



Cat# 71146A
150W
Trunion Mount



Dimming:
0-10V/PWMVR



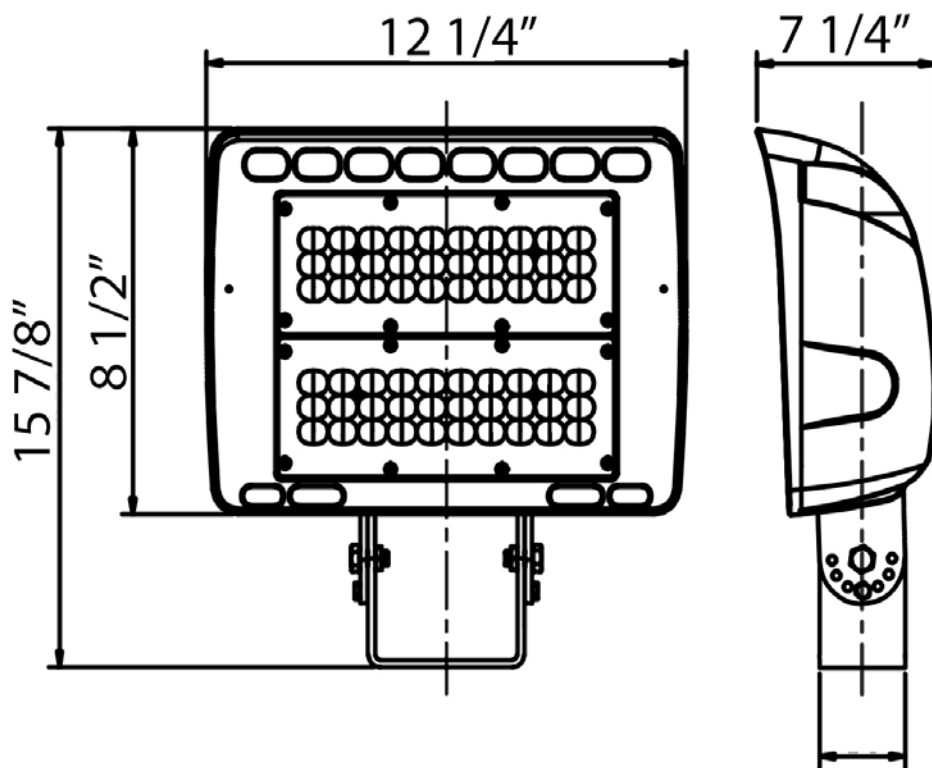
QPL ID #

PLZOBKAFGDBR

Model:		71146A
OVERALL LAMP PARAMETERS	Input Voltage	120-277 VAC 50/60HZ
	Input Current	1.7A MAX
	Input Power	150W
	Power Factor	PF≥0.90
	Luminance	17993 LM
	Luminous Efficiency	120 LM/W
	CRI	83
	Beam Angle	90 x 120°
	Main Structure	Aluminum + Tempered Glass
LED DRIVER	Output Voltage	42V DC
	Output Current	2.28A
	Driver Efficiency	89%
LED	LED Manufacturer	Phillips
	LED Type	Lumiled 3030
	LED Quantity	18 PCS
	LED Efficacy	150 Lm/Watt
	Color Temperature	5000K
Photocell	-	Not Included
LIFESPAN & ENVIRONMENT	Lifespan	50,000 Hrs.
	Warranty	5 Years
	IP Rating/IP	IP65 Wet Locations
	Operating Temperature	-40F - +131F
	Storage Temperature, Humidity	-40℃—+80℃ , 10—90% RH
SAFETY & EMC	Safety Norms	UL1598, UL8750, EN60598, EN61347-2-13, EN62031, EN62471
	Withstand Voltage	I/P-FC: 2121VDC
	Grounding Resistance	≤0.5Ω, 0K
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pis refer to attached dimensional drawing
	Net Weight	16.94 Lbs
	Packing Size	inner box: \ master carton: L 17" X W 12.5" X H 9.33"
	Q'ty / Carton	1PCS
	Volume	1.15Cbm/carton

Dimension:

71146A



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd. Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71146A

Representative (Tested) Model: 71146A

Model Different: All construction and rating are the same, except CCT

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Date: Dec.07, 2016

Review By:

Tommy Liang

Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Laboratory: Standard-Tech Co. Ltd Testing Center**NVLAP CODE: 201011-0**

Report Format Number STD/QR4909-A/2

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1.1 Product Information:

Organization Name	Morris Products Inc.	
Brand Name	MORRIS	
Model Number	71147A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	277 -480Vac, 50/60 Hz	
Nominal Power	150W	
Rated Initial Lamp Lumen	--	
Declared CCT	5000K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-2780003000W21	
Sample Number	GZE161207-E1(4000K),D2(5000K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Photo

1.2 Test Specifications:

Date of Receipt	: Dec.05,2016
Date of Test	: Dec.06,2016
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.3 Test Methods**1) Photometric and Light Distribution Measurement – Goniophotometer Method:**

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

2.1 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction QD25)*

Test date	2016-12-06	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71147A		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161207-E1	277.0	60	0.5415	146.7	0.9781	7.18
	480.0	60	0.3173	145.3	0.9540	15.03
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

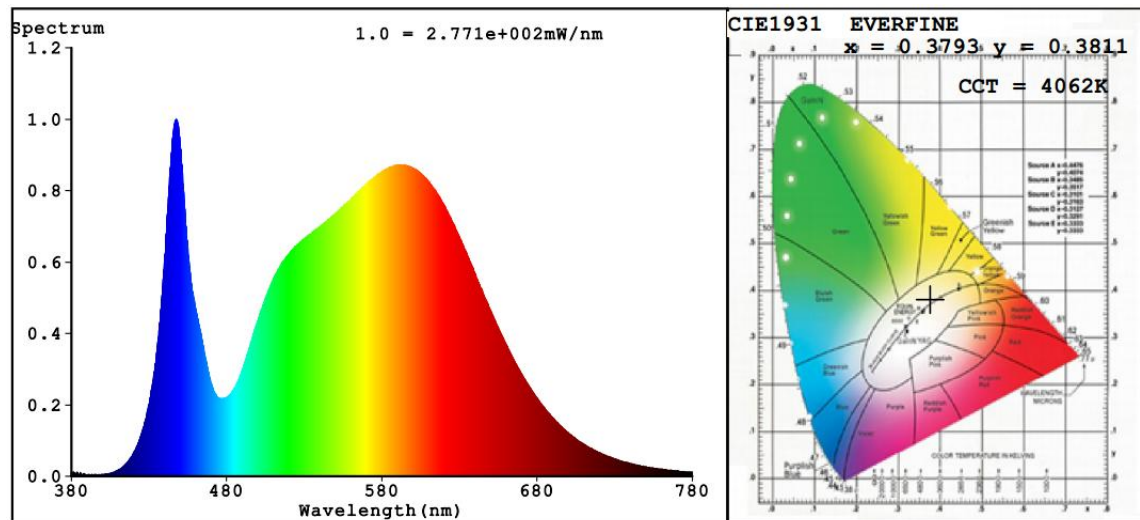
Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	80	R9	9
Frequency (Hz)	60	R2	87	R10	69
CCT (K)	4062	R3	92	R11	82
Duv	0.0024	R4	83	R12	62
Chromaticity (x, y)	x=0.3793 y=0.3811	R5	80	R13	81
Chromaticity (u', v')	u'=0.2226 v'=0.5033	R6	82	R14	96
Color Rendering Index (CRI)	82.1	R7	87	R15	74
R9	9	R8	66	--	--

Photometric Measurement – Goniophotometer Method :

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	277.0	480.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	16570	16586	>=1000 (-10%)	
Luminous Efficacy (lm/W)	112.95	114.15	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	99.8	--	>=85(-3)	
Beam Angle (°)	110.0	--	--	
Center Beam Candle Power (cd)	5537	--	--	

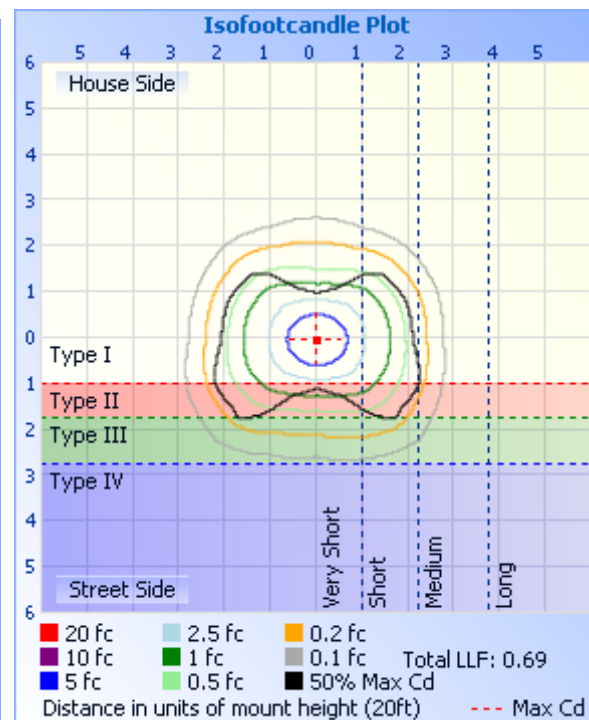
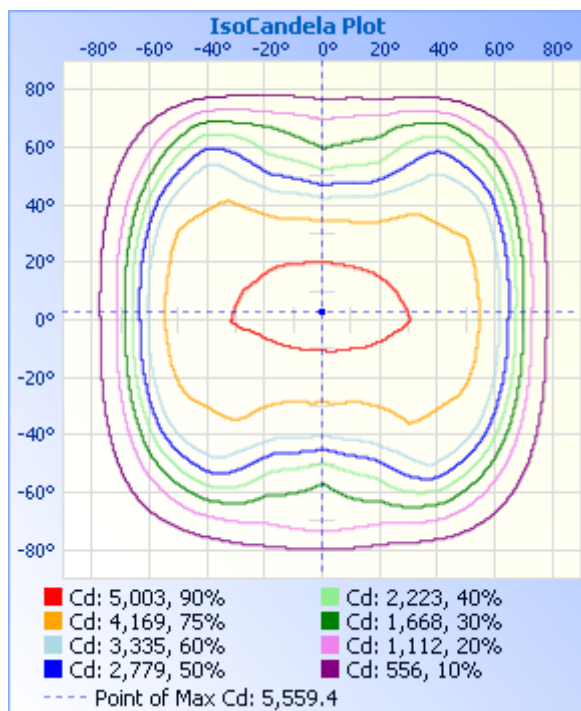
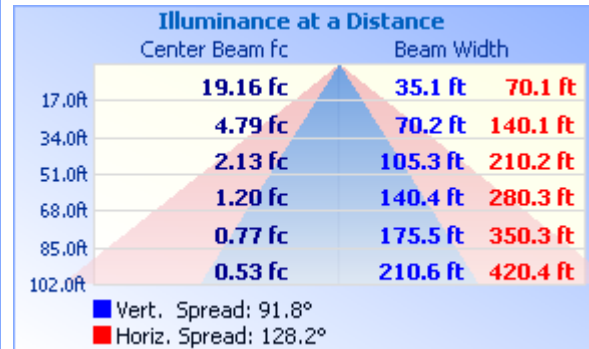
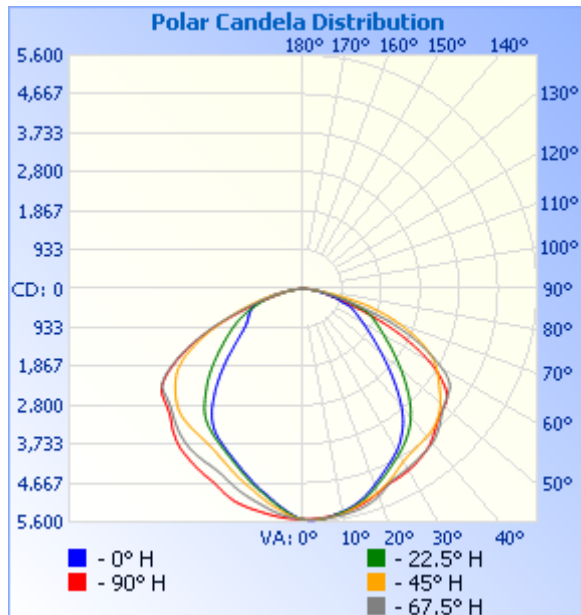
Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	4,182.3	25.2%
0-40	6,974.1	42.1%
0-60	12,980.3	78.3%
60-90	3,549.7	21.4%
70-100	1,260.2	7.6%
90-120	12.0	0.1%
0-90	16,529.9	99.8%
90-180	38.7	0.2%
0-180	16,568.6	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	517.2	3.1%	90-100	2.3	0%
10-20	1,457.6	8.8%	100-110	3.9	0%
20-30	2,207.5	13.3%	110-120	5.7	0%
30-40	2,791.8	16.8%	120-130	6.6	0%
40-50	3,050.0	18.4%	130-140	6.4	0%
50-60	2,956.2	17.8%	140-150	5.4	0%
60-70	2,291.8	13.8%	150-160	4.4	0%
70-80	1,081.7	6.5%	160-170	2.8	0%
80-90	176.2	1.1%	170-180	1.1	0%



C (DEG) γ (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338
0	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537	5537
5	5513	5542	5546	5539	5544	5543	5539	5533	5515	5453	5374	5321	5305	5327	5385	5458
10	5460	5500	5483	5442	5432	5448	5478	5507	5458	5292	5147	5049	5018	5058	5168	5309
15	5404	5396	5336	5284	5267	5308	5342	5450	5370	5112	4919	4805	4767	4815	4936	5160
20	5292	5263	5142	5046	5008	5070	5203	5297	5222	4950	4713	4559	4513	4562	4740	4993
25	5114	5063	4945	4769	4738	4819	5012	5072	5097	4829	4528	4343	4295	4345	4544	4833
30	5008	4932	4735	4537	4489	4586	4793	4985	5039	4775	4399	4157	4099	4165	4394	4768
35	4890	4850	4576	4249	4146	4337	4685	4912	4930	4720	4333	3945	3805	3981	4315	4700
40	4736	4773	4461	3868	3656	4010	4621	4824	4778	4612	4290	3564	3304	3678	4266	4572
45	4475	4607	4299	3347	3048	3568	4517	4625	4542	4416	4152	3105	2729	3256	4185	4383
50	4294	4362	4019	2834	2477	3079	4290	4399	4406	4239	3882	2609	2174	2802	3988	4210
55	4140	4189	3668	2374	2020	2625	3973	4272	4163	4060	3543	2167	1758	2358	3718	4121
60	3541	3940	3361	2001	1666	2235	3663	3861	3489	3501	3035	1815	1539	1990	3274	3589
65	2651	3258	2997	1705	1397	1927	3169	3031	2510	2602	2317	1512	1421	1632	2529	2696
70	1566	2325	2402	1434	1123	1628	2446	1991	1423	1635	1564	1206	1268	1241	1729	1688
75	765	1308	1592	927	707	1055	1637	1017	722	853	929	907	1014	871	1039	855
80	409	572	678	442	407	472	661	496	424	433	427	467	520	450	493	424
85	167	142	121	27.3	18.8	34.9	137	167	191	160	89.7	32.2	33.8	32.3	96.4	179
90	2.20	2.60	2.95	1.95	1.65	2.02	2.93	2.69	2.06	5.28	5.80	2.68	4.86	5.47	6.22	4.13
95	1.73	2.08	2.23	1.59	1.44	1.55	2.29	2.13	1.78	2.68	2.63	1.49	1.00	1.64	2.63	2.08
100	2.67	2.96	2.73	1.74	1.49	1.79	2.93	3.17	2.63	3.53	3.43	1.94	1.30	2.09	3.44	2.99
105	4.74	4.80	4.02	2.38	2.29	2.63	4.32	5.15	4.21	5.05	4.47	2.39	1.74	2.64	4.47	4.47
110	6.73	6.63	5.12	3.28	3.23	3.54	5.81	6.84	6.14	6.39	5.02	3.08	2.49	3.19	5.22	6.01
115	8.06	7.82	6.36	3.73	3.73	4.18	6.66	8.53	7.03	7.38	6.01	3.33	3.29	3.69	5.81	6.90
120	9.15	8.61	7.45	4.67	4.38	4.83	7.75	9.38	7.97	8.17	6.76	4.38	3.64	4.53	6.36	7.29
125	10.2	9.95	7.45	5.96	6.02	6.37	8.05	10.6	8.41	8.56	6.70	5.57	5.22	5.28	6.31	7.69
130	11.0	10.4	7.40	6.75	6.72	7.07	8.05	11.0	9.26	8.51	6.75	6.97	6.58	6.58	6.71	8.04
135	11.0	9.95	7.30	7.35	7.31	7.66	7.95	10.3	9.40	8.51	6.75	8.10	9.46	7.82	6.56	8.04
140	10.9	9.65	7.40	7.70	7.52	7.97	7.95	10.2	9.65	9.21	6.80	8.65	7.82	7.97	6.31	8.63
145	10.6	8.17	7.84	7.95	7.51	8.32	6.86	9.68	10.00	9.36	7.75	9.24	8.12	8.82	7.26	8.78
150	10.5	8.07	9.43	9.13	9.00	8.91	7.95	9.63	10.00	9.75	9.24	9.39	9.41	9.31	9.25	8.98
155	9.12	8.66	10.2	9.64	9.36	9.16	9.09	9.72	9.80	9.90	9.54	9.74	9.70	9.36	9.24	8.98
160	8.96	8.71	10.2	9.64	9.46	9.16	9.89	9.92	9.06	9.30	9.64	10.1	9.56	9.17	9.29	9.28
165	9.06	8.91	10.2	9.94	9.41	9.41	10.1	9.23	10.1	9.16	9.89	10.6	9.65	9.86	9.64	9.87
170	10.2	10.2	11.9	11.5	11.0	11.5	11.9	9.48	11.4	11.1	11.4	13.1	12.9	12.7	12.1	12.1
175	10.7	11.0	12.6	12.2	12.7	11.9	12.5	9.92	11.4	11.4	11.6	13.1	13.3	13.5	12.5	12.6
180	10.4	11.0	11.5	11.5	12.7	12.0	12.2	9.72	10.5	10.4	11.0	11.7	11.7	12.5	11.8	12.0

Laboratory: Standard-Tech Co. Ltd Testing Center

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BUG Rating: B3-U2-G2**IESNA Luminaire Flux Distribution Table:**

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	2160	13.0
FM - Front-Medium(30-60)	4522	27.3
FH - Front-High(60-80)	1832	11.1
FVH - Front-Very High(80-90)	91.481	0.6
Total Forward Light	8625.4	52.1

BL - Back-Low(0-30)	2022.4	12.2
BM - Back-Medium(30-60)	4277.3	25.8
BH - Back-High(60-80)	1541.2	9.3
BVH - Back-Very High(80-90)	84.699	0.5
Total Back Light	7944.6	47.9

UL - Uplight-Low(90-100)	2.4913	0.0
UH - Uplight-High(100-180)	36.403	0.2
Total Up Light	38.894	0.2

BUG(Back,Up,Glare) Rating	B3-U2-G2
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	7925.5	19.022	7944.6
Street Side	8605.5	19.872	8625.4

2.2 Electrical, Photometric and Chromaticity Measurements*(Refer to Work Instruction QD25)*

Test date	2016-12-06	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71147A		

Electrical Measurement :

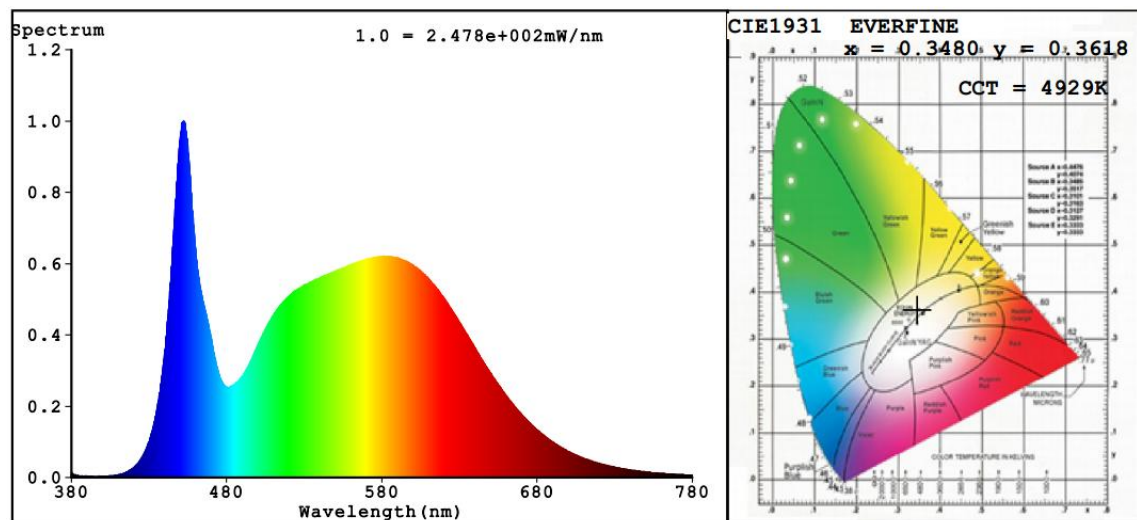
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161207-	277.0	60	0.5456	147.9	0.9786	7.15
E2	480.0	60	0.3198	146.5	0.9543	15.01
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	81	R9	8
Frequency (Hz)	60	R2	89	R10	72
CCT (K)	4929	R3	94	R11	79
Duv	0.0039	R4	81	R12	55
Chromaticity (x, y)	x=0.3480 y=0.3618	R5	80	R13	83
Chromaticity (u', v')	u'=0.2095 v'=0.4900	R6	83	R14	97
Color Rendering Index (CRI)	82.9	R7	88	R15	75
R9	8	R8	67	--	--

Photometric Measurement – Sphere-Spectroradiometer Method :

Parameter	Result		DLC V4.0 Pass Criteria	
Test Voltage (V)	277.0	480.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	17812	17829	>=1000 (-10%)	
Luminous Efficacy (lm/W)	120.43	121.70	Standard: >= 100(-3%)	Premium: >= 120(-3%)

Spectral Power Distribution & Chromaticity Diagram**Laboratory: Standard-Tech Co. Ltd Testing Center****NVLAP CODE: 201011-0**

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3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2016-07-01	2017-06-30
ST-R-331	Spectral analysis system HAAS-2000	2016-07-01	2017-06-30
D204	Standard Lamp	2016-07-01	2017-06-30
PF2010	Power Meter for Integrating Sphere	2016-07-01	2017-06-30
EE-09	Goniophotometer system	2016-07-01	2017-06-30
D908S	Standard Lamp	2016-07-01	2017-06-30
PF210	Power Meter for Goniophotometer	2016-07-01	2017-06-30
ST-R-181A	Temperature Tester	2016-07-01	2017-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

******* END OF REPORT *******

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