

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

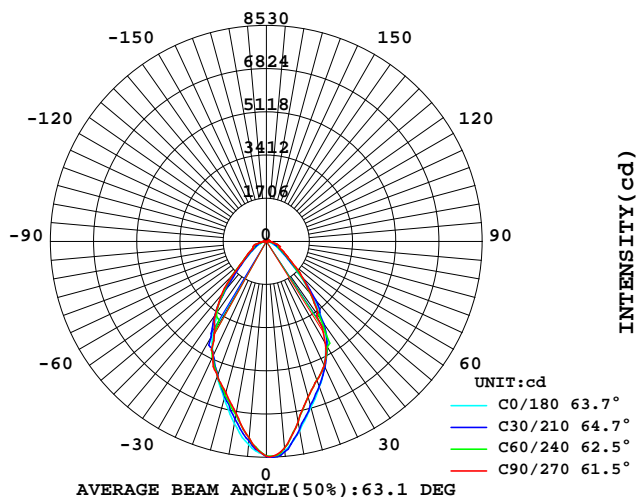
## LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

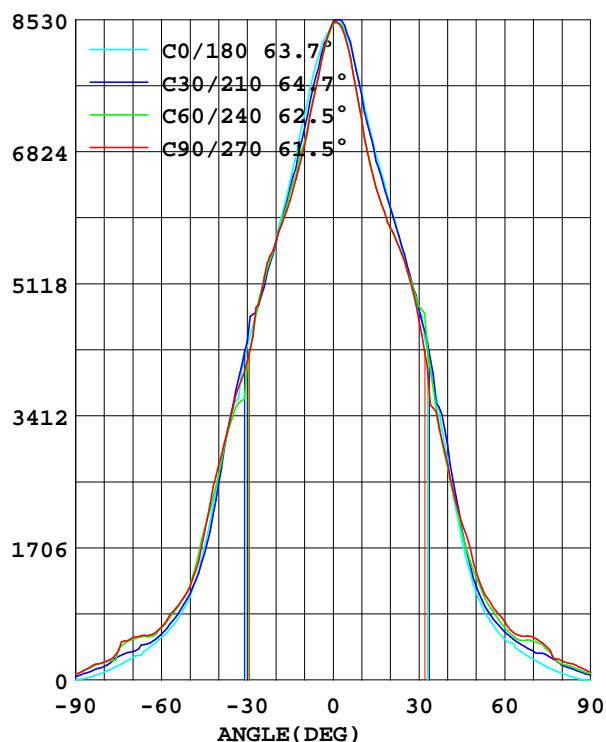
|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |

|                  |         |                       |        |                  |       |
|------------------|---------|-----------------------|--------|------------------|-------|
| DATA OF LAMP     |         | I <sub>max</sub> (cd) | 8530   | S/MH(C0/180)     | 0.82  |
| MODEL            |         | EFFICIENCY(%)         | 100.0  | S/MH(C90/270)    | 0.84  |
| NOMINAL POWER(W) | 72      | TOTAL FLUX(lm)        | 10546  | Voltage(V)       | 219.6 |
| RATED VOLTAGE(V) | 220     | EFFICIENCY(lm/W)      | 146.7  | Current(A)       | 0.342 |
| NOMINAL FLUX(lm) | 10545.8 | h up(%)               | 1.6    | Power(W)         | 71.88 |
| LAMPS QUANTITY   | 1       | h down(%)             | 98.4   | Power Factor(PF) | 0.954 |
| TEST VOLTAGE(V)  | 219.7   | Effective Flux(lm)    | 9122.3 | EEI              | 0.107 |

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08日

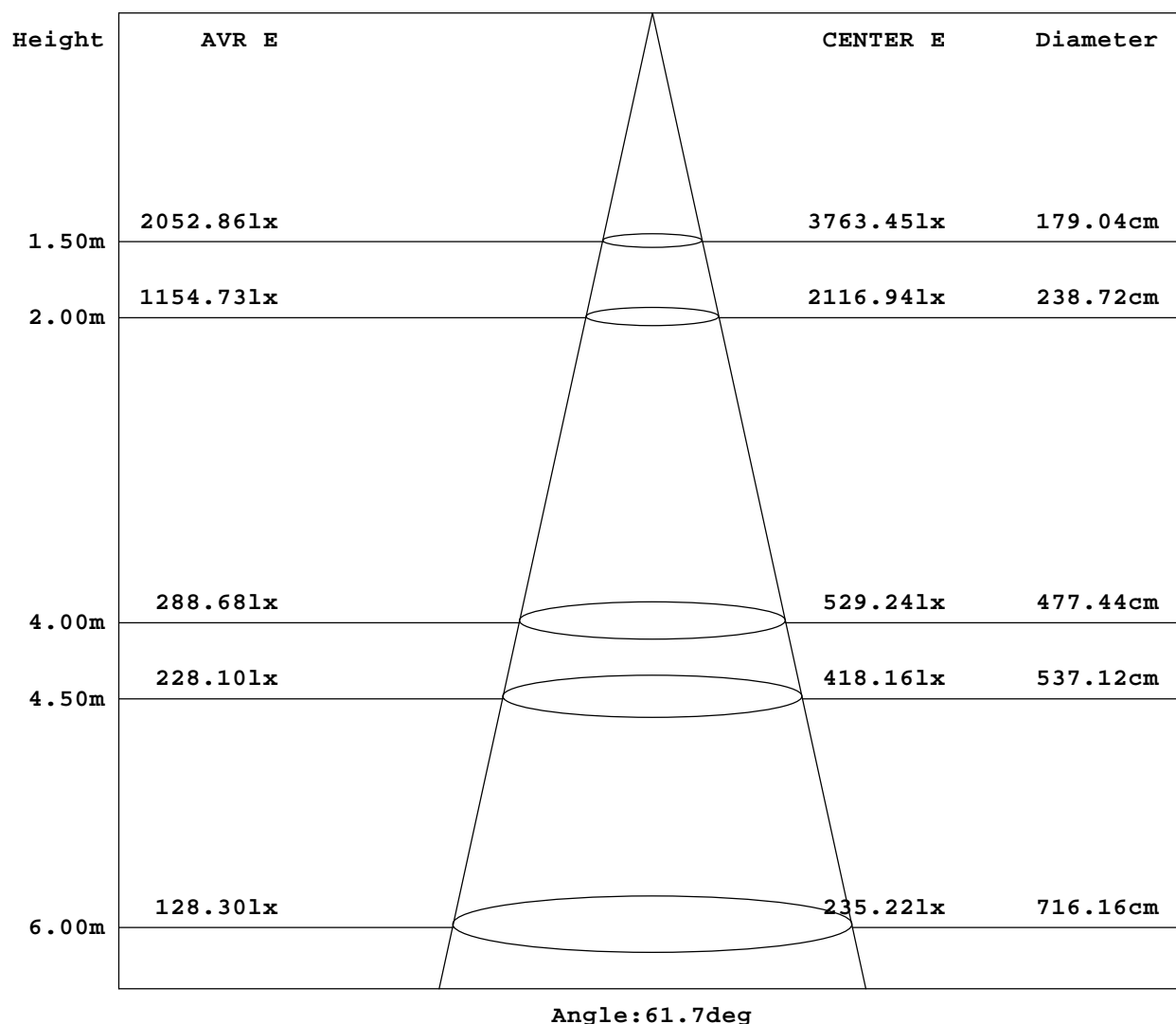
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## AVERAGE AND CENTER E Figure

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |



Test System: HOPOO HPG1800  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2021年04月08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: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |

| g     | C0                    | C45   | C90   | C135  | C180  | C225  | C270  | C315  | g       | Zone    | tStal |
|-------|-----------------------|-------|-------|-------|-------|-------|-------|-------|---------|---------|-------|
| 5.0   | 8058                  | 7865  | 7805  | 8011  | 8303  | 8269  | 8205  | 8271  | 0- 5    | 198.2   | 198.2 |
| 10.0  | 7303                  | 7044  | 6912  | 7215  | 7606  | 7414  | 7245  | 7485  | 5- 10   | 548.1   | 746.4 |
| 15.0  | 6449                  | 6328  | 6196  | 6418  | 6787  | 6535  | 6361  | 6639  | 10- 15  | 810.7   | 1557  |
| 20.0  | 5668                  | 5644  | 5661  | 5722  | 6104  | 5962  | 5843  | 5982  | 15- 20  | 1010    | 2567  |
| 25.0  | 4967                  | 5021  | 5012  | 5094  | 5446  | 5461  | 5414  | 5372  | 20- 25  | 1159    | 3726  |
| 30.0  | 4316                  | 4226  | 4113  | 4382  | 4754  | 4813  | 4651  | 4742  | 25- 30  | 1235    | 4961  |
| 35.0  | 3556                  | 3471  | 3509  | 3480  | 3868  | 3860  | 3512  | 3616  | 30- 35  | 1194    | 6155  |
| 40.0  | 2627                  | 2585  | 2767  | 2652  | 2844  | 2887  | 2789  | 2755  | 35- 40  | 1059    | 7214  |
| 45.0  | 1722                  | 1788  | 1895  | 1797  | 1808  | 1939  | 2030  | 1854  | 40- 45  | 841.4   | 8055  |
| 50.0  | 1075                  | 1165  | 1201  | 1161  | 1132  | 1272  | 1401  | 1210  | 45- 50  | 607.8   | 8663  |
| 55.0  | 748.2                 | 856.1 | 922.6 | 810.3 | 755.3 | 888.8 | 996.7 | 854.1 | 50- 55  | 439.3   | 9102  |
| 60.0  | 550.9                 | 635.0 | 682.8 | 594.9 | 527.7 | 649.4 | 753.2 | 608.5 | 55- 60  | 338.8   | 9441  |
| 65.0  | 393.4                 | 512.3 | 573.6 | 473.0 | 381.5 | 494.7 | 574.8 | 477.3 | 60- 65  | 265.6   | 9707  |
| 70.0  | 286.9                 | 445.7 | 546.3 | 412.5 | 265.9 | 437.3 | 551.4 | 444.5 | 65- 70  | 231.6   | 9939  |
| 75.0  | 188.7                 | 352.9 | 378.5 | 304.4 | 164.3 | 350.0 | 418.8 | 347.8 | 70- 75  | 199.4   | 10138 |
| 80.0  | 103.0                 | 199.7 | 233.3 | 155.1 | 84.28 | 201.5 | 245.7 | 157.4 | 75- 80  | 123.8   | 10262 |
| 85.0  | 35.16                 | 129.5 | 163.7 | 85.19 | 24.51 | 134.5 | 189.3 | 90.21 | 80- 85  | 77.32   | 10339 |
| 90.0  | 3.581                 | 62.93 | 75.21 | 36.51 | 0     | 70.79 | 100.5 | 39.33 | 85- 90  | 41.57   | 10381 |
| 95.0  | 0                     | 69.04 | 101.4 | 41.59 | 0     | 75.93 | 117.2 | 40.99 | 90- 95  | 29.52   | 10410 |
| 100.0 | 0                     | 62.50 | 96.75 | 37.78 | 0     | 63.23 | 106.1 | 35.85 | 95-100  | 28.29   | 10439 |
| 105.0 | 0                     | 65.83 | 96.63 | 38.81 | 0     | 67.46 | 104.1 | 37.00 | 100-105 | 27.18   | 10466 |
| 110.0 | 0                     | 65.71 | 93.60 | 40.45 | 0     | 70.55 | 101.9 | 39.72 | 105-110 | 27.04   | 10493 |
| 115.0 | 0                     | 62.50 | 96.50 | 39.17 | 0     | 67.46 | 102.1 | 39.36 | 110-115 | 26.36   | 10519 |
| 120.0 | 0                     | 54.40 | 90.82 | 35.54 | 0.678 | 64.92 | 95.29 | 39.09 | 115-120 | 24.28   | 10544 |
| 125.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 120-125 | 2.262   | 10546 |
| 130.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 125-130 | 0       | 10546 |
| 135.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 130-135 | 0       | 10546 |
| 140.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 135-140 | 0       | 10546 |
| 145.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 140-145 | 0       | 10546 |
| 150.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 145-150 | 0       | 10546 |
| 155.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 150-155 | 0       | 10546 |
| 160.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 155-160 | 0       | 10546 |
| 165.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 160-165 | 0       | 10546 |
| 170.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 165-170 | 0       | 10546 |
| 175.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 170-175 | 0       | 10546 |
| 180.0 | 0                     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 175-180 | 0       | 10546 |
| DEG   | LUMINOUS INTENSITY:cd |       |       |       |       |       |       |       |         | UNIT:lm |       |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08日

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

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

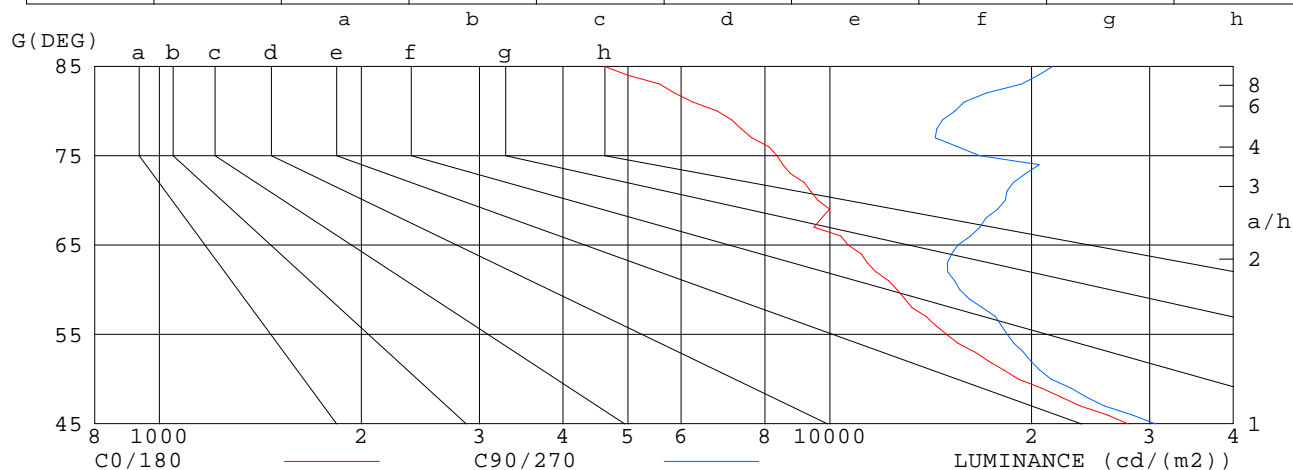
## LUMINANCE LIMITATION CURVES

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |

### LUMINANCE LIMITATION CURVES

| GLARE | CLASS | ILLUMINANCE (lx) |      |      |       |       |       |       |       |
|-------|-------|------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A     | 2000             | 1000 | 500  | <=300 |       |       |       |       |
| 1.50  | B     |                  | 2000 | 1000 | 500   | <=300 |       |       |       |
| 1.85  | C     |                  |      | 2000 | 1000  | 500   | <=300 |       |       |
| 2.20  | D     |                  |      |      | 2000  | 1000  | 500   | <=300 |       |
| 2.55  | E     |                  |      |      |       | 2000  | 1000  | 500   | <=300 |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G( DEG)           | C0/180 | C90/270 |
| 85                | 4615   | 21498   |
| 80                | 6789   | 15374   |
| 75                | 8341   | 16733   |
| 70                | 9598   | 18276   |
| 65                | 10650  | 15527   |
| 60                | 12606  | 15624   |
| 55                | 14923  | 18403   |
| 50                | 19124  | 21383   |
| 45                | 27860  | 30653   |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08日

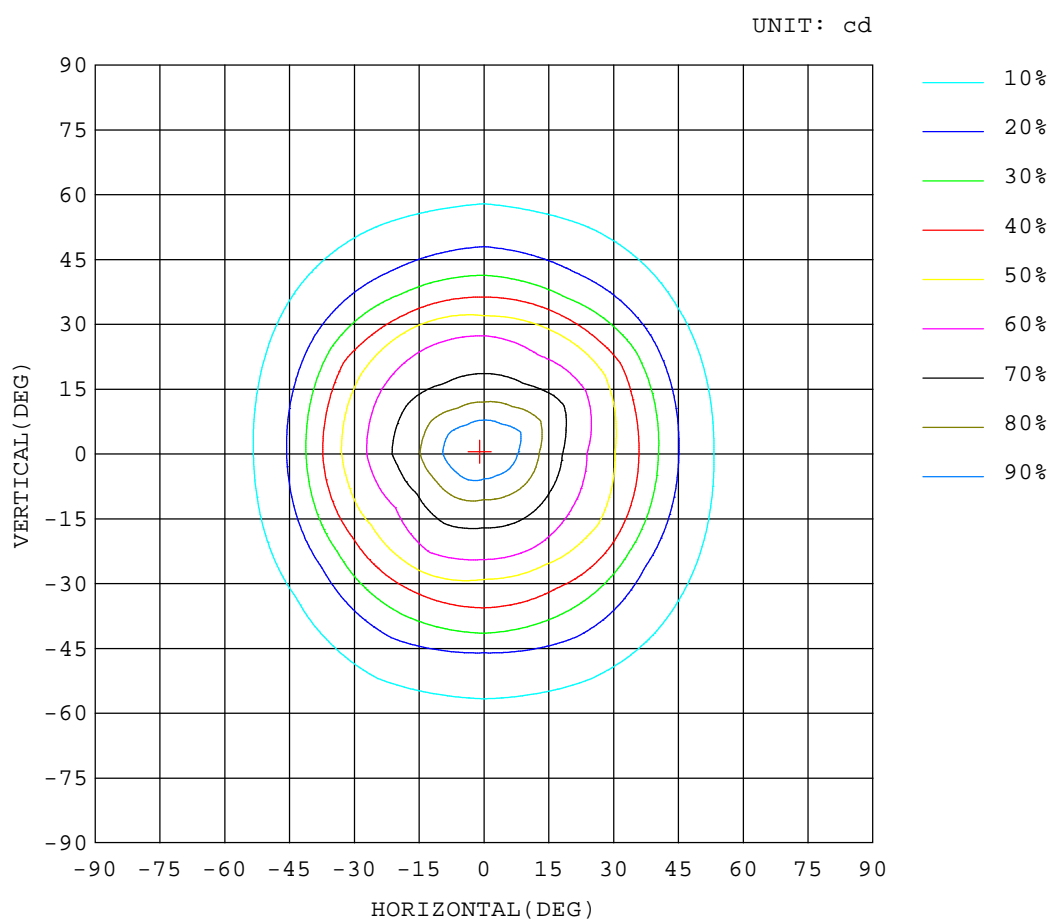
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2021年04月08日

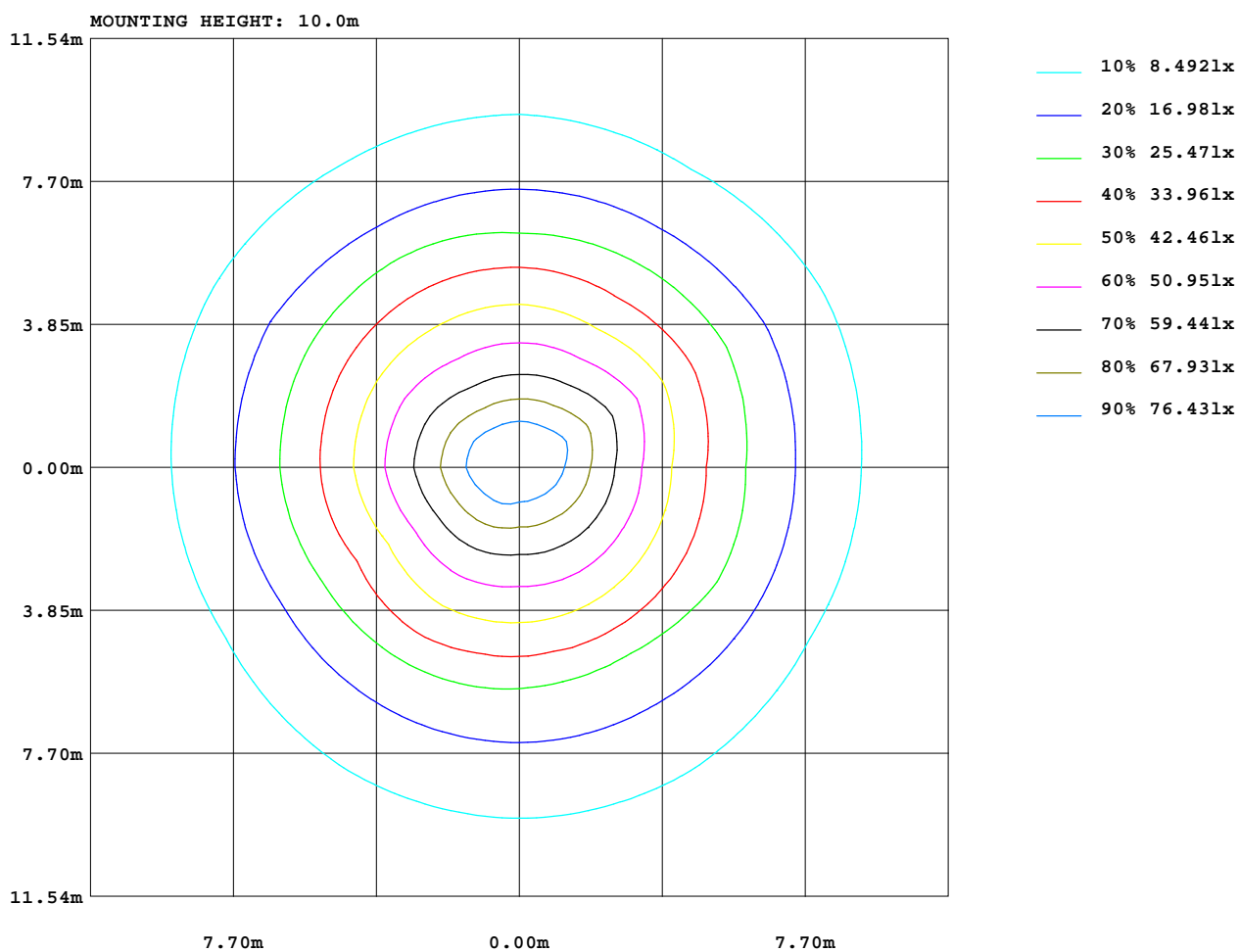
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:11.000 m  
Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOLUX DIAGRAM

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2021年04月08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: 72W      |  |  |  |  |  |  |  |  |  | TYPE:                |  |  |  |  |  |  | WEIGHT:     |  |  |  |
| SPECIFICATION: |  |  |  |  |  |  |  |  |  | DIMENSION: 1452*67mm |  |  |  |  |  |  | SERIAL No.: |  |  |  |

| 90             | AREA FLUX DIAGRAM |      |      |      |      |      |      |      |                  |      |      |      |      |      |      |      |      |      | UNIT:lm |      | Φ t | Φ a |      |    |    |    |
|----------------|-------------------|------|------|------|------|------|------|------|------------------|------|------|------|------|------|------|------|------|------|---------|------|-----|-----|------|----|----|----|
|                | 0.04              | 0.31 | 0.93 | 1.71 | 2.47 | 3.24 | 4.00 | 4.71 | 5.26             | 5.25 | 4.68 | 3.94 | 2.84 | 1.59 | 0.63 | 0.19 | 0.08 | 0.02 | 41.9    | 0.00 |     |     |      |    |    |    |
| 80             | 0.05              | 0.49 | 1.57 | 3.09 | 4.83 | 6.97 | 9.18 | 10.8 | 11.8             | 12.2 | 11.7 | 10.4 | 7.25 | 3.84 | 1.71 | 0.68 | 0.22 | 0.03 | 97.0    | 0.00 |     |     |      |    |    |    |
| 70             | 0.07              | 0.70 | 2.34 | 5.16 | 8.31 | 11.6 | 14.2 | 16.3 | 17.9             | 18.0 | 17.0 | 15.7 | 12.4 | 7.76 | 3.40 | 1.39 | 0.42 | 0.05 | 153     | 0.00 |     |     |      |    |    |    |
| 60             | 0.09              | 0.92 | 3.24 | 6.38 | 10.2 | 14.8 | 20.6 | 26.3 | 30.0             | 29.8 | 25.8 | 20.2 | 14.3 | 9.31 | 4.91 | 2.21 | 0.67 | 0.07 | 220     | 89.7 |     |     |      |    |    |    |
| 50             | 0.10              | 1.15 | 3.77 | 7.77 | 13.8 | 23.2 | 36.4 | 50.8 | 60.6             | 59.8 | 49.0 | 34.8 | 22.1 | 12.6 | 6.55 | 3.05 | 0.93 | 0.09 | 387     | 322  |     |     |      |    |    |    |
| 40             | 0.12              | 1.32 | 4.26 | 9.53 | 19.0 | 38.6 | 67.6 | 93.6 | 109              | 108  | 90.7 | 64.4 | 37.1 | 18.0 | 8.71 | 3.76 | 1.15 | 0.11 | 675     | 630  |     |     |      |    |    |    |
| 30             | 0.12              | 1.43 | 4.73 | 11.3 | 26.6 | 63.6 | 108  | 145  | 160              | 159  | 140  | 104  | 61.0 | 25.7 | 10.8 | 4.43 | 1.35 | 0.13 | 1026    | 990  |     |     |      |    |    |    |
| VERTICAL (DEG) | 0.13              | 1.46 | 5.09 | 12.9 | 35.2 | 84.1 | 136  | 172  | 191              | 192  | 172  | 133  | 79.7 | 33.6 | 12.5 | 4.94 | 1.49 | 0.14 | 1267    | 1235 |     |     |      |    |    |    |
|                | 0.12              | 1.44 | 5.19 | 13.7 | 40.3 | 95.0 | 148  | 195  | 236              | 236  | 192  | 140  | 87.3 | 38.1 | 13.5 | 5.22 | 1.56 | 0.15 | 1449    | 1419 |     |     |      |    |    |    |
|                | 0.12              | 1.39 | 5.10 | 13.5 | 39.2 | 92.4 | 144  | 189  | 230              | 226  | 184  | 136  | 85.7 | 37.2 | 13.5 | 5.28 | 1.60 | 0.16 | 1404    | 1374 |     |     |      |    |    |    |
|                | 0.11              | 1.32 | 4.83 | 12.2 | 32.5 | 77.1 | 125  | 164  | 188              | 186  | 161  | 124  | 75.0 | 31.6 | 12.7 | 5.14 | 1.60 | 0.16 | 1202    | 1170 |     |     |      |    |    |    |
|                | 0.10              | 1.19 | 4.26 | 10.3 | 23.6 | 55.1 | 96.8 | 133  | 151              | 148  | 126  | 95.9 | 54.1 | 24.3 | 11.1 | 4.81 | 1.53 | 0.15 | 941     | 904  |     |     |      |    |    |    |
|                | 0.08              | 1.00 | 3.55 | 8.40 | 16.5 | 34.6 | 64.1 | 89.9 | 104              | 103  | 88.4 | 63.1 | 34.9 | 18.2 | 9.26 | 4.37 | 1.39 | 0.14 | 644     | 596  |     |     |      |    |    |    |
|                | 0.06              | 0.79 | 2.77 | 6.35 | 12.1 | 21.2 | 35.4 | 49.0 | 57.4             | 57.2 | 48.4 | 34.7 | 22.2 | 13.3 | 7.68 | 3.85 | 1.17 | 0.12 | 374     | 307  |     |     |      |    |    |    |
|                | 0.04              | 0.55 | 1.97 | 4.56 | 9.18 | 14.2 | 20.0 | 24.9 | 27.7             | 27.7 | 24.9 | 20.2 | 14.8 | 10.3 | 6.40 | 3.18 | 0.93 | 0.10 | 212     | 75.3 |     |     |      |    |    |    |
|                | 0.02              | 0.32 | 1.18 | 3.03 | 7.15 | 12.0 | 15.5 | 16.9 | 17.7             | 17.7 | 16.6 | 15.0 | 12.1 | 8.33 | 4.88 | 2.19 | 0.70 | 0.08 | 152     | 0.00 |     |     |      |    |    |    |
|                | 0.01              | 0.12 | 0.49 | 1.50 | 3.51 | 6.60 | 9.63 | 11.1 | 11.8             | 11.6 | 10.6 | 8.97 | 6.71 | 4.58 | 2.88 | 1.45 | 0.48 | 0.06 | 92.3    | 0.00 |     |     |      |    |    |    |
| 0.00           | 0.01              | 0.07 | 0.48 | 1.51 | 2.88 | 3.96 | 4.46 | 4.77 | 4.80             | 4.55 | 4.12 | 3.35 | 2.38 | 1.50 | 0.79 | 0.28 | 0.04 | 40.0 | 0.00    |      |     |     |      |    |    |    |
| -90            | -90               | -80  | -70  | -60  | -50  | -40  | -30  | -20  | HORIZONTAL (DEG) |      |      |      |      |      |      |      |      |      | 20      | 30   | 40  | 50  | 60   | 70 | 80 | 90 |
| Φ t            | 1.37              | 15.9 | 55.4 | 132  | 306  | 658  | 1058 | 1397 | 1615             | 1601 | 1368 | 1028 | 634  | 301  | 133  | 57.0 | 17.5 | 1.80 | 10546   |      |     |     |      |    |    |    |
| Φ a            | 0.00              | 0.00 | 0.00 | 18.2 | 211  | 568  | 970  | 1311 | 1531             | 1517 | 1281 | 939  | 543  | 206  | 18.1 | 0.00 | 0.00 | 0.00 |         |      |     |     | 9122 |    |    |    |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08日

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

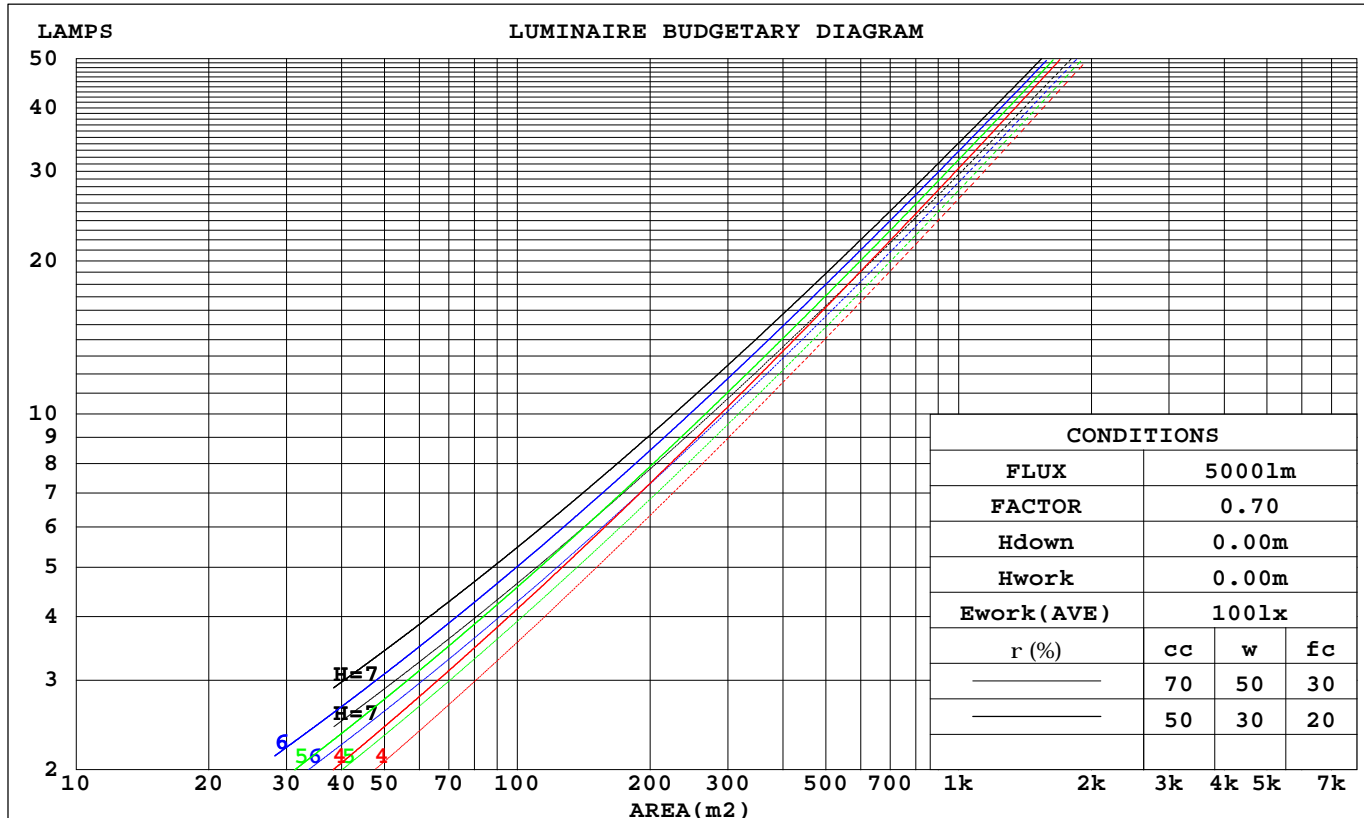
# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |

| rcc | 80%                   |     |     | 70% |     |     | 50% |     |     | 30% |     |     | 10% |     |     | 0 |
|-----|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| rw  | 50%                   | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| rfc | 20%                   |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 0 |
| RCR | RCR:Room Cavity Ratio |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08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: 72W      |  |  |  |  |  | TYPE:                |  |  | WEIGHT:     |  |  |
| SPECIFICATION: |  |  |  |  |  | DIMENSION: 1452*67mm |  |  | SERIAL No.: |  |  |

| rcc | 80%                   |     |     | 70% |     |     | 50% |     |     | 30% |     |     | 10% |     |     | 0 |
|-----|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| rw  | 50%                   | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| rfc | 20%                   |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 0 |
| RCR | RCR:Room Cavity Ratio |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |

| rcc  | 80%   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|
| rw   | 50%   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| rfc  | 20%   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio                      Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |   |
| 0.0  | .202  | .202 | .202 | .173 | .173 | .173 | .118 | .118 | .118 | .068 | .068 | .068 | .022 | .022 | .022 |   |
| 1.0  | .188  | .169 | .152 | .160 | .145 | .131 | .110 | .100 | .090 | .063 | .058 | .053 | .020 | .019 | .017 |   |
| 2.0  | .176  | .144 | .118 | .151 | .124 | .102 | .103 | .086 | .071 | .059 | .050 | .042 | .019 | .016 | .014 |   |
| 3.0  | .166  | .126 | .095 | .142 | .109 | .082 | .098 | .076 | .057 | .056 | .044 | .034 | .018 | .014 | .011 |   |
| 4.0  | .157  | .112 | .078 | .135 | .097 | .068 | .093 | .068 | .048 | .054 | .040 | .028 | .017 | .013 | .009 |   |
| 5.0  | .149  | .101 | .066 | .128 | .087 | .057 | .088 | .061 | .040 | .051 | .036 | .024 | .016 | .012 | .008 |   |
| 6.0  | .142  | .092 | .057 | .122 | .080 | .049 | .084 | .056 | .035 | .049 | .033 | .021 | .016 | .011 | .007 |   |
| 7.0  | .135  | .085 | .050 | .116 | .074 | .044 | .080 | .052 | .031 | .047 | .030 | .018 | .015 | .010 | .006 |   |
| 8.0  | .129  | .079 | .045 | .111 | .069 | .039 | .077 | .048 | .028 | .045 | .028 | .016 | .015 | .009 | .005 |   |
| 9.0  | .124  | .074 | .041 | .107 | .064 | .035 | .074 | .045 | .025 | .043 | .027 | .015 | .014 | .009 | .005 |   |
| 10.0 | .119  | .070 | .037 | .103 | .061 | .032 | .071 | .043 | .023 | .042 | .025 | .014 | .013 | .008 | .005 |   |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08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: 72W  |               |                  |      |      | TYPE:                |               |                | WEIGHT:     |      |      |      |
| SPECIFICATION:                                     |               |                  |      |      | DIMENSION: 1452*67mm |               |                | 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                                      | 2H            | 20.9             | 22.1 | 21.2 | 22.3                 | 22.6          | 21.6           | 22.8        | 21.9 | 23.0 | 23.2 |
|  | 3H            | 21.5             | 22.6 | 21.8 | 22.8                 | 23.1          | 22.8           | 23.9        | 23.1 | 24.2 | 24.4 |
|  | 4H            | 21.7             | 22.8 | 22.1 | 23.1                 | 23.3          | 23.5           | 24.6        | 23.8 | 24.8 | 25.1 |
|  | 6H            | 21.9             | 22.9 | 22.2 | 23.2                 | 23.5          | 23.9           | 24.8        | 24.2 | 25.1 | 25.4 |
|  | 8H            | 21.9             | 22.9 | 22.3 | 23.2                 | 23.5          | 24.1           | 25.0        | 24.4 | 25.3 | 25.6 |
|  | 12H           | 21.9             | 22.8 | 22.3 | 23.1                 | 23.5          | 24.3           | 25.2        | 24.7 | 25.5 | 25.9 |
| 4H   | 2H            | 21.2             | 22.3 | 21.5 | 22.5                 | 22.8          | 21.8           | 22.9        | 22.1 | 23.1 | 23.4 |
|  | 3H            | 22.1             | 23.0 | 22.4 | 23.3                 | 23.6          | 23.4           | 24.3        | 23.7 | 24.6 | 24.9 |
|  | 4H            | 22.5             | 23.3 | 22.9 | 23.7                 | 24.0          | 24.2           | 25.0        | 24.6 | 25.4 | 25.7 |
|  | 6H            | 22.8             | 23.5 | 23.2 | 23.9                 | 24.3          | 24.7           | 25.4        | 25.1 | 25.8 | 26.2 |
|  | 8H            | 22.9             | 23.5 | 23.3 | 23.9                 | 24.3          | 25.0           | 25.7        | 25.4 | 26.1 | 26.5 |
|  | 12H           | 22.9             | 23.5 | 23.3 | 23.9                 | 24.4          | 25.3           | 26.0        | 25.8 | 26.4 | 26.8 |
| 8H   | 4H            | 22.9             | 23.6 | 23.3 | 23.9                 | 24.4          | 24.4           | 25.0        | 24.8 | 25.4 | 25.8 |
|  | 6H            | 23.3             | 23.9 | 23.8 | 24.3                 | 24.8          | 25.0           | 25.6        | 25.5 | 26.0 | 26.4 |
|  | 8H            | 23.5             | 24.0 | 24.0 | 24.4                 | 24.9          | 25.5           | 26.0        | 25.9 | 26.4 | 26.9 |
|  | 12H           | 23.6             | 24.0 | 24.1 | 24.5                 | 25.0          | 25.9           | 26.4        | 26.4 | 26.8 | 27.4 |
| 12H  | 4H            | 22.9             | 23.5 | 23.4 | 23.9                 | 24.4          | 24.3           | 25.0        | 24.8 | 25.4 | 25.8 |
|  | 6H            | 23.4             | 23.9 | 23.9 | 24.4                 | 24.9          | 25.0           | 25.5        | 25.5 | 26.0 | 26.5 |
|  | 8H            | 23.7             | 24.1 | 24.2 | 24.6                 | 25.1          | 25.6           | 26.0        | 26.1 | 26.5 | 27.0 |
| Variations with the observer position at spacings: |               |                  |      |      |                      |               |                |             |      |      |      |
| S = 1.0H   | + 0.7 / - 0.8 |                  |      |      |                      | + 0.3 / - 0.4 |                |             |      |      |      |
| 1.5H   | + 0.9 / - 0.7 |                  |      |      |                      | + 0.5 / - 0.4 |                |             |      |      |      |
| 2.0H   | + 1.2 / - 0.7 |                  |      |      |                      | + 1.0 / - 0.8 |                |             |      |      |      |

CIE Pub.117 Corrected 10546 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.2)

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08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: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| k = 0.60                         | 72  | 63  | 57        | 71  | 63  | 57  | 70  | 62            | 57  | 52     |
| 0.80                             | 81  | 72  | 67        | 80  | 72  | 66  | 78  | 71            | 66  | 61     |
| 1.00                             | 87  | 79  | 74        | 86  | 79  | 73  | 84  | 79            | 73  | 67     |
| 1.25                             | 93  | 85  | 80        | 92  | 85  | 80  | 89  | 83            | 79  | 73     |
| 1.50                             | 97  | 90  | 85        | 95  | 89  | 84  | 93  | 87            | 83  | 77     |
| 2.00                             | 102   | 95  | 91        | 100 | 94  | 90  | 97  | 92            | 88  | 81     |
| 2.50                             | 104   | 99  | 94        | 102 | 97  | 93  | 99  | 95            | 91  | 84     |
| 3.00                             | 107   | 102 | 97        | 105 | 100 | 96  | 101 | 97            | 94  | 86     |
| 4.00                             | 110   | 105 | 102       | 107 | 104 | 100 | 103 | 100           | 98  | 89     |
| 5.00                             | 111   | 108 | 105       | 109 | 106 | 103 | 104 | 102           | 100 | 91     |
| 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:2021年04月08日

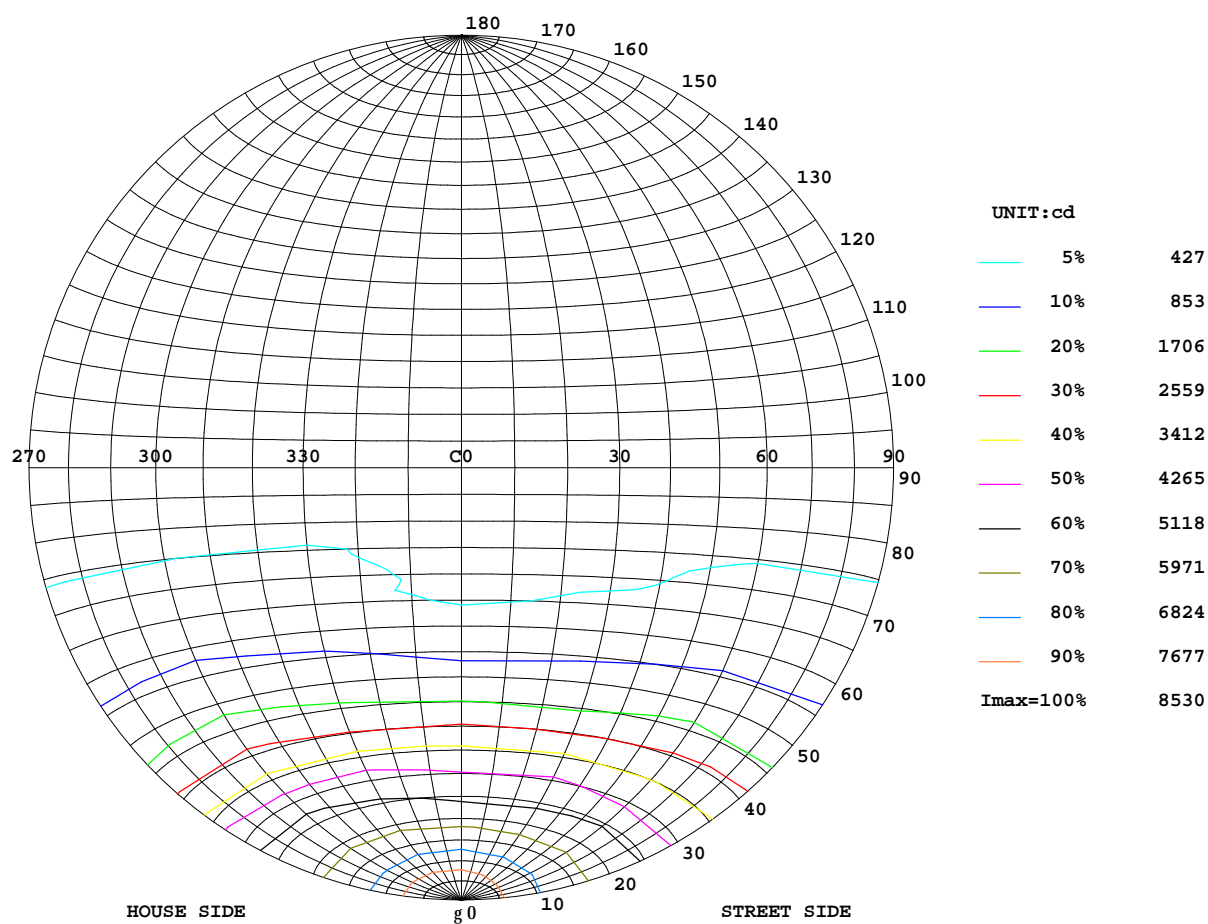
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2021年04月08日

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

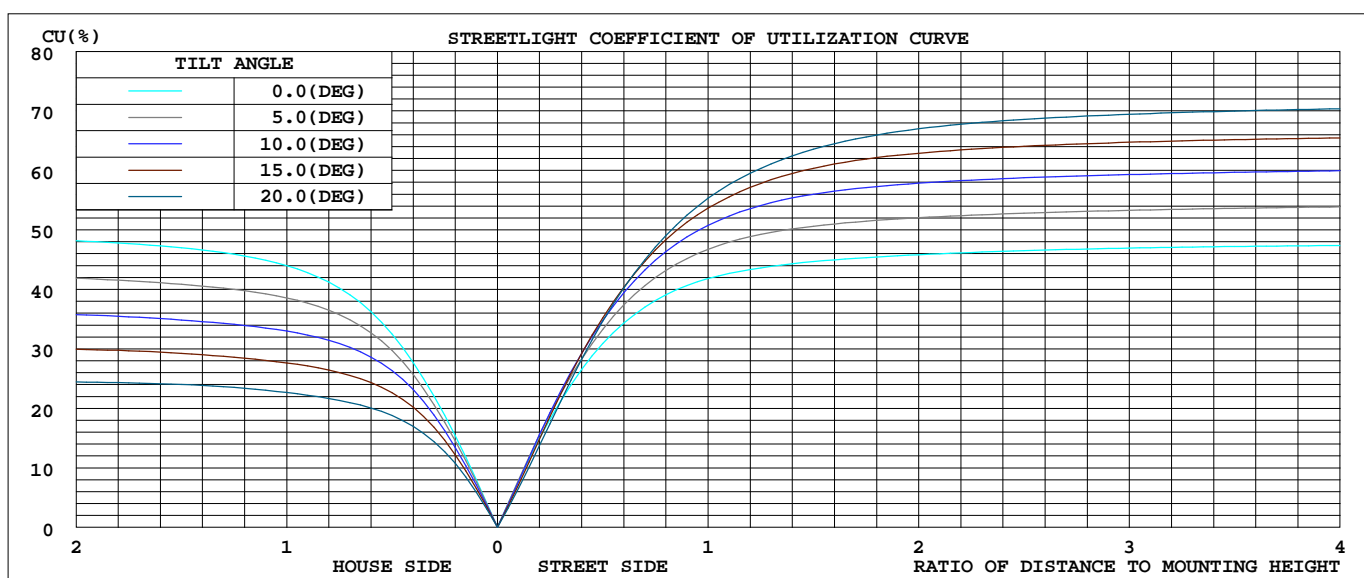
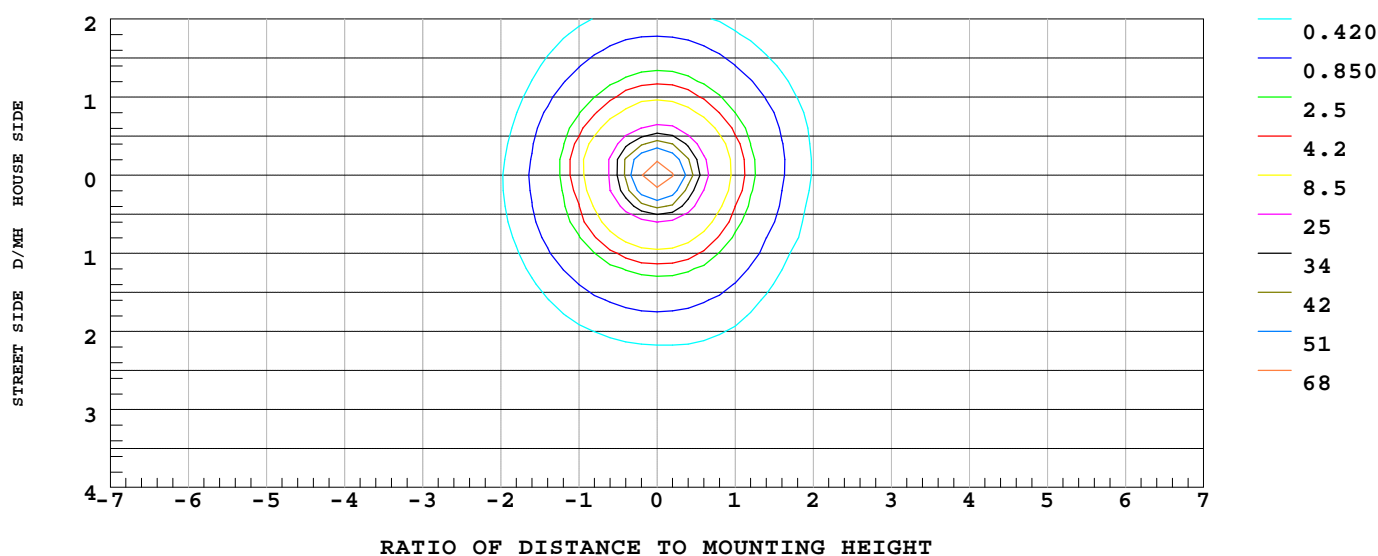
# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOLUX DIAGRAM

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |

ILLUMINANCE AT MH=10 m, Enadir = 84.68 lx



Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08日

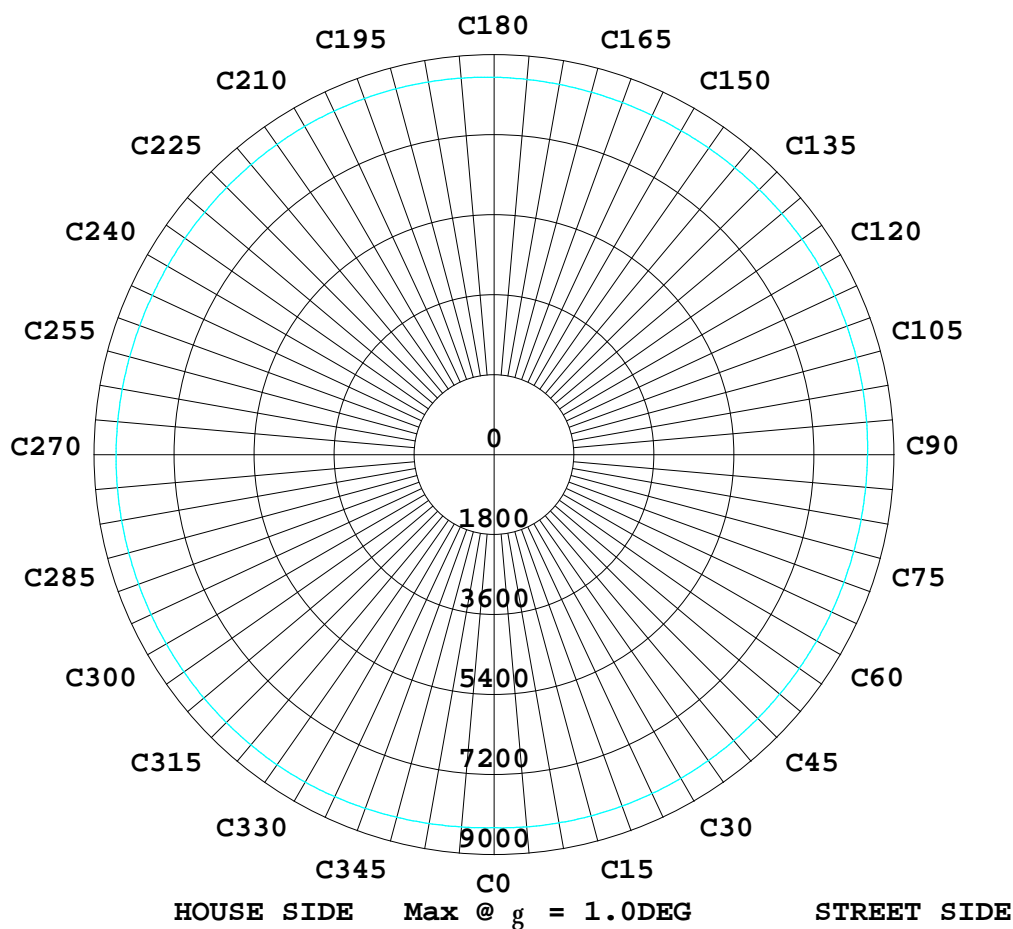
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:11.000 m  
 Remarks:

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |



Test System:HOPOO HPG1800  
Temperature:25.3DEG  
Operators:  
Test Date:2021年04月08日

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

# HOPOO GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

|                |                      |             |
|----------------|----------------------|-------------|
| MANUFACTURER:  |                      |             |
| Address:       |                      |             |
| NAME: 72W      | TYPE:                | WEIGHT:     |
| SPECIFICATION: | DIMENSION: 1452*67mm | SERIAL No.: |

UNIT: cd

| C(DEG)<br>γ (DEG) | 0    | 30   | 60   | 90   | 120  | 150  | 180  | 210  | 240  | 270  | 300  | 330  |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0.0               | 8468 | 8498 | 8472 | 8491 | 8521 | 8461 | 8468 | 8498 | 8472 | 8491 | 8521 | 8461 |
| 5.0               | 8058 | 7912 | 7818 | 7805 | 7998 | 8025 | 8303 | 8335 | 8203 | 8205 | 8188 | 8354 |
| 10.0              | 7303 | 7133 | 6955 | 6912 | 7137 | 7293 | 7606 | 7566 | 7262 | 7245 | 7319 | 7651 |
| 15.0              | 6449 | 6357 | 6300 | 6196 | 6388 | 6448 | 6787 | 6704 | 6367 | 6361 | 6431 | 6846 |
| 20.0              | 5668 | 5631 | 5656 | 5661 | 5792 | 5652 | 6104 | 6100 | 5824 | 5843 | 5779 | 6184 |
| 25.0              | 4967 | 4985 | 5058 | 5012 | 5231 | 4957 | 5446 | 5501 | 5420 | 5414 | 5263 | 5480 |
| 30.0              | 4316 | 4373 | 4078 | 4113 | 4422 | 4341 | 4754 | 4800 | 4826 | 4651 | 4757 | 4727 |
| 35.0              | 3556 | 3538 | 3404 | 3509 | 3461 | 3499 | 3868 | 3953 | 3767 | 3512 | 3682 | 3550 |
| 40.0              | 2627 | 2521 | 2648 | 2767 | 2743 | 2561 | 2844 | 3029 | 2744 | 2789 | 2602 | 2908 |
| 45.0              | 1722 | 1628 | 1948 | 1895 | 1935 | 1658 | 1808 | 1956 | 1922 | 2030 | 1833 | 1875 |
| 50.0              | 1075 | 1111 | 1219 | 1201 | 1284 | 1037 | 1132 | 1213 | 1331 | 1401 | 1236 | 1184 |
| 55.0              | 748  | 809  | 903  | 923  | 902  | 718  | 755  | 843  | 934  | 997  | 916  | 792  |
| 60.0              | 551  | 594  | 676  | 683  | 663  | 527  | 528  | 622  | 677  | 753  | 659  | 558  |
| 65.0              | 393  | 464  | 561  | 574  | 565  | 382  | 382  | 476  | 514  | 575  | 552  | 403  |
| 70.0              | 287  | 365  | 526  | 546  | 562  | 263  | 266  | 371  | 504  | 551  | 600  | 289  |
| 75.0              | 189  | 303  | 403  | 379  | 441  | 168  | 164  | 315  | 385  | 419  | 510  | 185  |
| 80.0              | 103  | 177  | 222  | 233  | 224  | 86.7 | 84.2 | 193  | 210  | 246  | 213  | 102  |
| 85.0              | 35.1 | 104  | 155  | 164  | 148  | 22.4 | 24.5 | 121  | 148  | 189  | 143  | 37.0 |
| 90.0              | 3.58 | 47.9 | 77.8 | 75.2 | 73.0 | 0.00 | 0.00 | 62.3 | 79.2 | 101  | 75.3 | 3.33 |
| 95.0              | 0.00 | 46.6 | 91.4 | 101  | 83.1 | 0.00 | 0.00 | 60.5 | 91.3 | 117  | 81.9 | 0.00 |
| 100.0             | 0.00 | 39.2 | 85.7 | 96.7 | 75.5 | 0.00 | 0.00 | 46.5 | 79.9 | 106  | 71.7 | 0.00 |
| 105.0             | 0.00 | 46.0 | 85.6 | 96.6 | 77.6 | 0.00 | 0.00 | 53.0 | 81.8 | 104  | 74.0 | 0.00 |
| 110.0             | 0.00 | 45.8 | 85.6 | 93.6 | 80.9 | 0.00 | 0.00 | 55.0 | 86.1 | 102  | 79.4 | 0.00 |
| 115.0             | 0.00 | 40.7 | 84.2 | 96.5 | 78.3 | 0.00 | 0.00 | 51.2 | 83.6 | 102  | 78.7 | 0.00 |
| 120.0             | 0.00 | 29.2 | 79.5 | 90.8 | 71.0 | 0.00 | 0.68 | 46.7 | 83.0 | 95.2 | 76.4 | 1.76 |
| 125.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 130.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 135.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 140.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 145.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 160.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 165.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 170.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 175.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 180.0             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Test System:HOPOO HPG1800  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2021年04月08日

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