```
Sys.info()
##
         sysname
                        release
                                      version
                                                     nodename
                                                                     machine
                       "10 x64" "build 10586"
##
        "Windows"
                                                      "MUSTI"
                                                                    "x86-64"
##
          login
                        user effective_user
        "aphalo"
                       "aphalo"
                                      "aphalo"
##
```

```
sessionInfo()
## R version 3.3.1 (2016-06-21)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 10586)
##
## locale:
## [1] LC_COLLATE=English_United Kingdom.1252
## [2] LC_CTYPE=English_United Kingdom.1252
## [3] LC_MONETARY=English_United Kingdom.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United Kingdom.1252
## attached base packages:
## [1] stats graphics grDevices utils datasets methods base
##
## other attached packages:
## [1] knitr_1.13
##
## loaded via a namespace (and not attached):
## [1] magrittr_1.5 formatR_1.4 tools_3.3.1 stringi_1.1.1 highr_0.6
## [6] stringr_1.0.0 evaluate_0.9
```

library(tibble)

```
tibble(a = 1:20, b = 20:1)
## # A tibble: 20 x 2
##
      a b
##
    <int> <int>
## 1
      1 20
## 2
        2
            19
## 3
      3 18
## 4
       4 17
       5
## 5
            16
    6 15
## 6
```

```
## 7
           14
## 8
      8
           13
## 9
       9
           12
## 10
     10 11
## 11
     11 10
      12 9
## 12
## 13
      13
          8
          7
## 14
      14
## 15
      15 6
      16 5
## 16
      17
## 17
          4
## 18
      18
          3
## 19
      19
          2
## 20
      20
```

library(photobiology)

```
source_spct(w.length = 300:500, s.e.irrad = 1)
## Object: source_spct [201 x 2]
## Wavelength range 300 to 500 nm, step 1 nm
## Time unit 1s
##
## # A tibble: 201 x 2
## w.length s.e.irrad
      <int> <dbl>
##
      300
## 1
               1
## 2
        301
## 3
        302
                   1
       303
304
## 4
                   1
## 5
        305
## 6
## 7
        306
                   1
        307
## 8
                    1
## 9
        308
                    1
## 10
        309
## # ... with 191 more rows
```

```
sessionInfo()
## R version 3.3.1 (2016-06-21)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 10586)
```

```
##
## locale:
## [1] LC_COLLATE=English_United Kingdom.1252
## [2] LC_CTYPE=English_United Kingdom.1252
## [3] LC_MONETARY=English_United Kingdom.1252
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United Kingdom.1252
##
## attached base packages:
                graphics grDevices utils datasets methods base
## [1] stats
##
## other attached packages:
## [1] photobiology_0.9.8 tibble_1.1 knitr_1.13
## loaded via a namespace (and not attached):
## [1] R6_2.1.2
                  lazyeval_0.2.0 assertthat_0.1 magrittr_1.5
## [5] formatR_1.4 DBI_0.4-1 tools_3.3.1 ## [9] Rcpp_0.12.6 lubridate_1.5.6 stringi_1.1.1
                                                        dplyr_0.5.0
                       lubridate_1.5.6 stringi_1.1.1 highr_0.6
## [13] stringr_1.0.0 evaluate_0.9
```