



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**  
NVLAP LAB CODE: 200899-0

## Sphere Test Report

**Standard(s)** CIE 84-1989, IESNA LM-16-93, IESNA LM-58-94, IES LM-79-08, ANSI C82.77-2002

**Customer** Lumenpulse, 1751 Richardson, suite 1505, Montréal, Québec, Canada, H3K 1G6

| General Information       |                 | Lamp Details: CY2401 | Driver Details: CY963              |                               |
|---------------------------|-----------------|----------------------|------------------------------------|-------------------------------|
| <b>Test Report</b>        | L1512073-C1     | <b>Description</b>   | Clusters of 48 Cree XPE2 LED's     | <b>Type</b> Commercial        |
| <b>Test Date</b>          | 7 December 2015 | <b>Manufacturer</b>  | Cree                               | <b>Description</b> 61W        |
| <b>Report Date</b>        | 8 December 2015 | <b>Catalog No.</b>   | LOGI-HO-120/277-48-40K-60x60-SI-NO | <b>Manufacturer</b> Mean Well |
| <b>Sphere Temperature</b> | 23.0 °C         | <b>Serial No.</b>    | SRIS 2225                          | <b>Catalog No.</b> LPF-60-24  |
| <b>Humidity</b>           | 20.8 %          | <b>Diameter</b>      | N/A mm                             | <b>Voltage</b> 120.00 V       |
| <b>Lamp Type</b>          | SSL             | <b>Color</b>         | White                              | <b>Power Factor</b> 0.9900    |

**Stabilization Time:** 10 min

**Tested By:** AFWJk cbc i GYbU

**Approved Signatory:** Chrisnel Blot

**Signature:**

### Notes

- 1) Field performance may differ from laboratory measurements. Results are valid for tested material only.
- 2) The original electronic file or paper report cannot be edited in whole or in part without written consent of Spectra Lux Industries Inc.
- 3) This test report describes the performance of a single product and does not necessarily represent the average performance of a group of the same SSL product.



## Realization of Sphere Test

A  $4\pi$  sphere-spectroradiometer equipped with auxiliary lamp to correct self-absorption was used during the measurements of electrical, photometric and colorimetric properties of the sample under test. The size of the integrating sphere used is large enough to ensure that the measurement errors due to effects of baffle and self-absorption by the sample test are not significant.

During the test, a commercial driver was used and adjusted to nominal electrical characteristics specified by the driver manufacturer or the client. Good electrical contacts have been used to ensure the control of electrical parameters of the commercial driver and an adequate stabilization period prior to collecting data. The self-absorbance was measured and a geometrical correction factor was applied to the luminous flux value to take into account the sphere configuration.

Results of the measurements are traceable to reference standards developed and maintained by the National Institute of Standards and Technology (NIST) and National Research Council of Canada (NRC).





# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**  
NVLAP LAB CODE: 200899-0

## Electrical Equipment

| Equipment              | Manufacturer      | Model      | Serial Number | Calibration Date | Calibration Due Date |
|------------------------|-------------------|------------|---------------|------------------|----------------------|
| Auxiliary Power Supply | American Reliance | SPS150-7   | B10155        | N.P.C.R.         | N.P.C.R.             |
| Test Power Supply      | iRDC              | CIF-3000A  | 974997        | N.P.C.R.         | N.P.C.R.             |
| Input Power Meter      | Yokogawa          | WT210      | 91L236540     | 2015/10/22       | 2016/10/22           |
| Output Power Meter     | N/A               | N/A        | N/A           | N.P.C.R.         | N.P.C.R.             |
| Shunt Resistor         | Fluke             | Y5020      | 5675014       | 2015/08/06       | 2016/08/06           |
| Current Multimeter     | HP Agilent        | HP34401A   | US36121202    | 2015/08/06       | 2016/08/06           |
| Voltage Multimeter     | Fluke             | Fluke8842A | 4282317       | 2014/10/31       | 2016/10/31           |

## Spectrometer Equipment

| Equipment    | Manufacturer | Model    | Serial Number | Calibration Date | Calibration Due Date |
|--------------|--------------|----------|---------------|------------------|----------------------|
| Spectrometer | Ocean Optics | USB2000N | USB2E3864     | 2015/08/24       | 2016/08/24           |

## Environment Equipment

| Equipment                   | Manufacturer | Model | Serial Number | Calibration Date | Calibration Due Date |
|-----------------------------|--------------|-------|---------------|------------------|----------------------|
| Temperature Humidity Sensor | Omega        | HH311 | 120504176     | 2014/04/16       | 2016/04/16           |



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



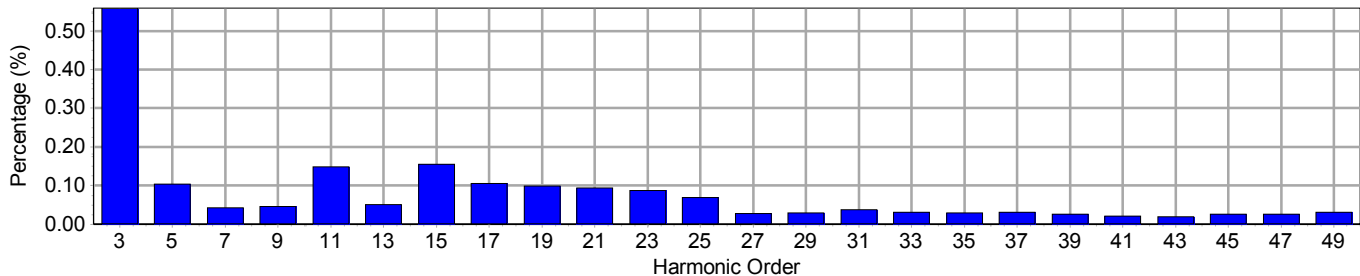
NVLAP LAB CODE: 200899-0

## Electrical Measurements

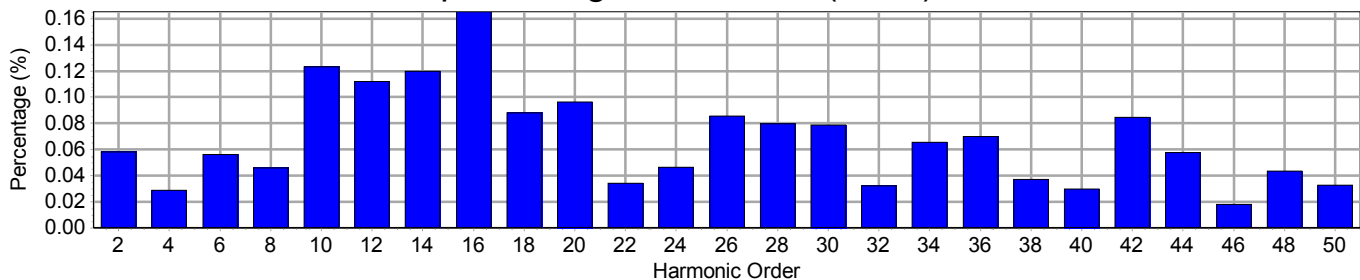
### Input

|           |               |                |          |                  |           |
|-----------|---------------|----------------|----------|------------------|-----------|
| Frequency | 60 Hz         | Active Power   | 61.54 W  | THDV [ANSI]      | 0.75 %    |
| Voltage   | 120.0 V(rms)  | Apparent Power | 61.98 VA | THDA [ANSI]      | 5.02 %    |
| Current   | 0.5163 A(rms) | Power Factor   | 0.993    | Max. Harmonic At | 5th order |

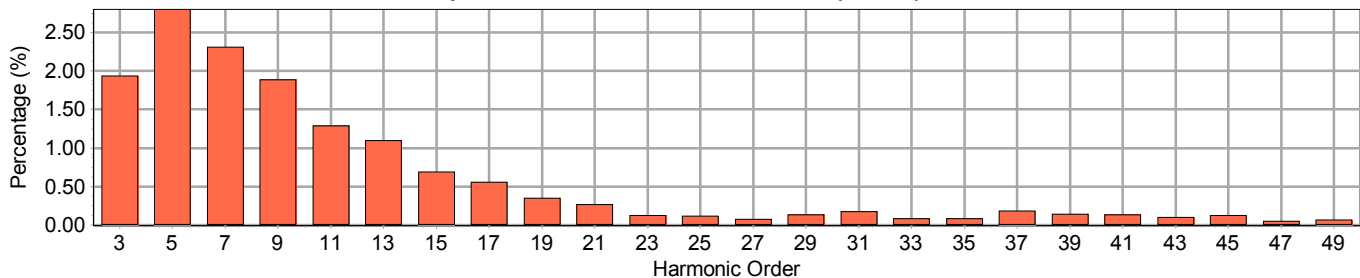
### Input Voltage Harmonics (Odd)



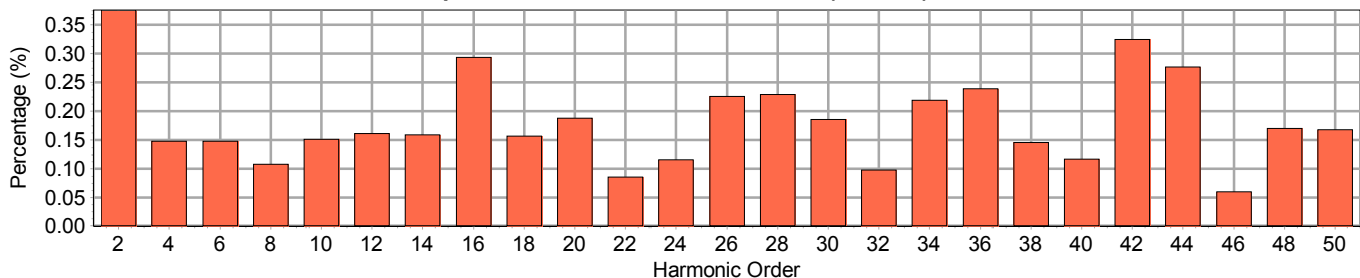
### Input Voltage Harmonics (Even)



### Input Current Harmonics (Odd)



### Input Current Harmonics (Even)





**Les Industries Spectralux Inc.**  
**Spectralux Industries Inc.**

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

**Harmonic Measurements**

| Odd Harmonics  |                |                       |                       | Even Harmonics |                |                       |                       |
|----------------|----------------|-----------------------|-----------------------|----------------|----------------|-----------------------|-----------------------|
| Harmonic Order | Frequency (HZ) | Voltage Harmonics (%) | Current Harmonics (%) | Harmonic Order | Frequency (HZ) | Voltage Harmonics (%) | Current Harmonics (%) |
| 1              | 60             | 100.000               | 100.000               | 2              | 120            | 0.058                 | 0.376                 |
| 3              | 180            | 0.560                 | 1.933                 | 4              | 240            | 0.029                 | 0.147                 |
| 5              | 300            | 0.104                 | 2.801                 | 6              | 360            | 0.056                 | 0.148                 |
| 7              | 420            | 0.042                 | 2.305                 | 8              | 480            | 0.046                 | 0.107                 |
| 9              | 540            | 0.046                 | 1.889                 | 10             | 600            | 0.123                 | 0.151                 |
| 11             | 660            | 0.148                 | 1.290                 | 12             | 720            | 0.112                 | 0.161                 |
| 13             | 780            | 0.050                 | 1.099                 | 14             | 840            | 0.120                 | 0.158                 |
| 15             | 900            | 0.154                 | 0.694                 | 16             | 960            | 0.166                 | 0.293                 |
| 17             | 1020           | 0.106                 | 0.559                 | 18             | 1080           | 0.088                 | 0.156                 |
| 19             | 1140           | 0.099                 | 0.351                 | 20             | 1200           | 0.097                 | 0.187                 |
| 21             | 1260           | 0.093                 | 0.268                 | 22             | 1320           | 0.034                 | 0.085                 |
| 23             | 1380           | 0.086                 | 0.125                 | 24             | 1440           | 0.046                 | 0.115                 |
| 25             | 1500           | 0.068                 | 0.124                 | 26             | 1560           | 0.086                 | 0.226                 |
| 27             | 1620           | 0.027                 | 0.081                 | 28             | 1680           | 0.080                 | 0.228                 |
| 29             | 1740           | 0.029                 | 0.133                 | 30             | 1800           | 0.079                 | 0.185                 |
| 31             | 1860           | 0.038                 | 0.182                 | 32             | 1920           | 0.032                 | 0.098                 |
| 33             | 1980           | 0.030                 | 0.091                 | 34             | 2040           | 0.066                 | 0.219                 |
| 35             | 2100           | 0.029                 | 0.090                 | 36             | 2160           | 0.070                 | 0.239                 |
| 37             | 2220           | 0.031                 | 0.187                 | 38             | 2280           | 0.037                 | 0.145                 |
| 39             | 2340           | 0.026                 | 0.146                 | 40             | 2400           | 0.030                 | 0.116                 |
| 41             | 2460           | 0.021                 | 0.137                 | 42             | 2520           | 0.085                 | 0.324                 |
| 43             | 2580           | 0.019                 | 0.101                 | 44             | 2640           | 0.058                 | 0.277                 |
| 45             | 2700           | 0.025                 | 0.125                 | 46             | 2760           | 0.018                 | 0.059                 |
| 47             | 2820           | 0.025                 | 0.054                 | 48             | 2880           | 0.043                 | 0.169                 |
| 49             | 2940           | 0.030                 | 0.068                 | 50             | 3000           | 0.033                 | 0.168                 |



# Les Industries Spectralux Inc. Spectralux Industries Inc.

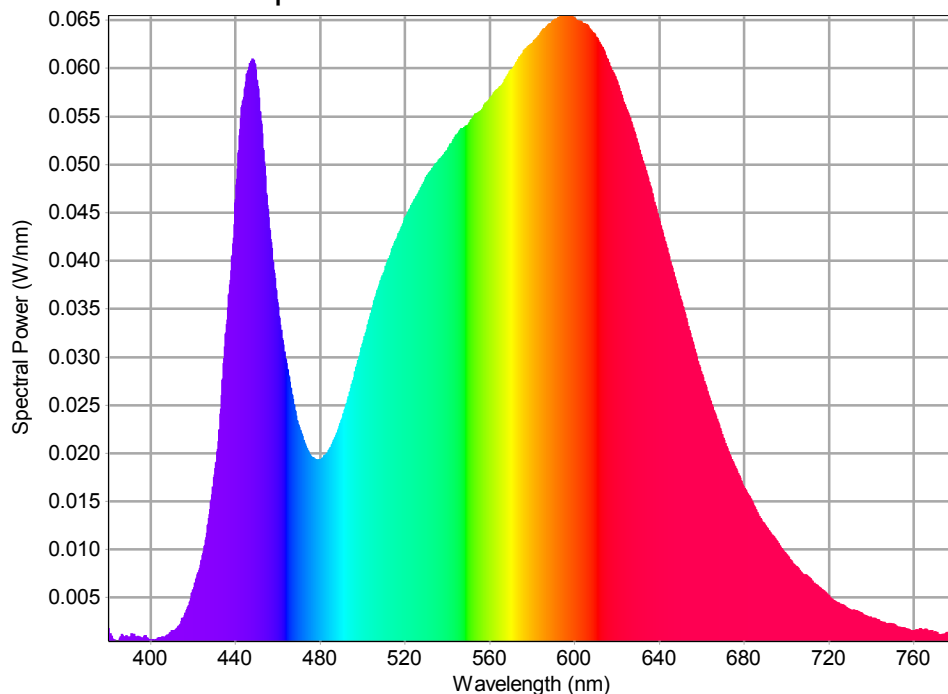
2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



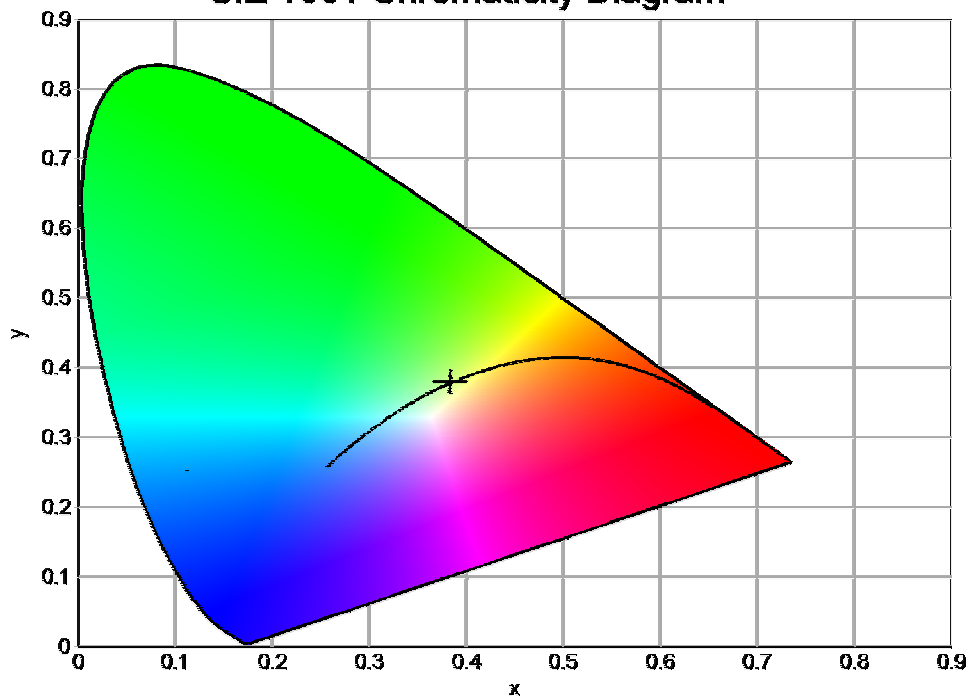
NVLAP LAB CODE: 200899-0

## Spectral Power Distribution



|                         |         |
|-------------------------|---------|
| Peak Wavelength         | 598 nm  |
| Luminous Flux           | 3842 lm |
| Input Power             | 61.54 W |
| Lumens/Watt             | 62.4    |
| Full Width/Half Maximum | 152.30  |
| Center Wavelength       | 578 nm  |
| Centroid Wavelength     | 368 nm  |
| Dominant Wavelength     | 487 nm  |
| Excitation Purity       | 0.1655  |
| Colorimetric Purity     | 0.1060  |

## CIE 1931 Chromaticity Diagram



|    |        |     |        |
|----|--------|-----|--------|
| x  | 0.3830 | CCT | 3958 K |
| y  | 0.3803 | CRI | 84     |
| u  | 0.2253 | L*  | 25.67  |
| v  | 0.3357 | a*  | -5.13  |
| u' | 0.2253 | b*  | -14.72 |
| v' | 0.5035 | Duv | 0.0009 |
| R1 | 82.1   | R9  | 14.4   |
| R2 | 88.2   | R10 | 71.8   |
| R3 | 93.0   | R11 | 82.8   |
| R4 | 83.8   | R12 | 66.1   |
| R5 | 82.2   | R13 | 83.3   |
| R6 | 84.1   | R14 | 95.9   |
| R7 | 87.3   |     |        |
| R8 | 67.6   |     |        |



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

## Spectral Power Distribution Table (1/4)

| Wavelength (nm) | Spectral Power (W/nm) | Wavelength (nm) | Spectral Power (W/nm) | Wavelength (nm) | Spectral Power (W/nm) | Wavelength (nm) | Spectral Power (W/nm) |
|-----------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|
| 380             | 0.00183               | 405             | 0.00083               | 430             | 0.01753               | 455             | 0.04582               |
| 381             | 0.00129               | 406             | 0.00092               | 431             | 0.01909               | 456             | 0.04337               |
| 382             | 0.00078               | 407             | 0.00100               | 432             | 0.02126               | 457             | 0.04135               |
| 383             | 0.00067               | 408             | 0.00114               | 433             | 0.02414               | 458             | 0.03907               |
| 384             | 0.00060               | 409             | 0.00136               | 434             | 0.02764               | 459             | 0.03714               |
| 385             | 0.00058               | 410             | 0.00164               | 435             | 0.03111               | 460             | 0.03520               |
| 386             | 0.00098               | 411             | 0.00159               | 436             | 0.03343               | 461             | 0.03335               |
| 387             | 0.00074               | 412             | 0.00177               | 437             | 0.03648               | 462             | 0.03197               |
| 388             | 0.00092               | 413             | 0.00202               | 438             | 0.03903               | 463             | 0.03060               |
| 389             | 0.00100               | 414             | 0.00226               | 439             | 0.04183               | 464             | 0.02936               |
| 390             | 0.00088               | 415             | 0.00287               | 440             | 0.04609               | 465             | 0.02813               |
| 391             | 0.00128               | 416             | 0.00318               | 441             | 0.04958               | 466             | 0.02682               |
| 392             | 0.00127               | 417             | 0.00371               | 442             | 0.05301               | 467             | 0.02565               |
| 393             | 0.00098               | 418             | 0.00420               | 443             | 0.05599               | 468             | 0.02454               |
| 394             | 0.00102               | 419             | 0.00499               | 444             | 0.05706               | 469             | 0.02345               |
| 395             | 0.00094               | 420             | 0.00580               | 445             | 0.05861               | 470             | 0.02272               |
| 396             | 0.00084               | 421             | 0.00654               | 446             | 0.05975               | 471             | 0.02210               |
| 397             | 0.00107               | 422             | 0.00740               | 447             | 0.06058               | 472             | 0.02141               |
| 398             | 0.00088               | 423             | 0.00791               | 448             | 0.06100               | 473             | 0.02079               |
| 399             | 0.00072               | 424             | 0.00891               | 449             | 0.06056               | 474             | 0.02033               |
| 400             | 0.00054               | 425             | 0.00990               | 450             | 0.05885               | 475             | 0.01992               |
| 401             | 0.00067               | 426             | 0.01101               | 451             | 0.05697               | 476             | 0.01962               |
| 402             | 0.00057               | 427             | 0.01257               | 452             | 0.05456               | 477             | 0.01949               |
| 403             | 0.00071               | 428             | 0.01423               | 453             | 0.05171               | 478             | 0.01938               |
| 404             | 0.00091               | 429             | 0.01571               | 454             | 0.04886               | 479             | 0.01926               |



**Les Industries Spectralux Inc.**  
**Spectralux Industries Inc.**

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

**Spectral Power Distribution Table (2/4)**

| Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) |
|--------------------|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------------|
| 480                | 0.01941                     | 505                | 0.03544                     | 530                | 0.04871                     | 555                | 0.05549                     |
| 481                | 0.01951                     | 506                | 0.03622                     | 531                | 0.04905                     | 556                | 0.05567                     |
| 482                | 0.01978                     | 507                | 0.03695                     | 532                | 0.04935                     | 557                | 0.05597                     |
| 483                | 0.01999                     | 508                | 0.03765                     | 533                | 0.04967                     | 558                | 0.05641                     |
| 484                | 0.02032                     | 509                | 0.03828                     | 534                | 0.04997                     | 559                | 0.05655                     |
| 485                | 0.02067                     | 510                | 0.03875                     | 535                | 0.05021                     | 560                | 0.05685                     |
| 486                | 0.02118                     | 511                | 0.03947                     | 536                | 0.05052                     | 561                | 0.05714                     |
| 487                | 0.02165                     | 512                | 0.04010                     | 537                | 0.05070                     | 562                | 0.05748                     |
| 488                | 0.02212                     | 513                | 0.04054                     | 538                | 0.05097                     | 563                | 0.05776                     |
| 489                | 0.02282                     | 514                | 0.04131                     | 539                | 0.05130                     | 564                | 0.05791                     |
| 490                | 0.02348                     | 515                | 0.04187                     | 540                | 0.05154                     | 565                | 0.05818                     |
| 491                | 0.02413                     | 516                | 0.04229                     | 541                | 0.05200                     | 566                | 0.05834                     |
| 492                | 0.02490                     | 517                | 0.04285                     | 542                | 0.05221                     | 567                | 0.05883                     |
| 493                | 0.02556                     | 518                | 0.04331                     | 543                | 0.05262                     | 568                | 0.05914                     |
| 494                | 0.02636                     | 519                | 0.04380                     | 544                | 0.05311                     | 569                | 0.05956                     |
| 495                | 0.02720                     | 520                | 0.04446                     | 545                | 0.05327                     | 570                | 0.05987                     |
| 496                | 0.02792                     | 521                | 0.04485                     | 546                | 0.05360                     | 571                | 0.06004                     |
| 497                | 0.02895                     | 522                | 0.04531                     | 547                | 0.05377                     | 572                | 0.06040                     |
| 498                | 0.02969                     | 523                | 0.04579                     | 548                | 0.05388                     | 573                | 0.06074                     |
| 499                | 0.03050                     | 524                | 0.04618                     | 549                | 0.05406                     | 574                | 0.06120                     |
| 500                | 0.03140                     | 525                | 0.04655                     | 550                | 0.05422                     | 575                | 0.06140                     |
| 501                | 0.03215                     | 526                | 0.04692                     | 551                | 0.05465                     | 576                | 0.06187                     |
| 502                | 0.03292                     | 527                | 0.04733                     | 552                | 0.05490                     | 577                | 0.06206                     |
| 503                | 0.03382                     | 528                | 0.04780                     | 553                | 0.05528                     | 578                | 0.06226                     |
| 504                | 0.03458                     | 529                | 0.04820                     | 554                | 0.05536                     | 579                | 0.06249                     |





**Les Industries Spectralux Inc.**  
**Spectralux Industries Inc.**

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

**Spectral Power Distribution Table (3/4)**

| Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) |
|--------------------|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------------|
| 580                | 0.06261                     | 605                | 0.06465                     | 630                | 0.05196                     | 655                | 0.03207                     |
| 581                | 0.06293                     | 606                | 0.06454                     | 631                | 0.05115                     | 656                | 0.03130                     |
| 582                | 0.06316                     | 607                | 0.06418                     | 632                | 0.05044                     | 657                | 0.03051                     |
| 583                | 0.06339                     | 608                | 0.06388                     | 633                | 0.04980                     | 658                | 0.02962                     |
| 584                | 0.06370                     | 609                | 0.06370                     | 634                | 0.04904                     | 659                | 0.02895                     |
| 585                | 0.06405                     | 610                | 0.06332                     | 635                | 0.04826                     | 660                | 0.02825                     |
| 586                | 0.06413                     | 611                | 0.06298                     | 636                | 0.04752                     | 661                | 0.02754                     |
| 587                | 0.06441                     | 612                | 0.06255                     | 637                | 0.04662                     | 662                | 0.02688                     |
| 588                | 0.06469                     | 613                | 0.06222                     | 638                | 0.04577                     | 663                | 0.02612                     |
| 589                | 0.06471                     | 614                | 0.06173                     | 639                | 0.04496                     | 664                | 0.02549                     |
| 590                | 0.06503                     | 615                | 0.06110                     | 640                | 0.04413                     | 665                | 0.02487                     |
| 591                | 0.06513                     | 616                | 0.06066                     | 641                | 0.04332                     | 666                | 0.02424                     |
| 592                | 0.06520                     | 617                | 0.06005                     | 642                | 0.04252                     | 667                | 0.02362                     |
| 593                | 0.06537                     | 618                | 0.05961                     | 643                | 0.04175                     | 668                | 0.02299                     |
| 594                | 0.06546                     | 619                | 0.05921                     | 644                | 0.04090                     | 669                | 0.02233                     |
| 595                | 0.06550                     | 620                | 0.05863                     | 645                | 0.04001                     | 670                | 0.02168                     |
| 596                | 0.06549                     | 621                | 0.05794                     | 646                | 0.03926                     | 671                | 0.02105                     |
| 597                | 0.06546                     | 622                | 0.05731                     | 647                | 0.03843                     | 672                | 0.02055                     |
| 598                | 0.06552                     | 623                | 0.05654                     | 648                | 0.03767                     | 673                | 0.01996                     |
| 599                | 0.06539                     | 624                | 0.05599                     | 649                | 0.03683                     | 674                | 0.01942                     |
| 600                | 0.06527                     | 625                | 0.05548                     | 650                | 0.03603                     | 675                | 0.01895                     |
| 601                | 0.06502                     | 626                | 0.05491                     | 651                | 0.03529                     | 676                | 0.01845                     |
| 602                | 0.06494                     | 627                | 0.05417                     | 652                | 0.03448                     | 677                | 0.01796                     |
| 603                | 0.06492                     | 628                | 0.05350                     | 653                | 0.03366                     | 678                | 0.01745                     |
| 604                | 0.06470                     | 629                | 0.05276                     | 654                | 0.03284                     | 679                | 0.01685                     |



**Les Industries Spectralux Inc.**  
**Spectralux Industries Inc.**

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

**Spectral Power Distribution Table (4/4)**

| Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) | Wavelength<br>(nm) | Spectral<br>Power<br>(W/nm) |
|--------------------|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------------|
| 680                | 0.01643                     | 706                | 0.00792                     | 732                | 0.00372                     | 758                | 0.00168                     |
| 681                | 0.01603                     | 707                | 0.00763                     | 733                | 0.00370                     | 759                | 0.00158                     |
| 682                | 0.01565                     | 708                | 0.00742                     | 734                | 0.00358                     | 760                | 0.00162                     |
| 683                | 0.01532                     | 709                | 0.00745                     | 735                | 0.00347                     | 761                | 0.00167                     |
| 684                | 0.01481                     | 710                | 0.00724                     | 736                | 0.00325                     | 762                | 0.00165                     |
| 685                | 0.01441                     | 711                | 0.00705                     | 737                | 0.00319                     | 763                | 0.00186                     |
| 686                | 0.01391                     | 712                | 0.00679                     | 738                | 0.00308                     | 764                | 0.00174                     |
| 687                | 0.01349                     | 713                | 0.00654                     | 739                | 0.00297                     | 765                | 0.00168                     |
| 688                | 0.01314                     | 714                | 0.00635                     | 740                | 0.00293                     | 766                | 0.00175                     |
| 689                | 0.01281                     | 715                | 0.00619                     | 741                | 0.00291                     | 767                | 0.00159                     |
| 690                | 0.01252                     | 716                | 0.00601                     | 742                | 0.00285                     | 768                | 0.00161                     |
| 691                | 0.01220                     | 717                | 0.00584                     | 743                | 0.00273                     | 769                | 0.00147                     |
| 692                | 0.01187                     | 718                | 0.00563                     | 744                | 0.00260                     | 770                | 0.00151                     |
| 693                | 0.01154                     | 719                | 0.00545                     | 745                | 0.00249                     | 771                | 0.00143                     |
| 694                | 0.01134                     | 720                | 0.00520                     | 746                | 0.00248                     | 772                | 0.00116                     |
| 695                | 0.01102                     | 721                | 0.00493                     | 747                | 0.00230                     | 773                | 0.00117                     |
| 696                | 0.01069                     | 722                | 0.00479                     | 748                | 0.00236                     | 774                | 0.00123                     |
| 697                | 0.01029                     | 723                | 0.00464                     | 749                | 0.00234                     | 775                | 0.00134                     |
| 698                | 0.01001                     | 724                | 0.00452                     | 750                | 0.00231                     | 776                | 0.00142                     |
| 699                | 0.00974                     | 725                | 0.00439                     | 751                | 0.00223                     | 777                | 0.00129                     |
| 700                | 0.00949                     | 726                | 0.00428                     | 752                | 0.00204                     | 778                | 0.00111                     |
| 701                | 0.00920                     | 727                | 0.00421                     | 753                | 0.00197                     | 779                | 0.00100                     |
| 702                | 0.00889                     | 728                | 0.00405                     | 754                | 0.00190                     | 780                | 0.00106                     |
| 703                | 0.00856                     | 729                | 0.00389                     | 755                | 0.00188                     |                    |                             |
| 704                | 0.00834                     | 730                | 0.00378                     | 756                | 0.00187                     |                    |                             |
| 705                | 0.00819                     | 731                | 0.00371                     | 757                | 0.00175                     |                    |                             |



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

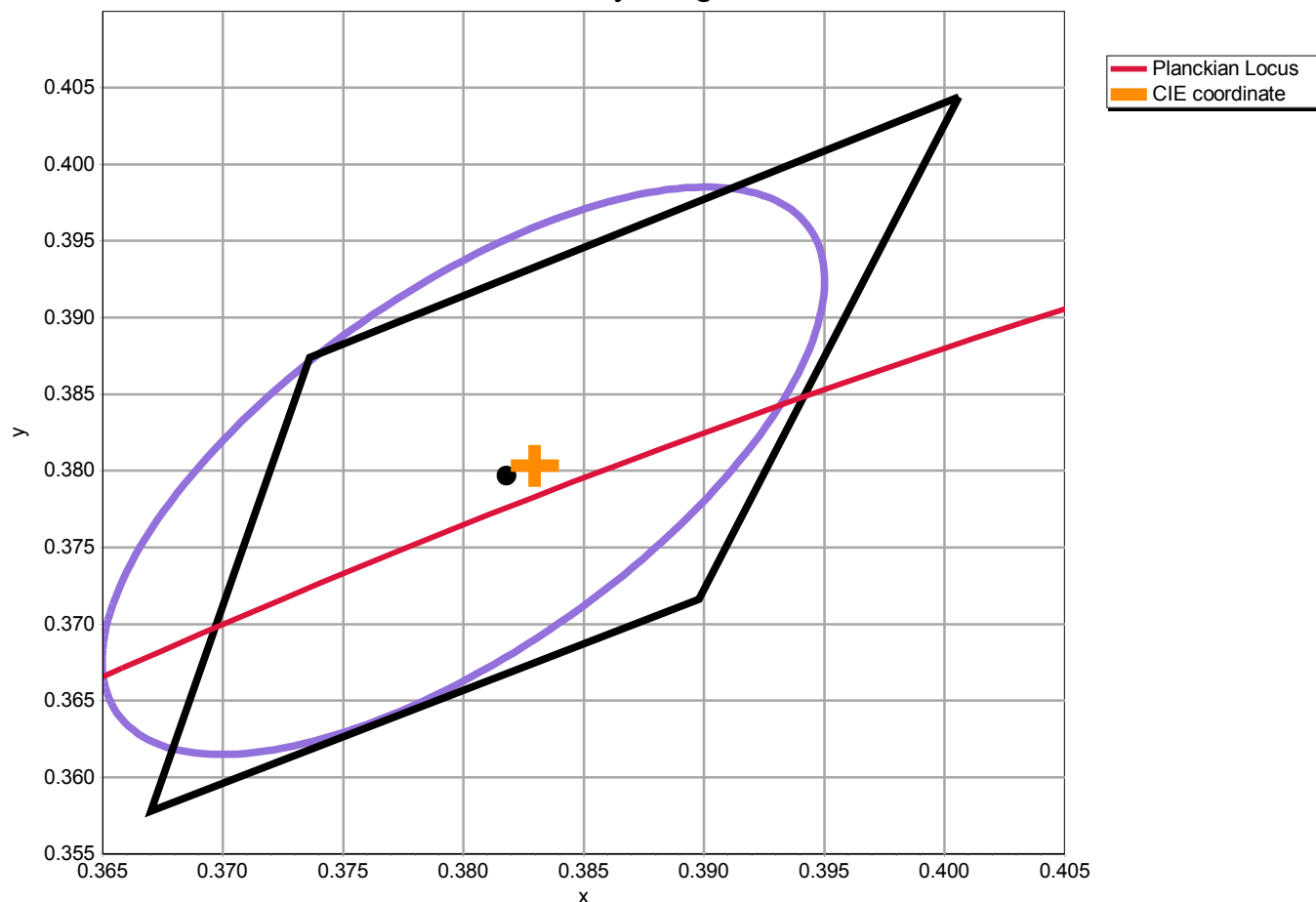
ISO/IEC 17025



NVLAP LAB CODE: 200899-0

## CIE Chromaticity Diagram for Indoor SSL products

### CIE 1931 Chromaticity Diagram



Chromaticity tolerance for 4000K nominal CCT

|            |        |
|------------|--------|
| Min CCT    | 3710   |
| Max CCT    | 4260   |
| Delta T    | 275    |
| Center Duv | 0.0010 |