

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

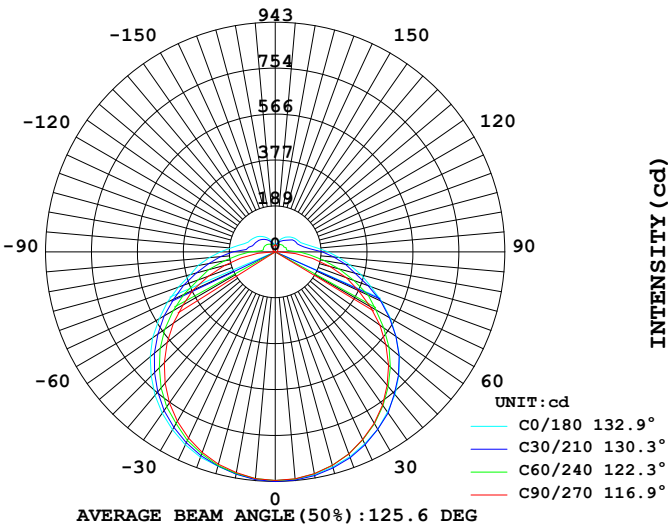
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

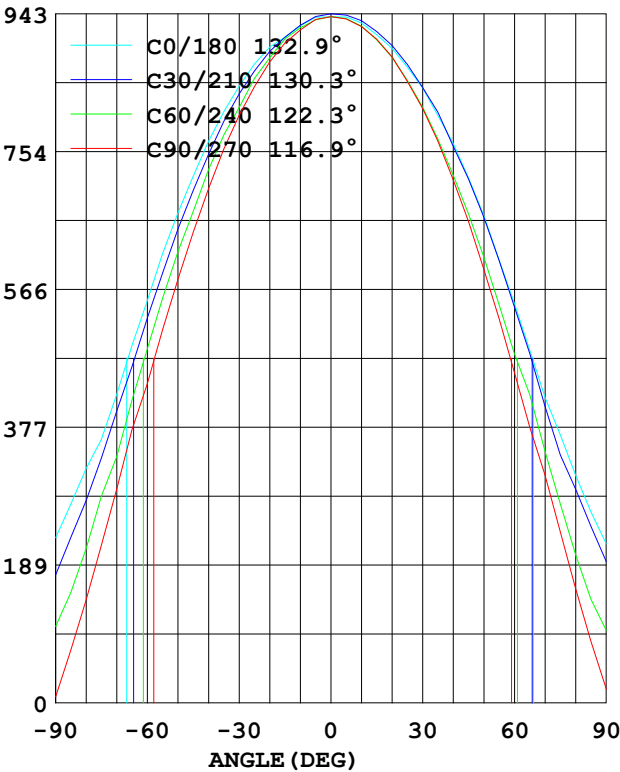
|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |

|                  |        |                    |        |                  |       |
|------------------|--------|--------------------|--------|------------------|-------|
| DATA OF LAMP     |        | Imax(cd)           | 942.9  | S/MH(C0/180)     | 1.34  |
| MODEL            |        | EFFICIENCY(%)      | 100.0  | S/MH(C90/270)    | 1.27  |
| NOMINAL POWER(W) | 30     | TOTAL FLUX(lm)     | 3661.3 | Voltage(V)       | 220.1 |
| RATED VOLTAGE(V) | 220    | EFFICIENCY(lm/W)   | 125.3  | Current(A)       | 0.141 |
| NOMINAL FLUX(lm) | 3661.4 | $\eta$ up(%)       | 11.5   | Power(W)         | 29.21 |
| LAMPS QUANTITY   | 1      | $\eta$ down(%)     | 88.5   | Power Factor(PF) | 0.937 |
| TEST VOLTAGE(V)  | 220.1  | Effective Flux(lm) | 3433.1 | EEI              | 0.116 |

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

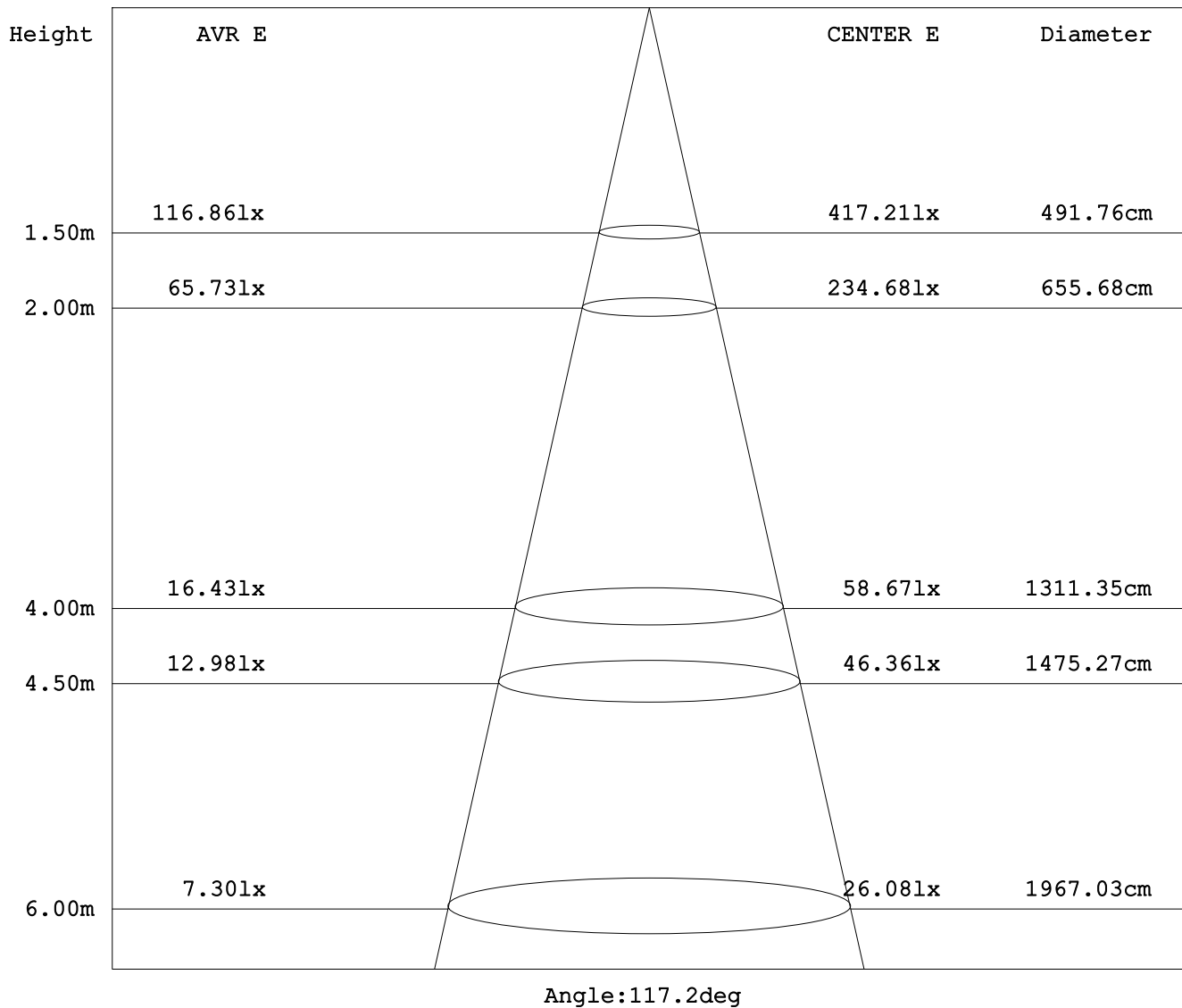
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AVERAGE AND CENTER E Figure

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |



Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity: 65.0%  
 Test Distance: 11.000 m  
 Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |

| γ     | C0                    | C45   | C90   | C135  | C180  | C225  | C270  | C315  | γ       | zone    | total |
|-------|-----------------------|-------|-------|-------|-------|-------|-------|-------|---------|---------|-------|
| 10.0  | 926.4                 | 925.4 | 920.6 | 928.1 | 930.1 | 929.6 | 925.2 | 926.9 | 0- 10   | 89.12   | 89.12 |
| 20.0  | 897.3                 | 887.0 | 876.8 | 891.1 | 895.5 | 891.3 | 883.6 | 889.3 | 10- 20  | 257.3   | 346.4 |
| 30.0  | 843.7                 | 823.8 | 803.6 | 829.6 | 841.5 | 828.4 | 813.2 | 828.4 | 20- 30  | 397.1   | 743.6 |
| 40.0  | 768.5                 | 740.0 | 703.4 | 744.6 | 765.3 | 741.7 | 715.4 | 743.9 | 30- 40  | 492.6   | 1236  |
| 50.0  | 670.3                 | 632.8 | 579.4 | 637.0 | 666.7 | 637.1 | 593.1 | 638.2 | 40- 50  | 532.1   | 1768  |
| 60.0  | 550.6                 | 505.6 | 437.0 | 509.2 | 546.5 | 509.7 | 452.1 | 511.0 | 50- 60  | 510.3   | 2279  |
| 70.0  | 422.5                 | 368.4 | 292.9 | 370.5 | 418.1 | 375.1 | 311.6 | 375.9 | 60- 70  | 434.6   | 2713  |
| 80.0  | 321.0                 | 244.2 | 141.3 | 251.6 | 311.6 | 247.8 | 156.6 | 251.7 | 70- 80  | 322.4   | 3036  |
| 90.0  | 225.9                 | 139.8 | 8.470 | 149.4 | 217.5 | 146.1 | 18.87 | 151.0 | 80- 90  | 205.4   | 3241  |
| 100.0 | 154.8                 | 80.34 | 2.299 | 87.36 | 146.6 | 83.91 | 7.502 | 88.20 | 90-100  | 112.4   | 3354  |
| 110.0 | 118.7                 | 71.63 | 5.566 | 74.77 | 111.6 | 72.53 | 9.679 | 77.31 | 100-110 | 79.63   | 3433  |
| 120.0 | 108.4                 | 67.82 | 8.591 | 67.15 | 102.1 | 66.12 | 12.22 | 73.20 | 110-120 | 67.00   | 3500  |
| 130.0 | 97.16                 | 62.31 | 12.94 | 60.74 | 92.56 | 58.92 | 14.52 | 66.61 | 120-130 | 56.12   | 3557  |
| 140.0 | 83.00                 | 54.51 | 16.69 | 50.88 | 80.34 | 50.33 | 17.90 | 58.07 | 130-140 | 43.25   | 3600  |
| 150.0 | 66.55                 | 45.07 | 20.32 | 42.59 | 66.30 | 43.43 | 20.57 | 47.79 | 140-150 | 30.39   | 3630  |
| 160.0 | 49.48                 | 35.99 | 24.32 | 35.45 | 50.45 | 36.29 | 23.83 | 37.99 | 150-160 | 18.83   | 3649  |
| 170.0 | 33.39                 | 30.43 | 26.86 | 29.22 | 34.96 | 29.34 | 27.46 | 31.27 | 160-170 | 9.487   | 3659  |
| 180.0 | 29.76                 | 28.25 | 28.43 | 28.43 | 29.40 | 28.25 | 29.40 | 28.25 | 170-180 | 2.784   | 3661  |
| DEG   | LUMINOUS INTENSITY:cd |       |       |       |       |       |       |       |         | UNIT:lm |       |

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

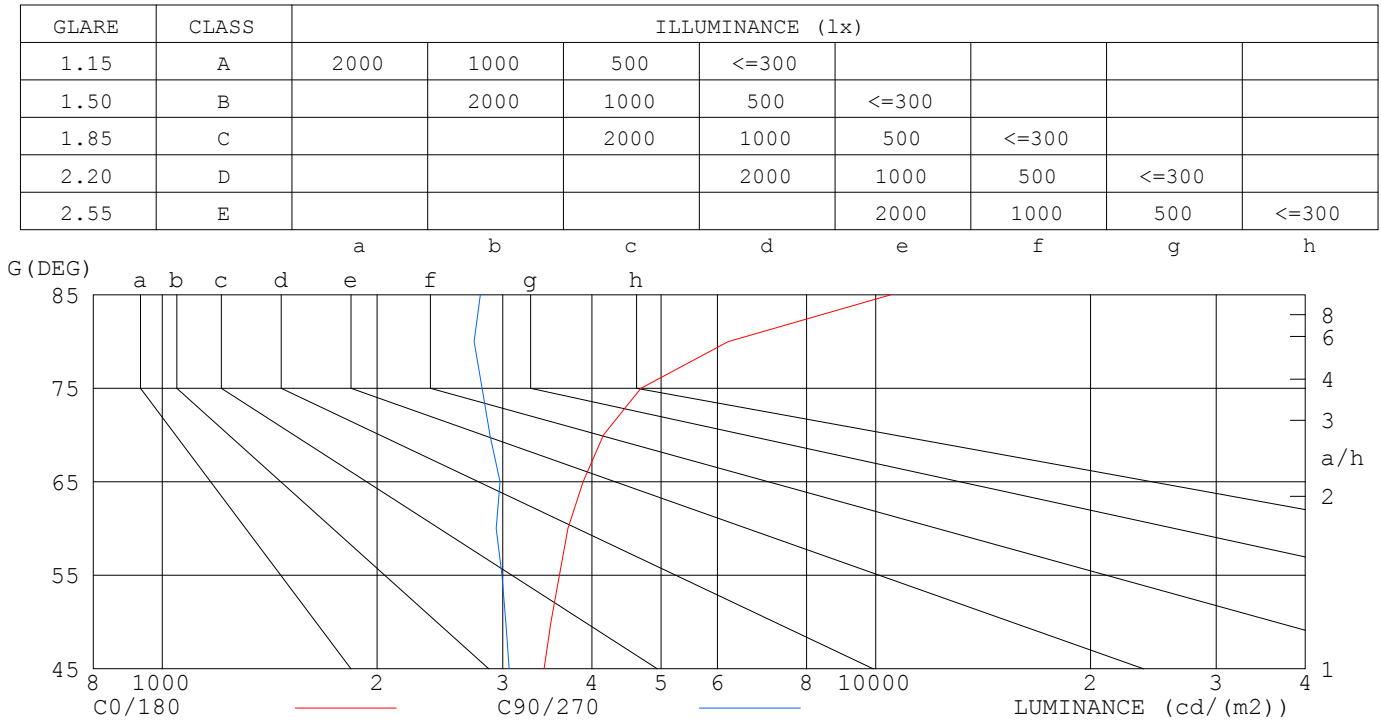
HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Report number:

|                      |  |                          |  |             |  |
|----------------------|--|--------------------------|--|-------------|--|
| MANUFACTURER:        |  |                          |  |             |  |
| Address:             |  |                          |  |             |  |
| NAME: 1.5M-30W-3000K |  | TYPE:                    |  | WEIGHT:     |  |
| SPECIFICATION:       |  | DIMENSION: 1500*152*52mm |  | SERIAL No.: |  |

LUMINANCE LIMITATION CURVES



| LUMINANCE cd/ (m2) |        |         |
|--------------------|--------|---------|
| G (DEG)            | C0/180 | C90/270 |
| 85                 | 10490  | 2790    |
| 80                 | 6213   | 2735    |
| 75                 | 4686   | 2806    |
| 70                 | 4152   | 2879    |
| 65                 | 3890   | 2973    |
| 60                 | 3702   | 2938    |
| 55                 | 3603   | 2992    |
| 50                 | 3505   | 3030    |
| 45                 | 3427   | 3063    |

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

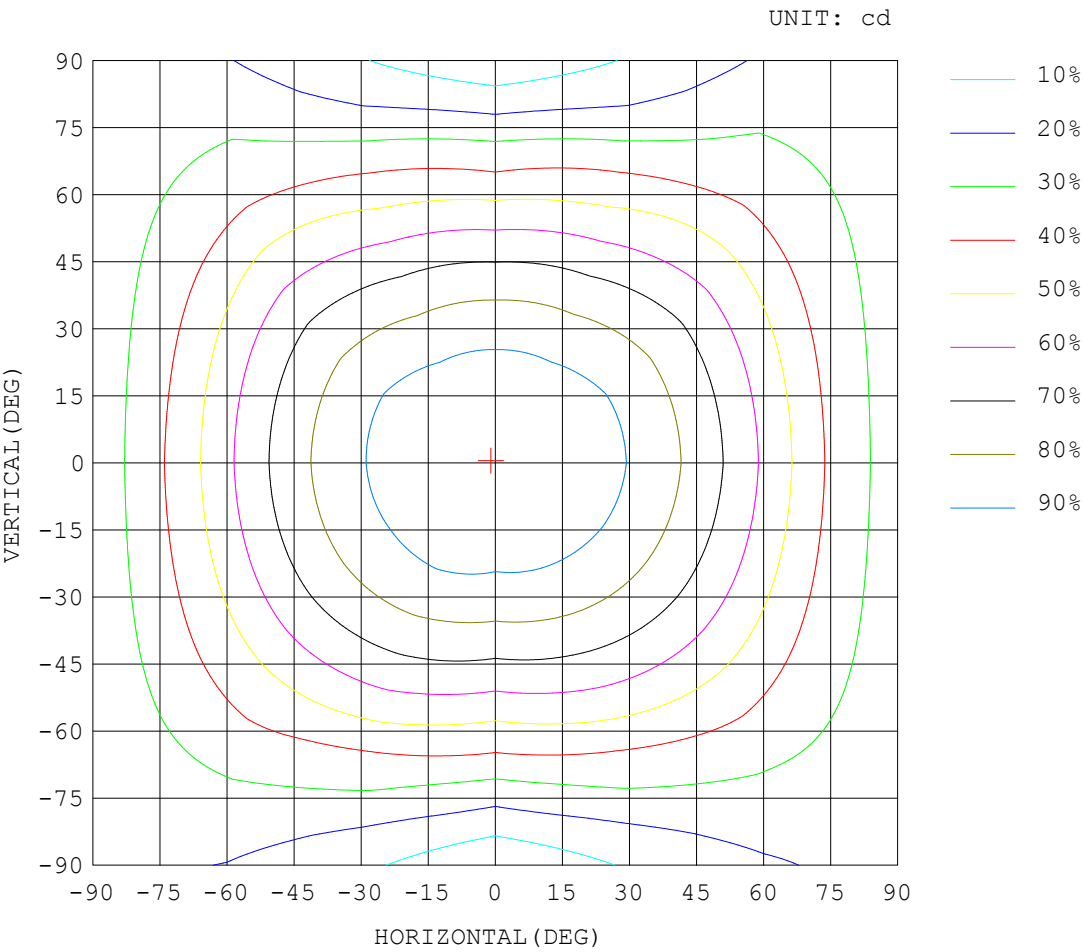
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

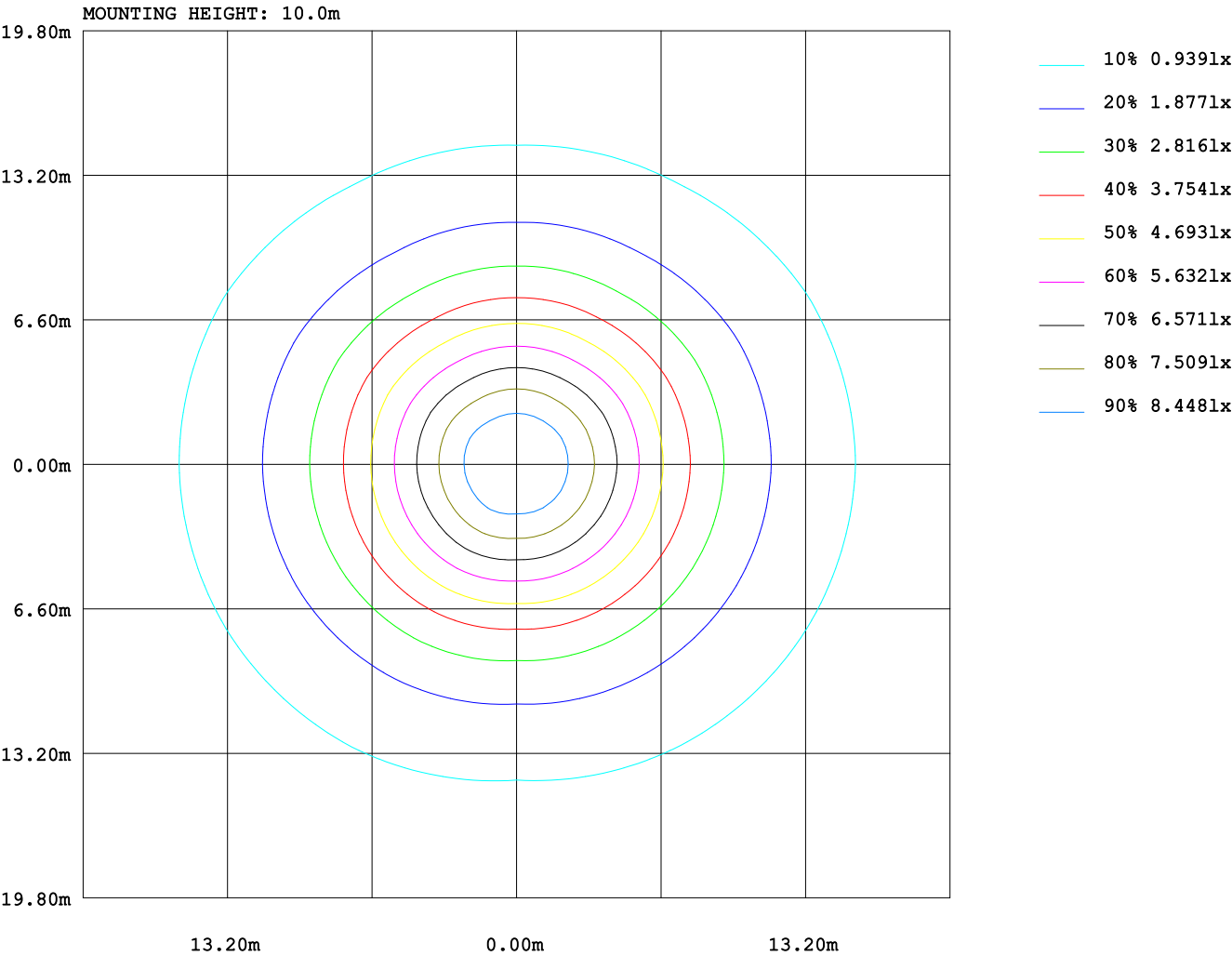
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

## HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AREA LUMINOUS FLUX

Report number:

|                      |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |             |  |  |  |  |
|----------------------|--|--|--|--|--|--|--|--|--|--------------------------|--|--|--|--|-------------|--|--|--|--|
| MANUFACTURER:        |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |             |  |  |  |  |
| Address:             |  |  |  |  |  |  |  |  |  |                          |  |  |  |  |             |  |  |  |  |
| NAME: 1.5M-30W-3000K |  |  |  |  |  |  |  |  |  | TYPE:                    |  |  |  |  | WEIGHT:     |  |  |  |  |
| SPECIFICATION:       |  |  |  |  |  |  |  |  |  | DIMENSION: 1500*152*52mm |  |  |  |  | SERIAL No.: |  |  |  |  |

|                |      | AREA FLUX DIAGRAM |      |      |      |      |      |      |      |                  |      |      |      |      |      |      |      | UNIT:lm |      |      | Φ t  | Φ a |
|----------------|------|-------------------|------|------|------|------|------|------|------|------------------|------|------|------|------|------|------|------|---------|------|------|------|-----|
|                |      | 0.58              | 1.71 | 2.79 | 3.57 | 3.85 | 3.80 | 3.60 | 3.35 | 2.90             | 2.90 | 3.37 | 3.64 | 3.87 | 3.95 | 3.68 | 2.89 | 1.77    | 0.60 | 52.8 | 49.0 |     |
| VERTICAL (DEG) | 90   | 0.60              | 1.90 | 3.32 | 4.62 | 5.52 | 6.22 | 6.80 | 7.23 | 7.25             | 7.25 | 7.23 | 6.80 | 6.26 | 5.60 | 4.73 | 3.43 | 1.97    | 0.63 | 87.4 | 87.4 |     |
|                | 80   | 0.63              | 2.10 | 3.86 | 5.68 | 7.42 | 9.08 | 10.4 | 11.3 | 11.6             | 11.6 | 11.4 | 10.5 | 9.11 | 7.46 | 5.75 | 3.95 | 2.17    | 0.65 | 125  | 125  |     |
|                | 70   | 0.66              | 2.29 | 4.37 | 6.89 | 9.53 | 11.8 | 13.7 | 15.1 | 15.9             | 15.9 | 15.2 | 13.7 | 11.9 | 9.55 | 6.92 | 4.41 | 2.36    | 0.68 | 161  | 161  |     |
|                | 60   | 0.68              | 2.47 | 4.90 | 8.08 | 11.4 | 14.4 | 16.8 | 18.8 | 19.8             | 19.8 | 18.8 | 16.9 | 14.4 | 11.4 | 8.09 | 4.92 | 2.51    | 0.70 | 195  | 195  |     |
|                | 50   | 0.70              | 2.62 | 5.39 | 9.05 | 13.0 | 16.6 | 19.6 | 21.8 | 23.1             | 23.1 | 21.8 | 19.6 | 16.6 | 13.0 | 9.07 | 5.42 | 2.65    | 0.73 | 224  | 224  |     |
|                | 40   | 0.72              | 2.75 | 5.79 | 9.79 | 14.2 | 18.4 | 21.8 | 24.2 | 25.6             | 25.6 | 24.2 | 21.8 | 18.4 | 14.2 | 9.83 | 5.83 | 2.76    | 0.74 | 247  | 247  |     |
|                | 30   | 0.73              | 2.85 | 6.07 | 10.3 | 15.0 | 19.4 | 23.3 | 25.9 | 27.3             | 27.3 | 25.9 | 23.3 | 19.5 | 15.0 | 10.3 | 6.13 | 2.86    | 0.76 | 262  | 262  |     |
|                |      | 0.74              | 2.90 | 6.22 | 10.5 | 15.3 | 19.9 | 23.9 | 26.8 | 28.2             | 28.2 | 26.7 | 23.9 | 20.0 | 15.4 | 10.6 | 6.28 | 2.91    | 0.76 | 270  | 270  |     |
|                |      | 0.74              | 2.90 | 6.21 | 10.5 | 15.3 | 19.9 | 23.8 | 26.6 | 28.2             | 28.1 | 26.6 | 23.8 | 19.9 | 15.3 | 10.6 | 6.27 | 2.91    | 0.76 | 269  | 269  |     |
|                |      | 0.73              | 2.85 | 6.03 | 10.2 | 14.8 | 19.3 | 23.1 | 25.9 | 27.3             | 27.2 | 25.8 | 23.1 | 19.3 | 14.8 | 10.2 | 6.08 | 2.84    | 0.75 | 261  | 261  |     |
|                |      | 0.72              | 2.75 | 5.74 | 9.65 | 14.0 | 18.2 | 21.7 | 24.4 | 25.5             | 25.4 | 24.2 | 21.7 | 18.1 | 14.0 | 9.69 | 5.77 | 2.74    | 0.74 | 245  | 245  |     |
|                | -30  | 0.70              | 2.62 | 5.36 | 8.86 | 12.7 | 16.5 | 19.8 | 22.0 | 23.0             | 22.9 | 21.9 | 19.6 | 16.4 | 12.7 | 8.87 | 5.35 | 2.61    | 0.72 | 223  | 223  |     |
| -40            | 0.68 | 2.45              | 4.90 | 7.90 | 11.2 | 14.4 | 17.1 | 18.9 | 19.6 | 19.5             | 18.8 | 17.0 | 14.3 | 11.1 | 7.88 | 4.85 | 2.46 | 0.70    | 194  | 194  |      |     |
| -50            | 0.65 | 2.27              | 4.35 | 6.85 | 9.36 | 11.8 | 14.0 | 15.3 | 15.6 | 15.6             | 15.1 | 13.8 | 11.7 | 9.29 | 6.77 | 4.30 | 2.28 | 0.67    | 160  | 160  |      |     |
| -60            | 0.63 | 2.07              | 3.79 | 5.67 | 7.46 | 9.03 | 10.3 | 11.2 | 11.4 | 11.3             | 11.1 | 10.2 | 8.96 | 7.37 | 5.58 | 3.75 | 2.08 | 0.64    | 123  | 123  |      |     |
| -70            | 0.60 | 1.87              | 3.25 | 4.54 | 5.62 | 6.52 | 7.06 | 7.16 | 6.87 | 6.85             | 7.09 | 6.92 | 6.36 | 5.47 | 4.41 | 3.19 | 1.88 | 0.61    | 86.3 | 86.3 |      |     |
| -80            | 0.57 | 1.67              | 2.71 | 3.51 | 3.95 | 4.12 | 3.94 | 3.42 | 2.67 | 2.63             | 3.29 | 3.74 | 3.90 | 3.76 | 3.35 | 2.63 | 1.67 | 0.58    | 52.1 | 48.4 |      |     |
| -90            |      |                   |      |      |      |      |      |      |      |                  |      |      |      |      |      |      |      |         |      |      |      |     |
|                |      | -90               | -80  | -70  | -60  | -50  | -40  | -30  | -20  | HORIZONTAL (DEG) |      |      |      | 20   | 30   | 40   | 50   | 60      | 70   | 80   | 90   |     |
| Φ t            | 12.0 | 43.1              | 85.1 | 136  | 190  | 240  | 281  | 310  | 322  | 322              | 309  | 281  | 240  | 190  | 137  | 85.5 | 43.5 | 12.4    | 3661 |      |      |     |
| Φ a            | 12.0 | 43.1              | 85.1 | 136  | 190  | 240  | 281  | 309  | 320  | 320              | 308  | 280  | 240  | 190  | 137  | 85.5 | 43.5 | 12.4    |      | 3433 |      |     |

Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

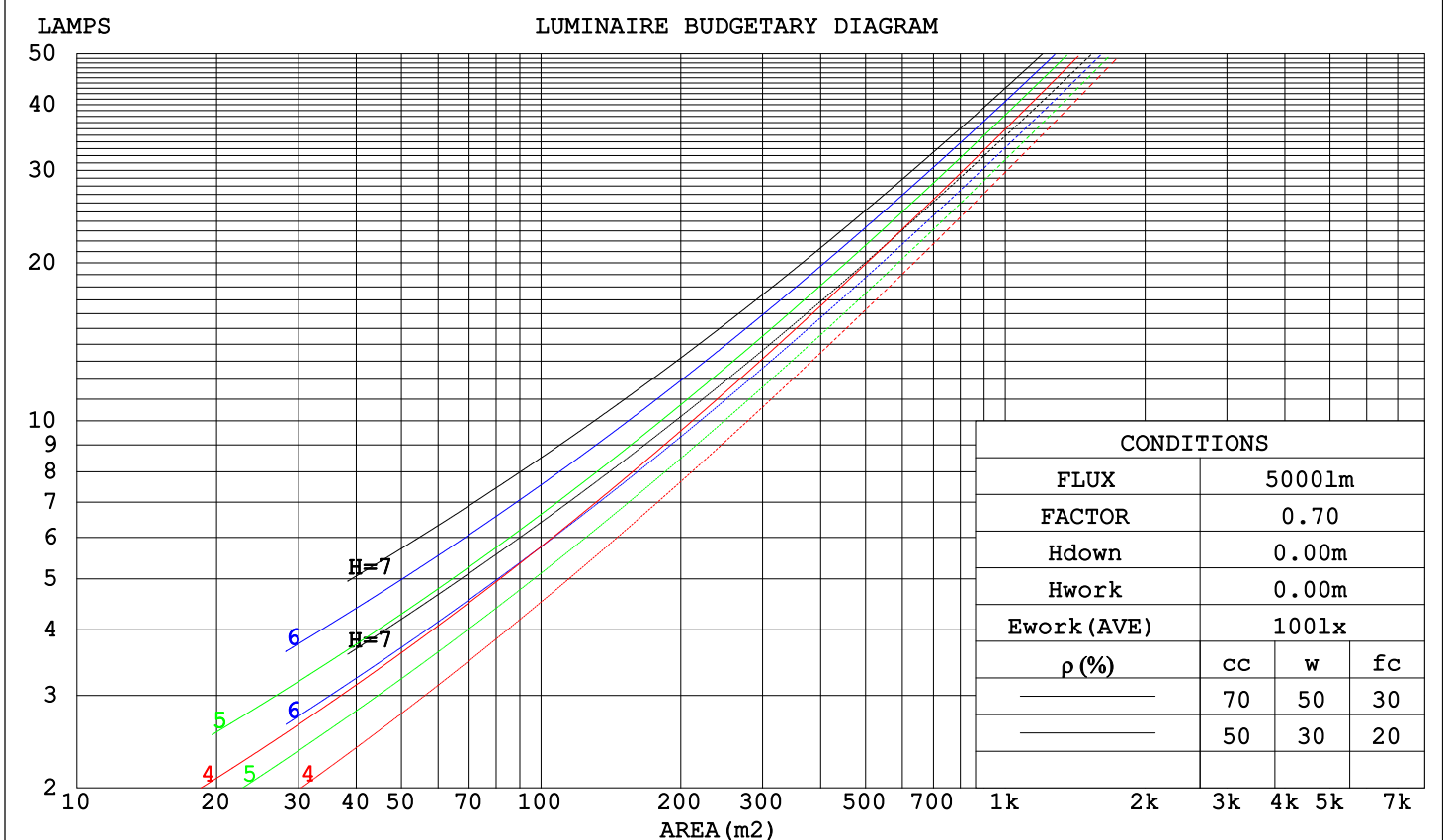
# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

|                      |  |  |  |  |  |  |  |                          |  |  |  |             |  |  |  |
|----------------------|--|--|--|--|--|--|--|--------------------------|--|--|--|-------------|--|--|--|
| MANUFACTURER:        |  |  |  |  |  |  |  |                          |  |  |  |             |  |  |  |
| Address:             |  |  |  |  |  |  |  |                          |  |  |  |             |  |  |  |
| NAME: 1.5M-30W-3000K |  |  |  |  |  |  |  | TYPE:                    |  |  |  | WEIGHT:     |  |  |  |
| SPECIFICATION:       |  |  |  |  |  |  |  | DIMENSION: 1500*152*52mm |  |  |  | SERIAL No.: |  |  |  |

| $\rho_{cc}$ | 80%                   |     |     | 70% |     |     | 50% |     |     | 30% |     |     | 10% |     |     | 0 |
|-------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| $\rho_w$    | 50%                   | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| $\rho_{fc}$ | 20%                   |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 0 |
| RCR         | RCR:Room Cavity Ratio |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:



# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## WEC AND CCEC

Report number:

|                      |  |  |  |  |  |  |  |                          |  |  |  |             |  |  |  |
|----------------------|--|--|--|--|--|--|--|--------------------------|--|--|--|-------------|--|--|--|
| MANUFACTURER:        |  |  |  |  |  |  |  |                          |  |  |  |             |  |  |  |
| Address:             |  |  |  |  |  |  |  |                          |  |  |  |             |  |  |  |
| NAME: 1.5M-30W-3000K |  |  |  |  |  |  |  | TYPE:                    |  |  |  | WEIGHT:     |  |  |  |
| SPECIFICATION:       |  |  |  |  |  |  |  | DIMENSION: 1500*152*52mm |  |  |  | SERIAL No.: |  |  |  |

| $\rho_{cc}$ | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| $\rho_w$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      |      |      |      |      |      |      |      |      |      | Wall Exitance Coefficients (WEC) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0         |                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.0         | .362                  | .206 | .065 | .351 | .200 | .064 | .331 | .190 | .061 | .312 | .180 | .058 | .295 | .171 | .055 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.0         | .321                  | .176 | .054 | .311 | .172 | .053 | .293 | .163 | .051 | .277 | .155 | .049 | .261 | .148 | .047 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.0         | .289                  | .154 | .046 | .280 | .150 | .045 | .264 | .143 | .043 | .249 | .136 | .042 | .235 | .130 | .040 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4.0         | .262                  | .136 | .040 | .254 | .133 | .039 | .240 | .127 | .038 | .226 | .121 | .037 | .213 | .116 | .035 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5.0         | .239                  | .122 | .035 | .232 | .119 | .035 | .219 | .114 | .034 | .207 | .109 | .032 | .195 | .104 | .031 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6.0         | .220                  | .110 | .032 | .214 | .108 | .031 | .202 | .103 | .030 | .191 | .099 | .029 | .180 | .095 | .028 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.0         | .204                  | .101 | .029 | .198 | .099 | .028 | .187 | .095 | .027 | .177 | .091 | .026 | .167 | .087 | .026 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8.0         | .189                  | .092 | .026 | .184 | .091 | .026 | .174 | .087 | .025 | .165 | .083 | .024 | .156 | .080 | .023 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9.0         | .177                  | .085 | .024 | .172 | .084 | .024 | .163 | .080 | .023 | .154 | .077 | .022 | .146 | .074 | .021 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10.0        | .166                  | .079 | .022 | .161 | .078 | .022 | .153 | .075 | .021 | .145 | .072 | .020 | .137 | .069 | .020 |                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| $\rho_{cc}$ | 80%                   |      |      | 70%  |      |      | 50%   |      |      | 30%  |      |      | 10%  |      |      | 0 |
|-------------|-----------------------|------|------|------|------|------|---|------|------|------|------|------|------|------|------|---|
| $\rho_w$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%   |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients (CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0         | .278                  | .278 | .278 | .237 | .237 | .237 | .162  | .162 | .162 | .093 | .093 | .093 | .030 | .030 | .030 |   |
| 1.0         | .272                  | .244 | .218 | .233 | .209 | .188 | .159  | .144 | .130 | .092 | .083 | .076 | .029 | .027 | .024 |   |
| 2.0         | .265                  | .220 | .183 | .227 | .190 | .158 | .155  | .131 | .110 | .090 | .076 | .065 | .029 | .025 | .021 |   |
| 3.0         | .257                  | .204 | .161 | .221 | .176 | .139 | .151  | .122 | .098 | .087 | .071 | .058 | .028 | .023 | .019 |   |
| 4.0         | .250                  | .191 | .146 | .214 | .165 | .127 | .147  | .115 | .089 | .085 | .067 | .053 | .027 | .022 | .017 |   |
| 5.0         | .242                  | .181 | .136 | .208 | .156 | .118 | .143  | .109 | .083 | .083 | .064 | .049 | .027 | .021 | .016 |   |
| 6.0         | .235                  | .173 | .128 | .202 | .150 | .112 | .139  | .105 | .079 | .081 | .062 | .047 | .026 | .020 | .016 |   |
| 7.0         | .228                  | .166 | .123 | .196 | .144 | .107 | .135  | .101 | .076 | .079 | .059 | .045 | .025 | .019 | .015 |   |
| 8.0         | .221                  | .160 | .119 | .190 | .139 | .104 | .132  | .098 | .073 | .077 | .058 | .044 | .025 | .019 | .014 |   |
| 9.0         | .215                  | .156 | .116 | .185 | .135 | .101 | .128  | .095 | .072 | .075 | .056 | .043 | .024 | .018 | .014 |   |
| 10.0        | .209                  | .151 | .113 | .180 | .131 | .099 | .125  | .092 | .070 | .073 | .055 | .042 | .024 | .018 | .014 |   |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## Uncorrected UGR Table

Report number:

|  |               |                  |      |      |                          |                |      |             |      |      |
|--|---------------|------------------|------|------|--------------------------|----------------|------|-------------|------|------|
| MANUFACTURER:                                      |               |                  |      |      |                          |                |      |             |      |      |
| Address:   |               |                  |      |      |                          |                |      |             |      |      |
| NAME: 1.5M-30W-3000K                               |               |                  |      |      | TYPE:                    |                |      | WEIGHT:     |      |      |
| SPECIFICATION:                                     |               |                  |      |      | DIMENSION: 1500*152*52mm |                |      | SERIAL No.: |      |      |
| ceiling/cavity                                     | 0.7           | 0.7              | 0.5  | 0.5  | 0.3                      | 0.7            | 0.7  | 0.5         | 0.5  | 0.3  |
| walls  | 0.5           | 0.3              | 0.5  | 0.3  | 0.3                      | 0.5            | 0.3  | 0.5         | 0.3  | 0.3  |
| working plane                                      | 0.2           | 0.2              | 0.2  | 0.2  | 0.2                      | 0.2            | 0.2  | 0.2         | 0.2  | 0.2  |
| Room dimensions                                    |               | Viewed crosswise |      |      |                          | Viewed endwise |      |             |      |      |
| x = 2H y = 2H                                      | 16.8          | 18.2             | 17.2 | 18.6 | 19.0                     | 16.0           | 17.4 | 16.4        | 17.8 | 18.2 |
| 3H   | 18.9          | 20.2             | 19.3 | 20.6 | 21.1                     | 17.6           | 18.9 | 18.1        | 19.4 | 19.9 |
| 4H   | 20.0          | 21.2             | 20.4 | 21.7 | 22.2                     | 18.3           | 19.6 | 18.8        | 20.1 | 20.6 |
| 6H   | 21.2          | 22.4             | 21.7 | 22.9 | 23.4                     | 18.9           | 20.1 | 19.4        | 20.6 | 21.1 |
| 8H   | 21.9          | 23.1             | 22.4 | 23.6 | 24.1                     | 19.1           | 20.3 | 19.6        | 20.8 | 21.3 |
| 12H  | 22.7          | 23.8             | 23.2 | 24.3 | 24.9                     | 19.3           | 20.4 | 19.8        | 20.9 | 21.4 |
| 4H 2H  | 17.4          | 18.6             | 17.8 | 19.1 | 19.6                     | 16.8           | 18.0 | 17.2        | 18.5 | 19.0 |
| 3H   | 19.7          | 20.8             | 20.2 | 21.3 | 21.8                     | 18.6           | 19.8 | 19.2        | 20.2 | 20.8 |
| 4H   | 21.0          | 22.0             | 21.5 | 22.5 | 23.1                     | 19.5           | 20.6 | 20.1        | 21.1 | 21.7 |
| 6H   | 22.4          | 23.3             | 23.0 | 23.9 | 24.5                     | 20.3           | 21.2 | 20.9        | 21.7 | 22.4 |
| 8H   | 23.2          | 24.1             | 23.8 | 24.6 | 25.3                     | 20.6           | 21.4 | 21.2        | 22.0 | 22.6 |
| 12H  | 24.1          | 24.9             | 24.7 | 25.5 | 26.2                     | 20.8           | 21.6 | 21.4        | 22.2 | 22.8 |
| 8H 4H  | 21.3          | 22.2             | 21.9 | 22.7 | 23.4                     | 20.1           | 21.0 | 20.7        | 21.5 | 22.2 |
| 6H   | 23.0          | 23.7             | 23.6 | 24.3 | 25.0                     | 21.1           | 21.8 | 21.7        | 22.4 | 23.1 |
| 8H   | 24.0          | 24.7             | 24.6 | 25.3 | 26.0                     | 21.6           | 22.2 | 22.2        | 22.8 | 23.5 |
| 12H  | 25.2          | 25.7             | 25.8 | 26.4 | 27.1                     | 22.0           | 22.5 | 22.6        | 23.2 | 23.9 |
| 12H 4H   | 21.3          | 22.1             | 21.9 | 22.7 | 23.4                     | 20.3           | 21.0 | 20.9        | 21.6 | 22.3 |
| 6H   | 23.1          | 23.8             | 23.8 | 24.4 | 25.1                     | 21.4           | 22.0 | 22.0        | 22.7 | 23.4 |
| 8H   | 24.2          | 24.8             | 24.9 | 25.4 | 26.1                     | 22.0           | 22.5 | 22.6        | 23.2 | 23.9 |
| Variations with the observer position at spacings: |               |                  |      |      |                          |                |      |             |      |      |
| S = 1.0H   | + 0.1 / - 0.1 |                  |      |      |                          | + 0.1 / - 0.2  |      |             |      |      |
| 1.5H   | + 0.2 / - 0.3 |                  |      |      |                          | + 0.2 / - 0.3  |      |             |      |      |
| 2.0H   | + 0.2 / - 0.3 |                  |      |      |                          | + 0.2 / - 0.4  |      |             |      |      |

CIE Pub.117 Corrected 3661 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.5)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## UTILIZATION FACTORS TABLE

Report number:

|                      |  |  |  |  |                          |  |  |             |  |  |
|----------------------|--|--|--|--|--------------------------|--|--|-------------|--|--|
| MANUFACTURER:        |  |  |  |  |                          |  |  |             |  |  |
| Address:             |  |  |  |  |                          |  |  |             |  |  |
| NAME: 1.5M-30W-3000K |  |  |  |  | TYPE:                    |  |  | WEIGHT:     |  |  |
| SPECIFICATION:       |  |  |  |  | DIMENSION: 1500*152*52mm |  |  | SERIAL No.: |  |  |

| REFLECTANCE                      |  |     |     |     |     |     |     |     |     |        |
|----------------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| Ceiling                          | 0.8  | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0      |
| Walls                            | 0.7  | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0      |
| Working plane                    | 0.2  | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0      |
| ROOM INDEX                       | UTILIZATION FACTORS (PERCENT)    k(RI) x RCR = 5 |     |     |     |     |     |     |     |     |        |
| k = 0.60                         | 51   | 39  | 32  | 50  | 38  | 31  | 48  | 38  | 31  | 24     |
| 0.80                             | 60   | 48  | 40  | 59  | 47  | 40  | 57  | 46  | 39  | 31     |
| 1.00                             | 68   | 56  | 48  | 67  | 55  | 48  | 64  | 56  | 47  | 38     |
| 1.25                             | 76   | 64  | 56  | 73  | 62  | 55  | 70  | 60  | 53  | 44     |
| 1.50                             | 81   | 69  | 61  | 78  | 68  | 60  | 74  | 65  | 58  | 49     |
| 2.00                             | 88   | 78  | 70  | 85  | 76  | 69  | 80  | 72  | 66  | 56     |
| 2.50                             | 92   | 83  | 75  | 89  | 81  | 74  | 84  | 77  | 71  | 60     |
| 3.00                             | 96   | 87  | 80  | 93  | 85  | 79  | 87  | 81  | 75  | 64     |
| 4.00                             | 100  | 93  | 87  | 97  | 90  | 85  | 91  | 85  | 81  | 68     |
| 5.00                             | 103  | 97  | 92  | 99  | 94  | 89  | 93  | 89  | 85  | 72     |
| ROOM INDEX                       | UF (total)                                       |     |     |     |     |     |     |     |     | Direct |
| According to DIN EN 13032-2 2004 |  |     |     |     |     |     |     |     |     |        |
| Suspended                        |  |     |     |     |     |     |     |     |     |        |
| SHRNOM = 1.25                    |  |     |     |     |     |     |     |     |     |        |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022年11月14日

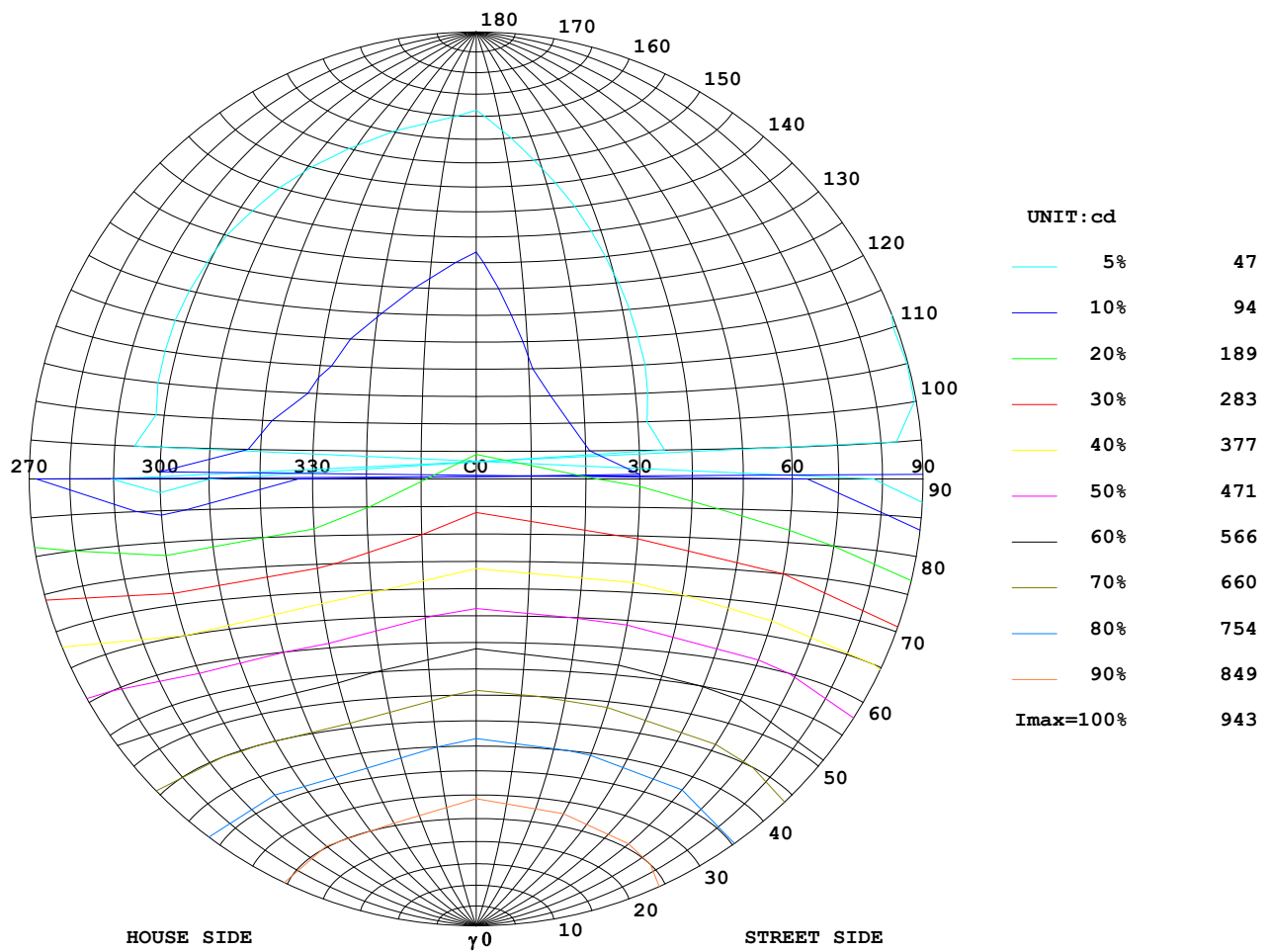
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

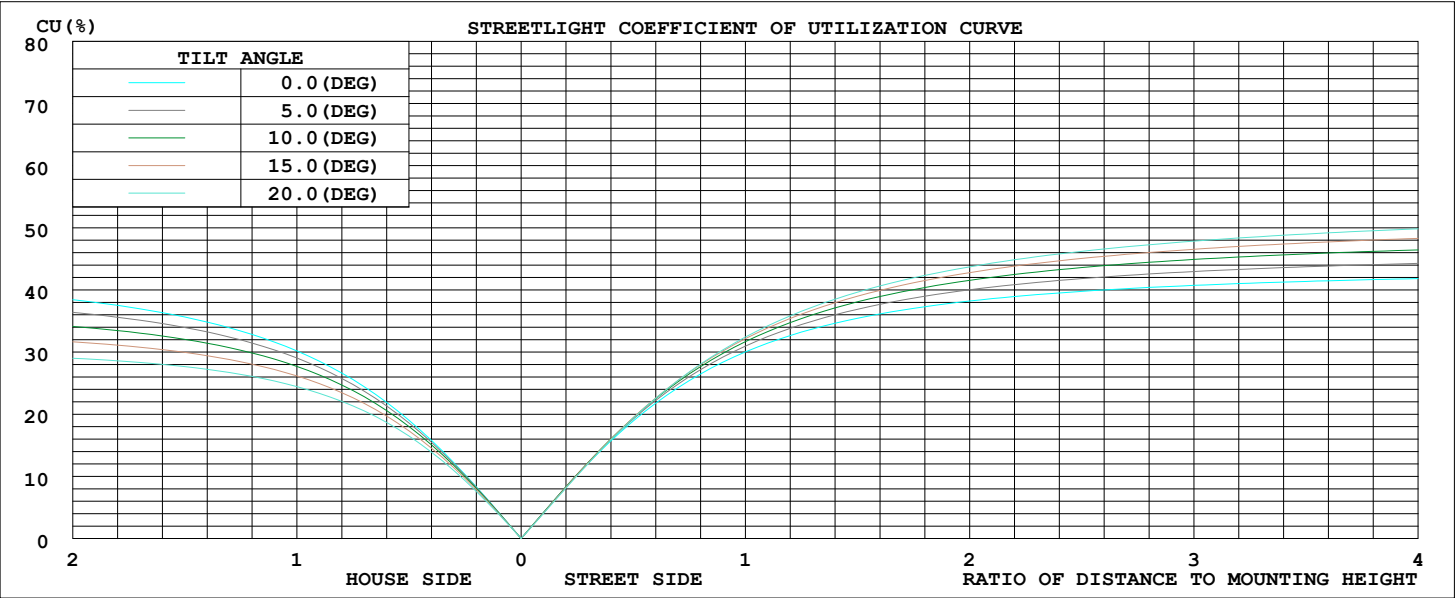
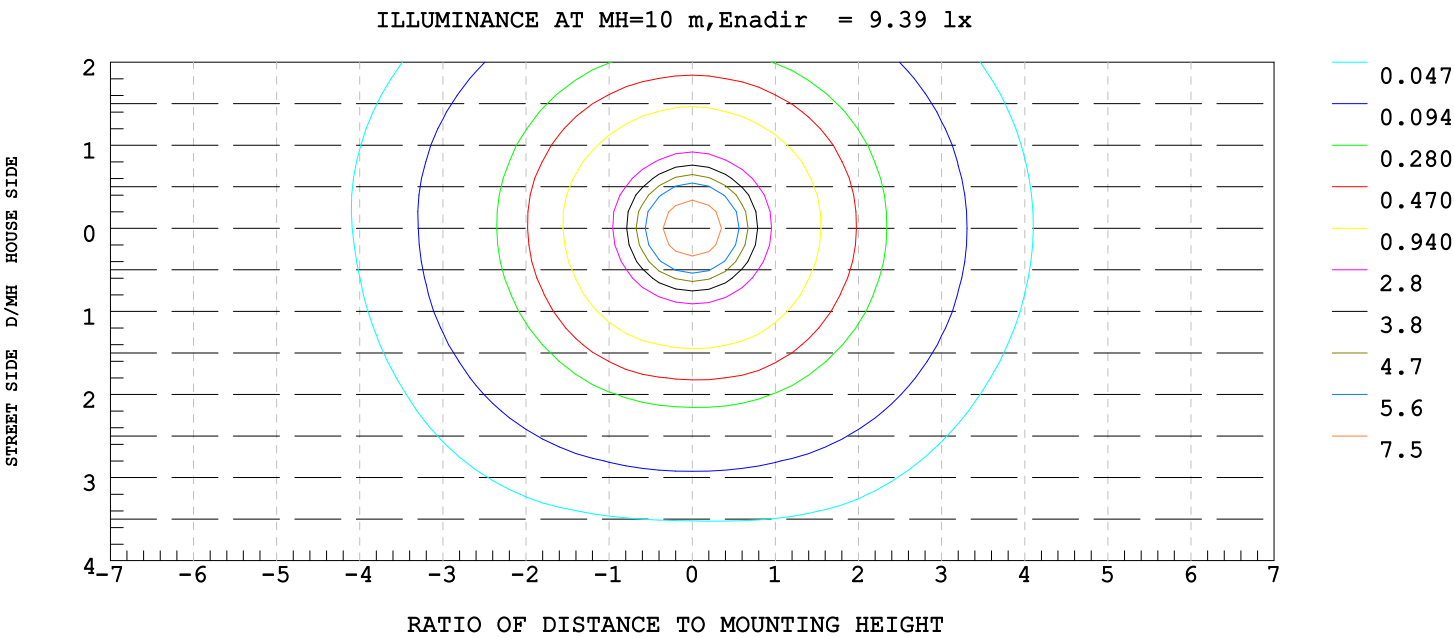
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |



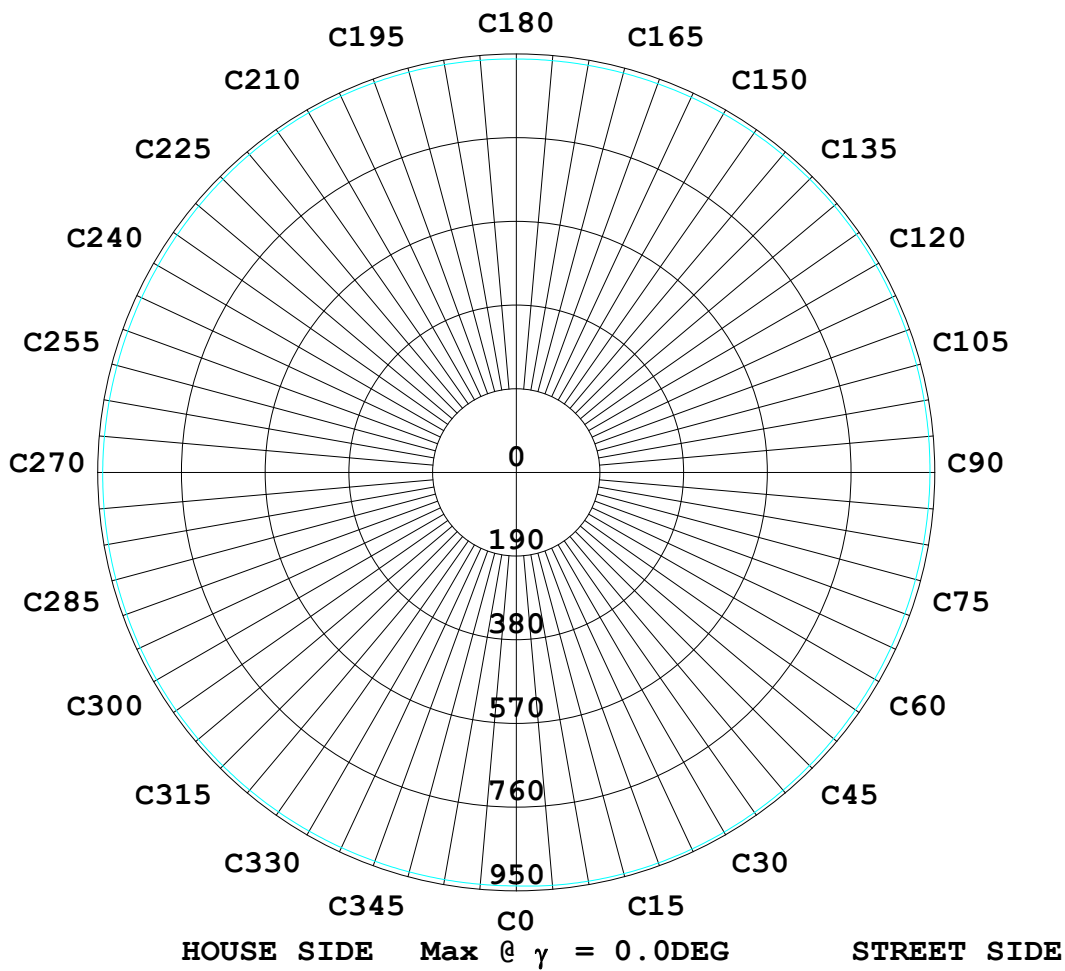
Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

ISOCANDELA DIAGRAM

Report number:

|                      |                          |             |
|----------------------|--------------------------|-------------|
| MANUFACTURER:        |                          |             |
| Address:             |                          |             |
| NAME: 1.5M-30W-3000K | TYPE:                    | WEIGHT:     |
| SPECIFICATION:       | DIMENSION: 1500*152*52mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2022年11月14日

Test Set: 10.0deg/s    C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks: