

# PURE EDGE LIGHTING

## TEST REPORT

### SCOPE OF WORK

LED Performance Testing

### MODEL NUMBER

L35L-14W-FL-WZ-TC-RDWW

### PROJECT NUMBER

G105870896

### REPORT NUMBER

105870896CHI-001

### ISSUE DATE

7/15/2024

### REVISED DATE

None

### TEST DATES

2024-07-01 through 2024-07-09.

### DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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### PAGES

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**REPORT NUMBER**

105870896CHI-001

**MODEL NUMBER(s)**

L35L-14W-FL-WZ-TC-RDWW

**REPORT RENDERED TO:**

PURE EDGE LIGHTING  
1718 WEST FULLERTON  
CHICAGO, IL 60614  
USA

**STATEMENT OF LIMITATION**

NVLAP Lab Code 600186-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

**AUTHORIZATION**

The testing performed was authorized by signed quote number Qu-01461581-0.

**TEST STANDARDS**

IES LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

ANSI/IES LM-79-19 Optical and Electrical Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2017: Specifications for the Chromaticity of Solid State Lighting (SSL) Products

ANSI/IES TM-30-18: IES Method for Evaluating Light Source Color Rendition

In Charge of Testing:



David Dalo  
Engineer  
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Reviewer:



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NA Technical Lead  
Lighting Division

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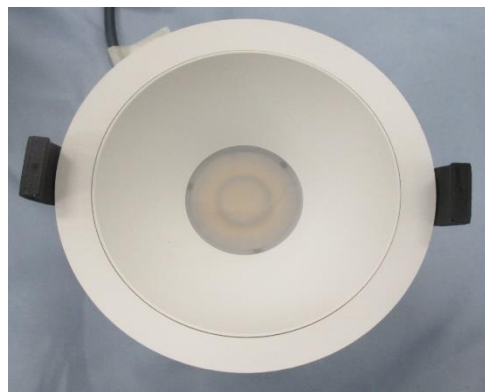
ITEMS RECEIVED

| Item No. | Control No.          | Model No.              | Description | Type       | Received  |
|----------|----------------------|------------------------|-------------|------------|-----------|
| 1        | AH06212024013032-001 | L35L-14W-FL-WZ-TC-RDWW | Downlight   | Production | 6/21/2024 |

TESTED SAMPLE CONFIGURATIONS

| Config No. | Tested Model No.       | Item Nos. Utilized |
|------------|------------------------|--------------------|
| 1          | L35L-14W-FL-WZ-TC-RDWW | 1                  |

SAMPLE PHOTOS - TESTED CONFIGURATIONS



# PRODUCT INFORMATION AND SUMMARY OF DATA

|                      |                          |
|----------------------|--------------------------|
| Product Model No.:   | L35L-14W-FL-WZ-TC-RDWW   |
| Product Description: | Downlight                |
| LED Model No.:       | TYF/ TB 1814D-058-RGBCW  |
| Driver Model No.:    | BERNSN/DCC-350WZ24VRGBTW |
| Light Source:        | LED                      |

| Criteria                           | Results         |                    |
|------------------------------------|-----------------|--------------------|
|                                    | Goniophotometer | Integrating Sphere |
| Light Output (lumens)              | 666.6           | 662.6              |
| Driver Output Power (W) @ 24 (Vdc) | 11.79           |                    |
| Calculated Efficacy (lm/W)         | 56.2            |                    |

| Criteria                         | Results |
|----------------------------------|---------|
| Correlated Color Temperature (K) | 2908    |
| Color Rendering Index - Ra ( )   | 93.6    |
| Color Rendering Index - R9 ( )   | 90.6    |
| Duv ( )                          | -0.0019 |
| Chromaticity Coordinate (x)      | 0.441   |
| Chromaticity Coordinate (y)      | 0.401   |
| Chromaticity Coordinate (u')     | 0.255   |
| Chromaticity Coordinate (v')     | 0.521   |

# TEST METHODS

## SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with IESNA LM-79.

## INTEGRATING SPHERE TESTING

A spectroradiometer and integrating sphere were used to measure the spectral distribution for each EUT resulting in photometric and colorimetric data. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position inside the sphere and stabilization procedures to LM-79 were followed.

## TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

A Type C Mirror Goniophotometer system was used to measure the luminous intensity (candela) at each angle of distribution for the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position near the EUT at equal height and stabilization procedures to LM-79 were followed.

\*ANSI/IES Technical Memorandums (TM) reported are not NVLAP accredited

| Test Configuration | Tested Model No.       | Pass/Fail/NA |
|--------------------|------------------------|--------------|
| 1                  | L35L-14W-FL-WZ-TC-RDWW | NA           |

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)

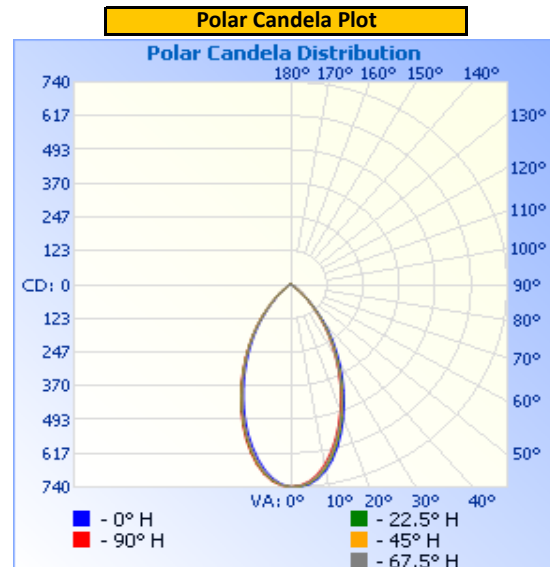
| Base Orientation | Input Voltage (Vac) | Input Current (mA) | Input Power (W) | Input Power Factor ( ) |
|------------------|---------------------|--------------------|-----------------|------------------------|
| Up               | 120.01              | 170.6              | 17.33           | 0.847                  |

| Light Output (lm) | Lumen Efficacy (lm/W) |
|-------------------|-----------------------|
| 666.6             | 38.5                  |

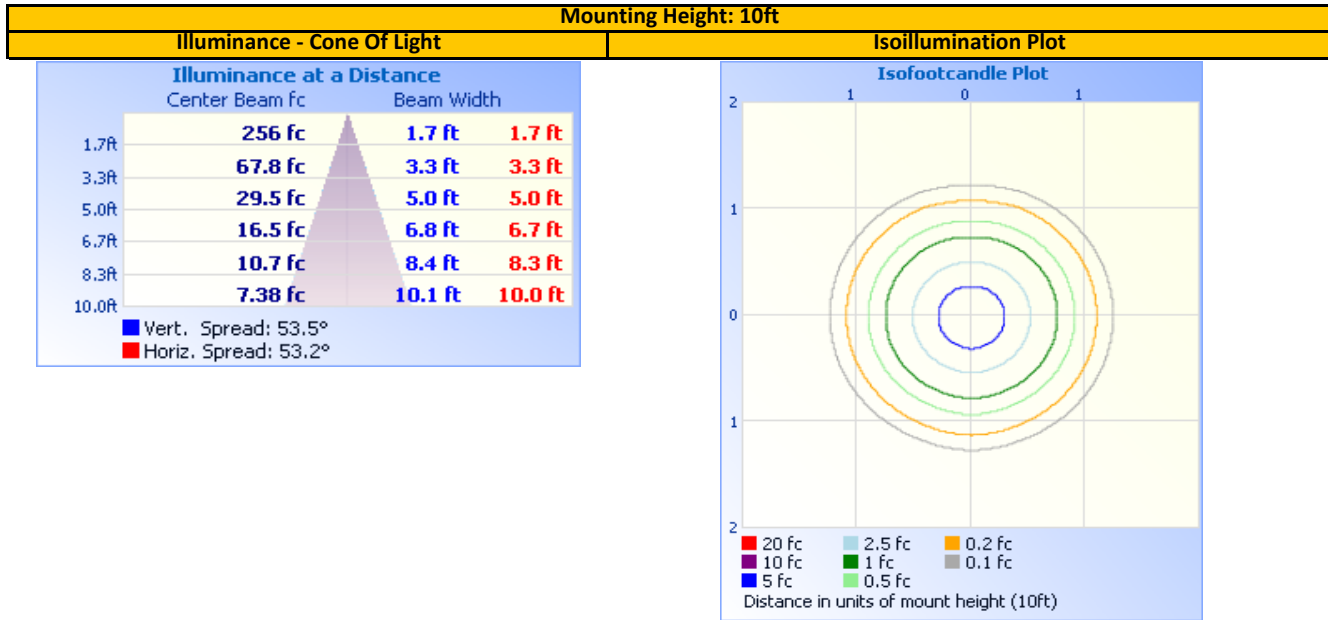
INTENSITY SUMMARY - CANDELA

| Angle | 0   | 22.5 | 45  | 67.5 | 90  |
|-------|-----|------|-----|------|-----|
| 0     | 738 | 738  | 738 | 738  | 738 |
| 5     | 732 | 729  | 726 | 724  | 721 |
| 10    | 690 | 681  | 678 | 674  | 667 |
| 15    | 616 | 604  | 599 | 593  | 587 |
| 20    | 523 | 512  | 506 | 501  | 494 |
| 25    | 427 | 415  | 409 | 405  | 399 |
| 30    | 334 | 320  | 316 | 312  | 308 |
| 35    | 249 | 237  | 233 | 230  | 226 |
| 40    | 170 | 159  | 156 | 154  | 152 |
| 45    | 100 | 92   | 92  | 90   | 89  |
| 50    | 55  | 49   | 49  | 48   | 48  |
| 55    | 22  | 21   | 21  | 21   | 21  |
| 60    | 14  | 14   | 14  | 14   | 14  |
| 65    | 11  | 10   | 10  | 10   | 10  |
| 70    | 8   | 7    | 7   | 7    | 7   |
| 75    | 5   | 5    | 5   | 5    | 5   |
| 80    | 3   | 3    | 3   | 3    | 3   |
| 85    | 1   | 1    | 1   | 1    | 1   |
| 90    | 0   | 0    | 0   | 0    | 0   |
| 95    | 0   | 0    | 0   | 0    | 0   |
| 100   | 0   | 0    | 0   | 0    | 0   |
| 105   | 0   | 0    | 0   | 0    | 0   |
| 110   | 0   | 0    | 0   | 0    | 0   |
| 115   | 0   | 0    | 0   | 0    | 0   |
| 120   | 0   | 0    | 0   | 0    | 0   |
| 125   | 0   | 0    | 0   | 0    | 0   |
| 130   | 0   | 0    | 0   | 0    | 0   |
| 135   | 0   | 0    | 0   | 0    | 0   |
| 140   | 0   | 0    | 0   | 0    | 0   |
| 145   | 0   | 0    | 0   | 0    | 0   |
| 150   | 0   | 0    | 0   | 0    | 0   |
| 155   | 0   | 0    | 0   | 0    | 0   |
| 160   | 0   | 0    | 0   | 0    | 0   |
| 165   | 0   | 0    | 0   | 0    | 0   |
| 170   | 0   | 0    | 0   | 0    | 0   |
| 175   | 0   | 0    | 0   | 0    | 0   |
| 180   | 0   | 0    | 0   | 0    | 0   |

Entire luminous intensity matrix found in .IES file



## ILLUMINANCE SUMMARY



## ZONAL LUMENS

| Zonal Lumen Summary |        |           |         |        |       |
|---------------------|--------|-----------|---------|--------|-------|
| Zone                | Lumens | Luminaire | Zone    | Lumens | Total |
| 0-30                | 413.2  | 62.0%     | 90-100  | 0.0    | 0.0%  |
| 0-40                | 555.2  | 83.3%     | 10-20   | 163.3  | 24.5% |
| 0-60                | 649.3  | 97.4%     | 100-110 | 0.0    | 0.0%  |
| 60-90               | 17.3   | 2.6%      | 110-120 | 0.0    | 0.0%  |
| 70-100              | 6.9    | 1.0%      | 120-130 | 0.0    | 0.0%  |
| 90-120              | 0.0    | 0.0%      | 130-140 | 0.0    | 0.0%  |
| 0-90                | 666.6  | 100.0%    | 140-150 | 0.0    | 0.0%  |
| 90-180              | 0.0    | 0.0%      | 150-160 | 0.0    | 0.0%  |
| 0-180               | 666.6  | 100.0%    | 160-170 | 0.0    | 0.0%  |
|                     |        |           | 170-180 | 0.0    | 0.0%  |

| Test Configuration | Tested Model No.       | Pass/Fail/NA |
|--------------------|------------------------|--------------|
| 1                  | L35L-14W-FL-WZ-TC-RDWW | NA           |

PHOTOMETRIC, COLORIMETRIC, AND ELECTRICAL MEASUREMENTS (25°C +/- 1°C)

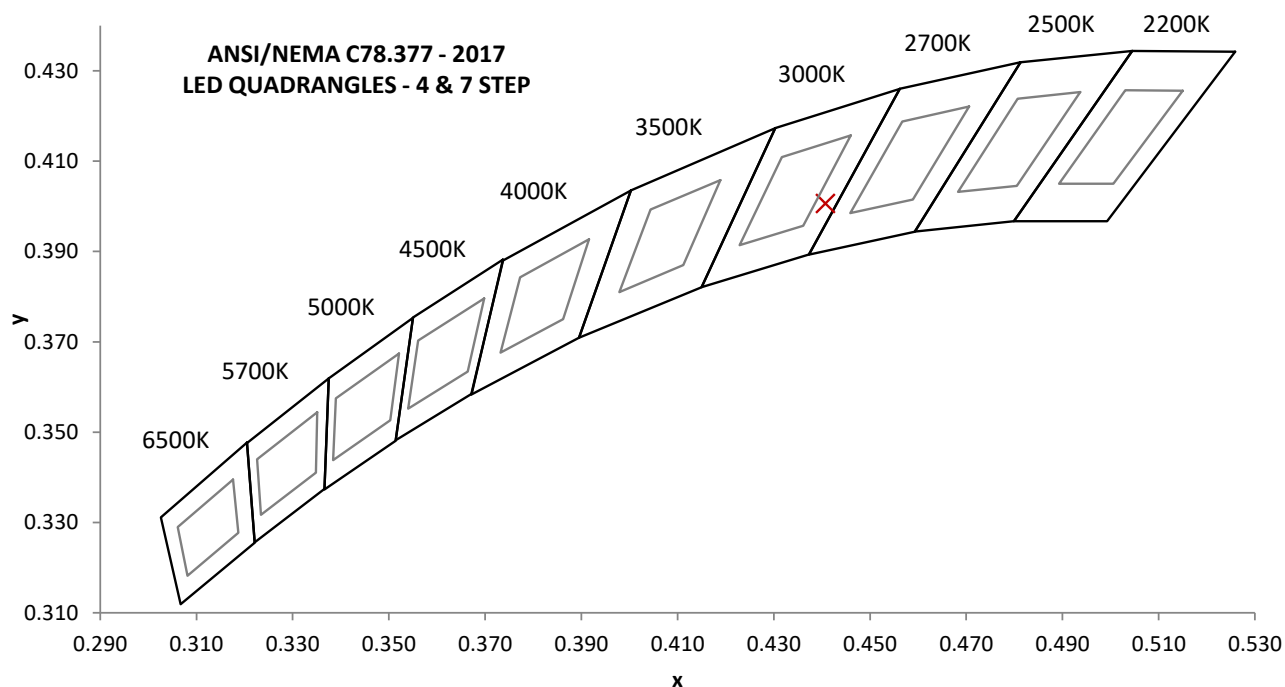
| Base Orientation |
|------------------|
| Up               |

| Input Voltage (Vac) | Input Current (mA) | Input Power (W) | Input Power Factor (I) | Input ATHD (%) |
|---------------------|--------------------|-----------------|------------------------|----------------|
| 120.02              | 170.0              | 17.38           | 0.852                  | 29.83          |

Measured at 120.02(Vac)

| Light Output (lm) | Lumen Efficacy (lm/W) | CCT (K) | CRI - Ra (I) | CRI - R9 (I) |
|-------------------|-----------------------|---------|--------------|--------------|
| 662.6             | 38.1                  | 2908    | 93.6         | 90.6         |

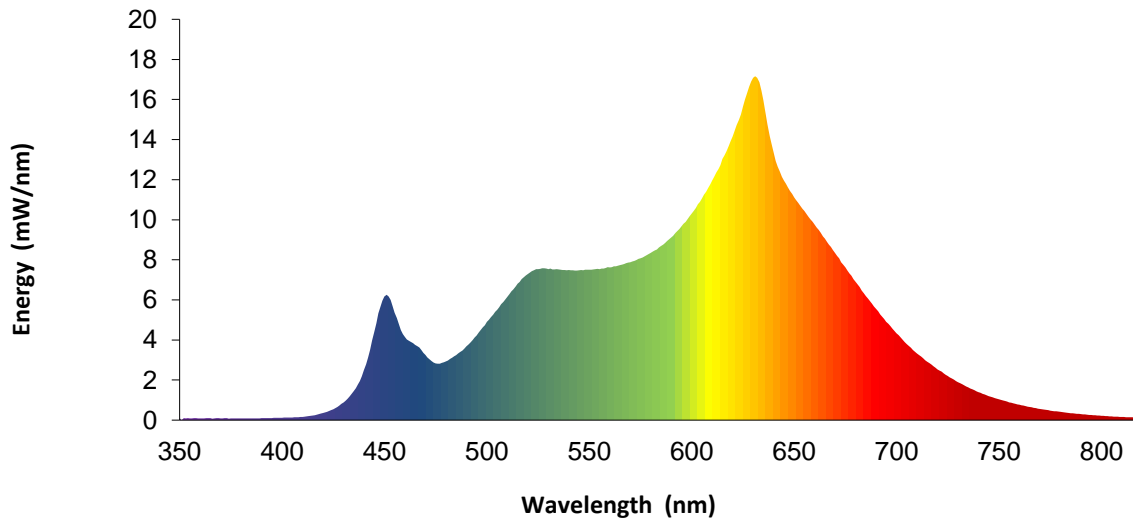
| Duv (I) | 1931 Chrom (x) | 1931 Chrom (y) | 1976 Chrom (u') | 1976 Chrom (v') |
|---------|----------------|----------------|-----------------|-----------------|
| -0.0019 | 0.441          | 0.401          | 0.255           | 0.521           |



SPECTRAL DISTRIBUTION OVER WAVELENGTHS

| nm  | mW/nm |  | nm  | mW/nm |  | nm  | mW/nm |  | nm  | mW/nm |
|-----|-------|--|-----|-------|--|-----|-------|--|-----|-------|
| 350 | 0.1   |  | 460 | 4.2   |  | 570 | 7.9   |  | 680 | 6.9   |
| 355 | 0.1   |  | 465 | 3.8   |  | 575 | 8.1   |  | 685 | 6.2   |
| 360 | 0.1   |  | 470 | 3.3   |  | 580 | 8.4   |  | 690 | 5.5   |
| 365 | 0.1   |  | 475 | 2.8   |  | 585 | 8.7   |  | 695 | 4.9   |
| 370 | 0.1   |  | 480 | 2.9   |  | 590 | 9.1   |  | 700 | 4.3   |
| 375 | 0.1   |  | 485 | 3.2   |  | 595 | 9.7   |  | 705 | 3.8   |
| 380 | 0.1   |  | 490 | 3.7   |  | 600 | 10.3  |  | 710 | 3.3   |
| 385 | 0.1   |  | 495 | 4.2   |  | 605 | 11.1  |  | 715 | 2.9   |
| 390 | 0.1   |  | 500 | 4.9   |  | 610 | 12.0  |  | 720 | 2.5   |
| 395 | 0.1   |  | 505 | 5.5   |  | 615 | 13.0  |  | 725 | 2.2   |
| 400 | 0.1   |  | 510 | 6.2   |  | 620 | 14.2  |  | 730 | 1.9   |
| 405 | 0.1   |  | 515 | 6.8   |  | 625 | 15.6  |  | 735 | 1.6   |
| 410 | 0.2   |  | 520 | 7.3   |  | 630 | 17.1  |  | 740 | 1.4   |
| 415 | 0.2   |  | 525 | 7.5   |  | 635 | 15.9  |  | 745 | 1.2   |
| 420 | 0.4   |  | 530 | 7.5   |  | 640 | 13.4  |  | 750 | 1.0   |
| 425 | 0.5   |  | 535 | 7.5   |  | 645 | 11.9  |  | 755 | 0.9   |
| 430 | 0.9   |  | 540 | 7.5   |  | 650 | 11.1  |  | 760 | 0.8   |
| 435 | 1.4   |  | 545 | 7.5   |  | 655 | 10.4  |  | 765 | 0.7   |
| 440 | 2.5   |  | 550 | 7.5   |  | 660 | 9.8   |  | 770 | 0.6   |
| 445 | 4.4   |  | 555 | 7.5   |  | 665 | 9.1   |  | 775 | 0.5   |
| 450 | 6.2   |  | 560 | 7.6   |  | 670 | 8.3   |  | 780 | 0.4   |
| 455 | 5.4   |  | 565 | 7.7   |  | 675 | 7.6   |  | --- | ---   |

Without correction of sample absorption.



Portrayed color in graphic is estimated by wavelength (nm) and may not be exact - it is a visual representation only



**EQUIPMENT LIST**

**REPORT NO. 105870896CHI-001**

| #  | Equipment                        | Model No             | Control No. | Last Cal   | Cal Due    |
|----|----------------------------------|----------------------|-------------|------------|------------|
| 1  | Yokogawa Power Meter             | WT310E               | CHI0664     | 4/2/2024   | 4/2/2025   |
| 2  | Omega Thermometer                | DPI8-C24             | 146920      | 10/9/2023  | 10/9/2024  |
| 3  | LSI High Speed Mirror Goniometer | 6440T                | 146928      | VBV        | VBV        |
| 4  | Omega Thermohygrometer           | OM-CP-RFPRHTEMP2000A | CHI0764     | 3/14/2024  | 3/14/2025  |
| 5  | Chroma Power Supply              | 61604                | CHI0371     | VBV        | VBV        |
| 8  | Omega Thermohygrometer           | OM-CP-RFPRHTEMP2000A | CHI0727     | 3/14/2024  | 3/14/2025  |
| 9  | Labsphere Spectroradiometer      | CDS2600              | CHI0539     | VBV        | VBV        |
| 10 | 3 Meter Sphere                   | SPR600               | CHI0088     | VBV        | VBV        |
| 11 | Elgar AC Power Supply            | CW1251               | 146112      | VBV        | VBV        |
| 12 | Sorenson DC Power Supply         | XFR150-8             | 146846      | VBV        | VBV        |
| 13 | Yokogawa Power Meter             | WT1600               | 146770      | 10/11/2023 | 10/11/2024 |
| 17 | Omega thermometer                | USB TC08             | EQAH002615  | 4/5/2024   | 4/5/2025   |
| 26 | Xitron Power Analyzer            | XT2640               | CHI0611     | 7/7/2023   | 7/7/2024   |

Note: Standard sources listed above are traceable to NIST: National Institute of Standards and Technology

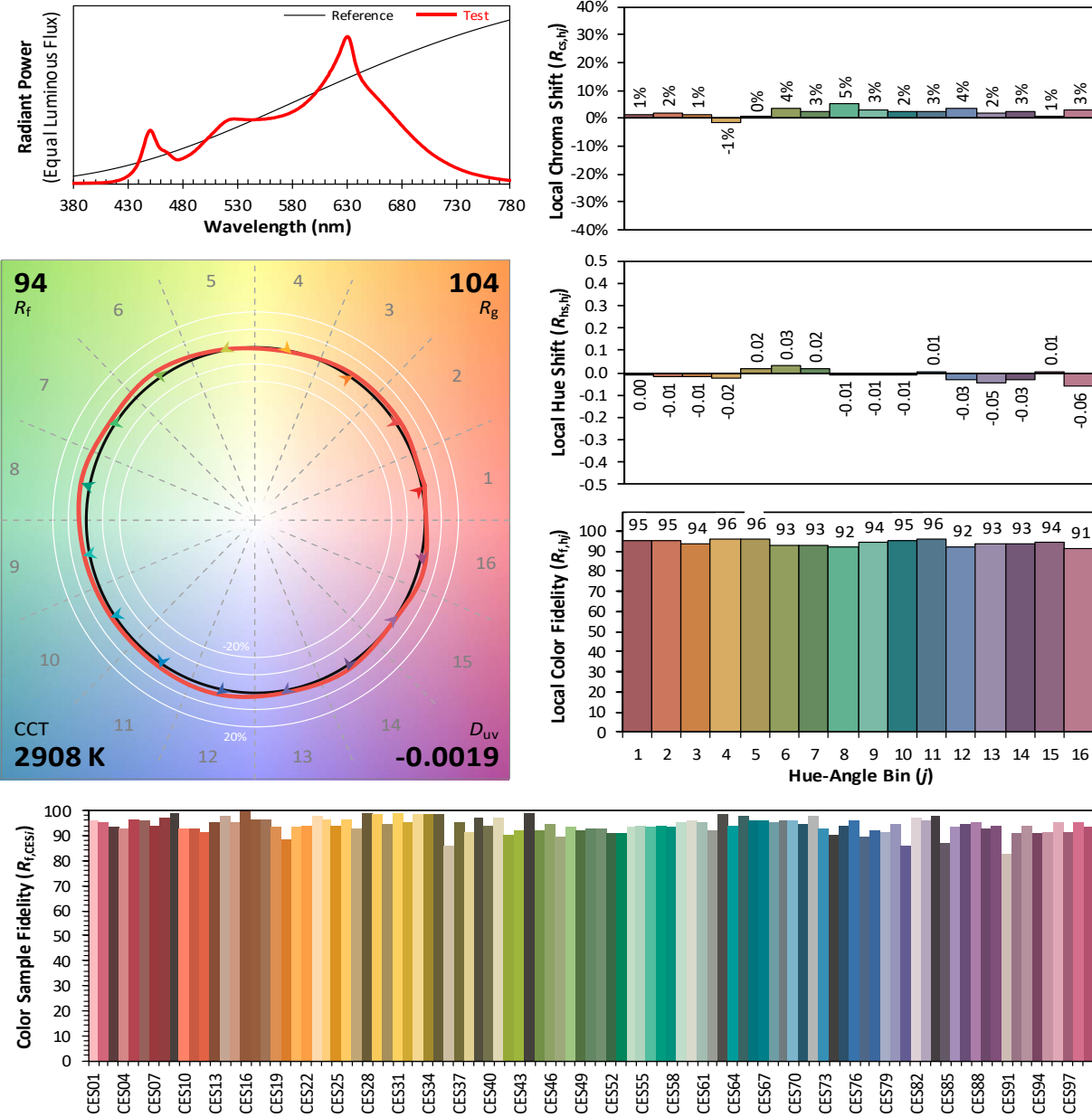
**REVISION HISTORY**

| #   | Revision Date | Updated By | Reviewed By | Description of Change |
|-----|---------------|------------|-------------|-----------------------|
| --- | None          | ---        | ---         | ---                   |
| --- | ---           | ---        | ---         | ---                   |
| --- | ---           | ---        | ---         | ---                   |

| Test Configuration | Tested Model No.       | Pass/Fail/NA |
|--------------------|------------------------|--------------|
| 1                  | L35L-14W-FL-WZ-TC-RDWW | NA           |

ANSI/IES TM-30-18 Color Rendition Report

|         |          |               |                        |
|---------|----------|---------------|------------------------|
| Source: | Example  | Manufacturer: | Pure Edge Lighting     |
| Date:   | 7/1/2024 | Model:        | L35L-14W-FL-WZ-TC-RDWW |



|        |  |      |        |  |
|--------|--|------|--------|--|
| Notes: | This is a recommended method for displaying ANSI/IES TM-30-18 information. | $x$  | 0.4408 | CIE 13.3-1995<br>(CRI)<br><br>$R_a$ 94<br>$R_g$ 90 |
|        |  | $y$  | 0.4006 |  |
|        |  | $u'$ | 0.2546 |  |
|        |  | $v'$ | 0.5206 |  |
|        |  |      |        |  |