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Paper No. 41

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC. and
PORSCHE CARS NORTH AMERICA, INC.,
Petitioner,

v.

YECHEZKAL EVAN SPERO,
Patent Owner.

IPR2023-00197
IPR2023-00328
IPR2023-00335
Patent 10,894,503 B2

Record of Oral Hearing
Held: April 16, 2024

Before JON M. JURGOVAN, JASON W. MELVIN, and
AARON W. MOORE, *Administrative Patent Judges*.

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1

1 P R O C E E D I N G S
2 - - - - -
3 JUDGE MOORE: Okay. Good afternoon, everyone. Welcome to the
4 Board. We're here for a hearing on our matter IPR2023-00197, to which
5 IPR2023-01231 is joined, also IPR2023-00328, to which IPR2023-01320 is
6 joined, and also IPR2023-00335, to which IPR2023-01321 is joined. The
7 original cases are all captioned Volkswagen Group of America v. Spero.
8 The joined cases are all captioned Porsche Cars North America v. Spero.
9 And the patent at issue in all the cases is U.S. 10,894,503.
10 I am APJ Moore. APJ Melvin is with me in the room, and we have APJ
11 Jurgovan present by video. May we have appearances for the Petitioner,
12 please?
13 MR. FITZSIMMONS: Jason Fitzsimmons for Petitioner, Volkswagen
14 Group of America, joined with Ian Soule as well, who will be arguing today
15 under the LEAP program.
16 JUDGE MOORE: Patent Owner?
17 MS. SHAH: Sangeeta Shah on behalf of Mr. Spero, the Patent Owner.
18 With me, I have Bernard Tomsa, who will also be arguing as part of the
19 LEAP program, and at counsel table is Andrew Turner.
20 JUDGE MOORE: Okay.
21 MS. SHAH: I did want to raise one thing, just as a point of clarification.
22 Mr. Tomsa will be arguing --
23 JUDGE MOORE: Can you speak up a little bit? I'm sorry.
24 MS. SHAH: Oh, sorry. Mr. Tomsa will be arguing from -- across multiple
25 of these IPR proceedings. It was just raised to us that he may not have been

1 identified for backup counsel for each one of the proceedings. We wanted to
2 confirm that it'd be okay that he argued across the three different matters.
3 JUDGE MOORE: That's okay.
4 MS. SHAH: Okay. Thank you.
5 JUDGE MOORE: All right. So a couple things, I'll ask that you identify
6 yourself for the -- before you begin speaking, for the court reporter. Please,
7 when you're referring to the exhibits or demonstratives, call it out for the
8 record. Also note that I believe there's a public line for this hearing.
9 Our hearing order granted each side 40 minutes for each of the original three
10 cases and provided that the case would be argued serially. The full
11 transcript will be of record in each case.
12 We also have LEAP requests from each side. Although there are three
13 cases, we will treat this as one argument for LEAP purposes, so each side
14 gets an additional 15 minutes. And the LEAP practitioners will want to have
15 one more argument in their number of arguments. And you can use those 15
16 minutes however you want across your cases. I think we'll probably take a
17 ten-minute break after the presentation of the first case since it could be a
18 long afternoon.
19 The argument time is reflected on the wall behind me, so I'll leave it
20 to you to reserve your rebuttal. And I'll just ask when you start, tell me
21 whether you want just the 40 minutes or add LEAP time to the 40 minutes.
22 Okay. Any questions?
23 Petitioner, when you're ready.
24 MR. FITZSIMMONS: Your Honor, we'd like to please add our
25 LEAP time to this first proceeding.

1 JUDGE MOORE: All of it?
2 MR. FITZSIMMONS: All of it to this one, yes. Thank you.
3 JUDGE MOORE: You ready?
4 MR. FITZSIMMONS: Yes. Good afternoon, Your Honors, and may
5 it please the Board. Again, I'm Jason Fitzsimmons from Sterne Kessler
6 Goldstein & Fox, on behalf of the Petitioner, Volkswagen Group of
7 America. Joining me today from Sterne Kessler are Mike Specht, lead
8 counsel for Petitioner, Ian Soule at counsel's table, as well as John Higgins.
9 I'd like to thank the Board for allowing Mr. Soule to argue again under the
10 LEAP program.
11 So much like the related '029 and '551 patents, the Patent Owner here has no
12 credible missing element arguments for the '503 patent because all of the
13 claim elements were known in prior art. So instead, the Patent Owner
14 response recycles arguments from the preliminary response, attacking the
15 motivations to combine the references, but there's still no basis for Patent
16 Owner's arguments here.
17 The references are from the same field of adaptive headlights, and the
18 Petition provided pages worth of rationales, based in the references
19 themselves and supported by Dr. Jiao's expert declarations, explaining why a
20 person skilled in the art would've combined the references and why they
21 would've had a reasonable expectation of success combining known prior art
22 elements and techniques.
23 So the Patent Owner makes only a few arguments or actual claim elements,
24 and they do so by adding limitations into the claim as they did in the '029
25 and '551 patents in an attempt to salvage something from the '503 patent.

1 But not only are the Patent Owner's implicit claim constructions unsupported
2 by the claims themselves, for the '503 patent, they're based on the opinion of
3 a declarant, Dr. Turk, who does not even qualify as a person of ordinary skill
4 in the art.
5 So if we turn to slide 3, quick refresher. In the '197 proceeding, there's two
6 grounds here. The Karlsson-Harbers ground covers most of the claims. The
7 go-to reference, which we're familiar with from the other proceedings is
8 applied for the road curvature claims. And then we have the Beam-
9 Thominet combination. To that, the Stam reference is added for a couple of
10 claims for these predefined illuminance element, and Kobayashi reference
11 that we're familiar with is added for the road curvature claims in that
12 combination.
13 So next on slide 4, a brief agenda for today. So in the '197 proceeding,
14 there's two independent claims: Claim 20 and 59. The majority of the claim
15 elements are the same between those two claims, and many of the dependent
16 claims are redundant across those claims, and so we'll generally address
17 them as a pair. The primary reference in each ground, Karlsson and Beam,
18 nearly anticipates the independent claims. The only element that may not be
19 expressly disclosed in those references is the directional light sources that
20 are aimed at different angles or directions, but that was well-known in the
21 art, as exemplified in Harbers and Thominet.
22 So our first point today, we'll go over, as was explained in the brief, a person
23 of skill in the art would've been motivated to combine Harbers curved LED
24 substrate with Karlsson, and Thominet's curved LED substrate with Beam,

1 which provides LEDs that are aimed at these different angles or have
2 different aimings.
3 After that, we'll cover how the grounds disclose the first and second
4 subsection elements and then how the combination of the Stam reference
5 with Beam and Thominet discloses determining a light output for the first
6 subsection that is substantially resulting in light below a predefined -- it's in
7 that first subsection.
8 We'll then address the dependent claims that the Patent Owner argued.
9 And finally, Mr. Soule will discuss the motion to exclude Dr. Turk's
10 testimony since Dr. Turk does not even qualify as a person of skill in the art.
11 So Claim 20 is on slide 5. And Claim 20 is representative here. It
12 recites a vehicle headlight system that adjusts light output characteristics in
13 response to detecting a vehicle to prevent glare. Common elements here,
14 there's directional light sources aimed at different angles; there's a processor
15 that uses sensor to determine if first subsection in the field of view has a
16 detected vehicle and a second subsection in the field of view that does not
17 have the detected vehicle.
18 The claim itself recites the purpose here is to determine the optimal
19 use in order to maximize visibility and while minimizing a disturbing effect,
20 so that would be glare, in that first subsection. And so all the '503 patent is
21 claiming is standard glare control. One area with less light where there's
22 another vehicle so that you don't blind that driver, and a second area with
23 more light where you don't need to worry about blinding that other driver.
24 And all these features are in the prior art.

1 Turning to slide 6 very briefly, Claim 59 has many of the same
2 elements as independent Claim 20. This claim, we see Element 59.9 has that
3 predefined illuminance element that we'll be discussing with respect to
4 Claim 59.
5 So slide 7, very briefly, we're going to begin with the grounds based
6 on Karlsson and Harbers because the Patent Owner only has a couple of
7 arguments against this combination -- against the motivation to combine and
8 another argument against these first and second subsection elements and
9 both of which are unavailing and can be disposed with fairly succinctly at
10 the beginning here. The Patent Owner takes a more scatter-shot approach to
11 the Beam-Thominet combination, and so I'll plan to address that second.
12 So Karlsson-Harbers here, starting with the primary reference, highly
13 adaptive LED lamp in Karlsson, combining that with the known structure of
14 the curved substrate and the known technique of forming beam segments as
15 taught by the Harbers reference.
16 On slide 8, the Karlsson reference that we're familiar with here, two
17 passages on the left. The top left explaining that Karlsson varies its pattern
18 and intensity of the beam in response to data from its light-sensitive sensors.
19 The bottom left, here, Karlsson explaining how Figure 14, which is on the
20 right, has this light beam, indicated by that box 50, that can be adjusted by
21 its controller to vary in size and dimension based on the light detected by the
22 test sensor for the glare control purposes.
23 Karlsson additionally, as we see, the quote there, at the top left, from
24 column 9, discloses that its light intensity, when it detects that there is a

1 vehicle, there is either no light at all or light having a low intensity emitted
2 in those directions. And so it minimizes glare to the other drivers.
3 Now, if we look at slide 9, this is the Harbers reference. On the right,
4 we see a figure -- annotated figure from Harbers. Harbers is similar to
5 Karlsson in that it has this array of light sources, which would be LEDs.
6 And what Harbers teaches, as we see at the top left, is a curved substrate,
7 and it teaches that the shape of that substrate is determined by the desired
8 direction of the light beams to be emitted from the headlamp.
9 At the bottom left, we see Harbers further discloses subdividing the
10 emitted light into beam segments that have different spatial distributions and
11 different spatial characteristics.
12 JUDGE MOORE: So Harbers discloses both a flat substrate and a
13 curved substrate?
14 MR. FITZSIMMONS: Yes, Your Honor. It does.
15 JUDGE MOORE: Does it describe there being any difference in this
16 system depending on which you use?
17 MR. FITZSIMMONS: So what Harbers describes is that the shape of
18 the substrate, you determine that by the desired direction of the light beams.
19 And so depending on what that person of ordinary skill in the art would want
20 from their headlamp, they would understand you can use a flat substrate, you
21 can use a curved substrate. How curved do you want that substrate? So to
22 the person skilled in the art, they would understand that Harbers discloses a
23 reason to do that is to get a desired direction of the beam.

1 And Dr. Jiao further testified that a person skilled in the art would
2 actually prefer a curved substrate because it would reduce aberrations in the
3 beam in his declaration testimony. So --
4 JUDGE JURGOVAN: Counsel, the claims don't require a curved
5 substrate, do they?
6 MR. FITZSIMMONS: That's correct. The claims do not require that,
7 Your Honor. They require that there are directional light sources having
8 either different aimings or beamed at different angles. And of course, a
9 curved substrate with LEDs on that, has both of those, whichever way you
10 want to recite that. In Elements 20.2 of Claim 20 or Element 59.2, it has
11 that. And we see that on slide 10, those two elements here. And so the
12 Thominet and the Harbers reference both have those by having their LEDs
13 on that curved substrate. And so --
14 JUDGE JURGOVAN: Thank you.
15 MR. FITZSIMMONS: Thank you, Your Honor. And so on slide 11,
16 the motivation to combine Harbers' curved substrate with Karlsson.
17 Obviously, the Patent Owner doesn't challenge that the -- that Harbers has
18 these LEDs on a curved substrate that would have different aimings or
19 different angles. What they challenge instead is the motivation to combine
20 Harbers with Karlsson. But we see, at the top left here, on slide 11, the
21 petition at page 90 showed that the arrangement of the LEDs on Harbers'
22 curved substrate allows the headlight system to provide beam segments with
23 different functions.
24 On the right-hand side, Dr. Jiao's declaration supports that. Paragraph
25 354, that a person of skill in the art would've sought to incorporate Harbers'

1 LEDs on a curved substrate into Karlsson's system to provide different
2 spatial distributions for different driving situations, which would improve
3 visibility and safety.
4 On slide 12, what the Patent Owner argues is that there would not
5 have been a motivation to do this because you would only need Harbers'
6 software here in order to achieve these beam segments. Essentially, their
7 argument is that the curved substrate doesn't provide any additional benefit.
8 And to Your Honor, Judge Jurgovan's point, here, the point I just
9 made, Dr. Jiao, as we see on the right here, in his declaration, Exhibit 1051,
10 paragraphs 149 to 150, that the person of skill in the art would actually
11 prefer using a curved substrate -- improves optical performance by reducing
12 aberration. So the Petition provided plenty of reasons to combine Harbers
13 and Karlsson. Dr. Jiao rebutted the Patent Owner's argument here, that a
14 curved substrate wouldn't provide any additional benefit over a flat one.
15 Now, on slide 13 --
16 JUDGE MOORE: Can I ask you a question about the -- actually, both
17 the grounds? There's a distinction drawn in the Petition between the
18 software implementation and the hardware implementation. I mean, it
19 seems to me you need both to make these prior art systems work. So I'm not
20 really understanding what the distinction is between a software
21 implementation and a hardware implementation.
22 MR. FITZSIMMONS: And so the petition also explains that you
23 could implement this with hardware and software together. They recite that
24 as well. So there, it says, additionally or alternatively to the software --

1 JUDGE MOORE: Well, what are you implementing? Maybe that's
2 my question.
3 MR. FITZSIMMONS: Sure. Implementing, for example, in the
4 Karlsson-Harbers ground, right, Karlsson curved substrate, right, and how
5 you control those LEDs on a curved substrate into the beam segments that
6 Harbers describes.
7 JUDGE MOORE: But so in Karlsson, if you don't have the software
8 piece, right, then you -- then it's not going to work at all; is that right?
9 MR. FITZSIMMONS: What wouldn't work at all, Your Honor?
10 JUDGE MOORE: Karlsson with -- sorry -- Harbers, in either -- in
11 any of these references, actually. If you just extract the hardware and the
12 software and look at them separately, those aren't systems -- functional prior
13 art systems, right?
14 MR. FITZSIMMONS: Well, of course, you need something to
15 control the LEDs in the manner that you would want and that's well within
16 the skill of the person of ordinary skill in the art here. Well, how do I
17 control my LEDs, and the petitions explained that you can use the hardware
18 and the software from, for example, Harbers or Thominet together, in
19 combination with the primary reference, and that's how you would control
20 the LEDs that are now on a curved substrate.
21 JUDGE MOORE: Is there somewhere in Harbers that says if you take
22 out the software piece, you get the benefits that you're pointing to of that
23 system?
24 MR. FITZSIMMONS: I don't know if Harbers expressly says that in
25 the reference somewhere, Your Honor.

1 So a question that Your Honors raised in the Institution Decision, on
2 slide 13 here, invited the parties to address whether the law specifically
3 requires some separate or specific motivation to include what may be an
4 optional aspect of the secondary reference. And the answer to that is no. No
5 specific or separate motivation is required.
6 The Federal Circuit's Intel case says that when two known techniques
7 address the same problem, replacing one for the other requires no
8 improvement in a categorical sense. And so as long as the technique is a
9 suitable option for addressing the same problem, then there is a motivation
10 to combine. And so to some degree, that addresses your point, Your Honor.
11 While Harbers doesn't necessarily say that, the Federal Circuit has found that
12 you don't need some additional reason here.
13 JUDGE MOORE: But do you need to say that in the petition, though?
14 MR. FITZSIMMONS: No, Your Honor. There's no reason that that's
15 required to say that in the petition. The law doesn't require some separate
16 motivation, so we don't need to include something that says we don't need a
17 separate motivation. There is plenty of motivation to -- rationales for the
18 motivations to combine here, in the petition, and those are specifically tied
19 to the references themselves.
20 So next on slide 14, so the only elements that Patent Owner contests
21 for independent Claims 20 and 59 in the Karlsson and Harbers ground are
22 the first in determining or identifying a first subsection in the field of view.
23 Claim 20 further recites that there is a second subsection not including this
24 detected vehicle. Claim 59 recites a second subsection to either side of the
25 first subsection, but the Patent Owner does not contest that element.

1 So starting with the first subsection on slide 15, Karlsson does
2 determine a first subsection that includes a vehicle. As we see on the left,
3 the petition, page 99, supported by Dr. Jiao's expert declaration, paragraphs
4 408 to 409, Karlsson's processor, it receives and processes incident light data
5 and determines and identifies a vehicle within the headlight's field of view.
6 Top right here, Karlsson column 5, Karlsson uses its light-sensitive sensor to
7 detect the headlights of oncoming traffic and uses that data to adjust the
8 emitted beam pattern. Karlsson automatically and dynamically adapts that
9 pattern being emitted, depending on the intensity and the direction of the
10 light that it is detecting, in order to prevent glare to oncoming traffic.
11 And so on slide 16, the Patent Owner's argument here is that Karlsson
12 doesn't disclose processing the incoming light to determine whether that
13 source is a vehicle or some other light source, but the claims don't recite how
14 the vehicle is detected.
15 On slide 17, this is another instance here, as we saw many times in the
16 '029 and '551 proceedings, of the Patent Owner attempting to add limitations
17 to the claims that aren't required. So the Board correctly found, in the
18 Institution Decision, page 20, that the claims do not require that the system
19 detect only vehicles, and that's supported by the record.
20 The bottom left excerpt here, from Dr. Jiao's declaration paragraph 73,
21 discussing element 20.9, the claims do not specify how the processor uses
22 the sensor data to determine that the detected light is from a vehicle.
23 On the right-hand side, the Patent Owner's declarant, Dr. Turk agreed
24 that Claim 20 does not specify how the vehicle is to be detected. He says, I
25 don't think there's anything in this claim that specifies how the vehicle is

1 detected. He also agreed that the claim does not specify any particular types
2 of sensor data that's required to determine a detected vehicle. So again,
3 Patent Owner's attempt to add limitations to the claims here is contradicted
4 by its own declarant.
5 And to top that point off, on slide 18, we see, on the right-hand side
6 here, the '503 patent determines the position of vehicles the same way,
7 oncoming -- it's -- and it's consistent. Karlsson's detection of vehicle
8 headlights to determine position of oncoming vehicles is consistent with the
9 methods in the '503 patent. Column 52 says that analysis by a detector for
10 an imaging system of the oncoming vehicle's position, using its headlights,
11 for example, can be used to determine the aimings. So Karlsson's process is
12 using light input to identify vehicles, same process as in the '503 patent.
13 Now, the Patent Owner does not contest that Karlsson fails to disclose
14 any of the remaining elements of independent Claims 20 and 59, including
15 they don't contest that Karlsson discloses determining a second subsection
16 not including the detected vehicle. And so that's it for the Karlsson grounds.
17 The Patent Owner is wrong about a lack of motivation to combine the
18 references, and they're wrong about the first subsection limitation. And so
19 independent Claims 20 and 59 are obvious in view of the Karlsson and
20 Harbers combination.
21 The next --
22 JUDGE MOORE: For the claims that don't require the differently
23 angled lights, why do you need the secondary references? What's missing
24 from Beam?

1 MR. FITZSIMMONS: So from Beam, we add the -- combine those
2 references. So in the '328 proceeding, the claim limitations -- let me just go
3 to those. They recite one or more directional light clusters. And so that
4 directional aspect is one of the reasons to combine with the secondary
5 references to provide that directional aspect of the LEDs. And in the third
6 proceeding, the '335 proceeding, it also recites light clusters, and so the
7 Harbers and Thominet references both teach using light clusters for different
8 functions. So for those reasons, the secondary references in those other
9 cases.
10 JUDGE MOORE: Okay.
11 MR. FITZSIMMONS: So turning back to the Beam and Thominet
12 combination here, in the '197 proceeding, so slide 19, we're familiar with the
13 Beam reference. The Thominet reference is over here on the right-hand
14 side. We can see, similar to Harbers, Thominet has LEDs on curved
15 substrate, shown there, in Figure 1.
16 So slide 20, we know Beam has these two embodiments. One with an
17 optical system, a sensor, and what is lamp 202, and a second embodiment,
18 shown in Figure 4, which has an optical system, 106, sensor 107, and what
19 Beam calls an array of light sources 401, which can be individually
20 controlled LEDs.
21 Now, the contention that permeates throughout the Patent Owner's
22 argument here is that Beam -- they allege that Beam's Figure 4 embodiment
23 would not include a spatial light modulator, but Beam is not getting rid of
24 that spatial light modulator functionality. It became part of the array of LED
25 light sources 401, and the record is replete with evidence for that.

1 Dr. Jiao explains, in the bottom right quote here, in his deposition
2 testimony that --
3 JUDGE MOORE: Yes. Let me -- so you're focusing on that because
4 it's the SLM, you think that changes the aimings; is that the idea?
5 MR. FITZSIMMONS: I think that very clearly changes the aimings,
6 yes -- or it very clearly changes the light distribution. And I think one of the
7 clearest things -- so Dr. Jiao testifies that when Beam states that it replaces
8 the lamp and SLM with this array of light sources. That array of light
9 sources cannot just only be emitters because an emitter doesn't have
10 directionality. And so the array of light sources is a combination of the
11 emitters and SLMs.
12 That's consistent with what we see, on slide 21, of Claim 4 of the
13 Beam reference itself, which recites that the system can have both LEDs and
14 an SLM. And so Dr. Turk's, the Patent Owner's declarant, his assertion that
15 a person skilled in the art would never interpret the SLM as being included
16 in the LED embodiment is not credible. In fact, it's demonstrably false as,
17 for example, exemplified by Claim 4 and as Dr. Jiao explained.
18 So turning to Thominet, on slide 22, we have here Thominet explicitly
19 discloses that the LEDs can be distributed over a concavely curved surface
20 or a stepped surface, there at paragraph 18 of the Thominet reference.
21 And so what Thominet does, as well, on slide 23, is it discloses
22 arranging this matrix of LEDs in a -- what it calls predetermined partial
23 regions, which are these regions that are actuatable independently of each
24 other. And the reason for that is so that it -- the illumination, you can use it

1 for different functions and that you can have, as Dr. Jiao explains, different
2 spatial and angular distribution for different driving situations.
3 And so we'll turn to slide 25.
4 JUDGE MELVIN: Can I just clarify a point on that? I mean, you
5 agree that Beam does provide different spatial distributions, right? So the
6 motivation for the combination is not to provide a new functionality, it's just
7 that it's a different way of providing the same functionality; is that right?
8 MR. FITZSIMMONS: So Beam can control the spatial light
9 distribution. What Thominet says is, here, let's do it for sort of the specific
10 functionalities. And so like, for an example would be if there is fog or if
11 you're driving at slow speeds, like where should we be doing the light? And
12 Thominet gives some details on how you accomplish that, and it does it
13 through its partial -- what it calls its partial regions in its curved substrate.
14 JUDGE MELVIN: But that's a control strategy, right? Identifying
15 clusters, subregions?
16 MR. FITZSIMMONS: That is a control strategy, yes. It's --
17 JUDGE MELVIN: But what you're incorporating, I thought, was the
18 curved nature of Thominet's array.
19 MR. FITZSIMMONS: And for that reason, as well, it provides
20 different spatial distributions as opposed to a flat substrate. And Dr. Jiao
21 explained again, with respect to this combination, that the person of skill in
22 the art would prefer the curved substrate for its improved optical properties
23 because it reduces aberration. And so that's a reason to use that curved
24 substrate.

1 JUDGE MOORE: So when you say reduces aberrations, you're
2 referring to the second declaration that talks about -- well, the -- it was
3 different word, right? It was a glaring or something like that, or it doesn't
4 matter, but that's what you're referring to, right?
5 MR. FITZSIMMONS: Yes.
6 JUDGE MOORE: Okay.
7 MR. FITZSIMMONS: Correct. So turning back to slide 23 -- or
8 excuse me -- slide 25, so again, what the Patent Owner challenges here is the
9 motivation to combine Thominet and Beam. But here on the left, the
10 petition, page 35, write Thominet's independently controllable LEDs are
11 arranged on this curved substrate, and it provides -- Thominet provides for
12 beam regions for different functions.
13 And as we see on the right, again, Dr. Jiao, in his first declaration,
14 paragraph 164, a person of skill in the art would've been motivated to
15 combine Thominet's curved substrate with Beam's headlight system in order
16 to provide different spatial distributions for different driving situations, in
17 order to improve visibility and safety for the driver.
18 Next we'll turn to slide 27. And so for the Beam-Thominet
19 combination, Patent Owner argues here that Beam does not disclose the first
20 and second subsection elements here in Claims 20 and similar elements in
21 Claim 59.
22 And so on slide 28, we know -- we see that Beam's headlight system
23 discloses this first subsection, including a detected vehicle. Beam's
24 headlight system, as we see on the left here, from the Petition, page 43,
25 determines a first subsection that includes a vehicle by collecting, processing

1 spatial area data from its camera sensor, and tracking the vehicle location in
2 order to do glare reduction to not blind the other drivers.
3 And so this -- the Patent Owner's argument here is very similar, as we
4 see on the next slide, slide 29, as they made it against the Karlsson reference.
5 They allege that you need to be able to distinguish between light sources in
6 order to detect vehicles. Again, that's not required by the claims. This is
7 another attempt by the Patent Owner here to import additional limitations
8 into the claims.
9 And regardless, Beam's disclosed thresholding technique allows the
10 controller to distinguish between light sources by eliminating weak signals
11 that it detects, and therefore, that would meet the Patent Owner's narrow
12 definition of this claim as well. And again, that's from Beam, column 5,
13 lines 33 through 36 and confirmed by Dr. Jiao as well, as we see on the right
14 here, paragraph 77, that Beam's controller does distinguish between light
15 sources by filtering weak signals. And so even under the Patent Owner's
16 construction, here, Beam discloses that element.
17 On slide 30, Patent Owner also argues that Beam doesn't disclose a
18 second subsection that's not including the vehicle. Patent Owner is wrong
19 about this as well. On the left-hand side, the petition, page 45, supported by
20 Dr. Jiao's first declaration, paragraph 184, Beam does the converse process
21 of reducing the intensity in areas that correspond to the vehicle so that it can
22 determine an area not to be dimmed so that there is a second subsection in
23 the field of view that does not include that vehicle.
24 And so we'll turn to slide 31.

1 JUDGE MOORE: Before you do that, I mean, I think that their
2 argument is that your second subsection does have part of the vehicle in it,
3 right?
4 MR. FITZSIMMONS: And so what -- then let's skip to slide 32, Your
5 Honor. Right, and so that's the Patent Owner's argument. Their argument
6 here is that the proof for the second subsection is deficient because the green
7 highlighted area in the petition, annotating Figures 1C and 1D, that
8 corresponds to the remainder of that field of view, includes part of the
9 vehicle. But the Patent Owner has to argue that the proof is deficient
10 because Beam clearly discloses that there's a second subsection not
11 including the vehicle. In fact, there's many subsections that are second
12 subsections that do not include the vehicle, and examples are shown here
13 from both the Petitioner's reply and Dr. Jiao's reply declaration of second
14 subsections not including the vehicle.
15 And so the Patent Owner's argument here is flawed for two reasons.
16 First, the claims don't require that the second subsection is coextensive with
17 the remaining area of the field of view. And the second point is that the
18 Petition did not say that the entire green area is the second subsection. This
19 was clarified in the Petitioner's reply, clarified by Dr. Jiao in his reply
20 declaration.
21 We can see, on the bottom left here, from Dr. Jiao, explaining -- in
22 paragraph 80, he says Dr. Turk mischaracterized his annotations of Beam's
23 Figure 1C and D by equating the remainder of the field of view with the
24 second subsection. Dr. Jiao says, my annotated Figures 1C and D of Beam

1 show areas outside the reduced intensity subsection that do not include the
2 vehicle. And the Patent Owner ignores those areas.
3 JUDGE MOORE: But what did the Petition say, though, exactly was
4 the second subsection and not including the vehicle?
5 MR. FITZSIMMONS: Yeah. The Petition, here, on slide 37, says
6 that Beam's processer determines an area not to be dimmed within a second
7 subsection of the field of view. It says Beam discloses determining a second
8 subsection not including the vehicle.
9 JUDGE MOORE: Well, in the print, that says non-shaded area based
10 on non-blanking signals, right?
11 MR. FITZSIMMONS: Yeah.
12 JUDGE MOORE: So that seems to indicate everything that's not
13 shaded.
14 MR. FITZSIMMONS: It doesn't say everything that's not shaded,
15 Your Honor. It says that there is an area to not be dimmed within a second
16 subsection of the field of view. It will, of course, have to be within that non-
17 shaded area. And so it could be anywhere in that green area, of course, that
18 doesn't have a vehicle in it because that's a -- there are second subsections.
19 That's why the reply further clarified that there are many second subsections
20 within the remainder of the field of view that do not include the vehicle.
21 JUDGE MOORE: So we should infer, because there is a vehicle in
22 part of the non-shaded area, that you are actually referring to the part that did
23 not have the vehicle because that's what the claim says?
24 MR. FITZSIMMONS: That's what the claim says. And so we
25 wouldn't have picked -- said, oh, well, the second subsection has a part of

1 the vehicle in it. There's many second subsections within the range or the
2 field of view. That's what was clarified in the reply.
3 So I'd like to turn now to slide 38. And so we're now onto the
4 combination with the Stam reference.
5 JUDGE MOORE: What slide, Counsel?
6 MR. FITZSIMMONS: Excuse me. Let's turn to slide 36. And so
7 we're now at Beam, Thominet, and Stam, and this is the predefined
8 illuminance element in Claim 59.9. And so what 59.9 says is that
9 there's -- you're aiming light at the first subsection -- that's where the vehicle
10 is -- below a predefined illuminance. And we see on the left here, the
11 petition, page 51, that Beam's area corresponding to the detected vehicles is
12 still illuminated. It's at a -- just at a level significantly less than low beams.
13 On the right-hand side, from the Petition at page 60, Stam more
14 specifically defines an illuminance level. It defines it as 0.1 foot-
15 candles -- that's the fc -- within 700 feet, and that corresponds to reducing
16 glare -- the level that you would want to reduce glare to other drivers.
17 So on slide 37, the Patent Owner's argument again is that Beam, its
18 headlight system actually provides no illumination toward the other vehicle
19 because it blanks vehicles, but there's numerous disclosures in the Beam
20 reference itself. It doesn't just blank. That Beam reduces the intensity, it
21 says this three or four times. It reduces the intensity of the illumination
22 directed towards the oncoming vehicle.
23 JUDGE MOORE: What does it mean where the claim says
24 predefined illuminance? Is that -- so the system has to define illuminance

1 and then be below it, or is it just enough that there is some illumination level
2 that you can point to that the blank regions down below?
3 MR. FITZSIMMONS: Yeah. So the claims don't specify. The '503
4 patent specification does not specify what that means. There could be sort
5 of a, as in the Karlsson ground, the dipped illuminance or the low beam
6 illuminance is a predefined threshold below which, like the Karlsson ground,
7 describes illuminating the area where there's a vehicle. In the Beam
8 combination, it's not as explicit. So for that combination, we've included the
9 Stam reference which actually says here's the illuminance level below which
10 you would want to be directed towards another vehicle so that you don't
11 produce glare.
12 JUDGE MOORE: So for your argument, the predefined illuminance
13 could also just be the high beam illuminance, right? It doesn't really matter
14 as long as whatever it is --
15 MR. FITZSIMMONS: Any predefined illuminance --
16 (Simultaneous speaking.)
17 JUDGE MOORE: -- that other thing is the predefined luminance?
18 MR. FITZSIMMONS: Yes, Your Honor. It's a very broad term, but
19 to the extent that the Patent Owner was going to argue that this required
20 some sort of specific numerical level, the Stam reference discloses that.
21 They have not argued -- not argued that, but we didn't know how they were
22 going to construe this term.
23 Next we'll turn to slide 40, and I want to just be cognizant of my time
24 here. Slide 40, Claims 25 and 64 recite reflectors or lenses. Claim 64 adds
25 that those are used as part of the instructed adjustment. Karlsson, on slide

1 41, Patent Owner does not contest that Karlsson, on the merits for Claim 25.
2 They only argue with respect to Claim 64 of the Petition at page 112. You
3 can see Karlsson discloses the recited the reflectors or lenses. It discloses
4 light modulators. It discloses a lens 6. Karlsson discloses all those claim
5 elements.
6 What the Patent Owner contends is that the Petitioner didn't meet its
7 burden for Claim 64 by not accounting for the part of the limitation there
8 that says, as part of the instructed adjustment. The Patent Owner alleges that
9 this means that there is some active utilization of at least one of the recited
10 objects. Again, this is another instance of the Patent Owner adding
11 limitations to the claims. It's not recited in the claims. It's not required by
12 the claims.
13 Plain language of the claims does not associate one of the reflectors or
14 lenses themselves as being adjusted. All right. All it says is that the
15 reflectors, refractors, or lenses usable to alter the light emitted from one of
16 the light sources is part of the instructed adjustment. Now, regardless, at a
17 minimum, the light modulators disclosed in Karlsson would satisfy the
18 Patent Owner's added limitation anyway, so it's really a moot point.
19 Similarly, on slide 42, Beam as well, we see from the Petition, page
20 50, on the left side here, discloses reflectors, lenses, SLM, bi-convex lens
21 106. And we know, again, that that SLM is in combination with the LEDs
22 from Claim 4 of the Beam reference.
23 JUDGE MOORE: Did you make that argument about Claim 4 in the
24 petition?

1 MR. FITZSIMMONS: I don't have the cite here, but I do believe we
2 have one of those pinned cites is to the Claim 4 itself.
3 JUDGE MOORE: Okay.
4 MR. FITZSIMMONS: We will now turn to slide 43. The last
5 technical point here, for the '197 patent, before Mr. Soule discusses the
6 motion to exclude are the road curvature claims. We see here that the claims
7 recite, for example, increasing illumination in the direction of the road
8 curvature or increasing illumination, illuminating the turn.
9 If we go to the next slide, very similar to previous proceedings, for the
10 '029 proceeding. These are disclosed by the Kobayashi reference, which is
11 combined with Beam, also by the Gotou reference, which is combined with
12 Karlsson. We discussed these disclosures, the motivation to combine the
13 '029 patent, also in the '503 petitions. Here, I use the same rationales, and so
14 in the interest in time, unless there are any questions about this, I'd like to
15 have Mr. Soule discuss the motion to exclude.
16 JUDGE MOORE: No questions.
17 MR. FITZSIMMONS: Thank you, Your Honors.
18 MR. SOULE: Thank you, Your Honors, and may it please the Board.
19 As with the '029 and '551 patent proceedings, again, we recognize that it is
20 rare to exclude declarant testimony. Dr. Turk's inexperience, however, in
21 the relevant field, confirmed by his inability to answer basic questions about
22 the relevant field, compelled Petitioner's motions in all three of the
23 proceedings we are discussing today.
24 As Mr. Fitzsimmons has explained, the '503 patent claims are related
25 to, quote, vehicle headlight systems, or as we'll see in the '328 proceeding,

1 quote, methods for generating a headlight beam in an adaptive headlight
2 system. The claims include various features that we've discussed of
3 automotive lighting and lighting control systems, the agreed upon field,
4 including controllable illumination characteristics, determining light output
5 for different subsections, aiming illumination, mitigating glare and headlight
6 beams, and controlling spatial light distribution in headlight beams.
7 That is what the '503 patent claims are about. And knowledge of
8 those topics is indeed -- was reflected in the agreed-upon definition of a
9 POSA from the Petition of two years' experience in automotive lighting and
10 lighting control systems. But however, Dr. Turk has no experience in those
11 features. Dr. Turk fails the level of experience, fails to make up for it
12 elsewhere. And because Dr. Turk is not a POSA, his opinions are neither
13 relevant nor reliable and must be excluded.
14 Kyocera describes these principles and is directly on point. As in
15 Kyocera, Patent Owner agreed to Petitioner's definition. As in Kyocera, the
16 Board has adopted Petitioner's definition in its Institution Decision. And if
17 we turn to slide 47, we see the definition as presented in the Petition on page
18 9. And on the right-hand side, from the Patent Owner response at page 14,
19 Patent Owner has agreed to that definition.
20 The definition has not changed since the filing of the petition. The
21 Patent Owner's belated complaint in its surreply, after waiving -- forfeiting
22 its arguments post-institution by agreeing with the definition, that is an
23 attempt to claw back to their preliminary response. It is improper.
24 On slide 48, both Petitioner's expert Dr. Jiao and Dr. Turk agree on
25 the definition. And on the left, you'll see that Dr. Jiao uses the same

1 standard as in the petition. Dr. Jiao's declaration does, in an additional
2 paragraph at paragraph 45, remark that a higher level of education might
3 make up for less experience, just as a higher level of requisite experience
4 might make up for less than a bachelor's degree in the technical fields listed.
5 Dr. Jiao's statements, however, do not support Patent Owner's attempt
6 to shoehorn any individual with any advanced degree into the POSA
7 definition. For example, someone with a Ph.D. in electrical engineering, his
8 dissertation was about 5G technology or semiconductor dedication would
9 not, without more, qualify as a POSA here. Kyocera also had a sliding
10 scale. And the sliding scale in both Kyocera and these proceedings all
11 require a minimum threshold of the correct industry experience.
12 Dr. Turk, like the hypothetical 5G expert, does have a Ph.D. in his
13 focused area of expertise, that is computer vision and facial recognition. His
14 dissertation is titled Interactive Time Vision: Face Recognition as a Visual
15 Behavior. His thesis for his master's was a fine motion planning algorithm
16 for robots. And his bachelor's capstone project was in, quote, computer
17 vision. This does not satisfy or replace the agreed-upon industry experience
18 in automotive lighting and lighting control systems.
19 JUDGE JURGOVAN: Counsel, can I ask a question here? And that
20 is, are you saying that Dr. Turk does not have any experience in lighting
21 control systems separate and apart from automotive lighting?
22 MR. SOULE: Correct. He has no experience in any lighting control
23 systems, automotive or otherwise.
24 JUDGE JURGOVAN: Thank you.

1 MR. SOULE: And on slide 51, you'll see that this is Patent Owner's
2 best evidence that Dr. Turk qualifies under this definition: a single project,
3 over 40 years ago, that he cannot remember details about when asked about
4 it in his deposition. On the right-hand side is an excerpt from his CV of
5 what he could remember, and it describes his role as research in vision
6 algorithm development and implementation for mobile robot navigation
7 under DARPA's Autonomous Vehicle -- Land Vehicle program. Now,
8 there's no evidence in the record that automotive lighting or lighting control
9 systems generally were even considered in part of that project.
10 Patent Owner also tries to push Dr. Turk into the agreed-upon
11 definition by virtue of his Ph.D. in computer vision, facial recognition, and I
12 will try to compare Kyocera's lighting scale and the one Dr. Jiao
13 acknowledged might apply here. So if you could, turn to slide 53. On slide
14 53, again, you see the definition from the Petition on the left, and then
15 Kyocera's definition on the right. And again, while it's true that a POSA
16 may work as part of a team, it's not the case that anyone on a POSA's team
17 independently qualifies as a POSA, which is what Patent Owner really
18 seems to be arguing here.
19 Both standards, in all three of these cases and Kyocera, specified a
20 floor of two years of industry experience. In Kyocera, that was, at a
21 minimum, two years' experience designing powered nailers. The expert in
22 that case, Dr. Pratt, again, while having advanced degrees in engineering,
23 extensive experience in the design and manufacture of fastener driving tools,
24 did not meet the experience designing powered nailers, which were what the
25 patents at issue were directed to. Here, Dr. Turk's advanced degrees

1 similarly leave his skill and experience wanting. He has no experience in
2 automotive lighting, lighting control systems, let alone two years of it.
3 To the extent Patent Owner, again, invokes Daiichi or Petitioner's
4 POSA considerations, we've included that in our reply to their opposition
5 briefing. And Petitioner and Dr. Jiao provided plenty of context as to what
6 went into that analysis. Patent Owner's new position requires [inaudible]
7 should read of the plain language of the claims that are directed to, quote,
8 vehicle headlight systems, or quote, methods for generating a headlight
9 beam and adaptive headlight system.
10 If we could turn to slide 54. Again, it was not just in the '029 or '551
11 patent proceedings where we deposed Dr. Turk on specific issues relevant to
12 the patents at issue. Here, Dr. Turk was unfamiliar with how headlight beam
13 patterns are adjusted accorded to different driving conditions.
14 On the right-hand side, you'll see an exchange. When asked would a
15 POSA want to adapt the light intensity of a headlamp on an illuminated
16 urban road differently from that of an unilluminated country road, very
17 simple example, Dr. Turk said, and I quote, in general, I don't know what a
18 person of ordinary skill in art wants to do, so that question seems too broad
19 for me to address.
20 With that answer, Dr. Turk acknowledges that he cannot offer an
21 opinion as to what a person of ordinary skill in the art wants to do and
22 cannot qualify as a POSA. His testimony must be excluded under Kyocera.
23 And at the very least, Petitioner submits that it should be given very little, if
24 any, weight.

1 To close, in contrast to Dr. Turk, the admissibility of Dr. Jiao's
2 testimony is not challenged here. And contrary to Patent Owner's
3 arguments, he repeatedly confirmed that he applied the correct POSA
4 definition set out in the petition. This is supported in his deposition
5 testimony in this case, Exhibit 2026, at pages 50 to 52. Dr. Jiao is a true
6 expert in the field and applied the perspective of the agreed-upon POSA as
7 defined in the petition.
8 While Patent Owner argues in its opposition that granting the motions
9 to exclude would present a risk of expert gamesmanship at the Board, the
10 true risk, as acknowledged by Kyocera, is permitting unqualified declarants
11 to testify on matters from the perspective of a POSA that they do not
12 themselves qualify at the minimum standard.
13 With that, unless the panel has additional questions, I'd like to reserve
14 the remainder of our time for rebuttal.
15 JUDGE MOORE: Seeing none, thank you very much.
16 Counsel, how much of your extra 15 minutes would you like to use in
17 this case?
18 MR. TOMSA: We'll use the full 15 minutes in the first argument,
19 Your Honor. And at this point, am I correct in understanding that the
20 totality of their time remaining is about six minutes?
21 JUDGE MOORE: It -- five -- yeah, it was 5:48.
22 MR. TOMSA: Okay. In that case, we'll only reserve five minutes for
23 surrebuttal.
24 JUDGE MOORE: Whenever you're ready.

1 MR. TOMSA: Your Honors, my name is Bernard Tomsa, and I'm here
2 arguing on behalf of Patent Owner Evan Spero. And my co-counsel
3 Sangeeta Shah and I will address certain issues with Petitioner's arguments
4 at each of IPRs 2023-00197, 2023-00328, and 2023-00325. I'd like to thank
5 the Board for granting me the additional LEAP time, and as I indicated, we'll
6 use that during this initial portion of the argument.
7 Your Honors, this case, like many others you have heard, with respect to the
8 patents and this art, boils down to a few key issues. In the present matter,
9 several issues are slightly different this time around, but the functionality of
10 the art has not changed. And while the Patent Owner's positions about the
11 art have not changed, Petitioner has several new problems that more
12 poignantly arise with respect to these petitions.
13 Specifically, Your Honors, there is a very significant particularity problem
14 with all of Petitioner's contentions. I will attempt to explain this in some
15 detail, citing Petitioner's own language, and how their usages of language
16 created these problems. We'll also show that this problem is material and
17 manifests throughout these petitions and presented significant impediments
18 to Patent Owner's ability to respond to these particular contentions.
19 Could you turn to slide 4, please? Your Honors, because Petitioner
20 frequently use language such as additionally or -- and/or alternatively, this
21 created at least 41 sub-grounds in the first petition, 61 sub-grounds in the
22 second petition, and 47 sub-grounds in the third petition. The problem, as
23 you saw earlier, during opposing Counsel's presentation, is they would say
24 things like this includes Thominet's software. Additionally or alternatively,
25 this includes Thominet's hardware. In fact, we didn't even consider that

1 there was a ground that included both Thominet's software and Thominet's
2 hardware.
3 And the problem is, Your Honors, when these new grounds keep
4 popping up on reply or today, at oral argument, the number of grounds
5 compounds almost exponentially because every time there is a new ground
6 for Beam-Thominet or Karlsson-Harbers, and all of the remaining arguments
7 are directed to Beam-Thominet or Karlsson-Harbers, that creates a litany of
8 new additional combinations that have to be addressed. All of the dependent
9 claim arguments never call out a particular sub-ground from the independent
10 claims. And yet, as I will demonstrate, there are clearly distinct and
11 individual sub-grounds argued for each dependent claim.
12 Can you turn to slide -- actually, we'll -- I just want to point one thing
13 out here in an attempt to sum the issue up. The problems with particularity
14 do tend to vary across embodiments, but the closest summation of them is
15 this: the Beam-Thominet independent claim combinations vary in usage of
16 the different embodiments of Beam, vacillating between the SLM and the
17 LED array, but at no point is an SLM ever actually combined with an LED
18 array in any argument presented by the Petitioner.
19 Furthermore, when they begin making combinations with Thominet,
20 they alternate between combinations involving the SLM or combinations
21 involving the LED array, once again never including the SLM and LED
22 array in the same combination.
23 When we go to the dependent claims for Beam-Thominet, every
24 single dependent claim argument simply says Beam-Thominet would be
25 combined with. That implicates at least three separate combinations of

1 Beam-Thominet, the combination that includes Thominet's software, the
2 combination that includes Thominet's hardware, and the combination that
3 includes Thominet's curved substrate. So every time they make that
4 dependent claim argument and fail to call out which of those three
5 combinations, they're particularly interested in including in that
6 combination, they've failed to state with adequate particularity the grounds
7 upon which that rejection relies.
8 The same issue arises with Karlsson and Harbers, although it's even
9 more nuanced in that case because Petitioner shows examples of both Figure
10 3 and Figure 14 in Karlsson and Harbers. So it's unclear whether or not
11 they're relying on Figure 14 or Figure 3, which is different from Figure 14,
12 or some otherwise unexplained combination of Figures 3 and 14.
13 And again, when we reach the sub-grounds, the dependent claims for
14 those combinations, all the arguments simply refer Karlsson-Harbers without
15 ever particularly stating which of the seven, in this instance, sub-grounds
16 from the based independent claims are considered as part of the
17 combination.
18 Can you turn to slide 10, please -- or 6? I'd like to discuss the law
19 first. Your Honors, as we noted in our petition -- in our response, pursuant
20 to 35 U.S.C. 11 -- 312, the petition must identify, with particularity, the
21 grounds on which each claim -- challenge to each claim is based. So the
22 way the Board obviously used to deal with that pre-SAS was they would
23 simply strike grounds that were insufficiently particular. Unfortunately,
24 following SAS, every single ground is instituted when a petition is

1 instituted, but does that -- that does not mean that every single ground
2 automatically becomes sufficiently particular.
3 In fact, as the recently designated informative case Adaptics notes, it
4 is of utmost importance that petitioners in the IPR proceedings adhere to the
5 requirement that the initial petition identify, with particularity, the evidence
6 that supports the grounds for each claim. When there's simply a reference to
7 Beam-Thominet, and Beam-Thominet means more than one thing, there is
8 no particular identification of the requisite evidence.
9 Moreover, as the Board noted in Adaptics, the statutory requirement
10 for particularity takes on heightened importance when considered in
11 conjunction with SAS's all-or-nothing approach. Frankly, Your Honor, we
12 apologize for not adequately briefing this because we did not understand the
13 full implications of this until we had to unpack every single combination and
14 present a combination for every single combination for every dependent
15 claim.
16 Your Honors, I will now present --
17 JUDGE MOORE: Counsel, let me ask you this. If the petition
18 identifies, say, let's call it the main grounds, and then also a whole bunch of
19 others, hasn't it identified all of those with particularity?
20 MR. TOMSA: If the petition identifies the main grounds with sufficient
21 particularity for the independent claim, then it may have identified those
22 grounds with sufficient particularity for that claim. However, when you go
23 to a dependent claim and the argument for a combination is Beam-Thominet
24 would be modified with X teaching from the next reference, there’s no
25 identification of which of those initial grounds is being combined in the

1 combination. They include different software, they include different
2 hardware, they do or do not include SLMs, and so when you start adding
3 technology in dependent claims, it's almost impossible for us to understand
4 what parts are in that combination and to craft an argument against the
5 combination of those parts.
6 Some examples of that I will show with respect to some of the dependent
7 claims and the particular problems it creates. So if you could turn to slide
8 seven please. Your Honors, and I apologize for the small print, I just wanted
9 to try to fit this on one slide. Here on the left we have the Beam only
10 grounds, grounds 1a and 1b. So in ground 1a, the petition clearly argues that
11 Beam's lamp 202 and SLM form at least three direction light sources. Then
12 as a separate argument, ground 1b says Beam discloses an array of
13 individually controlled light sources, having the same functionality as lamp
14 202 and SLM 203. Again, it makes a separate and distinct conclusion. So
15 Beam's array of light sources form at least three directional light sources.
16 Without any indication or intent to combine these embodiments, we have no
17 choice but to read this as two separate arguments directed at two separate
18 embodiments of Beam.
19 In fact, if you look at the Petitioner's contention about light sources in the
20 construction section of the petition, they even indicate that in many of these
21 instances LEDs are not necessary. Accordingly, it would be understood that
22 they could be arguing the lamp plus SLM was sufficient to meet the claim
23 limitations, because they have frequently argued that micro beams
24 emanating from the SLM are in fact sources, you can see that language here.

1 That of course is incorrect, the source is the lamp, but it doesn't preclude the
2 fact that they made the argument.
3 Then we turn to the combinations with Thominet, Your Honors. First it's a
4 combination with Thominet's software, 1c. Here it says in the lower portion
5 highlighted in the upper right corner, the angular position of each micro
6 beam can be set by the controller which commands SLM 203, an
7 illuminator. So we understood that to be a combination that took
8 Thominet's software and added it to the lamp plus SLM embodiment. Then
9 we go to the utilization of Thominet's hardware, seen here in element 1d.
10 Petitioner argues, additionally or alternatively, a POSA would have sought
11 to incorporate known components into Beam's system with flat array of light
12 sources 401. That's clearly an argument directed at Beam's hardware.
13 Honestly, Your Honors, there were additional potential combinations in
14 here, one of the combinations appears to use both arrays, but they were so
15 insufficiently developed that we didn't even include them in our account of
16 problems in this petition.
17 JUDGE MOORE: Which of these did you address in your papers?
18 MR. TOMSA: We address every single one for every single claim. A lot of
19 times we redress them referentially, so if we say this particular combination
20 has a problem, there will be a lot of supersites in the dependent claim to that
21 problem, because that problem carries forward to the dependent claim
22 arguments, but this is why our petition has so many self-referential quotes in
23 it, because we go back to the problem with each combination for every
24 single dependent claim and address every single one of these combined with
25 every single piece of prior art. That was the only choice we had because we

1 didn't know which combination Petitioner would ultimately say that they
2 were in fact relying on.
3 JUDGE MOORE: Is there an issue or an argument that you were unable to
4 address because of the multiple possible grounds?
5 MR. TOMSA: Well, to the extent we were unable to address it, it's only
6 because we didn't appreciate it was a ground. For example, the lamp, or the
7 SLM plus LED embodiment did not arise until Petitioner's reply. The
8 combination argued today where we used the word additionally from
9 Thominet LEDs to combine both Thominet LEDs and the software was also
10 unclearly presented, right? If you look at the language that goes in the
11 petition along with Thominet LEDs, you'll see that it's presented as an
12 alternative argument. So even though the words additionally or alternatively
13 appear, it's never explained as utilized in the software in any manner. Were
14 it to utilize the software, then it would also have the lamp and SLM and
15 software and the LEDs of Thominet and the LEDs of Beam all in a
16 combination. The problem is, Your Honor, if we take them literally at their
17 word, many of these things present combinations that are so absolutely
18 unexplained that it's almost inexplicable to understand what the proposed
19 combination was.
20 JUDGE MOORE: So if you had an opportunity to address all of the
21 combinations that would appear in a final written decision in this case,
22 would you be somehow disadvantaged?
23 MR. TOMSA: If we had an opportunity to address them?
24 JUDGE MOORE: Yeah.

1 MR. TOMSA: Well Your Honor, frankly it took us over a week just to
2 unpack these combinations, and every single time we came to a conclusion,
3 we all have different conclusions about which combinations were there. So
4 to the extent that the final written decision is on one of these combinations
5 that we think are the combinations, we would probably adequately address
6 it, all if -- created significant prejudice. To the extent that decision is on a
7 combination that we weren't even able to identify, then I would say we
8 would have been prejudiced in our ability to address it.
9 JUDGE MOORE: Okay.
10 MR. TOMSA: Your Honor, as you noted during opposing counsel's
11 opening argument, they now seem to be reducing the entire set of
12 combinations to simply discussing curved beam LEDs, that appears on page
13 32 of the petition. The beginning discussion for when they start combining
14 elements of Thominet occurs on page 26. It's not until seven pages later that
15 they actually just use the curved substrate of Thominet. There are seven
16 other pages of explanation of different possible combinations that can occur,
17 and at a minimum it results in these five grounds.
18 If you would turn to slide 10, please. So again, Your Honor, this was our
19 understanding of the grounds, and we attempted to address all five of those
20 with respect to every dependent claim. So for example, here Your Honor,
21 we see for claim 25 there's a requirement for reflectors, refractors or lenses
22 usable to alter emitted light. Petitioner's argument is Beam discloses a
23 spatial light modulator, i.e. digital mirror devices, or an optical system or a
24 beam splitter. At the time, we assumed that those were different attempts to
25 address different elements of the combination, because somewhere in each

1 of those five combinations, although not particularly called out here, are at
2 least one of each of those elements.
3 Then for claim 64, Petitioner argued that the claims were patentably
4 indistinct. The problems, Your Honor, come in when we deal with the reply
5 brief. So we pointed out that in claim 64 there's an additional requirement
6 that whatever the reflector, refractor or lens was, it needed to be usable to
7 alter light emitted from at least one of the sources as part of the instructed
8 adjustment. Despite arguing that claim 64 was simply patentably indistinct,
9 on reply, pages 28 and 29, and I apologize, I don't have a slide, but if you
10 need to pull the reply brief up, if not I can read it to you. Petitioner lodged a
11 new argument that didn't say there patentably indistinct, but rather said,
12 Beam discloses an SLM with LEDs. That's a wholly new combination that
13 was never presented previously.
14 So now we're faced with a new argument about a new combination on a
15 claim that was originally simply referentially argued with respect to claim
16 25, and this continued sort of behavior is what constantly confounded our
17 ability to actually respond to arguments in the petition. Every time we
18 would say well, it doesn't have this, or your proof lacks this, they would
19 simply move the target and start arguing elements that were never previously
20 proffered in combination.
21 JUDGE MOORE: Well, isn't that just making a new argument though?
22 Why wouldn't that be something that we should disregard because it's a new
23 argument?
24 MR. TOMSA: We believe you should disregard it, Your Honors, however
25 we needed to address all of these arguments on the off chance that there was,

1 hidden somewhere in this petition, a compelling argument that this
2 combination was in fact proffered, although we couldn't find it. So my point
3 is, Your Honors, we suffered significant prejudice because they created such
4 a mixed bag of parts that every time they wanted to argue something they
5 could just reach into the bag of parts and pull out a new element and pretend
6 as if the whole argument had simply been directed to that argument all
7 along. We'll see that again with respect to the Karlsson claims.
8 Could you turn to slide 13, please? Okay Your Honors, I will spare the
9 Board the ad nauseam approach of going through every single reason why
10 these are combinations in here, this is outlined significantly on our response,
11 but at the end of the day it boils down to this. There were potentially two
12 Karlsson alone arguments presented, one with just the LEDs, one that
13 included a spatial light modulator. The problem there was they quoted
14 language that said may also be made up of light modulator means, and we
15 didn't know if that meant it has a light modulator because it may include
16 one, or it may include a light modulator as an alternative proposition.
17 Accordingly, we argued both of those combinations with and without a light
18 modulator. Then they began adding Harbers' software.
19 JUDGE MOORE: In that case, so that word may is in the reference, right?
20 That's not -- they didn't say may, the reference said may?
21 MR. TOMSA: That's correct, Your Honor. No, we simply didn't know
22 which element they were relying on. Were they relying on that as an
23 indication that their argued combination included a light modulator, or were
24 they relying on that as an alternative argued combination may include a light
25 modulator. Because the problem is the combinations, the proofs themselves,

1 don't say what elements are controlling and aiming light. They just
2 reference general functionality of Karlsson, and so we're left to guess if that
3 functionality is supposedly achieved by a light modulator or some other
4 function of Karlsson.
5 When they started adding elements from Harbers, first they add software just
6 like they did in Thominet. Then they add LEDs from Harbers. Now, it's
7 important to note that the LEDs from Harbers themselves are actually
8 colored LEDs, so to the extent that those LEDs propagate across any of
9 these combinations, there are significant issues created when your entire
10 LED array is comprised of different colored LEDs, and you begin
11 selectively controlling those LEDs. This is not a tinted beam, Your Honors,
12 these are literally colored LEDs. If you were to blank or dim some portion
13 of those LEDs, your light beam would actually change color. In addition to
14 this, they had modulator embodiments. They did have an embodiment that
15 had Harbers' software and Harbers' hardware, and they had embodiments
16 that did and didn't include Harbers' LEDs or Harbers' curve.
17 So if you could turn to slide 24, please. So this is where the problem really
18 becomes manifest. I'm sorry, could you go back to slide 13? I just want to
19 show the Board one other thing. In all of the combinations over here on the
20 right hand side, where they reference combinations with Harbers, they
21 always reference combining elements of Harbers with 'means to, three' from
22 Karlsson. 'Means to, three' are seen in figure three, right? You have light
23 source two, light modulator means three. At no point anywhere in there is
24 there any discussion of Figure 14 whatsoever. It's not apparent that they're
25 relying on that embodiment for any of their combinations. In fact, on page

1 81, instead of having their typical string cite, which is figures 3, 6, 14 from
2 Karlsson, they actually only have figures 3, 6. So all indications at this
3 moment in time are that they're only modifying the embodiment of Figure 3
4 when they present these combinations.
5 Now could you go to slide 24, please? So indeed, their initial argument
6 essentially appeared to be a reference to these particular combinations, but
7 as I noted before, Your Honors, their argument's seen here on the left. It
8 doesn't actually say how the light beams are being controlled, via spatial
9 light modulator, via shifting window, via anything. It just says, it
10 advantageously can be switched to given directions, and each spotlight beam
11 has its own direction, and these may be made up of different spotlight
12 beams.
13 And so the problem, Your Honors, is that we don't know what control
14 element they're using here in this combination. And since there are multiple
15 possibly control elements, depending on whether or not you're using a light
16 modulator or whether or not you're using a shifting window, it's very
17 difficult to say whether or not this teaching is correct, especially when you
18 start combining it with other embodiments.
19 JUDGE MELVIN: I didn't understand that statement. A shifting window is
20 a control strategy, right? A light modulator is a piece of hardware that may
21 implement that control strategy, so I don't understand why those are
22 mutually exclusive in your view.
23 MR. TOMSA: I'm not saying that they're mutually exclusive, Your Honor,
24 but there are multiple ways, according to Petitioner, that Karlsson can aim

1 illumination be it via SLM aiming or be it via shifting window. And so
2 when they just say --
3 JUDGE MELVIN: Again, that doesn't make sense to me. A shifting
4 window is a control strategy that Karlsson describes for bending the
5 projected beam for road curvature. Now I understand you don't happen to
6 agree with that view of Karlsson's disclosure, but the shifting window is not
7 some hardware in Karlsson.
8 MR. TOMSA: That's correct, Your Honor.
9 JUDGE MELVIN: Okay.
10 MR. TOMSA: Well, and our position is that when you have an explanation
11 that's as sort of generalized as this, it's unclear what teaching of Karlsson
12 they're relying on to advantageously control anything. And as we've
13 pointed out in our responses, if you look at how the shifting window is
14 actually taught to function when you get into a curve, it tends to create less
15 illumination, not more, because it shifts the beam to various sides. So to the
16 extent that they want to argue, say, well there's a light modulator that can
17 increase that aiming or differently aim it pursuant to the teachings of Gotou,
18 it isn't clear when and if it occurs in their combinations.
19 Another point I'd like to make, Your Honor, there's more than one kind of
20 light modulator discussed in Karlsson. Again they're relying on Figure 3
21 here, and if you look at Figure 3, that light source fires through the light
22 modulator, which would make it a transmissive modulator. So if they're
23 relying on a digital mirror device here, again, which they've never said what
24 type of modulator they're relying on, then it isn't clear how a transmissive
25 device would aim the light in any particular way, right? So they appear to

1 be relying on a digital mirror device to aim illumination, because apparently
2 that's how it switches it to different directions. It never discussed the
3 shifting window as a control strategy to achieve these different directions,
4 they just say that it's a teaching of Karlsson.
5 But there's a bigger problem, Your Honor. I apologize, because we have a
6 different slide on this. The ultimate problem, Your Honor, here is that these
7 quotations about how this light modulator would function are false
8 narratives of what's actually taught in Karlsson. So there's omitted text --
9 Andy do you recall what slide that was on? No, it's not about the SLMs, it
10 was -- just go back to that slide, I can do it from there. We're looking at
11 slide 24.
12 All right, so if we can see here, the argument is that 'spotlight beams can
13 be…a grid of separate light sources such as LEDs.' So the actual text from
14 that cited portion of Karlsson is that spotlight beams can be obtained from a
15 grid of separate light sources. So spotlight beams themselves are not
16 actually light sources. Then the next quote goes on, 'light modulator means,
17 three, advantageously can be switched to…given directions.' The actual
18 quote from that portion of Karlsson is light modulator means advantageously
19 can be switched to detect illumination from given directions.
20 So the only thing that they seem to be ascribing control to, which is possibly
21 the light modulator, is quoted completely out of context here and doesn't
22 actually show that level of control. And again, without the control strategy
23 of a shifting window being discussed, it's absolutely unclear how these
24 directional light sources are achieving any kind of re-shifting or aiming in
25 claims 21 through 23. And it isn't a question of whether or not we can find

1 something in Karlsson that ultimately solves the problem, the burden was
2 theirs to prove it, and they haven't proven it here.
3 Your Honors, when faced with this argument in the Patent Owner Response,
4 suddenly on reply they only want to talk about the shifting window,
5 something never mentioned in here, something never mentioned in the
6 combination, something never mentioned as utilized it the combination.
7 And while the shifting window is a control strategy, the embodiment that it's
8 presented with respect to has a different sensor configuration than Figure 3.
9 If they wanted to rely on this embodiment as an example of a shifting
10 window, they had an obligation to explain how that would integrate with
11 Figure 3, because Figure 3 is the basis for all their combinations. They
12 simply treat all these strategies and parts of Karlsson as interchangeable,
13 including bringing them up at the late hour of reply, without ever having
14 mentioned them in the first place. Again, this confounds our ability to
15 actually adequately address their arguments, because the target is constantly
16 changing.
17 JUDGE MELVIN: It's your view that a skilled artisan would read
18 Karlsson's Figure 14 as only applicable to an embodiment with integrated
19 sensors, is that correct?
20 MR. TOMSA: No, Your Honor, it's my view that Petitioner failed to ever
21 explain Karlsson's Figure 14 embodiment as being applicable to Figure 3
22 and how it would be achieved with a different source modulator and sensor
23 function of Figure 3, and so it isn't our burden to prove that Figure 14 -- that
24 a skilled artisan couldn't contrive of a way to use Figure 14, it was
25 Petitioner's burden to show that they were relying on that control function

1 and how that control function could be achieved with respect to Figure 3.
2 And again I would note, they did not even mention that control function in
3 their original argument, instead relying exclusively on these misquoted
4 sections of Karlsson as the function that achieved curve illumination. So it
5 isn't a question of whether or not a skilled artisan can figure it out from the
6 reference, it's a question of whether or not their proofs contain adequate
7 explanation to actually show how a skilled artisan would do it.
8 And could you turn to slide 53, please. Excuse me, Your Honor. Finally,
9 before I turn things over to my co-counsel, I want to address this notion that
10 spatial light modulators can aim emission. So all the spatial light modulators
11 referenced in any argument by Petitioner are almost exclusively directed to
12 digital mirror devices, all right? A digital mirror device was a device
13 pioneered by Texas Instruments in the late '90s, and it's effectively a two
14 stage mirror. All right, the way that it works is, when it's non-operational it
15 sits in a flat base state and it isn't utilized to reflect light. When a charge is
16 applied to either side of the digital micro mirror, it flips to the left or to the
17 right. One of those two states is a transmissive state, one of those two states
18 is a blocking state. Every single piece of evidence cited for this by
19 Petitioner, including the extrinsic evidence, all has the exact same
20 explanation for digital micro mirror.
21 I apologize, Your Honors, if you could turn to slide 54, the explanation here
22 is based on evidence from the 328 portion, but the exact same art, the exact
23 same argument, and the exact same evidence exists in all three petitions. So
24 with permission, I would like to refer to this as we don't have a comparable
25 slide built for that one, but I assure Your Honors you will find the same

1 arguments, and the same art, and the same problems in all three of these
2 petitions.
3 The first problem, as we noted on reply, is that Petitioner is simply wrong
4 about how an SLM functions. It's a binary state device, it's designed to be
5 transmissive or blocking, and if you want to control intensity, you simply
6 rapidly vacillate the mirror so that the amount of visible light that occurs
7 during the moment a human can see it is diminished, but at no point is that
8 emission ever being aimed or controlled.
9 Petitioner's expert cited this Enomoto reference, Exhibit 1040, as evidenced
10 of how directionality is controlled, but if you look at the actual teaching
11 from the 104 reference, cited in the bottom left corner of slide 54, it explains
12 that there are only two tilt states utilized for image formation. A first state,
13 which is forming an optical path, a second state, which is eliminating an
14 optical path. One is an off state, one is an off state. So to the extent that a
15 digital micro mirror provides angular control, it controls one emission angle,
16 and it controls one blocking angle. Then on reply, Petitioner cited Exhibit
17 1056 as an example of angular modulation. Exhibit 1056, seen here on the
18 right, also explains the two state functionality of a digital micro mirror.
19 Here is says the mirrors are rotated by an electrostatic field to one of two
20 stable positions. That is what that reference means by reflection angle
21 modulation. Could you turn to slide 55, please?
22 JUDGE JURGOVAN: Counsel, can I interrupt for a second?
23 MR. TOMSA: Yes sir.
24 JUDGE JURGOVAN: SLMs, do they have to have micro mirrors, couldn't
25 they have liquid crystal elements, for example?

1 MR. TOMSA: Yes, Your Honor. There are multiple types of SLMs
2 contemplated, the liquid crystal elements as we understand them are
3 generally transmissive, so they don't necessarily provide angular control, it's
4 like an LCD screen that you would place over the light, and the amount of
5 light permitted passing through the liquid crystals controls the intensity of
6 that emission. But more importantly, Your Honor, they only ever argued
7 digital micro mirror devices as the SLMs, and that's the basis for every
8 single explanation that their expert provided as how to achieve angular
9 emission. So Your Honor, to the extent that there is some other kind of
10 SLM that could theoretically achieve angular emission control, once again,
11 it's completely missing from their proofs, and all their explanations are
12 exclusively focused on digital micro mirrors and how those purportedly
13 control angular emission aiming.
14 JUDGE JURGOVAN: Thank you.
15 JUDGE MELVIN: When you say angular emission aiming, you mean just
16 being able to project light at different angles from the headlight, is that
17 right?
18 MR. TOMSA: Yes, Your Honor, to put it, if you will, wherever you'd like
19 using a particular micro mirror.
20 JUDGE MELVIN: But Beam discloses doing so without any SLM.
21 MR. TOMSA: Beam discloses doing angular emission aiming?
22 JUDGE MELVIN: Correct.
23 MR. TOMSA: Your Honor, respectfully, I don't think there's a single
24 instance in Beam where it says that LEDs have their angular emission
25 controlled.

1 JUDGE MELVIN: Well how could Beam light a portion of the target space
2 in any other way?
3 MR. TOMSA: Because when light it lensed, Your Honor, every single
4 portion of those forward LEDs goes into a slightly different portion of the
5 forward scene.
6 JUDGE MELVIN: Right.
7 MR. TOMSA: It's not controllable aiming, right? So whether or not it may
8 ultimately result in a singular fixed aiming, that aiming has no ability to be
9 changed.
10 JUDGE MELVIN: Oh, I'm sorry, maybe that's what I wasn't
11 understanding. Which claim is this relevant to?
12 MR. TOMSA: Which claim is which relevant to?
13 JUDGE MELVIN: A movable aiming for a particular LED.
14 MR. TOMSA: Well all of the curve illumination claims, now argued by
15 Petitioner per their reply, include the usage of SLMs as being able to aim
16 light from LEDs. So we said, you don't have an SLM plus LED
17 embodiment, they said that all the curve illumination -- when they came
18 back to argue claims 21 through 23, they began to argue that the SLM plus
19 LED of Beam was what was used to control aiming. So if you want to go to
20 slide 10, please?
21 JUDGE MELVIN: Are you saying that the claims require that the light
22 emitted from a particular LED must be movable in where it strikes the
23 target?
24 MR. TOMSA: The curve illumination claims require functionality such as
25 increasing light in the direction of the curve, right? And the only way a

1 fixed set of aimings that cannot be changed could be said to increase light in
2 the direction of a curve is if some portion of that light were re-aimed into the
3 curve. As Petitioner themselves has argued --
4 JUDGE MELVIN: What if the straight beam uses a subset of the array,
5 leaving the margins available for curves?
6 MR. TOMSA: That's fair, Your Honor, had they argued that, then they
7 would run into the problem of the fact that Beam leaves all of its LEDs on
8 maximum illumination.
9 JUDGE MELVIN: Okay, so I understand that view of Beam, right? And
10 that's fine. In Karlsson, I understand you to be taking the same view, right,
11 I'm correct about that?
12 MR. TOMSA: Yes, Your Honor.
13 JUDGE MELVIN: Okay. It seems possible that Karlsson's Figure 14
14 supports a different view, and that is that there is a sort of sub-window
15 leaving margins available.
16 MR. TOMSA: Well, Your Honor, problematically, Petitioner has actually
17 taken a different approach with Karlsson in this petition. If you could go to
18 slide 24. Slide 13, sorry. Slide 13. I apologize, Your Honor, the slides got
19 out of order before we submitted them. Could you just scroll down slowly,
20 Andy, and I'll see if it's there?
21 Okay, here we go. Your Honor, so this in the center part here is how
22 Karlsson was presented with respect to the glare diminishment claims.
23 JUDGE MOORE: Counsel, that's slide 17.
24 MR. TOMSA: Slide 17, I apologize. So in the 197 Petition on page 101,
25 they argued that this isn't the base operation of Karlsson, where there's

1 suddenly LEDs available to move light left or move light left, instead they
2 said no, this is Karlsson reacting to the presence of detected light, where
3 there are no intensity regions to the right, and no intensity regions to the left,
4 but that's because light is being actively suppressed. If light were being
5 actively suppressed responsive to detected illumination, then it's a necessary
6 conclusion that prior to such suppression, that full array was being used.
7 They use that array in an entirely different manner in their proof here than
8 they have in previous petitions.
9 They can't have it both ways. Either that is active suppression where all
10 LEDs are used, or that's a shifting window that leaves some LEDs available
11 to be used, but it's quite plain that were that active suppression ongoing, and
12 the vehicle encountered a curve, it wouldn't shift the window to the left or
13 the right, because due to the fact that there's active suppression, there's a car
14 there. Otherwise, the suggestion is that it would literally shift that window
15 into the face of the oncoming vehicle, or it would have to make a decision
16 about which to do, which was never even contemplated in the petition.
17 Essentially they changed their utilization of Figure 14 in this particular
18 petition, only reverting to the shifting different window argument on reply,
19 when they needed it to re-prove curve illumination.
20 JUDGE MELVIN: So you're saying Petitioner's view of Figure 14 --
21 Petitioner's reliance on Figure 14 takes the view that it depicts two
22 oncoming cars, one on each side?
23 MR. TOMSA: That's correct, Your Honor.
24 JUDGE MELVIN: Okay.

1 MR. TOMSA: It says, Karlsson discloses a first subsection including a
2 detected vehicle, shaded area of no intensity, which is shown on the left and
3 right, so presumably that's two detected vehicles, because there's two
4 shaded areas of no intensity, and a second subsection where light will not be
5 suppressed. Non-shaded area of high intensity. I mean, the only way I can
6 read that is if there's two detected vehicles and that those areas are being
7 expressly suppressed, and of course for them to have been suppressed, they
8 had to be active prior to suppression.
9 So Your Honor, if I may just make one last point about SLMs, and it may
10 not be relevant, because like we've stated, none of the prior original petition
11 combinations included utilization of SLMs to aim light, except maybe that
12 Karlsson argument that misquoted Karlsson. Nonetheless, on reply there are
13 significant times where Petitioner attempts to use SLMs to aim light for
14 various claim functions across all the claim sets, and so we'd just like to
15 conclude the proof that SLMs are binary in nature, and to do that we'd like
16 to turn to slide 55, please.
17 So on slide 55 is the last quote from Petitioner's expert in his sur-reply
18 argument, and here he cited a piece of our evidence, Exhibit 2022, and this
19 was Texas Instruments' own explanation of how DMDs work. Dr. Jiao cited
20 it as, these two petitions determine the direction light is deflected, and at first
21 blush that would seem like some sort of aiming of emission.
22 The problem is, if you go to the reference and read the exact cited portion, it
23 also says this. Two positions that determine the direction light is deflected,
24 the positive state is toward the illumination and is referred to as an 'on' state,
25 the negative state is away from the illumination, is the 'off' state, and these

1 are the only two operational states of a micro mirror. So because they relied
2 on digital micro mirrors for every one of their SLMs, and because digital
3 micro mirrors have absolutely no capability to aim emission except in one
4 singular direction exiting the lamp, there is no capability to increase
5 illumination of any curve or otherwise change the directionality of emission
6 using digital micro mirrors. With that, Your Honors, if there are no further
7 questions, I will cede the rest of my time to my co-counsel.
8 JUDGE MOORE: Very well.
9 MS. SHAH: Good afternoon. Sangeeta Shah on behalf of Evan Spero. I'm
10 going to be covering a couple different points here, I wanted to start with the
11 lack of particularity argument that my co-counsel referred to, specifically
12 wanted to mention that the fact pattern here is very similar to the case that
13 they identified in the 335 IPR, specifically the Sisvel case. Here it's similar
14 to Sisvel, the Petitioner did not explain what elements were missing from the
15 primary reference, they did not explain what elements should be added from
16 the secondary reference to which the claimed invention, or why those
17 particular elements would be obvious to add.
18 In that case, similar to here, the PTAB found that there was a lack of
19 particularity and found the claims to be unpatentable. The Federal Circuit
20 also affirmed based on that particular rationale. It's very similar to Sisvel,
21 the grounds here are inconsistent as to how the primary and secondary
22 references should be combined, the rationales for doing so are murky and
23 difficult to follow, which created a tremendous amount of confusion, which
24 you could even see here today, right? We are here at the final sort of stage
25 of these proceedings, and there's still questions as to what are we talking

1 about when we're talking about Beam and Thominet, is it the hardware
2 combination, is it something else? Today for the first time we heard that
3 they're including software with hardware. This kind of changing shell game
4 is not what is contemplated in these proceedings, and that's precisely where
5 there's a statutory requirement for particularity, so that it is very cleanly laid
6 out what the grounds are, and then as a result of, for due process reasons, the
7 patent owner then has an opportunity to understand what the grounds are
8 that are presented, and absolutely respond to each of the particularized
9 grounds.
10 We candidly did not have that opportunity here. We spent -- it took us half
11 of our, each one of these responses to articulate all the different series of
12 sub-grounds so that we can then proffer a complete response to each one of
13 these permutations. That was the burden that was placed on us because of
14 the form of Petitioner's petition. That was their choice, it is clearly a choice
15 that resulted in a tremendous amount of lack of particularity. And according
16 to the Sisvel case, it is our position that under the Sisvel plus the Federal
17 Circuit's affirmance of that case that the lack of particularity lends itself to a
18 finding of that these claims should be found to be unpatentable as a result of
19 the lack of particularity.
20 I'd like to then move to one of the conclusions that arises from the SLM
21 argument that my co-counsel spoke about, the failure of an SLM that
22 actually has the ability to achieve angular control. If we could turn to slide
23 27, please. So as you can see here, which is a series of questions here
24 addressing what the relationship was with respect to SLMs and why aiming
25 mattered, with respect to the 197 IPR for independent claims 20 and 59, you

1 have specifically limitations that require the headlamp to have at least three
2 directional light sources, or light sources aimed at different angles having
3 different aimings. The combination of those is what ultimately created the
4 proofs that Petitioner provided, not in the first instance but on reply.
5 Again, to the Board's point, we also contend that the series of arguments that
6 we've briefed multiple, multiple times which is, there was a set of arguments
7 that were presented on petition, and then a fundamentally different set of
8 arguments that were presented on reply, that yes, those are new, they are
9 impermissible, and they should be stricken in our opinion. Having said that,
10 we did feel it was our responsibility to address all of these new arguments as
11 they popped up. And so with that, this new argument was the addition of the
12 SLM to effectively try to achieve aiming.
13 As my co-counsel pointed out, technically speaking it's not possible, given
14 the limitations of the SLMs that were being belied on, and the binary nature
15 of these SLMs as only having one single angle of emission, and so once
16 again then you have Petitioner -- let's step back a little bit. Petitioner started
17 off, which it did not mention today, right, it mentioned -- it started off
18 arguing in the petition that micro beams were a directional source. It took
19 that position, the expert took that position, Dr. Jiao repeatedly said both in
20 his expert testimony and in the initial depositions that micro beams are a
21 directional source, and they relied on that explanation for their basis to argue
22 that Beam had the LED -- the system in Beam had directional light sources.
23 Of course then in the institution when the Board disagreed with that finding,
24 that micro beams are the light itself and not the light source, then on reply
25 we see a different argument being mounted by Petitioner, and that argument

1 that now LEDs, that all the LED embodiments necessarily include an SLM.
2 Again, we saw this for the very first time in the second series of depositions,
3 starting with Dr. Jiao's reply, the depositions leading up to the reply, post
4 institution.
5 So the very first positions were fundamentally flawed, which principally
6 Petitioner recognized, because the source in Figure 2 is a single directional
7 lamp, incapable of meeting these claims, and then the second embodiment
8 that they were relying on was a plainer array, also incapable of satisfying the
9 directional light source limitations in 20 and 59. So as I mentioned then, on
10 reply they then shifted to this new argument with Dr. Jiao created during that
11 deposition, was that Beam's light source requires an SLM, that the light
12 source must include both an emitter and a spatial light modulator. That
13 argument was never presented in the petition. There was nothing that
14 indicated that the light source included the combination of an emitter and a
15 spatial light modulator.
16 As I said before, they were relying on the micro beam as satisfying the
17 directional light source limitation. So this new argument manifests on reply,
18 regardless of, like I said, we contend that this new impermissible, addressing
19 it on its merits, because they're trying to argue SLM plus emitter, we then
20 take up this issue about the limitations of an SLM, right, that at least the
21 SLMs that were relied on are incapable of providing angular control, and
22 hence you have this technical deficiency with even the second line of proofs
23 that were provided on reply.
24 Then you kind of go back to all the myriad of other arguments that were
25 presented, with respect to then the addition of Beam and Thominet, right?

1 So on one hand, in the petition, Petitioner takes the strong position that
2 Beam has everything it needs with respect to these claims, it then sort of
3 almost as a hedge says well in case Patent Owner thinks otherwise, we're
4 going to add Thominet. But to Your Honors' point, it was only adding the
5 hardware. If you go back and you look at the petition, the only thing that's
6 squarely added in the petition is the hardware, meaning the curved substrate
7 of Thominet. It wasn't until today that we heard for the first time that
8 neither one include the hardware and the software. Again, there's no hint of
9 that in the petition, and frankly there's not even hint of it in the reply.
10 So again, this is sort of the shell game that has been created here as a result
11 of these string of multiple different kinds of arguments that are styled in a
12 way that create this infinite sort of Lego game of mix and match arguments,
13 components, without providing any real explanation as to, for number one,
14 where did that exist in the petition, and then number two, does that follow
15 the basic tenants of motivation to combine, right? None of that is actually
16 explained in the petition or frankly even thereafter.
17 So again, more strictly looking at what was in the petition, grounds 1c to 1e,
18 which are the grounds that we sort of laid out when we were dissecting the
19 various grounds that were presented. Those grounds, each of those grounds
20 basically do not have the requisite level of components, because if you take
21 a look at ground 1c, that includes an illuminator with a control technique
22 from Thominet. In that instance, they're only relying on Beam's hardware,
23 without the software, and so you have basically, in that particular structure,
24 you have the lamp and the SLM, which is missing the multiple light sources,
25 and so you're incapable of meeting the three directional light sources that

1 are required for those claims. So there's again a failure of proof with respect
2 to the actual embodiments that were mounted, with respect to ground 1c,
3 which is the only one that has the combination of a lamp plus an SLM. So
4 to the extent there is any consideration of the SLM argument, it only applies
5 to ground 1c. Ground 1c, again, the underlying ground relates to a lamp plus
6 an SLM, not an LED plus an SLM, as Petitioner is now arguing today. So
7 that gets to the issue of aiming, and how that correlates to the claims with
8 respect to the 197 Patent, and specifically claims 59 and 20.
9 Next I'd like to address a handful of issues that came up during the
10 Petitioner's opening presentation. If we could turn to slide 17, please.
11 Actually, let's go to slide 19. So here you're going to see, and we're going
12 to get into this with a little bit more detail in the next IPR series of
13 arguments, but what you'll see here, which is a repeated theme, while
14 components were sort of mixed and matched in a variety of different ways
15 throughout the, you know, from petition to reply and even today, there is
16 precious little detail about why or how you would go about combining these
17 components. You'll see, I mean again here they've got different
18 components that are being added from Thominet, there is no explanation of
19 how they, sort of after the fact when the question was asked, the rationale for
20 why they added Thominet was that the claims called for light clusters.
21 That's massive hindsight, and that's precisely what was happening here.
22 They didn't actually go through the detailed analysis of what's required for
23 motivation to combine. As they're explaining it here today, it's quite clear
24 that it's an after the fact look at what's the in claims, and let me put together

1 like a component list from the prior art that I have that satisfies these
2 particular limitations.
3 If we could turn to slide 20, please. So this is again, you can see here for the
4 first time, it's not perhaps labeled clearly enough, but the bottom quote here
5 with is the Jiao second deposition, Exhibit 2026, is the first time. So clearly
6 had Petitioner had evidence in the original petition, it would have pointed to
7 that to establish that Beam can use LEDs and SLMs together. Instead,
8 again, the sort of connection for this argument is the first deposition of Dr.
9 Jiao, where he for the very first time says that now, necessarily, again
10 contradicting what he said in the first place, that emitters can't have any
11 directionality, that you have to have an SLM to be able to create
12 directionality. And once again, the Petitioner's own sight is the second
13 deposition of Dr. Jiao, when this argument was inserted into the proceedings
14 for the very first time.
15 If we can turn to slide 25, please. With respect to the motivation to combine
16 argument, we also have yet another explanation that was offered for the first
17 time post-institution. The Board, in the 197 IPRs had specifically requested a
18 briefing as to the issue of whether separate motivation to combine would be
19 needed to add in an optional element. On this point, again presumably the
20 motivation would have been something that would have been articulated in
21 the underlying petition, but that wasn't the case. The motivation that was
22 discussed today, the only motivation that exists in the entire proceeding, is
23 this statement that Dr. Jiao provides that the combination for Thominet,
24 Thominet's curved substrate, or for that matter any curved substrate, in the
25 primary reference is, is to handle optical aberrations.

1 Once again, if you do a search of the petition or the declaration testimony
2 associated in the 197 proceedings, or frankly any of these proceedings today,
3 you will not see the words optical aberration. You will not see anything
4 associated with the motivation to combine for the curved substrate and
5 Beam, or the curved substrate from Harbers and Karlsson, because that's not
6 what they were relying on in the beginning. They started out with Beam,
7 and Beam only, as the sort of lead candidate, and they hedged a little bit and
8 added Thominet, but they didn't explain why they were adding it. They just
9 said, there's hardware, we can add it in, there was no specificity as to why
10 they were adding it in, why a person would add it in, how a person would
11 add it in, how that would modify control strategies, and the only explanation
12 is offered after, post-institution, this optical aberration explanation that
13 clearly does not show up in the original petition.
14 JUDGE MELVIN: Well, what about providing different spatial
15 distributions? That was in the petition as the reason for using a curved array,
16 for example.
17 MS. SHAH: Presumably the same rationale that exists in Beam.
18 JUDGE MELVIN: I don't know what that means.
19 MS. SHAH: Well, I don't know that there's anything that's gained by
20 Petitioner's own explanation. Beam also provides spatial light distribution,
21 so why would you add Thominet's curved substrate?
22 JUDGE MELVIN: Are you contending that that's the law of obviousness?
23 MS. SHAH: No, I'm saying the law of obviousness is, there has to be some
24 explanation as to why a person of skill in the art would add a secondary

1 reference. In this instance, so we're going to get detail into this in the next
2 petition, they cite Intel.
3 JUDGE MELVIN: Right, and I'm asking whether an alternative way of
4 providing the same functionality is sufficient reason.
5 MS. SHAH: It would be if it wasn't for the fact that it defeats the
6 fundamental purpose of Beam, which is max illumination. It would also be
7 the case if you didn't have a whole series of problems associated with the
8 combination itself. So yes, we would agree with the general principle, here,
9 that doesn't apply. And we'll detail in the next IPR proceeding all the
10 reasons why the combination of Beam and Thominet creates a myriad of
11 problems, because of the pre-defined segmented approach that Thominet
12 takes, which contradicts Beam.
13 JUDGE MELVIN: Okay.
14 MS. SHAH: So I'm going to continue with one more before time is up.
15 Next I'd like to turn to slide 37. So here, the discussion was about pointing
16 to reduced illumination in the non-blanked areas. Once again here, as we've
17 taken the position in our briefing, reduced illumination, per our reading of
18 Beam, and based on the fact that Beam doesn't offer any specific other
19 control strategies, is the result of spill-over illumination. It is not, as
20 Petitioner is arguing here, and has not actually addressed any of our
21 argument with respect to this point, it is not actually providing reduced
22 illumination at the first subsection. And with that, I guess our time is up, so
23 thank you very much.
24 MR. FITZSIMMONS: Your Honors, the Patent Owners spent the majority
25 of their time on particularity arguments here, and I think that highlights two

1 things. One, it highlights the strength of the prior art, which left the Patent
2 Owner with nowhere else to go, except to distract from the merits, they
3 barely talked about the claims here. And two, it highlights the inadequacy of
4 their declarant. They allegedly couldn't understand these simple
5 combinations. Patent Owner's trying to re-cast the straightforward case of
6 unpatentability by the fact that there were multiple reasons and approaches
7 for a person skilled in the art of combine these references, and they said
8 those are additional sub-grounds. Those aren't additional sub-grounds, they
9 show how obvious the claims are that a person skilled in the art would have
10 understood how to use hardware, software, a combination of them here, and
11 it renders the claims obvious.
12 A point on the Adaptics case that the Patent Owner raised, that is nothing
13 like the petition here. That case, there was a catchall ground in there, that
14 the Petitioner relied on 10 different references combined with an and/or
15 clause. Here we're using the same two references relied on in the
16 combinations of the petition, again, just explained that there are multiple
17 ways the person of ordinary skill in the art could have implemented that.
18 And finally, the Patent Owner's contention that the petition didn't explain
19 the motivations to combine here couldn't be further from the truth. I'll just
20 direct Your Honors' attentions back to the petition itself, for example, pages
21 26 through 30, and 81 through 85, which very clearly explains the
22 motivations to combine here, with rationales based in these references.
23 Thank you, Your Honors.
24 JUDGE MOORE: Thank you. All right, I think as promised we'll take a --
25 oh.

1 MR. TOMSA: Well we reserved five minutes, didn't we, for rebuttal?
2 JUDGE MELVIN: They used all their time.
3 JUDGE MOORE: Yeah, I think you used all your time.
4 MS. SHAH: Oh, we used all of it? Okay.
5 JUDGE MELVIN: It started at 55 minutes.
6 MS. SHAH: That's okay, no problem, thank you.
7 JUDGE MOORE: So we'll take a 10 minute break and reconvene. That
8 clock is wrong, we'll meet at two minutes after 3:00.
9 (Whereupon, the above-entitled matter went off the record at 2:53 p.m. and
10 resumed at 3:03 p.m.)
11 JUDGE MOORE: Okay. We are back on the record now and
12 moving to IPR2023-00328.
13 Forty minutes a side, at your convenience.
14 MR. FITZSIMMONS: We'd like to reserve 20 minutes for rebuttal,
15 please, Your Honor.
16 JUDGE MOORE: Whenever you're ready.
17 MR. FITZSIMMONS: Okay. Thank you, Your Honors.
18 So we'll begin on slide 56 of Petitioner's demonstratives. And we've
19 tried to make it convenient for Your Honors here to just highlight issues that
20 are unique to the '328 proceeding. And so I'm going to address those issues
21 in order here.
22 No. 3, in this case, the Patent Owner makes an argument against the
23 Karlsson and Harbers combination for the substantially illuminates the first
24 subsection below predefined illuminance element, and then there's a couple
25 of dependent claims that we'll address as well.

1 So we'll jump to slide 65.
2 Now, the Patent Owner did not even argue the determining
3 illumination feature for Karlsson in the '197 proceeding, but they do here,
4 that Karlsson discloses this feature.
5 The petition, as we see on the left-hand side there, pages 92 to 93
6 address this. Karlsson describes that, based on the light coming into its
7 light-sensitive sensors, that the controller controls the headlight beam, so
8 that no light at all or light having a low intensity is emitted towards the
9 detected vehicle. And that is then determining the illumination for that first
10 subsection, where there's another vehicle.
11 On slide 65 -- or excuse me -- slide 66 --
12 JUDGE MELVIN: Before you change slides, could we just go back
13 there.
14 MR. FITZSIMMONS: Yes.
15 JUDGE MELVIN: This was a point we discussed, or I discussed,
16 with Patent Owner's counsel in the last proceeding. And that is, your
17 annotations here on Figure 14 of Karlsson suggest that the left and right
18 margins of the LED array would not be illuminated due to detecting an
19 ongoing vehicle. Is that all right?
20 MR. FITZSIMMONS: That's an example. And, you know, it says
21 no intensity. Karlsson, clearly, says -- and the quote's right here -- that it's
22 no light at all or light having a low intensity. This is an example, Your
23 Honor. This is not every situation that Karlsson handles.

1 JUDGE MELVIN: Well, to the extent that this example is how one
2 might operate Karlsson, would that not undermine the ability of Karlsson to
3 steer the light around corners?
4 MR. FITZSIMMONS: No, not at all, Your Honor. In an example
5 where you have your beam pattern here, and perhaps there's a vehicle on one
6 side -- it could, if there's no vehicle, it can steer light towards that corner.
7 That's --
8 JUDGE MELVIN: Well, I think that having a detected vehicle cause
9 a reduction in intensity at the margin suggest that that margin would be lit if
10 no vehicle were there. Thus, that the entire array would be used, absent a
11 detected corner.
12 MR. FITZSIMMONS: The entire array, it could function in that
13 manner. Karlsson doesn't describe that these are all on at all times. It
14 describes this amorphous beam pattern. Again, we're looking at this against
15 the backdrop of adaptive beam technology. The whole point is to have these
16 amorphous beam patterns for different situations.
17 So Karlsson isn't going to just default to flooding the entire scene
18 with light.
19 JUDGE MELVIN: But that appears to be what you're depicting.
20 MR. FITZSIMMONS: I disagree with that, Your Honor. That's not
21 what this is depicting. This is depicting --
22 JUDGE MELVIN: I thought you just agreed with me that the
23 reduced intensity margins on the left and right where because of a detected
24 vehicle.

1 MR. FITZSIMMONS: That can be a situation that occurs. That's an
2 example. This is not every situation that would occur in Karlsson. Again,
3 Karlsson describes that 50 as a change in variant size and dimension. And
4 so that's what it's going to do. It's going to shift in the plane it describes,
5 depending on if there's detected light, depending on the most appropriate
6 lighting for the situation.
7 JUDGE MELVIN: So I think everybody can agree that multiple
8 strategies would be possible with Karlsson. You don't think you have to
9 identify one particular strategy for what you're asserting from the prior art?
10 MR. FITZSIMMONS: What would be the other strategy that Your
11 Honor is referring to?
12 JUDGE MELVIN: Well, I think the strategy that we've discussed, as
13 disclosed in Karlsson, of using window 50 to accommodate road curvatures.
14 MR. FITZSIMMONS: Uh-hum.
15 JUDGE MELVIN: But that doesn't appear to be what you're
16 depicting here. So --
17 MR. FITZSIMMONS: So to -- sorry, Your Honor.
18 JUDGE MELVIN: No, go ahead.
19 MR. FITZSIMMONS: Oh. So for the road curvature claims, right,
20 we combine Karlsson with additional references to ensure that you're
21 lighting the road curvatures, right? And so, yes, that box can shift in order
22 to do that. If there is a vehicle there, right, any adaptive system is going to
23 have to make a decision, right? That person is going to go in there and is
24 going to program that controller: do I light that area and blind a driver or do
25 I maybe not illuminate that turn, this curve, as much, because, you know, I

1 detect that there's a vehicle over there, so I'm not going to send light that
2 way? That's any control logic that a person skilled in the art is going to need
3 to compensate for.
4 JUDGE MELVIN: Okay.
5 JUDGE MOORE: Is there any disclosure in Karlsson of doing that
6 sort of lighting arrangement in the absence of vehicles on the margins? I
7 mean, is there any disclosure of, hey, just light the middle of the road?
8 MR. FITZSIMMONS: I think that the situation here, we have,
9 obviously, annotated this, but Karlsson provides us an example without any
10 coloring of, okay, here's my beam, and it can be 50 right in the center of the
11 road on its own.
12 JUDGE MOORE: So in Karlsson, does it describe the box is in the
13 middle like that because there are vehicles on either side oncoming?
14 MR. FITZSIMMONS: Karlsson does not state that specifically. Dr.
15 Jiao explained that this is an example, and we annotated it for, you know, the
16 Board's convenience as to how that might work.
17 JUDGE MELVIN: So maybe I'm confused because -- I'm sorry,
18 were you -- okay. You said that, okay, Karlsson doesn't have to implement a
19 road curvature control strategy in every embodiment. And, of course, that's
20 true. And you may choose to rely on different implementations of Karlsson
21 for different claims, but that can't be true for an independent claim and a
22 dependent claim from which -- you know, a claim that depends from that
23 independent claim, right?
24 So if you're choosing to rely on a control strategy that makes the full
25 array available and blanks it when oncoming traffic is detected, I don't see

1 how that would be then consistent with a dependent claim that requires
2 increasing illumination for road curvature; and that this slide is including or
3 it's purporting to imply -- it's at Claim 26, right? But I think Claim 32
4 depends from Claim 26. So Claim 32 would require that the margins be
5 available for road curvature, but I don't understand that to be what this slide
6 is --
7 MR. FITZSIMMONS: Right. Because there's no, there's no
8 disparity there. I mean, this is one situation, right? The adaptive beams are
9 constantly adapting to whatever it's detecting in the road situation, Your
10 Honor. And so if in this example there's a vehicle there, what Karlsson
11 discloses is, okay, I can send reduced intensity in that direction.
12 JUDGE MELVIN: That makes perfect sense.
13 MR. FITZSIMMONS: Absolutely. There's no -- that doesn't
14 contraindicate having Karlsson's box -- we'll call it 50, right?
15 JUDGE MELVIN: Uh-hum.
16 MR. FITZSIMMONS: -- be able to shift when there's a curve.
17 There's no, there's no --
18 JUDGE MELVIN: Now, how is that? Because this doesn't seem to
19 be relying on box 50. There would be no need to dim the margins if you
20 were relying on box 50 as the active zone. They would already be dimmed.
21 How is that incorrect?
22 MR. FITZSIMMONS: I don't understand Your Honor's question.
23 JUDGE MELVIN: Okay. It's my understanding that box 50
24 corresponds to an active illumination region that is then subject to local
25 dimming for detected ongoing traffic. Okay?

1 MR. FITZSIMMONS: Yes.
2 JUDGE MELVIN: But that's not what this annotation is depicting.
3 Because this is depicting an active dimming outside of box 50.
4 MR. FITZSIMMONS: I mean, box 50 isn't like this square that just
5 like moves, shifts, like moves itself.
6 JUDGE MELVIN: Well, that is what Karlsson describes, though.
7 MR. FITZSIMMONS: No, not at all, Your Honor. Karlsson
8 describes it as being able to change in size and shape and dimension. So it's
9 not a box. It could be an amorphous shape. Dr. Jiao makes that very clear
10 in his declaration submitted with the petition.
11 So it's not just a square. It could be -- excuse me -- it could be a
12 rectangle. It could be -- and there's an L-looking shape. This could be there
13 could be a cutout. So like, this is a representation of an emitted beam
14 pattern, but there are many shapes and sizes that that box 50 could be.
15 So, Your Honor, I hope I've clarified that for you because that is
16 not -- Karlsson does not just say move this square around at all.JUDGE
17 MELVIN: Okay.
18 JUDGE MOORE: Is there something in Karlsson that requires
19 maximum intensity, in the absence of blanking or --
20 MR. FITZSIMMONS: No.
21 JUDGE MOORE: No?
22 MR. FITZSIMMONS: I'm going to now skip down, since we've
23 addressed many of the same issues previously in the '197 proceeding, and
24 we will go to slide, I believe it's 71.

1 And so the claims here are Claim 28 and Claim 68. They recite that
2 there can be a bluish illumination along the side of the road. There can be
3 yellowish illumination along the road itself.
4 And if you look at slide 72, right, this was well-known in the art.
5 What the Patent Owner contests here again is the motivation to combine.
6 They argue that there would be some sort of color shifting or unpredictable
7 color change.
8 A reminder, Harbers here, which discloses this element is already
9 combined with Karlsson. It's included with the Beam-Thominet
10 combination for this known bluish-yellowish feature.
11 On slide 73, Harbers explicitly discloses adjusting the color output of
12 its beam segments in the manner that's recited in Claims 28 and 68. For
13 example, the petition, at page 120, Harbers discloses illuminating beam
14 segments along the on-axis part in a green or yellow light. So a yellowish
15 light. And illuminating beam segments located off-axis -- so off towards the
16 shoulder of the side of the road -- with a blue-green light, a bluish light.
17 And that's from Karlsson itself. And Patent Owner, again, doesn't dispute
18 that Karlsson discloses those elements.
19 What the Patent Owner argues is that there would not have been a
20 motivation to combine Harbers' colors, color segments or lighting, with
21 Karlsson because they allege that Karlsson's anti-glare operation, along with
22 Harbers' colored LEDs, would result in the wrong colors at times or
23 confusing colors.
24 But, first, if we look at slide 74 --
25 JUDGE JURGOVAN: Counsel, before you move on --

1 MR. FITZSIMMONS: Yes?
2 JUDGE JURGOVAN: -- I just want to clarify, so you're saying that
3 green-yellow light is yellow light and blue-green light is blue light,
4 essentially?
5 MR. FITZSIMMONS: The claims recite, Your Honor, yellowish and
6 bluish, and a person skilled in the art would understand that green-yellow is
7 yellowish light; that blue-green light is bluish light. And the Patent Owner
8 has not disputed that, either.
9 JUDGE JURGOVAN: Thank you.
10 MR. FITZSIMMONS: And so back to slide 74, on the left side here,
11 we have Dr. Jiao and his declaration, paragraph 119, confirming that a
12 person skilled in the art would have known how to configure the optical
13 systems to effectively mix the colors originating from the LEDs. And that's
14 in Harbers itself.
15 So in doing that, the person skilled in the art would present -- or
16 excuse me -- would prevent any undesirable color shifts that the Patent
17 Owner is alleging. And so while Harbers teaches, again, these different
18 colored LEDs, as Dr. Jiao explains -- and as Harbers itself recites -- the light
19 generated here will have, more or less, a white appearance. You're not going
20 to have some rainbow of colors that are emitted here. It's all sort of whitish
21 light, even though it may have a yellow tint or a blue tint. This is
22 sometimes, right, referred to as color temperature. Is it a warmer
23 temperature? Is it a cooler temperature?
24 So on slide 75, just see pages 67 through 73 that explain a person
25 would have been motivated to include these different colors within the

1 beam, as taught by Harbers. Because it would improve the visibility for the
2 driver. As Dr. Jiao explains, a person skilled in the art would have
3 understood how to make these combinations and prevent any undesirable
4 color shifts -- all well within the skill of the ordinary artisan.
5 The next claim we'll turn to is on slide 77. And the claims here are
6 29 and 69, which are similar. Twenty-nine recites that the illumination
7 accommodates sensed fog or snow, and then you change your headlight
8 beam toward yellow.
9 Claim 69 is saying that there's data indicating fog or snow. Again,
10 you would adapt the headlight system towards a yellow color.
11 JUDGE MOORE: So they argue about [inaudible], right --
12 MR. FITZSIMMONS: Yes, Your Honor.
13 JUDGE MOORE: -- their sensing?
14 MR. FITZSIMMONS: Exactly. And so we know that Harbers
15 discloses doing these colors.
16 And so if we go to slide 78, right, Karlsson-Harbers explicitly
17 discloses adjusting the color of the headlight, being towards yellow for fog
18 or snow conditions.
19 Now, if we go to slide 79, right, first, we have -- and this is getting to
20 Your Honor's point -- first, we have the petition at page 76 and the bottom
21 passage from Harbers here, right? So Harbers says: adjust the color of the
22 headlight beam to yellow during fog or snow conditions.
23 And Dr. Jiao, over on the top right, in his declaration, he confirmed
24 that detecting fog or snow was well-known in the art. That's not disputed.
25 And his evidence here is Exhibit 1009, the Braun reference.

1 And so his opinion, supported directly by Braun -- as we see, Braun
2 is on the bottom right here -- which says that you can have headlights that
3 are programmed to detect fog and adjust light provided by the respective
4 illuminators, to provide light appropriate for driving in fog, which Harbers
5 says is yellow, as in the claims.
6 Now, we know that Harbers is sensing or detecting this. If we look at
7 Harbers, it's not the highlighted part here, but Harbers says that, when
8 visibility is reduced by backscattering caused by fog and snow particles,
9 right? And so that's the portion here at the bottom left. And that
10 backscattering light is how Karlsson is detecting these or sensing these,
11 right? When the light backscatters, and it then is sensing that there's fog or
12 snow -- and Harbers says, okay, what do I do? I make my light more yellow
13 because that's better for the driving conditions.
14 The next claim here, or set of claims, I should say -- and this is the
15 last issue here for the '328 patent -- 66 and 67. There's now a third
16 subsection where you're illuminating a pedestrian or a road sign -- pedestrian
17 in Claim 66; road sign in Claim 67.
18 And so if we turn to slide 81, first, it's not surprising that the patent
19 itself, the '503 patent, acknowledges that pattern recognition techniques and
20 pattern recognition programs are known in the art for object tracking. Braun
21 is further evidence of this, and it uses pattern recognition techniques with
22 adaptive headlights to detect signs and pedestrians. It's very well-known.
23 Braun, on the left-hand side here, says that pattern recognition application
24 processes images from the roadway scene; it identifies road signs, and then
25 provides light to spotlight those signs.

1 On the right-hand side, again, in Braun, its headlight system pattern
2 recognizes the presence of people and spotlights those people to alert the
3 driver.
4 So again, the elements are known. The Patent Owner here is, again,
5 only arguing motivation to combine.
6 And if we go to slide 82, the petition thoroughly addressed this for
7 both the Beam-Thominet and the Harbers, Karlsson-Harbers combinations,
8 that this would attract the driver's attention. It would improve safety. It
9 would highlight objects of interest for the driver. And the motivation is for
10 the person skilled in the art to make that combination.
11 JUDGE MOORE: But their argument is the beam is already at
12 maximum intensity, so you can't spotlight if you've already given all the
13 light you've got?
14 MR. FITZSIMMONS: That is their argument. We strongly disagree
15 with that position, Your Honor. Beam does not teach maximum intensity at
16 all times and would have the ability to spotlight, as the Braun reference
17 suggests. And that is only an argument that they, you know, make for the
18 Beam reference. And Karlsson, likewise, does not default to an all-LED-on,
19 full-blast illumination at all times.
20 And unless there's any other questions, Your Honors, I'll leave our
21 remaining time for rebuttal.
22 JUDGE MOORE: I see none. Thank you.
23 MR. FITZSIMMONS: Thank you.
24 MR. TOMSA: Your Honors --
25 JUDGE MOORE: Whenever you're ready.

1 MR. TOMSA: Thank you. We would like to reserve 10 minutes of
2 our time for rebuttal.
3 JUDGE MOORE: Okay.
4 MR. TOMSA: First, I'd just like to address a couple of points that
5 Petitioner made.
6 First, as Your Honor noted, and as we've taken the position, they're
7 utilizing this figure for a different function. Honestly, Your Honors, the
8 problem is caused --
9 JUDGE MOORE: What slide are you on? I'm sorry, I can't see the
10 number.
11 MR. TOMSA: Oh, I'm sorry. This is Petitioner's slide 65. This is
12 not one of our slides.
13 The problem with Karlsson is it doesn't actually say, specifically,
14 when Figure 14 occurs, and Petitioner has used that to take license to say,
15 well, it's an example of base operational state, so we can move it for curves,
16 or here, it's an example of a suppression state, so that we can demonstrate
17 suppression. They, essentially, just retask the figure in any number of their
18 proofs to be whatever it needs to say.
19 Karlsson doesn't say it's a suppression state. Karlsson doesn't say this
20 is the state that I use to illuminate curves, predictably. Karlsson simply
21 describes the fact that this window can shift around, but in this petition, per
22 their proofs and per their explanation of Karlsson, it becomes a fully
23 illuminated array.
24 Your Honor, we pointed out in the Patent Owner response on pages 5
25 and 6 that it's our position this array is fully illuminated in any event. But

1 the point is, here, they're limited to that explanation because that's how they
2 chose to present it here. So if their interpretation is that Karlsson uses all its
3 LEDs, except when it's suppressing them because vehicles are detected, then
4 they're stuck with that interpretation, at least for this petition.
5 JUDGE MOORE: Why do you say that it's fully illuminated?
6 MR. TOMSA: It's fully illuminated, Your Honor, because if you
7 look at their explanation, the areas of no intensity are the shaded areas and
8 those are the suppressed areas. Suppression means that it was previously,
9 prior to suppression, lit. So they don't say, well, half of it was suppressed
10 and half of it just wasn't being used, and that's what would be used for curve
11 illumination later. They identify the full shaded area as a suppressed area,
12 and they identify the fact that it was suppressed responsive to detected to
13 illumination.
14 JUDGE MOORE: Okay. And Harbers is more general -- sorry -- in
15 Karlsson, more generally, is there something that says it's maximum
16 illumination if it's not being suppressed?
17 MR. TOMSA: As we've discussed in our petition, or in our Patent
18 Owner response on pages 5 and 6, Karlsson builds on the Flaaten reference.
19 Flaaten repeatedly describes full usage of its array. We don't have slides
20 prepared on that point in great detail here because we were reliant on their
21 own explanation. They've proffered it as being fully illuminated, and we're
22 entitled to rely on that proffer as their explanation for how Karlsson is
23 functioning, at least in this particular case.
24 It doesn't say whether it is or isn't lit, Your Honor. It simply shows
25 an exemplary embodiment, as many patents do, of how such a function, like

1 a shifting window, may occur. It never says this is a lamp used for any
2 particular situation. It doesn't even describe the beam section as beam 7,
3 which is how it described the beam. Every other time it talks about a
4 functional beam, it says here's an example of how shifting can occur, and
5 then notably on the following page, it gives some situational occurrences
6 where movement-related control, where it cannot possibly detect oncoming
7 illumination, applies the shifting window, right?
8 So it is our position that, at most, under normal circumstances, this is
9 a shifting window designed to operate when Karlsson can't detect oncoming
10 illumination. But again, in this petition, they've proffered it as a fully
11 illuminated figure, and this is an example of when light is suppressed or
12 intentionally terminated from a base operational fully lit state.
13 JUDGE JURGOVAN: Counsel, are you equating the term
14 suppressed with extinguished?
15 MR. TOMSA: We're not equating it with extinguished, Your Honor,
16 even though it particularly says no intensity here. But, regardless of whether
17 it's extinguished or simply dimmed, the fact remains that, prior to such
18 suppression, whether it was extinguished or dimmed, Karlsson was using all
19 of the LEDs in the non-suppressed state. And per the proof, the non-
20 suppressed state is a high-intensity area.
21 So they describe that central beam as a high-intensity section. The
22 implication -- because they don’t state otherwise -- is that the non-
23 suppressed areas, prior to suppression, were comparably high-intensity
24 areas, as what else could they be other than lit comparably to the central
25 section?

1 If there is some tertiary state that they thought that it was an
2 intermittent state between high and no or high and low, they never explained
3 it as such. And so we're simply left with the proffer that's on the record.
4 If we can now go to --
5 JUDGE JURGOVAN: Well, isn't it possible that they could have
6 been extinguished before, you know, in the previous state --
7 MR. TOMSA: Why isn't --
8 JUDGE JURGOVAN: -- before --
9 MR. TOMSA: Oh, sorry.
10 JUDGE JURGOVAN: -- before they were turned on?
11 MR. TOMSA: Extinguished in the previous? So the description of
12 this figure is that the reason that there are dark areas there is because of
13 suppression. So were they extinguished before, this figure, suddenly,
14 becomes proof of nothing because they haven't actually proven suppression
15 at that point.
16 This is their evidence for how Karlsson operates to prevent glare.
17 And their proffer is it turns off these LEDs. And the only way it can turn
18 those LEDs off is if it was using them in the first place.
19 JUDGE JURGOVAN: Thank you.
20 MR. TOMSA: Could you now turn to slide 75, please?
21 I just want to make a quick point about this slide, Your Honor. In the
22 particular combinations that rely on Harbers' colored LEDs, which is only
23 one of the many subgrounds of Beam-Thominet, those are literally colored
24 LEDs. And the problem that we pointed out is, once you start applying any

1 kind of blanking strategy to an array of colored LEDs, you lose your color
2 mixing ability.
3 Color mixing in Harbers is predicated on the fact that you know
4 exactly where the LEDs are and the exact configuration. And, in fact,
5 Harbers says as much. It says this specific combination eliminates issues
6 with misidentifying certain aspects of the lamp as colored illumination. And
7 it cites misidentifying headlights as brake lights.
8 So when you follow the exact strategy of Harbers, pursuant to the
9 exact configuration, and you don't turn any of those LEDs off, then, yes,
10 Karlsson -- or Harbers may achieve a blinding effect, whereby the light
11 output is white. The problem is, when you combine that with Beam strategy
12 of terminating illumination at various points in the scene because there are
13 detected vehicles, suddenly, your ability to mix colors dissipates, right? It's
14 like trying to mix white and red paint to get pink, except, suddenly, you
15 don't have white anymore. Well, then you don't have pink; you have red.
16 JUDGE MOORE: So their expert says it's fine, though. So how do
17 we resolve that?
18 MR. TOMSA: Well, Your Honor, their expert's point is that the
19 headlight beams generated from each, quote, colored light source have a,
20 quote, more or less white appearance. And he cites Exhibit 1011, page, or
21 paragraph -- I don't know if it's a page or column -- 527 through 30.
22 The problem is that that section of Harbers actually says that
23 emission from the lamp has a, more or less, white appearance. Other
24 portions of Karlsson make it clear that emission from the sources is colored.
25 So you have emission from the lamp post-mixing that is, more or less, white,

1 but emission from the source is pre-mixing that's colored. The selective
2 termination from Beam, the turning off of LEDs, would occur pre-mixing,
3 right?
4 Frankly, Your Honor, their expert has simply misquoted this portion
5 of Karlsson -- or Harbers, in saying that the sources are more or less white,
6 when, in fact, that portion of Harbers says that the emission, the collective
7 beam post-mixing is, more or less, white.
8 If you turn to slide 79, please? Two points to make on slide 79.
9 Braun is not prior art for this. So any indication of sensing that's
10 imported from Braun for Claims 29 or 69 doesn't appear in this particular
11 combination. While they do rely on Braun for other claims, these claims do
12 not depend from those claims. And so they have no right to rely on active
13 sensing in Braun.
14 With regards to the backscatter in Harbers, that's simply a light effect
15 that occurs when light strikes snow or fog. There is no indication of sensing
16 there. That's simply pointing out the fact that, if the driver, for example,
17 sees backscatter, they can switch the beam to a different functional system of
18 Harbers. Literally nothing is being proffered by Petitioner that suggests
19 active sensing in Harbers; what element of Harbers would do such sensing,
20 or how such sensors are combined with any of the proffered combinations.
21 All right. If I can move now to our main argument? Could you go to
22 our slide --
23 JUDGE JURGOVAN: Counsel, before you do, can I ask, why is
24 Braun not prior art?

1 MR. TOMSA: Your Honor, Braun is prior art in different
2 combinations. It's not utilized in the rejection of Claims 29 and 69, right?
3 So they're citing a reference as evidence of a sensing effect, but they didn't
4 put that reference into this combination. They're just showing it as --
5 JUDGE JURGOVAN: I understand. Thank you. I understand your
6 argument.
7 JUDGE MELVIN: I mean, it's in their expert's declaration, right?
8 MR. TOMSA: There's a lot of stuff in their expert's declaration, but
9 it hasn't been shown as a motivated combination, and they're not simply
10 entitled to bring in teachings and functions from extrinsic evidence without
11 showing where, for example, such sensors exist in the proffered
12 combination. So where such sensing as Braun is occurring in the proffered
13 combination, there's no explanation as to what sensors are doing that sensing
14 and how such sensing is being achieved.
15 JUDGE MELVIN: Thank you.
16 MR. TOMSA: Could you go to our slide 67, please?
17 Your Honors, I won't go through the entire exhaustive explanation,
18 but, essentially, we have the same combinations that we saw before of
19 Beam-Thominet and the same particularity issues.
20 Petitioner is attempting to dismiss these as somewhat trivial. Their
21 position seems to be the decision is instituted, and therefore, these issues
22 have gone away with institution.
23 I'd also note that we have in no way surrendered any of our
24 arguments by not making them in the last petition. In fact, we're simply

1 presenting them in a different order, and we rely on the strength of our
2 briefing.
3 And we do concede, Your Honors, that this case has fewer
4 [inaudible] combinations than Adaptics. Adaptics is the most extreme
5 example of it. There's still 150 combinations minimally here, though,
6 between the three issues -- probably more if we start considering things like
7 Beam's lamp plus Beam's LEDs, which wasn't even included in our count of
8 the base combinations, and then all the amplification that occurs from
9 dependent claims, once you have yet another base combination.
10 If you'd go to slide 69, please?
11 So one of the issues that arises again is this utilization of
12 combinations nearly initially proffered. And again, this is just a simple
13 example of where this occurs again in another petition.
14 Here, on reply, once we pointed out that there is no lamp plus -- or
15 LED plus SLM embodiment, Petitioner came up and argued, well, you
16 would have been motivated to combine Thominet/Harbers' multi-function
17 beams with Beam-Karlsson's adaptive headlights, and Beam-Thominet's
18 lamp/LED/SLM controls the angular position of each microbeam.
19 Again, they're proffering this for a proof about angular control, but I
20 don't know from their base combination what Beam's lamp/LED/SLM
21 means. Does it mean that there's a combination that includes a lamp and an
22 LED and an SLM, or a lamp and an SLM, or an LED and an SLM? Or are
23 they actually left with the combinations they originally offered, which didn't
24 even include an LED and an SLM?

1 Additionally, this entire argument that's presented here underneath
2 that heading that conflates their proofs is the exact same argument they
3 presented for the SLM alone in the original petition. And the only thing
4 they've done is removed the reference to the SLM in this particular
5 argument. So if you compare that to their original proffer, it's, essentially,
6 the same argument, except now -- I'm sorry -- the reference to lamp has been
7 removed. So now, they have the fiction that it applies to both the lamp and
8 the LED claims.
9 Once again, the problem is the target moves and changes, and every
10 time we try to address what we think a combination is, the combination
11 simply becomes something different.
12 If you'd go to slide 64, please?
13 On slide 64, we see the combinations proffered for Karlsson and
14 Harbers here. They're slightly different because they use slightly different
15 language. And again, Your Honors, our point about Adaptics is not that
16 there were that many combinations in this case, but, rather, that language
17 such as and/or, or additionally, alternatively, just as in Adaptics, created the
18 myriad of combinations we see here. And that's notwithstanding the fact
19 that we set a number of combinations aside because they were so
20 insufficiently explained, we didn't think it was even reasonable to include
21 them in the count.
22 Slide 65, please.
23 The problems, Your Honors, are, once again, the same, right?
24 Regardless of which petition we're in, we have an argument that starts out
25 with modification of Figure 3 of Karlsson with Harbers' LEDs or substrate,

1 and it only explains it is ever replacing elements 2 and 3. And then we have
2 an explanation that originally relies on directional light clusters and sources,
3 as you see in the petition argued for Claims 32 through 36 and 70. And
4 Harbers is disclosing an array of elements that create different beam
5 functions and may aim in different directions. No mention of a shifting
6 window whatsoever.
7 But then again, if you look at their reply argument, the entire reply
8 argument -- and I apologize it's not on this slide, but it's pages 21 and 22 of
9 the '328 reply -- the entire reply argument is exclusively redirected to the
10 shifting window.
11 Now, we submit that, if a shifting window is applied to this color
12 array, you're, obviously, going to have color creation problems, right? We
13 either blank out the middle of that array or the left-hand side or the right-
14 hand side. There would be significantly more red, green, and blue bulbs
15 than there would be yellow. Again, color changes would occur. Harbers
16 recognizes this problem, and that is the only array, that specific
17 configuration that Harbers has explained wouldn't create these issues.
18 Could a POSA find another array using more LEDs? Certainly, but
19 how would they color that array if they're shifting the window around, as
20 Petitioner offers in reply on Karlsson? You can't move the LEDS. You're
21 necessarily changing the amount of light that comes out of the LEDs for a
22 shifting window. So when you're using, literally, colored LEDs, it's
23 impossible to see how that isn't going to create color-shifting problems.

1 If Your Honors don't have any questions, that concludes my
2 argument for this portion. I'll turn the rest of the time over to my co-
3 counsel.
4 JUDGE MOORE: Thank you.
5 MS. SHAH: So first, we'd like to take up, or I'd like to take up the
6 issue of determining subsections.
7 If we could turn to slide 32, please?
8 So with respect to the limitations in the '328 IPR, Petitioner
9 repeatedly points to proofs associated with the results, the sort of
10 comparable results that are the outcome, as opposed to actually focusing on
11 proving the claim steps, which require determining, specifically determining
12 illumination related to a specific section.
13 So once again, those become Petitioner's proofs. The reply cites over
14 and over again the output of Beam or Karlsson is proof, rather than actually
15 pointing to claims that establish that the processor was determining
16 illumination for various subsections.
17 JUDGE MOORE: Well, don't you have to have determining if you
18 generate a pattern? But what is determining, I guess, is my question. Why
19 is there not determining?
20 MS. SHAH: Yes. So can look at this with respect to slide 56 and
21 Beam. So what happens in Beam is sort of the classic case of what's
22 happening here, right? Because Beam, the one thing it does determine, it
23 determines what areas it wants to extinguish, what areas that it wants to
24 prevent lights. That's the extent of the determinations in Beam. There isn't

1 any other determination that takes place in Beam. Everything else is sort of
2 a default maximum illumination operation.
3 So as a result of that, there isn't any specific determination of
4 illumination directed to a first subsection. The only thing that Beam does,
5 again, is determine where it wants to prevent the placement of light, which is
6 very different than what this claim is requiring.
7 So repeatedly, Petitioner then points to the result, which is, okay,
8 there is less illumination in certain areas, but that doesn't establish the claim
9 limitation here, which is that the processor actively has to be determining
10 illumination for the first subsection, not arguing that the result sort of must
11 necessarily mean that the processor is doing this. There is no proof that has
12 been mounted here associated with, again, the processor actually
13 determining what illumination should be required for a given first
14 subsection.
15 JUDGE MOORE: Do the claims require the processor determines --
16 MS. SHAH: Yes. So these claims here, the ones that are listed,
17 which is 20.9-20.10, there's a series of cascading limitations that then kind
18 of interrelate with the idea of the processor having to determine, you know,
19 in this instance, the first subsection, including a detected vehicle, and then
20 there's another limitation that requires at least a second subsection, not
21 including the detected vehicle. In each of these instances, Petitioner's proofs
22 fall short because they're not actually pointing to determinations that are
23 taking place. They're just pointing to the result, and then inferring that
24 that -- or effectively, pointing to results, and then saying that that's
25 sufficient.

1 JUDGE MOORE: But the result was done by the processor, right?
2 MS. SHAH: So again, the result was the extinguishing of light, right,
3 in a different location. So the result may be that you have here reduction of
4 light in certain areas. We contend, of course, that that's the result of snow
5 illumination, but there's not actual determination that Beam is engaging in
6 with respect to, in this subsection, where there is no detected vehicle, right?
7 What Beam says over and over again is, when I see detected light
8 through the corresponding section, I'm going to extinguish light. That's the
9 one determination that takes place in Beam. Everything else is a default
10 max illumination.
11 JUDGE MOORE: Well, would you agree that the processor
12 determined the default maximum?
13 MS. SHAH: I wouldn't. I wouldn't agree that the processor is
14 determining illumination for a given subsection. It just has this sort of basic
15 premise: everything starts off at max illumination, and then the one thing it
16 determines, based on that sort of operational state, is what are the areas that I
17 want to distinguish. That's the extent of the determinations that take place in
18 Beam.
19 JUDGE MOORE: I guess I'm just not understanding why that's not
20 enough. What is determining? I mean, if the processor produces that light
21 pattern, why does the processor not determine that those two subsections
22 would have those illumination levels?
23 MS. SHAH: Again, so I guess we're focused-in on it is not -- there's
24 not a determining illumination step associated with that specific section.
25 That's probably the kind of disconnect here. So when we're talking about -

1 -- we've got very specific subsections that we've articulated in the claims.
2 Those subsections have different characteristics. In some instances, it's a
3 second subsection where there's not included detected vehicle that has one
4 claim, one controller strategy. In other subsections, there is a detected
5 vehicle that has different control strategies.
6 Those subsections are defined, and then there is illumination steps
7 associated with -- the processor then determines after it confirms -- after it
8 creates the subsections, and then it decides how it wants to illuminate it.
9 That whole process doesn't happen as such, Beam or Karlsson.
10 Again, because in both instances, they're primarily -- they're focused
11 exclusively on blocking glare and the regions that are associated with
12 blocking glare, not what else you do with the remaining subsections.
13 JUDGE MOORE: Does the processor determine the shaded region?
14 MS. SHAH: Yes, that's correct. Yes. It determines the size and
15 scope of the shaded region, but that's the extent of it.
16 JUDGE MOORE: Does it determine to provide no illumination to
17 that shaded region?
18 MS. SHAH: That's correct.
19 JUDGE MOORE: Okay.
20 MS. SHAH: So, and then you can see here, which is the Petitioner's
21 annotation here -- well, we'll get to this. We'll do it sort of stepwise.
22 But you could see here, you know, just the way that it's sort of
23 articulated in the annotations, that Figures 1C and 1D, the annotations that
24 Petitioner has provided, it, again, by its own admission, has indicated that

1 everything other than the shaded area is at max intensity. Again, that's the
2 default. That's what's here.
3 What's highlighted in red is a new position that was taken on reply,
4 which was advanced for purposes of the second subsection -- again, on
5 reply.
6 So again, our position is, as we mentioned, that the extinguishing of
7 light in a given subsection does not equate to determining illumination
8 within that subsection. So that's the sort of premise of our position.
9 Equally, we point out that the various positions the Petitioner has
10 taken relate to the end result, which is, once again, that you have less
11 illumination in a given section. Our contention is that that's as a result of
12 spillover illumination, not an actual determination that Beam is involved in,
13 or Karlsson is involved in, with respect to determining the appropriate
14 illumination for that subsection.
15 JUDGE MELVIN: So wait. Just to stop you there.
16 MS. SHAH: Yes?
17 JUDGE MELVIN: Both of those arguments depend on your
18 construction that would require some illumination in the first subsection,
19 right?
20 MS. SHAH: Yes.
21 JUDGE MELVIN: Okay. Separately, like there's a separate issue of
22 determining illumination in another subsection, right, the rest of the field?
23 And I think you're contending that applying the default illumination is not
24 sufficient to determining, is that right?

1 MS. SHAH: That's correct. It's not. So again, our position would be
2 it's not really even applying; that's just the default state, right? As we
3 understand Beam, the default state is, absent no controls, everything is on
4 max illumination. The one thing it does then, as in when lights are detected,
5 is it determines the region that it wants to extinguish. There is no other
6 determinations in Beam; and hence then it cannot meet this claim.
7 JUDGE MELVIN: Okay.
8 MS. SHAH: The same logic that applies to Limitation 65.3
9 and -- I'm sorry, hold on -- to Claim 65.3, 65.2, 65.6, there, again, we have
10 determining illumination for the first subsection. That illuminates the first
11 subsection below the predefined illuminance. The same issue arises that
12 Beam -- that they point to Beam's extinguishing illumination directed at the
13 subsection. Once again, preventing a beam from illuminating certain areas
14 is not the same as determining illumination in those areas.
15 Next I'd like to talk about the second subsection, the second prong of
16 these, this claim. In our briefing, we explain that the plain meaning of detect
17 is to determine the existence, presence, or fact of. As such, for the process to
18 determine a subsection, including a detected vehicle, it must be able to
19 determine the existence, presence, or fact that a vehicle actually exists. So
20 in a sense, Limitation 20.10, the processor must be able to determine, either
21 determine the existence of or the absence of a detected vehicle to demarcate
22 the area, the region, which constitutes the second subsection. For both
23 illuminations, having a mere association isn't enough.
24 So that's to satisfy the Limitations 20.9 and 20.10. Petitioner merely
25 points to Beam's ability to provide a shaded area, based on blanking signals.

1 Beam states, however, that the blanked area tracks the location of the
2 oncoming vehicle. That's their position. Beam, however, still lacks the
3 ability to detect a vehicle, and then segment the field of view, based on the
4 location of identified or detected vehicles. In Beam, the focus is on
5 incoming light. It isn't about -- Beam doesn't have the separate capability of
6 detecting a vehicle per se.
7 JUDGE MOORE: But doesn't Beam use the light as a proxy,
8 essentially, for a vehicle?
9 MS. SHAH: Yes.
10 JUDGE MOORE: Assumes it's a vehicle?
11 MS. SHAH: Yes.
12 JUDGE MOORE: Right?
13 MS. SHAH: That's correct.
14 JUDGE MOORE: That's why it's not pointing light in that direction?
15 MS. SHAH: That's correct. So it's our -- I mean, the claim says
16 detect a vehicle, and there is, clearly, a difference in terms of the contours of
17 detecting the region where light would be associated versus understanding
18 the contours of a vehicle, right? So what Beam is capable of doing is
19 creating a box where the light is detected, which, of course, corresponds to
20 the light from the headlamps. That is not the same as the contours of a
21 vehicle, which require, effectively, cameras to be able to understand the
22 contours of the vehicle itself.
23 JUDGE MELVIN: The slide you're on, slide 56, those Figures 1C
24 and 1D are from Beam, is that right?
25 MS. SHAH: Yes. Those are, yes, those are Petitioner's figures, yes.

1 JUDGE MELVIN: But they are annotated, right?
2 MS. SHAH: Yes.
3 JUDGE MELVIN: They appear to show a reduced intensity region,
4 right?
5 MS. SHAH: Yes.
6 JUDGE MELVIN: But that region is not corresponding to the
7 headlights of the oncoming car. So I don't see how that's consistent with
8 your statement just a moment ago that Beam merely sees oncoming light and
9 stops itself from directly light towards the oncoming light.
10 MS. SHAH: So Beam is part of its, I guess, box generation. It goes
11 through, it determines where exactly -- it does this tracking of where the
12 lights are received through the algorithm process it has, and then it expands
13 the box a little bit more than kind of exactly where the location of the
14 detected light is. That's actually how it creates this box. That box, while it
15 is something more than the location of the detected lights, it is
16 definitely -- Beam has no capability to actually determine the contours of the
17 vehicle, which, again, is what's required by this claim, because the claim is
18 talking about detecting the vehicle to determine, you know, to parse out the
19 subsections that --
20 JUDGE MELVIN: Your claim requires dimming around the
21 contours of a detected vehicle? Is that what you just said?
22 MS. SHAH: I'm saying the claim requires defining the subsections,
23 based on understanding where the vehicle is in the field of view. That's how
24 we define the subsections, is based on where the vehicle is --

1 JUDGE MELVIN: That appears to be exactly what Beam is doing.
2 In fact, you just said that Beam expands the window, right? But if Beam's
3 window is initiated by detecting oncoming light, wouldn't it include the
4 headlights that are projecting that light towards Beam's device?
5 MS. SHAH: So I can't speak to the accuracy, the complete accuracy
6 of this particular figure with respect to Beam. But when Beam is talking
7 about how it actually determines the box, it makes it clear that it is 100
8 percent based on determining the location of the incoming light. Again,
9 Beam doesn't have any ability to understand, or it doesn't do anything with
10 understanding the contours of the vehicle, to then use that as a means to
11 determine different subsections, and then differently illuminate different
12 subsections. There is no such teaching in Beam.
13 JUDGE MELVIN: That sounds like a lot of additional limitations
14 that you would have us read into the claim language. Is it your contention
15 that detecting a vehicle is the same as classifying the detected object as a
16 vehicle?
17 MS. SHAH: Well, I guess our contention is classifying and detecting
18 are different. We have different claims associated with that and different
19 patents. But we definitely say here, again, per the ordinary meaning of the
20 term determine, that it requires you to be able to determine the existence of a
21 vehicle; that, as we pointed out in our --
22 JUDGE MELVIN: Wait. I thought we were talking about detect, a
23 detected vehicle?

1 MS. SHAH: No, I understand. The plain meaning of detect, which
2 we identify in our dictionary, a definition in our response, on page 48, is
3 determine the existence, presence, or fact of. In this case, it's a vehicle.
4 So the plain meaning of this claim requires the processor to be able to
5 determine the existence, presence, or fact of a vehicle in a given area to
6 define the subsection. That's our understanding of these claims.
7 JUDGE MELVIN: Well, I'm trying to understand how that's
8 different from classifying. I think you're saying that you have to know that
9 something is a vehicle versus not a vehicle?
10 MS. SHAH: Yes, it's a binary thing. It's a --
11 JUDGE MELVIN: And as I understood your position to be on
12 classifying, it was identical.
13 MS. SHAH: Classifying has many more parts to it, because it could
14 be a whole catalog of things. Here, it's a vehicle or something else. So
15 classifying, there's generally multiple different things it could be. It could be
16 a person. It could be a sign. It could be an object. There's a variety of
17 different things, and within that, you are then classifying. So you can
18 determine illumination differently, depending on your understanding of, you
19 know, what the input is relative to how you classify it.
20 This is, again, more binary. Can you detect whether this is a vehicle,
21 yes or no? And then using that, can you then parse out the subsections,
22 based on understanding if it is a vehicle, and then what are the contours of
23 that vehicle, to determine the subsection. That is not something that Beam is
24 capable of doing.

1 JUDGE MELVIN: If Beam's not capable of that, why would it dim a
2 window that does not include the oncoming vehicle's headlights, but does
3 include the driver of the oncoming vehicle?
4 MS. SHAH: Again, because it is trying to achieve glare reduction.
5 There's no question Beam is trying to -- the purpose of Beam is to achieve
6 glare reduction. So it also recognizes that the location of the headlights is
7 not where a driver is located. So then it expands the box in an
8 approximation of where the driver would be located. That's the process that
9 Beam undergoes. That's not -- that's different from --
10 JUDGE MELVIN: How would Beam apply that understanding, if
11 not making a determination that a detected light has a driver associated with
12 it?
13 MS. SHAH: No, I understand, but I think that it recognizes the
14 oncoming car is going to have a driver, and it has -- it creates a box, based
15 on --
16 JUDGE MELVIN: What kind of detected object has light projected
17 towards this system and a driver, but is not a vehicle? I'm entirely confused
18 by your position here.
19 MS. SHAH: Okay. So let me back up. The primary point that we're
20 making here is the issue that Beam doesn't determine positive illumination.
21 What it does is it determines the locations that it wants to extinguish for
22 purposes of glare. That's the one determination that Beam makes and not
23 other determinations are made. That's our primary point.
24 JUDGE MELVIN: Your primary point -- and I think just allow me
25 to rephrase and make sure I'm doing so accurately -- is that in the so-called

1 blanked region, there must yet be some illumination; that entirely
2 extinguishing the beam in that region is inconsistent with the claim. Is that
3 right?
4 Like I understand that argument. You've made that in other cases;
5 you've made it here. That's fine. But I'm talking about a separate argument
6 that I think you're making, and that is about whether or not Beam detects a
7 vehicle.
8 MS. SHAH: Our primary argument for these claims is the fact that
9 pointing to a result isn't sufficient to establish that the processor is actually
10 determining illumination for a given subsection. That's our first argument.
11 That argument is predicated on the notion that all that happens in Beam is
12 preventing illumination in glare zones.
13 JUDGE MELVIN: Okay. So do you agree that Beam discloses
14 detecting a vehicle?
15 MS. SHAH: I would agree that Beam discloses detecting headlights
16 that it uses as a proxy for determining the presence -- or as a proxy for a
17 vehicle.
18 JUDGE MELVIN: Fine. And is that consistent with your claim
19 language a detected vehicle?
20 MS. SHAH: Again, we would argue that a detected vehicle is
21 something more than detecting lights. So we disagree there, I think, based
22 on --
23 JUDGE MELVIN: So your claim does not read on detecting
24 headlights as a proxy for a vehicle, is that right?

1 MS. SHAH: We can get to this a little bit more when we get to the
2 second subsection argument. But I think, yes, that's correct.
3 JUDGE MELVIN: No, I'm talking about this claim language, a
4 detected vehicle.
5 MS. SHAH: Yes.
6 JUDGE MELVIN: It's very short. It's very simple.
7 MS. SHAH: Yes.
8 JUDGE MELVIN: You're saying your claim does not read on
9 detecting headlights as a proxy for detecting a vehicle?
10 MS. SHAH: Well, again, what I'm saying is, rather than sub-parsing
11 just that language, there's a whole -- the limitation has specifically the
12 requirement that the processor determines illumination for a subsection that
13 includes, in a sense, to detect a vehicle. That full limitation requires there to
14 be an actual affirmative determination that's made for illumination. That
15 does not exist in Beam. That's our position.
16 JUDGE MELVIN: Okay. So it sounds like you're not making two
17 separate arguments.
18 MS. SHAH: No.
19 JUDGE MELVIN: You're just making the one argument?
20 MS. SHAH: I am making just the one argument.
21 JUDGE MELVIN: Okay.
22 MS. SHAH: I'm sorry if there was confusion on that point.
23 JUDGE MELVIN: Thank you.
24 I'll note, before you start up, that you're into your rebuttal time five
25 minutes already.

1 MS. SHAH: Yes. Right. Okay.
2 So turning to Figures 1C and 1D, as I mention here, what you'll see
3 here is what's been shown in red is the modification that was made to
4 Petitioner's arguments. In this instance, the very first annotations in the
5 petition did not include these circled annotations in red. Petitioner is now
6 arguing that there's a myriad of second subsections that it can just draw.
7 Again, contrary to the arguments that were launched in the petition,
8 even if a person of skill in the art or Petitioner can draw these second
9 subsections within the field of view, that's not something Beam can do.
10 Beam does not have any capability to draw the series of different second
11 subsections. Again, it treats the entire -- it has two sections. Basically, that
12 which is glared, and it treats that one way, and then everything else. There
13 is no other discernment within Beam, contrary to Petitioner's annotations in
14 Figures 1C and 1D here on slide 56.
15 If we can turn to slide 37, please? Can you go to 36? Maybe 38.
16 So we'd like to go through the same argument with respect to
17 Karlsson. Petitioner argues that, as we've been talking about here, right,
18 they have the no intensity region that's in the middle of the window. They
19 argue that that is achieved by suppressing illumination, which necessarily
20 means, as we discussed previously, that suppression requires that the LEDs
21 were in use prior to being suppressed.
22 Yet, in their reply, Petitioner now argues, has a different construction
23 entirely at Figure 14, a different explanation. Now, they're arguing that the
24 window 50 is a subset of the LEDs that are available. Under their latest

1 interpretation, that conflicts with the idea that there are active LEDs that
2 would be suppressed outside of region 50.
3 If we can turn to slide 32, please?
4 With respect to Limitation 65.4, Petitioner simply explains how
5 Karlsson generally handles glare, referring to the same annotated figure that
6 shows a no intensity section to either side of the high intensity section,
7 which is the opposite of Limitation 65.4, which requires determining
8 illumination for at least one or more subsections to either side of the first
9 subsection. So what they've pointed to here is, actually, the complete
10 opposite of the claims that are required for 65.4.
11 With the time that's remaining, I'd like to speak about the motivation
12 to combine, some of the deficiencies with Petitioner's motivation to
13 combine. If we can turn to Petitioner's slide 13?
14 Petitioner relies simply on Intel as its explanation of why a person of
15 skill in the art would combine both Beam and Thominet and Karlsson and
16 Harbers. It does so because it points to this language in Intel that, as long as
17 there's a suitable option, that's sufficient to explain why.
18 What Petitioner doesn't explain is that Intel has a very, very specific
19 fact pattern. And that is that all of the references in Intel address the same
20 narrow-focused problem, and that was cache coherency.
21 This commonality is what specifically led to this whole thing. And
22 as the Federal Circuit expressly said, these are the references: Enomoto and
23 Bauman address the same problem, and that Bauman's cache was a known
24 way to address that problem is precisely the reason that there's a motivation
25 to combine under KSR.

1 So following KSR's logic, and specifically because both of the
2 references in this case address the exact same narrow-focused problem, they
3 then were -- you know, it led to this conclusion that a suitable option was
4 sufficient for purposes of motivation to combine and explaining why.
5 That is not the case here. Here, we have every single reference has a
6 completely different problem that's being addressed. And Beam is trying to
7 provide max illumination in lieu of what the previously high and low beam
8 configurations used to be, where a lot of illumination was missing.
9 In Thominet, you have the issue of having predefined functionality
10 and trying to provide more functionality to a given LED array.
11 In Karlsson, you have the issue of sensitivity associated with the light
12 sensors and wanting to increase light sensitivity while making sure that you
13 are also addressing glare.
14 In Harbers, you have the issue, broadly, of dynamic lighting in
15 relationship to static lighting. The prior lights, incandescent/halogen lights
16 as compared to LED lighting.
17 There's no strain here of one single, narrow-focused problem, like
18 you have in Intel. And so the Petitioner's reliance on Intel alone is
19 insufficient.
20 Turning back to KSR, which is, obviously, the operative analysis
21 here, KSR still controls and we would submit that there is actually a new
22 case that the Federal Circuit, just two weeks back, confirmed. Again, it
23 continues on with the KSR lineage; that the why prong very much matters;
24 that just because you have a series of known components doesn't mean that
25 you don't have to explain, not just that a person of skill in the art could

1 combine those components, but why. Why would they combine those
2 components?
3 And here, repeatedly, Petitioner never provides that explanation. It
4 simply points to the fact that it's suitable, and as I mentioned, it's our
5 position that Intel does not apply here, and the lack of explanation with
6 respect to a true explanation of why these disparate components would be
7 added is simply missing from the proofs.
8 And that can most readily be seen in accounts of the curve substrate,
9 which is actually optional. You know, by its own statement, expressly, each
10 of these references, secondary references, mentions that the curve substrate
11 is optional.
12 Having said that, then it's not about it being an alternative; it's not
13 about it's being suitable. It's just an appendage that's really being used here
14 for hindsight reconstruction of the claims at hand.
15 Then you have the issue of segmented beam functionality and all the
16 problems that happen. When you add Thominet to Beam, the segmented
17 beam functionality results in actually breaking Beam's max illumination
18 goals, because you're going to have this kind of controller battle that goes on
19 with respect to, are you going to take the segmented beams from Thominet
20 or are you going to apply the max illumination strategy from Beam? So
21 that's an issue. You have the same problems with respect to Harbers and
22 colored LEDs then.
23 Thank you.
24 JUDGE MOORE: Thank you.

1 MR. FITZSIMMONS: So, Your Honors, the Patent Owner takes a
2 very myopic view of the references and combinations here. It's evident from
3 counsel's comment where they mention that you would take exactly some
4 element from Harbers and add that to Karlsson. That's arguing bodily
5 incorporation over reference. We know that's improper.
6 The Patent Owner entirely ignores the person skilled in the art. And
7 that's because their declarant isn't one. Now, Dr. Jiao, someone who actually
8 designed these types of headlamps, explained that persons skilled in the art
9 would know how to avoid these types of color-shifting issues when making
10 these reference combinations.
11 The second point here, counsel said something about Harbers, of the
12 driver switching to a fog light. The whole point of Harbers is that it's
13 automatic. So Harbers doesn't say their driver will switch it to a fog lamp.
14 What Harbers is doing is evidenced by Braun, right? Braun is evidence that
15 supports our expert's opinion that the backscattering in Harbers is sensed.
16 Briefly, I'll just note for Your Honors to refer back to -- neither
17 reference teaches this max intensity everywhere. It's discussed in our
18 Petitioner's reply here in the '328 proceeding, pages 12 and 13 for Beam and
19 pages 15 through 17 for Karlsson.
20 And the last point here on how Beam operates, this is on slide 34 of
21 our demonstratives. There's four examples there. I'll just give you one.
22 It's Beam, column 4, lines 16 through 19, and what it says there is
23 that data from sensor 107 are input to a controller 108, which uses them to
24 determine which microbeams must be reduced in intensity to protect the
25 other drivers.

1 And it, clearly, discloses determining the illumination for the
2 subsection. The Patent Owner's argument there has no merit whatsoever,
3 Your Honors.
4 With that, I'll cede the rest of our time.
5 JUDGE MOORE: Thank you. Okay. Well, it's getting late in the
6 day. So I think we need to just press on.
7 MR. FITZSIMMONS: Your Honors, I'd like to reserve 20 minutes
8 for rebuttal, please.
9 Thank you, Your Honors. Now, for the '335 proceeding, on slide 86,
10 we have again laid out a number of issues here from this proceeding. Most
11 of them at this point we have previously discussed during our time here
12 today. I'm going to jump down into some that we haven't.
13 And so we'll, first, jump down to slide 104. And I'll be brief on these
14 first couple.
15 104 here, a couple of claims reciting colored beam segments. Claims
16 5 and 14 show that there's either color change or at least one subsection is
17 illuminated with a different color of light. Now, the Patent Owner does not
18 contend that Karlsson-Harbers doesn't disclose these elements. They only
19 argue against the Beam-Thominet combination. We've discussed this point
20 enough, but I just wanted to make that note, that there's only an argument
21 here for one combination.
22 The next element here is on slide 107. Just identifying it for Your
23 Honors. It's the vehicle identification claims that have been discussed at
24 length today, also an issue here, but I think the parties have addressed this
25 point thoroughly today, and as well in the briefing.

1 So we will turn to slide 112.
2 Now, I'd just like to point out with these claims I think this proves the
3 point here today. It is, Claims 7 and 8, they recite that there's a camera-
4 sensor configured to image -- lights indicative of oncoming vehicles. And
5 then there's algorithms to determine a position of the oncoming vehicle,
6 based on the position of the lights as indicated by the data.
7 This was Your Honor's point; the lights indicate the vehicle. The
8 '503 patent discusses this. This is in our briefs. But I just want out that,
9 even some of these dependent claims recite this feature.
10 Now, to slide 114.
11 The Claims 14 and 53 recite a camera, among a number of other
12 sensors. Again, the Patent Owner does not contest that Beam discloses these
13 claims. They only have an argument with respect to Karlsson.
14 But if we go to slide 115 -- and we've discussed this in other
15 proceedings -- but to note here, on the right-hand side, the top right, Dr.
16 Turk, the Patent Owner's declarant, previously admitted that Karlsson's
17 sensor 23 is a camera. This excerpt here on the top right is from Dr. Turk's
18 own declaration in the '315 proceeding related to the '551 patent. He states
19 that the light modulator embodiment includes a camera and that Karlsson
20 illustrates the light-sensitive sensor 23 adjacent to that light modulator,
21 Figure 3. So Karlsson as well discloses a camera.
22 The last claims here are on slide 116, Claims 6 and 46. These
23 dependent claims recite that the light is either IR, infrared, or ultraviolet,
24 UV, wavelengths.

1 For these, we look at slide 117. The Braun reference here is in
2 combination. And as we see, Braun, for example -- I believe it's page 14,
3 lines 21 through 30 -- explains that its luxels, which are the LEDs, are
4 colored and the spectrum and intensity can be controlled to provide a
5 different color. It says the light isn't limited to the visible spectrum; it can be
6 infrared or ultraviolent light.
7 Again, the petition, page 91, applied this from Braun in the
8 combinations.
9 Dr. Jiao, at the bottom right, explains why the person skilled in the
10 art would have been motivated to combine this with the Beam-Thominet
11 combination and similar reasons for the Karlsson-Harbers combination.
12 Again here on slide 118, Patent Owner's argument is that there would
13 not have been a reasonable expectation of success here. As we see on the
14 right, Dr. Jiao, a true expert in this field, is explaining that these references
15 have the same building blocks, and, in addition, that Braun's LEDs, they
16 were already implemented in an adaptive illumination headlight system;
17 you've got to adjust illumination to prevent glare. So there would be no
18 issue making the combination here.
19 Dr. Jiao explains the similarities for Karlsson and Harbers with
20 Braun, and their adaptive systems would, likewise, provide a reasonable
21 expectation of success.
22 If Your Honors have any questions, I'd be happy to answer them.
23 Otherwise, I will reserve the remaining time for rebuttal, please.
24 JUDGE MOORE: No questions.
25 MR. FITZSIMMONS: Thank you, Your Honors.

1 MR. TOMSA: Your Honors, we'd like to reserve 10 minutes for
2 rebuttal, and we may just use it on our regular presentation.
3 I'd like to point out, first of all, Your Honors, that our view isn't
4 myopic. Our view, as we're entitled to, is based on the proofs and the
5 evidence that was proffered by Petitioner. In every single instance, we rely
6 on their language, as we're entitled to do. They're the master of the petition.
7 We're not obligated to prove what is or is not in Beam or Karlsson, or
8 anything else. We are obligated, at most, to demonstrate where their proofs
9 are deficient. We are not taking a myopic view. We are reading the petition
10 as carefully as we can and responding to Petitioner's own language as
11 carefully as we can.
12 Contrastingly, they take a highly expansive position, injecting
13 inferences and implications from the art that are never stated in the petition.
14 They dance between elements and embodiments repeatedly and never once
15 consistently apply the same combination of elements across a single set of
16 proofs in their explanation.
17 What they've characterized as our myopicness is our only way to
18 attempt to categorize and consolidate their proof, so that we even have
19 something to respond to, Your Honors. So it is not, in fact, our myopicness
20 that is the nature of the petition that causes us to take such an approach. And
21 only by relying expressly on their language were we even able to craft a
22 response.
23 Your Honors, once again, we'd like to address the particularity issues
24 with respect to this instance. You can go to slide 18, please.

1 Okay. Once again, there are a number of combinations set up. I
2 won't go through the ad nauseam approach of explaining all the language,
3 but it's, essentially, the same: this and/or this; this, additionally or
4 alternatively. Separate explanations for Beam lamp plus SLM versus Beam
5 LEDs, et cetera. The language is, essentially, that which we saw in the first
6 one.
7 And then if you can go to slide 19?
8 This is an example of what happens -- oh, sorry. Okay. This is an
9 example of what happens when Petitioner begins to conflate the language on
10 reply. We saw this again in the '328 petition, where they have a lamp
11 separately argued from LEDs; they have figures that only relate to an SLM
12 lamp, argued separately for figures that relate to LEDs.
13 Then we point out in the Patent Owner response that you never
14 explain why anyone would combine these or that anyone combined these.
15 Then on reply, they simply shift to this Beam's lamp/LEDs/SLM
16 explanation, but then once again, they only use the explanation that they
17 ever provided for the SLM, which, of course, as we've noted before, doesn't
18 actually include any LEDs.
19 So once again, I'm only showing this to show that this problem
20 propagates across all the petitions and it's replete in a number of their
21 dependent claim arguments, making it significantly difficult to figure out
22 what elements they intend to apply.
23 Could you go to slide 20, please?

1 Slide 20 shows us a slightly different issue, and this is what occurs
2 when Petitioner starts out by referencing Beam-Thominet and doesn't
3 expand the combination.
4 So if Your Honors will recall, there were three combinations
5 presented for Beam-Thominet in the base grounds, right? There was a
6 software embodiment that was controlling the SLM. There was a hardware
7 embodiment that utilized Thominet's LED array, and there was a hardware
8 embodiment that utilized Thominet's curve.
9 So when we get down to Claim 5, which is a claim about colored
10 illumination, this is what Petitioner says: in addition to pointing out, once
11 again, that the LEDs have the same functionality as the lamp in SLM,
12 Petitioner says Beam-Thominet's LEDs each have a spectral power
13 distribution characteristic (color).
14 That is absolutely not true for any embodiment, except for
15 embodiment 1D, right? The rest of their combinations don't include the
16 LEDs from Karlsson. Some of their combinations don't include LEDs at all.
17 And therefore, that statement is only true about one of the aspects of Beam-
18 Thominet, but, as you can see from their whole proof here, it makes no
19 distinction between which embodiment of Beam-Thominet they're relying
20 on.
21 Well, of course, what we do on reply is we say Grounds 1A and B,
22 which are Beam alone, don't have colored LEDs. Then we say Ground 1C,
23 which is Beam's lamp plus SLM, plus Thominet software, doesn't have
24 colored LEDs. In fact, it has no LEDs at all. Ground 1E, which is Beam's
25 hardware, curved by Thominet's curvature, but including nothing else from

1 Thominet, also doesn't include colored LEDs. And then later on, but not
2 particularly pertinent to this, in Ground 1D, we address the problems with
3 actually using colored LEDs.
4 Let me go over to their reply. In their reply, they simply say Dr. Jiao
5 explained a POSA would have sought to incorporate Thominet's colored
6 semiconductor light sources into Beam's system. And so Beam-Thominet's,
7 once again, headlight system includes multicolored LEDs. They refuse to
8 acknowledge the difference in their combinations. They can't even respond
9 to our arguments, except by referencing Beam-Thominet as though that
10 particular element of colored LEDs exists in all their grounds.
11 This is emblematic of what happened again and again and again. We
12 would point out deficiencies in certain aspects of the combination; argue the
13 material deficiency where they actually had sufficient elements to even be
14 making the argument in the first place, and they would simply respond by
15 rebutting with something related to Beam-Thominet, right?
16 So on surreply, what are we left with to do, but say look, that isn't the
17 combination that you offered for 80 percent of your combinations. But,
18 once again, we point out there is an actual problem with Ground 1D in the
19 color shifting, I explained earlier. But that doesn't rebut the rest of it.
20 Grounds 1A, 1B, 1C, and 1E immediately fall off on this combination
21 because they have absolutely no color.
22 And that is what we pressed the Board to understand. When you go
23 through this analysis of these claims, you have to understand what grounds
24 immediately fall off from every single dependent claim argument because

1 they're missing the actual limitation that's argued for that dependent claim
2 argument.
3 We submit it was their job to tell you which combination they were
4 using for Claim 5 in the first place. And frankly, because the vagary was
5 theirs, they should be held to account for it. Essentially, what they want the
6 Board to do is figure out which of those combinations applies to each
7 dependent claim, and then fit that argument into that combination.
8 Candidly, once we've proven that at least one aspect of Beam-
9 Thominet doesn't include colored LEDs, that should be the end of the
10 conversation, and they should lose that proof because that's all they
11 explained it to be. They shouldn't be entitled to have the Board or us have to
12 explain which of their particular combinations happens to include those
13 LEDs, and then try to make an argument about it, and then further, refuse to
14 actually treat that as though it were a separate combination upon reply.
15 Again, this happens way more than outside Claim 5. Claim 5 is
16 simply emblematic of the approach they've taken all throughout.
17 That's all I particularly have to say on the matter at this point, Your
18 Honors. I will turn the rest of the time over to my co-counsel, unless the
19 Board has any questions.
20 Thank you.
21 MS. SHAH: If you could turn to slide 56, please?
22 So we quickly wanted to point to one other aspect of this particular
23 proof, and that has to do with the second subsection that requires there to be
24 a second subsection that is defined by the lack of -- and so not including a
25 detected vehicle.

1 Here, the relevant point is that Beam, specifically, doesn't have any
2 ability to distinguish between various types of light sources. So any light
3 source, whether it's a house light, street light, motorcycle, all of it is treated
4 the same. It does have this filtering ability. So anything that sort of fits
5 within the same level of intensity that is not really a headlight would trigger
6 this. It doesn't have the ability to determine that type of light versus another
7 comparable source of similar intensity light. Hence, it doesn't have the
8 ability to define the second subsection that is required for this claim.
9 Next I'd like to turn to slide 34.
10 So here you can see some of the -- I'd like to go through some of the
11 motivation to combine problems on the how side. I mentioned in the last
12 proceeding that there are serious issues that arise with segmented,
13 Thominet's kind of control strategy, which is segmented, creating segmented
14 beams.
15 The issue that arises with Beam is Thominet isn't contemplating
16 having Beam determine randomly which sections it should link. So you
17 have this kind of conflict where Beam wants to have maximum illumination
18 everywhere; Thominet has predefined segmented beam patterns, and there is
19 no explanation in the petitions as to how the controllers would determine
20 how to achieve both Beam's max illumination strategy while also satisfying
21 Thominet's segmented beam patterns.
22 So that's one of the fundamental issues with how would you
23 even -- apart from why you would do it, which we talked about earlier, you
24 have this fundamental issue as to how you would go about doing this, which

1 is an open question which has never been addressed to date in the
2 Petitioner's briefing.
3 You have the similar sort of problem, but even more complicated,
4 with respect to the Karlsson-Harbers issue. And here, you have, which my
5 co-counsel alluded to, the colored LEDs, right, where the LEDs themselves
6 are colored. And so what you have, Karlsson explains in great detail that the
7 ordering of the LEDs, because the LEDs are colored, it's very important that,
8 when you determine the control strategy, you order the LEDs and how you
9 approach the usage of the LEDs, so that you avoid having red light that is
10 confused as braking lights. I mean, it has a series of detailed explanations in
11 Harbers to make sure that those sorts of color-shifting and color-related
12 issues do not exist.
13 Again, all of that is absent because Harbers, the combination of
14 Karlsson and Harbers doesn't contemplate, once again, Karlsson determining
15 intermittently that certain of the LEDs are going to be blanked, which
16 creates a significant issue.
17 We've already addressed the issue that, as properly understood, there
18 would not be this ability to generate white light, contrary to Petitioner's
19 contention.
20 Next I'd like to turn to slide 57, please.
21 So there's yet another issue that exists with the Karlsson combination,
22 and this is in the form of Petitioner's proofs. All the proofs that require use
23 of camera or camera data, of which there are many -- I can give you a list of
24 all the various claims that are related to the camera and camera data
25 limitations.

1 With respect to this particular IPR proceeding, those limitations
2 involve Claims 1-5, 7, 8, 10, 14, 18, 19, 37 to 45, 47-48, 50, 53, 57, 58. So
3 just in this one IPR, there's expressly claims that cover the need for a camera
4 to be able to achieve various functionality.
5 Petitioner, again, in the context of all the various proofs they've put
6 together for the petition, it completed the Figure 3 embodiment, which
7 includes the photosensitive plate, with the Figure 14 embodiment, which just
8 includes photo diodes. Figure 14 is, ultimately, the proofs that have now
9 been used for purposes of Petitioner's glare reduction proofs.
10 And yet, they started off with a petition that sort of had string cites,
11 as my co-counsel is mentioning, right, that said Figure 3, Figure 6, Figure
12 14. There was no parsing. There was no explanation of what exactly was
13 being used for what purpose.
14 Now, it seems that, for purposes of the controls, they're relying on
15 Figure 14. And again, for the first time in the last oral argument, we
16 understood that they're relying on Figure 3 for the hardware. Again, none of
17 that was laid out in the petition, and the issue here is that, if, in fact, their
18 proofs rely on Figure 14, that's a photo diode sensor and it's incapable of
19 functioning as a camera.
20 Contrary to the various statements that they have in their deck about
21 Dr. Turk admitting that the sensor was a camera, that's all limited to Figure
22 3, and specifically, the photosensitive plate, that, yes, Dr. Turk absolutely
23 established that that was a camera and that functioned as a camera. That is
24 not the case with the photo diode sensor. In fact, quite the opposite, the

1 photo diode sensors in Figure 14 are simply capable of detecting light. They
2 do not have any other capability beyond that.
3 And so Petitioner's arguments, again, which conflate all of these
4 sensors and, in particular, point to Figure 14 repeatedly for its proofs, lack
5 the ability, lack a camera, and then lack all the functionality associated with
6 needing to have a camera to determine any number of things associated with
7 these claims, which is, as I mentioned, a limitation in any number of claims.
8 In this IPR proceeding, as well as a whole series of others, you can
9 see the string cite at the bottom of slide 57, which includes all the different
10 instances where this argument has been presented, as well as the claims that
11 are affected here.
12 If we can next turn to slide 115 of Petitioner's slide deck?
13 So here I'd like to point to the very top of what's marked here as
14 paragraph 173. There, it expressly states that the alternative embodiments,
15 notably, rely on different sensors. So again here, it's very clear that these are
16 alternative embodiments. They are not embodiments necessarily to be
17 combined.
18 In the opening petition, Petitioner made it clear that it also
19 understood that Figure 3 was distinct from Figure 14; that Figure 3 was one
20 embodiment, but Figure 14 is a separate embodiment. And they haven't
21 provided any proofs to date as to why a person of skill in the art would
22 combine these two different embodiments -- not only why you would
23 combine them, but, again, how you would combine them.
24 So that proof is absolutely missing. You, clearly, have here what
25 they refer to as an admission; it is really, again, focusing on the fact that

1 these are alternative embodiments. And the one embodiment which is the
2 Figure 3 embodiment, which is not the embodiment that's used for the
3 majority or all of Petitioner's proofs, is the only embodiment that has the
4 camera sensor.
5 If we can turn to slide 17, please?
6 So with respect to the Karlsson-Harbers proofs, Petitioner also fails
7 to prove that this combination is capable of demonstrating illumination, as
8 claimed. But the annotation that we've been looking at repeatedly today,
9 which is the Petitioner's annotation that shows the no intensity region in the
10 middle -- I'm sorry -- the high intensity region in the middle with no
11 intensity regions on either side, that annotated figure that Petitioner
12 annotated as to how Karlsson functions would not have determined
13 illumination for no intensity regions.
14 Again, we get to the point that there's no determination that's
15 happening for illuminating the, quote, no intensity regions. That happens by
16 default. And it was Petitioner's proof to establish that those sections, the no
17 intensity sections, actually would have been -- that there would have been a
18 determination of illumination step.
19 If we can next turn to slide 75, please?
20 So there's a series of dependent claims, and I'd like to bring the point
21 out on a couple of them that we wanted to highlight for today, apart from
22 what we've identified in our briefing.
23 Claims 11 and 50 of the '335 proceedings require identifying an
24 entity. That is, as we've discussed here today, different than detecting an
25 entity or detecting a vehicle. But, with respect to Claims 11 and 50,

1 Petitioner relies on a new argument that it makes that there are these filtering
2 signals that help Beam identify a vehicle.
3 Again, as I mentioned earlier, there's a series of light sources that
4 could potentially trigger the filtered weak signals. That doesn't provide an
5 explanation as to Beam's ability to actually identify a vehicle from some
6 other light source that has the similar light characteristics.
7 There isn't anything else in Beam, except for the ability to filter a
8 weak signal, that would allow it to be able to differentiate, again, one light
9 source from another, not to mention the fact that this thresholding and
10 filtering argument was never in the petition. It's a new argument the
11 Petitioner has made for the first time in reply.
12 And once again, the mere existence of thresholding and filtering
13 doesn't make Beam any more capable of determining whether a different
14 light source has similar strength. It only has the ability to detect the strength
15 of a given light source, and nothing more.
16 In addition, Petitioner points to the fact that Karlsson is capable of
17 distinguishing, according to Petitioner, that Karlsson is capable of
18 distinguishing between ambient light and light from oncoming traffic. Yes,
19 Karlsson detects both types of light, but at no point does Karlsson have the
20 ability to understand the ultimate source of the light and distinguish between
21 ambient sources or a vehicle. And so once again, Karlsson also lacks the
22 ability to, quote, identify an entity -- in this case, a vehicle.
23 I'll spend a couple of minutes just putting in the proofs associated
24 with the Motion to Exclude issue here. If we can turn to slide 83?

1 So once again, the fact pattern here is quite a bit different than
2 Kyocera. In Kyocera, you have the specific issue that there is a very
3 precisely articulated definition of the POSA standard that required a
4 minimum industry experience for power nailer design. Again, that's very
5 specific. It had a very specific explanation for an absolute minimum. That
6 is quite a bit contrasted with the standard we have here, which is this broad
7 kind of umbrella of term, automotive lighting and lighting controls.
8 Moreover, there's a sliding scale that's built in that Petitioner chooses
9 not to mention. That sliding scale was undefined as to what the impact of
10 the sliding scale was. So that, when you have someone with a PhD, what the
11 impact of that sliding scale is with respect to the amount of industry
12 experience that's required is an open question here.
13 The narrow interpretation, as we've discussed, was explicitly
14 mentioned for the very first time when it was raised, which is, again,
15 different than the Kyocera case, where it was undisputed by both parties as
16 to what the POSA standard was all the way through the trial.
17 As we've articulated here, as a result of that, since this issue has very
18 much been raised during the scope of the trial, it's our position that there was
19 not a waiver and that, had they turned to the case law that defines how you
20 determine a POSA -- and that is the Daiichi and Best Medical cases -- both
21 of those cases, specifically, talk about looking at the primary purpose of the
22 problem and solutions of a given patent, as well as the primary purpose.
23 And in both instances, we are looking at a mix of trying to understand.
24 If you look at the primary purpose of the '503 patent, it is to be able
25 to provide spatially differentiated, glare-free illumination within a field of

1 view real time. And to do so, it necessarily requires a deep understanding of
2 optics, imaging, and sensing -- all of which are precisely the areas that Dr.
3 Turk has over 25 years of experience.
4 Once again, as I mentioned, the Kyocera fact pattern is quite a bit
5 different. And the requirements that come out of the Federal Circuit cases in
6 Daiichi and Best Medical, again, point to the kinds of problems that are
7 encountered and the patent's purpose and teachings as a whole.
8 All of that, as you can see here in the quote on the right, makes it
9 clear that there's a series of interrelated, complex issues that were involved
10 with respect to the state of the art at the time of the '503 filing that involved
11 things that we've articulated in our declaration, Dr. Turk's declaration. It's,
12 specifically, looking at the interplay between optical efficiency, between
13 packaging, between cost; understanding the constraints that existed with all
14 of those kind of factors, and then you know, trying to provide a mechanism
15 for spatially differentiated, adaptive, glare-free lighting. That's the sort of
16 universe of what was involved with respect to the state of the art, once again,
17 which makes imaging, sensing, and optics very critical.
18 If we could turn to the next slide, please?
19 As you can see here, and which is obviously established in our
20 briefing, Dr. Turk has over 25 years of experience, specifically, in the areas
21 of optics, imaging, and sensing; and also more than two years with respect to
22 an automotive project that he worked on that involved autonomous vehicles.
23 His experience, clearly, falls within the umbrella of automotive lighting,
24 automotive lighting and automotive controls, except for the narrow
25 interpretation of laws that Petitioner has now more recently provided.

1 If you can turn to the next slide, please?
2 And with that, we would like to actually turn to what we think is
3 another pattern that exists here. Apart from the series of new arguments that
4 were made, that are strung all the way through these three IPRs, we've
5 articulated any number of, quote, new arguments all the way through both
6 our briefing and today.
7 You have another pattern that arises, and that is actually a whole
8 litany of contradictory positions that Dr. Jiao has signed onto. Petitioner
9 repeatedly points to Dr. Jiao for its positions that a POSA would understand
10 any number of things. What is most notable here is that Dr. Jiao within the
11 same proceeding in any number of instances takes completely contradictory
12 positions with himself. And so it's the nature, even without requiring any
13 other extrinsic evidence, just looking at his own testimony on a couple of
14 different points is telling -- the contradictory positions that he takes.
15 For example, the microbeam source providing directionality versus
16 an active emitter; not being able to have a directionality and necessarily
17 requiring an SLM. Okay, that was a new position that he advanced that's
18 contrary to the position he initially took. That beam had directional light
19 sources in the first instance.
20 He then turned to the argument that's being advanced here now, that
21 Beam actually includes both low and high beams, which is, again, contrary
22 to the annotations that were provided, which you can see here in Figures 1C
23 and 1D, as well as the annotation, the figure from Beam itself, which is
24 Exhibit 2009, and specifically, the characterizations in paragraph 149 of Dr.
25 Jiao's declaration, where, again, he specifically -- encircling in green is the

1 high intensity area. Everything is high intensity, apart from, again, the
2 shaded areas. So that's another area of contradiction.
3 You next have the issue associated with -- I'm sorry. Give me one
4 minute.
5 You have next the issue with respect to the sliding window, which is
6 something else we talked about today. Is it the first series of arguments that
7 were made with respect to high intensity areas surrounded by two no
8 intensity areas? Or is it the second set of arguments that were made with
9 respect to window 50 being a subset of the LEDS that are available and
10 everything else being unused LEDs?
11 These are all statements that were made by Dr. Jiao -- the first series
12 of statements in the petition, and then a series of second statements in the
13 reply -- that contradict each other and put into real question Dr. Jiao's
14 credibility.
15 And with that, we'd like to reserve the remainder of time for rebuttal.
16 Thank you.
17 JUDGE MOORE: Thank you. Whenever you're ready.
18 MR. FITZSIMMONS: One point on the Motion to Exclude, Your
19 Honors, and then I'll conclude.
20 The level of skill, the level of ordinary skill in the art in the petition
21 was clear and precise. It required two years of industry experience in
22 automotive lighting and lighting control systems. The Patent Owner knew
23 the Petitioner disputed Dr. Turk's qualifications before it even filed its Patent
24 Owner response.

1 Exhibit 2027, a letter from the Patent Owner, says to the extent you
2 are implying that Dr. Turk's education or experience does not satisfy
3 Petitioner's proposed level of skill in the art -- and it continues on.
4 And yet, they still didn't dispute that definition in their Patent Owner
5 response. Instead, Patent Owner and Dr. Turk agreed it was correct. And
6 Dr. Turk does not meet the POSA definition, and so his testimony must be
7 excluded.
8 But, regardless of whether his testimony is excluded, Your Honors,
9 the prior art here is strong. It teaches all of the claim elements of the '503
10 patents. The combinations here are strong. The petitions provided detailed
11 rationales supported by the teachings of the references themselves.
12 And the supporting testimony from Dr. Jiao here is strong. He's a
13 true expert in this field. He was designing adaptive headlamps years before
14 the '503 patent and knows what a person of ordinary skill would have
15 understood with respect to adaptive headlamps, which are the issue of the
16 claims of the '503 patent.
17 So, Your Honors, these petitions are strong. They render all the
18 claims of the '503 patent obvious, as shown with ample particularity in the
19 petitions, and further clarified in the replies, and supported throughout by
20 Dr. Jiao's expert testimony.
21 Thank you, Your Honors.
22 MR. TOMSA: Your Honors, I'll keep this very brief.
23 This, once again, as we've pointed out repeatedly, is their proffer for
24 a person of ordinary skill. It is absolutely distinguishable from Kyocera.
25 Kyocera had an absolute floor on it. Kyocera did not provide for a sliding

1 scale that allowed you to escape that floor. Had they wanted an actual floor
2 on the requirement of two years of industry experience, such as ranging it
3 down to, let's say, six months, they could have written that.
4 This is another area where Petitioner was ambiguous in their initial
5 proffer. And now, they want to rewrite their proffer to be the way they need
6 it to be.
7 It's the same thing they did with their proofs, Your Honors. They
8 write in a way that leaves open ambiguity. We accept it because we
9 understand the sliding scale to accommodate somebody such as Dr. Turk,
10 who has 20 years of sensor experience; has a master's in electrical
11 engineering; has a PhD in electrical engineering. And now, they want to
12 rewrite this vagary in a way that matches the Kyocera fact pattern, but it
13 simply doesn't.
14 JUDGE MELVIN: That sliding scale wasn't in the petition, was it?
15 MR. TOMSA: Which --
16 JUDGE MELVIN: You're not showing the petition right now.
17 MR. TOMSA: Oh, I'm sorry. This is Dr. Jiao's declaration.
18 JUDGE MELVIN: Right. That wasn't in the petition, was it?
19 MR. TOMSA: They cite both of these paragraphs in the petition,
20 Your Honor.
21 JUDGE MELVIN: Wouldn't that be an improper incorporation by
22 reference?
23 MR. TOMSA: Well, we believe that, if they want to put it in there,
24 we should be entitled to rely on it if it's going to cut against them. If they
25 want to include reference to paragraphs 42 and 43 in the petition as evidence

1 of what their sliding scale is, they can hardly contend that they, themselves,
2 improperly incorporated by reference. And so now, they can escape the fact
3 that they included it in the petition.
4 JUDGE MELVIN: Well, you just said as evidence of what the
5 sliding scale would be. The petition did not mention the sliding scale.
6 MR. TOMSA: The petition cited both of these paragraphs.
7 JUDGE MELVIN: Right, but the petition did not mention the sliding
8 scale, right? So I don't understand why you're contending that Petitioner
9 defined the level of ordinary skill as including a sliding scale. The petition
10 was fairly plain about what the level of ordinary skill in the art was. It did
11 not mention a sliding scale.
12 Now, it is true that Dr. Jiao's declaration made statements about a
13 sliding scale, but I don't know why that's, all of a sudden, part of what the
14 Petitioner is defining as the level of ordinary skill in the art. Could you --
15 MR. TOMSA: I just want to have clarity on this point because,
16 frankly, I don't actually --
17 JUDGE MELVIN: I may be wrong, but that's how I remember it.
18 MR. TOMSA: I don't remember it being specific.
19 So you're correct, Your Honor, the petition does not mention the
20 sliding scale. The petition does, however, mention, for example, that the
21 POSA may work as part of a team with computer engineers to integrate
22 program controllers and various control inputs.
23 Now, the POSA can't carry that team around in a pocket. And yet,
24 they, clearly, understood that computer engineers integrating program and
25 controllers of various control elements was pertinent to the understanding of

1 a POSA. So that must be included in what the POSA's understanding is.
2 Otherwise, why would the POSA need to work as such a part of a team? If
3 the POSA applying lighting control systems had such experience of their
4 own, what is the point of the team in this situation?
5 JUDGE MELVIN: So it's your view that this statement regarding the
6 level of ordinary skill means that at least two years of experience could
7 come from people the POSA works with?
8 MR. TOMSA: No. My point, Your Honor, is that they said, as part
9 of their POSA definition, oddly, that the POSA may work as a part of team.
10 And yet, the skills that the POSA is relying on the team for are, clearly,
11 skills that are pertinent to the patent and, clearly, skills that Dr. Turk
12 possesses.
13 Sensing and control based on sensing covers about half the
14 limitations of the claims. And yet, they would limit the definition of a
15 POSA, which is defined as a matter of law, not as a matter of preference, to
16 something that only encompasses light emission and completely excludes
17 the sensing-related aspects of it, relegating that to the team that works with
18 the POSA, instead of contending the POSA himself or herself needs such
19 experience.
20 We can't escape the necessity of sensing in the definition of a POSA
21 because it's replete throughout the claims. And yet, they would have this
22 read in a way that Dr. Jiao, a person who is probably an expert on emission,
23 but who has very little experience in sensing, is, essentially, the only type of
24 person qualified to opine on these claims that, effectively, split the
25 requirements between sensing and emission, as --

1 JUDGE MELVIN: So wait. Let me just make sure I understand.
2 That is, the two years of experience in the automotive lighting and lighting
3 control need not be comprehensively addressing all aspects of lighting
4 control or automotive lighting, but it could be some sort of subset of that, as
5 part of a team. Is that sort of a fair view of the POSA?
6 I think that's what you're saying, is that your expert was part of a
7 team that worked on automotive lighting and lighting control?
8 MR. TOMSA: Our expert was part of a team, but my primary point
9 here, Your Honor, is that they don't get to define the POSA definition in a
10 way that's contrary to the law, right? So regardless of their attempt to
11 exclude --
12 JUDGE MELVIN: Well, that's like saying somebody doesn't get to
13 construe the claims as contrary to the law. I mean, they could, and if you
14 agreed to it, then that would be the agreed construction, right?
15 MR. TOMSA: Well, there are a couple of instances -- and I
16 apologize because I don't have the case handy, Your Honor; I would happily
17 submit it -- where I've seen the Fed Circuit come back and say both sides
18 were wrong about this issue as a matter of law, and here's what the art
19 teaches, despite the fact that both sides agree that it teaches something else.
20 I would submit that, because this is a matter of law, and because it
21 follows regulated standards that define its relevance as pertinent to the patent
22 and the claims, this is a similar situation. We could agree that the POSA is
23 an elephant, but that wouldn't make it true because the law still governs.
24 JUDGE MELVIN: Okay.

1 MR. TOMSA: I believe that is the last point I -- oh, one other point,
2 Your Honor. My co-counsel mentioned a case that recently came out two
3 weeks ago. She forgot to include the name of the case. It's the Virtek case,
4 handled by Judge Moore, and we believe that it has relevance on this
5 proceeding. Obviously, we weren't able to brief it because it just came out
6 several weeks ago.
7 That concludes our argument, Your Honors.
8 JUDGE MOORE: Okay. It looks like we're done. Thank you all. It
9 looks like we have our work cut out for us with this. There's a lot here.
10 With that, the case is submitted and we're adjourned.
11 We are off the record.
12 (Whereupon, the proceedings at 4:52 p.m. were concluded.)

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