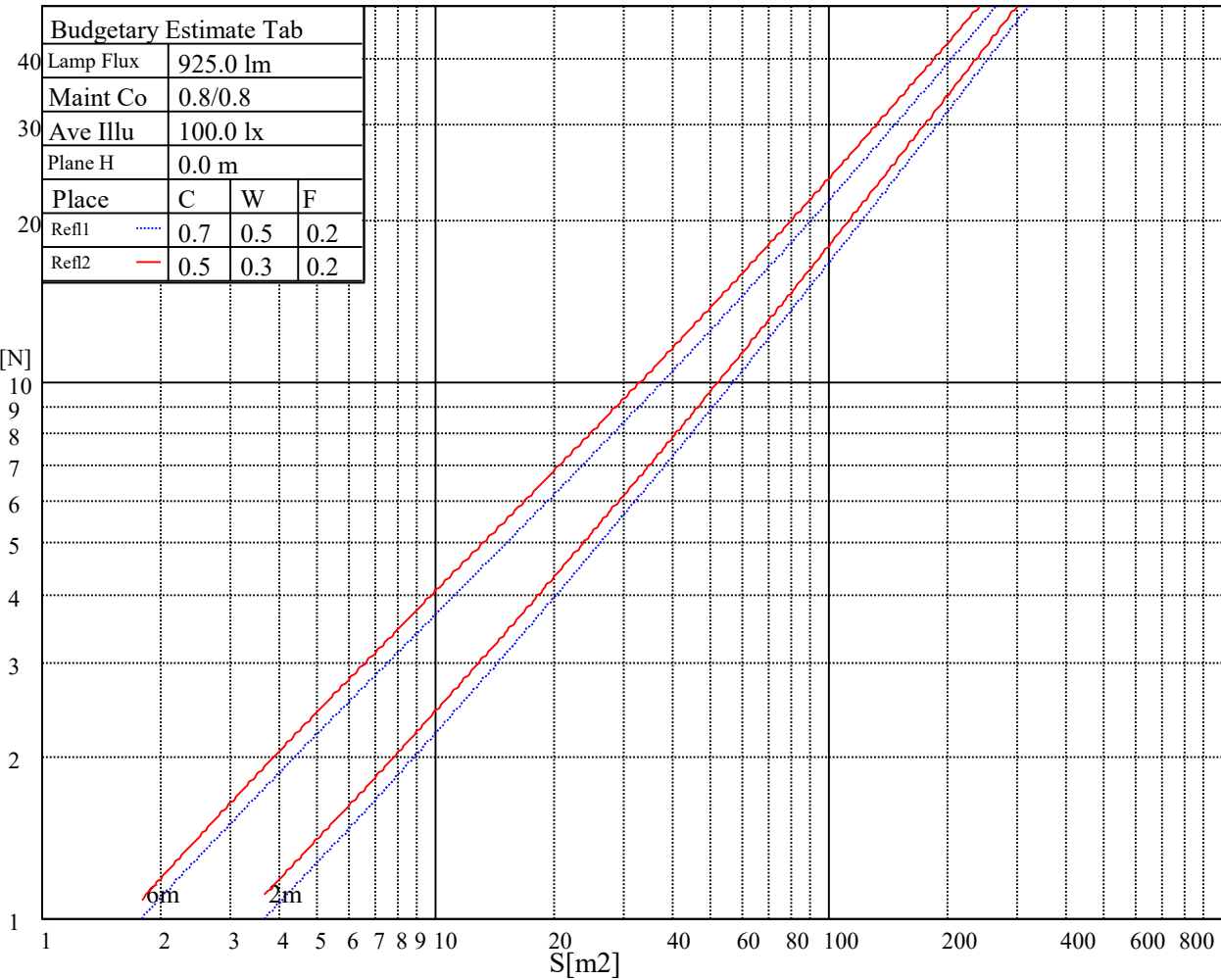
| L(Hor)(65) | L(Ver)(65) | L45(65) | L(Hor)(75) | L(Ver)(75) | L45(75) | L(Hor)(85) | L(Ver)(85) | L45(85) |
|------------|------------|---------|------------|------------|---------|------------|------------|---------|
| 32783 | 32783 | 32783 | 35349 | 35349 | 35349 | 52330 | 52330 | 52330 |

Glare Table

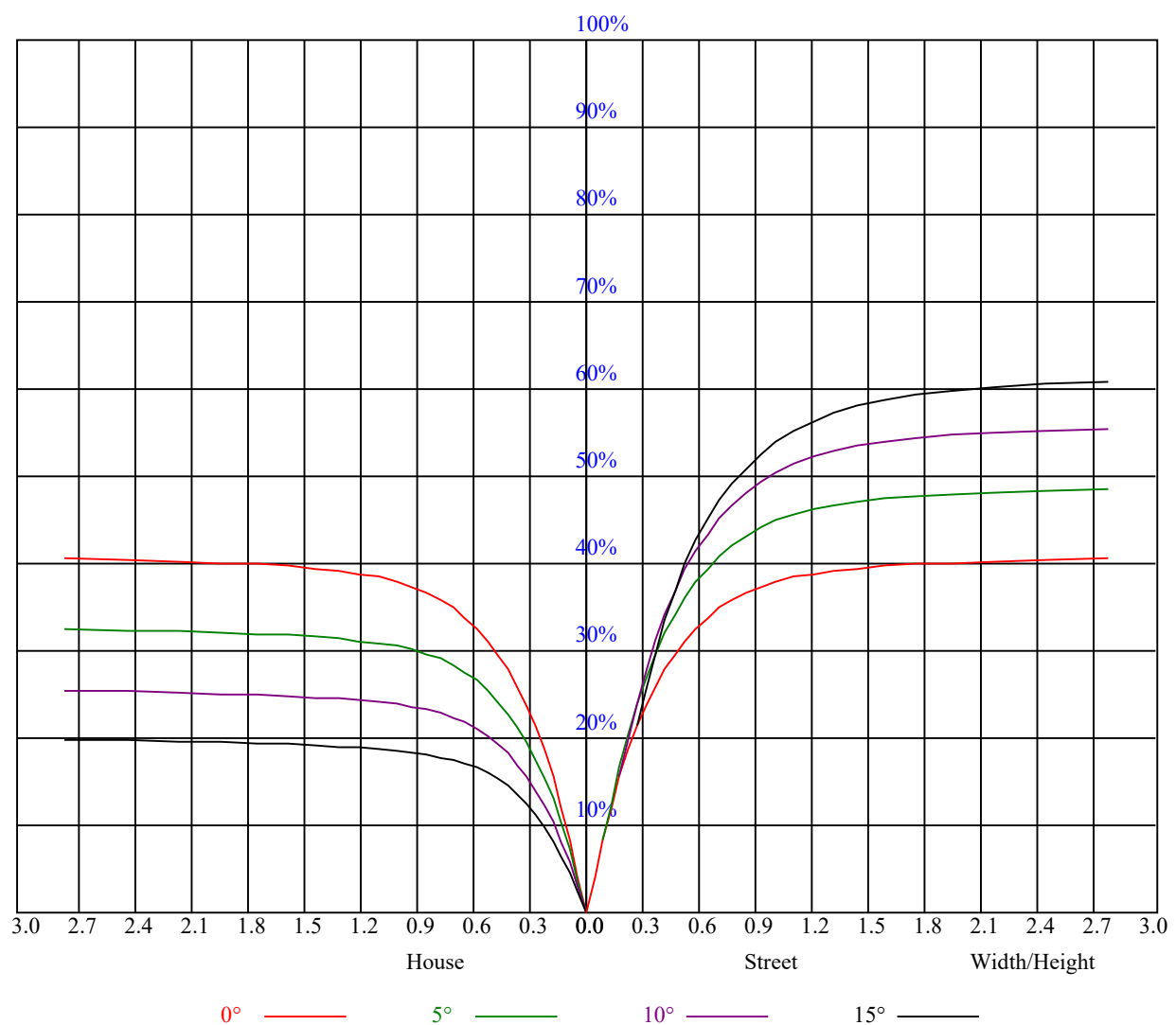
| Glare | Quality | Service Values Illuminance(lx) | | | | | | | |
|-------|---------|--------------------------------|------|------|------------|------------|------------|------------|------------|
| 1.15 | A | 2000 | 1000 | 500 | ≤ 300 | | | | |
| 1.5 | B | | 2000 | 1000 | 500 | ≤ 300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | ≤ 300 | | |
| 2.2 | D | | | | 2000 | 1000 | 500 | ≤ 300 | |
| 2.55 | E | | | | | 2000 | 1000 | 500 | ≤ 300 |
| | | a | b | c | d | e | f | g | h |

Luminance Limiting Curve





| RHOC | 80 | | | 70 | | | 50 | | | 30 | | | 10 | | | 0 |
|------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RHOW | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | COEFFICIENTS OF UTILIZATION RHOFC=20 CU | | | | | | | | | | | | | | | |
| 0 | 0.99 | 0.99 | 0.99 | 0.97 | 0.97 | 0.97 | 0.92 | 0.92 | 0.92 | 0.88 | 0.88 | 0.88 | 0.85 | 0.85 | 0.85 | 0.83 |
| 1 | 0.90 | 0.87 | 0.85 | 0.88 | 0.86 | 0.84 | 0.85 | 0.83 | 0.81 | 0.82 | 0.80 | 0.79 | 0.79 | 0.78 | 0.76 | 0.75 |
| 2 | 0.83 | 0.79 | 0.76 | 0.82 | 0.78 | 0.75 | 0.79 | 0.76 | 0.74 | 0.77 | 0.74 | 0.72 | 0.74 | 0.72 | 0.71 | 0.69 |
| 3 | 0.77 | 0.73 | 0.69 | 0.76 | 0.72 | 0.69 | 0.74 | 0.70 | 0.68 | 0.72 | 0.69 | 0.66 | 0.70 | 0.68 | 0.65 | 0.64 |
| 4 | 0.72 | 0.67 | 0.64 | 0.71 | 0.67 | 0.63 | 0.70 | 0.66 | 0.62 | 0.68 | 0.64 | 0.62 | 0.66 | 0.63 | 0.61 | 0.60 |
| 5 | 0.68 | 0.63 | 0.59 | 0.67 | 0.62 | 0.59 | 0.66 | 0.61 | 0.58 | 0.64 | 0.61 | 0.58 | 0.63 | 0.60 | 0.57 | 0.56 |
| 6 | 0.64 | 0.59 | 0.55 | 0.63 | 0.58 | 0.55 | 0.62 | 0.58 | 0.55 | 0.61 | 0.57 | 0.54 | 0.60 | 0.56 | 0.54 | 0.53 |
| 7 | 0.61 | 0.55 | 0.52 | 0.60 | 0.55 | 0.52 | 0.59 | 0.55 | 0.51 | 0.58 | 0.54 | 0.51 | 0.57 | 0.53 | 0.51 | 0.50 |
| 8 | 0.57 | 0.52 | 0.49 | 0.57 | 0.52 | 0.49 | 0.56 | 0.52 | 0.49 | 0.55 | 0.51 | 0.48 | 0.54 | 0.51 | 0.48 | 0.47 |
| 9 | 0.55 | 0.50 | 0.46 | 0.54 | 0.50 | 0.46 | 0.53 | 0.49 | 0.46 | 0.53 | 0.49 | 0.46 | 0.52 | 0.48 | 0.46 | 0.45 |
| 10 | 0.52 | 0.47 | 0.44 | 0.52 | 0.47 | 0.44 | 0.51 | 0.47 | 0.44 | 0.51 | 0.47 | 0.44 | 0.50 | 0.46 | 0.44 | 0.43 |



Nata 1405-N

| Intensity data(cd) | | | | | | | | | | Appendix Page: 14 Total:14 | |
|--------------------|---------|---------|---------|--------|--------|--------|--------|--------|--------|----------------------------|--|
| C/γ(°) | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 | | |
| 0.0 | 1558.10 | 1305.94 | 888.61 | 571.49 | 405.22 | 319.88 | 279.14 | 198.20 | 139.57 | | |
| 45.0 | 1556.99 | 1293.27 | 903.48 | 585.25 | 406.87 | 312.72 | 279.14 | 198.26 | 142.71 | | |
| 90.0 | 1544.33 | 1328.51 | 954.07 | 599.73 | 409.51 | 316.85 | 259.87 | 203.21 | 146.95 | | |
| 135.0 | 1532.77 | 1523.96 | 1225.56 | 802.72 | 516.43 | 374.38 | 301.71 | 242.85 | 190.05 | | |
| 180.0 | 1558.10 | 1534.97 | 1095.90 | 813.79 | 525.18 | 373.94 | 302.42 | 241.97 | 181.80 | | |
| 225.0 | 1556.99 | 1467.80 | 1092.37 | 705.88 | 484.00 | 358.31 | 291.85 | 234.98 | 173.54 | | |
| 270.0 | 1544.33 | 1375.86 | 1004.78 | 662.88 | 452.56 | 340.25 | 279.69 | 218.85 | 157.79 | | |
| 315.0 | 1532.77 | 1087.36 | 858.88 | 555.30 | 397.51 | 309.31 | 252.27 | 183.50 | 125.69 | | |
| 360.0 | 1558.10 | 1305.94 | 888.61 | 571.49 | 405.22 | 319.88 | 279.14 | 198.20 | 139.57 | | |
| C/γ(°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 | | |
| 0.0 | 86.93 | 54.07 | 35.46 | 25.38 | 18.88 | 14.76 | 12.72 | 8.15 | 6.11 | | |
| 45.0 | 85.83 | 54.89 | 35.07 | 25.27 | 19.21 | 14.65 | 11.01 | 7.27 | 4.84 | | |
| 90.0 | 91.06 | 56.82 | 36.78 | 27.14 | 20.32 | 15.80 | 15.36 | 11.67 | 7.21 | | |
| 135.0 | 127.24 | 80.49 | 50.93 | 34.25 | 24.22 | 18.44 | 16.63 | 16.85 | 8.59 | | |
| 180.0 | 121.23 | 74.77 | 45.59 | 31.05 | 23.34 | 18.00 | 16.19 | 16.85 | 8.09 | | |
| 225.0 | 111.32 | 66.07 | 43.66 | 30.56 | 22.46 | 17.51 | 14.26 | 13.21 | 7.49 | | |
| 270.0 | 103.01 | 63.92 | 40.74 | 29.90 | 21.64 | 16.63 | 12.88 | 12.72 | 6.77 | | |
| 315.0 | 77.52 | 48.61 | 32.37 | 24.22 | 18.50 | 14.31 | 12.28 | 7.98 | 6.39 | | |
| 360.0 | 86.93 | 54.07 | 35.46 | 25.38 | 18.88 | 14.76 | 12.72 | 8.15 | 6.11 | | |
| C/γ(°) | 90.0 | | | | | | | | | | |
| 0.0 | 2.97 | | | | | | | | | | |
| 45.0 | 2.97 | | | | | | | | | | |
| 90.0 | 2.97 | | | | | | | | | | |
| 135.0 | 3.30 | | | | | | | | | | |
| 180.0 | 3.19 | | | | | | | | | | |
| 225.0 | 3.19 | | | | | | | | | | |
| 270.0 | 3.03 | | | | | | | | | | |
| 315.0 | 2.97 | | | | | | | | | | |
| 360.0 | 2.97 | | | | | | | | | | |