

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

LUMINEX INTERNATIONAL
COMPANY LTD.,

Petitioner,

v. CASE IPR2024-00101
U.S. Patent No. 10,299,336

SIGNIFY HOLDINGS B.V.,

Patent Owner.

VIDEOTAPED REMOTE DEPOSITION OF
JAMES GARY EDEN

Thursday, December 5, 2024

10:02 a.m. Eastern Standard Time

Reported By:

GRETA H. DUCKETT, CCR, RPR, CRR, CVR-S, RVR-M-S

JOB NO.: 9999

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December 5, 2024

10:02 a.m. Eastern Standard Time
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Videotaped remote deposition of
JAMES GARY EDEN, taken stenographically by
Greta H. Duckett, CCR, RPR, CRR, CVR-S,
RVR-M-S.

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I N D E X

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JAMES GARY EDEN

BY MR. DORSKY

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1 THE VIDEOGRAPHER: Good
2 morning. We are now on the record.

3 Today's date is December 5,
4 2024, and the video time is
5 10:02 a.m. Eastern. This is the
6 video deposition of J. Gary Eden in
7 the matter of Luminex International
8 Company Ltd. versus Signify
9 Holdings B.V., filed in the United
10 States Patent and Trademark Office
11 before the Patent Trial and Appeal
12 Board.

13 This deposition is taking
14 place via web videoconference with
15 all participants attending
16 remotely.

17 My name is Brian Smith. I'm
18 the videographer representing
19 Trustpoint One. All counsel will
20 be noted on the stenographic
21 record.

22 Our court reporter today is
23 Greta Duckett, representing
24 Trustpoint One. The court reporter
25 will now swear in the witness.

1 JAMES GARY EDEN,
2 the witness, having first been duly
3 sworn to speak the truth, the whole truth and
4 nothing but the truth, testified as follows:

5 EXAMINATION

6 BY MR. DORSKY:

7 Q. Hello, Dr. Eden.

8 A. Good morning.

9 Q. My name is Jason Dorsky. I'll be
10 taking your deposition today. Can you please
11 state your full name for the record.

12 A. My full name is James Gary Eden.

13 Q. And you are the same Dr. Eden that
14 submitted an expert declaration in this IPR
15 proceeding, correct?

16 A. Yes, I am.

17 Q. And you also submitted expert
18 reports in the litigation involving Signify and
19 Menard pending in the Western District of
20 Wisconsin, correct?

21 A. I submitted a report, as I recall,
22 Mr. Dorsky.

23 Q. In that litigation proceeding,
24 correct?

25 A. Yes. I presume you're referring to

1 the litigation in district court in the Western
2 District of Wisconsin?

3 Q. Yes.

4 A. Yes. That's correct. I did.

5 Q. Okay. And where are you located
6 right now for this deposition?

7 A. I'm located on the 48th floor of a
8 building in downtown Chicago, the offices of
9 Jones Day.

10 Q. And do you understand that you have
11 been sworn in and are under oath, just the same
12 way as if you were in a courtroom, today?

13 A. Yes, I do.

14 Q. And is there any reason you cannot
15 provide complete and accurate and truthful
16 testimony today?

17 A. No.

18 Q. Are you on any medication that
19 would prevent you from understanding my
20 questions or providing truthful testimony?

21 A. No.

22 Q. Have you been deposed before?

23 A. Yes.

24 Q. About how many times have you been
25 deposed?

1 A. Well, I'm not sure, Mr. Dorsky.
2 I've been deposed from time to time over the
3 past 35 years.

4 Q. Okay. 10 times? 20 times? Can
5 you estimate?

6 A. Oh, at least 10 and, perhaps, 20.

7 Q. And do you typically serve as a
8 fact witness or expert witness when you're
9 being deposed?

10 A. Typically, as an expert witness,
11 yes.

12 Q. Do you recall when the last time
13 you were deposed before this?

14 A. I was certainly deposed at least
15 once in a trial in federal court in Delaware.
16 That was probably two years ago, Mr. Dorsky.
17 My memory is not the best, but that's my
18 recollection.

19 Q. All right. Do you recall what that
20 matter was in Delaware, what the parties were?

21 A. Yes. There were several -- there
22 was a plaintiff that was an individual. I
23 cannot recall his name. But the defendants or
24 the respondent -- that might be the official
25 term -- was GE Lighting and another -- another

1 lighting firm. I represented at least two
2 lighting firms. But I would need to look at my
3 reports to make sure that I have that correct
4 for you.

5 (Simultaneous speakers.)

6 BY MR. DORSKY:

7 Q. I'm sorry. I didn't mean to
8 interrupt you. What was that?

9 A. No. I was just saying that
10 GE Lighting was one of the defendants, and the
11 other was another lighting firm. And I just do
12 not recall.

13 Q. Was that a patent lawsuit?

14 A. Yes.

15 Q. So I'll be asking you some
16 questions today. If you don't understand my
17 question, please let me know. Otherwise, I
18 will assume you understand my question. Is
19 that fair?

20 A. That sounds very fair.

21 Q. Okay. And the court reporter will
22 be taking down everything that we say today, so
23 it's important that we don't speak over each
24 other, like I accidentally did a few moments
25 ago. And it's also important that responses be

1 verbal instead of, you know, shaking of a head
2 so they can be transcribed. Is that fair?

3 A. Correct. That's very fair.

4 Q. Okay. And I will also try to make
5 sure that we take a break about every hour or
6 so. If you need a break before then, please
7 let me know, and I'll do everything I can to
8 accommodate that. I just ask that if I have a
9 pending question, you respond to the question
10 before we take that break. Is that okay?

11 A. Yes. Taking a break every hour is
12 much appreciated, Mr. Dorsky.

13 Q. I'll endeavor to do that.

14 Now, is there anyone in the room
15 with you today?

16 A. Yes, there is.

17 Q. And who is that?

18 A. That is Jeffrey Messing, who is
19 counsel for Jones Day.

20 Q. Okay. And is there anyone else in
21 the room with you other than Mr. Messing?

22 A. No, not that I'm aware of.

23 Q. What did you do to prepare for
24 today's deposition?

25 A. Well, over the past two days, I

1 have been here at the Jones Day offices in
2 Chicago preparing for today, and, prior to
3 that, I did some reading at home before coming
4 to Chicago.

5 Q. Did you review your declaration in
6 this IPR proceeding?

7 A. Yes, I did.

8 Q. Did you review any documents that
9 are not listed in your declaration?

10 A. No, I don't believe so.

11 Q. Did you review any documents or
12 information from the Western District of
13 Wisconsin litigation?

14 A. No, I did not.

15 Q. Other than Mr. Messing, did you
16 meet with any counsel in preparation for the
17 deposition?

18 A. Yes. I met with Mr. Bill Devitt,
19 and then over the last two days -- or at least
20 a portion of the time, I also had discussions
21 with Mr. Joshua Nightingale, I assume, and also
22 Pranita. And I'm sorry. I cannot recall
23 Pranita's last name.

24 Q. Okay. And any other counsel that
25 you recall?

1 A. No, I believe that's it.

2 Q. And did you meet with anyone who is
3 not an attorney?

4 A. No, I did not.

5 Q. Have you spoken with a Charlie
6 Meyer?

7 A. No, I do not know who that is.

8 Q. Do you recall speaking with any
9 attorneys from the Woodard Emhardt law firm?

10 A. No, I do not.

11 Q. Have you spoken with any employees
12 or officers of Menard?

13 A. No, I have not.

14 Q. Did you bring anything with you to
15 the deposition today?

16 A. Other than my glasses, Mr. Dorsky,
17 no, I have nothing with me. Although there are
18 some documents sitting in front of me, and
19 Mr. Messing can address those.

20 MR. MESSING: I'll just note
21 for the record that we've provided
22 the witness with a clean copy of
23 his declaration that was submitted
24 in this petition and the binder is
25 a clean copy of the entire petition

1 with all exhibits cited therein.
2 And there is a table of -- index of
3 the exhibits at the front of that
4 binder. But everything is clean
5 and was part of the initial
6 petition filing in this IPR.

7 MR. DORSKY: And just to be
8 clear, when you say "clean," there
9 are no notations, markings, or
10 highlightings in the documents?

11 MR. MESSING: That's correct.
12 These were put in fresh yesterday
13 from the docket version of the
14 petition and its exhibits.

15 BY MR. DORSKY:

16 Q. Other than those documents, is
17 there anything else before you, Doctor?

18 A. No, sir. Again, other than a
19 stapler and my watch, that's it.

20 Q. Approximately when were you first
21 hired to perform work in this IPR proceeding?

22 A. I don't recall, Mr. Dorsky, the
23 date which I was retained. The only date that
24 I have in my head is that the declaration
25 that's before me was submitted, I believe, in

1 October of last year.

2 Q. Do you recall how far prior to
3 submitting that declaration you were engaged?

4 A. No. I would just be guessing, to
5 be honest, Mr. Dorsky.

6 Q. I understand you have a clean copy
7 of certain documents in front of you. For the
8 record, I'm also going to drop electronic
9 copies into the chat. I believe you have a
10 laptop in front of you where you can access
11 those once I post them. If you would prefer to
12 reference the paper copies you have, that's all
13 right for the documents that you have that I
14 present electronically. If you believe there
15 to be any differences, please note them for the
16 record. Otherwise, I'll assume that the
17 documents I am providing electronically are the
18 same that you have in paper form, provided
19 they're the same document.

20 Is that all right?

21 A. That's marvelous. Thank you.

22 Q. So I am going to put in the chat a
23 document previously marked Exhibit 1004, which
24 should pop up in a second.

25 (Exhibit 1004 was marked for

1 identification.)

2 BY MR. DORSKY:

3 Q. This is a document titled,
4 Declaration of J. Gary Eden Under 37 CFR 1.68.
5 Do you see that document?

6 A. Yes, I do.

7 Q. All right. I'll give you a minute
8 to open that. And do you recognize this
9 document?

10 A. Well, I'm having trouble opening
11 it, Mr. Dorsky. But I do have a clean copy of
12 that document in front of me. And if it's okay
13 with you, I'll just use that.

14 Q. Okay. So what is the document
15 previously marked Exhibit 1004?

16 A. This is the declaration that I
17 submitted in October of 2023.

18 Q. And if you go to the last page,
19 page 148, is that your signature dated
20 October 25, 2023?

21 A. Yes, sir, it is.

22 Q. And does this appear to be a true
23 and correct copy of the declaration you
24 submitted in this matter?

25 A. Yes, it is.

1 Q. Now, do you still stand behind all
2 the opinions set forth in this declaration?

3 A. Yes, I do.

4 Q. Are there any mistakes in this
5 declaration that you are aware of at this time?

6 A. No.

7 Q. Did you write this declaration
8 yourself?

9 A. I didn't write the entire document,
10 but I wrote the technical portions. And this
11 document reflects all of my opinions.

12 Q. Did anyone help you prepare this
13 declaration?

14 A. Yes.

15 Q. Who helped you prepare it?

16 A. Well, as is my custom, when I'm
17 asked to prepare a document like this for,
18 let's say, the PTAB, I ask counsel -- because
19 I'm not a lawyer, as you know, Mr. Dorsky -- to
20 prepare the portions of the document -- I'll
21 call it the scaffold or the frame of it -- so
22 that the document is correct from a legal
23 standpoint. I want to make sure that I don't
24 do something that violates a statute. So but
25 the technical portions of the report are

1 entirely my work.

2 Q. And those who assisted in the
3 portions you referenced, are those attorneys
4 from the Jones Day firm?

5 A. Yes, that's correct.

6 Q. Did you receive any comments, when
7 preparing your declaration, from counsel?

8 MR. MESSING: I would just
9 caution the witness to not disclose
10 any substantive attorney-client
11 communication.

12 BY MR. DORSKY:

13 Q. And to be clear, I'm not asking
14 about the contents of those comments, I'm just
15 asking if you received comments from counsel.

16 A. Excuse me, Mr. Dorsky, but
17 "comments" is a vague term. Do you mean
18 instructions as to legal matters? To what are
19 you referring?

20 Q. I'm referring to comments about the
21 opinions set forth in your declaration. Did
22 you receive any comments or questions about
23 those opinions?

24 A. No. They -- counsel was marvelous
25 in -- they wanted me to tell the truth, and I

1 wanted to tell the truth, and that's what I
2 did.

3 Q. When preparing your declaration,
4 did you rely on any discussions with any
5 nonattorney?

6 A. No.

7 Q. When you worked on this
8 declaration, did you bill your time hourly?

9 A. Yes, I did.

10 Q. And who did you submit your bills
11 for, for your time on this matter?

12 A. To Mr. Messing and Mr. Devitt.

13 Q. And when you -- you received
14 compensation for your time on this matter?

15 A. Yes.

16 Q. What form of payment did you
17 receive your compensation in? Was it a check?

18 A. Yes. I believe it was.

19 Q. And who issued the check that you
20 received?

21 A. I don't recall. I believe it was
22 Jones Day, but I am not certain.

23 Q. Is your recollection that it was
24 issued by a law firm?

25 A. Yes. I believe that's what I just

1 said.

2 Q. Now, I think we discussed earlier
3 that you also submitted an expert report in the
4 Western District of Wisconsin litigation,
5 correct?

6 A. Yes, that is correct.

7 Q. Did you sign an engagement
8 agreement for your work in that litigation?

9 A. Yes. I believe I did.

10 Q. Was it the same engagement
11 agreement that related to this IPR matter?

12 A. No, it was not.

13 Q. So you had a separate engagement
14 agreement for the litigation; is that correct?

15 A. I believe that's correct, although,
16 again, I'm not certain.

17 Q. For this IPR matter, who were you
18 engaged by?

19 A. By Jones Day.

20 Q. And in the litigation matter, do
21 you recall who you were engaged by?

22 A. No, I do not.

23 Q. Do you recall if, in the litigation
24 matter, if you were engaged by counsel or by
25 parties?

1 A. No, I don't recall, Mr. Dorsky.

2 Q. Do you recall if you were engaged
3 by multiple parties in the litigation matter?

4 A. I don't recall, Mr. Dorsky.

5 Q. For the IPR proceeding, were you
6 engaged by multiple parties?

7 A. As I recall, the engagement letter
8 was from Jones Day, and the engagement was with
9 that firm.

10 Q. So if I understand correctly, for
11 the IPR proceeding, you were engaged by Jones
12 Day, but you were not engaged directly by a
13 party such as Luminex; is that correct?

14 A. That is correct.

15 Q. To your knowledge, have you ever
16 been engaged or retained by Menard?

17 A. I have not.

18 Q. In your declaration, you discuss
19 certain references that you apply against the
20 '336 patent claims, correct?

21 A. That is correct.

22 Q. And these include Chaimberg,
23 Roberge, Halliwell, and Reiff; is that correct?

24 A. That's correct. And I mentioned
25 other patents, as well.

1 Q. Now, did you locate those
2 references yourself?

3 A. No, I did not.

4 Q. How did you receive those
5 references?

6 A. I received those from counsel.

7 Q. Do you recall when you received
8 those from counsel?

9 A. No, I don't recall exactly when.

10 Q. And just to be clear, the counsel
11 you received them from, was it the Jones Day
12 counsel?

13 A. Yes.

14 Q. I'm going to put another document
15 into the chat. This is a document that was
16 previously marked Exhibit 1001.

17 (Exhibit 1001 was marked for
18 identification.)

19 MR. MESSING: While this is
20 loaded, if we could have a link to
21 the realtime feed.

22 (Off-the-record discussion.)

23 BY MR. DORSKY:

24 Q. Dr. Eden, did you have an
25 opportunity to look at the document I

1 submitted?

2 A. I was going to -- I think it
3 appeared on the computer, but I was wondering
4 if you would have any objections to my locating
5 the document in this notebook.

6 Q. No, I don't have any objection.
7 And I'll note -- the exhibits that I do drop
8 that should be in your notebook, I'll note
9 that. And I'm fine with you looking at those.
10 They are the same documents from the docket in
11 this IPR proceeding.

12 So this is, just to be clear,
13 again, this is Exhibit 1001, and it is
14 titled --

15 A. And I have it right here.

16 Q. Do you recognize this document?

17 A. Oh, indeed I do.

18 Q. And what is this document?

19 A. This is United States patent number
20 10,299,336 that we refer simply as the '336
21 patent.

22 Q. And is it okay in this deposition
23 if I refer to it as the '336 patent?

24 A. Oh, I would be delighted if you do.

25 Q. Now before we begin, I may use the

1 terms person of ordinary skill, or POSITA, or
2 POSA is another term. And when I use that
3 term, I'm referring to the person of ordinary
4 skill at the time of the '336 patent's
5 provisional application, which is February
6 2016.

7 Do you understand?

8 A. Yes, I do. You're referring to the
9 424 provisional, I assume?

10 Q. Yes. And I understand you may have
11 opinions about that provisional application.
12 I'm just trying to be clear of what I mean in
13 this deposition when I say person of ordinary
14 skill or POSITA. I'm referring to a person of
15 ordinary skill as of the date of that
16 provisional application. Is that okay?

17 A. Yes, that's fine. Thank you.

18 Q. Now, from a high level, the '336
19 patent generally relates to the concept of
20 correlated color temperature, correct?

21 A. Well, that's one of the issues that
22 is addressed by the '336 patent. But you're
23 right.

24 Q. Sorry. Please continue.

25 A. I just wanted to say that the

1 correlated color temperature, or CCT, for
2 short, is one of the considerations.

3 Q. And you use the term "CCT." So
4 when I refer to CCT during this deposition, I'm
5 referring to correlated color temperature. Is
6 that okay?

7 A. That's fine. Thank you.

8 Q. Now, what does correlated color
9 temperature, or CCT, refer to?

10 A. Well, I address this in my report.
11 Would it be helpful if I went to my report to
12 describe it?

13 Q. You can refer to your report if you
14 would like.

15 A. So I've discussed that at some
16 length, Mr. Dorsky, in my report, beginning on
17 page 12. And I can give a brief synopsis, or I
18 can provide a more detailed description of CCT,
19 if you like, by reading what I've prepared in
20 my report. I presume that you've had the
21 opportunity to read it.

22 Q. Well, perhaps if you could provide
23 a brief synopsis of what CCT refers to, that
24 would be helpful.

25 A. As I say in paragraph 32 on page 13

1 of my report, the term correlated color
2 temperature, or CCT, in parenthesis, has been
3 adopted by the industry as a guide describing
4 the hue of light emitted by a lamp or light
5 fixture. Another way of saying that,
6 Mr. Dorsky, is that CCT is a measure of the
7 spectrum of the light that is emitted by any
8 light source.

9 Q. Would it be fair to say that CCT
10 refers to a measurement of how warm or cool a
11 white light source appears to the human eye?

12 A. I would say that that might be a
13 colloquial way to describe it. That that might
14 be meaningful to the average person. But
15 that's -- that wouldn't be a technical
16 definition.

17 Q. And is CCT typically expressed in
18 degrees kelvin?

19 A. Yes.

20 Q. Why is color temperature of white
21 light typically expressed in degrees kelvin?

22 A. Because of the mathematics that was
23 developed to describe the spectrum that's
24 emitted by a source. Kelvin is a measure of
25 energy.

1 Q. Is that based on blackbody
2 radiation?

3 A. Originally, yes. That's correct.

4 Q. And what does blackbody radiation
5 refer to?

6 A. Blackbody radiation is radiation
7 that's emitted by a source that produces
8 broadband radiation extending from the infrared
9 portion of the spectrum, depending on the
10 temperature, all the way to the ultraviolet
11 region of the spectrum and beyond.

12 Q. Is it correct to say that the
13 perceived color of blackbody radiation is white
14 to the human eye?

15 A. If the source has a particular
16 range of temperatures, it will appear as white
17 light to the human eye.

18 Q. And in paragraph 35 of your
19 declaration on page 14, you refer to the
20 ability to control the CCT of a luminaire as
21 being called tunable white technology; is that
22 correct?

23 A. Yes. That's correct.

24 Q. And what does "tunable" refer to in
25 that term?

1 A. "Tunable" means that the CCT can be
2 varied.

3 Q. Are you familiar with the Council
4 for Optical Radiation Measurements, or CORM?

5 A. Can you repeat the question,
6 please, Mr. Dorsky?

7 Q. Yes. Are you familiar with the
8 Council for Optical Radiation Measurements, or
9 CORM?

10 A. No, I don't believe that term -- I
11 recognize that term.

12 Q. Are you familiar with the National
13 Institute of Standards and Technology, or NIST?

14 A. Oh, very much so.

15 Q. What is your familiarity with NIST?

16 A. Oh, I've worked with NIST
17 scientists. It was originally known as the
18 National Bureau of Standards, or NBS. It
19 became known as NIST -- what? -- perhaps a
20 decade or two ago. So I've worked with
21 scientists. I've used NBS or NIST standards
22 throughout my career. Very well known. But
23 there are other well-known organizations in
24 this area too.

25 Q. I'm going to place a document in

1 the chat. This is a document, Dr. Eden, that
2 you do not have before you. I am going to
3 designate this document as Exhibit 2028.

4 (Exhibit 2028 was marked for
5 identification.)

6 BY MR. DORSKY:

7 Q. Please let me know when you have
8 it.

9 A. Would it be okay to ask for
10 Mr. Messing's assistance in locating this
11 document? I tell my students that my computer
12 skills are paleolithic.

13 Q. If you would like him to step in
14 and help pull it up for you, that is fine.

15 A. Thank you, Mr. Dorsky. I have the
16 document now.

17 Q. Have you seen this document before?

18 A. No, I have not. But it's -- I
19 certainly recognize the location of the
20 conference. And I understand now what you mean
21 by the -- by CORM. And this document appears
22 to have been presented at the 2011 conference.
23 I presume it's an annual conference -- of
24 the -- of CORM in Gaithersburg, which is the
25 headquarters for NIST.

1 Q. Did you attend the CORM 2011
2 conference, to your recollection?

3 A. No. But I have attended a number
4 of conferences similar to this over the years.
5 Quite a few, actually.

6 Q. And the title of this presentation
7 is, Calculation of CCT and Duv and Practical
8 Conversion Formula.

9 Do you see that?

10 A. I do.

11 Q. And the name below that is Yoshi
12 Ohno.

13 Do you see that?

14 A. Yes.

15 Q. Are you familiar with Yoshi Ohno?

16 A. I don't know Yoshi personally, but
17 I recognize the name.

18 Q. Okay. In this title that I just
19 read, there's the term "Duv."

20 Do you see that?

21 A. Yes, I do.

22 Q. What is your understanding of Duv?

23 A. Well, it generally refers to the
24 deep ultraviolet, a region of the spectrum that
25 I've done considerable work in over the years.

1 And depending on who you're talking to, the Duv
2 extends over the region below about 250
3 nanometers -- that's wavelength -- down below
4 200 nanometers.

5 Q. Does Duv characterize the shift in
6 either the green or magenta direction of a
7 particular CCT value?

8 A. Well, I am beginning to believe
9 that they're using the abbreviation Duv in a
10 way quite differently -- yes, in fact they
11 definitely are -- than the way that I would use
12 it. Because they're representing it as a
13 constant.

14 Q. Are you familiar with the use of
15 Duv as it's being used in this presentation?

16 A. No, I do not, Mr. Dorsky. This
17 would take me a few minutes to understand what
18 they're doing. I'm familiar with all other
19 aspects of this presentation, but Duv is not a
20 term -- at least the way it's being used
21 here -- that I'm familiar with.

22 Q. Let's turn to the second page of
23 this presentation, indicated by page 2 in the
24 lower right-hand corner. And that is titled,
25 The white light chromaticity.

1 Do you see that?

2 A. Yes, I do.

3 Q. And what does chromaticity refer
4 to?

5 A. Well, the chromaticity diagram that
6 you see at left in this slide is a -- one of
7 the measures of the color of a beam of light.
8 In the diagram that you see, you will notice
9 that it has what are known as coordinates on
10 the vertical axis and on the horizontal axis or
11 the abscissa of the diagram.

12 Q. Have you seen the diagrams before
13 that are on the slide?

14 A. Well, the chromaticity diagram is
15 well known. And anyone that manufactures or
16 tests lighting sources must be familiar with
17 this diagram and measurements of the CCT.

18 Q. The chromaticity diagram, to be
19 clear, is the diagram on the upper left portion
20 of this slide?

21 A. Yes. That is correct.

22 Q. And what does the x-axis of this
23 diagram represent?

24 A. As I mentioned just a moment ago,
25 Mr. Dorsky, it represents what is known as a

1 coordinate on the chromaticity diagram.

2 Q. Does that coordinate have a value
3 associated with it?

4 A. Yes.

5 Q. And what is the value?

6 A. Well, you can see that the origin
7 of the diagram is at lower left, which is, of
8 course, zero. The maximum value on the
9 ordinate is 0.9.

10 Q. And are there units associated with
11 those values?

12 A. It's just a number.

13 Q. And there is -- it's hard to see on
14 the upper left diagram, but on the diagram on
15 the right, there's a u' below the x-axis.

16 Do you see that?

17 A. I'm sorry. Which diagram are you
18 referring to?

19 Q. Staying on slide 2, the larger
20 diagram on the right side of the slide, below
21 the x-axis, there is a u'.

22 Do you see that?

23 A. Yes, I do.

24 Q. And what does u' refer to?

25 A. You mean prime? It's usually

1 referred to as "u prime." And so we're told
2 that this diagram is a CIE diagram from 1976.
3 That is a u'-v' diagram.

4 Q. And what does u' refer to?

5 A. It appears to be a different set of
6 coordinates, or a modified set of coordinates
7 relative to the traditional CIE diagram.

8 Q. And these coordinates are u'. Do
9 they have a unit associated with them, or are
10 they just numbers?

11 A. That, I do not know, Mr. Dorsky.

12 Q. And on the y-axis there is a v'
13 next to that; Is that correct?

14 A. That's correct.

15 Q. And do you know if the v'
16 coordinates have a unit associated with them or
17 if they are just numbers?

18 A. I do not know. If there is a unit,
19 it is not specified.

20 Q. Now, does chromaticity refer to a
21 color's quality independent from its
22 brightness?

23 A. I don't know. Your question is
24 taken out of context, Mr. Dorsky. I can say
25 that chromaticity is a measure of wavelength

1 and the perception of color.

2 Q. Does chromaticity change depending
3 on brightness?

4 A. I do not know. I believe that it
5 could, but I do not know.

6 Q. And is chromaticity based on a
7 color's hue?

8 A. As I said just a moment ago, it's
9 based on the perception of color. That, I
10 recall.

11 Q. Do you know if the perception of
12 color is based on the color's hue?

13 A. I do not recall.

14 Q. Do you know if the perception of
15 color is based on the color's chroma?

16 A. I don't recall. The company I
17 cofounded manufactured white lighting for a
18 number of years, and we made extensive
19 measurements of chromaticity, CCT using large
20 integrating sphere. These lamps were displayed
21 at the National Association of Broadcasters
22 meeting in 2012 and 2013. And during that time
23 period, I dealt extensively with all of the
24 issues you're raising. But, I'm sorry, my
25 memory is not what it could be. So I cannot

1 answer some of the questions you're asking.

2 Q. In the diagrams on this page 2, I
3 think you mentioned before that they reference
4 CIE 1976. Is that right?

5 A. Yes. It's mentioned in the label
6 in the diagram at right.

7 Q. And are you familiar with CIE 1976?

8 A. I'm aware of it.

9 Q. And what is CIE 1976?

10 A. That's an abbreviation for a
11 standard. And I don't recall the acronym
12 meaning, but it's a standard that is well known
13 in the industry.

14 Q. Was that standard published in
15 1976?

16 A. I presume so.

17 Q. For these diagrams, there's a
18 colored area on the grid, correct?

19 A. To which diagram are you referring,
20 Mr. Dorsky?

21 Q. Yes. I'll be specific with that.
22 For now, let's stay with the diagram on the
23 right side of the slide labeled CIE 1976 u'-v'
24 diagram.

25 Do you see that one?

1 A. Yes, I do.

2 Q. And there's a portion of the grid
3 of this diagram that is colored ranging from,
4 it looks like, pinkish to yellowish to green.
5 Do you see that portion of the grid?

6 A. Sure.

7 Q. What is your understanding of what
8 that area of the diagram represents?

9 A. Well, you can see with your eye
10 that -- I believe the region to which you're
11 referring is the area where a combination of
12 colors yields what is perceived to be white
13 light.

14 Q. And so are these colors depicting
15 chromaticities of blackbody light sources of
16 various temperatures?

17 A. Your question is somewhat vague,
18 Mr. Dorsky. I'll just simply say that this
19 diagram, as well as the other two diagrams that
20 you've shown here, show temperatures such as
21 3000 kelvin, 4000 kelvin, 5000 kelvin, and 6000
22 kelvin. And it shows these temperatures
23 sources having these blackbody temperatures
24 producing light that would be perceived to be
25 white by most people.

1 Q. Sticking with the diagram on the
2 right side of page 2, there's a red line
3 passing through the middle of the diagram.

4 Do you see that?

5 A. I wouldn't call it a line. There's
6 a red curve that extends from upper right to
7 lower left.

8 Q. And that curve is labeled Planckian
9 locus, correct?

10 A. Yes, it is.

11 Q. What is a Planckian locus?

12 A. A Planckian locus is a curve that
13 passes through the region of the graph that
14 you've provided that generally identifies white
15 light.

16 Q. In the area below the Planckian
17 curve -- or the Planckian locus in this diagram
18 is -- let me strike that and rephrase.

19 Is the light perceived toward the
20 bottom right area of this diagram on the right
21 light that would be perceived by a human as
22 pinkish-reddish light?

23 A. It's a very general question, but
24 yes. I would say -- you're well off the curve
25 if you're at lower right, Mr. Dorsky, and I

1 would urge you to consider points that are
2 closer to the Planckian locus.

3 So in upper right, for example,
4 points along the Planckian locus would be --
5 would correspond to light sources that would
6 appear reddish to the eye.

7 Q. And then in the upper left portion
8 of this diagram -- and I understand I'm moving
9 away from the curve here -- in the upper left
10 portion of the diagram, that would be light
11 perceived by the human to have a greenish or
12 greenish-yellowish hue?

13 A. Yes, that's correct.

14 Q. Now, you see, for example, the line
15 on this diagram labeled 4000k.

16 Do you see that?

17 A. Yes.

18 Q. And that is -- corresponds to a CCT
19 value of 4000 kelvin; is that correct?

20 A. I assume so. I haven't read the
21 document and I did not attend the talk,
22 Mr. Dorsky, so I'm reluctant to make dogmatic
23 statements.

24 Q. Would that be your understanding
25 based on your knowledge of the chromaticity

1 diagram generally?

2 A. No. As you can see, we have three
3 diagrams on the slide before us. And as you
4 notice, Dr. Ohno is presenting a modified
5 diagram from the traditional CIE diagram. So
6 I'm not willing to make conclusions based on
7 your showing me something I haven't seen
8 before.

9 Q. Is there -- I'm sorry.

10 A. I can only attest to the fact that
11 there is a line that has 4000 kelvin at the
12 top.

13 Q. Is the traditional diagram the
14 diagram that's shown on the top left of
15 slide 2?

16 A. Did you ask a question?

17 Q. Yes. I can ask that again, if you
18 would like.

19 A. Yes, I would.

20 Q. You refer to a traditional CIE
21 diagram. And my question is: Is the
22 traditional diagram the diagram that's shown on
23 the top left of slide 2?

24 A. The diagram at upper left on
25 slide 2, the Planckian locus is difficult to

1 see and the lettering is too small for me to
2 resolve.

3 Q. Let's look back to the diagram on
4 the right side. Other than the double -- other
5 than the red arrow labeled Duv and the blue
6 arrow labeled CCT, does the diagram on the
7 right appear to be a zoomed-in portion of the
8 diagram on the upper left?

9 A. It could be, but I'm not sure.

10 Q. Let's stay with the diagram on the
11 right, as that appears to be easier to read.
12 You understand the line labeled 4000k to -- let
13 me strike that.

14 Referring to the diagram on the
15 right, any point on the line labeled 4000k
16 would correspond to a CCT value of 4000k,
17 correct?

18 MR. MESSING: Objection.
19 Foundation.

20 A. I don't know. Mr. Dorsky, as I
21 said, I have not seen this diagram before. So
22 I cannot confirm or not confirm your statements
23 about Duv or the diagram, at right.

24 Q. Well, let me ask this differently,
25 then. Would it be fair to say that two

1 different sources of light may output the same
2 color temperature even if they don't output the
3 same color?

4 A. Again, your question is somewhat
5 vague, Mr. Dorsky, because CCT is not about
6 color, but the spectrum that is emitted.

7 Q. Well, my question is a little
8 different from that. My question is: Can two
9 sources of light emit light at the same color
10 temperature even if the color of the light
11 sources are different?

12 A. What do you mean by "the color"?
13 And you also used source in the plural. What
14 sources are you referring?

15 Q. Sure. Let me use an example based
16 on this diagram. I understand you're not
17 familiar with it, but I'd like to use it as a
18 tool to help convey this question.

19 On the line in the diagram on the
20 right labeled 4000k, if I had one light source
21 at the bottom right of that line into the
22 pinkish area of the graph and I had a second
23 light that emitted light toward the top of the
24 4000k line, which is the yellowish portion of
25 the graph, those lights would emit light having

1 a different color, correct, perceived by a
2 human?

3 A. I don't know. You're asking me,
4 Mr. Dorsky, to reach a conclusion that I'm
5 unable to conclude from just having seen this
6 diagram for the last few minutes.

7 MR. MESSING: Just note for
8 the record we object to the
9 discussion of this diagram as
10 outside the scope and foundation.

11 BY MR. DORSKY:

12 Q. So sitting here today, can you say
13 whether two different light sources may output
14 the same color temperature even if they don't
15 output the same color of light as perceived by
16 a human?

17 A. What I'm saying -- I'm saying two
18 things, Mr. Dorsky. The first is that I can't
19 answer your question because it's too vague.
20 It's posed in a way that is nontechnical.
21 You're using terms like "color" that are vague.
22 The only -- the only correct technical term
23 would be the spectrum. If you show me the
24 spectrum, I might be able to answer your
25 question.

1 The second objection I have is that
2 I did not address this in my report, and I'm
3 here today to answer any questions or concerns
4 that you might have about the report that I
5 submitted about a year ago.

6 Q. So are you willing to discuss the
7 concepts of chromaticity?

8 A. I'm willing to discuss the subject.
9 Certainly willing to do that, Mr. Dorsky, if
10 you'll appreciate the fact that I can't reach
11 conclusions on a presentation that -- made in
12 2011 that I have never seen.

13 Q. And to be clear, I'm not asking you
14 about what happened at the presentation. I'm
15 trying to understand your understanding of
16 chromaticity and CCT.

17 A. I understand. And let me offer to
18 you, if you would like to pose some questions,
19 I'd be happy to take them home and consider
20 them and send you a written response. How
21 about that?

22 Q. I may take you up on that. But,
23 for now, let me continue the questions. Let me
24 try to revise my prior question to get at the
25 concept I'm trying to get at. Is it fair to

1 say that two light sources that output light
2 having a different hue can still have the same
3 correlated color temperature?

4 A. Not in my experience, Mr. Dorsky.

5 Q. So, in your experience, if two
6 light sources have the same correlated color
7 temperature, they must have the exact same hue?

8 A. I cannot answer your question,
9 because you keep using a relative and a
10 subjective term that's called "hue." In
11 calculation of the CCT -- which is done
12 routinely by lighting manufacturers such as the
13 company that I cofounded -- there is a
14 particular algorithm that is used based on
15 measurements of the spectrum emitted by the
16 light. So your use of qualitative terms is of
17 concern to me, because you're reaching
18 conclusions that I don't believe -- or you
19 would like to reach conclusions -- it appears
20 that you would like to reach conclusions that
21 are not substantiated.

22 Q. Let's say there's a light with a
23 red cover on it, such that light emitted from
24 the cover to a human is perceived as red. What
25 is the term you would use to describe the red

1 color of that light?

2 A. All light emitters, including the
3 red light emitter you just described, do have a
4 CCT value.

5 Q. Separate from CCT how -- so color
6 and color temperature are not the same thing,
7 correct?

8 A. I don't know. I don't know how you
9 mean it. CCT is well defined. But you keep
10 using the word "color" and "hue," which are
11 subjective terms, Mr. Dorsky.

12 Q. Well, a red light emits red light.
13 That's not subjective, correct?

14 A. Right. But what the human eye
15 perceives as having red in it may also be
16 emitting green and yellow and other light,
17 light wavelengths.

18 Q. I think we're talking past each
19 other a bit here. I'm trying to get to what is
20 a term you would use to describe the perceived
21 color of light. So in an industry scenario,
22 someone says, I would like a red light, what
23 does "red" refer to in that scenario?

24 A. I would ask them for a CCT value
25 that they would like to have.

1 Q. So is color only defined by CCT?

2 A. No. It's primarily defined by its
3 spectrum.

4 Q. Can two different lights emit light
5 of different spectrums and have the same CCT
6 value?

7 A. No, I do not believe so.

8 Q. So is it your opinion that if two
9 lights emit light at a color -- let me
10 rephrase, because I know that's a term that is
11 causing issues here.

12 Is it possible for two lights to
13 have the same CCT value of emitted light but be
14 perceived by a person as having two different
15 colors or hues?

16 A. I cannot answer your question,
17 Mr. Dorsky, because you're asking me to
18 speculate.

19 Q. Okay. The CIE 1976 diagram is not
20 specific to LED light, correct?

21 A. No.

22 Q. You could have two different types
23 of light sources, one LED and one non-LED that
24 output light at the same color temperature,
25 correct?

1 A. It could, yes.

2 Q. Why don't we take a break. It's
3 been about an hour. If that works for you,
4 Dr. Eden.

5 A. Sure. That would be fine. Thank
6 you.

7 THE VIDEOGRAPHER: The time
8 is 11:06 a.m. We are now off the
9 record.

10 (Recess from 11:06 a.m. to
11 11:17 a.m.)

12 THE VIDEOGRAPHER: The time
13 is 11:17 a.m. We're now back on
14 the record.

15 BY MR. DORSKY:

16 Q. Dr. Eden, for a luminaire to output
17 or emit light at a CCT value, the luminaire
18 must be on and receiving power, correct?

19 A. Yes. I would say power is
20 essential.

21 Q. So if a luminaire is not powered or
22 turned off, it cannot emit a CCT of light; is
23 that fair?

24 A. I just think it would be more
25 correct to say it cannot emit light.

1 Q. If it cannot emit light, it cannot
2 emit light at a CCT value; is that fair?

3 A. Correct.

4 Q. You can turn, if you'd like, to the
5 '336 patent, Exhibit 1001. I have some general
6 questions about the background of that patent.

7 At column 1, line 31 -- I'll wait
8 until you have a moment to get there.

9 A. I'm there. Thank you.

10 Q. At column 1, line 31, the '336
11 patent talks about florescent and incandescent
12 technology, right?

13 A. Yes.

14 Q. What does "incandescent" refer to?

15 A. Incandescent sources are those like
16 the light bulbs of old that emit light because
17 a current heats a metal filament up to 1,000
18 degrees c or higher, and it emits blackbody
19 radiation.

20 Q. So would an incandescent light be
21 like the Tungsten light bulbs?

22 A. Correct.

23 Q. And what does fluorescence refer
24 to?

25 A. Light such as the conventional

1 fluorescent lighting that we're familiar with,
2 where there's inside a glass tube a mixture of
3 mercury and argon. The mercury emits
4 ultraviolet light at a wavelength of about 254
5 nanometers, and that excites a phosphor that's
6 been painted along the interior perimeter of a
7 glass tube that converts the ultraviolet light
8 to visible. And that's why it's called
9 fluorescent, because the phosphor fluoresces.

10 Q. These type of light sources,
11 fluorescent and incandescent, will the CCT of
12 the emitted light change over time as the bulb
13 ages?

14 A. It can, yes.

15 Q. So for an incandescent bulb, can
16 the CCT change over time as the filament
17 material evaporates or becomes degraded?

18 A. It can, yes.

19 Q. And for fluorescent bulbs, will the
20 CCT become any cooler as the phosphors inside
21 the bulb degrade?

22 A. It will likely change, Mr. Dorsky,
23 but you cannot specify that it would become
24 cooler. I guess by that -- I'm not sure what
25 you mean by that. Please tell me what you mean

1 by that.

2 Q. Well, let me refer to your
3 declaration. You refer in paragraph 31 to warm
4 white and cool white, correct?

5 A. What page were you on, Mr. Dorsky?

6 Q. Page 12 of your declaration,
7 paragraph 31.

8 A. Thank you. Yes, I used those terms
9 in my report because that's often used in
10 qualitative descriptions of light. That's why
11 I have "warm" and "cool" in quotes, as you'll
12 see.

13 Q. And so when I use -- just to be
14 clear, when I use the terms "warm" and "cool"
15 in this deposition, I'm using them in the same
16 manner that you used them in your declaration.
17 So warm would be skewed to the red portion of
18 the visible region of the spectrum, and cool
19 would be skewed to the bluish portion of the
20 spectrum. Is that okay?

21 A. I think your statement is roughly
22 correct. The reason that I have warm and cool
23 in quotes is that they're qualitative; whereas
24 CCT values are quantitative. And I think that
25 was the source of maybe some of the confusion

1 that you and I had earlier this morning,
2 because I prefer to use a quantitative number
3 rather than subjective terms describing the
4 output of a light source.

5 Q. Let me re-ask my question, then.

6 Will the CCT of light emitted by a
7 fluorescent bulb move toward cool light, as
8 used in paragraph 31 of your paragraph, as the
9 phosphors inside the bulb degrade?

10 A. No, I cannot say that, Mr. Dorsky.
11 That's much too vague of a statement. You
12 would -- it would be necessary for you to
13 specify a particular structure of the light and
14 that we do tests and we measure to see if the
15 CCT value changes in what way.

16 Q. Are LED light sources better at
17 maintaining a static CCT value over their life
18 span when compared to incandescent and
19 fluorescent light sources?

20 A. No, I don't think you can reach
21 that conclusion.

22 Q. So the CCT value of LED light
23 sources may change over their life span?

24 A. Oh, yes, indeed. Everything
25 changes with time, Mr. Dorsky.

1 Q. Will an LED light source maintain
2 its CCT value longer in comparison to an
3 incandescent bulb used at the same frequency?

4 A. Used with the same frequency. Can
5 you --

6 (Simultaneous speakers.)

7 A. -- definitive, please.

8 Q. Sure. Let me clarify. When I say
9 "used at the same frequency," I mean use
10 frequency, so left on. So let me rephrase my
11 question.

12 If an LED light source and an
13 incandescent light source are turned on at the
14 same time and left on, will the CCT value in
15 the LED light source remain static for longer
16 than the CCT value of the incandescent light
17 source, all else being equal?

18 A. Well, I can't answer your question
19 because I haven't performed that test. I think
20 it's fair to say that LEDs have longer
21 lifetime, so they simply emit light longer.

22 Q. And do LEDs have a longer lifetime
23 compared to fluorescent lights?

24 A. They can, in certain circumstances.

25 Q. What do you mean by "certain

1 circumstances"?

2 A. It depends on the composition of
3 the LED, the way that the LED's structure is
4 designed. And it depends on the wavelength of
5 the LED that it -- that the LED emits.

6 Q. If we turn back to the '336
7 patents, there are several figures at the
8 beginning of the patent, correct?

9 A. There are certainly figures at the
10 beginning.

11 Q. And Figures 1A through 1K show
12 different views of one example embodiment
13 described in the specification, correct?

14 A. Yes, that is true.

15 Q. And in this embodiment, there is a
16 CCT switch that is a DIP switch labeled 131,
17 correct?

18 A. Figure 1K, I do see a switch
19 labeled as element 131.

20 Q. And if you look at Figure 1E, do
21 you see a switch labeled 131?

22 A. Yes, I do.

23 Q. And that's the square-ish or square
24 body of the DIP switch we see from a top view
25 in Figure 1E, correct?

1 A. Yes.

2 Q. And in staying on Figure 1E, the
3 arrow from 131 towards the switch is -- that's
4 pointing to the, I guess, front of the switch;
5 is that correct?

6 A. It's difficult to say, but it could
7 be because -- well, it's -- it would be
8 speculation on my part. But it could be the
9 front of the switch.

10 Q. And there's the -- you can see an
11 opening in between -- I guess there's an arrow
12 pointing from 131 and an arrow pointing from
13 133. And in between those two arrows, you see
14 a circular opening?

15 A. I don't see an opening, Mr. Dorsky.
16 I see just a circle. It's not identified, and
17 as I recall, it's not described in the
18 specifications, so it's only speculation as to
19 what it is.

20 Q. Well, if, perhaps, we jump to
21 Figure 1F for a moment. Do you see an opening
22 labeled 103?

23 A. Yes, I do.

24 Q. If we go back up to Figure 1E, does
25 that appear to be the same opening shown in

1 Figure 1E between the arrows of 131 and 133?

2 A. I'm not sure how you're making that
3 conclusion, Mr. Dorsky. I would not make that
4 association. If you want to represent that
5 they are one and the same, I'm willing to
6 accept that. But I'm not willing to make that
7 conclusion myself.

8 Q. I'm not making any representations.
9 I'm just trying to understand your
10 understanding of this patent.

11 Where the -- stay on Figure 1E.
12 Where the arrow pointing from the number 131
13 points to the DIP switch, is that where you
14 would understand individual switches 210 of the
15 DIP switch to be located?

16 A. Would you like to point me to a
17 particular part of the specification that makes
18 that association, Mr. Dorsky?

19 Q. If you would like, perhaps --
20 column 7, line 22. And the first sentence
21 states, the dual inline pin switch 131
22 comprises individual switches 210 that provide
23 an input for configuring the luminaire 100 to
24 operate at a selected color temperature.

25 Do you see that?

1 A. Okay. You said column 11. I
2 believe you must be in a different column.

3 Q. Column 7.

4 A. Oh, I'm sorry. I thought you said
5 11.

6 Q. That's all right.

7 A. What lines were you referring to?

8 Q. 22 to 24 is an example passage
9 describing the switches 210 I was referring to.
10 Do you see that?

11 A. Yes, I do.

12 Q. Okay. So individual switches 210
13 will be a -- physical switches a user could
14 manipulate on the DIP switch, correct?

15 A. Yes. The DIP switch, as you know,
16 is a series of single-pole single-throw
17 switches that could serve the function of 210.

18 Q. And by actuating those switches,
19 you change the CCT output of the luminaire,
20 correct?

21 A. Yes. The temperature is actually
22 controlled by the controller, as you know, in
23 the circuit diagram.

24 Q. So going, I guess, back up to
25 Figure 1E -- sorry to make you jump around like

1 this. I'm just trying to --

2 A. It's quite all right.

3 Q. Yeah. So going back to Figure 1E,
4 the element labeled 131, would those switches
5 210 be located on the front of the DIP switch
6 where the arrow is pointing?

7 A. Well, they're not on the front of
8 the DIP switch. They're a part of the DIP
9 switch.

10 Q. So where would a user be able to
11 physically actuate those switches?

12 A. Well, I'm not sure. It depends on
13 how it's oriented. You just pointed out that
14 131 is qualitatively located at the upper part
15 of 125, which I believe is a circuit board.

16 Q. Go ahead.

17 A. I was just going to say, that the
18 orientation of switch 131 is not -- is not
19 specified in the specification, and the
20 diagrams are qualitative -- intended, meant to
21 be qualitative.

22 Q. And in this diagram, the DIP switch
23 131 is mounted on circuit board 125; is that
24 right?

25 A. Well, it's certainly lying on it.

1 I assume that it's actually inserted into 125.
2 But we would need to consult the specification
3 for any details.

4 Q. And by "inserted," are you
5 referring to pins on the DIP switch body that
6 would be inserted into the circuit board?

7 A. That's normally how it's done, yes.

8 Q. If we look at Figure 1J, you can
9 see a portion of the square body of the DIP
10 switch labeled 131 in Figure 1J, correct?

11 A. I see 131, yes, in the diagram.

12 Q. And then in Figure 1I below that,
13 you can see, again, the DIP switch within the
14 opening shown in the diagram of Figure 1I,
15 correct?

16 A. Yes.

17 Q. And does the Figure 1I view inform
18 you at all as to where the switches 210 of the
19 DIP switch may be located?

20 A. If I understand the -- I'm not sure
21 I can answer your question, Mr. Dorsky. Could
22 you repeat the question, please?

23 Q. Does the view shown in Figure 1I
24 inform you as to where the switches 210 of DIP
25 switch 131 are located?

1 A. Well, it appears to be mounted on
2 the top, the inner surface of 105.

3 Q. And I'm specifically asking where
4 the switches 210 that you actuate to set the
5 CCT value, where those are located on DIP
6 switch 131. Can you see where that would be in
7 Figure 1I?

8 A. No, I cannot make any conclusions
9 in that regard. As we discussed just a moment
10 ago, the switches 210 are, if I understand the
11 wording in column 7 that you pointed to a
12 moment ago, those are the switches.

13 Q. Okay. Now, the DIP switch 131 is
14 also depicted in the Figure 2 block diagram on
15 the lower -- I guess if we're looking at the
16 patent, the lower right-hand side of the page.
17 That would be the lower left-hand side of
18 Figure 2.

19 Do you see that?

20 A. Yes. This is the circuit diagram.

21 Q. And the DIP switch is -- 131 is the
22 dashed square, right, that's depicted there?

23 A. Correct.

24 Q. And the switches of the DIP switch
25 210 are shown within that dashed square,

1 correct?

2 A. Yes.

3 Q. And Figure 3 on the same page
4 provides the resulting CCT outputs according to
5 the states of switches 210 of the DIP switch,
6 correct?

7 A. Well, the word "states" is a term
8 that is used in the '336 patent, but that's not
9 a term of art. But I think you mean if the
10 switch is closed or not closed. If the switch
11 is open or closed would be a term of art,
12 Mr. Dorsky. So Figure 3 is, in fact, the
13 table.

14 Q. And the table of Figure 3 provides
15 the resulting CCT outputs according to the --
16 whether switch 1 or switch 2 of DIP switch 131
17 are open or closed; is that fair?

18 A. Yes, that is correct.

19 Q. And in Figure 3, each different
20 configuration of switches 210 of the DIP switch
21 131 results in a particular CCT output of
22 light; is that right?

23 A. Yes, it does. As column 8
24 describes in detail, it says, in line 3 of
25 column 8, as shown in the example table 300,

1 when both of the switches 210 are in the "on"
2 state, the controller 215 causes the light
3 emitting diode 155 to be off and the light
4 emitting diode 150 to be on.

5 And the subsequent text reminds us
6 that the controller is responsible for the
7 color temperature that is produced -- the CCT
8 that is produced.

9 Q. And the controller operates
10 according to the configuration of the switches
11 in DIP switch 131, correct?

12 A. I don't know what you mean by
13 "configuration." The switches 210 simply
14 provide power to the controller. But it is the
15 controller that is responsible for producing
16 the CCT. And column 8 is quite clear about
17 that.

18 Q. Let me ask it a different way.
19 Looking at Figures 2 and 3, in Figure 3,
20 switch 1 is on. This is the top row of
21 Figure 3. Switch 1 is on; switch 2 is off.
22 And the resulting color temperature is 3500k,
23 correct?

24 A. Correct. That's what the table
25 says.

1 Q. And that's because when switch 1 is
2 on and switch 1 is off, the controller that
3 controls the LEDs such that the output is
4 3500k, correct?

5 A. Excuse me for just a minute while I
6 get back to Figure 3.

7 I'm sorry. Could you pose your
8 question one more time, Mr. Dorsky?

9 Q. Yes. When switch 1 is on and
10 switch 1 is off of DIP switch 131, the
11 controller that controls the LEDs such that the
12 output is 3500k, correct?

13 A. Yes. That's correct. The switches
14 simply apply power to the controller, which
15 determines which of the LEDs groupings are
16 activated.

17 Q. Now, Figure 4 of the '336 patent
18 provides an exemplary circuit schematic
19 implementing an embodiment using a DIP switch,
20 correct?

21 A. Yes. It shows an exemplary circuit
22 diagram.

23 Q. And the DIP switch is depicted in
24 this diagram on the -- I guess the lower
25 right-hand side of this page, which is the

1 lower left portion of the diagram, correct?

2 A. Yes, the lower left diagram is --
3 shows element 131.

4 Q. And do you see the number, I guess,
5 below element 131 that is numbered 1571999-4?

6 A. I do see that.

7 Q. Would that be a part number in a
8 diagram like this?

9 A. It could be, Mr. Dorsky. It's not
10 possible to conclude one way or the other,
11 because, as I recall, it's not mentioned in the
12 specification anywhere.

13 Q. Did DIP switches exist prior to the
14 '336 patent?

15 A. Yes. You mean the patent being
16 issued?

17 Q. Let's say did DIP switches exist
18 prior to February 2016?

19 A. Oh, yes, well before.

20 Q. How long, to your knowledge, have
21 DIP switches, like the type shown in Figure 4
22 or Figure 1, been around in the industry?

23 A. Did I not address that in my
24 report, Mr. Dorsky?

25 Q. I'm not sure if you addressed that

1 question specifically.

2 A. As I recall, I talked at some
3 length about slide switches, but I might not
4 have talked about the origin of DIP switches.

5 Q. I think you may be referring to
6 page 15 of your report.

7 A. Yes. I'm on page 16. I don't know
8 if I referred to the origin of DIP switches.
9 And I cannot recall when they were invented,
10 but my -- I'm simply speculating that it would
11 be the early '60s. So, in any case, well
12 before the submission of the 424 provisional.

13 Q. Have you ever personally used a DIP
14 switch in your work?

15 A. Yes. Many times.

16 Q. Did you personally use a DIP switch
17 in your work prior to February 2016?

18 A. Yes.

19 Q. What type of applications are DIP
20 switches used in?

21 A. DIP switches are, like all
22 switches, used in a wide variety of
23 applications, Mr. Dorsky. DIP switches are
24 most often used in situations such as we saw in
25 Figure 1, where the switch is inaccessible

1 intentionally -- made intentionally
2 inaccessible to anyone other than a technician.
3 Because they are miniature switches and the --
4 what the '336 patent terms an actuator is small
5 and usually requires a technician to operate --
6 move it to a different position with a wooden
7 stick, an insulating stick.

8 Q. So if I understand correctly, for a
9 DIP switch, a technician would typically need
10 to use a stick to move the actuator to change
11 the settings?

12 A. Yes. The location of the DIP -- of
13 most DIP switches, which, of course, is a dual
14 inline -- is an acronym that stands for dual
15 inline package. Some of the documents that
16 I've seen in this matter incorrectly refer to
17 that acronym as a dual inline pin switch.
18 That's incorrect. It should be dual inline
19 package.

20 But a dual inline package, or a DIP
21 switch, is nothing more than a stack of the
22 simplest switches that are available. And they
23 are miniature and generally located in places
24 in a system that are inaccessible -- or at
25 least readily inaccessible to a user.

1 Q. In your description of where these
2 DIP switches are typically located and how they
3 are typically actuated applies to generally how
4 DIP switches were used prior to February 2016;
5 is that fair?

6 A. Yes, it is. And it's consistent
7 with what we were looking at just a moment ago
8 in Figure 1 of the '336 patent where you
9 pointed out correctly that the DIP switch would
10 be located behind a port or a panel. And the
11 relative inaccessibility of 131, for example,
12 is shown in Figure 1I.

13 Q. So I believe you may have mentioned
14 this when we were discussing the circuit
15 schematic figures. But a DIP switch controls
16 the flow of electricity to other components; is
17 that right?

18 A. Mr. Dorsky, all switches control
19 the flow of current, electrons to a circuit.
20 So every time you walk into a room in your
21 home, you throw a single-pole single-throw
22 switch such as that in a DIP switch but much
23 more accessible and much larger.

24 Q. And that applies to the DIP switch
25 in the '336 patent, just to be clear, correct?

1 A. Yes. As the circuit diagrams that
2 we were discussing a bit ago, Figure 2 and
3 Figure 4, they show clearly that the sole
4 function of switches 210 is to apply power to
5 the controller 215.

6 Q. And so to do that, the DIP switch
7 must receive power that is connected to the
8 exemplar luminaire in Figure 1, correct?

9 A. Yes, that's shown in circuit
10 diagram Figure 4 where the switches -- one side
11 of the switches 210 are connected to what I'll
12 call the power bus. It's running along the
13 lower perimeter of the circuit.

14 Q. And that power bus is coming from,
15 for example, your house electricity being
16 plugged into the device?

17 A. Yes. And probably the voltage has
18 been changed from AC to DC, so it's been
19 rectified, and the voltage has been lowered
20 because LEDs -- it might have -- might not have
21 been changed. So I'm speculating. It depends
22 on the designer's -- the circuit designer's
23 wishes.

24 Q. So in a luminaire like Figure 1,
25 they may have a cable that provides power to

1 the substrate shown in Figure 1E, and that
2 power is then fed into the DIP switch; is that
3 correct?

4 A. One can conclude that. It's
5 possible, Mr. Dorsky.

6 Q. Okay. And if you look at element
7 133 on Figure 1E, and you can reference here,
8 if it helps, column 6, line 11. Element 133 is
9 a receptacle for receiving power from an
10 electrical cable connected to the lighting
11 device, correct?

12 A. What line are you on in column 6,
13 Mr. Dorsky?

14 Q. Sure. You can look at column 6,
15 and you can look at the paragraph from lines 11
16 to 16.

17 A. Line 11 does refer to an electrical
18 cable 127 that extends through the wiring
19 aperture 103.

20 Q. And then the next sentence states
21 that electrical cable 127 terminates into plug
22 132 that mates with a receptacle 133 that is
23 mounted inside the housing 105, correct?

24 A. Yes. That's what it says.

25 Q. So if we go back up to Figure 1E,

1 that receptacle for power 133 is shown next to
2 the DIP switch 131 that are both mounted on
3 that circuit board 125, correct?

4 A. Well, they appear to be mounted on
5 the same board 125.

6 Q. And would you expect power to -- or
7 current to be provided to the DIP switch via
8 circuit traces on that circuit board?

9 A. It's quite possible, but it's not
10 possible to say.

11 Q. But the DIP switch would need to
12 receive power -- I'm sorry -- receive current
13 in order to operate as intended, correct?

14 A. It would require a voltage to be
15 imposed across it.

16 (Simultaneous speakers.)

17 A. Plus each of the switches in the
18 DIP switch.

19 Q. And that voltage would come from
20 the received power, correct?

21 A. Yes.

22 Q. In this Figure 1E, that power is
23 received via receptacle 133 from an electrical
24 cable, correct?

25 A. That's what the specification says,

1 yes, that the power enters the system at 133.

2 Q. Does Figure 4 show where the power
3 is coming into the system?

4 A. No. Figure 4 is a schematic
5 diagram, Dr. Dorsky. It doesn't say anything
6 about physical positions.

7 Q. Now, a DIP switch includes one or
8 more manual switches that control the flow of
9 electrons, correct?

10 A. We discussed this a moment ago. A
11 DIP switch is a stack of the simplest
12 electrical switches known, known as a
13 single-pole single-throw switch, and they're
14 just simply stacked together in a single
15 package.

16 Q. And those are manual switches that
17 you have to physically actuate; is that
18 correct?

19 A. Yes.

20 Q. And those switches may be a
21 protrusion, like an arm or a lever; is that
22 correct?

23 A. Right. I would think that the
24 closest term would be the tab is plastic and
25 it's basically a rocker switch. So you push

1 down on one side of the switch with a wooden --
2 well, just a narrow stick, basically. I forget
3 what technicians call this, this wooden
4 actuator. You push it on one side of the DIP
5 switch plastic tab at the top, and the switch
6 closes pushing down on the other side. It
7 opens electrically.

8 Q. Now the DIP switch illustrated in
9 the '336 patent has two switches, correct?

10 A. There are two switches in the DIP
11 package, correct.

12 Q. But DIP switches with three, four,
13 five switches were available prior to February
14 2016, correct?

15 A. Yes. They can come in different
16 numbers of individual SPST switches.

17 Q. And in some DIP switches, the
18 switch might be a rotary selector, correct?

19 A. No. DIP switches are all made the
20 same way. They just have a simple rocker
21 that's referred to in the '336 as an actuator
22 that causes the switch to close or open. There
23 is no rotary movement or action that takes
24 place in a DIP switch.

25 Q. Are you familiar with a company

1 called Tyco Electronics?

2 A. What is the name of it, again,
3 please?

4 Q. Tyco -- T-Y-C-O -- Electronics.

5 A. I'm familiar with Tyco Electronics.

6 Q. And what is your familiarity with
7 Tyco Electronics?

8 A. It's just a widely used vendor in
9 the electrical component space.

10 Q. Have you obtained components from
11 Tyco Electronics?

12 A. Oh, I can't say for sure,
13 Mr. Dorsky. My students are the ones who order
14 the electronics. But we order a great deal of
15 electronic and optical components every year,
16 so I wouldn't be surprised to learn that we
17 have. I'll just say that I'm very familiar
18 with Tyco.

19 Q. I'm going to place a document in
20 the chat. This is going to be another document
21 you do not have a paper copy of, and so your
22 counsel can help you with it, if necessary.
23 And I would designate this document
24 Exhibit 2029 and request that it be marked the
25 same.

1 (Exhibit 2029 was marked for
2 identification.)

3 THE WITNESS: Okay. Thank
4 you. Thank you, Mr. Messing.

5 A. I have your brochure, Mr. Dorsky.

6 Q. Have you seen this document before?

7 A. No, I have not.

8 Q. Have you seen documents like this
9 document before?

10 A. Well, I'm not sure what the
11 document is yet. I haven't looked at it.

12 Q. Why don't you take a minute and
13 just page through it and let me know, you know,
14 when you've taken a quick look, and then I can
15 ask you some questions.

16 MR. MESSING: For the record,
17 we object to foundation and outside
18 the scope.

19 A. Okay. Mr. Dorsky, I have just done
20 what I can best term "breezed through" this
21 document of 30 pages, and it is a
22 manufacturer's supplied listing of products
23 that this company offers in the area of
24 switches. And there's a wide variety of
25 switches represented in this brochure. There

1 are rocker switches, power rocker switches,
2 there are DIP switches, there are toggle
3 switches, switches they refer to as tactile
4 switches, which is -- it's a newer term --
5 slide switches. You name it.

6 Q. Have you seen a document like this
7 before?

8 A. Many times.

9 Q. And the first page of this document
10 is titled, Switches Core Program, correct?

11 A. Well, let me get back to the first
12 page. The first page is a photograph. What
13 does it say? Switches Core Program. That is
14 correct. That's what it says.

15 Q. And the company name on the bottom
16 right corner of the first page is Tyco
17 Electronics, corrects?

18 A. Yes.

19 Q. And if we go to the second page of
20 this document, there is a table of contents,
21 correct?

22 A. Yes.

23 Q. And for the moment, I want you to
24 look at -- you might need to zoom in -- the
25 bottom, the very bottom left corner of the

1 second page. Do you see where it says, issued
2 03/2008?

3 A. Yes, I do see that.

4 Q. So this would be a publication from
5 March 2008, correct?

6 A. Yes. That appears to be the case.

7 Q. If you stay on the second page and
8 go to the top of the table of the contents,
9 there is a section called DIP switches,
10 correct?

11 A. Yes.

12 Q. And that runs, according to this,
13 from pages 2 through pages 4, correct?

14 A. Yes.

15 Q. Okay. Let's go to the -- it's the
16 third page of the PDF, but it's actually
17 numbered page 2 in the bottom right-hand
18 corner.

19 Do you see that?

20 A. I'm on page 2.

21 Q. And running from page 2 to page 4,
22 these are example switches that a person of
23 ordinary skill would have understood to be DIP
24 switches, correct?

25 A. Correct. That's exactly how

1 they're identified.

2 Q. Now, on page 4, which is page 5 of
3 the PDF, but page 4 of the document, do you see
4 at the bottom of the page, there's something
5 called rotary DIPs?

6 A. You're at the bottom of page 3?

7 Q. This would be page 4 of the
8 catalog.

9 A. Oh, I'm sorry. I do see at the top
10 of page 4, yes. Yes.

11 Q. And the top of page 4 says, DIP
12 shunts, DIP-fix, and rotary DIP switches,
13 correct?

14 A. Yes. Yes. There were a class of
15 switches called rotary DIP switches, yes.

16 Q. So a person of ordinary skill would
17 have understood that a DIP switch could have a
18 rotary actuator, correct?

19 A. It could. I've never used one, and
20 I've never seen one in use, Mr. Dorsky. But
21 there is a -- there is a product that is known
22 as a rotary DIP switch. That is correct.

23 Q. Now, if we go up to page 2 of the
24 catalog. And please let me know when you're
25 there.

1 A. I'm sorry. On page 2?

2 Q. Page 2 of the catalog, yes.

3 A. I'm there.

4 Q. Okay. And are these the type of
5 DIP switches you would commonly associate with
6 a DIP switch?

7 A. Well, yes. You'll notice that
8 pages 2 through 4, as you said correctly, deal
9 with the DIP switches that Tyco Electronics
10 offers, and that the rotary switches represent
11 a very small fraction -- or I should not,
12 perhaps, characterize -- but it's -- most of
13 the switches are what I'll call a conventional
14 DIP switch.

15 Q. Now, on this page 2 of the catalog,
16 let's start with the top row of DIP switches.
17 Do you see there's -- below the DIP switches,
18 there's information, correct?

19 A. Yes. All catalogs give you basic
20 information about the size of the packaging and
21 so forth.

22 Q. And, I guess, the first row of
23 information is referred to as standard number
24 of positions.

25 Do you see that?

1 A. Yes. I see that.

2 Q. And you can see, moving across that
3 row under each product, there are
4 positions 2, 4, 6, 8, 10.

5 Do you see that?

6 A. Yes.

7 Q. So would that mean you could order
8 a DIP switch having, you know, two positions,
9 four positions, six positions, depending on
10 what you needed?

11 A. Yes. That's what it's telling us.
12 That's correct.

13 Q. And then on these DIP switches,
14 there is pins coming from the bottom of the DIP
15 switch, correct?

16 A. Yes. There are pins.

17 Q. And those pins, would they be used
18 to couple a DIP switch to a circuit board or
19 substrate?

20 A. Yes. That's typically the way in
21 which they are mounted. Not always, but
22 typically.

23 Q. And then through that coupling,
24 that's how they would receive the current or
25 flow of electrons in order to operate as

1 intended, correct?

2 A. Yes. You'll notice that there are
3 sets of pins on both sides of the bottom
4 surface of the DIP switch.

5 So let's see. I'm looking at --
6 well, I'll pick any of them. Let's take the
7 ADE series that is shown on page 3. I just
8 pick it arbitrarily. You'll see there's a row
9 of pins that are facing the camera on the
10 lower -- extending from the lower surface of
11 the DIP switch. And my eyes aren't good enough
12 to tell how many switches we have. It looks
13 like seven. And on the far side, which is out
14 of the view of the camera, there's another --
15 equal number, seven pins. And so the first pin
16 on both the front and the back would be
17 associated with a single switch.

18 Q. Okay.

19 A. And you notice the actuators look
20 very similar. This is a very common design for
21 a DIP switch and look very similar to those
22 shown in Figure 1 of the '336 patent.

23 Q. And sticking with the ADE series on
24 page 3 of this catalog, the black rectangular
25 portion would be the body of the DIP switch?

1 A. I think "body" is a term that I
2 only see in the '336 patent, Mr. Dorsky.
3 That's not a term of art. I would refer to it
4 as packaging. But I think I understand what
5 the '336 is saying, and I would identify that
6 as the body of the DIP switch.

7 Q. The black portion here, the black
8 rectangular portion?

9 A. Yes. It's a polymer material
10 typically, as is the white -- they appear to be
11 white -- tab identified with each switch.

12 Q. And the -- and I'm just using the
13 terms from the '336 patent. But the body
14 portion of the DIP switch shown in this
15 catalog, it's similar to the body portion of
16 the DIP switch in, for example, Figure 1E of
17 the '336 patent, correct?

18 A. Figure 1E?

19 Q. Yes.

20 A. I don't recall how much detail 1E
21 shows. Frankly, Mr. Dorsky, there's no detail
22 shown in the symbol for 131 in Figure 1E of the
23 '336 patent. So it's --

24 Q. You can see a rectangular shape in
25 Figure 1E, correct?

1 A. Correct.

2 Q. And that would correspond to the
3 body portion of the DIP switch?

4 A. Yes. I understand. But -- excuse
5 me for just a moment. The problem with that is
6 if you look at a quite different component in
7 the '336 patent in Figure 10, element 1031 on
8 the side is also shown as a rectangular box.
9 So one of the things I've learned about
10 interpreting patents is that an artist's
11 conception of a component of, let's say, a
12 luminaire, such as that in 1E, 131, one must be
13 careful in not reading into the symbol that's
14 shown.

15 Q. Now we've been discussing DIP
16 switches, but to be clear, the references you
17 apply in your declaration don't use a DIP
18 switch as a CCT switch, correct?

19 A. No. If I was designing a luminaire
20 with an inline switch, I wouldn't use a DIP
21 switch either.

22 Q. Okay. Well, you believe the '336
23 patent claims to be limited to an inline
24 switch?

25 A. I didn't say that, Mr. Dorsky.

1 Q. So do you believe the '336 patent
2 claims are limited to an inline switch?

3 A. Well, I'm not a lawyer, but the way
4 the claims read they don't -- that some of them
5 don't appear to require a particular type of
6 switch.

7 Q. I think we've been going for about
8 an hour. So I think we could pause here, if
9 that works for you.

10 A. I'm fine. I'm at your service,
11 Mr. Dorsky.

12 MR. DORSKY: Why don't we
13 pause here.

14 THE VIDEOGRAPHER: The time
15 is 12:18 p.m. We're now off the
16 record.

17 (Recess from 12:18 p.m. to
18 12:33 p.m.)

19 THE VIDEOGRAPHER: The time
20 is 12:33 p.m. We are now back on
21 the record.

22 BY MR. DORSKY:

23 Q. Dr. Eden, is it fair to say that
24 LEDs need to receive power from a power source
25 in order to operate?

1 A. That's true of any electronics
2 system.

3 Q. Including LEDs?

4 A. Including LEDs, Mr. Dorsky.

5 Q. So LEDs must be coupled to a power
6 source to work, correct?

7 A. Yes, that is true.

8 Q. Now, that coupling could be a
9 direct coupling to power, like directly wiring
10 power to an individual LED, correct?

11 A. So when you say "power," do you
12 mean, like, power that comes out of the wall?

13 Q. Sure. The current, I suppose, the
14 flow of electrons.

15 A. Okay. Well, if you want to take
16 power in the wall, of course, you're going to
17 need to change the voltage because LEDs cannot
18 withstand the 110 volts that comes from the
19 wall.

20 Q. So after that voltage is converted,
21 that could be directly wired to an LED,
22 correct?

23 A. Yes. You must have a power supply
24 that's done by engineers to apply the
25 appropriate voltage.

1 Q. Now, power can also be provided via
2 a circuit board, correct, where power is
3 connected to the circuit board and the LEDs are
4 also connected to the circuit board?

5 A. Well, the problem with your
6 statement, Mr. Dorsky, is you talked about the
7 circuit board power -- the word you used is
8 "power." A circuit board can power nothing.
9 An external source of some form.

10 (Simultaneous speakers.)

11 BY MR. DORSKY:

12 Q. Let me rephrase that question.
13 LEDs can receive currents via a circuit board
14 to which a power line is connected; is that
15 right?

16 A. Any material or structure that is
17 electrically conducting can be an intermediate,
18 if I might suggest that term, from the original
19 power source, such as a power plant, to, let's
20 say, a string of LEDs.

21 Q. And that intermediate can be a
22 circuit board, correct?

23 A. It can be. It can be a wide
24 variety of things.

25 Q. And staying with circuit board,

1 that circuit board can allow for an LED to be
2 electrically coupled to a source of power via
3 the circuit board?

4 A. I don't know. Some of the words
5 that you use, what do you mean by "electrically
6 "coupled"? Can you restate the question,
7 please?

8 Q. Sure. And before I restate, do you
9 have an understanding of the term "electrically
10 coupled"?

11 A. It's the term that's used in the
12 '336 patent. But, again, like a number of
13 terms in the '336 patent, coupling is not a
14 term of art.

15 Q. Did you apply an understanding to
16 the term "electrically coupled" when you
17 considered the patent claims of the '336
18 patent?

19 A. Yes. I assumed, for example,
20 electrical coupling means, I believe is the
21 term that's used in the '336 patent. I took it
22 to mean an electrical connection.

23 Q. So an electrical coupling does not
24 require a physical or direct physical coupling,
25 correct?

1 A. It generally does require a
2 physical contact, such as soldering two pieces
3 of wire together or connecting them through
4 spade lugs. I mentioned a number of typical
5 connections in my report, if you'll recall.

6 Q. Can two components be electrically
7 coupled without being physically coupled?

8 A. The only form of coupling that I
9 can think of that doesn't require a direct
10 physical contact is the coupling between two
11 inductors through their magnetic field that
12 they generate.

13 Q. Let's say there are two components
14 on a circuit board and the circuit board
15 receives power. The components don't
16 physically touch each other. Can those
17 components be electrically coupled to each
18 other?

19 A. Not in my opinion, no.

20 Q. So in your opinion, electrical
21 coupling requires direct physical coupling
22 other than the inductor example you provided?

23 A. That's the way the term is used in
24 the '336.

25 Q. And that's the way you used the

1 term when you offered your opinions in your
2 declaration?

3 A. Yes, indeed. Yes.

4 Q. Can power be supplied to LEDs from
5 a battery mounted inside a luminaire?

6 A. Conceptually, yes. It's not
7 normally done.

8 Q. Well, if you have an outdoor LED
9 light, might that have its own battery inside
10 of it rather than being wired to power?

11 A. Yes. I've had some LED decorations
12 for this time of year that are solar-powered,
13 which charges a battery and discharges it
14 through the LEDs at night. A battery is one
15 possible way to store energy, yes.

16 Q. But as we discussed, you can also
17 receive power from a wall outlet, for example,
18 correct?

19 A. To power the LEDs? Your question
20 sort of chopped off at the end.

21 Q. To power a luminaire containing
22 LEDs, yes.

23 A. Oh, yes. So that's why power is
24 made available at the wall. That's why power
25 is supplied by the wall.

1 Q. Now, a luminaire may have its own
2 electrical cable that can be plugged into a
3 power source, correct?

4 A. Could you repeat the question,
5 please, Mr. Dorsky? I was thinking about
6 something else.

7 Q. Sure. A luminaire may have its own
8 electrical cable that can be plugged in or
9 connected to a power source, correct?

10 A. Yes.

11 Q. A luminaire also could have
12 existing house wiring wired into it to connect
13 it to power, correct?

14 A. That's a hypothetical, Mr. Dorsky,
15 because I believe you're describing hard
16 wiring. Are you describing having an
17 electrician come in and take a 13/2 wire out of
18 the wall and bring it to my luminaire? Is that
19 what you're saying?

20 Q. Yes. For example, that could be
21 one way to power a LED luminaire, correct?

22 A. Would you want to do that,
23 Mr. Dorsky?

24 Q. Well, I'm asking you if that's
25 something you could do.

1 A. I could, but I think I'd have my
2 head x-rayed if I did that.

3 Q. And why is that?

4 A. Do you know what electricians cost
5 per hour these days?

6 Q. So it's a cost factor that would be
7 concerning?

8 A. Well, there are a number of
9 factors. But that's why manufacturers don't
10 hand you a luminaire and say, here, hard wire
11 it.

12 Q. But you agree it's possible to hard
13 wire a luminaire inside your house using house
14 wiring, not a cable of the luminaire?

15 A. Yes. It's a hypothetical, but you
16 could do that with everything. Can you imagine
17 doing that with your refrigerator?

18 Q. Let's go back to the '336 patent.
19 And I can draw your attention to column 7,
20 line 27, beginning with in various embodiments.

21 Do you see that sentence?

22 A. Column 7. I'm sorry. What line
23 did you say, Mr. Dorsky?

24 Q. Column 7, starting at line 27.

25 A. I'm there.

1 Q. In this portion of this paragraph,
2 the '336 patent talks about a DIP switch being
3 mounted to the housing 105 or within the
4 housing 105, correct?

5 A. Yes. I see the phrase "within
6 housing 105" in line 29.

7 Q. And "to the housing" appears in
8 line 28, correct?

9 A. Correct. Or an exterior surface of
10 the housing 105 on lines 31 and 30.

11 Q. Yes. So the '336 patent here is
12 talking about mounting a DIP switch to the
13 housing, within the housing, or on an exterior
14 surface of the housing, correct?

15 A. Yes. Or mounted on the substrate
16 125 on lines 31 and 32.

17 Q. And claim 1 of the '336 patent
18 requires that the switch be disposed remotely
19 from the housing, correct?

20 A. Claim 1 of the '336 patent?

21 Q. Yes.

22 A. Yes. That is the fourth element of
23 the claim.

24 Q. A CCT switch that is mounted within
25 a luminaire housing is not disposed remotely

1 from the housing, correct?

2 A. It could be remote if it's
3 installed within a junction box.

4 Q. Let me re-ask my question. A CCT
5 switch that is mounted within a luminaire
6 housing is not disposed remotely from the
7 housing, correct?

8 A. I don't think that that location
9 would be viewed by the patent as a remote
10 location.

11 Q. And a CCT switch that is physically
12 part of the housing or on the housing is not
13 disposed remotely from the housing, correct?

14 A. Now, your question presumes that
15 this is from the perspective of the '336
16 patent. Is that what you intend to say?

17 Q. Yes. I'm asking from the
18 perspective of claim 1.

19 A. Okay. Thank you. That's very
20 helpful. Thank you. I do not believe that
21 would be viewed as being remote.

22 Q. In a CCT that is mounted to the
23 outside of the housing, to an exterior surface
24 of the housing, that would also not be disposed
25 remotely from the housing, correct?

1 A. Well, you said CCT. I presume you
2 mean CCT switch?

3 Q. Yeah, let me -- just to be clear,
4 let me re-ask that question.

5 A CCT switch that is mounted to the
6 exterior surface of a housing would not be
7 disposed remotely from the housing as recited
8 in claim 1, correct?

9 A. I'm not sure I can agree with that
10 statement, Mr. Dorsky. I'm not trying to be
11 difficult, but I can visualize housing as
12 something very different than what we see in
13 Figure 1, for example. And something -- and a
14 switch mounted on the outside of such a housing
15 might be actually remote in some sense. So I'm
16 reluctant to make a categoric statement there.

17 Q. In what sense do you believe a
18 switch mounted on the outside surface of the
19 housing may be considered remote?

20 A. I'm just simply saying, Mr. Dorsky,
21 that you would like for me to make a categoric
22 statement, and I'm not willing to do so because
23 housings take on very different forms. And
24 there might be a design of a housing in which
25 the switch might actually be some distance from

1 the remainder of the luminaire.

2 Does that make sense?

3 Q. Can you describe an example where a
4 switch may be mounted to the outside surface of
5 the housing but still remote -- disposed
6 remotely from the housing?

7 A. Sure. How about -- I don't know if
8 you're able to see them, Mr. Dorsky, but how
9 about the luminaires that are above my head
10 right now. I can't see the ones above your
11 head. But in such a luminaire, the aspect
12 ratio, which is the ratio of the length to the
13 width, is a very large number, probably about
14 100 to one.

15 Q. Is this a troffer lighting you're
16 referring to?

17 A. It's a troffer. It's a form of the
18 troffer. And so the power supplies could be
19 over at this end. And I might put a switch
20 that actually has an extension on the troffer
21 housing, in quotes, and I think any reasonable
22 individual would look at it when I'm done and
23 say it's remote.

24 So our discussion should not be
25 limited to, in my opinion, the drawings of, for

1 example, Figure 1.

2 Q. In that example with the troffer
3 lighting you're referring to, the switch is
4 still in physical contact with what's called
5 the housing, but it could still be considered
6 remote from the housing; is that right?

7 A. It might be physically connected,
8 but it might be physically connected through a
9 cable also.

10 Q. Okay. And how about where the
11 switch is actually mounted on the outside
12 surface of the housing, could that still be a
13 switch disposed remotely from the housing?

14 A. I think in one definition of
15 "remote," it could be, yes, still remote.

16 Q. And what definition of "remote" did
17 you apply in your declaration?

18 A. I assumed that because of the --
19 excuse me for a moment while I find a figure.

20 I applied the definition of
21 "remote" that is implied by, for example,
22 Figure 9B of the '336 patent, where switch 931
23 is shown as a part of the system, but is
24 separated from the luminaire itself. And the
25 remainder of the luminaire that -- the power

1 portion of the system 991. And that's referred
2 to by the patent specification as being remote.

3 Q. And that same arrangement is shown
4 in Figure 9A from a different perspective,
5 correct?

6 A. It appears to be the same system
7 shown from a different view.

8 Q. And in Figure 9A and 9B, switch 931
9 is located in line with the cable connecting
10 the luminaire housing to the junction box,
11 correct?

12 A. That is correct.

13 Q. And then, I guess, if we move to
14 Figure 10, would you agree that this is another
15 example of a switch -- in this case, 1031 --
16 disposed remotely from the housing?

17 A. It could be, because the housing,
18 which claim 1 refers, I assume to be the
19 housing of the light-emitting portion.

20 Q. Now, the '336 patent identifies the
21 housing in Figure 10 as element 1005, correct?

22 A. I'm sorry. What page are you
23 referring to in the patent, please?

24 Q. Sure.

25 A. I'm not as agile as you are,

1 Mr. Dorsky.

2 Q. If you -- one moment. If you turn
3 to column 12, line 40, the first sentence of
4 that paragraph may address your question.

5 A. Column 12. I'm sorry, which lines
6 are you referring to?

7 Q. Line 40. 40 to 42.

8 A. Okay. Yes. Wonderful. Thank you.

9 So line 40 says -- and two lines to
10 follow, for example, the luminaire 1000 in
11 Figure 10 in this case includes a housing 1005
12 and a remotely located junction box in 90.

13 So, thank you, Mr. Dorsky, that
14 confirms my perception of the location of 1031
15 as a remotely located switch.

16 Q. Though in each of these examples in
17 Figures 9A, 9B, and 10, you would agree the
18 switches disposed remotely from the housing as
19 recited in claim 1; is that fair?

20 A. Well, as we discussed for
21 Figure 10, switch 103 -- I'll be specific to
22 Figure 10 -- switch 1031 is remotely located
23 from the luminaire housing.

24 Q. And in Figures 9A and 9B, switch
25 931 is located remotely from the luminaire

1 housing 905, correct?

2 A. Yes. That's what the patent
3 stipulates.

4 Q. And for these embodiments shown in
5 Figures 9A, 9B, and 10, the switch is never
6 described as being located within or on the
7 housing, correct?

8 A. In these particular embodiments,
9 the switch is remote -- is termed to be remote.

10 Q. And my question is: In these
11 embodiments, the switch is never described as
12 being located on or within the housing,
13 correct?

14 A. If we're talking about the housing
15 of the light-emitting portion, that is correct.

16 Q. The luminaire housing, 905 in
17 Figures 9A and 9B, and 1005 in Figure 10,
18 that's what I'm referring to.

19 A. Right. As far as I know, the
20 patent does not mention -- I need to think
21 about that for a moment. But to my
22 recollection is that the switch is identified
23 as being remote from the light-emitting portion
24 of the luminaire, the housing of that.

25 Q. And the switch is always remote

1 from the light-emitting housing, correct?

2 MR. MESSING: Objection to
3 form.

4 A. I'm not sure I can agree to
5 "always," Mr. Dorsky, without having thought
6 about it for some time.

7 Q. But sitting here today, you can't
8 say one way or the other?

9 A. I just don't know.

10 Q. Claim 13 of the '336 patent does
11 not include the words "disposed remotely from
12 the housing," correct?

13 A. No, because that does not seem to
14 be the purpose of claim 13. Claim 13 is
15 concerned solely with a switch which, by the
16 way, requires coupling features. We were
17 discussing coupling -- electrically coupling
18 earlier.

19 And one thing I had forgotten to
20 mention to you in our earlier discussion is
21 that the language of claim 13 strongly suggests
22 that, by coupling, is meant a physical contact
23 between two conductors. The coupling feature
24 is mentioned, what, twice. And to electrically
25 couple to an electrical cable clearly means to

1 make an electrical connection by solder or
2 compression. But it is a physical connection.

3 So I just mention that because
4 earlier you had asked a question about can they
5 be physically separated, and not in the way
6 that the '336 patent perceives that subject.

7 Q. And so just to be clear, you
8 interpreted the '336 patent term, "electrically
9 coupled" to require a direct physical
10 connection; is that fair?

11 A. I think that's the only way that
12 the '336 patent makes any sense, Mr. Dorsky.
13 Somewhere, it does talk about in the
14 specification -- I was trying to find it a few
15 minutes ago. It talks about a terminal. It's
16 in parentheses, I remember, in the
17 specification, but I'm not able to find it. If
18 you'll allow me during lunch, I will look for
19 it.

20 Q. Okay. We can come back to that.
21 But to be clear, claim 13 does not
22 require the recited switch to be disposed
23 remotely from the luminaire housing, correct?

24 A. 13 is not concerned at all with the
25 location of the switch. It is only with the

1 switch itself.

2 (Simultaneous speakers.)

3 BY MR. DORSKY:

4 Q. I'm sorry. I think I spoke over
5 the ending of your testimony.

6 A. That's okay. I'm probably guilty
7 of that once or twice myself.

8 Q. Okay. So a switch mounted on or
9 within a luminaire housing can still practice
10 claim 13 so long as it has the elements recited
11 in claim 13, correct?

12 A. That's true. Any embodiment that
13 meets every element of the claim is acceptable.

14 Q. The fourth limitation of claim 13
15 refers to a range of positions.

16 Do you see that?

17 A. Yes, I do.

18 Q. That's a range of positions of the
19 actuator, correct?

20 A. Correct.

21 Q. So would a range of positions be
22 two end points and something in between?

23 A. I don't know what you mean by that.
24 I've never heard language like that used with
25 regard to a switch.

1 Q. Well, I'm referring to what a range
2 is, with respect to a range of the positions.
3 Would you need two end points and then
4 something within those two end points to define
5 the range?

6 A. I interpret "range of positions" to
7 simply be two or more.

8 Q. So a binary on/off, for example,
9 would be a range of positions, in your opinion?

10 A. No, because there's only one
11 operation of a single pole-single throw-switch
12 such as a DIP switch. That's not a range of
13 positions.

14 Q. So two positions is not a range of
15 positions?

16 A. Oh. Let me re-think it in view of
17 what you just said. Perhaps -- I think the way
18 that it's used in the '336, perhaps -- well,
19 I'm speculating. I would definitely -- I would
20 think that the broadest meaning would be two or
21 more.

22 Q. And is that the meaning you applied
23 in your opinions?

24 A. Yes.

25 Q. So, again, an on/off switch would

1 have two positions, correct?

2 A. Well, it only has -- even though we
3 might say -- no. There's only one action that
4 can be done with a single pole-single
5 throw-switch. We were discussing that earlier
6 with respect to DIP switches, if you recall.

7 Q. Okay.

8 A. So the language of a range of
9 positions, I don't think, was intended for a
10 single pole-single throw-switch. But,
11 certainly, for a rotary switch or a slide
12 switch, it makes considerable sense.

13 Q. Why would range of positions have a
14 different meaning for different types of
15 switches?

16 A. Because there is a number of
17 different possibilities, such as the switch
18 that I referred to in my report that is shown
19 by Roberge, for example, in Figure 34I, as in
20 Italy. There are, perhaps, eight different
21 positions on a rotary switch. So that's why
22 the term "range of positions" comes alive. A
23 range of positions for a single pole-single
24 throw-switch might apply, but I haven't thought
25 about that in detail.

1 Q. If you took a rotary switch like
2 Roberge, and you only had two positions, two
3 options, would that offer a range of positions?

4 A. I don't know. I don't know. I'd
5 have to think about that further.

6 Q. Claims 1 and 13 also refer to an
7 electrical cable of a luminaire, correct?

8 A. Yes. In element 2.

9 Q. So that's element 2 of claim 1?

10 A. I'm sorry. I think you normally
11 refer to them by a letter, so it would be
12 element B.

13 Q. And which claim are you referring
14 to?

15 A. I believe you were referring to
16 claim 13; is that correct?

17 Q. Well, my question was as to both
18 claims 1 and 13.

19 A. Oh, I'm sorry. I missed claim 1.
20 So could you repeat your question, please?

21 Q. Sure. And maybe I'll break this
22 up. Claim 1 recites a luminaire that includes
23 an electrical cable, correct?

24 A. Yes.

25 Q. And I'll refer you to

1 limitation 1C.

2 A. Yes, it does. Thank you.

3 Q. And claim 13 also refers to an
4 electrical cable of the luminaire in limitation
5 13B, correct?

6 A. That is correct.

7 Q. And did you treat your
8 understanding of "electrical cable" the same in
9 both claims 1 and claim 13?

10 A. Yes, I treated the same language
11 the same way.

12 Q. And what is your understanding of
13 what an electrical cable of a luminaire is?

14 A. Usually, it's interpreted as -- by
15 face value as a cable that leaves the luminaire
16 for one or two purposes to allow for remote
17 switching or for electrical power or both.

18 Q. And so it's a cable of the
19 luminaire itself; is that correct?

20 A. Well, it says "of the luminaire."

21 Q. So, for example, when you purchase
22 the luminaire, when you open the box, the
23 electrical cable of the luminaire would be
24 connected to the luminaire; is that fair?

25 A. Well, maybe not. It might be the

1 cable that, when you open the box, you find
2 that you have what is known as a female power
3 receptor on the housing of the luminaire, and
4 it says, oh, by the way, you need to buy the
5 power cord that fits into that. So I'm not
6 sure that it must be supplied by the
7 manufacturer to be a legitimate cable as
8 referred to by the '336.

9 Q. In your opinion, are there any
10 structural requirements for an electrical cable
11 recited in the '336 patent?

12 A. Off the top of my head, Mr. Dorsky,
13 I don't recall any. Although there is some
14 language it would take me a few minutes to find
15 that suggests the electrical cable could serve
16 several functions.

17 Q. Could an electrical cable, as
18 recited in the patent claims, be a single wire?

19 A. I don't know. If it met all of the
20 requirements of the claim elements, then, yes.
21 But I don't know. I'd have to think about
22 that.

23 Q. Do you believe an electrical cable
24 of the luminaire could be pre-existing wiring
25 in your house?

1 A. No. The way the patent
2 specification reads, I don't believe so. But,
3 again, this is speculative. You're asking me
4 to speculate, and I'm not willing to do that
5 sitting here today, Mr. Dorsky.

6 Q. So, in addition to the DIP switch
7 we discussed earlier, the '336 patent also
8 provides an illustration of a slide switch 631
9 in Figure 6C, correct?

10 A. 6C is definitely a diagram of a
11 slide switch.

12 Q. And that slide switch is labeled
13 631, right, at the top left corner of 6C?

14 A. Yes, it is.

15 Q. And that slide switch 631 is also
16 shown in Figure 6B, correct?

17 A. Yes, it is.

18 Q. And in Figure 6B, that slide switch
19 is being mounted onto a substrate within the
20 luminaire housing, correct?

21 A. Right. It's being plugged -- in
22 the process of being inserted into receptacle
23 629.

24 Q. And I believe the patent calls it
25 electrical connector 629, correct? If you'd

1 like to confirm, I can point you to a line.

2 But let me know.

3 A. No. If you represent it as that's
4 the language. I would call it an electrical
5 receptacle, but that's fine.

6 Q. Sure. So in Figure 6B, slide
7 switch 631 plugs into electrical receptacle
8 629, and 629 is then connected to the circular
9 substrate here, correct?

10 A. I would assume so, but I don't know
11 that to be the fact -- a fact.

12 Q. If that's the case, is it your
13 opinion that slide switch 631 is not
14 electrically coupled to the substrate because
15 there is an intervening component 629?

16 A. It is not electrically coupled in
17 the sense that it is used in claim 13, for
18 example, or in the rest of the specification.

19 Q. Is it electrically coupled in a
20 different sense?

21 A. No, not in my opinion, it's not.
22 Because if -- if you broaden the term
23 electrically connected, Mr. Dorsky -- let's say
24 you're trying to connect A and B, and you
25 introduce between A and B any number of what

1 I'll call intermediate conductors, you strip
2 the term "electrically connected" of all
3 meaning. Because by the definition that you're
4 suggesting, a light in my home is electrically
5 connected to a power plant that is 40 miles
6 away.

7 Q. And you --

8 (Simultaneous speakers.)

9 A. It strips the -- in my opinion, it
10 strips the patent, particularly what the
11 inventors appear to be intending to do, of all
12 meaning.

13 MR. MESSING: Apologies for
14 interrupting. But if we could go
15 off the record for a second, we're
16 having a technical issue.

17 MR. DORSKY: Sure.

18 THE VIDEOGRAPHER: The time
19 is 1:16 p.m. We're now off the
20 record.

21 (Recess from 1:16 p.m. to
22 1:20 p.m.)

23 THE VIDEOGRAPHER: The time
24 is 1:20 p.m. We are now back on
25 the record.

1 BY MR. DORSKY:

2 Q. Dr. Eden, we were just discussing
3 the term "electrically coupled." And I believe
4 you mentioned a scenario where, if there were
5 intervening components, then your house
6 lighting would be electrically coupled to a
7 power plant 40 miles away, I think you said.

8 Did I get that right?

9 A. I was just estimating.

10 Q. Of course. So, in your opinion,
11 the house light is not electrically coupled to
12 a power plant 40 miles away; is that fair?

13 A. I'm saying that it's not
14 electrically coupled -- the two are not
15 electrically coupled. The light in my home and
16 a nuclear power plant that's 40 miles to the
17 west in the sense that it is used in the
18 patent.

19 If I might draw your attention,
20 Mr. Dorsky, to the '336 patent, column 11, the
21 last two lines in the first few lines of
22 column 12, it says this: The switch 931 can be
23 substantially the same as the example switches
24 discussed above. For instance, the switch 931
25 can have one or more coupling features, and it

1 is --

2 I'm breaking in the text to say
3 that this is one of the few points in the
4 patent specification that really tell us what
5 the inventors intended by this term "coupling
6 feature."

7 And in parenthesis it says, ergo,
8 terminal points that are to be used to couple
9 to one or more electrical conductors of one or
10 more electrical cables 927.

11 So, Mr. Dorsky, a POSITA will look
12 at that and recognize that what is being
13 referred to is a standard electrical -- when
14 the term "coupling" is used, a standard
15 electrical connection -- that I talk about in
16 my report, my declaration -- is being referred
17 to here. And I'm -- I submit to you that that
18 direct physical connection is the only
19 interpretation that makes sense of claim
20 element 1D, a switch coupled to the electrical
21 cable. It's the only sense in which the term
22 "coupling feature disposed on the body wherein
23 the at least first coupling feature is
24 configured to electrically couple." That's
25 claim element 13B. That's the only sense in

1 which that claim language in the specification
2 makes any sense.

3 So, for example -- I'm sorry?

4 Q. I'm sorry. I thought you were
5 finished. You can continue.

6 A. I won't -- I promise I won't take
7 much longer.

8 But by the interpretation that
9 you're suggesting that there can be between A
10 and B, that I intend to couple, in the language
11 of the patent and its claims, by which to
12 couple two -- two things, such as in claim 1D,
13 a switch coupled to the electrical cable. By
14 the interpretation you're suggesting, between
15 the switch and the cable, I could have the
16 switch out here and have wire from the cable
17 and wire back.

18 And perhaps that's possible. But I
19 think the language intends to have the switch
20 in the cable, on the cable. That's the
21 language that's used in the specification. And
22 claim 13 doesn't make any sense at all by the
23 interpretation that you're suggesting, in my
24 opinion.

25 I'm done.

1 Q. Just to be clear, limitation 1D
2 does not include the term "electrically
3 coupled," correct?

4 A. That's true. What adjective would
5 you like to insert?

6 Q. I'm not proposing to insert any
7 adjective. I just want to clarify that claim
8 element 1D says a switch coupled to the
9 electrical cable, not a switch electrically
10 coupled to the electrical cable, correct?

11 A. The word -- I'll say correct to
12 only this statement: That it does not have
13 a -- the language just simply says a switch
14 coupled to the electrical cable. But
15 electrically coupled is the only interpretation
16 that makes any sense in view of the
17 specification, which is much more specific.

18 Q. Do you believe there to be any
19 difference between a physical coupling and an
20 electrical coupling?

21 A. I'm just saying that if you -- if
22 you view coupling as mechanical in element 1 --
23 is that D? I guess that's D -- then you're
24 viewing something like maybe taking a clamp and
25 clamping the switch onto the outer part of the

1 cable, which would accomplish nothing.

2 Q. And that's, again, your
3 interpretation of the claims you applied in
4 your declaration, correct?

5 A. That's what the specification says,
6 Mr. Dorsky.

7 Q. You spoke of things that aren't in
8 the specification, such as the clamp. I just
9 want to make sure I understand. The
10 interpretation you're discussing is the
11 interpretation you applied in your declaration,
12 correct?

13 A. Mr. Dorsky, what I'm trying to do
14 is, as any other POSITA might do, to read this,
15 this patent and when it says -- I'm trying to
16 find the language in the specification about
17 installing a switch in a cable. It's pretty
18 specific. And so I interpret that as any
19 POSITA would do.

20 (Simultaneous speakers.)

21 A. So there must be an electrical
22 connection, and that means that the cable must
23 be broken electrically, it must be interrupted,
24 and -- yeah. So, for example, let me draw your
25 attention, if I might, to column 9, line 64,

1 referring to switch 631. It says, as mentioned
2 above, the switch 631 of Figure 6A through 6C
3 is a slide switch. The switch 631 has a body
4 671 and a number of coupling features 672.

5 And here we have that parenthetical
6 information. In (in this case, pins) disposed
7 on the bottom of the body 671 that allow the
8 switch 631 to become electrically coupled to an
9 electrical conductor -- connector 629.

10 So even though the adverb
11 "electrically" is missing from claim 1D, it is
12 clear to anyone skilled in the art that an
13 electrical connection is what the inventors
14 wish for us to do.

15 Q. And while we stay on that same
16 passage -- because I think you ended that
17 sentence before it ends in the specification --
18 it states that, jumping in from where you were
19 reading, that allows switch 631 to become
20 electrically coupled to an electrical connector
21 629 on the substrate 625 (and therefore also to
22 one or more of the other components 663 mounted
23 on the substrate 625, such as the controller as
24 described above.)

25 Do you see that?

1 A. I do see that language.

2 Q. So this is describing the switch
3 631 as also being electrically coupled to other
4 components it is not physically touching,
5 correct?

6 A. Physically touching what?

7 Q. I'll repeat the question. This
8 passage is describing switch 631 as also being
9 electrically coupled to one or more other
10 components 663 that switch 631 is not
11 physically touching itself, correct?

12 A. It seems to suggest that.

13 Q. So electrically coupled here does
14 not require a direct physical connection,
15 correct?

16 A. Yes. But it also does not
17 contradict my point that in the claims, when
18 it's saying a switch coupled to the electrical
19 cable, it's not concerned with anything else
20 that might exist in the luminaire, nothing,
21 except that switch and the electrical cable.

22 So you cannot use the language you
23 just read, in my opinion, to now insert
24 multiple things between the switch and the
25 cable, for example, or in claim 13 to insert

1 something between the switch and a cable.

2 Q. So a person of ordinary skill would
3 ignore this passage from column 9, line 65, to
4 column 10, line 4, when reading claim 13 and
5 the term "electrically coupled"?

6 A. No, sir. Au contraire. I think a
7 POSITA would be following the language because
8 it concerns itself first with the electrical
9 connection of two items, column A and B, it can
10 be a switch, cable. And when it says I want
11 you to electrically couple that switch to a
12 cable, we must do so.

13 Now, later, it says, by virtue of
14 the fact that you've electrically connected
15 those two, it seems to be suggesting that
16 you've connected the switch to other things.
17 And I'm fine with that, if that's the
18 interpretation. I'm not a lawyer. But I'm
19 saying as a POSITA sitting here today, it's
20 very clear in saying, I want you to connect
21 that switch to the cable.

22 Q. Going back to the passage you
23 referenced earlier, column 11, line 67,
24 beginning with for instance.

25 A. I'm sorry. Where are you -- what

1 column again?

2 Q. Column 11, line 67. And this is
3 what you referred to earlier concerning the
4 terminal points, correct?

5 A. Yes. Correct.

6 Q. And the sentence begins with, for
7 instance, correct?

8 A. Yes. It's the last sentence --
9 beginning of the last sentence in column 11.

10 Q. So the words "for instance" are
11 describing an example, right?

12 A. In line 61, it does refer to the
13 example switch, if that's what you mean by your
14 question.

15 Q. I'm referring to line 67 that
16 begins with the words "for instance."

17 A. Right. But your last question to
18 me said something about an example.

19 Q. Well, I'm asking to you, do you
20 understand the words "for instance" as used
21 here to be stating that this is an example of
22 an electrical coupling?

23 A. Yes. And that's why I went back to
24 61, line 61 of column 11, because that has the
25 words "the example switch is located on the

1 housing."

2 Q. And in column 12, line 1, going on
3 to line 2 with the parentheses, where it refers
4 to two terminal points as being a coupling
5 feature, it uses the abbreviation; e.g.
6 terminal points, correct?

7 A. Yeah. Ergo.

8 Q. So you agree that terminal points
9 aren't the only coupling feature that can be
10 used?

11 A. No. The term "ergo" means "that's
12 what I mean by coupling feature."

13 Q. So you think "e.g." as used in this
14 parenthetical limits coupling features to only
15 terminal points; is that correct?

16 A. I'm sorry, Mr. Dorsky. I didn't
17 say that. And if I could go back to my report,
18 because I think -- I thought that's what this
19 meeting was for today, to talk about my report,
20 but -- so I'd like to take it back to that,
21 because it mentions a number of examples of
22 what a coupling feature might be. I think
23 "terminal point" is one, but it's a direct --
24 it's a means, a mechanism for making a direct
25 electrical connection between two conductors.

1 And in my report, I have a discussion of that.
2 I'm confident that you remember that
3 discussion.

4 Q. In column 12, line 61, do you see
5 where it says, an opposing end of the
6 electrical cable 1027 is coupled to one or more
7 of those electrical components disposed in the
8 junction box 1090.

9 Do you see that?

10 A. I do see that.

11 Q. And then the next sentence says, in
12 this way, the electrical cable 1027
13 electrically couples one or more electrical
14 components in the junction box 1090 with one or
15 more electrical components in or on the housing
16 1005.

17 Do you see that?

18 A. I do see that.

19 Q. You understand this passage to
20 require a direct physical connection between
21 the cable and every component in the junction
22 box described here and every component
23 described in the housing?

24 A. No. I think your question is
25 saying something quite different from what this

1 text is saying, Mr. Dorsky. It just says that
2 one end of the cable -- call it an opposing
3 end -- of the electrical cable is coupled -- or
4 I would say electrically connected -- to one or
5 more of those electrical components. It can be
6 to just one.

7 Q. It can be to many, correct?

8 A. It could be what? I'm sorry?

9 Q. It could be electrically coupled to
10 many components in a junction box according
11 to --

12 (Simultaneous speakers.)

13 A. It can be. But it can be to one.
14 And that is its sole function.

15 Q. And under your interpretation --

16 (Simultaneous speakers.)

17 A. Oh. I thought that's what we were
18 doing here today, is asking my interpretation.

19 Q. Yes. And under your
20 interpretation, if the electrical cable is
21 coupled to many components in the junction box,
22 every one of those components must physically
23 couple to the cable?

24 A. Yes, it is. And I think that's
25 what the language says. It says you have the

1 option of connecting an opposing end -- this is
2 starting at line 61. An opposing end of the
3 electrical cable 1027 is coupled to one or more
4 of those electrical components disposed in the
5 junction box 1090. There might be some reasons
6 that particular circuit designs would call for
7 taking the connection from the cable -- because
8 the cable, you will recall, has more than power
9 capability -- the transferral of power,
10 Mr. Dorsky. There can be communication
11 capability, as I recall, somewhere in the
12 specification.

13 So there might be a reason that you
14 connect to one or more electrical components
15 disposed in the junction box 1090. And then it
16 just -- the next sentence just repeats the same
17 language. It's almost a duplicate of the
18 preceding sentence. So if you couple one or
19 more, they're electrically coupled to one or
20 more.

21 Q. So, for example, if, in the
22 junction box, there's a circuit board on which
23 the switch is located and various other
24 electronic components are located, if the cable
25 directly couples to the circuit board on which

1 the switch and these other components are
2 mounted, would you disagree that the switch is
3 electrically coupled to the cable?

4 MR. MESSING: Object to form.

5 A. Yes. I would disagree with that --
6 with that presumption in the sense that it is
7 used in this patent. We just looked at the
8 language of claim 1, element D, and claim 13,
9 element B, that are calling for a direct
10 connection if we're to call that electrically
11 coupling.

12 Q. And so in that same sense, if you
13 had a switch located along the cable -- not in
14 a junction box, so we're talking, like,
15 Figure 9A and B, for example. If the switch is
16 inside a casing and the switch is connected to
17 a circuit board where the cable attaches to
18 that circuit board, that is not an electrically
19 coupled switch to the cable, correct?

20 A. That is correct. Let me -- perhaps
21 maybe this would be helpful, Mr. Dorsky.
22 Earlier, we were talking about the electrical
23 diagrams shown in the '336 patent. Let me take
24 you back, if I might, to Figure 4.

25 Q. Before you take me back to

1 Figure 4, I just want to be clear. In order to
2 know if the switch is electrically coupled with
3 a cable, if it's inside a casing, for example,
4 you would have to open the casing, under your
5 interpretation, to see if it's directly
6 electrically coupled, correct?

7 MR. MESSING: Objection to
8 form.

9 A. I'm not sure you'd have to open the
10 case. You're presuming something about how a
11 test would be done. I'm simply saying in the
12 context of the specification language and in
13 the claim -- the specification and the claim
14 language calls for a direct electrical
15 connection.

16 Q. I understand. My question is: If
17 you were looking at a switch inside a casing
18 along a cable, you don't know whether that
19 switch is directly physically coupled to the
20 cable or if the switch is on, say, a circuit
21 board and the circuit board is coupled to the
22 cable. You would have to open up the casing to
23 determine, under your interpretation, whether
24 the switch is electrically coupled to the cable
25 as recited in claim 13, correct?

1 MR. MESSING: Objection to
2 form.

3 A. That's what I would call a compound
4 question. If you say there is a switch that is
5 coupled to a cable in the sense of the '336
6 patent, then that would be obvious.

7 Q. That wasn't my question. My
8 question is: If you had a switch in a -- you
9 know, let's say, a plastic casing coupled --
10 you know, a plastic casing along a cable that
11 had a switch on it, but no one has told you
12 whether that switch is directly connected to
13 the electrical cable or whether there's
14 intervening components within that casing
15 between the switch and the cable, such as a
16 circuit board, you would have to know what's
17 inside that casing in order to determine
18 whether the switch is electrically coupled to
19 the cable as recited in claim 13, correct?

20 MR. MESSING: Objection to
21 form.

22 A. No, I'm not going to say that's
23 correct at all. I'm not going to agree to
24 that.

25 (Simultaneous speakers.)

1 A. In the sentence -- your question
2 was very lengthy. But you used the term
3 "classic," and I don't know what you mean by
4 that. What is the meaning of that term?

5 Q. I didn't use the term "classic." I
6 can --

7 A. I thought I heard the word
8 "classic" in your sentence. We can refer to
9 the reporter.

10 Q. I used the word "plastic casing" or
11 "plastic case."

12 A. Maybe I misheard you.

13 Q. Why don't I re-read this again,
14 because I want to understand your understanding
15 of "electrically coupled."

16 A. May I ask the reporter to read back
17 your question?

18 MR. DORSKY: Sure. And,
19 Ms. Duckett, if you could read the
20 question that starts with "that
21 wasn't my question, my question
22 is."

23 (The court reporter read the
24 requested portion.)

25 MR. MESSING: Same objection.

1 A. So is there a question pending,
2 Mr. Dorsky?

3 Q. Yes. It's the question that the
4 court reporter just read.

5 A. Okay. Well, that's a compound
6 question. First of all, I heard the word
7 "plastic," and it sounded like "classic" to me.
8 I'm sorry about that.

9 But can you break that down into
10 several different questions, because it's a
11 rather lengthy one?

12 Q. Okay. Let's talk about a scenario
13 where there's a switch located along an
14 electrical cable. Okay? Do you understand
15 that --

16 A. Absolutely. So what was the
17 plastic casing that appeared in your question?
18 I don't get that.

19 Q. Let's say the switch along the
20 cable is located inside a plastic casing to
21 protect the switch.

22 A. Okay.

23 Q. Now, that plastic casing is along
24 the cable. Without opening up that plastic
25 casing, you wouldn't know whether the switch is

1 directly physically coupled to the electrical
2 cable or if there's an intervening component
3 between the switch and the cable inside that
4 casing, like a circuit board, correct?

5 MR. MESSING: Objection to
6 form.

7 A. I guess my -- I mean, this is a
8 hypothetical situation. Why would I wish to do
9 that, Mr. Dorsky?

10 Q. To determine if it practices
11 claim 13, for example.

12 A. Okay. Well, then I would just take
13 the plastic casing off.

14 Q. And if you couldn't remove the
15 casing, you wouldn't know if it practiced claim
16 13, correct, under you --

17 A. I guarantee I can remove the
18 plastic casing.

19 Q. But you would have to remove the
20 plastic casing to make that determination; is
21 that fair?

22 A. Not necessarily. I might be able
23 to cut the cable and get -- retain the -- gain
24 the same information.

25 Q. Without physically touching this

1 product, you would not be able to make that
2 determination, correct, just by looking at it
3 without touching it?

4 MR. MESSING: Object to form.

5 A. I don't know. It's a hypothetical
6 situation, and I don't know that it's -- that
7 your conclusion is correct. Let me put it that
8 way.

9 Q. But if there was an intervening
10 circuit board between the switch and the cable
11 within that casing, that would not practice
12 claim 13 in your opinion, correct?

13 A. In my opinion -- and I think that a
14 POSITA would reach the same conclusion -- the
15 way that the claim language reads -- and I've
16 stated this several times. Let me do so one
17 last time. The way that the claim language
18 reads, that it calls for a direct electrical
19 connection between -- in the case of claim 1D,
20 claim element 1D, a switch coupled to the
21 electrical cable. Not a switch electrically
22 coupled to a circuit board, an inductor, a
23 resistor, or any other -- an op amp, any other
24 electrical component.

25 Q. And just to be clear, I'm talking

1 about claim 13B limitation, not 1.

2 A. Oh, I was talking about both
3 because that same language -- the language is
4 the same.

5 Q. So you're interpreting those
6 limitations to have the same requirement, just
7 to be clear for the record?

8 A. I'm just -- I'm not saying this --
9 I don't know what you mean by "requirement."
10 I'm just saying the language is the same. A
11 switch coupled to the electrical cable.

12 Q. Let's talk in context of claim 13.
13 And I just want to be really clear here. In
14 the scenario that I discussed earlier, if the
15 switch is coupled to a circuit board and the
16 circuit board is coupled to the cable within
17 that casing, that would not meet the limitation
18 13B that requires the coupling feature be
19 electrically coupled to the cable; is that
20 correct?

21 MR. MESSING: Objection to
22 form.

23 A. The language of 13B indicates that
24 the switch has a coupling feature which is to
25 be used to electrically couple to an electrical

1 cable of the luminaire. And it has -- in this
2 case it has the adverb "electrically."

3 It doesn't say coupled to a circuit
4 board. It doesn't say electrically coupled to
5 an inductor or resistor or an op amp, such as
6 what we have in Figure 4. So it seems to me
7 that what you're suggesting strips the phrase
8 "electrically coupled" as used in the patent of
9 all of its meaning. That is my -- that is my
10 position. Because then you -- if you're --
11 you're stripping -- pulling the ground out from
12 under a POSITA who comes to a patent, such as
13 the '336, and expects to have a clear
14 explanation of what the inventors wish for us
15 to do, Mr. Dorsky.

16 So your desire to put in other
17 electrical components, such as a circuit board
18 or whatever you have in mind, between these
19 two, in my opinion, does violence to the
20 wording of the patent.

21 Q. So --

22 A. I don't know how to be clearer than
23 that.

24 Q. So just put simply, in your
25 opinion, claim 13B does not allow for

1 intervening components between the switch and
2 the electrical cable; is that fair?

3 A. That's a fair way of saying it.

4 Q. In other words you would say, in
5 order to determine if a switch met claim 13,
6 you would have to know whether there were
7 intervening components between the switch and
8 the cable; is that fair?

9 A. I think, as with any patent, if
10 you're looking at a particular product, one
11 must look at how the product is constructed and
12 compare it to the claim language -- I'm not a
13 lawyer, but that's my understanding -- and see
14 if there's intervening components.

15 Let me -- I attempted to do this
16 earlier. Let me do so now. Can I take you to
17 Figure 4 of the '336 patent. If I could direct
18 your attention to it, and let me suggest,
19 humbly, that what you're suggesting says that
20 all of the components that are shown in this
21 circuit diagram, which include MOSFET switches,
22 that's column 22 at lower left -- right and in
23 your sense of -- or your proposed
24 interpretation of electrically coupled, every
25 single component which is -- includes 60 LEDs

1 and at least one -- two MOSFETs, half dozen
2 resistors, perhaps, that they're all
3 electrically coupled to one another.

4 Q. And you don't believe they are,
5 correct?

6 A. Not in the sense of the '336 and
7 the way that that language is used, absolutely
8 not.

9 Now, in the sense that I would do
10 in a classroom -- I teach courses on analog
11 circuit design. And this Figure 4 falls well
12 within the scope of that course. All of these
13 black lines indicate electrical connections.

14 But that is not the way that the
15 '336 patent is reading. It says, I have this
16 element -- it's a switch; it's a cable; it's
17 something -- I want you to electrically connect
18 them. There's no hint anywhere -- and I defy
19 anyone to show me any evidence in the
20 specification that suggests, oh, just connect
21 it to anything, as long as you get to element B
22 eventually in a circuit, that's good enough.

23 MR. DORSKY: Okay. Well, why
24 don't we break for lunch. I
25 believe it's around 1:00 p.m. your

1 time. Why don't we go off the
2 record and then we can discuss the
3 logistics of coming back on.

4 THE VIDEOGRAPHER: The time
5 is 1:55 p.m. We are now off the
6 record.

7 (Lunch recess from 1:55 p.m.
8 to 2:51 p.m.)

9 BY MR. DORSKY:

10 Q. Welcome back, Dr. Eden.

11 A. Thank you.

12 Q. Now, during that lunch break, did
13 you discuss the substance of your testimony
14 with your counsel at all?

15 A. No, not really. I had expressed to
16 counsel that I thought I might have given you
17 the wrong impression in some of the testimony
18 before lunch, but no. Just that comment,
19 that's all.

20 Q. Okay. Did your counsel direct you
21 to provide any testimony in the remainder of
22 the deposition?

23 A. No, none whatsoever.

24 Q. All right. Let me turn to another
25 concept. Remotely located CCT switch -- and by

1 remotely located, I mean located remotely from
2 the device housing as used in claim 1 --
3 communicate wirelessly with components within
4 the luminaire housing.

5 A. Are you asking me a question?

6 Q. Yes, and I could repeat the
7 question if you'd like.

8 A. Please do.

9 Q. Sure. Could a remotely located CCT
10 switch communicate wirelessly with components
11 within a luminaire housing?

12 A. Are you asking me about a portion
13 of my report?

14 Q. I'm just asking about technology
15 relating to your report.

16 A. Because it sounds like you're
17 describing something similar to what -- the
18 reference Halliwell describes. Is that what
19 you're referring to in my report?

20 Q. I'm not referring to any particular
21 reference. But I guess I could ask: Does
22 Halliwell describe a remotely located CCT
23 switch communicating wirelessly with components
24 within a luminaire housing?

25 A. Yes, I believe he does.

1 Q. And that arrangement with the
2 remotely located CCT switch needs to
3 communicate with a controller of some sort
4 within the luminaire housing?

5 A. I don't recall the exact
6 configuration, but simply Halliwell opens the
7 possibility of hard-wiring a remote switch or
8 communicating with that remote switch in a
9 wireless fashion.

10 Q. So is it fair to say a person of
11 ordinary skill would understand that a remote
12 CCT switch can communicate wirelessly with a
13 luminaire housing to control the CCT?

14 A. Yes. I believe so.

15 Q. Why don't we turn to one of the
16 references that you discuss, and I will drop
17 this in the chat, as well. This is
18 Exhibit 1013. And you should have that in your
19 binder in front of you, I believe.

20 (Exhibit 1013 was marked for
21 identification.)

22 A. Yes, I do. Thank you.

23 Q. Let me know when you have that in
24 front of you.

25 A. I found it. You're referring to

1 the patent by Reiff, et al.?

2 Q. Yes. And in your declaration, you
3 rely on Figure 2 of that embodiment of Reiff,
4 correct?

5 A. I'm not sure that I would agree
6 that I rely on it, but I certainly refer to it
7 in my report. That is certainly correct.

8 Q. In your declaration, for example,
9 on pages 142 and 143, you point to control box
10 64 as disclosing the CCT switch of claim 13,
11 correct?

12 A. You're referring to a particular --
13 I'm on page 142 and 143. What statement are
14 you referring to?

15 Q. If we could go to the page 142, you
16 have an image of Figure 2 of Reiff with control
17 box 64 colored yellow, correct?

18 A. Yes. That's at the top of page
19 142, and that statement is correct.

20 Q. Okay. And that control box is what
21 you are pointing to for disclosing the switch
22 recited in claim 13; is that correct?

23 A. Well, as I'm sure you're aware, 66
24 is actually referred to as the switch. 64 is
25 the control box.

1 Q. So what are you relying on as the
2 switch in claim 13?

3 A. Well, let's read what it says. So,
4 for example, on page 142, paragraph 341, I
5 mention that, as discussed above, the quote,
6 control box -- and I have in parentheses
7 includes A, which is implied -- switch 66,
8 which is linearly slideable in slot 68. So
9 this is a type of switch that you could call a
10 slide switch. Sometimes there are other terms
11 given to that type of switch.

12 Is that helpful?

13 Q. You've highlighted the whole
14 control box, not just element 66 in these
15 figures, correct?

16 A. Yes. And as I said, I read just a
17 moment ago at the top of 142, it says, the
18 control box, including the switch, has been
19 highlighted in yellow in Figure 2 below. So
20 the switch is inside.

21 Q. And according to that same
22 paragraph, 341, the last sentence at the bottom
23 of 142, you state, the portion of the control
24 box 64 that performs a body for the switch has
25 been highlighted in yellow in reproduction of

1 Figure 2 below. Correct?

2 A. That's what it says. That
3 statement was an oversight. I missed that in
4 the review of the declaration.

5 But if I can draw your attention to
6 page 144, the first full sentence on page 144
7 says the control box 64, with switch 66, is
8 highlighted in yellow. So I refer to the
9 control box three times, and twice, I get it
10 right. But I apologize for the oversight on
11 that one sentence.

12 Q. So just so I'm clear, the portion
13 of the control box -- going back to paragraph
14 341, the portion of the control box 64
15 highlighted in yellow is not the switch body,
16 according to your testimony today?

17 A. My testimony today is that it could
18 be the body of the switch. It depends on the
19 nature of the switch and the way it was
20 manufactured. And there are switches that have
21 a form factor as we see in Figure 2. But I --
22 I'm reluctant to constrain us to that. That's
23 why I missed this particular statement.

24 I think I intended that -- I know a
25 number of switches. In fact, a very simple

1 switch that we're all familiar with is a
2 simple -- an electrical panel, just a fuse,
3 basically. The elements into a standard
4 electrical panel are shaped roughly like that.
5 So there are slide switches that have that
6 form.

7 But that was not my intent to
8 associate the body with the exterior surface of
9 the control box. So as I said, the first
10 statement that I make in reference to Figure 2
11 is absolutely correct, and the last statement
12 is absolutely correct. But that statement that
13 you refer to should probably have been written
14 differently.

15 Q. So I just want to be clear. The
16 last sentence of paragraph 341, before
17 Figure 2, is not correct; is that right?

18 A. No. I'm saying it could be
19 correct. It depends on the -- on the
20 particular switch product that is chosen. And
21 there are switches where that would be what the
22 body looks like, which is essentially
23 rectangular or cubic.

24 Q. I'm not asking about switches you
25 might choose. I'm asking what's expressly

1 disclosed in Reiff itself. Is it your
2 testimony that the portion of the control box
3 64 that forms the body is what's highlighted in
4 yellow in paragraph 341?

5 A. My testimony is that the correct --
6 the most accurate way to put it is the way that
7 I put it at the top of page 142 where it says,
8 the control box, including the switch, has been
9 highlighted in yellow in Figure 2 below. That
10 is my testimony.

11 Q. And that statement is in the
12 section relating to the claim 13 preamble.

13 I am asking about the section
14 relating to claim element 13A, quote, a body.
15 And in that section, you state the portion of
16 control box 64 that forms the body of the
17 switch has been highlighted in yellow in
18 reproduction of Figure 2 below.

19 Do you still stand by that
20 statement?

21 A. I'm saying that if -- that it would
22 be more accurate to say that the body of the
23 switch could be the shape of the enclosure, but
24 it might not be.

25 Q. Okay. The switch of the control

1 box 64 has three positions, according to Reiff,
2 correct?

3 A. It has multiple positions. I don't
4 recall whether it's three or four off the top
5 of my head.

6 Q. Perhaps we could go to -- staying
7 in Reiff -- column 4, line 28 to 32.

8 A. The function of the switch that
9 Reiff has chosen is described in detail in
10 column 4, beginning at line 44.

11 Q. If we go back up a little
12 higher than that, at line 28 of column 4 where
13 it describes three positions of the switch,
14 right: off, fluorescent light, and colored LED
15 light. Correct?

16 A. Yes. Those are the functions that
17 are associated with the three positions.

18 Q. And it states here in this passage
19 that LED light source may be colored, correct?

20 A. Yes, he uses the word colored in
21 quotations in line 32.

22 Q. And when Reiff talks about color,
23 it is referring to, for example, red or white
24 based on the color of an outer shell or
25 substance coating the LED, right?

1 A. Right. That's the term that the
2 inventors have chosen to represent the spectrum
3 emitted by the LED lighting.

4 Q. Now switch 66 of the control box 64
5 also rotates to control the intensity of the
6 light source, correct?

7 A. Yes. I believe that is correct.

8 Q. What does "intensity" mean in this
9 context?

10 A. Right. You're referring to
11 column 4, lines 56 through 59.

12 Q. That's one passage. I believe it
13 is also referenced in column 5, lines 21 to 23,
14 where it states, control box 64 includes switch
15 66 which is rotatable to control the intensity
16 of light source 28.

17 A. Right. Column 4 refers to it as a
18 membrane switch with multiple buttons. And
19 such switches do exist. We typically refer to
20 it as a button switch.

21 So your question had to do with
22 intensity?

23 Q. Yes. So let me ask specifically in
24 column 5, lines 21 to 23.

25 A. Column 5.

1 Q. Lines 21 to 23 of column 5, that
2 sentence.

3 What does "intensity" mean in that
4 sentence?

5 A. Well, intensity of the light source
6 means that intensity is a measure of the power
7 of a light source that is radiated per unit
8 area of the light source. So it is usually
9 expressed in watts per square centimeter or
10 watts per square meter. So you can think of it
11 as the number of photons that are emitted per
12 second per square centimeter of surface area.

13 Q. Would that be similar to
14 brightness?

15 A. It could be. Although light is
16 usually -- has an additional factor that
17 considers the amount of --

18 (Court reporter interruption;
19 technical difficulties.)

20 (Off-the-record discussion.)

21 THE VIDEOGRAPHER: The time
22 is now 3:13, and we are back on the
23 record.

24 BY MR. DORSKY:

25 Q. And, Dr. Eden, the word "intensity"

1 in column 5, lines 21 to 23, would intensity
2 there be similar to brightness?

3 A. Intensity, as we were talking about
4 just a moment ago, is a representation of the
5 amount of power that is radiated from every
6 square centimeter of the surface of any light
7 source. Brightness introduces an additional
8 aspect of light emission, and that is the
9 direct -- the directionality. And so usually,
10 brightness includes a term for the solid angle
11 into which light is emitted. So, for example,
12 from an LED, depending on the structure of the
13 LED, the light might be more sharply focused,
14 more directional, or in other LEDs, the light
15 might be emitted into 180 degrees, for example.

16 Q. Would changing the intensity of the
17 light source change the CCT of emitted light?

18 A. It can, yes.

19 Q. Light -- oh, sorry.

20 A. I'm so sorry because I delayed the
21 last part of my response. I just wanted to
22 add, not necessarily, but it can.

23 Q. So, in Reiff, the switch 66
24 includes two different types of actuations,
25 light source selection and intensity selection,

1 correct?

2 A. Yes, it does offer that
3 flexibility.

4 Q. Now, Reiff discusses, in the
5 background section, applications of its
6 disclosed light industrial and military
7 settings, correct?

8 A. Yes, he does mention several
9 possible applications.

10 Q. And Reiff also talks about use of
11 different-colored lights depending on a
12 particular situation, correct?

13 A. Yes. He talks about several
14 scenarios, one of which is illuminating a
15 command center, as I recall. I'll review this
16 quickly. But that's my recollection.

17 Q. He talks about using red or blue
18 light to avoid enemy detection, correct?

19 A. Yes. He does mention that.

20 Q. And he talks about using UV light
21 for curing applications, correct?

22 A. Well, but he also talks about
23 illuminating a large tent, as, for example, a
24 command -- this is in column 1, around line 46.
25 He's talking about specialized lighting of the

1 past. I assume by that he's referring to prior
2 art. These specialized lights may not be large
3 enough to illuminate a large tent as for, ergo,
4 command center or curing room.

5 Q. Now, the term "correlated color
6 temperature" does not appear in Reiff, correct?

7 A. That is correct.

8 Q. And the word "temperature" on its
9 own does not appear in Reiff, correct?

10 A. No, he refers to -- you are
11 correct. He refers to light in the way that he
12 describes in column 2, line 19. Each of the
13 light sources emits a different color of light.

14 Q. And just to be clear, the word --
15 or the term "CCT" does not appear in Reiff,
16 correct?

17 A. That is true. From the perspective
18 of a POSITA such as myself, that's not
19 necessary, because I know about CCT. It's not
20 necessary that the inventor know about it.

21 Q. But to be clear, the word "CCT"
22 does not appear in Reiff, correct?

23 A. True. He refers to it as "color."

24 Q. Now, Reiff, one of the light
25 sources disclosed in Reiff is a fluorescent

1 light source, correct?

2 A. Yes. That is true.

3 Q. Reiff does not state what the CCT
4 value, what the light emitted from the
5 fluorescent light source might be, correct?

6 A. I don't recall him mentioning --
7 well, we've already agreed that he doesn't
8 mention CCT, so it wouldn't be surprising that
9 he's not mentioned the CCT and the fluorescent
10 lamp.

11 Q. And Reiff also discloses an LED
12 light source, correct?

13 A. Yes. He actually describes a
14 couple of LED light sources.

15 Q. And Reiff does not state what the
16 CCT value of the LED light sources might be, as
17 well, correct?

18 A. No, he just calls them, for
19 example, in column 4, line 31, he is describing
20 the selection of light sources. He says, then,
21 either a regular white light, fluorescent light
22 source can be selected or a, quote, colored,
23 end of quote, LED light source can be selected.

24 Q. And Reiff doesn't provide the CCT
25 values of the light outputted by those sources,

1 correct?

2 A. He does not.

3 Q. So is it fair to say Reiff isn't
4 particularly concerned about the CCT values of
5 the outputted light?

6 A. No, I'm not sure we can conclude
7 that, because he's interested in lighting, for
8 example, a command center. I think it would
9 probably be more accurate to say that he might
10 not be familiar with a CCT. But he would
11 certainly be concerned with producing light of
12 a color -- a CCT value that would be necessary
13 for his application.

14 Q. Now, turning back to control box 64
15 in Figure 2, other than switch 66, Reiff
16 doesn't describe what component may be inside
17 control box 64, correct?

18 A. No, he does not, except aside from
19 saying that a switch of many types -- how does
20 he phrase that? -- might be acceptable.

21 Q. And what are you referring to?

22 A. I will get back to you in just a
23 moment.

24 Q. But there could be other components
25 which -- within control box 64, correct.

1 A. It's possible. It says, for
2 example, in column 4, he says that in line
3 36 -- referring to Figure 9, control box 64 may
4 include light source, selector switch 70 and
5 dimmer knob 72 rotatable to control the
6 brightness of the selected light source 28.

7 Back in line 28, he says, lights 20
8 may be provided with control box 64, which
9 includes a switch of any suitable type for
10 turning the light on and off and selecting
11 between different light sources 28.

12 Q. Reiff does not describe how switch
13 66 interfaces with cable 56 inside control box
14 64, right?

15 A. Correct. But from my perspective,
16 that's not necessary.

17 Q. Now, does Figure 2 show the -- at
18 least one coupling feature recited in claim 13?

19 A. No. We're simply told that within
20 control box 64 there is a switch which can be
21 of virtually any type, as -- as the patent
22 states in column 4, line 29. So that
23 immediately tells me that switches, all of
24 which have coupling features -- I believe, is
25 the correct term -- are present.

1 Q. So why do you believe that the
2 authors of Reiff had possession of the concept
3 of a switch that has a coupling feature that
4 electrically couples with an electrical cable
5 based on this disclosure?

6 A. Because every switch, every
7 electrical switch has a coupling feature.

8 Q. So every electrical switch
9 predating February 2016 has a coupling feature
10 that electrically couples to an electrical
11 cable?

12 A. Yes. It wouldn't be a switch if it
13 doesn't have the ability to couple to other
14 elements in an electrical circuit. The circuit
15 would not function.

16 Q. And is it your opinion that every
17 switch prior to 2016 also must have a body?

18 A. Yes.

19 Q. Now, a wireless switch would not
20 require a coupling feature that couples with a
21 cable, correct?

22 A. Well, it might. Halliwell, that I
23 mentioned earlier, in its wireless remote
24 switch embodiment, does require a cable that
25 connects to the -- to the luminaire for power

1 purposes, I believe.

2 Q. But it's possible, at least, to
3 have a wireless switch that does not require a
4 coupling feature that couples to a cable of the
5 luminaire, right?

6 A. I would imagine that it is.

7 Q. Now, Reiff states that control box
8 64 is located along the electrical cord 56,
9 correct?

10 A. That's what Figure 2 shows, yes,
11 that it's inserted into the cord in the -- in a
12 fashion similar to that for Chaimberg and the
13 '336 patent.

14 Q. Now, would it be possible for the
15 switch in Reiff's control box to communicate
16 wirelessly with electronics within the device
17 housing?

18 A. That's a speculative question. I
19 assume many things are possible, but there's no
20 indication of that that I'm aware of in the
21 specification or the claims of Reiff. So
22 introducing wireless features -- I don't know
23 what the legal term would be, but perhaps
24 reading into a specification something that was
25 not intended.

1 Q. Well, Reiff doesn't say one way or
2 the other how the switch communicates with the
3 downstream components in the device housing,
4 correct?

5 A. It doesn't tell us specifically how
6 the wiring is done. But as I said earlier, it
7 need not do that. It simply tells us what the
8 function of the switch is. And we were looking
9 at that a few moments ago.

10 Q. But it would at least be possible
11 for the switch in control box 64 to communicate
12 wirelessly with components within the housing,
13 correct?

14 A. It's possible, but as I said a
15 moment ago, there are many things that are
16 possible when a POSITA looks at Reiff.

17 Q. Now, how do you believe Reiff's
18 switch 66 is electrically coupled to cable 56?

19 A. As a POSITA, I would look at Figure
20 2. And at least one embodiment, I would
21 presume, would be the switch has -- that was
22 chosen. And again, one can choose from a wide
23 variety of switches -- would have terminals,
24 spade lugs, a variety of connections or
25 coupling features, to quote the '336 patent,

1 that would allow me to couple to the conductors
2 that are in cable 56.

3 Q. Is that described in Reiff, or is
4 that based on your interpretation looking at
5 Figure 2?

6 A. I think it's just based on
7 knowledge that is common to a POSITA. You
8 notice, for example, it shows a three-wire
9 power plug 58. So Reiff tells us, for that
10 embodiment, this is a system that he wishes to
11 plug into the wall. It even has the
12 grounding -- ground wire connection. And so I
13 know what's going to be coming through the
14 cable into enclosure 64. And so Reiff tells me
15 that I can choose the switch. And we teach our
16 undergraduates in electrical engineering how to
17 make those connections. We teach our
18 undergraduates how to take the cable out of the
19 enclosure and into this large -- it looks like
20 a Plexiglas cylinder, and how to design the
21 power circuit so as to drive the LED and the
22 fluorescent tube.

23 Q. But that's not described in Reiff,
24 that's something that you know yourself and
25 teach, correct?

1 A. Yes. And all patents rely on
2 information -- background information that is
3 known by a POSITA.

4 Q. Now, the switch within the control
5 box 64 might receive or have current or power
6 from the cable itself, correct?

7 A. I'm sorry. Could you repeat the
8 question, please?

9 Q. The switch 66 within control box 64
10 might receive power from the cable 56?

11 A. Oh, it most definitely does. As I
12 mentioned a moment ago, 58 is a power plug that
13 we put into our wall.

14 Q. Well, it would be possible to
15 include, for example, a battery within control
16 box 64 to power the switch, correct?

17 A. Well, you could, but it would not
18 make sense to do so because you have a power
19 source already provided.

20 Q. But it is possible, right?

21 A. Sure. If you're not interested in
22 economy of building a system, sure, many things
23 are possible. I could attach a solar cell --
24 solar panel to it too.

25 Q. But Reiff isn't particularly

1 concerned with describing what's going on
2 inside that control box, right?

3 A. No. He's not, because it's -- it's
4 routine. It's conventional.

5 Q. Now, would you understand switch 66
6 to include pins, like what we saw, for example,
7 in the DIP switches we looked at earlier?

8 A. Well, perhaps it would be helpful
9 to read again what I read just a few moments
10 ago. In column 4, line 28, it says, lights 20
11 may be provided with control box 64 which
12 includes a switch of any suitable type for
13 turning the light on and off and selecting
14 between different light sources 28. So when
15 educating students in electrical and computer
16 engineering, we provide them with different
17 tools in a toolbox. And one of these are all
18 of the standard components of
19 electrotechnology. A basic set of components
20 is switches.

21 So the answer is that we would pick
22 switches that have terminals. They could have
23 tabs, compression fittings, a wide range of
24 connections that -- in fact, I had mentioned
25 this in 144 in my report. I happened to be

1 turned to that. It says, because the control
2 box 64 is located on the electrical cable 56,
3 it is necessarily electrically connected
4 (quotation marks around the word coupled) to
5 electrical cable 56 and therefore must include
6 at least one coupling feature, end of quote.

7 In other words, both the input and
8 output terminals of the control box and switch
9 must be electrically connected to the cable 56
10 by soldering screw terminals, spade lugs, pins,
11 or a myriad of other connectors or connections
12 that have been developed over the past century.
13 So that's text that I specifically incorporated
14 to answer your question.

15 Q. Here you say, if the control box
16 and switch and cable are not electrically
17 connected, current will not flow and the
18 luminaire will not function, right?

19 A. Yes. And that's correct.

20 Q. But if the switch is a wireless
21 switch, battery powered, the cable can pass
22 through without being electrically connected to
23 the switch, correct?

24 A. No. That's not correct. Because a
25 wireless arrangement will simply activate a

1 switch that will perform the same way that --
2 from an electrical perspective -- that the
3 switch 66 performs in Figure 2. In other
4 words, the wireless only remotely activates
5 very similar circuitry to what we're looking at
6 in Figure 2.

7 Q. And the wireless switch could
8 communicate with a control circuit within the
9 tube housing of Figure 2, right?

10 A. It could interface with the
11 electronics -- all of the electronics that's
12 shown in Figure 2.

13 Q. Now, it's possible that the switch
14 in control box 64, that there are intervening
15 components between the switch and cable 56
16 within that control box, right?

17 A. It's possible that there are
18 intervening components. And I'm glad you
19 brought up the subject, because I mentioned to
20 you that during the break I was concerned that
21 I had given the wrong impression earlier that
22 when -- in the '336 patent and in claim 13 in
23 particular, I don't want to give you or the
24 PTAB the impression that I'm saying that the
25 switch and the cable have to be a direct

1 connection. There can be intervening wire and
2 so forth. There are other possibilities.

3 But to get back to your original
4 question, it's possible that there's sections
5 of wire, there might be a shunt between them,
6 between the cable and the switch.

7 Q. There might be a circuit board
8 between the cable and switch, right?

9 A. It's possible.

10 Q. It's possible for other components
11 to be between the circuit board and the switch
12 within that control box, right?

13 A. It's possible. It's not likely.
14 Whatever -- in order to meet, in my opinion,
15 the requirements of claim 13 of the '336
16 patent, anything intervening between the cable
17 and the switch must be -- have the
18 conductivity -- very high conductivity similar
19 to that of a wire. But is it possible that
20 there are intervening components? I don't know
21 what function they would serve. This is, to
22 use a colloquial expression, a cut-and-dried
23 type of circuit that we see in Figure 2. But
24 if you wish to speculate, it's possible there
25 could be other components. I don't know what

1 function they would serve, but anything is
2 possible.

3 Q. One of the selection options of the
4 switch in Figure 2 is "off," right?

5 And you can look at column 4, lines
6 28 to 32. I think we've looked at that a few
7 times.

8 A. Yes. I believe you're right. I
9 was just looking at that a few moments ago.

10 Q. Off would result in no light
11 emitted from the Figure 2 lighting device,
12 correct?

13 A. Correct. I think you're referring
14 to line 41, where it says push-button stepping
15 switch 122 may be configured to turn light 20
16 on and off, as well as selectively illuminating
17 one row of LEDs 32 at a time.

18 Q. Let me introduce another exhibit.
19 This is also an exhibit you have. This is
20 exhibit previously marked 1012. And I am
21 putting that into chat.

22 (Exhibit 1012 was marked for
23 identification.)

24 BY MR. DORSKY:

25 Q. And please let me know when you

1 have that before you.

2 A. I will, indeed. I found it.

3 You're referring to the '250 patent by

4 Halliwell; is that correct?

5 Q. That's correct. And you provide

6 opinions about this reference in your

7 declaration, correct?

8 A. That's correct. And I mentioned it

9 earlier in our discussions today.

10 Q. Let's first go to the figures of

11 Halliwell. Figures 1A through 2E depict

12 example lighting devices according to the

13 invention disclosed in Halliwell, right?

14 A. Yes. That's correct. There's also

15 Figure 3, which has a box diagram of an

16 embodiment of the invention.

17 Q. I'm just talking about the -- we'll

18 talk about the other figures. I just want to

19 talk about the figures depicting lighting

20 devices.

21 A. Oh, I understand.

22 Q. So Figures 1A through -- all right.

23 I guess, Figure 1 through 2E all depict

24 lighting devices according to Halliwell,

25 correct?

1 A. Yes, that's correct.

2 Q. And each of these figures, 1
3 through 2E, depict a switch 30 -- switch 30
4 that is integrated with the housing or the
5 bulb, depending on what's depicted, correct?

6 A. Yes, I believe that's correct.

7 Q. So I guess Figures 1 and 1A depict
8 a bulb where there is a switch 30 integrated
9 into the bulb body; is that right?

10 A. I believe so. I'm going to have to
11 look at my report to make sure that that's
12 correct or to thumb through the specification.

13 Yes, I see in column 10, for
14 example, of the '250, it says the selection of
15 the operating color temperature may be based at
16 least in part on the status of a switch 30.
17 That's what you're referring to.

18 Q. Well, I'm referring to the figures
19 themselves. So Figure 1, there is a rectangle
20 labeled 30, and Figure 1A, there is a drawing
21 of a switch labeled 30, correct?

22 A. Yes. And that's why I went to the
23 specification so it would tell me what 30 was.

24 Q. Okay. And if you'd like, if you
25 want to reference Figure 4, the switch in

1 Figure 4 is labeled 30, correct?

2 A. Yes.

3 Q. So going back to the figures,
4 Figure 2 also has a switch on the housing
5 labeled 30, correct?

6 A. Yes, I see it in Figure 2A and 2C.

7 Q. And it's also in Figure 2E,
8 correct?

9 A. Yes. You mentioned that a moment
10 ago.

11 Q. So Halliwell doesn't have any
12 figures depicting a lighting device that does
13 not have a switch on the housing, correct?

14 A. No, but they do describe a
15 remote -- he, Halliwell, does describe a remote
16 switch system at some length.

17 Q. And the remote switch --
18 (Simultaneous speakers.)

19 BY MR. DORSKY:

20 Q. And the remote switch is switch 40;
21 is that right, in Figure 5, for example?

22 A. I don't recall what the number is,
23 but I will find out in just a moment.

24 Yes, I see it's in column 17. It's
25 referred to as the remote switch 40.

1 Q. If you turn to your declaration to
2 page 108, let me know when you get there.

3 A. I'm there.

4 Q. Okay. Page 108 for element 1A, you
5 rely on element 24 in Figure 2 as disclosing
6 the housing recited in claim 1 of the '336
7 patent, right?

8 A. Yes. Perhaps it would be helpful
9 to just read that. Halliwell's LED lighting
10 device includes, quote, device housing 24.
11 That, quote, may be configured to house the
12 driver circuitry 19 -- dot, dot, dot -- one or
13 more LED packages 18. That's from column 6.

14 Q. And you have a figure that is a
15 depiction of Figure 2 with device housing 24
16 highlighted yellow, correct?

17 A. Yes. That's correct.

18 Q. And on top of that device housing,
19 mounted on it is switch 30, correct?

20 A. Yes, I believe 30 is the switch.

21 Q. Now turning back to Halliwell,
22 Figure 4. Now, Figure 4 depicts a block
23 diagram of components located in the disclosed
24 LED lamp or lighting device, correct?

25 A. Well, Figure 4 shows the connection

1 of a slide switch having several different
2 positions connected to other parts of an
3 electrical system.

4 Q. And if you go to column 3, line 26
5 of Halliwell, column 3, line 26 to 29, this is
6 describing what Figure 4 is, correct?

7 A. Right. And it essentially says
8 what I said just a moment ago.

9 Q. And it says, Figure 4 is a block
10 diagram of at least some of the electrical
11 components of an LED lamp or LED lighting
12 device in accordance with example embodiments
13 of the present invention, correct?

14 A. Yes. That's what it says.

15 Q. So the components depicted in
16 Figure 4 are part of the lamp or lighting
17 device itself, correct?

18 A. Yes, it says the components of an
19 LED lamp or LED lighting device.

20 Q. If we go back to Figure 4 -- now, I
21 think you mentioned this before, but Figure 4
22 shows a switch 30 at the top of this diagram,
23 correct?

24 A. Yes.

25 Q. And this switch includes position

1 indicators labeled 33A through 33C, correct?

2 And if you'd like to refer to part
3 of the patent, column 11, line 55 may be
4 helpful.

5 A. Yes. The answer to your question a
6 moment ago is yes, 33A, 33B, 33C, 33D are the
7 positions of the switch that are specifically
8 called out in Halliwell.

9 Q. And they are called position
10 indicators in Halliwell, correct?

11 A. I don't recall the name that he
12 uses. Let me take a look at my --

13 Q. And, again, that, to the extent
14 helpful, column 11, lines 57 to 58 state,
15 switch position indicators 33, e.g. 33A, 33B,
16 33C, 33D.

17 A. Yes. And it's also described in
18 column 12 beginning at line 60.

19 Q. Yes. And at line 60, they are
20 called switch position indicator 33, correct?

21 A. We also call them switch -- for
22 example, in column 12, it says, at line 11 --
23 sorry -- line 10, for example, switch positions
24 32A, 32B, and 32C may correspond to set
25 operating color temperature modes. Slightly

1 different language than you used a moment ago.
2 With each position corresponding to a
3 particular set operating color temperature.

4 Q. Well, perhaps it would be helpful
5 to look at, for example, let's say, Figure 2A.
6 If you want to turn briefly -- and feel free to
7 pull apart the patent if you want to stay where
8 you are or anything like that.

9 A. No need. No need. I can just turn
10 to -- you said 2A; is that correct?

11 Q. Yeah, that, I think would help.
12 Okay. Are you at Figure 2A?

13 A. I am, indeed.

14 Q. And this is switch 30 located on
15 the housing of this particular lighting device,
16 correct?

17 A. Well, I see 30 in -- on the back
18 side of the luminaire in 2A.

19 Q. And do you see how there's one,
20 two, three, and auto shown there?

21 A. I do see that, and that's similar
22 to what we see in 4.

23 Q. I think Figure 4A has those, as
24 well, correct?

25 A. Figure 4 has three positions other

1 than auto.

2 Q. And so those numbering, the text,
3 is indicating what the positions are, correct?

4 A. Well, I'm not sure they're
5 indicating. They're showing that they exist.
6 That there is provision that has been made for
7 several different discrete values of the CCT,
8 and then an auto mode that's designed for
9 remote operation.

10 Q. So turning back to Figure 4,
11 elements 33A, B, C, and D are called indicators
12 by Halliwell because they are indicating what
13 happens when you move the switch to that
14 position, correct?

15 A. I'm not sure that I -- that that
16 inference is correct. As I read to you a
17 minute ago, the temperatures -- those settings
18 are called set -- to set operating color, color
19 temperature modes. So the word "indicator" is
20 not used. And it says with each position
21 corresponding to a particular set operating --
22 excuse me -- operating color temperature.

23 Q. Is there any portion of Halliwell
24 that describes 33A through D as something other
25 than an indicator, using the numbering 33A,

1 33B, 33C, or 33D?

2 A. I'm sorry. I thought I just read
3 to you a passage from column 12 that doesn't
4 refer to them as indicators at all, but simply
5 as color temperature modes that denote a
6 particular operating color temperature.

7 Q. Does the number 33 appear in that
8 passage?

9 A. No. But it's simply saying, for
10 example, switch positions 32A, 32B, 32C.

11 Q. And if you go down in that same
12 column 12 to line 60, do you see where it
13 states, a switch indicator 33, e.g. 33A, 33B,
14 33C, 33D, may correspond to each switch
15 position 32A, 32B, 32C, 32D.

16 Do you see that?

17 A. Yes, I do. And I note that line 62
18 says the switch position indicator 33, ergo
19 33A, 33B, 33C, 33D, may be configured to
20 indicate the operating mode (ergo, color
21 temperature and/or optional mode, et cetera),
22 selected by placing the switch selector 34 in
23 the corresponding switch position.

24 So I'm not sure if that's what
25 you're saying, but this is what I read in

1 column 12.

2 Q. Now, if we look at Figure 4 and
3 compare that to Figure 4A, I think we noted
4 previously the positions 33A, B, and C are
5 labeled A, B, and C, instead of specific kelvin
6 temperatures, correct?

7 A. I think what you're saying is
8 Figure 4A uses the notations 33A, 33B, 33C, 33D
9 in the same way that the section that I just
10 read from column -- where was I?

11 Q. Yeah, I think my question maybe
12 wasn't clear. So let me re-ask.

13 A. Please do.

14 Q. Are there any differences that you
15 see between Figure 4 and Figure 4A, other than
16 the labeling of 33A, 33B, and 33C?

17 A. Well, that, my friend, is a very
18 broad question.

19 Well, Figures 4A and 4 itself --
20 Figure 4 and 4A are, I think anyone would
21 admit, they're almost identical.

22 Q. And the only difference being 33A,
23 33B, and 33C?

24 A. Well, Figure 4 also has 33A, 33B,
25 and 33C.

1 Q. I should say the text corresponding
2 to those elements.

3 A. The only difference I see it is
4 that positions A, B, and C are noted by
5 alphabetical letters -- A, B, C -- as opposed
6 to having a specific temperature.

7 And when I read this, I presumed it
8 simply to mean that A, B, and C could be any
9 values that one chooses.

10 Q. In both switches, switch 30
11 depicted in Figure 4 and switch 30 depicted
12 in 4A, they both include an auto position,
13 correct?

14 A. Yes, they do.

15 Q. Now, if we go back to Figure 4,
16 below switch 30, there's a dashed -- or
17 below -- I'm sorry. Below switch 30 in
18 Figure 4, there's a dashed box labeled 35,
19 correct?

20 A. Yes.

21 Q. And 35 is a switch control unit; is
22 that right?

23 A. I believe that's correct. I'll
24 accept your word that it is until I find it in
25 the specification.

1 Q. And I think if you want to look at
2 column 14, line --

3 A. Line 26.

4 Q. Yeah. And before that line 22
5 starts, an example embodiments, the switch
6 control unit 35.

7 A. Yes. Correct. I see that. Thank
8 you.

9 Q. So going back to Figure 4, so
10 switch control unit 35 is shown to have three
11 components within the dashed box, correct, 36,
12 37, and 38?

13 A. Yes. Because the section of the
14 specification that you directed me to a moment
15 ago indicates that the switch control unit 35
16 may be a microcontroller unit -- may be.

17 Q. And 36 represents one or more
18 memory elements, is that right?

19 A. Yes. We're told in line 21 that
20 the switch control unit may comprise a single
21 integrated circuit, but it may also include
22 processing elements one or more -- memory
23 elements 36 and one or more communication
24 interface elements 38.

25 Q. And the one or more processing

1 elements is 37, correct?

2 A. Yes, that's correct.

3 Q. And the communication interface 38
4 is for communicating with the remote switch 40,
5 if that's implemented, correct?

6 A. Yes. If that's chosen. It's an
7 option.

8 Q. And I think this was noted earlier,
9 but remote switch 40 is illustrated in Figure 5
10 of Halliwell, correct?

11 A. I believe that's correct. Let me
12 double-check. Yes. There's a very simple
13 conceptual diagram of element 40, the remote
14 switch.

15 Q. And the communications interface of
16 the switch control unit is shown in the top
17 left in element 38, correct?

18 A. In Figure 5?

19 Q. In Figure 5, yes.

20 A. I believe so. Let me check the
21 specifications, quickly.

22 Yes. 38 is the communication
23 interface element, singular or plural.

24 Q. And what does -- or what is your
25 understanding of what the -- I'll call it a

1 lightning bolt in Figure 5 represent?

2 A. I think it's intended to represent
3 an electromagnetic radiation. It could be
4 microwave. It could be radiofrequency. But
5 it's an electromagnetic field that communicates
6 between the remote control and actual -- and
7 actual switch inside the luminaire.

8 Q. So Figure 5 shows remote switch 40
9 communicating with the -- communicating
10 interface of the switch within the luminaire;
11 is that right?

12 A. Yes. I think that's elaborated in
13 column 14 where it says that -- let's see.
14 This is line 6. Thus, the user may change the
15 operating light aspects or qualities of the LED
16 lamp 10 or LED lighting device 20 when the LED
17 lamp 10 or LED lighting device 20 is in a
18 configurable operating mode.

19 Q. Now, going back to Figure 4, we
20 talked about the dashed box 35. Below that, do
21 you see a box labeled 19?

22 A. I do.

23 Q. And 19, if you turn to column 9,
24 lines 3 to 5, is the driver circuitry, correct?

25 A. Yes. That's correct. It discusses

1 that in column 14. You're right.

2 Q. And sort of in the bottom right
3 corner of box 19 is a smaller box labeled 17.

4 Do you see that?

5 A. Yes. I do.

6 Q. And box 17 represents provider
7 circuits; is that right?

8 A. Yes. That's also referred to --
9 I'm sorry. Yes, that's referred to in
10 column 14.

11 Q. And what is your understanding of
12 what provider circuits do?

13 A. Well, in column 14 in line 64 --
14 sorry -- 63, where it refers to the provider
15 circuit 17, it says, in parenthesis, ergo, such
16 that the LED package 18 is driven in a modified
17 manner by the provider circuit.

18 Q. So would it be fair to say that
19 provider circuits selectively energize the LED
20 packages based on control signals?

21 A. Yes. I would interpret the
22 circuit -- the circuitry beneath a dashed box
23 to be the required power supply.

24 Q. And box 18 at the bottom, that
25 would be the LED packages within the luminaire,

1 correct?

2 A. Yes. It says that 18 is the LED
3 package, yes.

4 Q. Now, if we scroll back to Figure 3,
5 Figure 3 also provides a block wiring diagram,
6 correct?

7 A. Yes. It's of a different nature,
8 but it is a block diagram.

9 Q. And this diagram is also depicting
10 the components of the -- of the lighting device
11 that we saw in Figure 4, correct?

12 A. It's similar to Figure 4, but
13 arranged in a slightly different way. But it
14 conveys, I believe, essentially the same
15 information.

16 MR. DORSKY: This might be a
17 good place to take a break here. I
18 think we've been going about an
19 hour. Before we get into the next
20 module here, it makes sense to take
21 a break if that's fine with you,
22 Dr. Eden.

23 THE VIDEOGRAPHER: The time
24 is 4:09 p.m. We're now off the
25 record.

1 (Recess from 4:09 p.m. to
2 4:22 p.m.)

3 THE VIDEOGRAPHER: The time
4 is 4:22 p.m. We are now back on
5 the record.

6 BY MR. DORSKY:

7 Q. So, Dr. Eden, I would like to
8 discuss remote switch 40 in a little more
9 detail. Now, according to Halliwell, the
10 switch selector 34 of device located switch 30
11 must be moved to position 32D, or auto, in
12 order for the remote switch 40 to communicate
13 with the lighting device; is that right?

14 A. I believe what you're saying is
15 correct. Can you point to the text? Are you
16 in column 18 when you make that statement?

17 Q. I'm actually in column 12. And
18 maybe we can walk through what I'm referring
19 to. So let's see here. In -- starting at
20 column 12, line 60, do you see where it's
21 talking about the switch position indicator 33
22 again?

23 A. Yes, I do. We talked about that a
24 little while ago.

25 Q. And this paragraph carries over

1 into the -- a large portion of column 13.

2 Do you see that?

3 A. Yes, I do, but it's not speaking
4 specifically about the remote switch, whereas
5 columns 17 and 18 do.

6 Q. Well, we can turn to that. But I
7 just want to stay on column 13 for a moment.
8 Now, column 13, lines 3 through about 14 talk
9 about what happens when you move the switch
10 selector to the first three positions, right,
11 3000k, 4000k, and 5000k.

12 Do you see that?

13 A. Yes, I do.

14 Q. Okay. And it says here, for
15 example, if you move the switch selector to
16 position 32A, that sets the operating color
17 temperature mode to be 3000k, right?

18 A. Correct.

19 Q. And, again, 32B sets it to be
20 4000k, right?

21 A. Yes.

22 Q. And then switch position 32C sets
23 it to be 5000k, right?

24 A. That is correct.

25 Q. And then at column 15 -- I'm

1 sorry -- column 13, line -- sort of right above
2 15 -- you see it says, the switch position
3 indicator 33D indicates that if switch selector
4 34 is placed in switch position 32D, the
5 configurable operating color temperature is
6 selected.

7 Do you see that?

8 A. Yes, I do. That is correct.

9 Q. Okay. And position 32D in
10 Figures 4 and 4A is the one labeled auto,
11 correct?

12 A. That's correct. It's called the
13 auto option.

14 Q. And here, if you stay in column 13,
15 line 18, Halliwell states that when the device
16 located switch 30 is set to auto, the
17 configurable operating mode is enabled and the
18 device is configurable -- the lighting device
19 is configurable using, quote, a wall switch,
20 remote control, and/or the light.

21 Do you see that?

22 A. Yes, I do. And the part you didn't
23 quote continues by saying, ergo remote switch
24 40 shown in Figure 5.

25 Q. And so line 22 is where Halliwell

1 refers to remote switch 40 in Figure 5, as you
2 just mentioned, right?

3 A. Yes.

4 Q. And if we stay in column 13 and
5 jump down to lines 33 to 40, Halliwell again is
6 saying when the device located switch 30 is set
7 to auto, the device can receive input from a
8 remote switch 40, correct?

9 A. Yes.

10 Q. And that input from remote switch
11 40 is received at the switch control unit of
12 the switch on the lighting device, correct?

13 A. Yes. And the text that you skipped
14 over says that the configurable operating -- I
15 think they mean operation mode -- is selected
16 wherein a user may use a remote switch 40 to
17 toggle between A, B, and C, wherein A, B, and C
18 may be operating states of any preset color
19 temperature, brightness, CRI, and/or the like
20 provided each operating state is different in
21 at least one light aspect or quality relative
22 to one another.

23 Q. So, according to Halliwell's
24 description here, there must be a switch 30 on
25 the lighting device and then an additional

1 remote switch 40 that can be used if switch 30
2 is set to auto or position 32D, correct?

3 A. Well, I'd have to unpack what you
4 just said. But it allows for a remote -- a
5 user to remotely define the temperature -- the
6 CCT that one would like to have emitted by the
7 luminaire.

8 Q. Well, Halliwell doesn't describe
9 any arrangement where remote switch 40 can be
10 used without switch 30 being present, correct?

11 A. You mean remote switch 40?

12 Q. Yeah, I'll restate the question.
13 Perhaps it didn't come through. Halliwell does
14 not describe any arrangement where remote
15 switch 40 can be used without switch 30 being
16 present, correct?

17 A. I don't know that to be true. I
18 need to review the entire patent before I could
19 agree to your statement.

20 Q. Well, unfortunately, I don't think
21 we have the time for that today. But I guess
22 sitting here today, are you aware of any
23 passage in Halliwell that describes using
24 remote switch 40 without or completely in place
25 of device located switch 30?

1 A. I'm not aware of such an option,
2 but I don't understand -- just, again, from a
3 POSITA's view of the specification, why 30
4 would be necessary given a remote switch. If
5 we looked at Figure 4A that we were looking at
6 earlier -- oh, and in the particular,
7 Figure 3 -- well, switch -- well, 30 -- what's
8 labeled 30 is the unit that remotely transmits
9 the desire of the user to the switch control
10 unit 35. So why would you want to dispense
11 with 30?

12 Q. I am not proposing to do anything.
13 I'm asking you if there is any disclosure in
14 Halliwell at all where remote switch 40 is used
15 without switch 30 being located on the lighting
16 device.

17 A. I don't think -- you need to have
18 switch 30 on the -- the reason that you're not
19 seeing an embodiment that eliminates switch 30
20 is that the actual switching process is
21 conducted at the luminaire, which it has to be
22 because that's where the -- that's where all
23 the electronics, the driving circuitry is
24 located. So even though 40 is known as a
25 remote switch, it's not a switch at all. It's

1 simply a unit that conveys instructions from
2 the user to the unit. The hardware -- the
3 switching hardware is actually at the
4 luminaire. So I don't think you want to do
5 away with switch 30.

6 Q. Okay.

7 A. Because it won't switch otherwise.

8 Q. Now, Halliwell states that remote
9 switch may be a wall- and/or junction
10 box-mounted switch, right?

11 A. Yes. I believe you're referring
12 now to column 17.

13 Q. Yes.

14 A. And it may be well to --

15 Q. This is line 39.

16 A. I'm talking -- I'm going back a
17 little bit further to 34. Perhaps it would be
18 helpful to read into the record what it says
19 there. Example, embodiments of the present
20 invention comprise a remote switch 40. In
21 example embodiments a remote switch 40 may be a
22 wall-mounted switch mounted in the same room as
23 the LED lamp 10 or LED lighting device 20
24 and/or within short-range communication
25 technology range of the LED lamp 10 or LED

1 light lighting device 20. For example, the
2 remote switch 40 may be a wall- and/or
3 junction-mounted toggle switch, dimmer switch,
4 and/or the like in wired communication with the
5 switch control unit 35. End of quote.

6 Q. Yes. So in that wall or junction
7 box mounted scenario, the switch would remain
8 accessible to a user in order to make the
9 selection, correct?

10 A. What do you mean, it would be made
11 available? I don't recall exactly how you
12 phrased that.

13 Q. Well, remote -- in this
14 arrangement, remote switch 40 would not be, for
15 example, in a junction box of the luminaire up
16 in the ceiling, for example.

17 A. Right. As it says in line 37 --
18 excuse me -- 36, it may be wall-mounted is one
19 possibility.

20 Q. Okay. And the wall mount, then,
21 the junction box would probably refer to, like,
22 the junction box you would associate with,
23 perhaps, an electrical outlet, that type of
24 junction box?

25 A. Junction boxes don't have anything

1 to do with a wall outlet other than it may
2 distribute cable -- the junction boxes are
3 usually located on a stud or a rafter, you
4 know, in the wall or the ceiling, right out of
5 view of a homeowner, for example.

6 Q. Well, a junction box -- would you
7 agree that a junction box is an enclosure that
8 protects electrical connections?

9 A. Yes. Or more broadly, it actually
10 provides a place where the connections can be
11 made. So power comes in from the electrical
12 box in your basement. And the cable, then, is
13 spliced and goes off in several different
14 directions at a junction box. That's typically
15 the function that it serves.

16 Q. So in this scenario, if it's, you
17 know, a wall-mounted junction box or
18 wall-mounted switch located in a junction box,
19 it could be a switch where the actuator is
20 accessible but the switch -- the remainder of
21 the switch is located inside the wall in a
22 junction box and wired to, I guess, house
23 electricity that can carry its communication to
24 the luminaire, maybe across the room?

25 MR. MESSING: Objection to

1 form.

2 A. Well, that was a compound question
3 that you asked. A little bit difficult to
4 unravel. But let me just say that -- let me
5 read again this one sentence that begins in
6 line 39 of column 17. For example, the remote
7 switch 40 may be a wall- and/or -- and/or --
8 junction box-mounted toggle switch, dimmer
9 switch, and/or the like in wired communication
10 with a switch control unit. So it appears to
11 me that what is -- what is being described
12 here, particularly because of the phrase in
13 line 42 of "wired communication" -- that's an
14 interesting phrase. But it's not wireless.
15 It's wired, with an E-D on the end.

16 So I take that to mean that the
17 wall-mounted switch -- there's actually a cable
18 that goes to a junction box or it may go
19 directly to the luminaire, perhaps through the
20 wall, the wall outlet. But there's actually a
21 hard-wired connection between them.

22 Q. Now, the -- in the scenario of
23 using remote switch 40, you would want that
24 remote switch 40 to remain accessible at all
25 times, right, like a wall switch for lights?

1 A. Well, as it says here, it's
2 wall-mounted, so that, by definition, would
3 make it accessible at all times. And to use
4 the language of the '336 patent, there would be
5 a cable from that wall-mounted remote switch 40
6 to a junction box. But it also says, passing
7 through a junction box is not necessary. You
8 can actually go to the luminaire through a
9 different route. But it does say that a
10 junction box is an acceptable participant, if
11 you will, in the circuitry.

12 Q. And that electrical path, if it's a
13 wired connection, might use different cabling
14 than the cable of -- or the sort of power cable
15 or electrical cable of the luminaire itself?

16 A. Well, in that respect, the
17 specification is silent. So I can't answer
18 your question. You may be correct, and you may
19 not be correct. But it's a cable of some form
20 that connects the remote switch 40 ultimately
21 with the luminaire.

22 Q. I'd like to turn to your
23 declaration. This is page 106 of your
24 declaration, and particularly paragraph 237.

25 A. Okay. I'm there.

1 Q. And the first sentence of paragraph
2 237 states, thus, Halliwell explicitly states
3 that the junction-box-mounted CCT switch could
4 be a switch like that disclosed in Figure 4.

5 Do you see that?

6 A. Yes.

7 Q. Where does Halliwell explicitly
8 state that remote switch 40 can be switch 30 in
9 Figure 4?

10 MR. MESSING: Objection,
11 form.

12 A. Well, the sentence that we just
13 looked at says, to the extent that Halliwell
14 does not disclose using the switch of Figure 4
15 as the junction-box-mounted CCT switch, a POSA
16 would not have required that the patent
17 explicitly make the statement, because the
18 electrical circuits and components required,
19 switches and cable, are among the most basic in
20 circuits. And that statement is true.

21 Q. So do you agree that Halliwell does
22 not explicitly state that remote switch 40
23 could be switch 30 in Figure 4?

24 A. No. As we were just reading in
25 column 17, it says that the junction box -- the

1 junction box serves as a -- if I understand the
2 language of the specification -- let's look at
3 it again.

4 Well, it does say that there's a
5 possibility for a junction-mounted switch. But
6 it also begins by saying it's a wall-mounted
7 switch. So clearly, the switch must be
8 wall-mounted in the context of this section.

9 (Simultaneous speakers.)

10 BY MR. DORSKY:

11 Q. Sorry. Go ahead.

12 A. All I was going to say -- and it's
13 not clear what Halliwell is saying. But
14 clearly, the wiring that delivers communication
15 signals from the remote switch may be routed
16 through the junction box, perhaps for the
17 purpose of supplying power to the remote
18 switch.

19 Q. Now, the remote switch is described
20 at column 17, starting at line 33 and running
21 through, it looks like, column 19, line 9; is
22 that right?

23 A. Yes. That's the area that I was
24 just quoting from a few moments ago.

25 Q. Is switch 30 mentioned at all in

1 that passage?

2 A. No, it's not. But why should it be
3 mentioned?

4 Q. Is Figure 4 mentioned at all in
5 this passage?

6 A. No. Is it necessary for it to be
7 mentioned?

8 Q. If switch 30 depicted in Figure 4
9 was used as remote switch 40, what would be the
10 purpose of the auto position?

11 MR. MESSING: Objection to
12 form.

13 A. I'm sorry. I don't understand
14 where you're going. I thought we decided a
15 little while ago that Figure 3 tells us that
16 switch 30 is not remote.

17 Q. I am --

18 A. It's the -- it's the hardware on --
19 excuse me. Let me finish, if I might. Switch
20 30 is the switch that's actually on the
21 luminaire. It's not remote.

22 So in this section in column 17,
23 the topic of discussion is not the hardware at
24 the luminaire. This is -- this is the hardware
25 and the means -- or it is a piece of

1 hardware -- and the means of delivering the
2 signals from that remote switch to the
3 luminaire or also receiving power, perhaps,
4 from the junction box.

5 Q. I'm referring to your sentence in
6 paragraph 237 of your declaration where you
7 refer to the junction box-mounted CCT switch,
8 which would be remote switch 40, being a switch
9 like that disclosed in Figure 4, right?

10 A. But my text is saying it does not
11 disclose using the switch of Figure 4 as the
12 remote switch. It's not used as the remote
13 switch. That's why it's labeled 30.

14 Q. So in your opinion, the
15 junction box-mounted CCT switch or remote
16 switch 40 would not be a switch like the type
17 depicted in Figure 4; is that right?

18 A. No. No, that's labeled 30.
19 Figure 4 is labeled 30, not 40.

20 Q. What would be the design of the
21 switch 40, then, located in the junction box,
22 according to Halliwell?

23 A. Well, I'm unable to answer that
24 question because there are many design choices
25 of a wall-mounted switch such as that described

1 in the '250 patent.

2 Q. So Halliwell -- I'm sorry. That
3 was my fault. Go ahead.

4 A. I was just going to say that for a
5 POSITA, there are so many different ways that
6 one could design the controls and the options
7 available to the consumer that it's -- it would
8 be purely speculative to talk about how that
9 might be designed.

10 Q. So is it fair to say that Halliwell
11 doesn't disclose a specific construction for
12 remote switch 40 in its disclosure?

13 A. That's correct. But, again, I
14 would not expect Halliwell to disclose that.
15 But simply the option of doing it. That's the
16 power of a patent like Halliwell, because
17 they -- he presents a new idea and then he sets
18 loose a generation of engineers who design
19 something probably better than any of us could
20 think of sitting here at the moment.

21 Q. So going back to the figures that
22 we see at the beginning of Halliwell, the
23 figures don't depict, for example, the body of
24 the switch of Halliwell in Figures 1
25 through 2E, correct?

1 A. No, you wouldn't expect them to.
2 They simply say that a switch is installed at a
3 particular location, and that there's wide
4 latitude in the type of switch that one
5 selects. There's a particular type of a slide
6 switch shown in Figure 4 for 30.

7 But as I said earlier today, every
8 switch I've ever seen has a body. And I can
9 say emphatically that a slide switch, such as
10 that shown in Figure 4, definitely has a body.

11 (Simultaneous speakers.)

12 A. We don't call it a body; we call it
13 packaging. Body, as I said early in the day,
14 is not a term of art.

15 Q. So if I understand your testimony,
16 Halliwell doesn't depict or describe the switch
17 body, but you're basing that on your
18 understanding of all switches having a body; is
19 that right?

20 A. Correct. And I would just
21 generalize it to say that Halliwell is not
22 alone. Any technical document you read that
23 shows switches in a circuit or maybe even a
24 rendition of them, will not show the body. It
25 will just simply say a switch is located here.

1 Q. Now, Halliwell also doesn't
2 disclose or depict a coupling feature
3 associated with a switch, correct?

4 A. That's correct.

5 Q. In your opinion, why do you believe
6 the switch in Halliwell is coupled to a cable
7 of the luminaire?

8 A. Because it's part of a circuit, an
9 electrical circuit. If it's not coupled to the
10 circuit, the circuit will not function.

11 Q. Well, again, there could be a
12 number of intervening components between the
13 switch and the cable, correct?

14 A. Sorry. I don't understand your
15 point.

16 Q. Well, I'm just asking the question.
17 Halliwell doesn't say one way or the other if
18 there are any number of components between the
19 CCT switch and the cable of the luminaire,
20 correct?

21 A. I guess all I'm saying is, is that
22 the switch or switches in Halliwell are
23 connected to the circuit, which could be a
24 cable, a wire, in the same way that the switch
25 in the '336 patent is connected to a cable.

1 Q. It might be connected in some other
2 way, though, right? Halliwell doesn't say how
3 it's connected, correct?

4 MR. MESSING: Objection to
5 form.

6 A. I guess I don't understand the
7 nature of your question. Every switch has
8 coupling features that couple to whatever you
9 wish to couple it to. If it's a cable, you
10 will make the connection to a cable through
11 the -- that are made possible by the coupling
12 features, which can be a spade lug, it could be
13 a solder connection, a wide variety of them.
14 So on that, I'm not -- I do not understand what
15 it is you're asking.

16 Q. Well, Halliwell doesn't say that
17 it's switch coupled to a cable of luminaire,
18 correct?

19 A. That's correct. It doesn't say how
20 it enters the circuit.

21 Q. So the switch could be coupled to
22 something else and there could be intervening
23 components and eventually some connection to
24 current or power.

25 A. There could be. There could be.

1 All we know is that the remote switch 40 is
2 connected by a cable through the luminaire,
3 through or not through a junction box, and that
4 the wall switch 40 is remote from the
5 luminaire.

6 Q. I'm going to bring another exhibit
7 into the chat window. This was previously
8 marked Exhibit 1003. This reference is one,
9 Dr. Eden, you should have in your binder, as
10 well.

11 (Exhibit 1003 was marked for
12 identification.)

13 A. I'm sure I do. Thank you. Okay.
14 I found it. Thank you.

15 You're referring to Chaimberg?

16 Q. Yes. And this is a reference you
17 discuss in your declaration as well, right?

18 A. Yes. It plays an important role in
19 the declaration.

20 Q. And I'd like to start in the
21 background section in column 1. In particular,
22 the paragraph from column 1, lines 44 to 67.

23 Let me know when you have reached
24 that paragraph.

25 A. I'm there.

1 Q. In this paragraph of Chaimberg, you
2 discuss in your declaration as describing
3 existing LED light fixtures where the switch is
4 mounted on a driver housing or a -- yes,
5 mounted on a driver housing, correct?

6 A. Yes. Going to my report on page 36
7 of the declaration, paragraph 70 does refer to
8 Chaimberg's disclosure of a ceiling-mountable
9 LED light fixture wherein at least two sets of
10 LEDs of different correlated color temperatures
11 (CCT) are mounted in its housing.

12 Is that what you're referring to?

13 Q. Yes. But my question is a little
14 different. The discussion of the LED light
15 fixture in this column 1, lines 44 to 67,
16 involves a switch mounted on a driver housing,
17 correct?

18 A. Yes. It says on line 44 that some
19 LED light fixtures with two or more sets of
20 color LEDs for installation in ceilings are
21 provided with a driver housing.

22 (Simultaneous speakers.)

23 A. The next sentence does refer to a
24 switch is mounted on the driver housing to
25 select a desired color temperature of the LED

1 light fixture.

2 Q. And what is your understanding of
3 what a driver housing is mentioned here?

4 A. The driver refers to the power
5 supply.

6 Q. And so what would the driver
7 housing be?

8 A. Well, it depends on the product
9 design. But it would be whatever encloses the
10 power supply.

11 Q. Would a driver housing be similar
12 to a junction box the way it's described here?

13 A. Oh, it probably wouldn't be
14 anything so large or somewhat clumsy as a
15 junction box. A driver housing might be
16 something as simple as a cover that would be
17 made of a nonconductive material, because of
18 the voltages present inside the power supply.
19 It could take on a number of forms.

20 Q. If you briefly turn to Figure 1 of
21 the patent. And do you see in Figure 1 of
22 Chaimberg, on the upper right side, something
23 labeled 16?

24 A. Yes, I see that.

25 Q. And would that be what you would

1 call a junction box?

2 A. Since this is dedicated to a
3 particular -- a particular luminaire, I would
4 not refer to this as a junction box, although
5 you could use that term. But if you look at
6 my -- the way I described it in my patent,
7 that's probably the easiest way to --

8 Q. If it helps, column 3, lines 23 to
9 25 refer to element 16.

10 MR. MESSING: Counsel, I know
11 we're not quite an hour yet. If we
12 could take a bathroom break, I
13 would appreciate it.

14 MR. DORSKY: We can pause
15 here and pick up, if that works.

16 THE VIDEOGRAPHER: The time
17 is 4:59 p.m. We are now off the
18 record.

19 (Recess from 4:59 p.m. to
20 5:15 p.m.)

21 THE VIDEOGRAPHER: The time
22 is 5:15 p.m. We are now back on
23 the record.

24 BY MR. DORSKY:

25 Q. Now, Dr. Eden, before the break, we

1 were talking about element 16 in Figure 1. And
2 element 16 is described by Chaimberg as a
3 driver housing, correct?

4 A. If you'll give me just a moment,
5 I'd like to consult my report. It would
6 actually be beneficial to us all in saving
7 time. I'll be right with you in just a second.

8 Okay. I'm sorry. Could you repeat
9 your question, please?

10 Q. Yes. So element 16 in Figure 1 is
11 described by Chaimberg as a driver housing,
12 correct?

13 A. Yes. It's described as a driver
14 housing, which is very similar to that of a
15 junction box as I note on my report on page 38.

16 Q. And in the passage in column 1,
17 lines 44 to 67, and particularly lines 48 to
18 50, where it says a switch is mounted on the
19 driver housing to select the desired color
20 temperature of the LED light fixture, you would
21 understand that to be a similar driver housing
22 as depicted in Figure 1?

23 A. Yes. Again, referring to my report
24 in paragraph 72, it says, usually -- it's
25 quoting from column 3. It says usually a

1 selector switch is mounted on the driver
2 housing 16 to select a desired color
3 temperature to be emitted by the light fixture.

4 Q. I'm specifically referring to
5 column 1, that paragraph from lines 44 to 67.
6 The driver housing there would have the same
7 meaning as it would in column 3?

8 A. I would think so.

9 Q. Okay.

10 A. I'm bringing you back to my report
11 is that, as I understand the purpose of our
12 meeting today, it's to answer any questions
13 that you might have about my report. And so
14 I'm trying to make sure that if a question that
15 you have on your mind has already been answered
16 in the report, that's the best way to go.

17 Q. Yeah, and I'm probing your
18 opinions, not just the words in your report.
19 So that's the purpose of my questions.

20 A. I understand.

21 Q. So let's stay in column 1, lines 44
22 to 67 here. And Chaimberg here states that
23 locating a switch on the driver housing can
24 cause damage to the ceiling, correct?

25 A. Yes. He does say that. That is

1 correct.

2 Q. And why would that cause damage to
3 the ceiling?

4 MR. MESSING: Objection.
5 Foundation.

6 A. Well, I can speculate as to the
7 reasons he had in mind, but I would rather not.

8 Q. Well, Chaimberg -- sorry. Were you
9 continuing?

10 A. I was just saying, is there a
11 particular reason why damage to the ceiling is
12 of interest?

13 Q. I am simply asking questions. So
14 let me ask: Chaimberg also refers to certain
15 hazards relating to locating a switch on a
16 driver housing, correct?

17 A. Yes. He does say that in column 1.

18 Q. And one hazard that Chaimberg
19 mentions relates to live wires within a driver
20 housing causing a hazard of being electrocuted,
21 correct?

22 A. Yeah. Or the hazard of a fire. If
23 debris builds up, and it's inevitable that it
24 will in time, dust and so forth can actually
25 short so-called live wire connections and

1 contribute to a fire.

2 Q. And Chaimberg also discusses in
3 this paragraph a hazard relating to working on
4 a ladder to remove the driver housing to access
5 the switch, correct?

6 A. Yes. That's a potential hazard in
7 any work in which a technician or an
8 electrician is working on lighting installed in
9 the ceiling.

10 Q. So is it fair to say in this
11 paragraph that Chaimberg is cautioning the
12 reader against locating a switch on the driver
13 housing?

14 A. He is saying that there are
15 certainly issues that one must consider
16 regardless of where one mounts it.

17 Q. Now -- sorry.

18 A. I'm just saying he's pointing out
19 that there are some possible issues that any
20 good engineer would consider.

21 Q. Chaimberg doesn't identify hazards
22 related to any other location for the switch,
23 correct?

24 A. Not that I recall.

25 Q. So Chaimberg only cautions against

1 locating the switch on the driver housing,
2 correct?

3 A. As far as I recall. But we would
4 be speculating as to why.

5 Q. The design disclosed in Chaimberg
6 as its invention does not involve locating the
7 switch on the driver housing, right?

8 A. No. The field of the invention
9 tells us that the selector switch is mounted in
10 a cable secured to the LED light fixture and
11 which is readily accessible when the LED light
12 fixture is removed from its ceiling mounting
13 hole. So accessibility is clearly an issue.

14 Q. So Chaimberg disparages locating a
15 switch on the driver housing and instead tells
16 you to locate the switch on the cable between
17 the housing and the luminaire?

18 A. Well, I would not use the wording
19 that you used of "disparaging." I think he's
20 simply pointing out that there are drawbacks
21 to -- it's just a fact of life in engineering
22 that regardless of the solution, there will be
23 advantages and disadvantages of different
24 designs.

25 Q. Now, Chaimberg does not encourage

1 the location of a switch on a driver housing,
2 correct?

3 A. No, he does not.

4 Q. And a person of ordinary skill
5 would consider this paragraph from column 1,
6 lines 44 to 67, when reading Chaimberg, right?

7 A. You didn't complete the sentence.
8 Could you repeat the question?

9 Q. Sure. A person of ordinary skill
10 would consider this paragraph from column 1,
11 lines 44 to 67, when reading Chaimberg, right?

12 A. Oh, would consider it. I thought
13 the sentence was going in a different
14 direction, but -- so it doesn't -- it doesn't
15 discourage them, but it does suggest that
16 putting the selector switch on a cable is
17 beneficial.

18 Q. And it's a beneficial option
19 instead of putting it on the driver housing,
20 correct?

21 A. Correct. And there's also the
22 possibility of doing both.

23 Q. But that possibility is not an
24 option recommended by Chaimberg, correct?

25 A. No, but I think a POSITA would be

1 expected to consider what Chaimberg has done
2 here and think about the fact that switches
3 mounted on the driver housing have also been in
4 use, been in production for a number of years,
5 and perhaps there might be advantages to what
6 I'll call a hybrid solution.

7 Q. And just to be clear, there's no
8 discussion of a hybrid solution in Chaimberg,
9 correct?

10 A. No. But there are some things
11 that, again, a POSITA, someone trained in
12 engineering, would think of.

13 Q. Let's go in your declaration to
14 page 72 -- well, starting at the bottom of page
15 72. Please let me know when you're at page 72.

16 A. I'm there immediately.

17 Q. Wonderful. And this is element
18 13A, a body, correct, this section 2?

19 A. Yes. That's the topic of
20 discussion.

21 Q. And carrying over to page 73,
22 there's a cropped version of Figure 1 boxed in
23 the middle of page 73, correct?

24 A. Yes.

25 Q. And there is highlighting within

1 the dashed rectangular box labeled 18; is that
2 right?

3 A. Yes. Yes, as my report says,
4 switch 18 is highlighted in yellow, and the
5 slide button 31 is highlighted in blue.

6 Q. And then following the end of the
7 sentence, your declaration states, the
8 perimeter of the switch "body" is represented
9 by the dashed rectangular box, correct?

10 A. That's what it says. Yes, that's
11 correct.

12 Q. So in your opinion, the body of the
13 switch disclosed in Chaimberg is the dashed
14 rectangular box labeled 18?

15 A. Yes. That's my interpretation,
16 because that's what I would do if I were
17 inserting a switch into a cable.

18 Q. And there's no coupling feature
19 illustrated or disclosed in Chaimberg, correct?

20 MR. MESSING: Objection to
21 form.

22 A. Well, I think we've had this
23 discussion before, that it need not show all of
24 the features of any component, not just
25 switches. And my guess is that this is drawn

1 in such a way that the so-called coupling
2 features of the '336 patent are not visible.
3 They are either on the side and recessed or
4 they are on the back side away from the slide
5 button 31.

6 Q. There is no coupling feature of
7 switch 18 described in Chaimberg, correct?

8 A. Right. It's not necessary, because
9 slide button switches, for example, 31, come in
10 different shapes and sizes with different
11 electrical coupling provisions.

12 Q. So why is it your opinion that
13 Chaimberg possessed the concept of a switch
14 with a coupling feature based on what's shown
15 in Figure 1?

16 A. I don't understand your question.
17 Could you repeat it, please?

18 Q. Yes. Why is it your opinion that
19 Chaimberg possessed the concept of a switch
20 with a coupling feature for coupling to an
21 electrical cable based on what's shown in
22 Figure 1?

23 A. Because it shows cable 15, cable
24 section 15 prime, it shows a slide button
25 switch 31, and -- well, the switch is 18 and

1 the slide button itself is 31. And it shows --
2 it says to put the slide button -- or excuse
3 me -- the switch between two sections of cable.
4 So I know there must be an interconnect. There
5 has to be a connect --

6 (Simultaneous speakers.)

7 A. Yes, of course.

8 Q. Didn't we discuss earlier that the
9 switch could wirelessly communicate with the
10 luminaire housing?

11 A. Well, a moment ago you were -- you
12 were mentioning that the interconnections -- or
13 sorry, the coupling -- the coupling features or
14 the means of making connection, electrical
15 connection, are not shown. Then our inventor,
16 Chaimberg, would be committing a bigger error
17 if he intends to communicate with the switch
18 wirelessly, which is not so obvious. The
19 connections in the body of a switch are a
20 century old. That technology was developed a
21 long time ago. And so it's not necessary to
22 show it, any more than to show the location of
23 bolts on the engine of a car in a diagram of
24 the car engine. You don't -- a normal person
25 does not -- a normal engineer does not show

1 that kind of level of detail, because it's so
2 well known in the art.

3 Q. Well, Chaimberg doesn't say one way
4 or the other whether it's coupled physically to
5 the cable or just located along the cable
6 without being coupled to the cable itself,
7 correct?

8 A. Well, he must mean that it's to be
9 done manually, because he has a slide button
10 switch that requires a human being to actually
11 make the -- cause the switching to occur. So
12 it can't be a wireless connection that he has
13 in mind.

14 Q. Why is that?

15 A. Well, because he has a slide button
16 switch. That requires you to use your index
17 finger to move the switch button.

18 Q. Well, we just discussed Halliwell,
19 correct?

20 A. Right.

21 Q. And remote switch 40 in Halliwell
22 could be a slide button switch, right?

23 A. Probably not. There probably --
24 there's probably, most likely, with today's
25 technology, a screen that you -- like a

1 touchscreen on your phone.

2 Q. Does Halliwell say anything about
3 it being a touchscreen on your phone?

4 A. No, but he says to use the
5 expertise that you have as a POSITA to design
6 what is commercially most effective in a
7 product.

8 Q. So is it your opinion that it would
9 be impossible to implement a slide switch as a
10 wireless switch?

11 A. No. Why would I say it's
12 impossible?

13 Q. So it is possible to implement a
14 slide switch as a wireless switch?

15 A. Sure. But my question would be,
16 why would you want to do that?

17 Q. Well, I'm just trying to determine
18 what's possible. So the switch in switch 18 of
19 Chaimberg, it's possible to implement that as a
20 wireless switch, right?

21 A. In Chaimberg?

22 Q. Yes.

23 A. Is it possible? It -- that's
24 speculative. Probably. But it's clear that
25 Chaimberg doesn't have that option in mind. He

1 has a manual switch, a conventional manual
2 switch that's just the same as what is talked
3 about in the '336 patent.

4 (Simultaneous speakers.)

5 BY MR. DORSKY:

6 Q. The '336 patent provides a
7 depiction of a switch in Figure 6C showing the
8 coupling features, correct?

9 A. I don't recall the details of
10 Figure 6C.

11 Q. Well, If you would like to pull up
12 Exhibit 1001. If you go to Figure 6C.

13 A. So you're just referring to a
14 standard slide switch with pins coming out the
15 bottom.

16 Q. In element 672 in switch 631 it
17 refers to as a coupling feature, correct? And
18 I can pull up --

19 A. What are you referring to?

20 Q. Well, if you go to, for example,
21 column 10, line 4 of the '336 patent, it
22 states, in some cases, adjacent to coupling
23 feature 672 can be disposed one or more
24 mechanical coupling features 679.

25 A. In what figures are those? You

1 said they're shown.

2 Q. Yes. So I refer in column 10,
3 line 3 to 6, to coupling feature 672. And if
4 you go back up to Figure 6C, you can see the
5 coupling feature 672 labeled in Figure 6C,
6 right?

7 A. Oh, yes. The pins.

8 Q. Now, Chaimberg doesn't disclose any
9 image or description of coupling features,
10 correct?

11 A. Right. But he need not do that.

12 Q. Why is that?

13 A. Well, you're asking for my opinion;
14 is that correct?

15 Q. That's correct.

16 A. Okay. I want to go on the record
17 as saying this. In my opinion, the slide
18 switch configuration that the '336 shows is --
19 a POSITA would not choose this at all to
20 connect this or insert this into a section of
21 cable. The pin -- the pin arrangement for a
22 slide switch is -- I'll be diplomatic. It's
23 unfavorable to trying to connect it into a
24 cable.

25 So Chaimberg is simply saying that

1 a POSITA understands very well what kind of
2 switch that they might want to have, what kind
3 of configuration of the connections.

4 But I'll just say that the slide
5 switch that is shown in the '336 patent is
6 suitable for what is happening in Figure 6B,
7 simply plugging it into a mating receptacle
8 that we talked about earlier today. But it is
9 very poorly suited for inserting it into a
10 cable.

11 Q. So you would not believe the slide
12 switch shown in Figure 6C would be the type of
13 switch used in Chaimberg; is that right?

14 A. Yes. That is correct.

15 Q. But, although --

16 A. But not with this configuration of
17 connections, in my opinion.

18 Q. Okay. Now the '336 patent does
19 disclose a switch with coupling features that
20 are identified, correct?

21 A. It shows a slide switch.

22 Q. With coupling features, correct?

23 A. All switches have coupling
24 features.

25 Q. Well, my question is: The '336

1 patent does disclose and illustrate a slide
2 switch with coupling features, correct?

3 A. Yes, I guess so. But --

4 (Simultaneous speakers.)

5 A. Chaimberg need not do that.

6 Q. Chaimberg does not do that,
7 correct?

8 A. And I'm saying they need not do
9 that. In fact, it would be a distraction. I
10 think you give far too little credit to
11 POSITAs, my friend.

12 Q. I'm just asking about the
13 reference. And just to be clear, Chaimberg
14 does not disclose or describe coupling features
15 of a switch, correct?

16 A. It need not do that any more than a
17 manufacturer of a chair to tell us how the
18 rollers -- the casters work. Because a student
19 graduating in mechanical engineering would
20 understand all of that. So you don't go back
21 to the beginning of a technology and describe
22 everything coming forward from the beginning.

23 Switch technology was developed in
24 the last century.

25 Q. And you said --

1 (Simultaneous speakers.)

2 A. So for me to describe in a patent
3 how a switch works is equivalent to telling you
4 how a capacitor works and telling you what kind
5 of capacitor to use in an electrical circuit.

6 Q. So you don't believe the references
7 need to describe how the switch works in order
8 to read on claim --

9 (Simultaneous speakers.)

10 A. Not at all. And in Figure 3 and
11 Figure 4 of the '336 patent, I don't think that
12 the patent needs to tell me what kind of an op
13 amp to use in this circuit that they propose.
14 They don't need to tell me what the values of
15 the resistors are, and should it be a wire
16 resistor, should it be a carbon resistor.
17 There are many types of resistors.

18 That level of detail is not only
19 unnecessary, but it gets in the way of
20 presenting the idea that's at the center of the
21 patent.

22 Q. There's no claim in the '336 patent
23 to an opposite affirm, correct?

24 A. No, there is not.

25 Q. There is a claim directed to the

1 construction of the switch, though, correct?

2 A. Right.

3 Q. That's claim 13?

4 A. That's claim 13.

5 Q. Now, I just want to be clear on
6 something you said earlier. You said Chaimberg
7 need not describe or disclose coupling
8 features. But my question was a little
9 different. Chaimberg does not disclose or
10 describe coupling features of a switch,
11 correct?

12 MR. MESSING: Objection to
13 form.

14 A. Well, I thought I've already
15 answered your question.

16 Q. Your answer was about it need not.
17 My question is a little different. Chaimberg
18 does not disclose or describe coupling features
19 of a switch, correct?

20 MR. MESSING: The same
21 objection.

22 A. That's correct. Any more than he
23 does not describe -- tell me what type of cable
24 to use.

25 Q. And we touched on this earlier, but

1 if a person implementing Chaimberg chose to use
2 a wireless switch to communicate with circuitry
3 in the housing, that switch wouldn't
4 necessarily need to couple to the cable,
5 correct?

6 MR. MESSING: Objection to
7 form.

8 A. I don't know. That's speculative,
9 hypothetical.

10 Q. But it's possible you could do that
11 without coupling to the cable. Possible,
12 right?

13 A. I've said this several times today.
14 Let me repeat it on the record. There are many
15 things that are possible. The patent just
16 tells me what the inventors envision. And
17 POSITAs down the road, my colleagues around the
18 world can take that and take the -- hopefully
19 take the invention to a different level. But
20 that's not what the patent talks about. I'm
21 only concerned about what the patent describes.

22 Q. And the patent does not state one
23 way or the other how the switch communicates
24 with the housing, whether it's direct wired or
25 wireless?

1 A. It doesn't -- no, it's not wire --
2 it's not wireless. It tells me it's a toggle
3 switch.

4 Q. But a toggle switch can be
5 wireless. Wasn't that your testimony earlier?

6 A. No. Well, it wouldn't be a toggle
7 switch anymore. The toggle is the mechanical
8 part that your index finger or your thumb moves
9 back and forth. So no. As soon as he tells me
10 it's toggle, it's a mechanical switch.

11 Q. A mechanical switch can still
12 operate as a wireless switch, can it not?

13 A. Well, it would be different. It
14 doesn't have the plastic part that the '336
15 calls an actuator. It would have to have
16 internal parts that are triggered by a wireless
17 signal.

18 Q. And Chaimberg doesn't say what
19 components may or may not be inside the dashed
20 box 18, correct?

21 A. No. But it doesn't need to.

22 Q. So there could be a wireless
23 transceiver in there, right, if you wanted to
24 implement it that way?

25 A. There could be a pot of gold inside

1 it. I have no idea.

2 Q. For the coupling feature to be
3 disposed on a body, does the coupling feature
4 have to be located in any particular part of
5 the body, in your opinion?

6 A. No. There are many different types
7 of switches, and the specific design, the
8 precise details of the design, differ from
9 switch to switch. But the most important point
10 to be made is that every switch has basic
11 parts, one of which are the connectors to the
12 outside world, to the rest of the circuit. The
13 component of a switch that the '336 refers to
14 is a coupling feature.

15 Q. And so the coupling feature could
16 project from within the switch body, and that
17 would satisfy claim 13?

18 A. Oh, yes. Every switch, in my
19 opinion, matches the condition of claim 13, as
20 I described in my report. In fact, I would be
21 happy to read that to you, if you don't recall
22 it.

23 Q. Well, I don't need you to read it
24 to me. But let me ask you this:

25 A. Be happy to do that.

1 Q. Is it your opinion that every CCT
2 switch that existed prior to February 2016
3 would satisfy the limitations of claim 13?

4 A. What do you mean by a CCT switch?

5 Q. A switch used to select color
6 temperature.

7 MR. MESSING: Objection to
8 form.

9 A. Well, I'm happy to answer a variant
10 on your question. Any switch that has ever
11 been devised has a body. That's element 13A,
12 is it not?

13 Q. 13A does recite a body. Is it your
14 opinion that every switch ever devised includes
15 the limitation of 13B?

16 A. Yes. Every switch that's ever been
17 made, and that's what my report says.

18 Q. How about limitation 13C? Does
19 every switch ever made have that limitation?

20 MR. MESSING: Objection to
21 form.

22 A. I think that you're going beyond my
23 report. If you'd like to discuss one of the
24 particular references and does -- does a switch
25 fulfill 13 -- well, any of the limitations of

1 claim 13, I'd be happy to answer that, because
2 that's what I addressed in my report.

3 Q. I'm just asking your opinion. You
4 know, you have said that every switch ever made
5 has limitation 13A and 13B. Do you believe
6 every switch ever made also has limitation 13C?

7 A. My report is why we're here today,
8 and my report explains why Chaimberg, Roberge,
9 Halliwell, and Reiff all have switches that
10 fulfill all of the limitations of claim 13.

11 Q. You understand I'm permitted to ask
12 you questions about the subject matter in your
13 report that isn't spelled out in your report,
14 correct?

15 A. Well, you're certainly free to ask,
16 but I may not be willing to speculate beyond
17 what's in my report.

18 Q. So are you not willing to respond
19 to my question?

20 A. I'm willing to respond in the sense
21 that it's -- as long as you understand that
22 it's speculation.

23 Q. Sure.

24 A. So every switch has a body, every
25 switch that's ever been devised. Every switch

1 that's ever been devised has what the patent
2 refers to as coupling features. There have to
3 be at least two. Some have more. And they can
4 all couple to an electrical cable, every one of
5 them.

6 If it's a mechanical switch, it has
7 what the '336 calls an actuator. Not all
8 switches would have an actuator with a range of
9 positions. But many do. And all forms of
10 switches have a range of positions. So I would
11 say that every class of switch that has ever
12 been devised does fulfill every limitation of
13 claim 13. Every switch that I've known.

14 Q. That would include, for example,
15 slide switches?

16 A. Slide switches, rotary switches,
17 push button switches, toggle switches, read
18 switches.

19 Q. Read switches?

20 A. Every -- you and I could be here
21 for about an hour going through the various
22 types of switches.

23 Q. DIP switches, was that a guess on
24 DIP switches having those limitations?

25 A. Well, one of the problems with a

1 DIP switch, you and I didn't have the
2 opportunity to discuss it this morning, because
3 we've covered so much ground. But looking
4 at -- I'm glad you brought that up, because the
5 brochure that you showed me for Tyco
6 Electronics shows me that the -- excuse me.
7 Let me find this -- what is called the contact
8 rating. It's the maximum amount of current
9 that can be carried by the switch. It would be
10 one reason that a POSITA would not choose a DIP
11 switch for a number of applications requiring a
12 CCT switch. So, for example, Chaimberg did not
13 choose a DIP switch in his implementation, and
14 he made a wise choice.

15 Q. Now, the '336 patent does disclose
16 using a DIP switch as a CCT selection switch,
17 correct?

18 A. Yes, it does. And that's because
19 the circuit that was devised by the inventors
20 was configured -- it's an expensive circuit,
21 actually. But the switches will not carry much
22 current.

23 Q. But DIP switch can be used as a CCT
24 switch?

25 A. If you use it in a particular

1 circuit that draws very little current through
2 the switch.

3 Q. In that scenario, a DIP switch, in
4 your opinion, would have the limitations of
5 claim 13, like the other switches you
6 mentioned?

7 A. Yes. In the configuration shown in
8 the '336 patent, but not in others.

9 MR. DORSKY: Why don't we
10 take a short break before I move on
11 at this point. Maybe a 10-minute
12 break. Does that work?

13 THE WITNESS: That would be
14 fine.

15 THE VIDEOGRAPHER: The time
16 is 5:55 p.m. We are now off the
17 record.

18 (Recess from 5:55 p.m. to
19 6:06 p.m.)

20 THE VIDEOGRAPHER: The time
21 is 6:06 p.m. We are now back on
22 the record.

23 BY MR. DORSKY:

24 Q. Dr. Eden, I am going to put another
25 exhibit in the chat. This is another one, I

1 believe, you have in your binder before you.

2 This is previously marked Exhibit 1011.

3 (Exhibit 1011 was marked for
4 identification.)

5 BY MR. DORSKY:

6 Q. And let me know when you have that
7 in front of you.

8 A. Okay. Thank you. I have it. This
9 is the patent by Roberge, et al., the '941
10 patent.

11 Q. And you discussed this Roberge
12 reference in your clarification, correct?

13 A. Yes. That is correct.

14 Q. And I believe you noted earlier,
15 you discuss, in particular, the Figure 34I
16 embodiment in Roberge, correct?

17 A. Yes, that's correct.

18 Q. And if you could turn in your
19 declaration to, I guess, page 98 and carrying
20 over onto page 99.

21 A. Yes. I'm there right now,
22 actually.

23 Q. And you've replicated here Figure
24 34I with added annotations of red numbering for
25 the first six CCT settings; is that right?

1 A. Correct. That's right.

2 Q. Figure 35 in total contains 11
3 different CCT settings, right?

4 A. You mean Figure 34I?

5 Q. Yes, I'm sorry. Oh, I said Figure
6 35. Let me re-ask that.

7 Figure 34I in total contains 11
8 different CCT settings, correct?

9 A. Yes, it does.

10 Q. Why would a person of ordinary
11 skill want access to 11 different CCT settings
12 like this?

13 A. I think that one application that I
14 can think of is in the cinematography industry.
15 I founded a company that manufactured lamps for
16 the cinematography and videography industries.
17 In that industry, the gaffer, which is
18 responsible for lighting, might require that
19 kind of flexibility.

20 Q. Would these different settings be
21 useful for different applications?

22 A. Possibly.

23 Q. Would it be important for a user to
24 know the CCT setting that's being selected?

25 A. I would say in general, yes, for

1 reference purposes.

2 Q. And why is that?

3 A. Well, it's for -- because of
4 something that's very important called
5 resetability, that you can re-establish certain
6 lighting conditions over a period of time by
7 just recalling the setting that you used in a
8 particular -- a particular event or a
9 particular application.

10 Q. Now, in paragraph 218 on page 99,
11 you state that it would be obvious for a person
12 of ordinary skill to omit the 4500k setting in
13 Figure 34I to arrive at the CCT settings listed
14 in claim 5, correct?

15 A. Are you referring to paragraph 218
16 in my report?

17 Q. Yes.

18 A. Well, the reading that I have for
19 my report doesn't talk about omitting anything,
20 any of the settings. It, in fact, refers to --
21 well, I'll just read it. While Roberge's fifth
22 position corresponds to the generation of light
23 having a CCT value of 4500k and the sixth
24 position corresponds to 5000k, it would have
25 been obvious for a POSA, to include -- I think

1 "to" has been omitted -- to include any other
2 CCT values required by the application at hand.

3 Q. And then in paragraph 219 -- well,
4 actually, let me strike that and go back.

5 Claim 5 lists five specific CCT
6 values, correct?

7 A. Claim 5, could you be more
8 specific?

9 Q. Sure. If you want to go back to
10 page 96 of your report and in the paragraph
11 213, you recite claim 5.

12 A. Okay. But you're talking about
13 claim 5 of the '336 patent. That's what I'm
14 getting at.

15 Q. Oh, yes. Claim 5 of the '336
16 patent cites five CCT values, correct?

17 A. That's correct.

18 Q. And each of those CCT values
19 corresponds to a position of the switch recited
20 in claim 1, correct?

21 A. By recited you mean mentioned, I
22 take it?

23 Q. Yes.

24 A. I'm sorry, if I struggle once in a
25 while with lawyer language.

1 Q. That's all right.

2 A. Nothing personal.

3 Q. You had it correct. So the switch
4 in limitation 1B is a switch that has a
5 plurality of positions, correct?

6 A. I believe that is correct.

7 Q. And then in claim 4, which depends
8 from claim 3, in which itself depends from
9 claim 1, the plurality of positions are five
10 positions: a first, second, third, fourth, and
11 fifth position; is that correct?

12 A. Yes. That is correct.

13 Q. And then claim 5 assigns specific
14 CCT values to each of those five positions,
15 correct?

16 A. Yes, that is correct.

17 Q. And if we look at Figure 34I, there
18 is an additional CCT value in Roberge of 4500k
19 that is not -- that does not appear in claim 5,
20 correct?

21 A. Yes. I believe that's correct.

22 Q. And so is your proposal to remove
23 the 4500k setting or omit it when combining
24 Roberge with Chaimberg?

25 A. Well, I think, as my report states,

1 the point of Roberge is that the selectability
2 of CCT values can encompass as many or as few
3 values as one wishes. And for that reason, the
4 technology described by Roberge satisfies all
5 of the claim elements in claim 1 and claim 4
6 and others, as my report describes.

7 Q. So in your proposed combination,
8 would the luminaire of Chaimberg include all 11
9 positions of Roberge's Figure 34I?

10 A. I don't think the -- I think the
11 number of positions that a POSITA would
12 normally have depend on the application at
13 hand, as I wrote -- read just a moment ago. So
14 I'm simply saying that Figure 34I, the
15 technology -- the ability to select CCT
16 satisfies all of the claim elements of the '336
17 patent that are applicable.

18 Q. Now, claim 5 specifies specific CCT
19 settings in kelvin for each of the five
20 positions, correct?

21 A. Correct. And Roberge is telling us
22 that you can do that easily if a customer
23 specifies -- excuse me -- the color
24 temperatures that are important -- the CCT
25 values that are important for a particular

1 application, it's easy to do that. That's one
2 of the major points of Roberge, et al.

3 Q. And do you believe the CCT setting
4 of 5000 is more important than the CCT setting
5 of 4,500?

6 A. No, the specific values are
7 irrelevant to this -- to the reason we're here
8 today. The point is that Roberge provides the
9 technology to offer the user any set of CCT
10 values that one wishes. If the '339 -- excuse
11 me -- '336 patent specifies a certain set of
12 CCT values, wonderful. That's easy to do.
13 That's the point of Roberge, et al.

14 Q. So in your opinion, if -- no matter
15 what CCT values claim 5 recited, those would be
16 obvious in view of Roberge?

17 A. Could you repeat that? What is
18 obvious?

19 Q. My question is, so in your opinion,
20 no matter what CCT values were recited in
21 claim 5, those would be obvious in view of
22 Roberge?

23 A. And when you use the word
24 "obvious," you mean in a legal sense?

25 Q. When I use the term "obvious," I'm

1 using it in the manner you're using it in your
2 report.

3 A. In a --

4 (Simultaneous speakers.)

5 A. Wonderful. Thank you. You
6 answered my question. So the answer to your
7 question is yes. If you want a temperature --
8 if, let's say that you're designing the
9 lighting on a set for a film to be shot in
10 Hollywood, and you need 3550k, that's no
11 problem. A lighting designer can determine how
12 to drive a set of LEDs or a combination of LEDs
13 so that you get 3,550 kelvin. I know how to do
14 that.

15 Q. And if you were starting with
16 Chaimberg, you might have to modify it
17 depending on what you're trying to achieve,
18 correct?

19 MR. MESSING: Objection to
20 form.

21 A. That's not the way I would phrase
22 it. Suffice it to say that as I discuss in my
23 report, we believe that -- in fact, I'm
24 certain. Just a moment. I'll just read it for
25 you.

1 Okay. So on page 84 of my report,
2 section X is entitled, ground 1B. It's
3 entitled, Chaimberg alone or in view of Roberge
4 renders obvious claims 2, 4, 5, 10, 14, 16, and
5 20 of the '336 patent. So what I'm saying is
6 that the technology introduced by Roberge makes
7 any CCT value available to a user. And
8 certainly, the five that are mentioned in the
9 '336 are straightforward.

10 Q. And is it your opinion that not
11 only does it make any CCT value obvious, it
12 makes the specific selection of a set of CCT
13 values obvious?

14 A. Yes.

15 Q. And why is that?

16 A. Because it depends on the -- well,
17 there's no reason that I see in the '336 that
18 justifies that particular set. But in the
19 industry, 500 kelvin increments is standard.

20 Q. Anything other than 500 kelvin
21 increments would not be standard?

22 A. No. I think the -- I think you're
23 mischaracterizing it. By standard, I would say
24 what is meant is most commonly used. That
25 increments less than 500 kelvin are generally

1 not necessary.

2 Q. Now, you would agree that Roberge
3 doesn't disclose the five specific CCT settings
4 in claim 5 in five positions, right? Your
5 opinion is that that would just be obvious to
6 select based on the disclosure of Roberge?

7 MR. MESSING: Objection to
8 form.

9 A. Yes. Disclosing a specific set of
10 CCT values in Roberge is no more necessary than
11 Chaimberg telling us what kind of electrical
12 coupling feature he has on a specific switch
13 exhibit the point is Roberge is revealing to us
14 his -- I forget what the term that you, as a
15 lawyer, use -- disclosing -- I think that's the
16 verb -- is disclosing the ability to generate
17 any CCT value one wishes. And that is the
18 important technological point to be made.
19 That's the inventiveness.

20 Q. In paragraph 223 of your
21 declaration, which is on page 101.

22 A. Okay. Thank you.

23 Q. Do you see the second sentence that
24 says, for example, the skill 3414 can include
25 different temperatures of white light where

1 dial refers to a rotary switch?

2 Do you see that?

3 A. Yes, I do.

4 Q. So in your opinion, is a dial the
5 same as a rotary switch?

6 A. It can be. Sometimes the terms are
7 used interchangeably.

8 Q. Now, if you turn to the '336
9 patent, if you look at claim 2, claim 2 recites
10 the luminaire of claim, 1 where the switch is a
11 dial, right?

12 A. That's what the claim says. Yes.

13 Q. And now, claim 10 of the '336
14 patent says the luminaire of claim 1, wherein
15 the switch is a rotary switch, right?

16 A. Yes.

17 Q. So in the '336 patent, a rotary
18 switch and a dial are different, correct?

19 A. Yes. They do distinguish between
20 the two.

21 Q. Are you personally aware of any
22 differences between a rotary switch and a dial?

23 A. Yes. All I'm saying is is that in
24 the common usage in the lighting industry, a
25 dial and a rotary switch are sometimes referred

1 to as one and the same. But they can be
2 separate. I understand from Roberge's
3 discussion, as I have in my report -- excuse me
4 for just a moment.

5 Okay. My report describes in some
6 detail on pages 91 and 92 with respect to
7 claim 2, paragraph 201 says this: As discussed
8 above, Figure 34I of Roberge shows, quote, a
9 dial that allows a user to select one or more
10 color temperatures from a scale -- that's
11 labeled 3414 -- which can include different
12 color temperatures of white light.

13 So a rotary switch -- instead of
14 going off that direction, let me just continue
15 on reading from paragraph 201. I further
16 explain in section 10A why a POSA would have
17 been motivated to adopt any one of the switches
18 disclosed and additional LED temperatures
19 disclosed in Roberge, such as the rotary or
20 dial switch.

21 So what I'm getting at here is that
22 a rotary switch and a dial switch are very
23 similar in construction. Ideally, a dial
24 switch will allow a continuous range of CCT
25 values to be chosen. But in reality, it

1 doesn't work that way, that a rotary switch
2 actually is more reliable in providing a set of
3 CCTs. So in other words, my reasons for
4 believing that Roberge satisfies claim 2 and
5 claim 10 are found on pages 91 and 92.

6 Q. So a dial is typically a continuous
7 switch, whereas a rotary switch has sort of
8 discrete stopping points, Is that what you
9 meant?

10 A. That's basically correct. At
11 least, that's the concept behind a dial switch.
12 But that's why the two are normally conflated,
13 because they have the same structure where you
14 rotate a shaft that makes different selections.

15 (Simultaneous speakers.)

16 A. I'm sorry, all I was going to add
17 is, from an engineering standpoint, getting any
18 switch to give you a purely continuous change
19 in the CCT value is not practical. And that's
20 why the two are regarded as one.

21 Q. Now, in Roberge, if you -- if you
22 go to column 44, line 11 -- it may take you a
23 moment. So let me know when you get there.

24 A. Here we go. Sorry for the delay.
25 We're in column 44; is that correct?

1 Q. 42.

2 A. Oh, in 42. Oh, okay.

3 Q. I'm sorry, I might have said 44.

4 A. I might have heard you wrong.

5 Please continue.

6 Q. So column 42, line 11 refers to

7 Figure 34, correct?

8 A. Correct. In fact, the whole column
9 describes Figure 34.

10 Q. And if we go down to, let's say,
11 line 31 of column 42, it states, the switch can
12 allow the user to switch between modes of
13 operation, such as by selecting a color wash, a
14 specific color or color temperature, flashing
15 series of color for the light.

16 Do you see that?

17 A. I remember the discussion. I'm
18 trying to find the specific -- that's
19 intensity. The dual diode -- dual dial.
20 Excuse me.

21 So when you're talking about color
22 wash, what line are you on?

23 Q. You know, it might be easier to go
24 down to column 32, line 35. There is this --
25 it is running from 35 to 38.

1 Do you see that?

2 A. Yes. And I agree with you.

3 Q. Okay. And in this sentence, it
4 says, in various embodiments, the slide
5 switches, dials, DIP switches, and the like can
6 be used to control a wide range of variables,
7 such as color, color temperature, intensity,
8 hue, and triggering of light shows of varying
9 attributes, right?

10 A. Yes, correct. That's true.

11 Q. I'm sorry.

12 A. I said this is true, what's being
13 said here.

14 Q. Okay. And so here, color and color
15 temperature are being listed as two different
16 things, right?

17 A. Yes, they are. And I assume here
18 that, because this was written by individuals
19 at Color Kinetics, who were really pioneers in
20 this area, that they -- when they talk about
21 color, they're talking about the perception of
22 color. Whereas color temperature, CCT, as
23 we've talked about earlier today, is a
24 quantitative number. And that's why earlier
25 today, when we were talking about Reiff, I was

1 trying to make the distinction between what
2 Reiff would say about a color just comes from a
3 perception. But they're separate --

4 (Simultaneous speakers.)

5 BY MR. DORSKY:

6 Q. I'm sorry. I just talked over you
7 at the last thing. You said they're separate
8 what?

9 A. They're two separate ways of
10 describing color. One is just a perception
11 that would be important in the entertainment
12 industry, for example. And a CCT, of course,
13 is a number. It's actually calculated from an
14 actual spectrum.

15 Q. Color and intensity are not the
16 same, right?

17 A. No. They're not.

18 Q. And color and triggering light
19 shows is obviously different concepts, right?

20 A. That's correct.

21 Q. This is listing different things
22 you can do with a slide switch, for example,
23 right?

24 A. Right. That's why Figure 34E shows
25 a dual diode embodiment.

1 Q. So color and color temperature are
2 two different concepts, right?

3 A. Well, they're two -- well, I'm not
4 sure they're different concepts. They're
5 different ways of describing the same thing.

6 Q. So --

7 A. Because every color has a CCT. If
8 I had red LEDs that I laid out here for the
9 holiday season, even though they're -- we would
10 all agree they're red, there is a CCT value
11 associated with that. Every color that we can
12 produce, we can assign a CCT value to.

13 Q. So in your opinion, there is a
14 static value for CCT attached to every color
15 that is unique to that color?

16 A. Well, that's not my opinion.
17 That's a fact.

18 Q. Okay. So two differing colors
19 cannot have the same CCT, in your opinion?

20 A. You asked me that question earlier
21 in the day, and I can't -- repeat the question.
22 I think it's the same one that you posed early
23 in the day, and I wasn't able to agree with you
24 on that. And perhaps I won't be able to agree
25 with you now.

1 Q. My question is: Can two different
2 colors have the same CCT?

3 A. I do not believe so.

4 Q. And that's true no matter how
5 slight the difference between those colors is,
6 in your opinion?

7 A. Now you're getting to speculative.
8 It's a very qualitative -- when you say how
9 small the difference, you would need to
10 quantify that in order to make that something
11 that I could answer responsibly as an engineer.

12 Q. Let's say a difference observable
13 by a human, two different colors that have a
14 color difference, however slight but still
15 observable by the human eye, have the same CCT.

16 A. Well, again, remember CCT is
17 measured by optical instruments. It's not
18 measured by the human eye. So we're trying to
19 compare apples and oranges. The perception of
20 color is a notoriously complicated subject
21 because the human brain processes color
22 differently for all of us.

23 So you're treading on thin ice when
24 you're trying to equate the perception of color
25 by a human and a CCT, which is a quantitative

1 parameter of a light source, and that was the
2 point I was trying to make earlier in the day.

3 Q. And just to be clear, though, to go
4 back to the initial question, it's your opinion
5 that two different colors cannot have the same
6 CCT because CCT is dependent on the color; is
7 that correct?

8 MR. MESSING: Objection to
9 form.

10 A. Let me rephrase my comment.
11 Perhaps phrasing it in a different way will be
12 helpful. CCT is a quantity given -- assigned
13 to light generated by a light source. And the
14 light is detected by scientific instruments
15 that are calibrated. The human eye is not
16 calibrated. Furthermore, the human brain in
17 each of us processes color differently. So to
18 try to assign a subjective view of color by two
19 humans who might see differences in a spectrum
20 may -- I can't make that jump between the two
21 is what I'm saying.

22 Q. Could two wavelengths of color have
23 the same CCT associated with them?

24 A. Now, again, what do you mean by
25 "color"?

1 Q. Well, I think before we talked
2 about blue having a certain wavelength in
3 nanometers, green having a different
4 wavelength. Then there's that diagram in the
5 exhibit for chromaticity had lots of different
6 colors in it, right?

7 A. Right. Blue runs roughly between
8 wavelengths of 420 nanometers and 490
9 nanometers.

10 Q. My question is in that context and
11 my question is: Could two wavelengths of color
12 have the name CCT associated with them?

13 A. Two different wavelengths, let's
14 say 420 nanometers, which all of us would look
15 at and go, wow, that's a beautiful deep blue,
16 and have the same color temperature as
17 something we would see as red, like a neon
18 sign?

19 (Simultaneous speakers.)

20 Q. That's an extreme example. I'm
21 just saying any two wavelengths of color, could
22 they have the same CCT value associated with
23 them?

24 MR. MESSING: Objection to
25 form.

1 A. Any two. Well, obviously,
2 wavelengths in the blue might -- would have a
3 color -- a CCT that would be similar, but they
4 would not be identical.

5 MR. DORSKY: Thank you,
6 Dr. Eden. I have no further
7 questions for you today. I
8 appreciate your time.

9 THE WITNESS: It's my
10 pleasure. Thank you for asking the
11 questions.

12 MR. MESSING: If we could
13 just take a five-minute break.

14 MR. DORSKY: Sure.

15 THE VIDEOGRAPHER: The time
16 is 6:42 p.m. We are now off the
17 record.

18 (Recess from 6:42 p.m. to
19 6:48 p.m.)

20 THE VIDEOGRAPHER: The time
21 is 6:48 p.m. We are now back on
22 the record.

23 MR. MESSING: Dr. Eden, I
24 have just a few quick questions I'd
25 like to ask you relating to the

1 testimony that you provided today.

2 EXAMINATION

3 BY MR. MESSING:

4 THE WITNESS:

5 Q. Do you recall testifying about the
6 Halliwell reference, I believe that was
7 Exhibit 1012?

8 A. The what exhibit?

9 Q. The Halliwell reference.

10 A. Oh, yes. Of course.

11 Q. And you discussed Halliwell in your
12 expert declaration; is that right?

13 A. Yes, I did.

14 Q. And does Halliwell disclose
15 multiple formats of CCT switches?

16 MR. DORSKY: Object to form.
17 Leading.

18 A. Multiple forms --

19 Q. I'll rephrase. Do you recall
20 testifying about a remote switch 40 that's
21 discussed in Halliwell?

22 A. Yes. We spent quite a bit of time
23 discussing that.

24 Q. And Halliwell describes remote
25 switch 40 as being wireless or wired; is that

1 right?

2 MR. DORSKY: Object to form.

3 Leading.

4 A. Yes. Well, it's true.

5 Q. Does Halliwell limit the -- strike
6 that.

7 Could you please go to page 105 of
8 your expert report.

9 A. I'd be happy to do that. Okay.
10 I'm there.

11 Q. Now, earlier, you testified about
12 the next page down, paragraph 237. Do you
13 recall that?

14 A. What in paragraph 237 you are
15 referring to?

16 Q. Yes. Do you recall testifying
17 about that earlier today?

18 A. Yes. We talked about material in
19 237 and other paragraphs.

20 Q. Now, in 236, could you please read
21 the second sentence of paragraph 236?

22 A. Sure. It says the remote switch
23 could be, quote, a wall switch remote control
24 mobile computing device and/or the like, end of
25 quote or even a, quote, junction box-mounted

1 toggle switch, end of quote. And that's
2 referring to column 160 through 67 and 17, 39
3 through 42.

4 Q. And the next sentence, what else do
5 you describe in this paragraph 236?

6 MR. DORSKY: Object to form.

7 A. Well, it -- the remainder of the
8 paragraph talks about the fact that the
9 so-called junction box-mounted CCT switch is
10 not described in detail, as we've seen in other
11 patents discussed today. However, Halliwell
12 tells us that -- and I think we did discuss
13 this -- that the remote switch 40, similar to
14 switch 30, may include, quote, a slide button,
15 end of quote, as an actuator, and that the
16 remote switch, quote, may comprise additional
17 user interface components as appropriate for
18 the application. And that's quoted from
19 column 18.

20 The next sentence is something that
21 I believe to be very true, and I've emphasized
22 it today, a POSA would not have required more
23 explanation beyond that supplied by Halliwell.

24 Q. What does the last sentence say?

25 A. The last sentence on that page

1 says, for example, a POSA would have understood
2 that any of the switches discussed by
3 Halliwell, such as the slide switch of Figure 4
4 of Halliwell reproduced below, would have been
5 appropriate for the application of a junction
6 box-mounted -- and that's in quotes -- CCT
7 switch. And that statement is correct. I've
8 been trying to make that point all day.

9 Q. In your opinion, would a slide
10 switch used as the remote junction box-mounted
11 CCT switch in Halliwell, would that satisfy the
12 limitations of claim 1 and 13 of the patent?

13 A. Yes.

14 MR. DORSKY: Object to form.
15 Leading.

16 MR. MESSING: I have no
17 further questions.

18 MR. DORSKY: And I have no
19 further questions, as well. Thank
20 you again, Dr. Eden.

21 THE WITNESS: Thank you both
22 for your time. I appreciate it.

23 THE VIDEOGRAPHER: This
24 concludes today's deposition. The
25 time is 6:54 p.m. We are now off

1 the record.

2 COURT REPORTER: Counsel, may
3 I have your orders?

4 MR. DORSKY: What was ordered
5 with the court reporting firm.

6 MR. MESSING: I would like
7 the rough and expedited, as well.

8 (The deposition of JAMES GARY
9 EDEN concluded at 5:56 p.m.
10 Eastern Standard Time.)

11 * * * * *

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1 REPORTER'S CERTIFICATE

2
3 I, Greta H. Duckett, Certified Court
4 Reporter, Registered Professional Reporter, and
5 Certified Realtime Reporter, hereby certify
6 that on Thursday, December 5, 2024, I reported
7 the remote deposition of JAMES GARY EDEN, who
8 was first duly sworn or affirmed to speak the
9 truth in the matter of the foregoing cause, and
10 that the pages herein contain a true and
11 accurate transcription of the examination of
12 said witness by counsel for the parties set out
13 herein.

14 I further certify that I am neither of
15 kin nor of counsel to any of the parties to
16 said cause, nor in any manner interested in the
17 results thereof.

18 This 10th day of December, 2024.
19
20

21
22 GRETA H. DUCKETT, RPR, CRR, CVR-S, RVR-M-S
23 Alabama CCR-12
24 Georgia CCR-2891
25 Hawaii CSR-540
Mississippi CCR-1945
Tennessee LCR-671
Washington CCR-23000643

DEPOSITION ERRATA SHEET

PAGE LINE

CHANGE

REASON

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

JAMES GARY EDEN

DATE

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