



NVLAP LAB CODE:201045-0



Shenzhen Anbotek Compliance Laboratory Limited

IES LM-79-08 TEST REPORT

For
KINGLUMI CO., LTD

Report Number: R011601999L1

Product Type: Track or Mono-point Directional Luminaires

Date of Receipt: 2016-05-20

Date of Test: 2016-05-20 to 2016-09-05

Date of Report: 2016-09-06

Model name(s): X-TR015-34-YYZZ-UU

Representative (Tested) Model: X-TR015-34-2740-UU/X-TR015-34-3040-UU/X-TR015-34-4040-UU/X-TR015-34-5040-UU

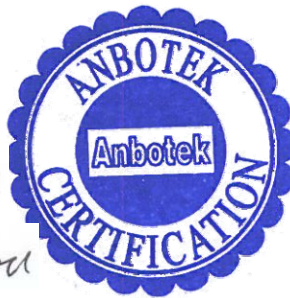
Product Description: AC120V 60Hz 34W 2700K/3000K/4000K/5000K

Product Criteria: IES LM-79-08: Electrical and Photometric Measurements of Solid-State Lighting Products

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1 – GENERAL

1.1 Product description

General Information

| | |
|---------------------------------|---|
| Applicant | KINGLUMI CO., LTD |
| Applicant Address | Bldg 3, Nangang Third Industrial Zone, Tangtou, Shiyan Town, Baoan District, Shenzhen City, China |
| Manufacturer | KINGLUMI CO., LTD |
| Manufacturer Address | Bldg 3, Nangang Third Industrial Zone, Tangtou, Shiyan Town, Baoan District, Shenzhen City, China |
| Brand name | CAMETA |
| Test Model Number | X-TR015-34-2740-UU/X-TR015-34-3040-UU/ X-TR015-34-4040-UU/X-TR015-34-5040-UU |
| Burning time before test | 0 Hours (For new products) |

Rated Values

| | |
|---------------------|-------------------------|
| Rated Inputs | AC120V 60Hz |
| Rated Power | 34W |
| Nominal CCT | 2700K/3000K/4000K/5000K |

1.2 Standard of method

- ANSI C78.377-2015: Specifications for the Chromaticity of Solid State Lighting Products
- ANSI C82.77-2002: Harmonic Emission Limits-Related Power Quality Requirements for Lighting Equipment
- CIE Publication No.13.3-1995: Method of Measuring and Specifying Color Rendering of Light Sources
- IESNA LM-79-08 Approved Method: Electric & Photometric Measurement of Solid-state Lighting Products

1.3 Test Facility

The test facility used by Shenzhen Anbotek Compliance Laboratory Limited is located at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China.

2 – Test Equipment List and Details

| Device | Manufacture | Model No | Serial No | Test Range | Calibration date | Calibration due date |
|---|-------------|-----------|-----------|---------------------------|------------------|----------------------|
| Digital Power Meter | YOKOGAWA | WT210 | SE-074 | 0-600V/0-10A/0-100Hz | 2016-04-06 | 2017-04-05 |
| Temperature & Humidity meter | XINIXI | CTH-608 | SE-260 | 0°C~50°C, 10% to 90%RH | 2016-04-06 | 2017-04-05 |
| Digital Power Meter | YOKOGAWA | WT310 | SE-381 | 0-600V/0-10A/0-100Hz | 2016-04-06 | 2017-04-05 |
| DC power supply | LINKCOLOR | DC 30V,5A | SE-433 | DC 30V, 5A | 2016-03-28 | 2017-03-27 |
| AC power source | Ainuo | AN97001W | SE-434 | 0-300V, 1000VA | 2016-04-06 | 2017-04-05 |
| Standard lamp | SENSING | 220V/500W | SE-448 | 220V/500W | 2016-03-30 | 2017-03-29 |
| Standard lamp | SENSING | 220V/500W | SE-449 | 220V/500W | 2016-03-30 | 2017-03-29 |
| Spatial distribution of rapid colorimetric measurement system | SENSING | GMS3000 | SE-450 | / | 2016-03-30 | 2017-03-29 |
| DC power supply | ITECH | IT6832 | SE-598 | 30V 3A | 2016-06-23 | 2017-06-22 |
| Integrating sphere (2.0m) | EVERFINE | 2.0m | SE-599 | 2m | 2016-06-23 | 2017-06-22 |
| Light flickering analyzer | EVERFINE | LFA-2000 | SE-600 | / | 2016-06-25 | 2017-06-24 |
| AC power source | EVERFINE | DPS1010 | SE-602 | 0-300V, 1000VA | 2016-06-23 | 2017-06-22 |
| Standard lamp | EVERFINE | D215S | SE-603 | 4.802A | 2016-07-02 | 2017-07-01 |
| DC power supply | EVERFINE | WY605 | SE-605 | DC 60V, 5A | 2016-06-23 | 2017-06-22 |
| Standard lamp | EVERFINE | D062 | SE-606 | 1.5445A | 2016-07-02 | 2017-07-01 |
| Spectrum analyzer | EVERFINE | HAAS-2000 | SE-607 | 380-780nm 1000-100000K | 2016-06-23 | 2017-06-22 |

Statement of Traceability: Shenzhen Anbotek Compliance Laboratory Limited attests that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit (SI).

3 – Test Method

3.1 Ambient Condition

The ambient temperature in which measurements are being taken was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, the air flow around the sample(s) being tested did not affect the performance.

3.2 Power Supply Characteristics

The AC power supply had a sinusoidal voltage wave shape at the prescribed frequency (60 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

The voltage of AC power supply (RMS voltage) applied to the device under test was regulated to within ± 0.2 percent under load.

3.3 Seasoning and Stabilization

No seasoning was performed in accordance with IESNA LM-79-08. And before the measurement, the sample was stabilized until the light output and power variations were less than 0.5% in 30 minutes intervals (3 readings, 15 minutes apart).

3.4 Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The integrating sphere system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards. 4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

3.5 Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous intensity distribution, and color spatial uniformity. The product was operated in its intended orientation in application and was recorded in this report. The method according to IESNA LM-79-08 following chapter.

4 – Test Result

4.1 Photometric test with Integrating Sphere System

4.1.1 Model: X-TR015-34-2740-UU

Electrical data

| Input Voltage (V) | Frequency (Hz) | Input Current (A) | Power (W) | Power Factor |
|-------------------|----------------|-------------------|-----------|--------------|
| 120.00 | 60 | 0.2896 | 33.53 | 0.965 |

Photometric data

| Luminous Flux (lm) | Radiant Flux (W) | Efficacy (lm/W) | CCT (K) | Duv |
|--------------------|------------------|-----------------|---------|---------|
| 3123.521 | 8.434 | 93.156 | 2715 | 0.00099 |

Chromaticity Coordinate

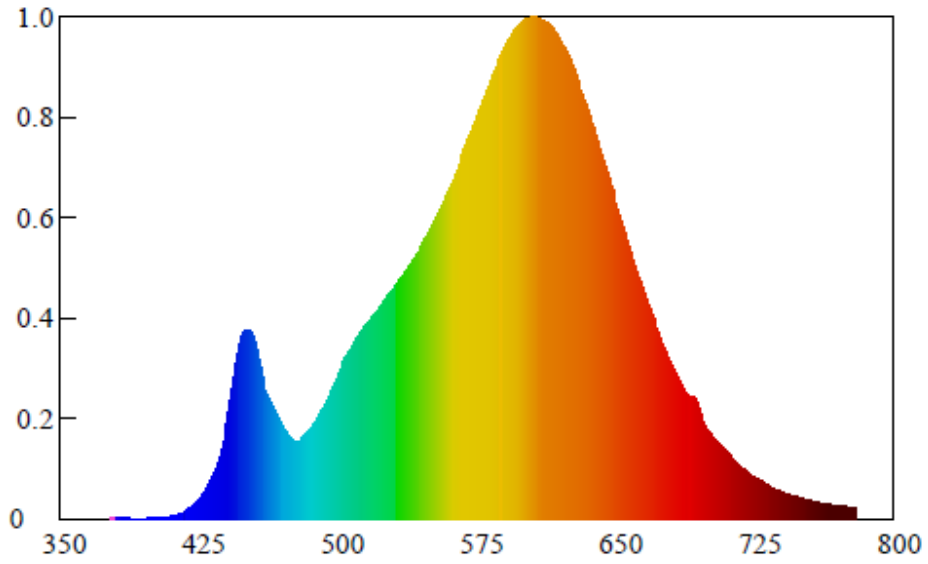
| x | y | u | v | u' | v' |
|--------|--------|--------|--------|--------|--------|
| 0.4604 | 0.4134 | 0.2616 | 0.3523 | 0.2616 | 0.5285 |

Color Rendering Details

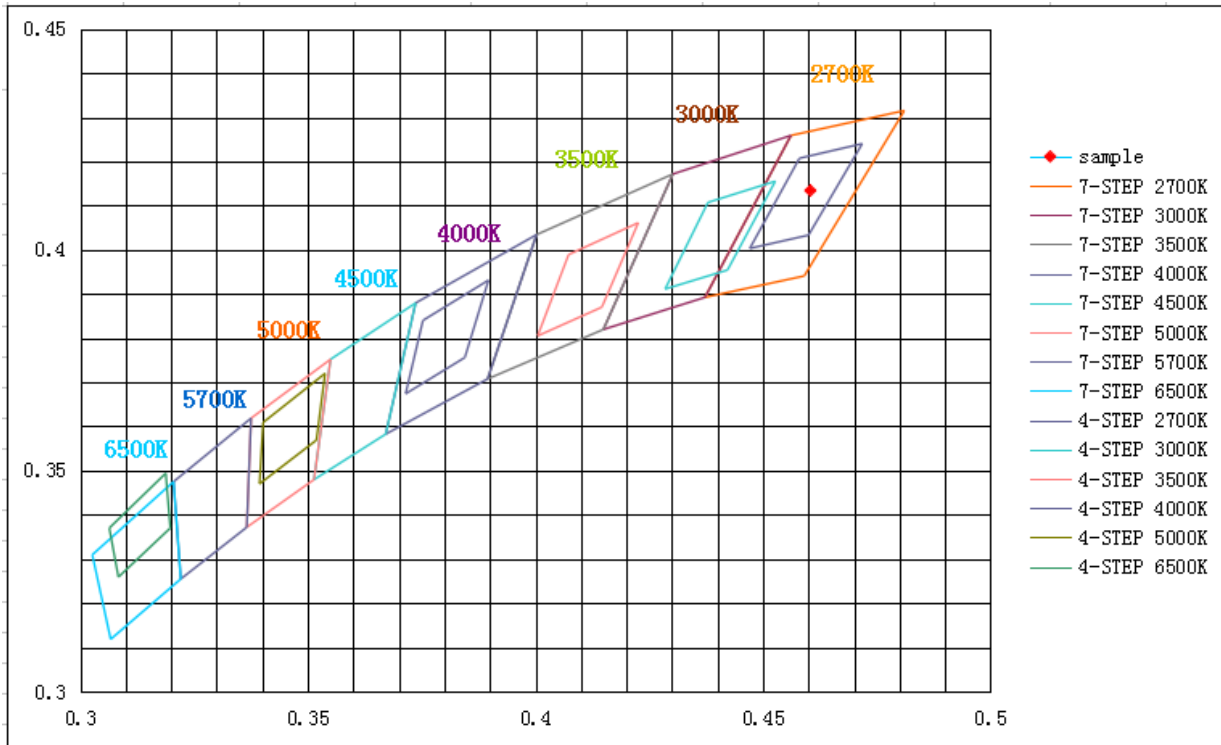
| Ra |
|------|
| 82.7 |

| R1 | R2 | R3 | R4 | R5 |
|-----|-----|-----|-----|-----|
| 81 | 91 | 97 | 80 | 81 |
| R6 | R7 | R8 | R9 | R10 |
| 90 | 83 | 59 | 11 | 80 |
| R11 | R12 | R13 | R14 | R15 |
| 79 | 72 | 84 | 99 | 74 |

Spectral Distribution



ANSI Chromaticity Quadrangles Diagram



4.1.2 Model: X-TR015-34-3040-UU**Electrical data**

| Input Voltage (V) | Frequency (Hz) | Input Current (A) | Power (W) | Power Factor |
|-------------------|----------------|-------------------|-----------|--------------|
| 120.02 | 60 | 0.2902 | 33.57 | 0.964 |

Photometric data

| Luminous Flux (lm) | Radiant Flux (W) | Efficacy (lm/W) | CCT (K) | Duv |
|--------------------|------------------|-----------------|---------|---------|
| 3186.028 | 8.933 | 94.907 | 3057 | 0.00101 |

Chromaticity Coordinate

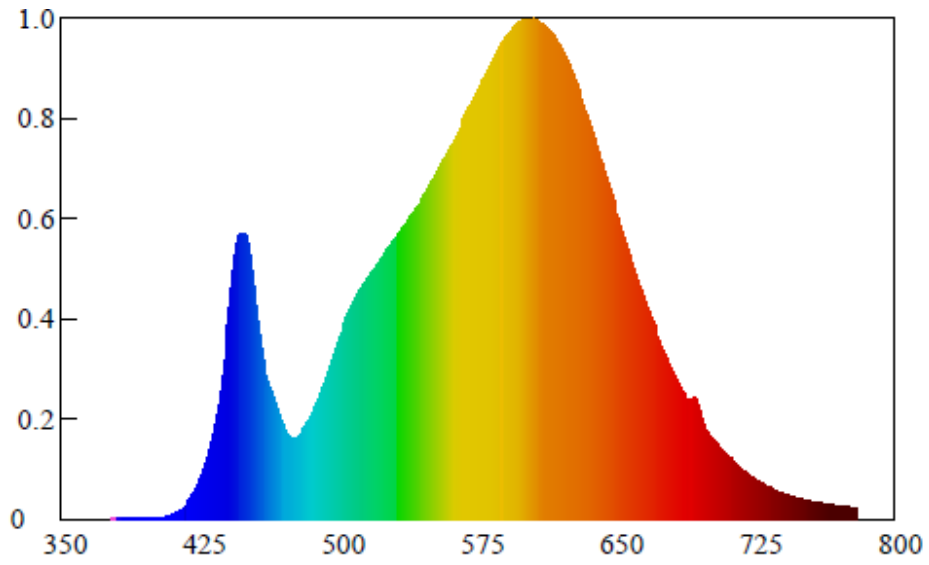
| x | y | u | v | u' | v' |
|--------|--------|--------|--------|--------|--------|
| 0.4344 | 0.4057 | 0.2482 | 0.3477 | 0.2482 | 0.5216 |

Color Rendering Details

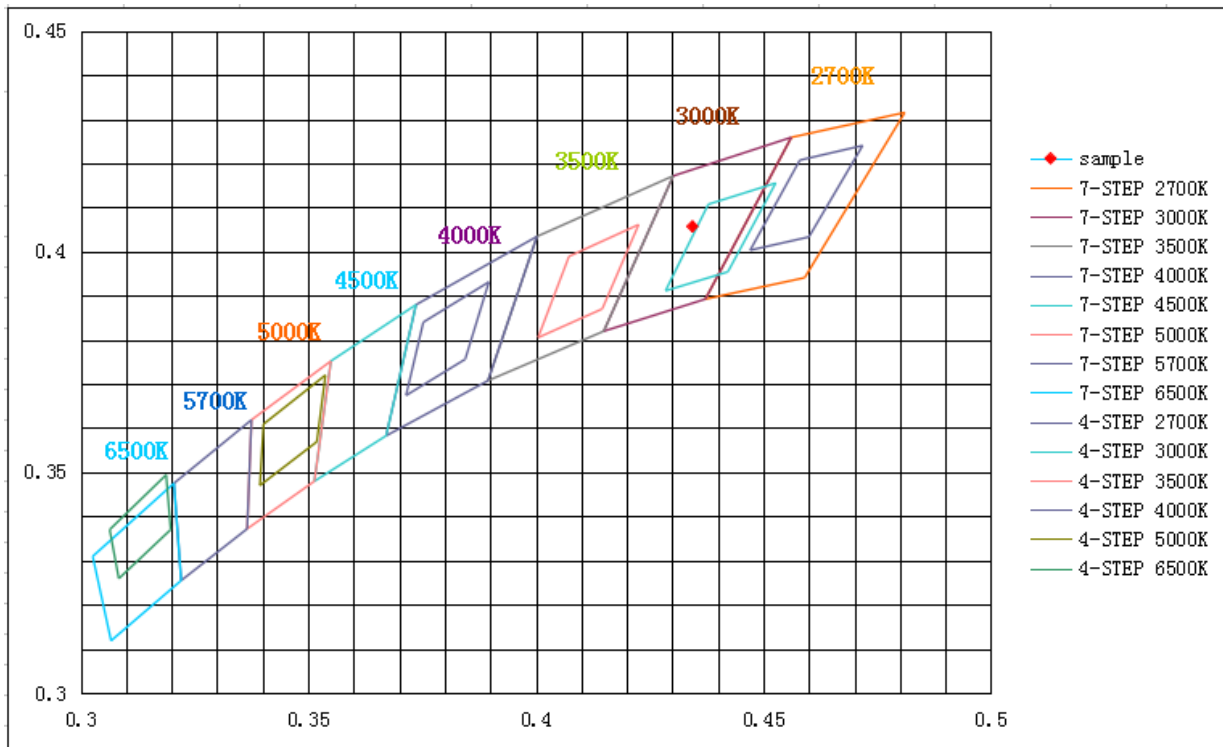
| Ra |
|------|
| 83.3 |

| R1 | R2 | R3 | R4 | R5 |
|-----|-----|-----|-----|-----|
| 82 | 90 | 96 | 82 | 81 |
| R6 | R7 | R8 | R9 | R10 |
| 87 | 85 | 63 | 14 | 76 |
| R11 | R12 | R13 | R14 | R15 |
| 82 | 68 | 84 | 98 | 75 |

Spectral Distribution



ANSI Chromaticity Quadrangles Diagram



4.1.3 Model: X-TR015-34-4040-UU**Electrical data**

| Input Voltage (V) | Frequency (Hz) | Input Current (A) | Power (W) | Power Factor |
|-------------------|----------------|-------------------|-----------|--------------|
| 120.00 | 60 | 0.2897 | 33.55 | 0.965 |

Photometric data

| Luminous Flux (lm) | Radiant Flux (W) | Efficacy (lm/W) | CCT (K) | Duv |
|--------------------|------------------|-----------------|---------|--------|
| 3303.970 | 12.917 | 98.479 | 3859 | 0.0021 |

Chromaticity Coordinate

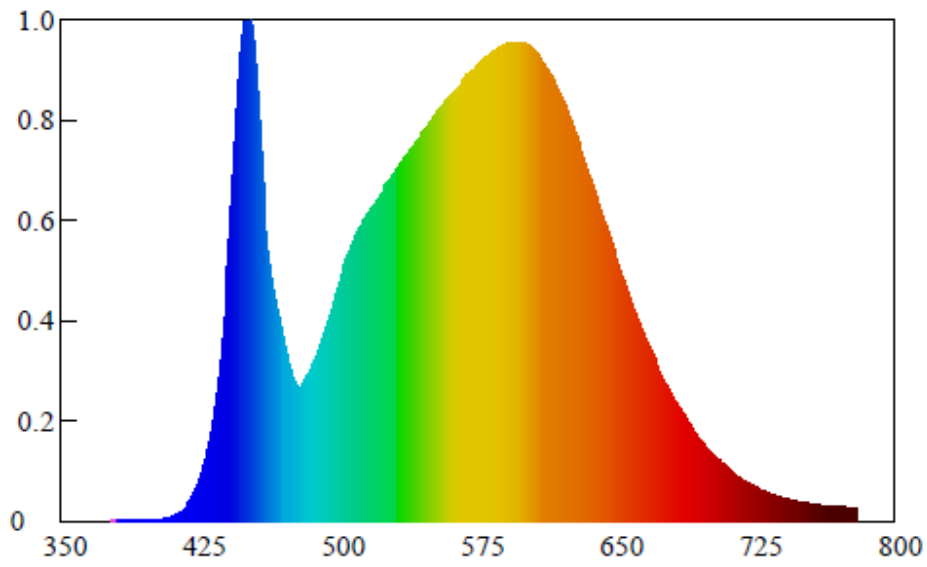
| x | y | u | v | u' | v' |
|--------|--------|--------|--------|--------|--------|
| 0.3886 | 0.3863 | 0.2266 | 0.3379 | 0.2266 | 0.5069 |

Color Rendering Details

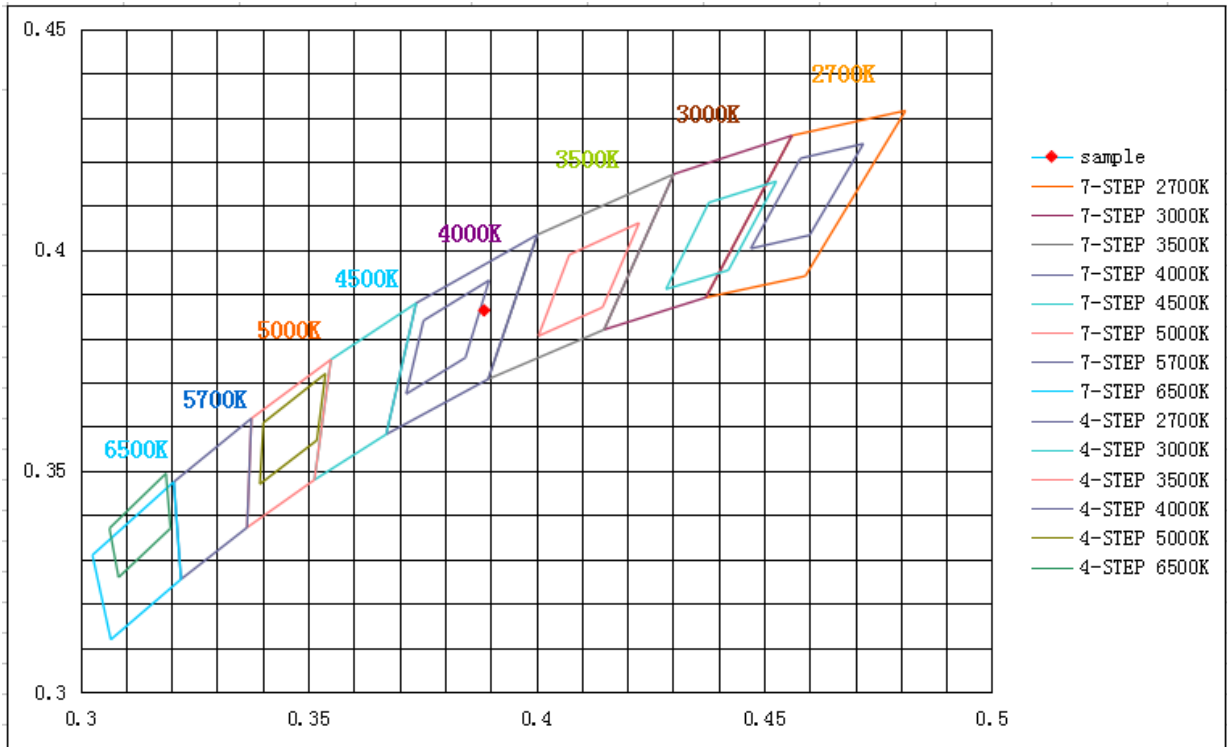
| Ra |
|------|
| 83.1 |

| R1 | R2 | R3 | R4 | R5 |
|-----|-----|-----|-----|-----|
| 81 | 89 | 95 | 82 | 81 |
| R6 | R7 | R8 | R9 | R10 |
| 84 | 87 | 66 | 13 | 74 |
| R11 | R12 | R13 | R14 | R15 |
| 80 | 59 | 84 | 97 | 76 |

Spectral Distribution



ANSI Chromaticity Quadrangles Diagram



4.1.4 Model: X-TR015-34-5040-UU**Electrical data**

| Input Voltage (V) | Frequency (Hz) | Input Current (A) | Power (W) | Power Factor |
|-------------------|----------------|-------------------|-----------|--------------|
| 120.03 | 60 | 0.2901 | 33.56 | 0.964 |

Photometric data

| Luminous Flux (lm) | Radiant Flux (W) | Efficacy (lm/W) | CCT (K) | Duv |
|--------------------|------------------|-----------------|---------|---------|
| 3468.225 | 11.1 | 103.344 | 4905 | 0.00292 |

Chromaticity Coordinate

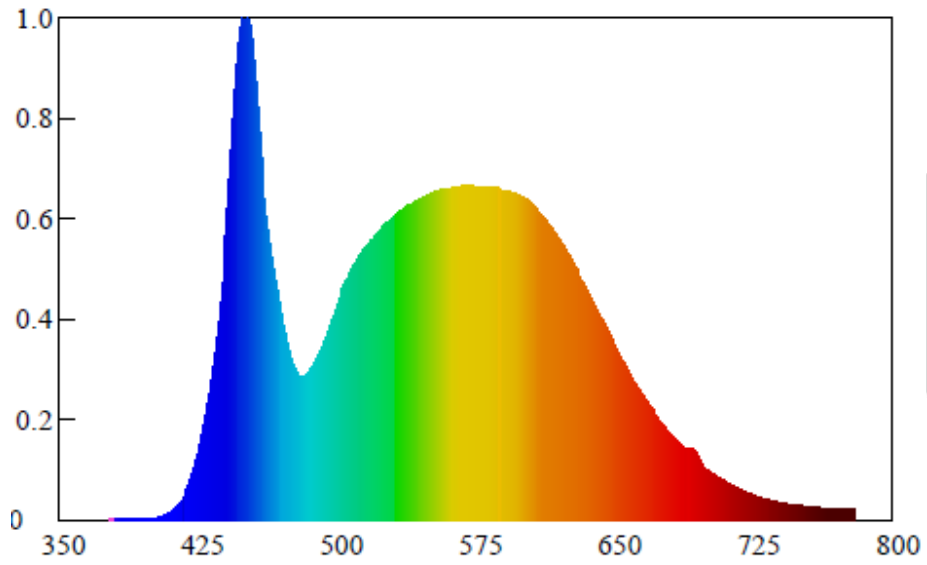
| x | y | u | v | u' | v' |
|--------|--------|--------|--------|--------|--------|
| 0.3485 | 0.3602 | 0.2104 | 0.3262 | 0.2104 | 0.4893 |

Color Rendering Details

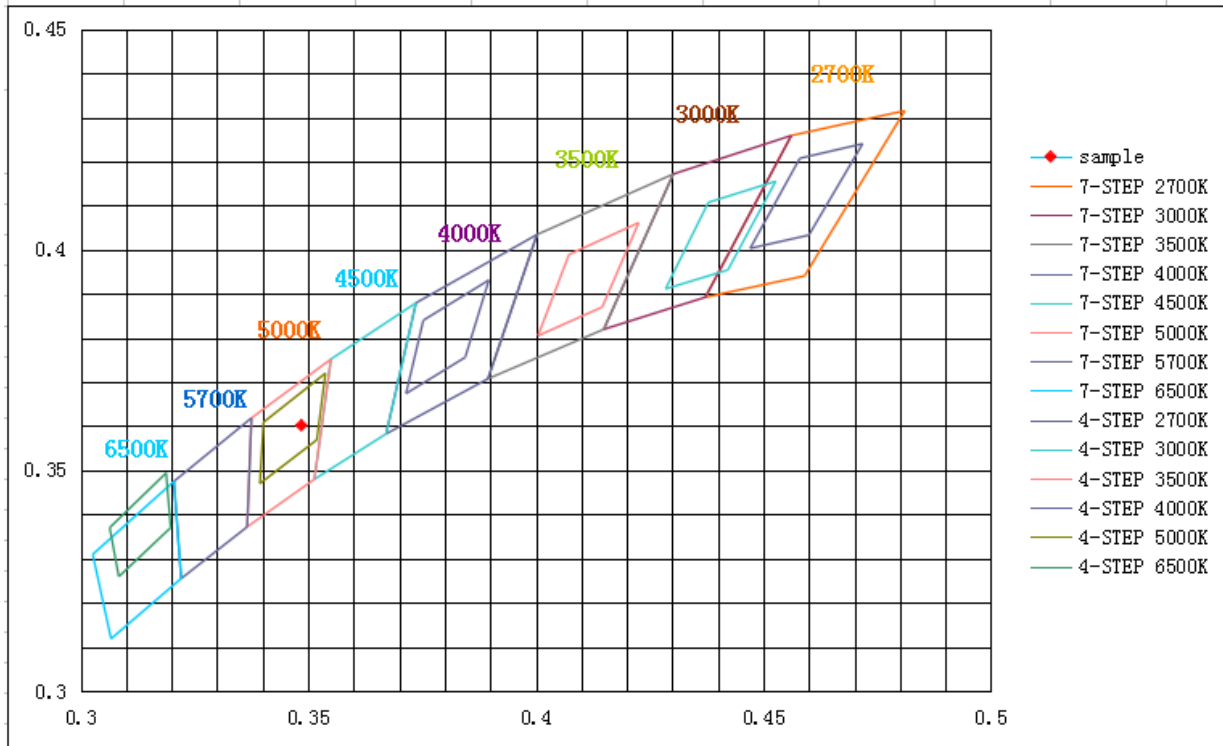
| Ra |
|------|
| 84.1 |

| R1 | R2 | R3 | R4 | R5 |
|-----|-----|-----|-----|-----|
| 82 | 89 | 93 | 83 | 82 |
| R6 | R7 | R8 | R9 | R10 |
| 83 | 90 | 71 | 20 | 73 |
| R11 | R12 | R13 | R14 | R15 |
| 81 | 57 | 85 | 96 | 78 |

Spectral Distribution



ANSI Chromaticity Quadrangles Diagram



4.2 Photometric test with Goniophotometer System

4.2.1 Model: X-TR015-34-2740-UU

Electrical Measurement

| Input Voltage (V) | Frequency (Hz) | Input Current (A) | Power (W) | Power Factor |
|-------------------|----------------|-------------------|-----------|--------------|
| 120.00 | 60 | 0.2900 | 33.52 | 0.964 |

Photometric Measurement

| Luminous Flux (lm) | Efficacy (lm/W) | CBCP (cd) | Zonal Lumen Density(0~90°) |
|--------------------|-----------------|-----------|-----------------------------|
| 3144.41 | 93.81 | 4982.315 | 99.85% |

Zonal Lumen Summary

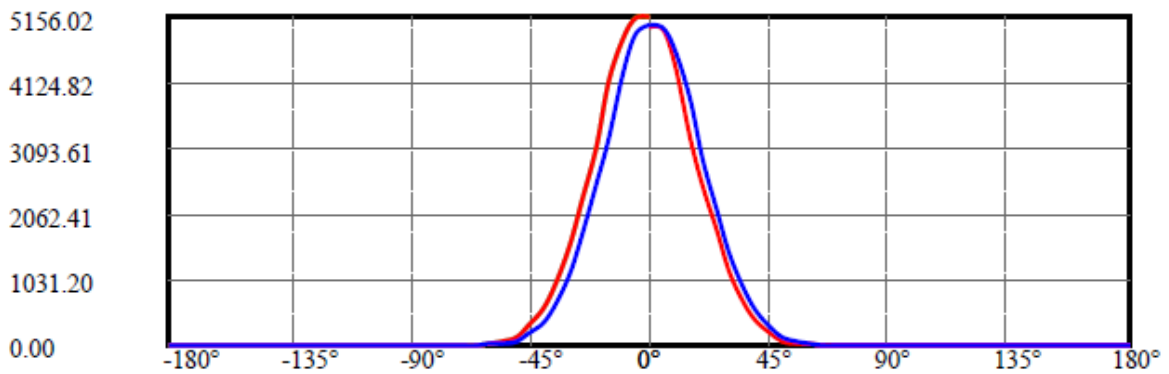
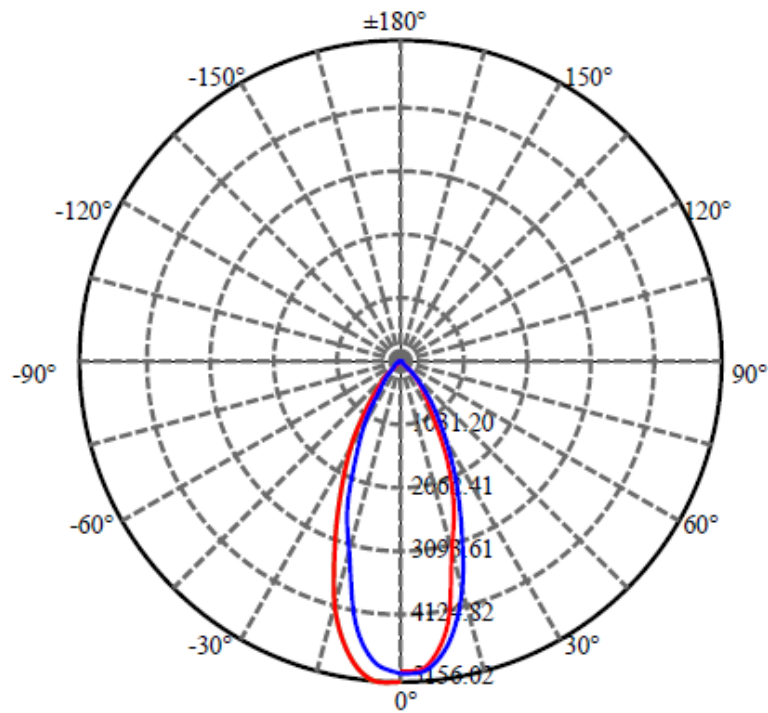
ZONAL LUMEN SUMMARY

| Zone | Lumens | %Fixt |
|---------|---------|---------|
| 0-30 | 2364.74 | 75.20% |
| 0-40 | 2880.90 | 91.62% |
| 0-60 | 3126.07 | 99.42% |
| 0-90 | 3139.62 | 99.85% |
| 0-120 | 3139.87 | 99.86% |
| 0-180 | 3144.41 | 100.00% |
| 60-90 | 27.53 | 0.88% |
| 90-120 | 0.32 | 0.01% |
| 90-130 | 0.61 | 0.02% |
| 90-150 | 2.26 | 0.07% |
| 90-180 | 4.78 | 0.15% |
| 0-32.46 | 2515.53 | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|---------|
| 0-10 | 455.39 |
| 10-20 | 1003.91 |
| 20-30 | 905.44 |
| 30-40 | 516.16 |
| 40-50 | 200.80 |
| 50-60 | 44.37 |
| 60-70 | 11.96 |
| 70-80 | 1.34 |
| 80-90 | 0.25 |
| 90-100 | 0.08 |
| 100-110 | 0.06 |
| 110-120 | 0.11 |
| 120-130 | 0.29 |
| 130-140 | 0.61 |
| 140-150 | 1.04 |
| 150-160 | 1.25 |
| 160-170 | 0.99 |
| 170-180 | 0.27 |

Light Distribution Curve [Unit: cd]



C180(Max): ———

C0/C180: ———

C90/C270: ———

Field angle(10%Imax):C0/180Left:41.2 Right:37.9

:C90/270Left:37.4 Right:40.9

Beam Angle(50%Imax):C0/180Left:23.2 Right:19.4

:C90/270Left:20.1 Right:22.5

Luminous Intensity (cd) Distribution Data

| | | | | | | | | | |
|----------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| <i>C/γ</i> (°) | 0.0 | 5.0 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 |
| 0.0 | 4982.32 | 4923.87 | 4308.59 | 3230.14 | 2494.40 | 1781.56 | 1148.09 | 684.11 | 396.93 |
| 22.5 | 4983.94 | 4837.83 | 4272.88 | 3461.16 | 2555.28 | 1831.23 | 1178.61 | 706.68 | 414.62 |
| 45.0 | 4996.93 | 4889.78 | 4376.77 | 3589.41 | 2657.56 | 1915.65 | 1250.04 | 837.69 | 454.72 |
| 67.5 | 5014.78 | 4946.60 | 4483.92 | 3725.78 | 2764.71 | 2001.69 | 1344.20 | 840.94 | 495.96 |
| 90.0 | 5027.77 | 4979.07 | 4576.46 | 3854.03 | 2920.56 | 2116.96 | 1428.62 | 899.38 | 550.99 |
| 112.5 | 5047.25 | 5014.78 | 4651.13 | 3959.55 | 3035.82 | 2214.36 | 1529.27 | 974.06 | 580.38 |
| 135.0 | 5078.10 | 5061.86 | 4735.55 | 4037.48 | 3123.48 | 2264.69 | 1576.35 | 1000.03 | 620.64 |
| 157.5 | 5113.81 | 5092.71 | 4795.62 | 4081.31 | 3147.84 | 2310.15 | 1608.82 | 978.93 | 599.21 |
| 180.0 | 5156.02 | 5126.80 | 4803.74 | 4117.03 | 3115.37 | 2282.55 | 1568.24 | 967.57 | 578.75 |
| 202.5 | 4983.94 | 4935.24 | 4511.52 | 3789.09 | 2847.18 | 2035.62 | 1345.34 | 806.20 | 472.91 |
| 225.0 | 4996.93 | 4896.27 | 4448.21 | 3667.33 | 2705.94 | 1926.20 | 1251.99 | 724.05 | 431.83 |
| 247.5 | 5014.78 | 4857.31 | 4355.67 | 3550.45 | 2586.45 | 1828.31 | 1165.95 | 669.50 | 392.87 |
| 270.0 | 5027.77 | 4860.56 | 4255.02 | 3233.07 | 2525.90 | 1744.70 | 1116.27 | 629.40 | 364.14 |
| 292.5 | 5047.25 | 4837.83 | 4250.15 | 3241.18 | 2450.73 | 1731.88 | 1056.53 | 628.27 | 352.45 |
| 315.0 | 5078.10 | 4865.43 | 4253.39 | 3222.68 | 2425.08 | 1710.12 | 1077.64 | 627.29 | 360.56 |
| 337.5 | 5113.81 | 4870.30 | 4248.52 | 3235.18 | 2467.94 | 1706.55 | 1082.51 | 654.24 | 362.35 |
| 360.0 | 4982.32 | 4923.87 | 4308.59 | 3230.14 | 2494.40 | 1781.56 | 1148.09 | 684.11 | 396.93 |
| <i>C/γ</i> (°) | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 |
| 0.0 | 198.22 | 62.50 | 29.87 | 17.37 | 8.12 | 0.97 | 0.65 | 0.32 | 0.16 |
| 22.5 | 220.14 | 76.14 | 31.82 | 19.97 | 9.90 | 1.30 | 0.65 | 0.49 | 0.16 |
| 45.0 | 237.18 | 95.30 | 35.88 | 20.78 | 10.88 | 1.46 | 0.81 | 0.49 | 0.16 |
| 67.5 | 255.53 | 113.80 | 41.07 | 22.40 | 12.83 | 2.76 | 0.81 | 0.32 | 0.32 |
| 90.0 | 291.24 | 141.08 | 49.84 | 26.79 | 15.10 | 6.17 | 0.81 | 0.49 | 0.16 |
| 112.5 | 320.47 | 160.23 | 51.95 | 27.44 | 15.58 | 6.49 | 0.97 | 0.49 | 0.32 |
| 135.0 | 343.52 | 163.80 | 51.14 | 27.60 | 16.07 | 7.79 | 0.97 | 0.65 | 0.16 |
| 157.5 | 334.10 | 154.55 | 49.51 | 27.44 | 15.75 | 7.31 | 0.97 | 0.49 | 0.32 |
| 180.0 | 311.86 | 142.70 | 48.38 | 26.46 | 15.10 | 6.33 | 0.97 | 0.49 | 0.32 |
| 202.5 | 245.95 | 104.39 | 37.66 | 22.40 | 12.50 | 3.25 | 0.65 | 0.49 | 0.16 |
| 225.0 | 220.14 | 84.58 | 35.23 | 20.46 | 11.04 | 1.79 | 0.65 | 0.49 | 0.16 |
| 247.5 | 192.86 | 71.11 | 32.14 | 19.97 | 9.90 | 1.14 | 0.65 | 0.32 | 0.32 |
| 270.0 | 179.06 | 69.16 | 31.98 | 19.48 | 9.42 | 0.97 | 0.65 | 0.49 | 0.16 |
| 292.5 | 179.23 | 61.37 | 29.87 | 18.51 | 8.44 | 0.97 | 0.49 | 0.32 | 0.16 |
| 315.0 | 180.36 | 60.23 | 29.06 | 17.53 | 8.12 | 0.97 | 0.65 | 0.32 | 0.16 |
| 337.5 | 188.32 | 60.88 | 29.38 | 17.86 | 8.44 | 0.81 | 0.65 | 0.32 | 0.16 |
| 360.0 | 198.22 | 62.50 | 29.87 | 17.37 | 8.12 | 0.97 | 0.65 | 0.32 | 0.16 |
| <i>C/γ</i> (°) | 90.0 | 95.0 | 100.0 | 105.0 | 110.0 | 115.0 | 120.0 | 125.0 | 130.0 |
| 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.32 | 0.49 |
| 22.5 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 0.16 | 0.32 | 0.32 | 0.65 |
| 45.0 | 0.00 | 0.16 | 0.00 | 0.16 | 0.00 | 0.16 | 0.32 | 0.32 | 0.49 |
| 67.5 | 0.16 | 0.16 | 0.00 | 0.00 | 0.16 | 0.16 | 0.16 | 0.32 | 0.49 |
| 90.0 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.16 | 0.32 | 0.49 |
| 112.5 | 0.00 | 0.16 | 0.00 | 0.16 | 0.00 | 0.00 | 0.16 | 0.16 | 0.32 |
| 135.0 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.32 | 0.49 |
| 157.5 | 0.00 | 0.16 | 0.00 | 0.16 | 0.00 | 0.00 | 0.16 | 0.32 | 0.32 |
| 180.0 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.16 | 0.00 | 0.32 | 0.49 |
| 202.5 | 0.00 | 0.16 | 0.00 | 0.00 | 0.00 | 0.16 | 0.16 | 0.32 | 0.32 |
| 225.0 | 0.16 | 0.16 | 0.00 | 0.16 | 0.00 | 0.16 | 0.16 | 0.32 | 0.32 |
| 247.5 | 0.16 | 0.16 | 0.00 | 0.00 | 0.16 | 0.16 | 0.16 | 0.32 | 0.49 |
| 270.0 | 0.16 | 0.00 | 0.00 | 0.16 | 0.00 | 0.16 | 0.16 | 0.32 | 0.49 |
| 292.5 | 0.00 | 0.16 | 0.00 | 0.16 | 0.16 | 0.16 | 0.16 | 0.32 | 0.65 |
| 315.0 | 0.16 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.32 | 0.65 |
| 337.5 | 0.00 | 0.16 | 0.00 | 0.16 | 0.16 | 0.16 | 0.16 | 0.49 | 0.49 |
| 360.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.32 | 0.49 |

| C/γ(°) | 135.0 | 140.0 | 145.0 | 150.0 | 155.0 | 160.0 | 165.0 | 170.0 | 175.0 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 0.81 | 1.30 | 1.79 | 2.11 | 2.76 | 3.25 | 3.57 | 3.73 | 4.06 |
| 22.5 | 0.81 | 1.46 | 1.79 | 2.44 | 2.92 | 3.41 | 3.41 | 3.73 | 3.90 |
| 45.0 | 0.81 | 1.14 | 1.79 | 2.44 | 2.92 | 3.41 | 3.57 | 3.73 | 3.73 |
| 67.5 | 0.81 | 1.14 | 1.79 | 2.27 | 2.92 | 3.25 | 3.57 | 3.90 | 3.90 |
| 90.0 | 0.65 | 1.14 | 1.62 | 2.27 | 2.76 | 3.25 | 3.57 | 3.73 | 3.90 |
| 112.5 | 0.65 | 0.97 | 1.62 | 2.11 | 2.76 | 3.25 | 3.57 | 3.73 | 4.06 |
| 135.0 | 0.65 | 0.97 | 1.62 | 2.11 | 2.76 | 3.25 | 3.57 | 3.73 | 3.90 |
| 157.5 | 0.65 | 0.97 | 1.62 | 2.11 | 2.76 | 3.25 | 3.57 | 3.90 | 3.90 |
| 180.0 | 0.65 | 1.14 | 1.62 | 2.11 | 2.76 | 3.25 | 3.57 | 3.73 | 3.90 |
| 202.5 | 0.81 | 0.97 | 1.46 | 1.95 | 2.44 | 3.08 | 3.25 | 3.57 | 3.73 |
| 225.0 | 0.65 | 0.97 | 1.46 | 2.11 | 2.44 | 2.92 | 3.41 | 3.73 | 3.90 |
| 247.5 | 0.81 | 1.14 | 1.62 | 2.11 | 2.60 | 3.08 | 3.57 | 3.73 | 3.90 |
| 270.0 | 0.81 | 1.14 | 1.62 | 2.11 | 2.76 | 3.25 | 3.57 | 3.73 | 3.90 |
| 292.5 | 0.97 | 1.30 | 1.79 | 2.11 | 2.76 | 3.41 | 3.73 | 3.73 | 3.90 |
| 315.0 | 0.81 | 1.30 | 1.79 | 2.27 | 2.76 | 3.08 | 3.57 | 3.90 | 3.90 |
| 337.5 | 0.97 | 1.30 | 1.79 | 2.44 | 2.76 | 3.25 | 3.57 | 3.73 | 4.06 |
| 360.0 | 0.81 | 1.30 | 1.79 | 2.11 | 2.76 | 3.25 | 3.57 | 3.73 | 4.06 |

| C/γ(°) | 180.0 |
|--------|-------|
| 0.0 | 4.22 |
| 22.5 | 3.90 |
| 45.0 | 4.06 |
| 67.5 | 4.06 |
| 90.0 | 4.06 |
| 112.5 | 4.06 |
| 135.0 | 4.06 |
| 157.5 | 4.22 |
| 180.0 | 4.22 |
| 202.5 | 3.90 |
| 225.0 | 4.06 |
| 247.5 | 4.06 |
| 270.0 | 4.06 |
| 292.5 | 4.06 |
| 315.0 | 4.06 |
| 337.5 | 4.22 |
| 360.0 | 4.22 |

5 – Additional Test

X-TR015-34-2740-UU

| Test item | Test Voltage (V) | Frequency(Hz) | Test Result |
|---------------------------|------------------|---------------|-------------|
| Power Factor | 120 | 60 | 0.965 |
| Total harmonic Distortion | 120 | 60 | 13.81% |

X-TR015-34-3040-UU

| Test item | Test Voltage (V) | Frequency(Hz) | Test Result |
|---------------------------|------------------|---------------|-------------|
| Power Factor | 120 | 60 | 0.964 |
| Total harmonic Distortion | 120 | 60 | 13.77% |

X-TR015-34-4040-UU

| Test item | Test Voltage (V) | Frequency(Hz) | Test Result |
|---------------------------|------------------|---------------|-------------|
| Power Factor | 120 | 60 | 0.965 |
| Total harmonic Distortion | 120 | 60 | 13.40% |

X-TR015-34-5040-UU

| Test item | Test Voltage (V) | Frequency(Hz) | Test Result |
|---------------------------|------------------|---------------|-------------|
| Power Factor | 120 | 60 | 0.964 |
| Total harmonic Distortion | 120 | 60 | 13.23% |

The test data was only good for the test sample. It may have deviation for other test sample.

Attachment A – Product PHOTO

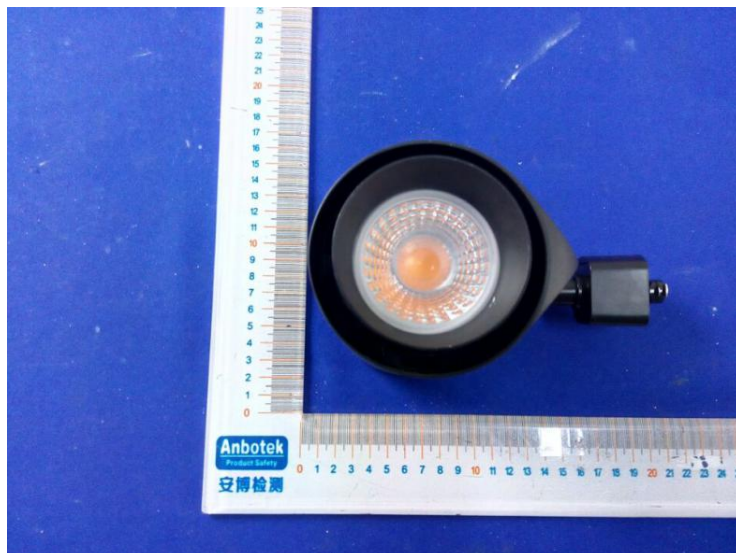


PHOTO 1



PHOTO 2

-----End of Report-----