# Summary Self-Assessment Table

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|  | **Threshold** | **Target** |
| **1. General Metadata** |  |  |
| 1.1 Traceability | Not required. | No. VIIRS calibration is traceable to the NIST standards. The VIIRS Characterization Support Team (VCST) is developing VIIRS L1B measurement uncertainty algorithms due for release in late 2022. They are also preparing to publish papers that will be posted to the DOI landing pages.Level-1B product details, Algorithm Theoretical Basis Document (ATBD), and Users Guides can be found on the product DOI landing pages: Product VNP46A1: <https://doi.org/10.5067/VIIRS/VNP46A1.001>Product VNP46A2: <https://doi.org/10.5067/VIIRS/VNP46A2.001>Product VNP46A3: <https://doi.org/10.5067/VIIRS/VNP46A3.001>Product VNP46A4: <https://doi.org/10.5067/VIIRS/VNP46A4.001> |
| 1.2 Metadata Machine Readability | Yes, the metadata is easily machine-readable. | As threshold. The NASA Common Metadata Repository (CMR) is designed to support (via its Unified Metadata Model (UMM)), cross-mapping from and to ISO 19115-2 metadata formats.  |
| 1.3 Data Collection Time | Yes, identified in the metadata. | Yes, information for each pixel can be reliably derived from the metadata. |
| 1.4 Geographical Area | Yes, identified in the metadata. | Yes, information for each pixel can be reliably derived from the metadata. |
| 1.5 Coordinate Reference System | Yes, identified in the metadata. | As threshold |
| 1.6 Map Projection | Yes, identified in the metadata. | As threshold |
| 1.7 Geometric Correction Methods | Not required.  | No. In the process of adding geometric correction data to the product DOI landing pages. (see Target 1.1) |
| 1.8 Geometric Accuracy of the Data | Not required.  | No. In the process of adding geometric accuracy data to the DOI landing pages. (see Target 1.1) |
| 1.9 Instrument | Yes, identified in the metadata. | As threshold |
| 1.10 Spectral Bands | Yes, identified in the metadata. | Yes. The spectral response functions are found in the metadata via a link to the DOI landing page: <https://doi.org/10.3390/rs61211915> |
| 1.11 Sensor Calibration | Not required. | As threshold |
| 1.12 Radiometric Accuracy | Not required. | No. In the process of adding radiometric accuracy data to the DOI landing pages. (see Target 1.1) |
| 1.13 Algorithms | Yes, identified in the metadata.  | Yes, identified in the metadata/user guide.  |
| 1.14 Auxiliary Data | Yes, identified in the metadata.  | Yes, identified in the metadata/user guide.  |
| 1.15 Processing Chain Provenance | Not required. | No. In the process of adding processing chain provenance information to the DOI landing pages. (see Target 1.1) |
| 1.16 Data Access | Yes.  | As threshold.  |
| 1.17 Overall Data Quality | Not applicable. | Yes.  |
| **2. Per-Pixel Metadata** |  |  |
| 2.1 Metadata Machine Readability | Yes, the metadata is easily machine-readable. | As threshold. The NASA Common Metadata Repository (CMR) is designed to support (via its Unified Metadata Model (UMM)), cross-mapping from and to ISO 19115-2 metadata formats. |
| 2.2 No Data | Yes. | As threshold. |
| 2.3 Incomplete Testing | Yes. | Yes. Not applicable to BM data products. Algorithm will always provide a data value for each pixel. QA metadata describes the tests.  |
| 2.4 Saturation | Yes. | Yes. |
| 2.5 Cloud | Yes. | Yes. |
| 2.6 Cloud Shadow | Not required. | Yes. |
| 2.7 Land/Water Mask | Yes. | As threshold. |
| 2.8 Snow/Ice Mask | Yes. | As threshold. |
| 2.9 Terrain Shadow Mask | Not required. | Yes. |
| 2.10 Terrain Occlusion | Not required. | Not applicable. VIIRS Day-Night Band (DNB) coarse resolution (750-meter) pixels may only be partially occluded by terrain at high off-nadir viewing angles. Since some portion of every pixel is visible to the sensor, terrain occlusion is not required. |
| 2.11 Lunar and Viewing Geometry | Yes. | Yes. |
| 2.12 Terrain Illumination Correction | Not required. | Yes. |
| 2.13 Aerosol Optical Depth Parameters | Not required. | TBD |
| 2.14 Moon Illumination Fraction  | Yes. | Yes. |
| 2.15 Brightness Temperature  | Yes. | As threshold. |
| 2.16 Solar Zenith Angle | Yes. | As threshold. |
| **3. Radiometric and Atmospheric Corrections** |  |  |
| 3.1 Measurement | Yes. | No. See Target 1.1. |
| 3.2 Measurement Uncertainty | Not required. | Yes. Measurement uncertainty information can be found in the metadata via a link to the DOI landing page of the product and the ATBD (see Target 1.1) |
| 3.3 Measurement Normalisation | Not required. | Yes. Measurement normalization information can be found in the metadata via a link to the DOI landing page of the product and the ATBD (see Target 1.1). Sensor and lunar viewing angles are used in the Level-1B data correction.  |
| 3.4 Atmospheric Corrections | Yes. | As threshold. |
| 3.5 Lunar Radiance Corrections | Yes. | As threshold. |
| 3.6 Stray Light Corrections | Yes.  | As threshold. |

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| **4. Geometric Corrections** |  |  |
| 4.1 Geometric Correction | No. Information describing sub-pixel geometric accuracy is being added to the DOI landing pages and referenced to a paper published in Aug 2022 by the VIIRS Geolocation Lead. | No. Information describing sub-pixel geometric accuracy is being added to the DOI landing pages and referenced to a paper published in Aug 2022 by the VIIRS Geolocation Lead. |