# TEST REPORT OF ANSI/IES LM-79-19

## APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

| | | |
|---|---|---|
| **Client**..... | : | ROYALUX EXPORTS |
| **Address**..... | : | SDF BLOCK M-13, M-14, M-15 & M-16,NOIDA SPECIAL ECONOMIC ZONE,NOIDA DADRI ROAD, PHASE-II,NOIDA, DSTT. GAUTAM BUDH NAGAR, UP-201305 |
| **Test Model**..... | : | 304Y0200W30LY,304Y0200W50LY |
| **Brand Name**..... | : | RluX |
| **Testing Laboratory**..... | : | Guangdong Meide Testing Technology Co., Ltd. |
| **Address**..... | : | 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan Lake Hi-tech Industrial Development Zone,Dongguan City, Guangdong Pr., China. |
| **Testing location**..... | : | As above |
| **Report No**..... | : | CA2005479L 02007R2 |
| **Test Date**..... | : | June.30,2020-July.08,2020 |
| **Report Date**..... | : | Sep.10,2020 |

| **Tested by:** | **Checked by:** | **Approved by:** |
|---|---|---|
| Tim | Luke lei | Jessie |
| Tim Qian/ Test Engineer | Luke Lei/ Project Engineer | Jessie Li/ Technical Manager |

Note 1: 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 use in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP,NIST, or any agency of the Federal Government.
Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST,or any agency of the Federal Government.


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# 1.Product Description for Equipment under Test(EUT)

The client submitted 2 sample of model 304Y0200W30LY,304Y0200W50LY.Sample 304Y0200W30LY was numbered CA2005479L 02007-S01. Sample 304Y0200W50LY was numbered CA2005479L 02007-S02.The sample was received on 2020-06-29,is undamaged condition.

| | |
|---|---|
| Model Tested: | 304Y0200W30LY,304Y0200W50LY |
| Manufacturer: | Same as client |
| Address: | Same as client |
| Product Type: | High Bay Luminaires for Commercial and Industrial Buildings |
| Rated Voltage/Frequency: | 100-277V AC,50/60Hz |
| Rated Power: | 200W |
| Nominal CCT: | 3000K,5000K |
| LED Manufacturer: | Edison Opto Corporation |
| LED Model No: | 2T03X8WW23000001 |
| LED Driver Manufacturer： | MENAWELL |
| LED Driver Model： | XLG-200-H-AB |

**Model Similarity：**

Model designation: XXXDyyyyWCVY

"X" can be 3,denotes Product Series Name, 3=Linear high bay series;

"XX" can be 02 or 04, which denotes luminaires shell Shape and Overall dimension, where 02= 2FT or 04= 4FT;

"D" can be Y or N, which denotes Y = Dimmable, N = Non-dimmable;

"yyyy" & "W" denotes the wattage of luminaires, can be from 0075 to 0400; max. 400W, for example 0075W=75W;

"C" can be two arbitrary numbers, which denotes LED Color Temperature, for example 50=5000K;

"V" can be letter L or blank, which denotes range of input voltage; where L=Low voltage range or blank = No description of this item;

"Y" can be blank or Four arbitrary number, letter, which denote the company's internal information.



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## 2.Standards Used

- ANSI/IES LM-79-19:APPROVED METHOD:OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
- IES TM-30-18 IES Method for Evaluating Light Source Color Rendition (This Method is not in Nvlap accreditation scope)
- ANSI C82.77-10:2014 Harmonic Emission Limits – Related Power Quality Requirements for Lighting Equipment-Solid State

## 3.Test equipment list

| Test Equipment | Serial No | Model No | Calibration due date |
|---|---|---|---|
| Full-field Speed Goniophotometer | MD-E028 | GO-R5000 | 2020/10/06 |
| Digital Power Meter | MD-E001 | PF2010 | 2020/10/06 |
| AC Testing Power Source | MD-E002 | DPS1060 | 2020/10/06 |
| Total Spectral Radiant Flux Standard Lamp | MD-E007 | D908S | 2020/10/06 |
| Integrating Sphere System | MD-E029 | 2M | 2020/10/06 |
| High Accuracy Array Spectroradio Meter | MD-E011 | HAAS-3000 | 2020/10/06 |
| Digital Power Meter | MD-E008 | PF310 | 2020/10/06 |
| AC Testing Power Source | MD-E010 | DPS1010 | 2020/10/06 |
| Standard Lamp | MD-E012 | D204 | 2021/06/09 |

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd.attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).


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# 4.Test Method

### Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at 25°C±1.2°C during measurement. And relative humidity between 10% and 65%.

### Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric paramters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5°horizontal intervals.Photometric distance was more than five times of the Largest dimension of the test SSL product.

### Integrating Sphere System

The sample was tested according to the ANSI/IES LM-79-19.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere.Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4 π geometry.The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

### Fidelity Index ($R_f$) and Gamut Index ($R_g$) Calculation

The Rf, Rg was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

### THD and PF Test

The sample was tested according to the ANSI C82.77-10:2014.

The sample was operated at rated voltage and was stabilized before measurement.The total harmonic distortion were calculated from the digital power meter.


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# 5.Integrating Sphere Test Results

## 5.1 Test Data

| Test Ambient Temperature | 25.1℃ | Test orientation | Downward |
|---|---|---|---|
| Operate time(Min.) | 100 | stabilization time(Min.) | 90 |

**Model # 304Y0200W30LY Optical and Electrical Measurement Result**

| Voltage (V) | Frequency (Hz) | Current (A) | Power (W) | Power Factor | Luminous Flux(lm) | Efficacy (lm/W) | CCT (K) |
|---|---|---|---|---|---|---|---|
| 120.0 | 60 | 1.678 | 201.2 | 0.9991 | 27306 | 135.72 | 2963 |

| Ra | R9 | Rf | Rg | x | y | u' | v' | Duv |
|---|---|---|---|---|---|---|---|---|
| 84.2 | 13 | 86 | 97 | 0.4366 | 0.3989 | 0.2526 | 0.5193 | -0.00204 |

**Model # 304Y0200W50LY Optical and Electrical Measurement Result**

| Voltage (V) | Frequency (Hz) | Current (A) | Power (W) | Power Factor | Luminous Flux(lm) | Efficacy (lm/W) | CCT (K) |
|---|---|---|---|---|---|---|---|
| 120.0 | 60 | 1.665 | 199.6 | 0.9989 | 28144 | 140.97 | 5099 |

| Ra | R9 | Rf | Rg | x | y | u' | v' | Duv |
|---|---|---|---|---|---|---|---|---|
| 83.6 | 4 | 83 | 92 | 0.3428 | 0.3551 | 0.2085 | 0.4860 | 0.00272 |

## 5.2 Model # 304Y0200W30LY Color Rendering Index

| Ra |
|---|
| 84.2 |

| R1 | R2 | R3 | R4 | R5 |
|---|---|---|---|---|
| 84 | 93 | 95 | 83 | 84 |

| R6 | R7 | R8 | R9 | R10 |
|---|---|---|---|---|
| 92 | 82 | 60 | 13 | 85 |

| R11 | R12 | R13 | R14 | R15 |
|---|---|---|---|---|
| 83 | 78 | 86 | 98 | 76 |


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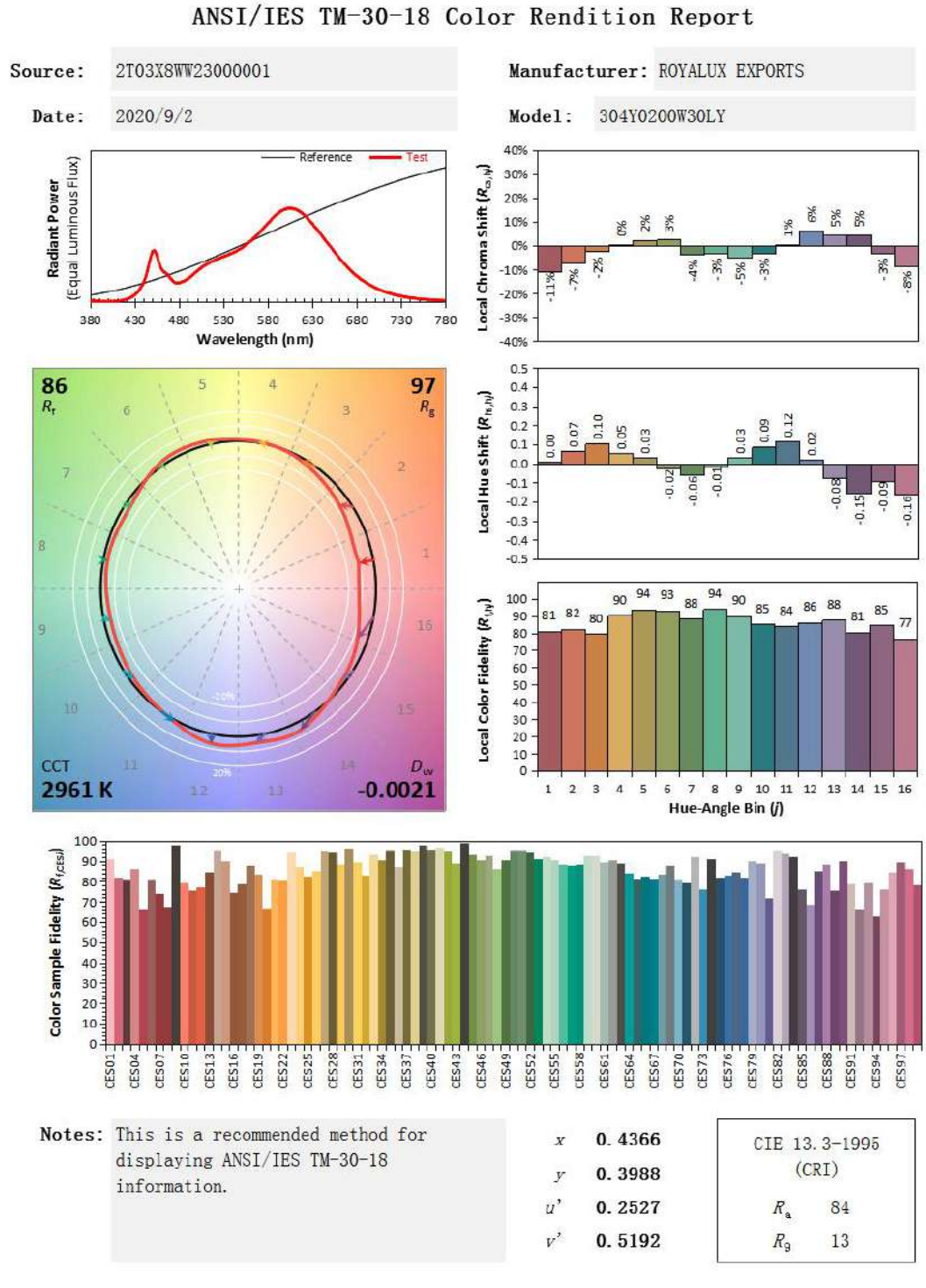
### 5.3 Model # 304Y0200W30LY ANSI/IES TM-30-18 Color Rendition Report



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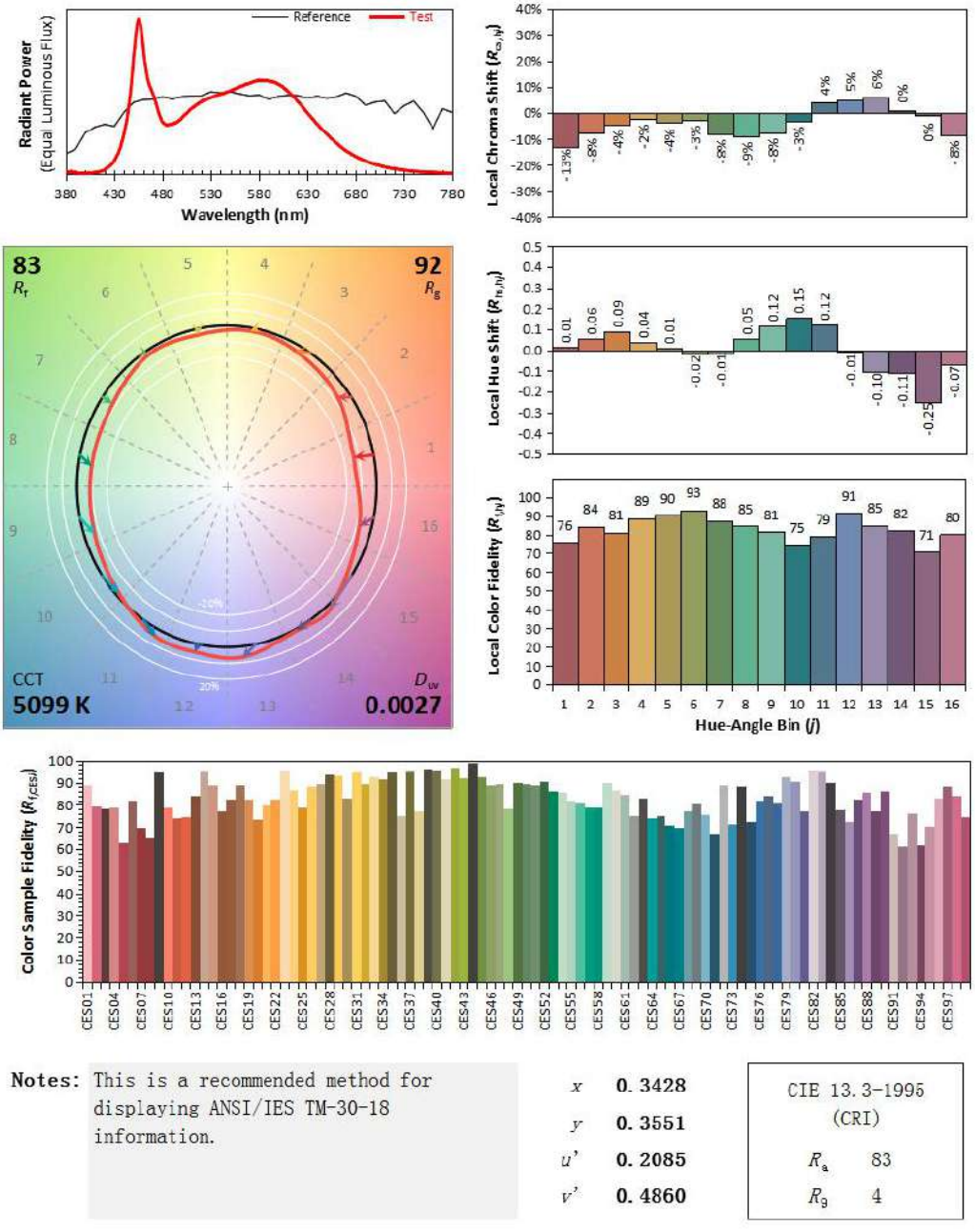
### 5.4 Model # 304Y0200W50LY ANSI/IES TM-30-18 Color Rendition Report

ANSI/IES TM-30-18 Color Rendition Report

| | | | |
|---|---|---|---|
| **Source:** | 2T03X8WW23000001 | **Manufacturer:** | ROYALUX EXPORTS |
| **Date:** | 2020/9/2 | **Model:** | 304Y0200W50LY |




**Notes:** This is a recommended method for displaying ANSI/IES TM-30-18 information.

| | |
|---|---|
| $x$ | 0.3428 |
| $y$ | 0.3551 |
| $u'$ | 0.2085 |
| $v'$ | 0.4860 |

CIE 13.3-1995 (CRI)

| | |
|---|---|
| $R_a$ | 83 |
| $R_9$ | 4 |

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.



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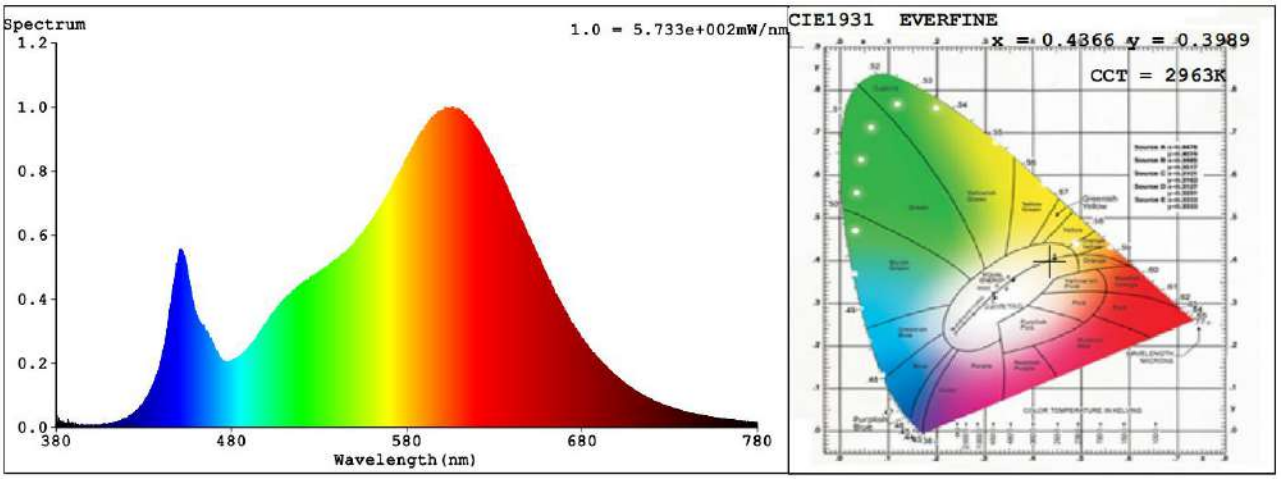
## 5.5 Model # 304Y0200W30LY Relative Spectral Power Distribution




| nm | mW | nm | mW | nm | mW | nm | mW | nm | mW |
|---|---|---|---|---|---|---|---|---|---|
| 380 | 0.0057 | 414 | 0.0161 | 448 | 0.4802 | 482 | 0.2118 | 516 | 0.4283 |
| 381 | 0.0067 | 415 | 0.0164 | 449 | 0.511 | 483 | 0.2171 | 517 | 0.433 |
| 382 | 0.004 | 416 | 0.0175 | 450 | 0.54 | 484 | 0.2203 | 518 | 0.4391 |
| 383 | 0.0201 | 417 | 0.0201 | 451 | 0.5437 | 485 | 0.2218 | 519 | 0.4426 |
| 384 | 0.0192 | 418 | 0.0231 | 452 | 0.5484 | 486 | 0.228 | 520 | 0.4463 |
| 385 | 0.0064 | 419 | 0.0268 | 453 | 0.5332 | 487 | 0.2319 | 521 | 0.4515 |
| 386 | 0.0098 | 420 | 0.0271 | 454 | 0.5163 | 488 | 0.2371 | 522 | 0.4535 |
| 387 | 0.0119 | 421 | 0.0301 | 455 | 0.4894 | 489 | 0.2433 | 523 | 0.4589 |
| 388 | 0.0045 | 422 | 0.0345 | 456 | 0.4509 | 490 | 0.2485 | 524 | 0.461 |
| 389 | 0.0126 | 423 | 0.0396 | 457 | 0.4214 | 491 | 0.2572 | 525 | 0.4684 |
| 390 | 0.006 | 424 | 0.0407 | 458 | 0.3965 | 492 | 0.2634 | 526 | 0.4691 |
| 391 | 0.0136 | 425 | 0.0477 | 459 | 0.371 | 493 | 0.2712 | 527 | 0.4736 |
| 392 | 0.0056 | 426 | 0.0518 | 460 | 0.3522 | 494 | 0.2786 | 528 | 0.4779 |
| 393 | 0.0004 | 427 | 0.0561 | 461 | 0.3387 | 495 | 0.2866 | 529 | 0.4834 |
| 394 | 0.0034 | 428 | 0.0655 | 462 | 0.3298 | 496 | 0.2951 | 530 | 0.4814 |
| 395 | 0.0083 | 429 | 0.0702 | 463 | 0.3188 | 497 | 0.3046 | 531 | 0.4893 |
| 396 | 0.0046 | 430 | 0.077 | 464 | 0.3144 | 498 | 0.3138 | 532 | 0.4919 |
| 397 | 0.0059 | 431 | 0.0899 | 465 | 0.3061 | 499 | 0.3201 | 533 | 0.4944 |
| 398 | 0.0053 | 432 | 0.095 | 466 | 0.2988 | 500 | 0.3282 | 534 | 0.4991 |
| 399 | 0.0026 | 433 | 0.1046 | 467 | 0.2916 | 501 | 0.3359 | 535 | 0.5026 |
| 400 | 0.0062 | 434 | 0.1172 | 468 | 0.2789 | 502 | 0.3445 | 536 | 0.5053 |
| 401 | 0.0049 | 435 | 0.1283 | 469 | 0.2663 | 503 | 0.3522 | 537 | 0.5139 |
| 402 | 0.0077 | 436 | 0.143 | 470 | 0.2545 | 504 | 0.3567 | 538 | 0.5182 |
| 403 | 0.0076 | 437 | 0.1581 | 471 | 0.2436 | 505 | 0.3651 | 539 | 0.5184 |
| 404 | 0.0055 | 438 | 0.1748 | 472 | 0.2333 | 506 | 0.3747 | 540 | 0.5209 |
| 405 | 0.0047 | 439 | 0.1887 | 473 | 0.2238 | 507 | 0.3811 | 541 | 0.5261 |
| 406 | 0.0067 | 440 | 0.2101 | 474 | 0.2161 | 508 | 0.3853 | 542 | 0.5324 |
| 407 | 0.0095 | 441 | 0.2385 | 475 | 0.2084 | 509 | 0.3921 | 543 | 0.5339 |
| 408 | 0.0102 | 442 | 0.2591 | 476 | 0.2062 | 510 | 0.3978 | 544 | 0.5394 |
| 409 | 0.0085 | 443 | 0.2909 | 477 | 0.2025 | 511 | 0.4006 | 545 | 0.5467 |
| 410 | 0.0113 | 444 | 0.3304 | 478 | 0.2035 | 512 | 0.4098 | 546 | 0.555 |
| 411 | 0.0118 | 445 | 0.3695 | 479 | 0.2052 | 513 | 0.4158 | 547 | 0.5575 |
| 412 | 0.0107 | 446 | 0.4092 | 480 | 0.2064 | 514 | 0.4158 | 548 | 0.5628 |
| 413 | 0.0125 | 447 | 0.4447 | 481 | 0.2083 | 515 | 0.4279 | 549 | 0.5666 |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| nm | mW | nm | mW | nm | mW | nm | mW | nm | mW |
|---|---|---|---|---|---|---|---|---|---|
| 550 | 0.572 | 599 | 0.9855 | 648 | 0.6169 | 697 | 0.1715 | 746 | 0.039 |
| 551 | 0.5797 | 600 | 0.9879 | 649 | 0.6034 | 698 | 0.1656 | 747 | 0.0384 |
| 552 | 0.5864 | 601 | 0.9877 | 650 | 0.5941 | 699 | 0.161 | 748 | 0.037 |
| 553 | 0.5932 | 602 | 0.9961 | 651 | 0.5831 | 700 | 0.1563 | 749 | 0.0348 |
| 554 | 0.6027 | 603 | 0.9942 | 652 | 0.5697 | 701 | 0.1521 | 750 | 0.0338 |
| 555 | 0.6062 | 604 | 0.9979 | 653 | 0.5577 | 702 | 0.1466 | 751 | 0.0351 |
| 556 | 0.617 | 605 | 0.9976 | 654 | 0.5408 | 703 | 0.1435 | 752 | 0.0326 |
| 557 | 0.6224 | 606 | 0.996 | 655 | 0.5334 | 704 | 0.1395 | 753 | 0.0314 |
| 558 | 0.6292 | 607 | 0.9911 | 656 | 0.5188 | 705 | 0.1343 | 754 | 0.0305 |
| 559 | 0.636 | 608 | 0.9942 | 657 | 0.5068 | 706 | 0.1309 | 755 | 0.03 |
| 560 | 0.6445 | 609 | 0.9891 | 658 | 0.4944 | 707 | 0.1283 | 756 | 0.0289 |
| 561 | 0.6517 | 610 | 0.9909 | 659 | 0.4867 | 708 | 0.1241 | 757 | 0.0289 |
| 562 | 0.6602 | 611 | 0.9865 | 660 | 0.4746 | 709 | 0.12 | 758 | 0.0281 |
| 563 | 0.6741 | 612 | 0.9821 | 661 | 0.4605 | 710 | 0.1135 | 759 | 0.0265 |
| 564 | 0.679 | 613 | 0.9755 | 662 | 0.4503 | 711 | 0.1134 | 760 | 0.0263 |
| 565 | 0.6891 | 614 | 0.9754 | 663 | 0.4388 | 712 | 0.1075 | 761 | 0.026 |
| 566 | 0.6982 | 615 | 0.965 | 664 | 0.4296 | 713 | 0.1057 | 762 | 0.0251 |
| 567 | 0.7079 | 616 | 0.9615 | 665 | 0.4171 | 714 | 0.102 | 763 | 0.0245 |
| 568 | 0.713 | 617 | 0.9528 | 666 | 0.4077 | 715 | 0.0981 | 764 | 0.0239 |
| 569 | 0.7245 | 618 | 0.9478 | 667 | 0.3967 | 716 | 0.098 | 765 | 0.0223 |
| 570 | 0.7328 | 619 | 0.9377 | 668 | 0.3863 | 717 | 0.0933 | 766 | 0.0225 |
| 571 | 0.7434 | 620 | 0.9319 | 669 | 0.3755 | 718 | 0.0895 | 767 | 0.0225 |
| 572 | 0.7591 | 621 | 0.9256 | 670 | 0.365 | 719 | 0.0877 | 768 | 0.0204 |
| 573 | 0.7635 | 622 | 0.9137 | 671 | 0.3575 | 720 | 0.0844 | 769 | 0.0209 |
| 574 | 0.7771 | 623 | 0.9051 | 672 | 0.3463 | 721 | 0.0825 | 770 | 0.0197 |
| 575 | 0.7863 | 624 | 0.8961 | 673 | 0.3376 | 722 | 0.0794 | 771 | 0.0189 |
| 576 | 0.7975 | 625 | 0.8841 | 674 | 0.3272 | 723 | 0.0775 | 772 | 0.0195 |
| 577 | 0.8081 | 626 | 0.8729 | 675 | 0.3193 | 724 | 0.0752 | 773 | 0.0185 |
| 578 | 0.8173 | 627 | 0.8631 | 676 | 0.3099 | 725 | 0.0733 | 774 | 0.0179 |
| 579 | 0.8265 | 628 | 0.8531 | 677 | 0.3005 | 726 | 0.0707 | 775 | 0.0174 |
| 580 | 0.8407 | 629 | 0.8435 | 678 | 0.2949 | 727 | 0.0696 | 776 | 0.0168 |
| 581 | 0.8499 | 630 | 0.8352 | 679 | 0.2845 | 728 | 0.0676 | 777 | 0.0159 |
| 582 | 0.8518 | 631 | 0.8194 | 680 | 0.2776 | 729 | 0.0647 | 778 | 0.016 |
| 583 | 0.8679 | 632 | 0.806 | 681 | 0.2713 | 730 | 0.0628 | 779 | 0.0158 |
| 584 | 0.8799 | 633 | 0.7963 | 682 | 0.2636 | 731 | 0.062 | 780 | 0.0151 |
| 585 | 0.892 | 634 | 0.7877 | 683 | 0.2561 | 732 | 0.0589 | | |
| 586 | 0.9008 | 635 | 0.7749 | 684 | 0.2466 | 733 | 0.0578 | | |
| 587 | 0.9106 | 636 | 0.767 | 685 | 0.2403 | 734 | 0.0561 | | |
| 588 | 0.9182 | 637 | 0.7487 | 686 | 0.2335 | 735 | 0.0543 | | |
| 589 | 0.9255 | 638 | 0.7389 | 687 | 0.2307 | 736 | 0.0524 | | |
| 590 | 0.9323 | 639 | 0.728 | 688 | 0.2219 | 737 | 0.0514 | | |
| 591 | 0.94 | 640 | 0.7138 | 689 | 0.2172 | 738 | 0.049 | | |
| 592 | 0.9455 | 641 | 0.7038 | 690 | 0.2112 | 739 | 0.0493 | | |
| 593 | 0.9525 | 642 | 0.6888 | 691 | 0.2039 | 740 | 0.0465 | | |
| 594 | 0.9663 | 643 | 0.6769 | 692 | 0.1996 | 741 | 0.0445 | | |
| 595 | 0.9668 | 644 | 0.6654 | 693 | 0.1926 | 742 | 0.0439 | | |
| 596 | 0.975 | 645 | 0.6501 | 694 | 0.1877 | 743 | 0.0423 | | |
| 597 | 0.9767 | 646 | 0.6408 | 695 | 0.182 | 744 | 0.0418 | | |
| 598 | 0.9822 | 647 | 0.628 | 696 | 0.1771 | 745 | 0.04 | | |


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# 6. Goniophotometer Test results for model # 304Y0200W30LY

### 6.1 Test Data

| Test Ambient Temperature | 25.1℃ | Test orientation | Downward |
|---|---|---|---|
| Operate time(Min.) | 120 | stabilization time(Min.) | 90 |

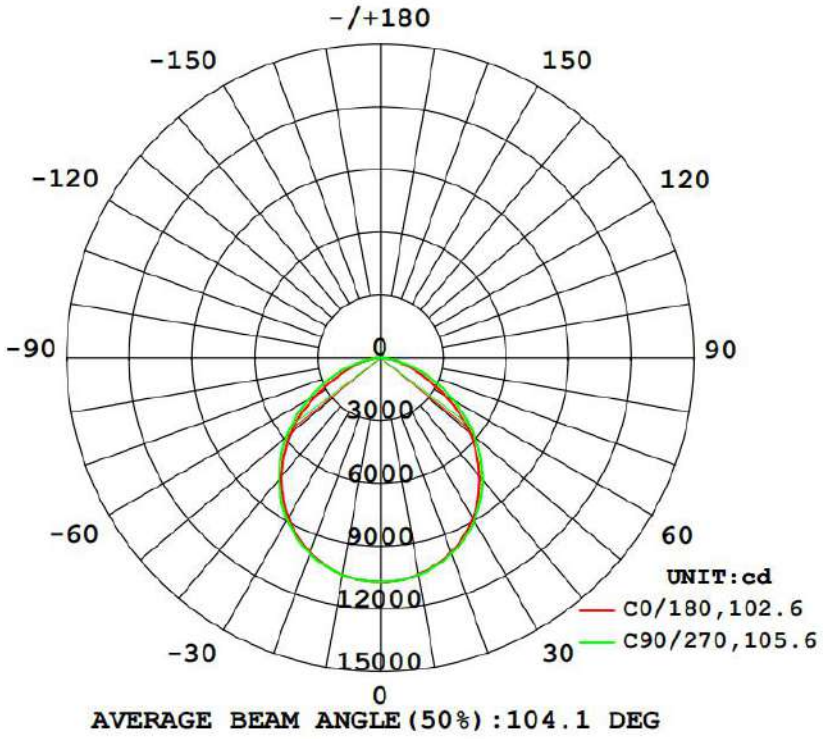
**Electrical Measurement**

| Input Voltage (V) | Frequency (Hz) | Input Current(A) | Power Factor | Power(W) |
|---|---|---|---|---|
| 120.0 | 60 | 1.678 | 0.9987 | 201.1 |

**Optical Measurement**

| Luminous Flux (lm) | Efficacy(lm/W) | ZL (20-50°) | Spacing Criteria (C0/180°) | Spacing Criteria (C90/270°) |
|---|---|---|---|---|
| 27298.2 | 135.74 | 53.5% | 1.23 | 1.24 |

### 6.2 Luminous Intensity Distribution





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### 6.3 Zonal Flux Diagram

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | Φ zone | Φ total | %lum,lamp |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1049 | 1053 | 1052 | 1051 | 1053 | 1052 | 1054 | 1053 | 0- 10 | 1014 | 1014 | 3.71,3.71 |
| 20 | 988.9 | 991.7 | 993.4 | 990.8 | 988.6 | 990.5 | 994.5 | 992.0 | 10- 20 | 2898 | 3912 | 14.3,14.3 |
| 30 | 884.2 | 891.1 | 895.7 | 888.4 | 882.6 | 888.2 | 894.3 | 891.5 | 20- 30 | 4357 | 8268 | 30.3,30.3 |
| 40 | 736.5 | 747.5 | 760.1 | 744.9 | 737.5 | 744.8 | 756.7 | 748.2 | 30- 40 | 5141 | 13409 | 49.1,49.1 |
| 50 | 557.9 | 569.3 | 588.5 | 568.3 | 561.5 | 568.4 | 587.7 | 571.5 | 40- 50 | 5105 | 18514 | 67.8,67.8 |
| 60 | 351.1 | 383.1 | 400.5 | 381.1 | 351.7 | 380.8 | 400.9 | 384.9 | 50- 60 | 4253 | 22767 | 83.4,83.4 |
| 70 | 176.7 | 196.4 | 223.5 | 193.4 | 175.0 | 194.9 | 223.4 | 196.6 | 60- 70 | 2813 | 25579 | 93.7,93.7 |
| 80 | 66.28 | 68.01 | 74.68 | 66.43 | 66.13 | 67.19 | 75.40 | 68.75 | 70- 80 | 1364 | 26944 | 98.7,98.7 |
| 90 | 0.1551 | 0.2065 | 0.2482 | 0.1625 | 0.0907 | 0.1370 | 0.1606 | 0.1063 | 80- 90 | 297.2 | 27241 | 99.8,99.8 |
| 100 | 0.2195 | 0.3879 | 0.7139 | 0.2575 | 0.3103 | 0.4339 | 0.7535 | 0.3490 | 90-100 | 2.907 | 27244 | 99.8,99.8 |
| 110 | 0.4234 | 0.6915 | 1.095 | 0.4998 | 0.5681 | 0.7841 | 1.391 | 0.6295 | 100-110 | 6.035 | 27250 | 99.8,99.8 |
| 120 | 0.6129 | 0.9358 | 0.9125 | 0.9467 | 0.8174 | 1.112 | 1.334 | 0.8955 | 110-120 | 8.453 | 27258 | 99.9,99.9 |
| 130 | 0.7567 | 1.134 | 0.7377 | 1.145 | 0.9837 | 1.233 | 1.102 | 0.9556 | 120-130 | 8.807 | 27267 | 99.9,99.9 |
| 140 | 0.8702 | 1.218 | 0.8271 | 1.183 | 1.037 | 1.363 | 0.6784 | 1.047 | 130-140 | 8.659 | 27276 | 99.9,99.9 |
| 150 | 1.097 | 1.438 | 0.8969 | 1.386 | 1.355 | 1.721 | 1.119 | 1.434 | 140-150 | 8.266 | 27284 | 99.9,99.9 |
| 160 | 1.317 | 1.583 | 1.200 | 1.630 | 1.703 | 1.865 | 1.574 | 1.858 | 150-160 | 7.054 | 27291 | 100,100 |
| 170 | 1.733 | 2.319 | 1.444 | 2.237 | 1.967 | 2.178 | 2.168 | 2.238 | 160-170 | 4.966 | 27296 | 100,100 |
| 180 | 2.353 | 2.994 | 1.750 | 2.549 | 2.338 | 2.428 | 2.395 | 2.192 | 170-180 | 2.070 | 27298 | 100,100 |
| DEG | LUMINOUS INTENSITY:×10cd | | | | | | | | | UNIT:lm | | |


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### 6.4 UGR(Unified Glare Rating) Table

| 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 | | | | | Viewed endwise | | | | |
| x = 2H | y = 2H | 24.1 | 25.5 | 24.4 | 25.7 | 26.0 | 24.5 | 26.0 | 24.8 | 26.2 | 26.4 |
| | 3H | 25.0 | 26.3 | 25.3 | 26.6 | 26.8 | 25.7 | 27.1 | 26.0 | 27.3 | 27.5 |
| | 4H | 25.3 | 26.6 | 25.6 | 26.8 | 27.1 | 26.1 | 27.4 | 26.4 | 27.7 | 27.9 |
| | 6H | 25.5 | 26.7 | 25.9 | 27.0 | 27.3 | 26.4 | 27.6 | 26.7 | 27.8 | 28.1 |
| | 8H | 25.6 | 26.7 | 25.9 | 27.0 | 27.3 | 26.4 | 27.6 | 26.7 | 27.8 | 28.1 |
| | 12H | 25.6 | 26.7 | 26.0 | 27.0 | 27.3 | 26.4 | 27.5 | 26.8 | 27.8 | 28.1 |
| 4H | 2H | 24.6 | 25.9 | 24.9 | 26.1 | 26.4 | 24.9 | 26.2 | 25.3 | 26.5 | 26.7 |
| | 3H | 25.7 | 26.8 | 26.0 | 27.1 | 27.4 | 26.3 | 27.4 | 26.7 | 27.7 | 28.0 |
| | 4H | 26.1 | 27.1 | 26.5 | 27.4 | 27.8 | 26.8 | 27.8 | 27.2 | 28.2 | 28.5 |
| | 6H | 26.4 | 27.3 | 26.8 | 27.6 | 28.0 | 27.2 | 28.1 | 27.6 | 28.4 | 28.8 |
| | 8H | 26.5 | 27.3 | 26.9 | 27.7 | 28.1 | 27.2 | 28.1 | 27.6 | 28.4 | 28.8 |
| | 12H | 26.6 | 27.3 | 27.0 | 27.7 | 28.1 | 27.3 | 28.0 | 27.7 | 28.4 | 28.8 |
| 8H | 4H | 26.3 | 27.1 | 26.7 | 27.5 | 27.9 | 26.9 | 27.8 | 27.4 | 28.1 | 28.5 |
| | 6H | 26.7 | 27.4 | 27.1 | 27.8 | 28.2 | 27.4 | 28.1 | 27.8 | 28.5 | 28.9 |
| | 8H | 26.8 | 27.4 | 27.3 | 27.9 | 28.3 | 27.5 | 28.1 | 28.0 | 28.5 | 29.0 |
| | 12H | 26.9 | 27.5 | 27.4 | 27.9 | 28.4 | 27.6 | 28.1 | 28.0 | 28.5 | 29.0 |
| 12H | 4H | 26.3 | 27.0 | 26.7 | 27.4 | 27.8 | 26.9 | 27.7 | 27.4 | 28.1 | 28.5 |
| | 6H | 26.7 | 27.3 | 27.2 | 27.7 | 28.2 | 27.4 | 28.0 | 27.8 | 28.4 | 28.9 |
| | 8H | 26.9 | 27.4 | 27.4 | 27.9 | 28.3 | 27.5 | 28.0 | 28.0 | 28.5 | 29.0 |
| Variations with the observer position at spacings: | | | | | | | | | | | |
| S = 1.0H | | + 0.3 / - 0.3 | | | | | + 0.2 / - 0.3 | | | | |
| 1.5H | | + 0.3 / - 0.4 | | | | | + 0.2 / - 0.3 | | | | |
| 2.0H | | + 0.4 / - 0.5 | | | | | + 0.4 / - 0.3 | | | | |

CIE Pub.117, 27298 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.5)


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### 6.5 Luminous Distribution Intensity Data

Table--1 UNIT: ×10cd

| γ (DEG) \ C (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 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 | 1071 |
| 5 | 1067 | 1067 | 1068 | 1067 | 1068 | 1067 | 1065 | 1065 | 1067 | 1067 | 1066 | 1067 | 1067 | 1068 | 1068 | 1068 |
| 10 | 1049 | 1052 | 1053 | 1054 | 1052 | 1053 | 1051 | 1051 | 1053 | 1052 | 1052 | 1052 | 1054 | 1055 | 1053 | 1052 |
| 15 | 1023 | 1026 | 1026 | 1029 | 1028 | 1028 | 1027 | 1027 | 1026 | 1028 | 1026 | 1028 | 1029 | 1030 | 1027 | 1027 |
| 20 | 989 | 993 | 992 | 993 | 993 | 994 | 991 | 990 | 989 | 991 | 991 | 993 | 995 | 995 | 992 | 992 |
| 25 | 941 | 945 | 947 | 951 | 951 | 949 | 945 | 941 | 940 | 943 | 944 | 949 | 949 | 949 | 948 | 946 |
| 30 | 884 | 886 | 891 | 895 | 896 | 894 | 888 | 884 | 883 | 884 | 888 | 893 | 894 | 893 | 891 | 888 |
| 35 | 817 | 819 | 824 | 830 | 832 | 829 | 821 | 816 | 813 | 814 | 821 | 828 | 830 | 827 | 824 | 821 |
| 40 | 736 | 740 | 747 | 756 | 760 | 755 | 745 | 735 | 737 | 738 | 745 | 752 | 757 | 756 | 748 | 741 |
| 45 | 650 | 656 | 664 | 674 | 676 | 672 | 659 | 653 | 652 | 655 | 658 | 671 | 676 | 670 | 663 | 660 |
| 50 | 558 | 565 | 569 | 582 | 588 | 579 | 568 | 560 | 561 | 562 | 568 | 579 | 588 | 580 | 571 | 566 |
| 55 | 455 | 467 | 478 | 487 | 494 | 486 | 474 | 461 | 460 | 466 | 474 | 485 | 495 | 487 | 480 | 469 |
| 60 | 351 | 364 | 383 | 394 | 401 | 391 | 381 | 359 | 352 | 364 | 381 | 391 | 401 | 394 | 385 | 366 |
| 65 | 250 | 263 | 287 | 302 | 310 | 302 | 286 | 258 | 250 | 262 | 286 | 301 | 309 | 302 | 289 | 264 |
| 70 | 177 | 180 | 196 | 219 | 223 | 218 | 193 | 177 | 175 | 179 | 195 | 217 | 223 | 219 | 197 | 181 |
| 75 | 117 | 119 | 123 | 139 | 144 | 138 | 122 | 116 | 117 | 118 | 122 | 138 | 144 | 140 | 124 | 120 |
| 80 | 66.3 | 67.6 | 68.0 | 69.8 | 74.7 | 68.8 | 66.4 | 65.1 | 66.1 | 66.5 | 67.2 | 69.0 | 75.4 | 70.1 | 68.7 | 68.2 |
| 85 | 26.9 | 26.2 | 24.6 | 23.2 | 22.9 | 22.7 | 23.4 | 24.0 | 25.4 | 25.0 | 23.5 | 22.8 | 23.3 | 23.7 | 25.0 | 27.0 |
| 90 | 0.16 | 0.17 | 0.21 | 0.27 | 0.25 | 0.19 | 0.16 | 0.15 | 0.09 | 0.11 | 0.14 | 0.17 | 0.16 | 0.12 | 0.11 | 0.11 |
| 95 | 0.14 | 0.15 | 0.19 | 0.37 | 0.47 | 0.34 | 0.15 | 0.14 | 0.17 | 0.19 | 0.25 | 0.40 | 0.52 | 0.26 | 0.20 | 0.17 |
| 100 | 0.22 | 0.27 | 0.39 | 0.51 | 0.71 | 0.49 | 0.26 | 0.23 | 0.31 | 0.34 | 0.43 | 0.62 | 0.75 | 0.39 | 0.35 | 0.30 |
| 105 | 0.35 | 0.37 | 0.52 | 0.71 | 0.94 | 0.65 | 0.36 | 0.35 | 0.45 | 0.48 | 0.59 | 0.92 | 1.08 | 0.55 | 0.49 | 0.43 |
| 110 | 0.42 | 0.51 | 0.69 | 0.85 | 1.09 | 0.83 | 0.50 | 0.42 | 0.57 | 0.62 | 0.78 | 1.17 | 1.39 | 0.73 | 0.63 | 0.58 |
| 115 | 0.54 | 0.65 | 0.84 | 1.06 | 1.12 | 0.96 | 0.71 | 0.54 | 0.70 | 0.81 | 0.97 | 1.23 | 1.48 | 0.87 | 0.77 | 0.73 |
| 120 | 0.61 | 0.73 | 0.94 | 0.93 | 0.91 | 0.84 | 0.95 | 0.62 | 0.82 | 0.96 | 1.11 | 1.23 | 1.33 | 0.91 | 0.90 | 0.84 |
| 125 | 0.68 | 0.78 | 0.99 | 1.09 | 0.99 | 1.12 | 1.05 | 0.68 | 0.94 | 1.04 | 1.16 | 1.30 | 1.16 | 0.94 | 0.92 | 0.93 |
| 130 | 0.76 | 0.86 | 1.13 | 1.23 | 0.74 | 1.17 | 1.14 | 0.71 | 0.98 | 1.03 | 1.23 | 1.61 | 1.10 | 1.19 | 0.96 | 0.98 |
| 135 | 0.86 | 0.95 | 1.22 | 1.47 | 0.72 | 1.45 | 1.21 | 0.76 | 1.01 | 1.10 | 1.30 | 1.57 | 0.94 | 1.44 | 1.01 | 0.99 |
| 140 | 0.87 | 0.99 | 1.22 | 1.47 | 0.83 | 1.45 | 1.18 | 0.85 | 1.04 | 1.14 | 1.36 | 1.83 | 0.68 | 1.76 | 1.05 | 1.03 |
| 145 | 0.97 | 1.13 | 1.30 | 1.61 | 0.89 | 1.53 | 1.17 | 0.96 | 1.20 | 1.26 | 1.54 | 2.09 | 0.92 | 2.26 | 1.21 | 1.14 |
| 150 | 1.10 | 1.23 | 1.44 | 1.61 | 0.90 | 1.59 | 1.39 | 1.01 | 1.35 | 1.41 | 1.72 | 2.32 | 1.12 | 2.54 | 1.43 | 1.28 |
| 155 | 1.19 | 1.35 | 1.47 | 1.60 | 0.98 | 1.59 | 1.46 | 1.12 | 1.54 | 1.52 | 1.77 | 2.32 | 1.35 | 1.92 | 1.58 | 1.45 |
| 160 | 1.32 | 1.38 | 1.58 | 1.68 | 1.20 | 1.62 | 1.63 | 1.22 | 1.70 | 1.70 | 1.87 | 2.25 | 1.57 | 1.51 | 1.86 | 1.52 |
| 165 | 1.56 | 1.67 | 1.91 | 1.87 | 1.22 | 1.74 | 1.90 | 1.49 | 1.77 | 1.78 | 1.90 | 2.28 | 1.64 | 1.46 | 1.88 | 1.73 |
| 170 | 1.73 | 1.95 | 2.32 | 2.17 | 1.44 | 2.03 | 2.24 | 1.73 | 1.97 | 1.99 | 2.18 | 2.70 | 2.17 | 1.65 | 2.24 | 2.28 |
| 175 | 2.08 | 2.27 | 2.62 | 2.32 | 1.56 | 2.16 | 2.42 | 1.95 | 2.22 | 2.22 | 2.42 | 2.80 | 2.33 | 1.68 | 2.28 | 2.51 |
| 180 | 2.35 | 2.45 | 2.99 | 2.49 | 1.75 | 2.24 | 2.55 | 2.13 | 2.34 | 2.34 | 2.43 | 2.81 | 2.40 | 1.68 | 2.19 | 2.53 |

## 7.THD and PF Test for model # 304Y0200W30LY

| Voltage (V AC) | Frequency (Hz) | Power Factor | THD (%) |
|---|---|---|---|
| 100.0 | 60 | 0.9988 | 3.25 |
| 120.0 | 60 | 0.9987 | 3.03 |
| 277.0 | 60 | 0.9607 | 6.89 |


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## 8.Photo of sample

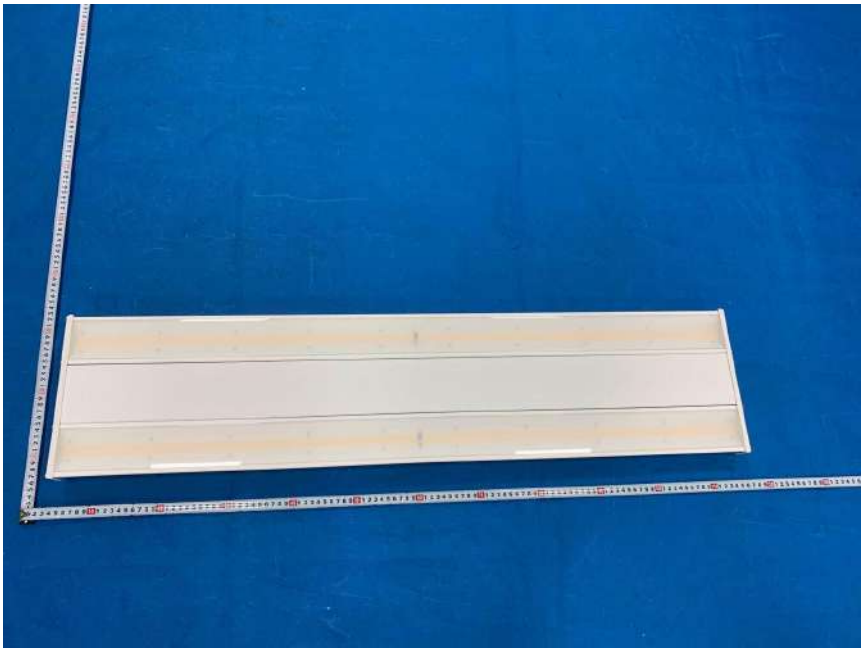

Figure 1

Figure 2


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## Report Revision

Original report number CA2005479L 02007R1 dated at 2020-09-02 was recalled and declared as invalid by Guangdong Meide Testing Technology Co.,Ltd.Report number CA2005479L 02007R2 was issued on to replace report number CA2005479L 02007R1.

| Report Number | Report Date | Contents |
|---|---|---|
| CA2005479L 02007 | 2020-07-09 | Original report |
| CA2005479L 02007R1 | 2020-09-02 | Add ANSI/IES TM-30-18 Color Rendition Report of model 304Y0200W50LY. |
| CA2005479L 02007R2 | 2020-09-10 | Modify model 304Y0200W50LY x,y coordinates. |

****** END OF THE TEST REPORT******


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