



8165 E Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270
f. 714.676.5558

Test #: L111604101

Date: 11/21/2016



NVLAP LAB CODE 200927-0

Report No: L111604101

Prepared For: Cerno
1751 Mc gaw Ave Irvine, CA 92614

Model Number: 08-100-24W

Test: Photometric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Catalog number is 08-100-24W. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 11/17/16

Date of Tests: 11/17/16 - 11/21/16

Seasoning of Sample: No seasoning was performed.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
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

Test Summary

Manufacturer:	Cerno
Model Number:	08-100-24W
Driver/Ballast Model Number:	N/A
Total Lumens:	1960.28
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.54
Input Power (W):	35.04
Input Power Factor:	0.54
Current ATHD @ 120V(%):	140%
Current ATHD @ 277V(%):	N/A
Efficacy:	56
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:50
Off State Power(W):	0.00

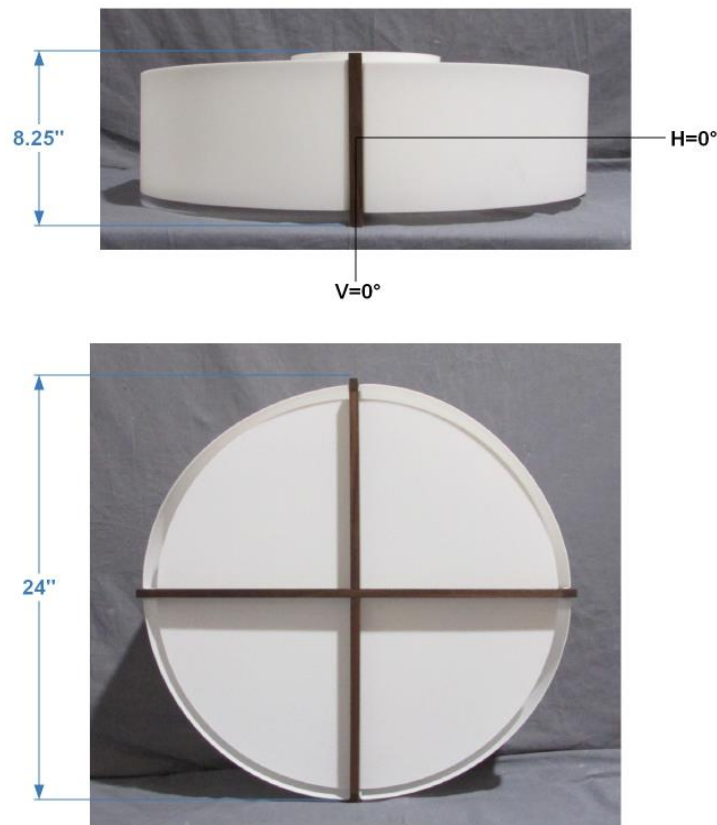


FIG.1 LUMINAIRE



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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.

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 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 : L111604101.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L111604101
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 11/21/2016
[MANUFAC] CERNO
[LUMCAT] 08-100-24W
[LUMINAIRE] PLURA FLUSH MOUNT CEILING LIGHT, 24", WALNUT, 2X GU-24 18W CFL
[BALLASTCAT] N/A
[LAMPPOSITION] 0,0
[LAMPCAT] TCP 33118SP 2700K
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 35.04W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1960
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	56
Total Luminaire Watts	35.04
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	Circular w/ Sides
Luminous Length (0-180)	1.98 ft (Diameter)
Luminous Width (90-270)	1.98 ft (Diameter)
Luminous Height	0.50 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	704	704	704
55	662	662	662
65	624	624	624
75	576	576	576
85	589	589	589

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L111604101.IES

CANDELA TABULATION

	<u>0</u>
0	242.25
5	243.96
10	244.08
15	243.86
20	239.28
25	232.93
30	224.37
35	213.77
40	201.17
45	188.40
50	174.17
55	158.71
60	143.93
65	127.66
70	110.62
75	93.84
80	79.08
85	68.72
90	71.86
95	82.70
100	104.29
105	121.10
110	138.09
115	157.57
120	175.32
125	192.43
130	205.11
135	213.65
140	219.04
145	221.93
150	223.06
155	222.13
160	218.45
165	214.22
170	208.28
175	197.56
180	188.26

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L111604101.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	92.03	N.A.	4.70
0-30	199.43	N.A.	10.20
0-40	333.18	N.A.	17.00
0-60	620.91	N.A.	31.70
0-80	846.98	N.A.	43.20
0-90	925.63	N.A.	47.20
10-90	902.36	N.A.	46.00
20-40	241.15	N.A.	12.30
20-50	386.54	N.A.	19.70
40-70	414.09	N.A.	21.10
60-80	226.07	N.A.	11.50
70-80	99.71	N.A.	5.10
80-90	78.65	N.A.	4.00
90-110	221.19	N.A.	11.30
90-120	376.97	N.A.	19.20
90-130	548.42	N.A.	28.00
90-150	852.25	N.A.	43.50
90-180	1034.65	N.A.	52.80
110-180	813.46	N.A.	41.50
0-180	1960.28	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	23.27
10-20	68.76
20-30	107.40
30-40	133.75
40-50	145.39
50-60	142.33
60-70	126.36
70-80	99.71
80-90	78.65
90-100	93.13
100-110	128.06
110-120	155.79
120-130	171.44
130-140	164.73
140-150	139.10
150-160	102.55
160-170	60.72
170-180	19.13

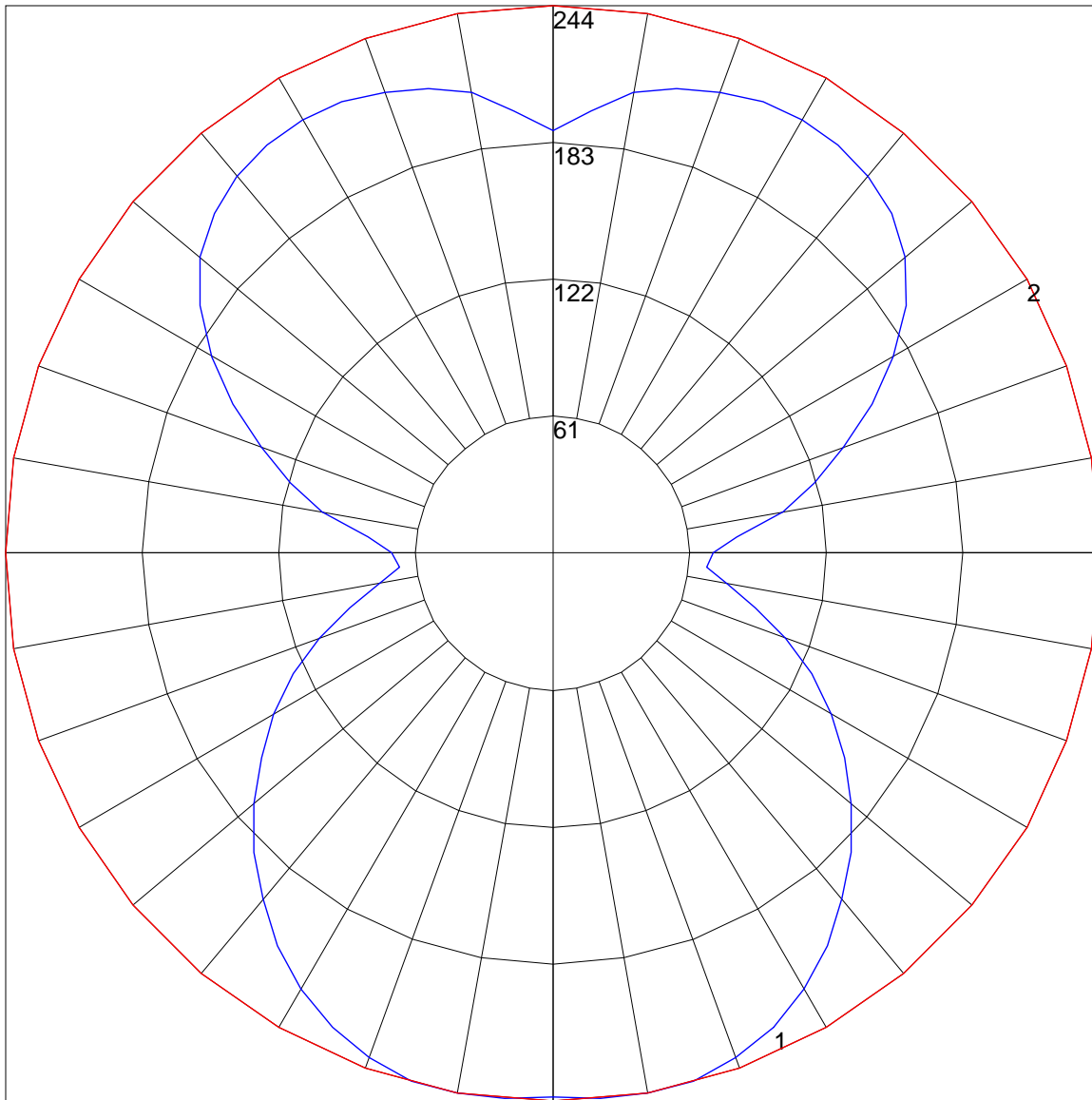
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	95	90	86	82	87	83	79	75	69	66	64	56	54	52	45	43	42	36
2	86	78	71	65	79	72	66	61	60	55	51	49	45	42	38	36	34	29
3	78	68	60	54	71	62	55	50	52	47	42	42	38	35	33	31	28	24
4	71	60	51	45	65	55	48	42	46	40	36	37	33	30	30	26	24	20
5	65	53	44	38	59	49	41	36	41	35	30	33	29	25	26	23	20	17
6	60	47	39	33	55	44	36	31	37	31	26	30	25	22	24	20	18	15
7	55	43	34	29	51	39	32	27	33	27	23	27	23	19	22	18	16	13
8	51	39	31	25	47	36	28	23	30	24	20	25	20	17	20	16	14	11
9	48	35	27	22	44	32	26	21	27	22	18	23	18	15	18	15	12	10
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	11	9

POLAR GRAPH



Maximum Candela = 244.08 Located At Horizontal Angle = 0, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)