

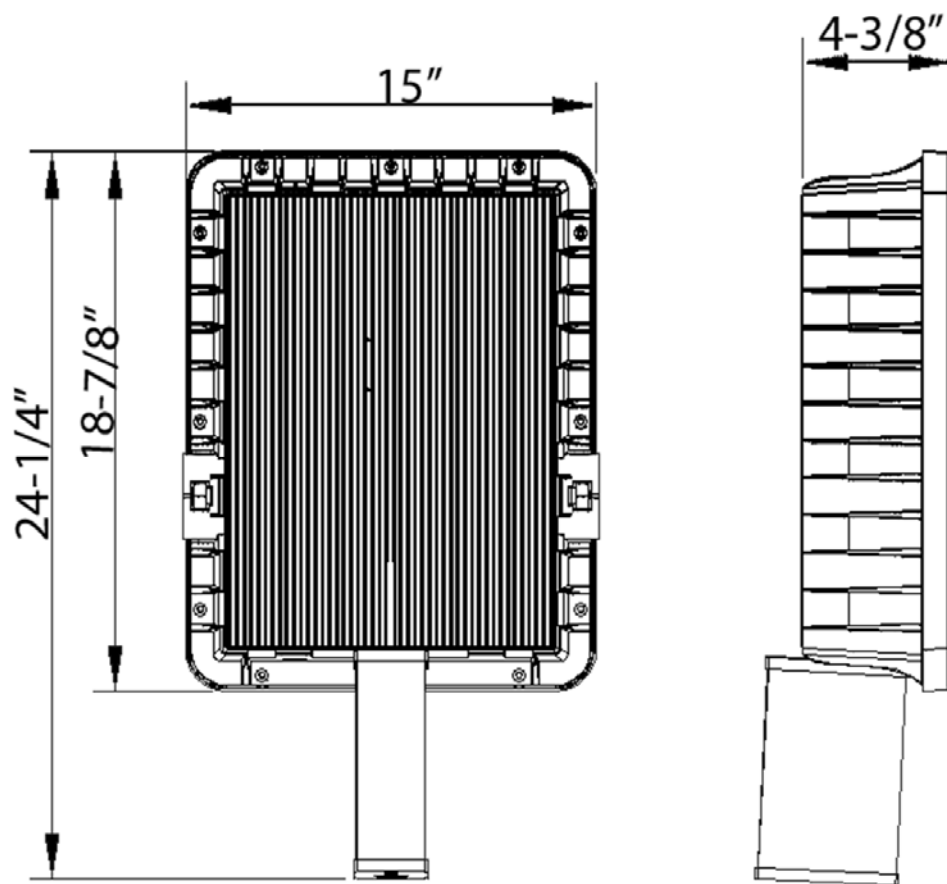


LED Flood Light 71387



Model :		71387
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC
	Input Current	2.1A Max.
	Input Power	156 W
	Power Factor	PF≥0.95
	Luminance	14830 LM
	Luminous Efficiency	94 LM/W
	CRI	>81
	Beam Angle	120°
	Main Structure	Alluminium + Tempered Glass
	Surface	Baking Varnish
LED DRIVER	Output Voltage	24-48VDC
	Output Current	3.9A
	Driver Brand	Meanwell
	Driver Efficiency	91%
LED	LED Type	COB
	LED Quantity	6 PCS
	LED Manufacturer	CREE
	LED Efficacy	130 LM/W
	Color Temperature	WW/NW/CW/R/G/B 5075K
LIFESPAN & ENVIRONMENT	Lifespan	50000 Hrs.
	Warranty	5 Years
	IP Rating	IP65
	Operating Temperature	-20°C—+40°C
	Storage Temperature.Humidity	-40°C—+80°C , 10—90% RH
SAFETY&EMC	Safety Norms	EN60598, EN61347-2-13, EN62031, EN62471, UL1598, UL8750
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	25A 100mΩ
	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
OTHERS	Dimension	Pls refer to attached dimension drawing
	Net Weight	26 Lbs
	Carton Size	650*445*155
	Q'ty / Carton	1

Dimension:





Report No.: GZE140709-F

LM-79-08 Test Report

For

Morris Products Inc.

(Brand Name: Morris)

53 Carey Rd
Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71387

Representative (Tested) Model: 71387

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

Test & Report By:

Review By:

Sean Zhuo

Engineer: Sean Zhuo

Manager: Tommy Liang

Date: Jul.15,2014

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: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

U.S. Department of Energy

Lighting Facts™ Uniform LM-79 Reporting Template

Laboratory Information:

Name of Test Laboratory	Standard-Tech Co. Ltd
Date of Test Report	Jul.15,2014
Test Report No.	GZE140709-F
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	Morris Products Inc.	
Brand Name	Morris	
Model Number	71387	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Architectural Flood and Spot Luminaires	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

	Integrating Sphere	Goniophotometer
Electrical Measurements:	Output	Output

Input Wattage	156.7	--	W
Input Current	1.314	--	A
Input Voltage (ac)	119.9	--	V
Power Factor	0.9942	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	14830	--	lm
Initial Lumen Efficacy	94.64	--	lm/w
Correlated color temperature / CCT	5075	--	K
Color rendering index / CRI	81.9	--	
R9 Value	16	--	
Duv	0.0015	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)	-----	--	
Beam angle (if applicable)		--	
Zonal lumens in the 0°-60° zone		--	
Zonal lumens in the 60°-90° zone		--	
Zonal lumens in the 90°-120° zone		--	
Zonal lumens in the 120°-180° zone		--	

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Test Specifications:	
Date of Receipt	: Jul.14,2014
Date of Test	: Jul.11,2014
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry IESNA LM-16-93 Practical Guide to Colorimetry of Light Source IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

Test Methods

1. Photometric and Electrical measurements – Light Distribution 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 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. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric 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 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.

1. Product Information:

Brand Name	Morris
Model Number	71387
Luminaire Type	Architectural Flood and Spot Luminaires
Rated Voltage / Frequency	100 ~ 277 Vac, 50/60 Hz
Nominal Power	160W
Rated Initial Lamp Lumen	--
Declared CCT	3000K,3500K,4000K,4500K,5000K
LED Manufacturer	CREE
LED Model	CXA2520
Sample Receipt Date	Jul.11,2014
Sample Number	140709-19(3000K),20(5000K)

Photo



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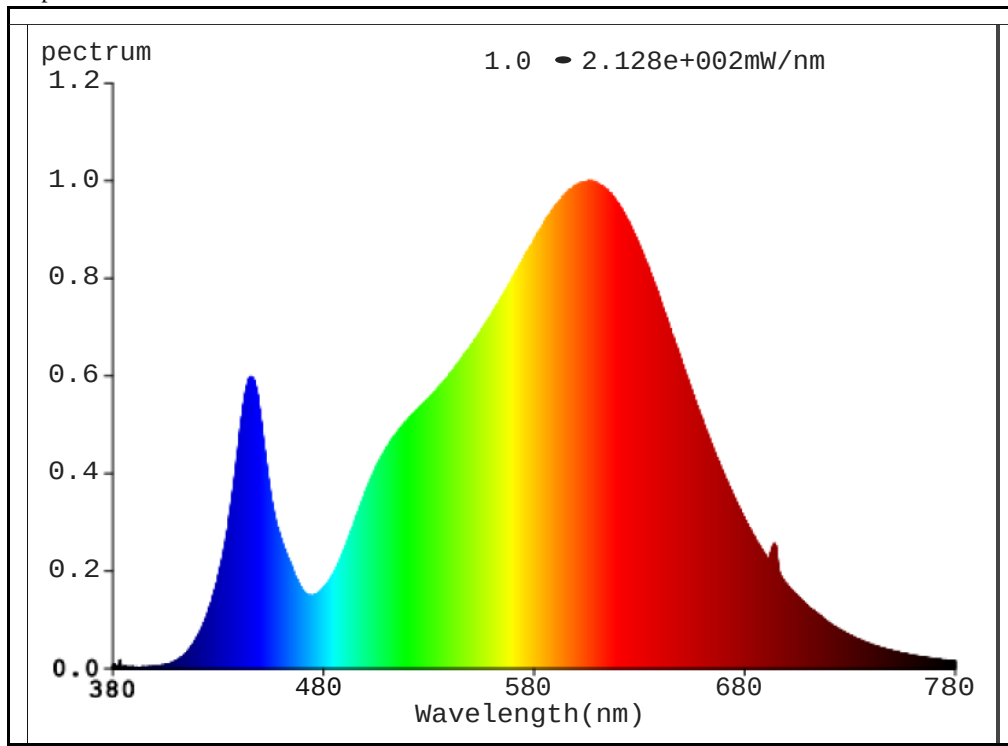
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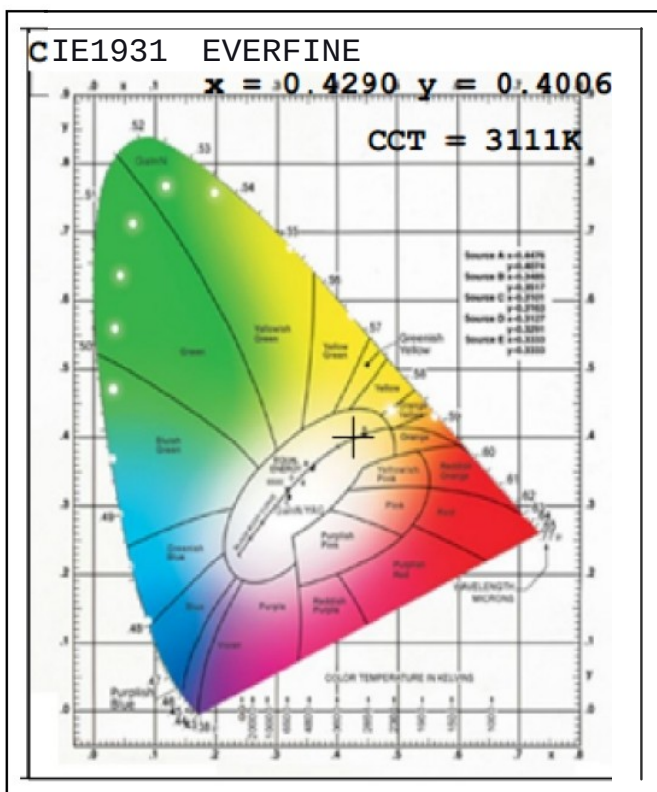
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Spectral Power Distribution

Spectral Power Distribution:



Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	4,522.4	31.2%	31.2%
0-40	7,444.4	51.3%	51.4%
0-60	12,895.0	88.9%	88.9%
60-90	1,567.1	10.8%	10.8%
70-100	201.0	1.4%	1.4%
90-120	8.9	0.1%	0.1%
0-90	14,462.0	99.7%	99.8%
90-180	35.2	0.2%	0.2%
0-180	14,497.3	100%	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	530.5	3.7%	90-100	1.0	0%
10-20	1,565.3	10.8%	100-110	3.1	0%
20-30	2,426.6	16.7%	110-120	4.8	0%
30-40	2,922.0	20.2%	120-130	6.0	0%
40-50	2,944.0	20.3%	130-140	6.2	0%
50-60	2,506.5	17.3%	140-150	5.5	0%
60-70	1,367.1	9.4%	150-160	4.5	0%
70-80	195.4	1.3%	160-170	2.9	0%
80-90	4.5	0.0%	170-180	1.1	0%

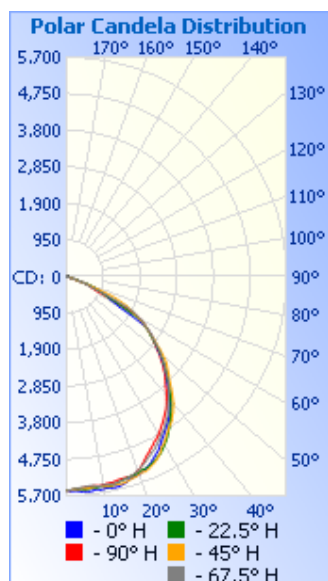
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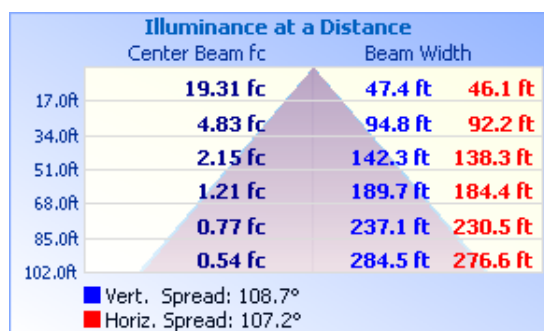
Photometric Data



Flood Summary

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.6%	14,293.9	138.3	140.5
Beam (50%):	80.6%	11,684.5	107.2	108.7
Total:	100%	14,494.3		

Illuminance Plots



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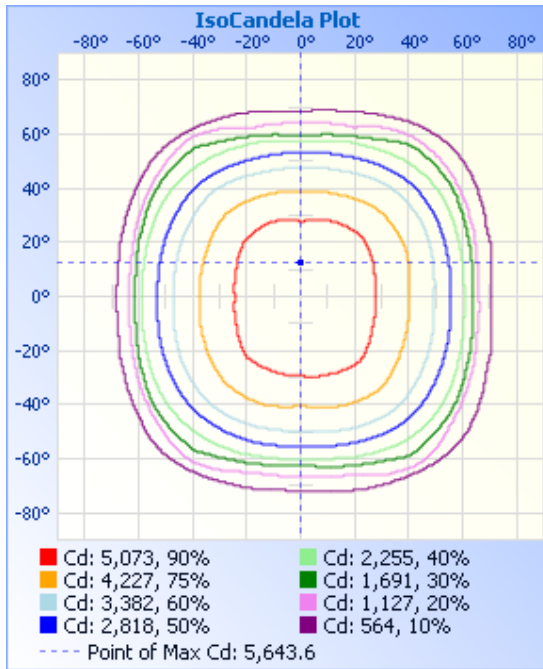
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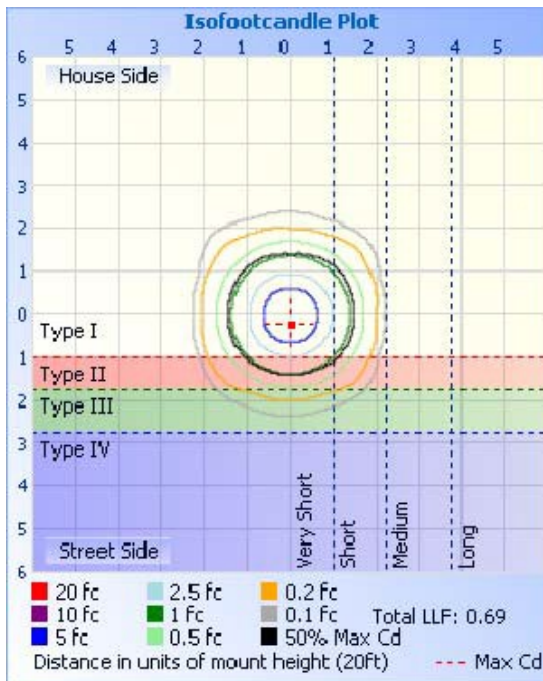
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ISOCANDELA DIAGRAM



ISOLUX DIAGRAM



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Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579	5579
1	5611	5571	5584	5566	5570	5535	5576	5539	5602	5574	5579	5567	5567	5564	5582	5593	5611
2	5594	5557	5557	5544	5554	5550	5559	5569	5620	5572	5583	5576	5584	5581	5581	5558	5594
3	5601	5551	5548	5530	5565	5538	5560	5529	5628	5562	5577	5584	5585	5561	5562	5563	5601
4	5630	5563	5544	5516	5531	5521	5552	5524	5603	5545	5580	5600	5606	5592	5577	5591	5630
5	5624	5582	5559	5507	5521	5528	5524	5487	5592	5531	5586	5599	5603	5579	5564	5573	5624
6	5642	5569	5557	5495	5523	5510	5491	5498	5605	5542	5602	5583	5587	5591	5562	5573	5642
7	5627	5550	5534	5495	5506	5511	5481	5501	5602	5542	5596	5583	5622	5587	5545	5557	5627
8	5604	5569	5538	5521	5516	5504	5475	5483	5596	5564	5590	5575	5624	5598	5556	5531	5604
9	5637	5550	5535	5535	5526	5493	5465	5487	5582	5548	5597	5581	5610	5609	5553	5508	5637
10	5622	5557	5570	5525	5518	5494	5483	5485	5604	5546	5597	5577	5597	5610	5551	5508	5622
11	5611	5584	5573	5539	5501	5470	5496	5494	5561	5563	5574	5589	5600	5587	5571	5544	5611
12	5630	5585	5568	5533	5505	5475	5529	5501	5562	5548	5575	5582	5592	5599	5562	5527	5630
13	5643	5558	5580	5553	5496	5482	5530	5522	5572	5550	5582	5576	5555	5572	5572	5551	5643
14	5644	5541	5576	5535	5475	5466	5533	5510	5561	5557	5576	5575	5526	5564	5564	5556	5644
15	5617	5508	5592	5513	5465	5470	5510	5490	5542	5541	5586	5569	5523	5568	5557	5583	5617
16	5595	5498	5579	5500	5469	5455	5494	5491	5544	5531	5569	5560	5476	5550	5581	5583	5595
17	5543	5478	5560	5480	5465	5463	5460	5472	5510	5521	5548	5545	5449	5523	5571	5570	5543
18	5526	5472	5535	5469	5474	5463	5438	5453	5493	5500	5532	5510	5432	5517	5578	5554	5526
19	5507	5462	5525	5428	5432	5425	5420	5450	5469	5493	5541	5484	5416	5512	5587	5550	5507
20	5501	5451	5498	5393	5389	5385	5403	5443	5443	5482	5502	5439	5382	5481	5535	5527	5501
21	5460	5411	5467	5346	5344	5359	5368	5396	5397	5469	5511	5389	5377	5422	5526	5499	5460
22	5430	5414	5486	5294	5266	5307	5354	5373	5385	5443	5457	5361	5370	5389	5514	5510	5430
23	5385	5401	5453	5245	5196	5267	5336	5367	5360	5417	5437	5308	5293	5345	5478	5492	5385
24	5349	5369	5411	5184	5114	5212	5311	5319	5299	5370	5391	5270	5250	5296	5443	5417	5349
25	5283	5328	5377	5144	5059	5155	5281	5260	5274	5311	5368	5231	5195	5280	5383	5360	5283
26	5221	5302	5320	5081	4990	5078	5251	5228	5262	5262	5330	5186	5142	5215	5341	5314	5221
27	5161	5250	5267	5048	4938	5026	5215	5181	5192	5243	5281	5168	5090	5170	5313	5266	5161
28	5104	5218	5194	4977	4868	4983	5162	5125	5137	5192	5265	5102	5033	5108	5275	5207	5104
29	5016	5146	5088	4919	4827	4925	5103	5079	5068	5127	5218	5038	4966	5057	5223	5163	5016

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30	4935	5085	5047	4858	4767	4854	5058	5031	5013	5087	5176	4976	4899	5029	5141	5120	4935
31	4875	5011	4979	4789	4701	4819	4974	4973	4980	5025	5120	4917	4849	4987	5097	5019	4875
32	4799	4942	4892	4741	4633	4741	4894	4914	4917	4966	5035	4833	4778	4924	5038	4959	4799
33	4731	4851	4830	4685	4565	4690	4807	4852	4821	4937	5005	4766	4729	4875	4969	4861	4731
34	4666	4771	4753	4604	4507	4621	4751	4795	4759	4895	4962	4724	4663	4844	4895	4794	4666
35	4602	4675	4708	4536	4430	4519	4688	4734	4674	4845	4900	4662	4573	4781	4826	4704	4602
36	4529	4593	4648	4474	4366	4464	4630	4668	4579	4779	4828	4594	4519	4712	4754	4603	4529
37	4438	4492	4556	4373	4298	4401	4583	4599	4466	4720	4766	4527	4439	4640	4674	4508	4438
38	4351	4419	4494	4279	4213	4323	4509	4534	4389	4655	4685	4440	4375	4563	4605	4423	4351
39	4272	4323	4401	4196	4117	4251	4436	4466	4302	4561	4627	4373	4283	4472	4520	4330	4272
40	4154	4216	4322	4125	4037	4168	4349	4396	4213	4448	4550	4289	4218	4403	4429	4241	4154
41	4063	4108	4208	4049	3947	4088	4267	4284	4129	4345	4448	4229	4112	4312	4319	4149	4063
42	3953	4001	4102	3979	3848	4012	4168	4184	4054	4251	4367	4131	4054	4233	4239	4051	3953
43	3862	3902	3986	3899	3771	3915	4070	4081	3928	4162	4263	4056	3962	4137	4142	3950	3862
44	3758	3789	3872	3807	3690	3837	3983	3986	3826	4064	4181	3977	3859	4024	4046	3856	3758
45	3666	3711	3766	3704	3612	3747	3906	3899	3754	3957	4090	3895	3753	3939	3938	3756	3666
46	3593	3603	3698	3585	3515	3660	3817	3794	3686	3872	3991	3802	3674	3815	3854	3650	3593
47	3480	3507	3593	3504	3432	3565	3707	3678	3587	3775	3892	3710	3568	3744	3744	3560	3480
48	3397	3397	3513	3407	3335	3477	3610	3564	3503	3682	3781	3620	3482	3655	3661	3476	3397
49	3280	3313	3434	3304	3232	3393	3495	3480	3401	3585	3684	3524	3393	3550	3547	3357	3280
50	3177	3204	3326	3195	3135	3299	3385	3376	3320	3493	3558	3425	3284	3462	3429	3276	3177
51	3073	3110	3197	3124	3039	3189	3275	3255	3216	3372	3461	3333	3207	3372	3330	3168	3073
52	2974	2992	3076	3009	2942	3079	3161	3159	3113	3268	3355	3241	3126	3280	3207	3068	2974
53	2883	2870	2938	2904	2857	2969	3047	3063	3009	3155	3265	3138	3046	3174	3078	2947	2883
54	2795	2774	2830	2809	2772	2873	2933	2967	2915	3041	3149	3035	2942	3048	2967	2826	2795
55	2707	2666	2711	2705	2687	2767	2819	2863	2816	2928	3033	2932	2850	2932	2857	2746	2707
56	2622	2585	2590	2595	2595	2669	2707	2765	2715	2818	2917	2840	2746	2798	2758	2650	2622
57	2496	2485	2478	2493	2507	2564	2590	2657	2604	2703	2812	2740	2633	2671	2652	2541	2496
58	2270	2385	2370	2385	2411	2470	2475	2535	2502	2582	2688	2641	2520	2551	2534	2450	2270
59	1928	2300	2256	2284	2304	2367	2368	2417	2400	2470	2575	2537	2404	2458	2423	2344	1928
60	1592	2091	2149	2192	2203	2258	2266	2298	2249	2369	2462	2429	2292	2340	2276	2113	1592
61	1446	1787	2040	2083	2076	2150	2159	2164	1970	2263	2359	2322	2168	2227	2163	1787	1446

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62	1306	1567	1934	1975	1750	2029	2044	1937	1676	2133	2239	2213	2069	2107	2057	1582	1306
63	1239	1349	1829	1746	1262	1901	1927	1652	1423	1911	2121	2098	1886	1990	1955	1377	1239
64	1174	1130	1733	1414	902	1637	1806	1389	1291	1624	2005	1973	1569	1855	1839	1172	1174
65	1103	1056	1571	1081	799	1186	1683	1229	1207	1367	1882	1734	1251	1671	1724	1099	1103
66	1022	973	1407	749	717	808	1553	1122	1138	1206	1761	1310	933	1307	1487	1031	1022
67	936	891	1244	659	662	699	1391	1033	1066	1117	1637	960	848	942	1248	959	936
68	837	812	943	589	614	620	1154	958	986	1035	1507	854	789	805	1009	874	837
69	554	730	608	529	557	566	906	872	903	943	1349	778	727	732	824	786	554
70	377	586	361	471	486	512	720	772	803	857	1073	711	663	664	721	634	377
71	332	341	270	409	175	446	460	674	611	770	665	639	606	595	603	372	332
72	284	276	216	138	42	353	290	492	398	678	421	580	401	524	412	292	284
73	242	231	181	35	31	66	241	313	338	505	350	474	57	442	299	245	242
74	122	201	153	25	27	34	207	261	293	327	300	107	28	115	250	209	122
75	27	114	84	21	24	29	164	211	228	275	262	26	24	27	155	158	27
76	21	23	23	18	21	24	99	166	134	218	224	22	21	21	91	30	21
77	17	16	12	15	17	20	39	49	32	168	150	19	18	18	68	18	17
78	13	12	10	12	14	17	19	26	26	39	20	16	15	16	18	15	13
79	10	9	8	10	12	13	16	21	21	23	16	14	13	13	10	11	10
80	8	7	7	8	10	11	13	17	16	18	13	11	11	10	8	8	8
81	6	6	6	7	8	9	11	14	13	15	11	10	9	8	7	7	6
82	5	4	4	5	7	8	9	11	11	11	9	8	8	7	5	5	5
83	4	3	3	4	5	6	7	9	9	9	8	7	7	6	4	4	4
84	3	3	3	3	4	4	6	8	7	8	6	6	5	4	3	3	3
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87	1	1	1	1	1	1	1	2	2	2	3	2	2	2	1	1	1
88	0	1	1	0	1	1	1	1	1	2	2	1	1	1	1	1	0
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92	0	1	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0
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94	1	1	1	0	1	1	1	1	1	1	1	1	0	0	1	0	1
95	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1
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126	8	8	7	7	7	7	6	6	7	7	6	7	7	7	6	7	8
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158	11	10	9	10	10	11	10	10	10	10	10	10	8	8	9	10	11
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2.2 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2014-07-14	Test Ambient:	25.2 ° C
Test Orientation	Lighting Downward, light surface parallel to horizontal line	Stabilization Time (min)	90
Model Number	71387		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
140709-20	119.9	60	1.314	156.7	0.9942	6.44
	277.0	60	0.619	157.8	0.9196	13.74

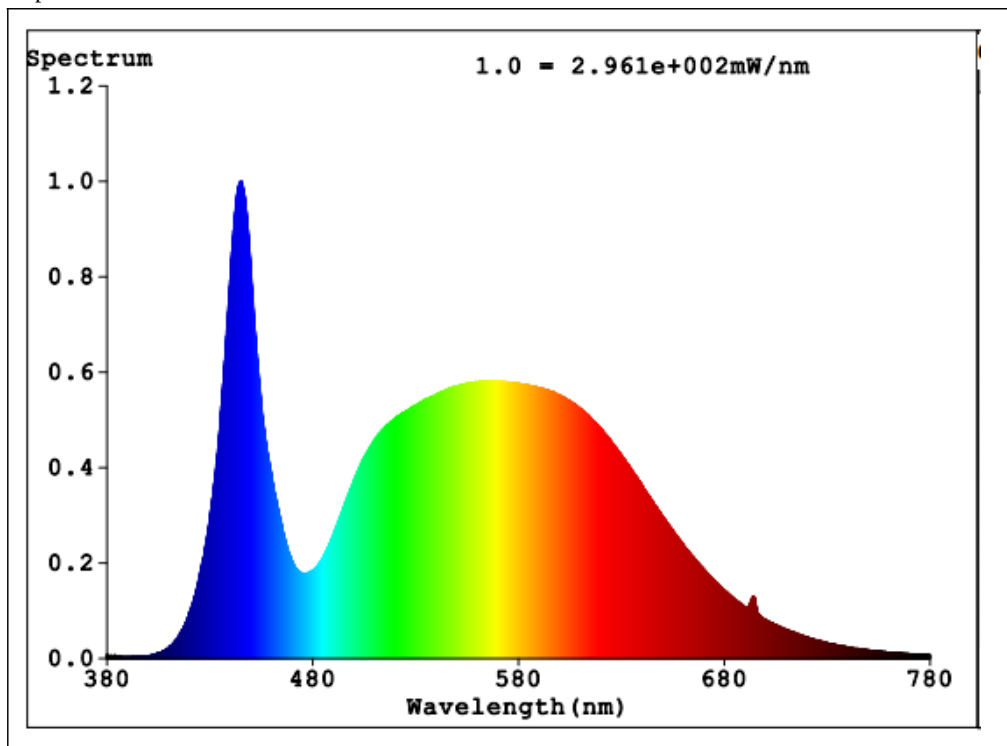
Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	81.9
R9	16
CCT (K)	5075
Chromaticity (x, y)	x=0.3433 y=0.3531
Chromaticity (u', v')	u'=0.2096 v'=0.4851
Duv	0.0015
Total Luminous (lm)	14830
Luminous Efficacy (lm/W)	94.64

Special Color Rendering Indices			
R1	81	R9	16
R2	84	R10	63
R3	87	R11	85
R4	83	R12	66
R5	83	R13	81
R6	80	R14	92
R7	85	R15	77
R8	71	--	--

Spectral Power Distribution

Spectral Power Distribution:



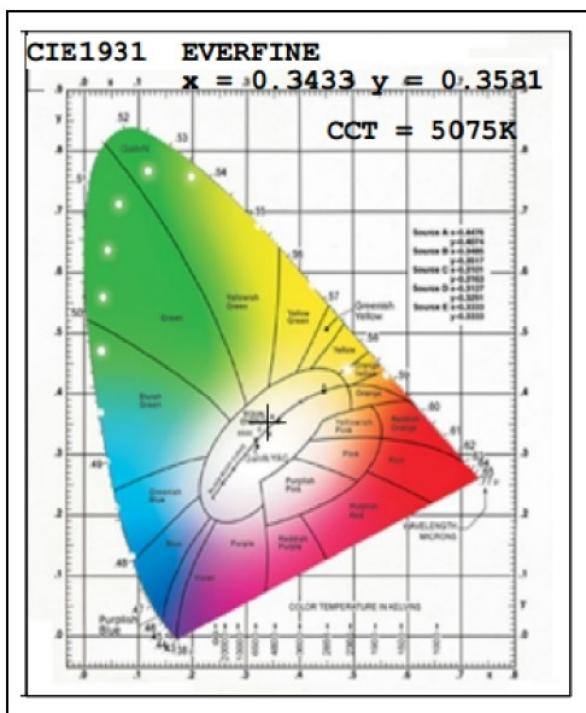
Laboratory: Standard-Tech Co. Ltd Testing Center
NVLAP CODE: 201011-0

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Chromaticity Diagram



3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2014-07-01	2015-06-30
ST-R-331	Spectral analysis system HAAS-2000	2014-07-01	2015-06-30
D204	Standard Lamp	2014-07-01	2015-06-30
PF2010	Power Meter for Integrating Sphere	2014-07-01	2015-06-30
EE-09	Goniophotometer system	2014-07-01	2015-06-30
D908S	Standard Lamp	2014-07-01	2015-06-30
PF210	Power Meter for Goniophotometer	2014-07-01	2015-06-30
ST-R-181A	Temperature Tester	2014-07-01	2015-06-30

******* END OF DATASHEET PACKAGE *******