

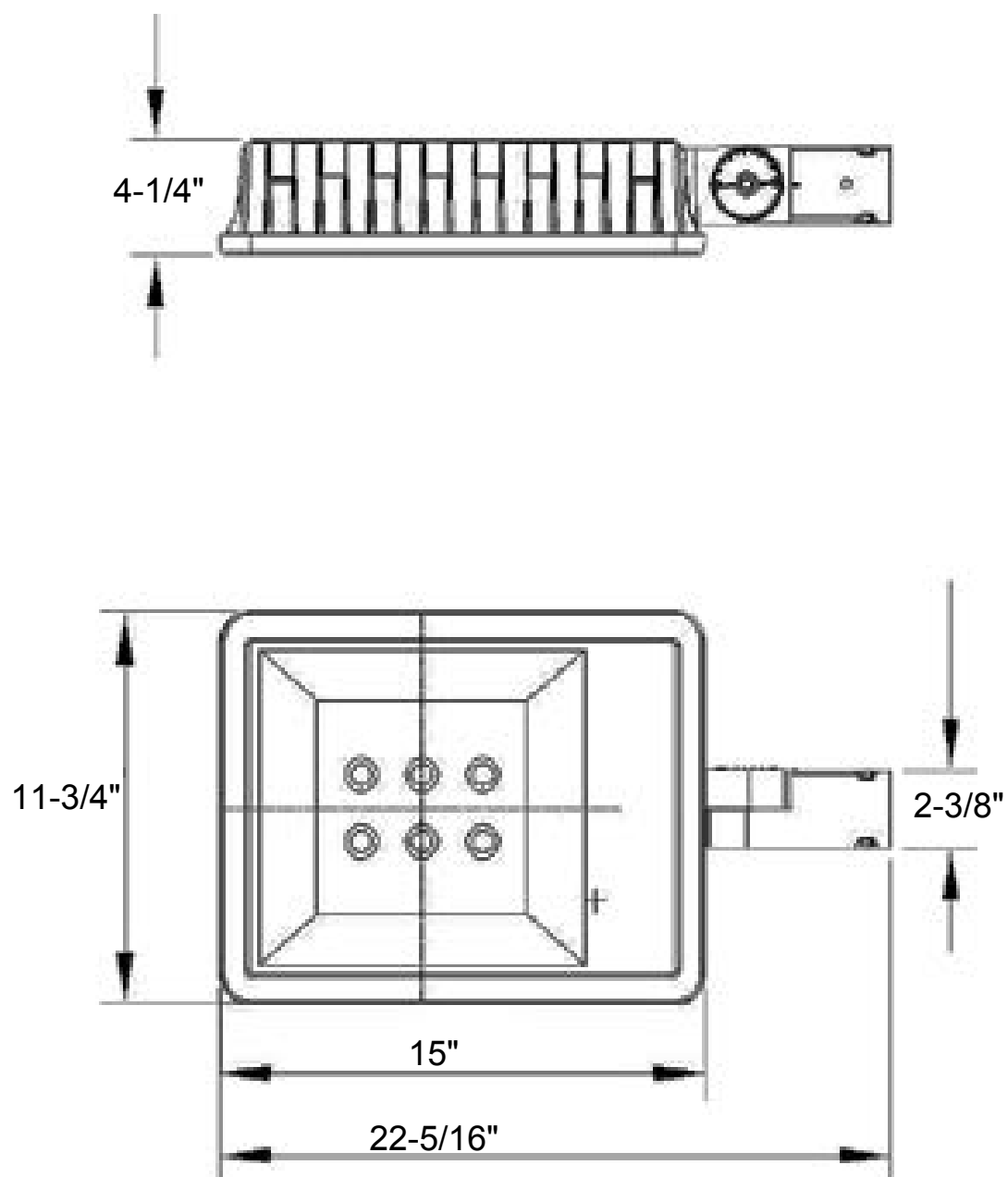


LED Flood Light 71381



Model :		71381
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC
	Input Current	1.4A Max.
	Input Power	119 W
	Power Factor	PF≥0.95
	Luminance	10321 LM
	Luminous Efficiency	86 LM/W
	CRI	81
	Beam Angle	120°
LED DRIVER	Main Structure	Alluminium + Tempered Glass
	Surface	Baking Varnish
	Output Voltage	21-42VDC
	Output Current	2.9A
LED	Driver Brand	Meanwell
	Driver Efficiency	91%
	LED Type	COB
	LED Quantity	4 PCS
	LED Manufacturer	CREE
LIFESPAN & ENVIRONMENT	LED Efficacy	130 LM/W
	Color Temperature	WW/NW/CW/R/G/B 5125K
	Lifespan	50000 Hrs.
	Warranty	5 Years
	IP Rating	IP65
SAFETY&EMC	Operating Temperature	-40F—+104F
	Storage Temperature.Humidity	-40F—+176F, 10—90% RH
	Safety Norms	EN60598, EN61347-2-13, EN62031, EN62471, UL1598, UL8750
	Withstand Voltage	I/P-FG: 2121VDC
	Grounding Resistance	25A 100mΩ
OTHERS	Electromagnetic Compatibility	EN55015, EN61000-2-3, EN61000-3-3, EN61547
	Diamension	Pls refer to attached dimension drawing
	Net Weight	7.8KG
	Gross Weight	8.0KG
	Box Size	435*355*150
	Carton Size	455*375*330
	Q'ty / Carton	2

Dimension: 71381





NVLAP LAB CODE 201011-0

Report No.: GZE140709-E

LM-79-08 Test Report

For

Morris Products Inc.
53 Carey Rd.
Queensbury, NY 12804

Architectural Flood and Spot Luminaires

Model name(s): 71380, 71381

Representative (Tested) Model: 71381

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

Test & Report By:

Sean Zhuo

Engineer: Sean Zhuo

Date: Jul.15,2014

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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Tel: 8620-3229 0320

Fax: 8620-32290422

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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-E
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	Morris Products	
Brand Name	MORRIS	
Model Number	71381	
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	119.8	--	W
Input Current	1.003	--	A
Input Voltage (ac)	120.0	--	V
Power Factor	0.9948	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	10321	--	lm
Initial Lumen Efficacy	86.18	--	lm/w
Correlated color temperature / CCT	5125	--	K
Color rendering index / CRI	81.8	--	
R9 Value	14	--	
Duv	0.0022	--	
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.

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1. Product Information:

Brand Name	MORRIS
Model Number	71381
Luminaire Type	Architectural Flood and Spot Luminaires
Rated Voltage / Frequency	100 ~ 277 Vac, 50/60 Hz
Nominal Power	120W
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	140709-17(3000K),18(5000K)

Photo



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2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
--	-----------------------

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	71381		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
140709-17	120.1	60	1.001	119.6	0.9946	5.94
	277.0	60	0.4628	120.4	0.9394	11.61

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	83.5
R9	15
CCT (K)	3155
Chromaticity (x, y)	x=0.4271 y=0.4020
Chromaticity (u', v')	u'=0.2451 v'=0.5191
Duv	0.0006

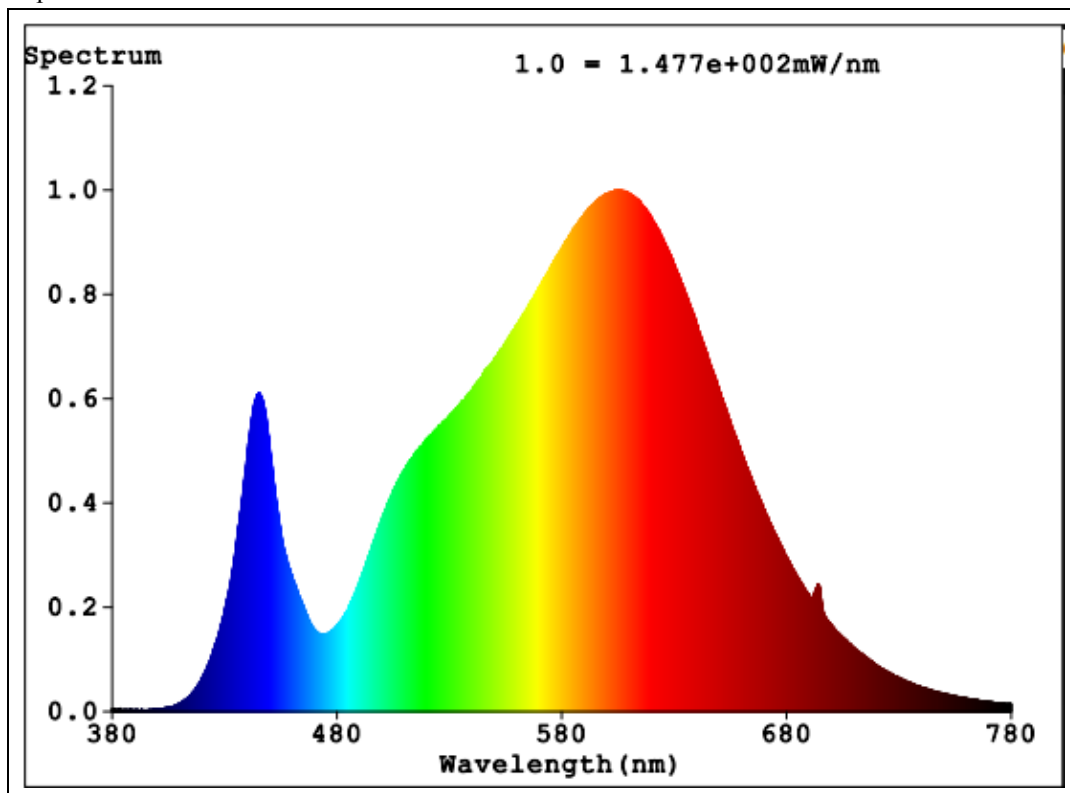
Special Color Rendering Indices			
R1	82	R9	15
R2	89	R10	75
R3	95	R11	84
R4	84	R12	72
R5	82	R13	83
R6	86	R14	97
R7	86	R15	75
R8	64	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.1
Frequency (Hz)	60
Total Luminous (lm)	10242
Luminous Efficacy (lm/W)	85.63
Beam Angle°	102.2
Center Beam Candle Power (cd)	4746
S/MH(C0/180)	1.15
S/MH(C90/270)	1.20

Spectral Power Distribution

Spectral Power Distribution:



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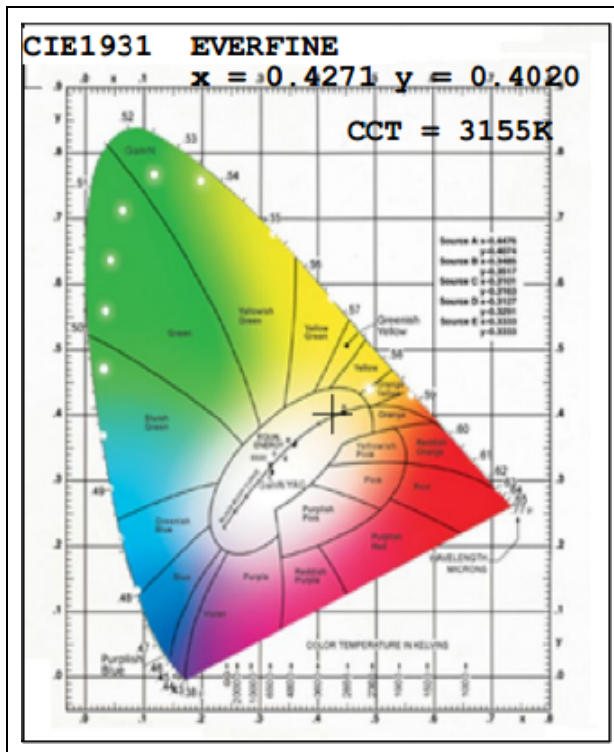
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Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	3,527.8	34.4%	34.4%
0-40	5,648.4	55.1%	55.2%
0-60	9,466.3	92.4%	92.4%
60-90	747.8	7.3%	7.3%
70-100	61.4	0.6%	0.6%
90-120	5.6	0.1%	0.1%
0-90	10,214.1	99.7%	99.7%
90-180	27.0	0.3%	0.3%
0-180	10,241.1	100%	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	441.7	4.3%	90-100	0.6	0%
10-20	1,254.9	12.3%	100-110	1.8	0%
20-30	1,831.2	17.9%	110-120	3.3	0%
30-40	2,120.5	20.7%	120-130	4.4	0%
40-50	2,114.3	20.6%	130-140	4.9	0%
50-60	1,703.7	16.6%	140-150	4.6	0%
60-70	687.0	6.7%	150-160	3.9	0%
70-80	57.3	0.6%	160-170	2.5	0%
80-90	3.5	0.0%	170-180	1.0	0%

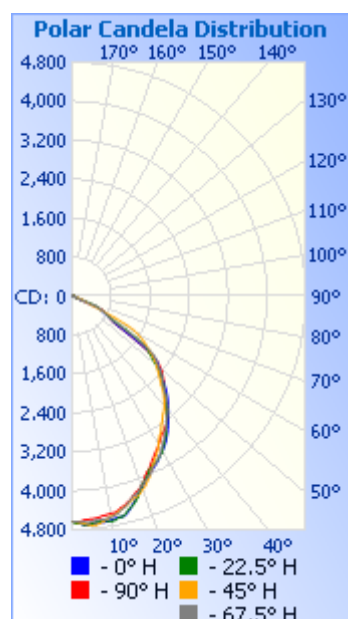
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Photometric Data



Flood Summary

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.2%	10,052.9	133.9	134.5
Beam (50%):	77.1%	7,898.5	102	101.3
Total:	100%	10,238.6		

Illuminance Plots

Illuminance at a Distance			
	Center Beam fc	Beam Width	
17.0ft	16.08 fc	41.4 ft	41.9 ft
34.0ft	4.02 fc	82.9 ft	83.9 ft
51.0ft	1.79 fc	124.3 ft	125.8 ft
68.0ft	1.01 fc	165.8 ft	167.8 ft
85.0ft	0.64 fc	207.2 ft	209.7 ft
102.0ft	0.45 fc	248.7 ft	251.7 ft
■ Vert. Spread: 101.3° ■ Horiz. Spread: 102.0°			

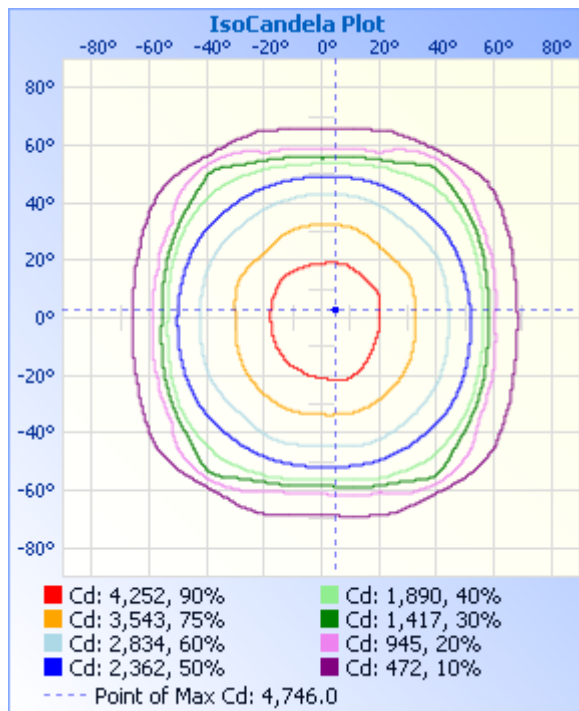
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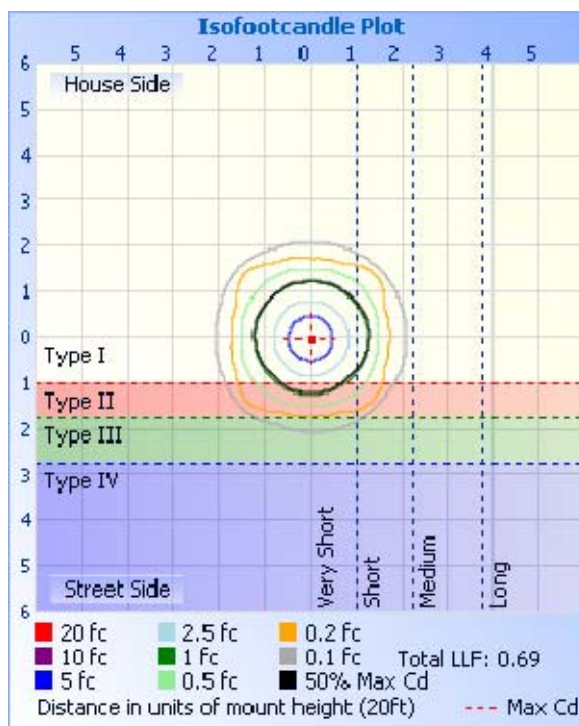
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ISOCANDELA DIAGRAM



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	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648	4648
1	4667	4696	4663	4646	4644	4655	4629	4635	4622	4649	4625	4641	4642	4684	4665	4664	4667
2	4691	4694	4676	4669	4650	4630	4614	4610	4610	4632	4608	4653	4650	4693	4701	4679	4691
3	4729	4719	4703	4659	4623	4627	4574	4601	4598	4641	4604	4644	4657	4687	4714	4712	4729
4	4722	4726	4719	4682	4616	4623	4552	4592	4585	4625	4601	4646	4668	4721	4726	4701	4722
5	4706	4708	4746	4662	4615	4602	4551	4565	4593	4612	4600	4640	4672	4737	4701	4695	4706
6	4696	4691	4745	4649	4609	4569	4520	4533	4571	4596	4590	4638	4681	4729	4679	4681	4696
7	4693	4686	4717	4648	4593	4553	4502	4530	4546	4577	4582	4641	4675	4702	4685	4690	4693
8	4704	4666	4688	4649	4571	4554	4502	4509	4530	4570	4598	4644	4660	4705	4692	4703	4704
9	4702	4692	4644	4643	4566	4514	4491	4496	4527	4527	4577	4596	4657	4690	4675	4685	4702
10	4685	4709	4607	4628	4549	4508	4451	4481	4514	4495	4593	4585	4625	4671	4656	4674	4685
11	4671	4701	4598	4597	4554	4524	4435	4481	4495	4490	4558	4547	4607	4679	4636	4656	4671
12	4661	4658	4546	4580	4521	4483	4429	4433	4476	4477	4531	4526	4556	4631	4604	4635	4661
13	4663	4665	4513	4516	4475	4434	4413	4442	4465	4443	4511	4502	4538	4610	4583	4621	4663
14	4631	4605	4478	4485	4448	4421	4383	4438	4470	4421	4448	4470	4505	4555	4557	4598	4631
15	4559	4541	4442	4427	4403	4369	4380	4452	4448	4405	4435	4449	4446	4547	4532	4575	4559
16	4484	4502	4392	4360	4360	4325	4357	4413	4426	4432	4410	4417	4426	4500	4462	4535	4484
17	4411	4441	4359	4308	4303	4300	4319	4345	4404	4415	4392	4386	4395	4431	4418	4480	4411
18	4335	4363	4338	4285	4251	4270	4295	4315	4359	4399	4364	4343	4331	4388	4368	4420	4335
19	4270	4269	4301	4239	4213	4223	4258	4264	4316	4388	4338	4289	4307	4343	4315	4354	4270
20	4208	4176	4244	4167	4164	4151	4228	4238	4277	4345	4311	4246	4244	4301	4249	4274	4208
21	4137	4110	4195	4123	4111	4112	4187	4204	4221	4313	4258	4200	4192	4262	4206	4225	4137
22	4072	4059	4120	4068	4005	4055	4125	4154	4184	4274	4223	4135	4125	4233	4153	4160	4072
23	4027	3997	4059	4036	3942	3999	4078	4126	4129	4242	4194	4073	4066	4172	4087	4094	4027
24	3977	3914	3976	3978	3903	3959	4041	4087	4068	4200	4163	4007	4013	4086	4055	4049	3977
25	3932	3881	3903	3916	3829	3914	3998	4048	4021	4135	4113	3938	3957	4058	3981	3990	3932
26	3888	3836	3825	3878	3761	3874	3967	4008	3977	4067	4053	3872	3872	3996	3928	3935	3888
27	3849	3830	3752	3832	3707	3819	3914	3936	3930	4010	3994	3814	3792	3938	3853	3866	3849
28	3798	3789	3701	3775	3650	3764	3862	3890	3867	3917	3931	3767	3763	3872	3798	3833	3798
29	3734	3748	3628	3749	3608	3705	3806	3820	3812	3865	3874	3734	3710	3811	3715	3775	3734

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30	3708	3716	3548	3668	3551	3643	3725	3759	3740	3787	3806	3672	3672	3738	3643	3725	3708
31	3652	3630	3473	3602	3495	3572	3677	3691	3688	3728	3729	3649	3599	3668	3572	3668	3652
32	3605	3579	3400	3541	3445	3502	3569	3650	3624	3653	3655	3603	3550	3622	3489	3605	3605
33	3549	3511	3353	3483	3388	3422	3497	3579	3558	3601	3585	3558	3491	3569	3433	3554	3549
34	3483	3457	3283	3413	3370	3350	3427	3513	3490	3558	3525	3506	3443	3498	3379	3501	3483
35	3421	3373	3209	3360	3330	3299	3333	3464	3423	3503	3467	3467	3382	3435	3321	3439	3421
36	3353	3310	3160	3293	3285	3245	3270	3411	3334	3438	3401	3413	3330	3390	3260	3371	3353
37	3285	3235	3098	3224	3246	3202	3194	3349	3264	3391	3347	3375	3241	3328	3215	3319	3285
38	3201	3176	3053	3161	3193	3151	3127	3285	3194	3331	3275	3311	3201	3268	3169	3247	3201
39	3140	3096	3006	3116	3118	3100	3060	3222	3123	3271	3208	3238	3151	3196	3097	3169	3140
40	3092	3051	2953	3058	3043	3049	2992	3158	3053	3212	3146	3167	3091	3137	3035	3096	3092
41	3019	2945	2888	2989	2968	2984	2923	3095	3002	3146	3084	3095	3028	3065	2955	3005	3019
42	2961	2886	2829	2922	2886	2929	2860	3031	2942	3079	3022	3023	2955	2992	2897	2936	2961
43	2877	2824	2767	2836	2812	2853	2798	2958	2882	3013	2944	2943	2889	2924	2824	2871	2877
44	2809	2740	2695	2745	2747	2786	2741	2887	2809	2951	2891	2885	2829	2869	2735	2824	2809
45	2726	2663	2602	2666	2694	2735	2684	2802	2761	2882	2810	2821	2754	2816	2667	2755	2726
46	2648	2606	2530	2598	2637	2675	2626	2736	2712	2808	2739	2758	2659	2729	2583	2691	2648
47	2555	2538	2458	2549	2581	2608	2558	2653	2651	2732	2672	2691	2617	2664	2522	2620	2555
48	2473	2461	2403	2479	2519	2539	2496	2594	2591	2661	2597	2632	2566	2577	2453	2533	2473
49	2411	2382	2340	2430	2464	2472	2437	2515	2531	2580	2520	2570	2500	2497	2385	2451	2411
50	2350	2300	2279	2354	2408	2408	2373	2439	2467	2515	2456	2510	2446	2418	2322	2369	2350
51	2282	2194	2230	2283	2336	2341	2305	2373	2409	2443	2388	2443	2394	2338	2262	2277	2282
52	2229	2105	2152	2222	2255	2275	2247	2313	2342	2366	2327	2375	2341	2277	2217	2202	2229
53	2155	2027	2083	2157	2164	2220	2181	2241	2263	2297	2260	2299	2289	2214	2159	2121	2155
54	1973	1949	2006	2084	1958	2162	2113	2167	2185	2233	2186	2229	2209	2157	2083	2063	1973
55	1693	1891	1942	1952	1669	2084	2054	2111	2096	2161	2124	2148	2110	2093	2023	1997	1693
56	1407	1790	1855	1723	1355	1963	1986	2032	1895	2085	2060	2070	1862	2026	1976	1843	1407
57	1121	1544	1789	1471	1094	1732	1926	1916	1634	1997	1995	1978	1585	1950	1907	1596	1121
58	983	1293	1725	1219	970	1427	1854	1685	1346	1878	1917	1749	1308	1774	1837	1321	983
59	920	1043	1637	967	922	1125	1785	1406	1101	1652	1847	1455	1031	1507	1748	1046	920
60	864	905	1549	896	890	926	1709	1145	960	1397	1769	1174	935	1237	1682	911	864
61	809	854	1460	841	851	851	1634	952	915	1136	1697	951	893	968	1559	842	809

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62	762	799	1276	791	813	802	1550	879	872	942	1610	884	850	862	1436	769	762
63	719	748	988	744	770	760	1363	818	826	859	1516	830	800	808	1313	706	719
64	682	691	671	701	725	722	1064	775	778	800	1345	788	760	758	1041	664	682
65	641	636	460	650	677	683	724	720	736	748	1073	746	721	712	743	629	641
66	545	585	346	598	550	639	484	681	700	701	766	696	671	669	510	592	545
67	266	538	302	514	247	582	356	638	658	659	529	650	621	616	372	561	266
68	91	388	271	239	94	484	313	593	603	612	401	603	451	564	293	424	91
69	69	119	241	85	78	215	283	539	456	557	325	528	166	509	260	145	69
70	62	54	211	66	72	68	256	400	184	501	286	280	82	288	229	63	62
71	55	44	182	59	67	53	226	148	84	372	253	82	71	80	203	51	55
72	47	39	119	52	62	48	199	68	71	143	227	63	64	54	174	45	47
73	38	33	30	45	55	42	166	57	66	62	199	57	58	48	120	39	38
74	28	28	19	36	44	37	69	51	59	51	144	50	52	42	30	32	28
75	22	20	15	28	33	31	25	45	53	45	42	43	43	37	19	25	22
76	17	15	12	21	25	24	20	39	45	40	25	36	33	30	16	19	17
77	14	11	10	16	19	18	16	32	36	34	21	28	27	23	13	14	14
78	11	9	8	12	15	14	13	24	28	26	17	23	22	17	10	11	11
79	8	7	6	10	11	11	10	20	22	20	13	18	17	13	8	9	8
80	6	5	5	7	9	8	8	15	17	16	11	14	14	10	6	7	6
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82	3	3	3	4	5	5	6	9	11	10	7	8	8	6	3	3	3
83	2	2	2	3	4	4	5	7	9	8	6	6	6	4	3	2	2
84	1	1	2	2	3	3	4	5	6	6	5	5	5	3	2	2	1
85	1	1	1	1	2	2	2	3	5	4	4	4	3	2	1	1	1
86	1	1	1	1	1	1	1	2	3	3	3	3	2	2	1	1	1
87	1	1	1	1	0	1	1	1	1	2	2	1	1	1	1	1	1
88	1	0	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1
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90	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0
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93	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0

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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

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94	0	0	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0
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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

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126	6	6	5	5	5	5	5	5	5	5	4	5	5	5	4	5	6
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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

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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

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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	73181		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
140709-18	120.0	60	1.003	119.8	0.9948	6.44
	277.0	60	0.4625	120.3	0.9390	12.24

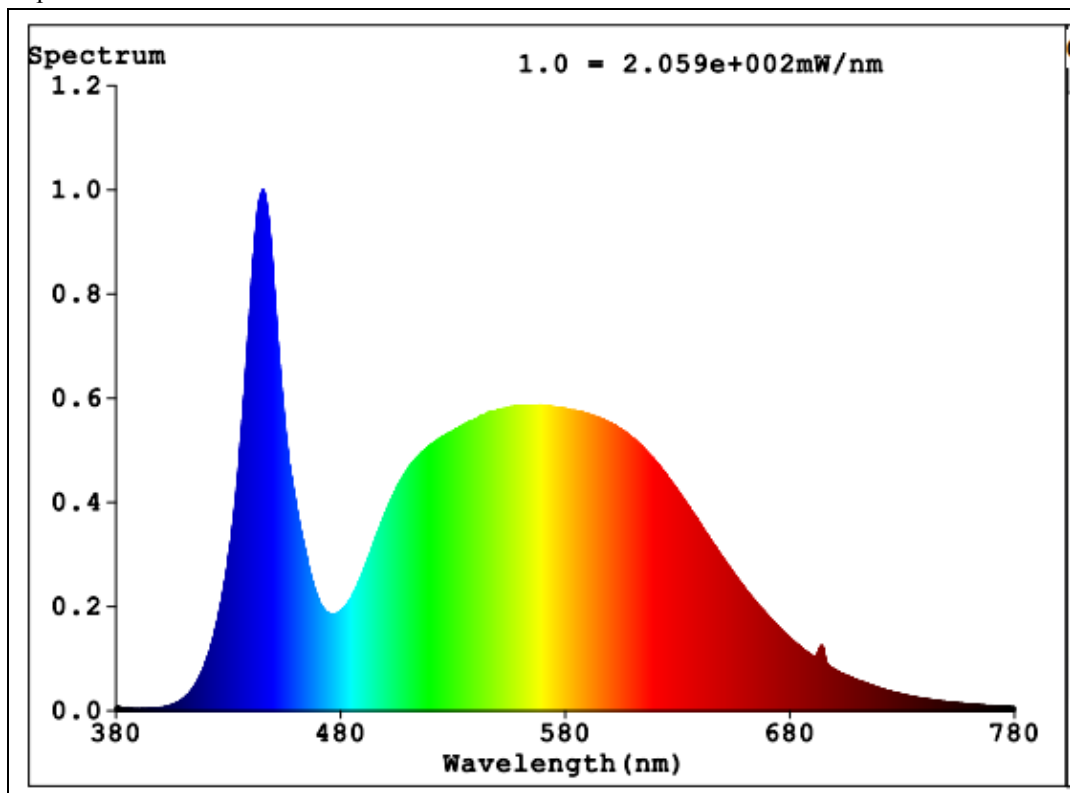
Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	81.8
R9	14
CCT (K)	5125
Chromaticity (x, y)	x=0.3420 y=0.3535
Chromaticity (u', v')	u'=0.2086 v'=0.4851
Duv	0.0022
Total Luminous (lm)	10321
Luminous Efficacy (lm/W)	86.18

Special Color Rendering Indices			
R1	81	R9	14
R2	84	R10	63
R3	87	R11	84
R4	83	R12	65
R5	82	R13	81
R6	80	R14	93
R7	86	R15	76
R8	71	--	--

Spectral Power Distribution

Spectral Power Distribution:



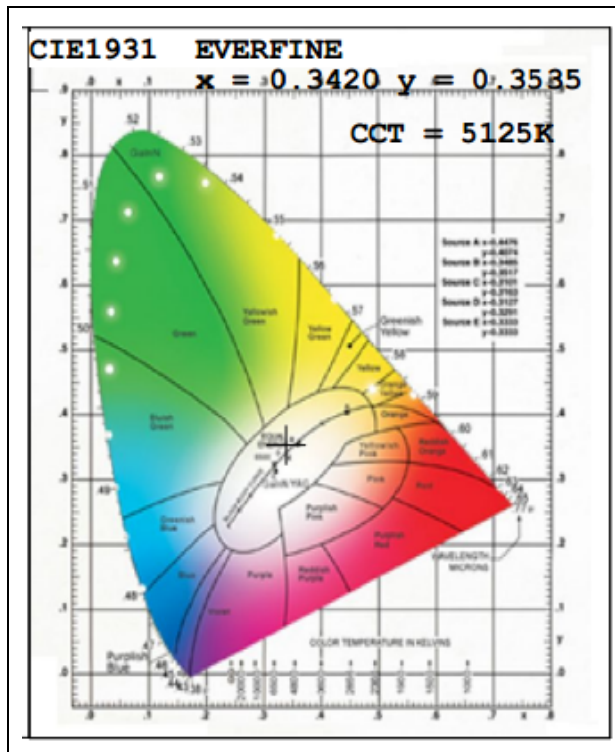
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Report Format Number STD/QR4909-A/2

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

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Chromaticity Diagram



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

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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

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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

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