



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

Report No: L101805132



**Report No:** L101805132

**Issue Date:** 11/12/2018

**Report Prepared For:** LumenArt Ltd  
3333 W. 47th Street Chicago, IL 60632

**Model Number:** ACP24 3 Light

**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:** 10/30/18

**Date of Tests:** 11/1/18 - 11/2/18

**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	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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>	LumenArt Ltd
<b>Model Number:</b>	ACP24 3 Light
<b>Driver Model Number:</b>	N/A

### Photometric & Electrical Test Results

<b>Total Lumens:</b>	2180.75
<b>Efficacy:</b>	60.81
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.3014
<b>Input Power (W):</b>	35.86
<b>Input Power Factor:</b>	0.9918
<b>Current ATHD (%):</b>	11.7%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	1:10
<b>Total Operating Time (Hours):</b>	1:40

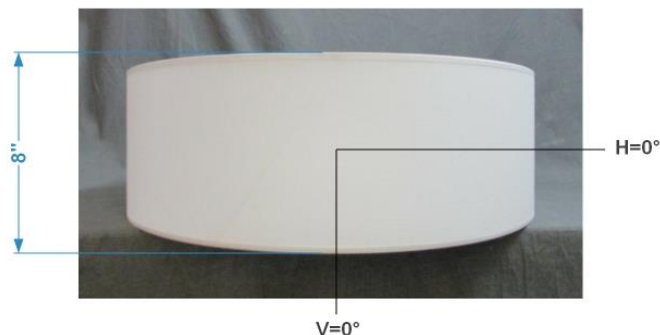


FIG. 1 LUMINAIRE



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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.

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Test Report Released by:

Jeff Ahn  
Engineering Manager

Test Report Reviewed by:

Steve Kang  
Quality Assurance

*\*Attached are photometric data reports. Total number of pages: 8*



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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L101805132.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L101805132  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUE DATE] 11/12/2018  
[MANUFAC] LUMENART LTD  
[LUMCAT] ACP24 3 LIGHT  
[LUMINAIRE] PENDANT  
[BALLASTCAT] N/A  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120.00VAC, 35.86W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2181
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	61
Total Luminaire Watts	35.86
Ballast Factor	1.00
CIE Type	Semi-Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	2.00 ft (Diameter)
Luminous Width (90-270)	2.00 ft (Diameter)
Luminous Height	0.67 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	244	244	244
55	256	256	256
65	265	265	265
75	276	276	276
85	312	312	312

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L101805132.IES

CANDELA TABULATION

	<u>0</u>
0	71.76
5	72.09
10	72.72
15	73.06
20	73.17
25	73.19
30	73.08
35	72.63
40	72.14
45	71.92
50	70.82
55	68.94
60	66.40
65	62.75
70	58.64
75	54.15
80	49.87
85	46.74
90	45.90
95	60.93
100	162.31
105	258.48
110	293.33
115	310.88
120	326.79
125	337.92
130	348.21
135	357.42
140	366.80
145	372.35
150	376.65
155	378.23
160	378.63
165	377.69
170	375.94
175	372.11
180	367.86

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101805132.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	27.60	N.A.	1.30
0-30	61.46	N.A.	2.80
0-40	107.07	N.A.	4.90
0-60	224.26	N.A.	10.30
0-80	343.71	N.A.	15.80
0-90	395.32	N.A.	18.10
10-90	388.42	N.A.	17.80
20-40	79.47	N.A.	3.60
20-50	134.99	N.A.	6.20
40-70	179.32	N.A.	8.20
60-80	119.45	N.A.	5.50
70-80	57.31	N.A.	2.60
80-90	51.62	N.A.	2.40
90-110	346.74	N.A.	15.90
90-120	654.75	N.A.	30.00
90-130	957.58	N.A.	43.90
90-150	1467.87	N.A.	67.30
90-180	1785.43	N.A.	81.90
110-180	1438.69	N.A.	66.00
0-180	2180.75	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	6.90
10-20	20.70
20-30	33.86
30-40	45.61
40-50	55.52
50-60	61.67
60-70	62.13
70-80	57.31
80-90	51.62
90-100	89.91
100-110	256.83
110-120	308.01
120-130	302.83
130-140	276.68
140-150	233.62
150-160	174.91
160-170	107.04
170-180	35.61

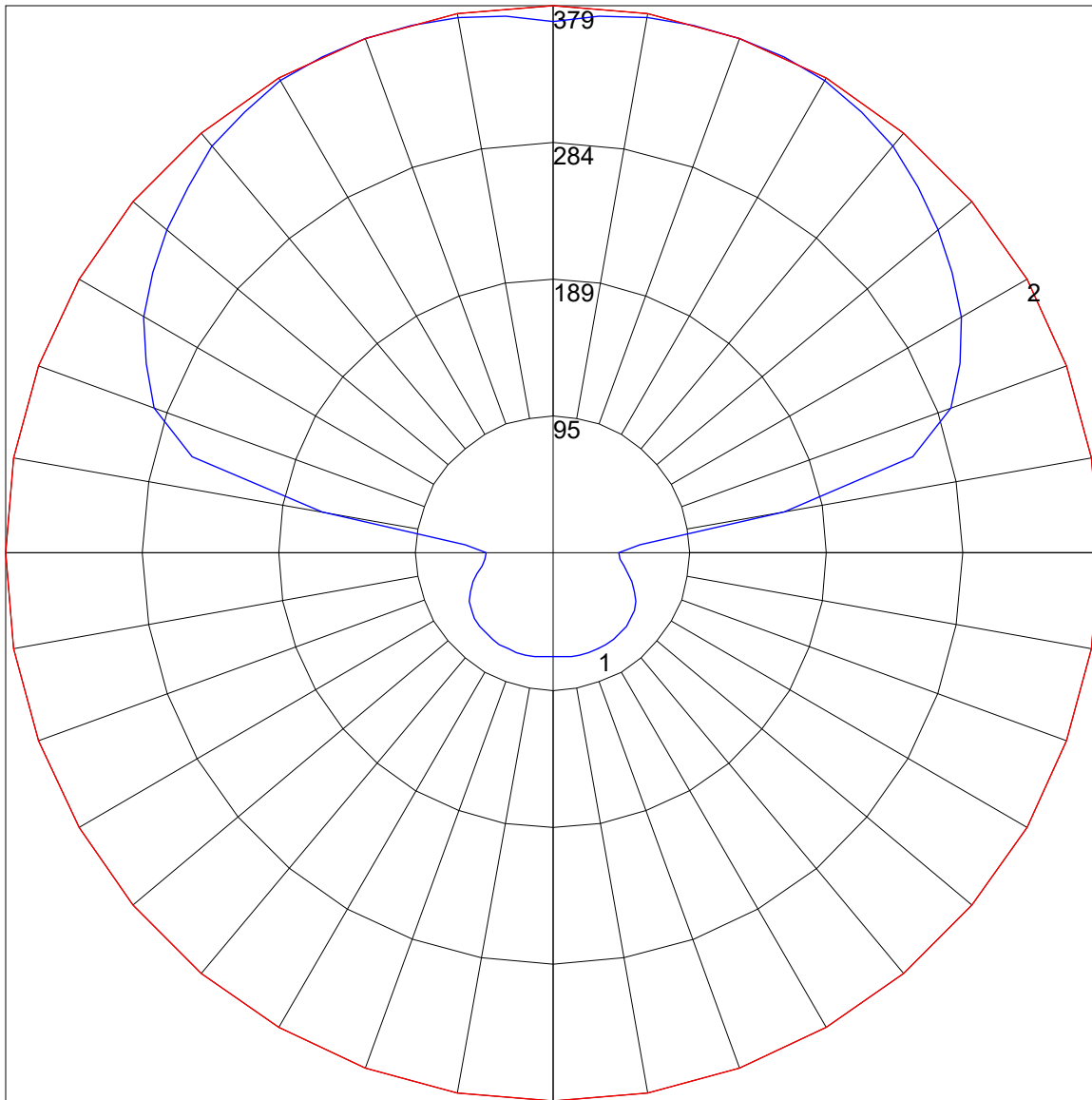
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	100	100	100	100	88	88	88	88	66	66	66	45	45	45	27	27	27	18
1	89	85	81	77	78	75	71	68	56	53	51	38	37	35	22	21	20	13
2	81	73	67	62	71	65	59	55	48	44	41	33	30	28	19	17	16	10
3	73	64	57	51	64	56	50	45	42	38	34	28	26	23	16	15	13	8
4	67	56	48	42	58	50	43	38	37	32	29	25	22	20	14	12	11	6
5	61	50	42	36	53	44	37	32	33	28	24	22	19	17	12	11	9	5
6	56	44	36	31	49	39	32	27	29	24	21	20	17	14	11	9	8	5
7	52	40	32	26	45	35	28	24	26	21	18	18	15	12	10	8	7	4
8	48	36	28	23	42	32	25	21	24	19	16	16	13	11	9	7	6	3
9	44	32	25	20	39	29	22	18	22	17	14	15	12	10	8	7	5	3
10	41	29	23	18	36	26	20	16	20	15	12	14	11	9	8	6	5	3

POLAR GRAPH



Maximum Candela = 378.63 Located At Horizontal Angle = 0, Vertical Angle = 160  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (160) (Through Max. Cd.)