<table>
<thead>
<tr>
<th>Section (Leg)</th>
<th>Geographical Region</th>
<th>Westernmost Longitude</th>
<th>Enter decimal fractions of degrees: (+ = E, - = W)</th>
<th>92.267</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Easternmost Longitude</td>
<td>Enter decimal fractions of degrees: (+ = E, - = W)</td>
<td>9.412</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Northernmost Latitude</td>
<td>Enter decimal fractions of degrees: (+ = N, - = S)</td>
<td>63.973</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Southernmost Latitude</td>
<td>Enter decimal fractions of degrees: (+ = N, - = S)</td>
<td>55.579</td>
</tr>
<tr>
<td>Temporal Coverage</td>
<td>Start Date: (YYYYMMDD)</td>
<td>20081007</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>End Date: (YYYYMMDD)</td>
<td>20081013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ports of Call</td>
<td>Nuuk (Greenland) to Aalborg (Denmark)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vessel</td>
<td>Vessel Name</td>
<td>R/V Nuka Arctica</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vessel ID</td>
<td>26NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Country</td>
<td>Denmark</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vessel Owner</td>
<td>Royal Arctic Lines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variables Info</td>
<td>Variable Name</td>
<td>fCO2 at 100% humidity at SST, determined from xCO2 according to Pierrot et al, 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variable Name</td>
<td>Temperature in equilibrator</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variable Name</td>
<td>SST</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variable Name</td>
<td>equilibrator headspace pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variable Name</td>
<td>XCO2_atm_interp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method Description</td>
<td>Equilibrator Design</td>
<td>two stage downshower</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equilibrator Volume (L)</td>
<td>approx. 1.0 (vent equ) &amp; 2.5 (main equ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Flow Rate (L/min)</td>
<td>approx 3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headspace Gas Flow Rate (L/min)</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Height of sampling (m)</td>
<td>approx 10.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depth of sampling (m)</td>
<td>approx 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manufacturer</td>
<td>LI-COR</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td>LI-6262</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>±0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uncertainty</td>
<td>±1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Sensors</td>
<td>Manufacturer</td>
<td>Hart Scientific</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Model</td>
<td>Probe 26NSL-001001002100G</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dataset Info**
- **Dataset ID**: 26NA20081007
- **Initial Submission**: 20081007
- **Revised Submission**: 20081013

**Cruise Info**
- **Experiment Name**: CARBOOCEAN
- **Cruise ID**: 26NA20081007

**Geographical Coverage**
- **Geographical Region**: North Sea, northern North Atlantic, Greenland west coast.
- **Westernmost Longitude**: -52.267
- **Easternmost Longitude**: 9.412
- **Northernmost Latitude**: 63.973
- **Southernmost Latitude**: 55.579

**Temporal Coverage**
- **Start Date**: 20081007
- **End Date**: 20081013

**Ports of Call**
- Nuuk (Greenland) to Aalborg (Denmark)

**Vessel**
- **Vessel Name**: R/V Nuka Arctica
- **Vessel ID**: 26NA
- **Country**: Denmark

**Vessel Owner**: Royal Arctic Lines

**Variables Info**
- **Variable Name**: fCO2 at 100% humidity at SST, determined from xCO2 according to Pierrot et al, 2009
- **Variable Name**: Temperature in equilibrator
- **Variable Name**: SST
- **Variable Name**: equilibrator headspace pressure

**Method Description**
- **Equilibrator Design**: two stage downshower
- **Equilibrator Volume (L)**: approx. 1.0 (vent equ) & 2.5 (main equ)
- **Water Flow Rate (L/min)**: approx 3.6
- **Headspace Gas Flow Rate (L/min)**: 0.1
- **Height of sampling (m)**: approx 10.5
- **Depth of sampling (m)**: approx 100

**Other Sensors**
- **Manufacturer**: Hart Scientific
- **Model**: Probe 26NSL-001001002100G

**Environmental Control**
- (Describe any additional environmental control.

**CO2 Sensor Calibration**
- (If applicable, provide CO2 sensor calibration details.

**CO2 Sensor Calibration (ppm)**
- (Include details of CO2 sensor calibration, including date and place of calibration.

**LI-COR**
- (Include details of LI-COR calibration, including date and place of calibration.

**Environmental Control**
- (Describe any additional environmental control.)

**Extractions and Calibrations**
- (Include any extractions and calibrations performed.

**Variable**
- **Variable Name**: fCO2 at 100% humidity at SST, determined from xCO2 according to Pierrot et al, 2009
- **Variable Name**: Temperature in equilibrator
- **Variable Name**: SST
- **Variable Name**: equilibrator headspace pressure

**Environmental Control**
- (Describe any additional environmental control.)

**CO2 Sensor Calibration**
- (If applicable, provide CO2 sensor calibration details.

**CO2 Sensor Calibration (ppm)**
- (Include details of CO2 sensor calibration, including date and place of calibration.

**LI-COR**
- (Include details of LI-COR calibration, including date and place of calibration.)

**Environmental Control**
- (Describe any additional environmental control.)

**Extractions and Calibrations**
- (Include any extractions and calibrations performed.)

**Variable**
- **Variable Name**: fCO2 at 100% humidity at SST, determined from xCO2 according to Pierrot et al, 2009
- **Variable Name**: Temperature in equilibrator
- **Variable Name**: SST
- **Variable Name**: equilibrator headspace pressure

**Environmental Control**
- (Describe any additional environmental control.)

**CO2 Sensor Calibration**
- (If applicable, provide CO2 sensor calibration details.

**CO2 Sensor Calibration (ppm)**
- (Include details of CO2 sensor calibration, including date and place of calibration.

**LI-COR**
- (Include details of LI-COR calibration, including date and place of calibration.)

**Environmental Control**
- (Describe any additional environmental control.)

**Extractions and Calibrations**
- (Include any extractions and calibrations performed.)
<table>
<thead>
<tr>
<th>Resolution</th>
<th>0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty</td>
<td>±0.01</td>
</tr>
</tbody>
</table>

Calibration: (For each sensor of pressure, temperature, and salinity, document traceability to an internationally recognized scale, including date and place of last calibration.)

- Factory calibrated against a NIST tracable thermometer. Regular zero point calibrations and checks against equilibrator thermometer.

Manufacturer
- Equilibrator temperature sensor, Hart Scientific
- Model: Probe: 5610, thermometer: 1521

Calibration: (For each sensor of pressure, temperature, and salinity, document traceability to an internationally recognized scale, including date and place of last calibration.)

- Factory calibrated, traceable to NIST.

Data set references
- Wanninkhof and Thoning, Marine Chemistry 44, 189-205, 1993

Citation

Note that in 2005 instrument was in bow; all other years it was installed midships.

Method Reference
- Link Note: (Optional instructions or remarks)

Note that a constant salinity of 35 was used for calculating pH20 for the xCO2 to pCO2 conversion step in the fCO2 calculation.