



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

Report No: L042110210



**Report No:** L042110210

**Issue Date:** 5/27/2021

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

**Model Number:** Coil E2 (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 - 5/27/21

**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

<b>Manufacturer:</b>	LightArt
<b>Model Number:</b>	Coil E2 55deg
<b>Driver Model Number:</b>	ERP PHB30W-0700-42

### Test Summary

<b>Total Lumens:</b>	2097.65
<b>Efficacy:</b>	84.51
<b>Color Redering Index:</b>	81.8
<b>Correlated Color Temperature:</b>	3496
<b>Input Voltage (VAC/60Hz):</b>	119.99
<b>Input Current (Amp):</b>	0.2104
<b>Input Power (W):</b>	24.82
<b>Input Power Factor:</b>	0.9832
<b>Current ATHD (%):</b>	11.9%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	1:05
<b>Total Operating Time (Hours):</b>	1:30

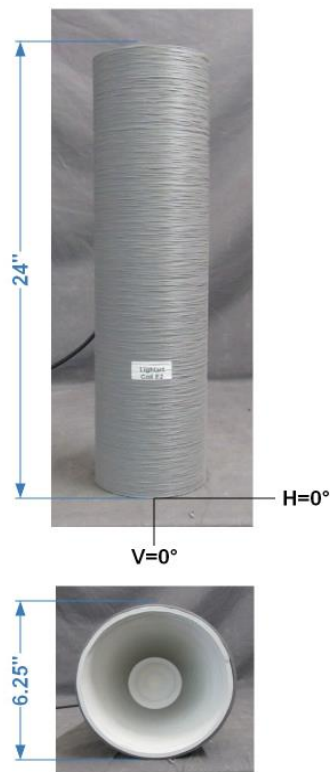
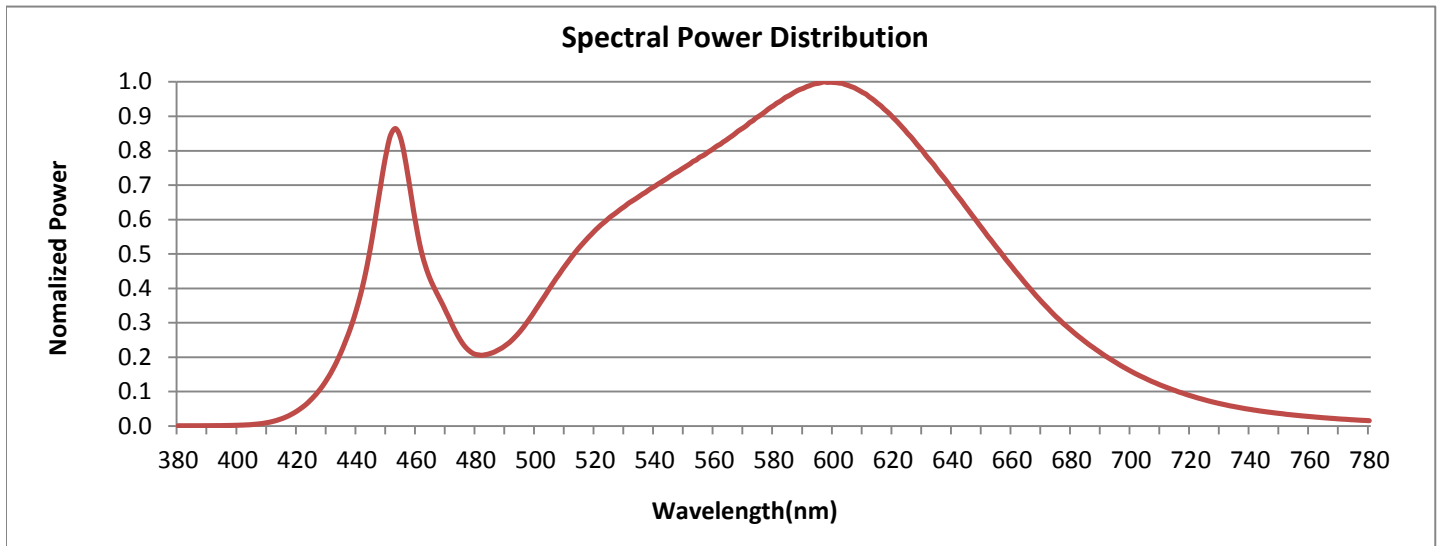


FIG. 1 LUMINAIRE

## Colorimetry Test Results

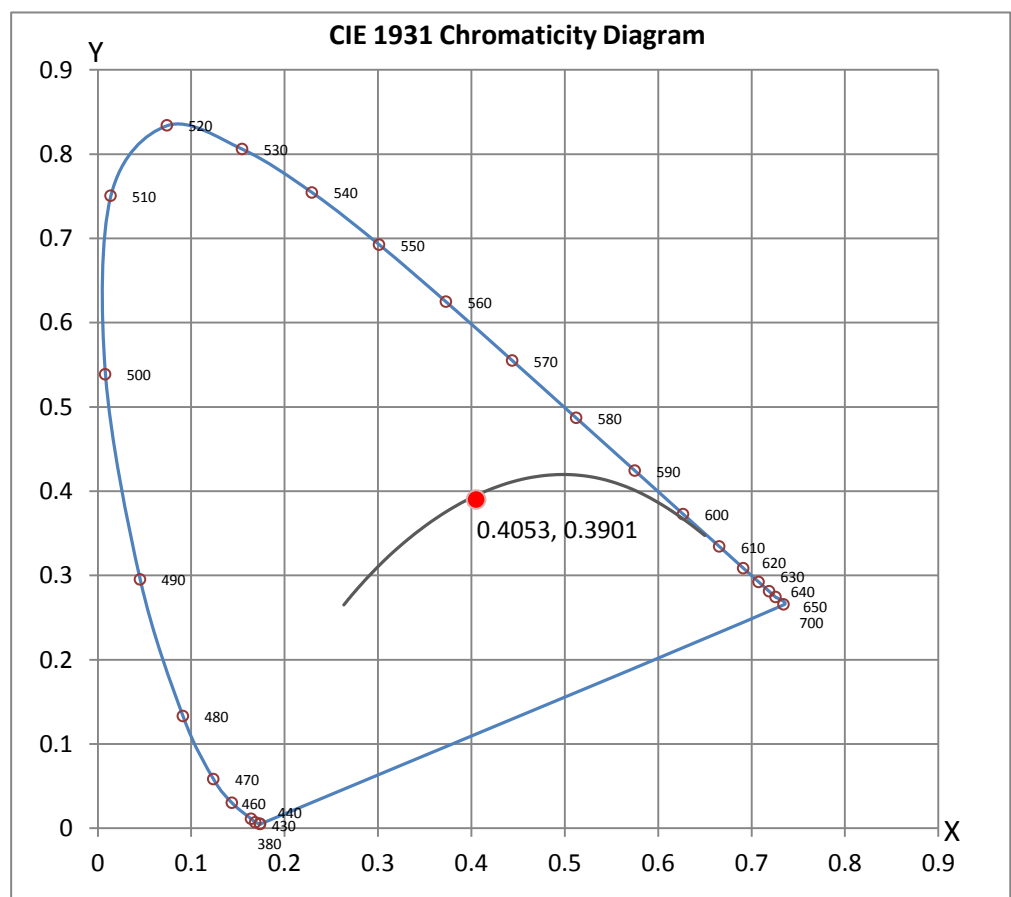


### CRI & CCT

x	0.4053
y	0.3901
u'	0.2360
v'	0.5110
CRI	81.80
CCT	3496
Duv	-0.00028

### R Values

R1	80.17
R2	88.09
R3	93.70
R4	80.42
R5	79.58
R6	83.48
R7	85.48
R8	63.24
R9	9.69
R10	71.11
R11	78.05
R12	60.20
R13	81.87
R14	96.09
R15	74.71





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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 : L042110210.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L042110210  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 5/27/2021  
[MANUFAC] LightArt  
[LUMCAT] Coil E2 55deg  
[LUMINAIRE] Pendant Light Fixture  
[BALLASTCAT] ERP PHB30W-0700-42  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 119.99VAC, 24.82W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2098
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	85
Total Luminaire Watts	24.82
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.10
Spacing Criterion (Diagonal)	1.14
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.48 ft (Diameter)
Luminous Width (90-270)	0.48 ft (Diameter)
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	34374	34374	34374
55	17303	17303	17303
65	13218	13218	13218
75	10792	10792	10792
85	7500	7500	7500

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L042110210.IES

CANDELA TABULATION

	<u>0</u>
0.0	1307
1.0	1306
3.0	1304
5.0	1299
7.0	1293
9.0	1281
11.0	1266
13.0	1248
15.0	1226
17.0	1201
19.5	1166
22.5	1116
25.5	1049
29.0	966
33.0	872
37.5	724
42.5	502
47.5	316
55.0	167
65.0	94
75.0	47
85.0	11
90.0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L042110210.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	446.55	N.A.	21.30
0-30	902.92	N.A.	43.00
0-40	1337.72	N.A.	63.80
0-60	1867.02	N.A.	89.00
0-80	2063.36	N.A.	98.40
0-90	2097.65	N.A.	100.00
10-90	1997.51	N.A.	95.20
20-40	891.17	N.A.	42.50
20-50	1265.68	N.A.	60.30
40-70	653.08	N.A.	31.10
60-80	196.34	N.A.	9.40
70-80	72.56	N.A.	3.50
80-90	34.29	N.A.	1.60
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	2097.65	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	100.14
10-20	346.41
20-30	456.37
30-40	434.80
40-50	374.51
50-60	154.79
60-70	123.78
70-80	72.56
80-90	34.29
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L042110210.IES

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77
3	95	86	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68
4	89	78	71	65	87	77	70	65	75	69	64	73	67	63	71	66	62	61
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	54
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49
7	72	60	53	47	71	60	52	47	58	52	47	57	51	46	55	50	46	44
8	68	56	48	43	66	55	48	43	54	47	43	53	47	42	52	46	42	41
9	64	52	44	39	62	51	44	39	50	44	39	49	43	39	48	43	39	37
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L042110210.IES**

**UGR TABLE - CORRECTED**

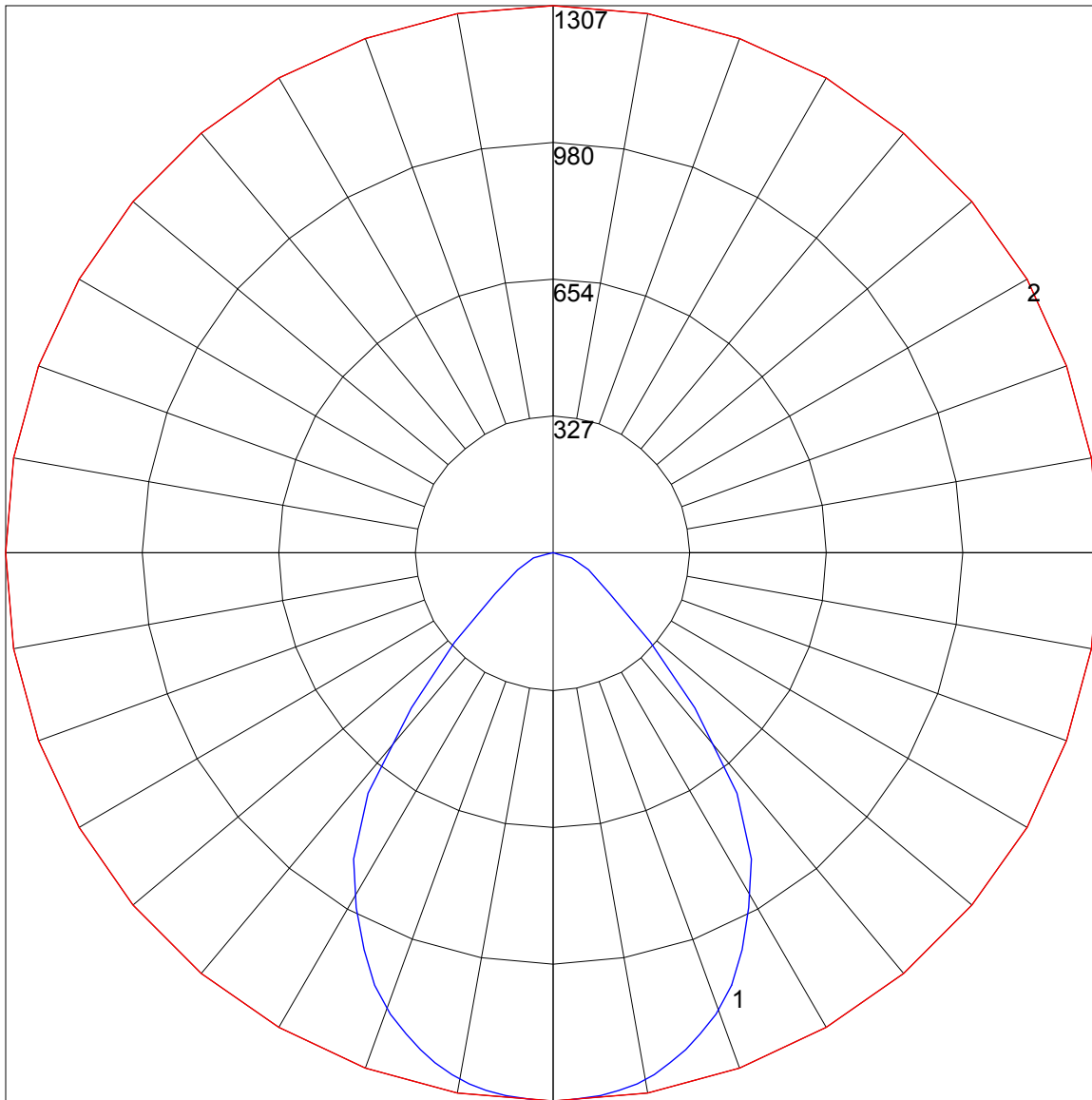
Reflectances

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	18.4	19.8	18.8	20.1	20.5	18.4	19.8	18.8	20.1	20.5
	3H	19.8	21.0	20.1	21.3	21.7	19.8	21.0	20.1	21.3	21.7
	4H	20.2	21.4	20.6	21.8	22.1	20.2	21.4	20.6	21.8	22.1
	6H	20.6	21.7	21.0	22.1	22.4	20.6	21.7	21.0	22.1	22.4
	8H	20.7	21.7	21.2	22.1	22.5	20.7	21.7	21.2	22.1	22.5
	12H	20.8	21.8	21.2	22.1	22.6	20.8	21.8	21.2	22.1	22.6
4H	2H	18.8	20.0	19.2	20.4	20.7	18.8	20.0	19.2	20.4	20.7
	3H	20.4	21.4	20.8	21.8	22.2	20.4	21.4	20.8	21.8	22.2
	4H	21.0	21.9	21.4	22.3	22.7	21.0	21.9	21.4	22.3	22.7
	6H	21.5	22.2	21.9	22.7	23.2	21.5	22.2	21.9	22.7	23.2
	8H	21.6	22.4	22.1	22.8	23.3	21.6	22.4	22.1	22.8	23.3
	12H	21.8	22.4	22.2	22.9	23.3	21.8	22.4	22.2	22.9	23.3
8H	4H	21.2	21.9	21.7	22.4	22.8	21.2	21.9	21.7	22.4	22.8
	6H	21.8	22.4	22.3	22.9	23.4	21.8	22.4	22.3	22.9	23.4
	8H	22.0	22.6	22.5	23.1	23.6	22.0	22.6	22.5	23.1	23.6
	12H	22.2	22.7	22.7	23.1	23.7	22.2	22.7	22.7	23.1	23.7
12H	4H	21.2	21.8	21.7	22.3	22.8	21.2	21.8	21.7	22.3	22.8
	6H	21.8	22.4	22.4	22.8	23.4	21.8	22.4	22.4	22.8	23.4
	8H	22.1	22.6	22.6	23.1	23.6	22.1	22.6	22.6	23.1	23.6

Maximum UGR = 23.7

POLAR GRAPH



Maximum Candela = 1307 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.)