



8165 E Kaiser Blvd.
Anaheim, CA 92808
www.lightlaboratory.com

Report No: L042110206



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Issue Date: 5/28/2021

Report Prepared For: LightArt
4770 Ohio Ave S, Suite B Seattle, WA 98134

Model Number: Shade M (Wide Flood, uses 55deg lens)

Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:

IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 5/21/21

Date of Tests: 5/24/21 - 5/28/21

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	4/7/23
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	3/17/23
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

General Information

Manufacturer:	LightArt
Model Number:	Shade M 55deg
Driver Model Number:	ERP PHB30W-0700-42

Test Summary

Total Lumens:	2373.22
Efficacy:	94.93
Color Redering Index:	82.6
Correlated Color Temperature:	3553
Input Voltage (VAC/60Hz):	120.04
Input Current (Amp):	0.2118
Input Power (W):	25.00
Input Power Factor:	0.9833
Current ATHD (%):	11.4%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	1:10
Total Operating Time (Hours):	1:50

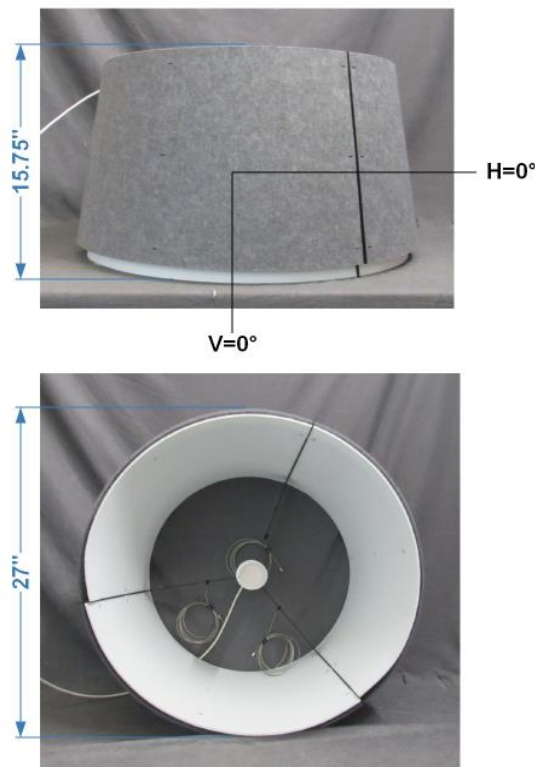
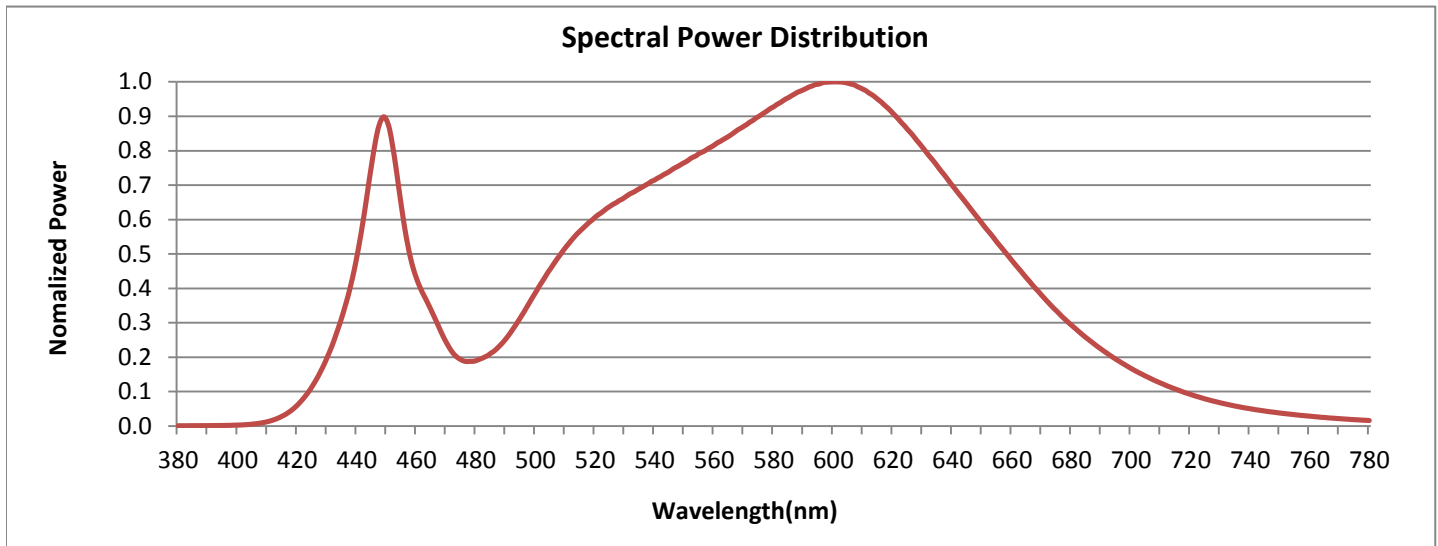


FIG. 1 LUMINAIRE

Colorimetry Test Results

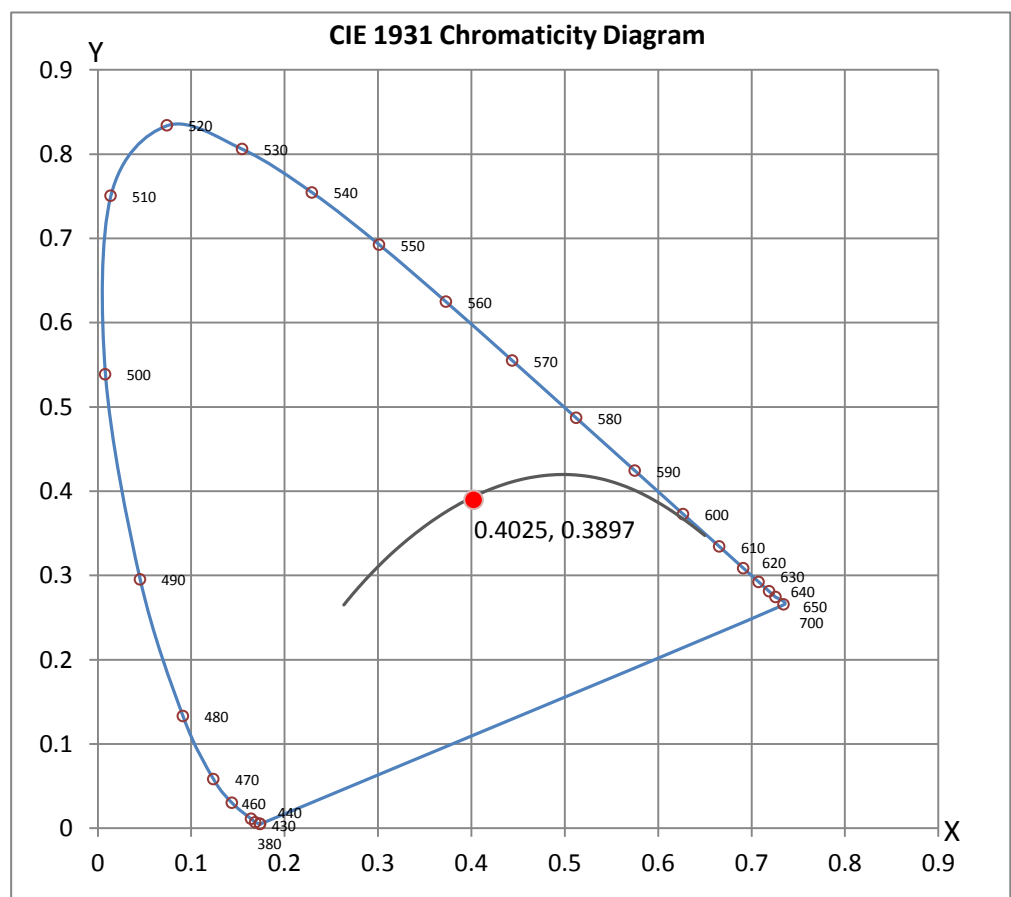


CRI & CCT

x	0.4025
y	0.3897
u'	0.2343
v'	0.5104
CRI	82.60
CCT	3553
Duv	0.00018

R Values

R1	81.23
R2	87.44
R3	92.48
R4	82.87
R5	81.04
R6	83.24
R7	86.41
R8	65.72
R9	13.71
R10	70.36
R11	81.82
R12	63.47
R13	82.30
R14	95.36
R15	75.64





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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 10*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L042110206.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L042110206
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 5/28/2021
[MANUFAC] LightArt
[LUMCAT] Shade M 55deg
[LUMINAIRE] Acoustic Pendant Light
[BALLASTCAT] ERP PHB30W-0700-42
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120.04VAC, 25.0W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2373
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.08
Spacing Criterion (90-270)	1.08
Spacing Criterion (Diagonal)	1.12
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	2.08 ft (Diameter)
Luminous Width (90-270)	2.08 ft (Diameter)
Luminous Height	1.31 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1105	1105	1105
55	880	880	880
65	256	256	256
75	135	135	135
85	50	50	50

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L042110206.IES

CANDELA TABULATION

	<u>0</u>
0.0	1257
1.0	1257
3.0	1255
5.0	1250
7.0	1239
9.0	1224
11.0	1205
13.0	1187
15.0	1163
17.0	1134
19.5	1095
22.5	1042
25.5	977
29.0	896
33.0	800
37.5	673
42.5	504
47.5	386
55.0	342
65.0	93
75.0	44
85.0	14
90.0	3
95.0	5
100.0	10
105.0	13
110.0	18
115.0	24
120.0	31
125.0	37
130.0	41
135.0	77
140.0	70
145.0	62
150.0	53
155.0	43
160.0	33
165.0	25
170.0	19
175.0	13
180.0	12

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L042110206.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	424.33	N.A.	17.90
0-30	849.91	N.A.	35.80
0-40	1251.16	N.A.	52.70
0-60	1864.3	N.A.	78.60
0-80	2141.1	N.A.	90.20
0-90	2177.04	N.A.	91.70
10-90	2080.94	N.A.	87.70
20-40	826.83	N.A.	34.80
20-50	1206.66	N.A.	50.80
40-70	819.44	N.A.	34.50
60-80	276.80	N.A.	11.70
70-80	70.50	N.A.	3.00
80-90	35.93	N.A.	1.50
90-110	20.52	N.A.	0.90
90-120	44.53	N.A.	1.90
90-130	77.21	N.A.	3.30
90-150	167.23	N.A.	7.00
90-180	196.18	N.A.	8.30
110-180	175.66	N.A.	7.40
0-180	2373.22	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	96.10
10-20	328.24
20-30	425.58
30-40	401.25
40-50	379.83
50-60	233.31
60-70	206.30
70-80	70.50
80-90	35.93
90-100	6.27
100-110	14.26
110-120	24.01
120-130	32.68
130-140	51.06
140-150	38.96
150-160	20.12
160-170	7.39
170-180	1.44

IES INDOOR REPORT
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	117	117	117	117	113	113	113	113	107	107	107	100	100	100	94	94	94	92
1	108	104	100	97	105	101	98	95	95	93	90	90	88	86	85	84	82	80
2	100	93	87	82	96	90	85	80	85	81	77	81	77	74	77	74	71	69
3	92	83	76	70	89	81	74	69	77	71	66	73	68	64	69	66	62	60
4	85	74	67	61	82	73	65	60	69	63	58	66	61	57	63	59	55	53
5	79	67	59	53	76	66	58	53	63	56	51	60	54	50	57	53	49	47
6	73	61	53	47	71	60	52	47	57	51	46	55	49	45	53	48	44	42
7	68	56	48	43	66	55	47	42	53	46	41	51	45	40	49	44	40	38
8	64	52	44	38	62	51	43	38	49	42	37	47	41	37	45	40	36	34
9	60	48	40	35	58	47	40	35	45	39	34	44	38	34	42	37	33	31
10	56	44	37	32	55	43	37	32	42	36	31	41	35	31	39	34	30	29

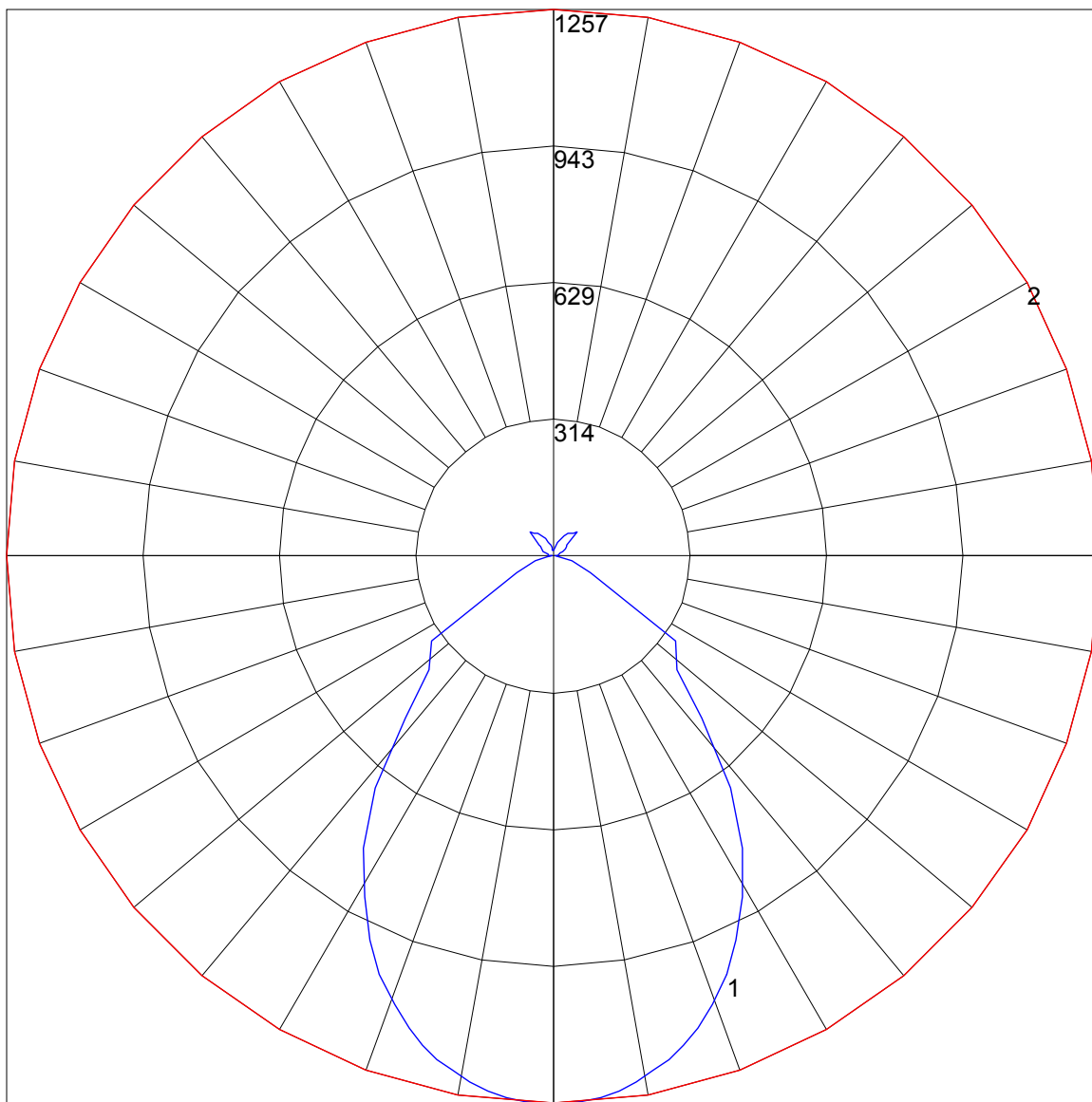
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UGR TABLE - CORRECTED

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	8.9	10.2	9.4	10.7	11.2	8.9	10.2	9.4	10.7	11.2
	3H	9.1	10.3	9.6	10.8	11.3	9.1	10.3	9.6	10.8	11.3
	4H	9.2	10.3	9.7	10.8	11.3	9.2	10.3	9.7	10.8	11.3
	6H	9.2	10.2	9.7	10.7	11.3	9.2	10.2	9.7	10.7	11.3
	8H	9.2	10.1	9.7	10.7	11.3	9.2	10.1	9.7	10.7	11.3
	12H	9.2	10.1	9.7	10.6	11.2	9.2	10.1	9.7	10.6	11.2
4H	2H	8.8	9.9	9.4	10.4	11.0	8.8	9.9	9.4	10.4	11.0
	3H	9.1	10.1	9.7	10.6	11.2	9.1	10.1	9.7	10.6	11.2
	4H	9.2	10.1	9.8	10.6	11.3	9.2	10.1	9.8	10.6	11.3
	6H	9.3	10.0	9.9	10.6	11.3	9.3	10.0	9.9	10.6	11.3
	8H	9.3	10.0	9.9	10.6	11.2	9.3	10.0	9.9	10.6	11.2
	12H	9.3	9.9	9.9	10.5	11.2	9.3	9.9	9.9	10.5	11.2
8H	4H	9.2	9.9	9.8	10.5	11.1	9.2	9.9	9.8	10.5	11.1
	6H	9.3	9.9	9.9	10.5	11.2	9.3	9.9	9.9	10.5	11.2
	8H	9.3	9.8	10.0	10.5	11.1	9.3	9.8	10.0	10.5	11.1
	12H	9.4	9.8	10.0	10.4	11.2	9.4	9.8	10.0	10.4	11.2
12H	4H	9.2	9.8	9.8	10.4	11.0	9.2	9.8	9.8	10.4	11.0
	6H	9.3	9.8	9.9	10.4	11.1	9.3	9.8	9.9	10.4	11.1
	8H	9.3	9.8	10.0	10.4	11.1	9.3	9.8	10.0	10.4	11.1

Maximum UGR = 11.3

POLAR GRAPH



Maximum Candela = 1257 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)