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

NVLAP TESTING
NVLAP LAB CODE 200927-0

Report No: L122510910 **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-GR-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

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

Test Summary	
Total Lumens:	248.00
Efficacy:	62.54
Color Redering Index:	83.1
Correlated Color Temperature:	3012
Input Voltage (VAC/60Hz):	12.01
Input Current (Amp):	0.4807
Input Power (W):	3.97
Input Power Factor:	0.6872
Current ATHD (%):	93.6%

Test Condition	
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:45
Total Operating Time (Hours):	1:20

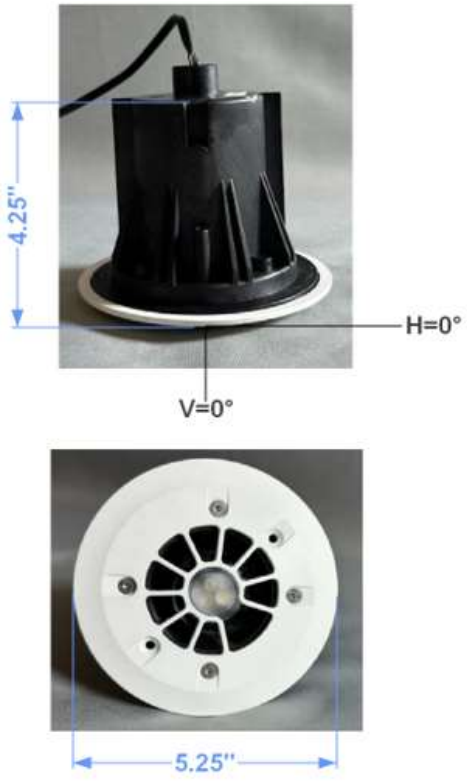
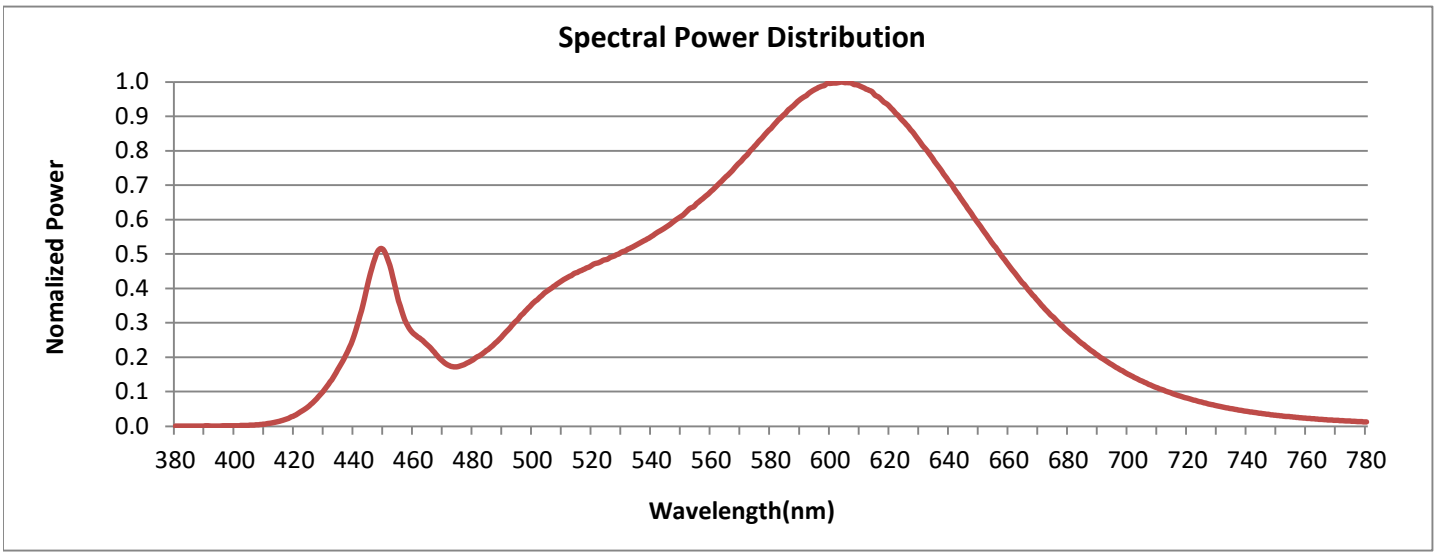


FIG. 1 LUMINAIRE

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Colorimetry Test Results

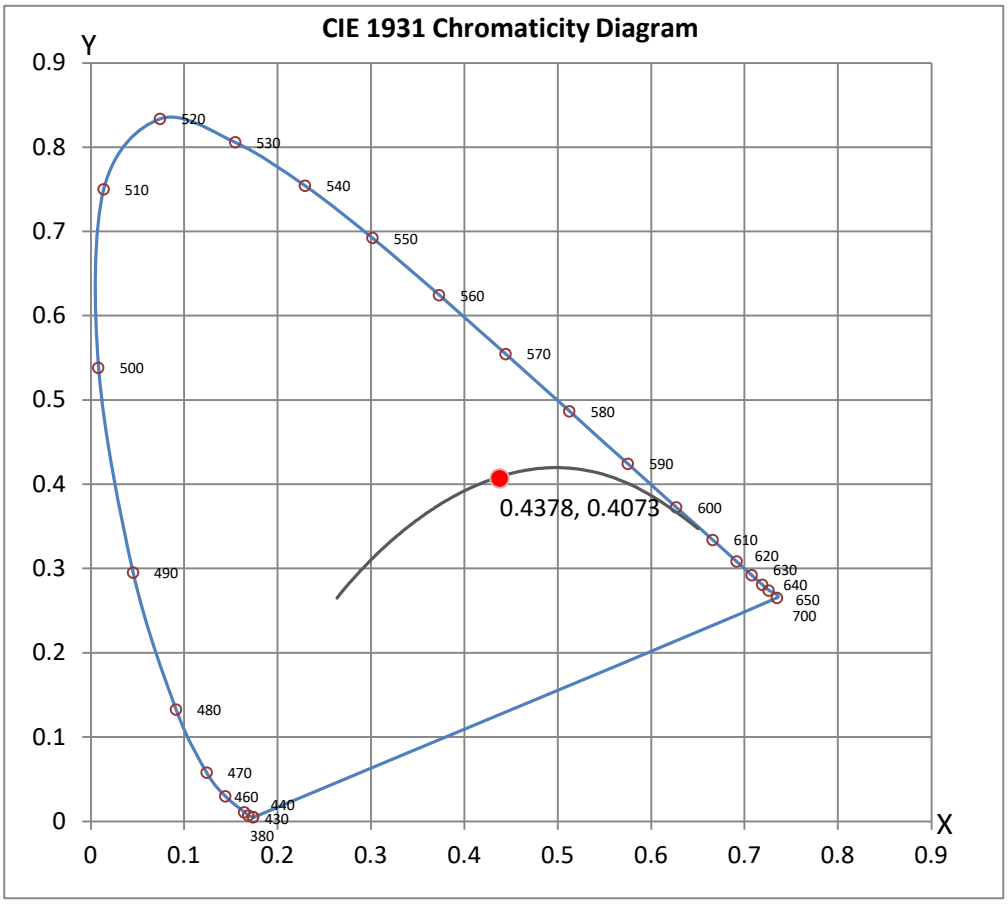


CRI & CCT

x	0.4378
y	0.4073
u'	0.2497
v'	0.5228
CRI	83.10
CCT	3012
Duv	0.00116

R Values

R1	81.02
R2	90.56
R3	97.09
R4	82.21
R5	82.01
R6	89.59
R7	83.30
R8	59.34
R9	7.61
R10	79.30
R11	82.11
R12	74.74
R13	83.10
R14	98.79
R15	73.16



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.
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Photometric Test Report

IES ROAD REPORT
PHOTOMETRIC FILENAME : L122510910.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L122510910
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
[ISSUEDATE] 12/23/2025
[MANUFAC] FX Luminaire / Lumascape
[LUMCAT] TN-61-E6-S-WF-GR-FW
[LUMINAIRE] TN61, MR16ECO 6.0VA, 3000K, Wide Flood, Grill, 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

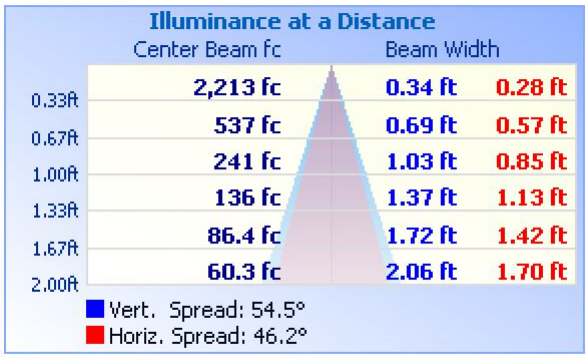
IES Classification	Type I
Longitudinal Classification	Very Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	248
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	62
Total Luminaire Watts	3.97
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	241
Maximum Candela Angle	180H 0V
Maximum Candela (<90 Degrees Vertical)	241
Maximum Candela Angle (<90 Degrees Vertical)	180H 0V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	6 (2.4% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

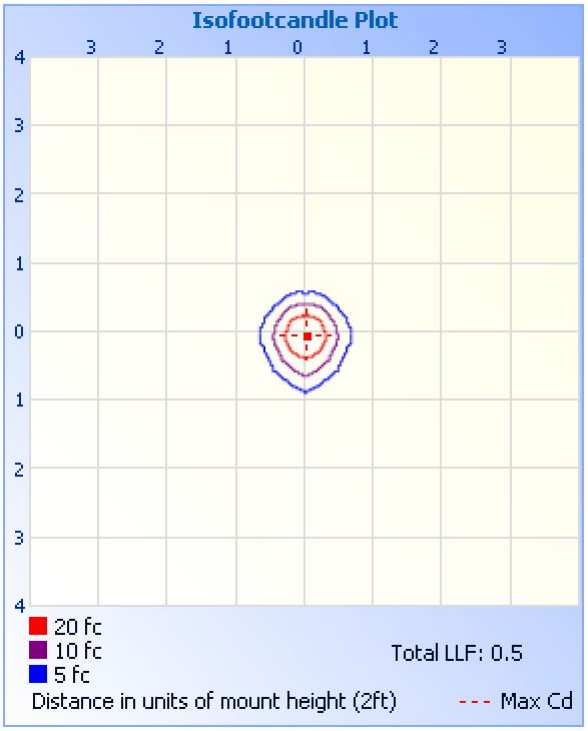
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Results derived from content of manufacturers photometric file.

IES ROAD REPORT
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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	70.0	N.A.	28.3
FM - Front-Medium (30-60)	57.6	N.A.	23.3
FH - Front-High (60-80)	10.7	N.A.	4.3
FVH - Front-Very High (80-90)	1.5	N.A.	0.6
BL - Back-Low (0-30)	56.6	N.A.	22.9
BM - Back-Medium (30-60)	43.2	N.A.	17.5
BH - Back-High (60-80)	7.3	N.A.	2.9
BVH - Back-Very High (80-90)	0.6	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	247.5	N.A.	100.0
BUG Rating	B0-U0-G0		





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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**
0	241	241	241	241	241	241	241	241	241	241
5	241	240	241	240	240	240	240	239	239	238
10	234	231	234	231	233	230	233	228	229	223
15	219	213	216	211	214	205	209	197	198	188
20	196	190	188	175	178	161	164	145	148	137
25	169	161	154	135	134	117	115	106	110	104
30	143	130	118	102	101	87	82	78	87	87
35	119	103	88	80	78	63	63	59	67	62
40	95	81	69	67	60	47	46	42	46	46
45	76	64	56	55	46	38	38	37	37	38
50	59	51	48	45	36	34	34	35	33	36
55	45	39	37	35	31	30	30	32	29	30
60	30	25	26	24	24	21	22	21	21	19
65	16	14	15	12	14	13	13	13	14	12
70	8	8	9	8	8	8	8	8	8	8
75	7	7	7	7	7	7	7	6	6	6
80	6	6	6	5	6	5	5	4	4	4
85	4	4	4	4	3	3	2	2	2	2
90	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	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	241	241	241	241	241	241	241	241	241
5	237	237	235	237	234	236	233	236	233
10	218	221	214	217	209	213	205	209	203
15	179	185	175	180	169	175	162	169	160
20	130	138	128	137	125	132	123	127	119
25	98	97	86	92	90	95	88	88	80
30	77	73	63	66	60	67	67	67	62
35	56	55	49	51	46	55	53	46	42
40	44	42	44	46	38	41	47	41	37
45	38	35	39	42	35	35	43	37	34
50	36	33	34	39	32	31	37	34	33
55	29	29	27	30	25	25	26	26	24

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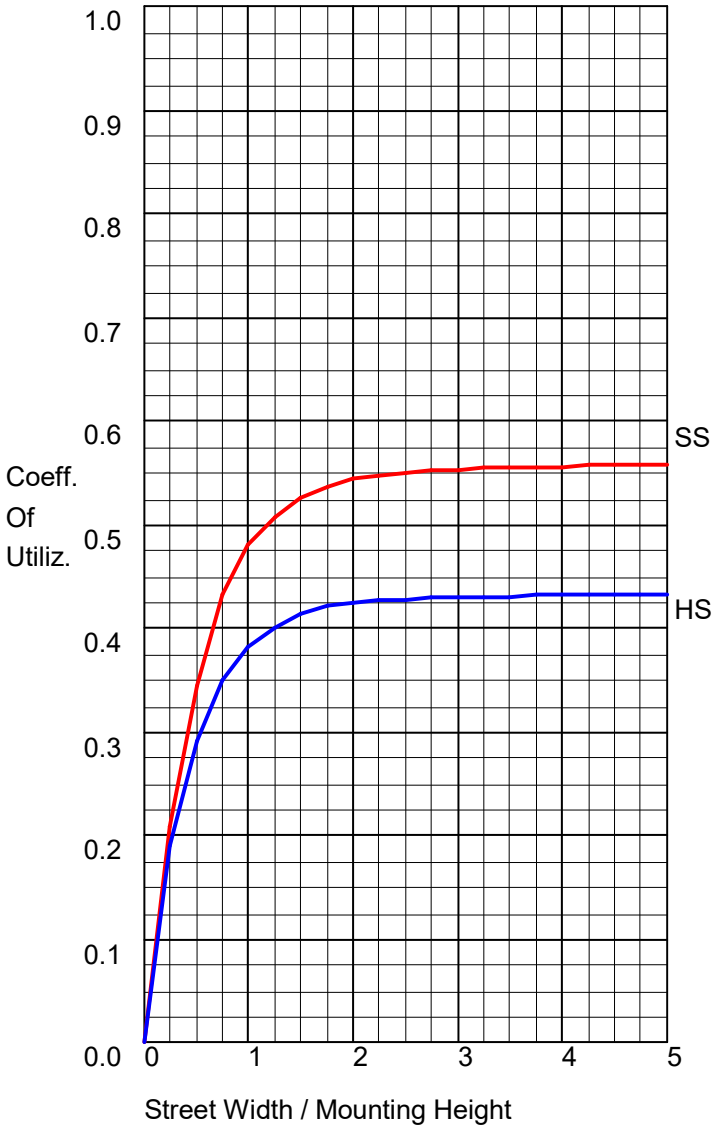
CANDELA TABULATION - (Cont.)

60	19	20	16	19	15	16	15	16	15
65	11	12	9	10	8	9	7	8	7
70	7	7	6	6	5	5	4	4	4
75	5	6	5	5	4	4	3	3	3
80	3	3	3	3	2	2	2	2	2
85	1	1	1	1	1	1	1	1	1
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

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COEFFICIENTS OF UTILIZATION



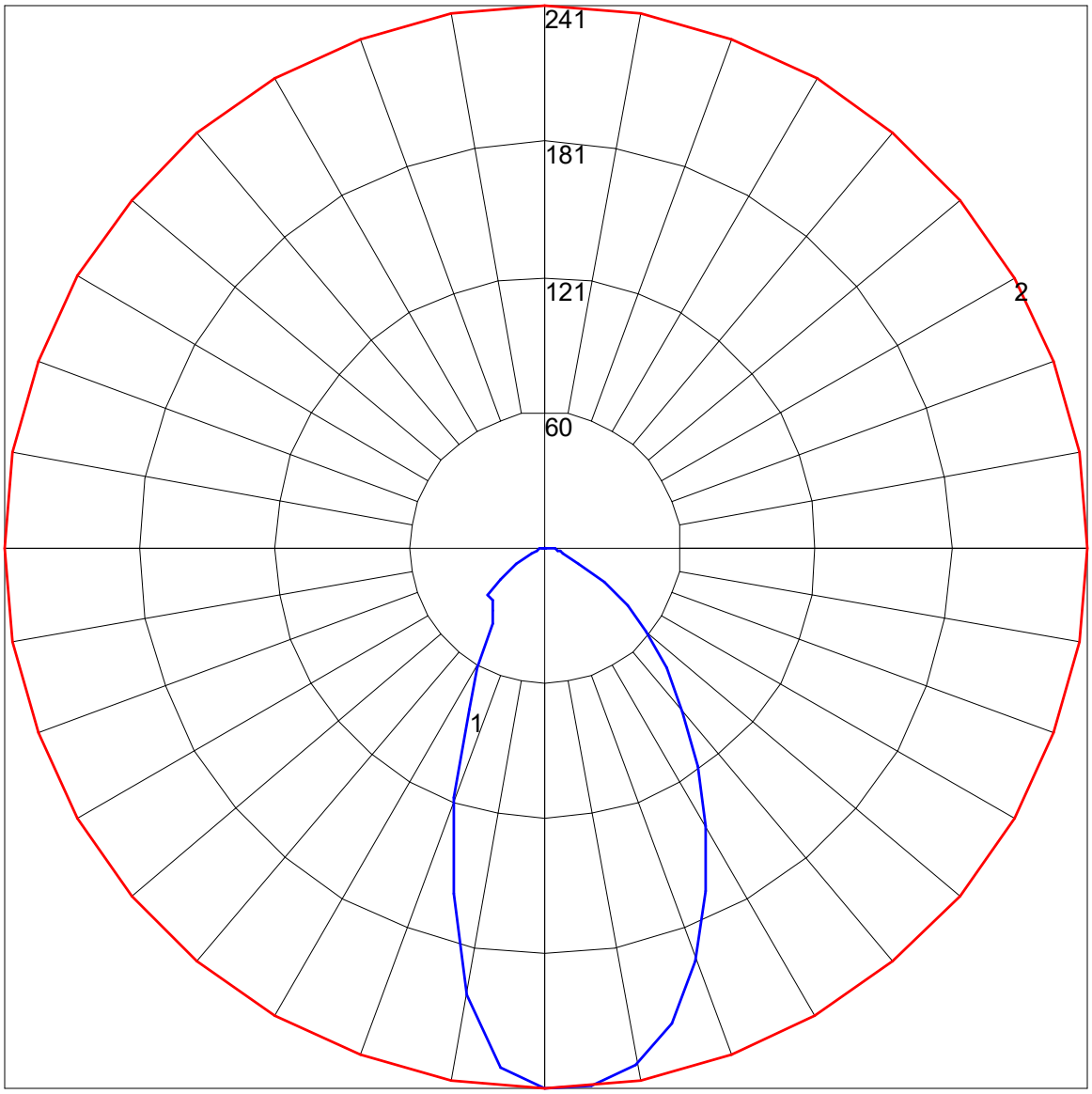
FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	139.8	56.5
Downward House Side	107.8	43.5
Downward Total	247.6	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	247.6	100.0

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POLAR GRAPH

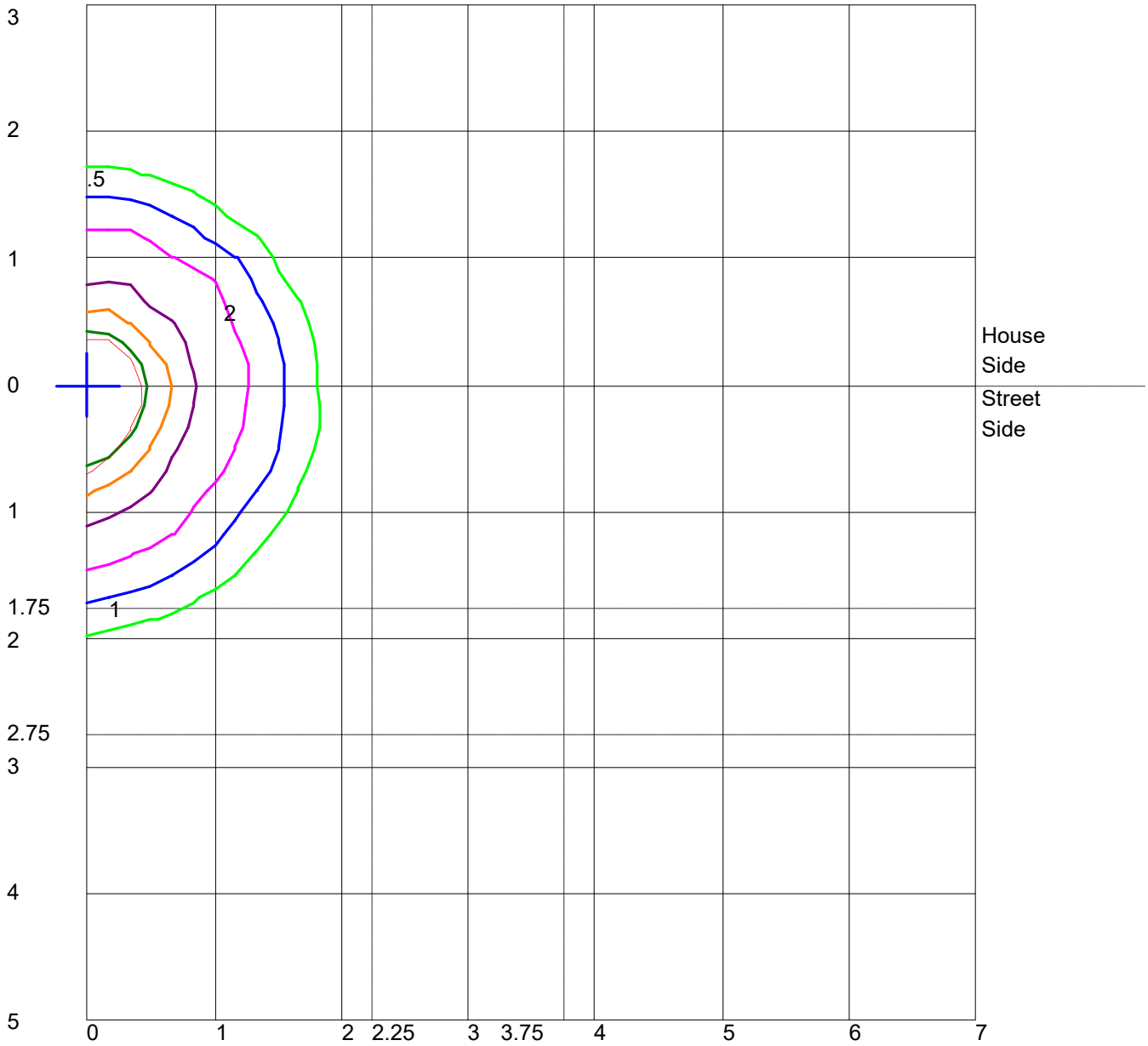


Maximum Candela = 241 Located At Horizontal Angle = 180, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

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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

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