

LM-79-08 Test Report

For

CIXI JING YU LIGHTING & ELECTRICAL EQUIPMENT CO.,LTD

(Brand Name: JINGYU)

Fanshi Industrial Zone, Longshan Town, Ningbo City, China. 315312

Model name(s):

J5236KLDA-DE56W(4000K)

J5236KLDA-DE56W(5000K)

Report Type: Testing and Report According to IES LM-79-2008

**Type of
Luminaire:** Direct Linear Ambient Luminaires

Report Date: 2018-07-25
Ningbo TengLi Testing Co., Ltd

Prepared By: 2nd floor, Block B, Ningbo Testing and Certification Base,
No. 66 Qingyi Road, Ningbo National Hi-Tech Zone,
Ningbo, Zhejiang

Test & Report By:

Xeon Ren

Engineer: Xeon Ren

Review By:

Johnson Sun

Manager: Johnson Sun

Note: 1.The results contained in this report pertain only to the tested samples.
2.This report does not imply product certification, approval, or endorsement by NVLAP, NIST,
or any agency of the Federal Government.

| 1.1 Product Information: | | |
|---|--|-----|
| Model Number | J5236KLDA-DE56W(4000K) J5236KLDA-DE56W(5000K) | |
| Remark | N/A | |
| Representative (Tested) Model | J5236KLDA-DE56W(4000K) J5236KLDA-DE56W(5000K) | |
| Model Difference | All construction and rating are the same, except CCT. | |
| SKU (if available) | N/A | |
| Type of Luminaire (for integral lamps, list base type and lamp type) | Direct Linear Ambient Luminaires | |
| LED Manufacturer | Everlight | |
| LED Model | 67-21S/KK7C-H407034Z15/2T(GC) 67-21S/KK7C-H507034Z15/2T(GC) | |
| Dimming | N/A | |
| Sample Number | STD180738NB-A1(4000K),A2(5000K) | |
| Date of Receipt | Jul.18, 2018 | |
| Luminaire Aperture (for downlights) | -- | in. |
| Luminaire Length | -- | mm |
| Luminaires Width | -- | mm |
| Number of Units (modular products) | N/A | s |

| 1.2 Rated Values: | |
|---------------------------|----------------------|
| Rated Voltage / Frequency | 120-277Vac, 50/60 Hz |
| Nominal Power | 56W |
| Rated Initial Lamp Lumen | -- |
| Declared CCT | 4000K, 5000K |

1.3 Test Specifications:

| | |
|----------------------------|--|
| Test item | <ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters |
| Reference Standard | <ol style="list-style-type: none"> 1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems |
| Reference Work Instruction | QD25 |

1.4 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

2.1 Summary of Test Result

| Criteria Item | Measured Value | | | Compliance | Requirement (DLC V4.3) | |
|---------------------------------|----------------------------|------|--------|------------|----------------------------|---------------------------|
| | | | | | | |
| Power (W) | 4000K | 120V | 57.16 | N/A | N/A | |
| | | 277V | 55.38 | | | |
| | 5000K | 120V | 56.94 | | | |
| | | 277V | 55.17 | | | |
| Power Factor | 4000K | 120V | 0.9950 | Pass | $\geq 0.9(-3\%)$ | |
| | | 277V | 0.9758 | | | |
| | 5000K | 120V | 0.9951 | | | |
| | | 277V | 0.9759 | | | |
| THD % | 4000K | 120V | 7.39 | Pass | $\leq 20(+5)$ | |
| | | 277V | 9.61 | | | |
| | 5000K | 120V | 7.28 | | | |
| | | 277V | 9.52 | | | |
| CRI | 4000K | 84.7 | | Pass | $\geq 80(-2)$ | |
| | 5000K | 85.2 | | | | |
| CCT (K) | 4000K | 3958 | | Pass | $\leq 5000K$ | |
| | 5000K | 4895 | | | | |
| Luminous Intensity Distribution | Zonal lumens in the 0-60°: | | 67.9 | Pass | $\geq 40(-3)$ | |
| Total Luminous | 4000K | 120V | 6959.4 | Pass | $\geq 375lm/ft (-10\%)$ | |
| | | 277V | 6909.3 | | | |
| | 5000K | 120V | 7035 | | | |
| | | 277V | 6985 | | | |
| Luminous Efficacy | 4000K | 120V | 121.75 | Pass | Standard: $\geq 105(-3\%)$ | Premium: $\geq 130(-3\%)$ |
| | | 277V | 124.76 | | | |
| | 5000K | 120V | 123.55 | | | |
| | | 277V | 126.61 | | | |

2.2 Electrical, Photometric and Chromaticity Measurements

| | | | |
|-------------------------|-------------------------|---------------------------------|---------|
| Test date | 2018-07-19 | Test Ambient: | 25.2 °C |
| Test Orientation | As intended | Stabilization Time (min) | 90 |
| Model Number | J5236K LDA-DE56W(4000K) | | |

Electrical Measurement:

| Sample No. | Voltage (Vac) | Frequency (Hz) | Current (A) | Power (W) | Power Factor | THD % |
|------------|---------------|----------------|-------------|-----------|--------------|-------|
| STD180738 | 120.0 | 60 | 0.4787 | 57.16 | 0.9950 | 7.39 |
| NB-A1 | 277.0 | 60 | 0.2049 | 55.38 | 0.9758 | 9.61 |

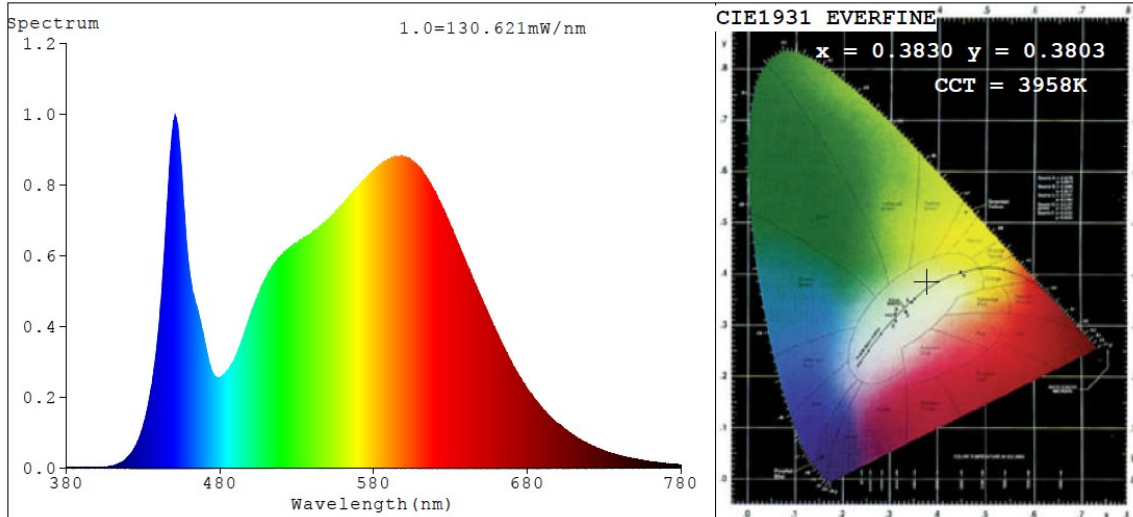
Chromaticity Measurement - Sphere-Spectroradiometer Method:

| Parameter | Result | Special Color Rendering Indices | | | |
|-----------------------------|---------------------|---------------------------------|----|-----|----|
| Test Voltage (V) | 120.0 | R1 | 83 | R9 | 16 |
| Frequency (Hz) | 60 | R2 | 90 | R10 | 77 |
| CCT (K) | 3958 | R3 | 95 | R11 | 84 |
| Duv | 0.0009 | R4 | 84 | R12 | 64 |
| Chromaticity (x, y) | x=0.3830 y=0.3803 | R5 | 83 | R13 | 85 |
| Chromaticity (u', v') | u'=0.2254 v'=0.5035 | R6 | 87 | R14 | 98 |
| Color Rendering Index (CRI) | 84.7 | R7 | 87 | R15 | 77 |
| R9 | 16 | R8 | 67 | -- | -- |

Photometric Measurement – Goniophotometer Method:

| Parameter | Result | |
|------------------------------------|--------|--------|
| Test Voltage (V) | 120.0 | 277.0 |
| Frequency (Hz) | 60 | 60 |
| Total Luminous (lm) | 6959.4 | 6909.3 |
| Luminous Efficacy (lm/W) | 121.75 | 124.76 |
| Worst Luminous/Highest Watts | 120.88 | |
| Zonal lumens in the 0-60° zone (%) | 67.9 | -- |
| Beam Angle (°) | 116.6 | -- |
| Center Beam Candle Power (cd) | 2076 | -- |

Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

| Zonal Lumen Summary | | |
|---------------------|---------|-------------|
| Zone | Lumens | % Luminaire |
| 0-30 | 1,607.3 | 23.1% |
| 0-40 | 2,633.9 | 37.9% |
| 0-60 | 4,722.7 | 67.9% |
| 60-90 | 1,844.6 | 26.5% |
| 70-100 | 1,227.5 | 17.6% |
| 90-120 | 349.6 | 5% |
| 0-90 | 6,567.3 | 94.4% |
| 90-180 | 391.4 | 5.6% |
| 0-180 | 6,958.8 | 100% |

| Lumens Per Zone | | | | | |
|-----------------|---------|---------|---------|--------|---------|
| Zone | Lumens | % Total | Zone | Lumens | % Total |
| 0-10 | 196.3 | 2.8% | 90-100 | 227.7 | 3.3% |
| 10-20 | 561.3 | 8.1% | 100-110 | 62.4 | 0.9% |
| 20-30 | 849.7 | 12.2% | 110-120 | 59.5 | 0.9% |
| 30-40 | 1,026.7 | 14.8% | 120-130 | 27.2 | 0.4% |
| 40-50 | 1,078.4 | 15.5% | 130-140 | 8.5 | 0.1% |
| 50-60 | 1,010.4 | 14.5% | 140-150 | 3.0 | 0% |
| 60-70 | 844.8 | 12.1% | 150-160 | 1.7 | 0% |
| 70-80 | 615.8 | 8.8% | 160-170 | 0.9 | 0% |
| 80-90 | 383.9 | 5.5% | 170-180 | 0.4 | 0% |

Photometric Data

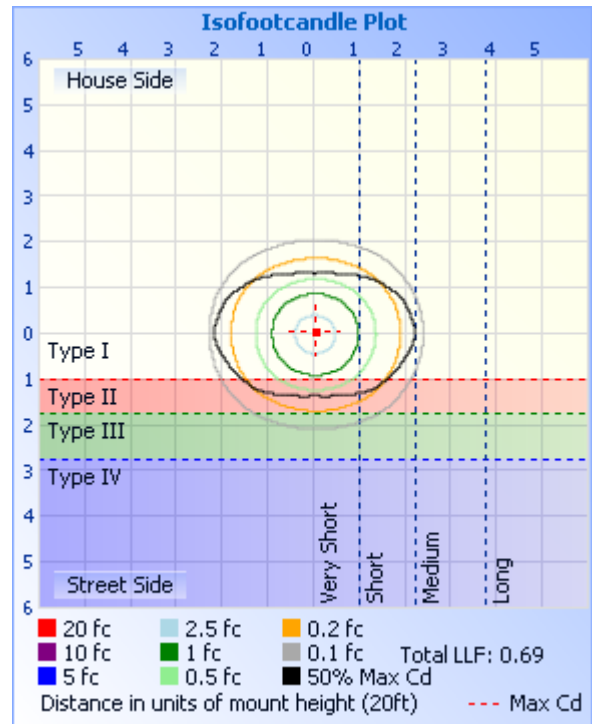
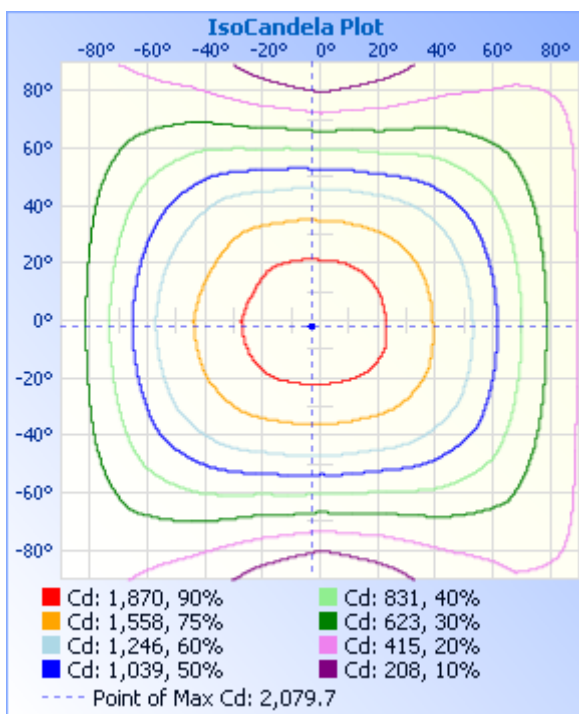
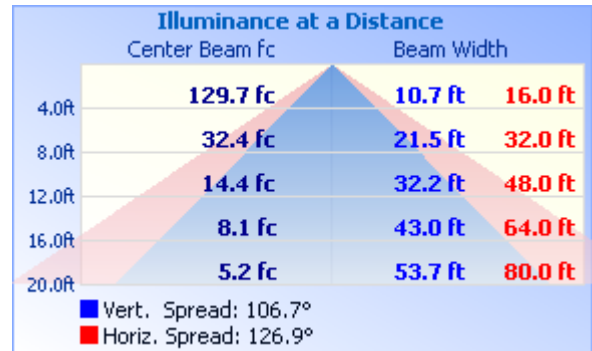
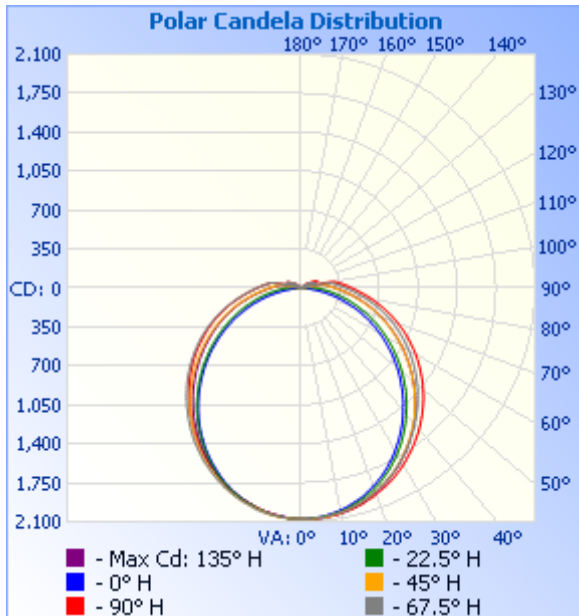


Table--1

UNIT: cd

| C (DEG) y (DEG) | 0 | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 | |
|--------------------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|
| 0 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | 2076 | |
| 5 | 2059 | 2058 | 2057 | 2064 | 2064 | 2065 | 2070 | 2066 | 2071 | 2073 | 2075 | 2074 | 2064 | 2064 | 2067 | 2066 | |
| 10 | 2023 | 2022 | 2025 | 2031 | 2025 | 2037 | 2048 | 2044 | 2054 | 2057 | 2053 | 2045 | 2028 | 2029 | 2034 | 2039 | |
| 15 | 1972 | 1971 | 1975 | 1974 | 1971 | 1987 | 2008 | 2003 | 2022 | 2019 | 2011 | 1988 | 1971 | 1977 | 1988 | 1991 | |
| 20 | 1905 | 1907 | 1907 | 1899 | 1894 | 1917 | 1945 | 1945 | 1971 | 1970 | 1954 | 1918 | 1895 | 1904 | 1927 | 1928 | |
| 25 | 1826 | 1827 | 1821 | 1808 | 1799 | 1828 | 1874 | 1875 | 1909 | 1902 | 1883 | 1828 | 1802 | 1816 | 1848 | 1854 | |
| 30 | 1737 | 1733 | 1724 | 1695 | 1687 | 1722 | 1786 | 1790 | 1834 | 1823 | 1792 | 1725 | 1694 | 1705 | 1756 | 1768 | |
| 35 | 1639 | 1631 | 1618 | 1573 | 1562 | 1600 | 1683 | 1693 | 1745 | 1735 | 1692 | 1606 | 1572 | 1586 | 1650 | 1673 | |
| 40 | 1531 | 1524 | 1500 | 1438 | 1426 | 1469 | 1571 | 1588 | 1650 | 1633 | 1577 | 1475 | 1437 | 1455 | 1534 | 1566 | |
| 45 | 1422 | 1407 | 1375 | 1298 | 1283 | 1332 | 1446 | 1480 | 1543 | 1522 | 1449 | 1336 | 1291 | 1312 | 1407 | 1453 | |
| 50 | 1308 | 1291 | 1243 | 1152 | 1131 | 1185 | 1314 | 1362 | 1431 | 1405 | 1318 | 1190 | 1140 | 1166 | 1274 | 1337 | |
| 55 | 1191 | 1168 | 1111 | 1002 | 975 | 1035 | 1180 | 1241 | 1311 | 1282 | 1181 | 1041 | 984 | 1015 | 1138 | 1216 | |
| 60 | 1068 | 1045 | 977 | 854 | 819 | 886 | 1040 | 1115 | 1187 | 1155 | 1042 | 891 | 826 | 864 | 1001 | 1092 | |
| 65 | 945 | 919 | 845 | 708 | 660 | 738 | 900 | 988 | 1058 | 1023 | 905 | 742 | 664 | 715 | 864 | 967 | |
| 70 | 824 | 797 | 715 | 566 | 499 | 591 | 765 | 863 | 927 | 890 | 768 | 595 | 504 | 572 | 731 | 839 | |
| 75 | 702 | 673 | 587 | 433 | 344 | 453 | 633 | 734 | 796 | 759 | 636 | 459 | 347 | 436 | 602 | 714 | |
| 80 | 586 | 557 | 467 | 311 | 200 | 327 | 507 | 610 | 669 | 631 | 510 | 333 | 202 | 314 | 480 | 593 | |
| 85 | 483 | 454 | 363 | 208 | 83.7 | 219 | 396 | 498 | 555 | 516 | 399 | 225 | 84.7 | 210 | 374 | 486 | |
| 90 | 398 | 370 | 283 | 137 | 26.1 | 143 | 308 | 405 | 459 | 420 | 312 | 149 | 28.2 | 139 | 293 | 400 | |
| 95 | 331 | 306 | 224 | 71.3 | 22.8 | 80.9 | 244 | 333 | 381 | 344 | 246 | 95.7 | 23.6 | 92.2 | 234 | 332 | |
| 100 | 274 | 241 | 69.6 | 43.1 | 20.2 | 44.0 | 92.8 | 268 | 315 | 279 | 127 | 46.1 | 20.9 | 45.8 | 114 | 270 | |
| 105 | 29.4 | 2.94 | 57.8 | 32.5 | 16.8 | 31.5 | 62.2 | 3.90 | 65.6 | 9.99 | 44.7 | 33.5 | 17.4 | 33.4 | 39.7 | 7.84 | |
| 110 | 45.8 | 99.3 | 72.7 | 19.0 | 13.6 | 17.5 | 75.3 | 102 | 33.1 | 83.3 | 79.1 | 19.8 | 14.8 | 21.9 | 80.7 | 80.4 | |
| 115 | 127 | 107 | 53.9 | 7.12 | 8.87 | 6.78 | 53.7 | 113 | 144 | 115 | 53.7 | 11.1 | 12.2 | 12.2 | 56.4 | 120 | |
| 120 | 95.2 | 79.1 | 36.7 | 3.28 | 3.59 | 3.43 | 34.4 | 81.6 | 106 | 83.3 | 34.8 | 5.84 | 8.19 | 5.89 | 39.2 | 89.2 | |
| 125 | 67.4 | 54.8 | 21.4 | 4.11 | 3.29 | 4.19 | 17.9 | 54.3 | 73.7 | 55.6 | 18.4 | 3.87 | 3.74 | 4.23 | 23.2 | 62.1 | |
| 130 | 44.0 | 33.8 | 9.42 | 5.42 | 3.63 | 5.62 | 7.19 | 31.8 | 46.4 | 32.5 | 7.41 | 4.49 | 3.53 | 4.91 | 11.0 | 38.6 | |
| 135 | 24.5 | 17.0 | 4.97 | 4.70 | 4.63 | 3.89 | 5.96 | 14.5 | 23.8 | 15.4 | 5.59 | 4.59 | 3.80 | 5.60 | 5.95 | 19.6 | |
| 140 | 9.75 | 6.12 | 4.48 | 3.18 | 3.91 | 3.43 | 5.46 | 7.14 | 8.84 | 7.01 | 5.21 | 3.63 | 3.75 | 4.26 | 5.24 | 7.23 | |
| 145 | 5.33 | 5.15 | 4.37 | 2.96 | 3.88 | 3.64 | 5.04 | 6.37 | 6.48 | 6.17 | 4.80 | 3.50 | 3.75 | 4.63 | 4.79 | 5.82 | |
| 150 | 4.70 | 4.76 | 4.04 | 3.39 | 3.61 | 3.70 | 4.49 | 5.59 | 5.53 | 5.40 | 4.36 | 3.90 | 3.75 | 4.34 | 4.42 | 5.39 | |
| 155 | 4.18 | 4.33 | 2.32 | 3.12 | 3.61 | 3.67 | 2.44 | 4.85 | 4.70 | 4.83 | 2.40 | 3.74 | 3.42 | 3.83 | 3.16 | 4.78 | |
| 160 | 2.14 | 2.41 | 2.43 | 3.28 | 3.58 | 3.54 | 3.13 | 2.41 | 2.13 | 2.21 | 2.43 | 3.34 | 3.43 | 3.83 | 4.32 | 2.73 | |
| 165 | 2.48 | 3.42 | 3.08 | 3.92 | 3.96 | 3.80 | 3.13 | 3.53 | 2.63 | 2.56 | 3.19 | 3.36 | 3.64 | 3.83 | 4.49 | 3.79 | |
| 170 | 3.49 | 3.51 | 3.38 | 4.14 | 4.63 | 4.34 | 3.41 | 3.59 | 3.20 | 3.14 | 3.46 | 3.44 | 4.07 | 4.15 | 4.71 | 4.04 | |
| 175 | 3.49 | 3.51 | 3.63 | 4.16 | 4.76 | 4.69 | 3.65 | 3.59 | 3.32 | 3.23 | 3.41 | 3.55 | 4.31 | 4.98 | 5.24 | 4.02 | |
| 180 | 3.66 | 3.51 | 3.63 | 4.16 | 5.03 | 4.79 | 3.85 | 4.02 | 3.60 | 3.57 | 3.38 | 3.55 | 4.17 | 4.98 | 4.99 | 3.99 | |

2.3 Electrical, Photometric and Chromaticity Measurements

| | | | |
|-------------------------|-------------------------|---------------------------------|---------|
| Test date | 2018-07-19 | Test Ambient: | 25.2 °C |
| Test Orientation | As intended | Stabilization Time (min) | 90 |
| Model Number | J5236K LDA-DE56W(5000K) | | |

Electrical Measurement:

| Sample No. | Voltage (Vac) | Frequency (Hz) | Current (A) | Power (W) | Power Factor | THD % |
|------------|---------------|----------------|-------------|-----------|--------------|-------|
| STD180738 | 120.0 | 60 | 0.4769 | 56.94 | 0.9951 | 7.28 |
| NB-A2 | 277.0 | 60 | 0.2041 | 55.17 | 0.9759 | 9.52 |

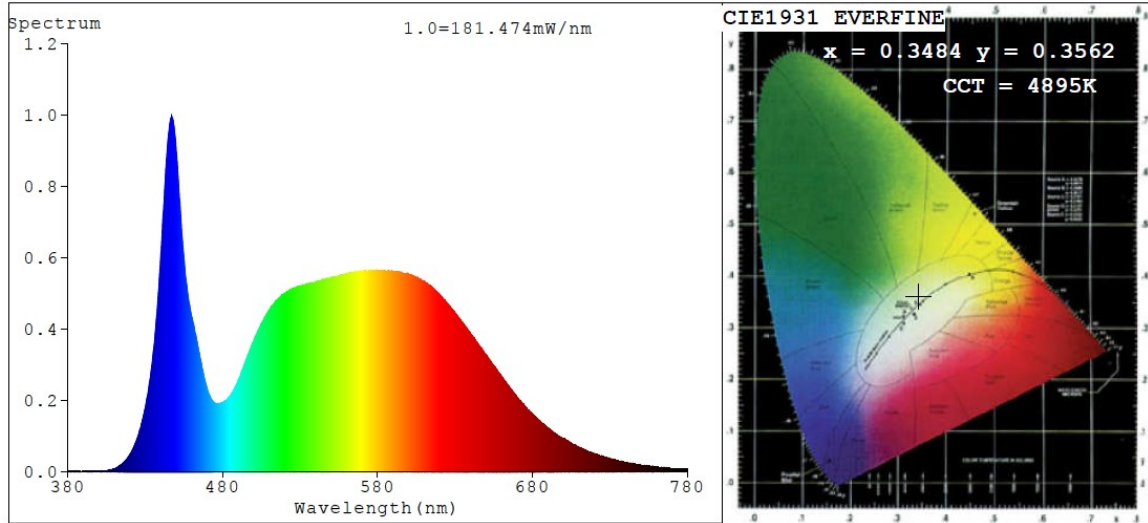
Chromaticity Measurement - Sphere-Spectroradiometer Method:

| Parameter | Result | Special Color Rendering Indices | | | |
|-----------------------------|---------------------|---------------------------------|----|-----|----|
| Test Voltage (V) | 120.0 | R1 | 85 | R9 | 29 |
| Frequency (Hz) | 60 | R2 | 88 | R10 | 71 |
| CCT (K) | 4895 | R3 | 90 | R11 | 86 |
| Duv | 0.0010 | R4 | 87 | R12 | 62 |
| Chromaticity (x, y) | x=0.3484 y=0.3562 | R5 | 85 | R13 | 85 |
| Chromaticity (u', v') | u'=0.2119 v'=0.4874 | R6 | 83 | R14 | 94 |
| Color Rendering Index (CRI) | 85.2 | R7 | 90 | R15 | 81 |
| R9 | 29 | R8 | 76 | -- | -- |

Photometric Measurement – Sphere-Spectroradiometer Method:

| Parameter | Result | |
|------------------------------|--------|--------|
| Test Voltage (V) | 120.0 | 277.0 |
| Frequency (Hz) | 60 | 60 |
| Total Luminous (lm) | 7035 | 6985 |
| Luminous Efficacy (lm/W) | 123.55 | 126.61 |
| Worst Luminous/Highest Watts | 122.67 | |

Spectral Power Distribution & Chromaticity Diagram



3. Test Equipment

| Equipment ID | Equipment Name | Last Calibration Date | Next Calibration Date |
|--|------------------------------------|---------------------------------|-----------------------|
| ST-R-702 | 2 meter Integrating Sphere | Verified by D204 standard lamp | |
| ST-R-701 | Spectral analysis system HAAS-2000 | Verified by D204 standard lamp | |
| D204 | Standard Lamp | 2018-02-09 | 2019-02-08 |
| ST-R-704 | Power Meter for Integrating Sphere | 2018-01-08 | 2019-01-07 |
| ST-R-714 | Goniophotometer system | Verified by D908S standard lamp | |
| D908S | Standard Lamp | 2018-02-14 | 2019-02-13 |
| ST-R-711 | Power Meter for Goniophotometer | 2018-01-08 | 2019-01-07 |
| Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62% | | | |

4. Product Photo



******* END OF REPORT *******