# ARNOLD to Radeon ProRender Conversion Report

Version 1.00, 25 December 2018 ([all reports](https://github.com/luxteam/RS2RPRConvertTool/tree/master/qa_reports))

This report summarizes results of tests made to convert Arnold nodes to Radeon ProRender nodes.

* **Software**: Maya 2018, Arnold 2018, RPR 2.5.245
* **Hardware**: Ryzen 1700x (for autotests)

### Summary

For the report, **91** Arnold nodes within **7** node groups has been tested in total. The results of conversion are as follows:

* **Convertible**: 14 objects (15%), [see details](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=250076346)
* **Partially** **Convertible**: 6 objects (7%), [see details](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=562762146)
* **Not** **Convertible**: 0 objects (0%), [see details](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=676958444)
* **Research** **IS** **Needed**: 71 objects (78%), [see details](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=1655997622)

Currently, only the small part of Arnold nodes are converted by the script. In the near future, work will be carried out to investigate errors that were revealed during work. It is necessary to learn to convert the basic types of light sources and base materials like aiStandardSurface, aiDoneLight.

### This is a continuous process of refining the formulas, to better match render results, as more testing provides more sample data. A settlement of this will occur checking and researching the remaining nodes, such as utilities.

Currently, we have several issues with how some of the values get converted. We found issues with lights, materials and camera conversion. We will increase the count of scenes for automation and manual testing.

### Report Details

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### What’s New

* We created 30 scenes for manual and automation checking
* Created the job in Jenkins for autotests
* Created HTML page for autotests summary report

### Script Link

The latest version of the conversion script: [download script](https://github.com/luxteam/Arnold2RPRConvertTool/blob/master/convertAI2RPR.mel).

### Known Issues

The following JIRA issues affecting the conversion process were identified:

* Render view doesn't conform to resolution gate in viewport ([RPRMAYA-880](https://amdrender.atlassian.net/browse/RPRMAYA-880))
* Shadow catcher render with a lot of noise and sometimes gets bad results ([RPRMAYA-801](https://amdrender.atlassian.net/browse/RPRMAYA-801))
* Textures are being downscaled by supported standard Maya nodes ([RPRMAYA-848](https://amdrender.atlassian.net/browse/RPRMAYA-848))
* [Core] Artifacts when using Displacement ([RPRMAYA-329](https://amdrender.atlassian.net/browse/RPRMAYA-329))
* [Core]Sky System issue ([RPRMAYA-147](https://amdrender.atlassian.net/browse/RPRMAYA-147))

### Complex Scenes

#### **Scene 1**

Wood-scene-paint-FX. Forest render with “god rays” light.

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh4.googleusercontent.com/r3hyZnGYbR8P2k3GLg0YtfpnHg4oD322vEP4tmiRIX9tz0w9itsSjdRrXBPQV40lEocKjns2f3-_x691AKGg4BIZ21JF5oyIGgWpmAjTKkUPCI25hIBLjKdj1qlDqac0fQND3ct- | https://lh6.googleusercontent.com/1oM7qgNcnicVAMydBCsG_qs2aSne8A9MR3W9HNiziPXU7A_u1VBanHvTPBCmtet6TkU4YJctJxo6szX98Tnw9vgZPRbutLBN-6hB_1ea7qT7eGEP2lN99GNEvF-d4IJzZwlhMH8h |

#### **Scene 2**

Studio-Rear scene. Light conversion error/invalid RPR parameters.

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh4.googleusercontent.com/nJryZJmDrwp2VvBbvVi1BCaj5GPyWAjCeRTamBWPw2bK0IHbhc3iHbTPbzfQg5Cl3oNoQdkk2_TPA9Zw-MghprpbLJ31sVkYrUQFVLruyu9USSFfKH5ZFzssk2IQaBkWskITAG2q | https://lh6.googleusercontent.com/RnvD-tSZt777a-xkd-A4NTD4VkpTHgkS9X3mIOy81Eho--BVi5hvZLLtIsDRMf5fUfFA0X2VrRdcy0A92CK_YU_83_ULot_R4XtUR6aAajKVbq8P_vk839ZhR-3wki-EGY9Dio6i |

#### **Scene 3**

Toy-Space-Pirate-Studio\_user-guide scene. Light conversion error/invalid RPR parameters.

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh4.googleusercontent.com/swuXGQczamf4oaVdTVg-uvjz9ckogyxzc56uSkvNvmkWI1ZtB-EPakPqA0fMvG3IMJ5AYtsbJGFYd_2YQeeVym2i6tP75ncaH4x_bk3rrXLe3DhsBLIYPoWePk_tRwZkLt5bEfS0 | https://lh5.googleusercontent.com/W-9uAZH3THfn8rPaYI88d28p8Wc4q7pHwLraRF95Ajhbl9rLtoM7ZyldWc6zmRcKh0ZNtpbx7LTntW_f4qujqR6GsSfxw2dw0rJCTIUAuMzWYXjh3oMIZ6I4xwOzIxKY3cCjzrx_ |

#### **Scene 4**

Mesh-light scene. The same issue with camera you could see in RS converter. [RPRMAYA-880](https://amdrender.atlassian.net/projects/RPRMAYA/issues/RPRMAYA-880?filter=allissues)

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh5.googleusercontent.com/zL6Dxm2MDFK3MJ_xQ954NrotW8lsNdQSQ_Aa6j59i-yCxboCcYtD9PL2zNAyBZnuLgU_xouRA5zFhW1-WTcJAGOukepfEuZ77jkH23ZASTokuTem8zwuFxv2gNorRFSA-JUJOwzu | https://lh3.googleusercontent.com/qy3cg77J93SZ5-3u8cSkXDNfT-xQIJZhi_jpIoVRSRdw1a9Vzf-rEr3Wf9jo7X0FXACUZl8rwc3zyo4RRFbQS734ML6lPuStjU-GB1DxpNl4qpgrAQkpKAG5DL3eW7nh5KjSjAEC |
|  | https://lh4.googleusercontent.com/Ic7nj4INZri1gY9etOA-TDRsLixF7_g0vFvW0uTmIg1eEw_DMhEJh8l51wae29ww-IsreffZ39cNPOMLoutQoiDwfKPS_8kf--JLhuKIZKL4WOQfIyycl4FlWLORTvOJfkYJBP1I |

#### **Scene 5**

Room\_user-guide scene.

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh3.googleusercontent.com/4fSx-xhOdQbsvb1muFJ5JgB0PVGN2jAuSyFzzzLdpbBevTwt_qYPBrjK8Eg_6eOydyozwjFEc-q5rQT-piSCtsbTQ1nTokCjimFJ3r4RJLEMacVp1e8PJxb4ym7WW-1cvgiNwPe3 | https://lh4.googleusercontent.com/dVyJsEqY8M2nwz4bzgKdM6NOWDiAjpE8WVrMp7gfgbVVr9_eXlo0jlVJKVwvvygzK1Z6RgsetUDRCKkkXoBKDxR5RVbTcHDUrxU-oDvccWtSeTimwfBN9YINqUcTUemWEx-S0J8u |

#### **Scene 6**

Studio\_Top scene.

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh3.googleusercontent.com/9gKTfy3VkN7nCEFyF0L5WC-ngmka4Q3A7LawVPkeDK1-RV2i-6TK3ldTiDBpacwa-md3oVFOMcoSbXKT35qlAn_cA5u7uC0160Zv5rIjSz5hfLD07fbt3rj5QTynJsDkBhnk8MLA | https://lh3.googleusercontent.com/_Fkx-kq2tTyCNrk8Q0NL5h0MxCxNUjz21gDp8cy9BdgR_dJ6WYJ12jO-7l6QaKHFKxID-SLtodk_W2p3eF7lpvqMLUNfZKi7qSQrFutbNKSi6aDm3L0YE_4jdsPLBri9P9u1m8Bi |

#### **Scene 7**

Studio-Side scene.

|  |  |
| --- | --- |
| Arnold | RPR |
| https://lh5.googleusercontent.com/r70LlPWC64X_7KLtqOE6P5sEpVuBL2gkSL86knYn3LPbv1qJy_EaHbkya57Np_lnQdh-UyUfcT12sB0C3knIuBjOfqbajfKspQ2JXZ2pezaMFU_XcdwcFdoHLpvprhC3zfLgsbMs | https://lh3.googleusercontent.com/EBxNwiIPUjDDBJBvM56DImwAauFKqrP3-d6E5_lhmsze890_9b1uraVAVtz_l-CTIFKIEGlb1i8ryZNPxyLQ95vRhT4L-193JpFLI5niXwGOxgOO4fS0BJdfu_LAFUZLG2UdIkdX |

### Test Report Link

For detailed comparison of rendered scenes, see [Test Report](https://rpr.cis.luxoft.com/job/RS2RPRConvertToolManual/30/Test_20Report/).

Login: rpruser

Password: rpruser2017

Note that this is still the Alpha version of the report. The report includes 30 scenes.

### Conversion Status by Node Group

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Object Group** | **Total**  **Objects** | **Convertible** | **Partially Convertible** | **Not**  **Convertible** | **Research Is Needed** | **Details** |
| **Environment** | 2 | 2 | 0 | 0 | 0 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=297007974) |
| **Files** | 5 | 2 | 0 | 0 | 3 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=1740964916) |
| **Filters** | 4 | 0 | 0 | 0 | 4 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=2006829297) |
| **Lights** | 6 | 3 | 1 | 0 | 2 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=1705673090) |
| **Materials** | 11 | 3 | 2 | 0 | 6 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=1567179475) |
| **Textures** | 6 | 0 | 0 | 0 | 6 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=933178914) |
| **Utilities** | 57 | 4 | 3 | 0 | 50 | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433&fvid=374419849) |
| **Total** | **91** | **14** | **6** | **0** | **71** | [Link](https://docs.google.com/spreadsheets/d/1hNtDvGayB6uT0WAeOhl4bAy1L688LvDIkPzuShFxWDU/edit#gid=1064292433) |