

NHTSA Report No. 108-STS-20-001

SAFETY COMPLIANCE TESTING FOR FMVSS 108  
Lamps, Reflective Devices, and Associated Equipment

2018 Nissan Altima RH / LH Replaceable Bulb Headlamps  
Part No.: RH – 26010-9HS9A; LH – 26060-9HS9A

Sapphire Technical Solutions, L.L.C.  
Lab Services  
10230 Rodney St.  
Pineville, NC 28134



March 30<sup>th</sup>, 2020

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Office of Vehicle Safety Compliance (NEF-220)  
1200 New Jersey Avenue, SE  
Washington, DC 20590

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Approved By: \_\_\_\_\_

Approval Date: April 1<sup>st</sup>, 2020

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: \_\_\_\_\_

Acceptance Date:  \_\_\_\_\_



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Technical Report Documentation Page

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# TEST REPORT

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### LABORATORY SERVICES



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STS Report No.: TR1213, Rev. No. 1  
Lab Work Order No.: 2055

Date:  
March 30<sup>th</sup>, 2020

NHTSA Report No.: 108-ST5-20-001  
2018 Nissan Altima Headlamp  
RH Part No.: 206010-9HS9A  
LH Part No.: 206060-9HS9A

### INTRODUCTION

This report contains the results of examination and tests of the above device to demonstrate compliance with the applicable test requirements for Federal Motor Vehicle Safety Standard (FMVSS) No. 108, and test procedure TP-108-13.

### SUMMARY

The following is a summary of the results of tests performed on the above listed device in accordance with FMVSS 108 and TP-108-13.

Tests	FMVSS 108 Ref. Para.	FMVSS 108 Table or Fig.	TP-108-13 Ref. Para.	Test Results
Photometry	--		--	
- Lower Beam	S10.15	Table XIX	12.24.17	Complies
- Upper Beam	S10.15	Table XVIII	12.24.17	Complies
- Turn Signal	S7.1.1.13	Table VI-a	12.1.1.13	Complies
- Parking	S7.8.13	Table XIV	12.8.13	Complies
- Side Marker	S7.4.13	Table X	12.4.13	Complies
- Reflex Reflector	S8.1.11	Table XVI-a	12.12.14	Complies
Visual / Optical Performance	S10.18.9		12.28	Complies
Color	--		--	
- Lower Beam	S10.15.7.7	Fig. 1	12.24.3	Complies
- Upper Beam	S10.15.7.7	Fig. 1	12.24.3	Complies
- Turn Signal	S7.1.1.14	Fig. 1	12.1.1.3	Complies
- Parking	S7.8.14	Fig. 1	12.8.3	Complies
- Side Marker	S7.4.14	Fig. 1	12.4.3	Complies
- Reflex Reflector	S8.1.12	Fig. 1	12.12.3	Complies



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**TESTING REQUEST**

The testing performed was requested by U. S. Department of Transportation, National Highway Traffic Safety Administration, Contract No. 693JJ919D000022.

**SAMPLE(S) SUBMITTED**

4 – 2018 Nissan Altima Headlamps Part No. 26010-9HS9A  
 4 - 2018 Nissan Altima Headlamps Part No. 26060-9HS9A

**TESTING DATE(S)**


March 25<sup>th</sup> to March 27<sup>th</sup> 2020

**DESCRIPTION OF DEVICE**

The overall approx. size of lamp is 20”w x 22”d x 13”h. Lamp is constructed with a clear plastic lens which is secured to a black plastic housing with glue, locking tabs and screws. The housing has mounting tabs integrated for attaching lamp to vehicle. The lower beam function is produced by a projector module located towards the outboard side of lamp. The upper beam incorporates a metalized parabolic reflector located at the inboard side of the lamp. The upper beam is produced by being energized simultaneously with low beam. The low beam bulb twist locks into the reflector of the projector module and the high beam bulb twist locks into the parabolic reflector. The turn / parking lamp is produced from a bulb located in front of a metalized parabolic reflector located on the inboard side of lamp. The bulb and reflector of the turn / park lamp is covered with a clear lens with optics. The side marker is produced from a bulb located behind the reflex reflector and emits light through a window in the reflex. The reflex reflector is triangular in shape and is located behind the clear outer lens. The turn / park and side marker bulbs are installed in bulb sockets which twist lock into the housing. A rubber ring is used to create a seal between the housing and low beam projector module reflector and high beam reflector. Lamp contains one adjustment mechanism for adjusting the headlamp vertical aim.

**MARKINGS**

On Lens: “DOT H11 H9 VOR SAE AHRIPP2 16 NAL (logo) 949 820” in approx. 4mm molded lettering on the inside surface of lens. “R (on RH lamp) “L” (on LH lamp)” in approx. 10mm raised lettering.

On Housing: “7444NA 12V28/8W H9 12V65W Extension A >PBT< Extension B >PBT< Reflex >PC< Bracket A >PC< Lens A >PC< Inner Lens A >PC< Inner Lens B >PC< Housing >PP-TD30< Bracket B >PBT< Ref A >UP-(MD60+GF20)< Ref B >PC< USA 12V H11 12V55W W5W 12V5W NISSAN” in approx. 3.5mm raised molded lettering. ““R (on RH lamp) “L” (on LH lamp)” in approx. 10mm raised lettering. “NAL 9NS 949 820-06 L42L-M CHL,HAL,RH \*26010 9HS9A\* H” on a printed label on the RH lamp; “NAL 9NS 949 820-05 L42L-M CHL,HAL,LH \*26060 9HS9A\* H” on a printed label on the LH lamp. “ 1,0%” in approx. 5mm molded lettering.

**MOUNTING OF LAMPS FOR TESTING**

The samples were mounted to test stands provided by the lamp manufacturer which simulate vehicle mounting conditions.

**BULB(S) USED IN LAMP**

Function	Trade No.	Design Voltage	Wattage	Operating Mode
Low Beam	H11	12.8	55	Independent of other functions
High Beam	H9	12.8	65	In combination with low beam
Turn	7444NA	13.5	28	Independent of other functions
Park		13.5	8	In combination with sidemarker
Sidemarker	W5W	13.5	5	In combination with park



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**TESTS, TEST METHODS AND RESULTS**

**Photometry**

Method: The samples were mounted to a test fixture provided by the lamp manufacturer. The mounted samples were attached to the table of the goniometer system. For each function tested, the optical center of each function was located at the goniometers axis of rotation. The photometric test distance was 100 feet and the bulbs were operated at design voltage. The samples were subjected to the luminous intensity measurement test per FMVSS 108 and TP-108-13.

Notes:

- The low beam H11 bulbs were seasoned at design voltage for a duration of 10 hours before performing the photometry test.
- The high beam H9 bulbs were seasoned at design voltage for a duration of 5 hours before performing the photometry test.
- The sidemarker was tested to an inboard angle of 24.0° based on data provided by the vehicle manufacturer that the distance between the front and rear side markers is 4064mm.
- Based on data provided by the vehicle manufacturer the mounting height of the turn and park functions are less than 750mm from the ground.
- Due to the wiring configuration of the lamps, the park and sidemarker functions are energized simultaneously.
- Values listed in the InH Min columns of photometry reports are the 60% value of the minimum for that test point.

Results: All lamps tested comply with the applicable photometry requirements. See attached photometry results.

The data reports for the RH lamps follow first, followed by the data reports for the LH lamps. Each lamp includes photometry data reports as follows:

<b><u>Function I.D.</u></b>	<b><u>Data Report Description</u></b>
Low Beam	Photometry
High (Upper) Beam	Photometry
Turn Signal	Photometry
Turn Signal	Visibility
Turn signal	Between point minimum
Park	Photometry
Park	Visibility
Park	Between point minimum
Turn/Park	Ratio
Sidemarker	Photometry
Sidemarker	Between point minimum
Reflex Reflector	Photometry
Reflex Reflector	Between point minimum

Equipment Used: STS AP-60HD Goniophotometer System; DC regulated power supplies; Photo-100 photometers; LS-100 projector

Calibration Status: Valid at time of use

Quantity Tested: 4 RH lamps; 4 LH lamps



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**Visual / Optical Performance**

Method / Results:

Lamps were evaluated for visual / optical performance in accordance with the applicable FMVSS 108 requirements as follows:

<b>Paragraph #</b>	<b>Evaluation</b>	<b>Results</b>
<b>S10.18.09 – Visual / Optical Aiming</b>		
S10.18.9.1.1	All lamps have a cut-off to the right side of the optical axis and is aimed at the H-H line	Complies
S10.18.9.1.2	The gradient measured at 2.0° right is not less than 0.13 for any lamp tested (see data on low beam photometry reports;	Complies
S10.18.9.1.3	The width of the cutoff is not less than 2.0° with not less than 2.0° of its actual width centered at 2.0° right for all lamps tested;	Complies
S10.18.9.1.4	The maximum inclination of the cutoff is not more than +/- 0.2° for all lamps tested (see data on low beam photometry reports);	Complies
S10.18.5.3	Lamp contains markings visible from the front of headlamp when installed on the vehicle to identify the optical axis of the headlamp. The optical axis is identified with a dot located on the inside surface of lens in front of the projector module.	Complies
S10.18.9.6.1	Lens contains markings visible from the front of headlamp when installed on the vehicle to identify the headlamp as VOR.	Complies

Equipment Used:

STS AP-60HD Goniophotometer System; DC regulated power supplies; Photo-100 photometers; LS-100 projector

Calibration Status:

Valid at time of test

Quantity Tested:

4 RH lamps; 4 LH lamps



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: 0-Table XIX-a LB1V VOR # TR5195

Test Function	Date/Time	Operator	Equipment
0-Table XIX-a LB1V VOR	3/27/2020 8:51:56 AM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-02	Nissan Altima RH HL - Low Beam

Sales Order	Requisitioner	Color
2076	NHTSA	White

Notes: Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

Aiming Offset:	L/R = 0.00	U/D = 0.01			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 8.23	X = 4.62	Y = -5.07
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.806	4.528

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.06	0.167	----		--	--	--	--
Gradient @ 3R	3.00	0.06	0.182	----		--	--	--	--
Gradient @ 2R	2.00	0.01	0.172	----		0.13	--	--	--
Inclination			0.05	----					
H-V	0.00	0.00	3843.8	----		--	--	--	--
4U-8R	8.00	4.00	141.97	----		64	--	--	--
4U-8L	-8.00	4.00	133.64	----		64	--	--	--
2U-4L	-4.00	2.00	199.55	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	202.27	----		200	--	--	--
1.5U-1R to R	2.50	1.50	211.73	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	131.04	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	201.23	----		--	1000	--	--
0.5U-1R to 3R MX	1.00	0.50	732.86	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.50	540.32	----		500	--	--	--
H-4L	-4.00	0.00	243.20	----		135	--	--	--
H-8L	-8.00	0.00	106.71	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	16663	----		10000	--	--	--
0.86D-V	0.00	-0.86	17796	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	5768.6	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	20168	----		15000	--	--	--
2D-9R	9.00	-2.00	4719.4	----		1250	--	--	--
2D-9L	-9.00	-2.00	3030.8	----		1250	--	--	--
2D-15R	15.00	-2.00	1939.0	----		1000	--	--	--
2D-15L	-15.00	-2.00	1513.4	----		1000	--	--	--
4D-4R	4.00	-4.00	8343.4	----		--	12500	--	--
4D-20R	20.00	-4.00	716.93	----		300	--	--	--
4D-20L	-20.00	-4.00	559.27	----		300	--	--	--
10U TO 90U	57.50	61.00	37.87	----		--	125	--	--
H-V	0.00	0.00	3187.1	----		--	--	--	--

3/27/2020 8:51:56 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: 0-Table XVIII HL UB2 # TR5196

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/27/2020 9:14:04 AM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-02	Nissan Altima RH HL - High Beam	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	White	

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.01			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.810	4.518
2	H9 12_8 Volts	12.80 (*)	6.000	12.802	5.390

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	58708	----		40000	75000	--	--
2U-V	0.00	2.00	22767	----		1500	--	--	--
1U-3R	3.00	1.00	28224	----		5000	--	--	--
1U-3L	-3.00	1.00	22154	----		5000	--	--	--
H-12L	-12.00	0.00	2347.7	----		1500	--	--	--
H-9L	-9.00	0.00	5269.9	----		3000	--	--	--
H-6L	-6.00	0.00	10685	----		5000	--	--	--
H-3L	-3.00	0.00	26336	----		15000	--	--	--
H-3R	3.00	0.00	41067	----		15000	--	--	--
H-6R	6.00	0.00	13148	----		5000	--	--	--
H-9R	9.00	0.00	6205.1	----		3000	--	--	--
H-12R	12.00	0.00	3338.0	----		1500	--	--	--
1.5D-9R	9.00	-1.50	8518.3	----		2000	--	--	--
1.5D-V	0.00	-1.50	45235	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	5572.4	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	2669.5	----		1000	--	--	--
2.5D-V	0.00	-2.50	22114	----		2500	--	--	--
2.5D-12R	12.00	-2.50	3990.3	----		1000	--	--	--
4D-V	0.00	-4.00	10888	----		--	12000	--	--
H-V	0.00	0.00	57690	----		40000	75000	--	--

3/27/2020 9:14:04 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: 0-Table VI-a FTSL 1 -750mm # TR5197

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/27/2020 9:16:09 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.428

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	77.66	----	40.0	--	24.0	--
10U-5R	5.00	10.00	69.16	----	40.0	--	24.0	--
5U-20R	20.00	5.00	70.08	----	25.0	--	15.0	--
5U-10R	10.00	5.00	195.21	----	75.0	--	45.0	--
5U-V	0.00	5.00	220.44	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	108.88	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	38.04	----	25.0	--	15.0	--
H-10L	-10.00	0.00	159.37	----	100.0	--	60.0	--
H-5L	-5.00	0.00	347.68	----	200.0	--	120.0	--
H-V	0.00	0.00	521.23	----	200.0	--	120.0	--
H-5R	5.00	0.00	512.69	----	200.0	--	120.0	--
H-10R	10.00	0.00	394.09	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	73.11	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	378.82	----	75.0	--	45.0	--
5D-V	0.00	-5.00	513.41	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	148.46	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	34.61	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	338.46	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	486.51	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	488.77	----	130	--	--	--	4
2	416.70	----	250	--	--	--	3
3	2115.45	----	950	--	--	--	5
4	968.13	----	250	--	--	--	3
5	698.86	----	130	--	--	--	4

3/27/2020 9:16:09 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: FRONT TURN RH VISIBILITY MVSS108 -750mm # TR5198

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN RH VISIBILITY MVSS108 -750mm	3/27/2020 9:17:36 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.405

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-0.50	51.64	----	0.3	--	--	--
5D-45L to 80R MN	-45.00	-5.00	2.346	----	0.3	--	--	--
5D to 15U-45L MN	-45.00	-5.00	2.332	----	0.3	--	--	--
15U-45L to 80R MN	-45.00	15.00	2.749	----	0.3	--	--	--

3/27/2020 9:17:36 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5199

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/27/2020 9:18:59 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.404

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	4.75	10.00	60.53	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	33.17	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	94.67	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	177.57	----	75.0	--	45.0	--
5U-10R TO 20R	18.00	5.00	58.93	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	140.52	----	100.0	--	60.0	--
H-5L TO V	-5.00	0.00	308.32	----	200.0	--	120.0	--
H-V TO 5R	2.25	0.00	461.14	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	370.24	----	100.0	--	60.0	--
5D-20L TO 10L	-20.00	-5.00	30.77	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	134.57	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	359.53	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	66.16	----	25.0	--	15.0	--
5D-5L TO 5R	-5.00	-5.00	305.70	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	30.53	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	92.73	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	133.89	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	66.31	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	-5.00	304.46	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	196.86	----	175.0	--	105.0	--
V-H TO 5D	0.00	-5.00	470.97	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	59.40	----	40.0	--	24.0	--
5R-H TO 5D	5.00	-5.00	453.66	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	173.68	----	75.0	--	45.0	--
10R-H TO 5D	10.00	-5.00	360.12	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	5.00	58.42	----	25.0	--	15.0	--

3/27/2020 9:18:59 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5200

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/27/2020 9:22:03 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.944

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS Zones: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	6.724	----	0.80	125.0	--	--
10U-5R	5.00	10.00	8.744	----	0.80	125.0	--	--
5U-20R	20.00	5.00	5.232	----	0.40	125.0	--	--
5U-10R	10.00	5.00	11.83	----	0.80	125.0	--	--
5U-V	0.00	5.00	12.16	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	6.789	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	2.102	----	0.40	125.0	--	--
H-10L	-10.00	0.00	8.029	----	1.40	125.0	--	--
H-5L	-5.00	0.00	10.73	----	3.60	125.0	--	--
H-V	0.00	0.00	13.52	----	4.00	125.0	--	--
H-5R	5.00	0.00	16.03	----	3.60	125.0	--	--
H-10R	10.00	0.00	14.90	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	5.755	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	16.46	----	0.80	250.0	--	--
5D-V	0.00	-5.00	15.38	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	7.588	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	1.894	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	10.99	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	18.33	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	21.71	----	2.4	--	--	--	4
2	22.41	----	3	--	--	--	3
3	67.82	----	16.8	--	--	--	5
4	43.19	----	3	--	--	--	3
5	38.06	----	2.4	--	--	--	4

3/27/2020 9:22:03 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm # TR5201

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm	3/27/2020 9:23:23 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.940

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-0.50	4.498	----	0.05	--	--	--
5D-45L to 80R MN	-45.00	-5.00	0.111	----	0.05	--	--	--
5D to 15U-45L MN	-45.00	-5.00	0.110	----	0.05	--	--	--
15U-45L to 80R MN	-45.00	15.00	0.139	----	0.05	--	--	--

3/27/2020 9:23:23 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5202

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/27/2020 9:24:43 AM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-02	Nissan Altima RH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.940

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-5.00	10.00	6.490	----	0.80	125	--	--
5U-20L TO 10L	-20.00	5.00	2.168	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	6.947	----	0.80	125	--	--
5U-V TO 10R	9.75	5.00	12.22	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	5.389	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	8.161	----	1.40	125	--	--
H-5L TO V	-5.00	0.00	10.94	----	3.60	125	--	--
H-V TO 5R	0.00	0.00	13.98	----	3.60	125	--	--
H-5R TO 10R	9.25	0.00	14.80	----	1.40	125	--	--
5D-20L TO 10L	-20.00	-5.00	1.937	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	7.673	----	0.80	125	--	--
5D-V TO 10R	0.00	-5.00	15.91	----	0.80	125	--	--
5D-10R TO 20R	19.75	-5.00	5.637	----	0.40	125	--	--
5D-5L TO 5R	-5.00	-5.00	11.21	----	0.80	125	--	--
20L-5U TO 5D	-20.00	-5.00	1.930	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	6.947	----	0.80	125	--	--
10L-H TO 5D	-10.00	-5.00	7.653	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	6.942	----	0.80	125	--	--
5L-H TO 5D	-5.00	0.00	11.00	----	0.80	125	--	--
V-5U TO H	0.00	5.00	12.66	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	14.07	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	9.033	----	0.80	125	--	--
5R-H TO 5D	5.00	0.00	16.58	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	12.35	----	0.80	125	--	--
10R-H TO 5D	10.00	0.00	15.32	----	0.80	125	--	--
20R-5U TO 5D	20.00	5.00	5.336	----	0.40	125	--	--

3/27/2020 9:24:43 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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## STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5197  
 Date/Time: 3/27/2020 9:16 AM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1227  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5200  
 Date/Time: 3/27/2020 9:22 AM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1227  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Detail:  
 Work Order: 2055  
 Serial Number: 2055-02  
 Lamp: Nissan Altima RH HL - Turn  
 Sales Order: 2076  
 Requisitioner: NHTSA  
 Color: Amber

Detail:  
 Work Order: 2055  
 Serial Number: 2055-02  
 Lamp: Nissan Altima RH HL - Park  
 Sales Order: 2076  
 Requisitioner: NHTSA  
 Color: Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	77.66	6.724	11.5497	Pass	3.000	
10U-5R	69.16	8.744	7.9094	Pass	3.000	
5U-20R	70.08	5.232	13.3945	Pass	3.000	
5U-10R	195.21	11.83	16.5013	Pass	3.000	
5U-V	220.44	12.16	18.1283	Pass	5.000	
5U-10L	108.88	6.789	16.0377	Pass	3.000	
5U-20L	38.04	2.102	18.0971	Pass	3.000	
H-10L	159.37	8.029	19.8493	Pass	3.000	
H-5L	347.68	10.73	32.4026	Pass	5.000	
H-V	521.23	13.52	38.5525	Pass	5.000	
H-5R	512.69	16.03	31.9832	Pass	5.000	
H-10R	394.09	14.90	26.4490	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: Sidemarker RH Amber MVSS108 24 IB Angle # TR5203

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker RH Amber MVSS108 24 IB Angle	3/27/2020 9:27:48 AM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-02	Nissan Altima RH HL - Sidemarker	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	Amber	

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.940

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-45L	-45.00	10.00	5.153	----	.62	--	--	--
10U-V	0.00	10.00	3.744	----	.62	--	--	--
10U-24R	24.00	10.00	1.669	----	.62	--	--	--
H-24R	24.00	0.00	2.044	----	.62	--	--	--
H-V	0.00	0.00	3.827	----	.62	--	--	--
H-45L	-45.00	0.00	4.562	----	.62	--	--	--
10D-45L	-45.00	-10.00	5.063	----	.62	--	--	--
10D-V	0.00	-10.00	3.111	----	.62	--	--	--
10D-24R	24.00	-10.00	1.756	----	.62	--	--	--

3/27/2020 9:27:48 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: Sidemarker RH Amber Min Scan 24 IB Angle # TR5204

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker RH Amber Min Scan 24 IB Angle	3/27/2020 9:29:22 AM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-02	Nissan Altima RH HL - Sidemarker	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	Amber	

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.939

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 45L to V	0.00	10.00	3.745	----	.62	--	--	--
10U - V to 24R	24.00	10.00	1.661	----	.62	--	--	--
H - 45L to V	-0.25	0.00	3.818	----	.62	--	--	--
H - V to 24R	21.25	0.00	1.719	----	.62	--	--	--
10D - 45L to V	0.00	-10.00	3.142	----	.62	--	--	--
10D - V to 24R	24.00	-10.00	1.785	----	.62	--	--	--
10U to H - 45L	-45.00	0.00	4.533	----	.62	--	--	--
H to 10D - 45L	-45.00	-0.50	4.473	----	.62	--	--	--
10U to H - V	0.00	2.75	3.389	----	.62	--	--	--
H to 10D - V	0.00	-10.00	3.098	----	.62	--	--	--
10U to H - 24R	24.00	10.00	1.655	----	.62	--	--	--
H to 10D - 24R	24.00	-8.50	1.695	----	.62	--	--	--

3/27/2020 9:29:22 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5205

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/27/2020 9:31:01 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.181	8.087

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	24.78	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.765	----	0.175	--	--	--
10U-V	0.00	10.00	20.38	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.586	----	0.125	--	--	--
5D-V	0.00	-5.00	25.11	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.757	----	0.125	--	--	--
H-20R	20.00	0.00	14.01	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.437	----	0.075	--	--	--
H-20L	-20.00	0.00	17.42	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.558	----	0.075	--	--	--

3/27/2020 9:31:01 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1227 - Test: Reflex Amber Min Scan -750mm # TR5206

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/27/2020 9:35:08 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-02	Nissan Altima RH HL - Reflex

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.191	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	17.46	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	14.00	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	20.42	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	24.83	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.559	----	.075	--	--	--
H - (V to 20R) 1.5Deg	20.00	0.00	0.442	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	10.00	0.587	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-0.75	0.739	----	.125	--	--	--

3/27/2020 9:35:08 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: 0-Table XIX-a LB1V VOR # TR5207

Test Function	Date/Time	Operator	Equipment
0-Table XIX-a LB1V VOR	3/27/2020 10:52:20 AM	REW	STS AP-OEM
Work Order	Serial Number	Lamp	
2055	2055-04	Nissan Altima RH HL - Low Beam	
Sales Order	Requisitioner	Color	
2076	NHTSA	White	

Notes: Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 8.23	X = 4.62	Y = -5.07
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.806	4.525

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.05	0.182	----		--	--	--	--
Gradient @ 3R	3.00	0.06	0.185	----		--	--	--	--
Gradient @ 2R	2.00	0.00	0.182	----		0.13	--	--	--
Inclination			0.06	----					
H-V	0.00	0.00	2867.7	----		--	--	--	--
4U-8R	8.00	4.00	144.37	----		64	--	--	--
4U-8L	-8.00	4.00	120.45	----		64	--	--	--
2U-4L	-4.00	2.00	212.10	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	232.04	----		200	--	--	--
1.5U-1R to R	2.00	1.50	247.01	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	152.38	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	161.54	----		--	1000	--	--
0.5U-1R to 3R MX	2.00	0.50	740.92	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.50	694.61	----		500	--	--	--
H-4L	-4.00	0.00	239.34	----		135	--	--	--
H-8L	-8.00	0.00	122.98	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	18720	----		10000	--	--	--
0.86D-V	0.00	-0.86	17357	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	5507.4	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	21417	----		15000	--	--	--
2D-9R	9.00	-2.00	5828.2	----		1250	--	--	--
2D-9L	-9.00	-2.00	2936.1	----		1250	--	--	--
2D-15R	15.00	-2.00	2249.3	----		1000	--	--	--
2D-15L	-15.00	-2.00	1435.6	----		1000	--	--	--
4D-4R	4.00	-4.00	9852.3	----		--	12500	--	--
4D-20R	20.00	-4.00	853.96	----		300	--	--	--
4D-20L	-20.00	-4.00	516.03	----		300	--	--	--
10U TO 90U	57.00	61.00	36.16	----		--	125	--	--
H-V	0.00	0.00	2820.0	----		--	--	--	--

3/27/2020 10:52:20 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: 0-Table XVIII HL UB2 # TR5208

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/27/2020 11:14:26 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - High Beam

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.810	4.502
2	H9 12_8 Volts	12.80 (*)	6.000	12.803	5.385

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	56708	----		40000	75000	--	--
2U-V	0.00	2.00	24695	----		1500	--	--	--
1U-3R	3.00	1.00	31563	----		5000	--	--	--
1U-3L	-3.00	1.00	22587	----		5000	--	--	--
H-12L	-12.00	0.00	1997.9	----		1500	--	--	--
H-9L	-9.00	0.00	4832.8	----		3000	--	--	--
H-6L	-6.00	0.00	10070	----		5000	--	--	--
H-3L	-3.00	0.00	24912	----		15000	--	--	--
H-3R	3.00	0.00	45279	----		15000	--	--	--
H-6R	6.00	0.00	14200	----		5000	--	--	--
H-9R	9.00	0.00	6448.7	----		3000	--	--	--
H-12R	12.00	0.00	3250.4	----		1500	--	--	--
1.5D-9R	9.00	-1.50	8882.3	----		2000	--	--	--
1.5D-V	0.00	-1.50	33746	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	4845.0	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	2382.2	----		1000	--	--	--
2.5D-V	0.00	-2.50	19228	----		2500	--	--	--
2.5D-12R	12.00	-2.50	4256.6	----		1000	--	--	--
4D-V	0.00	-4.00	10752	----		--	12000	--	--
H-V	0.00	0.00	56052	----		40000	75000	--	--

3/27/2020 11:14:26 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: 0-Table VI-a FTSL 1 -750mm # TR5209

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/27/2020 11:16:27 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.509	2.403

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	79.57	----	40.0	--	24.0	--
10U-5R	5.00	10.00	67.33	----	40.0	--	24.0	--
5U-20R	20.00	5.00	67.70	----	25.0	--	15.0	--
5U-10R	10.00	5.00	184.97	----	75.0	--	45.0	--
5U-V	0.00	5.00	216.43	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	104.08	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	37.19	----	25.0	--	15.0	--
H-10L	-10.00	0.00	152.33	----	100.0	--	60.0	--
H-5L	-5.00	0.00	336.29	----	200.0	--	120.0	--
H-V	0.00	0.00	527.21	----	200.0	--	120.0	--
H-5R	5.00	0.00	505.96	----	200.0	--	120.0	--
H-10R	10.00	0.00	395.79	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	72.60	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	397.08	----	75.0	--	45.0	--
5D-V	0.00	-5.00	515.82	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	141.79	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	34.68	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	334.96	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	496.47	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	486.39	----	130	--	--	--	4
2	398.21	----	250	--	--	--	3
3	2101.71	----	950	--	--	--	5
4	977.85	----	250	--	--	--	3
5	704.09	----	130	--	--	--	4

3/27/2020 11:16:27 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: FRONT TURN RH VISIBILITY MVSS108 -750mm # TR5210

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN RH VISIBILITY MVSS108 -750mm	3/27/2020 11:17:53 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.407

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-4.75	53.41	----	0.3	--	--	--
5D-45L to 80R MN	-45.00	-5.00	2.346	----	0.3	--	--	--
5D to 15U-45L MN	-45.00	-5.00	2.272	----	0.3	--	--	--
15U-45L to 80R MN	-45.00	15.00	2.742	----	0.3	--	--	--

3/27/2020 11:17:53 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5211

Test Function	Date/Time	Operator	Equipment
FRONT TURN MIN SCAN MVSS 108 -750mm	3/27/2020 11:19:17 AM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-04	Nissan Altima RH HL - Turn
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.409

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	5.00	10.00	60.13	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	32.61	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	89.88	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	166.04	----	75.0	--	45.0	--
5U-10R TO 20R	18.25	5.00	56.25	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	133.63	----	100.0	--	60.0	--
H-5L TO V	-5.00	0.00	296.23	----	200.0	--	120.0	--
H-V TO 5R	2.00	0.00	456.98	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	372.45	----	100.0	--	60.0	--
5D-20L TO 10L	-19.75	-5.00	30.67	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	128.83	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	377.30	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	66.32	----	25.0	--	15.0	--
5D-5L TO 5R	-5.00	-5.00	305.28	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	30.53	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	88.64	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	128.55	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	68.45	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	0.00	294.61	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	192.88	----	175.0	--	105.0	--
V-H TO 5D	0.00	-5.00	478.67	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	58.65	----	40.0	--	24.0	--
5R-H TO 5D	5.00	0.00	464.30	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	161.31	----	75.0	--	45.0	--
10R-H TO 5D	10.00	0.00	368.23	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	5.00	57.14	----	25.0	--	15.0	--

3/27/2020 11:19:17 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5212

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/27/2020 11:22:23 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.944

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	6.639	----	0.80	125.0	--	--
10U-5R	5.00	10.00	8.040	----	0.80	125.0	--	--
5U-20R	20.00	5.00	5.264	----	0.40	125.0	--	--
5U-10R	10.00	5.00	11.99	----	0.80	125.0	--	--
5U-V	0.00	5.00	12.68	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	6.758	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	2.032	----	0.40	125.0	--	--
H-10L	-10.00	0.00	8.255	----	1.40	125.0	--	--
H-5L	-5.00	0.00	11.67	----	3.60	125.0	--	--
H-V	0.00	0.00	15.06	----	4.00	125.0	--	--
H-5R	5.00	0.00	16.60	----	3.60	125.0	--	--
H-10R	10.00	0.00	15.64	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	5.888	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	17.22	----	0.80	250.0	--	--
5D-V	0.00	-5.00	16.60	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	8.057	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	2.011	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	11.74	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	18.98	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	22.42	----	2.4	--	--	--	4
2	23.07	----	3	--	--	--	3
3	72.60	----	16.8	--	--	--	5
4	44.85	----	3	--	--	--	3
5	38.17	----	2.4	--	--	--	4

3/27/2020 11:22:23 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm # TR5213

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm	3/27/2020 11:23:44 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.938

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-0.50	4.612	----	0.05	--	--	--
5D-45L to 80R MN	-45.00	-5.00	0.111	----	0.05	--	--	--
5D to 15U-45L MN	-45.00	-5.00	0.112	----	0.05	--	--	--
15U-45L to 80R MN	-45.00	15.00	0.146	----	0.05	--	--	--

3/27/2020 11:23:44 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5214

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/27/2020 11:24:46 AM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-04	Nissan Altima RH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.938

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-5.00	10.00	6.149	----	0.80	125	--	--
5U-20L TO 10L	-20.00	5.00	2.140	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	6.897	----	0.80	125	--	--
5U-V TO 10R	9.75	5.00	12.16	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	5.456	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	8.521	----	1.40	125	--	--
H-5L TO V	-5.00	0.00	12.06	----	3.60	125	--	--
H-V TO 5R	0.00	0.00	15.57	----	3.60	125	--	--
H-5R TO 10R	9.50	0.00	15.62	----	1.40	125	--	--
5D-20L TO 10L	-20.00	-5.00	2.086	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	8.191	----	0.80	125	--	--
5D-V TO 10R	0.00	-5.00	17.13	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	5.976	----	0.40	125	--	--
5D-5L TO 5R	-5.00	-5.00	12.02	----	0.80	125	--	--
20L-5U TO 5D	-20.00	-5.00	2.081	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	6.916	----	0.80	125	--	--
10L-H TO 5D	-10.00	-5.00	8.180	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	6.881	----	0.80	125	--	--
5L-H TO 5D	-5.00	-4.75	12.05	----	0.80	125	--	--
V-5U TO H	0.00	5.00	13.26	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	15.68	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	8.278	----	0.80	125	--	--
5R-H TO 5D	5.00	0.00	17.24	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	12.32	----	0.80	125	--	--
10R-H TO 5D	10.00	0.00	16.03	----	0.80	125	--	--
20R-5U TO 5D	20.00	5.00	5.473	----	0.40	125	--	--

3/27/2020 11:24:46 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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### STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5209  
 Date/Time: 3/27/2020 11:16 AM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1228  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5212  
 Date/Time: 3/27/2020 11:22 AM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1228  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Detail:  
 Work Order: 2055  
 Serial Number: 2055-04  
 Lamp: Nissan Altima RH HL - Turn  
 Sales Order: 2076  
 Requisitioner: NHTSA  
 Color: Amber

Detail:  
 Work Order: 2055  
 Serial Number: 2055-04  
 Lamp: Nissan Altima RH HL - Park  
 Sales Order: 2076  
 Requisitioner: NHTSA  
 Color: Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	79.57	6.639	11.9852	Pass	3.000	
10U-5R	67.33	8.040	8.3744	Pass	3.000	
5U-20R	67.70	5.264	12.8609	Pass	3.000	
5U-10R	184.97	11.99	15.4270	Pass	3.000	
5U-V	216.43	12.68	17.0686	Pass	5.000	
5U-10L	104.08	6.758	15.4010	Pass	3.000	
5U-20L	37.19	2.032	18.3022	Pass	3.000	
H-10L	152.33	8.255	18.4531	Pass	3.000	
H-5L	336.29	11.67	28.8166	Pass	5.000	
H-V	527.21	15.06	35.0073	Pass	5.000	
H-5R	505.96	16.60	30.4795	Pass	5.000	
H-10R	395.79	15.64	25.3063	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: Sidemarker RH Amber MVSS108 24 IB Angle # TR5215

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker RH Amber MVSS108 24 IB Angle	3/27/2020 11:27:52 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.937

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-45L	-45.00	10.00	5.608	----	.62	--	--	--
10U-V	0.00	10.00	3.823	----	.62	--	--	--
10U-24R	24.00	10.00	1.725	----	.62	--	--	--
H-24R	24.00	0.00	1.768	----	.62	--	--	--
H-V	0.00	0.00	3.319	----	.62	--	--	--
H-45L	-45.00	0.00	5.335	----	.62	--	--	--
10D-45L	-45.00	-10.00	5.429	----	.62	--	--	--
10D-V	0.00	-10.00	2.796	----	.62	--	--	--
10D-24R	24.00	-10.00	1.484	----	.62	--	--	--

3/27/2020 11:27:52 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: Sidemarker RH Amber Min Scan 24 IB Angle # TR5216

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker RH Amber Min Scan 24 IB Angle	3/27/2020 11:29:26 AM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-04	Nissan Altima RH HL - Sidemarker	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	Amber	

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.937

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 45L to V	0.00	10.00	3.834	----	.62	--	--	--
10U - V to 24R	19.25	10.00	1.442	----	.62	--	--	--
H - 45L to V	0.00	0.00	3.373	----	.62	--	--	--
H - V to 24R	15.75	0.00	1.742	----	.62	--	--	--
10D - 45L to V	0.00	-10.00	2.841	----	.62	--	--	--
10D - V to 24R	23.50	-10.00	1.471	----	.62	--	--	--
10U to H - 45L	-45.00	1.75	4.842	----	.62	--	--	--
H to 10D - 45L	-45.00	-5.25	4.632	----	.62	--	--	--
10U to H - V	0.00	0.00	3.312	----	.62	--	--	--
H to 10D - V	0.00	-10.00	2.788	----	.62	--	--	--
10U to H - 24R	24.00	6.00	1.530	----	.62	--	--	--
H to 10D - 24R	24.00	-7.75	1.389	----	.62	--	--	--

3/27/2020 11:29:26 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5217

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/27/2020 11:31:04 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.181	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	24.33	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.740	----	0.175	--	--	--
10U-V	0.00	10.00	20.14	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.584	----	0.125	--	--	--
5D-V	0.00	-5.00	25.18	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.752	----	0.125	--	--	--
H-20R	20.00	0.00	14.05	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.439	----	0.075	--	--	--
H-20L	-20.00	0.00	17.40	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.543	----	0.075	--	--	--

3/27/2020 11:31:04 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1228 - Test: Reflex Amber Min Scan -750mm # TR5218

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/27/2020 11:35:10 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-04	Nissan Altima RH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.192	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ftc	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	17.43	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	14.07	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	20.18	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	24.41	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.547	----	.075	--	--	--
H - (V to 20R) 1.5Deg	20.00	0.00	0.442	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	10.00	0.586	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-1.50	0.729	----	.125	--	--	--

3/27/2020 11:35:10 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: 0-Table XIX-a LB1V VOR # TR5219

Test Function	Date/Time	Operator	Equipment
0-Table XIX-a LB1V VOR	3/27/2020 12:23:52 PM	REW	STS AP-OEM
Work Order	Serial Number	Lamp	
2055	2055-06	Nissan Altima RH HL - Low Beam	
Sales Order	Requisitioner	Color	
2076	NHTSA	White	

Notes: Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.20			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 8.23	X = 4.62	Y = -5.07
<b>Multiplier:</b>	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.805	4.525

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.12	0.189	----		--	--	--	--
Gradient @ 3R	3.00	0.19	0.189	----		--	--	--	--
Gradient @ 2R	2.00	0.20	0.189	----		0.13	--	--	--
Inclination			0.08	----					
H-V	0.00	0.00	1505.3	----		--	--	--	--
4U-8R	8.00	4.00	139.33	----		64	--	--	--
4U-8L	-8.00	4.00	117.30	----		64	--	--	--
2U-4L	-4.00	2.00	201.78	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	250.51	----		200	--	--	--
1.5U-1R to R	1.50	1.50	264.59	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	184.90	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	140.14	----		--	1000	--	--
0.5U-1R to 3R MX	2.00	0.50	525.93	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.25 (0.50)	1064.4	----	470.16	500	--	--	--
H-4L	-4.00	0.00	182.60	----		135	--	--	--
H-8L	-8.00	0.00	93.04	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	1775.6	----		10000	--	--	--
0.86D-V	0.00	-0.86	1706.9	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	4979.6	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	2095.3	----		15000	--	--	--
2D-9R	9.00	-2.00	5579.2	----		1250	--	--	--
2D-9L	-9.00	-2.00	2844.7	----		1250	--	--	--
2D-15R	15.00	-2.00	2255.0	----		1000	--	--	--
2D-15L	-15.00	-2.00	1393.9	----		1000	--	--	--
4D-4R	4.00	-4.00	9331.3	----		--	12500	--	--
4D-20R	20.00	-4.00	881.70	----		300	--	--	--
4D-20L	-20.00	-4.00	483.18	----		300	--	--	--
10U TO 90U	58.00	62.00	36.43	----		--	125	--	--
H-V	0.00	0.00	1503.9	----		--	--	--	--

3/27/2020 12:23:52 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: 0-Table XVIII HL UB2 # TR5220

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/27/2020 12:46:21 PM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-06	Nissan Altima RH HL - High Beam	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	White	

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.20			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.810	4.490
2	H9 12_8 Volts	12.80 (*)	6.000	12.804	5.397

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	56154	----		40000	75000	--	--
2U-V	0.00	2.00	24029	----		1500	--	--	--
1U-3R	3.00	1.00	31306	----		5000	--	--	--
1U-3L	-3.00	1.00	22327	----		5000	--	--	--
H-12L	-12.00	0.00	1929.9	----		1500	--	--	--
H-9L	-9.00	0.00	4791.5	----		3000	--	--	--
H-6L	-6.00	0.00	10078	----		5000	--	--	--
H-3L	-3.00	0.00	24502	----		15000	--	--	--
H-3R	3.00	0.00	44901	----		15000	--	--	--
H-6R	6.00	0.00	13435	----		5000	--	--	--
H-9R	9.00	0.00	6222.0	----		3000	--	--	--
H-12R	12.00	0.00	3274.4	----		1500	--	--	--
1.5D-9R	9.00	-1.50	8903.6	----		2000	--	--	--
1.5D-V	0.00	-1.50	37521	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	4906.9	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	2388.6	----		1000	--	--	--
2.5D-V	0.00	-2.50	20493	----		2500	--	--	--
2.5D-12R	12.00	-2.50	4425.1	----		1000	--	--	--
4D-V	0.00	-4.00	10915	----		--	12000	--	--
H-V	0.00	0.00	55446	----		40000	75000	--	--

3/27/2020 12:46:21 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: 0-Table VI-a FTSL 1 -750mm # TR5221

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/27/2020 12:48:27 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.509	2.442

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	77.80	----	40.0	--	24.0	--
10U-5R	5.00	10.00	78.04	----	40.0	--	24.0	--
5U-20R	20.00	5.00	64.82	----	25.0	--	15.0	--
5U-10R	10.00	5.00	176.44	----	75.0	--	45.0	--
5U-V	0.00	5.00	223.16	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	113.20	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	38.56	----	25.0	--	15.0	--
H-10L	-10.00	0.00	169.03	----	100.0	--	60.0	--
H-5L	-5.00	0.00	372.91	----	200.0	--	120.0	--
H-V	0.00	0.00	520.51	----	200.0	--	120.0	--
H-5R	5.00	0.00	515.07	----	200.0	--	120.0	--
H-10R	10.00	0.00	350.40	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	65.63	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	350.13	----	75.0	--	45.0	--
5D-V	0.00	-5.00	541.22	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	157.06	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	35.18	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	377.43	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	502.25	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	528.97	----	130	--	--	--	4
2	439.28	----	250	--	--	--	3
3	2172.88	----	950	--	--	--	5
4	876.96	----	250	--	--	--	3
5	710.73	----	130	--	--	--	4

3/27/2020 12:48:27 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: FRONT TURN RH VISIBILITY MVSS108 -750mm # TR5222

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN RH VISIBILITY MVSS108 -750mm	3/27/2020 12:49:53 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.511	2.420

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-4.50	52.13	----	0.3	--	--	--
5D-45L to 80R MN	-45.00	-5.00	2.312	----	0.3	--	--	--
5D to 15U-45L MN	-45.00	-4.75	2.238	----	0.3	--	--	--
15U-45L to 80R MN	-44.75	15.00	2.637	----	0.3	--	--	--

3/27/2020 12:49:53 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5223

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/27/2020 12:51:17 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.418

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	4.50	10.00	63.93	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	33.21	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	98.59	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	156.67	----	75.0	--	45.0	--
5U-10R TO 20R	19.50	5.00	50.53	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	150.71	----	100.0	--	60.0	--
H-5L TO V	-5.00	0.00	328.40	----	200.0	--	120.0	--
H-V TO 5R	2.50	0.00	453.94	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	322.53	----	100.0	--	60.0	--
5D-20L TO 10L	-19.75	-5.00	30.85	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	144.58	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	328.05	----	75.0	--	45.0	--
5D-10R TO 20R	17.50	-5.00	56.35	----	25.0	--	15.0	--
5D-5L TO 5R	-5.00	-5.00	347.12	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	30.82	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	96.56	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	144.30	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	65.11	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	0.00	323.42	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	190.27	----	175.0	--	105.0	--
V-H TO 5D	0.00	0.00	459.57	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	64.26	----	40.0	--	24.0	--
5R-H TO 5D	5.00	0.00	457.11	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	150.35	----	75.0	--	45.0	--
10R-H TO 5D	10.00	0.00	319.94	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	5.00	51.11	----	25.0	--	15.0	--

3/27/2020 12:51:17 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5224

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/27/2020 12:54:19 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.954

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	6.833	----	0.80	125.0	--	--
10U-5R	5.00	10.00	8.621	----	0.80	125.0	--	--
5U-20R	20.00	5.00	4.476	----	0.40	125.0	--	--
5U-10R	10.00	5.00	10.41	----	0.80	125.0	--	--
5U-V	0.00	5.00	13.15	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	7.846	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	2.486	----	0.40	125.0	--	--
H-10L	-10.00	0.00	9.810	----	1.40	125.0	--	--
H-5L	-5.00	0.00	12.79	----	3.60	125.0	--	--
H-V	0.00	0.00	16.09	----	4.00	125.0	--	--
H-5R	5.00	0.00	16.14	----	3.60	125.0	--	--
H-10R	10.00	0.00	12.85	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	4.218	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	14.52	----	0.80	250.0	--	--
5D-V	0.00	-5.00	17.15	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	9.407	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	2.452	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	13.30	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	17.62	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	25.07	----	2.4	--	--	--	4
2	27.06	----	3	--	--	--	3
3	75.32	----	16.8	--	--	--	5
4	37.78	----	3	--	--	--	3
5	34.93	----	2.4	--	--	--	4

3/27/2020 12:54:19 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm # TR5225

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm	3/27/2020 12:55:40 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.949

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	0.00	4.620	----	0.05	--	--	--
5D-45L to 80R MN	-45.00	-5.00	0.117	----	0.05	--	--	--
5D to 15U-45L MN	-45.00	-4.75	0.113	----	0.05	--	--	--
15U-45L to 80R MN	-45.00	15.00	0.132	----	0.05	--	--	--

3/27/2020 12:55:40 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5226

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/27/2020 12:56:41 PM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-06	Nissan Altima RH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.948

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-5.00	10.00	6.511	----	0.80	125	--	--
5U-20L TO 10L	-20.00	5.00	2.562	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	8.170	----	0.80	125	--	--
5U-V TO 10R	10.00	5.00	10.65	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	4.568	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	10.27	----	1.40	125	--	--
H-5L TO V	-5.00	0.00	13.43	----	3.60	125	--	--
H-V TO 5R	3.00	0.00	16.17	----	3.60	125	--	--
H-5R TO 10R	10.00	0.00	12.97	----	1.40	125	--	--
5D-20L TO 10L	-20.00	-5.00	2.508	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	9.655	----	0.80	125	--	--
5D-V TO 10R	10.00	-5.00	14.62	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	4.294	----	0.40	125	--	--
5D-5L TO 5R	-5.00	-5.00	13.79	----	0.80	125	--	--
20L-5U TO 5D	-20.00	-5.00	2.491	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	8.226	----	0.80	125	--	--
10L-H TO 5D	-10.00	-5.00	9.641	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	7.245	----	0.80	125	--	--
5L-H TO 5D	-5.00	0.00	13.58	----	0.80	125	--	--
V-5U TO H	0.00	5.00	13.73	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	16.92	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	8.978	----	0.80	125	--	--
5R-H TO 5D	5.00	-1.00	16.56	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	10.61	----	0.80	125	--	--
10R-H TO 5D	10.00	0.00	12.82	----	0.80	125	--	--
20R-5U TO 5D	20.00	-5.00	4.265	----	0.40	125	--	--

3/27/2020 12:56:41 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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### STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5221  
 Date/Time: 3/27/2020 12:48 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1229  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5224  
 Date/Time: 3/27/2020 12:54 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1229  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Detail:  
 Work Order 2055  
 Serial Number 2055-06  
 Lamp Nissan Altima RH HL - Turn  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

Detail:  
 Work Order 2055  
 Serial Number 2055-06  
 Lamp Nissan Altima RH HL - Park  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	77.80	6.833	11.3859	Pass	3.000	
10U-5R	78.04	8.621	9.0523	Pass	3.000	
5U-20R	64.82	4.476	14.4817	Pass	3.000	
5U-10R	176.44	10.41	16.9491	Pass	3.000	
5U-V	223.16	13.15	16.9703	Pass	5.000	
5U-10L	113.20	7.846	14.4277	Pass	3.000	
5U-20L	38.56	2.486	15.5109	Pass	3.000	
H-10L	169.03	9.810	17.2304	Pass	3.000	
H-5L	372.91	12.79	29.1564	Pass	5.000	
H-V	520.51	16.09	32.3499	Pass	5.000	
H-5R	515.07	16.14	31.9126	Pass	5.000	
H-10R	350.40	12.85	27.2685	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: Sidemarker RH Amber MVSS108 24 IB Angle # TR5227

Test Function	Date/Time	Operator	Equipment
Sidemarker RH Amber MVSS108 24 IB Angle	3/27/2020 12:59:51 PM	REW	STS AP-OEM
Work Order	Serial Number	Lamp	
2055	2055-06	Nissan Altima RH HL - Sidemarker	
Sales Order	Requisitioner	Color	
2076	NHTSA	Amber	

Notes: Testing with Mfr. fixture. Operated in combination with Park.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	W5W 13_5 Volts	13.50 (*)	1.500	13.509	0.947

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-45L	-45.00	10.00	6.947	----	.62	--	--	--
10U-V	0.00	10.00	3.694	----	.62	--	--	--
10U-24R	24.00	10.00	1.562	----	.62	--	--	--
H-24R	24.00	0.00	1.465	----	.62	--	--	--
H-V	0.00	0.00	3.268	----	.62	--	--	--
H-45L	-45.00	0.00	5.916	----	.62	--	--	--
10D-45L	-45.00	-10.00	5.172	----	.62	--	--	--
10D-V	0.00	-10.00	3.500	----	.62	--	--	--
10D-24R	24.00	-10.00	1.321	----	.62	--	--	--

3/27/2020 12:59:51 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: Sidemarker RH Amber Min Scan 24 IB Angle # TR5228

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker RH Amber Min Scan 24 IB Angle	3/27/2020 1:01:25 PM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-06	Nissan Altima RH HL - Sidemarker	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	Amber	

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.947

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 45L to V	0.00	10.00	3.693	----	.62	--	--	--
10U - V to 24R	24.00	10.00	1.593	----	.62	--	--	--
H - 45L to V	0.00	0.00	3.312	----	.62	--	--	--
H - V to 24R	24.00	0.00	1.458	----	.62	--	--	--
10D - 45L to V	0.00	-10.00	3.515	----	.62	--	--	--
10D - V to 24R	24.00	-10.00	1.333	----	.62	--	--	--
10U to H - 45L	-45.00	0.00	5.894	----	.62	--	--	--
H to 10D - 45L	-45.00	-9.50	5.037	----	.62	--	--	--
10U to H - V	0.00	0.75	3.209	----	.62	--	--	--
H to 10D - V	0.00	0.00	3.257	----	.62	--	--	--
10U to H - 24R	24.00	0.00	1.451	----	.62	--	--	--
H to 10D - 24R	24.00	-6.00	1.311	----	.62	--	--	--

3/27/2020 1:01:25 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5229

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/27/2020 1:02:59 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.184	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	24.77	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.749	----	0.175	--	--	--
10U-V	0.00	10.00	20.54	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.594	----	0.125	--	--	--
5D-V	0.00	-5.00	25.41	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.765	----	0.125	--	--	--
H-20R	20.00	0.00	14.14	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.443	----	0.075	--	--	--
H-20L	-20.00	0.00	17.55	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.559	----	0.075	--	--	--

3/27/2020 1:02:59 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1229 - Test: Reflex Amber Min Scan -750mm # TR5230

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/27/2020 1:07:03 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-06	Nissan Altima RH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.194	8.089

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	17.57	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	14.20	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	20.67	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	24.89	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.558	----	.075	--	--	--
H - (V to 20R) 1.5Deg	20.00	0.00	0.447	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	10.00	0.596	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-0.75	0.737	----	.125	--	--	--

3/27/2020 1:07:03 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: 0-Table XIX-a LB1V VOR # TR5231

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XIX-a LB1V VOR	3/27/2020 1:52:45 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Low Beam
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.03			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 8.23	X = 4.62	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.805	4.516

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.07	0.175	----		--	--	--	--
Gradient @ 3R	3.00	0.06	0.180	----		--	--	--	--
Gradient @ 2R	2.00	0.03	0.175	----		0.13	--	--	--
Inclination			0.04	----					
H-V	0.00	0.00	2200.5	----		--	--	--	--
4U-8R	8.00	4.00	154.28	----		64	--	--	--
4U-8L	-8.00	4.00	122.21	----		64	--	--	--
2U-4L	-4.00	2.00	214.30	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	241.34	----		200	--	--	--
1.5U-1R to R	2.00	1.50	253.82	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	158.47	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	140.76	----		--	1000	--	--
0.5U-1R to 3R MX	2.50	0.50	721.77	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.50	666.01	----		500	--	--	--
H-4L	-4.00	0.00	168.32	----		135	--	--	--
H-8L	-8.00	0.00	81.61	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	18314	----		10000	--	--	--
0.86D-V	0.00	-0.86	17573	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	4976.6	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	21450	----		15000	--	--	--
2D-9R	9.00	-2.00	5546.0	----		1250	--	--	--
2D-9L	-9.00	-2.00	2988.9	----		1250	--	--	--
2D-15R	15.00	-2.00	2211.4	----		1000	--	--	--
2D-15L	-15.00	-2.00	1471.1	----		1000	--	--	--
4D-4R	4.00	-4.00	9862.5	----		--	12500	--	--
4D-20R	20.00	-4.00	849.90	----		300	--	--	--
4D-20L	-20.00	-4.00	529.43	----		300	--	--	--
10U TO 90U	56.00	61.00	37.27	----		--	125	--	--
H-V	0.00	0.00	2280.7	----		--	--	--	--

3/27/2020 1:52:45 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: 0-Table XVIII HL UB2 # TR5232

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/27/2020 2:14:53 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - High Beam

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.03			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.810	4.488
2	H9 12_8 Volts	12.80 (*)	6.000	12.803	5.393

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	56489	----		40000	75000	--	--
2U-V	0.00	2.00	22851	----		1500	--	--	--
1U-3R	3.00	1.00	28539	----		5000	--	--	--
1U-3L	-3.00	1.00	22043	----		5000	--	--	--
H-12L	-12.00	0.00	1995.5	----		1500	--	--	--
H-9L	-9.00	0.00	4926.2	----		3000	--	--	--
H-6L	-6.00	0.00	10415	----		5000	--	--	--
H-3L	-3.00	0.00	25754	----		15000	--	--	--
H-3R	3.00	0.00	43520	----		15000	--	--	--
H-6R	6.00	0.00	13496	----		5000	--	--	--
H-9R	9.00	0.00	6404.7	----		3000	--	--	--
H-12R	12.00	0.00	3394.9	----		1500	--	--	--
1.5D-9R	9.00	-1.50	8588.6	----		2000	--	--	--
1.5D-V	0.00	-1.50	40945	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	5083.5	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	2616.0	----		1000	--	--	--
2.5D-V	0.00	-2.50	22293	----		2500	--	--	--
2.5D-12R	12.00	-2.50	4474.2	----		1000	--	--	--
4D-V	0.00	-4.00	11585	----		--	12000	--	--
H-V	0.00	0.00	55724	----		40000	75000	--	--

3/27/2020 2:14:53 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: 0-Table VI-a FTSL 1 -750mm # TR5233

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/27/2020 2:16:54 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Turn

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.423	2.425

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	75.11	----	40.0	--	24.0	--
10U-5R	5.00	10.00	65.90	----	40.0	--	24.0	--
5U-20R	20.00	5.00	62.89	----	25.0	--	15.0	--
5U-10R	10.00	5.00	151.96	----	75.0	--	45.0	--
5U-V	0.00	5.00	184.77	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	95.82	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	37.34	----	25.0	--	15.0	--
H-10L	-10.00	0.00	138.39	----	100.0	--	60.0	--
H-5L	-5.00	0.00	308.30	----	200.0	--	120.0	--
H-V	0.00	0.00	481.14	----	200.0	--	120.0	--
H-5R	5.00	0.00	472.16	----	200.0	--	120.0	--
H-10R	10.00	0.00	370.26	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	69.98	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	413.78	----	75.0	--	45.0	--
5D-V	0.00	-5.00	535.10	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	141.96	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	35.41	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	342.88	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	516.94	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	490.75	----	130	--	--	--	4
2	376.17	----	250	--	--	--	3
3	1981.48	----	950	--	--	--	5
4	935.99	----	250	--	--	--	3
5	715.71	----	130	--	--	--	4

3/27/2020 2:16:54 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: FRONT TURN RH VISIBILITY MVSS108 -750mm # TR5234

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN RH VISIBILITY MVSS108 -750mm	3/27/2020 2:18:21 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.511	2.413

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-0.50	51.90	----	0.3	--	--	--
5D-45L to 80R MN	-45.00	-5.00	2.380	----	0.3	--	--	--
5D to 15U-45L MN	-45.00	-4.00	2.251	----	0.3	--	--	--
15U-45L to 80R MN	-45.00	15.00	2.712	----	0.3	--	--	--

3/27/2020 2:18:21 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5235

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/27/2020 2:19:44 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.511	2.409

**Pass/Fail Results:** Testpoints: Req. = FAIL InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	5.00	10.00	57.25	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	32.22	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	81.85	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	133.88	----	75.0	--	45.0	--
5U-10R TO 20R	20.00	5.00	52.88	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	120.20	----	100.0	--	60.0	--
H-5L TO V	-5.00	0.00	271.88	----	200.0	--	120.0	--
H-V TO 5R	1.75	0.00	412.44	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	343.93	----	100.0	--	60.0	--
5D-20L TO 10L	-19.75	-5.00	31.03	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	126.77	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	387.76	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	62.44	----	25.0	--	15.0	--
5D-5L TO 5R	-5.00	-5.00	311.51	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	31.22	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	80.68	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	0.00	119.00	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	63.86	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	0.00	268.77	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	164.04	F---	175.0	--	105.0	--
V-H TO 5D	0.00	0.00	429.49	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	56.61	----	40.0	--	24.0	--
5R-H TO 5D	5.00	0.00	426.84	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	130.31	----	75.0	--	45.0	--
10R-H TO 5D	10.00	0.00	341.48	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	5.00	52.97	----	25.0	--	15.0	--

3/27/2020 2:19:44 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.

Note: Test points flagged with an "F" indicate that point failed to meet the specified minimum value for that test point, but is deemed compliant due to not being less than 60% of the specified minimum value as allowed by the applicable photometry requirements.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5236

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/27/2020 2:22:44 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.940

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	6.139	----	0.80	125.0	--	--
10U-5R	5.00	10.00	7.578	----	0.80	125.0	--	--
5U-20R	20.00	5.00	5.046	----	0.40	125.0	--	--
5U-10R	10.00	5.00	11.39	----	0.80	125.0	--	--
5U-V	0.00	5.00	12.24	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	6.710	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	1.944	----	0.40	125.0	--	--
H-10L	-10.00	0.00	8.235	----	1.40	125.0	--	--
H-5L	-5.00	0.00	11.73	----	3.60	125.0	--	--
H-V	0.00	0.00	15.13	----	4.00	125.0	--	--
H-5R	5.00	0.00	16.35	----	3.60	125.0	--	--
H-10R	10.00	0.00	15.09	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	5.515	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	17.28	----	0.80	250.0	--	--
5D-V	0.00	-5.00	17.43	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	8.145	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	1.980	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	12.16	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	19.36	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	22.22	----	2.4	--	--	--	4
2	23.09	----	3	--	--	--	3
3	72.87	----	16.8	--	--	--	5
4	43.76	----	3	--	--	--	3
5	37.49	----	2.4	--	--	--	4

3/27/2020 2:22:44 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm # TR5237

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP RH VISIBILITY MVSS108 - Amber -750mm	3/27/2020 2:24:06 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.935

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80R MN	80.00	-0.75	4.375	----	0.05	--	--	--
5D-45L to 80R MN	-45.00	-5.00	0.124	----	0.05	--	--	--
5D to 15U-45L MN	-45.00	-4.75	0.117	----	0.05	--	--	--
15U-45L to 80R MN	-45.00	15.00	0.147	----	0.05	--	--	--

3/27/2020 2:24:06 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5238

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/27/2020 2:25:07 PM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-08	Nissan Altima RH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = -3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.935

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-5.00	10.00	5.367	----	0.80	125	--	--
5U-20L TO 10L	-20.00	5.00	1.985	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	6.827	----	0.80	125	--	--
5U-V TO 10R	9.75	5.00	11.74	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	5.100	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	8.420	----	1.40	125	--	--
H-5L TO V	-5.00	0.00	11.96	----	3.60	125	--	--
H-V TO 5R	0.00	0.00	15.53	----	3.60	125	--	--
H-5R TO 10R	9.50	0.00	15.04	----	1.40	125	--	--
5D-20L TO 10L	-20.00	-5.00	2.035	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	8.247	----	0.80	125	--	--
5D-V TO 10R	10.00	-5.00	17.68	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	5.710	----	0.40	125	--	--
5D-5L TO 5R	-5.00	-5.00	12.36	----	0.80	125	--	--
20L-5U TO 5D	-20.00	5.00	1.982	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	6.851	----	0.80	125	--	--
10L-H TO 5D	-10.00	-5.00	8.248	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	6.337	----	0.80	125	--	--
5L-H TO 5D	-5.00	0.00	12.04	----	0.80	125	--	--
V-5U TO H	0.00	5.00	12.80	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	15.65	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	7.931	----	0.80	125	--	--
5R-H TO 5D	5.00	0.00	16.89	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	11.87	----	0.80	125	--	--
10R-H TO 5D	10.00	0.00	15.55	----	0.80	125	--	--
20R-5U TO 5D	20.00	5.00	5.138	----	0.40	125	--	--

3/27/2020 2:25:07 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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### STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5233  
 Date/Time: 3/27/2020 2:16 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1230  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5236  
 Date/Time: 3/27/2020 2:22 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1230  
 Lamp: 2055 Nissan Altima RH HL  
 Color:

Detail:  
 Work Order 2055  
 Serial Number 2055-08  
 Lamp Nissan Altima RH HL - Turn  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

Detail:  
 Work Order 2055  
 Serial Number 2055-08  
 Lamp Nissan Altima RH HL - Park  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	75.11	6.139	12.2349	Pass	3.000	
10U-5R	65.90	7.578	8.6962	Pass	3.000	
5U-20R	62.89	5.046	12.4633	Pass	3.000	
5U-10R	151.96	11.39	13.3415	Pass	3.000	
5U-V	184.77	12.24	15.0956	Pass	5.000	
5U-10L	95.82	6.710	14.2802	Pass	3.000	
5U-20L	37.34	1.944	19.2078	Pass	3.000	
H-10L	138.39	8.235	16.8051	Pass	3.000	
H-5L	308.30	11.73	26.2830	Pass	5.000	
H-V	481.14	15.13	31.8004	Pass	5.000	
H-5R	472.16	16.35	28.8783	Pass	5.000	
H-10R	370.26	15.09	24.5368	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: Sidemarker RH Amber MVSS108 24 IB Angle # TR5239

Test Function	Date/Time	Operator	Equipment
Sidemarker RH Amber MVSS108 24 IB Angle	3/27/2020 2:28:10 PM	REW	STS AP-OEM
Work Order	Serial Number	Lamp	
2055	2055-08	Nissan Altima RH HL - Sidemarker	
Sales Order	Requisitioner	Color	
2076	NHTSA	Amber	

Notes: Testing with Mfr. fixture. Operated in combination with Park.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	W5W 13_5 Volts	13.50 (*)	1.500	13.509	0.935

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-45L	-45.00	10.00	4.791	----	.62	--	--	--
10U-V	0.00	10.00	3.826	----	.62	--	--	--
10U-24R	24.00	10.00	2.179	----	.62	--	--	--
H-24R	24.00	0.00	2.339	----	.62	--	--	--
H-V	0.00	0.00	4.058	----	.62	--	--	--
H-45L	-45.00	0.00	5.739	----	.62	--	--	--
10D-45L	-45.00	-10.00	5.348	----	.62	--	--	--
10D-V	0.00	-10.00	3.279	----	.62	--	--	--
10D-24R	24.00	-10.00	2.198	----	.62	--	--	--

3/27/2020 2:28:10 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: Sidemarker RH Amber Min Scan 24 IB Angle # TR5240

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker RH Amber Min Scan 24 IB Angle	3/27/2020 2:29:44 PM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-08	Nissan Altima RH HL - Sidemarker	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	Amber	

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.02	X = 7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.509	0.934

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 45L to V	0.00	10.00	3.827	----	.62	--	--	--
10U - V to 24R	12.75	10.00	1.774	----	.62	--	--	--
H - 45L to V	-1.25	0.00	3.823	----	.62	--	--	--
H - V to 24R	21.75	0.00	1.975	----	.62	--	--	--
10D - 45L to V	0.00	-10.00	3.303	----	.62	--	--	--
10D - V to 24R	21.75	-10.00	2.022	----	.62	--	--	--
10U to H - 45L	-45.00	10.00	4.751	----	.62	--	--	--
H to 10D - 45L	-45.00	-10.00	5.337	----	.62	--	--	--
10U to H - V	0.00	2.00	3.740	----	.62	--	--	--
H to 10D - V	0.00	-10.00	3.276	----	.62	--	--	--
10U to H - 24R	24.00	6.50	2.007	----	.62	--	--	--
H to 10D - 24R	24.00	-10.00	2.148	----	.62	--	--	--

3/27/2020 2:29:44 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5241

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/27/2020 2:31:22 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.182	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	24.28	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.731	----	0.175	--	--	--
10U-V	0.00	10.00	20.08	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.584	----	0.125	--	--	--
5D-V	0.00	-5.00	24.80	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.751	----	0.125	--	--	--
H-20R	20.00	0.00	13.71	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.435	----	0.075	--	--	--
H-20L	-20.00	0.00	17.35	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.550	----	0.075	--	--	--

3/27/2020 2:31:22 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima RH HL # SR1230 - Test: Reflex Amber Min Scan -750mm # TR5242

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/27/2020 2:35:27 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-08	Nissan Altima RH HL - Reflex

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 90.00	U/D = 0.00	Height = 9.36	X = 8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.192	8.089

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ftc	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	17.41	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	13.72	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	20.15	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	24.33	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.548	----	.075	--	--	--
H - (V to 20R) 1.5Deg	20.00	0.00	0.439	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	10.00	0.587	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-0.75	0.724	----	.125	--	--	--

3/27/2020 2:35:27 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SRI222 - Test: 0-Table XIX-a LB1V VOR # TR5156

Test Function	Date/Time	Operator	Equipment
0-Table XIX-a LB1V VOR	3/26/2020 1:24:22 PM	REW	STS AP-OEM
Work Order	Serial Number	Lamp	
2055	2055-01	Nissan Altima LH HL – Low Beam	
Sales Order	Requisitioner	Color	
2076	NHTSA	White	

Notes: Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.09			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 8.23	X = -4.62	Y = -5.07
<b>Multiplier:</b>	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.809	4.514

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.06	0.195	----		--	--	--	--
Gradient @ 3R	3.00	0.18	0.190	----		--	--	--	--
Gradient @ 2R	2.00	0.09	0.195	----		0.13	--	--	--
Inclination			0.09	----					
H-V	0.00	0.00	2140.3	----		--	--	--	--
4U-8R	8.00	4.00	131.78	----		64	--	--	--
4U-8L	-8.00	4.00	134.79	----		64	--	--	--
2U-4L	-4.00	2.00	198.13	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	200.84	----		200	--	--	--
1.5U-1R to R	2.00	1.50	205.35	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	143.22	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	113.84	----		--	1000	--	--
0.5U-1R to 3R MX	1.75	0.50	434.33	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.25 (0.50)	905.25	----	376.09	500	--	--	--
H-4L	-4.00	0.00	148.56	----		135	--	--	--
H-8L	-8.00	0.00	78.80	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	16819	----		10000	--	--	--
0.86D-V	0.00	-0.86	17583	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	5276.0	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	18801	----		15000	--	--	--
2D-9R	9.00	-2.00	4453.5	----		1250	--	--	--
2D-9L	-9.00	-2.00	2861.3	----		1250	--	--	--
2D-15R	15.00	-2.00	1811.8	----		1000	--	--	--
2D-15L	-15.00	-2.00	1460.6	----		1000	--	--	--
4D-4R	4.00	-4.00	8069.3	----		--	12500	--	--
4D-20R	20.00	-4.00	677.35	----		300	--	--	--
4D-20L	-20.00	-4.00	553.58	----		300	--	--	--
10U TO 90U	-52.50	67.00	34.62	----		--	125	--	--
H-V	0.00	0.00	2492.5	----		--	--	--	--

3/26/2020 1:24:22 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1222 - Test: 0-Table XVIII HL UB2 # TR5157

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/26/2020 1:45:30 PM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-01	Nissan Altima LH HL – High Beam	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	White	

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.09			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.810	4.525
2	H9 12_8 Volts	12.80 (*)	6.000	12.802	5.404

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	58292	----		40000	75000	--	--
2U-V	0.00	2.00	29080	----		1500	--	--	--
1U-3R	3.00	1.00	25287	----		5000	--	--	--
1U-3L	-3.00	1.00	33384	----		5000	--	--	--
H-12L	-12.00	0.00	2377.1	----		1500	--	--	--
H-9L	-9.00	0.00	4321.6	----		3000	--	--	--
H-6L	-6.00	0.00	11378	----		5000	--	--	--
H-3L	-3.00	0.00	38807	----		15000	--	--	--
H-3R	3.00	0.00	29476	----		15000	--	--	--
H-6R	6.00	0.00	10989	----		5000	--	--	--
H-9R	9.00	0.00	5263.1	----		3000	--	--	--
H-12R	12.00	0.00	2353.1	----		1500	--	--	--
1.5D-9R	9.00	-1.50	6089.0	----		2000	--	--	--
1.5D-V	0.00	-1.50	30873	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	5345.0	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	2779.4	----		1000	--	--	--
2.5D-V	0.00	-2.50	19126	----		2500	--	--	--
2.5D-12R	12.00	-2.50	2968.6	----		1000	--	--	--
4D-V	0.00	-4.00	10495	----		--	12000	--	--
H-V	0.00	0.00	57605	----		40000	75000	--	--

3/26/2020 1:45:30 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: 0-Table VI-a FTSL 1 -750mm # TR5146

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/26/2020 12:45:39 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.509	2.421

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	148.52	----	40.0	--	24.0	--
10U-5R	5.00	10.00	163.59	----	40.0	--	24.0	--
5U-20R	20.00	5.00	43.62	----	25.0	--	15.0	--
5U-10R	10.00	5.00	213.10	----	75.0	--	45.0	--
5U-V	0.00	5.00	383.72	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	213.81	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	63.31	----	25.0	--	15.0	--
H-10L	-10.00	0.00	260.77	----	100.0	--	60.0	--
H-5L	-5.00	0.00	499.60	----	200.0	--	120.0	--
H-V	0.00	0.00	513.34	----	200.0	--	120.0	--
H-5R	5.00	0.00	478.21	----	200.0	--	120.0	--
H-10R	10.00	0.00	240.64	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	30.83	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	142.23	----	75.0	--	45.0	--
5D-V	0.00	-5.00	318.88	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	160.53	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	62.05	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	279.60	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	280.76	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	553.50	----	130	--	--	--	4
2	635.10	----	250	--	--	--	3
3	2193.75	----	950	--	--	--	5
4	595.97	----	250	--	--	--	3
5	518.80	----	130	--	--	--	4

3/26/2020 12:45:39 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: FRONT TURN LH VISIBILITY MVSS108 -750mm # TR5147

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN LH VISIBILITY MVSS108 -750mm	3/26/2020 12:47:07 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.397

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	15.00	44.41	----	0.3	--	--	--
5D-45R to 80L MN	45.00	-5.00	2.040	----	0.3	--	--	--
5D to 15U-45R MN	45.00	-4.75	1.947	----	0.3	--	--	--
15U-45R to 80L MN	45.00	15.00	2.484	----	0.3	--	--	--

3/26/2020 12:47:07 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5148

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/26/2020 12:48:30 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.395

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	2.75	10.00	132.26	----	40.0	--	24.0	--
5U-20L TO 10L	-19.75	5.00	55.26	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	196.82	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	189.30	----	75.0	--	45.0	--
5U-10R TO 20R	20.00	5.00	37.68	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	239.09	----	100.0	--	60.0	--
H-5L TO V	-2.75	0.00	429.26	----	200.0	--	120.0	--
H-V TO 5R	5.00	0.00	431.38	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	218.44	----	100.0	--	60.0	--
5D-20L TO 10L	-19.00	-5.00	50.95	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	148.91	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	131.24	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	27.71	----	25.0	--	15.0	--
5D-5L TO 5R	-5.00	-5.00	256.05	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	5.00	54.97	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	196.57	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	147.91	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	135.66	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	-5.00	254.41	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	335.96	----	175.0	--	105.0	--
V-H TO 5D	0.00	-5.00	284.35	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	148.01	----	40.0	--	24.0	--
5R-H TO 5D	5.00	-5.00	256.82	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	187.92	----	75.0	--	45.0	--
10R-H TO 5D	10.00	-5.00	130.06	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	-5.00	27.48	----	25.0	--	15.0	--

3/26/2020 12:48:30 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5149

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/26/2020 12:51:30 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

**Aiming Offset:** L/R = 0.00 U/D = 0.00  
**Fixture Offset:** L/R = 0.00 U/D = 0.00 Height = 5.65 X = 3.40 Y = 3.91  
**Multiplier:** 1.0000

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.968

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS Zones: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	12.24	----	0.80	125.0	--	--
10U-5R	5.00	10.00	9.944	----	0.80	125.0	--	--
5U-20R	20.00	5.00	2.692	----	0.40	125.0	--	--
5U-10R	10.00	5.00	7.206	----	0.80	125.0	--	--
5U-V	0.00	5.00	15.84	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	16.26	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	5.498	----	0.40	125.0	--	--
H-10L	-10.00	0.00	17.72	----	1.40	125.0	--	--
H-5L	-5.00	0.00	19.28	----	3.60	125.0	--	--
H-V	0.00	0.00	17.00	----	4.00	125.0	--	--
H-5R	5.00	0.00	11.84	----	3.60	125.0	--	--
H-10R	10.00	0.00	7.251	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	1.865	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	6.566	----	0.80	250.0	--	--
5D-V	0.00	-5.00	16.36	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	15.73	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	6.136	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	17.92	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	10.60	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	41.79	----	2.4	--	--	--	4
2	49.71	----	3	--	--	--	3
3	80.32	----	16.8	--	--	--	5
4	21.02	----	3	--	--	--	3
5	25.10	----	2.4	--	--	--	4

3/26/2020 12:51:30 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm # TR5150

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm	3/26/2020 12:52:51 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.964

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-2.00	4.412	----	0.05	--	--	--
5D-45R to 80L MN	45.00	-5.00	0.128	----	0.05	--	--	--
5D to 15U-45R MN	45.00	-5.00	0.119	----	0.05	--	--	--
15U-45R to 80L MN	45.00	15.00	0.159	----	0.05	--	--	--

3/26/2020 12:52:51 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5151

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/26/2020 12:54:02 PM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-01	Nissan Altima LH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.508	0.964

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	5.00	10.00	10.31	----	0.80	125	--	--
5U-20L TO 10L	-19.50	5.00	5.545	----	0.40	125	--	--
5U-10L TO V	0.00	5.00	16.46	----	0.80	125	--	--
5U-V TO 10R	10.00	5.00	7.406	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	2.764	----	0.40	125	--	--
H-10L TO 5L	-9.50	0.00	17.94	----	1.40	125	--	--
H-5L TO V	0.00	0.00	17.54	----	3.60	125	--	--
H-V TO 5R	5.00	0.00	12.19	----	3.60	125	--	--
H-5R TO 10R	10.00	0.00	7.407	----	1.40	125	--	--
5D-20L TO 10L	-20.00	-5.00	6.178	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	16.12	----	0.80	125	--	--
5D-V TO 10R	10.00	-5.00	6.761	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	1.883	----	0.40	125	--	--
5D-5L TO 5R	5.00	-5.00	10.80	----	0.80	125	--	--
20L-5U TO 5D	-20.00	4.75	5.685	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	16.89	----	0.80	125	--	--
10L-H TO 5D	-10.00	-5.00	16.14	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	12.80	----	0.80	125	--	--
5L-H TO 5D	-5.00	-5.00	18.37	----	0.80	125	--	--
V-5U TO H	0.00	5.00	16.62	----	2.80	125	--	--
V-H TO 5D	0.00	-5.00	16.80	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	10.36	----	0.80	125	--	--
5R-H TO 5D	5.00	-5.00	10.81	----	0.80	125	--	--
10R-5U TO H	10.00	1.75	7.381	----	0.80	125	--	--
10R-H TO 5D	10.00	-5.00	6.789	----	0.80	125	--	--
20R-5U TO 5D	20.00	-5.00	1.881	----	0.40	125	--	--

3/26/2020 12:54:02 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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### STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5146  
 Date/Time: 3/26/2020 12:45 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1221  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5149  
 Date/Time: 3/26/2020 12:51 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1221  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Detail:  
 Work Order 2055  
 Serial Number 2055-01  
 Lamp Nissan Altima LH HL  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

Detail:  
 Work Order 2055  
 Serial Number 2055-01  
 Lamp Nissan Altima LH HL  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	148.52	12.24	12.1340	Pass	3.000	
10U-5R	163.59	9.944	16.4511	Pass	3.000	
5U-20R	43.62	2.692	16.2036	Pass	3.000	
5U-10R	213.10	7.206	29.5726	Pass	3.000	
5U-V	383.72	15.84	24.2247	Pass	5.000	
5U-10L	213.81	16.26	13.1494	Pass	3.000	
5U-20L	63.31	5.498	11.5151	Pass	3.000	
H-10L	260.77	17.72	14.7161	Pass	3.000	
H-5L	499.60	19.28	25.9129	Pass	5.000	
H-V	513.34	17.00	30.1965	Pass	5.000	
H-5R	478.21	11.84	40.3894	Pass	5.000	
H-10R	240.64	7.251	33.1871	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: Sidemarker Amber LH MVSS108 24 IB Angle -750mm # TR5152

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH MVSS108 24 IB Angle -750mm	3/26/2020 12:57:03 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.507	0.964

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-24L	-24.00	10.00	2.264	----	.62	--	--	--
10U-V	0.00	10.00	4.259	----	.62	--	--	--
10U-45R	45.00	10.00	6.528	----	.62	--	--	--
H-45R	45.00	0.00	6.177	----	.62	--	--	--
H-V	0.00	0.00	4.445	----	.62	--	--	--
H-24L	-24.00	0.00	2.275	----	.62	--	--	--
5D-24L	-24.00	-5.00	1.893	----	.62	--	--	--
5D-V	0.00	-5.00	3.870	----	.62	--	--	--
5D-45R	45.00	-5.00	5.840	----	.62	--	--	--

3/26/2020 12:57:03 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: Sidemarker Amber LH Min Scan 24 IB Angle -750mm # TR5153

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH Min Scan 24 IB Angle -750mm	3/26/2020 12:58:36 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.964

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 24L to V	-23.00	10.00	2.173	----	.62	--	--	--
10U - V to 45R	0.00	10.00	4.242	----	.62	--	--	--
H - 24L to V	-17.50	0.00	2.000	----	.62	--	--	--
H - V to 45R	3.75	0.00	4.258	----	.62	--	--	--
5D - 24L to V	-24.00	-5.00	1.898	----	.62	--	--	--
5D - V to 45R	1.75	-5.00	3.804	----	.62	--	--	--
10U to H - 24L	-24.00	2.50	1.928	----	.62	--	--	--
H to 5D - 24L	-24.00	-5.00	1.887	----	.62	--	--	--
10U to H - V	0.00	1.75	4.001	----	.62	--	--	--
H to 5D - V	0.00	-5.00	3.873	----	.62	--	--	--
10U to H - 45R	45.00	2.50	5.839	----	.62	--	--	--
H to 5D - 45R	45.00	-3.50	5.671	----	.62	--	--	--

3/26/2020 12:58:36 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5154

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/26/2020 1:00:06 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.175	8.087

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	27.14	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.539	----	0.175	--	--	--
10U-V	0.00	10.00	21.75	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.419	----	0.125	--	--	--
5D-V	0.00	-5.00	29.32	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.566	----	0.125	--	--	--
H-20R	20.00	0.00	18.04	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.364	----	0.075	--	--	--
H-20L	-20.00	0.00	16.08	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.333	----	0.075	--	--	--

3/26/2020 1:00:06 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1221 - Test: Reflex Amber Min Scan -750mm # TR5155

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/26/2020 1:04:12 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-01	Nissan Altima LH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.186	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ftc	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	16.19	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	18.09	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	21.71	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	27.13	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.334	----	.075	--	--	--
H - (V to 20R) 1.5Deg	19.75	0.00	0.353	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	10.00	0.419	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-0.25	0.539	----	.125	--	--	--

3/26/2020 1:04:12 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SRI223 - Test: 0-Table XIX-a LB1V VOR # TR5158

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XIX-a LB1V VOR	3/26/2020 3:22:24 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL – Low Beam
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.09			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 8.23	X = -4.62	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.806	4.486

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.06	0.184	----		--	--	--	--
Gradient @ 3R	3.00	0.15	0.176	----		--	--	--	--
Gradient @ 2R	2.00	0.09	0.177	----		0.13	--	--	--
Inclination			0.06	----					
H-V	0.00	0.00	2964.5	----		--	--	--	--
4U-8R	8.00	4.00	136.86	----		64	--	--	--
4U-8L	-8.00	4.00	145.18	----		64	--	--	--
2U-4L	-4.00	2.00	249.22	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	290.10	----		200	--	--	--
1.5U-1R to R	1.00	1.50	313.61	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	228.65	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	237.67	----		--	1000	--	--
0.5U-1R to 3R MX	2.00	0.50	674.27	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.50	601.88	----		500	--	--	--
H-4L	-4.00	0.00	229.93	----		135	--	--	--
H-8L	-8.00	0.00	102.48	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	16930	----		10000	--	--	--
0.86D-V	0.00	-0.86	18158	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	4546.2	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	20391	----		15000	--	--	--
2D-9R	9.00	-2.00	4654.1	----		1250	--	--	--
2D-9L	-9.00	-2.00	3005.4	----		1250	--	--	--
2D-15R	15.00	-2.00	1810.1	----		1000	--	--	--
2D-15L	-15.00	-2.00	1548.2	----		1000	--	--	--
4D-4R	4.00	-4.00	9696.7	----		--	12500	--	--
4D-20R	20.00	-4.00	691.90	----		300	--	--	--
4D-20L	-20.00	-4.00	629.98	----		300	--	--	--
10U TO 90U	-57.00	61.00	38.16	----		--	125	--	--
H-V	0.00	0.00	3403.3	----		--	--	--	--

3/26/2020 3:22:24 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1224 - Test: 0-Table XVIII HL UB2 # TR5170

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/26/2020 4:13:52 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL – High Beam

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.09			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.806	4.475
2	H9 12_8 Volts	12.80 (*)	6.000	12.804	5.397

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	53975	----		40000	75000	--	--
2U-V	0.00	2.00	29587	----		1500	--	--	--
1U-3R	3.00	1.00	22770	----		5000	--	--	--
1U-3L	-3.00	1.00	36185	----		5000	--	--	--
H-12L	-12.00	0.00	2581.2	----		1500	--	--	--
H-9L	-9.00	0.00	4540.5	----		3000	--	--	--
H-6L	-6.00	0.00	12370	----		5000	--	--	--
H-3L	-3.00	0.00	38993	----		15000	--	--	--
H-3R	3.00	0.00	26681	----		15000	--	--	--
H-6R	6.00	0.00	9808.3	----		5000	--	--	--
H-9R	9.00	0.00	4820.6	----		3000	--	--	--
H-12R	12.00	0.00	2102.8	----		1500	--	--	--
1.5D-9R	9.00	-1.50	5673.9	----		2000	--	--	--
1.5D-V	0.00	-1.50	29973	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	5221.5	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	3232.8	----		1000	--	--	--
2.5D-V	0.00	-2.50	20754	----		2500	--	--	--
2.5D-12R	12.00	-2.50	3012.9	----		1000	--	--	--
4D-V	0.00	-4.25 (-4.00)	11047	----	12123	--	12000	--	--
H-V	0.00	0.00	53298	----		40000	75000	--	--

3/26/2020 4:13:52 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: 0-Table VI-a FTSL 1 -750mm # TR5160

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/26/2020 3:46:49 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL – Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.509	2.429

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	103.13	----	40.0	--	24.0	--
10U-5R	5.00	10.00	115.78	----	40.0	--	24.0	--
5U-20R	20.00	5.00	44.89	----	25.0	--	15.0	--
5U-10R	10.00	5.00	166.41	----	75.0	--	45.0	--
5U-V	0.00	5.00	307.96	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	177.90	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	50.36	----	25.0	--	15.0	--
H-10L	-10.00	0.00	275.83	----	100.0	--	60.0	--
H-5L	-5.00	0.00	518.81	----	200.0	--	120.0	--
H-V	0.00	0.00	564.79	----	200.0	--	120.0	--
H-5R	5.00	0.00	488.79	----	200.0	--	120.0	--
H-10R	10.00	0.00	218.57	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	36.30	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	176.00	----	75.0	--	45.0	--
5D-V	0.00	-5.00	452.30	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	215.51	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	46.29	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	382.67	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	389.23	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	582.44	----	130	--	--	--	4
2	669.24	----	250	--	--	--	3
3	2332.66	----	950	--	--	--	5
4	560.98	----	250	--	--	--	3
5	586.19	----	130	--	--	--	4

3/26/2020 3:46:49 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: FRONT TURN LH VISIBILITY MVSS108 -750mm # TR5161

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN LH VISIBILITY MVSS108 -750mm	3/26/2020 3:48:15 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.511	2.404

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-2.75	43.98	----	0.3	--	--	--
5D-45R to 80L MN	45.00	-5.00	2.074	----	0.3	--	--	--
5D to 15U-45R MN	45.00	-5.00	2.004	----	0.3	--	--	--
15U-45R to 80L MN	45.00	15.00	2.304	----	0.3	--	--	--

3/26/2020 3:48:15 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5162

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/26/2020 3:49:39 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.404

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-2.50	10.00	86.92	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	44.68	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	168.25	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	142.32	----	75.0	--	45.0	--
5U-10R TO 20R	20.00	5.00	38.22	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	266.21	----	100.0	--	60.0	--
H-5L TO V	-2.25	0.00	453.34	----	200.0	--	120.0	--
H-V TO 5R	5.00	0.00	431.20	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	192.28	----	100.0	--	60.0	--
5D-20L TO 10L	-20.00	-5.00	41.44	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	212.52	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	156.63	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	31.73	----	25.0	--	15.0	--
5D-5L TO 5R	5.00	-5.00	354.41	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	41.24	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	169.87	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	214.42	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	96.26	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	-5.00	367.71	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	274.16	----	175.0	--	105.0	--
V-H TO 5D	0.00	-5.00	411.99	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	98.84	----	40.0	--	24.0	--
5R-H TO 5D	5.00	-5.00	349.18	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	136.36	----	75.0	--	45.0	--
10R-H TO 5D	10.00	-5.00	153.28	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	-5.00	31.23	----	25.0	--	15.0	--

3/26/2020 3:49:39 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5163

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/26/2020 3:52:47 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.960

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	8.118	----	0.80	125.0	--	--
10U-5R	5.00	10.00	8.230	----	0.80	125.0	--	--
5U-20R	20.00	5.00	3.744	----	0.40	125.0	--	--
5U-10R	10.00	5.00	9.016	----	0.80	125.0	--	--
5U-V	0.00	5.00	12.63	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	9.679	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	4.698	----	0.40	125.0	--	--
H-10L	-10.00	0.00	11.70	----	1.40	125.0	--	--
H-5L	-5.00	0.00	14.24	----	3.60	125.0	--	--
H-V	0.00	0.00	15.74	----	4.00	125.0	--	--
H-5R	5.00	0.00	13.28	----	3.60	125.0	--	--
H-10R	10.00	0.00	10.77	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	3.422	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	10.48	----	0.80	250.0	--	--
5D-V	0.00	-5.00	17.28	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	11.82	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	5.089	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	15.97	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	14.71	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	33.88	----	2.4	--	--	--	4
2	33.20	----	3	--	--	--	3
3	73.17	----	16.8	--	--	--	5
4	30.26	----	3	--	--	--	3
5	30.10	----	2.4	--	--	--	4

3/26/2020 3:52:47 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm # TR5164

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm	3/26/2020 3:54:08 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.956

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-3.25	4.726	----	0.05	--	--	--
5D-45R to 80L MN	44.75	-5.00	0.122	----	0.05	--	--	--
5D to 15U-45R MN	45.00	-5.00	0.113	----	0.05	--	--	--
15U-45R to 80L MN	45.00	15.00	0.146	----	0.05	--	--	--

3/26/2020 3:54:08 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5165

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/26/2020 3:55:07 PM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-03	Nissan Altima LH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.956

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-5.00	10.00	7.543	----	0.80	125	--	--
5U-20L TO 10L	-17.75	5.00	3.830	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	9.992	----	0.80	125	--	--
5U-V TO 10R	9.75	5.00	9.293	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	3.888	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	11.97	----	1.40	125	--	--
H-5L TO V	-5.00	0.00	14.58	----	3.60	125	--	--
H-V TO 5R	4.50	0.00	13.34	----	3.60	125	--	--
H-5R TO 10R	10.00	0.00	10.94	----	1.40	125	--	--
5D-20L TO 10L	-17.50	-5.00	4.120	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	12.05	----	0.80	125	--	--
5D-V TO 10R	9.75	-5.00	10.59	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	3.466	----	0.40	125	--	--
5D-5L TO 5R	5.00	-5.00	15.01	----	0.80	125	--	--
20L-5U TO 5D	-20.00	5.00	4.779	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	10.03	----	0.80	125	--	--
10L-H TO 5D	-10.00	0.00	12.00	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	8.397	----	0.80	125	--	--
5L-H TO 5D	-5.00	0.00	14.66	----	0.80	125	--	--
V-5U TO H	0.00	5.00	13.13	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	16.28	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	8.448	----	0.80	125	--	--
5R-H TO 5D	5.00	0.00	13.76	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	9.344	----	0.80	125	--	--
10R-H TO 5D	10.00	-4.50	10.69	----	0.80	125	--	--
20R-5U TO 5D	20.00	-5.00	3.451	----	0.40	125	--	--

3/26/2020 3:55:07 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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## STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5160  
 Date/Time: 3/26/2020 3:46 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1223  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5163  
 Date/Time: 3/26/2020 3:52 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1223  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Detail:  
 Work Order: 2055  
 Serial Number: 2055-03  
 Lamp: Nissan Altima LH HL  
 Sales Order: 2076  
 Requisitioner: NHTSA  
 Color: Amber

Detail:  
 Work Order: 2055  
 Serial Number: 2055-03  
 Lamp: Nissan Altima LH HL  
 Sales Order: 2076  
 Requisitioner: NHTSA  
 Color: Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	103.13	8.118	12.7039	Pass	3.000	
10U-5R	115.78	8.230	14.0680	Pass	3.000	
5U-20R	44.89	3.744	11.9899	Pass	3.000	
5U-10R	166.41	9.016	18.4572	Pass	3.000	
5U-V	307.96	12.63	24.3832	Pass	5.000	
5U-10L	177.90	9.679	18.3800	Pass	3.000	
5U-20L	50.36	4.698	10.7195	Pass	3.000	
H-10L	275.83	11.70	23.5752	Pass	3.000	
H-5L	518.81	14.24	36.4333	Pass	5.000	
H-V	564.79	15.74	35.8825	Pass	5.000	
H-5R	488.79	13.28	36.8065	Pass	5.000	
H-10R	218.57	10.77	20.2943	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: Sidemarker Amber LH MVSS108 24 IB Angle -750mm # TR5166

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH MVSS108 24 IB Angle -750mm	3/26/2020 3:58:09 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.955

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-24L	-24.00	10.00	2.106	----	.62	--	--	--
10U-V	0.00	10.00	4.124	----	.62	--	--	--
10U-45R	45.00	10.00	6.121	----	.62	--	--	--
H-45R	45.00	0.00	5.058	----	.62	--	--	--
H-V	0.00	0.00	3.670	----	.62	--	--	--
H-24L	-24.00	0.00	1.625	----	.62	--	--	--
5D-24L	-24.00	-5.00	2.079	----	.62	--	--	--
5D-V	0.00	-5.00	3.142	----	.62	--	--	--
5D-45R	45.00	-5.00	5.472	----	.62	--	--	--

3/26/2020 3:58:09 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: Sidemarker Amber LH Min Scan 24 IB Angle -750mm # TR5167

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH Min Scan 24 IB Angle -750mm	3/26/2020 3:59:42 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.955

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 24L to V	-21.50	10.00	1.989	----	.62	--	--	--
10U - V to 45R	0.00	10.00	4.114	----	.62	--	--	--
H - 24L to V	-22.25	0.00	1.598	----	.62	--	--	--
H - V to 45R	0.00	0.00	3.655	----	.62	--	--	--
5D - 24L to V	-14.00	-5.00	1.834	----	.62	--	--	--
5D - V to 45R	0.00	-5.00	3.140	----	.62	--	--	--
10U to H - 24L	-24.00	0.00	1.614	----	.62	--	--	--
H to 5D - 24L	-24.00	-0.25	1.609	----	.62	--	--	--
10U to H - V	0.00	3.00	3.527	----	.62	--	--	--
H to 5D - V	0.00	-4.75	3.138	----	.62	--	--	--
10U to H - 45R	45.00	0.00	5.060	----	.62	--	--	--
H to 5D - 45R	45.00	-0.50	5.031	----	.62	--	--	--

3/26/2020 3:59:42 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5168

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/26/2020 4:01:15 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.182	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	22.62	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.602	----	0.175	--	--	--
10U-V	0.00	10.00	17.58	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.486	----	0.125	--	--	--
5D-V	0.00	-5.00	23.62	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.618	----	0.125	--	--	--
H-20R	20.00	0.00	14.38	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.437	----	0.075	--	--	--
H-20L	-20.00	0.00	13.00	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.377	----	0.075	--	--	--

3/26/2020 4:01:15 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1223 - Test: Reflex Amber Min Scan -750mm # TR5169

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/26/2020 4:05:19 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-03	Nissan Altima LH HL - Reflex

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.193	8.089

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ftc	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	13.02	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	14.42	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	17.65	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	22.68	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.381	----	.075	--	--	--
H - (V to 20R) 1.5Deg	20.00	0.00	0.437	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	9.75	0.487	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-1.25	0.603	----	.125	--	--	--

3/26/2020 4:05:19 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: 0-Table XIX-a LB1V VOR # TR5171

Test Function	Date/Time	Operator	Equipment
0-Table XIX-a LB1V VOR	3/26/2020 5:13:16 PM	REW	STS AP-OEM
Work Order	Serial Number	Lamp	
2055	2055-05	Nissan Altima LH HL – Low Beam	
Sales Order	Requisitioner	Color	
2076	NHTSA	White	

Notes: Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.18			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 8.23	X = -4.62	Y = -5.07
<b>Multiplier:</b>	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.806	4.525

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.20	0.190	----		--	--	--	--
Gradient @ 3R	3.00	0.21	0.202	----		--	--	--	--
Gradient @ 2R	2.00	0.18	0.194	----		0.13	--	--	--
Inclination			0.03	----					
H-V	0.00	0.00	3012.5	----		--	--	--	--
4U-8R	8.00	4.00	146.70	----		64	--	--	--
4U-8L	-8.00	4.00	160.57	----		64	--	--	--
2U-4L	-4.00	2.00	238.49	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	217.99	----		200	--	--	--
1.5U-1R to R	1.00	1.50	231.66	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	163.14	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	159.98	----		--	1000	--	--
0.5U-1R to 3R MX	1.25	0.50	517.70	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.25 (0.50)	919.42	----	384.08	500	--	--	--
H-4L	-4.00	0.00	163.48	----		135	--	--	--
H-8L	-8.00	0.00	71.39	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	18855	----		10000	--	--	--
0.86D-V	0.00	-0.86	20121	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	5816.0	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	20354	----		15000	--	--	--
2D-9R	9.00	-2.00	4685.6	----		1250	--	--	--
2D-9L	-9.00	-2.00	3359.0	----		1250	--	--	--
2D-15R	15.00	-2.00	1811.8	----		1000	--	--	--
2D-15L	-15.00	-2.00	1688.3	----		1000	--	--	--
4D-4R	4.00	-4.00	8397.5	----		--	12500	--	--
4D-20R	20.00	-4.00	662.12	----		300	--	--	--
4D-20L	-20.00	-4.00	613.06	----		300	--	--	--
10U TO 90U	-56.50	60.00	36.58	----		--	125	--	--
H-V	0.00	0.00	2701.6	----		--	--	--	--

3/26/2020 5:13:16 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: 0-Table XVIII HL UB2 # TR5172

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/26/2020 5:35:01 PM	REW	STS AP-OEM
<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>	
2055	2055-05	Nissan Altima LH HL – High Beam	
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>	
2076	NHTSA	White	

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.18			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.810	4.511
2	H9 12_8 Volts	12.80 (*)	6.000	12.804	5.383

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	57683	----		40000	75000	--	--
2U-V	0.00	2.00	27595	----		1500	--	--	--
1U-3R	3.00	1.00	23061	----		5000	--	--	--
1U-3L	-3.00	1.00	31946	----		5000	--	--	--
H-12L	-12.00	0.00	2885.3	----		1500	--	--	--
H-9L	-9.00	0.00	4792.2	----		3000	--	--	--
H-6L	-6.00	0.00	11246	----		5000	--	--	--
H-3L	-3.00	0.00	38242	----		15000	--	--	--
H-3R	3.00	0.00	27382	----		15000	--	--	--
H-6R	6.00	0.00	10323	----		5000	--	--	--
H-9R	9.00	0.00	5084.5	----		3000	--	--	--
H-12R	12.00	0.00	2028.3	----		1500	--	--	--
1.5D-9R	9.00	-1.50	6333.3	----		2000	--	--	--
1.5D-V	0.00	-1.50	34033	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	5802.5	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	3186.8	----		1000	--	--	--
2.5D-V	0.00	-2.50	20940	----		2500	--	--	--
2.5D-12R	12.00	-2.50	2830.2	----		1000	--	--	--
4D-V	0.00	-4.00	11043	----		--	12000	--	--
H-V	0.00	0.00	57060	----		40000	75000	--	--

3/26/2020 5:35:01 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: 0-Table VI-a FTSL 1 -750mm # TR5173

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/26/2020 5:37:03 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Turn

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.426

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	104.56	----	40.0	--	24.0	--
10U-5R	5.00	10.00	111.94	----	40.0	--	24.0	--
5U-20R	20.00	5.00	42.97	----	25.0	--	15.0	--
5U-10R	10.00	5.00	155.46	----	75.0	--	45.0	--
5U-V	0.00	5.00	298.41	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	182.22	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	52.22	----	25.0	--	15.0	--
H-10L	-10.00	0.00	285.69	----	100.0	--	60.0	--
H-5L	-5.00	0.00	504.70	----	200.0	--	120.0	--
H-V	0.00	0.00	534.73	----	200.0	--	120.0	--
H-5R	5.00	0.00	449.31	----	200.0	--	120.0	--
H-10R	10.00	0.00	204.25	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	34.61	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	168.18	----	75.0	--	45.0	--
5D-V	0.00	-5.00	437.99	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	223.06	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	46.82	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	381.95	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	373.28	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	585.55	----	130	--	--	--	4
2	690.97	----	250	--	--	--	3
3	2225.14	----	950	--	--	--	5
4	527.89	----	250	--	--	--	3
5	562.80	----	130	--	--	--	4

3/26/2020 5:37:03 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: FRONT TURN LH VISIBILITY MVSS108 -750mm # TR5174

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN LH VISIBILITY MVSS108 -750mm	3/26/2020 5:38:31 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.511	2.407

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-2.00	42.67	----	0.3	--	--	--
5D-45R to 80L MN	45.00	-5.00	1.802	----	0.3	--	--	--
5D to 15U-45R MN	45.00	-5.00	1.771	----	0.3	--	--	--
15U-45R to 80L MN	45.00	15.00	2.140	----	0.3	--	--	--

3/26/2020 5:38:31 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5175

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/26/2020 5:39:55 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Turn
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.511	2.405

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-2.25	10.00	87.10	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	45.77	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	175.33	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	131.02	----	75.0	--	45.0	--
5U-10R TO 20R	20.00	5.00	35.76	----	25.0	--	15.0	--
H-10L TO 5L	-10.00	0.00	275.51	----	100.0	--	60.0	--
H-5L TO V	-2.25	0.00	438.58	----	200.0	--	120.0	--
H-V TO 5R	5.00	0.00	390.15	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	178.20	----	100.0	--	60.0	--
5D-20L TO 10L	-20.00	-5.00	42.37	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	218.45	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	147.10	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	29.92	----	25.0	--	15.0	--
5D-5L TO 5R	5.00	-5.00	330.22	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	42.26	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	176.88	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	218.80	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	97.76	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	-5.00	361.23	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	267.86	----	175.0	--	105.0	--
V-H TO 5D	0.00	-5.00	392.22	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	93.13	----	40.0	--	24.0	--
5R-H TO 5D	5.00	-5.00	324.27	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	127.16	----	75.0	--	45.0	--
10R-H TO 5D	10.00	-5.00	144.50	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	-5.00	29.41	----	25.0	--	15.0	--

3/26/2020 5:39:55 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5176

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/26/2020 5:43:02 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.976

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	8.662	----	0.80	125.0	--	--
10U-5R	5.00	10.00	8.768	----	0.80	125.0	--	--
5U-20R	20.00	5.00	3.587	----	0.40	125.0	--	--
5U-10R	10.00	5.00	8.951	----	0.80	125.0	--	--
5U-V	0.00	5.00	13.11	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	9.839	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	4.322	----	0.40	125.0	--	--
H-10L	-10.00	0.00	11.24	----	1.40	125.0	--	--
H-5L	-5.00	0.00	14.63	----	3.60	125.0	--	--
H-V	0.00	0.00	15.82	----	4.00	125.0	--	--
H-5R	5.00	0.00	12.98	----	3.60	125.0	--	--
H-10R	10.00	0.00	10.52	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	2.942	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	9.737	----	0.80	250.0	--	--
5D-V	0.00	-5.00	17.37	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	11.86	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	5.115	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	15.82	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	14.50	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	33.92	----	2.4	--	--	--	4
2	32.94	----	3	--	--	--	3
3	73.90	----	16.8	--	--	--	5
4	29.20	----	3	--	--	--	3
5	29.80	----	2.4	--	--	--	4

3/26/2020 5:43:02 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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**STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm # TR5177**

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm	3/26/2020 5:44:24 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Park
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.971

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-1.25	4.153	----	0.05	--	--	--
5D-45R to 80L MN	45.00	-5.00	0.111	----	0.05	--	--	--
5D to 15U-45R MN	45.00	-5.00	0.108	----	0.05	--	--	--
15U-45R to 80L MN	45.00	15.00	0.127	----	0.05	--	--	--

3/26/2020 5:44:24 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5178

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/26/2020 5:45:37 PM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-05	Nissan Altima LH HL - Park
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.510	0.970

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-5.00	10.00	8.371	----	0.80	125	--	--
5U-20L TO 10L	-18.00	5.00	3.926	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	10.14	----	0.80	125	--	--
5U-V TO 10R	10.00	5.00	9.243	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	3.796	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	11.51	----	1.40	125	--	--
H-5L TO V	-4.75	0.00	14.96	----	3.60	125	--	--
H-V TO 5R	4.50	0.00	13.12	----	3.60	125	--	--
H-5R TO 10R	9.75	0.00	10.68	----	1.40	125	--	--
5D-20L TO 10L	-17.50	-5.00	4.819	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	12.02	----	0.80	125	--	--
5D-V TO 10R	10.00	-5.00	9.956	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	3.035	----	0.40	125	--	--
5D-5L TO 5R	5.00	-5.00	14.72	----	0.80	125	--	--
20L-5U TO 5D	-20.00	4.00	4.390	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	10.17	----	0.80	125	--	--
10L-H TO 5D	-10.00	-0.50	11.54	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	9.005	----	0.80	125	--	--
5L-H TO 5D	-5.00	0.00	15.05	----	0.80	125	--	--
V-5U TO H	0.00	5.00	13.47	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	16.26	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	8.992	----	0.80	125	--	--
5R-H TO 5D	5.00	0.00	13.42	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	9.283	----	0.80	125	--	--
10R-H TO 5D	10.00	-5.00	9.949	----	0.80	125	--	--
20R-5U TO 5D	20.00	-5.00	3.052	----	0.40	125	--	--

3/26/2020 5:45:37 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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### STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5173  
 Date/Time: 3/26/2020 5:37 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1225  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5176  
 Date/Time: 3/26/2020 5:43 PM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1225  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Detail:  
 Work Order 2055  
 Serial Number 2055-05  
 Lamp Nissan Altima LH HL  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

Detail:  
 Work Order 2055  
 Serial Number 2055-05  
 Lamp Nissan Altima LH HL  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	104.56	8.662	12.0711	Pass	3.000	
10U-5R	111.94	8.768	12.7669	Pass	3.000	
5U-20R	42.97	3.587	11.9794	Pass	3.000	
5U-10R	155.46	8.951	17.3679	Pass	3.000	
5U-V	298.41	13.11	22.7620	Pass	5.000	
5U-10L	182.22	9.839	18.5202	Pass	3.000	
5U-20L	52.22	4.322	12.0824	Pass	3.000	
H-10L	285.69	11.24	25.4173	Pass	3.000	
H-5L	504.70	14.63	34.4976	Pass	5.000	
H-V	534.73	15.82	33.8009	Pass	5.000	
H-5R	449.31	12.98	34.6156	Pass	5.000	
H-10R	204.25	10.52	19.4154	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: Sidemarker Amber LH MVSS108 24 IB Angle -750mm # TR5179

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH MVSS108 24 IB Angle -750mm	3/26/2020 5:48:42 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.969

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-24L	-24.00	10.00	1.798	----	.62	--	--	--
10U-V	0.00	10.00	3.827	----	.62	--	--	--
10U-45R	45.00	10.00	6.626	----	.62	--	--	--
H-45R	45.00	0.00	5.361	----	.62	--	--	--
H-V	0.00	0.00	3.969	----	.62	--	--	--
H-24L	-24.00	0.00	1.870	----	.62	--	--	--
5D-24L	-24.00	-5.00	1.457	----	.62	--	--	--
5D-V	0.00	-5.00	3.379	----	.62	--	--	--
5D-45R	45.00	-5.00	5.586	----	.62	--	--	--

3/26/2020 5:48:42 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: Sidemarker Amber LH Min Scan 24 IB Angle -750mm # TR5180

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH Min Scan 24 IB Angle -750mm	3/26/2020 5:50:16 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Sidemarker
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.969

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 24L to V	-22.25	10.00	1.742	----	.62	--	--	--
10U - V to 45R	0.00	10.00	3.827	----	.62	--	--	--
H - 24L to V	-16.75	0.00	1.671	----	.62	--	--	--
H - V to 45R	4.25	0.00	3.894	----	.62	--	--	--
5D - 24L to V	-24.00	-5.00	1.461	----	.62	--	--	--
5D - V to 45R	2.00	-5.00	3.299	----	.62	--	--	--
10U to H - 24L	-24.00	2.00	1.634	----	.62	--	--	--
H to 5D - 24L	-24.00	-4.50	1.423	----	.62	--	--	--
10U to H - V	0.00	2.25	3.586	----	.62	--	--	--
H to 5D - V	0.00	-4.25	3.351	----	.62	--	--	--
10U to H - 45R	45.00	0.00	5.339	----	.62	--	--	--
H to 5D - 45R	45.00	-0.50	5.267	----	.62	--	--	--

3/26/2020 5:50:16 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5181

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/26/2020 5:51:46 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Reflex
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.184	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	26.97	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.547	----	0.175	--	--	--
10U-V	0.00	10.00	21.43	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.445	----	0.125	--	--	--
5D-V	0.00	-5.00	28.40	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.579	----	0.125	--	--	--
H-20R	20.00	0.00	17.83	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.395	----	0.075	--	--	--
H-20L	-20.00	0.00	15.83	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.341	----	0.075	--	--	--

3/26/2020 5:51:46 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1225 - Test: Reflex Amber Min Scan -750mm # TR5182

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/26/2020 5:55:52 PM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-05	Nissan Altima LH HL - Reflex

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.194	8.089

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	15.85	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	17.91	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	21.48	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	27.08	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.340	----	.075	--	--	--
H - (V to 20R) 1.5Deg	19.75	0.00	0.373	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	9.75	0.445	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-0.25	0.545	----	.125	--	--	--

3/26/2020 5:55:52 PM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SRI226 - Test: 0-Table XIX-a LB1V VOR # TR5183

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XIX-a LB1V VOR	3/27/2020 7:16:01 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H11 bulb seasoned 10 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.18			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 8.23	X = -4.62	Y = -5.07
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	H11 12_8 Volts	12.80 (*)	5.000	12.805	4.515

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
Gradient @ 1R	1.00	0.12	0.177	----		--	--	--	--
Gradient @ 3R	3.00	0.21	0.176	----		--	--	--	--
Gradient @ 2R	2.00	0.18	0.179	----		0.13	--	--	--
Inclination			0.06	----					
H-V	0.00	0.00	2780.8	----		--	--	--	--
4U-8R	8.00	4.00	132.42	----		64	--	--	--
4U-8L	-8.00	4.00	154.08	----		64	--	--	--
2U-4L	-4.00	2.00	249.96	----		135	--	--	--
1.5U-1R to 3R	3.00	1.50	259.56	----		200	--	--	--
1.5U-1R to R	1.00	1.50	290.64	----		--	1400	--	--
1U-1.5L to L	-1.50	1.00	216.41	----		--	700	--	--
0.5U-1.5L to L	-1.50	0.50	224.73	----		--	1000	--	--
0.5U-1R to 3R MX	1.25	0.50	578.57	----		--	2700	--	--
0.5U-1R to 3R MN	3.00	0.25 (0.50)	940.78	----	452.44	500	--	--	--
H-4L	-4.00	0.00	254.26	----		135	--	--	--
H-8L	-8.00	0.00	127.86	----		64	--	--	--
0.6D-1.3R	1.30	-0.60	17171	----		10000	--	--	--
0.86D-V	0.00	-0.86	19129	----		4500	--	--	--
0.86D-3.5L	-3.50	-0.86	5748.3	----		1800	12000	--	--
1.5D-2R	2.00	-1.50	19661	----		15000	--	--	--
2D-9R	9.00	-2.00	4497.2	----		1250	--	--	--
2D-9L	-9.00	-2.00	3234.2	----		1250	--	--	--
2D-15R	15.00	-2.00	1854.8	----		1000	--	--	--
2D-15L	-15.00	-2.00	1587.8	----		1000	--	--	--
4D-4R	4.00	-4.00	8532.8	----		--	12500	--	--
4D-20R	20.00	-4.00	695.62	----		300	--	--	--
4D-20L	-20.00	-4.00	589.04	----		300	--	--	--
10U TO 90U	-50.50	67.00	40.57	----		--	125	--	--
H-V	0.00	0.00	2994.9	----		--	--	--	--

3/27/2020 7:16:01 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: 0-Table XVIII HL UB2 # TR5184

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table XVIII HL UB2	3/27/2020 7:38:26 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	White

**Notes:** Testing with Mfr. fixture. H9 bulb seasoned 5 hours before testing.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.18			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 6.91	X = 0.00	Y = -5.07
<b>Multiplier:</b>	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	H11 12_8 Volts	12.80 (*)	5.000	12.809	4.487
2	H9 12_8 Volts	12.80 (*)	6.000	12.803	5.364

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Meas. Cd	Pass/Fail	Pre Reaim	Min	Max	InH Min	InH Max
H-V	0.00	0.00	58491	----		40000	75000	--	--
2U-V	0.00	2.00	27568	----		1500	--	--	--
1U-3R	3.00	1.00	23196	----		5000	--	--	--
1U-3L	-3.00	1.00	33045	----		5000	--	--	--
H-12L	-12.00	0.00	2536.5	----		1500	--	--	--
H-9L	-9.00	0.00	4668.7	----		3000	--	--	--
H-6L	-6.00	0.00	12380	----		5000	--	--	--
H-3L	-3.00	0.00	39941	----		15000	--	--	--
H-3R	3.00	0.00	27933	----		15000	--	--	--
H-6R	6.00	0.00	10705	----		5000	--	--	--
H-9R	9.00	0.00	5243.2	----		3000	--	--	--
H-12R	12.00	0.00	2234.0	----		1500	--	--	--
1.5D-9R	9.00	-1.50	6291.7	----		2000	--	--	--
1.5D-V	0.00	-1.50	33275	----		5000	--	--	--
1.5D-9L	-9.00	-1.50	5636.7	----		2000	--	--	--
2.5D-12L	-12.00	-2.50	2916.5	----		1000	--	--	--
2.5D-V	0.00	-2.50	20652	----		2500	--	--	--
2.5D-12R	12.00	-2.50	2997.3	----		1000	--	--	--
4D-V	0.00	-4.00	11084	----		--	12000	--	--
H-V	0.00	0.00	57246	----		40000	75000	--	--

3/27/2020 7:38:26 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: 0-Table VI-a FTSL 1 -750mm # TR5185

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-Table VI-a FTSL 1 -750mm	3/27/2020 7:40:31 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.509	2.403

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**      **Zones:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	87.73	----	40.0	--	24.0	--
10U-5R	5.00	10.00	87.39	----	40.0	--	24.0	--
5U-20R	20.00	5.00	49.59	----	25.0	--	15.0	--
5U-10R	10.00	5.00	168.48	----	75.0	--	45.0	--
5U-V	0.00	5.00	243.90	----	175.0	--	105.0	--
5U-10L	-10.00	5.00	122.92	----	75.0	--	45.0	--
5U-20L	-20.00	5.00	54.85	----	25.0	--	15.0	--
H-10L	-10.00	0.00	187.66	----	100.0	--	60.0	--
H-5L	-5.00	0.00	371.51	----	200.0	--	120.0	--
H-V	0.00	0.00	467.03	----	200.0	--	120.0	--
H-5R	5.00	0.00	472.09	----	200.0	--	120.0	--
H-10R	10.00	0.00	291.20	----	100.0	--	60.0	--
5D-20R	20.00	-5.00	43.78	----	25.0	--	15.0	--
5D-10R	10.00	-5.00	264.03	----	75.0	--	45.0	--
5D-V	0.00	-5.00	420.34	----	175.0	--	105.0	--
5D-10L	-10.00	-5.00	154.17	----	75.0	--	45.0	--
5D-20L	-20.00	-5.00	54.95	----	25.0	--	15.0	--
5D-5L	-5.00	-5.00	325.47	----	40.0	--	24.0	--
5D-5R	5.00	-5.00	390.45	----	40.0	--	24.0	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	523.00	----	130	--	--	--	4
2	464.75	----	250	--	--	--	3
3	1974.88	----	950	--	--	--	5
4	723.71	----	250	--	--	--	3
5	571.22	----	130	--	--	--	4

3/27/2020 7:40:31 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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TECHNICAL SOLUTIONS



STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: FRONT TURN LH VISIBILITY MVSS108 -750mm # TR5186

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN LH VISIBILITY MVSS108 -750mm	3/27/2020 7:41:58 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.392

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-1.50	43.47	----	0.3	--	--	--
5D-45R to 80L MN	45.00	-5.00	2.108	----	0.3	--	--	--
5D to 15U-45R MN	45.00	-5.00	2.052	----	0.3	--	--	--
15U-45R to 80L MN	45.00	15.00	2.178	----	0.3	--	--	--

3/27/2020 7:41:58 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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TECHNICAL SOLUTIONS



STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: FRONT TURN MIN SCAN MVSS 108 -750mm # TR5187

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
FRONT TURN MIN SCAN MVSS 108 -750mm	3/27/2020 7:43:22 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Major 13_5 Volts	13.50 (*)	3.000	13.510	2.400

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	-3.50	10.00	65.32	----	40.0	--	24.0	--
5U-20L TO 10L	-20.00	5.00	47.44	----	25.0	--	15.0	--
5U-10L TO V	-10.00	5.00	110.81	----	75.0	--	45.0	--
5U-V TO 10R	10.00	5.00	146.62	----	75.0	--	45.0	--
5U-10R TO 20R	20.00	5.00	42.17	----	25.0	--	15.0	--
H-10L TO 5L	-9.50	0.00	173.78	----	100.0	--	60.0	--
H-5L TO V	-3.75	0.00	330.13	----	200.0	--	120.0	--
H-V TO 5R	0.50	0.00	410.37	----	200.0	--	120.0	--
H-5R TO 10R	10.00	0.00	260.53	----	100.0	--	60.0	--
5D-20L TO 10L	-20.00	-5.00	47.30	----	25.0	--	15.0	--
5D-10L TO V	-10.00	-5.00	150.30	----	75.0	--	45.0	--
5D-V TO 10R	10.00	-5.00	237.76	----	75.0	--	45.0	--
5D-10R TO 20R	20.00	-5.00	38.53	----	25.0	--	15.0	--
5D-5L TO 5R	-3.50	-5.00	296.10	----	40.0	--	24.0	--
20L-5U TO 5D	-20.00	-5.00	47.22	----	25.0	--	15.0	--
10L-5U TO H	-10.00	5.00	109.70	----	75.0	--	45.0	--
10L-H TO 5D	-10.00	-5.00	151.19	----	75.0	--	45.0	--
5L-10U TO H	-5.00	10.00	69.36	----	40.0	--	24.0	--
5L-H TO 5D	-5.00	-5.00	319.47	----	40.0	--	24.0	--
V-5U TO H	0.00	5.00	201.28	----	175.0	--	105.0	--
V-H TO 5D	0.00	-5.00	395.15	----	175.0	--	105.0	--
5R-10U TO H	5.00	10.00	73.95	----	40.0	--	24.0	--
5R-H TO 5D	5.00	-5.00	378.88	----	40.0	--	24.0	--
10R-5U TO H	10.00	5.00	143.53	----	75.0	--	45.0	--
10R-H TO 5D	10.00	-5.00	232.63	----	75.0	--	45.0	--
20R-5U TO 5D	20.00	-5.00	37.87	----	25.0	--	15.0	--

3/27/2020 7:43:22 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: 0-TABLE XIV Parking Lamp -750mm # TR5188

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XIV Parking Lamp -750mm	3/27/2020 7:46:30 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.508	0.963

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS Zones: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L	-5.00	10.00	9.607	----	0.80	125.0	--	--
10U-5R	5.00	10.00	8.754	----	0.80	125.0	--	--
5U-20R	20.00	5.00	2.771	----	0.40	125.0	--	--
5U-10R	10.00	5.00	8.400	----	0.80	125.0	--	--
5U-V	0.00	5.00	15.18	----	2.80	125.0	--	--
5U-10L	-10.00	5.00	11.73	----	0.80	125.0	--	--
5U-20L	-20.00	5.00	4.079	----	0.40	125.0	--	--
H-10L	-10.00	0.00	15.28	----	1.40	125.0	--	--
H-5L	-5.00	0.00	19.62	----	3.60	125.0	--	--
H-V	0.00	0.00	19.08	----	4.00	125.0	--	--
H-5R	5.00	0.00	14.06	----	3.60	125.0	--	--
H-10R	10.00	0.00	8.883	----	1.40	125.0	--	--
5D-20R	20.00	-5.00	2.431	----	0.40	250.0	--	--
5D-10R	10.00	-5.00	8.183	----	0.80	250.0	--	--
5D-V	0.00	-5.00	19.36	----	2.80	250.0	--	--
5D-10L	-10.00	-5.00	15.20	----	0.80	250.0	--	--
5D-20L	-20.00	-5.00	4.610	----	0.40	250.0	--	--
5D-5L	-5.00	-5.00	19.52	----	0.80	250.0	--	--
5D-5R	5.00	-5.00	13.10	----	0.80	250.0	--	--

**Zone Data**

Zone	Value	Pass/Fail	Min	Max	InH Min	InH Max	Points
1	37.81	----	2.4	--	--	--	4
2	42.21	----	3	--	--	--	3
3	87.29	----	16.8	--	--	--	5
4	25.47	----	3	--	--	--	3
5	27.06	----	2.4	--	--	--	4

3/27/2020 7:46:30 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm # TR5189

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
PARKING LAMP LH VISIBILITY MVSS108 - Amber -750mm	3/27/2020 7:47:51 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with sidemarker.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.958

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
5D to 15U-80L MN	-80.00	-3.50	4.353	----	0.05	--	--	--
5D-45R to 80L MN	44.75	-5.00	0.122	----	0.05	--	--	--
5D to 15U-45R MN	45.00	-5.00	0.115	----	0.05	--	--	--
15U-45R to 80L MN	45.00	15.00	0.166	----	0.05	--	--	--

3/27/2020 7:47:51 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm # TR5190

Test Function	Date/Time	Operator	Equipment
PARKING LAMP MVSS 108 MIN SCAN - Amber -750mm	3/27/2020 7:49:02 AM	REW	STS AP-OEM

Work Order	Serial Number	Lamp
2055	2055-07	Nissan Altima LH HL
Sales Order	Requisitioner	Color
2076	NHTSA	Amber

Notes: Testing with Mfr. fixture. Operated in combination with sidemarker.

Aiming Offset:	L/R = 0.00	U/D = 0.00			
Fixture Offset:	L/R = 0.00	U/D = 0.00	Height = 5.65	X = 3.40	Y = 3.91
Multiplier:	1.0000				

Supply	Source Name	Set Voltage	Set Current	Meas. Voltage	Meas. Current
1	7444 Minor 13_5 Volts	13.50 (*)	1.000	13.509	0.957

Pass/Fail Results: Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-5L TO 5R	5.00	10.00	8.927	----	0.80	125	--	--
5U-20L TO 10L	-20.00	5.00	4.226	----	0.40	125	--	--
5U-10L TO V	-10.00	5.00	12.29	----	0.80	125	--	--
5U-V TO 10R	10.00	5.00	8.539	----	0.80	125	--	--
5U-10R TO 20R	20.00	5.00	2.854	----	0.40	125	--	--
H-10L TO 5L	-10.00	0.00	15.91	----	1.40	125	--	--
H-5L TO V	-2.00	0.00	18.83	----	3.60	125	--	--
H-V TO 5R	5.00	0.00	14.70	----	3.60	125	--	--
H-5R TO 10R	10.00	0.00	9.008	----	1.40	125	--	--
5D-20L TO 10L	-19.75	-5.00	4.674	----	0.40	125	--	--
5D-10L TO V	-10.00	-5.00	15.45	----	0.80	125	--	--
5D-V TO 10R	10.00	-5.00	8.255	----	0.80	125	--	--
5D-10R TO 20R	20.00	-5.00	2.406	----	0.40	125	--	--
5D-5L TO 5R	5.00	-5.00	13.38	----	0.80	125	--	--
20L-5U TO 5D	-20.00	5.00	4.240	----	0.40	125	--	--
10L-5U TO H	-10.00	5.00	12.44	----	0.80	125	--	--
10L-H TO 5D	-10.00	-5.00	15.42	----	0.80	125	--	--
5L-10U TO H	-5.00	10.00	9.927	----	0.80	125	--	--
5L-H TO 5D	-5.00	-5.00	19.88	----	0.80	125	--	--
V-5U TO H	0.00	5.00	15.96	----	2.80	125	--	--
V-H TO 5D	0.00	0.00	19.84	----	2.80	125	--	--
5R-10U TO H	5.00	10.00	9.022	----	0.80	125	--	--
5R-H TO 5D	5.00	-4.25	13.28	----	0.80	125	--	--
10R-5U TO H	10.00	5.00	8.583	----	0.80	125	--	--
10R-H TO 5D	10.00	-5.00	8.232	----	0.80	125	--	--
20R-5U TO 5D	20.00	-5.00	2.389	----	0.40	125	--	--

3/27/2020 7:49:02 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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### STS Charlotte Ratio Report

Function Name (1): 0-Table VI-a FTSL 1 -750mm  
 Run #: 5185  
 Date/Time: 3/27/2020 7:40 AM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1226  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Function Name (2): 0-TABLE XIV Parking Lamp -750mm  
 Run #: 5188  
 Date/Time: 3/27/2020 7:46 AM  
 Operator: REW  
 Equipment: STS AP-OEM  
 SN: 1226  
 Lamp: 2055 Nissan Altima LH HL  
 Color:

Detail:  
 Work Order 2055  
 Serial Number 2055-07  
 Lamp Nissan Altima LH HL  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

Detail:  
 Work Order 2055  
 Serial Number 2055-07  
 Lamp Nissan Altima LH HL  
 Sales Order 2076  
 Requisitioner NHTSA  
 Color Amber

	0-Table VI-a FTSL 1 -750mm	0-TABLE XIV Parking Lamp -750mm	Ratio	Pass/Fail	Ratio Min	Ratio Max
10U-5L	87.73	9.607	9.1319	Pass	3.000	
10U-5R	87.39	8.754	9.9829	Pass	3.000	
5U-20R	49.59	2.771	17.8961	Pass	3.000	
5U-10R	168.48	8.400	20.0571	Pass	3.000	
5U-V	243.90	15.18	16.0672	Pass	5.000	
5U-10L	122.92	11.73	10.4791	Pass	3.000	
5U-20L	54.85	4.079	13.4469	Pass	3.000	
H-10L	187.66	15.28	12.2814	Pass	3.000	
H-5L	371.51	19.62	18.9353	Pass	5.000	
H-V	467.03	19.08	24.4775	Pass	5.000	
H-5R	472.09	14.06	33.5768	Pass	5.000	
H-10R	291.20	8.883	32.7817	Pass	3.000	



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: Sidemarker Amber LH MVSS108 24 IB Angle -750mm # TR5191

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH MVSS108 24 IB Angle -750mm	3/27/2020 7:52:10 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.958

**Pass/Fail Results:**      **Testpoints:**      **Req. = PASS InHouse = PASS**

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U-24L	-24.00	10.00	1.867	----	.62	--	--	--
10U-V	0.00	10.00	4.205	----	.62	--	--	--
10U-45R	45.00	10.00	6.130	----	.62	--	--	--
H-45R	45.00	0.00	6.562	----	.62	--	--	--
H-V	0.00	0.00	3.640	----	.62	--	--	--
H-24L	-24.00	0.00	1.830	----	.62	--	--	--
5D-24L	-24.00	-5.00	1.647	----	.62	--	--	--
5D-V	0.00	-5.00	4.105	----	.62	--	--	--
5D-45R	45.00	-5.00	5.412	----	.62	--	--	--

3/27/2020 7:52:10 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: Sidemarker Amber LH Min Scan 24 IB Angle -750mm # TR5192

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Sidemarker Amber LH Min Scan 24 IB Angle -750mm	3/27/2020 7:53:43 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture. Operated in combination with Park.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.02	X = -7.50	Y = -4.82
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
1	W5W 13_5 Volts	13.50 (*)	1.500	13.508	0.957

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description	L/R Angle	U/D Angle	Cd	Pass/Fail	Min	Max	InH Min	InH Max
10U - 24L to V	-18.25	10.00	1.629	----	.62	--	--	--
10U - V to 45R	0.00	10.00	4.212	----	.62	--	--	--
H - 24L to V	-23.75	0.00	1.829	----	.62	--	--	--
H - V to 45R	0.00	0.00	3.636	----	.62	--	--	--
5D - 24L to V	-24.00	-5.00	1.667	----	.62	--	--	--
5D - V to 45R	2.75	-5.00	4.001	----	.62	--	--	--
10U to H - 24L	-24.00	6.00	1.620	----	.62	--	--	--
H to 5D - 24L	-24.00	-2.25	1.667	----	.62	--	--	--
10U to H - V	0.00	0.00	3.665	----	.62	--	--	--
H to 5D - V	0.00	-1.50	3.502	----	.62	--	--	--
10U to H - 45R	45.00	8.00	5.885	----	.62	--	--	--
H to 5D - 45R	45.00	-4.75	5.277	----	.62	--	--	--

3/27/2020 7:53:43 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: 0-TABLE XVI-a REFLEX REFL AMBER -750mm # TR5193

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
0-TABLE XVI-a REFLEX REFL AMBER -750mm	3/27/2020 7:55:13 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL
<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.180	8.087

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ft	Pass/Fail	Min	Max	InH Min	InH Max
H-V	0.00	0.00	23.85	----	11.25	--	--	--
H-V 1.5Deg.	0.00	0.00	0.587	----	0.175	--	--	--
10U-V	0.00	10.00	18.66	----	7.5	--	--	--
10U-V 1.5Deg.	0.00	10.00	0.476	----	0.125	--	--	--
5D-V	0.00	-5.00	25.01	----	7.5	--	--	--
5D-V 1.5Deg.	0.00	-5.00	0.594	----	0.125	--	--	--
H-20R	20.00	0.00	15.29	----	3.75	--	--	--
H-20R 1.5Deg.	20.00	0.00	0.415	----	0.075	--	--	--
H-20L	-20.00	0.00	13.75	----	3.75	--	--	--
H-20L 1.5Deg.	-20.00	0.00	0.363	----	0.075	--	--	--

3/27/2020 7:55:13 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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STS Charlotte - 2055 Nissan Altima LH HL # SR1226 - Test: Reflex Amber Min Scan -750mm # TR5194

<b>Test Function</b>	<b>Date/Time</b>	<b>Operator</b>	<b>Equipment</b>
Reflex Amber Min Scan -750mm	3/27/2020 7:59:18 AM	REW	STS AP-OEM

<b>Work Order</b>	<b>Serial Number</b>	<b>Lamp</b>
2055	2055-07	Nissan Altima LH HL

<b>Sales Order</b>	<b>Requisitioner</b>	<b>Color</b>
2076	NHTSA	Amber

**Notes:** Testing with Mfr. fixture.

<b>Aiming Offset:</b>	L/R = 0.00	U/D = 0.00			
<b>Fixture Offset:</b>	L/R = -90.00	U/D = 0.00	Height = 9.36	X = -8.30	Y = -5.11
<b>Multiplier:</b>	1.0000				

<b>Supply</b>	<b>Source Name</b>	<b>Set Voltage</b>	<b>Set Current</b>	<b>Meas. Voltage</b>	<b>Meas. Current</b>
4	PROJECTOR	18.00	8.086 (*)	15.190	8.088

**Pass/Fail Results:** Testpoints: Req. = PASS InHouse = PASS

Description / Location	L/R Angle	U/D Angle	Cd/ftc	Pass/Fail	Min	Max	InH Min	InH Max
H - (20L to V) 0.2Deg	-20.00	0.00	13.80	----	3.75	--	--	--
H - (V to 20R) 0.2Deg	20.00	0.00	15.31	----	3.75	--	--	--
(10U to H) - V 0.2Deg	0.00	10.00	18.71	----	7.5	--	--	--
(H to 5D) - V 0.2Deg	0.00	0.00	23.92	----	7.5	--	--	--
H - (20L to V) 1.5Deg	-20.00	0.00	0.367	----	.075	--	--	--
H - (V to 20R) 1.5Deg	19.75	0.00	0.422	----	.075	--	--	--
(10U to H) - V 1.5Deg	0.00	9.50	0.474	----	.125	--	--	--
(H to 5D) - V 1.5Deg	0.00	-1.50	0.584	----	.125	--	--	--

3/27/2020 7:59:18 AM ----- Equipment: AP Series by Sapphire Technical Solutions L.L.C.



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**TESTS, TEST METHODS AND RESULTS (cont.)****Color**

**Method:** The Tristimulus method for color testing was used in accordance to FMVSS, with measurements being taken using a spectroradiometer. The lamp was energized at design voltage and directed at the spectroradiometer. Chromaticity measurements were taken and plotted onto a chromaticity diagram for the H-V point and up / down, left / right angles of the respective photometric pattern test points.

**Results:** All lamps tested comply with the requirements outlined in FMVSS 108 for color. See attached chromaticity diagrams. The data reports for the RH lamps follow first, followed by the data reports for the LH lamps.

**Equipment Used:** Spectroradiometer – Spectro-100; AP-60HD Goniophotometer System; DC regulated power supplies, projector

**Calibration Status:** Valid at time of use

**Quantity Tested:** 4 RH lamps; 4 LH lamps

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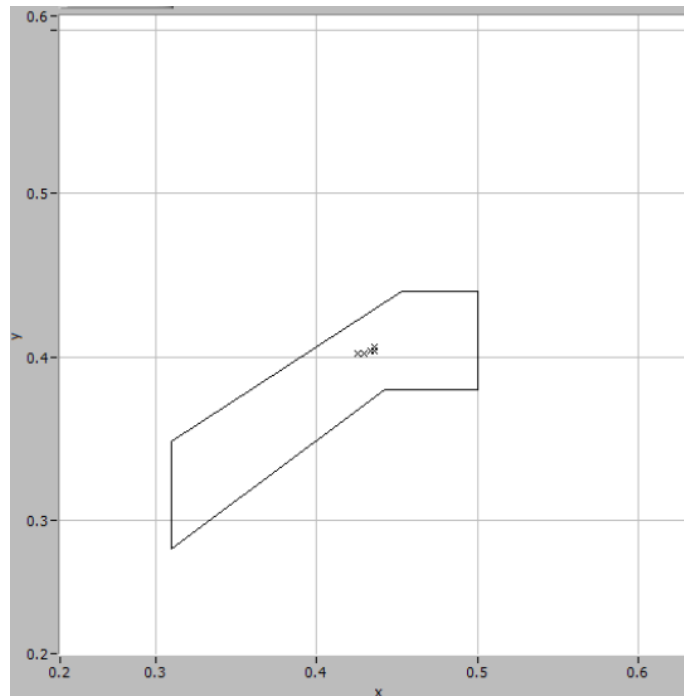
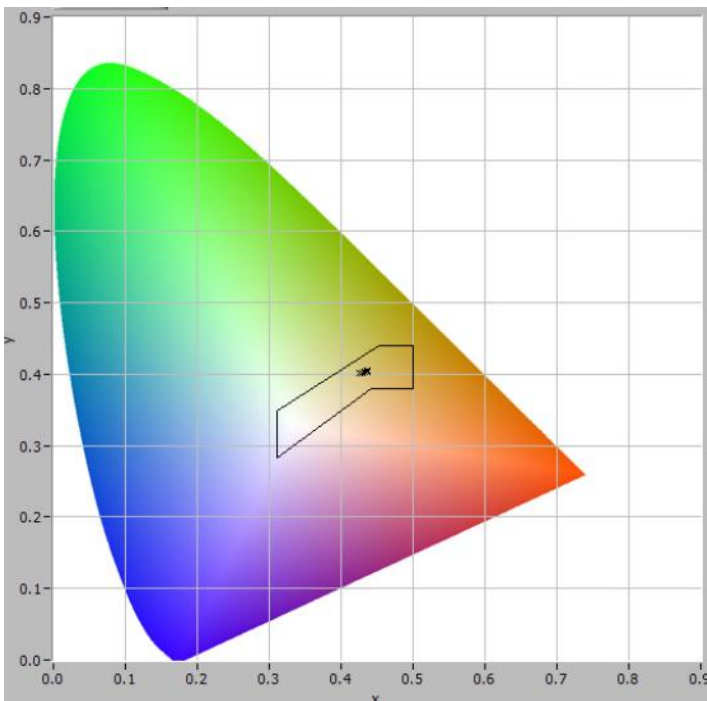
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-02  
 Function: Low Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 White
H-V	0.4360	0.4057	PASS
2U-V	0.4359	0.4039	PASS
4D-V	0.4258	0.4017	PASS
H-20R	0.4298	0.4023	PASS
H-20L	0.4332	0.4037	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-02

Function: High Beam

Work Order #: 2055

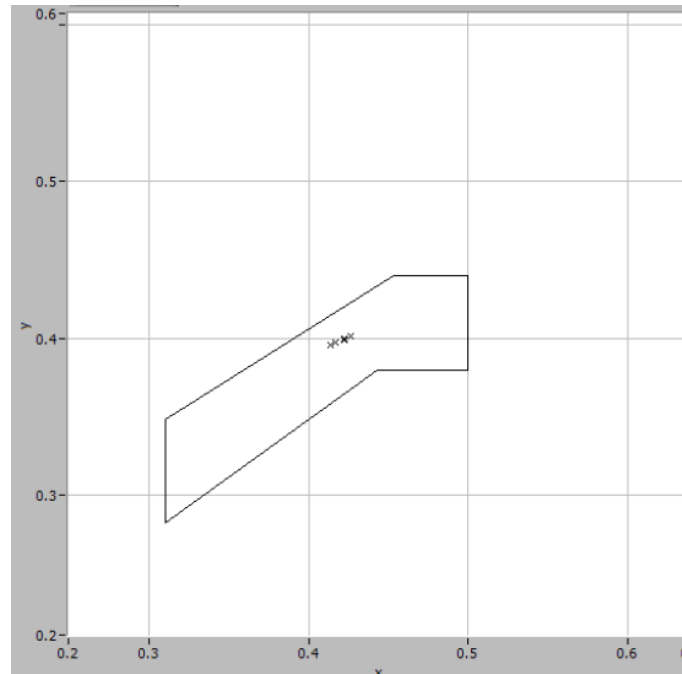
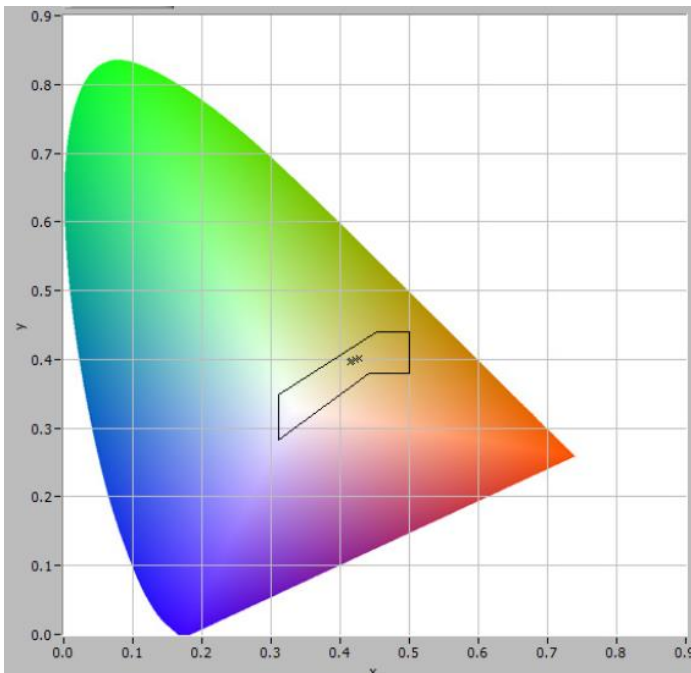
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 12.8V

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4170	0.3972	PASS
2U-V	0.4139	0.3957	PASS
4D-V	0.4224	0.3994	PASS
H-12R	0.4265	0.4015	PASS
H-12L	0.4222	0.3999	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-02

Function: Turn

Work Order #: 2055

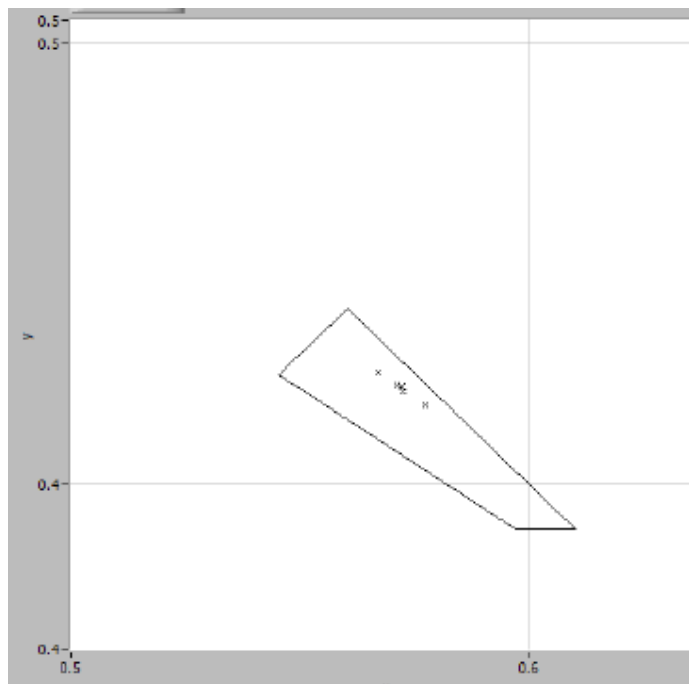
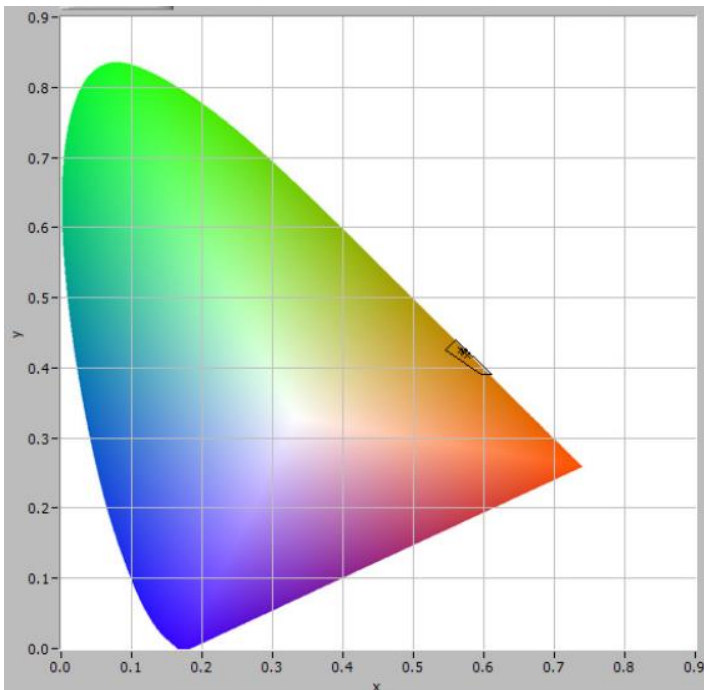
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5669	0.4256	PASS
10U-V	0.5710	0.4227	PASS
10D-V	0.5720	0.4223	PASS
H-20R	0.5724	0.4211	PASS
H-20L	0.5771	0.4181	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-02

Function: Park

Work Order #: 2055

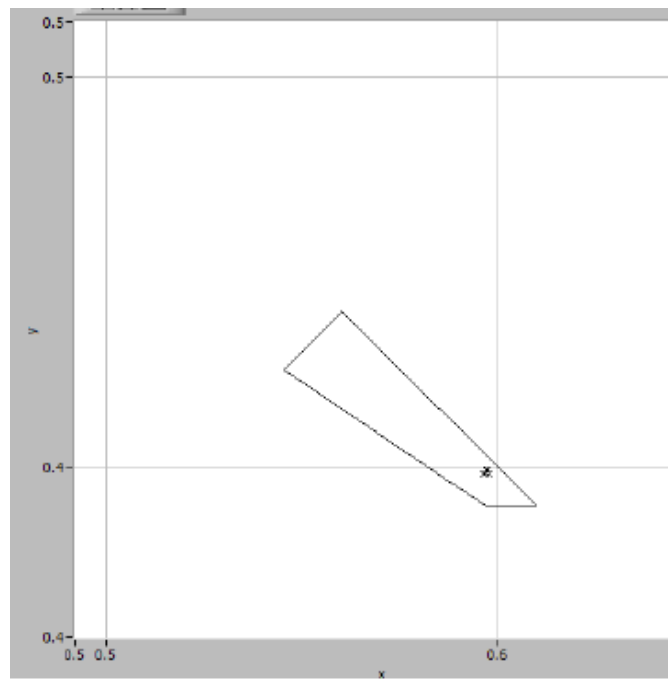
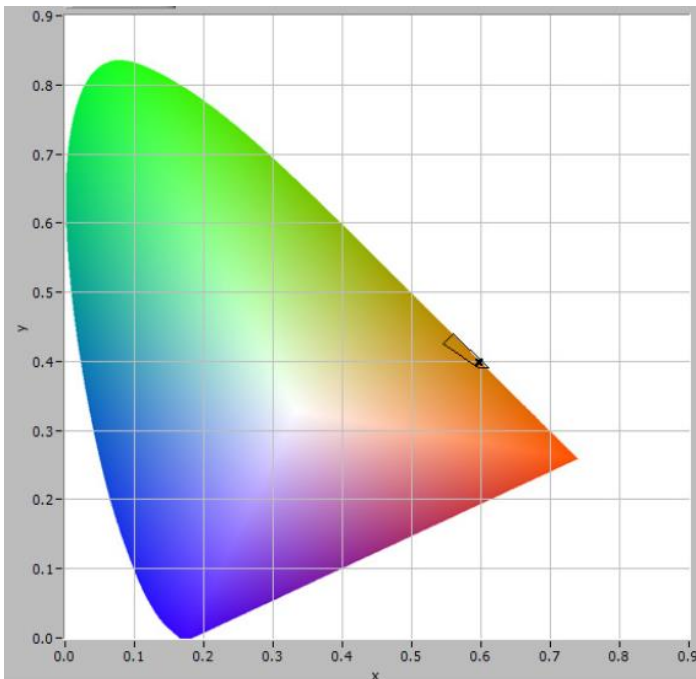
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5971	0.3993	PASS
10U-V	0.5980	0.3983	PASS
10D-V	0.5973	0.3989	PASS
H-20R	0.5962	0.3982	PASS
H-20L	0.5969	0.3982	PASS



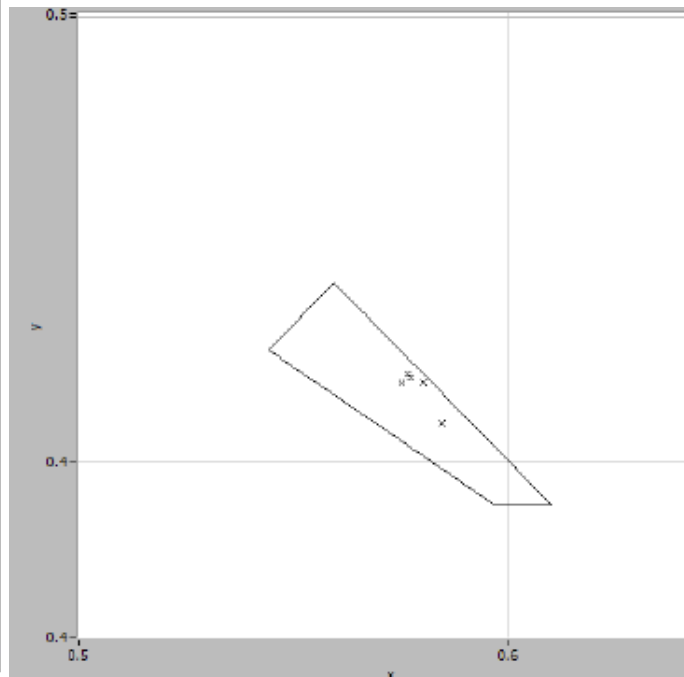
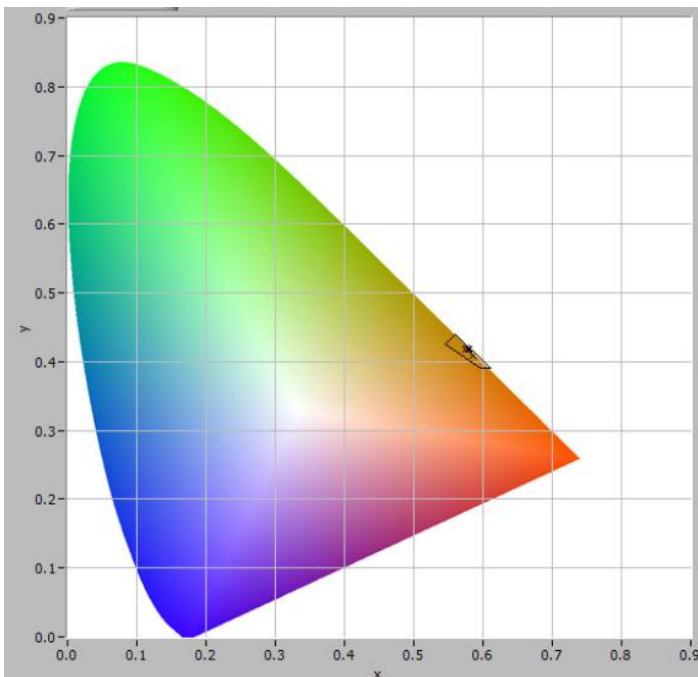
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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name:	Nissan Altima RH HL	TEST DATE :	3/27/2020
Customer:	NHTSA		
Manufacturer #:	26010-9HS9A		
Sample ID (STS #):	2055-02		
Function:	Sidemarkers		
Work Order #:	2055		
Tested By:	REW	EQUIPMENT:	Sapphire Technical Solutions - Spectro100 Series Firmware ver. SB1211_M30626_SPEC_RAD VERSION 3.2.11 290917 Software ver. SpectraScale 1.8.2
Note(s):	Operated at 13.5V		

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5771	0.4194	PASS
10U-V	0.5804	0.4174	PASS
10D-V	0.5776	0.4188	PASS
H-24R	0.5754	0.4175	PASS
H-45L	0.5848	0.4083	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-02

Function: Reflex

Work Order #: 2055

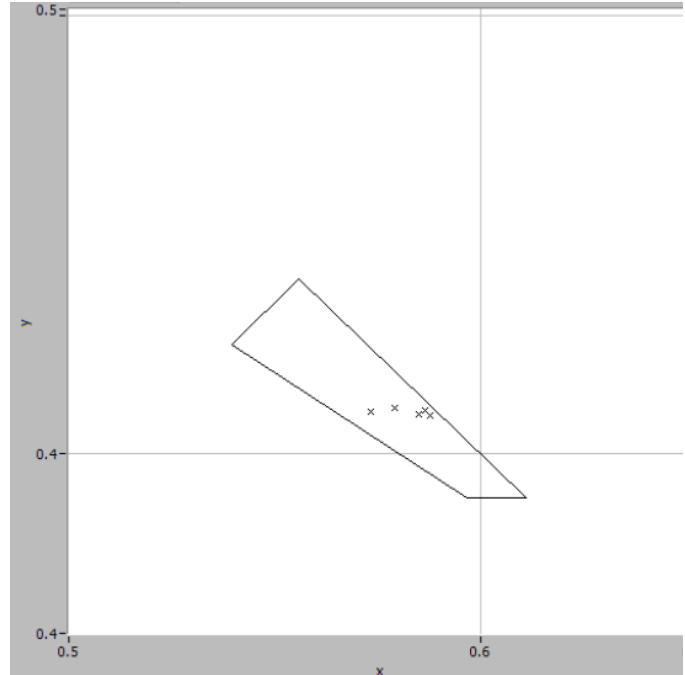
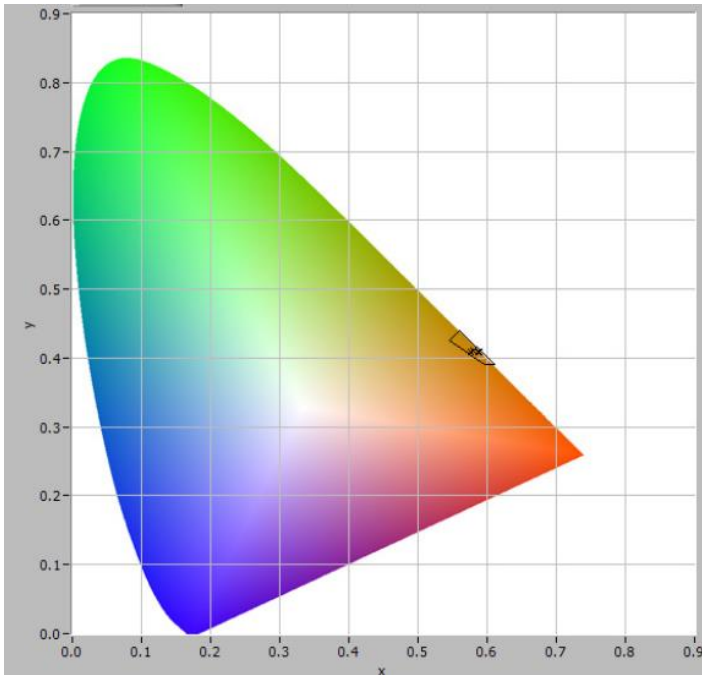
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s):

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5809	0.4106	PASS
10U-V	0.5758	0.4097	PASS
10D-V	0.5878	0.4098	PASS
H-20R	0.5888	0.4089	PASS
H-20L	0.5864	0.4091	PASS



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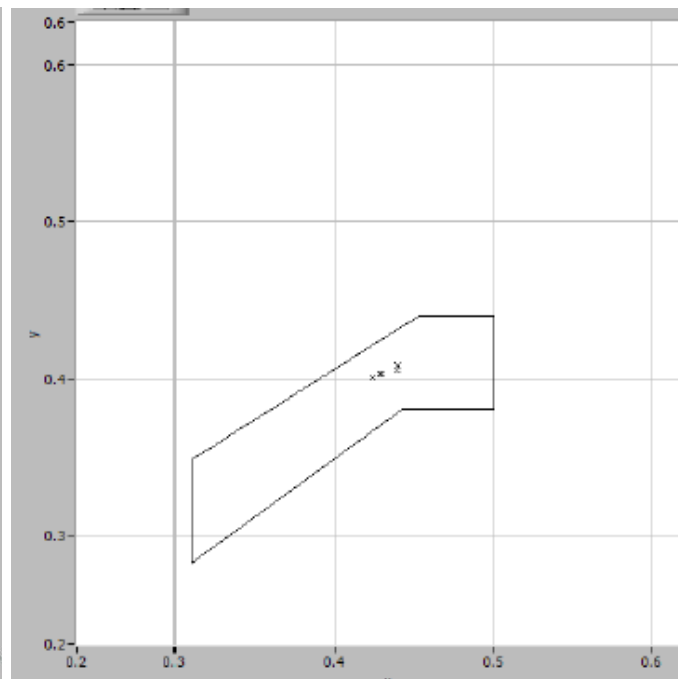
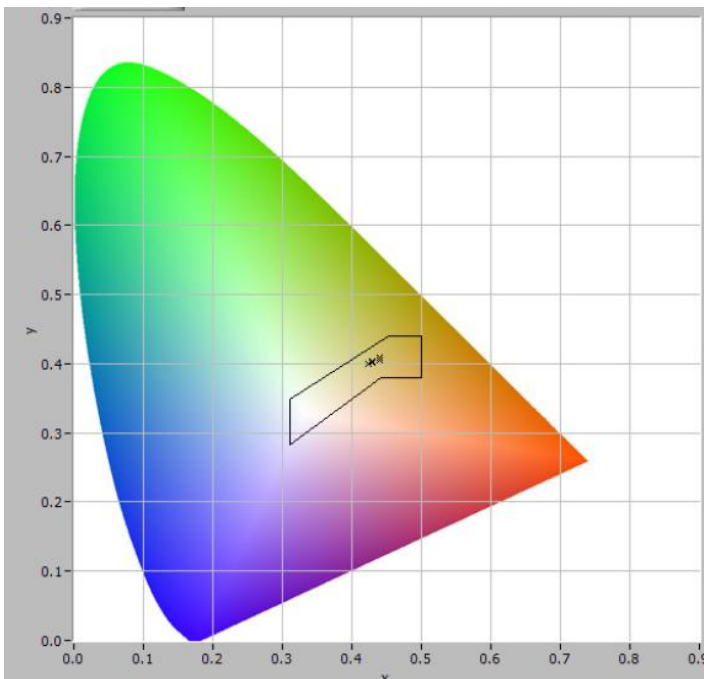
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-04  
 Function: Low Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4398	0.4084	PASS
4U-V	0.4394	0.4052	PASS
4D-V	0.4234	0.4005	PASS
H-20R	0.4285	0.4025	PASS
H-20L	0.4289	0.4027	PASS



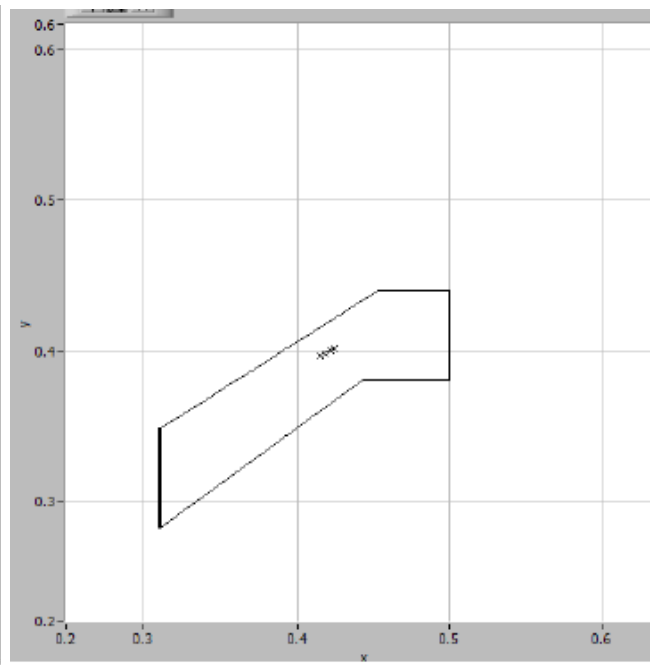
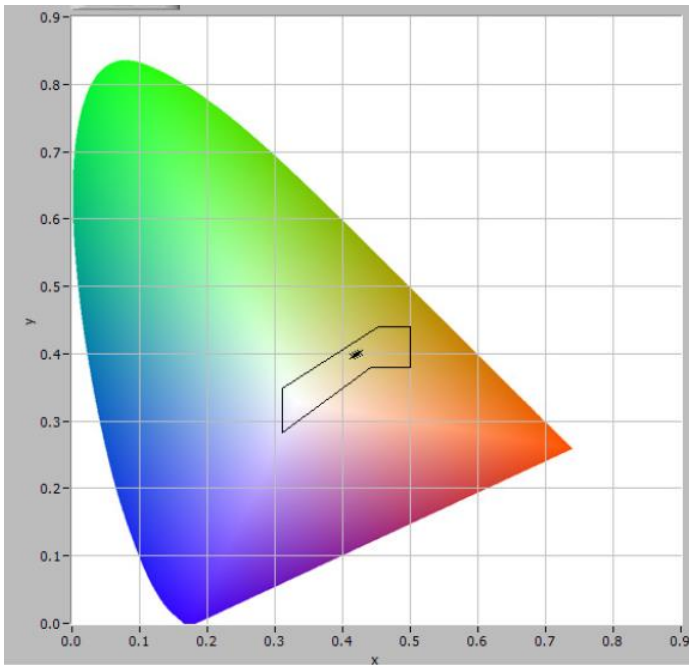
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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name:	Nissan Altima RH HL	TEST DATE :	3/27/2020
Customer:	NHTSA		
Manufacturer #:	26010-9HS9A		
Sample ID (STS #):	2055-04		
Function:	High Beam		
Work Order #:	2055		
Tested By:	REW	EQUIPMENT:	Sapphire Technical Solutions - Spectro100 Series Firmware ver. SB1211_M30626_SPEC_RAD VERSION 3.2.11 290917 Software ver. SpectraScale 1.8.2
Note(s):	Operated at 12.8V		

Measurement	x	y	Color Space MVSS 108 White
H-V	0.4185	0.3981	PASS
2U-V	0.4148	0.3965	PASS
4D-V	0.4224	0.3993	PASS
H-12R	0.4249	0.4013	PASS
H-12R	0.4217	0.4004	PASS



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# Sapphire Technical Solutions, LLC

## CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-04

Function: Turn

Work Order #: 2055

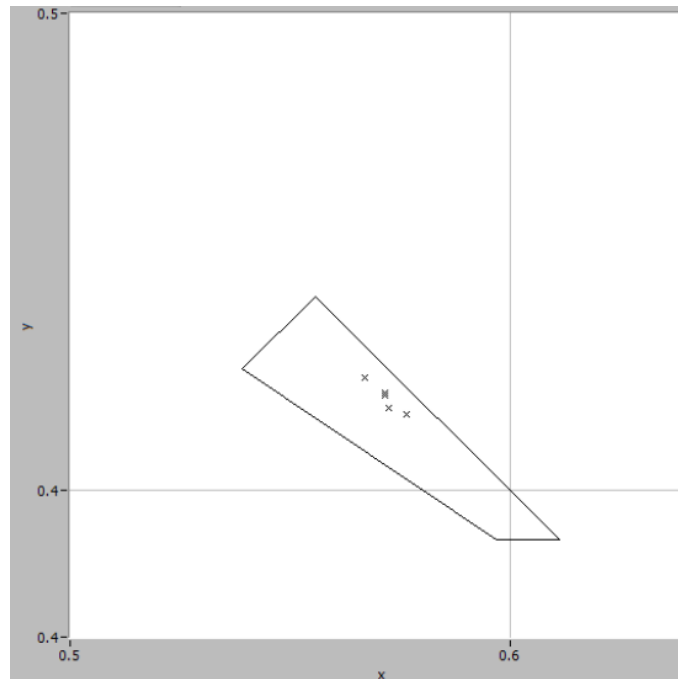
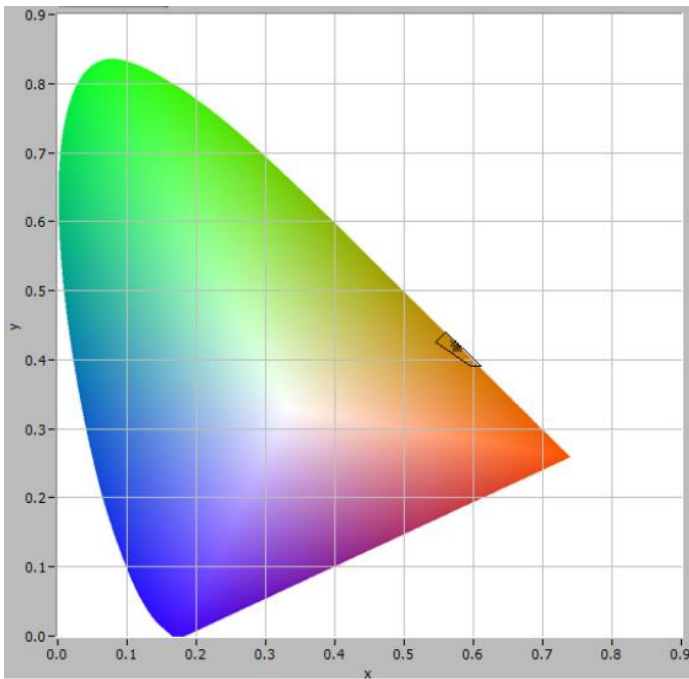
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. 5B1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5701	0.4234	PASS
10U-V	0.5744	0.4196	PASS
10D-V	0.5743	0.4202	PASS
H-20R	0.5752	0.4171	PASS
H-20L	0.5787	0.4157	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-04

Function: Park

Work Order #: 2055

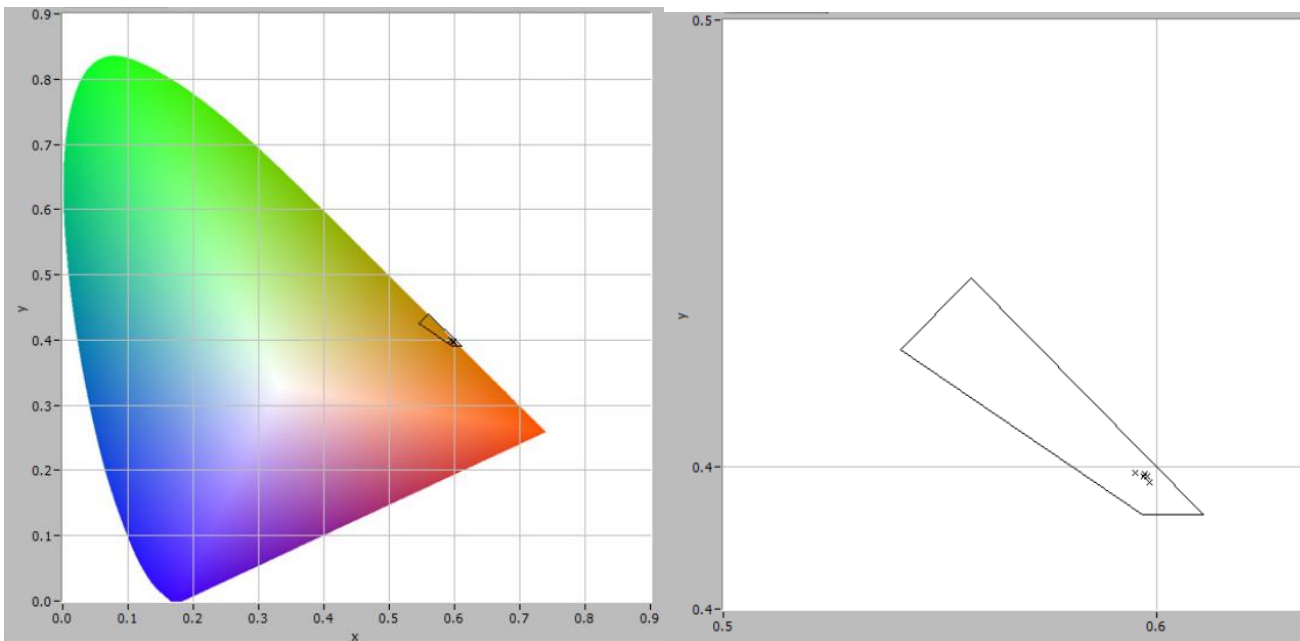
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5954	0.3989	PASS
10U-V	0.5979	0.3980	PASS
10D-V	0.5976	0.3986	PASS
H-20R	0.5986	0.3968	PASS
H-20L	0.5973	0.3981	PASS



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# Sapphire Technical Solutions, LLC

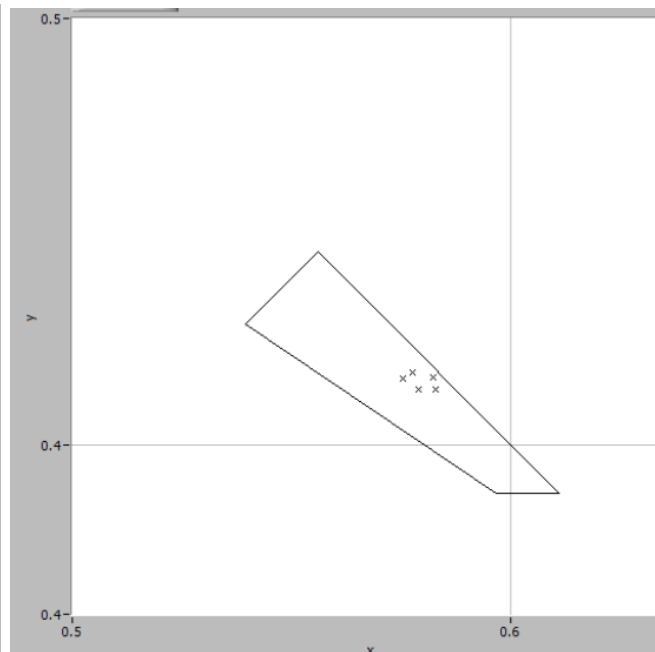
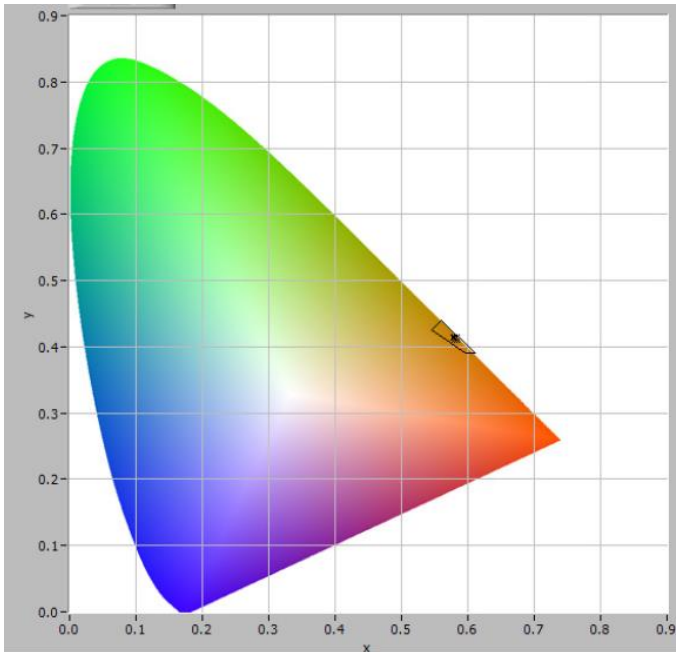
## CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-04  
 Function: Sidemarker  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5839	0.4140	PASS
10U-V	0.5809	0.4116	PASS
10D-V	0.5796	0.4151	PASS
H-24R	0.5776	0.4137	PASS
H-45R	0.5845	0.4116	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-04

Function: Reflex

Work Order #: 2055

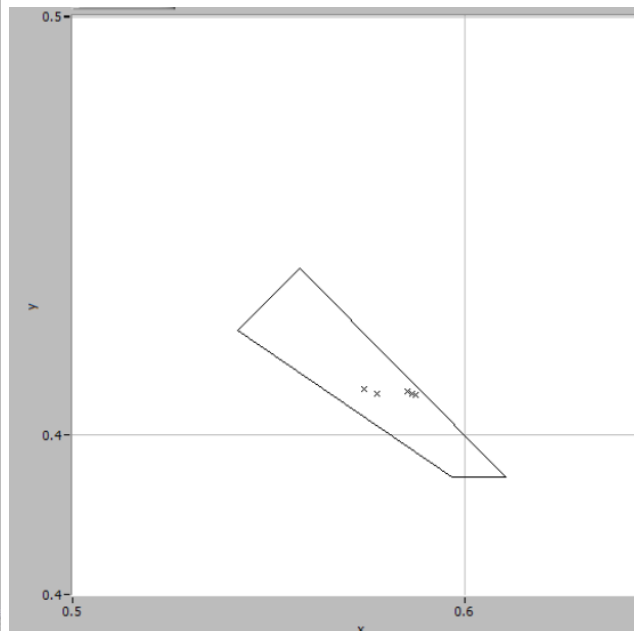
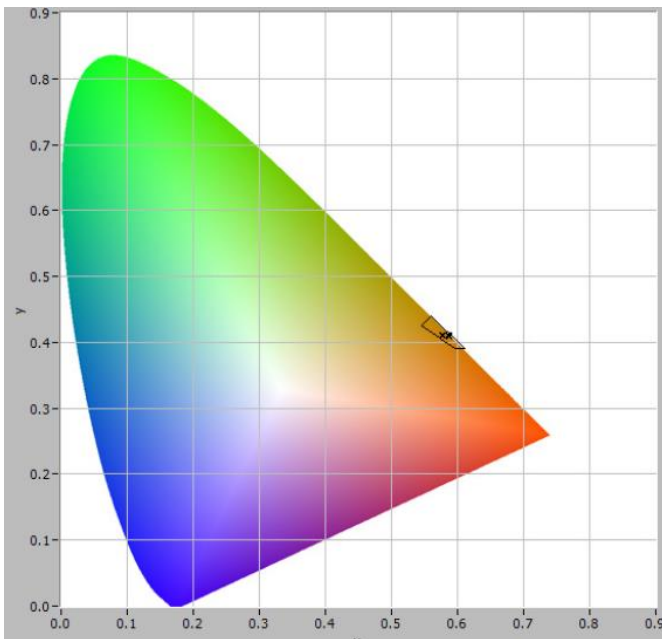
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s):

Measurement	x	y	Color Space
H-V	0.5788	0.4100	PASS
10U-V	0.5757	0.4110	PASS
10D-V	0.5861	0.4106	PASS
H-20R	0.5881	0.4095	PASS
H-20L	0.5873	0.4099	PASS



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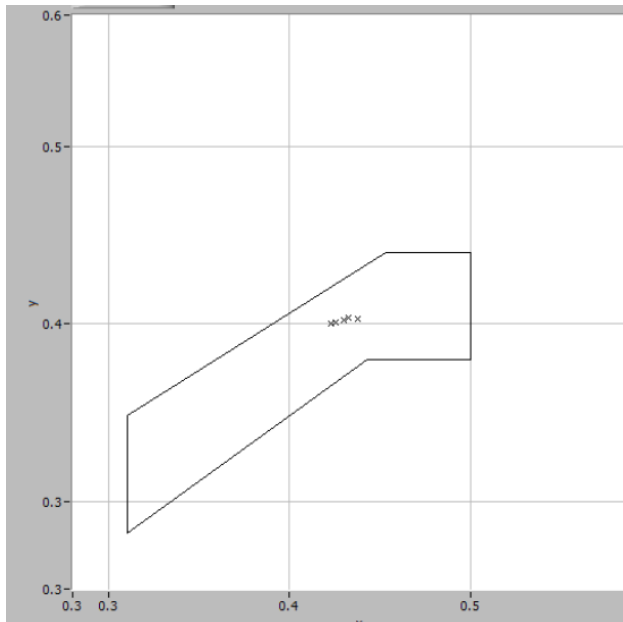
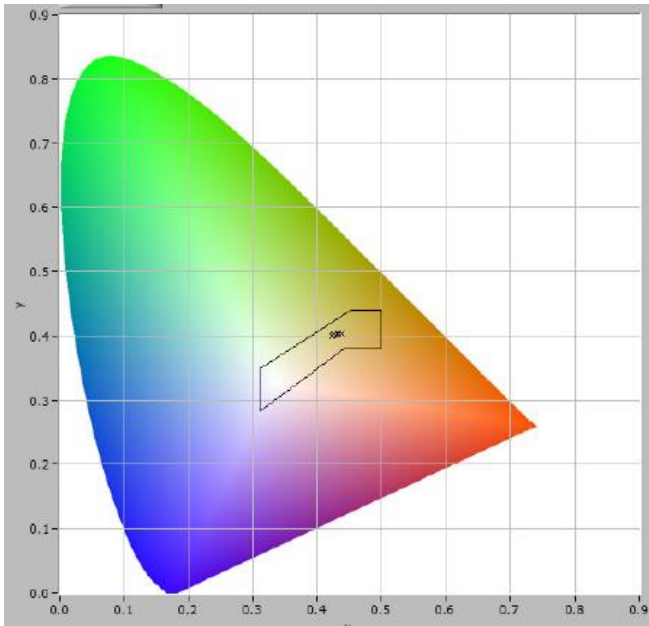
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-06  
 Function: Low Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4256	0.4011	PASS
4U-V	0.4374	0.4028	PASS
4D-V	0.4230	0.4004	PASS
H-20R	0.4299	0.4025	PASS
H-20L	0.4328	0.4035	PASS



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# Sapphire Technical Solutions, LLC

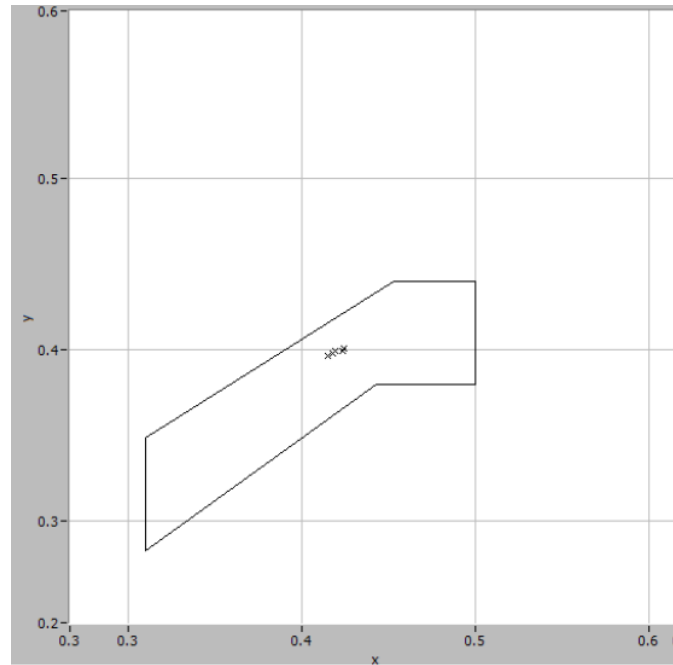
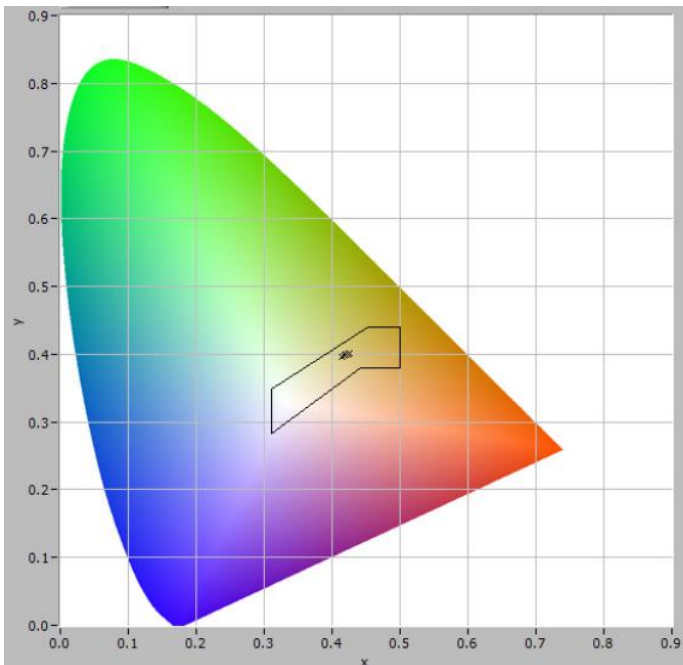
## CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-06  
 Function: High Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4180	0.3979	PASS
2U-V	0.4150	0.3965	PASS
4D-V	0.4235	0.3997	PASS
H-12R	0.4246	0.4010	PASS
H-12L	0.4197	0.3992	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-06

Function: Turn

Work Order #: 2055

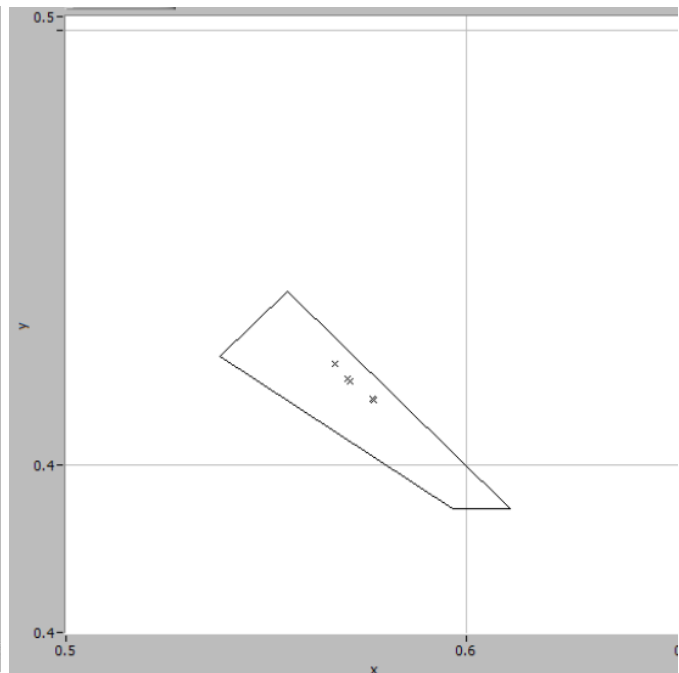
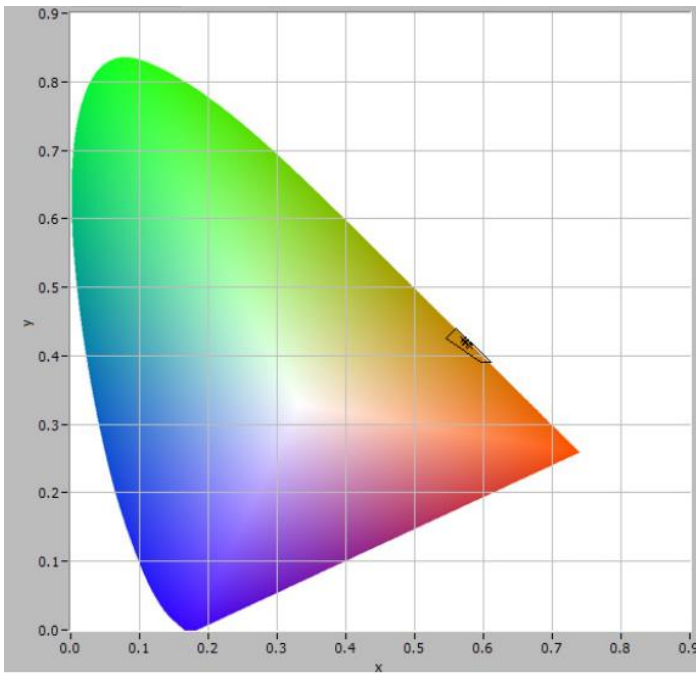
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5707	0.4232	PASS
10U-V	0.5741	0.4192	PASS
10D-V	0.5736	0.4198	PASS
H-20R	0.5790	0.4154	PASS
H-20L	0.5793	0.4151	PASS



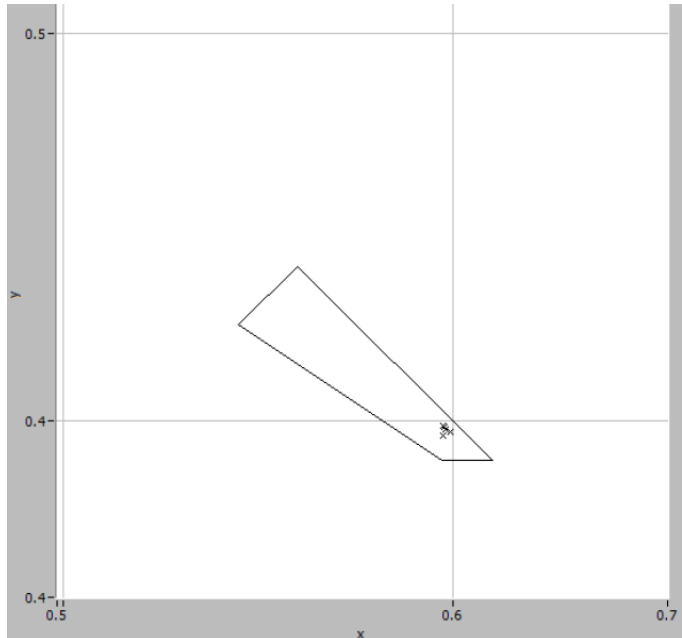
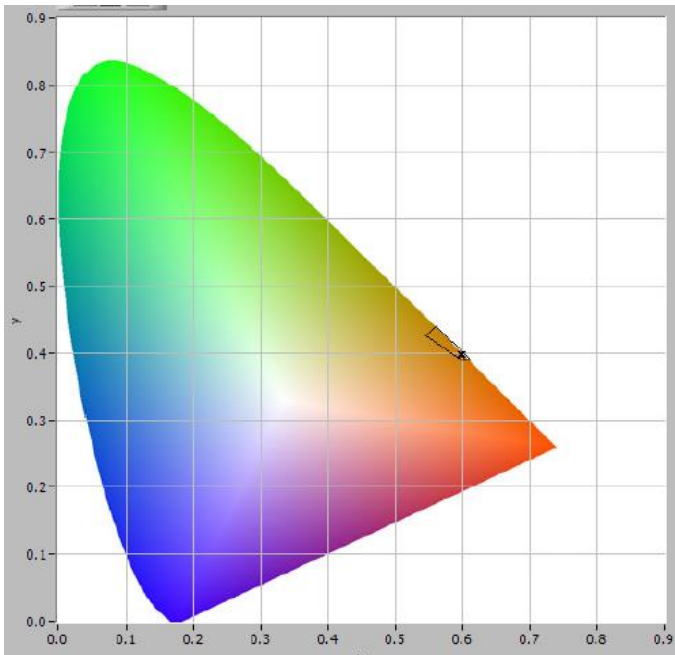
SAPPHIRE  
TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name:	Nissan Altima RH HL	TEST DATE :	3/27/2020
Customer:	NHTSA		
Manufacturer #:	26010-9HS9A		
Sample ID (STS #):	2055-06		
Function:	Park		
Work Order #:	2055		
Tested By:	REW	EQUIPMENT:	Sapphire Technical Solutions - Spectro100 Series Firmware ver. SB1211_M30626_SPEC_RAD VERSION 3.2.11 290917 Software ver. SpectraScale 1.8.2
Note(s):	Operated at 13.5V		

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5972	0.3987	PASS
10U-V	0.5991	0.3971	PASS
10D-V	0.5979	0.3978	PASS
H-20R	0.5973	0.3962	PASS
H-20L	0.5977	0.3984	PASS



SAPPHIRE  
TECHNICAL SOLUTIONS





# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-06

Function: Sidemarker

Work Order #: 2055

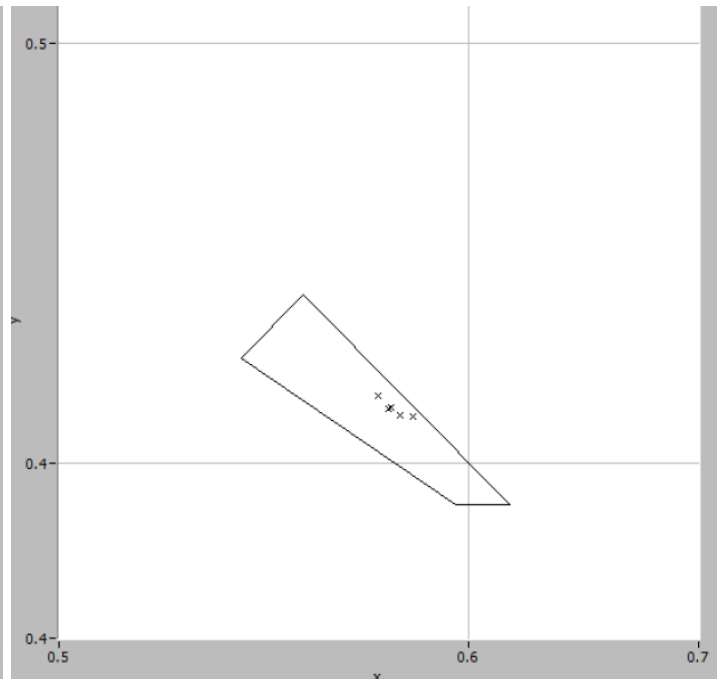
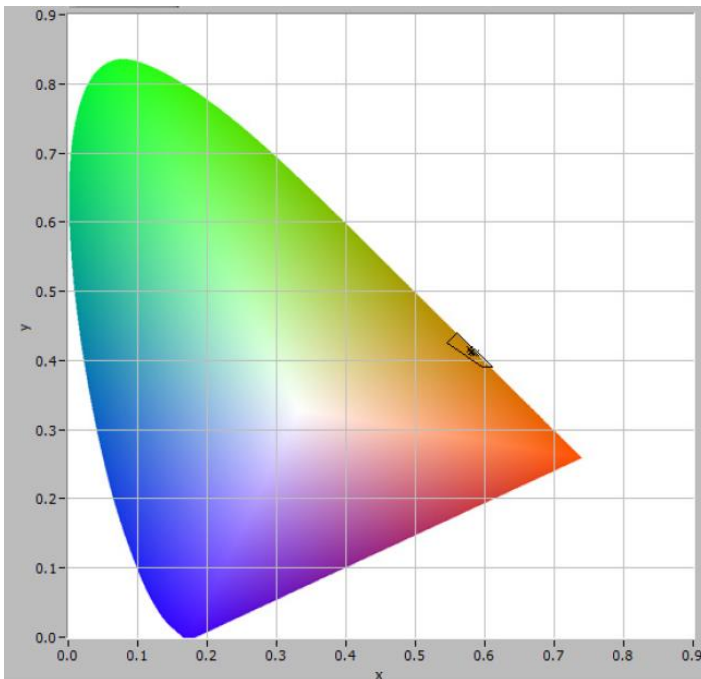
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5805	0.4128	PASS
10U-V	0.5836	0.4114	PASS
10D-V	0.5781	0.4158	PASS
H-24R	0.5865	0.4109	PASS
H-45R	0.5812	0.4131	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-06

Function: Reflex

Work Order #: 2055

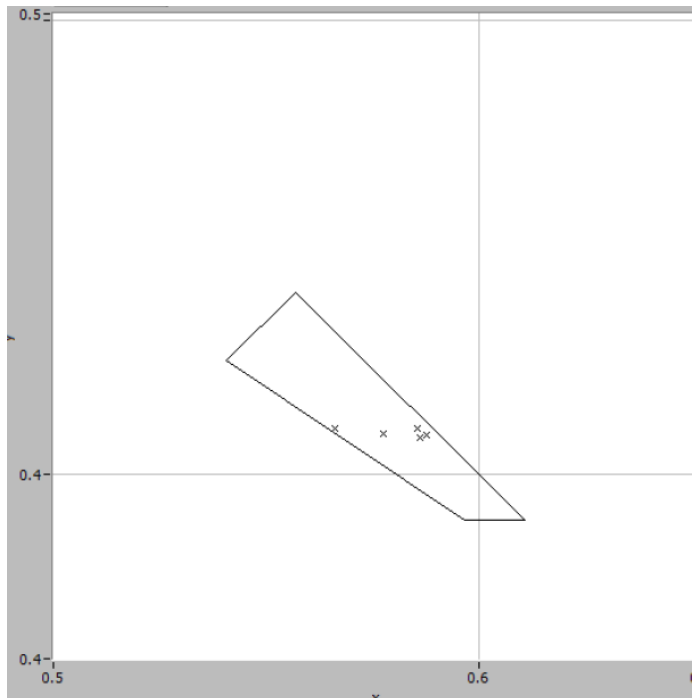
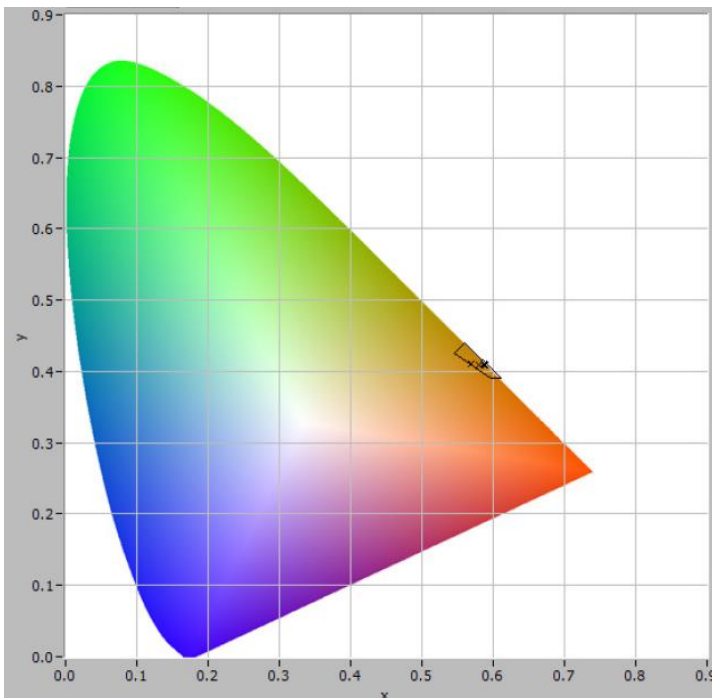
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s):

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5792	0.4089	PASS
10U-V	0.5688	0.4103	PASS
10D-V	0.5868	0.4102	PASS
H-20R	0.5888	0.4087	PASS
H-20L	0.5873	0.4083	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26010-9HS9A

Sample ID (STS #): 2055-08

Function: Low Beam

Work Order #: 2055

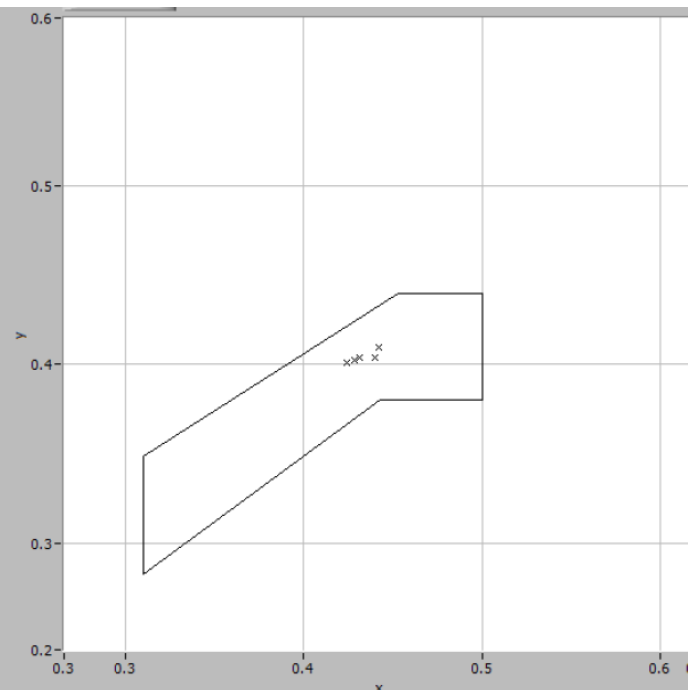
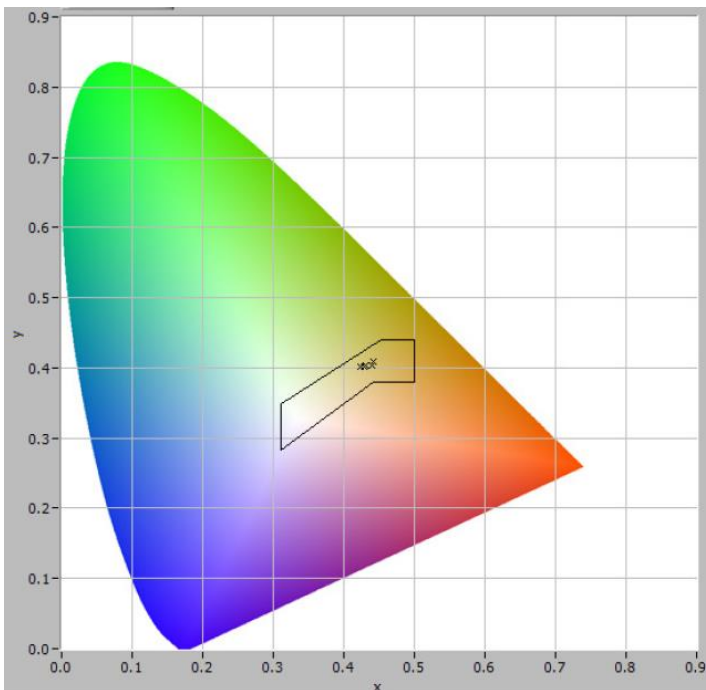
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 12.8V

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4424	0.4094	PASS
4U-V	0.4400	0.4041	PASS
4D-V	0.4240	0.4008	PASS
H-20R	0.4313	0.4037	PASS
H-20L	0.4289	0.4022	PASS



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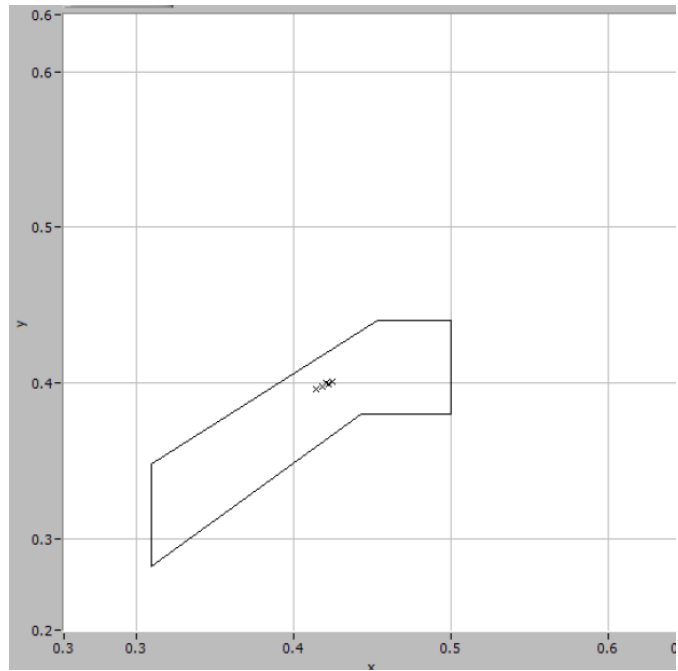
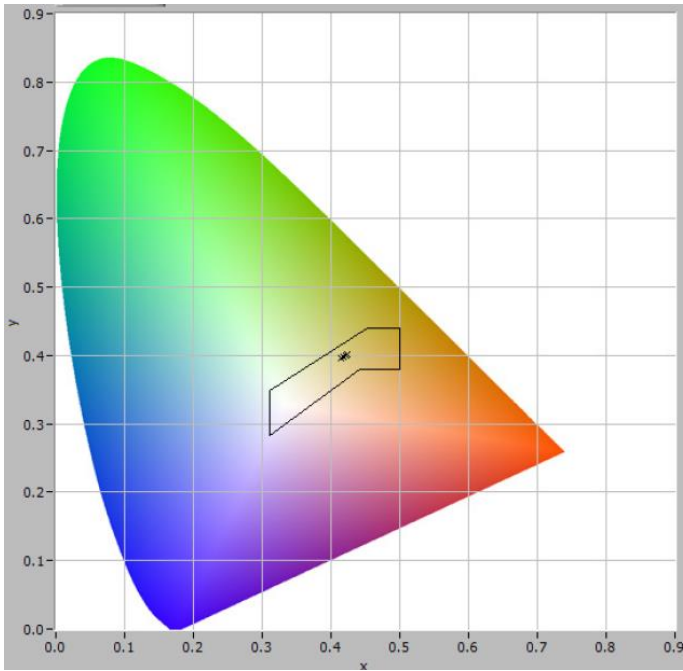
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-08  
 Function: High Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 White
H-V	0.4181	0.3976	PASS
2U-V	0.4141	0.3962	PASS
4D-V	0.4223	0.3991	PASS
H-12R	0.4245	0.4011	PASS
H-12L	0.4210	0.3998	PASS



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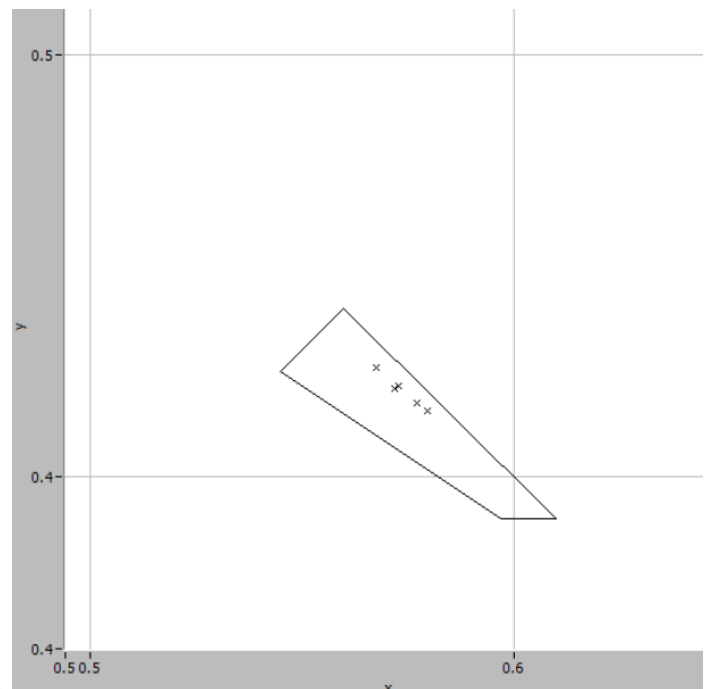
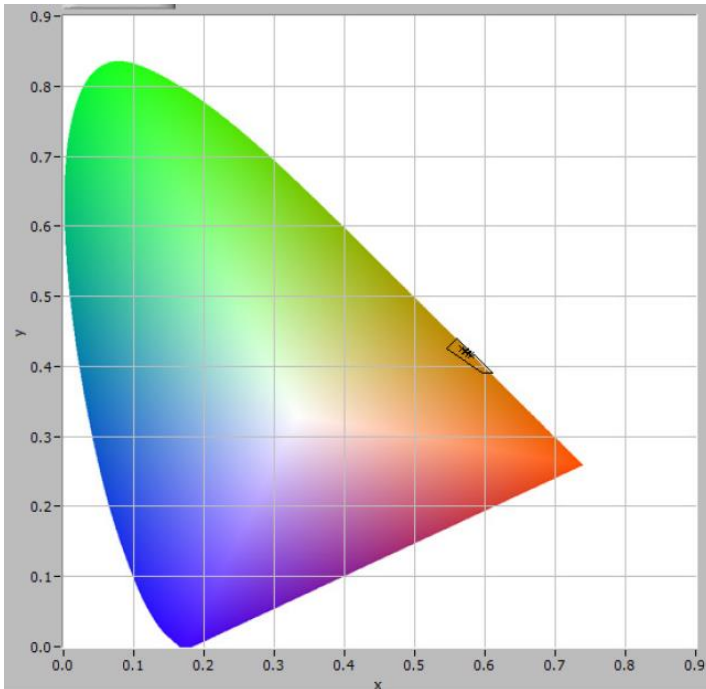
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-08  
 Function: Turn  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5675	0.4257	PASS
10U-V	0.5718	0.4209	PASS
10D-V	0.5730	0.4215	PASS
H-20R	0.5772	0.4175	PASS
H-20L	0.5798	0.4155	PASS



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TECHNICAL SOLUTIONS



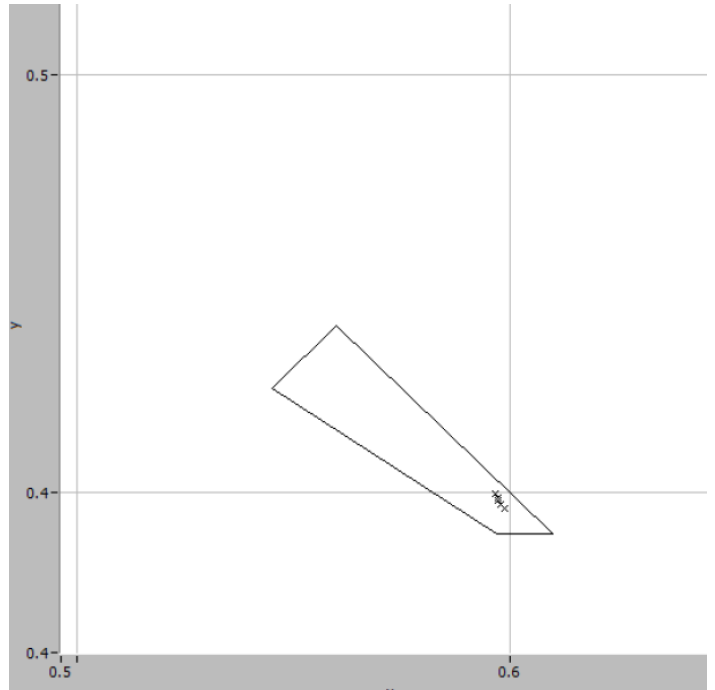
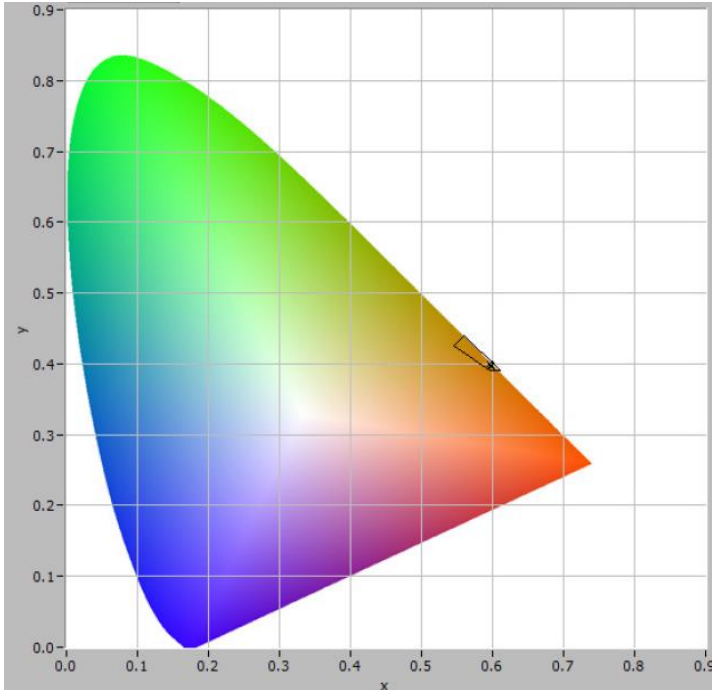
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-08  
 Function: Park  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5968	0.3997	PASS
10U-V	0.5981	0.3972	PASS
10D-V	0.5973	0.3981	PASS
H-20R	0.5989	0.3960	PASS
H-20L	0.5974	0.3985	PASS



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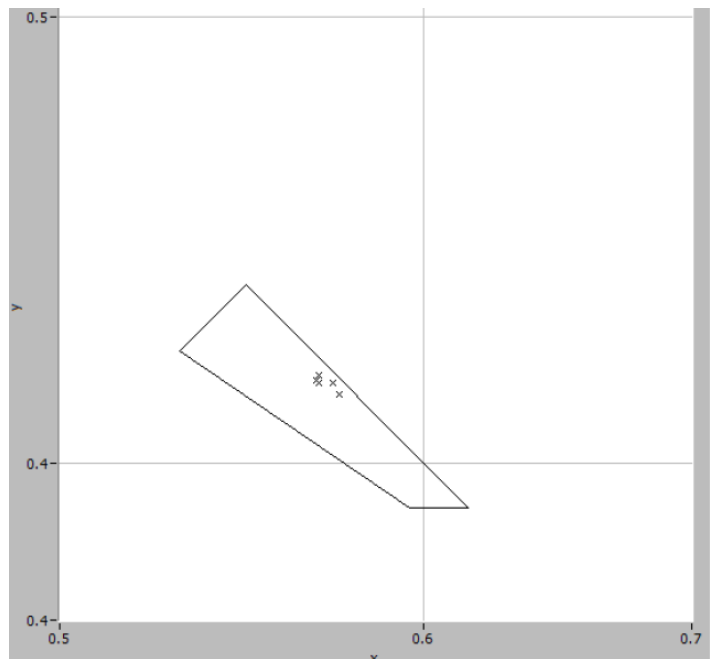
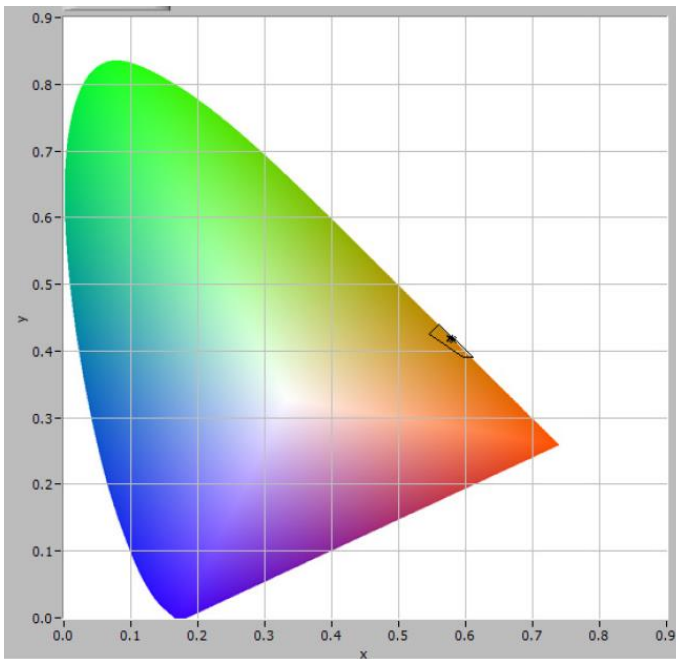
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-08  
 Function: Sidemarker  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5766	0.4197	PASS
10U-V	0.5795	0.4180	PASS
10D-V	0.5764	0.4178	PASS
H-24R	0.5758	0.4185	PASS
H-45L	0.5811	0.4154	PASS



SAPPHIRE  
TECHNICAL SOLUTIONS



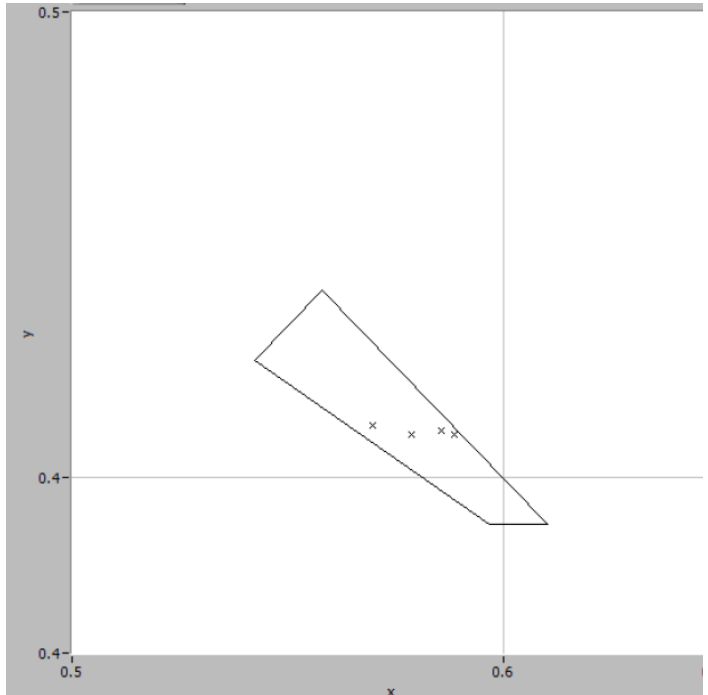
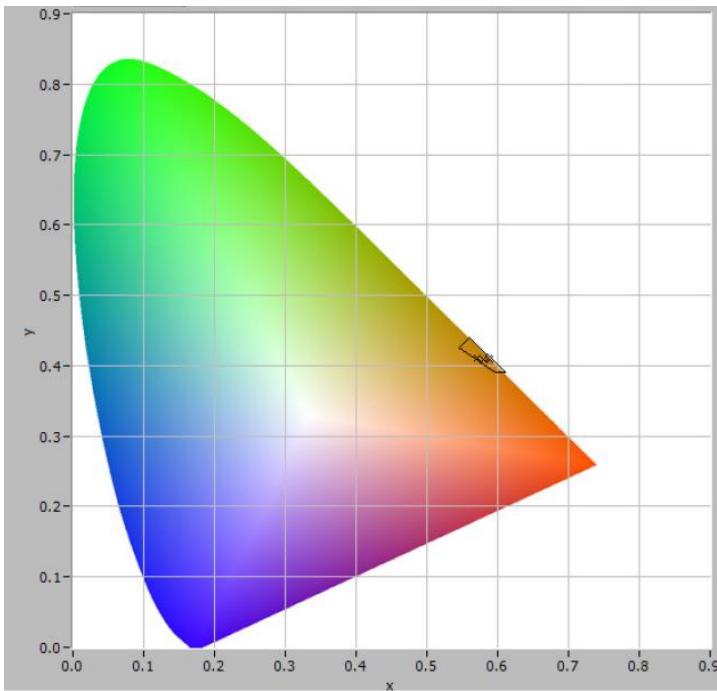
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima RH HL  
 Customer: NHTSA  
 Manufacturer #: 26010-9HS9A  
 Sample ID (STS #): 2055-08  
 Function: Reflex  
 Work Order #: 2055  
 Tested By: REW  
 Note(s):

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5798	0.4091	PASS
10U-V	0.5712	0.4110	PASS
10D-V	0.5864	0.4101	PASS
H-20R	0.5891	0.4092	PASS
H-20L	0.5893	0.4092	PASS



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TECHNICAL SOLUTIONS





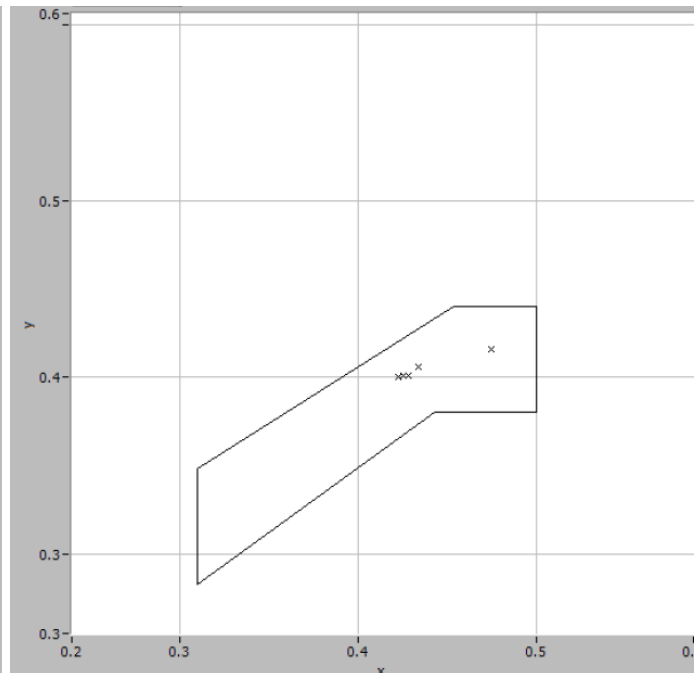
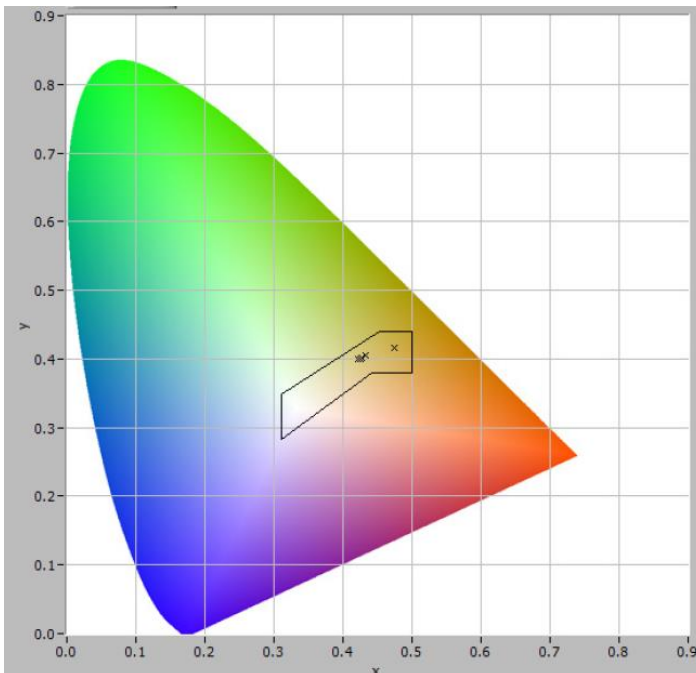
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altim LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-01  
 Function: Low Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4745	0.4157	PASS
4U-V	0.4334	0.4059	PASS
4D-V	0.4225	0.4000	PASS
H-20R	0.4281	0.4010	PASS
H-20L	0.4254	0.4006	PASS



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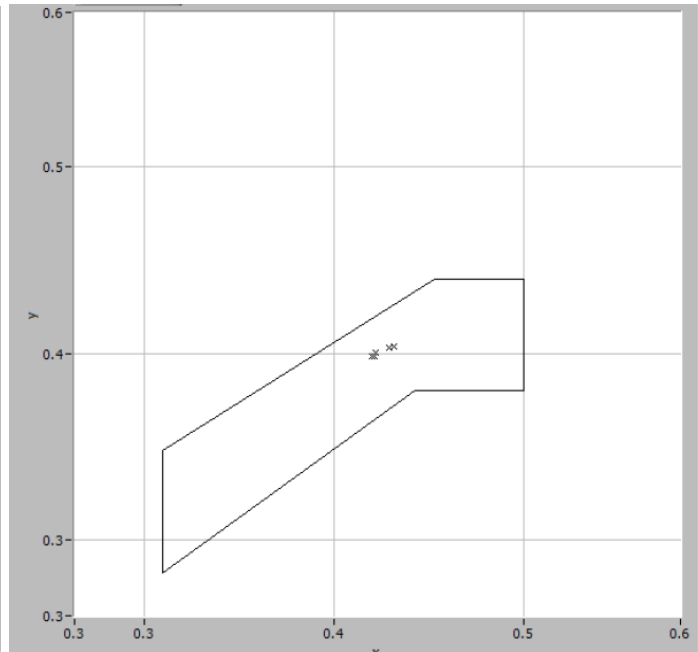
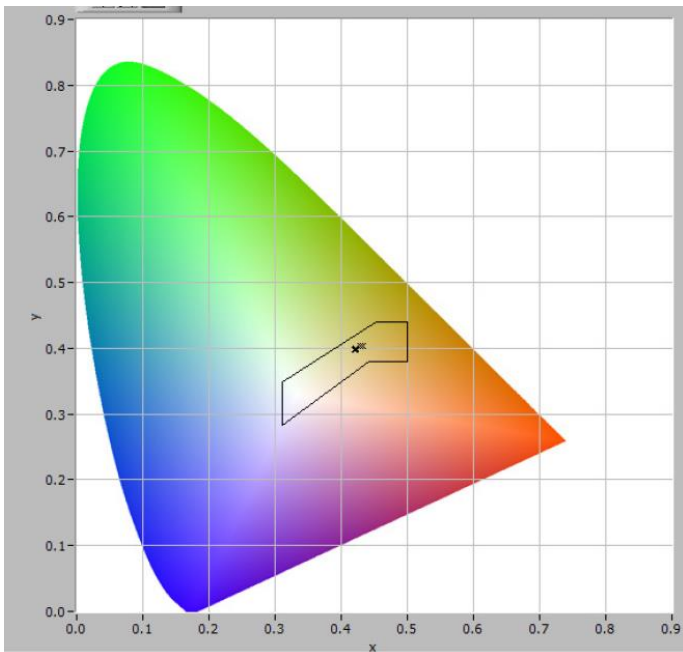
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-01  
 Function: High Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 White
H-V	0.4225	0.4003	PASS
2U-V	0.4213	0.3987	PASS
4D-V	0.4319	0.4039	PASS
H-12R	0.4201	0.3988	PASS
H-12L	0.4292	0.4030	PASS



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TECHNICAL SOLUTIONS



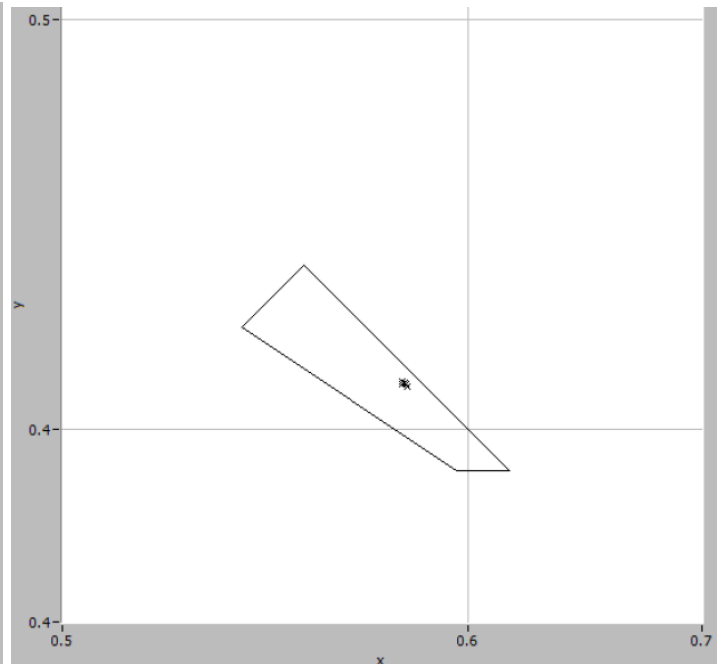
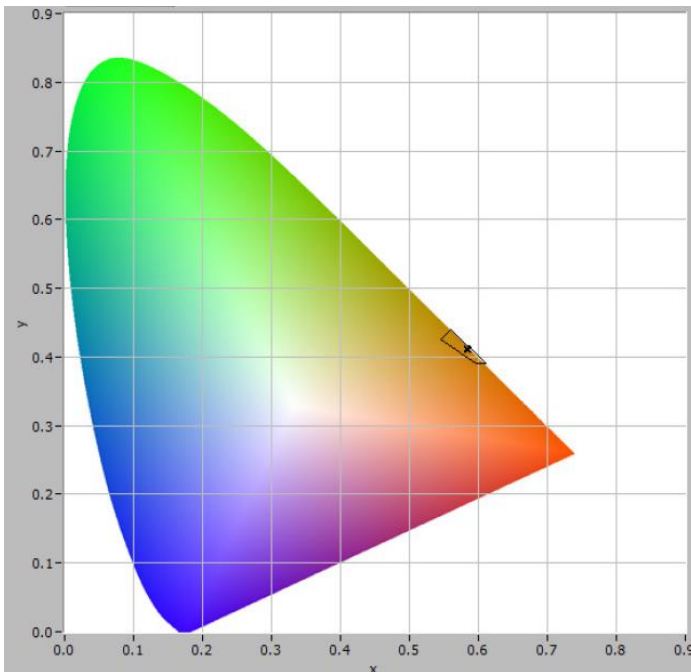
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-01  
 Function: Turn  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5849	0.4111	PASS
10U-V	0.5851	0.4105	PASS
10D-V	0.5839	0.4117	PASS
H-20R	0.5840	0.4109	PASS
H-20L	0.5845	0.4113	PASS



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TECHNICAL SOLUTIONS



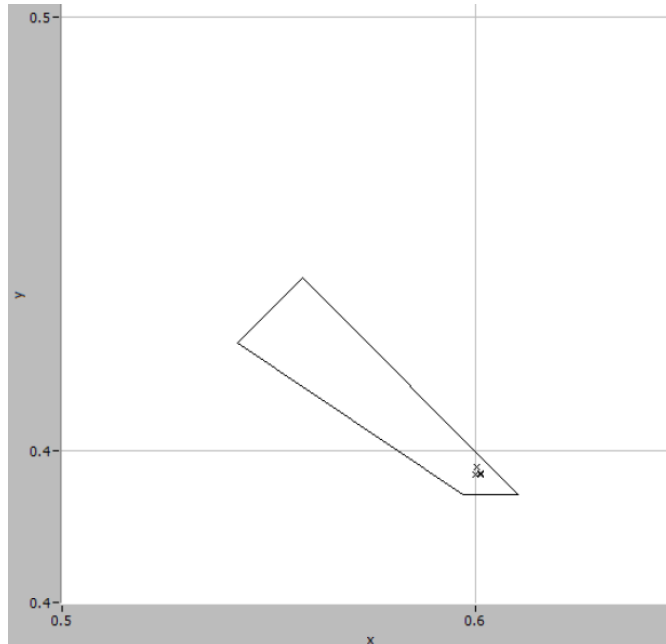
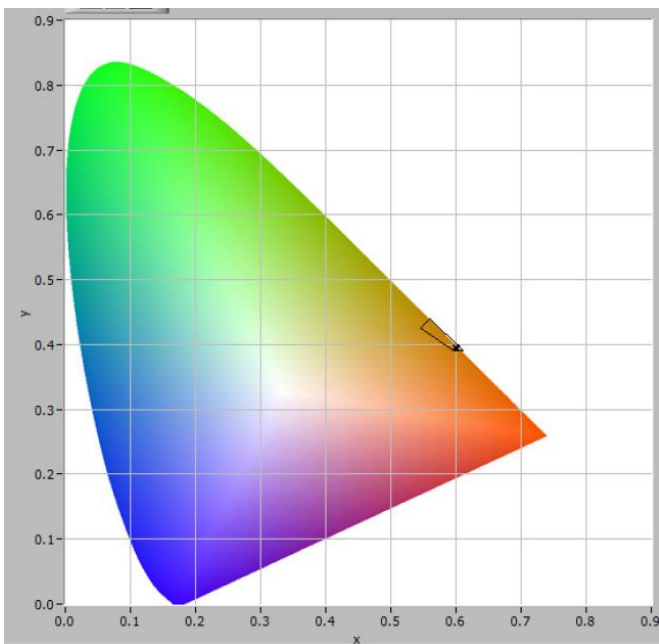
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-01  
 Function: Park  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.6011	0.3947	PASS
10U-V	0.6012	0.3948	PASS
10D-V	0.6013	0.3949	PASS
H-20R	0.6002	0.3962	PASS
H-20L	0.6001	0.3947	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL

TEST DATE : 3/26/2020

Customer: NHTSA

Manufacturer #: 26060-9HS9A

Sample ID (STS #): 2055-01

Function: Sidemarker

Work Order #: 2055

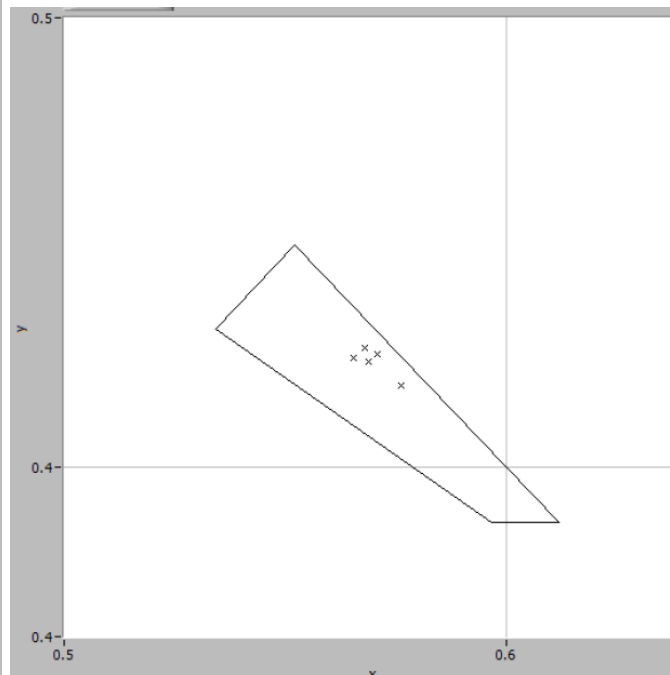
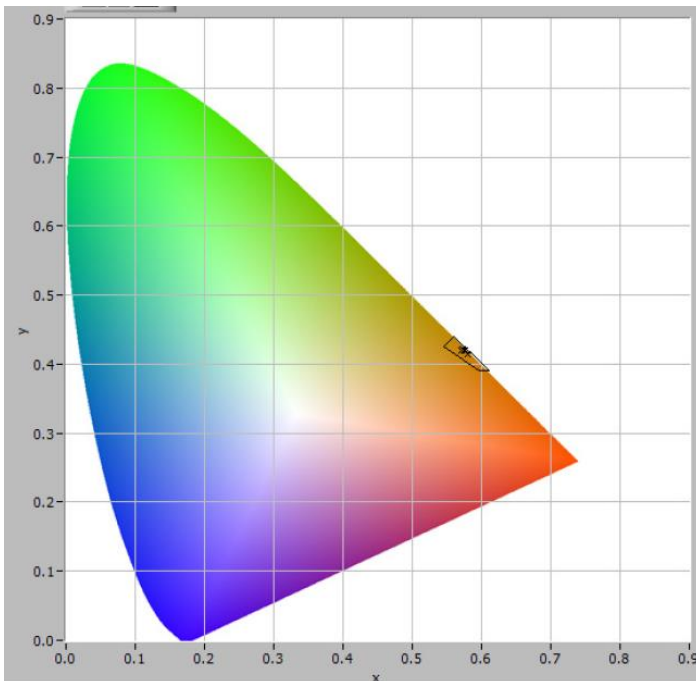
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5710	0.4197	PASS
10U-V	0.5757	0.4204	PASS
10D-V	0.5732	0.4214	PASS
H-45R	0.5802	0.4147	PASS
H-24L	0.5739	0.4190	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL

TEST DATE : 3/26/2020

Customer: NHTSA

Manufacturer #: 26060-9HS9A

Sample ID (STS #): 2055-01

Function: Reflex

Work Order #: 2055

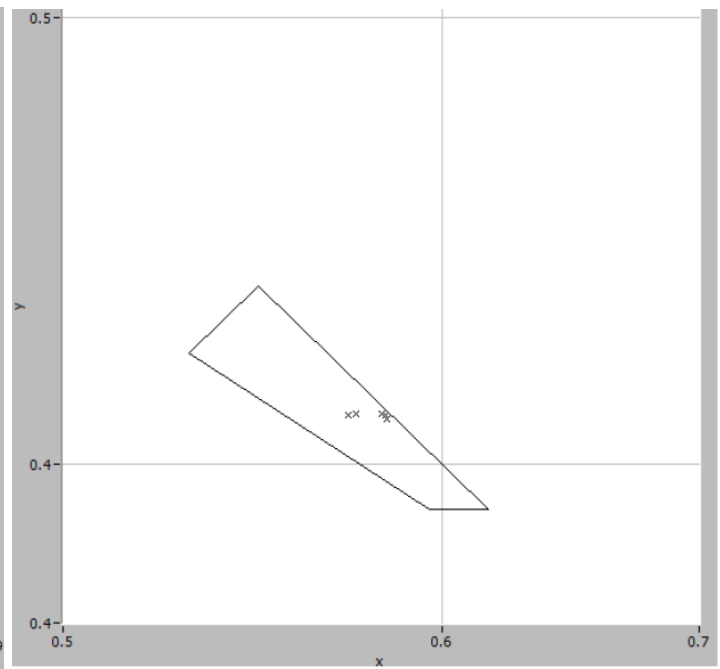
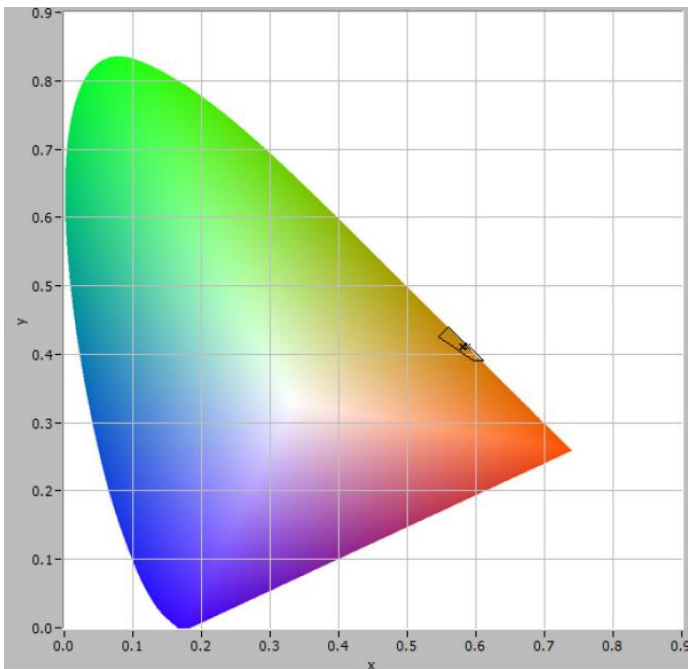
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s):

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5794	0.4111	PASS
10U-V	0.5813	0.4113	PASS
10D-V	0.5868	0.4114	PASS
H-20R	0.5878	0.4103	PASS
H-20L	0.5877	0.4110	PASS



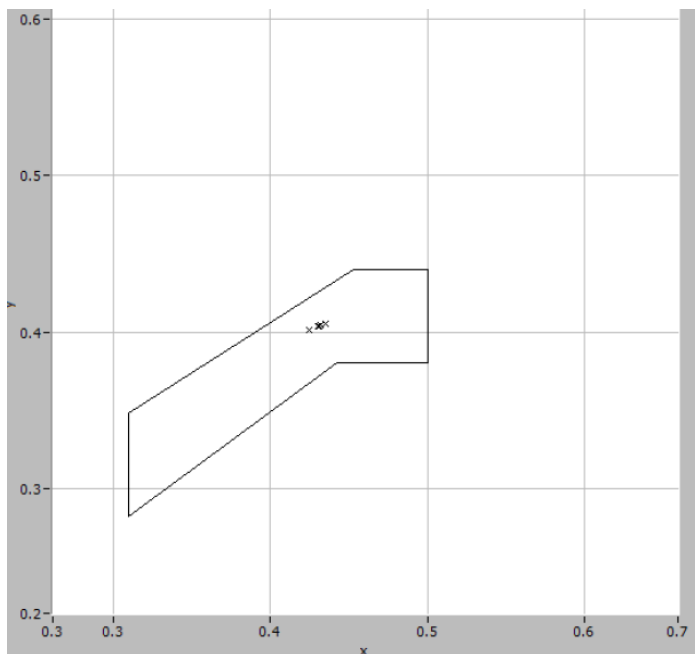
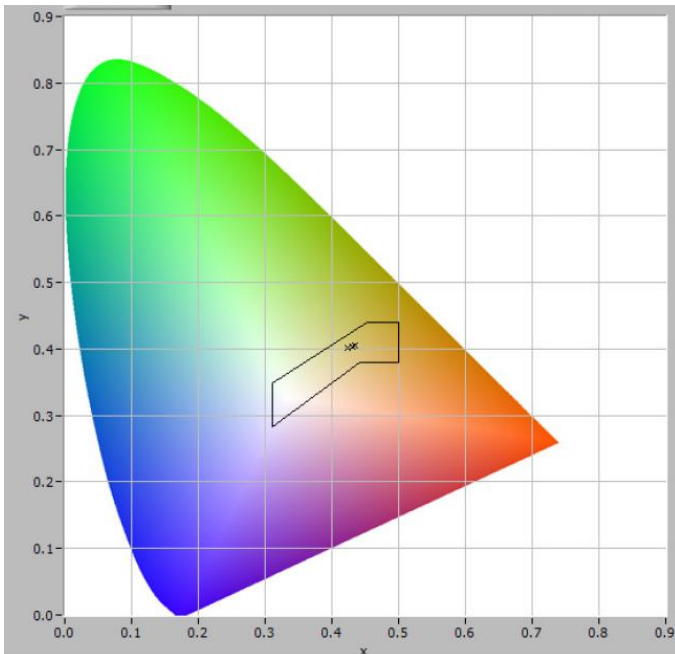
SAPPHIRE  
TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name:	Nissan Altima LH HL	TEST DATE :	3/26/2020
Customer:	NHTSA		
Manufacturer #:	26060-9HS9A		
Sample ID (STS #):	2055-03		
Function:	Low Beam		
Work Order #:	2055		
Tested By:	REW	EQUIPMENT:	Sapphire Technical Solutions - Spectro100 Series Firmware ver. SB1211_M30626_SPEC_RAD VERSION 3.2.11 290917 Software ver. SpectraScale 1.8.2
Note(s):	Operated at 12.8V		

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4302	0.4036	PASS
4U-V	0.4349	0.4049	PASS
4D-V	0.4245	0.4011	PASS
H-20R	0.4316	0.4041	PASS
H-20L	0.4311	0.4038	PASS



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TECHNICAL SOLUTIONS



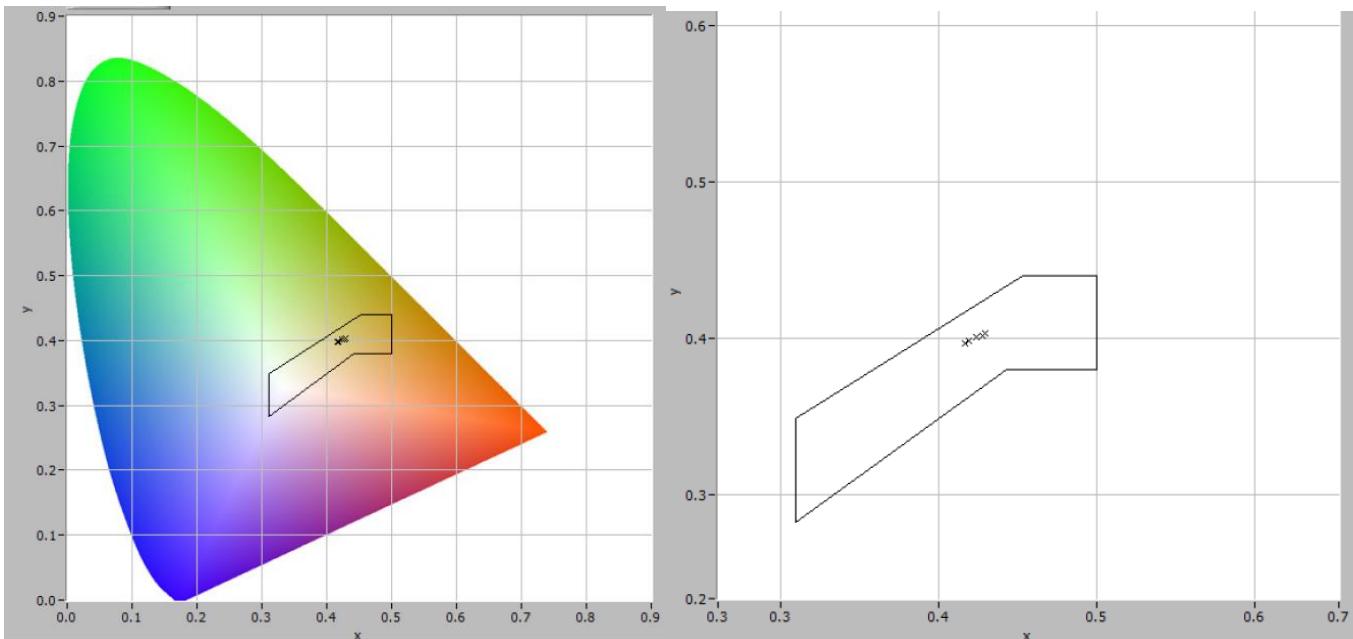
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-03  
 Function: High Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4190	0.3983	PASS
2U-V	0.4165	0.3971	PASS
4D-V	0.4277	0.4016	PASS
H-12R	0.4244	0.4010	PASS
H-12L	0.4298	0.4030	PASS



SAPPHIRE  
TECHNICAL SOLUTIONS





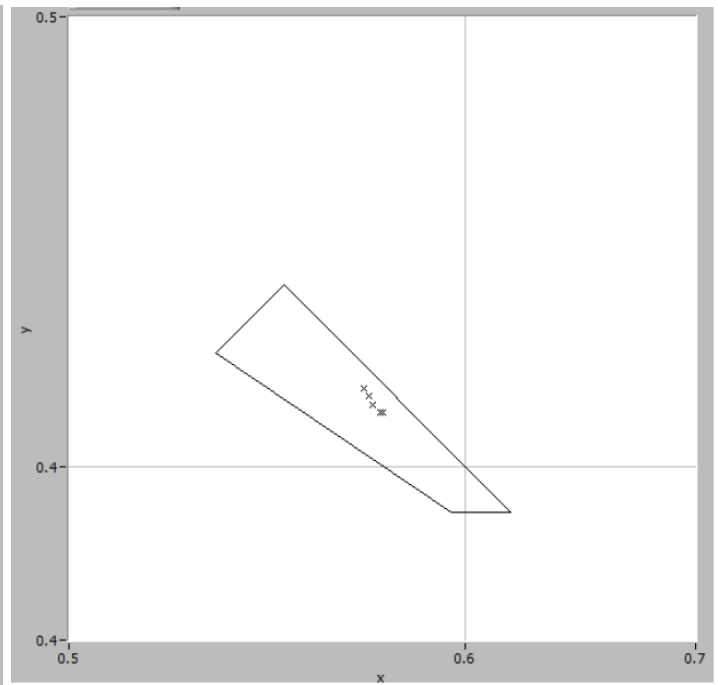
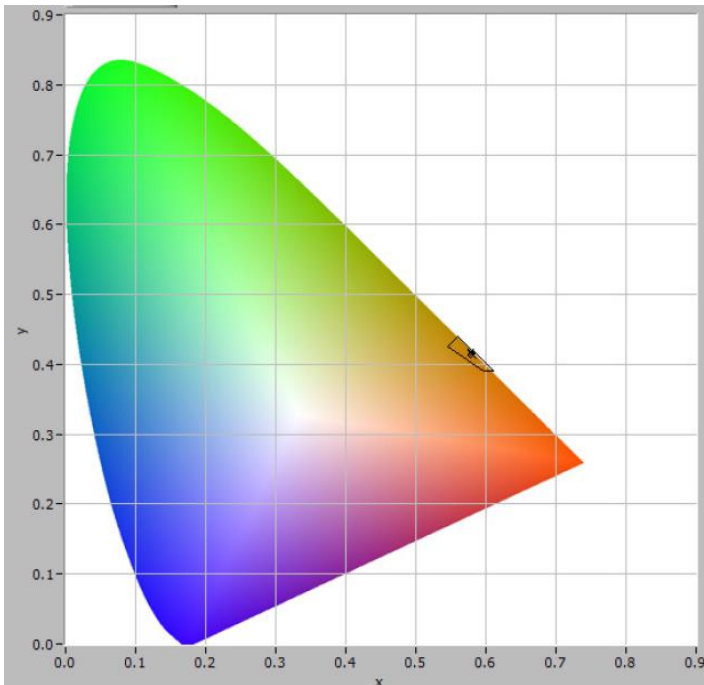
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-03  
 Function: Turn  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5776	0.4174	PASS
10U-V	0.5789	0.4155	PASS
10D-V	0.5796	0.4136	PASS
H-20R	0.5814	0.4119	PASS
H-20L	0.5819	0.4119	PASS



SAPPHIRE  
TECHNICAL SOLUTIONS



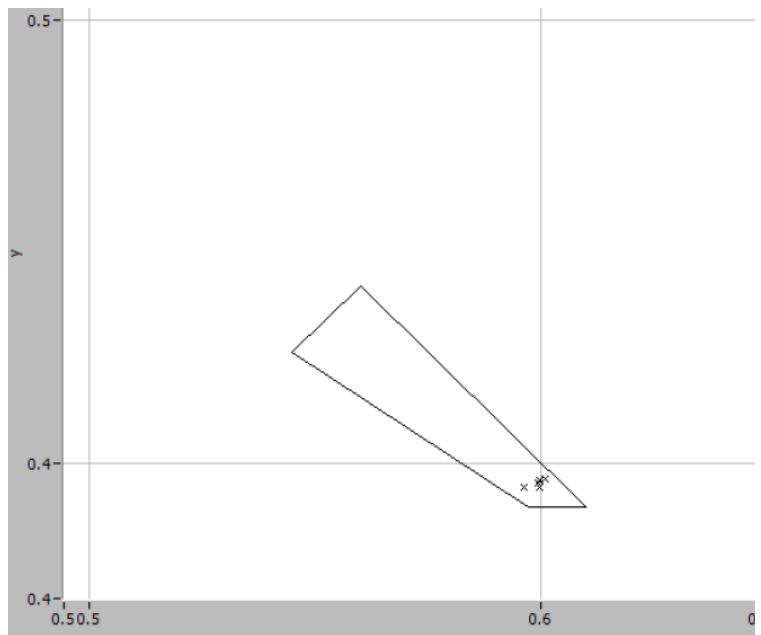
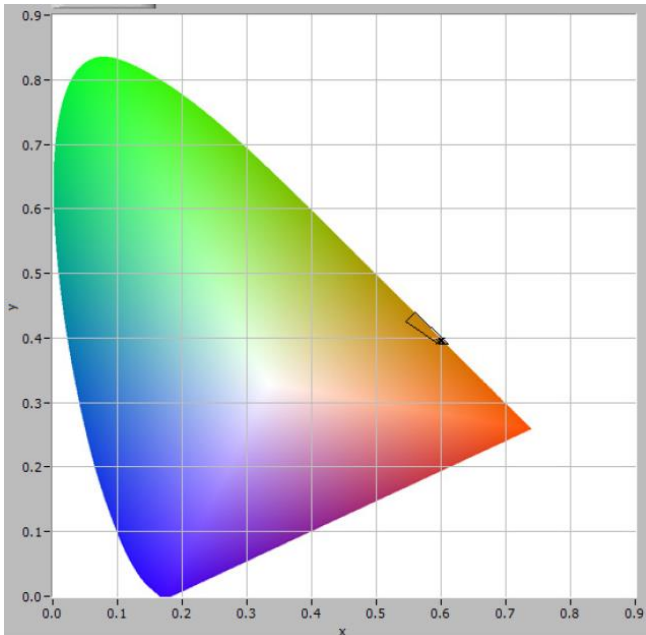
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-03  
 Function: Park  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.6010	0.3964	PASS
10U-V	0.5993	0.3957	PASS
10D-V	0.5997	0.3961	PASS
H-20R	0.5961	0.3946	PASS
H-20L	0.5997	0.3945	PASS



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TECHNICAL SOLUTIONS



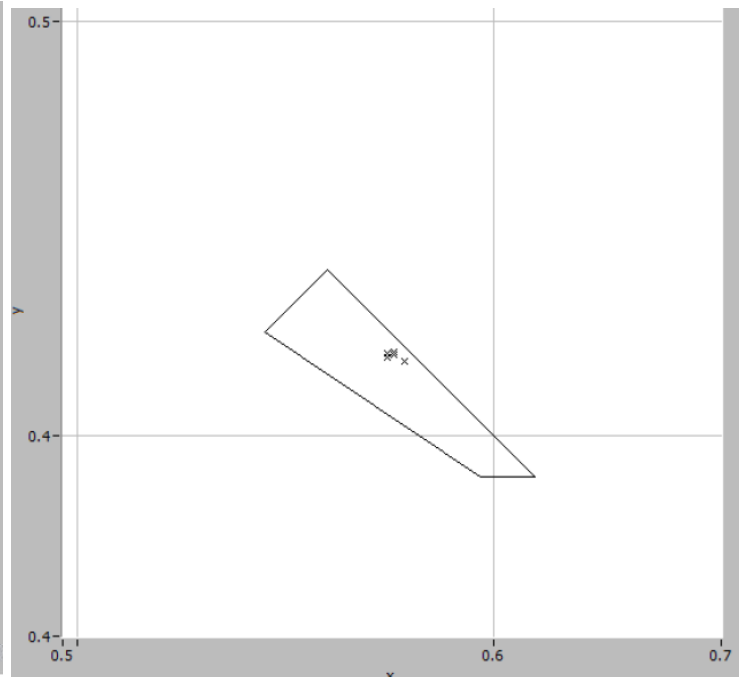
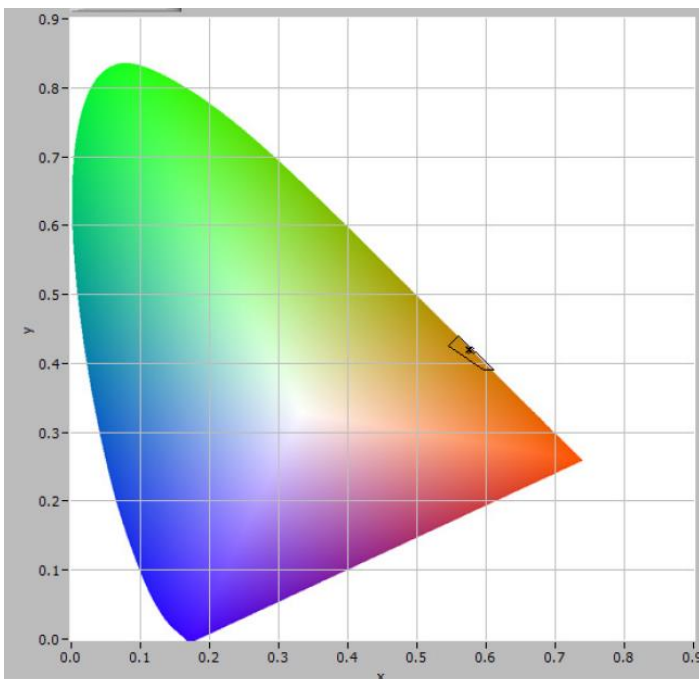
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-03  
 Function: Sidemarker  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/26/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5746	0.4199	PASS
10U-V	0.5761	0.4202	PASS
10D-V	0.5745	0.4190	PASS
H-45R	0.5761	0.4196	PASS
H-24L	0.5785	0.4178	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL

TEST DATE : 3/26/2020

Customer: NHTSA

Manufacturer #: 26060-9HS9A

Sample ID (STS #): 2055-03

Function: Reflex

Work Order #: 2055

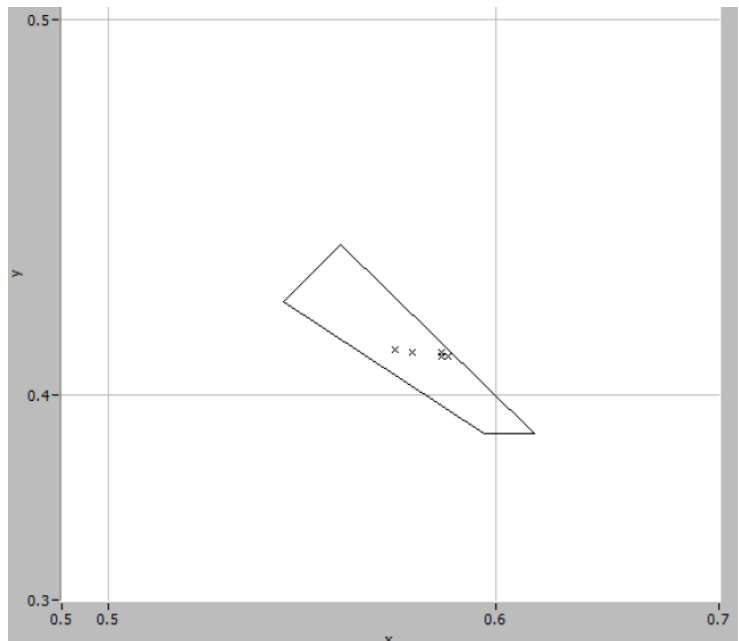
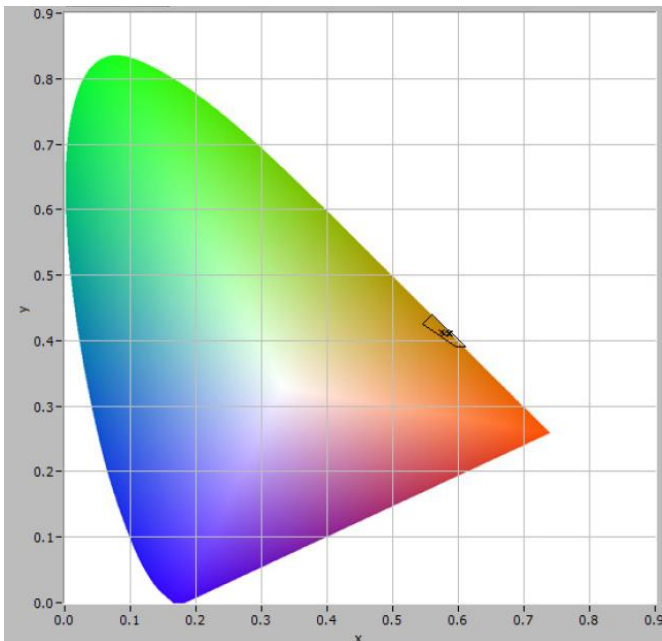
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s):

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5785	0.4113	PASS
10U-V	0.5738	0.4121	PASS
10D-V	0.5859	0.4115	PASS
H-20R	0.5858	0.4104	PASS
H-20L	0.5875	0.4105	PASS



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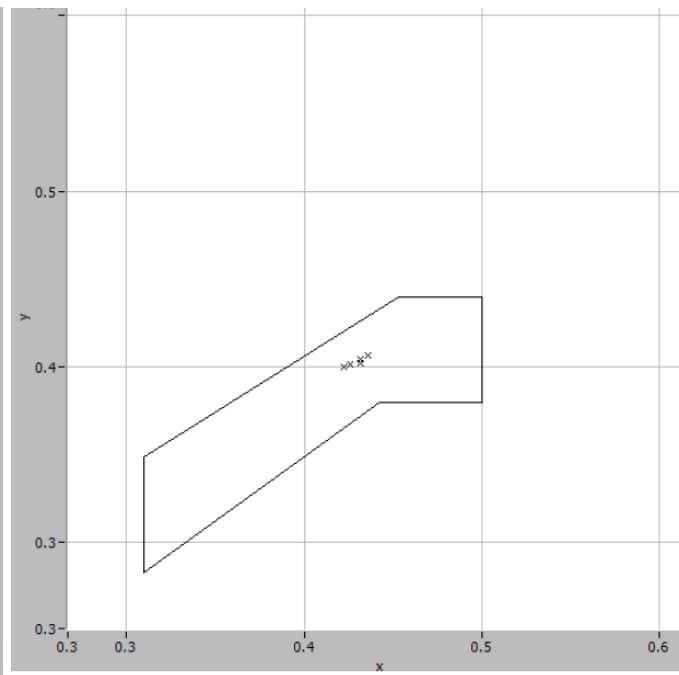
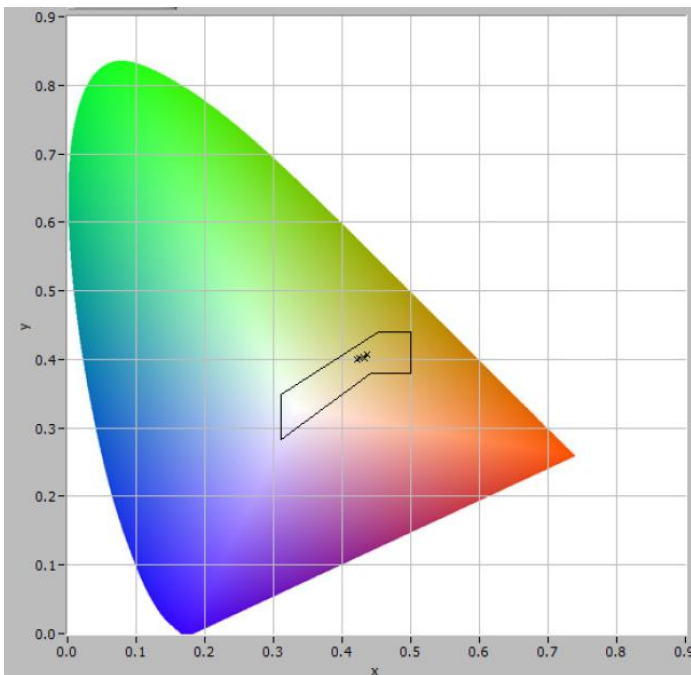
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-05  
 Function: Low Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4359	0.4062	PASS
4U-V	0.4319	0.4021	PASS
4D-V	0.4222	0.4000	PASS
H-20R	0.4315	0.4041	PASS
H-20L	0.4262	0.4014	PASS



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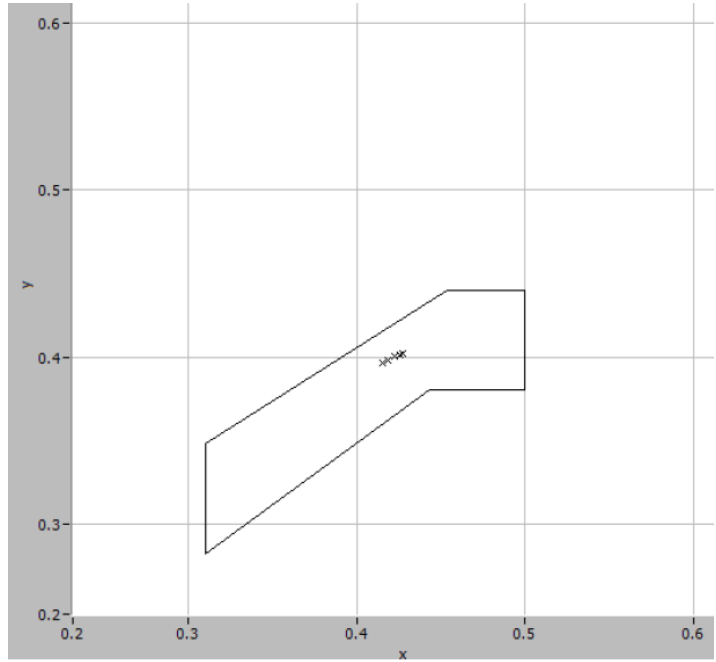
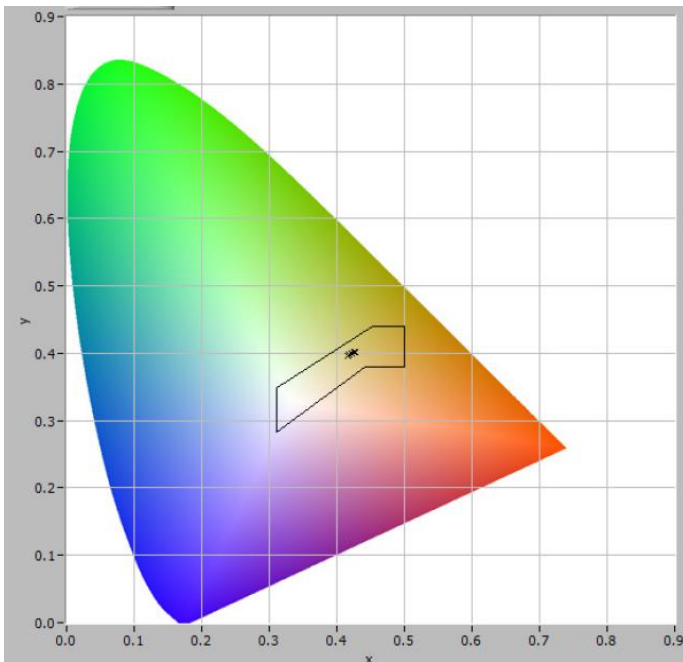
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-05  
 Function: High Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 White
H-V	0.4185	0.3979	PASS
2U-V	0.4156	0.3967	PASS
4D-V	0.4259	0.4010	PASS
H-12R	0.4225	0.4004	PASS
H-12L	0.4272	0.4019	PASS



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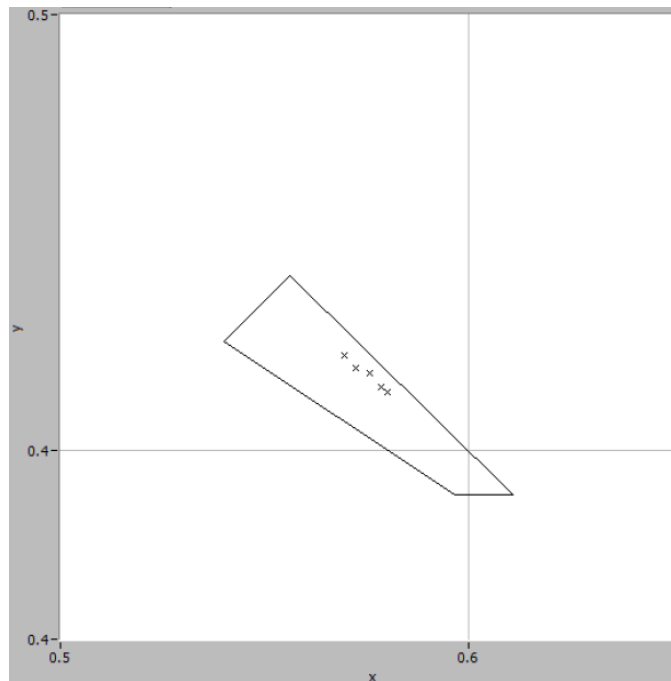
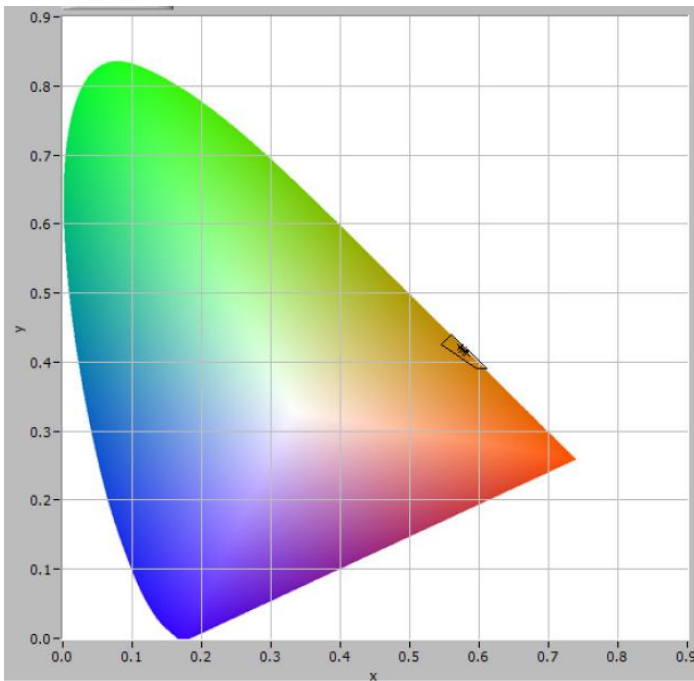
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-05  
 Function: Turn  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5720	0.4218	PASS
10U-V	0.5746	0.4188	PASS
10D-V	0.5777	0.4177	PASS
H-20R	0.5803	0.4144	PASS
H-20L	0.5818	0.4134	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26060-9HS9A

Sample ID (STS #): 2055-05

Function: Park

Work Order #: 2055

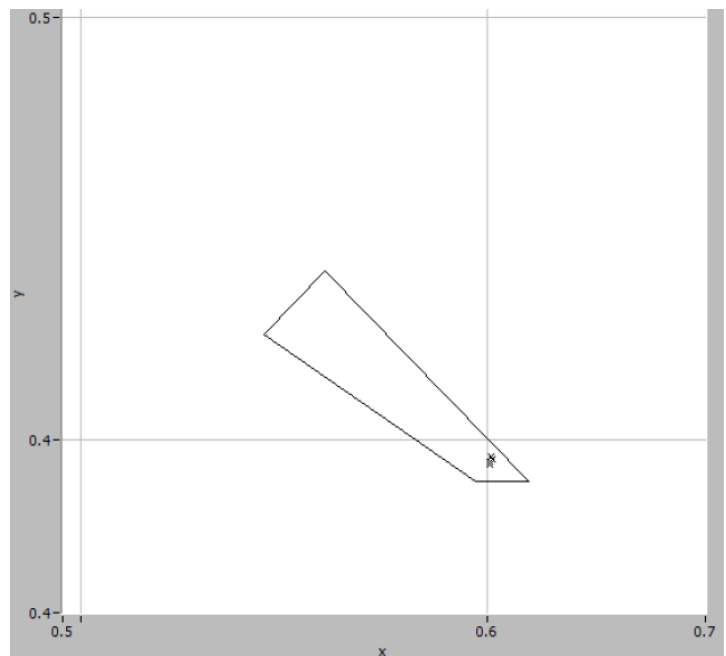
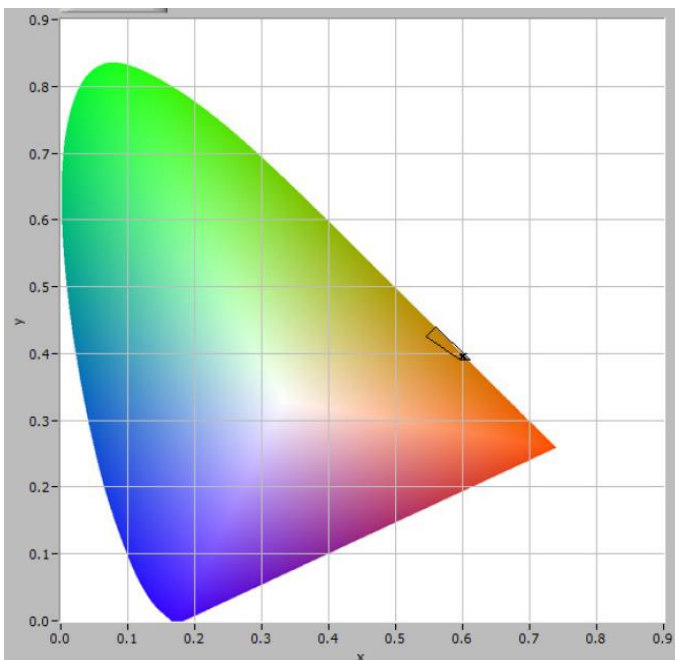
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.6007	0.3960	PASS
10U-V	0.6005	0.3947	PASS
10D-V	0.6012	0.3954	PASS
H-20R	0.6011	0.3953	PASS
H-20L	0.6004	0.3940	PASS



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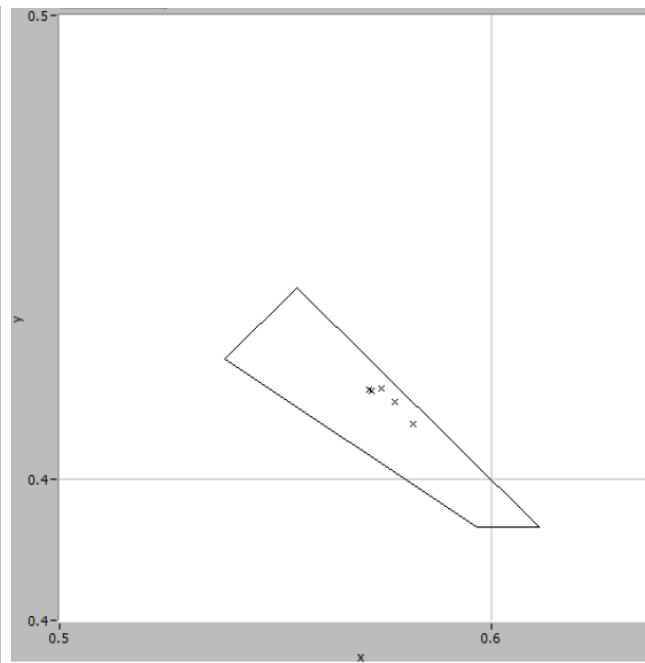
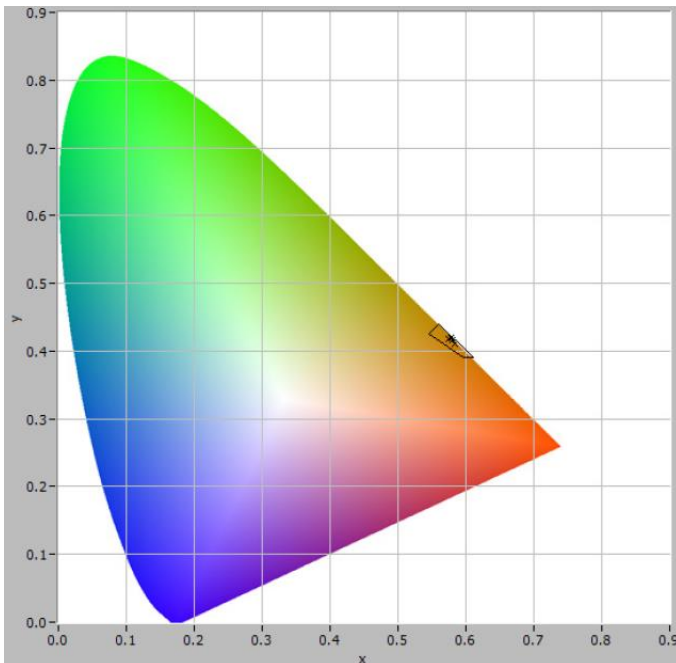
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-05  
 Function: Sidemarker  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5773	0.4190	PASS
10U-V	0.5752	0.4185	PASS
10D-V	0.5749	0.4188	PASS
H-20R	0.5840	0.4115	PASS
H-20L	0.5802	0.4162	PASS



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TECHNICAL SOLUTIONS



# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26060-9HS9A

Sample ID (STS #): 2055-05

Function: Reflex

Work Order #: 2055

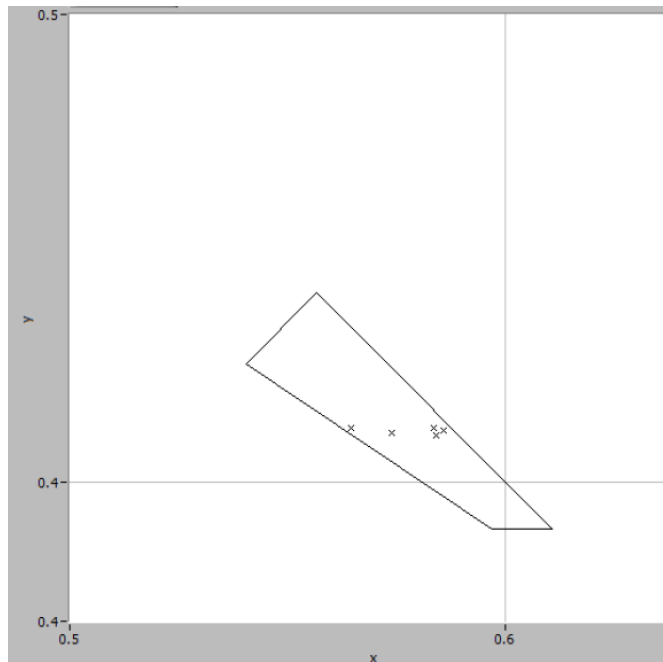
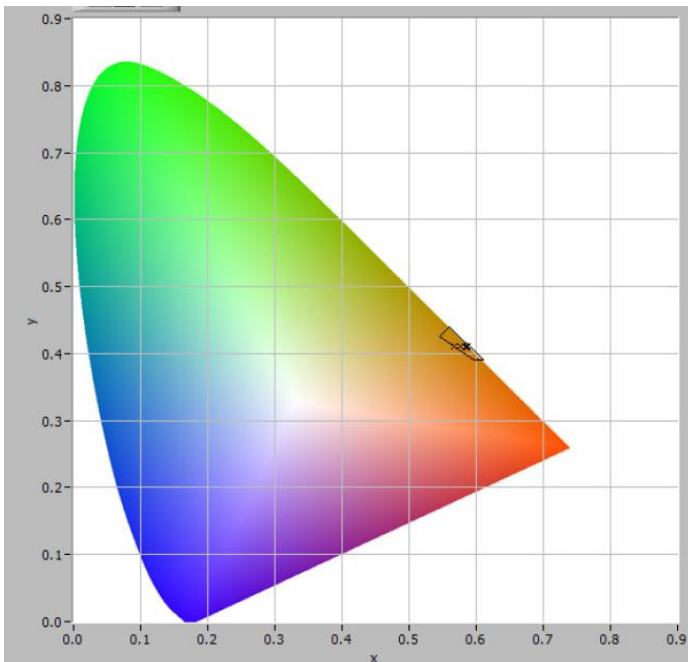
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s): Operated at 13.5V

Measurement	x	y	Color Space MVSS 108 Amber
H-V	0.5760	0.4105	PASS
10U-V	0.5672	0.4113	PASS
10D-V	0.5848	0.4113	PASS
H-20R	0.5854	0.4098	PASS
H-20L	0.5868	0.4110	PASS



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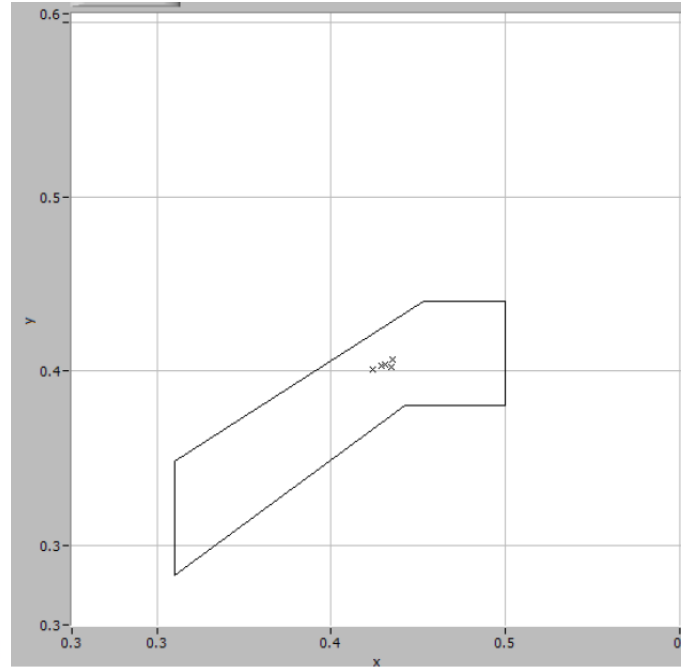
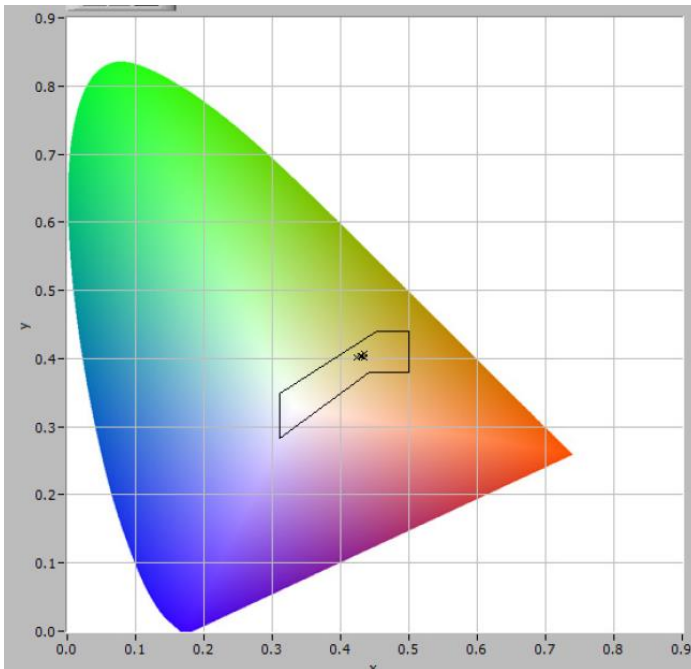
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-07  
 Function: Low Beam  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 12.8V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 White
H-V	0.4353	0.4067	PASS
4U-V	0.4343	0.4023	PASS
4D-V	0.4237	0.4008	PASS
H-20R	0.4286	0.4032	PASS
H-20L	0.4313	0.4037	PASS



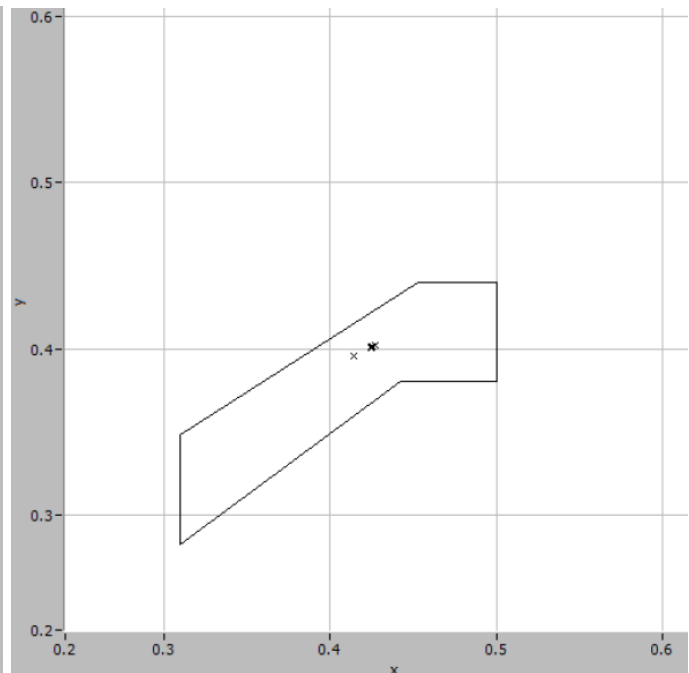
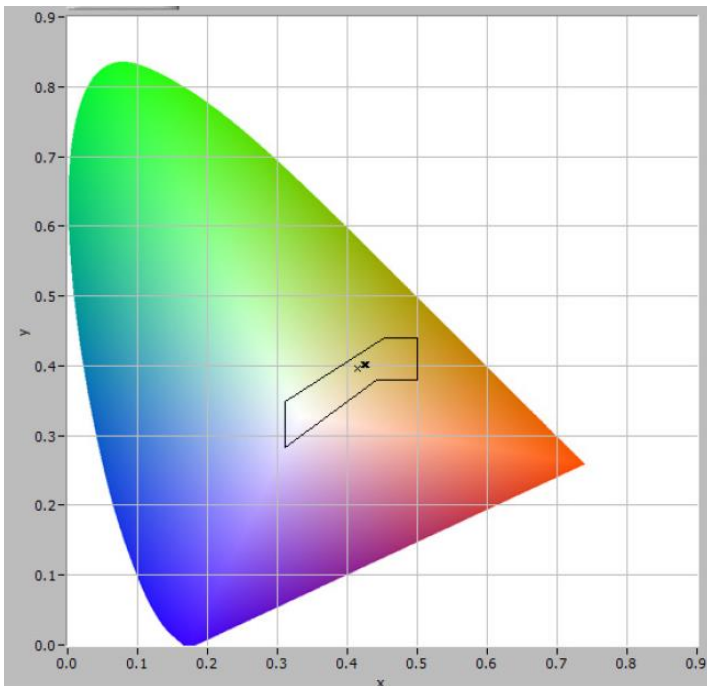
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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name:	Nissan Altima LH HL	TEST DATE :	3/27/2020
Customer:	NHTSA		
Manufacturer #:	26060-9HS9A		
Sample ID (STS #):	2055-07		
Function:	High Beam		
Work Order #:	2055		
Tested By:	REW	EQUIPMENT:	Sapphire Technical Solutions - Spectro100 Series Firmware ver. SB1211_M30626_SPEC_RAD VERSION 3.2.11 290917 Software ver. SpectraScale 1.8.2
Note(s):	Operated at 12.8V		

Measurement	x	y	Color Space MVSS 108 White
H-V	0.4249	0.4008	PASS
2U-V	0.4140	0.3959	PASS
4D-V	0.4255	0.4010	PASS
H-12R	0.4245	0.4011	PASS
H-12L	0.4272	0.4019	PASS



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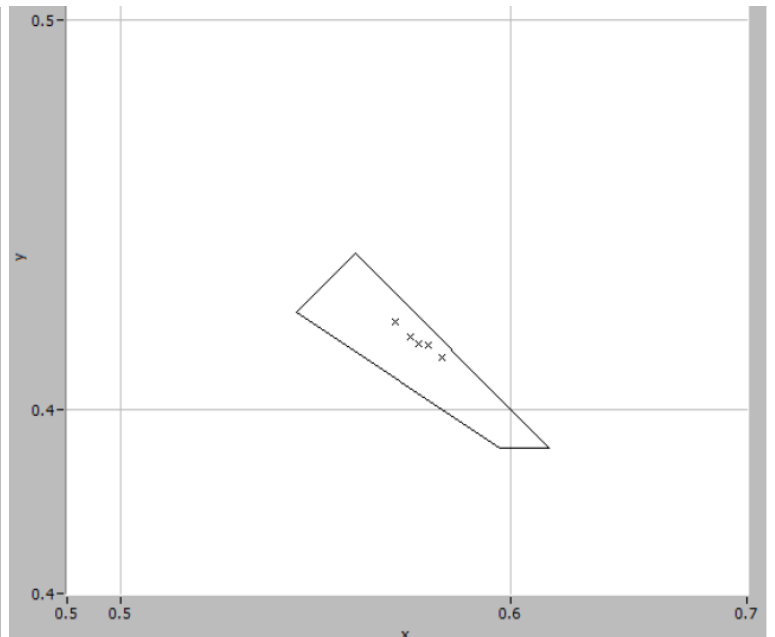
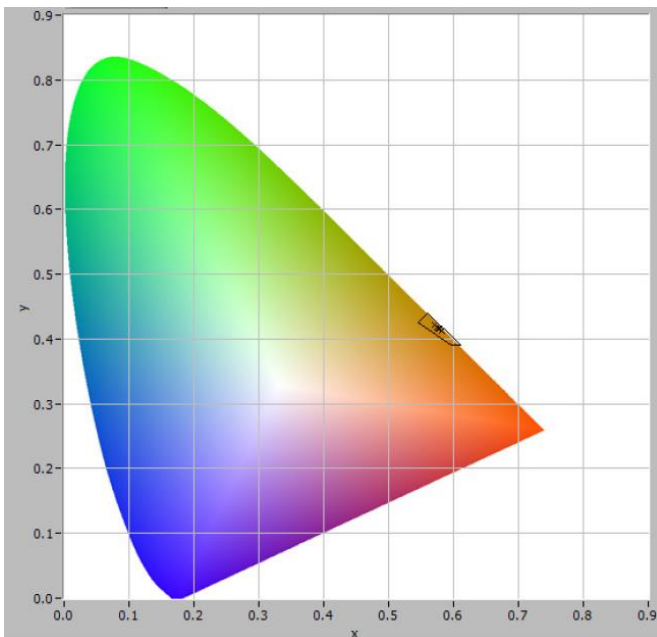
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-07  
 Function: Turn  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5703	0.4224	PASS
10U-V	0.5742	0.4187	PASS
10D-V	0.5763	0.4167	PASS
H-20R	0.5789	0.4166	PASS
H-20L	0.5824	0.4134	PASS



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# Sapphire Technical Solutions, LLC

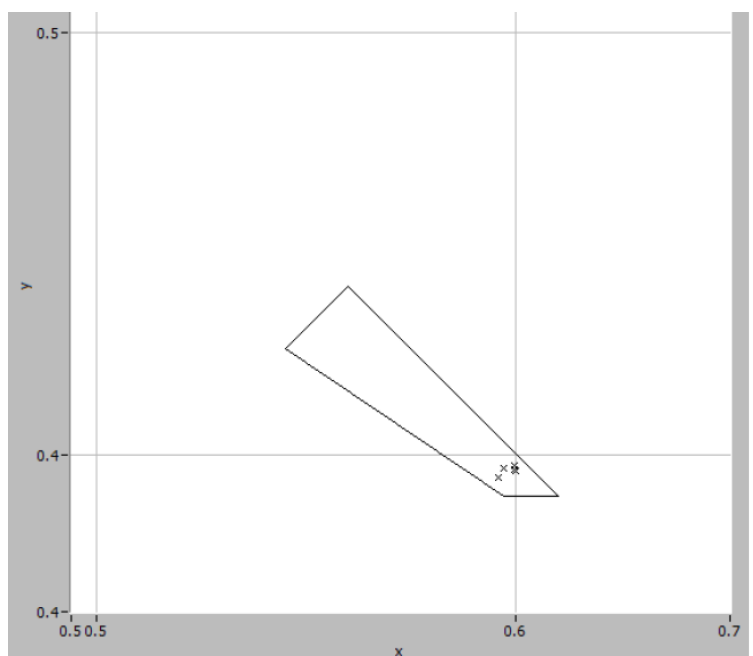
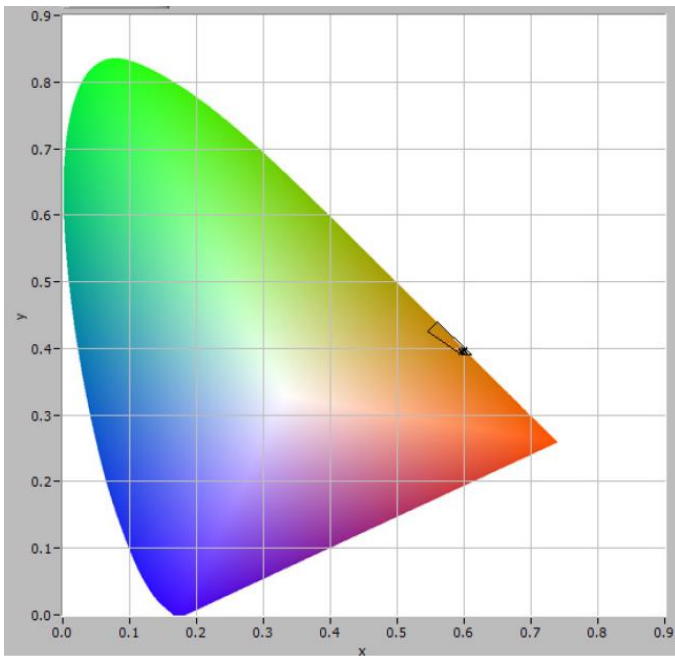
## CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-07  
 Function: Park  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5996	0.3972	PASS
10U-V	0.6001	0.3962	PASS
10D-V	0.5997	0.3964	PASS
H-20R	0.5972	0.3966	PASS
H-20I	0.5959	0.3946	PASS



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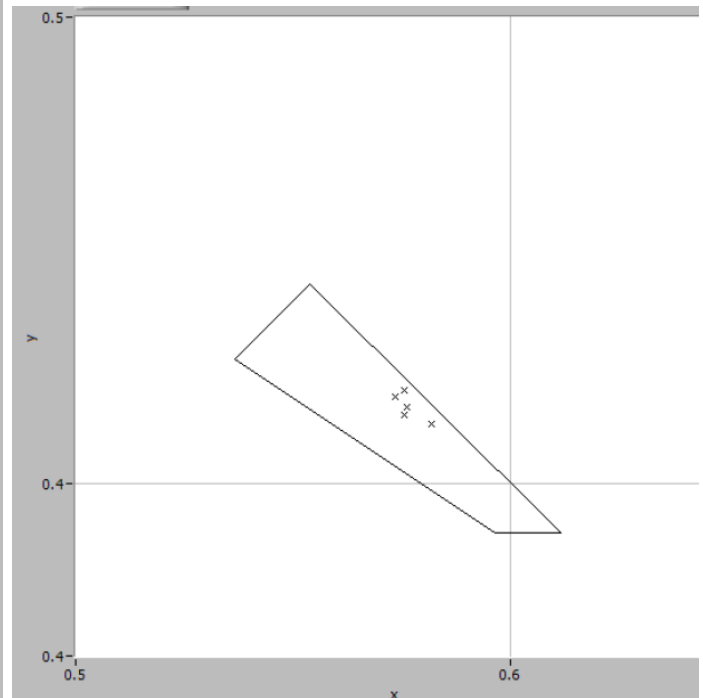
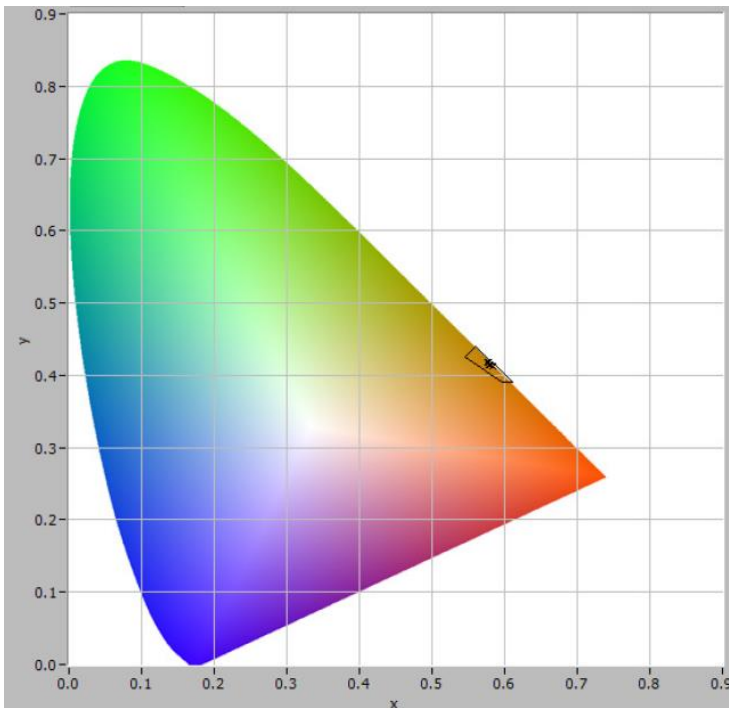
# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL  
 Customer: NHTSA  
 Manufacturer #: 26060-9HS9A  
 Sample ID (STS #): 2055-07  
 Function: Sidemarker  
 Work Order #: 2055  
 Tested By: REW  
 Note(s): Operated at 13.5V

TEST DATE : 3/27/2020

EQUIPMENT: Sapphire Technical Solutions - Spectro100 Series  
 Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
 Software ver. SpectraScale 1.8.2

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5787	0.4187	PASS
10U-V	0.5771	0.4175	PASS
10D-V	0.5793	0.4152	PASS
H-45R	0.5843	0.4118	PASS
H-24L	0.5788	0.4138	PASS



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# Sapphire Technical Solutions, LLC CHROMATICITY TEST REPORT

Sample Name: Nissan Altima LH HL

TEST DATE : 3/27/2020

Customer: NHTSA

Manufacturer #: 26060-9HS9A

Sample ID (STS #): 2055-07

Function: Reflex

Work Order #: 2055

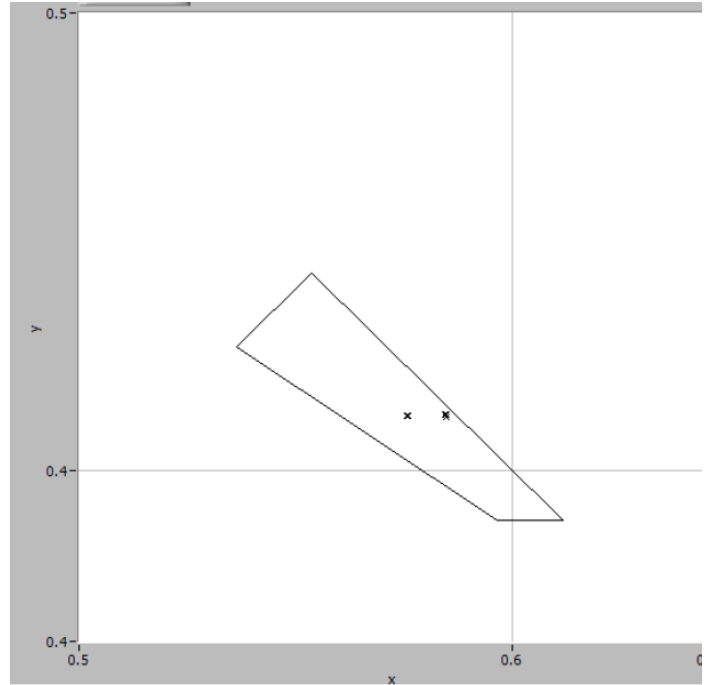
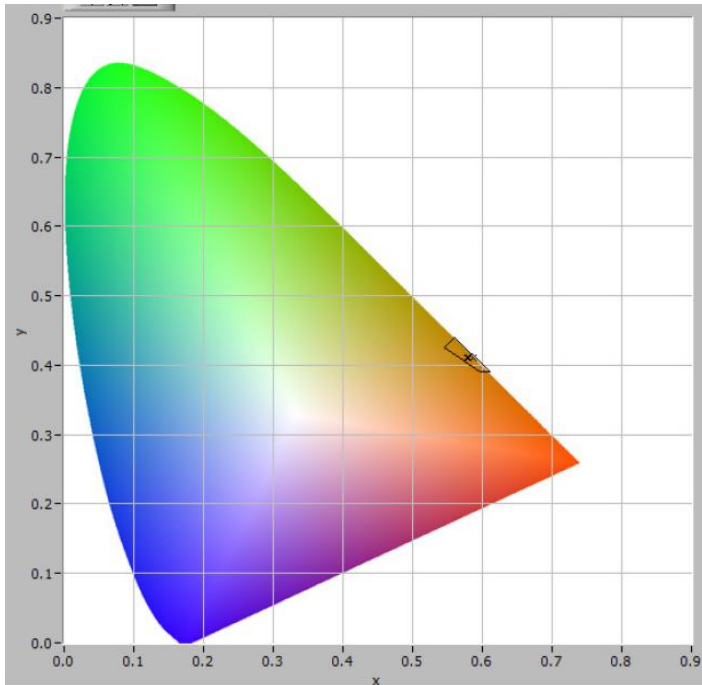
Tested By: REW

EQUIPMENT:

Sapphire Technical Solutions - Spectro100 Series  
Firmware ver. SB1211\_M30626\_SPEC\_RAD VERSION 3.2.11 290917  
Software ver. SpectraScale 1.8.2

Note(s):

Measurement	x	y	Color Space
			MVSS 108 Amber
H-V	0.5788	0.4111	PASS
10U-V	0.5792	0.4110	PASS
10D-V	0.5866	0.4113	PASS
H-20R	0.5868	0.4114	PASS
H-20L	0.5868	0.4108	PASS



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## Equipment Calibration List

STS Gage ID	Gage S/N	Equip. Description	Equip. Manufacturer	Calibration Due Date	Calibration Frequency
STS-Tool 0075	1020	Photometer (0.2 degree)	STS	2/4/2021	1.00 Year
STS-Tool 0105	MY40008163	Power Supply, DC	Agilent	2/4/2021	1.00 Year
STS-Tool 0110	MY51170039	Power Supply, DC	Agilent	2/4/2021	1.00 Year
STS-Tool 0120	MY52420002	Power Supply, DC	Agilent	2/4/2021	1.00 Year
STS-Tool 0121	1026	Goniophotometer System	STS	2/4/2021	1.00 Year
STS-Tool 0122	US12L2357L	Power Supply, DC	Agilent	2/4/2021	1.00 Year
STS-Tool 0154	2015874	Spectroradiometer	STS	3/5/2021	1.00 Year
STS-Tool 0156	15C218	Luminous Intensity Standard	STS	9/11/2020	1.00 Year
STS-Tool 0157	15C219	Luminous Intensity Standard	STS	9/11/2020	1.00 Year
STS-Tool 0158	15C220	Luminous Intensity Standard	STS	9/11/2020	1.00 Year
STS-Tool 0171	1130	Photometer (10 meter)	STS	2/4/2021	1.00 Year
STS-Tool 0174	1128	Photometer (1.5degree)	STS	2/4/2021	1.00 Year
STS-Tool 0181	1014	Reflex Color Projector(3')	STS	2/4/2021	1.00 Year
STS-Tool 0195	1055	Reflex Projector(100')	STS	2/4/2021	1.00 Year
STS-Tool 0199	30017019(head) /	Illuminance Meter	Konica Minolta	9/11/2020	1.00 Year
STS-Tool 0246-07	n/a	Temp / Humidity Meter	Ambient Weather	8/6/2020	1.00 Year



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2018 Nissan Altima RH / LH Replaceable Bulb Headlamps

Part No.: RH – 26010-9HS9A

Part No.: LH – 26060-9HS9A



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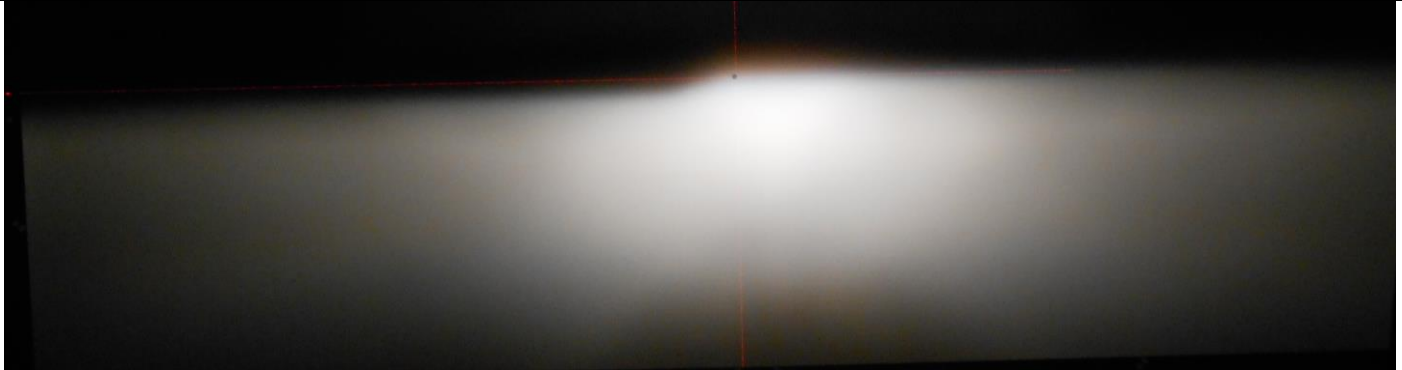


2018 Nissan Altima RH / LH Replaceable Bulb Headlamps

Part No.: RH – 26010-9HS9A

Part No.: LH – 26060-9HS9A

RH Low Beam



RH High Beam



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2018 Nissan Altima RH / LH Replaceable Bulb Headlamps

Part No.: RH – 26010-9HS9A

Part No.: LH – 26060-9HS9A

LH Low Beam



LH High Beam



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