UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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MERCEDES-BENZ USA, LLC
Petitioner,

v.

YECHEZKAL EVAN SPERO
Patent Owner.

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U.S. Patent No. 9,955,551

IPR Case No.: IPR2023-01040

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PATENT OWNER'S DEMONSTRATIVE EXHIBIT 2068 AND UPDATED EXHIBIT LIST

Updated List of Exhibits

Exhibit No.	Description
2001	Declaration of Matthew A. Turk, Ph.D.
2002	Curriculum Vitae of Matthew A. Turk, Ph.D.
2003	Best Practices and FAQs for Filing Requests for Reexamination Compliant with 37 CFR 1.510 and 1.915, PTAB, May 2010
2004	*Intentionally left blank*
2005	Petition challenging U.S. Patent No. 9,955,551, Mercedes-Benz USA LLC v. Yechezkal Evan Spero, IPR2023-01039, June 7, 2023
2006	U.S. Published Patent Application US2003/0137849A1 to Alden, Prosecution History in the U.S. Patent and Trademark Office
2007	Wards Auto "Prospects Bright for Lighting Sensor Supplier Hella," Roger Schreffler Wards Auto, June 6, 2017 (Available at https://www.wardsauto.com/technology/prospects-bright-lighting-sensor-supplier-hella)
2008	Automotive World, "Hella: Matrix LED technology makes its debut", February 13, 2014 (Available at https://www.automotiveworld.com/news-releases/hella-matrix-led-technology-makes-debut/)
2009	*Intentionally left blank*
2010	ATZ Worldwide "Multi-row Headlamp System in the Mercedes-Benz E-Class," Franz-Josef Kalze, February 2016 (Available at https://link.springer.com/article/10.1007/s38311-015-0105-y)
2011	*Intentionally left blank*
2012	PR Newswire, "Mercedes Multibeam LED headlamps – in a class of their own," June 22, 2016 (Available at https://www.prnewswire.com/news-releases/mercedes-multibeam-led-headlamps--in-a-class-of-their-own-300288628.html)
2013	Complaint, Torchlight v. Daimler et al., Case No. 1:21-CV-751 District of Delaware, filed June 7, 2022
2014	Reexamination Application Certified File History of U.S. Patent No. 9,955,551
2015 - 2039	*Intentionally left blank*
2040	Second Declaration of Matthew A. Turk, Ph.D.

Exhibit No.	Description
2041	Transcript of Deposition of Nikolaos Papanikolopoulos, Ph.D. *Mercedes Benz-USA, LLC v. Yechezkal Evan Spero*, taken on February 23, 2024 IPR2023-01039, IPR2023-01040
2042 – 2049	*Intentionally left blank*
2050	Jianzhong Jiao and Ben Wang, "Etendue Concern for Automotive Headlamp Using LEDs," SPIE Proceedings Vol. 5187, (January 2004) (Available at https://www.spiedigitallibrary.org/conference-proceedings-of-spie/5187/0000/Etendue-concerns-for-automotive-headlamps-using-white-LEDs/10.1117/12.504363.short)
2051	Michael Bass, *Handbook of Optics* 3RD Edition Volume II, (McGraw-Hill, 2010) (Available at https://www.worldcat.org/title/555545456)
2052	Ben Wang and Jianzhong Jiao "Studies for Headlamp Optical Design Using LEDs," SAE Technical Paper Series 2004-01-0434, (March 2004) (Available at https://www.sae.org/publications/technical-papers/content/2004-01-0434/)
2053	Ben Wang and Jianzhong Jiao "Optical Transform Limitations in Headlamp Photometric Performance," SAE Technical Paper Series 2005-01-0861, (April 2005) (Available at https://www.sae.org/publications/technical-papers/content/2005-01-0861/)
2054	*Intentionally left blank*
2055	Jianzhong Jiao and Ben Wang "High-Efficiency Reflector Optics for LED Forward Lighting," SPIE Proceedings Vol. 6670, (September 2007) (Available at https://www.spiedigitallibrary.org/conference-proceedings-of-spie/6670/66700M/High-efficiency-reflector-optics-for-LED-automotive-forward-lighting/10.1117/12.730524.short)
2056	Navigant Consulting "Energy Saving Estimates of Light Emitting Diodes in Niche Lighting Applications" Building Technologies Program Office of Energy Efficiency and Renewable Energy U.S. Department of Energy (September 2008) (Available at Energy Savings Estimates of Light Emitting

Exhibit No.	Description
	Diodes in Niche Lighting Applications (Technical Report) | OSTI.GOV.)
2057 – 2059	*Intentionally left blank*
2060	Michael Bass, *Handbook of Optics* 3RD Edition Volume V, (McGraw-Hill, 2010) (Available at https://www.worldcat.org/title/557121959.)
2061	Texas Instruments/Digikey "How DLP Technology Works," (Available at https://www.digikey.com/en/product-highlight/t/texas-instruments/dlp-technology.) (Accessed September 12, 2023.)
2062	Texas Instruments "Introduction to +/- 12 Degree Orthogonal Digital Micromirror Devices (DMDs) (Available at https://www.ti.com/lit/an/dlpa008b/dlpa008b.pdf?HQS=dis-dk-null-digikeymode-dsf-pf-null-wwe&DCM=yes&distId=10) (Accessed September 12, 2023.)
2063	Surendra Gupte, Osama Masoud, Robert F. K. Martin, and Nikolaos P. Papanikolopoulos "Detection and Classification of Vehicles" IEEE Transactions on Intelligent Transportation Systems, Vol. 3, No. 1 (March 2002) (Available at https://ieeexplore.ieee.org/document/994794) (Accessed February 20, 2024)
2064	*Intentionally left blank*
2065	Webster's New Universal Unabridged Dictionary Deluxe 2nd Edition excerpts, Simon and Schuster (1983)
2066	*Intentionally left blank*
2067	*Intentionally left blank*
2068	Patent Owner's Demonstrative Exhibit

Patent Owner hereby files Demonstrative Exhibit 2068 to be used at the Oral Argument on Wednesday, October 23, 2024.

Dated: October 21, 2024

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Certificate of Service

The undersigned hereby certifies that on October 21, 2024, a complete and entire copy of **PATENT OWNER'S DEMONSTRATIVE EXHIBIT 2068 AND UPDATED EXHIBIT LIST**, was served via electronic mail to the correspondence email addresses of the following counsel as shown below:

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