3B Medical, Inc.	Title: UV-C dose measurements with 3B Lumin LM3000 on N95 respirator		REV: 01
	Quality Procedure	Test ID: 3B-UVCM-0002	Effective Date: 4/20/20

Introduction:

The ILT2400-UVGI-NB Germicidal/Disinfection Light Measurement System was used to take UVC dose measurements of narrow-band UV light in the 254 nm germicidal wavelength range. Measurements were taken at 5 reference points on both the concave and convex side of an N95 respirator. Measurements were taken using a single 5-minute cycle of Lumin, flipping the mask over at mid-way of cycle (i.e. 2.5 minutes on each side). Measurements were also taken using two 5-minute cycles (i.e. 5 minutes on each side).

All tests have been conducted by 3B Medical quality Department
Pages: 2 – 3 for 2.5 mins
Pages: 4 – 5 for 5 mins.
Page: 6 conclusions

Lumin UVC - 2.5 minutes each side

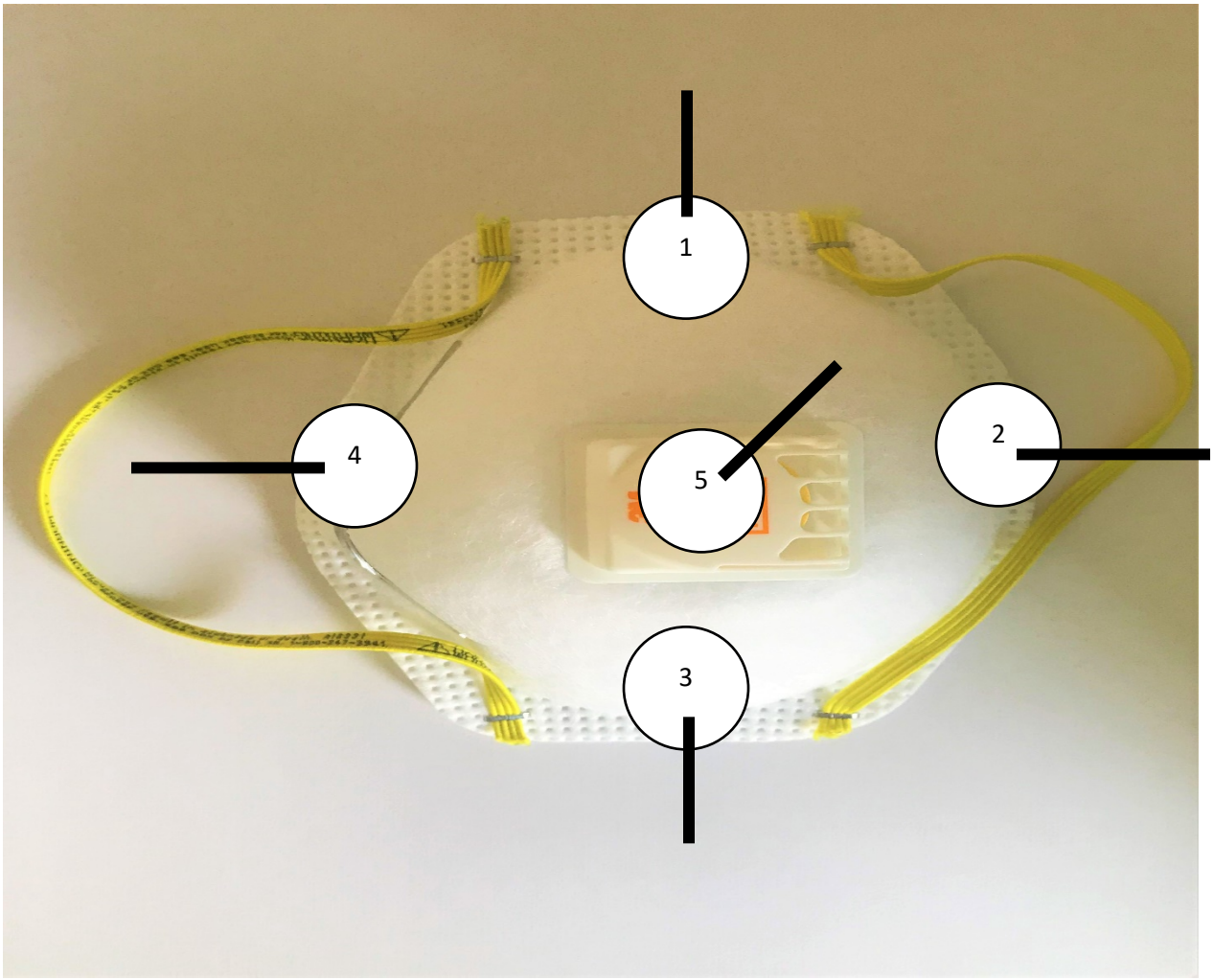
Test results for UV-C light dose on N95 Mask

A- Convex

Mask position: Convex

Sensor position: on the Mask facing up in 5 different locations

Duration time for each location: 2.5 minutes



UV-C dose measurements with 3B Lumin LM3000 on N95 respirator (convex)

1-740 mj/cm2 2-817 mj/cm2

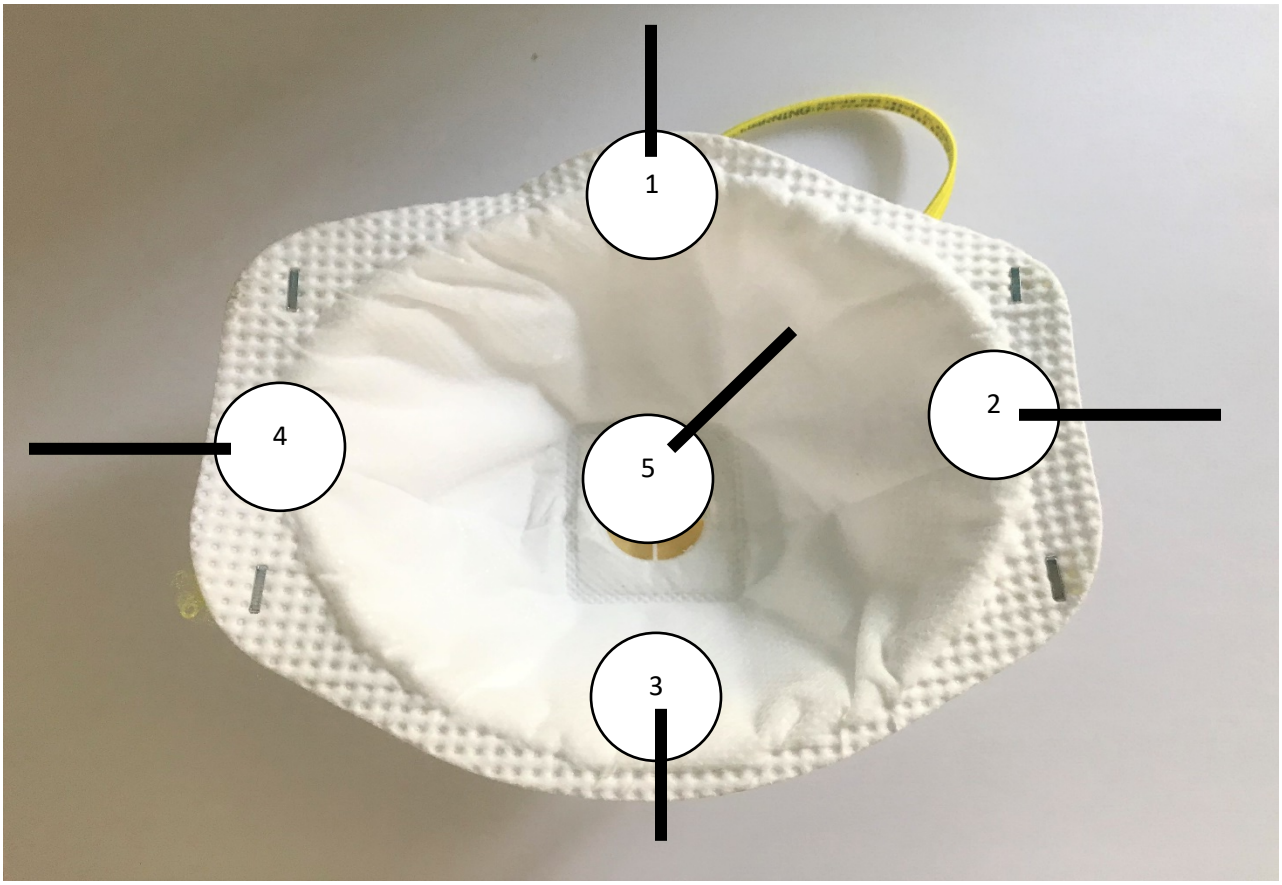
3-769 mj/cm2 4-842 mj/cm2 5-2463 mj/cm2

B-Concave

Mask position: Concave

Sensor position: on the Mask facing up in 5 different locations

Duration time for each location: 2.5 minutes



UV-C dose measurements with 3B Lumin LM3000 on N95 respirator(concave)

1-688 mj/cm2 2-820 mj/cm2

3-644 mj/cm2 4-912 mj/cm2 5-532 mj/cm2

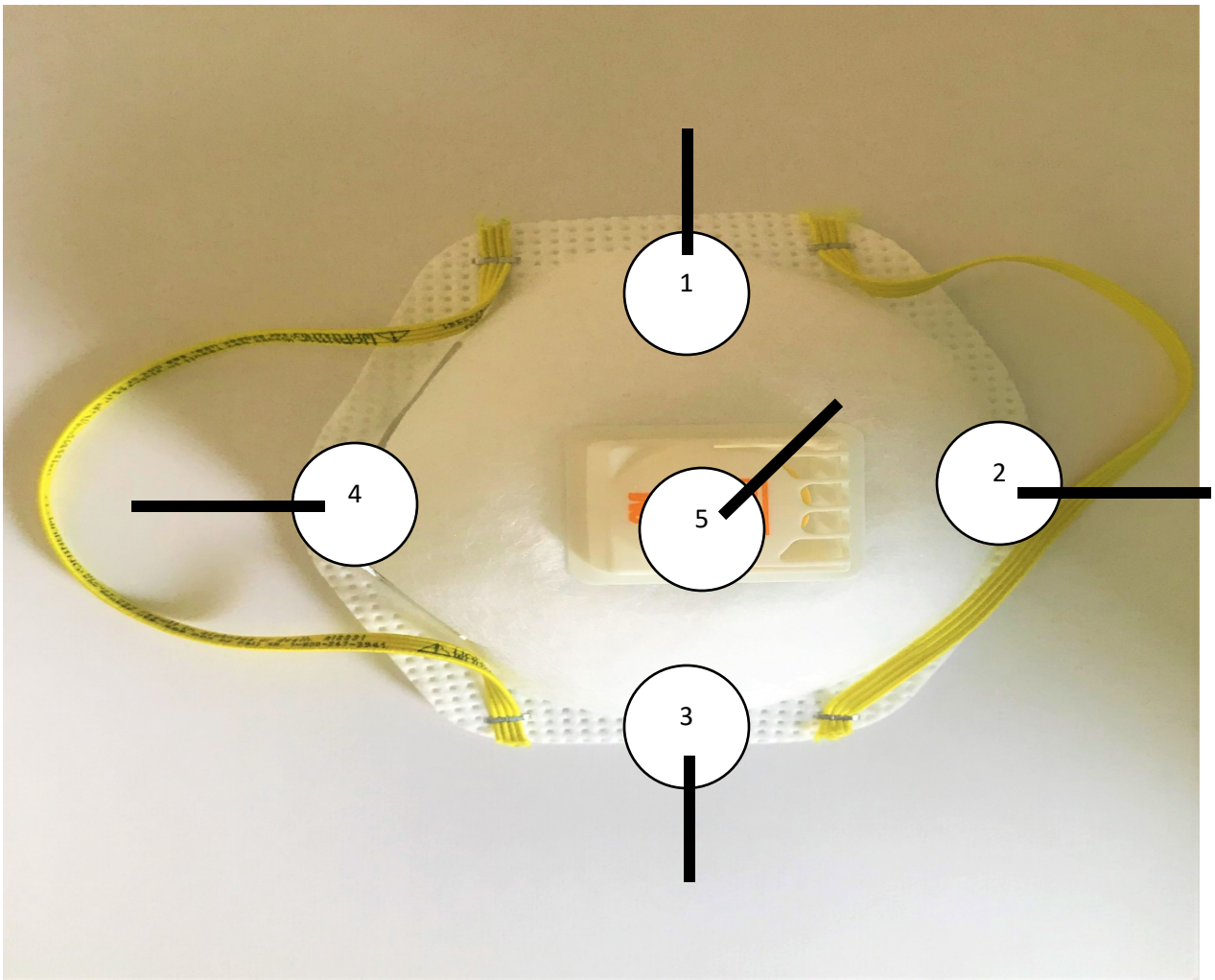
Lumin UVC - 5 minutes each side
Test results for UV-C light dose on N95 Mask

B- Convex

Mask position: Convex

Sensor position: on the Mask facing up in 5 different locations

Duration time for each location:5 minutes



UV-C dose measurements with 3B Lumin LM3000 on N95 respirator(convex)

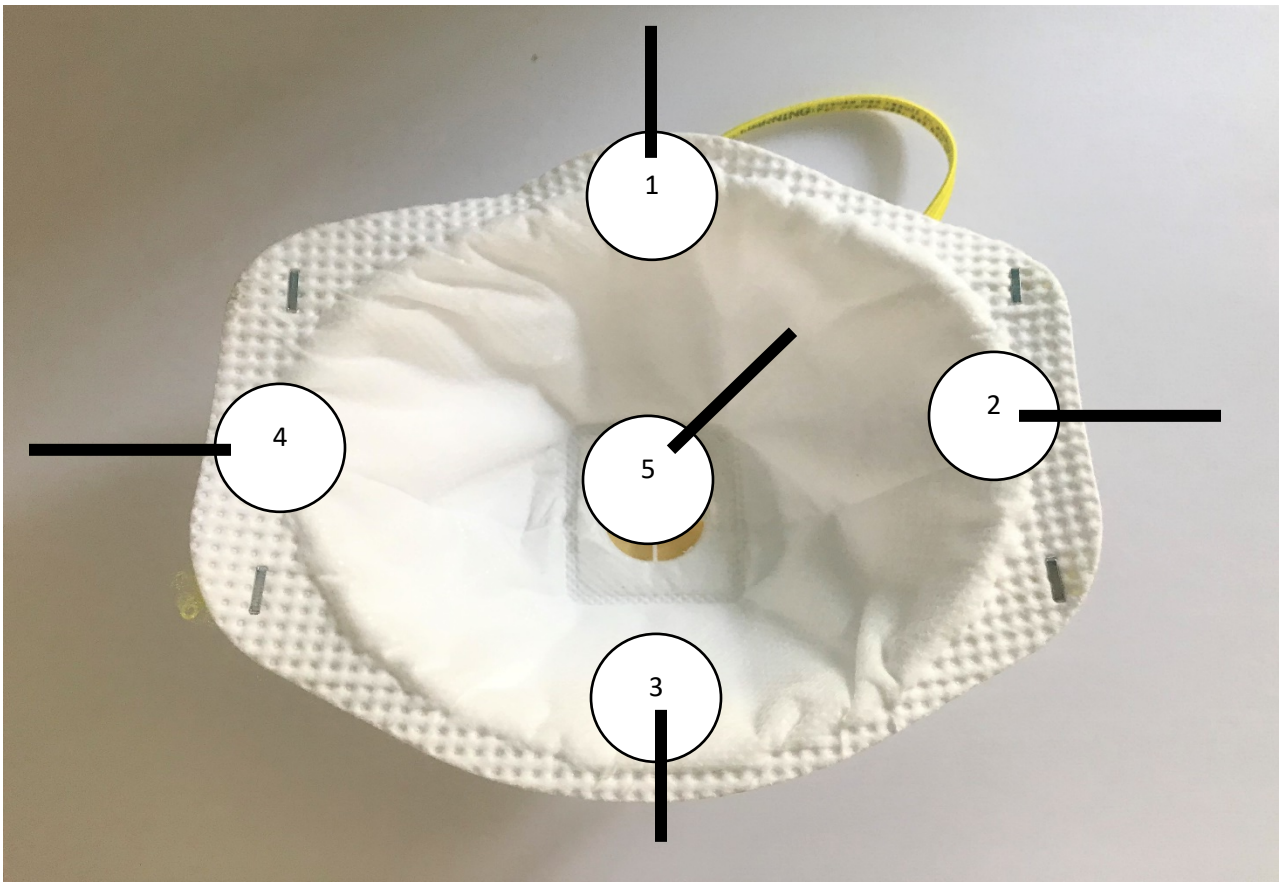
1. (2063) mj/cm2
2. (1430) mj/cm2
3. (1548) mj/cm2
4. (1381) mj/cm2
5. (2253) mj/cm2

B-Concave

Mask position: Concave

Sensor position: on the Mask facing up in 5 different locations

Duration time for each location:5 minutes



UV-C dose measurements with 3B Lumin LM3000 on N95 respirator (concave)

1. (1309) mj/cm2
2. (1702) mj/cm2
3. (1839) mj/cm2
4. (1076) mj/cm2
5. (1401) mj/cm2

Conclusion:

Both the single cycle and the double cycle meet the acceptance criteria identified by FDA (i.e 220 mJ/cm2).

Single-Cycle: The single cycle (2.5 minute each side) delivered, on average, in the 740-2463 mJ/cm2 (convex side up) and in the 500-900 mJ/cm2 (concave side up). Additionally, the opposite side of the mask (facing down) received supplemental UVGI at the same time from mirrored reflection off bottom surface in the 20-50mJ/cm2 range.

Double-Cycle: The double cycle (5 minute each side) delivered, on average, in the 1380-2253 mJ/cm2 (convex side up) and in the 1076-`709 mJ/cm2 (concave side up). Additionally, the opposite side of the mask (facing down) received supplemental UVGI at the same time from the mirrored reflection off bottom surface in the 30-70 mJ/cm2 range.

Both the single cycle and double cycle meet the acceptance criteria identified by FDA of 200 mJ/cm2.

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