



IES LM-79-08

MEASUREMENT AND TEST REPORT

For

ATG Electronics Corp

10700 7th Street Rancho Cucamonga, CA 91730, USA

Test Model: AA-300-40-T3

| | |
|-----------------------|--|
| Report Type: | Electrical and Photometric tests including: Luminous Flux, Luminous Intensity Distribution |
| Test Engineer: | George Yang <i>George Yang</i> |
| Report Number: | RKSB181017003-10-15 |
| Test Date: | 2018-08-28 |
| Report Date: | 2018-10-18 |
| Reviewed By: | Ray Gao/EE Engineer <i>Ray Gao</i> |
| Prepared By: | Bay Area Compliance Laboratories Corp. (Kunshan). No.248 Chenghu Road, Kunshan, Jiangsu province, China. Tel: +86-0512-86175000 Fax: +86-0512-88934268 |
| Accreditation: | The IAS Accreditation Number TL-749. |

Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Kunshan). This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

1. Product Description

General Information:

One sample was received on 2018-08-27 and used for testing.

Model Tested: AA-300-40-T3
 Manufacturer: ATG Electronics Corp
 Brand Name: ATG
 Product Designation: Outdoor Pole/Arm-mounted Area and Roadway Luminaires
 Aging Time Before Test: 0hour(For New Products)

Rated Values:

Rated Voltage/Frequency: 120-277 VAC 60Hz
 Rated Power: 300W
 Nominal Lumen Output: 36000lm

Note:

1. The applicant *ATG Electronics Corp* declared that their product with model AA-300-40-T3 is the same to the product in report# RKS180502030-10-15 and is authorized by original applicant to use their test data.
2. All the data in previous report (RKS180502030-10-15) is shared in report.

2. Standards Used

- IES LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products

3. Description of Test Equipment

| Device | Manufacture | Model No | Serial No | Calibration date | Calibration due date |
|--------------------------|-------------|----------|-------------|------------------|----------------------|
| AC Power Supply | INVENTFINE | CHP-5KVA | 900511765 | 2018-04-08 | 2019-04-08 |
| DC Power Supply | INVENTFINE | WL3010 | JWDMP030001 | 2018-04-08 | 2019-04-08 |
| Power Meter | INVENTFINE | WT500 | GSDSQ200007 | 2018-04-08 | 2019-04-08 |
| Goniophotometer | INVENTFINE | GPM-1900 | YWGCF120001 | 2018-01-24 | 2019-01-24 |
| Wireless Weather Station | ZHONGXING | KG218 | N/A | 2017-11-14 | 2018-11-14 |
| Standard Light Source | INVENTFINE | N/A | JWBYR040007 | 2018-01-24 | 2019-01-24 |
| AC Power Supply | INVENTFINE | CHP-5KVA | 900511765 | 2018-04-08 | 2019-04-08 |

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

4. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-08. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ during measurement. And relative humidity is less than 65%.

Goniophotometer System

The goniophotometer system is calibrated by standard light source before measurement.

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 vertical angle (γ) test intervals were set no more than 1 degree while data for 5 degree intervals is reported. The horizontal angle (C plane) test intervals were set no more than 22.5 degree.

The uncertainty of the luminous flux is $U=2.6\%$ ($K=2$), at the 95% confidence level.

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5. Test Result

[Goniophotometer System]

Total operating time for luminous intensity distribution: **1.0 hours**

Test orientation: **Downward**

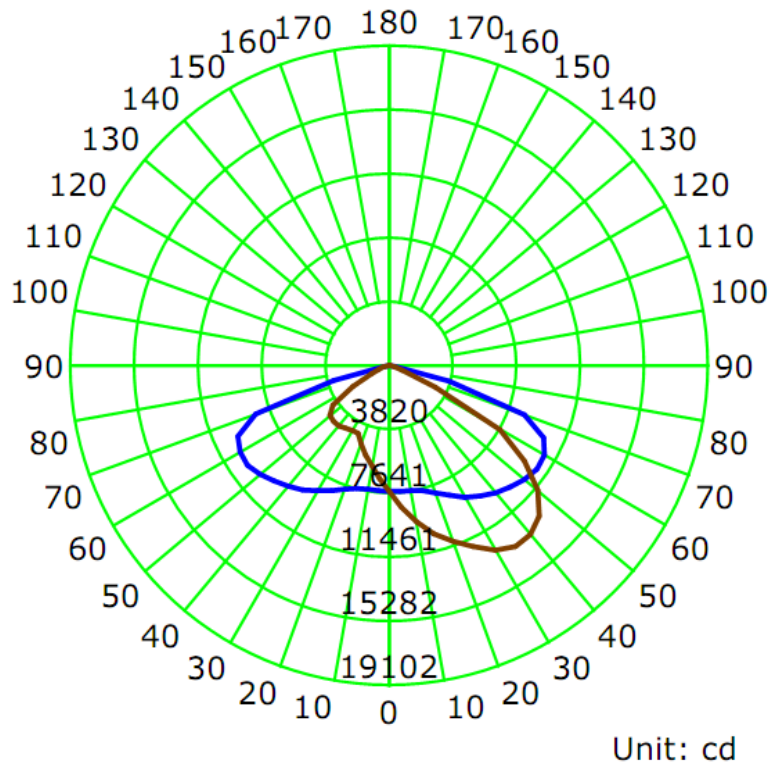
Electrical Measurement

| Input Voltage (V) | Frequency (Hz) | Input Current (A) | Power (W) | Power Factor |
|-------------------|----------------|-------------------|-----------|--------------|
| 120.0 | 60 | 2.3480 | 281.21 | 0.9980 |

Photometric Measurement

| Luminous Flux (lm) | Efficacy (lm/W) | I_{max} (cd) | S/MH (C0/180) | S/MH (C90/270) |
|--------------------|-----------------|----------------|---------------|----------------|
| 35476.3 | 126.21 | 15282.0 | 1.91 | 1.76 |

Luminous Intensity Distribution



| | C0/180 | C45/225 | C90/270 | C135/315 | AVG. |
|-------------------------------|--------|---------|---------|----------|-------|
| Beam Angle (50% I_{max}): | 146.4 | 89.6 | 67.5 | 92.8 | 99.1 |
| Field Angle (10% I_{max}): | 157.7 | 145.0 | 133.5 | 145.2 | 145.4 |

Luminous Intensity (cd) Distribution Data

| C Y | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|
| 0.0° | 7525 | 7525 | 7525 | 7525 | 7525 | 7525 | 7525 | 7525 |
| 5.0° | 7539 | 7855 | 8176 | 8431 | 8498 | 8403 | 8169 | 7851 |
| 10.0° | 7598 | 8276 | 8915 | 9362 | 9484 | 9325 | 8863 | 8212 |
| 15.0° | 7758 | 8816 | 9659 | 10210 | 10409 | 10163 | 9555 | 8647 |
| 20.0° | 8089 | 9491 | 10345 | 10921 | 11178 | 10858 | 10174 | 9222 |
| 25.0° | 8572 | 10237 | 10923 | 11504 | 11959 | 11446 | 10667 | 9862 |
| 30.0° | 9108 | 10954 | 11328 | 11987 | 12741 | 11923 | 11054 | 10502 |
| 35.0° | 9533 | 11597 | 11625 | 12243 | 13197 | 12245 | 11306 | 11082 |
| 40.0° | 9917 | 12130 | 11753 | 12289 | 13169 | 12291 | 11414 | 11623 |
| 45.0° | 10270 | 12431 | 11721 | 12112 | 12694 | 12110 | 11358 | 11943 |
| 50.0° | 10604 | 12630 | 11628 | 11693 | 11602 | 11657 | 11283 | 12108 |
| 55.0° | 10808 | 12882 | 11667 | 10992 | 9924 | 10969 | 11326 | 12385 |
| 60.0° | 10723 | 13463 | 11726 | 10205 | 7668 | 10186 | 11383 | 13000 |
| 65.0° | 10236 | 14339 | 11670 | 6322 | 3076 | 6207 | 11309 | 13940 |
| 70.0° | 8620 | 15282 | 9056 | 902 | 837 | 869 | 8431 | 15140 |
| 75.0° | 3732 | 9489 | 1341 | 451 | 385 | 448 | 1296 | 9330 |
| 80.0° | 360 | 2182 | 258 | 164 | 125 | 166 | 253 | 2099 |
| 85.0° | 0 | 45 | 8 | 0 | 0 | 0 | 0 | 50 |
| 90.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Luminous Intensity (cd) Distribution Data (cont.)

| C Y | 180° | 202.5° | 225° | 247.5° | 270° | 292.5° | 315° | 337.5° |
|--------|-------|--------|------|--------|------|--------|------|--------|
| 0.0° | 7525 | 7525 | 7525 | 7525 | 7525 | 7525 | 7525 | 7525 |
| 5.0° | 7514 | 7203 | 6971 | 6839 | 6779 | 6827 | 6972 | 7205 |
| 10.0° | 7512 | 6883 | 6441 | 6185 | 6095 | 6178 | 6442 | 6915 |
| 15.0° | 7616 | 6666 | 6038 | 5672 | 5549 | 5679 | 6065 | 6742 |
| 20.0° | 7878 | 6618 | 5715 | 5151 | 4966 | 5174 | 5768 | 6758 |
| 25.0° | 8247 | 6693 | 5366 | 4605 | 4490 | 4622 | 5433 | 6915 |
| 30.0° | 8662 | 6883 | 4910 | 4319 | 4474 | 4307 | 4969 | 7238 |
| 35.0° | 9064 | 7154 | 4496 | 4399 | 4604 | 4359 | 4550 | 7604 |
| 40.0° | 9410 | 7360 | 4107 | 4495 | 4709 | 4435 | 4099 | 7805 |
| 45.0° | 9753 | 7380 | 4112 | 4536 | 4740 | 4472 | 4082 | 7789 |
| 50.0° | 10119 | 7222 | 4064 | 4474 | 4683 | 4399 | 4022 | 7617 |
| 55.0° | 10399 | 6950 | 3808 | 4028 | 4134 | 3954 | 3743 | 7305 |
| 60.0° | 10353 | 6215 | 3128 | 2795 | 2517 | 2771 | 3055 | 6517 |
| 65.0° | 10005 | 4583 | 2087 | 1339 | 1221 | 1326 | 2040 | 4790 |
| 70.0° | 8518 | 2081 | 1018 | 694 | 709 | 701 | 1023 | 2157 |
| 75.0° | 3464 | 619 | 457 | 396 | 459 | 399 | 469 | 634 |
| 80.0° | 279 | 165 | 158 | 120 | 81 | 118 | 162 | 166 |
| 85.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180.0° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Zonal Lumen Density Measurement

| Deg | Flux (lm) | % | Deg | Flux (lm) | % |
|---------|-----------|-------|-------|-----------|--------|
| 0-5 | 180.5 | 0.51 | 0-5 | 180.5 | 0.51 |
| 5-10 | 545.4 | 1.54 | 0-10 | 725.9 | 2.05 |
| 10-15 | 919.2 | 2.59 | 0-15 | 1645.1 | 4.64 |
| 15-20 | 1306.0 | 3.68 | 0-20 | 2951.1 | 8.32 |
| 20-25 | 1703.3 | 4.80 | 0-25 | 4654.4 | 13.12 |
| 25-30 | 2111.0 | 5.95 | 0-30 | 6765.4 | 19.07 |
| 30-35 | 2525.6 | 7.12 | 0-35 | 9291.0 | 26.19 |
| 35-40 | 2920.4 | 8.23 | 0-40 | 12211.4 | 34.42 |
| 40-45 | 3269.3 | 9.22 | 0-45 | 15480.7 | 43.64 |
| 45-50 | 3552.6 | 10.01 | 0-50 | 19033.4 | 53.65 |
| 50-55 | 3738.2 | 10.54 | 0-55 | 22771.5 | 64.19 |
| 55-60 | 3770.3 | 10.63 | 0-60 | 26541.8 | 74.82 |
| 60-65 | 3497.5 | 9.86 | 0-65 | 30039.3 | 84.67 |
| 65-70 | 2856.9 | 8.05 | 0-70 | 32896.3 | 92.73 |
| 70-75 | 1787.4 | 5.04 | 0-75 | 34683.6 | 97.77 |
| 75-80 | 672.7 | 1.90 | 0-80 | 35356.3 | 99.66 |
| 80-85 | 118.2 | 0.33 | 0-85 | 35474.5 | 100.00 |
| 85-90 | 1.8 | 0.00 | 0-90 | 35476.3 | 100.00 |
| 90-95 | 0.0 | 0.00 | 0-95 | 35476.3 | 100.00 |
| 95-100 | 0.0 | 0.00 | 0-100 | 35476.3 | 100.00 |
| 100-105 | 0.0 | 0.00 | 0-105 | 35476.3 | 100.00 |
| 105-110 | 0.0 | 0.00 | 0-110 | 35476.3 | 100.00 |
| 110-115 | 0.0 | 0.00 | 0-115 | 35476.3 | 100.00 |
| 115-120 | 0.0 | 0.00 | 0-120 | 35476.3 | 100.00 |
| 120-125 | 0.0 | 0.00 | 0-125 | 35476.3 | 100.00 |
| 125-130 | 0.0 | 0.00 | 0-130 | 35476.3 | 100.00 |
| 130-135 | 0.0 | 0.00 | 0-135 | 35476.3 | 100.00 |
| 135-140 | 0.0 | 0.00 | 0-140 | 35476.3 | 100.00 |
| 140-145 | 0.0 | 0.00 | 0-145 | 35476.3 | 100.00 |
| 145-150 | 0.0 | 0.00 | 0-150 | 35476.3 | 100.00 |
| 150-155 | 0.0 | 0.00 | 0-155 | 35476.3 | 100.00 |
| 155-160 | 0.0 | 0.00 | 0-160 | 35476.3 | 100.00 |
| 160-165 | 0.0 | 0.00 | 0-165 | 35476.3 | 100.00 |
| 165-170 | 0.0 | 0.00 | 0-170 | 35476.3 | 100.00 |
| 170-175 | 0.0 | 0.00 | 0-175 | 35476.3 | 100.00 |
| 175-180 | 0.0 | 0.00 | 0-180 | 35476.3 | 100.00 |

6. Product Photo



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