



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

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	
Test Report	G1402282-R1	Description	61W White 3908K SSL	Type Commercial
Test Date	28 February 2014	Serial Number	LOG HO-120-48-40K-10X60 XPE2-NO_R&D	Description 60SSL-CY524
Report Date	7 March 2014	Photometric Method	Absolute	Manufacturer MeanWell
Ambient	24.9 °C	Lamp Lumens	-1	Catalog No. LPF-60-24
Humidity	9.4 %	Test Position	Axial	Voltage Tap 120.00 V
Lamp Type	SSL	Comments	4 Clusters of 12 Cree XPE LED's	Power Factor 0.9900

Floodlight Data

General Information		Optics	Aperture (feet)	
Manufacturer	Lumenpulse	Reflector	48 Collimators	X 0.0000
Name	LUMENFACADE	Housing	Extruded Aluminum	Y 4.0000
Catalog No.	LOG HO-120-48-40K-10X60 XPE2-NO_R&D	Lens	Clear Flat Glass with diffuse film	Z 0.1667

SKT Position: None

Lamp Stabilization Time: 59 minutes, 56 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	91L236541	2013/03/15	2014/03/15
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	2013/12/12	2014/12/12
Photodetector	INPHORA	IPR-PDET 19	110803	2013/05/16	2014/05/16

Environment Equipment

Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Temperature Humidity Sensor	Omega	HH311	060703153	2013/08/09	2014/08/09



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Photometric Report: G1402282-R1

Prepared for: Lumenpulse · Test Date: 28 February 2014

Floodlight: LUMENFACADE · Lumcat: LOG HO-120-48-40K-10X60 XPE2-NO_R&D

Photometric Floodlight Characteristics

Nominal SSL Power	61.00 W	
Measured Input Voltage	119.87 V	Notes
Test SSL Current	2.5400 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	3692	
Measured Input Power	65.90 W	
Floodlight Luminous Efficacy	56.0 lm/W	2) Field performance may differ from laboratory measurements.
Maximum Candela Value	19654	
Maximum Candela Location	0.0 H, -0.5 V	3) Results are valid for the tested material only.
Horizontal Beam Angle (50%)	51.0 °	
Vertical Beam Angle (50%)	10.0 °	4) All data published in this report are based on absolute photometry.
Horizontal Field Angle (10%)	84.0 °	
Vertical Field Angle (10%)	20.5 °	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	5Hx2V	
Beam Lumens (50%)	1743	
Beam Efficiency (50%)	N/A	
Field Lumens (10%)	3161	
Field Efficiency (10%)	N/A	
Spill Lumens	531	
Total Floodlight Lumens	3692	
Total Floodlight Efficiency	N/A	



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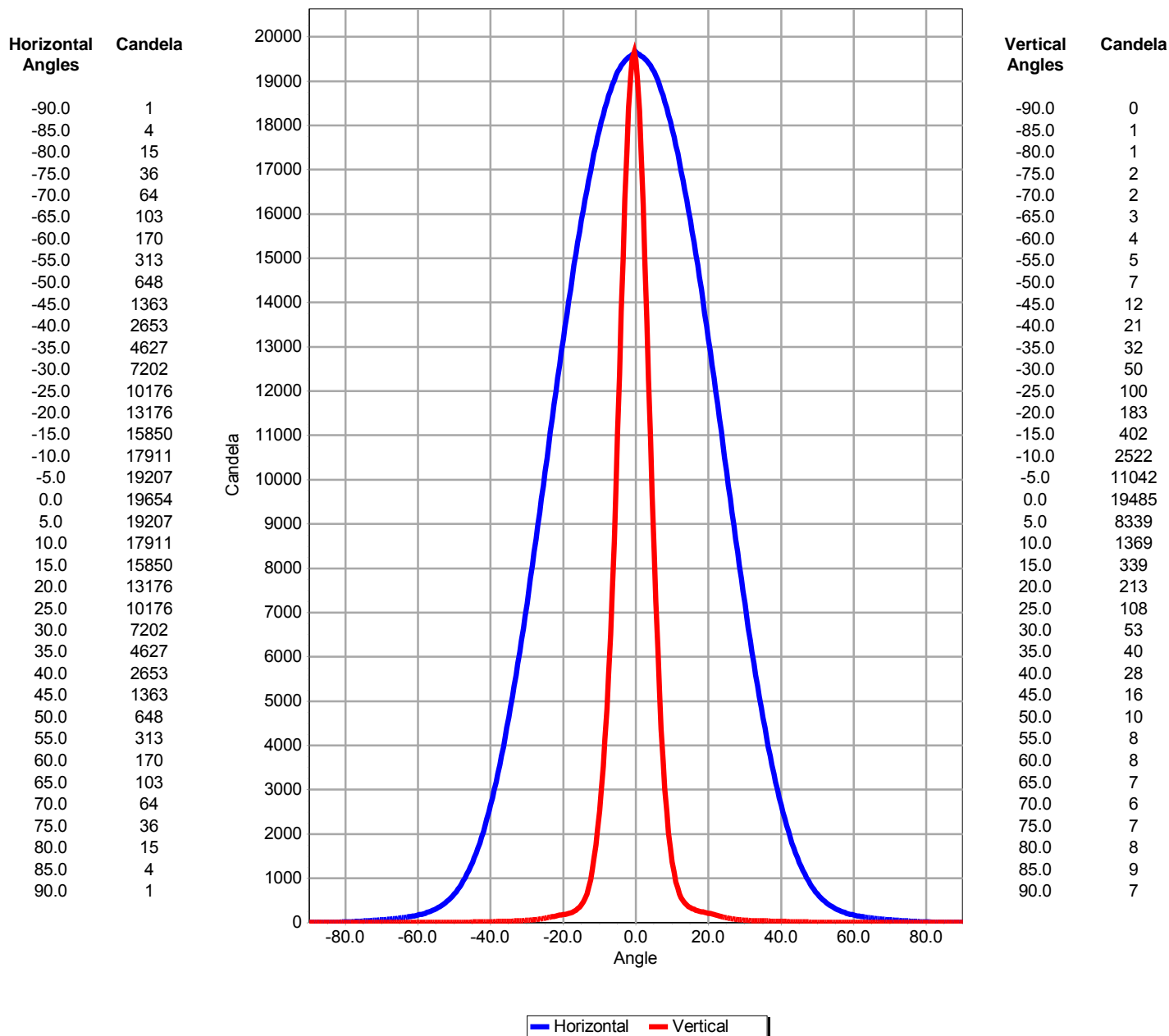
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Maximum Candela Trace (Max. Location: 0.0 H, -0.5 V)





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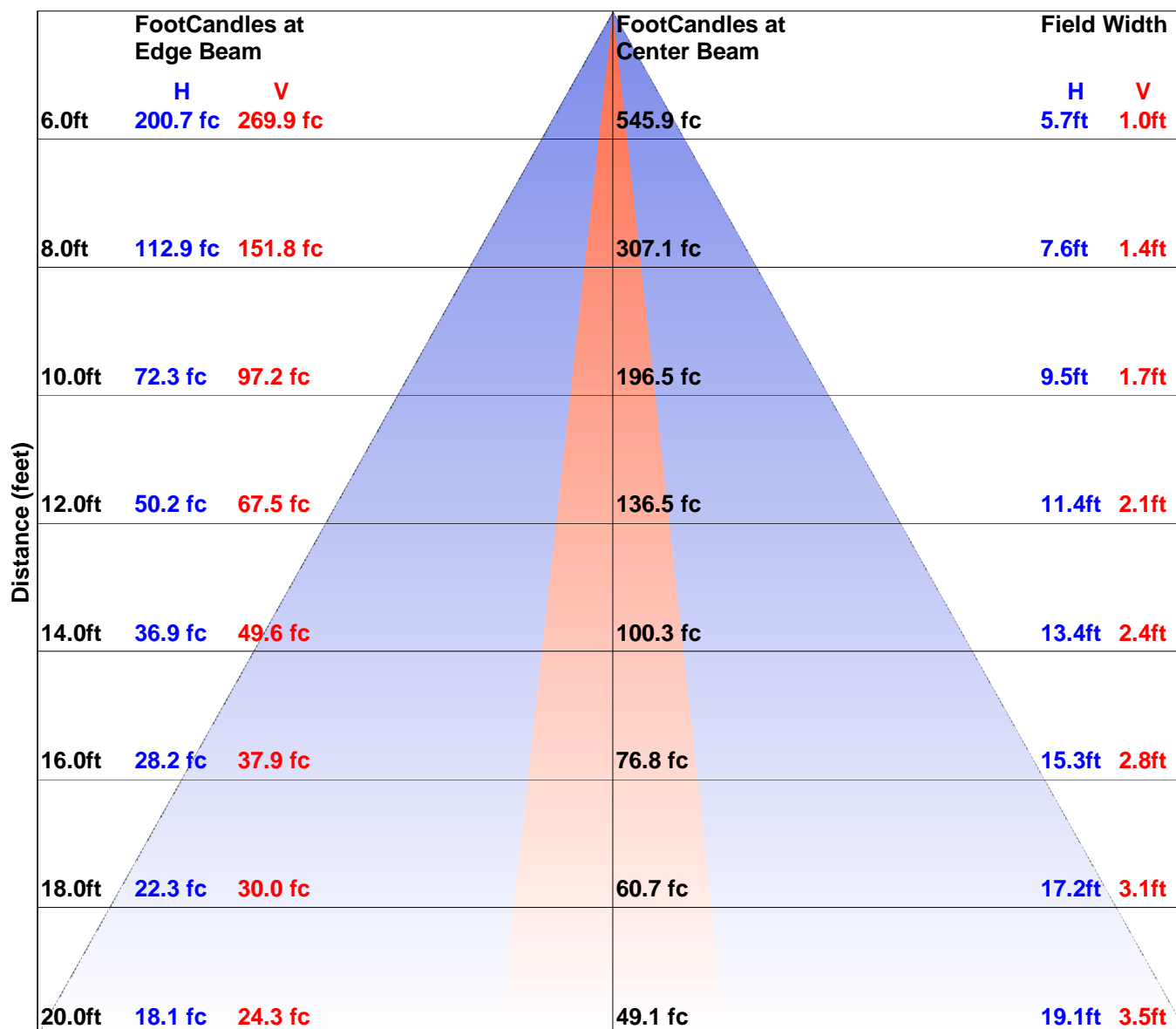
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Downlight Beam



— Horizontal (51.0 °) — Vertical (10.0 °)



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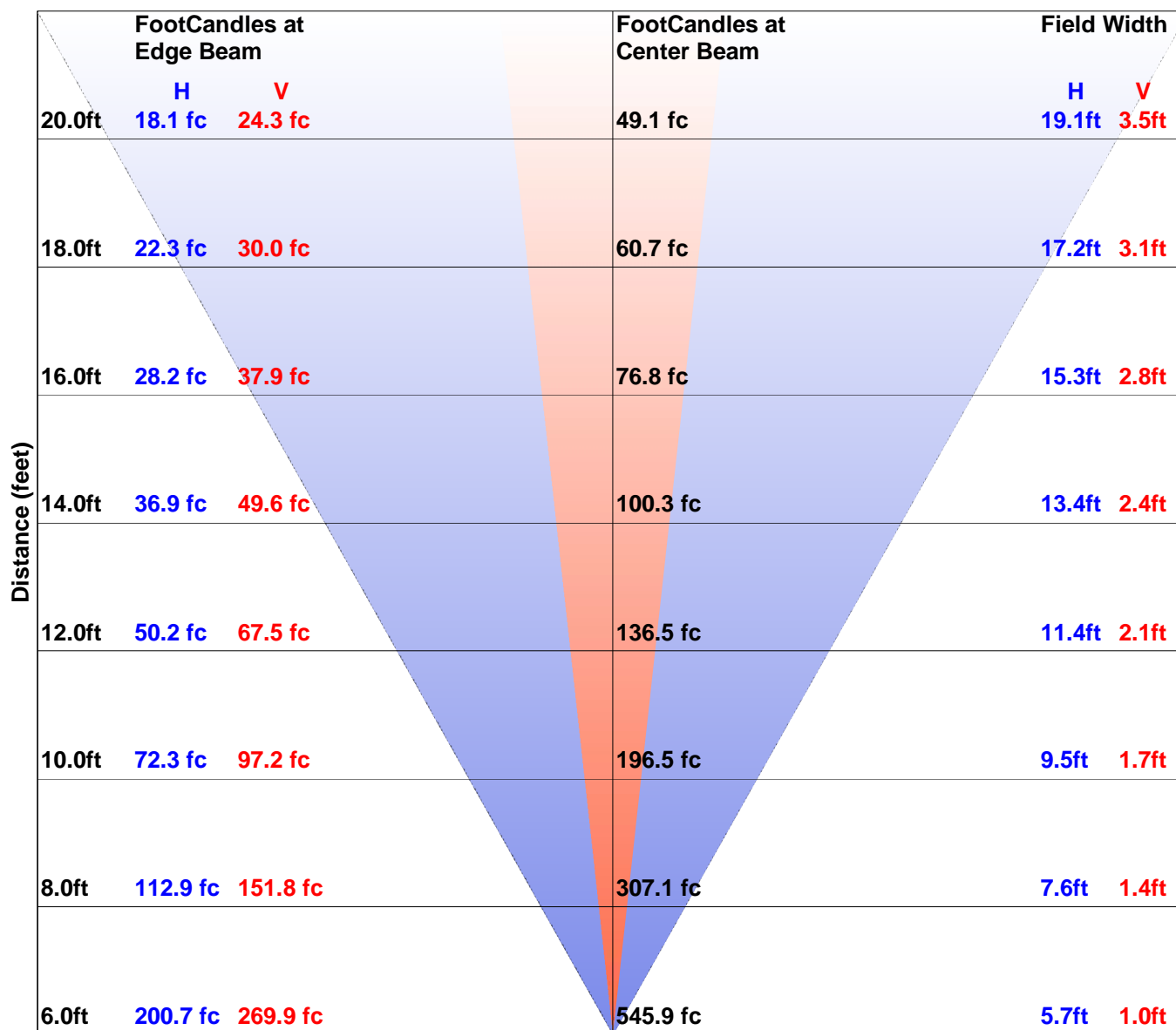
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Uplight Beam



— Horizontal (51.0 °) — Vertical (10.0 °)



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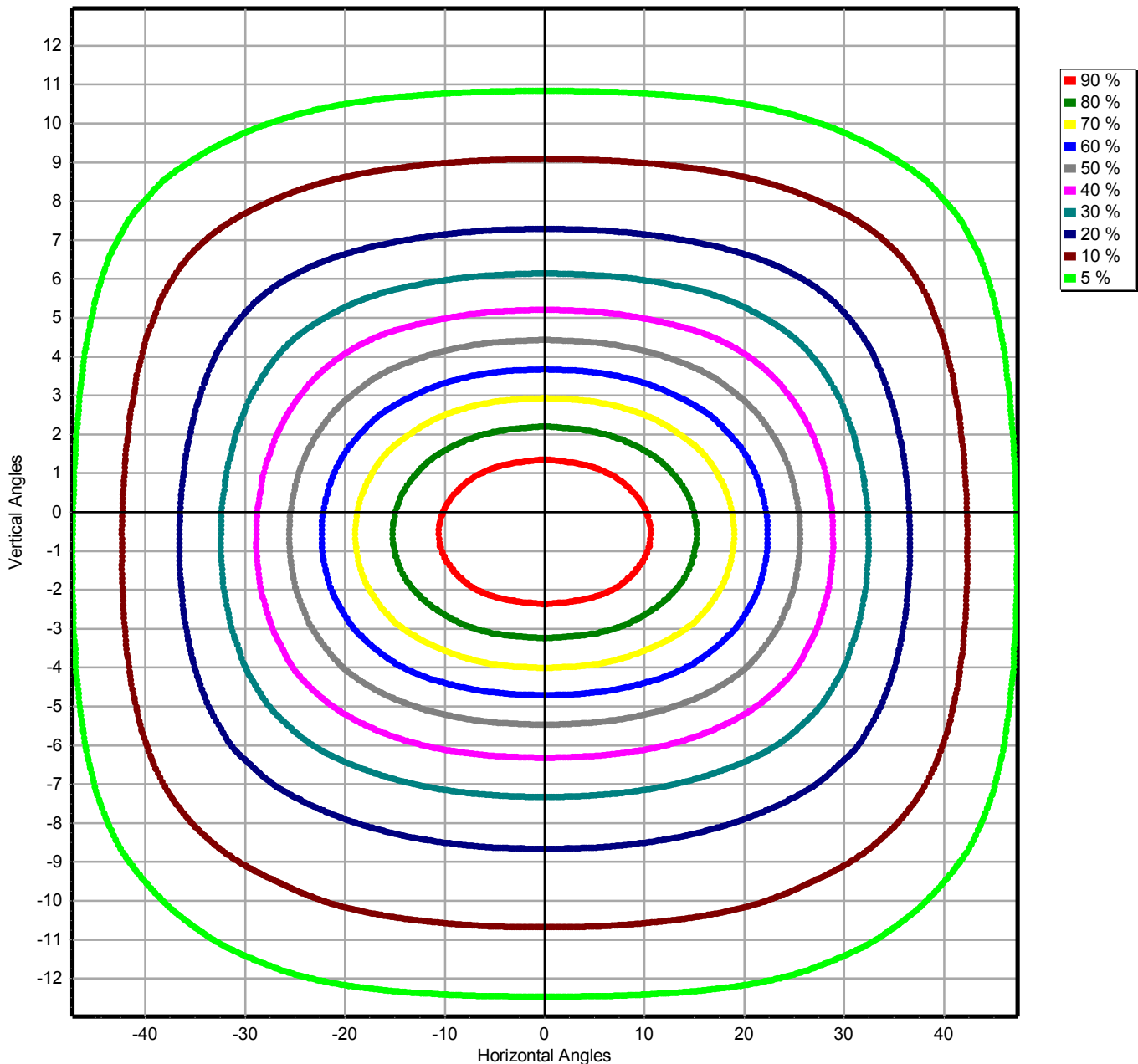
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Photometric Report: G1402282-R1

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Floodlight: LUMENFACADE · Lumcat: LOG HO-120-48-40K-10X60 XPE2-NO_R&D

ISO Candela Diagram





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IES File Headers

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IESNA:LM-63-2002
[ISSUEDATE]      28 February 2014
[TESTLAB]        Spectra Lux Industries Inc.
[TEST]           G1402282-R1
[MANUFAC]        Lumenpulse
[LUMCAT]          LOG HO-120-48-40K-10X60 XPE2-NO_R&D
[LUMINAIRE]       LUMENFACADE
[LAMP]           (4 Clusters of 12 Cree XPE LED's) White 61W SSL c/w MeanWell Driver LPF-60-24 @ 120.00V
[_LAMPDETAILS]   DC Voltage=24V, Current=2.54A, CCT=3908K, CRI=76, x=0.3859, y=0.3841
[_BURNING]        Axial (3,692 Luminaire Lumens)
[_REFLECTOR]      48 Collimators
[_LENS]           Clear Flat Glass with diffuse film
[_HOUSING]        Extruded Aluminum
[_SKTPOSITION]    None
[DISTRIBUTION]    NEMA 5Hx2V (Max. CP at 0.0H,-0.5V)
[MORE] (Based on IES LM-35-1989)
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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 A n g l e s	-90.0	0	0	0	0	0	0	0	0
	-85.0	1	1	1	1	1	1	1	1
	-75.0	2	2	2	2	2	2	2	1
	-65.0	3	3	3	3	3	2	2	2
	-55.0	5	5	5	5	5	5	6	6
	-45.0	12	12	13	13	14	14	15	16
	-35.0	32	32	32	32	33	33	33	34
	-25.0	100	100	101	103	102	100	95	81
	-20.0	183	182	178	172	164	154	144	122
	-15.0	402	401	397	389	377	360	335	262
	-12.5	970	965	948	916	867	794	700	468
	-12.0	1191	1183	1160	1115	1045	949	825	531
	-11.5	1441	1430	1396	1334	1241	1115	957	601
	-11.0	1749	1735	1691	1607	1484	1320	1122	681
	-10.5	2102	2083	2021	1913	1754	1546	1299	775
	-10.0	2522	2496	2418	2277	2075	1816	1515	874
	-9.5	2968	2937	2834	2661	2414	2098	1734	986
	-9.0	3527	3488	3360	3145	2839	2463	2023	1112
	-8.5	4142	4094	3938	3674	3301	2845	2323	1251
	-8.0	4823	4764	4578	4259	3817	3277	2661	1379
	-7.5	5601	5527	5304	4928	4404	3752	3014	1529
	-7.0	6499	6413	6151	5700	5074	4311	3429	1668
	-6.5	7463	7362	7047	6519	5779	4860	3818	1811
	-6.0	8600	8479	8105	7466	6584	5490	4283	1936
	-5.5	9755	9610	9159	8407	7362	6081	4662	2068
	-5.0	11042	10869	10332	9429	8204	6717	5112	2167
	-4.5	12382	12170	11529	10481	9041	7319	5475	2287
	-4.0	13788	13546	12793	11554	9895	7950	5884	2365
	-3.5	15042	14754	13895	12500	10632	8451	6185	2461
	-3.0	16339	16018	15038	13455	11374	8971	6528	2510
	-2.5	17421	17054	15981	14259	11981	9385	6753	2585
	-2.0	18378	17994	16826	14928	12517	9761	6997	2598
	-1.5	19074	18654	17419	15454	12886	9997	7113	2649
	-1.0	19507	19084	17797	15732	13115	10153	7218	2634
	-0.5	19654	19207	17911	15850	13176	10176	7202	2653



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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	0.0	19485	19062	17759	15698	13067	10102	7171	4594	2618
	0.5	19040	18611	17357	15376	12792	9894	7017	4525	2605
	1.0	18327	17936	16730	14821	12370	9621	6861	4424	2543
	1.5	17388	17008	15904	14141	11831	9219	6594	4295	2507
	2.0	16209	15875	14858	13220	11139	8743	6326	4134	2417
	2.5	14968	14660	13765	12324	10422	8224	5983	3961	2354
	3.0	13582	13327	12539	11258	9598	7651	5643	3762	2242
	3.5	12271	12041	11376	10286	8810	7078	5250	3555	2164
	4.0	10925	10746	10174	9225	7981	6479	4882	3328	2042
	4.5	9646	9484	9015	8237	7162	5869	4458	3103	1941
	5.0	8339	8218	7823	7174	6307	5225	4039	2842	1796
	5.5	7251	7142	6831	6304	5566	4654	3627	2605	1687
	6.0	6181	6094	5837	5404	4808	4064	3223	2349	1539
	6.5	5228	5158	4950	4607	4118	3509	2814	2093	1409
	7.0	4363	4312	4142	3864	3478	2995	2440	1838	1257
	7.5	3643	3598	3466	3251	2936	2541	2089	1603	1129
	8.0	3017	2982	2874	2696	2450	2138	1775	1380	989
	8.5	2501	2473	2393	2254	2057	1806	1511	1194	877
	9.0	2037	2017	1953	1846	1698	1503	1271	1015	757
A n g l e s	9.5	1668	1652	1606	1526	1409	1257	1072	869	663
	10.0	1369	1358	1323	1261	1173	1055	911	746	577
	10.5	1133	1124	1098	1052	983	892	776	645	509
	11.0	921	916	895	861	810	741	653	550	440
	11.5	771	766	751	724	684	630	560	478	389
	12.0	649	645	632	610	578	535	480	414	341
	12.5	561	557	546	528	500	464	419	365	306
	15.0	339	336	329	316	299	277	251	223	193
	20.0	213	211	206	198	186	172	155	138	120
	25.0	108	108	109	111	112	111	107	98	87
	35.0	40	40	40	39	39	39	38	37	37
45.0	16	16	16	16	17	17	17	18	18	
55.0	8	8	8	8	9	9	9	10	10	
65.0	7	7	7	7	7	7	7	7	7	
75.0	7	7	7	6	6	6	6	6	6	
85.0	9	9	9	9	8	8	8	7	7	
90.0	7	7	7	7	6	6	6	6	5	



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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 A n g l e s	-90.0	0	0	0	0	0	1	1	1
	-85.0	1	1	1	1	1	1	1	1
	-75.0	1	1	1	1	1	1	1	1
	-65.0	3	3	3	3	3	3	2	1
	-55.0	7	7	7	7	8	7	6	2
	-45.0	16	16	16	17	16	15	12	2
	-35.0	34	34	33	32	30	25	19	3
	-25.0	75	69	63	57	50	40	26	3
	-20.0	111	99	88	76	64	48	30	4
	-15.0	219	177	139	108	81	55	33	4
	-12.5	354	257	183	128	88	58	34	4
	-12.0	395	282	194	132	90	59	34	4
	-11.5	438	304	203	135	91	59	34	4
	-11.0	489	332	215	139	92	60	35	4
	-10.5	542	356	224	142	93	60	34	4
	-10.0	603	387	235	145	95	61	35	4
	-9.5	661	410	244	149	95	61	35	4
	-9.0	732	443	254	151	97	62	35	4
	-8.5	798	466	262	154	97	62	35	4
	-8.0	865	496	270	156	98	62	35	4
	-7.5	930	514	277	159	99	63	35	4
	-7.0	996	543	284	160	100	63	36	4
	-6.5	1052	557	290	163	100	63	35	4
	-6.0	1113	581	296	164	101	64	36	4
	-5.5	1157	591	300	166	101	63	35	4
	-5.0	1205	613	304	166	102	64	36	4
	-4.5	1240	617	306	168	102	64	36	4
	-4.0	1279	636	310	168	103	64	36	4
	-3.5	1303	635	311	169	103	64	36	4
	-3.0	1334	648	314	168	103	64	36	4
	-2.5	1345	646	314	170	103	64	36	4
	-2.0	1361	656	315	169	103	64	36	4
	-1.5	1364	650	314	170	103	64	36	4
	-1.0	1369	658	315	169	103	64	36	4
	-0.5	1363	648	313	170	103	64	36	4
	0.0	1356	651	313	168	103	64	36	4
	0.5	1342	640	311	169	102	64	36	4
	1.0	1327	644	309	167	102	64	36	4
	1.5	1304	629	308	167	102	63	35	4
	2.0	1279	627	305	165	102	63	36	4
	2.5	1246	610	301	165	101	63	35	4
	3.0	1212	606	298	163	100	63	35	4
	3.5	1173	587	295	163	100	63	35	4
	4.0	1132	577	290	161	99	62	35	4
	4.5	1083	556	284	159	99	62	35	4
	5.0	1029	542	279	156	98	62	35	4
	5.5	975	518	273	156	97	61	34	4
	6.0	916	502	266	152	96	61	35	4
	6.5	853	474	259	151	95	60	34	4
	7.0	786	453	251	147	94	60	34	4
	7.5	721	423	241	145	93	60	34	4
	8.0	654	399	233	141	92	59	34	4
	8.5	592	370	224	139	91	59	33	4
	9.0	529	345	213	135	89	58	33	4



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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 A n g l e s	9.5	473	317	204	132	88	57	33	14	4
	10.0	424	294	194	128	87	57	33	14	4
	10.5	380	270	184	125	85	56	32	14	4
	11.0	337	248	174	121	84	56	33	14	4
	11.5	303	227	165	117	82	55	32	14	4
	12.0	272	210	156	113	81	55	32	14	3
	12.5	247	193	148	110	79	54	31	14	4
	15.0	164	137	114	92	71	50	30	13	3
	20.0	104	90	77	66	56	42	27	12	3
	25.0	77	67	59	51	44	35	23	10	3
	35.0	37	36	34	31	27	22	15	7	2
	45.0	18	18	17	17	16	14	10	5	2
	55.0	11	11	11	12	12	11	10	8	6
	65.0	7	7	8	8	8	9	9	9	9
	75.0	6	5	5	5	5	5	4	4	3
	85.0	7	6	6	6	6	6	6	8	12
	90.0	5	5	5	5	5	6	7	10	19



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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 1
	-45.0 1
	-35.0 1
	-25.0 1
	-20.0 1
	-15.0 1
	-12.5 1
	-12.0 1
	-11.5 1
	-11.0 1
	-10.5 1
	-10.0 1
	-9.5 1
	-9.0 1
	-8.5 1
	-8.0 1
A n g l e s	-7.5 1
	-7.0 1
	-6.5 1
	-6.0 1
	-5.5 1
	-5.0 1
	-4.5 1
	-4.0 1
	-3.5 1
	-3.0 1
	-2.5 1
	-2.0 1
	-1.5 1
	-1.0 1
	-0.5 1
	0.0 1
	0.5 1
	1.0 1
	1.5 1
	2.0 1
	2.5 1
	3.0 1
	3.5 1
	4.0 1
	4.5 1
	5.0 1
	5.5 1
	6.0 1
	6.5 1
	7.0 1
	7.5 1
	8.0 1
	8.5 1
	9.0 1



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	90.0
	9.5
	10.0
	10.5
	11.0
	11.5
	12.0
	12.5
	15.0
	20.0
	25.0
	35.0
	45.0
	55.0
	65.0
	75.0
	85.0
	90.0
V	1
e	1
r	1
t	1
i	1
c	1
a	1
l	1
	2
	5
	9
	3
	3
	2
A	
n	
g	
l	
e	
s	