



# 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>	G1504202-R1	<b>Description</b>	69W White SSL	<b>Type</b> Commercial
<b>Test Date</b>	20 April 2015	<b>Serial Number</b>	SRIS 1903	<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>	24.4 °C	<b>Lamp Lumens</b>	-1	<b>Catalog No.</b> LPF-60-15
<b>Humidity</b>	23.4 %	<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-120-48-DWW-1FT-WWLF-SI	<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:**



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## 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).





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## 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



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## Photometric Report: G1504202-R1

Prepared for: Lumenpulse · Test Date: 20 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-120-48-DWW-1FT-WWLF-SI

### Photometric Floodlight Characteristics

Nominal SSL Power	69.00 W	
Measured Input Voltage	121.40 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	1846	
Measured Input Power	54.36 W	
Floodlight Luminous Efficacy	34.0 lm/W	2) Field performance may differ from laboratory measurements.
Maximum Candela Value	2860	
Maximum Candela Location	0.0 H, 3.0 V	3) Results are valid for the tested material only.
Horizontal Beam Angle (50%)	81.0 °	
Vertical Beam Angle (50%)	18.5 °	4) All data published in this report are based on absolute photometry.
Horizontal Field Angle (10%)	126.0 °	
Vertical Field Angle (10%)	54.0 °	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%)	727	
Beam Efficiency (50%)	N/A	
Field Lumens (10%)	1507	
Field Efficiency (10%)	N/A	
Spill Lumens	339	
Total Floodlight Lumens	1846	
Total Floodlight Efficiency	N/A	



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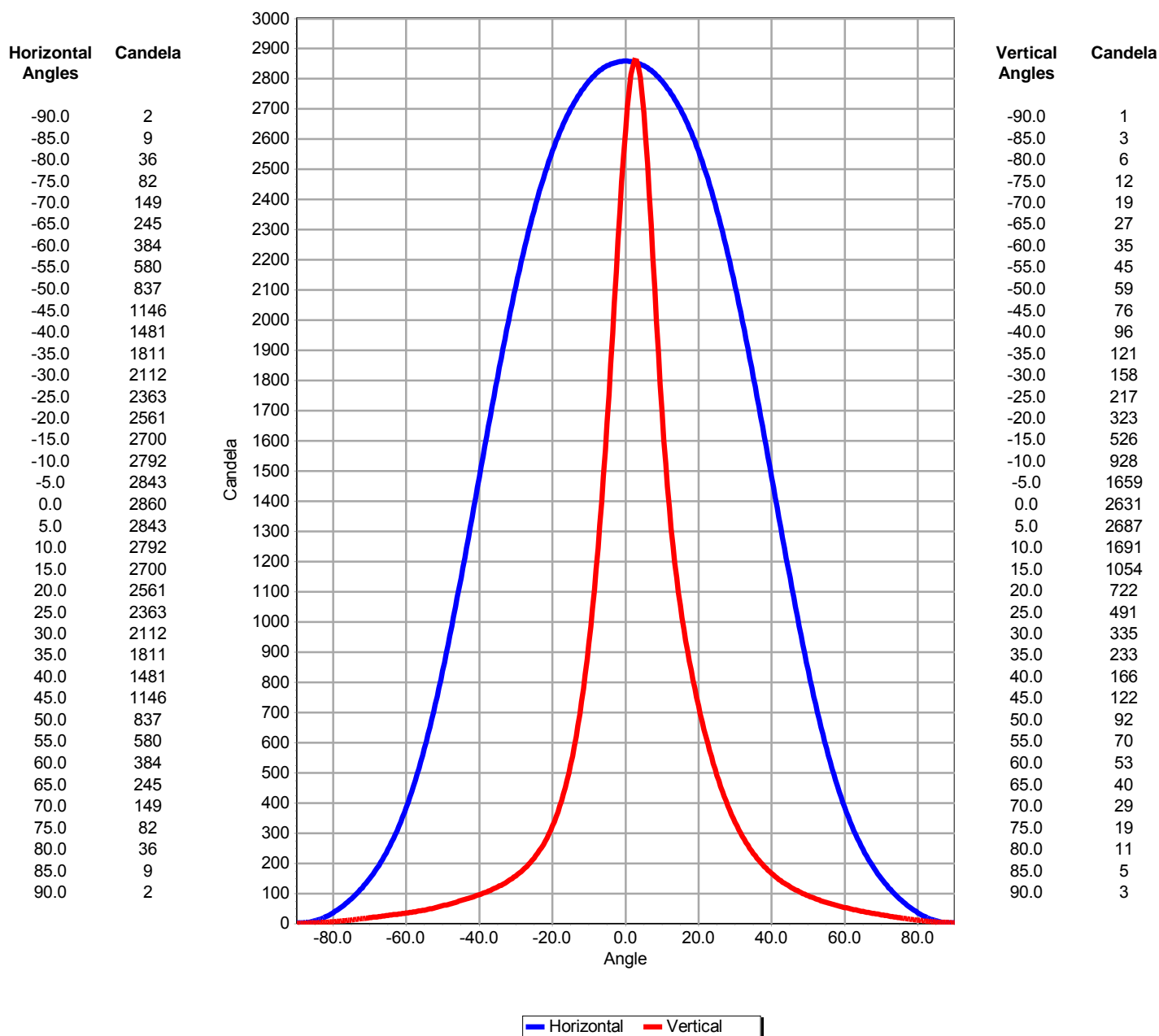
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Prepared for: Lumenpulse · Test Date: 20 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-120-48-DWW-1FT-WWLF-SI

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





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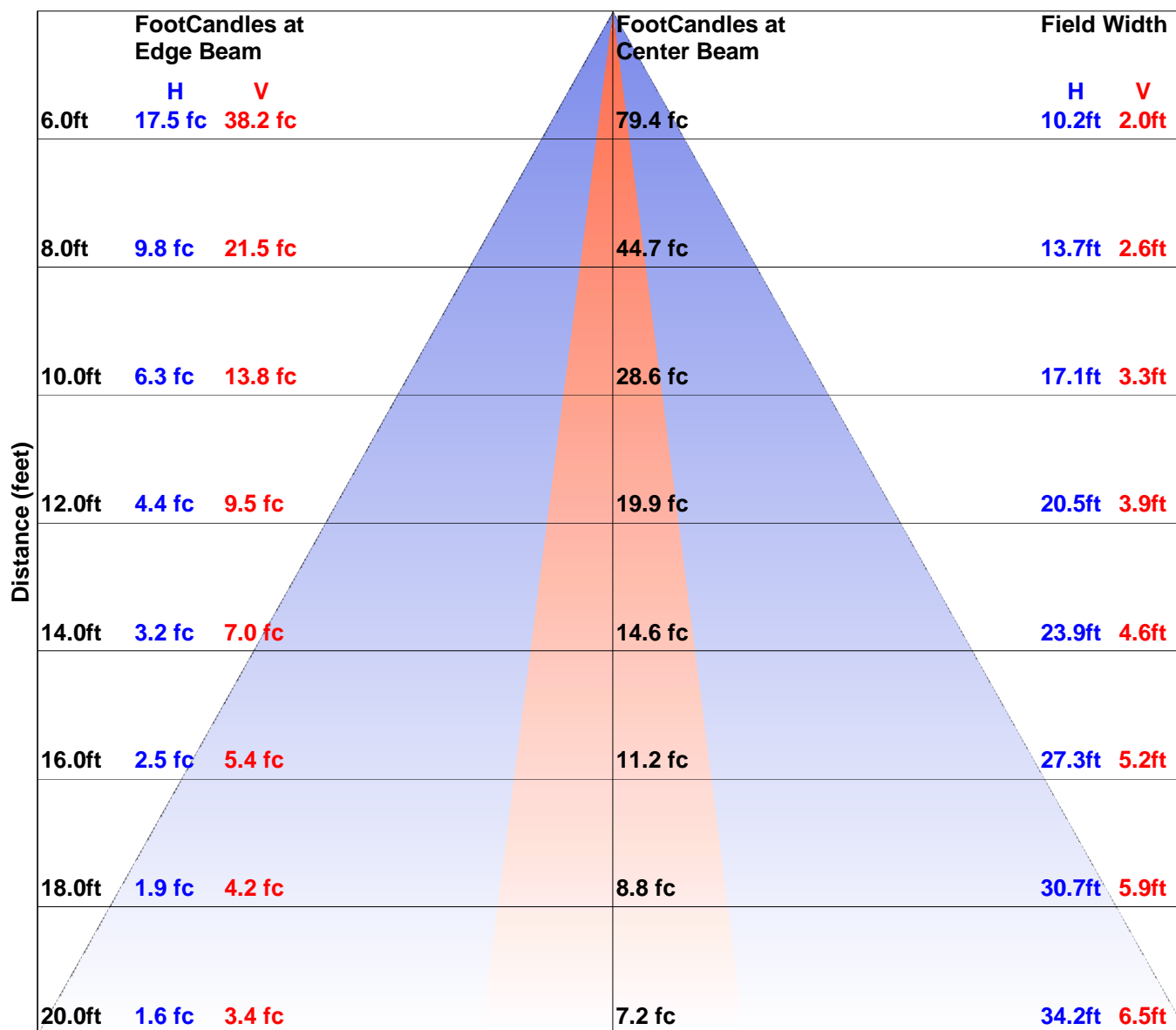
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504202-R1

Prepared for: Lumenpulse · Test Date: 20 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-120-48-DWW-1FT-WWLF-SI

### Downlight Beam



— Horizontal (81.0 °) — Vertical (18.5 °)



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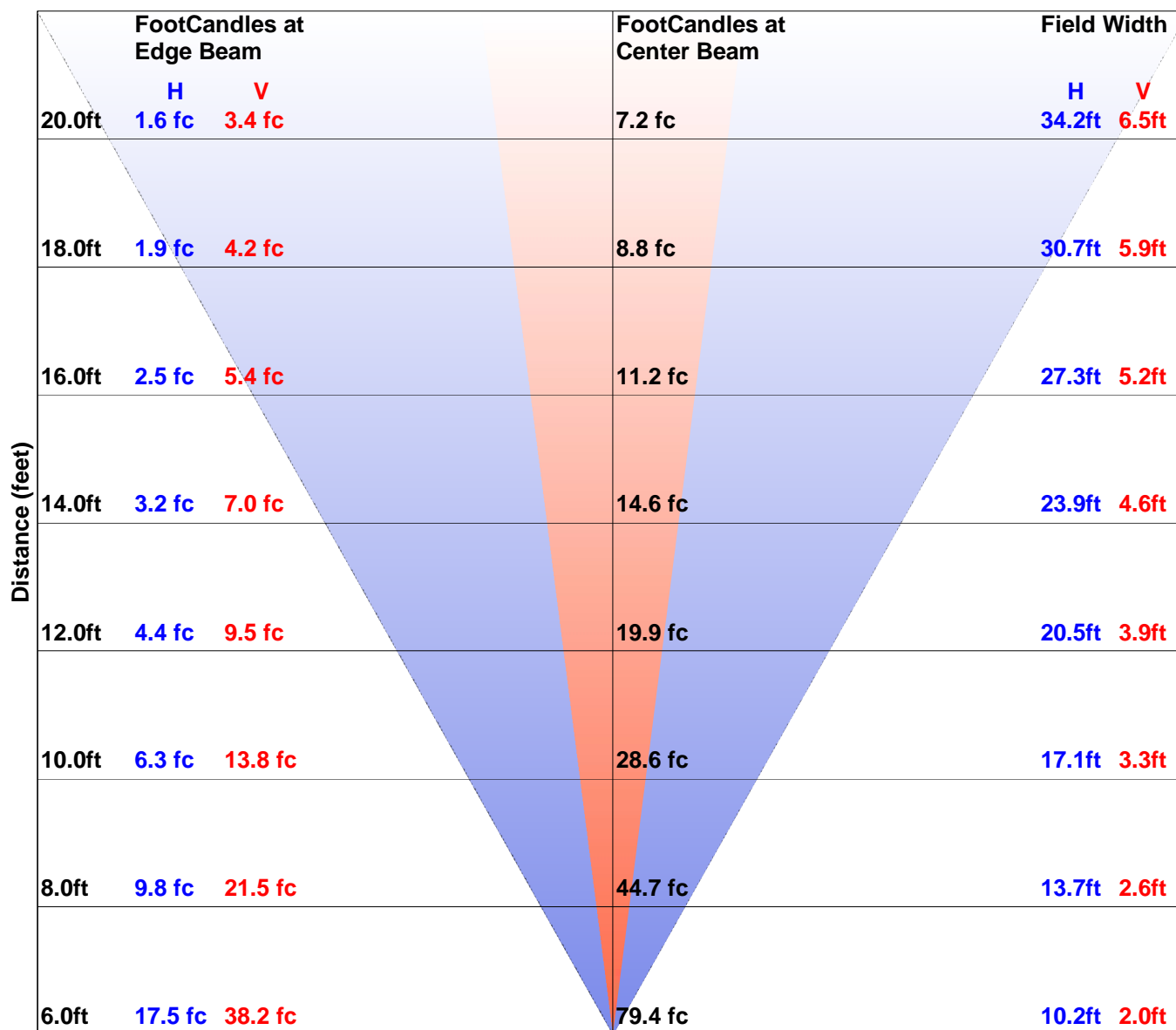
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504202-R1

Prepared for: Lumenpulse · Test Date: 20 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-120-48-DWW-1FT-WWLF-SI

### Uplight Beam



— Horizontal (81.0 °) — Vertical (18.5 °)



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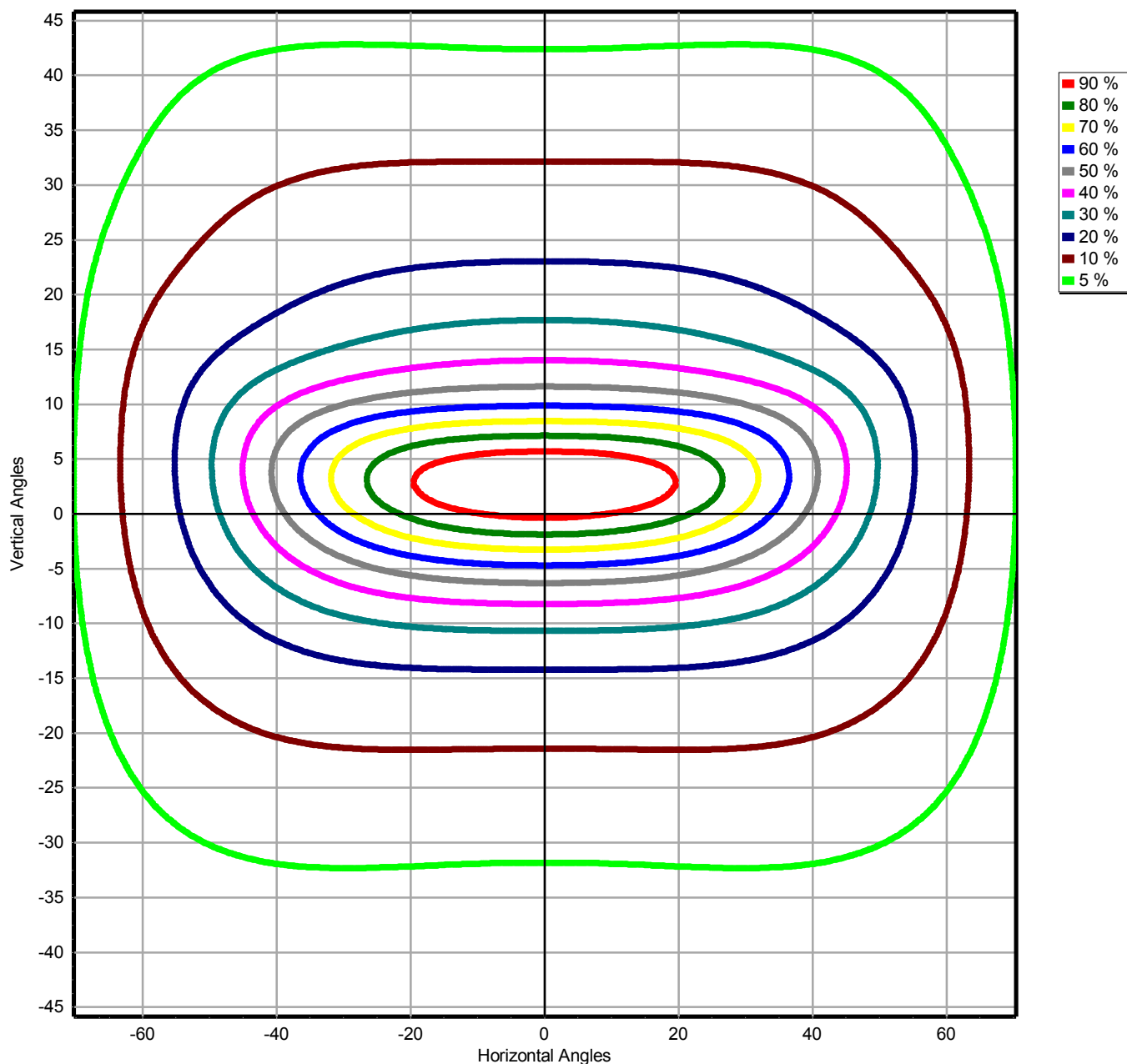
NVLAP LAB CODE: 200899-0

## Photometric Report: G1504202-R1

Prepared for: Lumenpulse · Test Date: 20 April 2015

Floodlight: LUMENFACADE · Lumcat: LOG-120-48-DWW-1FT-WWLF-SI

### ISO Candela Diagram







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## IES File Headers

```
IESNA:LM-63-2002
[ISSUEDATE]      20 April 2015
[TESTLAB]        Spectra Lux Industries Inc.
[TEST]           G1504202-R1
[MANUFAC]        Lumenpulse
[LUMCAT]          LOG-120-48-DWW-1FT-WWLF-SI
[LUMINAIRE]       LUMENFACADE
[LAMP]            (CREE XPE2 LED's) White 69W SSL c/w MEAN WELL USA inc. Driver LPF-60-15 @ 120.00V
[_LAMPDETAILS]    DC Voltage=15V, Current=4.6A, CCT=N/K, CRI=N/K, x=N/K, y=N/K
[_BURNING]        Axial (1,846 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	2	2	2
	-75.0	12	12	12	12	12	11	11	11
	-65.0	27	27	27	27	27	26	26	25
	-55.0	45	45	45	45	46	47	47	47
	-45.0	76	76	77	77	78	79	79	78
	-35.0	121	122	122	123	124	125	125	123
	-32.5	138	138	139	139	140	141	141	139
	-30.0	158	158	159	160	161	162	161	158
	-27.5	183	184	185	186	187	187	185	181
	-25.0	217	217	218	219	220	221	220	210
	-22.5	262	262	263	264	265	264	262	247
	-20.0	323	323	324	325	325	323	318	294
	-17.5	408	408	408	408	406	401	392	353
	-15.0	526	526	526	524	519	509	492	430
	-14.0	586	586	585	582	575	562	540	467
	-13.0	656	656	654	649	640	623	596	508
	-12.0	736	735	731	725	712	690	657	552
A n g l e s	-11.0	826	825	820	811	795	767	726	601
	-10.0	928	926	920	908	886	852	802	653
	-9.0	1044	1041	1033	1016	989	947	886	711
	-8.0	1174	1171	1160	1139	1104	1052	979	773
	-7.0	1320	1315	1301	1275	1232	1168	1081	840
	-6.0	1483	1477	1459	1426	1372	1295	1191	910
	-5.0	1659	1653	1631	1590	1525	1433	1309	985
	-4.0	1853	1844	1816	1766	1687	1579	1434	1063
	-3.0	2057	2046	2012	1951	1860	1730	1566	1142
	-2.0	2263	2251	2212	2141	2033	1884	1693	1219
	-1.0	2459	2445	2399	2319	2199	2030	1817	1293
	0.0	2631	2614	2566	2477	2343	2161	1928	1359
	1.0	2768	2750	2697	2604	2463	2269	2022	1415
	2.0	2845	2827	2775	2680	2535	2336	2082	1455
	3.0	2860	2843	2792	2700	2561	2363	2112	1481
	4.0	2806	2791	2745	2659	2528	2342	2100	1483
	5.0	2687	2676	2635	2559	2443	2274	2051	1467



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## 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	2520	2511	2477	2414	2314	2165	1965	1714	1428
	7.0	2316	2309	2282	2231	2146	2022	1851	1632	1371
	8.0	2101	2094	2074	2032	1964	1860	1714	1528	1301
	9.0	1890	1883	1867	1834	1777	1695	1574	1413	1219
	10.0	1691	1687	1672	1644	1600	1529	1428	1296	1128
	11.0	1524	1520	1507	1481	1441	1380	1295	1182	1039
	12.0	1377	1373	1360	1336	1299	1245	1170	1073	952
	13.0	1251	1247	1234	1211	1176	1126	1060	975	870
	14.0	1146	1142	1129	1107	1074	1028	966	890	797
	15.0	1054	1051	1039	1018	986	943	886	816	733
	17.5	870	867	857	840	814	777	730	673	606
	20.0	722	719	712	699	679	651	614	567	513
	22.5	597	595	591	582	568	547	519	483	439
	25.0	491	491	488	483	474	460	440	413	379
	27.5	405	405	404	401	396	387	373	354	329
	30.0	335	335	335	333	331	325	317	303	285
	32.5	278	279	279	279	277	275	269	260	247
	35.0	233	233	234	234	234	233	230	224	215
A n g l e s	45.0	122	123	123	124	125	126	126	126	124
	55.0	70	70	70	71	72	72	73	73	73
	65.0	40	40	40	40	41	41	41	41	41
	75.0	19	19	19	19	19	19	19	19	18
	85.0	5	5	5	5	5	5	5	5	5
	90.0	3	3	3	3	3	3	3	3	3



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## 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	-90.0	1	1	1	1	1	1	1	1
	-85.0	2	2	2	2	2	2	1	1
	-75.0	10	9	9	8	7	6	3	2
	-65.0	25	24	23	21	19	15	6	2
	-55.0	47	46	44	40	36	30	21	4
	-45.0	77	74	71	65	57	46	33	6
	-35.0	120	115	107	97	83	66	46	25
	-32.5	135	128	119	107	91	71	49	26
	-30.0	153	145	133	118	99	77	53	28
	-27.5	174	163	149	131	109	83	56	29
	-25.0	200	186	167	145	119	90	59	30
	-22.5	232	213	189	161	130	97	63	32
	-20.0	273	246	214	179	142	103	66	33
	-17.5	323	286	244	200	155	111	69	34
	-15.0	386	334	279	223	168	118	72	35
	-14.0	415	356	294	232	174	120	73	35
	-13.0	447	380	310	242	180	123	75	35
	-12.0	481	404	327	253	185	126	75	36
	-11.0	519	432	345	263	191	128	77	36
	-10.0	559	460	363	274	196	131	77	36
A n g l e s	-9.0	603	490	382	285	202	133	78	36
	-8.0	649	521	401	296	207	136	79	36
	-7.0	697	554	421	307	213	138	80	36
	-6.0	748	587	441	318	217	140	80	36
	-5.0	802	622	462	328	222	141	81	37
	-4.0	855	656	481	338	226	143	81	37
	-3.0	910	691	500	347	231	144	82	37
	-2.0	962	722	518	356	234	146	82	37
	-1.0	1013	754	535	363	238	147	82	37
	0.0	1057	780	549	371	240	148	82	36
	1.0	1098	806	563	376	242	148	82	36
	2.0	1126	823	572	381	244	148	82	36
	3.0	1146	837	580	384	245	149	82	36
	4.0	1152	842	583	386	245	149	82	36
	5.0	1146	841	585	387	246	148	82	36
	6.0	1124	831	581	386	245	148	81	35
	7.0	1092	817	575	383	244	147	81	35
	8.0	1047	792	564	379	242	146	80	35
	9.0	995	764	550	373	240	145	80	35
	10.0	934	728	532	366	237	144	79	34
	11.0	872	691	514	357	234	143	78	34
	12.0	809	650	492	348	229	141	77	34
	13.0	747	610	469	337	225	139	77	33
	14.0	690	570	445	325	220	137	76	33
	15.0	638	533	422	313	215	135	75	32
	17.5	531	451	367	282	200	129	72	31
	20.0	452	387	320	252	185	122	69	30
	22.5	390	336	281	225	169	114	66	29
	25.0	340	296	249	202	154	106	62	27
	27.5	297	261	223	182	141	99	59	26
	30.0	261	232	200	165	129	91	55	24
	32.5	229	206	179	149	117	84	51	23
	35.0	201	183	161	136	107	78	48	21
	45.0	120	114	104	91	74	54	33	14



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**Horizontal Angles**

	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
55.0	72	69	65	58	48	35	21	9	3
65.0	40	39	36	32	27	20	12	6	4
75.0	18	17	15	14	11	8	5	4	3
85.0	5	4	4	4	3	3	3	3	4
90.0	3	3	3	3	3	3	3	3	4

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## 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 2
	-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



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Horizontal Angles

90.0

55.0	3
65.0	3
75.0	3
85.0	2
90.0	2

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