



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**  
NVLAP LAB CODE: 200899-0

## Moving Mirror Goniophotometer Test Report

**Standard(s):** IESNA LM-35-02, IES LM-79-08, ANSI C82.77-2002

**Customer** Lumenpulse, 1751 Richardson, suite 1505, Montréal, Québec, Canada, H3K 1G6

General Information		SSL Details	Driver Details	
<b>Test Report</b>	G1504211-R1	<b>Description</b>	34W White 3818K SSL	<b>Type</b> Commercial
<b>Test Date</b>	21 April 2015	<b>Serial Number</b>	SRIS 1901	<b>Description</b> 69SSL-CY807
<b>Report Date</b>	24 April 2015	<b>Photometric Method</b>	Absolute	<b>Manufacturer</b> MEAN WELL USA inc.
<b>Ambient</b>	24.6 °C	<b>Lamp Lumens</b>	-1	<b>Catalog No.</b> LPF-60-15
<b>Humidity</b>	28.9 %	<b>Test Position</b>	Axial	<b>Voltage Tap</b> 120.00 V
<b>Lamp Type</b>	SSL	<b>Comments</b>	CREE XPE2 LED's	<b>Power Factor</b> 0.9900

### Floodlight Data

General Information		Optics	Aperture (feet)	
<b>Manufacturer</b>	Lumenpulse	<b>Reflector</b>	48 Collimators	<b>X</b> 0.0000
<b>Name</b>	LUMENFACADE	<b>Housing</b>	Extruded Aluminum	<b>Y</b> 4.0000
<b>Catalog No.</b>	LOG-RO-120-48-40K-WWLF-SI-NO	<b>Lens</b>	Clear Flat Glass C/W Diffuse Film	<b>Z</b> 0.1667

SKT Position: None

Lamp Stabilization Time: 59 minutes, 42 seconds

**Tested By: Jean-Paul Ojeil**

**Approved Signatory: Chrisnel Blot**

**Signature:**



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**<sup>®</sup>  
NVLAP LAB CODE: 200899-0

## Luminaire Test Method

Precise installation and alignment of the luminaire to the rotation axis of the photometer is governed by a servomotor controlled via a microcontroller. A laser is used to validate the luminaire positioning. Before photometric measurements are taken, luminaire is operated long enough to reach stabilization and temperature equilibrium.

All movement commands issued to the photometer axes are mediated by the software to ensure the motion is within the limits of operation. The photometric detector used is a silicon detector corrected to closely match the spectral luminous efficiency photopic curve with a quality index less than 1.5%. Proper shielding is incorporated to the photometric test bench such that only the light from the unit under test is measured.

Luminous intensity measurements are performed at a distance great enough so that the inverse-square law applies. During each measurement the computer records the luminous intensity associated to the corresponding angles of radiation, as well as input electrical operational parameters and temperature measurements. Candela values are reported in IES format as per LM-63.

Equipment, reference standards are traceable to National Institute of Standards and Technology (NIST) and National Research Council of Canada (NRC).





# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**<sup>®</sup>  
NVLAP LAB CODE: 200899-0

## Electrical Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Power Supply	iRDC	CIF-3000A	974997	N.P.C.R.	N.P.C.R.
Input Power Meter	Yokogawa	WT210	91L239798	2015/04/15	2016/04/16
Output Power Meter	N/A	N/A	N/A	N.P.C.R.	N.P.C.R.

## Photometric Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Photometer	Gigahertz-Optik	X11	4500	2014/12/12	2015/12/12
Photodetector	INPHORA	IPR-PDET 19	110803	2014/05/16	2015/05/16

## Environment Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Temperature Humidity Sensor	Omega	HH311	051202970	2014/10/24	2016/10/24



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**<sup>®</sup>  
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504211-R1

Prepared for: Lumenpulse · Test Date: 21 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-RO-120-48-40K-WWLF-SI-NO

### Photometric Floodlight Characteristics

Nominal SSL Power	34.00 W	
Measured Input Voltage	119.61 V	<b>Notes</b>
Test SSL Current	0.0000 A	1) Floodlight tested in accordance to IES LM-35-1989 at a distance great enough so that the inverse-square law applies.
Floodlight Luminous Flux	1754	
Measured Input Power	30.83 W	
Floodlight Luminous Efficacy	56.9 lm/W	2) Field performance may differ from laboratory measurements.
Maximum Candela Value	2835	
Maximum Candela Location	0.0 H, 3.0 V	3) Results are valid for the tested material only.
Horizontal Beam Angle (50%)	80.0 °	
Vertical Beam Angle (50%)	17.5 °	4) All data published in this report are based on absolute photometry.
Horizontal Field Angle (10%)	125.0 °	
Vertical Field Angle (10%)	52.0 °	5) The original electronic file or paper report cannot be edited in whole or in part without written consent of Spectralux Industries Inc.
IES/NEMA Type Classification	6Hx4V	
Beam Lumens (50%)	684	
Beam Efficiency (50%)	N/A	
Field Lumens (10%)	1420	
Field Efficiency (10%)	N/A	
Spill Lumens	334	
Total Floodlight Lumens	1754	
Total Floodlight Efficiency	N/A	



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



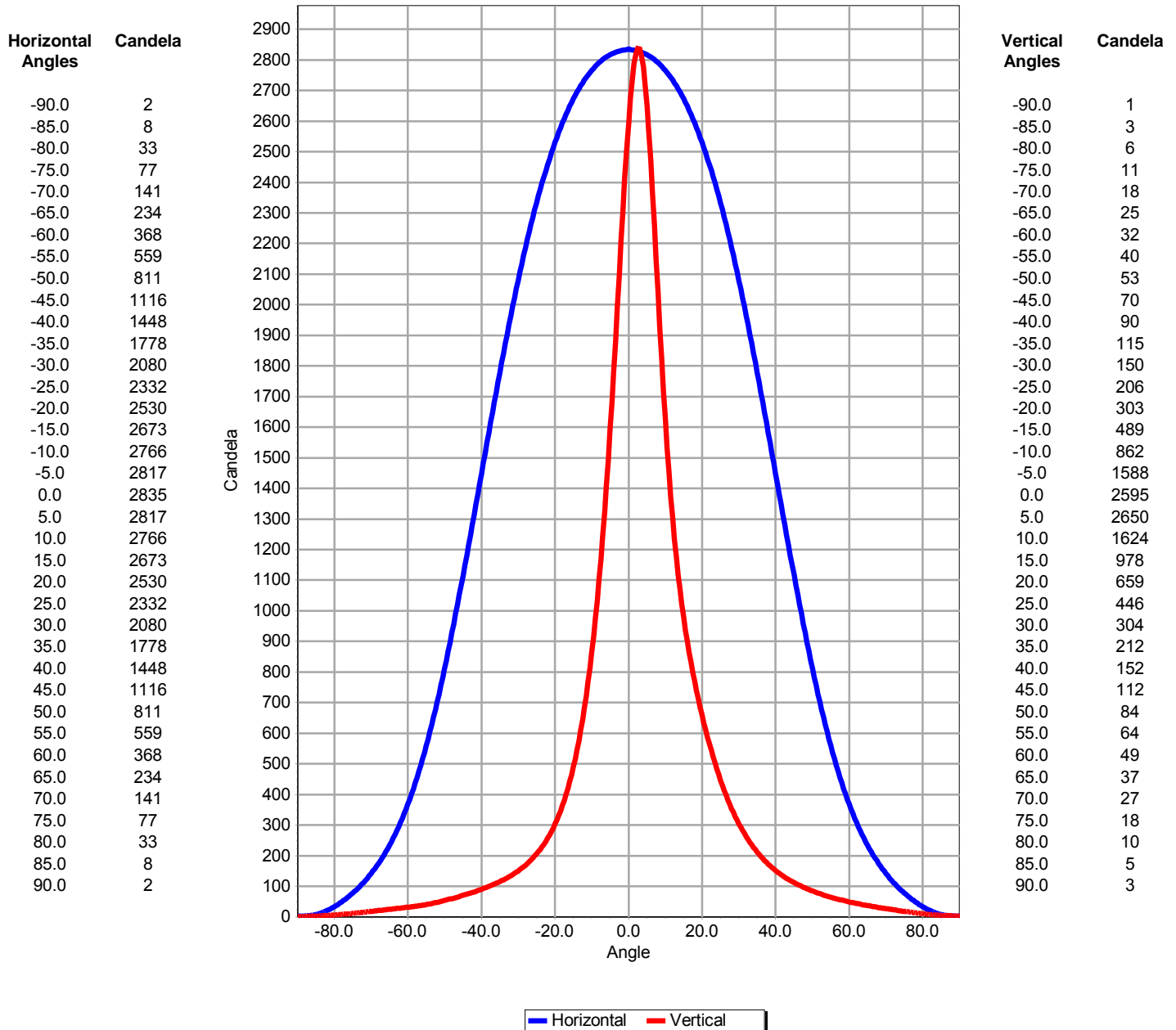
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504211-R1

Prepared for: Lumenpulse · Test Date: 21 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-RO-120-48-40K-WWLF-SI-NO

### Maximum Candela Trace (Max. Location: 0.0 H, 3.0 V)





# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



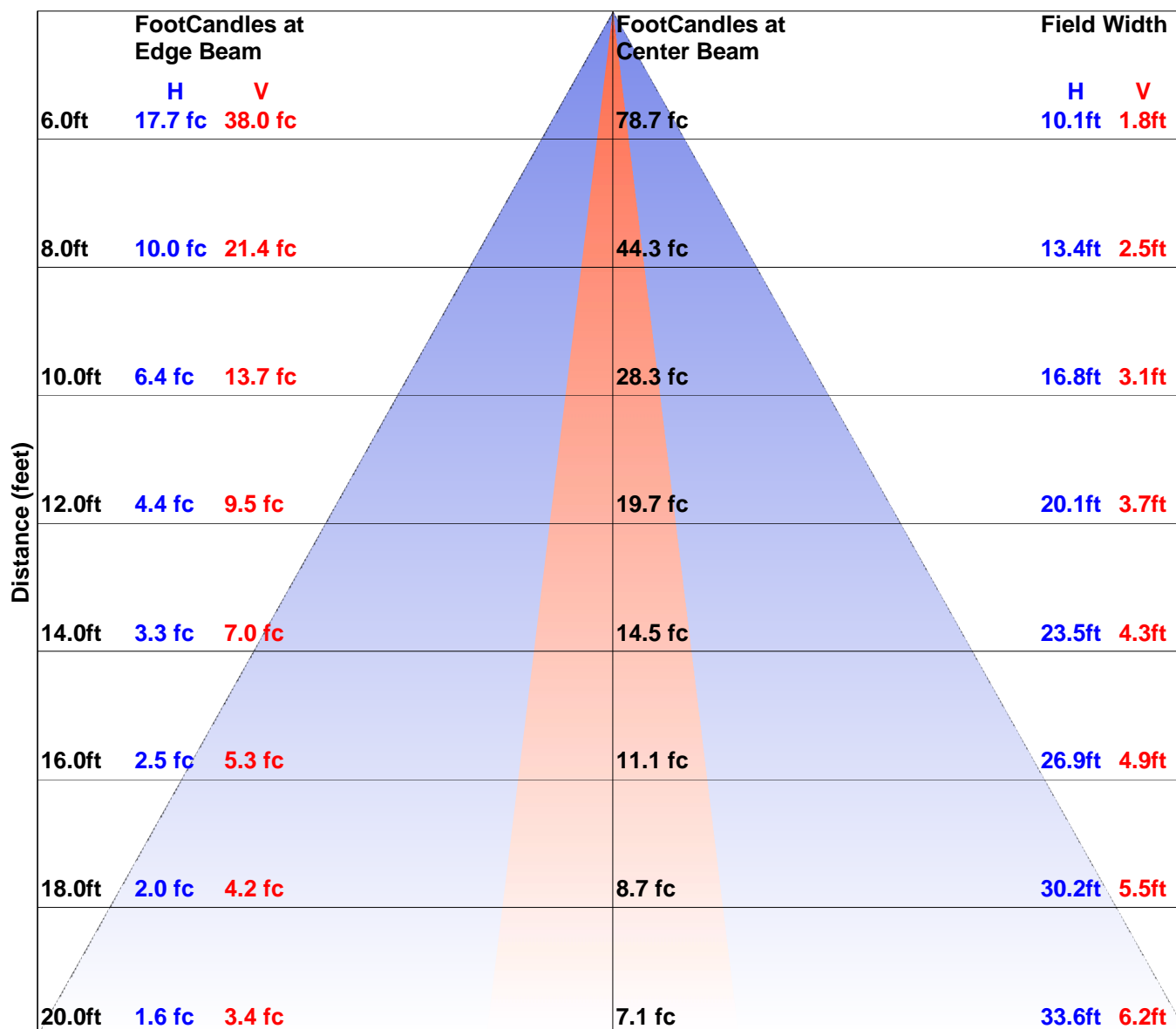
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504211-R1

Prepared for: Lumenpulse · Test Date: 21 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-RO-120-48-40K-WWLF-SI-NO

### Downlight Beam



— Horizontal (80.0 °) — Vertical (17.5 °)



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



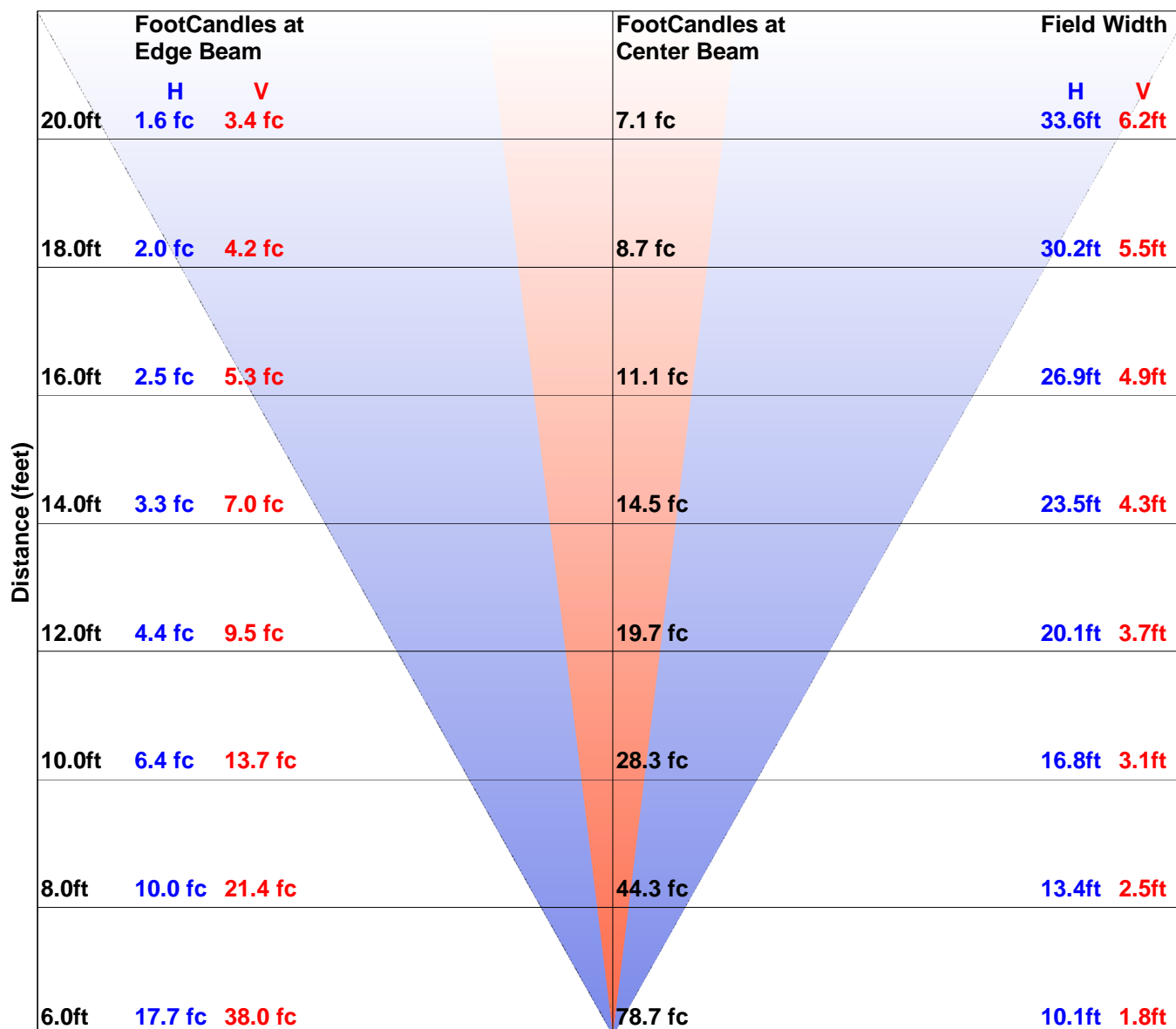
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504211-R1

Prepared for: Lumenpulse · Test Date: 21 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-RO-120-48-40K-WWLF-SI-NO

### Uplight Beam



— Horizontal (80.0 °) — Vertical (17.5 °)



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



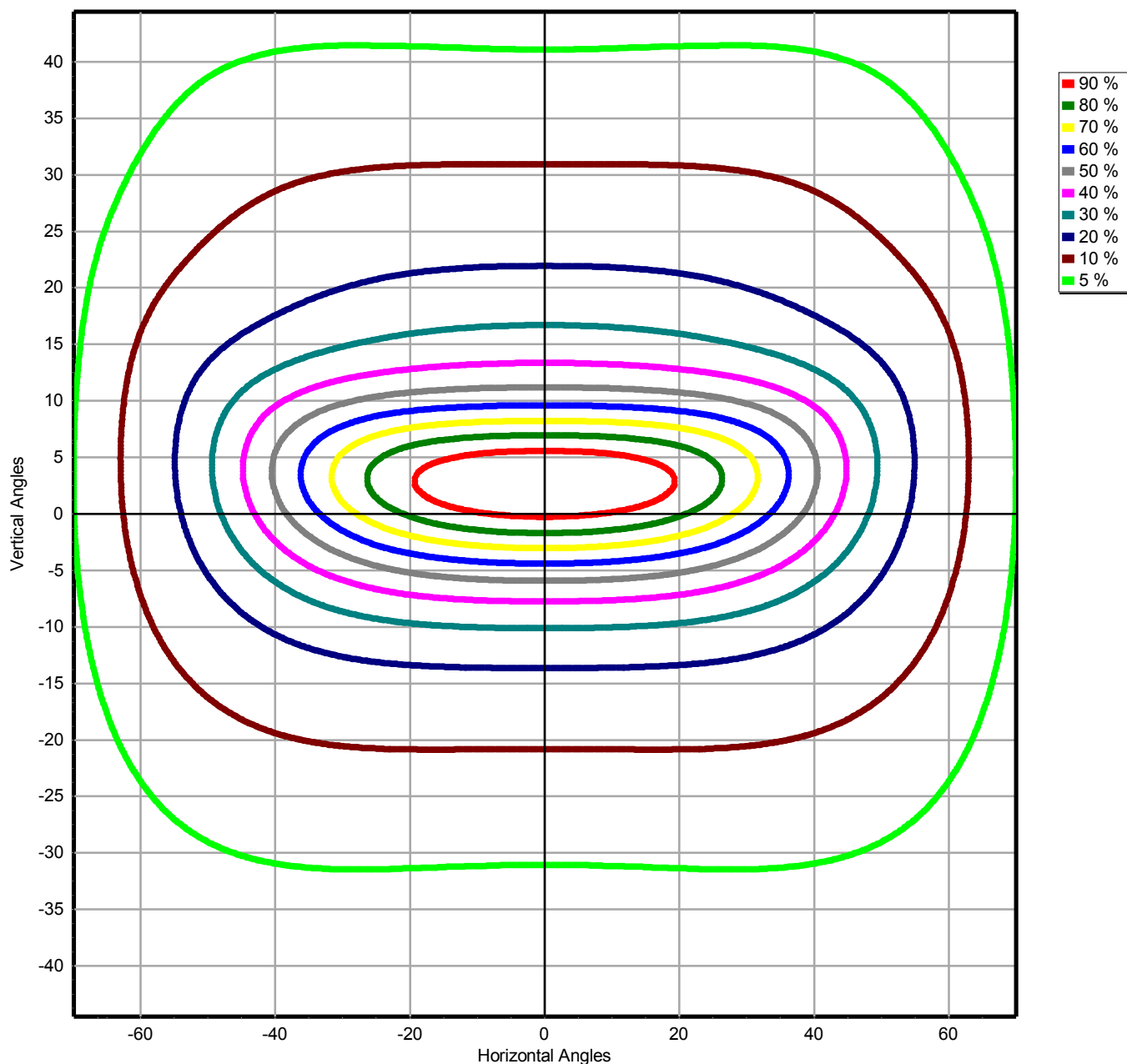
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504211-R1

Prepared for: Lumenpulse · Test Date: 21 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-RO-120-48-40K-WWLF-SI-NO

### ISO Candela Diagram







# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

## IES File Headers

IESNA:LM-63-2002  
[ISSUEDATE] 21 April 2015  
[TESTLAB] Spectra Lux Industries Inc.  
[TEST] G1504211-R1  
[MANUFAC] Lumenpulse  
[LUMCAT] LOG-RO-120-48-40K-WWLF-SI-NO  
[LUMINAIRE] LUMENFACADE  
[LAMP] (CREE XPE2 LED's) White 34W SSL c/w MEAN WELL USA inc. Driver LPF-60-15 @ 120.00V  
[\_LAMPDETAILS] DC Voltage=24V, Current=1.41667A, CCT=3818K, CRI=83, x=0.3898, y=0.384  
[\_BURNING] Axial (1,754 Luminaire Lumens)  
[\_REFLECTOR] 48 Collimators  
[\_LENS] Clear Flat Glass C/W Diffuse Film  
[\_HOUSING] Extruded Aluminum  
[\_SKTPOSITION] None  
[DISTRIBUTION] NEMA 6Hx4V (Max. CP at 0.0H,3.0V)  
[MORE] (Based on IES LM-35-1989)

## Candela Table

### Horizontal Angles

	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
V e r t i c a l	-90.0	1	1	1	1	1	1	1	1
	-85.0	3	3	3	3	3	3	2	2
	-75.0	11	11	11	11	11	11	10	10
	-65.0	25	25	25	25	24	24	24	23
	-55.0	40	40	41	41	42	42	43	43
	-45.0	70	70	71	72	73	74	74	74
	-35.0	115	116	116	117	118	118	118	116
	-32.5	131	131	132	133	134	134	133	131
	-30.0	150	151	151	152	153	153	152	149
	-27.5	174	175	175	176	177	177	175	170
	-25.0	206	206	206	207	208	207	203	197
	-22.5	247	247	248	248	249	248	239	230
	-20.0	303	304	304	304	301	296	286	272
	-17.5	381	381	381	380	378	372	363	325
	-15.0	489	489	488	485	480	469	452	395
	-14.0	545	544	543	539	531	518	497	428
	-13.0	609	608	606	600	591	574	548	465
	-12.0	682	681	678	670	657	636	604	506
A n g l e s	-11.0	767	765	760	750	734	707	668	552
	-10.0	862	860	854	841	819	786	739	601
	-9.0	973	970	962	945	918	877	820	656
	-8.0	1100	1096	1085	1064	1029	979	910	716
	-7.0	1243	1238	1224	1197	1154	1093	1009	781
	-6.0	1404	1398	1380	1347	1293	1218	1118	851
	-5.0	1588	1580	1557	1515	1451	1359	1240	928
	-4.0	1780	1772	1743	1692	1613	1506	1366	1006
	-3.0	1992	1980	1944	1884	1790	1664	1499	1088
	-2.0	2205	2193	2151	2080	1970	1822	1632	1169
	-1.0	2414	2398	2351	2269	2146	1978	1765	1248
	0.0	2595	2579	2528	2437	2300	2117	1882	1318
	1.0	2739	2722	2666	2570	2427	2231	1983	1378
	2.0	2821	2804	2747	2651	2504	2304	2048	1421
	3.0	2835	2817	2766	2673	2530	2332	2080	1448
	4.0	2777	2761	2713	2628	2496	2311	2067	1451
	5.0	2650	2637	2596	2522	2406	2238	2016	1433



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

## Horizontal Angles

	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	
V e r t i c a l	6.0	2473	2462	2431	2368	2270	2125	1925	1678	1394
	7.0	2260	2252	2226	2178	2098	1975	1807	1592	1334
	8.0	2038	2030	2011	1973	1910	1811	1669	1485	1263
	9.0	1820	1816	1800	1771	1720	1643	1527	1371	1180
	10.0	1624	1620	1608	1583	1542	1477	1382	1253	1090
	11.0	1449	1445	1434	1413	1378	1323	1245	1138	1001
	12.0	1301	1298	1287	1267	1236	1188	1121	1031	915
	13.0	1174	1171	1160	1141	1112	1069	1011	933	835
	14.0	1069	1066	1055	1037	1009	970	916	847	762
	15.0	978	975	965	948	921	884	835	773	698
	17.5	799	797	788	773	751	720	679	629	570
	20.0	659	657	651	640	623	598	566	526	477
	22.5	543	542	538	530	519	501	476	445	406
	25.0	446	445	443	439	431	419	402	379	349
	27.5	368	368	366	364	360	352	340	324	301
	30.0	304	304	304	303	301	296	289	277	261
	32.5	253	253	253	253	252	250	245	238	226
	35.0	212	212	213	213	213	212	209	204	196
A n g l e s	45.0	112	112	113	114	115	115	116	115	114
	55.0	64	65	65	65	66	67	67	68	67
	65.0	37	37	37	37	38	38	38	38	38
	75.0	18	18	18	18	18	18	18	18	17
	85.0	5	5	5	5	5	5	5	5	4
	90.0	3	3	3	3	3	3	3	3	3



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

## Horizontal Angles

	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
V e r t i c a l  A n g l e s	-90.0	1	1	1	1	1	1	1	1
	-85.0	2	2	2	2	2	2	1	1
	-75.0	10	9	8	7	7	5	3	2
	-65.0	23	22	21	19	17	14	10	6
	-55.0	43	42	40	37	33	27	19	11
	-45.0	72	70	66	61	53	43	30	17
	-35.0	113	108	100	90	77	61	42	23
	-32.5	127	121	112	100	84	66	45	24
	-30.0	143	135	124	110	92	71	48	25
	-27.5	163	153	139	121	101	77	52	27
	-25.0	187	173	155	134	110	83	55	28
	-22.5	216	197	175	149	120	89	58	29
	-20.0	252	227	198	165	131	95	61	30
	-17.5	297	263	225	184	142	102	64	31
	-15.0	354	306	256	205	155	109	67	32
	-14.0	380	326	270	214	160	112	68	32
	-13.0	410	348	285	223	166	114	69	32
	-12.0	442	371	301	233	171	117	70	33
	-11.0	477	397	318	243	177	119	71	33
	-10.0	515	423	335	254	182	122	72	33
	-9.0	556	452	353	264	188	124	73	33
	-8.0	601	483	372	275	193	127	74	34
	-7.0	648	515	392	286	199	129	75	34
	-6.0	698	548	412	297	203	131	75	34
	-5.0	753	584	433	307	209	133	76	34
	-4.0	808	618	453	318	213	135	76	34
	-3.0	864	654	473	328	218	136	77	34
	-2.0	919	688	492	337	221	138	77	34
	-1.0	974	722	510	346	225	139	77	34
	0.0	1021	750	526	353	228	140	77	34
	1.0	1064	777	540	360	231	140	78	34
	2.0	1094	796	550	365	232	141	77	34
	3.0	1116	811	559	368	234	141	77	33
	4.0	1121	815	562	370	234	141	77	33
	5.0	1115	815	563	371	235	141	77	33
	6.0	1092	804	559	370	233	140	76	33
	7.0	1059	788	552	366	233	140	76	33
	8.0	1013	763	541	362	230	139	75	32
	9.0	960	735	527	356	229	138	75	32
	10.0	900	699	509	349	225	136	74	32
	11.0	838	662	491	340	222	135	73	31
	12.0	776	623	469	330	217	133	73	31
	13.0	716	584	447	320	213	131	72	31
	14.0	660	545	424	309	208	129	71	30
	15.0	609	508	402	297	203	127	70	30
	17.5	502	428	348	267	189	121	67	29
	20.0	423	364	302	238	174	114	65	28
	22.5	362	314	264	212	159	107	61	26
	25.0	314	275	233	189	145	100	58	25
	27.5	274	242	207	170	132	93	55	24
	30.0	240	214	185	153	120	85	51	22
	32.5	210	190	165	138	109	78	48	21
	35.0	184	168	148	125	99	72	44	20
	45.0	110	104	96	83	68	50	30	13



**Les Industries Spectralux Inc.**  
**Spectralux Industries Inc.**

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

**Horizontal Angles**

	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
55.0	66	64	59	53	44	32	19	9	3
65.0	37	36	34	30	25	18	11	6	3
75.0	17	16	14	13	10	8	5	4	3
85.0	4	4	4	3	3	3	3	3	3
90.0	3	3	3	3	3	3	3	3	4

V  
e  
r  
t  
i  
c  
a  
l

A  
n  
g  
l  
e  
s



# Les Industries Spectralux Inc. Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025



NVLAP LAB CODE: 200899-0

## Horizontal Angles

	90.0
V e r t i c a l	-90.0 1
	-85.0 1
	-75.0 1
	-65.0 1
	-55.0 1
	-45.0 2
	-35.0 2
	-32.5 2
	-30.0 2
	-27.5 2
	-25.0 2
	-22.5 2
	-20.0 2
	-17.5 2
	-15.0 2
	-14.0 2
	-13.0 2
	-12.0 2
	-11.0 2
	-10.0 2
A n g l e s	-9.0 2
	-8.0 2
	-7.0 2
	-6.0 2
	-5.0 2
	-4.0 2
	-3.0 2
	-2.0 2
	-1.0 2
	0.0 2
	1.0 2
	2.0 2
	3.0 2
	4.0 2
	5.0 2
	6.0 2
	7.0 2
	8.0 2
	9.0 2
	10.0 2
	11.0 2
	12.0 2
	13.0 2
	14.0 2
	15.0 2
	17.5 2
	20.0 2
	22.5 2
	25.0 2
	27.5 2
	30.0 2
	32.5 2
	35.0 2
	45.0 2



Les Industries Spectralux Inc.  
Spectralux Industries Inc.

2750 Sabourin, Saint-Laurent (Quebec) H4S 1M2 Canada  
Tel.: (514) 332-0082 Fax: (514) 332-3590 [www.spectralux.ca](http://www.spectralux.ca)

ISO/IEC 17025  
**NVLAP**<sup>®</sup>  
NVLAP LAB CODE: 200899-0

Horizontal Angles

90.0

55.0	3
65.0	3
75.0	3
85.0	2
90.0	2

V  
e  
r  
t  
i  
c  
a  
l

A  
n  
g  
l  
e  
s