



NET

R&D Lighting (Internal)

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Lab Test Request Database: XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels

New Item | Edit Item | Delete Item | Workflows | Alert Me | Version History

| | |
|------------------------------------|--|
| Test ID | 13104 |
| Finished Good | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels |
| Test Type | Other-See Intructions |
| Test Type 2 | Compliance |
| Lab Location | Racine-Compliance |
| Requested Completion | 11/25/2015 |
| Sample(s) Due | 11/20/2015 |
| Project Code (N/A for none) | 39R1 |
| Test Instructions | <p>Test current setting levels per attached spreadsheet. Use the MultiOne Configurator to set the LED target current levels for each high and low setting</p> <p>Please include pictures of luminaire sample, please also include picture of LED driver showing Driver mfg and model #</p> <p>Attached are both a spreadsheet specific for the CL levels and test data and a copy of the Operational Information Document.</p> <p>Thanks, Jeff</p> |
| Unit Type | Modified Production |
| Requestor | Jeff Nimmer |
| Assigned Tech | -Not Assigned- |
| Description of Mod | |
| Sample Rec'd Date | |
| Re-Run | 35 |
| Tested By | RAD |
| Test Results | |
| Closed | Yes |
| Closed Date | 12/14/2015 |
| Comments | |
| Scheduled | |
| Promised | |
| Priority | |
| Revised Promise | |
| Reason for Delay | |
| File Link | file:///X:/LLS/Vault/Racine/Lab Tests/2015/13104.pdf |
| Project | |

Department**Department #****Part Qty. (if applicable)****Attachments**[Test 13104 XSPC single module with Driver FULL PROG 70W DYNADIMMER LEVELS.xlsx](#)

Content Type: Lab - Prototype - Simulation Request

Version: 3.0

Created at 11/20/2015 1:13 PM by [Jeff Nimmer](#)

Last modified at 12/14/2015 5:42 PM by [Roger Dahl](#)

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| EQUIPMENT ID NUMBER | MAKE & MODEL | CALIBRATION | | RANGE | SERIAL NUMBERS |
|------------------------|---|-------------|----------|----------------|-------------------|
| | | LAST | DUE | | |
| 3270 | YOKOGAWA WT310 DIGITAL POWER METER | 6/2/2015 | 6/2/2016 | 0-20A/ 0-600V | C2PA25006V |
| 3282 | AGILENT U3402A 5.5 DIGIT BENCH MULTIMETER | 5/7/2015 | 5/7/2016 | 0-750V / 0-12A | MY54050010 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104A | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY1 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 68.07 | 68.05 | 67.62 | 67.50 | 68.91 |
| | WATTS | 67.47 | 67.45 | 67.02 | 66.90 | 68.31 |
| | PF | 0.9911 | 0.9911 | 0.9913 | 0.9911 | 0.9913 |
| | LED CURRENT (mA) | 973.52 | 978.20 | 973.10 | 971.14 | 972.42 |
| 220 | VA | 68.15 | 68.12 | 67.71 | 67.61 | 69.02 |
| | WATTS | 67.38 | 67.36 | 66.95 | 66.84 | 68.26 |
| | PF | 0.9887 | 0.9887 | 0.9888 | 0.9886 | 0.9889 |
| | LED CURRENT (mA) | 973.52 | 978.21 | 973.11 | 971.14 | 972.40 |
| 230 | VA | 68.32 | 68.29 | 67.87 | 67.74 | 69.16 |
| | WATTS | 67.35 | 67.33 | 66.92 | 66.78 | 68.19 |
| | PF | 0.9859 | 0.9859 | 0.9860 | 0.9858 | 0.9861 |
| | LED CURRENT (mA) | 973.53 | 978.21 | 973.11 | 971.14 | 972.41 |
| 240 | VA | 68.51 | 68.49 | 68.06 | 67.94 | 69.38 |
| | WATTS | 67.31 | 67.30 | 66.87 | 66.74 | 68.18 |
| | PF | 0.9825 | 0.9826 | 0.9825 | 0.9824 | 0.9827 |
| | LED CURRENT (mA) | 973.54 | 978.23 | 973.12 | 971.14 | 972.42 |
| 250 | VA | 68.72 | 68.70 | 68.27 | 68.16 | 69.59 |
| | WATTS | 67.26 | 67.23 | 66.81 | 66.69 | 68.12 |
| | PF | 0.9786 | 0.9785 | 0.9785 | 0.9784 | 0.9789 |
| | LED CURRENT (mA) | 973.54 | 978.24 | 973.13 | 971.14 | 972.42 |
| NOMINAL LED CURRENT (mA): | | 985 | % OF MAX LED CURRENT: | | 100 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104A |
|------------------------------|----------------------------|-----------------|---------------|

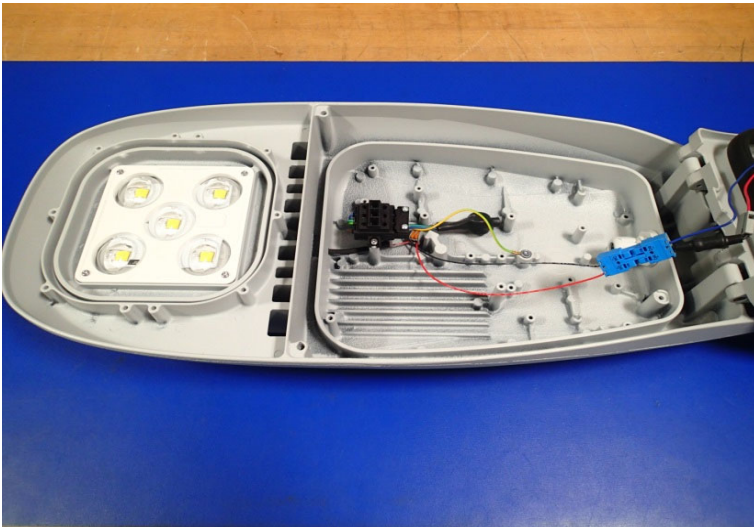
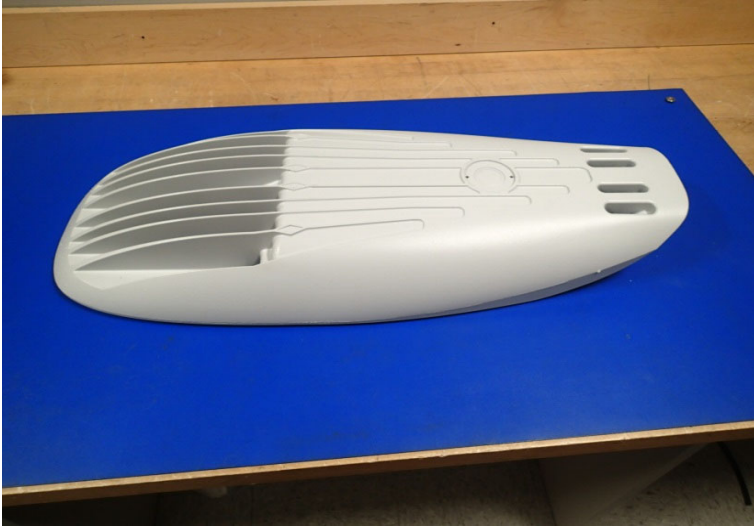
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 37.99 | 38.02 | 37.83 | 37.79 | 38.54 |
| | WATTS | 36.54 | 36.58 | 36.39 | 36.34 | 37.09 |
| | PF | 0.9620 | 0.9619 | 0.9619 | 0.9617 | 0.9625 |
| | LED CURRENT (mA) | 524.00 | 526.33 | 522.87 | 522.17 | 523.12 |
| 220 | VA | 38.32 | 38.37 | 38.18 | 38.13 | 38.86 |
| | WATTS | 36.55 | 36.59 | 36.41 | 36.35 | 37.08 |
| | PF | 0.9536 | 0.9535 | 0.9535 | 0.9534 | 0.9543 |
| | LED CURRENT (mA) | 524.05 | 526.37 | 522.90 | 522.20 | 523.17 |
| 230 | VA | 38.73 | 38.80 | 38.57 | 38.51 | 39.26 |
| | WATTS | 36.57 | 36.63 | 36.41 | 36.35 | 37.10 |
| | PF | 0.9441 | 0.9442 | 0.9441 | 0.9438 | 0.9449 |
| | LED CURRENT (mA) | 524.10 | 526.40 | 522.94 | 522.23 | 523.20 |
| 240 | VA | 39.18 | 39.22 | 39.04 | 38.98 | 39.72 |
| | WATTS | 36.58 | 36.62 | 36.44 | 36.37 | 37.12 |
| | PF | 0.9335 | 0.9337 | 0.9334 | 0.9331 | 0.9346 |
| | LED CURRENT (mA) | 524.13 | 526.42 | 522.97 | 522.27 | 523.23 |
| 250 | VA | 39.70 | 39.74 | 39.52 | 39.47 | 40.24 |
| | WATTS | 36.62 | 36.65 | 36.44 | 36.39 | 37.16 |
| | PF | 0.9223 | 0.9221 | 0.9221 | 0.9220 | 0.9236 |
| | LED CURRENT (mA) | 524.17 | 526.43 | 522.99 | 522.29 | 523.25 |
| NOMINAL LED CURRENT (mA): | | 525 | % OF MAX LED CURRENT: | | 54 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104A



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104A |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104B | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY2 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 62.97 | 62.98 | 62.57 | 62.47 | 63.76 |
| | WATTS | 62.28 | 62.29 | 61.89 | 61.78 | 63.08 |
| | PF | 0.9891 | 0.9891 | 0.9892 | 0.9890 | 0.9893 |
| | LED CURRENT (mA) | 900.20 | 904.58 | 899.63 | 897.87 | 899.12 |
| 220 | VA | 63.10 | 63.12 | 62.72 | 62.58 | 63.91 |
| | WATTS | 62.23 | 62.26 | 61.86 | 61.72 | 63.05 |
| | PF | 0.9862 | 0.9863 | 0.9864 | 0.9862 | 0.9865 |
| | LED CURRENT (mA) | 900.25 | 904.61 | 899.67 | 897.94 | 899.16 |
| 230 | VA | 63.28 | 63.28 | 62.88 | 62.76 | 64.12 |
| | WATTS | 62.20 | 62.19 | 61.80 | 61.68 | 63.03 |
| | PF | 0.9828 | 0.9829 | 0.9829 | 0.9827 | 0.9831 |
| | LED CURRENT (mA) | 900.30 | 904.65 | 899.71 | 897.98 | 899.19 |
| 240 | VA | 63.50 | 63.53 | 63.14 | 62.99 | 64.31 |
| | WATTS | 62.15 | 62.19 | 61.80 | 61.64 | 62.97 |
| | PF | 0.9788 | 0.9789 | 0.9788 | 0.9786 | 0.9792 |
| | LED CURRENT (mA) | 900.34 | 904.70 | 899.74 | 898.01 | 899.22 |
| 250 | VA | 63.78 | 63.79 | 63.39 | 63.26 | 64.59 |
| | WATTS | 62.14 | 62.14 | 61.76 | 61.61 | 62.94 |
| | PF | 0.9743 | 0.9741 | 0.9742 | 0.9739 | 0.9746 |
| | LED CURRENT (mA) | 900.38 | 904.73 | 899.77 | 898.03 | 899.25 |
| NOMINAL LED CURRENT (mA): | | 910 | % OF MAX LED CURRENT: | | 93 | |

CREE ENGINEERING LAB TEST

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|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104B |
|------------------------------|----------------------------|-----------------|---------------|

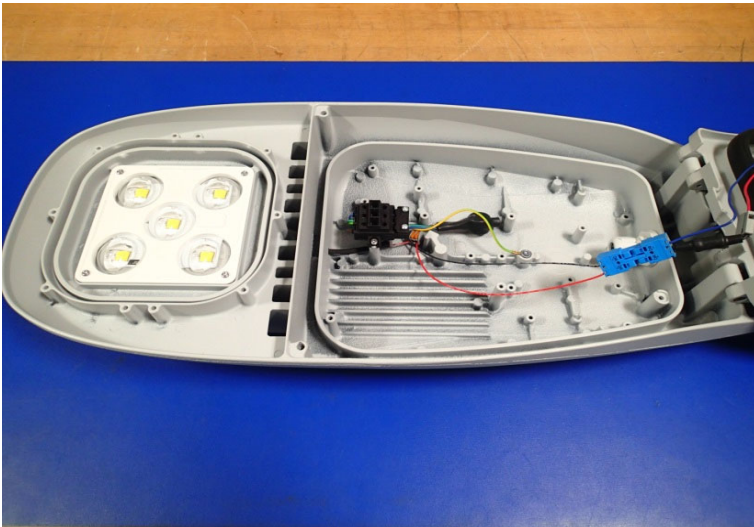
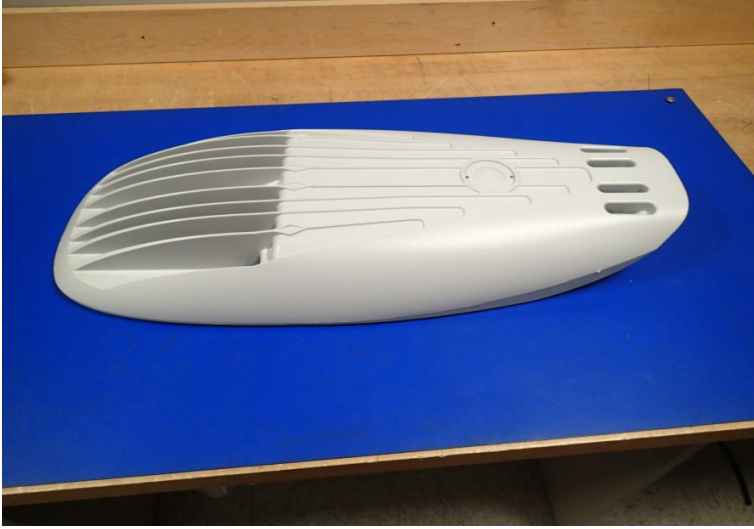
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 31.85 | 31.90 | 31.75 | 31.68 | 32.27 |
| | WATTS | 30.03 | 30.07 | 29.94 | 29.85 | 30.46 |
| | PF | 0.9428 | 0.9427 | 0.9428 | 0.9424 | 0.9438 |
| | LED CURRENT (mA) | 425.02 | 426.57 | 423.61 | 423.10 | 423.98 |
| 220 | VA | 32.28 | 32.30 | 32.19 | 32.10 | 32.73 |
| | WATTS | 30.06 | 30.08 | 29.98 | 29.88 | 30.52 |
| | PF | 0.9312 | 0.9313 | 0.9313 | 0.9309 | 0.9323 |
| | LED CURRENT (mA) | 425.03 | 426.59 | 423.63 | 423.12 | 424.06 |
| 230 | VA | 32.76 | 32.81 | 32.65 | 32.59 | 33.19 |
| | WATTS | 30.08 | 30.13 | 29.98 | 29.92 | 30.53 |
| | PF | 0.9182 | 0.9182 | 0.9181 | 0.9179 | 0.9198 |
| | LED CURRENT (mA) | 425.04 | 426.61 | 423.64 | 423.15 | 424.08 |
| 240 | VA | 33.29 | 33.34 | 33.18 | 33.11 | 33.73 |
| | WATTS | 30.11 | 30.15 | 30.00 | 29.95 | 30.56 |
| | PF | 0.9044 | 0.9045 | 0.9043 | 0.9045 | 0.9062 |
| | LED CURRENT (mA) | 425.04 | 426.62 | 423.65 | 423.16 | 424.09 |
| 250 | VA | 33.92 | 33.96 | 33.80 | 33.73 | 34.33 |
| | WATTS | 30.17 | 30.19 | 30.03 | 29.97 | 30.59 |
| | PF | 0.8893 | 0.8890 | 0.8885 | 0.8883 | 0.8911 |
| | LED CURRENT (mA) | 425.06 | 426.64 | 423.65 | 423.18 | 424.11 |
| NOMINAL LED CURRENT (mA): | | 425 | % OF MAX LED CURRENT: | | 46 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104B



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104B |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104C | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY3 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 53.65 | 53.68 | 53.36 | 53.33 | 54.34 |
| | WATTS | 52.77 | 52.80 | 52.48 | 52.45 | 53.46 |
| | PF | 0.9836 | 0.9836 | 0.9835 | 0.9835 | 0.9838 |
| | LED CURRENT (mA) | 763.68 | 767.35 | 762.88 | 761.90 | 762.37 |
| 220 | VA | 53.87 | 53.91 | 53.58 | 53.53 | 54.55 |
| | WATTS | 52.76 | 52.80 | 52.47 | 52.42 | 53.44 |
| | PF | 0.9794 | 0.9795 | 0.9793 | 0.9793 | 0.9797 |
| | LED CURRENT (mA) | 763.77 | 767.41 | 763.03 | 761.89 | 762.48 |
| 230 | VA | 54.11 | 54.14 | 53.84 | 53.77 | 54.80 |
| | WATTS | 52.74 | 52.77 | 52.48 | 52.39 | 53.43 |
| | PF | 0.9746 | 0.9746 | 0.9746 | 0.9744 | 0.9749 |
| | LED CURRENT (mA) | 763.83 | 767.47 | 763.07 | 761.90 | 762.59 |
| 240 | VA | 54.43 | 54.45 | 54.14 | 54.05 | 55.13 |
| | WATTS | 52.74 | 52.76 | 52.46 | 52.37 | 53.45 |
| | PF | 0.9691 | 0.9691 | 0.9690 | 0.9689 | 0.9695 |
| | LED CURRENT (mA) | 763.88 | 767.51 | 763.12 | 761.90 | 762.67 |
| 250 | VA | 54.70 | 54.76 | 54.47 | 54.40 | 55.45 |
| | WATTS | 52.67 | 52.72 | 52.44 | 52.38 | 53.42 |
| | PF | 0.9628 | 0.9628 | 0.9628 | 0.9628 | 0.9634 |
| | LED CURRENT (mA) | 763.92 | 767.55 | 763.17 | 761.90 | 762.74 |
| NOMINAL LED CURRENT (mA): | | 770 | % OF MAX LED CURRENT: | | 78 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104C |
|------------------------------|----------------------------|-----------------|---------------|

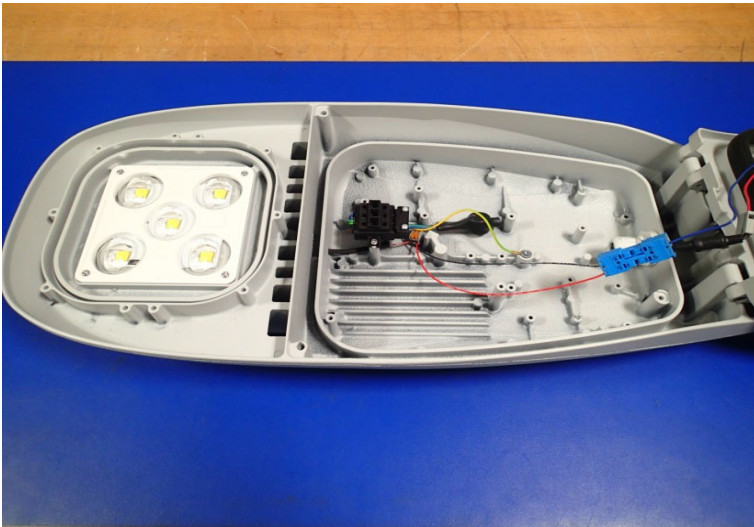
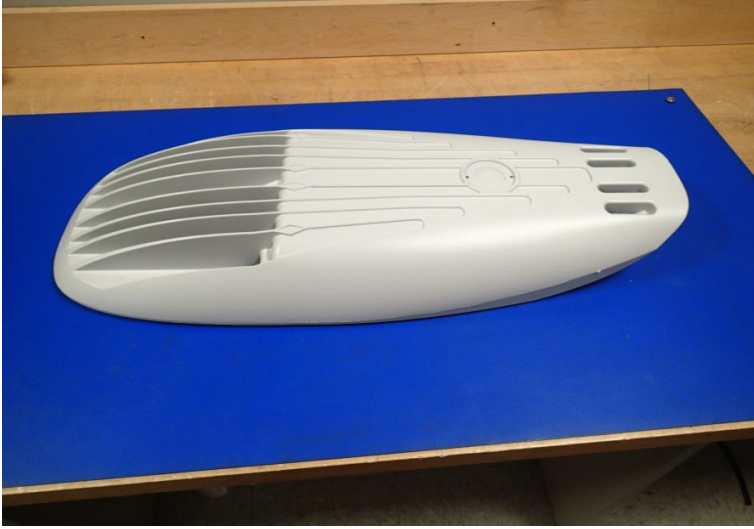
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 28.90 | 28.95 | 28.81 | 28.80 | 29.30 |
| | WATTS | 26.84 | 26.89 | 26.76 | 26.75 | 27.25 |
| | PF | 0.9289 | 0.9287 | 0.9289 | 0.9287 | 0.9298 |
| | LED CURRENT (mA) | 375.79 | 377.14 | 374.33 | 375.00 | 374.91 |
| 220 | VA | 29.36 | 29.41 | 29.26 | 29.27 | 29.78 |
| | WATTS | 26.88 | 26.91 | 26.77 | 26.78 | 27.31 |
| | PF | 0.9155 | 0.9149 | 0.9148 | 0.9150 | 0.9168 |
| | LED CURRENT (mA) | 375.81 | 377.18 | 374.34 | 375.01 | 374.92 |
| 230 | VA | 29.92 | 29.96 | 29.80 | 29.79 | 30.31 |
| | WATTS | 26.95 | 26.97 | 26.84 | 26.81 | 27.34 |
| | PF | 0.9007 | 0.9002 | 0.9006 | 0.8999 | 0.9019 |
| | LED CURRENT (mA) | 375.82 | 377.18 | 374.35 | 375.02 | 374.93 |
| 240 | VA | 30.49 | 30.54 | 30.44 | 30.41 | 30.92 |
| | WATTS | 26.96 | 26.98 | 26.88 | 26.86 | 27.38 |
| | PF | 0.8843 | 0.8833 | 0.8832 | 0.8835 | 0.8853 |
| | LED CURRENT (mA) | 375.82 | 377.19 | 374.35 | 375.03 | 374.93 |
| 250 | VA | 31.13 | 31.19 | 31.09 | 31.05 | 31.54 |
| | WATTS | 26.99 | 27.02 | 26.91 | 26.90 | 27.38 |
| | PF | 0.8669 | 0.8662 | 0.8655 | 0.8664 | 0.8680 |
| | LED CURRENT (mA) | 375.83 | 377.19 | 374.35 | 375.04 | 374.93 |
| NOMINAL LED CURRENT (mA): | | 375 | % OF MAX LED CURRENT: | | 39 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104C



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104C |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104D | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY4 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 45.89 | 45.93 | 45.61 | 45.55 | 46.50 |
| | WATTS | 44.77 | 44.81 | 44.49 | 44.43 | 45.39 |
| | PF | 0.9757 | 0.9757 | 0.9755 | 0.9754 | 0.9762 |
| | LED CURRENT (mA) | 646.15 | 649.25 | 645.19 | 643.98 | 645.22 |
| 220 | VA | 46.13 | 46.18 | 45.89 | 45.80 | 46.75 |
| | WATTS | 44.75 | 44.78 | 44.50 | 44.41 | 45.38 |
| | PF | 0.9700 | 0.9698 | 0.9698 | 0.9698 | 0.9705 |
| | LED CURRENT (mA) | 646.18 | 649.27 | 645.22 | 644.02 | 645.24 |
| 230 | VA | 46.45 | 46.49 | 46.23 | 46.13 | 47.07 |
| | WATTS | 44.75 | 44.78 | 44.53 | 44.42 | 45.37 |
| | PF | 0.9634 | 0.9632 | 0.9632 | 0.9630 | 0.9638 |
| | LED CURRENT (mA) | 646.21 | 649.27 | 645.25 | 644.07 | 645.27 |
| 240 | VA | 46.78 | 46.83 | 46.59 | 46.50 | 47.43 |
| | WATTS | 44.72 | 44.76 | 44.53 | 44.43 | 45.37 |
| | PF | 0.9558 | 0.9558 | 0.9558 | 0.9555 | 0.9566 |
| | LED CURRENT (mA) | 646.25 | 649.27 | 645.27 | 644.11 | 645.29 |
| 250 | VA | 47.22 | 47.23 | 47.01 | 46.89 | 47.84 |
| | WATTS | 44.74 | 44.75 | 44.52 | 44.41 | 45.38 |
| | PF | 0.9475 | 0.9474 | 0.9472 | 0.9472 | 0.9486 |
| | LED CURRENT (mA) | 646.27 | 649.28 | 645.28 | 644.14 | 645.30 |
| NOMINAL LED CURRENT (mA): | | 650 | % OF MAX LED CURRENT: | | 66 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104D |
|------------------------------|----------------------------|-----------------|---------------|

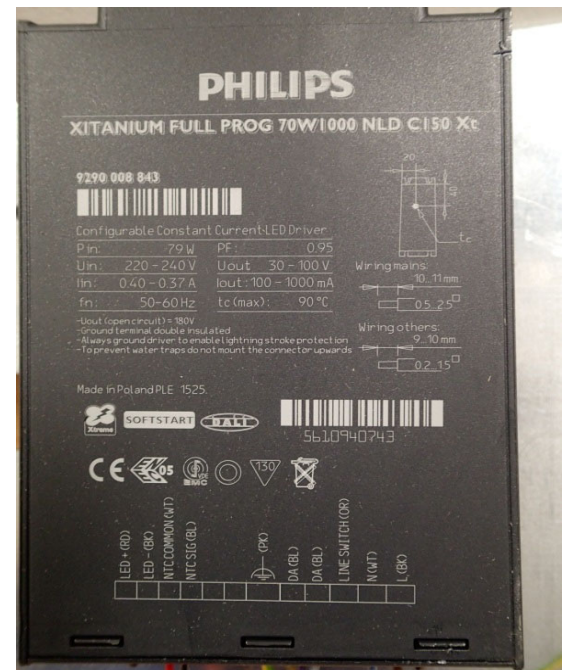
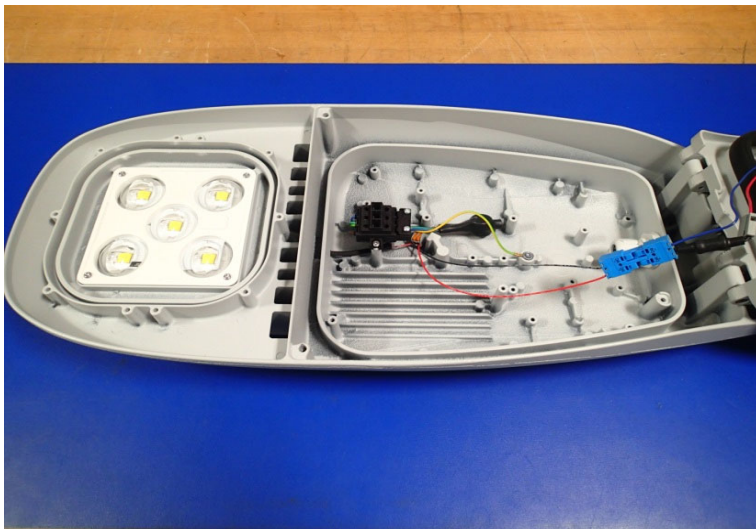
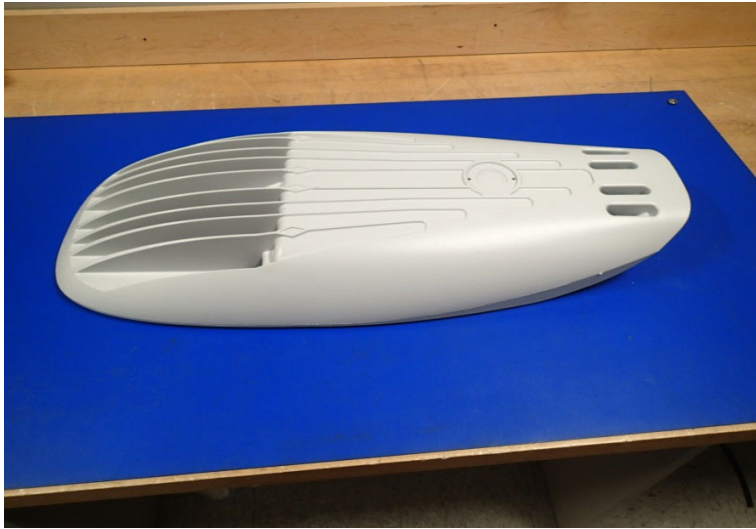
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 28.90 | 28.95 | 28.81 | 28.80 | 29.30 |
| | WATTS | 26.84 | 26.89 | 26.76 | 26.75 | 27.25 |
| | PF | 0.9289 | 0.9287 | 0.9289 | 0.9287 | 0.9298 |
| | LED CURRENT (mA) | 375.79 | 377.14 | 374.33 | 375.00 | 374.91 |
| 220 | VA | 29.36 | 29.41 | 29.26 | 29.27 | 29.78 |
| | WATTS | 26.88 | 26.91 | 26.77 | 26.78 | 27.31 |
| | PF | 0.9155 | 0.9149 | 0.9148 | 0.9150 | 0.9168 |
| | LED CURRENT (mA) | 375.81 | 377.18 | 374.34 | 375.01 | 374.92 |
| 230 | VA | 29.92 | 29.96 | 29.80 | 29.79 | 30.31 |
| | WATTS | 26.95 | 26.97 | 26.84 | 26.81 | 27.34 |
| | PF | 0.9007 | 0.9002 | 0.9006 | 0.8999 | 0.9019 |
| | LED CURRENT (mA) | 375.82 | 377.18 | 374.35 | 375.02 | 374.93 |
| 240 | VA | 30.49 | 30.54 | 30.44 | 30.41 | 30.92 |
| | WATTS | 26.96 | 26.98 | 26.88 | 26.86 | 27.38 |
| | PF | 0.8843 | 0.8833 | 0.8832 | 0.8835 | 0.8853 |
| | LED CURRENT (mA) | 375.82 | 377.19 | 374.35 | 375.03 | 374.93 |
| 250 | VA | 31.13 | 31.19 | 31.09 | 31.05 | 31.54 |
| | WATTS | 26.99 | 27.02 | 26.91 | 26.90 | 27.38 |
| | PF | 0.8669 | 0.8662 | 0.8655 | 0.8664 | 0.8680 |
| | LED CURRENT (mA) | 375.83 | 377.19 | 374.35 | 375.04 | 374.93 |
| NOMINAL LED CURRENT (mA): | | 375 | % OF MAX LED CURRENT: | | 39 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104D



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104D |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | I _{drv} [mA] | I _{drv} [mA] |
|---------------|----------------|-----------------------|-----------------------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104E | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY5 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 37.99 | 38.02 | 37.83 | 37.79 | 38.54 |
| | WATTS | 36.54 | 36.58 | 36.39 | 36.34 | 37.09 |
| | PF | 0.9620 | 0.9619 | 0.9619 | 0.9617 | 0.9625 |
| | LED CURRENT (mA) | 524.00 | 526.33 | 522.87 | 522.17 | 523.12 |
| 220 | VA | 38.32 | 38.37 | 38.18 | 38.13 | 38.86 |
| | WATTS | 36.55 | 36.59 | 36.41 | 36.35 | 37.08 |
| | PF | 0.9536 | 0.9535 | 0.9535 | 0.9534 | 0.9543 |
| | LED CURRENT (mA) | 524.05 | 526.37 | 522.90 | 522.20 | 523.17 |
| 230 | VA | 38.73 | 38.80 | 38.57 | 38.51 | 39.26 |
| | WATTS | 36.57 | 36.63 | 36.41 | 36.35 | 37.10 |
| | PF | 0.9441 | 0.9442 | 0.9441 | 0.9438 | 0.9449 |
| | LED CURRENT (mA) | 524.10 | 526.40 | 522.94 | 522.23 | 523.20 |
| 240 | VA | 39.18 | 39.22 | 39.04 | 38.98 | 39.72 |
| | WATTS | 36.58 | 36.62 | 36.44 | 36.37 | 37.12 |
| | PF | 0.9335 | 0.9337 | 0.9334 | 0.9331 | 0.9346 |
| | LED CURRENT (mA) | 524.13 | 526.42 | 522.97 | 522.27 | 523.23 |
| 250 | VA | 39.70 | 39.74 | 39.52 | 39.47 | 40.24 |
| | WATTS | 36.62 | 36.65 | 36.44 | 36.39 | 37.16 |
| | PF | 0.9223 | 0.9221 | 0.9221 | 0.9220 | 0.9236 |
| | LED CURRENT (mA) | 524.17 | 526.43 | 522.99 | 522.29 | 523.25 |
| NOMINAL LED CURRENT (mA): | | 525 | % OF MAX LED CURRENT: | | 54 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104E |
|------------------------------|----------------------------|-----------------|---------------|

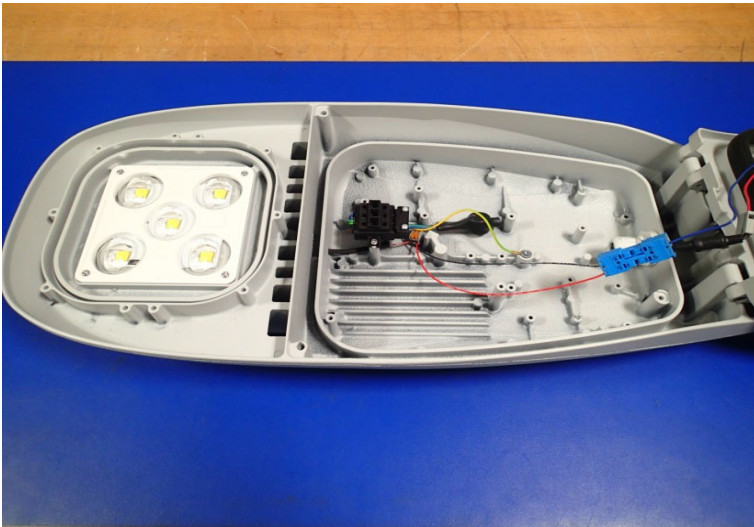
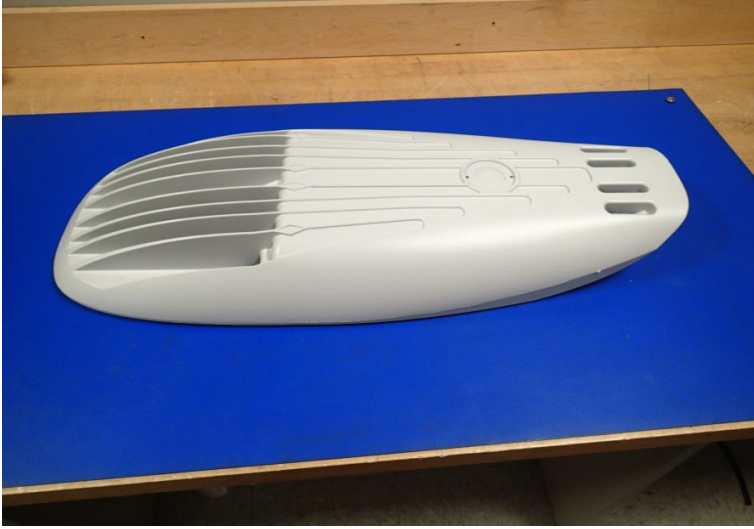
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 28.90 | 28.95 | 28.81 | 28.80 | 29.30 |
| | WATTS | 26.84 | 26.89 | 26.76 | 26.75 | 27.25 |
| | PF | 0.9289 | 0.9287 | 0.9289 | 0.9287 | 0.9298 |
| | LED CURRENT (mA) | 375.79 | 377.14 | 374.33 | 375.00 | 374.91 |
| 220 | VA | 29.36 | 29.41 | 29.26 | 29.27 | 29.78 |
| | WATTS | 26.88 | 26.91 | 26.77 | 26.78 | 27.31 |
| | PF | 0.9155 | 0.9149 | 0.9148 | 0.9150 | 0.9168 |
| | LED CURRENT (mA) | 375.81 | 377.18 | 374.34 | 375.01 | 374.92 |
| 230 | VA | 29.92 | 29.96 | 29.80 | 29.79 | 30.31 |
| | WATTS | 26.95 | 26.97 | 26.84 | 26.81 | 27.34 |
| | PF | 0.9007 | 0.9002 | 0.9006 | 0.8999 | 0.9019 |
| | LED CURRENT (mA) | 375.82 | 377.18 | 374.35 | 375.02 | 374.93 |
| 240 | VA | 30.49 | 30.54 | 30.44 | 30.41 | 30.92 |
| | WATTS | 26.96 | 26.98 | 26.88 | 26.86 | 27.38 |
| | PF | 0.8843 | 0.8833 | 0.8832 | 0.8835 | 0.8853 |
| | LED CURRENT (mA) | 375.82 | 377.19 | 374.35 | 375.03 | 374.93 |
| 250 | VA | 31.13 | 31.19 | 31.09 | 31.05 | 31.54 |
| | WATTS | 26.99 | 27.02 | 26.91 | 26.90 | 27.38 |
| | PF | 0.8669 | 0.8662 | 0.8655 | 0.8664 | 0.8680 |
| | LED CURRENT (mA) | 375.83 | 377.19 | 374.35 | 375.04 | 374.93 |
| NOMINAL LED CURRENT (mA): | | 375 | % OF MAX LED CURRENT: | | 39 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104E



CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104E |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104F | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY6 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 68.07 | 68.05 | 67.62 | 67.50 | 68.91 |
| | WATTS | 67.47 | 67.45 | 67.02 | 66.90 | 68.31 |
| | PF | 0.9911 | 0.9911 | 0.9913 | 0.9911 | 0.9913 |
| | LED CURRENT (mA) | 973.52 | 978.20 | 973.10 | 971.14 | 972.42 |
| 220 | VA | 68.15 | 68.12 | 67.71 | 67.61 | 69.02 |
| | WATTS | 67.38 | 67.36 | 66.95 | 66.84 | 68.26 |
| | PF | 0.9887 | 0.9887 | 0.9888 | 0.9886 | 0.9889 |
| | LED CURRENT (mA) | 973.52 | 978.21 | 973.11 | 971.14 | 972.40 |
| 230 | VA | 68.32 | 68.29 | 67.87 | 67.74 | 69.16 |
| | WATTS | 67.35 | 67.33 | 66.92 | 66.78 | 68.19 |
| | PF | 0.9859 | 0.9859 | 0.9860 | 0.9858 | 0.9861 |
| | LED CURRENT (mA) | 973.53 | 978.21 | 973.11 | 971.14 | 972.41 |
| 240 | VA | 68.51 | 68.49 | 68.06 | 67.94 | 69.38 |
| | WATTS | 67.31 | 67.30 | 66.87 | 66.74 | 68.18 |
| | PF | 0.9825 | 0.9826 | 0.9825 | 0.9824 | 0.9827 |
| | LED CURRENT (mA) | 973.54 | 978.23 | 973.12 | 971.14 | 972.42 |
| 250 | VA | 68.72 | 68.70 | 68.27 | 68.16 | 69.59 |
| | WATTS | 67.26 | 67.23 | 66.81 | 66.69 | 68.12 |
| | PF | 0.9786 | 0.9785 | 0.9785 | 0.9784 | 0.9789 |
| | LED CURRENT (mA) | 973.54 | 978.24 | 973.13 | 971.14 | 972.42 |
| NOMINAL LED CURRENT (mA): | | 985 | % OF MAX LED CURRENT: | | 100 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104F |
|------------------------------|----------------------------|-----------------|---------------|

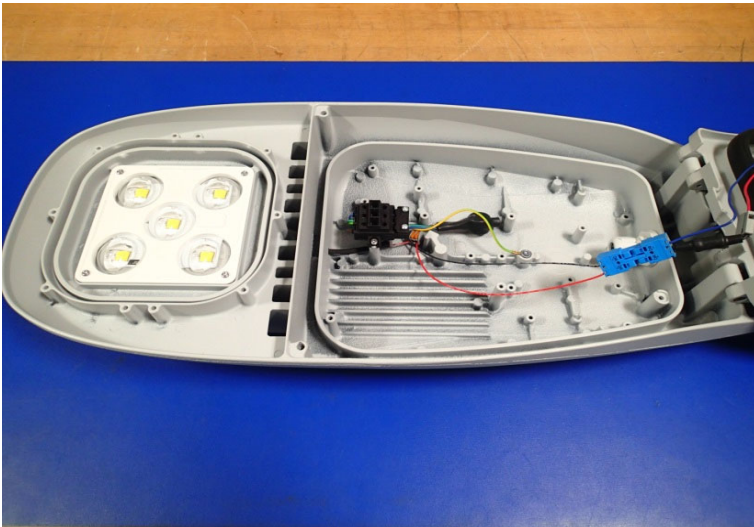
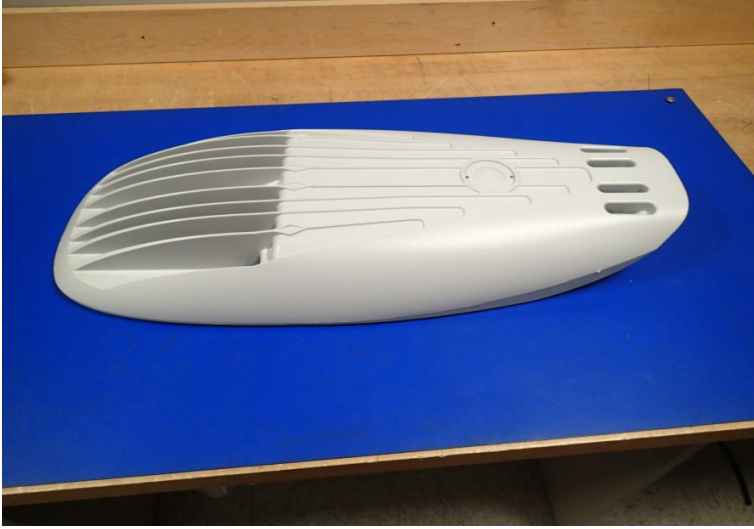
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 53.65 | 53.68 | 53.36 | 53.33 | 54.34 |
| | WATTS | 52.77 | 52.80 | 52.48 | 52.45 | 53.46 |
| | PF | 0.9836 | 0.9836 | 0.9835 | 0.9835 | 0.9838 |
| | LED CURRENT (mA) | 763.68 | 767.35 | 762.88 | 761.90 | 762.37 |
| 220 | VA | 53.87 | 53.91 | 53.58 | 53.53 | 54.55 |
| | WATTS | 52.76 | 52.80 | 52.47 | 52.42 | 53.44 |
| | PF | 0.9794 | 0.9795 | 0.9793 | 0.9793 | 0.9797 |
| | LED CURRENT (mA) | 763.77 | 767.41 | 763.03 | 761.89 | 762.48 |
| 230 | VA | 54.11 | 54.14 | 53.84 | 53.77 | 54.80 |
| | WATTS | 52.74 | 52.77 | 52.48 | 52.39 | 53.43 |
| | PF | 0.9746 | 0.9746 | 0.9746 | 0.9744 | 0.9749 |
| | LED CURRENT (mA) | 763.83 | 767.47 | 763.07 | 761.90 | 762.59 |
| 240 | VA | 54.43 | 54.45 | 54.14 | 54.05 | 55.13 |
| | WATTS | 52.74 | 52.76 | 52.46 | 52.37 | 53.45 |
| | PF | 0.9691 | 0.9691 | 0.9690 | 0.9689 | 0.9695 |
| | LED CURRENT (mA) | 763.88 | 767.51 | 763.12 | 761.90 | 762.67 |
| 250 | VA | 54.70 | 54.76 | 54.47 | 54.40 | 55.45 |
| | WATTS | 52.67 | 52.72 | 52.44 | 52.38 | 53.42 |
| | PF | 0.9628 | 0.9628 | 0.9628 | 0.9628 | 0.9634 |
| | LED CURRENT (mA) | 763.92 | 767.55 | 763.17 | 761.90 | 762.74 |
| NOMINAL LED CURRENT (mA): | | 770 | % OF MAX LED CURRENT: | | 78 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104F



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104F |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104G | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY7 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 68.07 | 68.05 | 67.62 | 67.50 | 68.91 |
| | WATTS | 67.47 | 67.45 | 67.02 | 66.90 | 68.31 |
| | PF | 0.9911 | 0.9911 | 0.9913 | 0.9911 | 0.9913 |
| | LED CURRENT (mA) | 973.52 | 978.20 | 973.10 | 971.14 | 972.42 |
| 220 | VA | 68.15 | 68.12 | 67.71 | 67.61 | 69.02 |
| | WATTS | 67.38 | 67.36 | 66.95 | 66.84 | 68.26 |
| | PF | 0.9887 | 0.9887 | 0.9888 | 0.9886 | 0.9889 |
| | LED CURRENT (mA) | 973.52 | 978.21 | 973.11 | 971.14 | 972.40 |
| 230 | VA | 68.32 | 68.29 | 67.87 | 67.74 | 69.16 |
| | WATTS | 67.35 | 67.33 | 66.92 | 66.78 | 68.19 |
| | PF | 0.9859 | 0.9859 | 0.9860 | 0.9858 | 0.9861 |
| | LED CURRENT (mA) | 973.53 | 978.21 | 973.11 | 971.14 | 972.41 |
| 240 | VA | 68.51 | 68.49 | 68.06 | 67.94 | 69.38 |
| | WATTS | 67.31 | 67.30 | 66.87 | 66.74 | 68.18 |
| | PF | 0.9825 | 0.9826 | 0.9825 | 0.9824 | 0.9827 |
| | LED CURRENT (mA) | 973.54 | 978.23 | 973.12 | 971.14 | 972.42 |
| 250 | VA | 68.72 | 68.70 | 68.27 | 68.16 | 69.59 |
| | WATTS | 67.26 | 67.23 | 66.81 | 66.69 | 68.12 |
| | PF | 0.9786 | 0.9785 | 0.9785 | 0.9784 | 0.9789 |
| | LED CURRENT (mA) | 973.54 | 978.24 | 973.13 | 971.14 | 972.42 |
| NOMINAL LED CURRENT (mA): | | 985 | % OF MAX LED CURRENT: | | 100 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104G |
|------------------------------|----------------------------|-----------------|---------------|

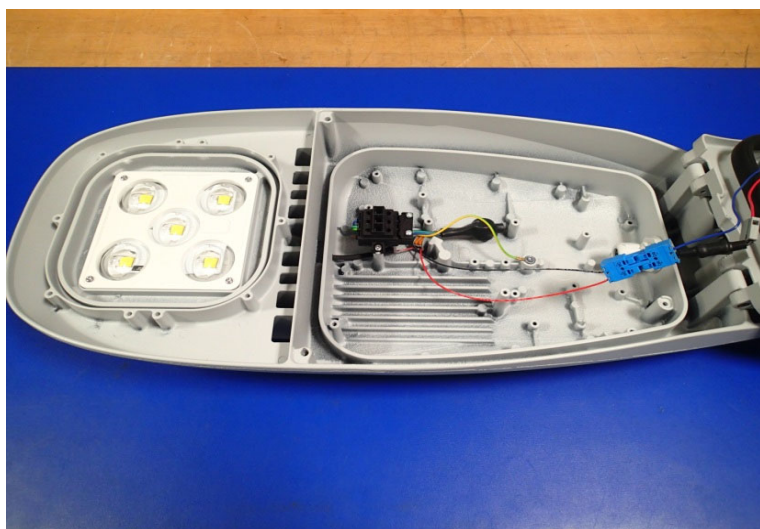
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 28.90 | 28.95 | 28.81 | 28.80 | 29.30 |
| | WATTS | 26.84 | 26.89 | 26.76 | 26.75 | 27.25 |
| | PF | 0.9289 | 0.9287 | 0.9289 | 0.9287 | 0.9298 |
| | LED CURRENT (mA) | 375.79 | 377.14 | 374.33 | 375.00 | 374.91 |
| 220 | VA | 29.36 | 29.41 | 29.26 | 29.27 | 29.78 |
| | WATTS | 26.88 | 26.91 | 26.77 | 26.78 | 27.31 |
| | PF | 0.9155 | 0.9149 | 0.9148 | 0.9150 | 0.9168 |
| | LED CURRENT (mA) | 375.81 | 377.18 | 374.34 | 375.01 | 374.92 |
| 230 | VA | 29.92 | 29.96 | 29.80 | 29.79 | 30.31 |
| | WATTS | 26.95 | 26.97 | 26.84 | 26.81 | 27.34 |
| | PF | 0.9007 | 0.9002 | 0.9006 | 0.8999 | 0.9019 |
| | LED CURRENT (mA) | 375.82 | 377.18 | 374.35 | 375.02 | 374.93 |
| 240 | VA | 30.49 | 30.54 | 30.44 | 30.41 | 30.92 |
| | WATTS | 26.96 | 26.98 | 26.88 | 26.86 | 27.38 |
| | PF | 0.8843 | 0.8833 | 0.8832 | 0.8835 | 0.8853 |
| | LED CURRENT (mA) | 375.82 | 377.19 | 374.35 | 375.03 | 374.93 |
| 250 | VA | 31.13 | 31.19 | 31.09 | 31.05 | 31.54 |
| | WATTS | 26.99 | 27.02 | 26.91 | 26.90 | 27.38 |
| | PF | 0.8669 | 0.8662 | 0.8655 | 0.8664 | 0.8680 |
| | LED CURRENT (mA) | 375.83 | 377.19 | 374.35 | 375.04 | 374.93 |
| NOMINAL LED CURRENT (mA): | | 375 | % OF MAX LED CURRENT: | | 39 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104G



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104G |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |

CREE ENGINEERING LAB TEST

| | | | | | | | |
|------------------------------|--|----------|------------------------------|--|----------|--------|--|
| Tested By: ROGER DAHL | | | Date: 12/8-12/14/15 | | TEST ID# | 13104H | |
| Catalog # / Description: | XSPC Single Module wi Xitanium FULL Prog 70W 1000 NLD C150 Xt Driver DYNADIMMER Levels | | | | | | |
| Test Conducted: | UMS CHARGE CODE POWER TEST | | | | | | |
| Option Number: | DY8 | | | | | | |
| Test Set Up: | ALL TESTS CONDUCTED AT 50Hz. ALL PF READINGS WERE LEADING. | | | | | | |
| Driver Manufacturer: PHILIPS | | | Driver Catalog #: 9290008843 | | | | |
| Air Temperature: | 24.0 ° | | | | | | |
| Equipment ID# | 3282 | 3270 | | | | | |
| Calibration Due Date: | 5/7/2016 | 6/2/2016 | | | | | |
| Accuracy %: | 0.70% | 0.60% | | | | | |

| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|--------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 53.65 | 53.68 | 53.36 | 53.33 | 54.34 |
| | WATTS | 52.77 | 52.80 | 52.48 | 52.45 | 53.46 |
| | PF | 0.9836 | 0.9836 | 0.9835 | 0.9835 | 0.9838 |
| | LED CURRENT (mA) | 763.68 | 767.35 | 762.88 | 761.90 | 762.37 |
| 220 | VA | 53.87 | 53.91 | 53.58 | 53.53 | 54.55 |
| | WATTS | 52.76 | 52.80 | 52.47 | 52.42 | 53.44 |
| | PF | 0.9794 | 0.9795 | 0.9793 | 0.9793 | 0.9797 |
| | LED CURRENT (mA) | 763.77 | 767.41 | 763.03 | 761.89 | 762.48 |
| 230 | VA | 54.11 | 54.14 | 53.84 | 53.77 | 54.80 |
| | WATTS | 52.74 | 52.77 | 52.48 | 52.39 | 53.43 |
| | PF | 0.9746 | 0.9746 | 0.9746 | 0.9744 | 0.9749 |
| | LED CURRENT (mA) | 763.83 | 767.47 | 763.07 | 761.90 | 762.59 |
| 240 | VA | 54.43 | 54.45 | 54.14 | 54.05 | 55.13 |
| | WATTS | 52.74 | 52.76 | 52.46 | 52.37 | 53.45 |
| | PF | 0.9691 | 0.9691 | 0.9690 | 0.9689 | 0.9695 |
| | LED CURRENT (mA) | 763.88 | 767.51 | 763.12 | 761.90 | 762.67 |
| 250 | VA | 54.70 | 54.76 | 54.47 | 54.40 | 55.45 |
| | WATTS | 52.67 | 52.72 | 52.44 | 52.38 | 53.42 |
| | PF | 0.9628 | 0.9628 | 0.9628 | 0.9628 | 0.9634 |
| | LED CURRENT (mA) | 763.92 | 767.55 | 763.17 | 761.90 | 762.74 |
| NOMINAL LED CURRENT (mA): | | 770 | % OF MAX LED CURRENT: | | 78 | |

CREE ENGINEERING LAB TEST

| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104H |
|------------------------------|----------------------------|-----------------|---------------|

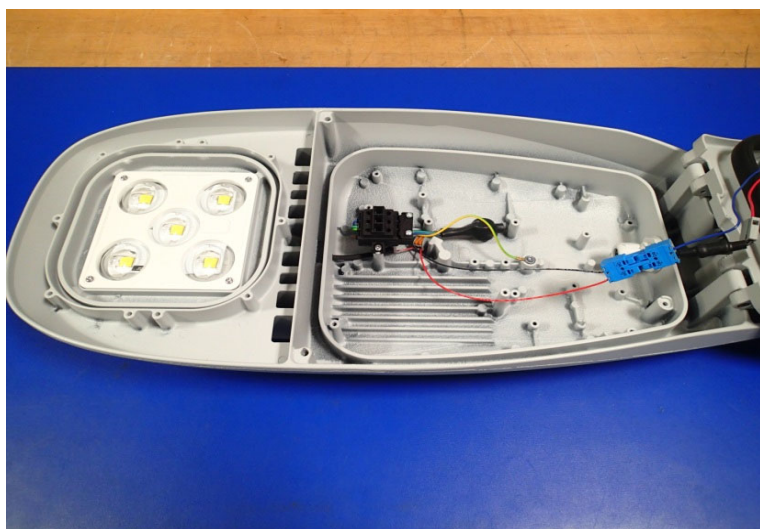
| TEST VOLTAGE | | SAMPLE NUMBER | | | | |
|---------------------------|------------------|---------------|-----------------------|--------|-----------|--------|
| | | 1 | 2 | 3 | 4 | 5 |
| 210 | VA | 37.99 | 38.02 | 37.83 | 37.79 | 38.54 |
| | WATTS | 36.54 | 36.58 | 36.39 | 36.34 | 37.09 |
| | PF | 0.9620 | 0.9619 | 0.9619 | 0.9617 | 0.9625 |
| | LED CURRENT (mA) | 524.00 | 526.33 | 522.87 | 522.17 | 523.12 |
| 220 | VA | 38.32 | 38.37 | 38.18 | 38.13 | 38.86 |
| | WATTS | 36.55 | 36.59 | 36.41 | 36.35 | 37.08 |
| | PF | 0.9536 | 0.9535 | 0.9535 | 0.9534 | 0.9543 |
| | LED CURRENT (mA) | 524.05 | 526.37 | 522.90 | 522.20 | 523.17 |
| 230 | VA | 38.73 | 38.80 | 38.57 | 38.51 | 39.26 |
| | WATTS | 36.57 | 36.63 | 36.41 | 36.35 | 37.10 |
| | PF | 0.9441 | 0.9442 | 0.9441 | 0.9438 | 0.9449 |
| | LED CURRENT (mA) | 524.10 | 526.40 | 522.94 | 522.23 | 523.20 |
| 240 | VA | 39.18 | 39.22 | 39.04 | 38.98 | 39.72 |
| | WATTS | 36.58 | 36.62 | 36.44 | 36.37 | 37.12 |
| | PF | 0.9335 | 0.9337 | 0.9334 | 0.9331 | 0.9346 |
| | LED CURRENT (mA) | 524.13 | 526.42 | 522.97 | 522.27 | 523.23 |
| 250 | VA | 39.70 | 39.74 | 39.52 | 39.47 | 40.24 |
| | WATTS | 36.62 | 36.65 | 36.44 | 36.39 | 37.16 |
| | PF | 0.9223 | 0.9221 | 0.9221 | 0.9220 | 0.9236 |
| | LED CURRENT (mA) | 524.17 | 526.43 | 522.99 | 522.29 | 523.25 |
| NOMINAL LED CURRENT (mA): | | 525 | % OF MAX LED CURRENT: | | 54 | |

Tested By: ROGER DAHL

Date: 12/8-12/14/15

TEST
ID#

13104H



| | | | |
|------------------------------|----------------------------|-----------------|---------------|
| Tested By: ROGER DAHL | Date: 12/8-12/14/15 | TEST ID# | 13104H |
|------------------------------|----------------------------|-----------------|---------------|

| Single module | DY# | Idrv [mA] | Idrv [mA] |
|---------------|----------------|-----------|-----------|
| | DY1 (100%/54%) | 985 | 525 |
| | DY2 (93%/46%) | 910 | 425 |
| | DY3 (78%/39%) | 770 | 375 |
| | DY4 (66%/39%) | 650 | 375 |
| | DY5 (54%/39%) | 525 | 375 |
| | DY6 (100%/78%) | 985 | 770 |
| | DY7 (100%/39%) | 985 | 375 |
| | DY8 (78%/54%) | 770 | 525 |