

108-ISOQA-16-221

SAFETY COMPLIANCE TESTING FOR FMVSS108

ISOQA
60, Yong Long Rd,
Da-Li, Taichung
Taiwan, ROC



- Final Report -

Arthur Chang

11 October 2016

Signature of Responsible Laboratory Official

Approval Date



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Reviewed By: Julie Wu

PRODUCT INFORMATION

Test Component	MS-0057
Applicant	Guangzhou MorSun Technology co.,Ltd
Report Number	108-ISOQA-16-221
Trade Mark	MS , MORSUN, 
Type of material from which lens is made	PLASTIC
Coating of of exterior lens	-
Type of material from which inner lens is made	-
Type of material from which reflex reflector is made	-
Applicable Vehicle	on Motor Vehicles
Rated Voltage	12 V / 24 V
Marking on Lens	DOT SAE HL 16 MS-0057
Marking on Housing	12/24V 
Method of Mounting to Vehicle	bolted

* Above-mentioned information is provided by the applicant

Functions	Headlamp Upper Beam	Headlamp Lower Beam
Additional requirements to FMVSS108	FMVSS 108	FMVSS 108
Lighting Identification Code	HL	HL
Color emitted	White	White
Number of lamp	1	1
Light Source Category	LED	LED
Calibrated Light Source(s) Lab. Control Number	LED - N/A	LED - N/A
Design Voltage	12.8 V /28 V	12.8 V /28 V
Rated Mean Spherical Candle Power	N/A	N/A
Effective Projected Luminous Lens Area (cm ²)	N/A	N/A
Method of determination	N/A	N/A
Light Source(s) Type and Trade Number	LED x 9	LED x 9
Bulb Socket Type	-	-

Test Item	Inspector	Date	Number of Passed	
Physical Inspection	John Lai	2016/9/29	2	2
Photometric Test	John Lai	2016/9/29	2	2
Color Test	John Lai	2016/9/29	2	2

PHOTOMETRY TEST - 12V SYSTEM

UB2 - Upper Beam Photometric Test Point Values

Test Points	Minimum (cd)	Maximum (cd)	S1 (LH)	S2 (RH)
H-V (1 min)	20,000	75,000	33920	32980
H-V (30 min)	20,000	75,000	32690	29720
2U-V	1,000	-	8230	8740
1U-3L	2,000	-	8350	6647
1U-3R	2,000	-	8780	10090
H-3L	10,000	-	14110	11230
H-3R	10,000	-	14340	16610
H-6L	3,250	-	6097	5770
H-6R	3,250	-	6950	7701
H-9L	1,500	-	3903	3532
H-9R	1,500	-	5691	5094
H-12L	750	-	2114	2072
H-12R	750	-	3739	2843
1.5D-V	5,000	-	45260	40240
1.5D-9L	1,500	-	6952	6486
1.5D-9R	1,500	-	13580	12580
2.5D-V	2,500	-	28980	23650
2.5D-12L	750	-	5560	4540
2.5D-12R	750	-	7289	5368
4D-V	-	5,000	4090	4089

LB2V - Lower Beam Photometric Test Point Values

Test Points	Minimum (cd)	Maximum (cd)	S1 (LH)	S2 (RH)
1.5D-2R (1 min)	15,000	-	16940	17560
1.5D-2R (30 min)	15,000	-	15530	16580
10U to 90U	-	125	53.901	50.398
4U-8L	64	-	86.5	92
4U-8R	64	-	88.9	107.4
2U-4L	135	-	197.9	267.7
1.5U-1R to 3R	200	-	267.003	380.105
1.5U-1R to R	-	1,400	306.813	459.807
1U-1.5L to L	-	700	496.788	557.72
0.5U-1.5L to L	-	1,000	765.817	881.422
0.5U-1R to 3R	500	2,700	(755.789) 773.171	(1155.270) 1281.196
H-4L	135	-	1762	2964
H-8L	64	-	1314	1794
0.6D-1.3R	10,000	-	11107	11840
0.86D-V	4,500	-	7168	11250
0.86D-3.5L	1,800	12,000	6010	9220
2D-9L	1,250	-	4957	5878
2D-9R	1,250	-	11490	12710
2D-15L	1,000	-	2314	3085
2D-15R	1,000	-	3996	4409
4D-4R	-	12,500	4691	4882
4D-20R	300	-	1733	1544
4D-20L	300	-	2397	1808

PHOTOMETRY TEST - 24V SYSTEM

UB2 - Upper Beam Photometric Test Point Values

Test Points	Minimum (cd)	Maximum (cd)	S1 (LH)	S2 (RH)
H-V (1 min)	20,000	75,000	33000	32870
H-V (30 min)	20,000	75,000	29930	29580
2U-V	1,000	-	7992	9310
1U-3L	2,000	-	8002	6854
1U-3R	2,000	-	8170	10500
H-3L	10,000	-	13230	11280
H-3R	10,000	-	13320	16950
H-6L	3,250	-	5654	5640
H-6R	3,250	-	6404	7694
H-9L	1,500	-	3612	3465
H-9R	1,500	-	5283	4899
H-12L	750	-	1933	2080
H-12R	750	-	3429	2808
1.5D-V	5,000	-	41420	40960
1.5D-9L	1,500	-	6352	6497
1.5D-9R	1,500	-	12360	12230
2.5D-V	2,500	-	25910	24560
2.5D-12L	750	-	5108	4558
2.5D-12R	750	-	6522	5455
4D-V	-	5,000	4490	4615

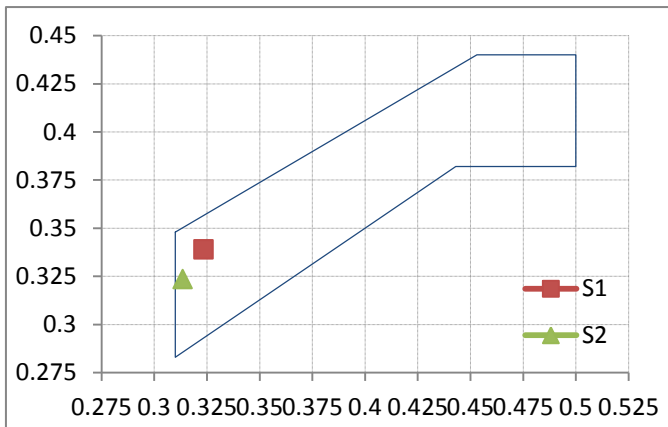
LB2V - Lower Beam Photometric Test Point Values

Test Points	Minimum (cd)	Maximum (cd)	S1 (LH)	S2 (RH)
1.5D-2R (1 min)	15,000	-	17640	16860
1.5D-2R (30 min)	15,000	-	15660	16030
10U to 90U	-	125	52.842	48.219
4U-8L	64	-	87	88.2
4U-8R	64	-	90.5	101.5
2U-4L	135	-	217.4	259.1
1.5U-1R to 3R	200	-	300.071	359.377
1.5U-1R to R	-	1,400	343.818	437.118
1U-1.5L to L	-	700	467.135	527.646
0.5U-1.5L to L	-	1,000	931.123	908.407
0.5U-1R to 3R	500	2,700	(1034.163) 1148.360	(1064.228) 1184.375
H-4L	135	-	2133	2765
H-8L	64	-	1612	1689
0.6D-1.3R	10,000	-	12695	10760
0.86D-V	4,500	-	8790	10320
0.86D-3.5L	1,800	12,000	7425	8460
2D-9L	1,250	-	4658	5427
2D-9R	1,250	-	10090	11660
2D-15L	1,000	-	2312	2896
2D-15R	1,000	-	3572	4097
4D-4R	-	12,500	3023	4523
4D-20R	300	-	1476	1427
4D-20L	300	-	1978	1666

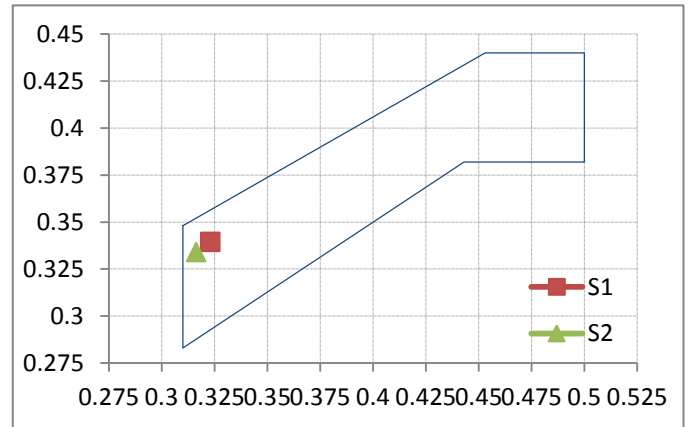
COLOR TEST

Test performed by : **John Lai** Date : **September 29, 2016**

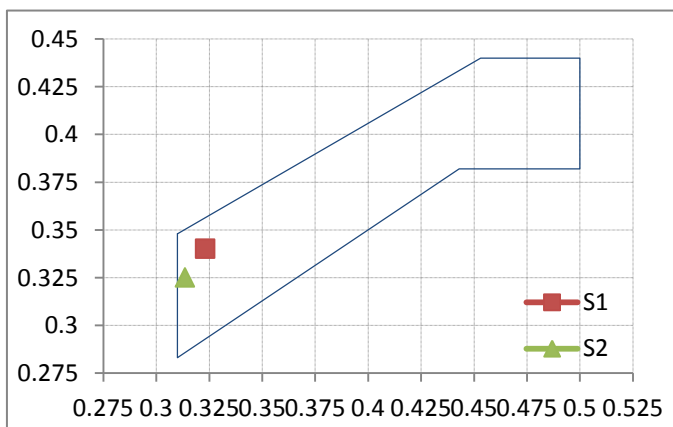
Color emitted from HV point		S1 (LH)	S2 (RH)
upper beam - 12V system	x=	0.3234	0.3135
	y=	0.3389	0.3234
lower beam - 12V system	x=	0.3231	0.3165
	y=	0.3392	0.3338
upper beam - 24V system	x=	0.3231	0.3136
	y=	0.3402	0.325
lower beam - 24V system	x=	0.3235	0.316
	y=	0.3399	0.3352



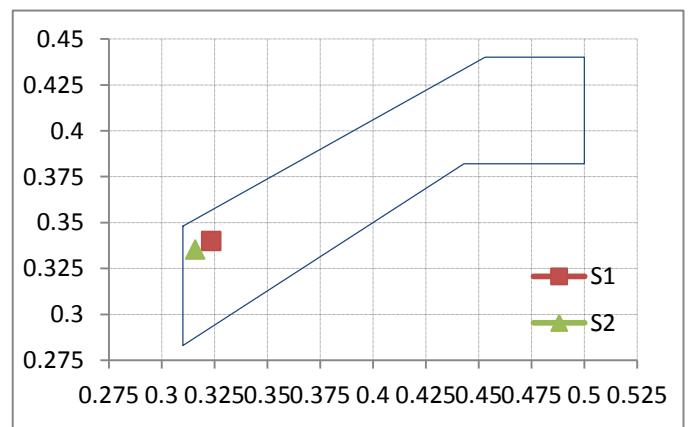
upper beam - 12V system



lower beam - 12V system



upper beam - 24V system



lower beam - 24V system

Color of device is : **White**

sample(s) passed : **2**

samples(s) failed : **-**

Reference Light Source control number : **N/A**

Remarks :



Front View



Side View



Top View



Rear View



DOT SAE HL 16 MS-0057
Marking on Lens



12/24V MOR-SUN
Marking on Housing