Abstract: The technology described here enables the use of an inexpensive laser to measure an interferometric response of an optical device under test (DUT) at reflection lengths significantly greater than the coherence length of the laser. This is particularly beneficial in practical interferometric applications where cost is a concern. In other words, inexpensive lasers having shorter coherence lengths may be used to achieve very high interferometric measurements at longer DUT reflection lengths. The technology also enables the use of such inexpensive lasers to measure Rayleigh scatter in commercial-grade, single-mode optical fiber.
INTERNATIONAL SEARCH REPORT

A CLASSIFICATION OF SUBJECT MATTER
IPC 90/02 (2006 01)

USPC 356/73 1,479,497
According to International Patent Classification (IPC) or to both national classification and IPC.

B FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
US 356/73 1, 479,497

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST

C DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 2006/01 19857 (Steffens et al) 08 June 2006 (08 06 2006), entire document</td>
<td>16-30</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C

D See patent family annex

Date of the actual completion of the international search: 23 March 2008 (23 03 2008)

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US Commissioner for Patents
P. O. Box 1490
Alexandria, Virginia 22313-1490

Facsimile No (571) 273-3201

Form PCT/ISA/210 (second sheet) (April 2007)