

# Test Report

**Client** : Shenzhen Hui Qi Mei Technology Co., Ltd  
**Address** : 101-201, Building F, Tongju Industrial Park, No. 9 Huilong Road, Shengping  
Community, Longcheng Subdistrict, Longgang District, Shenzhen

**Description of the submitted sample(s):**

Sample Name : Wearable Travel Light  
Model/Type : DH05  
Trademark : N/A  
Ratings : For charging: DC 5V, 1A; For Internal battery pack: 3.7V,  
1000mAh; Rated power: 3W  
Test Item : LM-79-19  
State of Sample(s) : Normal  
Sample Quantity : 1 PCS  
Manufacturer : Shenzhen Hui Qi Mei Technology Co., Ltd  
101-201, Building F, Tongju Industrial Park, No. 9 Huilong Road,  
Address : Shengping Community, Longcheng Subdistrict, Longgang District,  
Shenzhen  
Sample Received Date : 2025-08-15  
Sample tested Date : 2025-08-15  
Test Standard : LM-79-19  
Test Laboratory : Shenzhen AOCE Electronic Technology Service Co., Ltd  
Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu  
Testing location : Industrial Park, Fuhai Street, Baoan District, Shenzhen,  
Guangdong, China  
Remark : The tested sample(s) and the sample information are provided by  
the client.

Tested by:

Bruce Lin

Approved by:

Robin Liu

Robin Liu  
Lab Supervisor  
2025-08-26

Date :

**Summary of Result**

| Test Item                                      | Test Result        |                                 |
|--|--------------------|---------------------------------|
|  | Luminous Flux (lm) | Correlated Color Temperature(K) |
| Integrating Sphere Test<br>(Side light source) | --                 | 14430                           |
| Goniophotometer Test<br>(Side light source)    | 98.86              | --                              |
| Integrating Sphere Test<br>(Top light source)  | --                 | 6138                            |
| Goniophotometer Test<br>(Top light source)     | 200.77             | --                              |

## **1 Test Condition**

### **1.1 Air Temperature**

The ambient temperature in which measurements are being taken shall be maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured at a point not more than 1 m from the SSL product and at the same height as the SSL product. The temperature sensor shall be shielded from direct optical radiation from the SSL product and optical radiation from any other source. If measurements are performed at other than this recommended temperature, this is a non-standard condition and shall be noted in the test report.

### **1.2 Thermal Conditions for Mounting SSL Products**

The method of mounting can be the primary path for heat flow away from the device and can affect measurement results significantly. The SSL product under test shall be mounted to the measuring instrument so that heat conduction through supporting objects causes negligible cooling effects. If the SSL product under test is provided with a support structure that is designated to be used as a component of the luminaire thermal management system, the product shall be tested with the support structure attached. Any such support structure included in the measurement shall be reported.

### **1.3 Air Movement**

The incidence of air movements on the surface of a SSL product under test may substantially affect electrical and photometric values. Air flow around the SSL product being tested should be such that normal convective air flow induced by device under test is not affected.

### **1.4 Waveshape of AC Power Supply**

The AC power supply, while operating the SSL product, shall have a sinusoidal voltage waveshape at the prescribed frequency typically 50/60 Hz or 50 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

### **1.5 Voltage Regulation**

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within  $\pm 0.2$  percent under load.

### **1.6 Seasoning**

For the purpose of rating new SSL products, SSL products shall be tested with no seasoning.

### **1.7 Stabilization**

Before measurements are taken, the SSL product under test shall be operated long enough to reach stabilization and temperature equilibrium. The time required for stabilization depends on the type of SSL products under test. The stabilization time typically ranges from 30 min to 2 or more hours for large SSL products.

### **1.8 Operating Orientation**

The SSL product under test shall be evaluated in the operating orientation recommended by the manufacturer for an intended use of the SSL product. Stabilization and photometric measurements of SSL products shall be done in such operating orientation.

## **2 Test Method**

### **2.1 Integrating Sphere Measurement**

The integrating sphere system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The system is calibrated by standard lamp before measurement weekly. The standard lamp has been calibrated regularly and traced to the National Primary Standard.

The  $4\pi$  geometry was used to measure total luminous, luminous efficacy, chromaticity coordinates, correlated color temperature, and color rendering index, the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm. The product was operated in its intended orientation and was recorded in the report.

### **2.2 Goniophotometer Measurement**

The goniophotometer system is calibrated by standard lamp before measurement weekly. The standard lamp has been calibrated regularly and traced to National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous efficacy, luminous intensity distribution, and color angular uniformity, which were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. The product was operated in its intended orientation and was recorded in the report.

### **2.3 Electrical Measurement**

According to ANSI C82.77-2002, the measurement was made using a digital power meter and power supply, the SSL product under test was operated at rated voltage and stabilized enough before measurement. The total harmonic distortion of current and power factor can be calculated from the digital power meter. The digital power meter was calibrated regularly and traced to National Primary Standards.

### 3 Test Result

#### 3.1 Integrating Sphere (Side light source)

| Temperature (°C) | Test Humidity | Orientation | Stabilization Time(min) | Test Time(min) | Number of hours operated prior to measurement |
|------------------|---------------|-------------|-------------------------|----------------|---|
| 24.9             | 47.7%         | Face down   | 5                       | 4              | 0   |

| Input Voltage (V)   | Frequency (Hz)    | Current (A)       | Power Factor      | Power (W)         |
|---|-------------------|-------------------|-------------------|-------------------|
| --<br>(Internal battery pack, the battery is fully charged) | --<br>(see above) | --<br>(see above) | --<br>(see above) | --<br>(see above) |

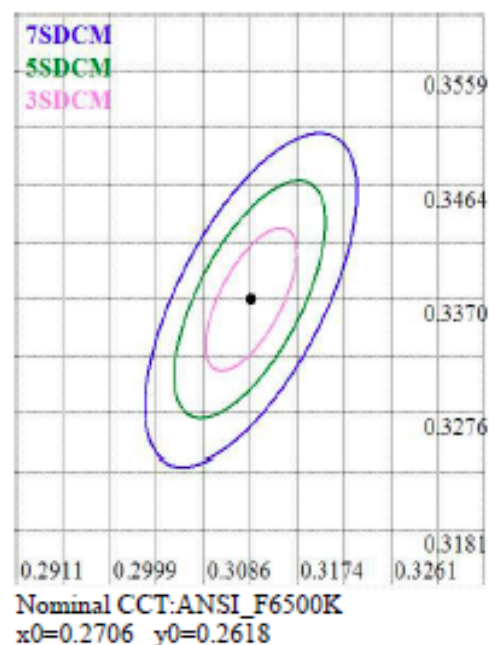
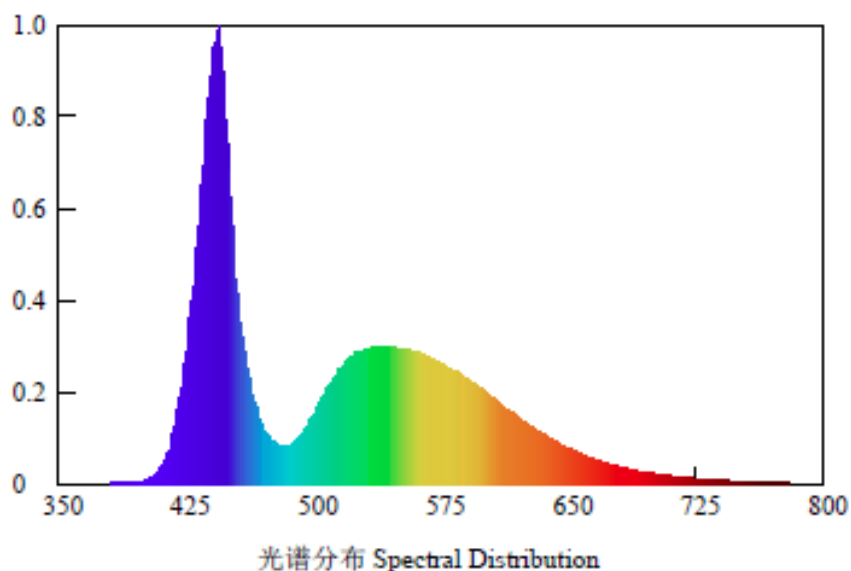
| Luminous Flux (lm) | Radiant Flux (W) | CCT (K) | Duv     | Luminous Efficacy (lm/W) |
|--------------------|------------------|---------|---------|--------------------------|
| 67.538             | 0.253            | 14430   | -0.0078 | --                       |

| Ra   | SDCM  | X      | y      | u'     | v'     |
|------|-------|--------|--------|--------|--------|
| 72.0 | 39.24 | 0.2706 | 0.2618 | 0.1933 | 0.4207 |

| R1  | R2  | R3  | R4  | R5  |
|-----|-----|-----|-----|-----|
| 79  | 71  | 60  | 76  | 80  |
| R6  | R7  | R8  | R9  | R10 |
| 63  | 75  | 73  | 6   | 26  |
| R11 | R12 | R13 | R14 | R15 |
| 82  | 47  | 74  | 76  | 77  |

## Spectral Distribution &amp; Chromaticity Diagram

## 光色参数 Spectroradiometric Parameters



色品坐标 Chromaticity Coordinates:  $x=0.2706$   $y=0.2618$   $u'=0.1933$   $v'=0.4207$

相关色温 Correlated Color Temperature: 14430 K

主波长 Dominant Wavelength: 474.0 nm(E)

显色指数 Rendering Index:  $R_a=72.0$

峰值波长 Peak Wavelength: 443.5 nm

色纯度 Purity: 0.2831

谱线带宽 Bandwidth: 23.1nm

光通量 Luminous Flux: 67.538 lm

辐射通量 Radiant Flux: 0.253 W

色比 Color Ratio:  $K_r=26.2\%$   $K_g=61.4\%$   $K_b=12.4\%$

色容差 Color Tolerance(SDCM): 39.2436

色偏差 Chromaticity Difference: -0.0078Duv

R1=79 R2=71 R3=60 R4=76 R5=80 R6=63 R7=75 R8=73

R9=6 R10=26 R11=82 R12=47 R13=74 R14=76 R15=77

**3.2 Integrating Sphere (Top light source)**

| Temperature (°C) | Test Humidity | Orientation | Stabilization Time(min) | Test Time(min) | Number of hours operated prior to measurement |
|------------------|---------------|-------------|-------------------------|----------------|---|
| 24.9             | 47.7%         | Face down   | 5                       | 4              | 0   |

| Input Voltage (V)   | Frequency (Hz)    | Current (A)       | Power Factor      | Power (W)         |
|---|-------------------|-------------------|-------------------|-------------------|
| --<br>(Internal battery pack, the battery is fully charged) | --<br>(see above) | --<br>(see above) | --<br>(see above) | --<br>(see above) |

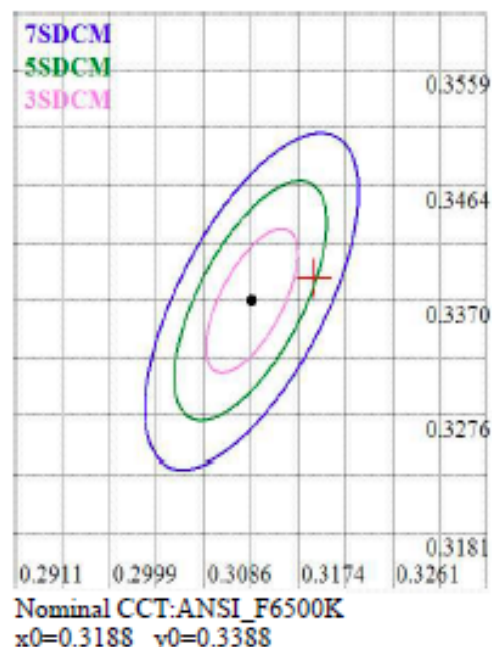
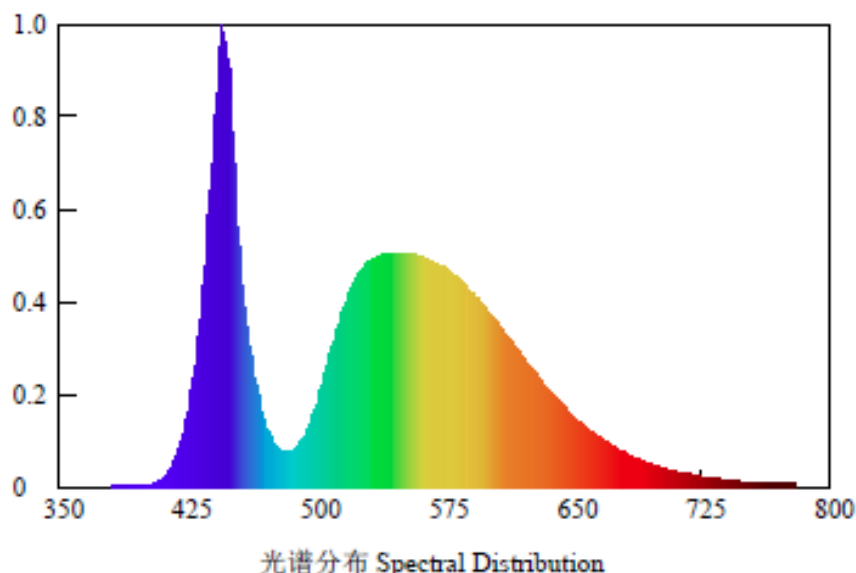
| Luminous Flux (lm) | Radiant Flux (W) | CCT (K) | Duv      | Luminous Efficacy (lm/W) |
|--------------------|------------------|---------|----------|--------------------------|
| 210.939            | 0.735            | 6138    | +0.00522 | --                       |

| Ra   | SDCM | X      | y      | u'     | v'     |
|------|------|--------|--------|--------|--------|
| 69.3 | 4.69 | 0.3188 | 0.3388 | 0.1983 | 0.4744 |

| R1  | R2  | R3  | R4  | R5  |
|-----|-----|-----|-----|-----|
| 68  | 72  | 74  | 71  | 69  |
| R6  | R7  | R8  | R9  | R10 |
| 63  | 78  | 59  | -34 | 33  |
| R11 | R12 | R13 | R14 | R15 |
| 70  | 39  | 68  | 85  | 63  |

## Spectral Distribution &amp; Chromaticity Diagram

## 光色参数 Spectroradiometric Parameters



色品坐标 Chromaticity Coordinates:  $x=0.3188$   $y=0.3388$   $u'=0.1983$   $v'=0.4744$

相关色温 Correlated Color Temperature: 6138 K

主波长 Dominant Wavelength: 496.0 nm(E)

显色指数 Rendering Index:  $R_a=69.3$

峰值波长 Peak Wavelength: 446.1 nm

色纯度 Purity: 0.0469

谱线带宽 Bandwidth: 20.5nm

光通量 Luminous Flux: 210.939 lm

辐射通量 Radiant Flux: 0.735 W

色比 Color Ratio:  $K_r=29.0\%$   $K_g=61.8\%$   $K_b=9.2\%$

色容差 Color Tolerance(SDCM): 4.6943

色偏差 Chromaticity Difference: +0.00522Duv

R1=68 R2=72 R3=74 R4=71 R5=69 R6=63 R7=78 R8=59

R9=-34 R10=33 R11=70 R12=39 R13=68 R14=85 R15=63



**3.3. Goniophotometer (Side light source)**

| Temperature (°C) | Test Humidity | Orientation  | Stabilization Time(min) | Test Time(min) | Number of hours operated prior to measurement |
|------------------|---------------|--------------|-------------------------|----------------|---|
| 24.8             | 47.6%         | Face forward | 5                       | 30             | 0   |

| Input Voltage (V)   | Frequency (Hz)    | Current (A)       | Power Factor      | Power (W)         |
|---|-------------------|-------------------|-------------------|-------------------|
| --<br>(Internal battery pack, the battery is fully charged) | --<br>(see above) | --<br>(see above) | --<br>(see above) | --<br>(see above) |

| Luminous Flux (lm) | CBCP (cd) | Field Angle (10%) | Beam Angle (50%) | Luminous Efficacy (lm/W) |
|--------------------|-----------|-------------------|------------------|--------------------------|
| 98.86              | 2251.357  | 14.0*11.0         | 6.2*5.5          | --                       |

**Photometric Results**

Lumens(lm): 98.86

Efficiency(%): 0.00%

Lumens(lm)/Power(W): 44.94

Central intensity(cd): 1481.757

Maximum intensity(cd): 2251.357

Angle of maximum intensity: C=90.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=6.2

[C90/270]Total=5.5

Field angle(10%Imax): [C0/180]Total=14.0

[C90/270]Total=11.0

Maximum s/h(1/2): C0\_180=0.10 C90\_270=0.09

Maximum s/h(1/4): C0\_180=0.10 C90\_270=0.10

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 5.41%

Down flux rate of LUM(%): 94.59%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 91.335%

**3.4. Goniophotometer (Top light source)**

| Temperature (°C) | Test Humidity | Orientation  | Stabilization Time(min) | Test Time(min) | Number of hours operated prior to measurement |
|------------------|---------------|--------------|-------------------------|----------------|---|
| 24.8             | 47.6%         | Face forward | 5                       | 30             | 0   |

| Input Voltage (V)   | Frequency (Hz)    | Current (A)       | Power Factor      | Power (W)         |
|---|-------------------|-------------------|-------------------|-------------------|
| --<br>(Internal battery pack, the battery is fully charged) | --<br>(see above) | --<br>(see above) | --<br>(see above) | --<br>(see above) |

| Luminous Flux (lm) | CBCP (cd) | Field Angle (10%) | Beam Angle (50%) | Luminous Efficacy (lm/W) |
|--------------------|-----------|-------------------|------------------|--------------------------|
| 200.77             | 74.743    | 150.9*147.1       | 107.9*105.9      | --                       |

**Photometric Results**

Lumens(lm): 200.77

Efficiency(%): 0.00%

Lumens(lm)/Power(W): 64.77

Central intensity(cd): 73.735

Maximum intensity(cd): 74.743

Angle of maximum intensity: C=30.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=107.9

[C90/270]Total=105.9

Field angle(10%Imax): [C0/180]Total=150.9

[C90/270]Total=147.1

Maximum s/h(1/2): C0\_180=1.27 C90\_270=1.28

Maximum s/h(1/4): C0\_180=1.39 C90\_270=1.37

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 3.41%

Down flux rate of LUM(%): 96.59%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 82.098%

**3.5. Zonal flux distribution table (Side light source)**

| ZONAL LUMEN SUMMARY |        |       |         |
|---------------------|--------|-------|---------|
| Zone                | Lumens | %Lamp | %Fixt   |
| 0-30                | 75.54  | N.A.  | 76.40%  |
| 0-40                | 84.21  | N.A.  | 85.18%  |
| 0-60                | 90.30  | N.A.  | 91.33%  |
| 0-90                | 93.51  | N.A.  | 94.59%  |
| 0-120               | 95.70  | N.A.  | 96.80%  |
| 0-180               | 98.86  | N.A.  | 100.00% |
| 60-90               | 4.28   | N.A.  | 4.33%   |
| 90-120              | 2.59   | N.A.  | 2.62%   |
| 90-130              | 3.25   | N.A.  | 3.29%   |
| 90-150              | 4.54   | N.A.  | 4.60%   |
| 90-180              | 5.72   | N.A.  | 5.78%   |
| 0-32.94             | 79.09  | N.A.  | 80.00%  |

## ZONAL LUMEN SUMMARY

|         |       |
|---------|-------|
| 0-10    | 40.58 |
| 10-20   | 17.47 |
| 20-30   | 17.48 |
| 30-40   | 8.67  |
| 40-50   | 3.67  |
| 50-60   | 2.42  |
| 60-70   | 1.34  |
| 70-80   | 1.02  |
| 80-90   | 0.86  |
| 90-100  | 0.77  |
| 100-110 | 0.72  |
| 110-120 | 0.69  |
| 120-130 | 0.66  |
| 130-140 | 0.66  |
| 140-150 | 0.63  |
| 150-160 | 0.61  |
| 160-170 | 0.44  |
| 170-180 | 0.12  |

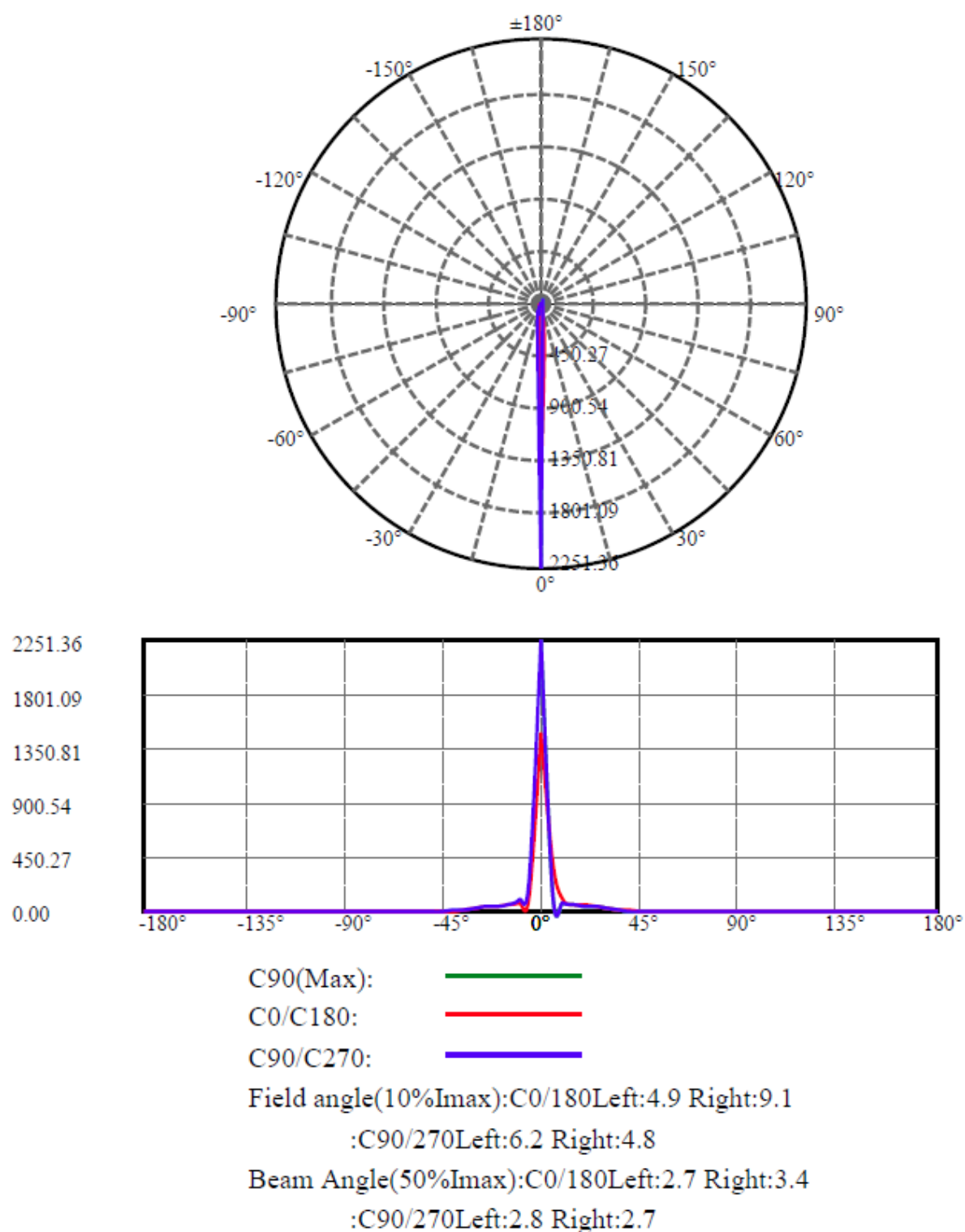
**3.6. Zonal flux distribution table (Top light source)**

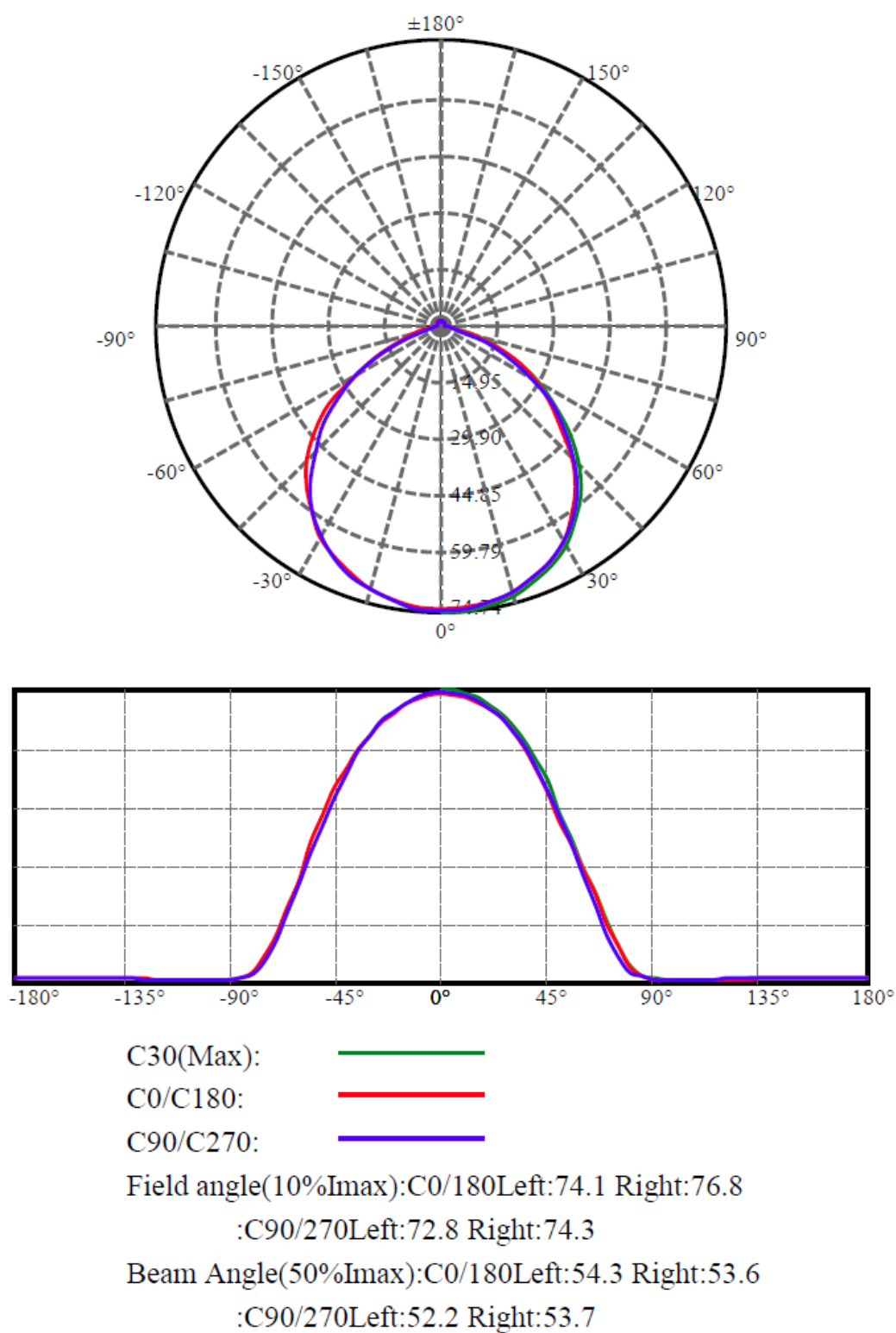
| ZONAL LUMEN SUMMARY |        |       |         |
|---------------------|--------|-------|---------|
| Zone                | Lumens | %Lamp | %Fixt   |
| 0-30                | 58.23  | N.A.  | 29.00%  |
| 0-40                | 95.66  | N.A.  | 47.65%  |
| 0-60                | 164.83 | N.A.  | 82.10%  |
| 0-90                | 193.93 | N.A.  | 96.59%  |
| 0-120               | 196.74 | N.A.  | 97.99%  |
| 0-180               | 200.77 | N.A.  | 100.00% |
| 60-90               | 43.57  | N.A.  | 21.70%  |
| 90-120              | 3.48   | N.A.  | 1.73%   |
| 90-130              | 4.47   | N.A.  | 2.23%   |
| 90-150              | 6.29   | N.A.  | 3.13%   |
| 90-180              | 7.48   | N.A.  | 3.73%   |
| 0-58.54             | 160.62 | N.A.  | 80.00%  |

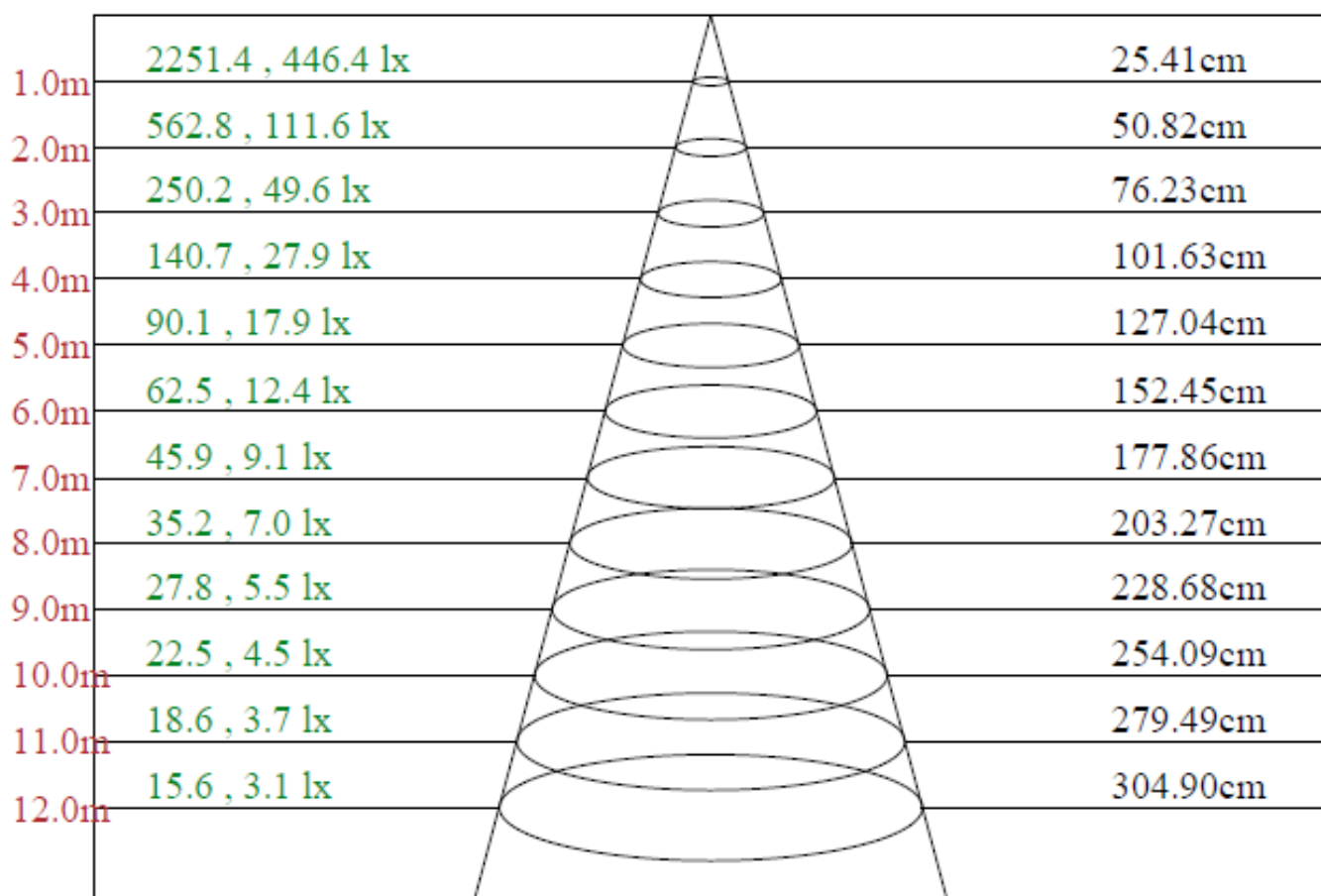
## ZONAL LUMEN SUMMARY

|         |       |
|---------|-------|
| 0-10    | 7.02  |
| 10-20   | 20.23 |
| 20-30   | 30.98 |
| 30-40   | 37.43 |
| 40-50   | 37.82 |
| 50-60   | 31.35 |
| 60-70   | 19.58 |
| 70-80   | 7.57  |
| 80-90   | 1.95  |
| 90-100  | 0.91  |
| 100-110 | 0.92  |
| 110-120 | 0.98  |
| 120-130 | 0.99  |
| 130-140 | 0.97  |
| 140-150 | 0.85  |
| 150-160 | 0.66  |
| 160-170 | 0.42  |
| 170-180 | 0.11  |

## 3.7. Light Distribution Curve (Side light source)

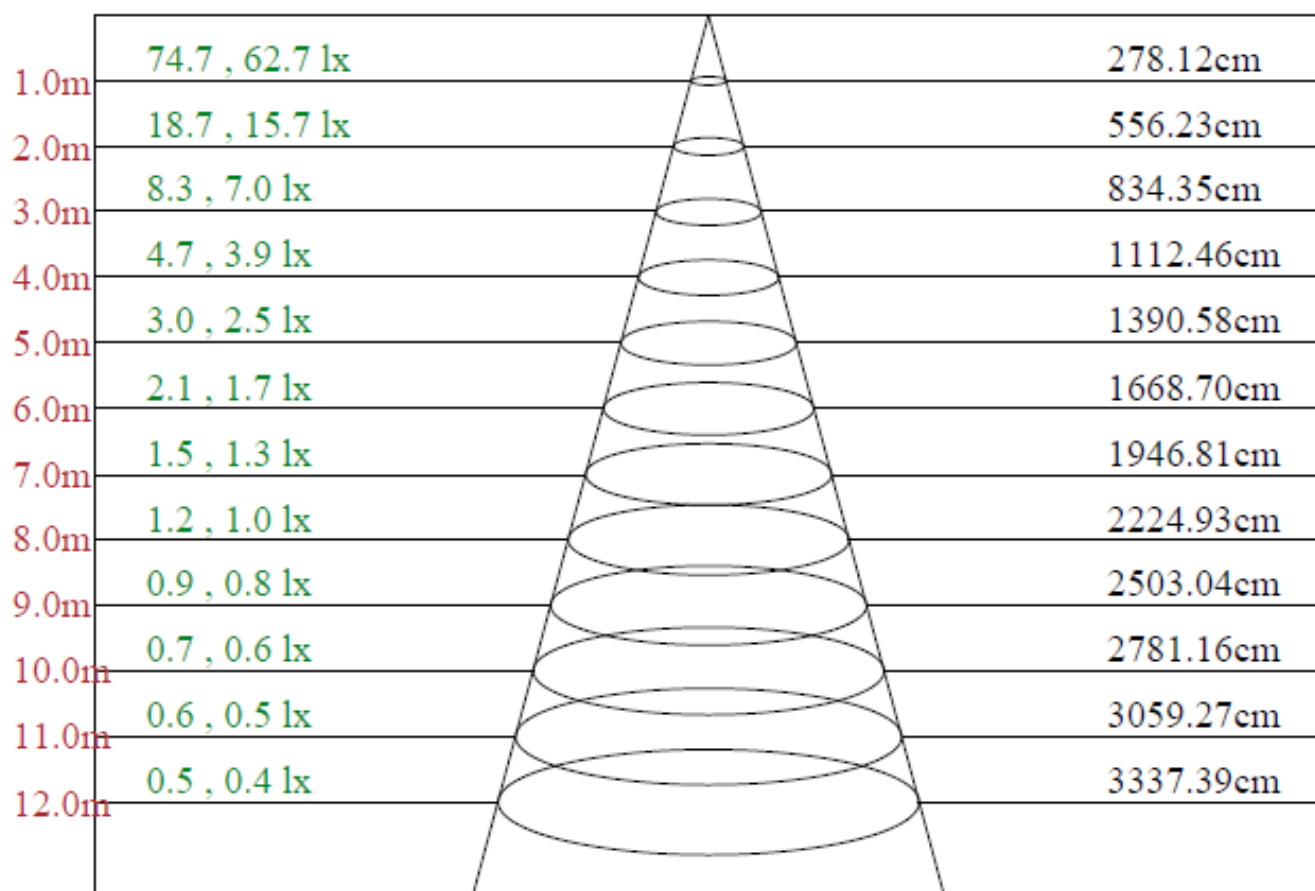


**3.8. Light Distribution Curve (Top light source)**

**3.9. Lux distance Curve (Side light source)**

Max , Ave

Beam angle of C90plane14.47

**3.10. Lux distance Curve (Top light source)**

Max , Ave

Beam angle of C30plane108.54



**3.11. Intensity data(cd) (Side light source)**

| C/γ(°) | 0.0     | 5.0     | 10.0   | 15.0  | 20.0  | 25.0  | 30.0  | 35.0  | 40.0  | C/γ(°) | 180.0 |
|--------|---------|---------|--------|-------|-------|-------|-------|-------|-------|--------|-------|
| 0.0    | 1481.76 | 406.80  | 91.71  | 62.82 | 49.72 | 38.80 | 31.91 | 9.74  | 7.56  | 0.0    | 1.51  |
| 30.0   | 1897.46 | 323.66  | 87.34  | 61.47 | 48.20 | 37.46 | 32.25 | 9.07  | 6.55  | 30.0   | 1.51  |
| 60.0   | 1786.61 | 139.91  | 76.25  | 57.27 | 44.01 | 34.94 | 31.41 | 7.39  | 7.22  | 60.0   | 1.34  |
| 90.0   | 2251.36 | 141.93  | 76.59  | 58.79 | 46.19 | 36.28 | 31.24 | 8.57  | 6.21  | 90.0   | 1.51  |
| 120.0  | 1326.39 | 103.97  | 69.03  | 55.93 | 41.99 | 34.77 | 27.55 | 8.23  | 5.54  | 120.0  | 1.34  |
| 150.0  | 2136.98 | 148.65  | 78.44  | 58.79 | 45.35 | 36.45 | 31.07 | 7.89  | 7.22  | 150.0  | 1.34  |
| 180.0  | 1481.76 | 127.48  | 76.25  | 58.28 | 43.17 | 36.28 | 30.90 | 7.39  | 6.89  | 180.0  | 1.51  |
| 210.0  | 1897.46 | 138.90  | 79.11  | 57.44 | 43.67 | 36.78 | 31.58 | 6.21  | 5.88  | 210.0  | 1.51  |
| 240.0  | 1786.61 | 305.86  | 90.70  | 63.49 | 50.56 | 37.29 | 34.10 | 10.41 | 5.71  | 240.0  | 1.34  |
| 270.0  | 2251.36 | 266.56  | 91.54  | 61.81 | 48.71 | 36.28 | 33.76 | 8.23  | 7.22  | 270.0  | 1.51  |
| 300.0  | 1326.39 | 1492.68 | 105.82 | 68.02 | 53.08 | 38.63 | 35.94 | 16.80 | 6.55  | 300.0  | 1.34  |
| 330.0  | 2136.98 | 393.03  | 93.72  | 61.81 | 49.72 | 36.95 | 32.25 | 8.90  | 7.56  | 330.0  | 1.34  |
| 360.0  | 1481.76 | 406.80  | 91.71  | 62.82 | 49.72 | 38.80 | 31.91 | 9.74  | 7.56  | 360.0  | 1.51  |
|        |         |         |        |       |       |       |       |       |       |        |       |
| C/γ(°) | 45.0    | 50.0    | 55.0   | 60.0  | 65.0  | 70.0  | 75.0  | 80.0  | 85.0  |        |       |
| 0.0    | 4.87    | 3.86    | 2.69   | 1.68  | 1.34  | 1.01  | 1.01  | 0.84  | 0.67  |        |       |
| 30.0   | 4.53    | 2.69    | 2.35   | 1.68  | 1.51  | 1.18  | 1.01  | 1.01  | 1.01  |        |       |
| 60.0   | 4.53    | 2.86    | 3.19   | 1.51  | 1.34  | 1.18  | 1.01  | 1.01  | 0.67  |        |       |
| 90.0   | 4.20    | 3.36    | 2.69   | 1.51  | 1.18  | 1.01  | 1.01  | 0.67  | 0.67  |        |       |
| 120.0  | 3.53    | 3.36    | 2.35   | 1.51  | 1.34  | 1.01  | 0.84  | 0.84  | 0.67  |        |       |
| 150.0  | 3.86    | 3.36    | 2.86   | 1.51  | 1.34  | 1.01  | 0.84  | 0.84  | 0.84  |        |       |
| 180.0  | 3.86    | 3.36    | 2.35   | 1.51  | 1.34  | 1.01  | 1.01  | 0.84  | 0.67  |        |       |
| 210.0  | 4.37    | 3.02    | 2.52   | 1.51  | 1.18  | 1.01  | 1.01  | 1.01  | 0.67  |        |       |
| 240.0  | 6.05    | 3.53    | 3.19   | 2.69  | 1.34  | 1.18  | 1.01  | 0.84  | 1.01  |        |       |
| 270.0  | 4.53    | 3.53    | 3.19   | 1.68  | 1.18  | 1.01  | 1.01  | 0.84  | 0.84  |        |       |
| 300.0  | 5.54    | 3.70    | 3.53   | 2.35  | 1.34  | 0.84  | 1.01  | 0.84  | 0.84  |        |       |
| 330.0  | 4.53    | 3.70    | 3.36   | 1.85  | 1.34  | 1.01  | 1.01  | 0.84  | 0.84  |        |       |
| 360.0  | 4.87    | 3.86    | 2.69   | 1.68  | 1.34  | 1.01  | 1.01  | 0.84  | 0.67  |        |       |
|        |         |         |        |       |       |       |       |       |       |        |       |
| C/γ(°) | 90.0    | 95.0    | 100.0  | 105.0 | 110.0 | 115.0 | 120.0 | 125.0 | 130.0 |        |       |
| 0.0    | 0.84    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.84  | 0.67  | 0.84  |        |       |
| 30.0   | 0.67    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.67  | 0.84  | 0.84  |        |       |
| 60.0   | 0.67    | 0.84    | 0.84   | 0.67  | 0.67  | 0.67  | 0.84  | 0.84  | 0.67  |        |       |
| 90.0   | 0.67    | 0.67    | 0.67   | 0.67  | 0.67  | 0.84  | 0.67  | 0.67  | 0.84  |        |       |
| 120.0  | 0.67    | 0.67    | 0.67   | 0.67  | 0.67  | 0.84  | 0.67  | 0.67  | 0.84  |        |       |
| 150.0  | 0.67    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.84  |        |       |
| 180.0  | 0.67    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.67  | 0.84  | 0.84  |        |       |
| 210.0  | 0.67    | 0.84    | 0.67   | 0.67  | 0.67  | 0.67  | 0.67  | 0.84  | 0.84  |        |       |
| 240.0  | 0.67    | 0.67    | 0.84   | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  |        |       |
| 270.0  | 0.67    | 0.67    | 0.84   | 0.67  | 0.67  | 0.84  | 0.67  | 0.67  | 0.67  |        |       |
| 300.0  | 0.84    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.84  |        |       |
| 330.0  | 0.67    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.67  | 0.67  | 0.84  |        |       |
| 360.0  | 0.84    | 0.67    | 0.67   | 0.67  | 0.67  | 0.67  | 0.84  | 0.67  | 0.84  |        |       |
|        |         |         |        |       |       |       |       |       |       |        |       |
| C/γ(°) | 135.0   | 140.0   | 145.0  | 150.0 | 155.0 | 160.0 | 165.0 | 170.0 | 175.0 |        |       |
| 0.0    | 0.84    | 1.01    | 0.84   | 1.01  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  |        |       |
| 30.0   | 0.84    | 1.01    | 1.01   | 1.18  | 1.34  | 1.51  | 1.85  | 2.18  | 2.35  |        |       |
| 60.0   | 0.84    | 1.01    | 1.18   | 1.18  | 1.51  | 1.51  | 1.85  | 2.18  | 2.02  |        |       |
| 90.0   | 0.84    | 0.84    | 0.84   | 1.34  | 1.34  | 1.51  | 1.68  | 2.18  | 1.85  |        |       |
| 120.0  | 0.84    | 1.01    | 1.01   | 1.34  | 1.51  | 1.51  | 1.85  | 2.18  | 1.51  |        |       |
| 150.0  | 1.01    | 1.01    | 1.01   | 1.34  | 1.51  | 1.51  | 1.85  | 2.18  | 1.85  |        |       |
| 180.0  | 0.84    | 0.84    | 1.01   | 1.34  | 1.51  | 1.51  | 1.85  | 2.18  | 1.85  |        |       |
| 210.0  | 0.84    | 1.01    | 0.84   | 1.18  | 1.34  | 1.18  | 1.34  | 1.34  | 1.51  |        |       |
| 240.0  | 0.84    | 0.84    | 1.01   | 1.01  | 1.18  | 1.18  | 1.34  | 1.34  | 1.51  |        |       |
| 270.0  | 0.84    | 0.84    | 0.84   | 1.18  | 1.18  | 1.34  | 1.34  | 1.34  | 1.51  |        |       |
| 300.0  | 0.84    | 0.84    | 0.84   | 1.01  | 1.18  | 1.18  | 1.34  | 1.34  | 1.51  |        |       |
| 330.0  | 0.84    | 0.84    | 1.01   | 1.18  | 1.34  | 1.18  | 1.34  | 1.34  | 1.51  |        |       |
| 360.0  | 0.84    | 1.01    | 0.84   | 1.01  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  |        |       |

## 3.12. Intensity data(cd) (Top light source)

| C/γ(°) | 0.0   | 5.0   | 10.0  | 15.0  | 20.0  | 25.0  | 30.0  | 35.0  | 40.0  | C/γ(°) | 180.0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| 0.0    | 73.74 | 73.57 | 73.06 | 71.72 | 70.04 | 67.86 | 64.33 | 59.96 | 54.92 | 0.0    | 1.51  |
| 30.0   | 74.74 | 74.57 | 73.90 | 72.90 | 71.05 | 68.86 | 65.84 | 61.64 | 56.94 | 30.0   | 1.51  |
| 60.0   | 74.41 | 73.90 | 73.40 | 72.06 | 70.38 | 68.02 | 65.00 | 60.97 | 56.44 | 60.0   | 1.51  |
| 90.0   | 74.24 | 73.90 | 73.23 | 72.06 | 70.04 | 67.86 | 64.33 | 60.30 | 55.26 | 90.0   | 1.51  |
| 120.0  | 73.90 | 73.40 | 72.56 | 71.05 | 69.03 | 66.18 | 62.65 | 58.11 | 52.91 | 120.0  | 1.51  |
| 150.0  | 73.90 | 73.57 | 72.56 | 71.05 | 69.03 | 66.51 | 63.32 | 59.63 | 55.09 | 150.0  | 1.51  |
| 180.0  | 73.74 | 73.40 | 72.39 | 70.88 | 68.86 | 66.34 | 63.32 | 59.29 | 54.92 | 180.0  | 1.51  |
| 210.0  | 74.74 | 74.07 | 72.90 | 71.22 | 69.20 | 66.51 | 63.15 | 59.29 | 54.59 | 210.0  | 1.51  |
| 240.0  | 74.41 | 74.07 | 73.06 | 71.72 | 69.54 | 67.02 | 63.66 | 59.63 | 54.59 | 240.0  | 1.51  |
| 270.0  | 74.24 | 73.90 | 72.73 | 71.22 | 69.37 | 66.68 | 63.15 | 58.79 | 53.24 | 270.0  | 1.51  |
| 300.0  | 73.90 | 73.74 | 73.06 | 71.89 | 70.21 | 67.86 | 64.83 | 60.97 | 56.27 | 300.0  | 1.51  |
| 330.0  | 73.90 | 73.74 | 72.90 | 71.72 | 69.87 | 67.69 | 64.50 | 60.30 | 55.60 | 330.0  | 1.51  |
| 360.0  | 73.74 | 73.57 | 73.06 | 71.72 | 70.04 | 67.86 | 64.33 | 59.96 | 54.92 | 360.0  | 1.51  |
|        |       |       |       |       |       |       |       |       |       |        |       |
| C/γ(°) | 45.0  | 50.0  | 55.0  | 60.0  | 65.0  | 70.0  | 75.0  | 80.0  | 85.0  |        |       |
| 0.0    | 48.37 | 41.32 | 35.10 | 29.06 | 22.67 | 15.28 | 9.07  | 4.37  | 1.68  |        |       |
| 30.0   | 51.40 | 43.84 | 36.78 | 29.90 | 23.35 | 16.46 | 9.24  | 4.87  | 1.85  |        |       |
| 60.0   | 50.39 | 43.17 | 36.11 | 27.88 | 19.65 | 12.60 | 7.05  | 3.19  | 1.85  |        |       |
| 90.0   | 48.88 | 42.49 | 35.27 | 27.71 | 19.82 | 12.60 | 6.55  | 2.86  | 1.68  |        |       |
| 120.0  | 46.69 | 39.97 | 33.09 | 24.86 | 17.47 | 9.91  | 4.70  | 2.35  | 1.18  |        |       |
| 150.0  | 49.88 | 43.67 | 36.45 | 27.71 | 18.64 | 11.25 | 5.71  | 2.69  | 1.51  |        |       |
| 180.0  | 49.88 | 43.33 | 35.78 | 26.37 | 18.98 | 11.93 | 6.38  | 2.86  | 1.34  |        |       |
| 210.0  | 49.38 | 42.66 | 35.10 | 25.19 | 17.13 | 10.58 | 5.21  | 2.35  | 1.18  |        |       |
| 240.0  | 48.71 | 41.65 | 34.77 | 27.04 | 19.32 | 11.42 | 5.37  | 2.69  | 1.51  |        |       |
| 270.0  | 46.69 | 40.31 | 33.09 | 25.70 | 17.64 | 10.58 | 5.04  | 2.52  | 1.51  |        |       |
| 300.0  | 50.72 | 44.01 | 36.95 | 29.23 | 21.00 | 13.27 | 7.05  | 3.19  | 1.85  |        |       |
| 330.0  | 49.55 | 42.33 | 34.60 | 27.38 | 20.66 | 13.77 | 7.39  | 3.70  | 1.68  |        |       |
| 360.0  | 48.37 | 41.32 | 35.10 | 29.06 | 22.67 | 15.28 | 9.07  | 4.37  | 1.68  |        |       |
|        |       |       |       |       |       |       |       |       |       |        |       |
| C/γ(°) | 90.0  | 95.0  | 100.0 | 105.0 | 110.0 | 115.0 | 120.0 | 125.0 | 130.0 |        |       |
| 0.0    | 1.01  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |        |       |
| 30.0   | 1.18  | 0.84  | 0.84  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.18  |        |       |
| 60.0   | 1.01  | 0.84  | 0.84  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.34  |        |       |
| 90.0   | 0.84  | 0.84  | 0.84  | 1.01  | 0.84  | 1.01  | 1.18  | 1.18  | 1.34  |        |       |
| 120.0  | 0.84  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.18  | 1.18  | 1.18  |        |       |
| 150.0  | 0.84  | 0.84  | 0.84  | 0.84  | 0.84  | 1.01  | 1.18  | 1.18  | 1.34  |        |       |
| 180.0  | 0.84  | 0.84  | 1.01  | 1.01  | 0.84  | 1.01  | 1.01  | 1.18  | 1.34  |        |       |
| 210.0  | 0.84  | 0.67  | 0.67  | 0.84  | 0.84  | 1.01  | 1.01  | 1.18  | 1.18  |        |       |
| 240.0  | 0.67  | 0.84  | 0.84  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.01  |        |       |
| 270.0  | 0.84  | 0.84  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.01  | 1.18  |        |       |
| 300.0  | 1.01  | 0.67  | 0.67  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.01  |        |       |
| 330.0  | 0.84  | 0.84  | 0.84  | 0.67  | 0.84  | 1.01  | 0.84  | 1.18  | 1.18  |        |       |
| 360.0  | 1.01  | 0.84  | 0.84  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |        |       |
|        |       |       |       |       |       |       |       |       |       |        |       |
| C/γ(°) | 135.0 | 140.0 | 145.0 | 150.0 | 155.0 | 160.0 | 165.0 | 170.0 | 175.0 |        |       |
| 0.0    | 1.18  | 1.34  | 1.18  | 1.34  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  |        |       |
| 30.0   | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 60.0   | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 90.0   | 1.34  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 120.0  | 1.34  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 150.0  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 180.0  | 1.18  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 210.0  | 1.34  | 1.34  | 1.34  | 1.51  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  |        |       |
| 240.0  | 1.18  | 1.34  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 270.0  | 1.18  | 1.34  | 1.34  | 1.34  | 1.34  | 1.51  | 1.34  | 1.51  | 1.51  |        |       |
| 300.0  | 1.18  | 1.18  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  | 1.51  | 1.51  |        |       |
| 330.0  | 1.18  | 1.18  | 1.34  | 1.34  | 1.34  | 1.51  | 1.34  | 1.51  | 1.51  |        |       |
| 360.0  | 1.18  | 1.34  | 1.18  | 1.34  | 1.34  | 1.34  | 1.34  | 1.51  | 1.51  |        |       |

**4.Test Equipment**

| Equipment Name                     | Manufacturer | Model No.      | Equipment No. | Calibration Due Date |
|------------------------------------|--------------|----------------|---------------|----------------------|
| 2m Integrating Sphere              | SENSING      | SL-300         | AOC-S-126     | 2026-04-13           |
| Horizontal Distribution Photometer | SENSING      | GMS1800D       | AOC-S-124     | 2026-04-13           |
| Standard Lamp                      | SENSING      | 220V/150W      | AOC-S-156     | 2026-06-05           |
| Digital power meter                | HENGHE       | WT310E         | AOC-S-012     | 2026-04-13           |
| Digital power meter                | SENSING      | UI2008         | AOC-S-123     | 2026-04-13           |
| Digital power meter                | SENSING      | UI2021         | AOC-S-123     | 2026-04-13           |
| DC source                          | OYHS         | OYHS-Z120V-50A | AOC-S-062     | 2026-04-13           |
| Variable frequency power supply    | WOSEN        | BP6005         | AOC-S-129     | 2026-04-13           |
| Variable frequency power supply    | AIPUSI       | KDF-500        | AOC-S-130     | 2026-04-13           |
| Oscilloscope                       | TEKTRONIX    | MDO3012        | AOC-S-028     | 2026-04-13           |

## Photo Document

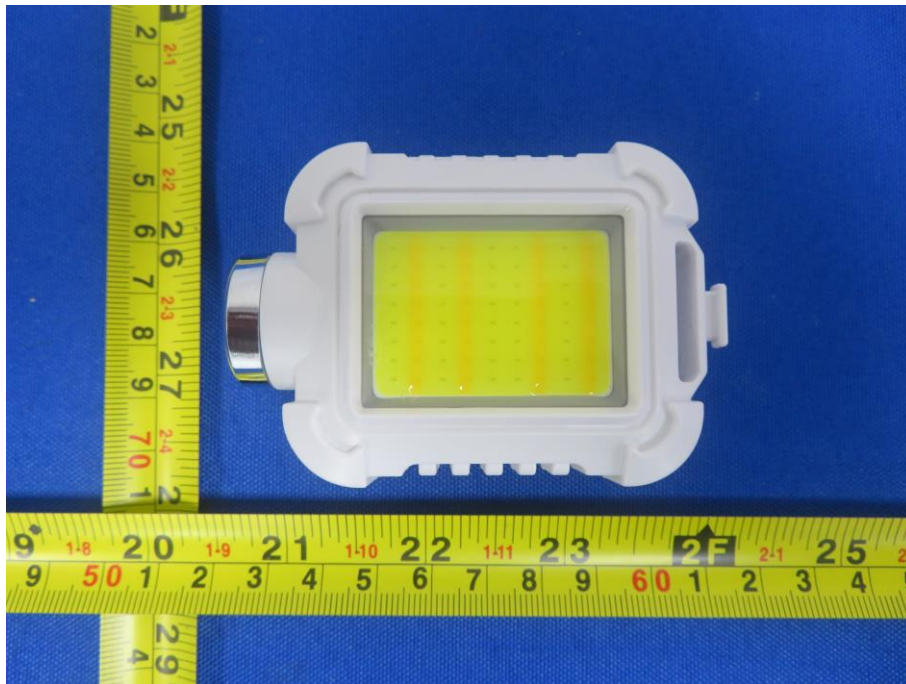


Fig.1



Fig.2





Fig.3



Fig.4

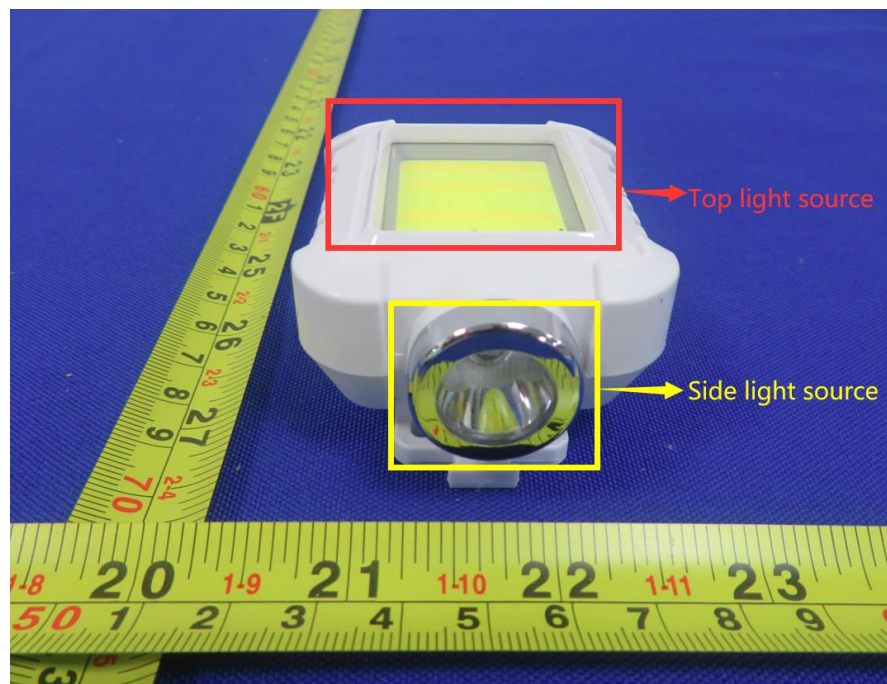


Fig.5



Fig.6

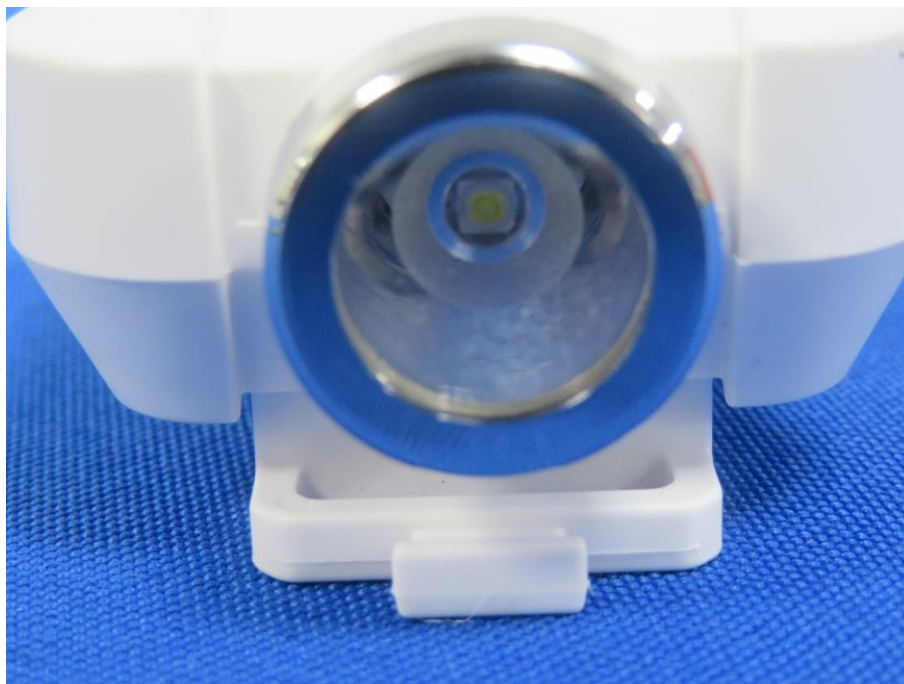


Fig.7

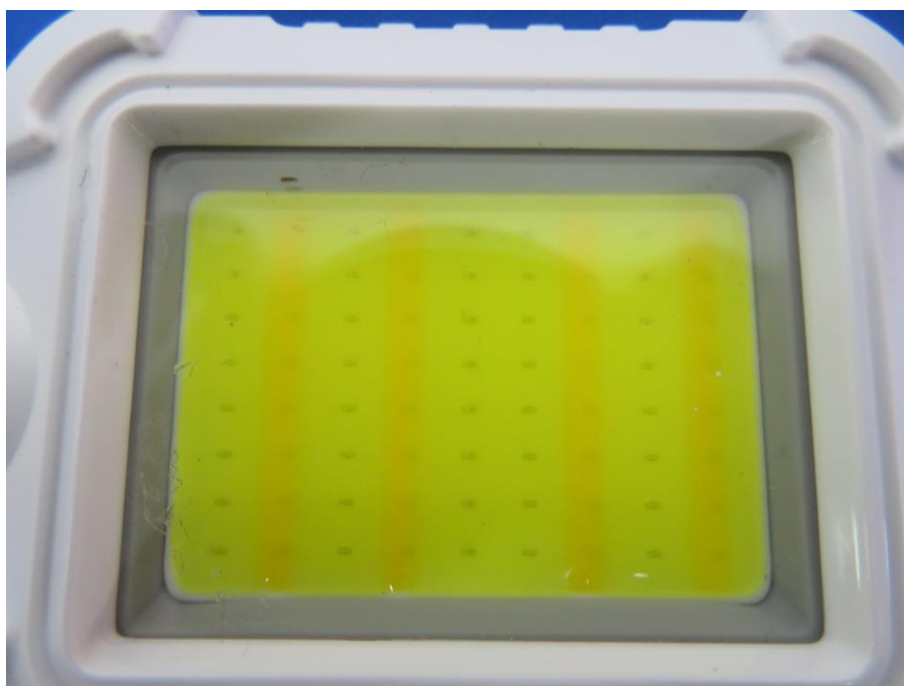


Fig.8

-- End of Report --

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