



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

Report No: L071801001



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Issue Date: 7/10/2018

Report Prepared For: Spectrum King LED
7751 Alabama Ave Unit #1 Canoga Park CA 91304

Model Number: Low Pro Veg

Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: 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.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 7/5/18

Date of Tests: 7/6/18 - 7/10/18

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-S4	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	Spectrum King LED
Model Number:	Low Pro Veg
Driver Model Number:	ERP PMB260W-1700-210 (2 DRIVERS)
Total Lumens:	63070.98
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	3.91
Input Power (W):	466.00
Input Power Factor:	0.99
Current ATHD @ 120V(%):	10%
Current ATHD @ 277V(%):	N/A
Efficacy:	135.35
Color Rendering Index (CRI):	72
Correlated Color Temperature (K):	4863
Chromaticity Coordinate x:	0.3498
Chromaticity Coordinate y:	0.3611
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:50

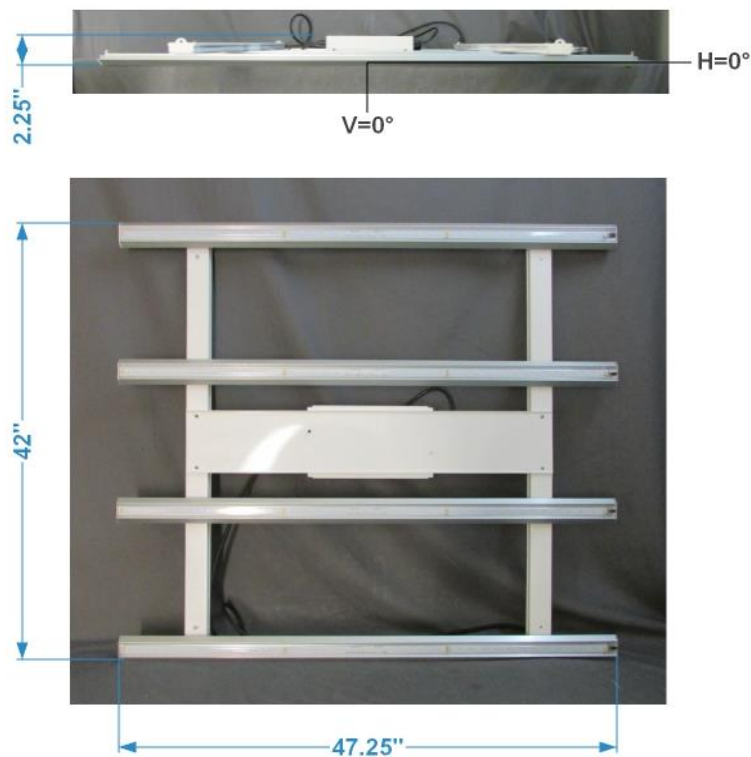
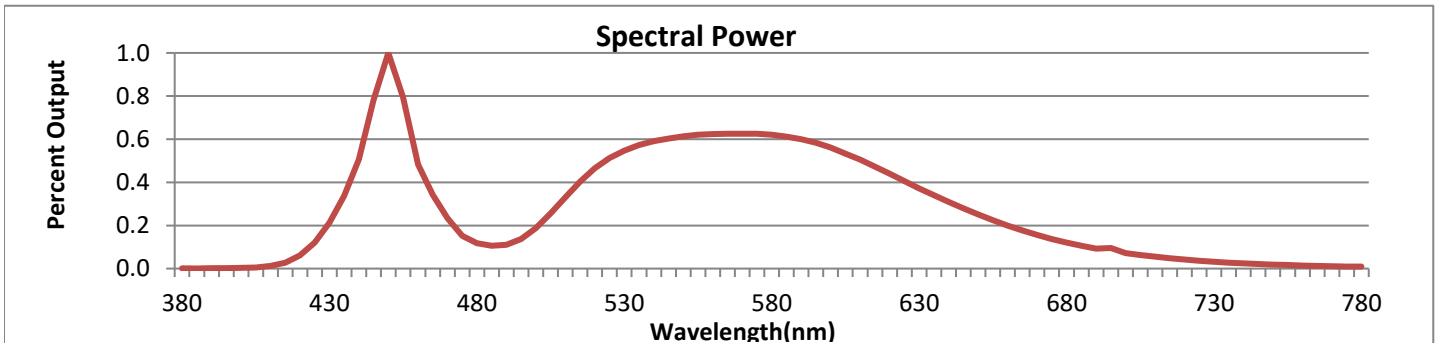


FIG. 1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



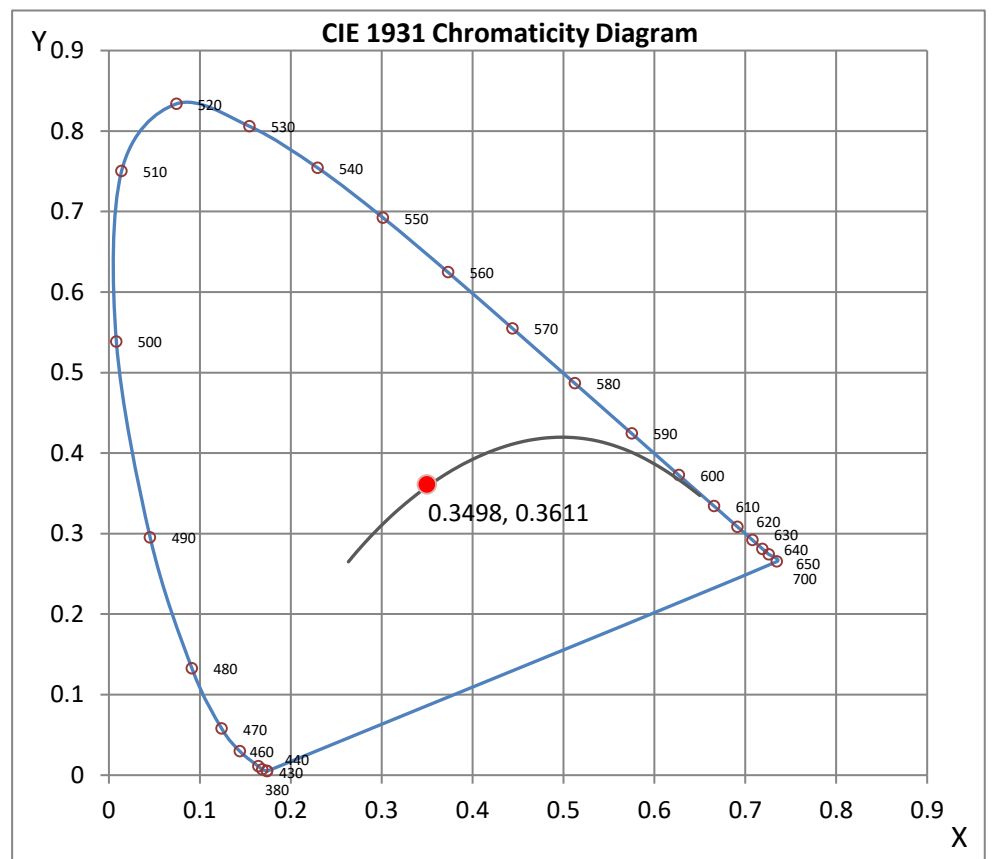
Wavelength	W/m ² nm	440	0.5059	510	0.3305	580	0.6210	650	0.2511	720	0.0418
380	0.0011	450	1.0000	520	0.4645	590	0.6001	660	0.1999	730	0.0316
390	0.0013	460	0.4829	530	0.5466	600	0.5608	670	0.1562	740	0.0240
400	0.0027	470	0.2338	540	0.5911	610	0.5045	680	0.1211	750	0.0184
410	0.0117	480	0.1174	550	0.6130	620	0.4391	690	0.0932	760	0.0142
420	0.0610	490	0.1099	560	0.6240	630	0.3720	700	0.0714	770	0.0109
430	0.2123	500	0.1878	570	0.6257	640	0.3094	710	0.0547	780	0.0096

CRI & CCT

x	0.3498
y	0.3611
u'	0.2109
v'	0.4899
CRI	72.40
CCT	4863
Duv	0.00287

R Values

R1	70.01
R2	77.28
R3	81.22
R4	72.44
R5	69.13
R6	67.04
R7	83.04
R8	58.83
R9	-22.93
R10	44.33
R11	67.54
R12	36.67
R13	71.02
R14	88.85



*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

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:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Joseph Shin

Test Report Released by:



Jeff Ahn
Engineering Manager

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 8*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L071801001.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L071801001
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 7/10/2018
 [MANUFAC] Spectrum King LED
 [LUMCAT] Low Pro Veg
 [LUMINAIRE] 42 x 47" Fixture
 [BALLASTCAT] ERP PMB260W-1700-210 (2 DRIVERS)
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC, 466.0W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	63071
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	466
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.36
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	3.42 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	16892	18217	16740
55	15870	15740	14911
65	13943	13742	14584
75	9738	11923	12171
85	4537	4501	2982

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L071801001.IES

CANDELA TABULATION

	0	5	10	15	20	25	30	35	40	45
0	21870	21870	21870	21870	21870	21870	21870	21870	21870	21870
5	21785	21811	21796	21806	21795	21789	21788	21787	21793	21776
10	21523	21535	21533	21534	21554	21556	21548	21555	21497	21539
15	21121	21049	21116	21098	21113	21116	21113	21122	21142	21163
20	20539	20496	20516	20519	20557	20580	20608	20664	20684	20709
25	19756	19763	19805	19780	19830	19870	19927	20004	20041	20104
30	18797	18782	18818	18832	18907	18977	19059	19152	19209	19294
35	17735	17695	17726	17805	17867	17985	18093	18217	18365	18541
40	16443	16423	16472	16539	16682	16818	16976	17204	17397	17545
45	14891	14918	14959	15066	15243	15418	15686	15913	16057	16059
50	13194	13230	13273	13478	13662	13944	14203	14266	14178	13906
55	11348	11400	11502	11751	11996	12294	12324	12091	11678	11255
60	9557	9599	9800	10061	10356	10415	10131	9678	9285	9078
65	7346	7416	7679	7966	8050	7746	7328	7100	7105	7240
70	5193	5272	5501	5588	5345	5087	5094	5296	5502	5635
75	3142	3227	3305	3190	3138	3337	3569	3705	3790	3847
80	1491	1518	1557	1670	1853	2006	2115	2167	2199	2219
85	493	548	663	782	850	880	859	770	617	489
90	0	0	0	0	0	0	0	0	0	0

Vert. Horizontal Angles

	50	55	60	65	70	75	80	85	90
0	21870	21870	21870	21870	21870	21870	21870	21870	21870
5	21779	21773	21765	21793	21796	21806	21831	21910	21890
10	21558	21546	21562	21581	21586	21625	21624	21605	21671
15	21173	21217	21238	21225	21259	21288	21271	21317	21332
20	20740	20793	20822	20828	20877	20887	20909	20933	20931
25	20159	20205	20239	20321	20395	20443	20444	20513	20484
30	19403	19584	19676	19749	19808	19847	19863	19884	19928
35	18670	18806	18892	18931	18941	18920	18938	18885	18911
40	17621	17642	17616	17563	17439	17350	17295	17247	17220
45	15954	15779	15591	15333	15100	14935	14846	14768	14757
50	13556	13197	12961	12768	12577	12477	12413	12406	12375
55	10959	10739	10674	10648	10637	10656	10659	10705	10662
60	9043	9092	9157	9224	9294	9347	9354	9358	9356
65	7397	7519	7587	7646	7692	7688	7690	7682	7684
70	5713	5768	5783	5785	5817	5815	5815	5810	5807
75	3908	3923	3940	3927	3929	3939	3946	3933	3927
80	2244	2255	2250	2234	2231	2229	2228	2222	2218
85	408	364	342	333	329	327	325	324	324
90	0	0	0	0	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L071801001.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	8061.6	N.A.	12.80
0-30	17336.13	N.A.	27.50
0-40	28832.18	N.A.	45.70
0-60	50794.4	N.A.	80.50
0-80	62220.14	N.A.	98.70
0-90	63070.98	N.A.	100.00
10-90	60997.6	N.A.	96.70
20-40	20770.58	N.A.	32.90
20-50	32578.82	N.A.	51.70
40-70	29441.15	N.A.	46.70
60-80	11425.75	N.A.	18.10
70-80	3946.81	N.A.	6.30
80-90	850.83	N.A.	1.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	63070.98	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	2073.38
10-20	5988.22
20-30	9274.53
30-40	11496.05
40-50	11808.24
50-60	10153.98
60-70	7478.94
70-80	3946.82
80-90	850.83
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

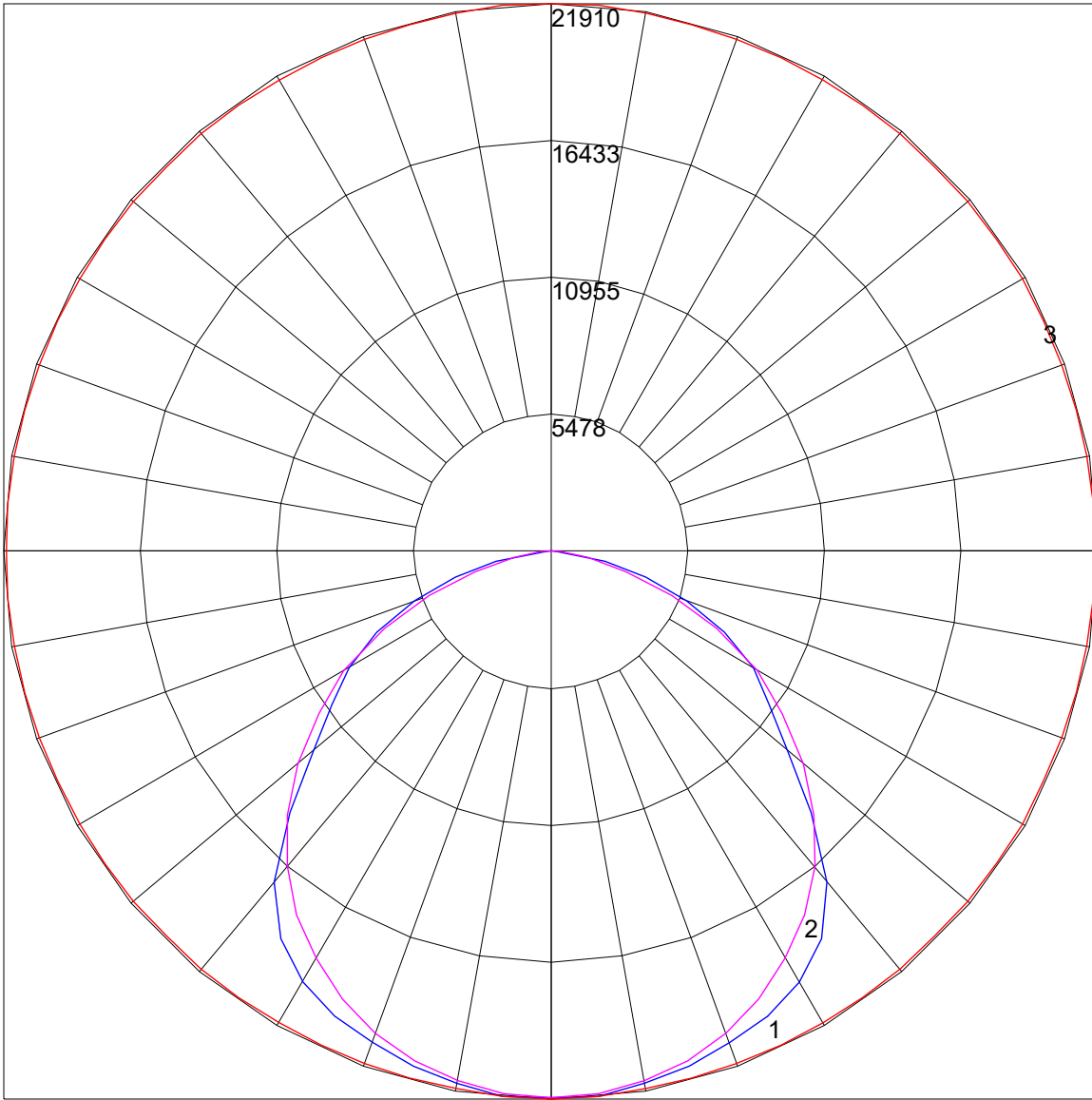
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	81	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	47	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	37	31	26	25

POLAR GRAPH



Maximum Candela = 21910 Located At Horizontal Angle = 85, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (85 - 265) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (0 - 180)
3 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)