

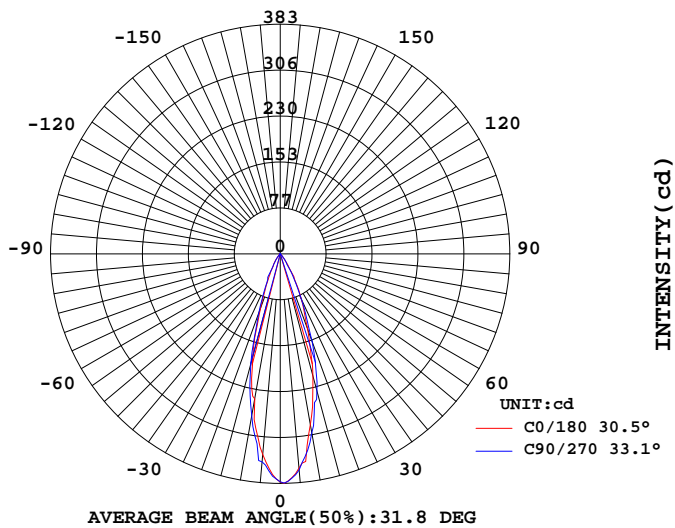
## LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

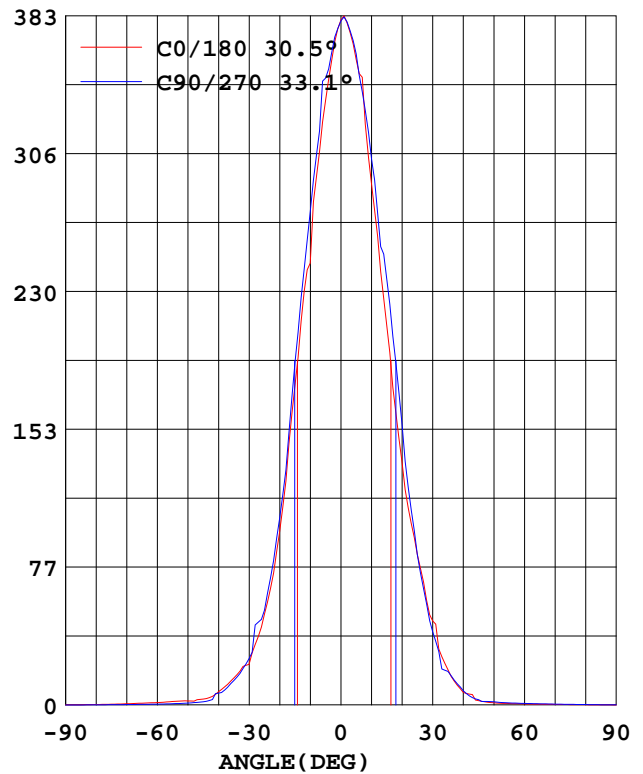
|                |           |  |            |  |             |
|----------------|-----------|--|------------|--|-------------|
| MANUFACTURER:  |           |  |            |  |             |
| Address:       |           |  |            |  |             |
| NAME:          |           |  | TYPE:      |  | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 |  | DIMENSION: |  | SERIAL No.: |

|                  |       |                    |       |                  |       |
|------------------|-------|--------------------|-------|------------------|-------|
| DATA OF LAMP     |       | Imax(cd)           | 382.9 | S/MH(C0/180)     | 0.48  |
| MODEL            |       | EFFICIENCY(%)      | 100.0 | S/MH(C90/270)    | 0.50  |
| NOMINAL POWER(W) | 3     | TOTAL FLUX(lm)     | 133.9 | Voltage(V)       | 12.00 |
| RATED VOLTAGE(V) | 12    | EFFICIENCY(lm/W)   | 40.3  | Current(A)       | 0.367 |
| NOMINAL FLUX(lm) | 133.9 | $\eta$ up(%)       | 0.6   | Power(W)         | 3.320 |
| LAMPS QUANTITY   | 1     | $\eta$ down(%)     | 99.4  | Power Factor(PF) | 0.752 |
| TEST VOLTAGE(V)  | 12.0  | Effective Flux(lm) | 116.5 | EEI              | 0.218 |

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



Test System:HOP00 HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## Color Temperature Data List

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |

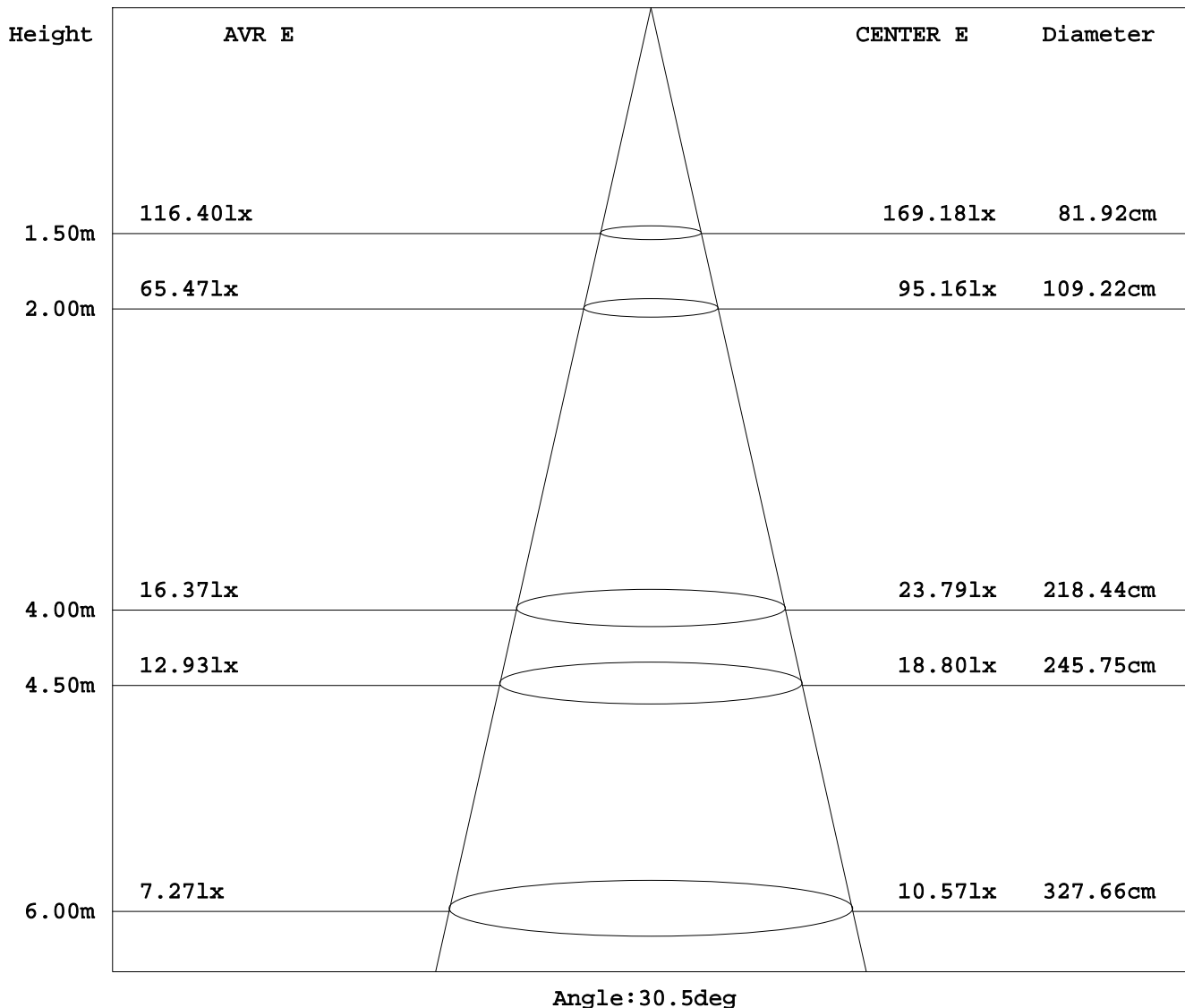
Test System:HOP00 HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## AVERAGE AND CENTER E Figure

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |



Test System: HOPOO HP880D  
Temperature: 25.3DEG  
Operators:  
Test Date: 11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity: 65.0%  
Test Distance: 1.000 m  
Remarks:

# HONGPU GONIOPHOTOMETERS SYSTEM TEST REPORT

## ZONAL FLUX DIAGRAM

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |

| γ     | C0                    | C90   | C180  | C270  |  |  |  |  | γ       | zone    | total |
|-------|-----------------------|-------|-------|-------|--|--|--|--|---------|---------|-------|
| 5.0   | 336.0                 | 348.2 | 358.6 | 361.6 |  |  |  |  | 0- 5    | 8.707   | 8.707 |
| 10.0  | 245.5                 | 274.0 | 289.2 | 303.1 |  |  |  |  | 5- 10   | 22.58   | 31.28 |
| 15.0  | 177.7                 | 190.5 | 210.7 | 236.5 |  |  |  |  | 10- 15  | 28.46   | 59.75 |
| 20.0  | 96.38                 | 103.8 | 134.4 | 155.4 |  |  |  |  | 15- 20  | 26.35   | 86.10 |
| 25.0  | 50.42                 | 52.59 | 83.54 | 83.45 |  |  |  |  | 20- 25  | 19.21   | 105.3 |
| 30.0  | 22.58                 | 25.75 | 46.60 | 40.56 |  |  |  |  | 25- 30  | 12.62   | 117.9 |
| 35.0  | 14.97                 | 13.55 | 19.56 | 18.64 |  |  |  |  | 30- 35  | 7.096   | 125.0 |
| 40.0  | 7.347                 | 6.535 | 7.015 | 7.879 |  |  |  |  | 35- 40  | 3.791   | 128.8 |
| 45.0  | 3.257                 | 1.766 | 2.356 | 2.872 |  |  |  |  | 40- 45  | 1.670   | 130.5 |
| 50.0  | 2.204                 | 1.040 | 1.182 | 1.693 |  |  |  |  | 45- 50  | 0.767   | 131.2 |
| 55.0  | 1.888                 | 0.669 | 0.756 | 1.113 |  |  |  |  | 50- 55  | 0.570   | 131.8 |
| 60.0  | 1.316                 | 0.427 | 0.553 | 0.839 |  |  |  |  | 55- 60  | 0.430   | 132.2 |
| 65.0  | 0.956                 | 0.285 | 0.384 | 0.615 |  |  |  |  | 60- 65  | 0.325   | 132.5 |
| 70.0  | 0.646                 | 0.191 | 0.253 | 0.435 |  |  |  |  | 65- 70  | 0.236   | 132.8 |
| 75.0  | 0.390                 | 0.111 | 0.165 | 0.293 |  |  |  |  | 70- 75  | 0.161   | 132.9 |
| 80.0  | 0.212                 | 0.043 | 0.090 | 0.191 |  |  |  |  | 75- 80  | 0.099   | 133.0 |
| 85.0  | 0.082                 | 0     | 0.026 | 0.087 |  |  |  |  | 80- 85  | 0.048   | 133.1 |
| 90.0  | 0.017                 | 0     | 0     | 0.031 |  |  |  |  | 85- 90  | 0.014   | 133.1 |
| 95.0  | 0.011                 | 0     | 0     | 0.012 |  |  |  |  | 90- 95  | 0.004   | 133.1 |
| 100.0 | 0.010                 | 0     | 0     | 0.010 |  |  |  |  | 95-100  | 0.003   | 133.1 |
| 105.0 | 0.009                 | 0     | 0     | 0.008 |  |  |  |  | 100-105 | 0.003   | 133.1 |
| 110.0 | 0.008                 | 0     | 0     | 0.007 |  |  |  |  | 105-110 | 0.002   | 133.1 |
| 115.0 | 0.005                 | 0     | 0.001 | 0.003 |  |  |  |  | 110-115 | 0.001   | 133.1 |
| 120.0 | 0.008                 | 0.004 | 0.007 | 0.004 |  |  |  |  | 115-120 | 0.002   | 133.1 |
| 125.0 | 0.011                 | 0.011 | 0.017 | 0.011 |  |  |  |  | 120-125 | 0.004   | 133.1 |
| 130.0 | 0.029                 | 0.042 | 0.031 | 0.021 |  |  |  |  | 125-130 | 0.009   | 133.1 |
| 135.0 | 0.067                 | 0.092 | 0.066 | 0.044 |  |  |  |  | 130-135 | 0.019   | 133.1 |
| 140.0 | 0.141                 | 0.189 | 0.129 | 0.090 |  |  |  |  | 135-140 | 0.037   | 133.2 |
| 145.0 | 0.252                 | 0.322 | 0.225 | 0.179 |  |  |  |  | 140-145 | 0.063   | 133.2 |
| 150.0 | 0.403                 | 0.485 | 0.383 | 0.320 |  |  |  |  | 145-150 | 0.093   | 133.3 |
| 155.0 | 0.556                 | 0.616 | 0.559 | 0.493 |  |  |  |  | 150-155 | 0.120   | 133.5 |
| 160.0 | 0.668                 | 0.677 | 0.701 | 0.650 |  |  |  |  | 155-160 | 0.130   | 133.6 |
| 165.0 | 0.691                 | 0.647 | 0.756 | 0.733 |  |  |  |  | 160-165 | 0.115   | 133.7 |
| 170.0 | 0.620                 | 0.559 | 0.696 | 0.703 |  |  |  |  | 165-170 | 0.081   | 133.8 |
| 175.0 | 0.528                 | 0.495 | 0.592 | 0.607 |  |  |  |  | 170-175 | 0.043   | 133.8 |
| 180.0 | 0.487                 | 0.483 | 0.486 | 0.490 |  |  |  |  | 175-180 | 0.013   | 133.8 |
| DEG   | LUMINOUS INTENSITY:cd |       |       |       |  |  |  |  |         | UNIT:lm |       |

Test System:HOPPO HP880D  
 Temperature:25.3DEG  
 Operators:  
 Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:1.000 m  
 Remarks:

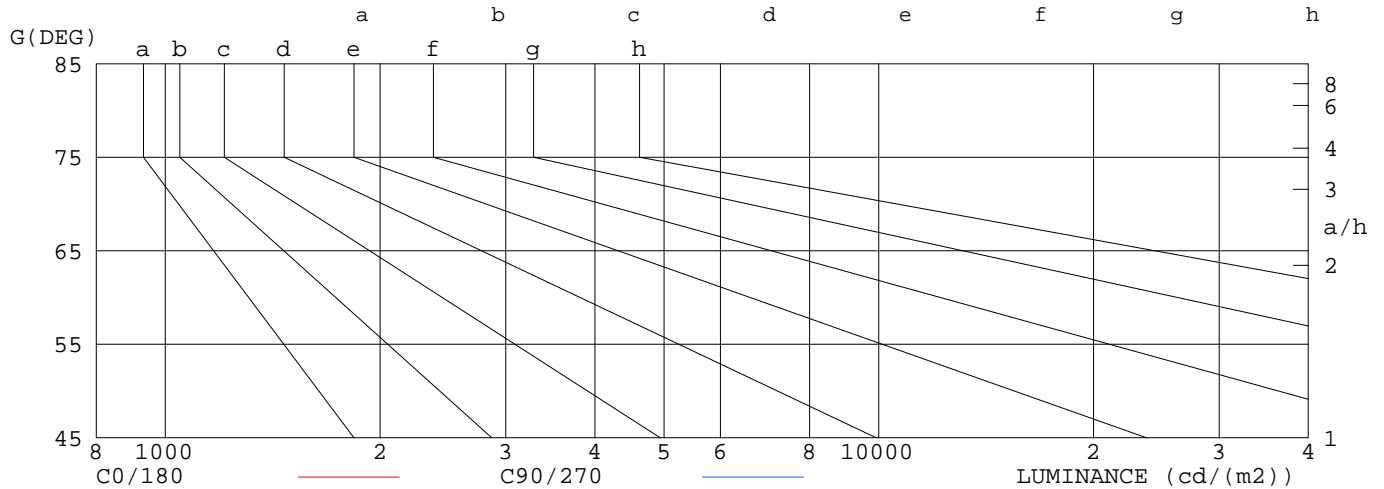
## LUMINANCE LIMITATION CURVES

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | 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              | 9      | 0       |
| 80              | 12     | 2       |
| 75              | 15     | 4       |
| 70              | 19     | 6       |
| 65              | 23     | 7       |
| 60              | 26     | 9       |
| 55              | 33     | 12      |
| 50              | 34     | 16      |
| 45              | 46     | 25      |

Test System:HOPPO HP880D  
 Temperature:25.3DEG  
 Operators:  
 Test Date:11-02-2023

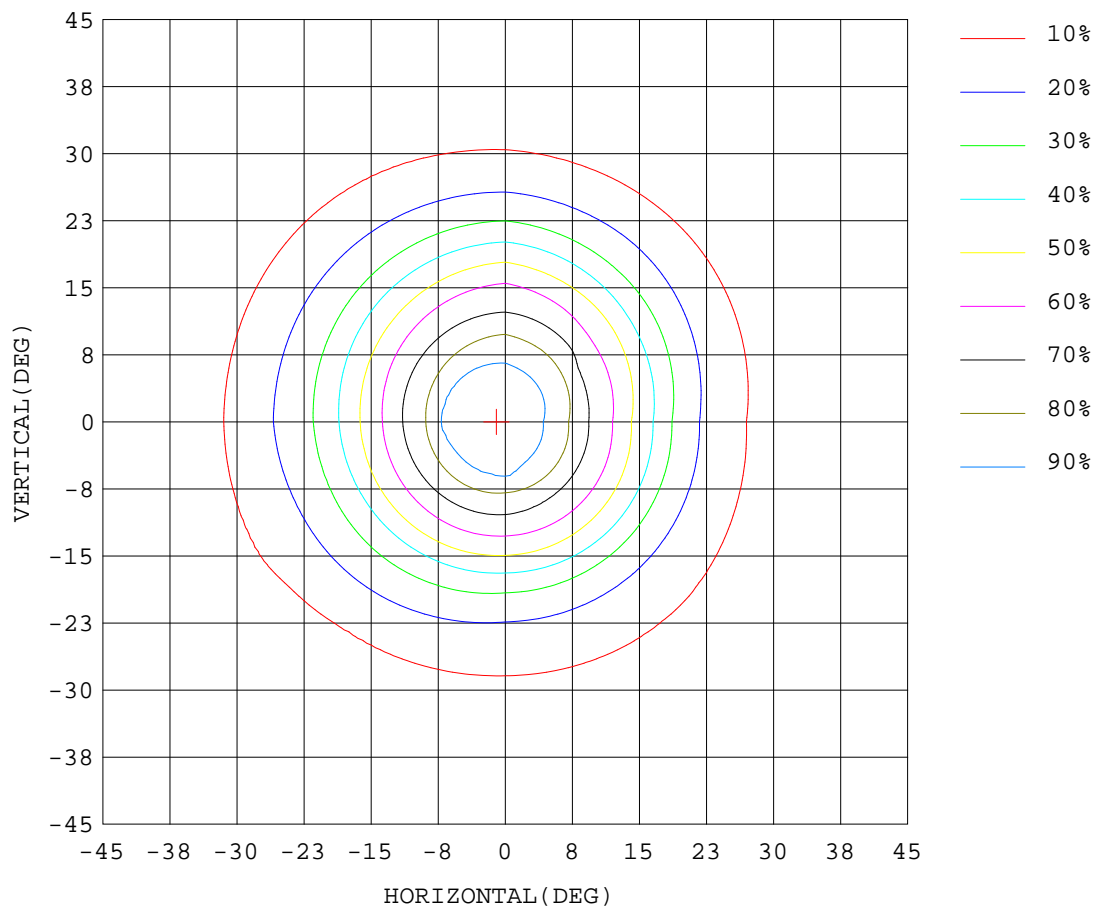
Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:1.000 m  
 Remarks:

## ISOCANDELA DIAGRAM

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |

UNIT: cd



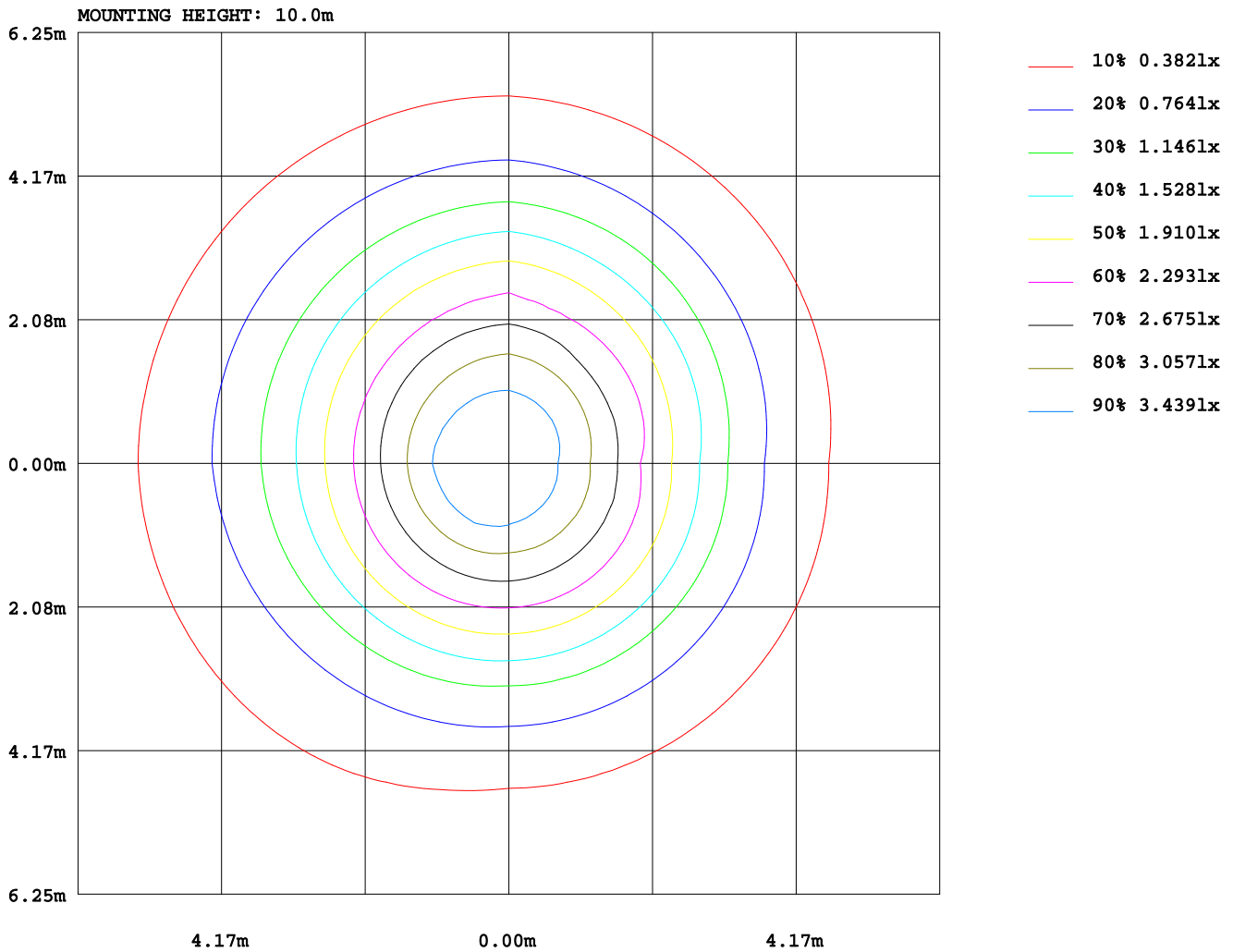
Test System:HOP00 HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## ISOLUX DIAGRAM

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |



Test System: HOPPO HP880D  
Temperature: 25.3DEG  
Operators:  
Test Date: 11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity: 65.0%  
Test Distance: 1.000 m  
Remarks:

# HONGPU GONIOPHOTOMETERS SYSTEM TEST REPORT

## AREA LUMINOUS FLUX

Report number:

|                |  |  |  |  |           |  |  |  |  |            |  |  |  |  |             |  |  |  |  |
|----------------|--|--|--|--|-----------|--|--|--|--|------------|--|--|--|--|-------------|--|--|--|--|
| MANUFACTURER:  |  |  |  |  |           |  |  |  |  |            |  |  |  |  |             |  |  |  |  |
| Address:       |  |  |  |  |           |  |  |  |  |            |  |  |  |  |             |  |  |  |  |
| NAME:          |  |  |  |  |           |  |  |  |  | TYPE:      |  |  |  |  | WEIGHT:     |  |  |  |  |
| SPECIFICATION: |  |  |  |  | CCT(K): 0 |  |  |  |  | DIMENSION: |  |  |  |  | SERIAL No.: |  |  |  |  |

| 45               | AREA FLUX DIAGRAM |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | UNIT:lm |      | Φ t | Φ a |
|------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|------|-----|-----|
|                  | 0.00              | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.33    | 0.00 |     |     |
| 40               | 0.01              | 0.01 | 0.01 | 0.02 | 0.03 | 0.05 | 0.07 | 0.09 | 0.10 | 0.10 | 0.09 | 0.07 | 0.05 | 0.03 | 0.02 | 0.01 | 0.01 | 0.01 | 0.76    | 0.00 |     |     |
| 35               | 0.01              | 0.01 | 0.02 | 0.04 | 0.07 | 0.11 | 0.14 | 0.18 | 0.20 | 0.20 | 0.17 | 0.13 | 0.10 | 0.07 | 0.04 | 0.02 | 0.01 | 0.01 | 1.54    | 0.00 |     |     |
| 30               | 0.01              | 0.02 | 0.04 | 0.08 | 0.13 | 0.22 | 0.32 | 0.40 | 0.45 | 0.44 | 0.37 | 0.27 | 0.18 | 0.12 | 0.07 | 0.04 | 0.02 | 0.01 | 3.18    | 2.03 |     |     |
| 25               | 0.01              | 0.03 | 0.06 | 0.13 | 0.25 | 0.41 | 0.59 | 0.75 | 0.86 | 0.84 | 0.69 | 0.51 | 0.32 | 0.19 | 0.11 | 0.06 | 0.03 | 0.01 | 5.84    | 5.03 |     |     |
| 20               | 0.01              | 0.04 | 0.10 | 0.21 | 0.40 | 0.64 | 0.94 | 1.24 | 1.45 | 1.42 | 1.17 | 0.83 | 0.52 | 0.29 | 0.15 | 0.09 | 0.04 | 0.02 | 9.56    | 8.89 |     |     |
| 15               | 0.02              | 0.05 | 0.13 | 0.30 | 0.56 | 0.89 | 1.34 | 1.74 | 1.98 | 1.95 | 1.66 | 1.21 | 0.73 | 0.40 | 0.20 | 0.11 | 0.05 | 0.02 | 13.3    | 12.7 |     |     |
| 10               | 0.03              | 0.07 | 0.17 | 0.38 | 0.68 | 1.11 | 1.66 | 2.16 | 2.48 | 2.43 | 2.03 | 1.51 | 0.92 | 0.48 | 0.23 | 0.12 | 0.06 | 0.02 | 16.5    | 16.0 |     |     |
|                  | 0.03              | 0.07 | 0.20 | 0.42 | 0.74 | 1.23 | 1.84 | 2.44 | 2.79 | 2.72 | 2.24 | 1.63 | 1.00 | 0.51 | 0.25 | 0.13 | 0.07 | 0.03 | 18.3    | 17.7 |     |     |
|                  | 0.03              | 0.07 | 0.20 | 0.41 | 0.72 | 1.19 | 1.80 | 2.40 | 2.75 | 2.68 | 2.21 | 1.60 | 0.96 | 0.49 | 0.24 | 0.12 | 0.06 | 0.03 | 18.0    | 17.4 |     |     |
|                  | 0.03              | 0.06 | 0.17 | 0.36 | 0.63 | 1.01 | 1.55 | 2.04 | 2.35 | 2.30 | 1.92 | 1.40 | 0.82 | 0.43 | 0.22 | 0.12 | 0.06 | 0.02 | 15.5    | 14.9 |     |     |
|                  | 0.02              | 0.05 | 0.13 | 0.28 | 0.50 | 0.77 | 1.14 | 1.53 | 1.74 | 1.71 | 1.45 | 1.01 | 0.61 | 0.34 | 0.18 | 0.10 | 0.05 | 0.02 | 11.6    | 11.0 |     |     |
| -15              | 0.01              | 0.04 | 0.09 | 0.19 | 0.35 | 0.53 | 0.74 | 0.95 | 1.07 | 1.05 | 0.88 | 0.63 | 0.41 | 0.24 | 0.13 | 0.08 | 0.04 | 0.02 | 7.47    | 6.75 |     |     |
| -20              | 0.01              | 0.03 | 0.06 | 0.12 | 0.21 | 0.34 | 0.45 | 0.54 | 0.59 | 0.57 | 0.48 | 0.37 | 0.26 | 0.15 | 0.10 | 0.05 | 0.02 | 0.01 | 4.36    | 3.43 |     |     |
| -25              | 0.01              | 0.01 | 0.04 | 0.07 | 0.12 | 0.18 | 0.25 | 0.30 | 0.32 | 0.31 | 0.27 | 0.20 | 0.14 | 0.10 | 0.06 | 0.03 | 0.02 | 0.01 | 2.42    | 0.90 |     |     |
| -30              | 0.01              | 0.01 | 0.02 | 0.04 | 0.06 | 0.09 | 0.12 | 0.14 | 0.15 | 0.14 | 0.13 | 0.11 | 0.08 | 0.06 | 0.03 | 0.02 | 0.01 | 0.01 | 1.22    | 0.00 |     |     |
| -35              | 0.00              | 0.01 | 0.01 | 0.01 | 0.03 | 0.04 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 | 0.06 | 0.04 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.60    | 0.00 |     |     |
| -40              | 0.00              | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.25    | 0.00 |     |     |
| -45              |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |      |     |     |
| HORIZONTAL( DEG) |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |      |     |     |
| Φ t              | 0.24              | 0.60 | 1.44 | 3.08 | 5.49 | 8.86 | 13.0 | 17.0 | 19.4 | 19.0 | 15.9 | 11.6 | 7.18 | 3.95 | 2.07 | 1.12 | 0.58 | 0.28 | 134     |      |     |     |
| Φ a              | 0.00              | 0.00 | 0.17 | 2.18 | 4.70 | 8.12 | 12.4 | 16.4 | 18.7 | 18.3 | 15.2 | 10.8 | 6.36 | 2.95 | 0.45 | 0.00 | 0.00 | 0.00 |         | 117  |     |     |

Test System:HOP00 HP880D  
 Temperature:25.3DEG  
 Operators:  
 Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:1.000 m  
 Remarks:

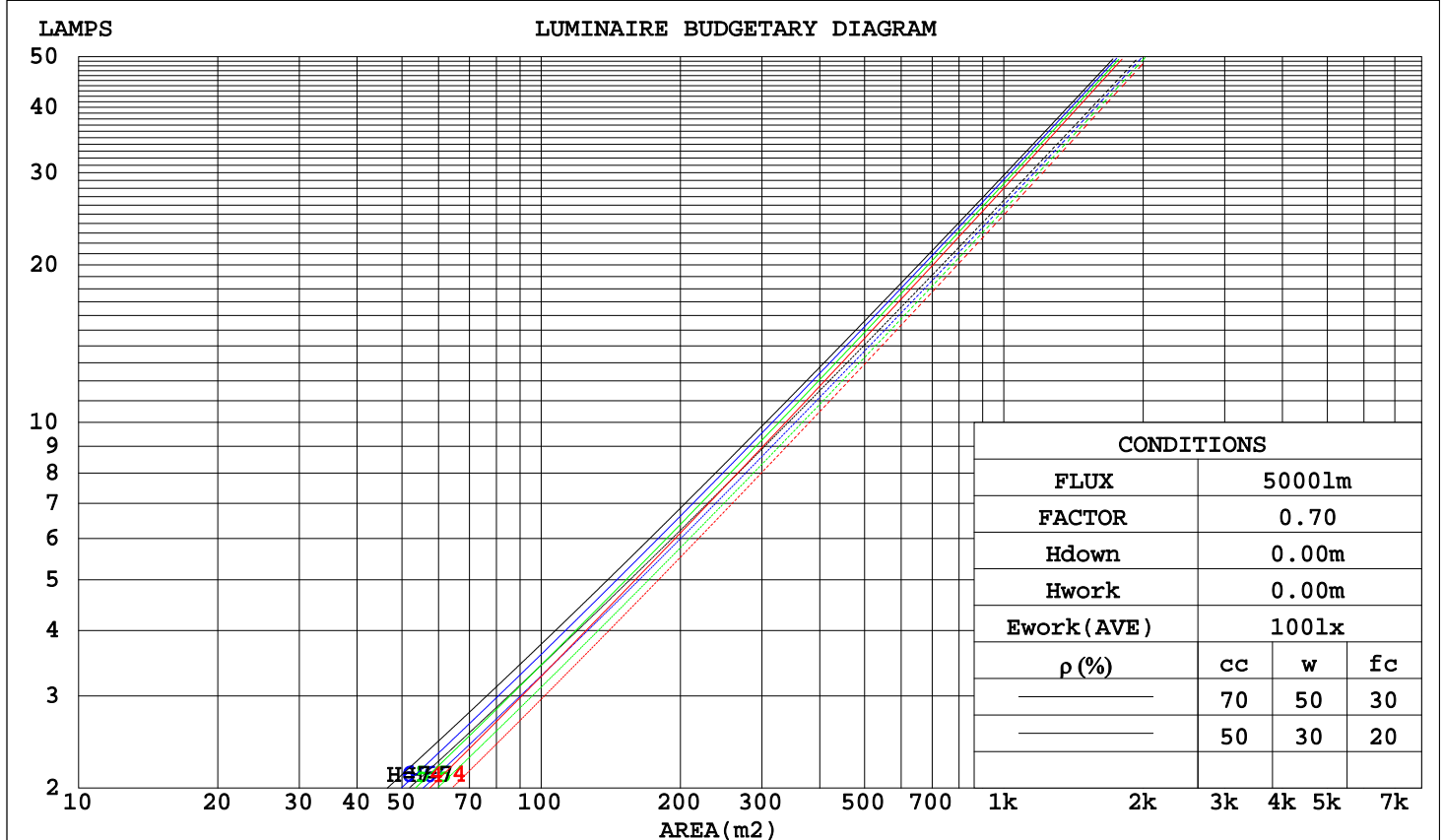


## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Report number:

|                |  |  |  |           |  |  |  |            |  |  |  |             |  |  |  |
|----------------|--|--|--|-----------|--|--|--|------------|--|--|--|-------------|--|--|--|
| MANUFACTURER:  |  |  |  |           |  |  |  |            |  |  |  |             |  |  |  |
| Address:       |  |  |  |           |  |  |  |            |  |  |  |             |  |  |  |
| NAME:          |  |  |  |           |  |  |  | TYPE:      |  |  |  | WEIGHT:     |  |  |  |
| SPECIFICATION: |  |  |  | CCT(K): 0 |  |  |  | DIMENSION: |  |  |  | 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:HOP00 HP880D  
 Temperature:25.3DEG  
 Operators:  
 Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:1.000 m  
 Remarks:

# HONGPU GONIOPHOTOMETERS SYSTEM TEST REPORT

## WEC AND CCEC

Report number:

|                |  |  |  |           |  |  |  |            |  |  |  |             |  |  |  |
|----------------|--|--|--|-----------|--|--|--|------------|--|--|--|-------------|--|--|--|
| MANUFACTURER:  |  |  |  |           |  |  |  |            |  |  |  |             |  |  |  |
| Address:       |  |  |  |           |  |  |  |            |  |  |  |             |  |  |  |
| NAME:          |  |  |  |           |  |  |  | TYPE:      |  |  |  | WEIGHT:     |  |  |  |
| SPECIFICATION: |  |  |  | CCT(K): 0 |  |  |  | DIMENSION: |  |  |  | SERIAL No.: |  |  |  |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|
| pw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |
| 0.0  |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |
| 1.0  | .154                  | .088 | .028 | .147 | .084 | .027 | .135                            | .077 | .025 | .123 | .071 | .023 | .112 | .065 | .021 |   |
| 2.0  | .145                  | .079 | .024 | .139 | .077 | .024 | .128                            | .071 | .022 | .119 | .067 | .021 | .110 | .062 | .020 |   |
| 3.0  | .136                  | .072 | .022 | .131 | .070 | .021 | .122                            | .066 | .020 | .114 | .062 | .019 | .106 | .059 | .018 |   |
| 4.0  | .128                  | .067 | .020 | .124 | .065 | .019 | .117                            | .062 | .018 | .110 | .059 | .018 | .103 | .056 | .017 |   |
| 5.0  | .122                  | .062 | .018 | .118 | .061 | .018 | .111                            | .058 | .017 | .105 | .056 | .017 | .100 | .053 | .016 |   |
| 6.0  | .116                  | .058 | .017 | .113 | .057 | .016 | .107                            | .055 | .016 | .101 | .053 | .015 | .096 | .051 | .015 |   |
| 7.0  | .110                  | .054 | .015 | .107 | .054 | .015 | .102                            | .052 | .015 | .098 | .050 | .015 | .093 | .048 | .014 |   |
| 8.0  | .105                  | .051 | .014 | .103 | .051 | .014 | .098                            | .049 | .014 | .094 | .048 | .014 | .090 | .046 | .013 |   |
| 9.0  | .101                  | .049 | .014 | .099 | .048 | .013 | .095                            | .047 | .013 | .091 | .046 | .013 | .087 | .044 | .013 |   |
| 10.0 | .097                  | .046 | .013 | .095 | .046 | .013 | .091                            | .045 | .013 | .088 | .044 | .012 | .085 | .043 | .012 |   |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|---|
| pw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0  | .195                  | .195 | .195 | .166 | .166 | .166 | .114                                       | .114 | .114 | .065 | .065 | .065 | .021 | .021 | .021 |   |
| 1.0  | .174                  | .162 | .151 | .149 | .139 | .130 | .102                                       | .096 | .090 | .059 | .055 | .052 | .019 | .018 | .017 |   |
| 2.0  | .157                  | .137 | .120 | .134 | .118 | .104 | .092                                       | .082 | .072 | .053 | .047 | .042 | .017 | .015 | .014 |   |
| 3.0  | .143                  | .118 | .098 | .123 | .102 | .085 | .084                                       | .071 | .059 | .049 | .041 | .035 | .016 | .013 | .011 |   |
| 4.0  | .131                  | .103 | .081 | .113 | .089 | .070 | .078                                       | .062 | .049 | .045 | .036 | .029 | .014 | .012 | .010 |   |
| 5.0  | .122                  | .091 | .068 | .104 | .078 | .059 | .072                                       | .055 | .042 | .042 | .032 | .025 | .013 | .010 | .008 |   |
| 6.0  | .113                  | .081 | .058 | .097 | .070 | .050 | .067                                       | .049 | .035 | .039 | .029 | .021 | .013 | .009 | .007 |   |
| 7.0  | .106                  | .073 | .050 | .091 | .063 | .043 | .063                                       | .044 | .031 | .037 | .026 | .018 | .012 | .009 | .006 |   |
| 8.0  | .100                  | .066 | .043 | .086 | .058 | .038 | .060                                       | .040 | .027 | .035 | .024 | .016 | .011 | .008 | .005 |   |
| 9.0  | .095                  | .061 | .038 | .082 | .053 | .033 | .057                                       | .037 | .024 | .033 | .022 | .014 | .011 | .007 | .005 |   |
| 10.0 | .090                  | .056 | .034 | .078 | .049 | .030 | .054                                       | .034 | .021 | .031 | .020 | .013 | .010 | .007 | .004 |   |

Test System:HOPPO HP880D  
 Temperature:25.3DEG  
 Operators:  
 Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:1.000 m  
 Remarks:

# HONGPU GONIOPHOTOMETERS SYSTEM TEST REPORT

## UGR Table

Report number:

|                |  |  |           |  |            |  |  |             |  |  |
|----------------|--|--|-----------|--|------------|--|--|-------------|--|--|
| MANUFACTURER:  |  |  |           |  |            |  |  |             |  |  |
| Address:       |  |  |           |  |            |  |  |             |  |  |
| NAME:          |  |  |           |  | TYPE:      |  |  | WEIGHT:     |  |  |
| SPECIFICATION: |  |  | CCT(K): 0 |  | DIMENSION: |  |  | 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 |     |     |     |     |
| x = 2H y = 2H   |     |     |     |     |     | Viewed endwise   |     |     |     |     |
| 3H              |     |     |     |     |     |                  |     |     |     |     |
| 4H              |     |     |     |     |     |                  |     |     |     |     |
| 6H              |     |     |     |     |     |                  |     |     |     |     |
| 8H              |     |     |     |     |     |                  |     |     |     |     |
| 12H             |     |     |     |     |     |                  |     |     |     |     |
| 4H 2H           |     |     |     |     |     |                  |     |     |     |     |
| 3H              |     |     |     |     |     |                  |     |     |     |     |
| 4H              |     |     |     |     |     |                  |     |     |     |     |
| 6H              |     |     |     |     |     |                  |     |     |     |     |
| 8H              |     |     |     |     |     |                  |     |     |     |     |
| 12H             |     |     |     |     |     |                  |     |     |     |     |
| 8H 4H           |     |     |     |     |     |                  |     |     |     |     |
| 6H              |     |     |     |     |     |                  |     |     |     |     |
| 8H              |     |     |     |     |     |                  |     |     |     |     |
| 12H             |     |     |     |     |     |                  |     |     |     |     |
| 12H 4H          |     |     |     |     |     |                  |     |     |     |     |
| 6H              |     |     |     |     |     |                  |     |     |     |     |
| 8H              |     |     |     |     |     |                  |     |     |     |     |

Variations with the observer position at spacings:

|          |               |               |
|----------|---------------|---------------|
| S = 1.0H | + 2.3 / - 2.2 | + 3.0 / - 4.3 |
| 1.5H     | + 4.1 / - 2.0 | + 5.0 / - 4.0 |
| 2.0H     | + 1.8 / - 1.3 | + 1.8 / - 2.3 |

CIE Pub.117 Corrected 133.8 lm Total Lamp Luminous Flux.(8log(F/F0) = -7.0)

Test System:HOPPO HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## UTILIZATION FACTORS TABLE

Report number:

|                |  |  |           |  |            |  |  |             |  |  |
|----------------|--|--|-----------|--|------------|--|--|-------------|--|--|
| MANUFACTURER:  |  |  |           |  |            |  |  |             |  |  |
| Address:       |  |  |           |  |            |  |  |             |  |  |
| NAME:          |  |  |           |  | TYPE:      |  |  | WEIGHT:     |  |  |
| SPECIFICATION: |  |  | CCT(K): 0 |  | DIMENSION: |  |  | 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                         | 89  | 83  | 80  | 89  | 83  | 80  | 88  | 83  | 79  | 76     |
| 0.80                             | 96  | 91  | 87  | 96  | 91  | 87  | 94  | 90  | 87  | 83     |
| 1.00                             | 100   | 95  | 92  | 100 | 95  | 91  | 98  | 94  | 91  | 87     |
| 1.25                             | 104   | 99  | 96  | 103 | 99  | 96  | 101 | 97  | 95  | 91     |
| 1.50                             | 107   | 102 | 99  | 105 | 101 | 99  | 103 | 100 | 97  | 93     |
| 2.00                             | 109   | 105 | 102 | 108 | 104 | 101 | 105 | 102 | 100 | 94     |
| 2.50                             | 111   | 107 | 104 | 109 | 106 | 103 | 106 | 103 | 101 | 95     |
| 3.00                             | 112   | 109 | 106 | 110 | 107 | 105 | 107 | 105 | 103 | 96     |
| 4.00                             | 114   | 111 | 109 | 112 | 110 | 108 | 108 | 107 | 105 | 98     |
| 5.00                             | 115   | 113 | 111 | 113 | 111 | 110 | 109 | 108 | 107 | 99     |
| ROOM INDEX                       | UF(total)                                       |     |     |     |     |     |     |     |     | Direct |
| According to DIN EN 13032-2 2004 |   |     |     |     |     |     |     |     |     |        |
| Suspended                        |   |     |     |     |     |     |     |     |     |        |
| SHRNOM = 1.25                    |   |     |     |     |     |     |     |     |     |        |

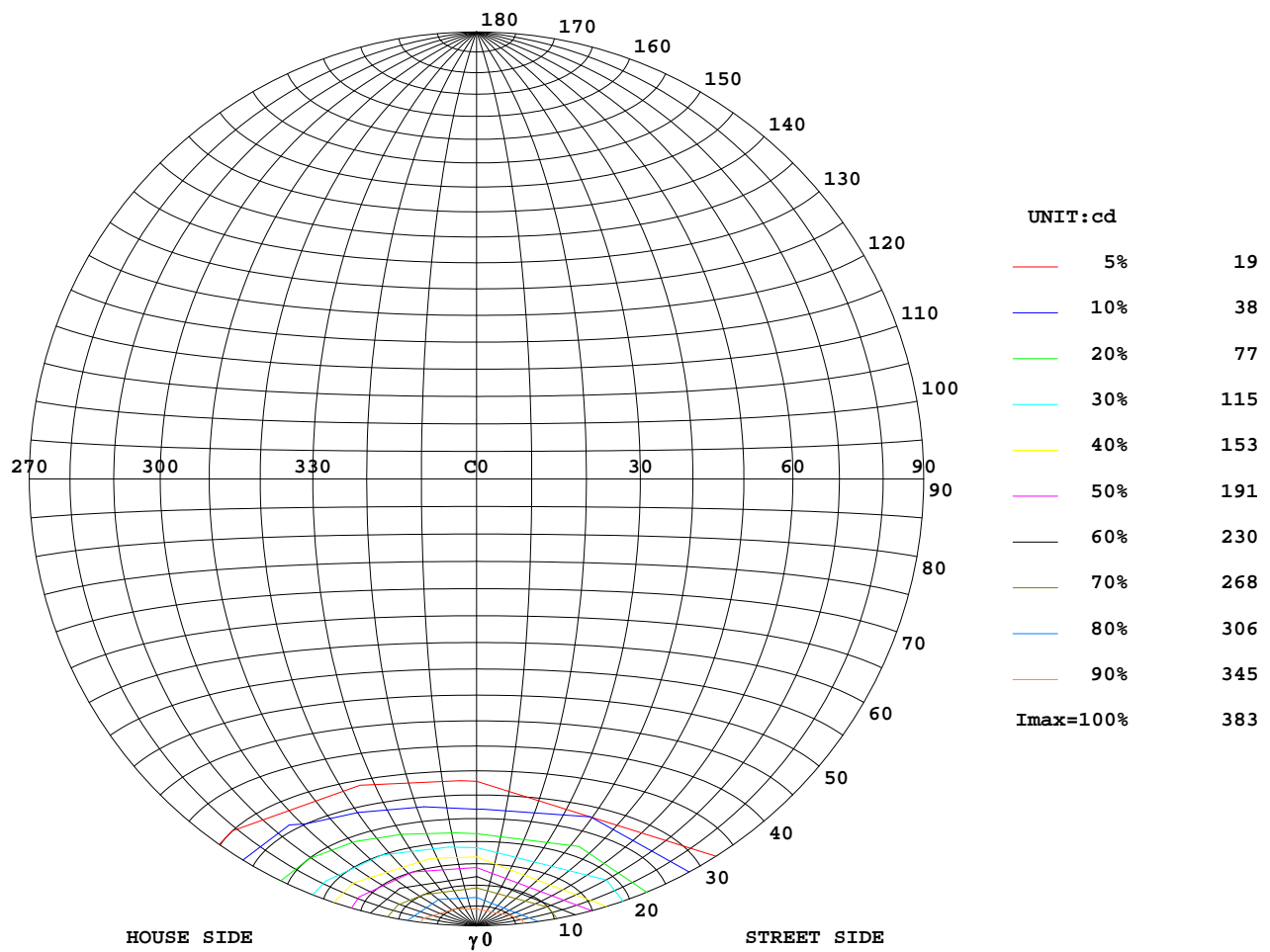
Test System:HOPPO HP880D  
 Temperature:25.3DEG  
 Operators:  
 Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
 Humidity:65.0%  
 Test Distance:1.000 m  
 Remarks:

## ISOCANDELA DIAGRAM

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |



Test System:HOP00 HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

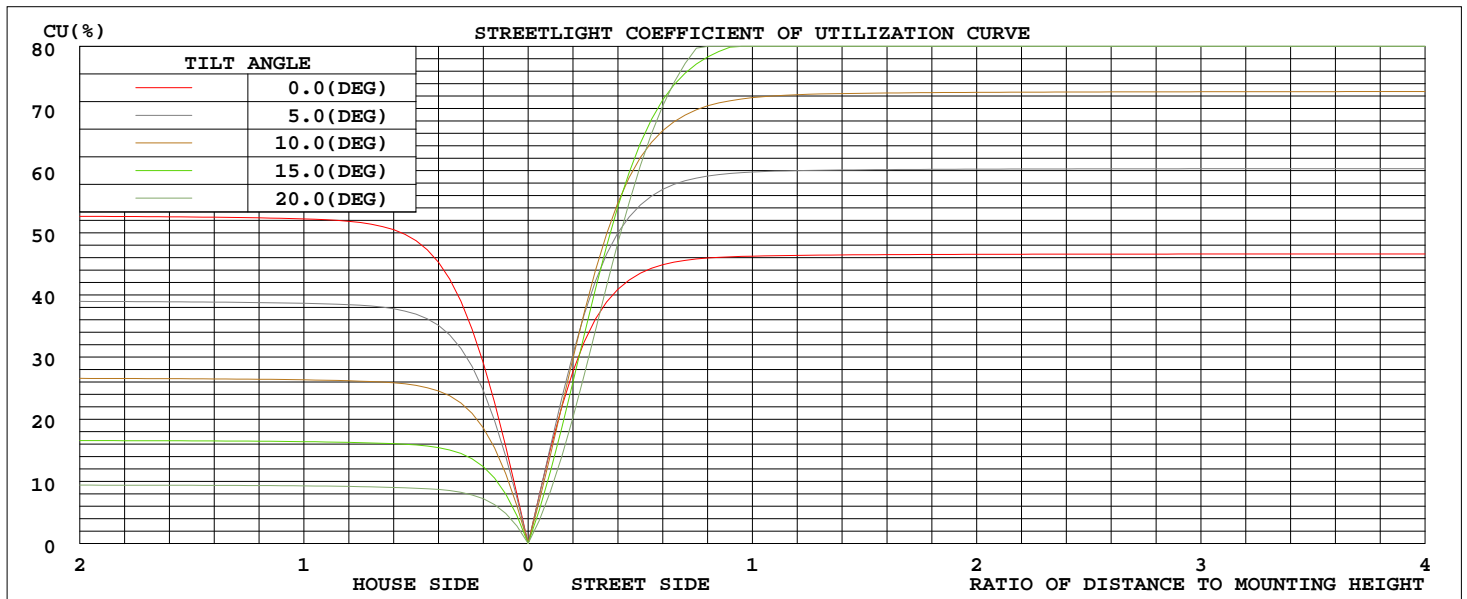
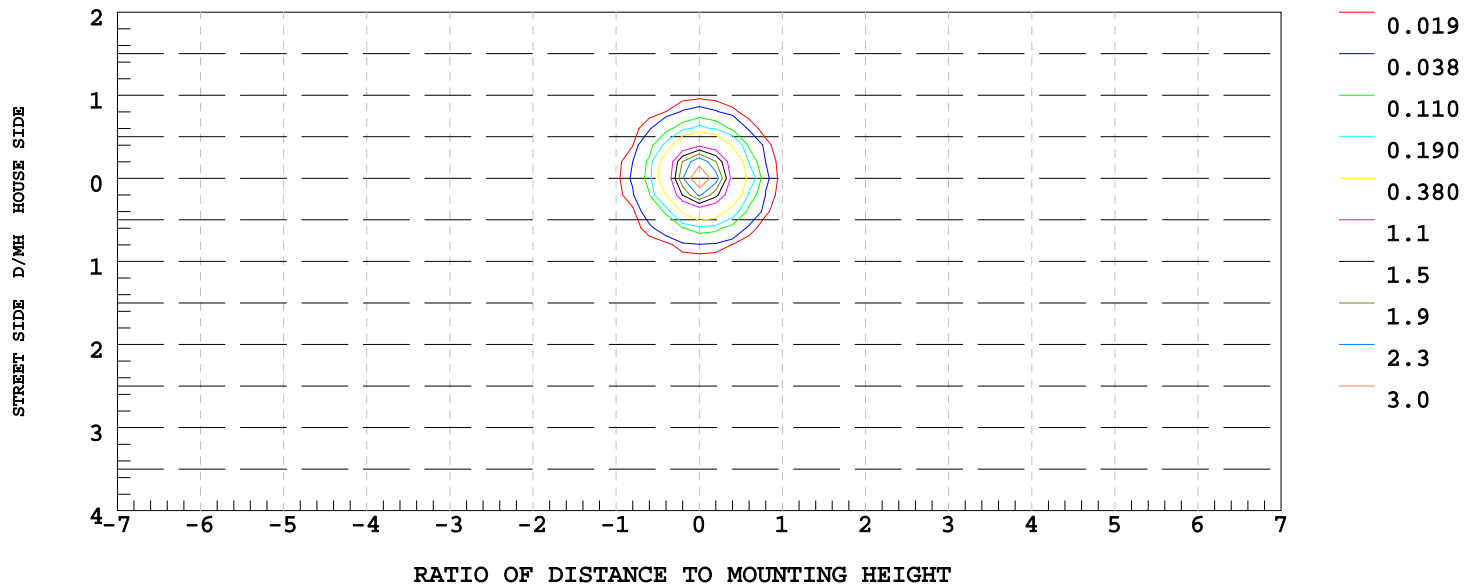
Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## ISOLUX DIAGRAM

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |

ILLUMINANCE AT MH=10 m,Enadir = 3.81 lx



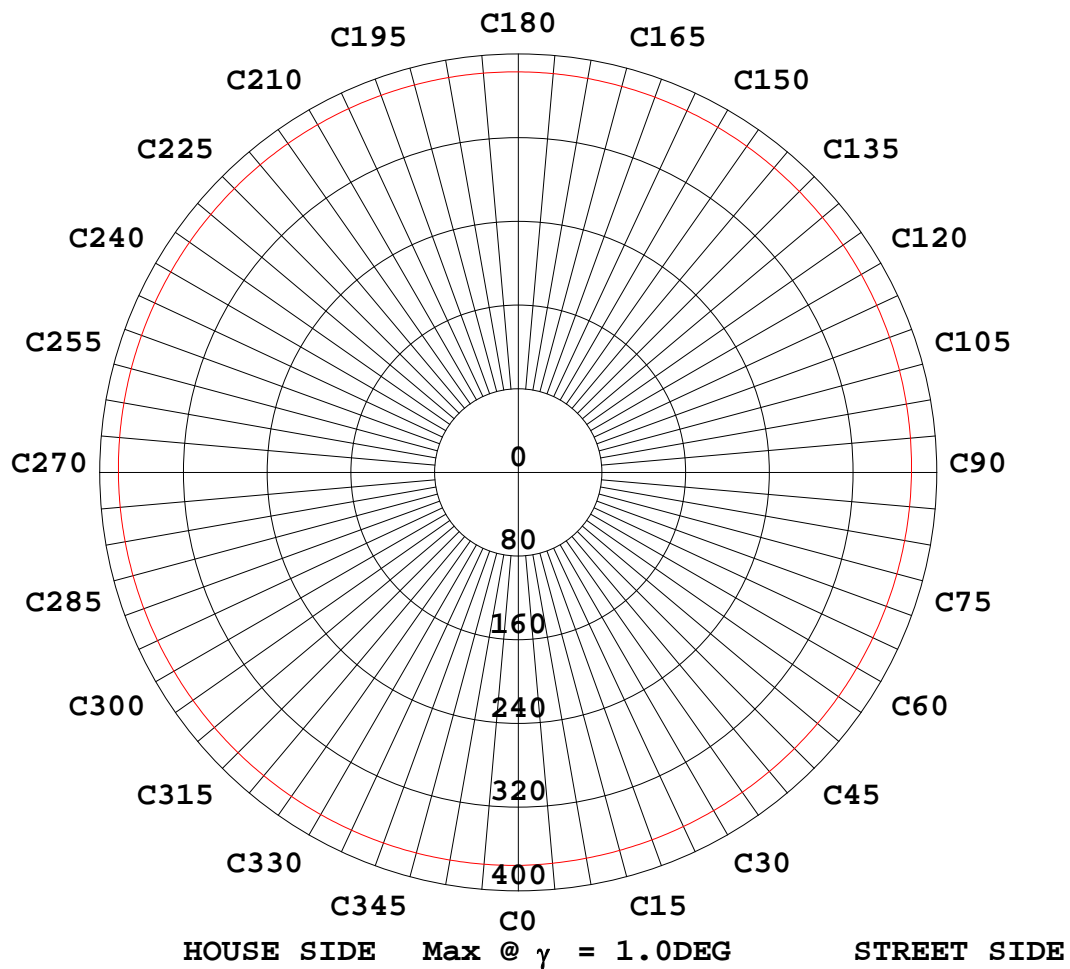
Test System:HOPPO HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## ISOCANDELA DIAGRAM

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |



Test System:HOP00 HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

|                |           |            |             |
|----------------|-----------|------------|-------------|
| MANUFACTURER:  |           |            |             |
| Address:       |           |            |             |
| NAME:          |           | TYPE:      | WEIGHT:     |
| SPECIFICATION: | CCT(K): 0 | DIMENSION: | SERIAL No.: |

UNIT: cd

| C (DEG)<br>γ (DEG) | 0    | 90   | 180  | 270  |
|--------------------|------|------|------|------|
| 0.0                | 381  | 380  | 381  | 380  |
| 5.0                | 336  | 348  | 359  | 362  |
| 10.0               | 246  | 274  | 289  | 303  |
| 15.0               | 178  | 191  | 211  | 237  |
| 20.0               | 96.3 | 104  | 134  | 155  |
| 25.0               | 50.4 | 52.5 | 83.5 | 83.4 |
| 30.0               | 22.5 | 25.7 | 46.6 | 40.5 |
| 35.0               | 14.9 | 13.5 | 19.5 | 18.6 |
| 40.0               | 7.34 | 6.53 | 7.01 | 7.87 |
| 45.0               | 3.25 | 1.76 | 2.35 | 2.87 |
| 50.0               | 2.20 | 1.04 | 1.18 | 1.69 |
| 55.0               | 1.88 | 0.67 | 0.76 | 1.11 |
| 60.0               | 1.31 | 0.43 | 0.55 | 0.84 |
| 65.0               | 0.96 | 0.28 | 0.38 | 0.62 |
| 70.0               | 0.65 | 0.19 | 0.25 | 0.44 |
| 75.0               | 0.39 | 0.11 | 0.17 | 0.29 |
| 80.0               | 0.21 | 0.04 | 0.09 | 0.19 |
| 85.0               | 0.08 | 0.00 | 0.03 | 0.09 |
| 90.0               | 0.02 | 0.00 | 0.00 | 0.03 |
| 95.0               | 0.01 | 0.00 | 0.00 | 0.01 |
| 100.0              | 0.01 | 0.00 | 0.00 | 0.01 |
| 105.0              | 0.01 | 0.00 | 0.00 | 0.01 |
| 110.0              | 0.01 | 0.00 | 0.00 | 0.01 |
| 115.0              | 0.00 | 0.00 | 0.00 | 0.00 |
| 120.0              | 0.01 | 0.00 | 0.01 | 0.00 |
| 125.0              | 0.01 | 0.01 | 0.02 | 0.01 |
| 130.0              | 0.03 | 0.04 | 0.03 | 0.02 |
| 135.0              | 0.07 | 0.09 | 0.07 | 0.04 |
| 140.0              | 0.14 | 0.19 | 0.13 | 0.09 |
| 145.0              | 0.25 | 0.32 | 0.22 | 0.18 |
| 150.0              | 0.40 | 0.49 | 0.38 | 0.32 |
| 155.0              | 0.56 | 0.62 | 0.56 | 0.49 |
| 160.0              | 0.67 | 0.68 | 0.70 | 0.65 |
| 165.0              | 0.69 | 0.65 | 0.76 | 0.73 |
| 170.0              | 0.62 | 0.56 | 0.70 | 0.70 |
| 175.0              | 0.53 | 0.50 | 0.59 | 0.61 |
| 180.0              | 0.49 | 0.48 | 0.49 | 0.49 |

Test System:HOPPO HP880D  
Temperature:25.3DEG  
Operators:  
Test Date:11-02-2023

Test Set: 10.0deg/s C-Gamma (TYPE C)  
Humidity:65.0%  
Test Distance:1.000 m  
Remarks: