



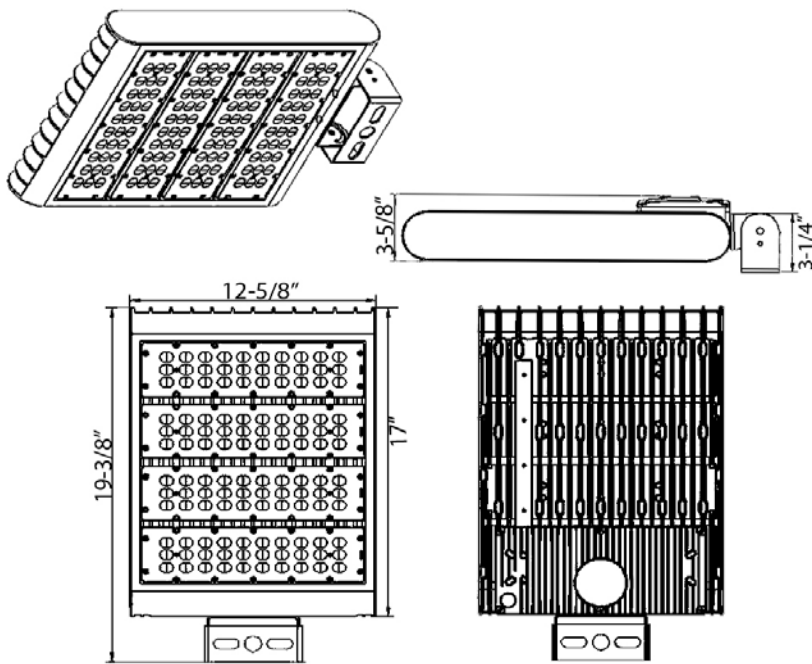
Cat# 71836
220 Watts
Trunion Mount



QPL ID #
 PLC6V1PABNUJS

Model : 71836		
OVERALL LAMP PARAMETERS	Input Voltage	347-480 VAC 50/60HZ
	Input Current	.80A Max
	Input Power	220W
	Power Factor	PF≥ 0.95
	Luminance	27,600 LM
	Luminous Efficiency	125 LM/W
	CRI	>83
	R9	8
	Beam Angle	Type II 120x90°
	Main Structure	Aluminium + PC Lens
LED DRIVER	Output Voltage	36-60VDC
	Output Current	5.3A
	THD	7%
	Driver Efficiency	88%
LED	LED Manufacturer	Philips
	LED Type	3030 LED
	LED Quantity	120 PCS
	LED Efficacy	130 LM/W
	Color Temperature	5000K
Photocell	-	Not Included
LIFESPAN & ENVIRONMENT	Lifespan	50,000+ Hrs.
	Warranty	5 Years
	IP Rating	IP65 Wet Locations
	Operating Temperature	-40 — +55
	Storage Temperature.Humidity	-40 — +80 , 10—90% RH
SAFETY&EMC	Safety Norms	UL1598,UL8750, EN60598, EN61347-2-13, EN62031, EN62471
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	≤0.5Ω, OK
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pls refer to attached dimension drawing
	Net Weight	KG
	Gross Weight	KG
	Packing Size	master carton: L*W*Hmm
	Qty / Carton	1PCS
	Volume	
	EPA Rating	1.68 ft²

Dimension:



LM-79-08 Test Report

For

Morris Products Inc.

53 Carey Rd Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71836, 71845, 71856

Representative (Tested) Model: 71836

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

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Update: Nov.03, 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

Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

<http://www.standard-tech.com>

1.1 Product Information:

Organization Name	Morris Products Inc.	
Brand Name	MORRIS	
Model Number	71836	
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	220W	
Rated Initial Lamp Lumen	--	
Declared CCT	5000K	
LED Manufacturer	Philips Lumileds	
LED Model	L130-2780003000W21	
Sample Number	GZE161105-AG1(4000K),AG2(5000K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Photo

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1.2 Test Specifications:

Date of Receipt	: Oct.31,2016
Date of Test	: Nov.01,2016
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	2016-11-01	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71836		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	277.0	60	0.8004	220.7	0.9955	3.58
AG1	480.0	60	0.4706	216.7	0.9594	11.20
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	8
Frequency (Hz)	60	R2	86	R10	69
CCT (K)	4053	R3	92	R11	82
Duv	0.0028	R4	83	R12	61
Chromaticity (x, y)	x=0.3799 y=0.3824	R5	80	R13	81
Chromaticity (u', v')	u'=0.2225 v'=0.5040	R6	82	R14	96
Color Rendering Index (CRI)	82.1	R7	87	R15	74
R9	8	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)	27582	27188	>=1000 (-10%)	
Luminous Efficacy (lm/W)	124.98	125.46	Standard: >= 100(-3%)	Premium: >= 120(-3%)
Zonal lumens in the 0-90 °zone (%)	99.7	--	>=85(-3)	
Beam Angle (°)	106.9	--	--	
Center Beam Candle Power (cd)	9109	--	--	

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

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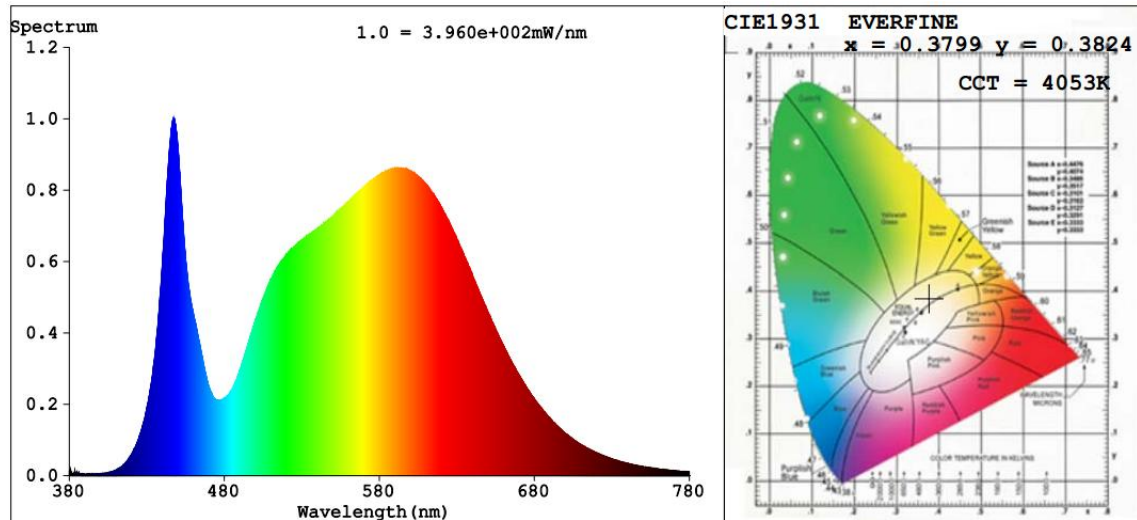
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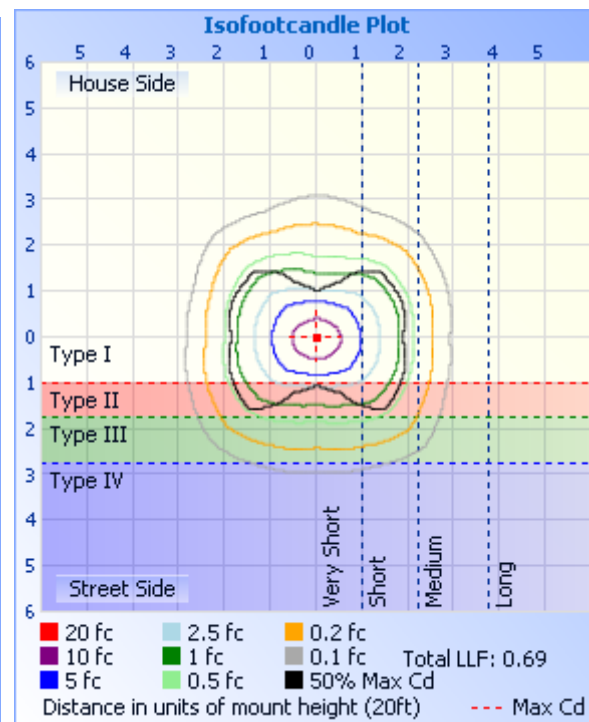
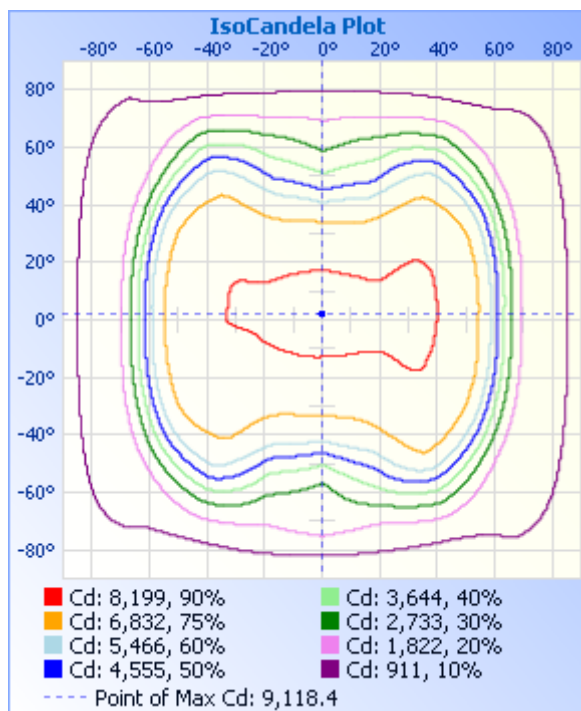
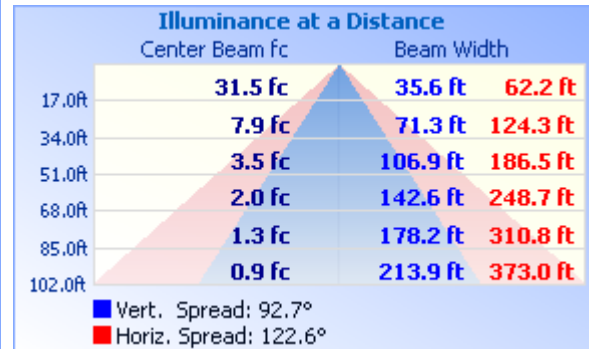
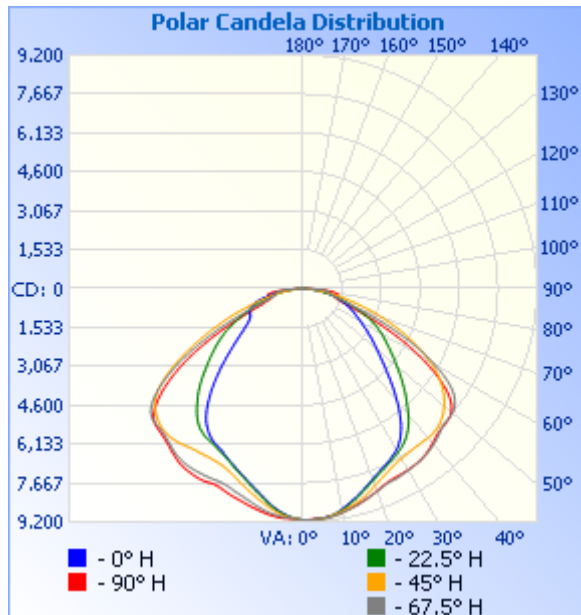
Spectral Power Distribution & Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	6,883.0	25%
0-40	11,607.6	42.1%
0-60	21,865.1	79.3%
60-90	5,633.9	20.4%
70-100	2,265.1	8.2%
90-120	21.9	0.1%
0-90	27,499.0	99.7%
90-180	79.2	0.3%
0-180	27,578.2	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	853.8	3.1%	90-100	4.9	0%
10-20	2,382.9	8.6%	100-110	7.0	0%
20-30	3,646.2	13.2%	110-120	10.1	0%
30-40	4,724.6	17.1%	120-130	13.4	0%
40-50	5,252.3	19.0%	130-140	15.1	0.1%
50-60	5,005.2	18.1%	140-150	12.6	0%
60-70	3,373.7	12.2%	150-160	9.1	0%
70-80	1,655.7	6.0%	160-170	5.1	0%
80-90	604.6	2.2%	170-180	1.9	0%



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C (DEG) γ (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338
0	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109	9109
5	9077	9082	9082	9063	9071	9088	9100	9100	9068	9036	8975	8911	8897	8921	8969	9034
10	8960	8927	8853	8838	8825	8860	8904	8962	8948	8835	8629	8492	8441	8487	8628	8863
15	8772	8716	8542	8429	8412	8454	8639	8748	8731	8541	8237	8034	7971	8012	8245	8590
20	8595	8517	8219	8016	7994	8041	8262	8507	8493	8238	7842	7654	7585	7617	7882	8367
25	8478	8433	7974	7717	7667	7727	7936	8341	8289	8034	7524	7318	7256	7283	7652	8300
30	8528	8455	7892	7439	7340	7457	7731	8269	8244	7958	7325	7058	7001	7076	7620	8327
35	8429	8387	7927	7007	6718	7090	7655	8178	8163	7878	7225	6778	6603	6915	7680	8290
40	8170	8247	7902	6268	5724	6435	7664	7990	7935	7704	7268	6226	5800	6501	7820	8098
45	7968	7956	7693	5435	4681	5635	7576	7741	7737	7463	7225	5391	4725	5838	7819	7887
50	7677	7707	7219	4665	3829	4845	7237	7655	7604	7396	6939	4476	3668	5062	7577	7801
55	6539	7114	6554	4012	3184	4159	6669	7236	6826	7056	6383	3629	2885	4326	6960	6991
60	4780	5758	5580	3445	2629	3574	5784	5986	5266	5844	5428	2971	2437	3628	5682	5374
65	2798	3913	4274	2835	2191	2939	4591	4153	3357	4084	4082	2457	2305	2822	4141	3461
70	1632	2222	2927	2141	1792	2184	3284	2313	1813	2372	2749	1987	2181	2027	2756	1891
75	1295	1347	1795	1495	1406	1483	2047	1357	1310	1378	1700	1557	1814	1444	1664	1232
80	1409	1019	1000	924	936	903	1115	1076	1383	995	941	1049	1153	961	912	1100
85	922	818	412	460	458	423	465	930	995	760	370	555	535	503	355	864
90	7.34	6.77	5.73	5.62	5.67	5.71	6.03	7.92	7.76	6.50	4.96	4.49	4.65	4.61	4.83	6.28
95	4.39	4.39	4.28	3.86	4.13	3.76	4.41	4.32	3.86	4.02	4.17	3.86	3.49	3.87	4.52	4.21
100	4.75	5.49	5.43	3.86	4.34	4.55	5.62	4.68	4.18	4.76	5.12	4.23	3.65	4.35	5.79	5.38
105	7.39	8.24	7.49	4.96	5.39	5.93	8.07	7.44	6.03	6.89	6.92	4.98	4.34	5.31	8.08	7.89
110	10.5	11.1	9.50	6.29	7.09	7.73	10.8	10.5	8.36	8.85	7.97	6.03	5.61	6.52	9.46	10.5
115	12.5	12.6	11.3	7.14	10.5	8.90	13.0	13.4	10.3	10.6	9.71	6.35	7.14	7.21	11.1	12.1
120	14.5	14.0	12.7	9.77	14.0	9.95	14.7	15.1	12.2	12.1	11.0	8.70	8.65	8.92	12.3	13.3
125	16.3	15.9	13.0	12.8	43.3	14.0	15.1	17.0	13.5	13.1	10.9	11.0	14.6	11.7	12.4	14.5
130	17.4	16.2	13.1	16.5	45.9	15.7	15.6	17.8	15.5	13.2	12.1	13.2	28.6	14.0	14.1	15.1
135	16.9	15.4	12.8	24.1	51.8	18.0	15.6	16.7	16.1	13.6	12.2	16.6	38.5	16.7	14.3	15.7
140	16.9	15.1	12.7	24.6	55.2	20.5	13.9	16.6	16.3	14.4	11.6	19.1	38.6	18.2	13.2	16.6
145	16.5	13.5	13.7	29.5	51.5	24.0	12.1	15.2	16.7	14.5	12.1	19.3	23.7	20.8	15.2	16.7
150	16.3	13.2	16.7	29.1	45.0	26.6	14.7	15.4	16.6	15.0	14.6	19.7	33.4	24.6	20.4	16.2
155	14.9	13.4	18.1	24.1	32.3	23.3	16.4	16.0	16.2	16.4	15.3	20.3	20.8	20.6	22.2	15.8
160	15.0	13.4	17.9	22.2	28.1	21.6	16.4	16.2	15.4	16.5	14.4	18.7	20.7	21.8	21.0	17.3
165	15.3	13.8	17.5	17.9	19.7	18.7	16.5	15.8	16.6	15.7	14.0	16.9	18.2	19.7	19.5	19.0
170	17.2	15.7	19.2	20.9	20.5	21.4	19.1	16.7	18.8	18.7	15.9	20.1	22.3	22.7	22.8	21.9
175	18.6	16.9	20.1	21.3	23.3	21.4	20.8	17.8	19.9	19.9	17.3	20.1	22.3	24.2	22.3	21.9
180	17.9	16.3	18.7	20.2	22.7	20.0	20.7	17.1	18.2	18.0	16.4	18.9	20.0	22.7	20.2	20.7

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BUG Rating: B4-U3-G3**IESNA Luminaire Flux Distribution Table:**

Zone	Lumens	Luminaire %
FL - Front-Low(0-30)	3502.8	12.7
FM - Front-Medium(30-60)	7556.3	27.4
FH - Front-High(60-80)	2550.2	9.2
FVH - Front-Very High(80-90)	303.62	1.1
Total Forward Light	13956	50.6

BL - Back-Low(0-30)	3380.4	12.3
BM - Back-Medium(30-60)	7429.2	26.9
BH - Back-High(60-80)	2478.8	9.0
BVH - Back-Very High(80-90)	300.91	1.1
Total Back Light	13626	49.4

UL - Uplight-Low(90-100)	4.8926	0.0
UH - Uplight-High(100-180)	74.356	0.3
Total Up Light	79.248	0.3

BUG(Back,Up,Glare) Rating	B4-U3-G3
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Zone	Downward Lumens	Upward Lumens	Total Lumens
House Side	13589	36.339	13626
Street Side	13913	42.91	13956

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

Test date	2016-11-01	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	71836		

Electrical Measurement :

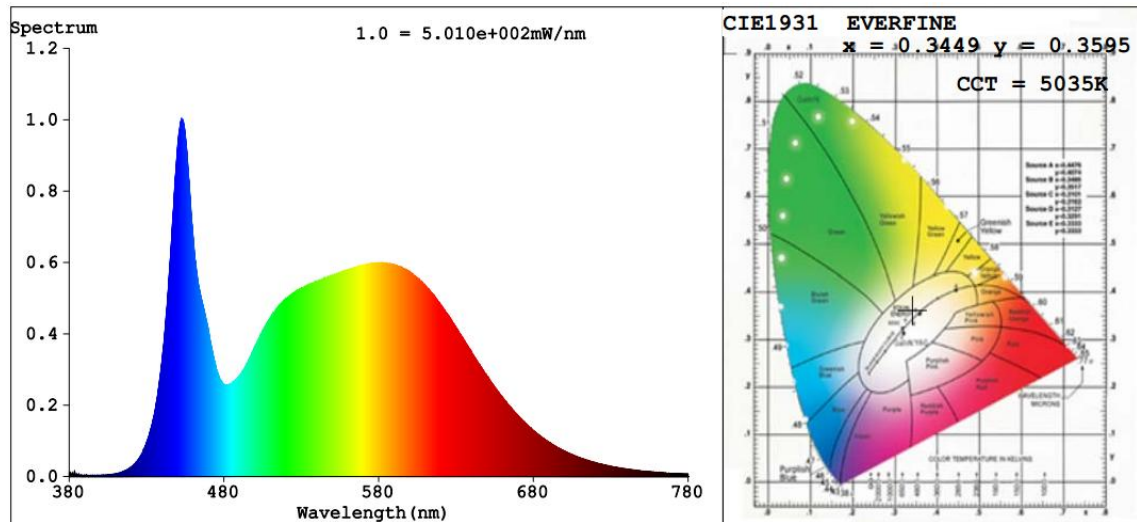
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE161105-	277.0	60	0.7980	219.9	0.9948	3.62
AG2	480.0	60	0.469	215.8	0.9587	11.24
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

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	73
CCT (K)	5035	R3	94	R11	81
Duv	0.0040	R4	82	R12	60
Chromaticity (x, y)	x=0.3449 y=0.3595	R5	82	R13	83
Chromaticity (u', v')	u'=0.2082 v'=0.4884	R6	84	R14	97
Color Rendering Index (CRI)	83.2	R7	87	R15	76
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)	27943	27544	$\geq 2000 (-10\%)$	
Luminous Efficacy (lm/W)	127.07	127.64	Standard: $\geq 100(-3\%)$	Premium: $\geq 120(-3\%)$

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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