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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L122510912 **Issue Date: 1/6/2026**
Amendment: N/A **Revision Date: N/A**

Report Prepared For: FX Luminaire / Lumascape
1940 Diamond Street, San Marcos, CA 92078

Model Number: TN-61-E6-S-WF-CW-FW

Test: Photometric/Colorimetric/Electrical Test

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

IES LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI/IES LM79: 2019 Approved Methods for Optical and Electrical Measurements of Solid-State Lighting Products

ANSI/NEMA 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: 12/23/25

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-S3	6/21/26
HP Power Supply	6032A	PS-DC05-S2	--
Fluke Digital Thermometer	52K/J	MT-TP05	6/25/26
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

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

NVLAP TESTING
NVLAP LAB CODE 200927-0

General Information	
Manufacturer:	FX Luminaire / Lumascape
Model Number:	TN-61-E6-S-WF-CW-FW
Driver Model Number:	CUSTOM

Test Summary	
Total Lumens:	290.00
Efficacy:	73.05
Color Redering Index:	83.3
Correlated Color Temperature:	3007
Input Voltage (VAC/60Hz):	12.00
Input Current (Amp):	0.4878
Input Power (W):	3.97
Input Power Factor:	0.6777
Current ATHD (%):	96.6%

Test Condition	
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:45

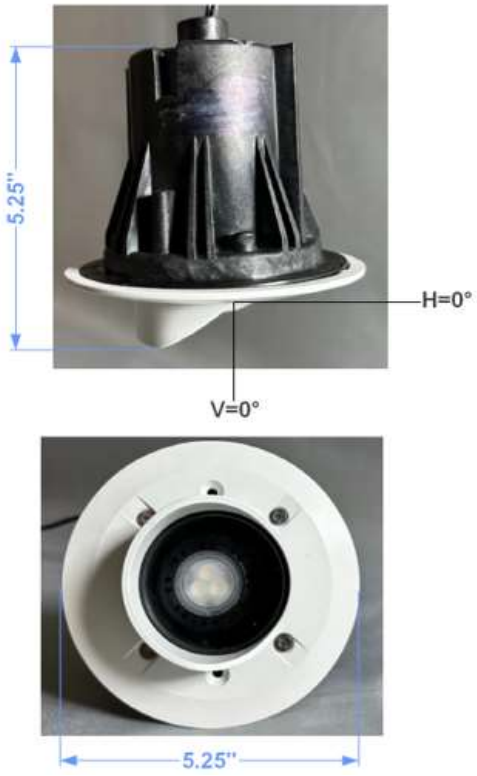
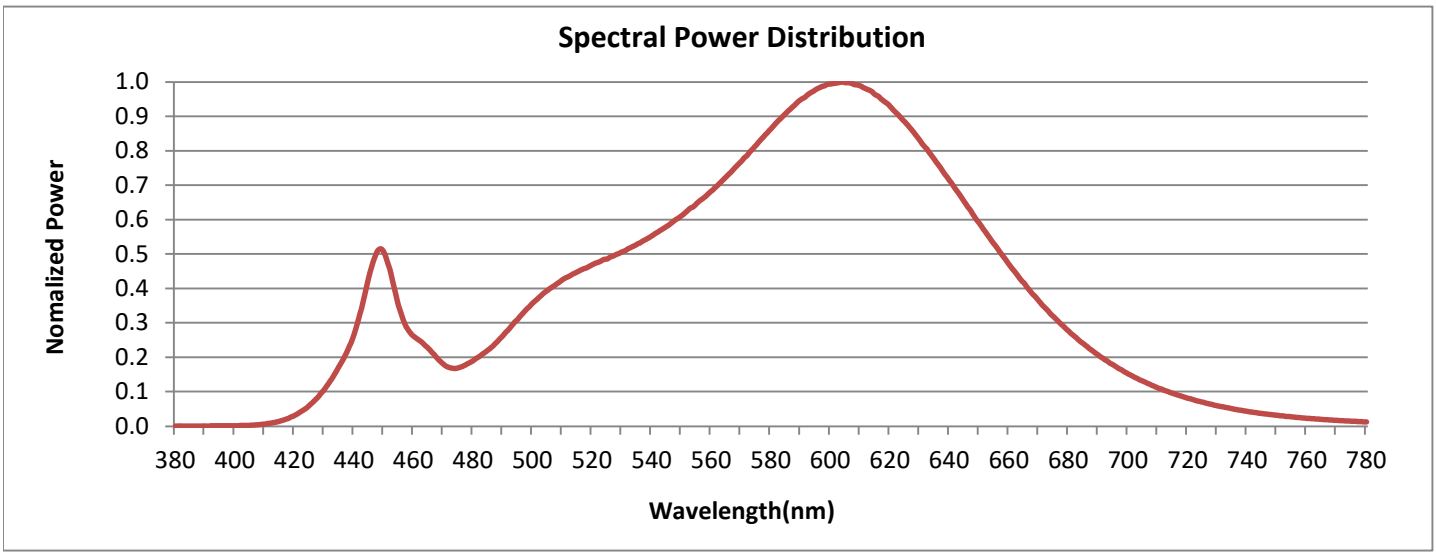


FIG. 1 LUMINAIRE

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

Report No: L122510912
NVLAP TESTING
NVLAP LAB CODE 200927-0

Colorimetry Test Results

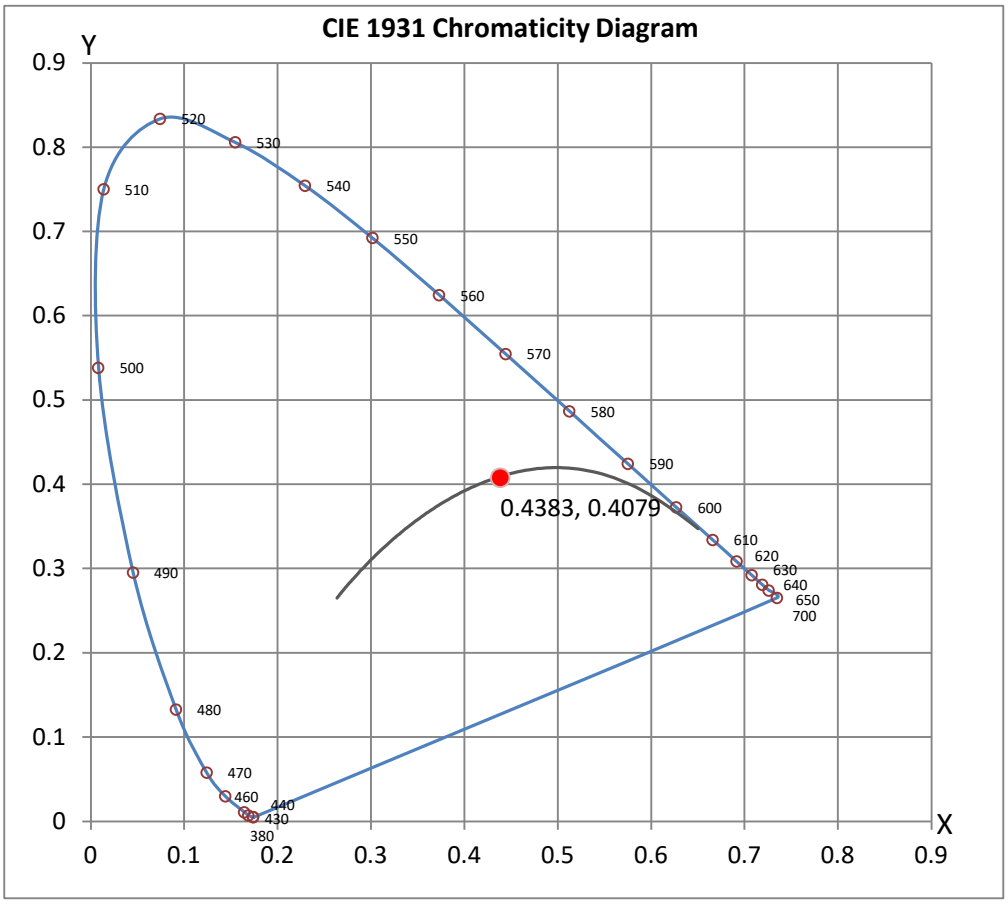


CRI & CCT

x	0.4383
y	0.4079
u'	0.2498
v'	0.5231
CRI	83.30
CCT	3007
Duv	0.00133

R Values

R1	81.17
R2	90.53
R3	97.24
R4	82.49
R5	82.14
R6	89.58
R7	83.53
R8	59.72
R9	8.37
R10	79.24
R11	82.47
R12	74.92
R13	83.19
R14	98.84
R15	73.32



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:
Jason Gee

**Attached are photometric data reports.*

Addendum A

Report Amendment Log

Date	Reference No.	Revision Description	Revision By

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

Photometric Test Report

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L122510912
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 12/23/2025
[MANUFAC] FX Luminaire / Lumascape
[LUMCAT] TN-61-E6-S-WF-CW-FW
[LUMINAIRE] TN61, MR16ECO 6.0VA, 3000K, Wide Flood, Cowling, Flat White
[BALLASTCAT] Custom
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 12VAC
[TEST PROCEDURE] IESNA:LM-79-19

CHARACTERISTICS

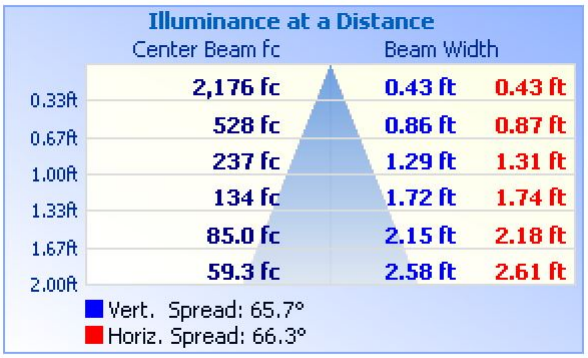
IES Classification	Type I
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	290
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	73
Total Luminaire Watts	3.97
Ballast Factor	1.00
Upward Waste Light Ratio	0.01
Maximum Candela	237
Maximum Candela Angle	180H 0V
Maximum Candela (<90 Degrees Vertical)	237
Maximum Candela Angle (<90 Degrees Vertical)	180H 0V
Maximum Candela At 90 Degrees Vertical	11 (3.8% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	13 (4.5% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

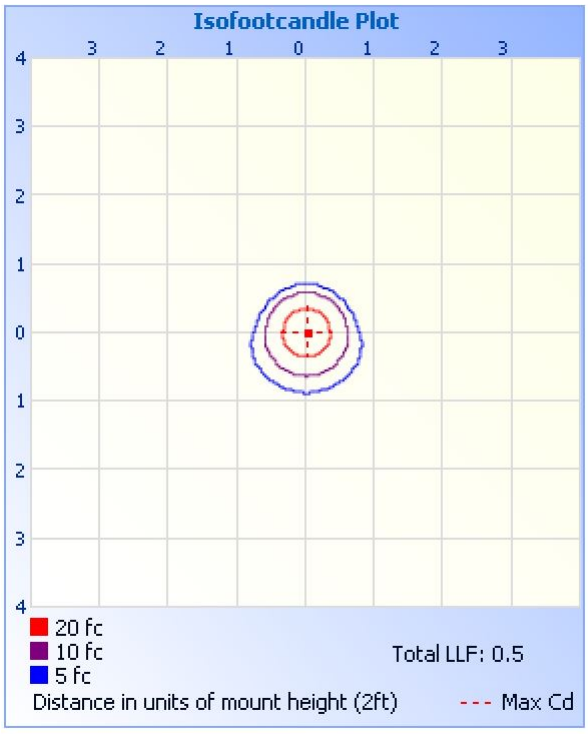
Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	76.1	N.A.	26.2
FM - Front-Medium (30-60)	77.3	N.A.	26.6
FH - Front-High (60-80)	14.1	N.A.	4.9
FVH - Front-Very High (80-90)	4.7	N.A.	1.6
BL - Back-Low (0-30)	78.0	N.A.	26.9
BM - Back-Medium (30-60)	33.7	N.A.	11.6
BH - Back-High (60-80)	2.7	N.A.	0.9
BVH - Back-Very High (80-90)	0.2	N.A.	0.1
UL - Uplight-Low (90-100)	2.7	N.A.	0.9
UH - Uplight-High (100-180)	0.6	N.A.	0.2
Total	290.1	N.A.	100.0
BUG Rating	B0-U1-G0		





Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**
0	237	237	237	237	237	237	237	237	237	237
5	232	231	233	231	233	232	234	233	235	233
10	218	216	219	217	221	219	223	221	224	222
15	202	199	202	200	204	202	206	204	209	206
20	183	179	182	179	184	181	187	183	189	186
25	160	155	160	155	161	158	164	159	166	162
30	137	133	138	135	138	134	139	136	140	136
35	116	113	116	112	116	113	116	112	116	108
40	96	92	95	92	96	92	96	88	82	62
45	78	74	78	74	78	74	73	55	45	28
50	62	59	62	59	62	55	48	32	21	11
55	49	46	49	45	47	35	29	16	11	9
60	34	31	34	31	30	22	17	11	10	8
65	22	20	22	19	19	14	12	10	9	8
70	16	15	15	14	14	12	11	10	9	7
75	14	14	14	13	12	11	10	9	8	6
80	13	13	13	12	11	10	9	7	6	4
85	13	12	12	11	10	9	8	6	4	2
90	11	11	11	9	9	7	6	3	2	0
95	9	8	8	7	6	5	4	2	0	0
100	6	5	5	4	3	2	2	0	0	0
105	3	2	2	1	1	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles								
	100	**110**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
0	237	237	237	237	237	237	237	237	237
5	234	235	235	236	235	236	236	236	235
10	222	226	224	227	225	228	226	229	226
15	205	210	208	212	209	214	211	214	211
20	184	190	187	192	188	193	190	194	191
25	160	166	162	168	163	168	163	169	163
30	133	138	132	138	132	139	133	140	131
35	89	92	78	89	77	90	77	88	81
40	44	43	29	36	25	31	24	34	23
45	14	11	7	8	6	7	4	5	3
50	8	7	6	5	4	3	3	2	2
55	8	7	5	5	4	3	2	2	2

Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

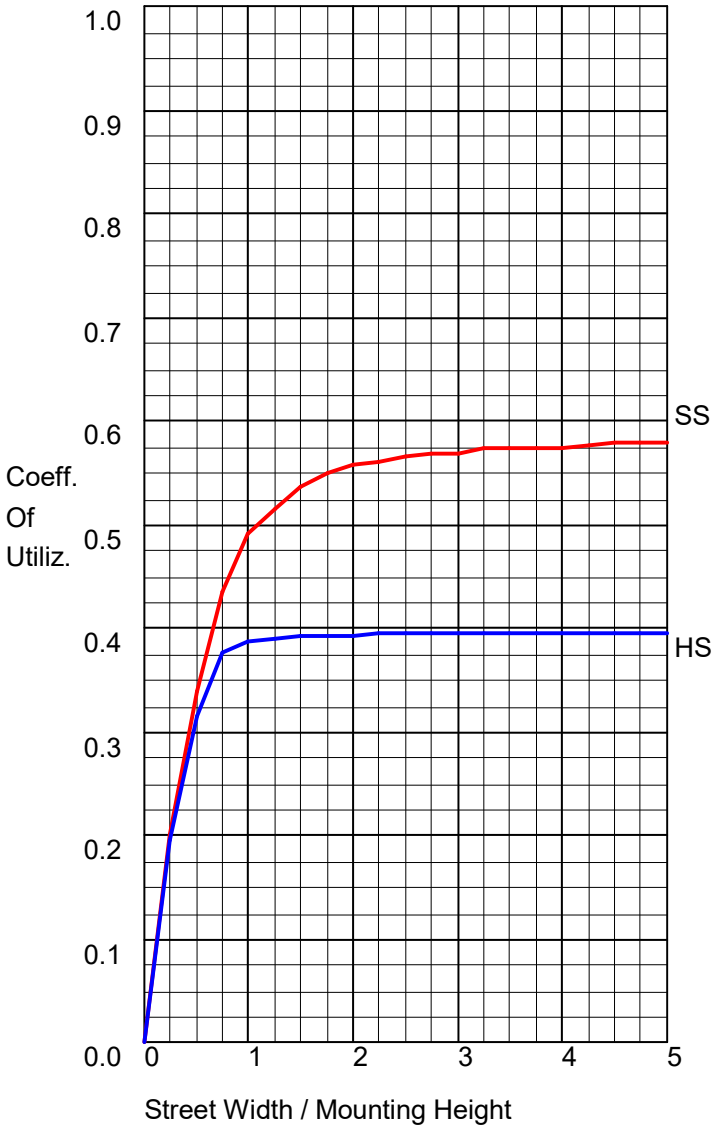
CANDELA TABULATION - (Cont.)

60	8	6	5	4	3	3	2	2	2
65	7	6	5	4	3	2	2	1	1
70	6	5	4	3	2	1	0	0	0
75	4	3	2	2	1	0	0	0	0
80	2	2	1	1	0	0	0	0	0
85	1	1	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0

Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

COEFFICIENTS OF UTILIZATION



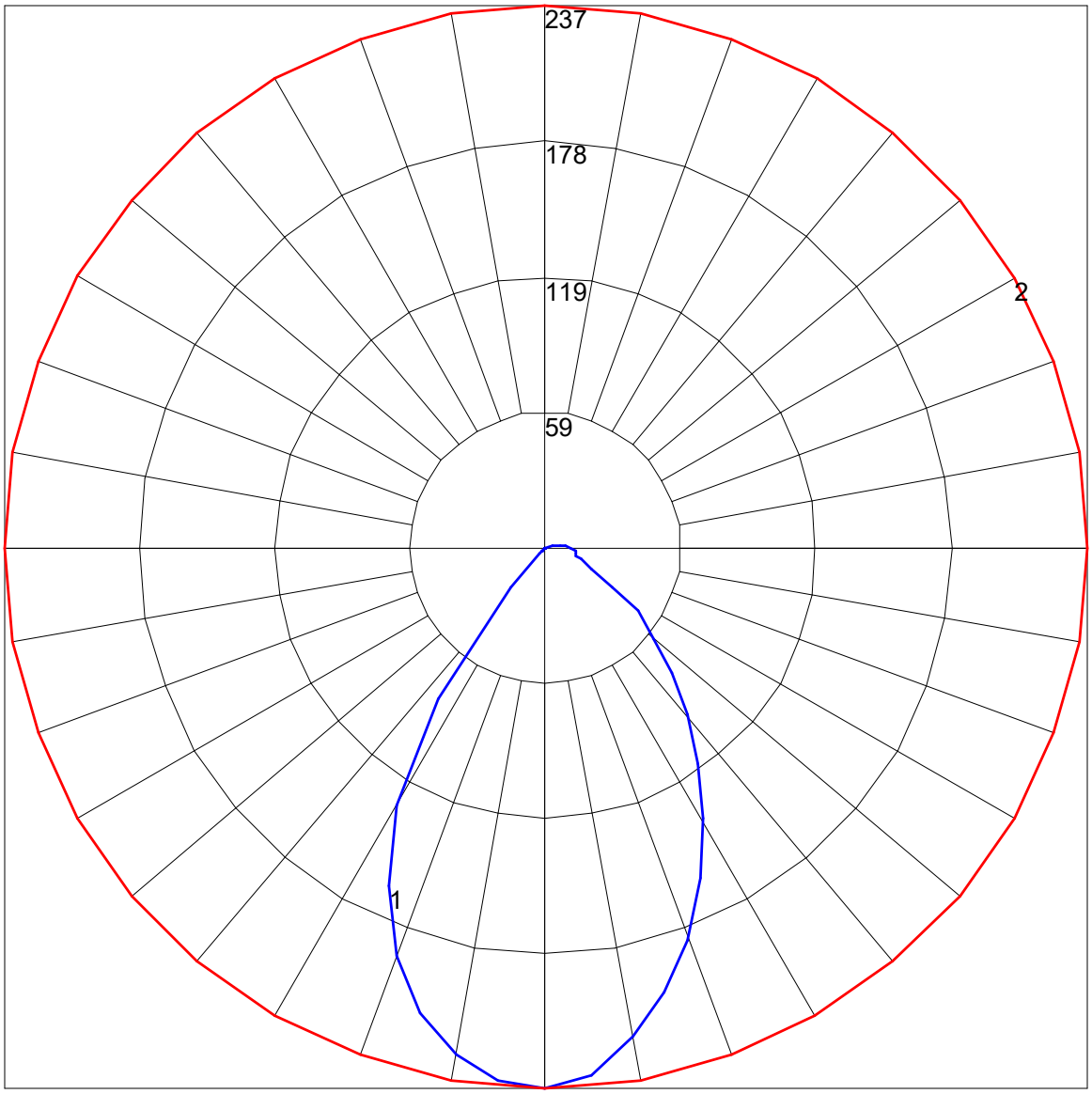
FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	172.3	59.4
Downward House Side	114.7	39.5
Downward Total	287.0	98.9
Upward Street Side	3.3	1.1
Upward House Side	0.0	0.0
Upward Total	3.3	1.1
Total Flux	290.3	100.0

Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

POLAR GRAPH

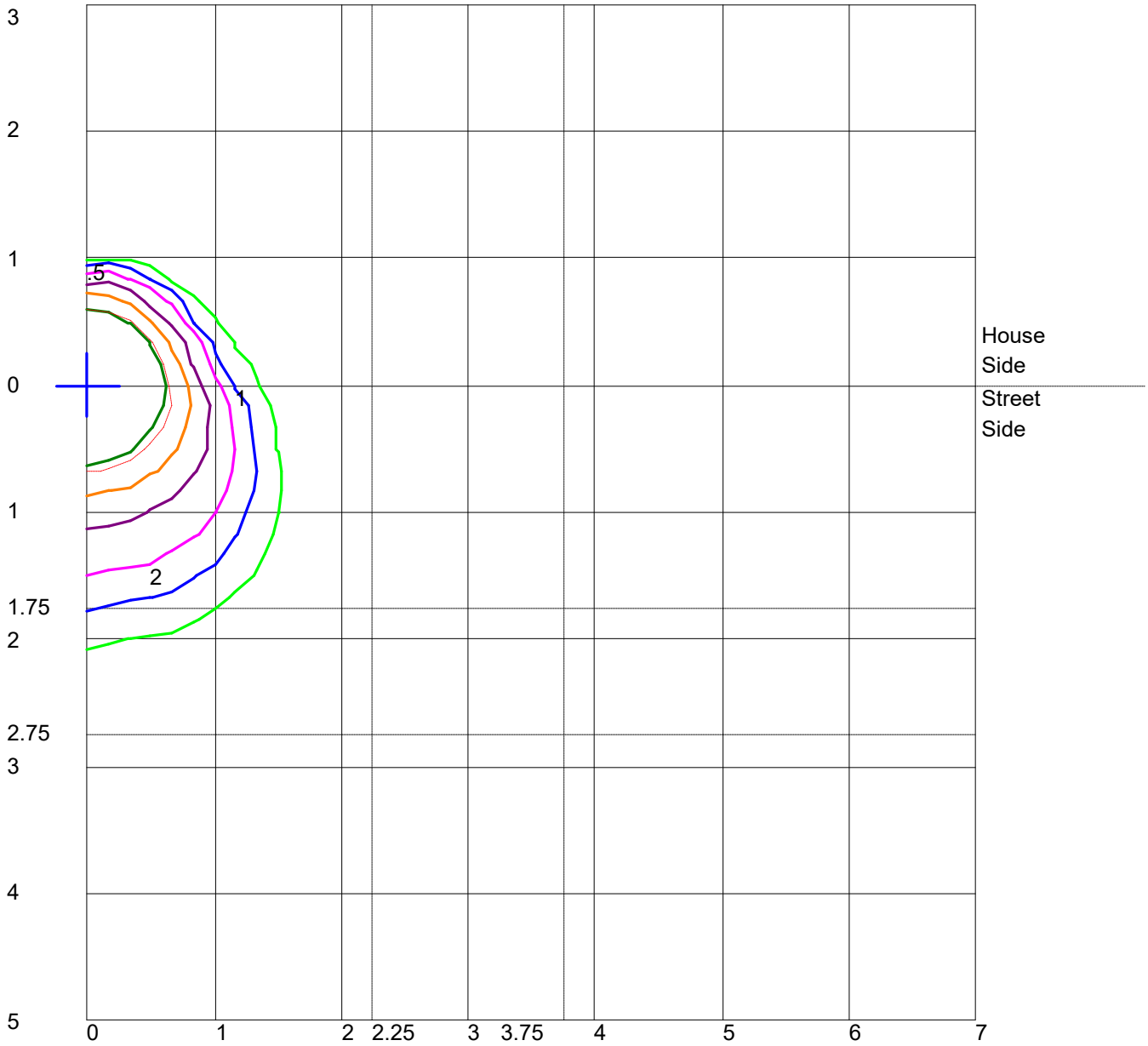


Maximum Candela = 237 Located At Horizontal Angle = 180, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510912.IES

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 2 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

Photometric Toolbox (R) Copyright 2002-2023 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.