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THE STATE OF OHIO, : SS: COUNTY OF MEDINA. IN THE COURT OF COMMON PLEAS -----JERRY W. HAZEL, et al., plaintiffs, vs. : Case No. 94 CIV 1203 HOLLAND TRUCKING COMPANY, : et al., defendants.

Deposition of <u>WALTER KOSMATKA</u>, a witness herein, called by the plaintiffs for the purpose of cross-examination pursuant to the Ohio Rules of Civil Procedure, taken before Constance Campbell, a Notary Public within and for the State of Ohio, at the offices of Reminger & Reminger, The 113 Saint Clair Building, Cleveland, Ohio, on <u>THURSDAY, MAY 15TH, 1997</u>, commencing at 2:20 p.m. pursuant to agreement of counsel.



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11	ON BEHALF OF THE DEFENDANT HOLLAND TRUCKING:
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9	KOSMATKA DEPOSITION EXHIBITS MARKED
10 11 12 13 14 15 16 17 18 19 20 21	A - plan view of accident scene 13 A2- plan view of tractor-trailer 116 A3- side view of trailer 116 A4- drawing of accident scene 116 B - handwritten notes from police report 13 C - graph 13 C2- copy of exhibit C with additions 35 D - handwritten deposition notes 13 E - photographs of scene and vehicles 13 F - photographs of vehicles 13 G - photgraph of scene and vehicles 13 H - Mr. Kosmatka's report 13 J - Mr. Lipian's report 13 J - Mr. Lipian's report 13 (FOR COMPLETE INDEX, SEE APPENDIX) (IF ASCII DISK ORDERED, SEE BACK COVER)
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1	WALTER KOSMATKA
2	of lawful age, a witness herein, called by the
3	plaintiffs for the purpose of cross-examination
4	pursuant to the Ohio Rules of Civil Procedure,
5	being first duly sworn, as hereinafter certified,
6	was examined and testified as follows:
7	-
8	MR. KASPAREK: Mr. Iler, I
9	have a current CV for you.
10	MR. ILER: That's
11	perfect. Very nice.
12	Let the record reflect we're taking
13	the deposition of Mr. Kosmatka pursuant to an
14	agreement between the attorneys of record and then
15	further that Mr. Zaller who we advised of this
16	deposition, as we did the other day's deposition,
17	has indicated he will not attend many of these
18	depositions. He's advised this one he will not
19	attended. As we indicated at the earlier
2 0	deposition, it is clear that he probably will not
21	attend the videotape deposition of physicians.
22	We're going to proceed anyhow.
23	MR. KASPAREK: I received a
24	letter from Mr. Zaller this morning indicating he
25	would not be at the expert depositions, but that he

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1	would	still like to continue to be noticed when
2	they	are taking place.
3		
4		CROSS-EXAMINATION
5	<u>by Mr</u>	. ILER:
6	Q.	Mr. Kosmatka, for the purpose of the record
7	would	you please give us your full name and your
8	resid	ence address if you would, please?
9	A.	Walter John Kosmatka, residence 390 Sandhurst
10	Drive	, Highland Heights, Ohio.
11	Q.	44143?
12	A.	Correct.
13	Q.	The last name is K-o-s-m-a-t-k-a,
14	Mr. Kosmatka?	
15	A.	Yes.
16	Q۰	What is your employment, what do you do?
17	A.	I'm employed as an engineer with GE
18	light	ing.
19	Q.	How long have you been so employed with GE?
20	A.	30 years.
2 1	Q,	What is the place, the address of your
22	emplo	yment?
23	A.	Nela, N-e-1-a Park, Noble Road, Cleveland,
24	Ohio	44112.
2 5	Q,	What are your duties there, may I ask?

1 Α. I have general responsibility for a line of products, mostly sealed beam products, including 2 3 headlamps. I also have occasional project 4 responsibilities. I have responsibilities in matters of standards organizations, federal 5 regulatory organizations. Then of course the other 6 duties as assigned category. 7 Q, You are an engineer? 8 9 Α. Yes. Q. Is there a specialty within your engineering? 10 My degree is in chemical engineering. 11 Α. Q, Tell me about the standards that you work 12 with at General Electric, what does that mean, what 13 14 standards are you speaking about? Well, headlighting specifically is covered by 15 Α. federal standards, CFR 49 part 571.108 covers 16 17 headlighting in general. Certain other parts of 18 vehicle lighting. 19 There are also specifications very similar, in some cases identical to the federal 20 standards, and the ones I'm involved with are in 21 the Society of Automotive Engineers, SAE, where I'm 22 23 a committee vice chairman. Q, What is the committee called? 24 The committee is called Road Illumination 25 Α.

1 Devices. 2 Q. What do you do with that committee as chair? I'm the vice chair. 3 Α. 4 Ο, Vice chair? I contribute, I take the minutes, I am also a 5 Α. chairman of several tasks forces on that committee. 6 The code of federal regulations, you talked 7 Q, about part 49, that's right? 8 9 Α. Yes. Q, The subsection please? 10 571.108. 11 Α. Q. Those concern themselves with what? 12 Vehicle lighting in general, headlights as 13 Α. part of that, headlighting. 14 15 Q. What do federal standards require in so for as tractor-trailers are concerned? 16 17 They require a lot of things: Marker lamps Α. on the rear, on the side, of yellow or amber 18 19 colors. 20 Q, For trailers? 21 Α. That's for trailers and tractors. 22 Q, Both? Yes. 23 Α. 24 Q, What do they require insofar as headlights are concerned on tractors? 25

1	A. They require headlights of one type or		
2	another, four lamp or two lamp system, same as		
3	required on a passenger automobile.		
4	Q. This case are you familiar with the		
5	tractor-trailer that was reported here?		
6	A. Yes.		
7	Q. What did you understand that tractor-trailer		
8	to be?		
9	A. Well, I understood it to be what was in the		
10	police report, a Kenworth 1984 tractor with		
11	headlamps.		
12	Q. What kind of headlights were required on that		
13	tractor?		
14	A. Of course anything that appears in the		
15	federal standard, This one happened to have a four		
16	lamp system I note in my report.		
17	Q. This tractor-trailer that was involved in the		
18	accident, this '84 Kenworth, had four lights?		
19	A. Yes, that would be two low beam lights, two		
20	high beam lights, one on each side of the vehicle		
2 1	of course.		
22	Q. Is it your opinion that the headlights		
23	complied with the code of federal regulations?		
24	A. Inasmuch as they are a standard type of		
25	headlamp, yes.		

1	Q, I've been provided a curriculum vitae, you
2	had a chance to look that over?
3	A. Yes.
4	Q. Does it represent an updated one?
5	A. It's fairly updated. I think I may have
6	given one paper since that was updated, but
7	essentially it's complete.
8	Q. Do you work full time at General Electric
9	Nela Park?
10	A. Yes, I do.
11	${ extsf{Q}}\cdot$ Then you also get involved in litigation from
12	time to time, lawsuits?
13	A. Occasionally, yes.
14	Q. About how many lawsuits are you getting
15	involved in, in a period of a year or so?
16	A. I would estimate a dozen, maybe a dozen and a
17	half. I don't keep track, 15.
18	Q. Do you do those for any particular person or
19	entity?
20	A. No. I have a variety of contacts. I do both
21	plaintiff and defense.
22	Q. Do you remember the last plaintiff's case
23	that you did in the lighting field?
24	A. I think I've got a plaintiff's case right now
25	that I'm working on, pedestrian as I recall.

1	Q.	Pedestrian case?
2	Α.	Yes.
3	Q.	Who is the plaintiff's lawyer?
4	Α.	I don't recall offhand. I think it is a
5	Remin	ger lawyer. In fact I know it is. I think
6	Jim T	urek.
7	Q.	Jim Turek is doing the plaintiff's case?
8	Α.	I believe so.
9	Q.	You've done cases for Reminger & Reminger
10	before?	
11	Α.	Yes, a couple.
12	Q,	I notice on your curriculum vitae you list on
13	page	2 consulting experience, you list Ford Motor
14	Compa	ny, Nissan, so forth, so on?
15	Α.	Yes.
16	Q.	Were those consultations done outside of your
17	emplo	yment or in connection with your Nela Park
18	Gener	al Electric duties?
19	Α.	Those were all in connection with GE duties,
20	proba	bly all headlighting.
2 1	Q,	General Electric permits you to be involved
22	as a	consultant in litigation?
23	Α.	If there is no conflict of interest here,
24	yes.	I don't do product litigation. I stay away
2 5	from	anything that would present a conflict of

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1	interest.		
2	Q. For example, today would be a regular workday		
3	for you?		
4	A. Yes, I take vacation time.		
5	Q, Take vacation time to work on the cases?		
6	A. Sure.		
7	\mathbb{Q} , I would like to know when you were first		
8	retained by Reminger $\&$ Reminger to look into this		
9	case of Jerry Hazel?		
10	A. It had to be several months ago probably,		
11	either late last year or early this year.		
12	Q. Is there any correspondence in connection		
13	with you being retained?		
14	A. I have some of it here. I see had to be late		
15	'96, this is '97 correspondence here. I have a		
16	note I looked at the OSP report in 10-96, that		
17	would have been the approximate time they sent me,		
18	that is usually the first thing I get or look at		
19	when it I get it.		
2 0	Q. Who did you have contact with, Mr. Kasparek		
2 1	or someone else?		
22	A. Mr. Xasparek.		
23	Q, Did he send you a transmittal letter where he		
24	enumerated some things he wanted you to look at?		
25	A. Yes.		

1	Q,	Can you recite that? Is that recited in your	
2	report?		
3	Α.	I mention everything he gave me in the	
4	repor	ct. I don't have the letter with me, I pretty	
5	much	enumerated it.	
6	Q,	Once you were retained, that would be in	
7	1996?		
8	Α.	Yes.	
9	Q.	Did you open up a file?	
10	Α.	Yes.	
11	Q.	Nay I see your file?	
12	Α.	Sure. I believe this is all my work. I know	
13	I have other correspondence that I didn't have in		
14	this	file.	
15	Q.	What would that correspondence be?	
16	Α.	I believe there are a couple depositions that	
17	are r	noted.	
18	Q,	In this case?	
19	Α.	In this case.	
2 0	Q,	I think you mentioned that in your report?	
21	Α.	Yes.	
22	Q,	Jerry Hazel's deposition you looked at?	
23	Α.	Yes.	
24	Q.	Is this file in any order it should be in?	
2 5	Α.	No.	

1	MR. ILER: Why don't we
2	mark this, please.
3	
4	(Kosmatka Deposition Exhibits A through J
5	marked for identification.)
6	
7	Q. Mr. Kosmatka, I marked
8	MR. KASPAREK: I want the
9	record to show that with respect to Exhibits E, F
10	and G, which are color photocopies of photographs,
11	that there are numbers that have been written
12	beside the photographs in all three exhibits, that
13	are circled. Those circled numbers beside the
14	photographs in all three Exhibits E, F and G were
15	placed there a moment ago by the court reporter and
16	were not on the photographs before today.
17	Q. Mr. Kosmatka, we marked your file from
18	Exhibit A to H. Was anything removed from your
19	file before today's deposition?
20	A. No.
21	MR, KASPAREK: I want the
22	record to show that you have taken out the police
23	report and did not mark this police report, that
24	was in the file.
25	MR. ILER: Okay.

MR. KASPAREK: You made a 1 statement we marked your file, which we haven't. 2 You marked some things that were in his file. 3 Q. I marked everything in your file except the 4 police report? 5 I believe two depositions. 6 Α. Ο, And the two depositions, one would be of 7 Mr. Hazel? 8 Α. Hazel. 9 10 Q. The other deposition? Mr. Holland. 11 Α. Rex Holland? 0. 12 I think so, yes. 13 Α. MR. KASPAREK: He also told 14 15 you he has some other correspondence from me. In that correspondence you received -- what Q. 16 17 was in the correspondence you receive from Mr. Kasparek? 18 19 Α. I believe all cover letters. 20 Q, Covering what? Explaining the materials that were being 21 Α. 22 sent, photographs, reports, et cetera. We would like to get a copy of that, can you? 23 Q. 24 If I can find them, I'll turn them over. Α. Give them to Mr. Kaparek, he'll send me a 25 Q.

1 copy of them. MR. KASPAREK: I may send you 2 a copy, I may not. We can discuss that. 3 4 MR. ILER: Request is 5 being made for it. MR. KASPAREK: He'll send it 6 7 to me, you and I will will discuss them. Q. In any of those letters you received from 8 Mr. Kasparek was Dr. Uhrich mentioned? 9 I don't recall. Other than he was certainly 10 Α. 11 in the one where I got his site diagram. Q. I'm refer to the letters which are not in 12 this file. 13 14 Α. I'm not aware he was or wasn't. Q, Do you have any specific recollection now of 15 the subject matter of the letters Mr. Kasparek sent 16 you which are not in your file now? 17 18 No, other than they were generally explaining **A** . 19 the enclosures I have in my file here. Q. In any of those letters was there ever an 20 21 indication as to what your opinion was being sought 22 about? A. I believe there was an indication my opinion 23 on the visibility or detection distance, 24 25 discernability of the tractor-trailer was the item

1 of interest. 2 Q. That was what Mr. Kasparek requested you to focus your attention on? 3 Α. Yes. 4 Q. Is there anything in your file, A to H, 5 marked Exhibits A to H, which was material sent to 6 you by Mr. Kasparek? 7 Yes, I believe. 8 Α. 9 Q, They have exhibit numbers on them, Mr. Kosmatka, so you can take a look at them. 10 Α. I believe Mr. Kasparek -- no, A was probably 11 12 forwarded to me by --I sent it to MR, KASPAREK: 13 14 you. Mr. Uhrich or Mr. Kasparek. B, no. C is 15 Α. mine. E was forwarded by Mr. Kasparek. F 16 17 forwarded by Mr. Kasparek. G was forwarded by Mr. Kasparek. I and J were forwarded by 18 19 Mr. Kasparek. 20 Q. The file that you have now, your file you 21 have now, can you tell me what items were generated 22 by you personally? I generated item A, item -- I'm sorry. 23 Α. I 24 generated B, I generated Exhibit C, D, that is 25 all.

Q. 1 B, C and D? I'm sorry, and H. 2 Α. B, C, D and H generated by you? 3 Q. That's correct. 4 Α. Q. I'll come over to talk with you for just a 5 minute about your exhibits before we start. 6 Let's start with Exhibit B, what is 7 Exhibit B? 8 9 Α. Exhibit B are my notes from the police report, describing times and locations, vehicles, 10 the at rest final position of the tractor and 11 trailer, along with some calculations I made about 12 the at rest location of the tractor and trailer, 13 and a sketch describing in general the plan view of 14 15 the site. Stay with me on page 1 first of Exhibit B. 16 Q, 17 On top this is done in your hand, Mr. Kosmatka; am 18 I correct? 19 Α. Yes. 20 Q. All three pages of it? 2 1 Α. Two pages. 22 Q. Two pages, my apologies. 23 All two pages of Exhibit B were 24 done in your hand? 25 Α. Yes.

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At the top Hazel v Holland? 1 Q. 2 Α. Yes. 3 Q. Date of 10-7-96? 4 Α. Yes. Q, Then it's got a letter A. I assume page 5 designation; am I correct? 6 7 Α. Yes. Q. 8 Is this your complete work on the subject matter contained herein, or is there any other 9 sheets or just two sheets? 10 11 I think just two sheets there, yes. Α. 12 Q, Here at the top says OSP. MR. KASPAREK: For 13 14 clarification, his complete work on the case or 15 that exhibit? MR. ILER: That Exhibit 316 17 containing two pages, no more. Q, 18 Can you read this for me, OSP? 19 OSP police report number 52-1616-52. Α. 20 Ο. Date of the report 9-28? 21 Α. Yes. 22 Q. Time 3:50. 23 What did that time mean to you, the 24 time of the crash, or any other time; do you know? 25 I believe the time noted on the police Α.

1	repor	t, I would assume is approximately close to
2	the time of the crash.	
3	Q,	Did you use that time, 3:50 in the morning?
4	Α.	Yes.
5	Q.	Did you use that time in your calculations?
6	Α.	No.
7	Q.	What time did you use?
8	Α.	I didn't actually use a time.
9	Q,	Did you find the time was relevant to your
10	opini	ons or not?
11	Α.	Only inasmuch as it was nighttime, as opposed
12	to da	ytime.
13	Q,	Then continuing with page A of Exhibit B,
14	it`s	got location from the police report, right?
15	Α.	Yes.
16	Q.	SR 3, State Route 3, County Road 160, Medina,
17	Ohio?	
18	Α.	Yes.
19	Q,	Vehicles down here. Under Kenworth
20	tract	or-trailer you have what is W40?
2 1	Α.	With 40 foot trailer.
22	Q.	FB after that is Freuhauf?
23	Α.	Yes, I think that was their designation, I
24	don't	recall what FB was.
25	Q.	The other vehicle was the Hazel vehicle,

1	'88 Dodge Ram?		
2	Α.	Yes.	
3	Q,	Can't read the rest.	
4	Α.	Panel truck.	
5	Q.	The weather you have no	
6	Α.	No adverse.	
7	Q,	Road conditions you mark as dry, dark.	
8	Α.	No lights. Curve level.	
9	Q,	Speeds you have 55. I can't read that.	
10	Α.	55.	
11	Q,	Whose speed would that be?	
12	Α.	I believe that was the speed of the van.	
13	Q.	Then it's got 35, what does that mean?	
14	Α.	I don't recall what that's for.	
15	Q,	After that you have stopped?	
16	Α.	That refers to the tractor-trailer was	
17	essen	tially stopped.	
18	Q,	What speed did you use for Jerry Hazel's	
19	vehic	le?	
20	Α.	I don't really use a speed since one vehicle	
21	is st	opped, speed enters in only inasmuch as the	
22	drive	r has limited time to do certain things. I	
2 3	don't	use a specific speed. It doesn't enter into	
24	my ca	lculations.	
2 5	Q,	Can we eliminate the speed of Jerry's vehicle	
	•		

1 at the time of the crash from your opinions? 2 Yes, my opinions don't have much to do with Α. speed. 3 You call a diagram, site diagram made by you? Q. 4 Yes. 5 Α. Q, Did you take it from the police report? 6 Yes. Α. 7 The width of the road 22 feet? 8 Q. Yes. 9 Α. Some other 2.4 is? Q. 10 Berm width I think. No, I'm sorry. Location Α. 11 of a tire. 2.4 is a tire location. 12 Q. The right side of the diagram? 13 Α. Yes. 14 Then you have 2.6? 15 Q. Α. Another tire. 16 Now tire of what? 17 Q, Those are tractor tires. 18 Α. Q. Then continuing with the diagram, I'm still 19 20 2 1 22 23 24 25

1 representations there? 2 Α. Yes. The second coming down on this diagram, you 3 Q. 4 have 22? 5 Α. Feet, 10 inches. Q, Appears to be a representation of the second 6 set of trailer tires? 7 That's correct. 8 Α. Q, This trailer had how many wheels; do you 9 10 recall? The trailer should have four on each side in 11 Α. 12 the rear. I believe this is the outer most of the four. 13 Q. I'm looking at some numbers, I see 40? 14 44. 44 feet, 9 inches. 15 Α. What would that represent? 16 Q. 17 Another measurement off the police report Α. 18 indicating location of one of the rear sets of dual 19 wheels. 20 Q, Can we see from the police report which we 21 have before you now where that figure appears? 22 44.9 is B. Α. 23 Q. On the third page of the police State Highway report? 24 MR. KASPAREK: I want the 25

record to show when he says 44.9 feet being B, B is 1 the designation on the police report. 2 That's correct. 3 Α. 4 Q. On the top of the police report we have PT, what do you understand that to be? 5 PT is the code on the police diagram, it Α. 6 7 probably stands for point. What does AE mean, what do you understand Q, 8 that to mean? 9 10 A. I understand AE to be a longitudinal 11 measurement along the road length from a reference 12 point. Q. In this police report, what did the State 13 Highway Patrol use as a reference point? 14 15 Α. It's not clear. Since I'm working with 16 references it didn't effect my results too much. 17 Q. So you didn't use the State Highway Patrol reference point in your calculation? 18 19 A. I didn't use a reference point -- they show a 20 pole here. 21 Q. Back to page 3, the police report shows FE 22 category, what did you understand FE to mean? I understand that to mean a measurement 23 Α. 24 across the road width from a -- in this case I 25 believe he is using the lanes of SR 3 for that.

1 Q. So then can we say this of your diagram, on 2 Exhibit B, page A: In the middle where the diagram is with the numbers we've read, you took that 3 information from page 3 of the State Highway Patrol 4 5 report? 6 Α. Yes. On the bottom, I'm still with Exhibit B, if 7 Ο, you will, sir, looking at page A, now I see what 8 appears to be -- what would you call this figure 9 10 here? 11 Α. Right triangle. 12 Q, Got some numbers? 64.3 minus 41.5. 13 Α. 14 Q, What do those mean, why did you make the 15 triangles? 16 I'm attempting to calculate the angle that Α. 17 the trailer is with respect to the roadway. Q. The trailer to the roadway? 18 19 Α. Yes. 20 Q. Can you explain that just a little bit further? 2 1 22 If I measure the location of two wheels, or Α. the difference between two wheels, I can calculate 23 a height. And if I do that in the other direction 24 25 across the roadway, I calculate the base of the

1	triangle, with those two numbers and trigonometry I		
2	can calculate an angle.		
3	Q. I'm continuing with your triangle. After		
4	41.5 there is a word here, I can't tell what that		
5	is.		
6	A. Tan, tangent. T-a-n.		
7	Q. You have the formula or something you worked		
8	out?		
9	A. Yes.		
10	Q, Would you mind explaining for us?		
11	A. Differences between those points.		
12	Q · 22.		
13	A. 22 feet 10 inches and 25 feet 4 inches, I		
14	convert them to decimals, then compute a tangent.		
15	Q. What does that mean now that you've converted		
16	to a tangent?		
17	A. I can compute an angle.		
18	Q. What angle did you arrive at?		
19	A. I didn't write it down here, the angle I		
20	arrived at is in my report.		
2 1	Q, Please refer to that if you need to.		
22	A. Sure.		
23	Q. Your report would be H?		
24	A. That angle 1 calculated to be about		
25	42 degrees.		

1 Q. That would be the angle of the trailer at 2 rest? That's correct. 3 Α. Q, Now, when you say 42 degrees, in relationship 4 to, reference to 360 or north? 5 No, it's 42 degrees to -- the body is Α. 6 7 42 degrees to the road width. The trailer is? Q , 8 9 Α. Yes. 10 Q. If we look at page 2 of your report, it's not really page 2, page B? 11 Α. Β. 12 Q, Here you have a diagram of the trailer? 13 14 Α. Yes. Q. That's your work? 15 Yes. 16 Α. MR. KASPAREK: I'm sorry to 17 18 interrupt things. You said page B of his report, 19 this is page B of Exhibit B. 20 Q. That's correct. We're still on Exhibit B, 21 we're looking at page B, Hazel versus Holland, you have the pictures? 22 23 Α. Correct. 24 Q. You have written out --25 Α. Shows slight curve in the road immediately

1	adjacent to POI.	
2	Q. What is POI?	
3	A. Point of impact.	
4	Q. The road was still curved slightly at the	
5	point of impact?	
6	A. I believe.	
7	Q, Let's go to your trailer diagram. Remember	
8	you mentioned to us earlier about the 42 degree	
9	angle of the trailer?	
10	A. Yes.	
.11	Q. Is that what you're attempting to show in	
12	page B of Exhibit B?	
13	A. Yes, in a general sense.	
14	Q. What would be an exact 90 degree position of	
15	the trailer, if that were so, would it be	
16	90 degrees then	
17	A. 90 degrees would be along the lane length at	
18	zero degrees, across the roadway entirely, this is	
19	approximately halfway.	
2 0	Q. Halfway between?	
2 1	A. Zero and 90.	
22	Q. Zero would be across the road?	
2 3	A. That's correct.	
24	Q. At the zero degree heading?	
2 5	A. That's correct.	

1 Q. Could we use north for zero also or south? 2 Α. sure. Q. These notes were made by you, I just had one 3 4 question for you, Mr. Kosmatka, if you would, please. 5 A. Yes. 6 MR. KASPAREK: I just want to 7 8 make sure I understand. When you say could we use 9 north? MR. ILER: Are you having 10 11 trouble with north, south? MR. KASPAREK: Yes. 12 Mr. Kosmatka, so we have a point of Q. 13 14 clarification, if the trailer involved in the 15 accident was at least at zero degrees, would it be exactly parallel or across the road? 16 MR, KASPAREK: I object. 17 18 In my nomenclature, east/west would be zero, Α. 90 degrees would be north/south. 19 20 Q, That's fine. Thank you. 21 I had one question for you on 22 Exhibit 2, page 2 you have a word called 23 "pictures"? 24 Α. Yes. What pictures, how did they assist you in 25 Q.

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K.J

1 your opinion? MR. KASPAREK: I object 2 again. You said Exhibit 2, page 2, we're looking 3 4 at Exhibit B, page B. MR. ILER: Exactly right. 5 My apologies to you. I'll rephrase my question so 6 7 the question is clear. Q. Still looking at Exhibit B. 8 I understand. Α. 9 Looking at page B of Exhibit B, on that page 10 Q, 11 it says pictures? 12 Α. Yes. Q, What does that mean, how did it assist you in 13 14 any way? 15 Α. It was a note so I don't forget there is a curve. 1 saw those, I made the note on Custard's 16 17 picture 20 and 21, Custard's adjustor. 18 Q. Can we take a look at those in your exhibit, if you would, please? 19 Sure. Here is 20. 20 Α. Q, 21 Let me get the exhibit first, Exhibit E, that 22 would be picture number? MR. KASPAREK: 23 The court 24 reporter has it labeled as 20, it's actually marked 25 with a number by the adjustor as something

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1 different. MR. ILER: Maybe that's 2 not the one he wants. 3 4 That's not the one I want. Α. Take your time, Mr. Kosmatka. 5 0. Here we go. They are now numbered 11 and 12. 6 Α. 11 and 12 of Exhibit E? 7 Q. Yes. 8 Α. MR. KASPAREK: 11 and 112 9 10 referring to the court report r's numbers. MR. ILER: Correct. 11 Q. Two photos, one on top of the other? 12 Yes. 13 Α. 14 Q, These were taken by who? 15 It says J. Turner, Α. Do you know who he is? 16 Q. 17 No. Α. Q. On top it says Insurance Adjusting Inc., can 18 19 you read that? Custard. 20 Α. MR. KASPAREK: Objection. 21 Q, Custard, Insurance Adjusting, Inc. 22 MR. KASPAREK: Move to strike 23 24 the reference to insurance. 25 Q, Mr. Turner took those photos?

1	A. Yes.
2	Q. What does photo 11 of Exhibit E show you?
3	A. Shows a roadway curving to the left.
4	Q. Then picture 12 of the same exhibit has two
5	red arrows on it, you see that?
6	A. Yes.
7	Q. Once again, what are we looking at?
8	A. Same roadway curving to the left.
9	Q. Which direction are we looking?
10	A. I believe looking south.
11	Q. Both pictures?
12	A. I think so, yes.
13	Q. As we look at picture 11 of the exhibit says
14	photo 20 taken 9-28-92, time 1:00 p.m., J. Turner,
15	description looking S on SR 3 to point of impact
16	from drive at 9942, (234 feet away.)
17	A. Yes.
18	Q, What this picture 11 what does it mean to
19	you, the point of impact was on a slight curve?
20	A. Yes.
2 1	Q. Is the same thing true of picture 12 of the
22	exhibit?
23	A. Yes.
24	Q. Do you know why these two arrows are there,
25	red arrows are there on picture 12?

1	A. Frankly it doesn't say. I assume they were		
2	to depict an area near the point of impact.		
3	Q. As we look at let us return to your		
4	Exhibit B and page B.		
5	A. Yes.		
6	Q. Is there anything else that would the		
7	"pictures" you've written in pencil bring anything		
8	else to mind other than what we looked at?		
9	A. No.		
10	Q. If you would, I would like to look at		
11	let's return to Exhibit B for just a moment. Aside		
12	from the State Highway Patrol report and page 3		
13	which gives some distances we've already talked		
14	about?		
15	A. Yes.		
16	Q. The pictures that we just had discussed?		
17	A. Yes.		
18	Q. Was there anything else that you reviewed or		
19	looked at that assisted you in any way in making		
20	your diagram, Exhibit B?		
21	A. In making Exhibit B, no, I don't believe so.		
22	Q. Then I want to take a look at another		
23	handwritten work that you have done on the case.		
24	Let's take a look at the next		
25	exhibit, which would be C. Is C done in your hand,		

1	sir?	
2	A.	Yes.
3	Q.	On the side of it what is this exhibit?
4	Α.	The exhibit is a graph, the vertical or
5	Y axi	is is illumination in foot candles, the
6	horiz	zontal axis, the X, is distance in feet.
7	Q,	When we say horizontal axis, do we mean the
8	blue	lines?
9	Α.	The axis I mean the dark line at the bottom
10	is ge	enerally referred to as the axis.
11	Q.	5, 50, 100, 150, 200?
12	Α.	That's correct.
13	Q,	That represents the distance in feet from
14	what?	
15	Α.	From the point of impact to the
16	appro	oximate point of impact.
17	Q.	Between Jerry's vehicle and the
18	tract	cor-trailer?
19	Α.	That's right.
2 0	Q,	The trailer?
21	Α.	Yes, sir.
2 2	Q,	On the vertical axis illumination in candles?
2 3	Α.	Foot candles.
24	Q.	On the right upper corner it says what?
2 5	A.	Kasparek.

1	Q. What did that have to
2	A. I note that so I remember who I was talking
3	to, what the case is. It's my personal reference.
4	Q. I understand.
5	Did you receive any input from
б	Mr. Kasparek before making the diagram?
7	A. No.
8	Q, Did he help you with any information, give
9	you any information?
10	A. Just what he sent in the mail.
11	Q, The next line says, can you read that?
12	A. Rear trailer wheel illumination required
13	illumination of headlamps versus distance.
14	Q. Is there a date for your work here?
15	A. It would have been shortly before my report.
16	No, it isn't dated, shortly before February 22,
17	1997.
18	Q, That would be your date of your report was
19	February 22nd?
2 0	A. Yes.
21	Q. Is that the only report that you generated in
22	this case?
23	A. That's correct.
24	Q. Nobody else has any other report from you?
2 5	A. No.

1 Q. If you can, Mr. Kosmatka, please explain the 2 diagram, Exhibit C we're looking at, in any way you think best. 3 4 Α. Sure. Essentially there are two sets of 5 curves, the one curve is degrading downward to the 6 right, it represents the headlamp illumination on the wheel hubs in foot candles as a function of 7 distance. 8 Q, May I stop you? 9 10 Α. Yes. MR. ILER: Off the record. 11 12 (Discussion had off the record.) 13 _ _ _ _ _ 14 (Kosmatka Deposition Exhibit C2 15 marked for identification.) 16 17 18 MR. ILER: Let the record 19 reflect I asked Mr. Kasparek to photograph Exhibit C of the deposition, he has done so. We 20 2 1 have marked that photograph of Exhibit C as C2. We 22 both have copies, The purpose we did that is I'm going to ask Mr. Kosmatka to write on C2, rather 23 24 than write on his original Exhibit C. MR. KASPAREK: That's 25

1 correct. 2 Q, Mr. Kosmatka, if you will be patient with us 3 a moment, you can use this red pen to help us use your diagram a little better. 4 I think you explained the 5 6 horizontal and vertical quite well. Now we're 7 coming into the substance of your diagram. If you use an arrow and mark in writing what you are 8 talking about it would be helpful. Go ahead. 9 10 The curve I'm going to call HI represents the Α. 11 illumination from the headlamps on the wheel hubs, which I'm going to underline as a function of 12 distance. 13 What this tells us is as we get 14 15 closer, we get closer to the Y axis, the number goes up. As we get further away, the number goes 16 17 down. There are two reasons for that. 18 Q, Let me stop you. 19 On our diagram C2 you marked an HI 20 with an arrow towards the line, your explanation 21 you underlined --22 On wheel hubs. Α. Q, In red also? 23 24 Yes. Α. 25 Q. Now you are talking about the X point, can
1 you define that for us, what does that mean, where 2 is it located on your diagram? MR. KASPAREK: I object to the 3 phrase "X point." I'm not sure he was talking 4 5 about something called an X point. 6 Α. What I am showing here is that as we move 7 further away, that is we move outward in distance, move to the right, which is shown on the X axis, 8 the headlighting intensity is less. As we move 9 10 closer, that we move to the left, the head lighting intensity is more. 11 That is what the long line in the middle of 12 Q. the sheet is? 13 14 Α. That's correct. Headlight intensity then? 15 Q, Α. That's correct. 16 Q, The line that starts -- would you please put 17 18 on top, next to it number one for me. Where you've calculated headlight intensity, number two where 19 20 your headlight intensity ends? MR. KASPAREK: 21 I object. Нe 22 labeled it headlight illumination. He put HI when 23 testifying, he called it headlight illumination. 24 He said headlight illumination, you are changing 25 his testimony.

1 Q. Show me where the headlight illumination he saw started and ended. I could start at one end, I could have 3 Α. 4 calculated to the zero point. As a point of interest I started calculating about 180 feet, I'll 5 6 put the notation number two. 7 Q. Number two you can mark 180 feet if you would, sir. 8 About 180 feet. Α. 9 10 Q. 180 from what place starting, what place 11 ending? 12 180 feet along the roadway between Α. 13 Mr. Hazel's headlamps and the anticipated expectant 14 location of the wheel hubs I was using as a 15 sightable object. Q. It would be from the point you calculate 16 17 Mr. Hazel's headlights would show on the hub caps 18 of the trailer? Yes, that's correct. 19 Α. Q. Would be 180 feet? 20 21 That's correct. Α. 22 MR. KASPAREK: That particular 23 point on the curve. 24 Q, That point would be right where you have 25 number two?

1 That's correct. Α. 2 Q. Approximately 180 feet. 3 Have any distances in feet been 4 made along this line from number one to number two? I guess I don't -- could you try and rephrase Α. 5 that? 6 7 0. If we start up at the top of your diagram at number one, move down say an inch, is there a 8 distance in feet from one inch down, is it 9 10 increments? The distance in feet would be -- could be 11 Α. read off the bottom of the graph. The point one 12 appears to have been calculated about 180 -- I can 13 14 tell you easier from this one, point one was 15 calculation for 100 foot distance. 16 From point one to where would be 100 feet? Q. 17 Between the headlamps and the vehicle and the Α. 18 trailer hubs. Q. 19 That is what is represented in C2 and also 20 your diagram C? 21 Α. Yes. 22 0, So that I can have a clarification on a point 23 for me, sir. 24 Α. Yes. 25 Q. 100 feet on Exhibit C, by using the same

1	thing, C2, a copy, we see 100 feet is from point
2	one to where?
3	A. No, it's not point number one. Point one
4	indicates a 100 foot separation between the Hazel
5	vehicle headlamps and the tractor-trailer.
6	Q. Was that distance of 100 feet used in your
7	calculations in this case?
8	A. When you say was it used, what I do is in
9	locating the Hazel vehicle, 100 feet, ${f I}$ make a
10	calculation of how much light would fall on the
11	hubs based on various factors, the beam pattern,
12	the orientation of the vehicles, so in a sense,
13	yes, it was used. I didn't make a measurement, I
14	made a calculation based on the 100 foot distance.
15	Q. Where does that appear on your notes, any of
16	your notes you've done in long hand, Exhibit B or C
17	or anyplace else, show us that formula for those
18	calculations?
19	A. The calculation is seen in general on page 6
20	where ${f I}$ show the illumination of the headlamps to
21	be equal to the luminous intensity of the right
22	lamp, luminous intensity in the left lamp summed
23	times one over the distance squared, times the
24	factor for light loss or other factors, times
25	whatever other factors are appropriate.

4 0

1 Q, Are you using page 6 of your report, when you explain that? 2 Yes. Α. 3 Q, Where on page 6 does 100 feet appear? 4 It doesn't. I do though show the details for 5 Α. this calculation. 6 As far as we've gone now, with Exhibit B and 7 Ο, Exhibit C, keeping those in mind, your primary work 8 went into the illumination aspect of the case? 9 10 Α. Illumination and luminance, yes. 11 Q. Are there any other opinions being expressed 12 such as perception time, or have you used those, 13 are those part of your opinion that you are going 14 to give? Perception time is implicit in a sense. 15 Α. In fact I allude to it in Exhibit H, my report, 16 17 because of the way I use expectancy or 18 nonexpectancy. In the nonexpectant case there is 19 implicit reaction time because the way that was derived was the drivers whose reactions were used 20 21 to generate those numbers had actually already gone 22 through a cognitive stage. They were well into the reaction cycle. 23 24 Q, Insofar as Exhibit B is concerned, and Exhibit C2 or actually C are concerned --25

1	A. Yes.			
2	Q. Does reaction time have anything to do with			
3	that?			
4	A. No.			
5	Q. So we finished, have we not, is there			
6	anything else you wish to add in the explanation of			
7	Exhibit B and C we have not discussed?			
8	MR, KASPAREK: I'm going to			
9	object to the question.			
10	A. I'll mention on C there are other lines			
11	drawn, there are three of them in this case. They			
12	represent illumination required. I indicate that			
13	within an arrow that illumination required, then			
14	there are various notes.			
15	The factor 30 percent nonexpectant			
16	drivers, that's top of the three most horizontal			
17	direct lines. The second line illumination			
18	required for a reflection factor 20 percent for an			
19	expectant driver. The bottom most line extends			
20	from left to right, indicates reflection factor of			
21	30 percent for nonexpectant driver. Also the			
22	illumination required, there are three other sets			
23	of lines on this diagram.			
24	Q. Let us see if we can discuss this for a			
25	minute.			

1 The lines you are speaking about are almost horizontal lines? 2 Yes. Α. 3 MR. KASPAREK: I object to 4 that, but go ahead. They are what they are. They 5 are not horizontal, they are oblique. They are at 6 7 an angle. Q. The oblique angles we're looking at, 8 Mr. Kosmatka? 9 10 Α. Yes. When we say 130 feet for nonexpectant driver, Q. 11 12 what does that mean, that Mr. Hazel as a nonexpectant driver should see the wheels or what 13 14 does that mean to us? MR. KASPAREK: I object to the 15 form of the question. Go ahead. 16 Let me answer. I'll put it in my words. 17 Α. 18 The intersection of that line that 19 I earlier referred to, left to right line, straight line intersects the illumination curve I described 20 earlier from the headlamp. The intersection occurs 21 at approximately 130 feet. 22 23 If you put it in very general 24 terms, the illumination requirement is satisfied at 25 a distance of 130 feet the average driver would

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1	have been able to see those wheel hubs.		
2	Q. Would be an average nonexpectant driver?		
3	A. That's correct.		
4	Q. Your definition of nonexpectant is what I		
5	think you referred to in your report?		
6	A. I did. I think I say someone who		
7	Q. Can we use your report definition of it?		
8	A. I'll give the report definition. I say		
9	nonexpectant		
10	Q, What page?		
11	A. Page 4.		
12	Q. Exhibit number?		
13	А. Н.		
14	Q. Go ahead, sir, page 4, go ahead, sir.		
15	A. I state that the general definition of a		
16	nonexpectant driver is, "Those who had no		
17	reasonable expectation of finding an obstacle in or		
18	near their vehicle path,"		
19	Q. In terms of this case, with that definition,		
2 0	are you saying that 130 feet illumination point, as		
2 1	you describe it in your testimony, would be the		
22	distance that a nonexpectant driver who did not		
23	anticipate the road being blocked he was on by a		
24	tractor-trailer would be?		
25	A. Yes, I guess that is pretty much what I'm		

1 indicating. 2 Q, Let's take the next number you have here, that is -- let me stop for a moment. 3 4 With the 130 feet mark on Exhibit C2, illumination required, what does R equals 5 6 30 percent mean? Reflectance factor. 7 Α. Q, What is that? Can you help us with that? 8 It's a number that tells us how bright Α. 9 10 something is when we illuminate it with light. If I were to illuminate something 11 12 with one foot candle of light, it has a 30 percent 13 reflectance factor, it's visual brightness or luminance would be .3 foot-lamberts. 14 Q, The reflection factors would have what impact 15 on illumination? 16 The brighter something is given constant 17 Α. 18 illumination. 19 Q, The next item we're looking at on C2 is **153** feet? 20 21 I believe 158. Α. 22 Q. My apologies, it is. Would you mind writing 23 it on C2, I've got a black one, a fine point, maybe 24 that would help you. 25 What does that number reflect?

45

1	A. That reflects the illumination for an		
2	expectant driver in this case with a 20 percent		
3	reflectance factor, the distance at which the		
4	illumination would be required from the headlamps.		
5	Q. When you say expectant driver, can we use		
6	your definition in the report for driver on page 4		
7	also I think?		
8	A. Yes.		
9	Q. We can take a look at your Exhibit H.		
10	A. Here I say a driver who is expecting to		
11	encounter an obstacle. As I later infer Mr. Hazel		
12	could have inferred.		
13	Q, What you mean is the trailer?		
14	A. That's correct.		
15	Q. Here you have an R, reflective factor equals		
16	20 percent?		
17	A. Yes.		
18	Q. Once again, does the same definition		
19	A. Yes.		
20	Q that you gave to us earlier applies?		
2 1	A. That's correct.		
22	Q, I assume the left hand side of the line, I'm		
23	calling it illumination, R equals 30 percent, what		
24	does that mean?		
25	A. That is the third test I tried, because I had		

1	
1	originally hypothesized that the reflectance factor
2	was about 30 percent, I indicated with a third line
3	in a left to right orientation where the
4	illumination requirement would be for that
5	30 percent reflectance factor that yielded a
6	distance of 167 feet for meeting the illumination
7	requirement.
8	${\mathbb Q}$. For the reflection factor, does that mean you
9	see less or you see better?
10	A. The higher it is the better you see.
11	Q. What would be the highest?
12	A. Well, theoretically, you could argue
13	100 percent. Nothing ever gets up there. White
14	paper is between 70 and 90. Grays are in the
15	30 percent range. Blacks are in the 5 to 3 percent
16	range.
17	Q. The accident occurred at night?
18	A. Yes.
19	Q. No outside illumination on the streets?
20	A. I did not take any into account. I assume
2 1	there was zero.
22	Q. You have a black situation, dark, right, sir?
23	A. As far as other light, yes.
24	MR. KASPAREK: Wait a minute,
2 5	Don, are you asking him black with respect to

1 reflectance? That is not what his report says. Ι 2 don't want you to misstate what is in his report. His report says the condition in this case is a 3 4 gray situation, with respect to the hub caps, that is what he's talking about. 5 MR. ILER: He doesn't need 6 I think he's explaining. 7 any help from you. MR. KASPAREK: I think you are 8 9 trying to confuse the situation. You have a seven 10 page report in your hand, you are asking him if it's a black situation. He said with respect to 11 12 the fact that there is no other light. That is not 13 what he's talking about in his report, not what his 14 diagram talks about. We've used Exhibit B, C, C2, which we have, 15 Q. 16 then we have Exhibit D I want to speak to you now, 17 sir. 18 Α. Yes. 19 Q. It's done again in pencil? 20 Α. Yes. 21 It's done in your hand? Q, 22 Yes. Α. 23 Q. I think Exhibit D has four sheets to it. 24 Α. Yes. 25 Q, Would you help us out, please, read it for us

1	slowly. First you have P77?
2	A. I'll tell you what, this is all verbatim,
3	practically verbatim from the various depositions
4	from Holland and Hazel, so it's nothing that
5	doesn't exist. I just put it down here for my own
6	information. I could read the whole 4 pages, I
7	think the information exists almost everywhere
8	else.
9	Q. Let's see, you have Hazel depo on top?
10	A. Yes.
11	Q. Page P77, does that mean page 77 of his depo?
12	A. Correct.
13	Q. You took it from his depo?
14	A. Paraphrase or quote verbatim.
15	Q. The next page is 78?
16	A. Exactly. L3, L11.
17	Q. When it says L3 or L11 , is that the line of
18	that page?
19	A. Yes.
20	Q. Going now to the second page of Exhibit D,
21	marked two on top, are we still on the Hazel depo?
22	A. Yes.
23	Q, Page 81?
24	A. Yes.
25	Q. Goes to line 23, so forth?

1 Α. Yes. Q. Then you have part of -- let me finish this. 2 We'll come back to it. 3 Page 3 we're still on Jerry Hazel's 4 depo? 5 Α. Correct. 6 Q. Starting with page? 7 90. Α. 8 Q. Goes on a half a page. Page 4 is Hazel 9 deposition? 10 11 Α. Yes. Q. Starting at page -- hang on a minute now. On 12 top says Holland depo? 13 Yes. 14 Α. Q, We've talking about the Rex Holland 15 16 deposition on this page? 17 I believe so. Α. 18 You went through his deposition, summarized Q. 19 some things you wanted? 20 Α. Exactly. 21 Q. Let's go, if we can return to page 1. 22 Α. Yes. There are a few things I'll ask you about. 23 Q. 24 Page 77 you have marked approximate hill? "Approached hill." 25 Α.

Q. My apologies. "Approached hill." This is 1 when Jerry was describing that he was approaching a 2 hill before the crash? 3 MR. KASPAREK: I object. 4 Q, Is that true or not? 5 I object. MR. KASPAREK: I'm 6 7 not going to let you ask that guestion. If you want him to have the deposition transcript in front 8 9 of him, these notes say what they say. MR. ILER: No, these notes 10 11 say what I'm going to ask him about. If you are 12 not going to let him answer I'll go to the judge. Tell me what you want me to do. 13 14 MR, KASPAREK: All I want you to do, he has a note here on that says P77 15 approached hill, could see -- whatever this says. 16 17 Now, if you want him to interpret these notes, 18 without the deposition transcript here, I think that is unfair. 19 20 Ο. Let's move on. 21 You marked here on page 77 Hazel "approached hill"? 22 Yes. 23 Α. 24 Q -Did you take that from Jerry's description of 25 what he was seeing at the time he was driving

1 towards the crash? MR. KASPAREK: Objection. 2 I believe so. 3 Α. Q, Was that information that Jerry was 4 5 approaching a hill before the crash significant to 6 you in any way in making your decision? Not to me. 7 Α. Q. Then you write, "could see" --8 "Some hazard lights." 9 Α. Q. 10 And? 11 "Headlights flashing off the left side of the Α. road." 12 13 Q. Were those the lights he described in his 14 deposition, the tractor that was facing south? 15 I believe so. Α. Q, Was that important to you, of use to you in 16 17 your opinions you formed? 18 Glare factor, yes. Α. Q. What glare factor, tell us? 19 20 Factor to account for the effect of glare on Α. ability to detect an object or obstacle. 21 Q, 22 When we say the glare factor, did you make any computation of glare factor? 23 I use a glare factor of 2.4 times the light 24 Α. 25 requirement.

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1	\mathbb{Q} , That was based upon what you considered to be		
2	the light requirement of headlights shining from		
3	the tractor that Jerry saw, true?		
4	A. Yes, glare due to headlights from the		
5	tractor.		
6	Q. Where did you come up with the figure you use		
7	for glare?		
8	A. 2.4, I actually back calculated that from a		
9	distance loss of 25 percent.		
10	Q. Where did you get that figure?		
11	A. That is based on tests that have gone on at		
12	GE with lamps I designed, tests that were done with		
13	an opposed headlamp to determine what the effect of		
14	glare is.		
15	Q. Are those published?		
16	A. I'm sure they have been. Offhand I don't		
17	know where. They've probably been published in		
18	SAE.		
19	Q, We're making a request for a copy of the GE $$		
20	tests.		
2 1	A. I have no published tests in my possession.		
22	I say this was a number that actually has been		
23	verified by numerous tests. I'm not citing a		
24	specific one here.		
25	Q. You say they were results of a GE study?		

1 Α. GE and others, yes. Q. Were those studies performed by GE? 2 GE and others, yes. 3 Α. Q. 4 What year were they done? They were done probably since headlamps were 5 Α. invented in 1940. 6 7 Q, Test results are at GE now, are they not? Not in my possession. They may be. 8 Α. Q. Who would be in charge of those at GE? 9 10 I have no idea. Α. 11 Who is in charge of that kind of testing at Q. 12 GE? No one is now. 13 Α. 14 Q. Who was at the time five years ago? We didn't do it five years ago. 15 Α. 16 Q, Who was in charge at that time? Frankly I don't recall, I wasn't. 17 Α. I ran 18 tests on my own headlamps but I don't know anyone 19 was in charge of those tests. 20 Q, You use them as a critical part of your report insofar as glare factor is concerned; am I 21 22 correct? You are inferring I'm using those specific 23 Α. 24 tests. This is generally known in the industry, not specific to those tests. I merely said we did 25

1 these tests on GE lamps and other people did them 2 on theirs, the industry did tests like that, 25 percent visibility depreciation is common 3 knowledge in the headlighting industry. 4 Q. You cannot cite me a test, a number of a 5 test, date of a test, who conducted the test; am I 6 correct, the glare tests? 7 Not at this point, no, I can't. 8 Α. Q. What would it take for you to identify the 9 10 date the glare tests were done that produced the 11 figure you used here of 25 percent, how would you 12 find that out? How would I find out or how would you? 13 Α. Ι 14 don't intend to find out since I know the number. 15 I'll tell the number, you can contact SAE, ask for 16 some sort of a catalog of published findings on 17 driving against glare. 18 Q. You would accept their findings then? 19 Α. They don't have findings, they have a file of 20 published reports. 21 Q. I would refer to GE tests? 22 No. I don't believe so. Α. 23 Q. Would I indicate to SAE General Electric 24 participated in the test? 25 Α. I have no idea.

1	Q. Is it true, you can't give me the date of the	
2	glare tests, correct?	
3	A. No, I can't give you a date.	
4	\mathbb{Q} . You can't give me any specifics about when	
5	the glare tests were done, true?	
6	A. I can tell you I did glare tests.	
7	Q, I'm talking about the glare tests you	
8	referred to here.	
9	A. I didn't refer to specific test, as you	
10	recall, general knowledge in the industry. This is	
11	not the result of a single test. This is generally	
12	accepted knowledge in the lighting industry that	
13	this kind of depreciation with glare occurs.	
14	Q. Where would we find that written out?	
15	A. I said it is general knowledge in the	
16	industry. I suppose you could call various people	
17	in the industry, ask them.	
18	Q. You're expert in this case?	
19	A. Yes.	
20	Q. Do you have any principle material that shows	
2 1	these?	
22	A. I, at your expense, I would do a literature	
23	search.	
24	Q. Right now you do not have it?	
2 5	A. I do not have it in my possession in this	

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1 room. Q, Would you say that test was done 25 years 2 3 ago? I can tell you 1 did a test, last test I Α. 4 performed was probably in the '70s or '80s, 5 probably the mid '80s. 6 Q, Where did you perform these tests? 7 I don't recall. Α. 8 Q, Was it in Cleveland, Ohio? 9 Α. No. 10 It was outside, Were you working for another Q -11 company at that time? 12 No. 13 Α. Who participated in the tests with you? 14 Q. I recall Paul Westlake. Α. 15 Paul Westlake? 16 Q. Yes. He's dead. 17 Α. He's dead? 18 Q. 19 Α. Yes. Where did he work? 20 Q. GE. 2 1 Α. Were the tests done on behalf of GE? 22 Q. I believe **so**. Α. 23 You were an employee of GE at that time you 24 Q, ran the tests, true? 25

1	A. Yes.
2	Q. SAE, you mentioned what they are, can you
3	explain what that means?
4	A. Society of Automotive Engineers.
5	Q. Where is their main office located?
6	A. I don't know.
7	Q, Insofar as the glare tests and calculations
8	that you use, is this correct: What you did is you
9	ran illumination calculations which you have done,
10	used the figure of 25 percent as being a glare
11	factor for Jerry Hazel; am I correct?
12	A. No, I didn't do that.
13	Q. Then how did you compute in any way the glare
14	factor involved when Jerry Hazel was looking at the
15	headlights from the tractor-trailer in the open
16	sight lane in which he was traveling?
17	A. What I did was took a 25 percent depreciation
18	figure that I know existed for these headlamps in a
19	glare situation, I computed for that hypothetical
20	situation how much more illumination would have
2 1	occurred, how much brighter the object would have
22	been to produce that to reduce that distance to
23	25 feet. That number came out to 2.4 times the
24	light level illumination, that is what I used.
25	Q. Is that the formula you put in your report?

1 Α. Yes. Q. On page 4 of your report am I correct -- I'm 2 3 sorry, what page was it on? 4 I believe it's on page 5. Α. 5 Q. Page 5 of your report? 6 That's correct. Α. Q, Are your calculations for that in your report 7 8 explained? No, the detailed calculations are not in my 9 Α. 10 report. 11 Q, Did you ever detail the calculations? 12 Yes, I did. Α. Q, Where are those writings or notes? 13 I don't have them. I turned them into what 14 Α. 15 you see here, the graph, the report. 16 Q. There was raw data that you used for your 17 calculation, correct? Q, You say raw data? 18 19 Notes you made? Α. 20 Α. Yes. 21 Q, Those were thrown away? 22 Merely outline notes, probably a group of Α. 23 numbers that would have been fairly meaningless to 24 anyone but myself, yes, I threw them away. Did you realize once you gave your opinions, 25 Q,

1 that your calculations in your report might be 2 scrutinized --Yes, I did. 3 Α. Q. -- in litigation? 4 Does the 25 percent glare factor 5 have anything to do with the expectant or 6 7 nonexpectant categories you use in your report? Nonexpectant category is over and above the 8 Α. 9 glare factor. 10 Q, On the glare factor you would have the nonexpectant situation? 11 12 Α. That's correct. Q, How would you allow for that? 13 14 I say in the report four times. Α. 15 Q , Which would be what? 16 Four times. Α. Four times? Q, 17 Multiplier four times the light requirement. 18 Α. 19 Q. Which would be what? 20 Α. I'm sorry? 21 Q, You said four times, I asked four times what? 22 Four times the illumination required for the Α. 23 expectant driver. Q, 24 What would that be? 25 If you read the report on page 5 I show the Α.

1	nonexpectant driver would require .038. I state		
2	that above, if you multiply that by four, assuming		
3	nonexpectancy, an additional factor of four,		
4	different angular size term.		
5	Q. Had you converted that to feet?		
6	A. It's converted to feet in the drawings we		
7	just discussed, Exhibit C.		
8	Q, Exhibit C you have a conversion of feet; is		
9	that correct?		
10	A. Yes.		
11	Q. Does Exhibit C include in it the glare		
12	factor?		
13	A. The glare factor is included in all the terms		
14	in Exhibit C.		
15	Q. 158, 167, 130 in Exhibit C?		
16	A. In all cases glare factor is included.		
17	Q. The glare factor that you speak about, what		
18	is the criteria for the 25 percent glare?		
19	A. That criteria is the visual that a driver		
20	experiences when faced with a car in the oncoming		
2 1	lane.		
22	Q. How many people were used in that study?		
23	A. I don't say it was a specific study. As I		
24	indicate, a general industry wide accepted number.		
25	In the studies that I was involved		

1	in fre	equently four people were involved, I know in
2	other	studies of more than four have been
3	involved.	
4	Q.	In your study you are saying four people were
5	used?	
6	Α.	Each time the study was made four people were
7	used.	
8	Q.	Any of those people used in a situation such
9	as Je:	rry was involved in?
10	Α.	All the cases were glare and an obstacle.
11	Q,	Did you have a tractor-trailer?
12	Α.	No.
13	Q.	Insofar as the last question I asked you on
14	Exhibit D.	
15	Α.	Yes.
16	Q,	You write Jerry testified, you made a note
17	about	it, I quote, "I was going uphill, coasting
18	uphi1	1"?
19	Α.	I believe so.
20	Q,	I don't want to misread your note. What is
2 1	that?	
22	Α.	"Into."
23	Q.	"Into a curve"?
24	Α.	Yes.
25	Q.	How far was the curve he was referring to

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1	from the point of impact with the trailer?		
2	A. I don't know. He apparently doesn't either.		
3	Q. You did not use that distance in any of your		
4	calculations here?		
5	A. That's correct.		
6	Q. Insofar as Exhibit C is concerned, does		
7	Exhibit C contain the point of impact between		
8	Jerry's vehicle and the trailer?		
9	A. No. It merely indicates the distance between		
10	the two at any given time.		
11	${\mathbb Q},$ On Exhibit C is there any notation that		
12	mentions that intended to be the trailer?		
13	A. No, it's merely a separation distance.		
14	Q. Let's return to Exhibit D, please.		
15	Did your note that you wrote here		
16	on page 78 concerning Jerry, "I was going uphill,		
17	coasting uphill, into a curve," did you take that		
18	testimony in consideration in your calculations?		
19	A. No.		
20	Q. Is there anything in line 11 of page 77		
2 1	that's reflected in Exhibit D you took into		
22	consideration in your opinion?		
23	A. I'm not sure that I did. I'm not aware that		
24	I did.		
2 5	Q. Page 78 of Jerry's depo, line 17 pardon		

1	me, line 22, he says what did he say here?
2	A. "I heard a voice yell hey,"
3	Q, Then?
4	A. "A horn toot."
5	\mathbb{Q} . When he heard the voice hey, a horn toot, did
6	you consider those two events at all in your
7	calculations?
8	A. No.
9	Q. Did you consider that Jerry was an expectant
10	driver?
11	A. I think I covered in my report that he had
12	all reasons to be expectant.
13	Q, When you based your opinion on the factor, I
14	want to know from you did you consider him
15	expectant or partially expectant, all expectant,
16	100 percent expectant driver?
17	MR. KASPAREK: I object. Go
18	ahead.
19	A. I believe what I say in my report is that had
20	he observed the side marker lights on the vehicle,
2 1	which should have been directed into his lane, with
22	sufficient intensity, given their orientation, that
23	I would reasonably expect him to become expectant
24	as a result of seeing the lights.
2 5	For two of the calculations, 158 to

1	167 feet, I consider him to be expectant. Then I
2	do another calculation, just for the record if you
3	will, to say if he weren't expectant. That yields
4	a much shorter number.
5	I considered expectant and
6	nonexpectant for the purpose of showing that
7	difference.
8	Q, Exhibit C reflects that?
9	A. That's correct.
10	Q. Insofar as the nonexpectant figure in
11	Exhibit C, what number is that?
12	A. 130 feet.
13	Q. Now in that area of 130 feet, when Jerry was
14	130 feet away from the trailer?
15	A. Yes.
16	Q. At that point a nonexpectant driver, my
17	question to you then is at that time the fact that
18	he heard a horn blow, that he heard somebody
19	yelling from the opposite side of the road, did
20	that effect the 130 foot figure you are talking
21	about?
22	MR. KASPAREK: Objection.
23	A. All I said was 130 feet, that's the
24	illumination you are required to satisfy if his
2 5	attention were directed down the road where the

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1	wheel hubs are located, he would have seen at
2	130 feet. I don't take into account distraction if
3	that's your question.
4	Q. That's my question. You did take into
5	account the horn blowing or somebody yelled at him
6	from the opposite side?
7	A. Correct.
8	Q. As an ordinary person, would that distract
9	you, you think?
10	A. I frankly, because I wasn't there, don't know
11	all the situations, didn't have the frame of mind
12	he had, I really can't answer that.
13	Q. That before he gets to 130 feet you are
14	driving around at 3:50 in the morning to go get a
15	part, you see the headlamps on the opposite side of
16	the road, you hear a horn and somebody yelling,
17	that is a distraction, don't you think so?
18	MR. KASPAREK: Objection,
19	misstates the testimony.
20	A. Certainly those things happening create
2 1	distraction, I'm not denying that.
22	Q. Let's return to Exhibit D.
23	You've underlined a sentence, I'll
24	read it to you, my question would be why did you
2 5	underline it, did it mean anything in forming your

1 opinion, can you read that? 2 "Looking up at cab and left." That was my Α. He indicated he is looking to the left. 3 note. Is that where the noise came from? 4 Q. I believe that is where the tractor was Α. 5 located. 6 7 The reason I underlined that is that is obviously the wrong place to be looking at 8 this point in time. 9 Q, Is it your testimony driving along the road 10 11 as Jerry was doing, before he gets to 130 feet he 12 sees the headlights on the left, opposite side, he hears a horn, hears someone hollering at him, you 13 14 are saying that is not justification to look in the 15 area of the horn sound? 16 MR, KASPAREK: Objection. 17 That question is completely improper. It contains 18 at least two or three questions. MR. ILER: That is all you 19 20 have to say. 2 1 Q. Did you understand it? 22 You are asking me if --Α. Q, I can read it back if you like. 23 No, let me paraphrase it for you. 24 Α. Your 25 question is am I saying it's improper to look to

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1	the left while driving straight down the road. I
2	say it's certainly risky. In this case proved to
3	be risky.
4	Q. That was not my question.
5	You drive, do you not?
6	A. Yes, I do.
7	Q. You've been driving for how long?
8	A. 40 years.
9	Q. You are also an engineer?
10	A. Yes.
11	Q, You've been doing litigation for a number of
12	years; am I correct?
13	A. Yes.
14	Q. My question to you is this: Is it
15	unreasonable in Jerry's circumstances when somebody
16	honks a horn, with lights shining right on the
17	opposite lane, to take a look over in the direction
18	where he hears a horn sound; is that unreasonable
19	to you?
20	A. You say unreasonable, I wouldn't call it
2 1	prudent. Maybe that is a better word.
22	Q. So then, is it your testimony here, that when
23	Jerry heard the horn sounds and someone yelling at
24	him, he should not have looked over to the left?
25	MR. KASPAREK: Objection.

1	Q. Do you have an opinion, sir?
2	MR. KASPAREK: I object to
3	that. Go ahead.
4	A. I believe he indicated he was expecting
5	pedestrians because he thought this was a garbage
6	truck. Pedestrians wouldn't have been in the cab.
7	He should have been looking down the road, looking
8	for the pedestrians, where I expect to see
9	something or someone. Yelling and honking, I don't
10	know what the timing of yelling and honking was. I
11	would be looking down the road for pedestrian
12	traffic emerging from behind what I may have
13	believed to be a garbage truck.
14	Q, That was on the other side of the road?
15	A. On the other side of the road, correct.
16	MR. ILER: Mr. Kasparek,
17	if you do not mind, can we photograph these notes
18	now for me because they are very light, I don't
19	want to a take a copy away that is not really
20	clear. Can you do that?
2 1	MR. KASPAREK: At the end of
22	the depo I can copy everything for you.
23	MR. ILER: I find this in
24	pencil sometimes doesn't come out good. Can you
25	darken that up for me?

1 MR, KASPAREK: We will try. Sometimes when you darken up, the background gets 2 3 dark too. MR. ILER: I don't want to 4 take time for him to read every word. Would you 5 mind doing it now? He'll take a break, he's been 6 going for two hours. 7 8 9 (Recess had.) ___ - - -10 11 BY MR. ILER: 12 Q, Doctor would you please take a look at Exhibit D, run through each page carefully as you 13 14 can, tell me which parts of it, which sentences or statements you found to be of significance in 15 16 arriving at your opinions? MR. KASPAREK: Not duplicating 17 18 what he already talked to you about? MR. ILER: Exactly. 19 20 MR. KASPAREK: I don't want to 21 have to rehash what we've been through. 22 Normally I would have made some indication if Α. it was something I considered very significant. 23 Ι think all of this is merely background. I'm not 24 seeing anything. I'll keep going. 25

Q, You see nothing that was significant that you 1 2 used in your opinion then? MR. KASPAREK: Mr. Kosmatka, 3 so that we don't have Mr. Iler jumping up during 4 trial cross-examining you on something that was 5 significant that we glossed over today, take your 6 7 time and look at all of these notes, I don't want you to skip anything. 8 I note of course the headlights were Α. 9 oncoming, so. 10 These are the tractor headlights? 11 Q. The tractor headlights. That of course was 12 Α. significant. I used it. He talks about the curve, 13 I consider the curve significant. I use the 14 curvature in the road as described by Dr. Uhrich. 15 16 He makes mention of a wisp of foq. I did not 17 consider any fog in this. Q, Would you look at page 3 of this exhibit? 18 Yes. 19 Α. 20 Q, On the top says page 90? 21 Α. Yes. He says, you wrote, "headlights flashing," 22 Q. 23 you see that? 24 25

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"Low to high." 1 Α. Q. What lights were flashing? 2 That indicates the headlights were being 3 Α. shifted from low to high. 4 Q. The tractor? 5 Α. Yes. 6 7 Q. When he says with flashers, what flashers did 8 you understand him to mean? Although I didn't use it, I presume he's 9 Α. talking about the four way hazard flashers on the 10 11 tractor. I have no way of --12 Q. Do those flashers show in any way on any of 13 the photographs which we have here? 14 Α. The flashers are frequently front position lights. 15 Take a look at the --Q. 16 17 Front position lights shown on the tractor Α. 18 here. Q, Let me get the exhibit number. 19 20 Α. Exhibit E, number four. There are position 21 lights shown on the front, adjacent to each 22 headlamp. Q. In yellow on the photographs? 23 24 Α. Yellow, appears to be a yellow light about 25 six foot high on either side of the cab.
1

Q. Yellow also?

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2	A. Yellow and another set of yellow lights
3	across the top of the cab. I don't know which of
4	those are flashers, they are all position lights.
5	A. They may have all flashed, some of them may
6	have flashed.
7	\mathbb{Q} . Did you consider that statement by Jerry in
8	any way in your opinion?
9	A. Again I didn't because the tractor was in the
1 0	opposite lane. I didn't consider that to have
11	created an expectant situation. I ignored what he
12	might have seen in the opposite lane to create
13	expectantcy. If the tractor was facing him in his
14	lane, I would have used that for an expectancy
15	situation.
16	Q. Insofar as the tractor in the opposite lane,
17	we say the opposite lane?
18	A. Oncoming.
19	Q. You discount that tractor entirely in your
20	opinions?
2 1	MR. KASPAREK: Objection.
22	That isn't what he said.
23	A. I did not consider the flashers to have
24	caused a state of expectancy.
25	${\mathbb Q}$. In other words, you did not expect the

1 flasher --MR. ILER: Read that back 2 3 for me. 4 (Answer read.) 5 6 Q, Which ones? 7 MR. KASPAREK: It means what 8 it says to be candid with you. 9 Because they were in the other lane it 10 Α. wouldn't necessarily give a cue as to the trailer 11 in Mr. Hazel's lane. So when I talk later about a 12 13 state of expectancy being created later on by the trailer, I'm referring to something in his lane. 14 15 Q, Have you eliminated from your opinion the 16 flashing lights of the vehicle on the opposite side insofar as Jerry's expectancy is concerned? 17 Yes, I did not use that. 18 Α. 19 Q, Page 4 of your opinion, page 91 you start 20 with Jerry's deposition there. Or pardon me, is 21 Holland's? We're up to Holland on page 4. 22 Α. 23 Q. The trailer is 90 feet long? Α. 40. 24 Q, 40 feet long. That is the first number 25

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1	there?
2	A. Yes.
3	Q. 96 inches wide?
4	A. Yes.
5	Q. Do you recall what kind of a load he was
6	carrying?
7	A. No, I don't know.
8	Q. The State Highway Patrol gives the pounds of
9	the load, it was steel as you recall, remember
10	that?
11	A. I recall steel.
12	\mathbb{Q} . Did that have anything to do at all in your
13	opinions here?
14	A. Well, only tangentially. Since it was a load
15	of steel, it was struck by a vehicle, I don't
16	expect it would have been jarred much from its
17	location. Only to the extent it provided weight
18	which would have eliminated the trailer from being
19	jostled sideways from the impact.
20	Q. We finished Exhibit D.
2 1	Have we covered all your
22	handwritten notes?
23	A. I believe so.
24	Q. Let me take you now to the pictures if we
2 5	can.

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Let us take a look at Exhibit G 1 first. 2 Looking at Exhibit G, we have 3 photos 1 and 2 circled by the court reporter? 4 Α. Yes. 5 Q , On the left side, called Exhibit 5 and 6 Exhibit 6, let's use the 1 and 2 figures. 7 8 Α. Yes. Q . Do you know what direction figure 1 is? 9 Since it's curving to the right, I don't 10 Α. believe -- not the direction -- Mr. Holland was 11 12 coming from the northward view. Q, North view? 13 I'm guessing here. 14 Α. Q. Picture 2 of Exhibit G, what direction are we 15 looking there? 16 17 Α. Curving to the left, I'm estimating that is a 18 southward view. Q, 19 The way Jerry was driving? 20 Α. Yes. 21 Q. Do you know where the pictures came from? 22 No. Α. 23 Q. Did they help you in any way arriving at your 24 opinions? Only giving me a general idea of the road 25 Α.

1 layout. No, not specifically. Now I'm turning to picture 3 and 4, these 2 Q. were photographs taken I think by the State Highway 3 Patrol; do you think so? 4 I believe so. 5 Α. Q , Let's take a look at Exhibit 3, if you will, 6 7 please. MR. KASPAREK: Excuse me, 8 Don. 9 Q, No, Exhibit 3 -- picture 3 of Exhibit G. 10 11 MR. KASPAREK: Again when you 12 are using picture 3 and 4, referring to the way the 13 court reporter marked them, not as they were marked 14 as exhibits in previous depositions. MR. ILER: Exactly. 15 16 MR. KASPAREK: Thank you. 17 Q, Take a look at picture number 3, you will see 18 the tractor that was hauling the trailer here; am I 19 correct? I believe so. 20 Α. 21 Q, Would you notice the right wheel of the tractor and take a look at those? 22 23 Α. The wheels are off the roadway. 24 Q, Are they parallel with the roadway? 25 I would say essentially parallel with the Α.

1 roadway. Q. When looking at picture 4 of the same 2 exhibit --3 Α. Yes. 4 -- we are looking at, can you describe that 5 Q. scene? 6 It looks like the crash scene with the Α. 7 vehicle adjacent on the side of the trailer. 8 Q. Did any of those two pictures assist you in 9 forming your opinions? 10 The one we just discussed, number 3 shows me 11 Α. the tractor is essentially parallel to and off the 12 13 road berm, off the edge line. Yes, it did, it 14 validated the State Highway Patrol report. Q. While we're looking at the pictures, what did 15 16 you understand was the driver's conduct of the tractor-trailer, what was he doing? 17 18 Α. I don't know. I put it in my report. Take a look at it. Tell me where it's found Q. 19 20 in your report. 21 On page 1, being driven across State Route 3 Α. 22 by Rex Holland. 23 Q. What did he intend to do? 24 Did he intend to go back down Mud Lake Road? 25

1	A. I don't recall.
2	Q. Did the conduct of the driver have anything
3	to do with your opinions?
4	A. I believe it was essentially stopped, wasn't
5	it, since it says zero miles per hour in the police
6	report. No, it didn't really. I just wanted to
7	know where it was, not what it was going to do or
8	what it had just done.
9	Q, I'm still on Exhibit G, looking at picture 5,
10	once again on the left side of the tractor-trailer
11	involved here; am I correct?
12	A. Yes.
13	Q. Does it show the lights you mentioned about
14	five or six feet high?
15	A. Yes.
16	Q, Seems like you can see those lights, here are
17	those, the ones you referred to earlier?
18	A. I don't know whether they are lights, I see
19	the fixtures, yes.
20	Q. Do you know what is depicted in picture 6 ?
2 1	A. No, I don't really.
22	Q. Take a look at picture 7, what is depicted
23	there?
24	A. Shows the trailer at an angle to the
25	roadway.

1 Q, The angle that you see it in is the angle you 2 calculated earlier at? Around 42, around 45 degree angle, I 3 Α. calculated 42. 4 Underneath the trailer did you understand **a** . 5 that to be Jerry's vehicle? 6 7 It appears to be. Α. 8 Q. Is there anything in the pictures we've been looking at that go up to picture 14 which you found 9 10 of value to you in forming an opinion? I think the trailer picture validates the OSP 11 Α. number as far as location and angle that I 12 calculated from that. 13 MR. ILER: Let's take a 14 15 look at the picture on Exhibit E. These were the 16 pictures I know you made an objection, these are the insurance company pictures. 17 MR. KASPAREK: I haven't made 18 19 an objection to the pictures. You don't need -they are not the insurance company pictures, they 20 21 are an adjustor's pictures. You don't have to 22 refer to them as insurance company pictures. MR. ILER: 23 Why don't we 24 refer to them as Mr. Turner's. 25 MR. KASPAREK: Mr. Turner's

1 pictures. That is fine. 2 Q, Is that what you understood to be picture 1 and 2 of Exhibit E, did you understand that to be 3 4 the tractor involved here? Yes, I believe I did. 5 Α. 6 Q, As we go through the pictures, if you find 7 any that is of significance to you in forming any 8 part of your opinion, let me know. 9 We're now looking at picture 3 and picture 4, they include the tractor, seems to be a 10 trailer, I don't know if that is the same one or 11 12 not. Is there any way for you to know whether or not the trailer that is involved here is the same? 13 14 Well, they indicate a 76 Fruehauf trailer, Α. it's inferred it's the same one. It's not clear to 15 16 me why they would say that if it weren't. Police report says '76 Frue, I believe that is an 17 abbreviation for Fruehauf, I believe it's the 18 19 trailer. 20 Q- Looking at pictures 4 and 5, let me take a 21 sheet at a time. Anything in 5 and 6 of 22 significance to you in forming your opinions? 23 Α. I can see wheel hubs on here, though not very 24 clear. Some are hubs you can see clearer than

25 others.

1 Q. Which ones, the tractor? 2 MR. KASPAREK: Excuse me, the 3 statement just made by the witness with respect to 4 wheel hubs, those statements are being made looking at picture 3 and 4, as opposed to Mr. Iler's 5 statement at the beginning of the question of 4 6 and 5. 7 Q_{\cdot} 3 and 4 you mention wheel hubs, who are you 8 referring to, tractor or trailer? 9 Can I see? All wheel hubs to one degree or 10 Α. another. 11 12 Q. All of what? The tractor and trailer on the left side. 13 Α. 14 Q, From these 3 and 4 pictures, 3 and 4? I can see them on 3, on the right side on 4. 15 Α. 16 Q. Can you come back with that for a minute. If 17 you look at picture 3, all I can see is the wheel hubs of the tractor; am I correct? 18 19 Α. You can see these, see an area here. 20 Q. When you say "here," tell us. 21 The rear hubs of the trailer are also visible Α. 22 in the picture. 23 Q. They are not shiny though, are they? 24 Α. They are light color. I didn't say shiny, I 25 said light color.

Q. Picture 4 are you able to see the wheel hubs 2 of the tractor? 3 I can see both tractor and trailer. Α. Q, On the side that you are looking at the 4 trailer, that is the side where the collision 5 occurred or the opposite side? 6 4 is not the collision side, 7 Α. Q. We will go to 5 and 6. 5 has an arrow in it, 8 is there any significance to that as far as you are 9 10 concerned? Well, according to the photographer the arrow 11 Α. 12 shows sight line, but I don't believe I used it. 13 MR. KASPAREK: It says arrow shows pole denoting sight line. 14 Q. Do you know what direction this picture is 15 looking, number 5? 16 17 My inference is looking north. He says Α. looking north. 18 Q. Picture 6, is there any significance to this 19 20 arrow there insofar as you can tell? 21 Α. He's denoting the exact point of impact. 22 Frankly, I didn't need to know the exact point of 23 impact. No, it's not terribly significant other 24 than the general sense. Looking at picture 7 and 8 of the same 25 Q,

1	exhibit, what do these arrows mean to you, if
2	anything, or did the photograph assist you in any
3	way for your opinions?
4	A. I didn't use these photographs.
5	Q. 9 and 10 of the exhibit, did they assist you
6	in any way?
7	A. Only in a general sense.
8	Q. Picture 10 is written here looking north on
9	SR 3 at point of impact?
10	A. Yes.
11	Q. Picture 11 and 12, do they assist you in any
12	way?
13	A. Not specifically.
14	Q. What does this say?
15	A. Hazel's skids lead to point of impact. Looks
16	like referring to skid marks.
17	Q. Picture 13 and 14, do they assist you in any
18	way?
19	A. They show the same thing the other did,
20	essentially for the short distance before the
21	impact and essentially flat, although I don't know
22	if it's inclined; nevertheless more or less flat
23	roadway and curve.
24	Q. What about 14, did that help you? It's
25	marked looking north on SR 3 as Med. Co. highway

engineer crew marks point of sight from point of 1 2 impact. MR. KASPAREK: Objection. 3 Q. That is what it says? 4 Objection. MR. KASPAREK: Ιt 5 appears to say that. 6 The only comment I make, it shows the road to 7 Α. be generally curved in the distance I would be 8 interested in, generally flat. 9 Q. 15 and 16 show I think Jerry Hazel's vehicle? 10 I did not use those. 11 Α. Q. 17 and 18 are pictures of Jerry Hazel's car? 12 13 Α. Yes. 14 Q. Van, pardon me. 15 Α. Yes. 16 Q. Did you use any of that? 17 No. Other than noting there appears to be Α. extinguisher material on the front of the vehicle. 18 Q. Where do you see that? 19 On the bumper. 20 Α. 21 Q, On the front of picture 17? 22 Yes. Α. 23 Q. 19, point of impact looking northwest? 24 Α. Shows the same thing we saw in the other, 25 slight curvature in the flat roadway.

1	Q. Picture 20, three of them there, looks like
2	they have been joined together?
3	A. Yes.
4	${\mathbb Q}$. One again he marks this as looking northwest
5	to point of impact?
6	A. That would be along Jerry Hazel's line of
7	travel.
8	Q. Any use to you in your opinion?
9	A. Only in confirming what I already had seen in
10	several other places.
11	Q. 22 and 23, do they assist you in any way in
12	forming your opinion?
13	A. No.
14	Q, 24 and 25?
15	A. No.
16	Q. 26 and 27?
17	A. Here you can see the headlamps very clearly
18	on the vehicle, obviously 200 millimeter type B
19	headlamps. That I already knew.
20	Q. Next you have 28 and 29, what do they show
21	you?
22	A. Side of the trailer.
23	Q. Is that where the impact took place or the
24	opposite side?
25	A. 28 is the impact side. I believe 29 is

1	also. Here ${f I}$ can see the dirty light colored wheel
2	rim or hub.
3	Q. Of the tractor?
4	A. Of the trailer.
5	Q. Trailer. What else does that show you, 28
6	or 29?
7	A. Shows the impact occurred around this area
8	because that appears to be the same fire retardant
9	material I noted on the front of the vehicle, more
10	of that up here. It tells me where the point of
11	impact was. It also infers where this was located
12	in the roadway. If this was the struck area, this
13	was more or less the center of the roadway based on
14	the other pictures.
15	Q. When were these pictures taken, 28 and 29?
16	A. According to this 9-28-92.
17	Q. The day of the accident; is that right?
18	A. I suppose so, yes.
19	\mathbb{Q} , What does the police report show for date of
20	accident?
2 1	A. 9-28-92.
22	Q, Anything else in photo 28 and 29 in forming
23	your opinion you used?
24	A. No. I used this to help assist me in finding
25	the location of this.

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1 Q, You indicated it is your opinion 28 and 29 2 are photographs of the trailer on the side where the crash took place? 3 Α. The impact side, I believe. 4 Q. Do you see any lights along on the trailer? 5 6 Α. Do I see any lights, I see on number 28 what 7 appears to be a housing for a light, possibly a 8 reflector next to it. 9 Q . That would be -- I don't want to mark up the 10 photo. 11 Virtually in the center of the trailer. Α. 12 Showing directly above some perforated iron weld 13 band below the vehicle body. 14 To answer your question, I see what may have been the remains of the light. 15 16 Q . Do you know whether that light was damaged in 17 the crash? 18 Α. I understood that it was. 19 Q. Who told you? 20 Α. I'm not sure where I got that information. 21 Q. When did you get that information? I don't recall. 22 Α. 23 Did you rely on that in forming your opinions Q. here? 24 25 Rely on it being damaged? Α.

1 Q, Being told it was? I assume that one or two lights on the rear 2 Α. was what created the state of expectancy. 3 Q. Show me where those two lights are -- take a 4 look at photographs 28 and 29, show me here where 5 6 you say that the lights that you based your expectancy theory on appear on these photographs. 7 Doesn't appear, the light doesn't appear on 8 Α. 28 or 29. 9 10 Q. How about now picture 30, 31, of Exhibit E? Picture 30 at the extreme far back end of the 11 Α. 12 trailer there appears to be a light. Q, What color is it? 13 14 Α. It's hard to say. It should be red. Ιt 15 appears amber on here. By law it's red in the 16 rear. Q, Where else do you see another light? 17 18 I see the remains of the center light of Α. 19 course. Are those the two lights you refer to in 20 Q . 21 relying on expectancy theory? 22 Yes. Α. 23 Q, Are those the two lights that you used in 24 your report in your estimation of illumination that 25 is found in Exhibit C?

1 Α. No. 2 Ο. Did you use those two lights which appear on Exhibit E, pictures Exhibit E 30 and **31**, have you 3 referred to those lights as you describe them in 4 any other portion of your work, here or in your 5 notes, your diagram or you opinion in your report? 6 MR. KASPAREK: Objection. 7 In my report I referred to side lights on the 8 Α. side of the trailer. 9 Q, Where would that appear in your report, 10 11 please, what page would that be on? On page 3, trailer side marker lights. 12 Α. Can you read that for me, sir? 13 Q. 14 "Side marking lights of the trailer would be Α. 15 capable of directing light at 42 degrees to their 16 right. SAE standard J592 requires light at 17 45 degrees to either side." 18 Q, That is where you are referring to lights you just described in picture of 29 and 30? 19 20 Α. Yes. 21 MR. KASPAREK: If you have anymore questions about photos, you just talk to 22 him but I need to make a phone call if this is a 23 point to take a break. 24 25 MR. ILER: Hang on a

1	minute. We're finished with the exhibit.
2	MR. KASPAREK: That's fine,
3	let me make my phone call.
4	~~~~
5	(Recess had.)
6	
7	BY MR. ILER:
8	Q, We're now looking at Exhibit F, are these
9	pictures also taken by Mr. Turner do you know?
10	A. I think these are Dr. Uhrich's photos I think
11	I have. I have to look at my file. My assumption
12	is they were
13	MR. KASPAREK: My belief is
14	Exhibit F, these photos were taken by Dr. Uhrich.
15	Q, Looking at Exhibit F, picture 1 and 2, did
16	they assist you in any way?
17	A. No, they confirm what I already seen.
18	Q. Exhibit 3 and 4, do they help you in any way?
19	A. 3 again shows, as several other photos do,
20	the dirty color, white tint wheel rime or hubs.
21	Q, Jerry's vehicle does not help you?
22	A. Same kind of a headlamp I saw before.
23	Q. 5?
24	A. 5 and 6 are not revealing of anything new.
25	Q. On number 6, we do see that what is that
Î	

1	yellow circle? That's a reflector?
2	A. I believe that is a reflector.
3	Q, That other was a light?
4	A. Appears to be the remains of the light.
5	Q. 7 and 8 pardon me, 7 and 8?
6	A. 7 again shows the wheel rims, this time a- a
7	different angle. Shows one is dirtier than the
8	other. They are both partially discolored. I
9	believe I used the rear most as the most luminant
10	because it seems to be the cleanest.
11	Q. The rear?
12	A. Rear most wheel hub.
13	${\mathbb Q}\cdot$ Once again talking about four wheels on the
14	left, you selected the last one?
15	A. Correct.
16	Q, Last wheel being the one use your own
17	words.
18	A. Sighted object.
19	Q. Would be a sighted object you refer to in
20	your report?
21	A. That's correct.
22	Q. 9 and 10?
23	A. Nothing revealed on those.
24	Q. 11 and 12?
25	A. Nothing.

1	Q. 13 and 14?
2	A. Nothing.
3	Q. 15 and 16 of the exhibit?
4	A. Nothing.
5	Q. 17 and 18?
6	A. Nothing.
7	Q. Have we reviewed then all the photographs
8	that you had in your file?
9	A. I should just note in G.
10	Q. Exhibit?
11	A. Exhibit G, photo 4 shows the wheel hub again,
12	this time again a darker background, appears more
13	luminant than it did on other photos.
14	Q, That would be the last wheel of the trailer?
15	A. That's correct. Rear most right wheel. I
16	believe there is at least a couple others that show
17	it to be I wouldn't say standing out, but at
18	least to be more luminant or obvious than the tires
19	adjacent to it.
20	To note there is a correspondence
21	on 9 of that same exhibit also showing that rear
22	wheel hub.
23	Q, What you are talking about is the last wheel
24	on the left side of the trailer?
2 5	A. On the left side, that is correct.

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9	
10	right?
11	A. Yes.
12	Q. Insofar as Mr. Lipian is concerned, please
13	look at his report, tell us what disagreements you
14	may have with any statement he has made in his
15	report.
16	MR, KASPAREK: I object.
17	Object to that general request.
18	A. He refers to
19	Q. Give us a page that you are referring to,
20	paragraph if you can, sir.
21	A. He hasn't numbered the pages, it appears to
22	be the second page.
23	Q, Let me take a look if you give me just a
24	second.
25	Reviewing the report of Mr. Lipian

1 of March 21, 1997; am I right, sir? 2 Yes. Α. 3 Q. On the first page, you are referring to 4 paragraph? I'm on the second page. 5 Α. Q, Thank you. What paragraph would you be 6 looking at, starting with what language? 7 8 Α. The last paragraph. Starts with, "This 9 particular," refers to a "classic trailer underride." That infers something, that there is a 10 singular thing called a trailer underride, this is 11 12 a classic example. I don't believe that is the 13 case. Q. What is a trailer underride? 14 Generally that's very descriptive when 15 Α. 16 something strikes a tractor-trailer, slides under 17 it. 18 Q, Is there any literature that you ever reviewed concerning this? 19 Α. A lot of it. 20 21 Q. What would you consider to be a classic 22 trailer underride? I object to the term classic. I'm not sure 23 Α. there is such a thing as classic trailer underride. 24 Is this case a trailer underride case, the 25 Ο.

1	Hazel case?
2	A. Yes.
3	Q. Incidently, with trailer underrides, are they
4	rare?
5	A. Not compared to a supernova, compared to
6	baseball games I suppose they are.
7	Q. To a truck accident is an underride a rare
8	event?
9	A. I think a lot of truck accidents involving
10	multiple vehicles are underrides.
11	Q. How many trailer underride cases have you
12	been involved in?
13	A. I have never kept count, several though.
14	Q. Have they been in this county?
15	A. I don't recall, probably some have.
16	Q. Have you ever given a deposition on a trailer
17	underride case?
18	A. I'm sure I have.
19	Q. Have you written reports on trailer underride
20	case?
21	A. Yes,
22	Q, Have you ever testified in court in a trailer
23	underride case?
2 4	A. I believe so.
25	Q. Where would that be?

1	A. I don't recall the court anymore, would have
2	been a half a year ago.
3	Q, How long ago?
4	A. A half a year.
5	Q, Last year. Do you keep records at your home
6	on trials you testify in?
7	A. No.
8	Q. Do you remember any of the lawyers that hired
9	you?
10	A. Jack DeFazio.
11	Q, Jack Fazio?
12	A. DeFazio.
13	Q. Was it for a plaintiff's case?
14	A. Plaintiff's.
15	Q. You testified on behalf of Jack DeFazio in an
16	underride case?
17	A. Yes.
18	Q. Was it in this county or do you recall?
19	A. I don't think so.
20	Q. Where is Jack DeFazio an attorney at, where
2 1	is he located, Akron, Canton, Youngstown?
22	A. No. Near Youngstown, I don't know exactly
23	where.
24	Q. Was it a fatal?
2 5	A. No.

1 0. Injury? Yes. 2 Α. Q, You testified at trial? 3 4 Α. I believe so, yes. Do you remember the city, Youngstown, Canton? 5 Q. Probably would have been Youngstown. Α. 6 Q. 7 About a half year ago? 1 don't recall exactly. 8 Α. 9 Q, Let's return to Mr. Lipian's report March 21, 10 1997, is there anything else in that paragraph 11 let me understand something, I'm sorry, sir. 12 The objection you have with 13 Mr. Lipian's characterization is when he uses the word "classic." You do not disagree it's a trailer 14 15 underride case in the Hazel case? 16 Α. Yes. 17 Q. Anything else in that paragraph or anywhere 18 else? 19 Α. He says the glare of the headlights washes 20 out the side marker lights and reflectors. 21 Q, What does that mean, washing out? 22 That's what I don't know. It does not do Α. 23 what he infers it did. 24 Q. When glare takes place like it did in Jerry's 25 case -- remember you mentioned some glare, you

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1 permitted a 25 percent --Detection reduction. Α. 3 Ο. -- reduction factor. 4 When the glare like that takes 5 place in Jerry's case, are you blinded by the lights? 6 7 Α. The answer is no. Was Jerry's vision impaired when those Q, 8 headlights from the tractor-trailer caused a glare? 9 10 Α. Yes. 11 Q. What does that mean to you, what do you mean 12 by impaired? 13 That either he needs more luminance of Α. 14 whatever he's looking for to find it, or what he 15 could find with luminance without glare is no 16 longer visible as it would have been, given a no 17 glare situation. 18 Q. With no glare, to have seen something 19 illuminated in a no glare situation? 2.0 Without glare we would have seen something Α. 21 earlier or more dimly illuminated. Q, 22 What about when the glare takes place like 23 that, how does your eye react to that? 24 Two things happen: The pupil apertures down Α. 25 smaller, chemicals in the retina change their

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1	state, become less receptive.
2	Q. The retina closes down?
3	MR. KASPAREK: Objection.
4	A. The iris closes down.
5	Q. The iris closes down, which cuts off vision?
6	MR, KASPAREK: Objection.
7	A. Reduces amount of light falling on the
8	retina.
9	Q. So your ability to see is reduced?
10	A. That's correct.
11	Q, Do people react differently to that? Does
12	the retina recover from that in different time
13	spans person to person?
14	A. Older people generally recover slower.
15	Q. Why?
16	A. Because they are older.
17	Q. Do younger people react differently to that,
18	recover differently from glare person to person or
19	does everybody recover the same?
20	A. I don't believe everyone recovers the same.
2 1	Q, What are some of the factors involved in
22	reduction in recovering slower than
23	A. Recovering, I didn't assume any recovery.
24	Q, Did you assume how long the glare took place
2 5	when Jerry was looking at the headlights from the

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1	tractor that was involved in hauling the trailer?
2	A. Are you telling me he was looking at the
3	headlights?
4	Q, What did he say in his deposition, do you
5	recall?
6	A. No. If he was looking at the headlights,
7	then that is all he's going to see are the
8	headlights.
9	Q. Insofar as this glare factor you spoke about,
10	25 percent reduction in illumination?
11	A. Yes.
12	Q. How long did that last in your opinion?
13	A. I used the glare factor for the entire time
14	he was approaching. I used it throughout my
15	calculations.
16	Q, From the time the glare began to the time of
17	the crash?
18	A. Well, until he saw the object, it becomes
19	irrelevant that there is a glare at the crash when
20	he should have seen the object. That is when my
21	use of the factor becomes relevant.
22	Q. How far did he travel feet wise, did you
23	calculate how many feet he traveled while he was
24	subject to the glare factor?
25	A. I assume he for the entire interval I

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calculated, I assume there was glare there, I 1 didn't make calculations beyond that. 2 3 Q , An entire interval you are talking about? The one we discussed earlier in Exhibit C, 4 Α. interval slightly in excess of 100 feet to 5 6 approximately 180 feet, which is the interval of interest. 7 Q. What time span did that cover? 8 I didn't calculate. Α. 9 Q. Could you have? 10 I could have. 11 Α. Going back to Mr. Lipian's report, sir, is 12 Q. 13 there anything else you've spoken about the 14 disagreement you have --On the next page, first paragraph. 15 Α. Q, 16 Read the first paragraph for me, orient me. Starting "cross section." 17 Α. Q, What do you disagree with? 18 19 Refers to something called a "light wall," Α. 20 not a term of the trade as near as I can remember. 21 I've been in this business 30 years. 22 Q, What do you think he meant by that? 23 Α. I don't know what he meant by that. If he 24 meant glare, he should have said glare. That is a 25 common term.

1 Q, Assume for the moment he means glare, then 2 read the sentence, think about this for a minute, 3 please, the sentence in his report, "By the time an 4 oncoming vehicle breaks through, " instead of the light wall, put glare, "of the tractor headlights, 5 there is not enough time to perceive, react and 6 avoid the crash." 7 8 Α. I didn't consider breaking through. Glare was there for the entire period. The only way you 9 get out of the glare is to pass those headlamps or 10 stop looking at them, which would have been a very 11 12 imprudent action. MR. ILER: Strike the 13 imprudent. Let the judge rule. 14 15 Q. Anything in the next paragraph or anywhere on 16 the page you have a disagreement with? 17 Α. The following paragraph. 18 Q, Which starts with what? "In this type." 19 Α. 20 Q, What do you disagree? 21 Α. No visual clues to indicate the trailer is 22 across the highway. That completely disregards the 23 lights or reflective devices, or the presence of 24 the wheel hubs very near the roadway. 25 Q, Can I stop you for a minute.

When he says there are no visual 1 2 clues, you are saying there were visual clues, one of which was that last wheel rim of the trailer as 3 you have described it? 4 Α. Yes. 5 Q, The other was the reflector in the middle --6 7 Α. I used the lights, two lights. In the middle of the trailer? Q, 8 On the middle at the rear end. 9 Α. Q, Those two lights? 10 11 Α. Yes. Q. The pictures I think that we talked about, 12 you pointed those out? 13 I pointed out what I believe to be those, 14 Α. 15 remains of one, and the other one. 16 Q • On this night was there a moon out? Did 17 moonlight effect in any way your opinion? 18 Α. I did not use any other light. Moonlight is trivial compared to the light of a headlamp, factor 19 20 of 100 or 1,000 or more. 2 1 Q . Anything else in the paragraph or any other 22 paragraph of his report? 23 Paragraph beginning, "Considering that this Α. 24 crash," it's 100 feet or less, it's a conclusion, 25 there is no basis for that. I question where the

1	100 feet came from since there is no discussion of
2	any factor that would lead up to that conclusion.
3	Q. How close did you come to that 100 feet in
4	your calculation if I may ask?
5	A. For a nonexpectant driver we discussed it, a
6	case which is not the case that I believe, it's
7	130 feet.
8	Q. Any other disagreements you have?
9	A. The last paragraph, "Even if Mr. Hazel
10	applied his vehicle brakes," 1 believe Mr. Hazel
11	said he was applying them. This is in terms that
12	Mr. Hazel had not, At least as I read it.
13	That is all I really had on that
14	page. This is the last page.
15	Q. May I stop you before you go to the last
16	page?
17	A. Sure.
18	${\mathbb Q},$ Did you use any calculation of coefficient of
19	friction in your case?
20	A. No.
2 1	Q. Can we eliminate from your opinion in this
22	coefficient of friction testimony in this case?
23	A. Yes.
24	Q. Go ahead,
25	A. On the last page of course, "the crash was

1	unavoidable'' is the statement that I obviously
2	disagree with because there is no basis for the
3	unavoidability other than what appears to be an
4	estimation it was less than 100 feet based on no
5	other factors I can perceive.
6	Q. Insofar as your opinion is concerned, you
7	won't get into stopping distances and braking
8	distances?
9	A. I won't unless you ask me.
10	Q. What you testify in court, I think you are
11	just a lighting person, I didn't want to
12	A. I can do the same calculations everyone
13	does. I do not intend to.
14	Q. I do not think that you will. That takes
15	care of Mr. Lipian's report.
16	Did you ever personally inspect the
17	trailer that was involved in Jerry Hazel's case?
18	A. No.
19	Q. Did you ever personally inspect the tractor
20	that was involved in Jerry Hazel's case?
2 1	A. No.
22	Q. Did you ever personally inspect the accident
2 3	scene?
24	A. Only through the photographs, no.
25	Q. You never personally went there?

1	A. That's correct.
2	Q. You never made a measurement at the scene
3	because you weren't there, true?
4	A. That's correct.
5	Q. Material was given to you concerning the
6	accident scene through the photographs we have
7	discussed; am I correct?
8	A. Yes.
9	Q. Did you make any scale drawings other than
10	what we talked about at this deposition?
11	A. I believe I did at one time to construct the
12	location of the object with respect to the vehicle
13	headlamps. I would have had to make a drawing to
14	make those calculations.
15	Q, Could we get a copy of it?
16	A. I don't see it in my file. If I have a copy
17	you can have it.
18	\mathbb{Q} . When you get back home or to your office
19	would you take a look for the scale drawing?
20	A. Sure.
2 1	Q. What was the purpose of the drawing?
22	A. To alert me to the position of the rear wheel
23	hub with respect to the Hazel vehicle.
24	Again, I may have done it through
25	calculation, certainly can be done.

1 Q, Why did you want to do that? So I know where it is in the beam pattern, 2 Α. approximately where it is in the beam pattern. 3 Q. That would be insofar as the left rear 4 trailer wheel? 5 6 Α. Yes. 7 Q, Would you please take a look for that 8 drawing, if you find it, turn it over to Mr. Kasparek, he'll give it to me? 9 10 Α. Yes. 11 Q. Give me a copy of it. 12 Illumination is determined by foot 13 candles? 14 Illumination, yes. Α. Q. 15 A light meter is used to determine that? 16 Α. Yes, some form of a light meter. 17 Have you ever used a light meter in this case Q, 18 in determining illumination? 19 Α. No. 20 Q, Your report indicates that you have received 21 some specifications, do you recall seeing that in 22 your report? 23 Talks about the SAE limits. Α. 24 Q. I think the specifications you mentioned 25 concerning the tractor or trailer, I may be
1	mistaken?				
2	MR. KASPAREK: Let's hold on a				
3	minute. You have the report, you find what				
4	question you want to ask him if you want, please,				
5	instead of us guessing what you are talking about.				
6	MR. ILER: Okay, sir.				
7	Q. Paragraph one of your report of February 22,				
8	1997 you referred to the daytime photographs,				
9	nighttime photographs, State Highway Patrol report,				
10	depositions of Jerry Hazel, Rex Holland and two				
11	sketches of a plan view of the accident site and				
12	measurements of the trailer vehicle?				
13	A. Yes.				
14	Q. Where are those?				
15	A. Those are Exhibit A I believe.				
16	Q. Let me take a look at them. Those were				
17	supplied to you; am I correct, sir?				
18	A. Yes.				
19	Q. When we look at Exhibit A, it's a long sheet				
20	of paper folded up, what is this?				
2 1	MR. KASPAREK: Exhibit A is				
22	more than a long sheet of paper folded up.				
23	Q, Multiple pages as Mr. Kasparek says?				
24	A. The exhibit you referred to is from				
25	Dr. Uhrich, it's a plan view of the roadway as he				

1	measured it.		
2	Q. He gave this to you?		
3	A. Yes.		
4	MR. KASPAREK: No, I gave it		
5	to him, I sent it to him.		
6	Q. Mr. Kasparek sent it to you?		
7	A. Yes.		
8	Q, When was it sent?		
9	A. I believe there is a cover letter about the		
10	date.		
11	Q, Take a look.		
12	A. Probably would have been sent at the		
13	original whenever it was completed. It was sent		
14	before I did my report though.		
15	Q. Did this diagram assist you in making your		
16	report?		
17	A. Yes, I used the road curvature as shown on		
18	the report to calculate various aspects.		
19	${ extsf{Q}}\cdot$ We see the diagram of the road, then we see		
20	some writing up in the upper left-hand corner, says		
2 1	crest?		
22	A. Down hill to north, level to south.		
23	Q. Is that your writing?		
24	A. No.		
25	Q. That must be Dr. Uhrich?		

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Yes. Up in the middle where this --Ο. 3 All the pencil writing on here is mine. Α. Q , I can't tell which is pencil, which is not. 4 5 The record has to show it. Up on top says, "Pole OE 69CK35," that is Mr. Uhrich? 6 MR. KASPAREK: Dr. Uhrich. 7 Q, 8 Dr. Uhrich. 9 Then on the left-hand corner, 10 "Cuvature of the road," those comments in those 11 two paragraphs are his? 12 Α. Yes. Q., The middle of it where there is some pencil 13 14 drawing, those are yours? Drawings and calculations below them are 15 Α. 16 mine. 17 Q, Is there any other way this assisted you in 18 forming your opinion? 19 Tells me what the road radius is, the radius Α. 20 of the curvature of the roadway. 21 Q. What was it? 22 A. I calculate about 1,035 feet to the center 23 line of the right lane as radius. 24 Q, Why did that assist you in your calculation 25 and opinion?

1	A. Because when I determine where the object			
2	lies in the headlamp beams, I can make a more			
3	accurate assessment of how much light is on the			
4	wheel hubs.			
5	Q. The wheel hubs of the trailer?			
6	A. That's correct.			
7	Q. That's the part, that wheel hub of the			
8	trailer that you have described to us in earlier			
9	testimony, is that where you determined Jerry's			
10	headlights should have picked up and seen?			
11	A. Yes.			
12	Q. At that time, when that was true, pardon			
13	me at the time you made that determination,			
14	where were Jerry's headlights shining, straight			
15	ahead?			
16	A. Headlamps are aimed such that the aiming			
17	plane is horizontal to the vehicle, the beam then			
18	is aimed such that it's most intense zone is to the			
19	right. Essentially the lamp is aimed straight			
20	ahead, yes.			
2 1	Q. Isn't it true headlights are generally			
22	positioned toward the right?			
23	A. I said the majority of the high intensity			
24	portion is to the right. The headlamp is not			
25	positioned to the right.			

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1	Q. The intensity of the beam is?			
2	A. More intense. Inferring there is no			
3	intensity to the left is false.			
4	Q. Why is that?			
5	A. Glare requirement.			
6	Q, What glare requirement?			
7	A. Requirements for light above horizontal.			
8	It's light above horizontal that is restricted in			
9	low beam headlamps.			
1 0	Q. The road is illuminated as opposed to the			
11	object?			
12	A. The light is not to be directed up toward the			
13	other driver's eyes.			
14	Q. So then Jerry Hazel's headlight was shining			
15	on the ground?			
16	MR. KASPAREK: Objection.			
17	That's not what he said, Don. He's answered your			
18	question, you keep you want him to say what you			
19	want him to say.			
20	MR. ILER: Just object.			
2 1	MR. KASPAREK: Let's move on			
22	here. He's answered your question. Would you read			
23	that?			
24				
25	(Answer read.)			

-- --1 Q, That would be the driver's oncoming vehicle? 2 MR. KASPAREK: She read the 3 question, you add on to the question, that is 4 improper. 5 6 Q. Let's go back again. MR. KASPAREK: You have her 7 read the question and add on to it. 8 MR. ILER: I can't? 9 MR. KASPAREK: You can't. 10 Let me get 11 MR. ILER: through this. 12 MR. KASPAREK: I object. Ask 13 14 that the answer be stricken. Q. Let me rephrase my question for you. 15 16 The beam of Jerry's vehicle, of his headlights, are positioned so that they do not 17 shine into oncoming traffic; is that true? 18 19 Α. That's not true. Q. Then why are they positioned down and to the 20 21 right? 22 They are not positioned down and to the Α. 23 right. 24 Q. They are not? 25 A. Correct.

Q. Are the beams on Jerry's beamed straight 1 2 ahead at the time of this accident? The headlamps are aimed -- the top cut off of Α. 3 the low beam lamp is horizontal center of the low 4 5 beam bulb, so they are aimed essentially parallel to the ground. 6 Parallel to the ground? 7 Q, Α. That's correct. 8 9 Q, At what degree is it a horizontal, straight out horizontal?. 10 11 Α. The top of the beam is at horizontal. Q. The lower beam, that is the lower beam, that 12 13 is horizontal? 14 Α. Correct. 15 Q, Would that light positioned that way shine into the face of oncoming vehicles? 16 17 Oncoming driver's eyes. There is a Α. 18 restriction how much light can shine into the 19 oncoming driver's eyes, yes. 20 Q. How far did Jerry's lights illuminate ahead 21 of his vehicle? 22 I just said the lights are aimed partially to Α. 23 the ground. Theoretically light travels forever 24 until it strikes something. 25 Q. Attached to this exhibit are also some

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smaller sheets? 1 2 A. Yes. Mark these MR. ILER: 3 4 please. ----5 (Kosmatka Deposition Exhibits A2 through A4 6 7 marked for identification.) _ _ _ _ _ 8 Q. I'm looking at Exhibit A2, is this done in 9 your handwriting? 10 A. No, Dr. Uhrich. 11 Q. What is it first of all? 12 A. He's measurement of --13 MR. KASPAREK: Off the 14 15 record. ____ 16 (Discussion had off the record.) 17 ----18 19 Α. It's a measurement of the Kenworth 20 tractor-trailer on a plan view. Q. Did it assist you in making up your opinion? 21 22 Only in a general sense that it located for Α. 23 me the wheels, which of course I could have 24 estimated anyway. The width of the vehicle which I already knew. 25

Q.	The tractor or the trailer?	
Α.	I'm not interested in the width of either.	
Q.	In the first sheet?	
Α.	The trailer.	
Q,	This is an estimate of the trailer?	
Α.	His sketch of the trailer.	
Q,	Hang on a minute.	
Α.	And tractor.	
Q.	How long is the trailer that was involved in	
this	accident?	
Α.	40 some feet I believe.	
Q.	How wide is it?	
Α.	8 feet.	
Q,	How high off the ground did it sit at the	
time of the accident?		
Α.	I don't know, I wasn't interested in the	
height of the trailer body.		
Q.	That is what Exhibit A2 is?	
Α.	Plan view.	
Q.	Plan view?	
Α.	Yes.	
Q.	Looking at Exhibit A3, what is that?	

23 A. Appears to be a side view of the trailer.

24 Q. Are we looking at the left side?

б

25 A. I think the two sides are similar, I don't

1	know either, I believe.
2	Q. Did this help you in any way making your
3	opinion in this case?
4	A. It validated what I saw in the picture, that
5	is he shows a light in the back.
6	Q. Of the trailer?
7	A. Of the trailer. He shows a yellow
8	reflector. Shows this little box thing that
9	appears to be the remains of the other light.
10	Q. In the rear, the rear of the trailer, where
11	you said there is a light, is that light on the
12	side of the trailer or on the rear of the trailer?
13	A. By law it has to be on the side of the
14	trailer.
15	\mathbb{Q} . In this case was it on the side of the
16	trailer or on the rear?
17	A. Appears to be on the side of the trailer.
18	Q. Exhibit A4, can you tell me what that is?
19	A. It's another drawing of the site, I did not
20	use this one.
2 1	Q. Who is it made by, Dr. Uhrich?
22	A. I don't believe so, no.
23	Q. Do you know who made this one?
24	A. No, I don't.
25	Q. Let's look at it for a minute, You see where

and a local diversity of the

1 the top of the photograph shows a crest? 2 Α. Yes. Q, What do you mean by a crest, what did you 3 understand a crest to mean? 4 MR. KASPAREK: Excuse me, the 5 6 question you just asked says top of the photograph, we're not looking at a photograph. 7 Q. Top of the diagram A4, the word here on this 8 9 drawing says crest. What did you understand crest to mean? 10 To mean it would indicate the point at which 11 Α. 12 the upgrade stops. Q, Then what happened? 13 14 Α. I don't know. It's either flat or downgrade then. 15 Q. 16 Does this corroborate in any way any of your 17 work? 18 Α. No, I didn't use this. 19 Q. Mr. Kasparek sent this to you, right? 20 Α. Yes, I believe so. 21 In this diagram reads, "SEQ. 1, (Holland,) Q. 22 realizes that he needs to go back home. He stops and puts" --23 24 MR. KASPAREK: "Four ways" it 25 looks like.

1	Q. What did you mean "four ways"?			
2	A. Four way flashers.			
3	MR. KASPAREK: I object.			
4	Q. Those would be on the cab of his tractor,			
5	right?			
6	A. Yes.			
7	\mathbb{Q} , "(Intending to back onto Mud Lake Road and			
8	turn around,)" right?			
9	A. Yes.			
10	Q, Did you use any of that information in your			
11	analysis or opinions?			
12	A. The only thing that was relevant, he was			
13	approximately stopped at the time, so, no I did			
14	not.			
15	Q. Did the fact that he says he stops and puts			
16	four ways on, did you make any use of that			
17	information?			
18	A. I didn't use the four way flashers.			
19	Q. What are four way flashers on this vehicle,			
20	do you know?			
2 1	A. Flasher lights that are actuated by the turn			
22	signal system, two on the front, two on the back of			
23	the vehicle.			
24	Q. On the photographs we have of this vehicle,			
25	tractor, take a look at Exhibit F if you will.			

1	Exhibit F, photograph number 10, it's the front of
2	this vehicle; am I correct?
3	A. Yes.
4	Q. The tractor, where are the four ways in your
5	opinion on this picture 10?
6	A. I really didn't have an opinion about that.
7	I haven't studied it.
а	Q. You don't know where they are on this
9	vehicle?
10	A. I haven't formed an opinion. Frankly had no
11	need to.
12	Q, You don't have any opinion as to brightness
13	of those four way flashers?
14	A. The brightness is well described, yes, I do.
15	Q. Were is it well described?
16	A. We already discussed the federal lighting
17	standard.
18	Q. On this vehicle you don't know what the
19	brightness was, you didn't inspect the vehicle?
20	A. It is required by law to be a minimum, it had
2 1	to be a minimum.
22	\mathbb{Q} , I ask that since you didn't inspect this
2 3	tractor, you don't know what the brightness was?
2 4	MR. KASPAREK: Objection.
25	A. I know what the legal minimum limit is.

1	Q. On this tractor?
2	A. Probably greater than minimum.
3	Q. How do you know that in this tractor, you did
4	not see it?
5	A. The manufacturer of the light has to certify
6	his vehicle meets the federal standard.
7	Q. That is the basis for your opinion?
8	A. Yes. That and the fact they appear to be lit
9	in several of these nighttime photographs.
1 0	For instance, in this photograph
11	there is something light. If that isn't the
12	position markers, then I don't know what it is.
13	Q. You can tell from those photographs in
14	Exhibit G what the illumination is?
15	A. No. I know what the minimum illumination is
16	by federal law.
17	Q. My question is can you tell from looking at
18	the photographs what the illumination was on
19	Rex Holland's tractor?
20	A. I know they were lit. If they were made by
2 1	the manufacturer, certified to meet the federal
22	minimum, I know they were at least a certain
23	number.
2 4	MR, ILER: I'll ask the
25	answer be stricken as nonresponsive.

1	Q. Insofar as the lights on the side from the
2	four ways have been discussed, do you know on the
3	day of this accident whether or not Jerry Hazel had
4	his high beam headlights on or low beam; do you
5	know?
6	A. I don't. I believe he has referred to low
7	beam, I'm not sure.
8	Q, You don't know right now?
9	A. That's correct. I used low beams.
10	Q. Insofar as high beams are concerned in Jerry
11	Hazel's tractor, how far would they shine?
12	A. I think we already discussed how far lamps
13	aim, horizontally shine forever until they strike
14	something.
15	Q. What kind of headlights did Jerry Hazel have
16	on his
17	A. I thought I already answered that.
18	Q. Tell us again.
19	A. It's in the report, type B.
20	Q. Type B?
2 1	A. That's what they are, type B headlamps.
22	Q. How did you determine that?
23	A. I looked at the picture, it is also a
24	recommended headlamp for that vehicle on the
2 5	replacement chart, that type B headlamp.

1 Q, What kind of headlights did Jerry have on his 2 van that he was driving on the day of the accident? Α. I thought we just talked about Jerry's 3 4 headlamps, type B. Q. They had **B** on Jerry's headlamps? 5 в. You said Jerry, I told you they were typ 6 Α. 7 Q, What does that mean? How many types of headlights are there? 8 There are several. 9 Α. Q, 10 What are they? 11 A, B, C, D, E, G, H. Α. 12 Q, What is the difference between type A and 13 type B? Type A is a four headlamp rectangular. B is 14 Α. a two headlamp rectangular. 15 What is the difference between B and C? Q. 16 17 Α. C is a two lamp round system. Q. Two lamp round? 18 MR. KASPAREK: Two lamp 19 20 round. You said around. I said round. 2 1 MR. ILER: MR. KASPAREK: I thought you 22 23 said around. MR. ILER: No, I said 24 25 round.

Q. Between C and D? D is a 2 lamp rectangular. 2 Α. Do A, B, C and D have the same intensity? 3 Q. They have to meet the same standards. 4 Α. Q, That you described earlier, SAE standards? 5 Federal standards. Α. 6 Q. If they are the same, what is the advantage 7 8 of A over B or B over C? You can't fit a large rectangular in a small 9 Α. 10 rectangular lamp. They only fit on particular 11 installations. 12 Q, They only fit on particular installations or 13 units; is that right? Α. That's correct. 14 15 0. Do all tractor-trailers have type B? 16 Α. Tractor-trailers don't have type B. Q, What kind does a tractor-trailer have? 17 18 I told you that, type C. Α. Q. Did do they all have type C? 19 20 No, whatever is appropriate for the Α. 21 manufacturer. Q. 22 Do you know what the temperature was on the 23 24 25

1	Α.	No.
2	Q,	What happens when the dew point and
3	tempe	rature comes together?
4	Α.	It rains.
5	Q,	What causes fog?
6	Α.	Condensation of water.
7	Q.	Is that when you get a close temperature and
8	dew point situation?	
9	Α.	Possibly.
10	Q.	Was that the case on the day of Jerry's
11	accid	lent?
12	Α.	I didn't see any reference to anything
13	signi	ficant in terms of fog. Said no adverse
14	weath	ner on the police report.
15	Q,	Did you do any weather investigation in this
16	acció	lent?
17	Α.	No.
18	Q,	Would you look at your report on page 1 at
19	the third paragraph, it says, "The speed of the	
20	vehicles."	
2 1	Α.	Yes.
22	Q.	"Are reported to be 0-5 mph for the
23	tractor-trailer." You assumed the tractor-trailer	
24	was n	noving?
25	Α.	No.

1	Q.	It was not?
2	A.	I'm referring to the report.
3	Q.	You assumed the tractor-trailer was stopped?
4	A.	Yes.
5	Q.	At the time of the crash?
6	A.	Yes. Or moving very slowly since that is the
7	same	effect.
8	Q.	If it was moving slowly, would that make a
9	diffe	rence in your opinion?
10	Α.	Only if it was moving fast.
11	Q.	Wouldn't make a difference how far it moved
12	to change any of your opinions?	
13	Α.	No.
14	Q.	Was Jerry alert as a driver to any danger in
15	your	opinion?
16	Α.	I thought 1 answered that. I consider him
17	expectant by virtue of the fact of having seen the	
18	light	s.
19	Q.	Was he alert in your opinion?
20	Α.	I don't know what the definition of alert is
2 1	in th	is context.
22	Q,	Have you worked with Dr. Uhrich before on
23	other	cases?
24	Α.	Yes.
2 5	Q,	How many times have you worked with

1	Dr. Uhrich?	
2	A. I don't recall.	
3	Q. Would there be more than one or two times?	
4	A. Probably.	
5	Q. Would you say it was more like 15 or 20 times	
6	you've worked with Dr. Uhrich?	
7	A. No.	
8	Q. Would not.	
9	Do you keep any records of number	
10	of cases you are involved in?	
11	A. No.	
12	Q. You had discussions with Dr. Uhrich before	
13	you made your report up , didn't you?	
14	A. I don't think so. I'm not sure.	
15	Q, Didn't you discuss the diagram with him that	
16	he produced?	
17	A. I may have. The diagram was pretty	
18	self-explanatory,	
19	Q. Is it your testimony you did have a	
20	conversation with Dr. Uhrich or you did not?	
21	MR. KASPAREK: His testimony	
22	was he may have. That is exactly what his	
2 3	testimony was, Don. I don't know what else. Sou	
24	have been doing this all afternoon, the man gives	
25	you an answer, then	

1	MR. ILER: It's like I		
2	have a right to do this. See, I have a right to		
3	find out. I have a right to test his opinions. I		
4	have a right to test what he's written down, what		
5	he says, I have a right to do that.		
6	MR. KASPAREK: You have a		
7	right to ask him questions, get answers. This man		
8	said he may have.		
9	Q, What would lead you to believe you may have		
10	talked to him?		
11	A. I didn't remember not talking to him or		
12	talking to him. It's perfectly possible.		
13	Q. Did you ever tell Dr. Uhrich of your		
14	opinions?		
15	A. Again, I may have once I wrote the report.		
16	Q. Did you ever give any of your information		
17	that you gleaned from your work here to Dr. Uhrich?		
18	A. I don't believe I sent him a copy of the		
19	report. If he got that, he got it through		
20	Mr. Kasparek.		
2 1	\mathbb{Q} . You never gave him a copy of your work, did		
22	you?		
23	A. I don't think I did.		
24	Q. On page 2 of your report you write under		
2 5	objectives, one, determine which portion of the		

1	trailer would most likely be illuminated. That was	
2	one of your objectives, we talked about that, have	
3	we not?	
4	A. Yes.	
5	Q. Second one, determine for these portions of	
6	interest what levels of luminance would be required	
7	for the driver to detect.	
8	Can you explain that to us today?	
9	A. I think it's what I discussed when I talked	
10	about luminance requirement on the next page at the	
11	bottom.	
12	Q. Three, determine the extent to which other	
13	factors would influence the luminance requirement	
14	above.	
15	Have you already discussed all of	
16	those?	
17	A. Discussed glare, discussed veiling, driver	
18	expectancy, yes.	
19	Q. You discuss the horn and calling out by the	
20	driver?	
2 1	A. I think I noted it.	
22	Q. Then determine the type of headlights on the	
23	Dodge.	
24	That information you got from whom,	
25	do you recall?	

1	A. I looked at the picture. I told you they are		
2	type B headlamps.		
3	Q, Do you have a copy of the SAE requirement?		
4	A. They are available from SAE also.		
5	Q. Do you have them?		
6	A. I have my own manual.		
7	Q. Would you photograph the portion which you		
8	used in this case, give them to Mr. Kasparek?		
9	A. At your expense.		
10	Q. How much would it cost me?		
11	A. To make copies, half an hour, 15 minutes.		
12	Q. Whatever section you used in SAE for your		
13	opinions, photograph them, give them to		
14	Mr. Kasparek, send me a bill for what it is, give		
15	it to him.		
16	A. Okay.		
17	Q. On page 3 of your report at paragraph five		
18	you talk about for the purpose of this analysis a		
19	reflectance of only 30 percent was used for the		
20	light colored wheel hubs. Are you speaking about		
2 1	the left rear wheel hub of the trailer?		
22	A. Yes.		
23	Q. Then you used plural hubs, h-u-b-s, do you		
24	mean that or do you mean hub?		
25	A. I used single hub.		
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1	Q. This report on driver expectancy on page 4,		
2	that was from a study by Roper and Howard?		
3	A. Yès.		
4	Q. Where is that contained, where did you get		
5	that?		
6	A. A report that they made to I forget the		
7	organization, I have my personal copy of that.		
8	Q. Is that where you gleaned the that's where		
9	you got the information about driver expectancy you		
10	comment on?		
11	A. That is the one I used. When you say where I		
12	got my information, I get information from a lot of		
13	sources. That's the one that I happened to use,		
14	yes.		
15	Q, You find Roper and Howard are more credible		
16	than the other ones?		
17	A. No, I just think that's the one I happened to		
18	use is all.		
19	Q. Why did you happen to use it?		
20	A. Probably because it's the first one I got.		
2 1	Q. The others are equally as credible?		
22	A. They lead to the same conclusion.		
23	\mathbb{Q} . What does Roper and Howard say about this		
24	driver expectancy that applies to this case?		
25	A. I think I outlined that in the paragraph.		

1	They found the detection one half distance, that	
	leads to the conclusion of four times the	
3	illumination level.	
4	Q. One half the distance of what?	
5	A. As it says, one half distance at which the	
6	driver detects the same object in an expectant	
7	state.	
8	Q. A result of some testing Roper and Howard had	
9	done?	
10	A. Yes.	
11	Q. Did they use the same situation,	
12	tractor-trailer across the road in the situation we	
13	had here?	
14	A. No one would use a tractor-trailer across the	
15	road.	
16	Q, You would still use Roper and Howard in your	
17	opinion?	
18	A. For the illumination.	
19	Q. In Roper and Howard and the work you	
20	describe, was there a situation there was a tractor	
21	pointing in the direction of the driver in the	
22	opposite lane and flashing lights and headlights	
23	on?	
24	A. They did not use glare. There are other	
2 5	glare studies, we already discussed that.	

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1	Q,	They did not?
2	Α.	They did not use glare.
3	Q.	You still use Roper and Howard even though
4	the Ro	oper and Howard study did not use glare?
5	Α.	I apply the factor as we already discussed.
6	Q.	The next paragraph you said the presence of
7	two s	ide marker lights on the trailer, I only saw
8	one s	ide marker light that was in the middle of
9	it. T	Was there the another one?
10	Α.	The one on the rear.
11	Q,	Those are the two you refer to in your
12	report?	
13	Α.	Yes.
14	Q.	Mr. Lipian uses veiling glare, did he not?
15	Α.	No, he didn't.
16	Q.	You have?
17	Α.	He didn't use veiling glare. He talks about
18	a wali	l of light.
19	Q,	Did you ever take a course from Northwestern
20	Unive	rsity traffic?
2 1	Α.	What?
22	Q,	Northwestern?
23	Α.	In what?
24	Q,	Traffic reconstruction?
25	Α.	No. I've taken a course, not from

1 Northwestern.

•	Not chiwebeet in.
2	Q. When you say on the bottom of page 4 of your
3	report glare sources are generally localized so the
4	glare effect is more pronounced than the adaptation
5	effect; what do you mean by that?
6	A. Glare has a greater effect than simply
7	elevated eye adaptation.
8	Q. What do you mean elevated eye adaptation?
9	A. Similar to the thing you experience when you
10	go into a dark movie theater of an elevated eye
11	adaptation. You can't see dimly lit things like
12	the floor or your feet. Same thing occurs in a
13	driving situation, glare has a much more pronounced
14	effect. I'm referring it overrides that.
15	Q. What overrides that?
16	A. The glare overrides the adaptation effect.
17	Q. On page 5, top of page 5 of your report you
18	put, "Glare (opposing vehicle) tests using
19	passenger vehicles." There are particular studies
20	you are referring to in that sentence, page 5 of
2 1	your report?
22	A. I'm sorry?
23	Q. Look at the top of page 5 of your report.
24	You write, "Glare (opposing vehicle) tests using
25	passenger vehicles shows that the reduction in

1	detection distance attributable to oncoming vehicle	
2	glare ranges from 20 to 30 percent,"	
3	A. Yes.	
4	Q, What test?	
5	A. The tests that we discussed earlier.	
6	Industry tests.	
7	Q. What industry, lighting industry?	
8	A. Automotive lighting industry.	
9	Q. Were those the tests you talked about General	
10	Electric did?	
11	A. I believe I said every one did those tests.	
12	Q. Everybody. Can you tell me the name or where	
13	they are found now, where the tests are found, can	
14	I go to the library?	
15	A. Earlier we talked about you contacting SAE.	
16	Q. That is what you are referring to, SAE tests?	
17	A. I'm referring to glare tests that may be	
18	available from SAE.	
19	Q. You write on page 5, "Because of relative	
20	higher elevation of Mr. Hazel in the Dodge van,	
2 1	with respect to the tractor-trailer headlamps	
22	versus a passenger vehicle, a 25 percent reduction	
23	in detection distance is likely." Because he is up	
24	on his seat higher?	
25	A. He's higher than a passenger vehicle. If he	

was in a passenger vehicle I would have used a more		
severe situation. He is well above those headlamps		
in a vehicle that size.		
Q. Why would it be greater if he was in a		
passenger vehicle?		
MR. KASPAREK: Objection. He		
didn't say that.		
A. Why would it be greater?		
Q. Why would the 25 percent reduction detection		
distance be different in an automobile?		
A. He'd be in a different position in relation		
to the headlamps.		
Q. What do you mean?		
A. Lower to the headlamps. He would be getting		
more intense light.		
Q. Page 5, first paragraph you say, "In the		
order of 2.4 times"; do you see that?		
A. Yes.		
Q. Was that a mathematical calculation you made?		
A. Yes, I did.		
Q, Does it appear in any of your notes here?		
A. No.		
Q, Did you describe that to us earlier?		
A. No.		
Q, Would you please describe how <i>you</i> got that		

1	2.4 times that is referred to?	
2	A. I used what I knew to be the obstacle	
3	location, glare, car location and the tests I	
4	referred to.	
5	I used a formula styled after the	
6	Holiday formula, Fry glare formula equivalent to	
7	compute what I do is compute given the detection	
8	distance, driver height position, what the obstacle	
9	illumination was with glare and what the obstacle	
10	illumination was without glare. I come up with a	
11	factor of how much more it had to be for the	
12	25 percent reduction.	
13	\mathbb{Q} . The tests that you relied on were again the	
14	tests we talked about earlier?	
15	A. Yes.	
16	Q. Those involve passenger automobiles, right?	
17	A. They involve the fact that they are	
18	passenger automobile is immaterial. They involved	
19	headlamps that are below the drivers high point by	
20	a foot and a half or two feet.	
21	\mathbb{Q} . Is the answer to my question the tests	
22	involved passenger automobiles?	
23	A. On the tests that I performed, yes. I can't	
24	speak for everyone's tests.	
25	Q. You see where you have on page 5	

"illumination requirement"? 1 2 Α. Yes. 3 Q. Would you tell me what L means in the middle 4 of page, that's light? It's explained. Α. 5 MR. KASPAREK: It says right 6 there illumination, L. 7 8 Q, Of an object related to the illumination, and the reflectance by the general equation, right? 9 10 Α. Yes. 11 Q. So illumination equals R? 12 Α. Yes. 13 Q, You are talking illumination times R, or what 14 are you talking about here in illumination equals luminance times one slash R, what is one slash R? 15 One over R is a simple transposition of 16 Α. 17 terms. I just transposed terms. It's algebra. 18 That's the reason I don't give more 19 calculations in these things, they create this 20 confusion. 21 Q, The next paragraph, "By including factors to 22 account for angular size of the object and driver 23 adaptation, the illuminance required is computed 24 as," you have the formula? 25 Α. Yes.

1	Q,	X 1 slash R?
2	Α.	Times one over R, same as 1 over R.
3	Q,	What is FA?
4	Α.	That is explained also.
5	Q,	What does it mean?
6	Α.	Right below FA is a ratio term.
7	Q,	What does it mean here?
8	Α.	It's a factor, the factor object size and the
9	field	of view.
10	Q.	Is that a recognized formula?
11	Α.	It's a recognized formula. What do you mean
12	recog	nized formula?
13	Q.	Other lighting engineers use the same thing
14	to de	termine illuminance?
15	Α.	To determine illuminance, yes, the others are
16	to ac	count for other factors.
17	Q.	Page 6 of your report. I think you already
18	explained 158 feet, 130 feet; am I right, sir?	
19	Α.	Yes.
20	Q,	Also the 167 feet?
21	Α.	Yes.
22	Q.	You've done that?
23	Α.	Yes.
24	Q.	On page 7 of your report, item six, "The
25	possi	bly," you see that?

1 Α. Yes. Q, "Though unlikely that Mr. Hazel remained in a 2 3 nonexpectant condition, despite the presence of the 4 side marker lamps in or near this lane of travel 5 and in the probable line of sight of a driver attending to his lane keeping task." 6 7 You are saying it's unlikely that he would remain in this nonexpectant condition? 8 9 Α. Yes. Q, 10 Was he ever in a nonexpectant condition? 11 Α. Yes. Q. When? 12 Before the trailer lights were in his line of 13 Α. 14 sight in the roadway. Isn't that subjective criteria that you are 15 Q. 16 using when you say, "The possibility, though 17 unlikely, Mr. Hazel remained in a nonexpectant 18 condition"? 19 Α. I find it unlikely. The lights we're talking 20 about are put on vehicles for exactly the reason 21 we're discussing, to make it visible. That is 22 marker lights on the rear and marker lights on the 23 side. 24 MR. ILER: Read my 25 question back.

1 2 (Question read as follows: Isn't that subjective 3 criteria that you are using when you say, "The possibility, though unlikely, Mr. Hazel remained in 4 a nonexpectant condition"?) 5 6 -----Q, 7 Can you answer my question? 8 Α. Would you repeat it again. 9 10 (Question read.) 11 12 No, I wouldn't say it's subjective. Α. 13 Q, Did you ever meet Jerry Hazel? 14 No. Α. 15 On your last paragraph of your letter you Q, 16 indicate, "The calculations and conclusions above 17 are consistent with accepted scientific principles 18 and formulae, are derived from the actual field 19 data"? 20 Α. Yes. 21 Q, What field data are you referring to? 22 The field data I referred to in the report, **A** . 23 field data from Roper and Howard, field data in 24 actual glare on the road glare experiments. I used 25 the term field data to determine between that and

1 concocted laboratory data. Concocted, what does that mean? Q, 2 Laboratory test is concocted to show how, 3 Α. 4 approximate a field condition. Q. Did you ever run a test with a 5 tractor-trailer and van illumination test? 6 I haven't. Α. 7 Have you ever read a study concerning 8 0. 9 illumination on a tractor-trailer at night with an underride such as occurred here? 10 I've written reports on underrides. 11 Α. 12 Q. Have you ever read any studies about that? NHTSA study. 13 Α. What is that called? 14 Q. National Highway Traffic Safety 15 Α. 16 Administration study. 17 Q., That study was underride? No, it had to do with marking of trailers. 18 Α. Q, Can you quote to me today any study 19 20 concerning underrides, truck underrides? 21 Α. Quote to you, no. 22 MR. ILER: May I make a 23 request, Mr. Kasparek, all the documents we've gone 24 through be photographed for me, can you do that? MR. KASPAREK: Of course. 25

1 I'll send you a bill for doing it. I'll be happy only because the color photocopies are expensive. 2 MR. ILER: Here's what we 3 4 will do. I understand that there will be expense 5 involved regarding the photographs. MR, KASPAREK: I'll reproduce 6 7 everything for you, I'm telling you it will be at 8 your expense, that is all I'm saying, just like I'll pay Lipian for copies that he's going to make, 9 of course. 10 11 Q, Mr. Kosmatka, if you add to any opinions that 12 are not contained in your report, that we have not 13 discussed today, please advise Mr. Kasparek of it 14 so we can question you about it. I'm taking your 15 opinions to be strictly on illumination, period. 16 In case you depart or add to your report of 17 February 22, '97, tell Mr. Kasparek, he'll tell me, 18 otherwise I'm concluded with your deposition. They'll be two 19 MR. KASPAREK: 20 provisos. His opinions are what is in his report, 21 whatever you've obtained from him here. We'll do 22 the same if you will agree Mr. Lipian will do the 23 same. What is good for the goose is good for the 24 qander. 25 MR. ILER: I'm leaving

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here today assuming this man is going to testify on 1 2 illumination. He said he's not going to testify on reconstruction, not going to testify on coefficient 3 4 of friction, I believe him. I want to end this 5 deposition if I can. MR. KASPAREK: You can end the 6 deposition, All I'm telling you is, if you want us 7 to let you know if there is any additional 8 9 opinions, I want the return courtesy, that's all I ask. I think that's fair. 10 MR. ILER: Can we have a 11 12 waiver of signature? 13 MR. KASPAREK: We'll read it, 14 just like Mr. Lipian is going to read it. 15 16 17 18 (Deposition concluded; signature not waived.) 19 20 21 22 23 24 25

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1 The State of Ohio,

2 County of Cuyahoga.

3 I, Constance Campbell, Notary Public within 4 and for the State of Ohio, do hereby certify that the within named witness, WALTER KOSMATKA was by me 5 first duly sworn to testify the truth in the cause 6 7 aforesaid; that the testimony then given was reduced by me to stenotypy in the presence of said 8 9 witness, subsequently transcribed onto a computer 10 under my direction, and that the foregoing is a 11 true and correct transcript of the testimony so 12 given as aforesaid.

I do further certify that this deposition was taken at the time and place as specified in the foregoing caption, and that I am not a relative, counsel or attorney of either party, or otherwise interested in the outcome of this action.

18 IN WITNESS WHEREOF, I have hereunto set my
19 hand and affixed my seal of office at Cleveland
20 Ohio, this 19th day of May, 1997.

21 22 Constance Campbell, Stenographic Report 23 Notary Public/State of Ohio. 24 Commission expiration: January 14, 1998. 25

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CERTIFICATE:

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