



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

Report No: L042110209



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Issue Date: 5/27/2021

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

Model Number: Coil E2 (Narrow Flood, uses 5deg lens)

Test: Photometric/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

Manufacturer:	LightArt
Model Number:	Coil E2 5deg
Driver Model Number:	ERP PHB30W-0700-42

Test Summary

Total Lumens:	2473.13
Efficacy:	99.49
Input Voltage (VAC/60Hz):	120.01
Input Current (Amp):	0.2107
Input Power (W):	24.86
Input Power Factor:	0.9832
Current ATHD (%):	11.9%

Test Condition

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

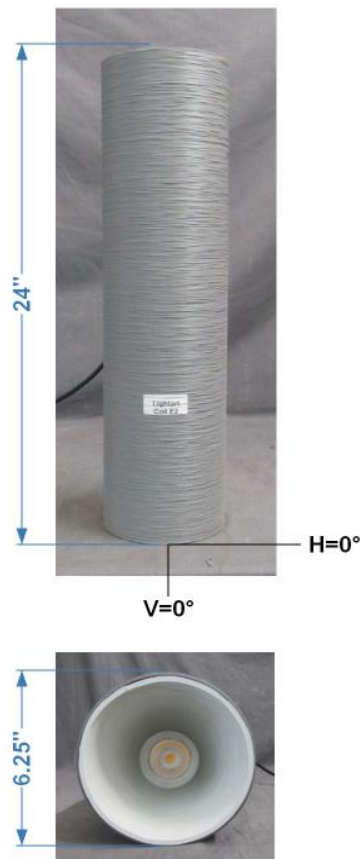


FIG. 1 LUMINAIRE



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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: 9*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L042110209.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L042110209
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 5/27/2021
[MANUFAC] LightArt
[LUMCAT] Coil E2 5deg
[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] 120.01VAC, 24.86W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2473
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
Total Luminaire Watts	24.86
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.50
Spacing Criterion (90-270)	0.50
Spacing Criterion (Diagonal)	0.54
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	15716	15716	15716
55	10568	10568	10568
65	8578	8578	8578
75	7348	7348	7348
85	4773	4773	4773

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L042110209.IES

CANDELA TABULATION

	<u>0</u>
0.0	5701
1.0	5680
3.0	5545
5.0	5311
7.0	4968
9.0	4510
11.0	3956
13.0	3363
15.0	2801
17.0	2330
19.5	1858
22.5	1424
25.5	1105
29.0	857
33.0	654
37.5	349
42.5	210
47.5	164
55.0	102
65.0	61
75.0	32
85.0	7
90.0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L042110209.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1220.36	N.A.	49.30
0-30	1755.37	N.A.	71.00
0-40	2068.81	N.A.	83.70
0-60	2325.02	N.A.	94.00
0-80	2450.18	N.A.	99.10
0-90	2473.13	N.A.	100.00
10-90	2079.22	N.A.	84.10
20-40	848.45	N.A.	34.30
20-50	1019.41	N.A.	41.20
40-70	333.51	N.A.	13.50
60-80	125.16	N.A.	5.10
70-80	47.86	N.A.	1.90
80-90	22.95	N.A.	0.90
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	2473.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	393.91
10-20	826.45
20-30	535.01
30-40	313.44
40-50	170.96
50-60	85.25
60-70	77.30
70-80	47.86
80-90	22.95
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 : L042110209.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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92
2	107	102	97	93	105	100	96	92	97	93	90	94	91	88	91	89	87	85
3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79
4	96	88	83	78	94	87	82	78	85	81	77	83	79	76	81	78	75	74
5	92	83	77	73	90	82	77	72	80	76	72	79	75	71	77	73	71	69
6	87	78	72	68	86	78	72	68	76	71	67	75	70	67	73	70	67	65
7	84	74	68	64	82	74	68	64	72	67	64	71	67	63	70	66	63	61
8	80	71	65	61	79	70	64	60	69	64	60	68	63	60	67	63	60	58
9	77	67	61	57	75	67	61	57	66	61	57	65	60	57	64	60	57	55
10	73	64	58	55	72	64	58	55	63	58	54	62	57	54	61	57	54	53

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L042110209.IES

UGR TABLE - CORRECTED

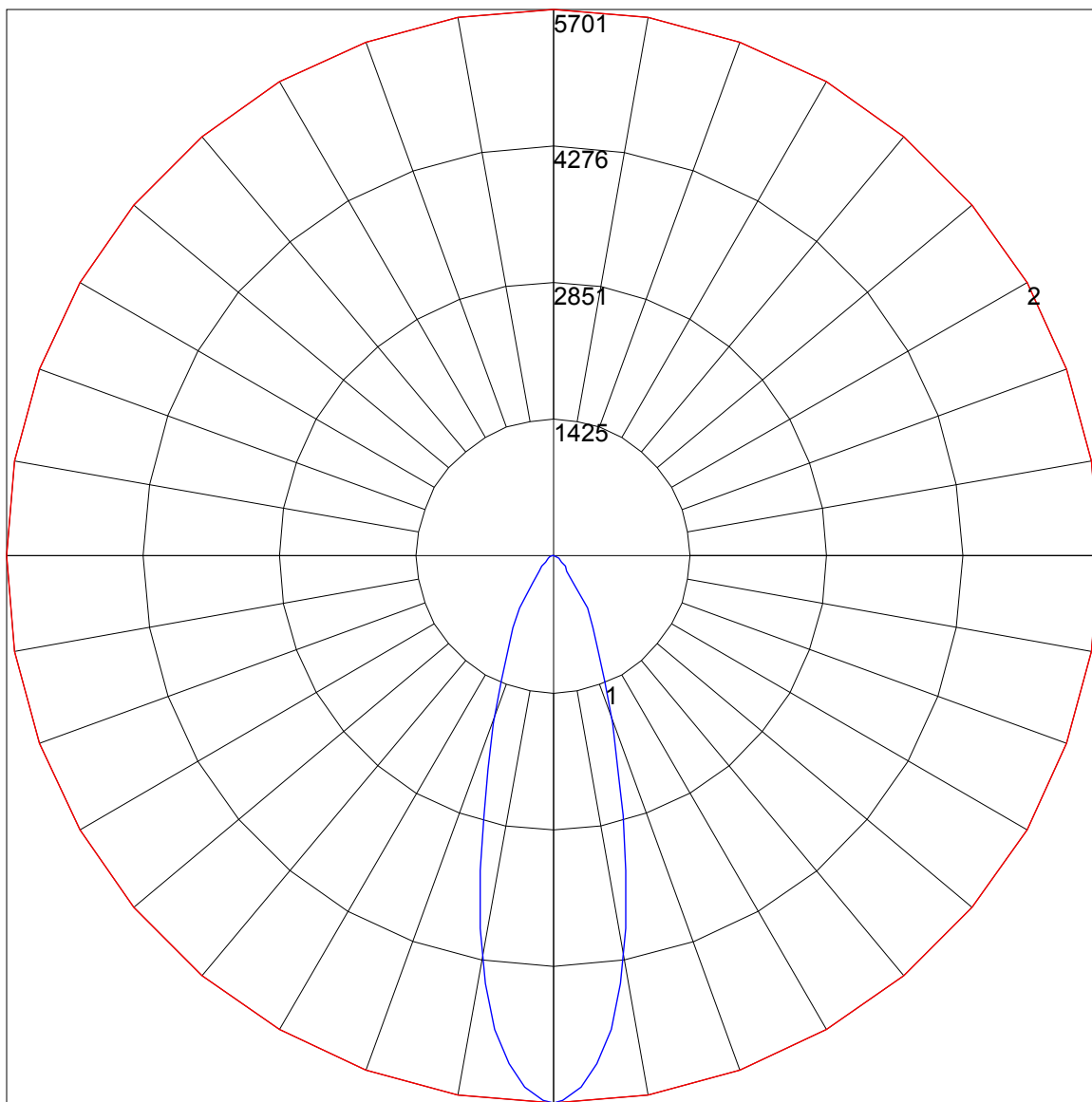
Reflectances

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	14.8	15.9	15.2	16.3	16.6	14.8	15.9	15.2	16.3	16.6
	3H	16.2	17.3	16.6	17.6	18.0	16.2	17.3	16.6	17.6	18.0
	4H	16.8	17.7	17.2	18.1	18.5	16.8	17.7	17.2	18.1	18.5
	6H	17.2	18.0	17.6	18.4	18.8	17.2	18.0	17.6	18.4	18.8
	8H	17.3	18.1	17.7	18.5	18.9	17.3	18.1	17.7	18.5	18.9
	12H	17.4	18.1	17.8	18.5	18.9	17.4	18.1	17.8	18.5	18.9
4H	2H	15.2	16.2	15.6	16.5	16.9	15.2	16.2	15.6	16.5	16.9
	3H	16.9	17.7	17.3	18.1	18.5	16.9	17.7	17.3	18.1	18.5
	4H	17.5	18.2	18.0	18.7	19.1	17.5	18.2	18.0	18.7	19.1
	6H	18.1	18.7	18.5	19.1	19.6	18.1	18.7	18.5	19.1	19.6
	8H	18.2	18.8	18.7	19.2	19.7	18.2	18.8	18.7	19.2	19.7
	12H	18.3	18.8	18.8	19.3	19.8	18.3	18.8	18.8	19.3	19.8
8H	4H	17.8	18.3	18.2	18.8	19.2	17.8	18.3	18.2	18.8	19.2
	6H	18.4	18.8	18.9	19.3	19.8	18.4	18.8	18.9	19.3	19.8
	8H	18.6	19.0	19.1	19.5	20.0	18.6	19.0	19.1	19.5	20.0
	12H	18.8	19.1	19.3	19.6	20.2	18.8	19.1	19.3	19.6	20.2
12H	4H	17.8	18.2	18.2	18.7	19.2	17.8	18.2	18.2	18.7	19.2
	6H	18.4	18.8	18.9	19.3	19.8	18.4	18.8	18.9	19.3	19.8
	8H	18.7	19.0	19.2	19.5	20.1	18.7	19.0	19.2	19.5	20.1

Maximum UGR = 20.2

POLAR GRAPH



Maximum Candela = 5701 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.)