



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

Report No: L082410201



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Issue Date: 8/9/2024

Report Prepared For: RAVENHILL STUDIO
2122 Cypress Ave. Los Angeles, CA 90065

Reference:N/A

Amendment:N/A

Model Number: Pearl 4

Test: Photometric/Electrical Test

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

IESNA LM79: 2019 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2017 Specification of the Chromaticity of Solid State Lighting Products

ANSI C82.77-10:2014: 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.

Date of Tests: 8/8/24

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	4/7/25
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	5/24/25
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:	RAVENHILL STUDIO
Model Number:	Pearl 4
Driver Model Number:	NONE

Photometric & Electrical Test Results

Total Lumens:	258.00
Efficacy:	57.15
Input Voltage (VAC/60Hz):	120.09
Input Current (Amp):	0.0437
Input Power (W):	4.51
Input Power Factor:	0.8609
Current ATHD (%):	22.2%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	0:55

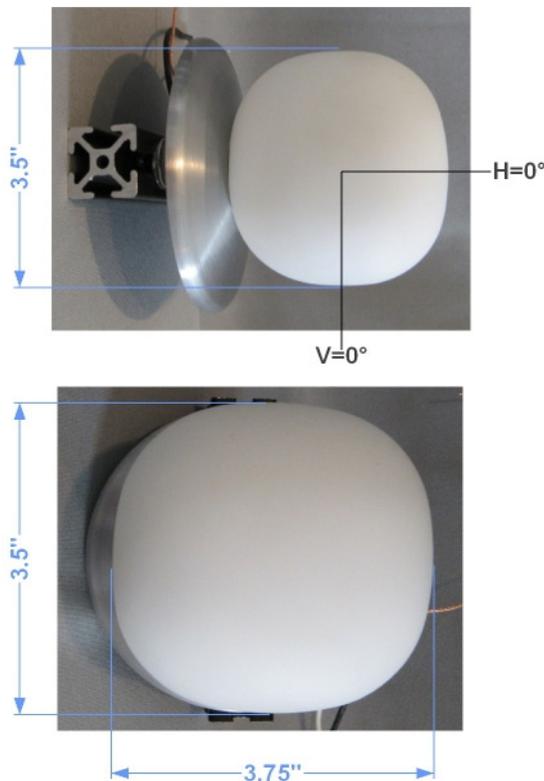


FIG. 1 LUMINAIRE

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:

The results related only to the samples as received and tested. This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government.

Report Prepared by : JG

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports.*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L082410201.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L082410201
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 8/9/2024
[MANUFAC] RAVENHILL STUDIO
[LUMCAT] Pearl 4
[LUMINAIRE] G8 4.5W LED 1800-2700K Dim to Warm 90+ CRI 450 Lumens,
[MORE] 4.5W UL, cUL, Title 24, JA8 Compliant
[BALLASTCAT] NONE
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC
[TEST PROCEDURE] IESNA:LM-79-19

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	258
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	4.51
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.29 ft
Luminous Width (90-270)	0.31 ft
Luminous Height	0.29 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1945	1714	2098
55	1975	1694	2143
65	1980	1726	2260
75	2051	1816	2470
85	2208	1979	2700

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L082410201.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	8.77	N.A.	3.40
0-30	19.38	N.A.	7.50
0-40	33.38	N.A.	12.90
0-60	68.32	N.A.	26.50
0-80	106.91	N.A.	41.40
0-90	126.24	N.A.	48.90
10-90	124.04	N.A.	48.00
20-40	24.61	N.A.	9.50
20-50	41.22	N.A.	16.00
40-70	54.13	N.A.	21.00
60-80	38.59	N.A.	14.90
70-80	19.40	N.A.	7.50
80-90	19.33	N.A.	7.50
90-110	39.41	N.A.	15.30
90-120	59.33	N.A.	23.00
90-130	78.67	N.A.	30.50
90-150	111.29	N.A.	43.10
90-180	131.95	N.A.	51.10
110-180	92.54	N.A.	35.80
0-180	258.19	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	2.20
10-20	6.57
20-30	10.61
30-40	14.00
40-50	16.61
50-60	18.33
60-70	19.20
70-80	19.40
80-90	19.33
90-100	19.47
100-110	19.94
110-120	19.92
120-130	19.34
130-140	17.67
140-150	14.95
150-160	11.32
160-170	6.98
170-180	2.36

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L082410201.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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49	
1	94	88	83	78	86	81	76	72	67	64	61	55	52	50	43	41	39	34	
2	84	75	68	61	77	69	62	57	57	52	48	46	42	39	36	33	31	26	
3	76	65	56	49	69	60	52	46	49	43	38	40	35	32	31	28	25	20	
4	69	57	48	41	63	52	44	38	43	37	32	35	30	26	27	23	21	17	
5	63	50	41	34	57	46	38	32	38	32	27	31	26	22	24	20	17	14	
6	58	45	36	29	53	41	33	27	34	28	23	28	23	19	22	18	15	12	
7	53	40	32	25	49	37	29	24	31	25	20	25	20	16	20	16	13	10	
8	50	36	28	22	45	33	26	21	28	22	18	23	18	14	18	14	11	9	
9	46	33	25	20	42	30	23	18	25	20	16	21	16	13	16	13	10	8	
10	43	30	23	17	39	28	21	16	23	18	14	19	15	11	15	12	9	7	

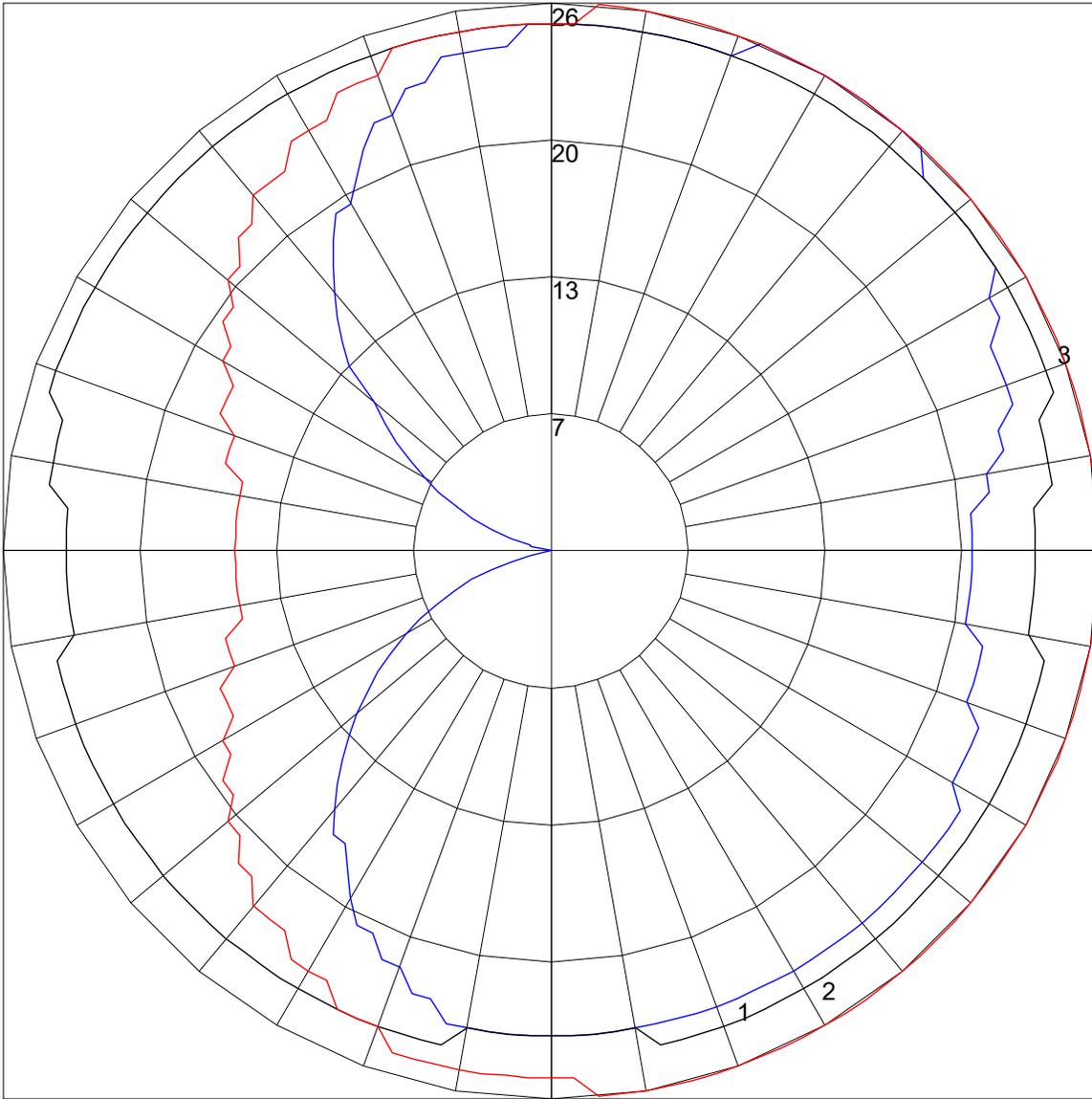
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UGR TABLE - CORRECTED

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	10.5	11.5	11.5	12.5	13.7	10.6	11.6	11.5	12.5	13.8
	3H	13.2	14.1	14.2	15.1	16.4	13.6	14.5	14.5	15.5	16.7
	4H	14.5	15.4	15.5	16.4	17.7	15.0	15.9	16.0	16.9	18.2
	6H	15.8	16.6	16.8	17.6	18.9	16.5	17.2	17.4	18.2	19.5
	8H	16.5	17.2	17.4	18.2	19.5	17.1	17.9	18.1	18.9	20.2
	12H	17.1	17.8	18.1	18.8	20.2	17.8	18.5	18.7	19.5	20.8
4H	2H	11.4	12.2	12.3	13.2	14.5	11.1	12.0	12.1	13.0	14.3
	3H	14.3	15.0	15.3	16.0	17.3	14.4	15.1	15.3	16.1	17.4
	4H	15.8	16.4	16.7	17.4	18.8	16.0	16.7	17.0	17.7	19.0
	6H	17.2	17.8	18.2	18.9	20.2	17.6	18.2	18.6	19.3	20.6
	8H	17.9	18.5	18.9	19.5	20.9	18.4	19.0	19.4	20.0	21.4
	12H	18.7	19.2	19.7	20.2	21.6	19.2	19.7	20.2	20.8	22.1
8H	4H	16.4	16.9	17.3	17.9	19.3	16.3	16.9	17.3	17.9	19.3
	6H	18.1	18.6	19.1	19.6	21.0	18.2	18.7	19.2	19.7	21.1
	8H	19.0	19.4	20.0	20.4	21.8	19.2	19.6	20.2	20.6	22.0
	12H	19.8	20.2	20.9	21.3	22.7	20.2	20.6	21.2	21.6	23.0
12H	4H	16.5	17.0	17.5	18.0	19.4	16.4	16.9	17.4	17.9	19.3
	6H	18.3	18.7	19.3	19.8	21.2	18.3	18.8	19.3	19.8	21.2
	8H	19.3	19.7	20.3	20.7	22.1	19.4	19.7	20.4	20.8	22.2

Maximum UGR = 23.0

POLAR GRAPH



Maximum Candela = 26 Located At Horizontal Angle = 0, Vertical Angle = 137.5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)
3 - Horizontal Cone Through Vertical Angle (137.5) (Through Max. Cd.)