

ADDENDUM

This addendum adds further information—which was not integrated in the original version due to the maximum page-count limitation—to the following article:

Maxime Daniel, Guillaume Rivière, and Nadine Couture. 2019. CairnFORM: a Shape-Changing Ring Chart Notifying Renewable Energy Availability in Peripheral Locations. In Proceedings of the Thirteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '19). Association for Computing Machinery, New York, NY, USA, 275–286. <https://doi.org/10.1145/3294109.3295634>

- **Section 4: THE CAIRNFORM SYSTEM**

- **Subsection 4.2: Implementation**

- **Paragraph 3**

Each label provides a field of readability of approximately 140° . Combining the readability fields of the four labels then enables a readability area from a minimal distance around CairnFORM. The following formula gives this distance d where the 360° -readability area starts, with α as the readability field's angle in radians and r as the radius of the ring:

$$d = \frac{r\sqrt{2}}{1 - \tan(\frac{\pi-\alpha}{2})} - r$$

Thereby, when the rings reach their maximum diameter of 62 cm, the minimal distance for 360° -readability is approximately $d = 37.9$ cm. This readability area is illustrated by Figure 5.

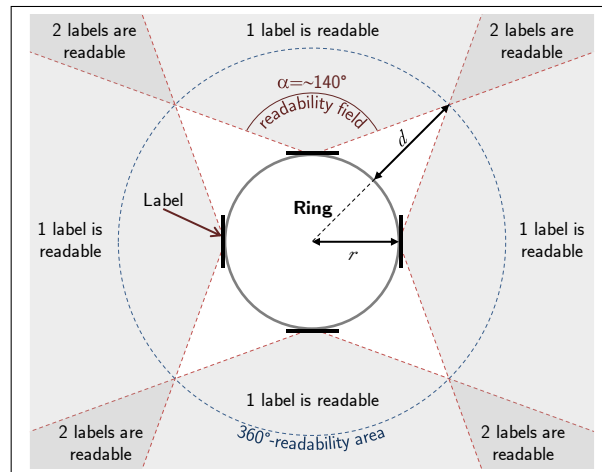


Figure 5: The 360° -readability area of the four labels.