



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

Report No: L101805107



**Report No:** L101805107

**Issue Date: 11/7/2018**

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

**Model Number:** APD54

**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:** 10/30/18 - 10/31/18

**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>	APD54
<b>Driver Model Number:</b>	ERP ESS010W-0250-42

### Photometric & Electrical Test Results

<b>Total Lumens:</b>	910.74
<b>Efficacy:</b>	87.24
<b>Input Voltage (VAC/60Hz):</b>	119.97
<b>Input Current (Amp):</b>	0.0881
<b>Input Power (W):</b>	10.44
<b>Input Power Factor:</b>	0.9883
<b>Current ATHD (%):</b>	12.9%

### Test Condition

<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	1:00

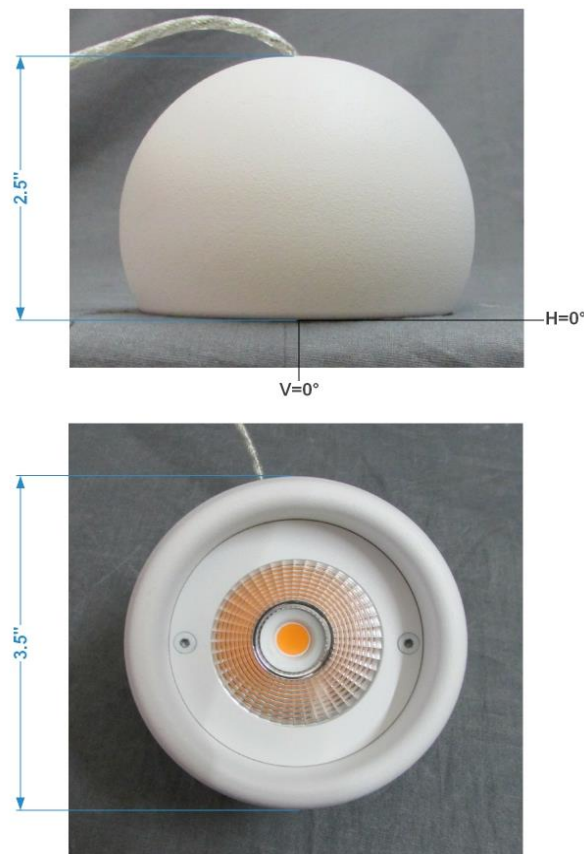


FIG. 1 LUMINAIRE



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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 : L101805107.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L101805107  
[TESTLAB] LIGHT LABORATORY, INC. (WWW.LIGHTLABORATORY.COM)  
[ISSUEDATE] 11/6/2018  
[MANUFAC] LUMENART LTD  
[LUMCAT] APD54  
[LUMINAIRE] PENDANT MEDIUM BEAM  
[BALLASTCAT] ERP ESS010W-0250-42  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 119.97VAC, 10.44W  
[TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	911
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	10.44
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.40
Spacing Criterion (90-270)	0.40
Spacing Criterion (Diagonal)	0.42
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.15 ft (Diameter)
Luminous Width (90-270)	0.15 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	33564	33564	33564
55	21219	21219	21219
65	15839	15839	15839
75	7054	7054	7054
85	6982	6982	6982

IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L101805107.IES

CANDELA TABULATION

	<u>0</u>
0.0	2901
1.0	2877
2.0	2826
3.0	2751
4.0	2651
5.0	2528
6.0	2386
7.0	2231
8.0	2066
9.0	1890
10.0	1708
12.0	1356
14.0	1041
16.0	795
18.0	629
20.0	523
22.5	445
25.0	405
27.5	385
30.0	373
35.0	290
40.0	115
45.0	39
50.0	28
55.0	20
60.0	14
65.0	11
70.0	7
75.0	3
80.0	2
85.0	1
90.0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L101805107.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	476.63	N.A.	52.30
0-30	669.51	N.A.	73.50
0-40	834.71	N.A.	91.70
0-60	895.06	N.A.	98.30
0-80	909.65	N.A.	99.90
0-90	910.74	N.A.	100.00
10-90	696.23	N.A.	76.40
20-40	358.08	N.A.	39.30
20-50	400.13	N.A.	43.90
40-70	70.98	N.A.	7.80
60-80	14.59	N.A.	1.60
70-80	3.95	N.A.	0.40
80-90	1.09	N.A.	0.10
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	910.74	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	214.51
10-20	262.13
20-30	192.88
30-40	165.20
40-50	42.05
50-60	18.30
60-70	10.64
70-80	3.95
80-90	1.09
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

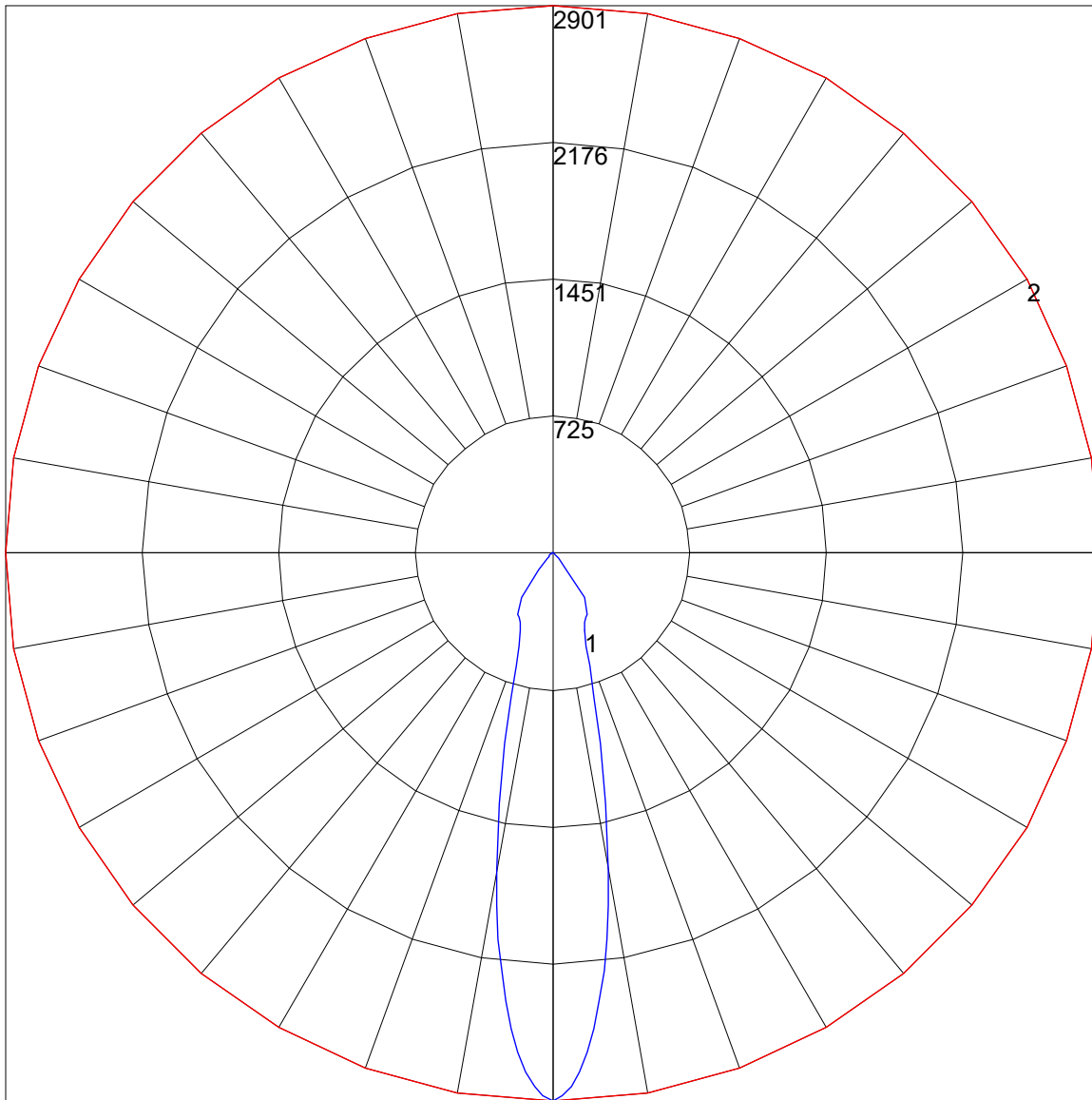
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83
4	99	92	87	83	97	91	86	83	89	85	82	87	83	81	85	82	80	78
5	95	87	82	78	93	86	81	77	84	80	77	83	79	76	81	78	75	74
6	91	83	77	73	89	82	77	73	80	76	72	79	75	72	78	74	72	70
7	87	79	73	69	86	78	73	69	77	72	69	76	71	68	74	71	68	67
8	83	75	69	66	82	74	69	66	73	69	65	72	68	65	71	68	65	64
9	80	72	66	63	79	71	66	63	70	66	62	69	65	62	69	65	62	61
10	77	69	63	60	76	68	63	60	67	63	60	67	62	60	66	62	59	58

POLAR GRAPH



Maximum Candela = 2901 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.)