

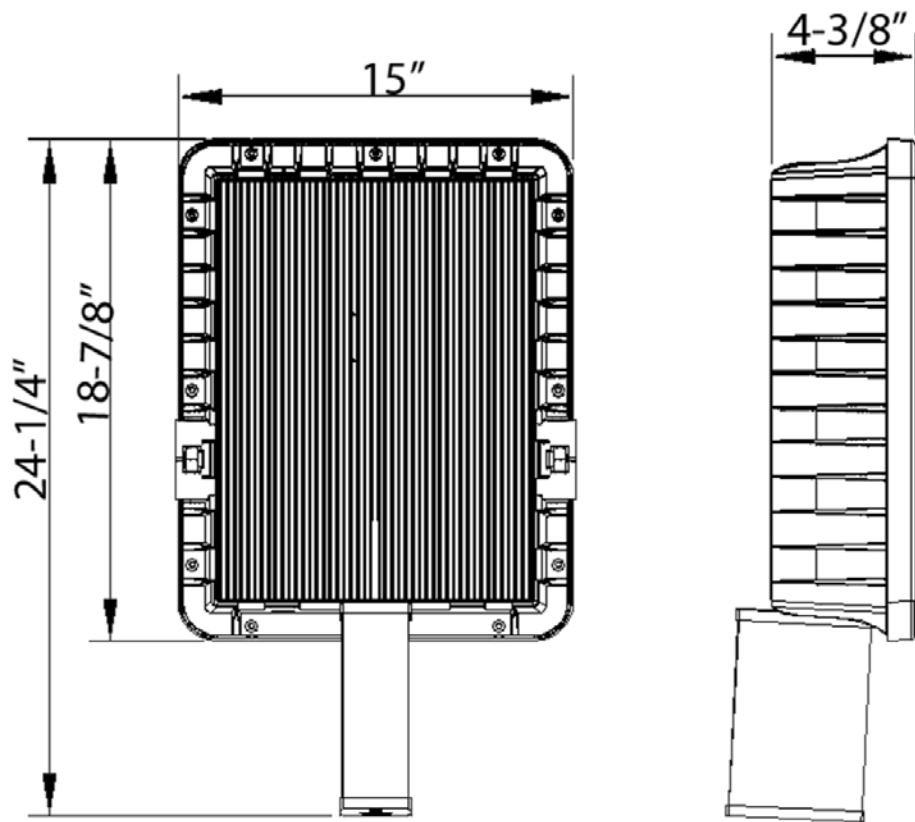


LED Flood Light 71388



Model :		71388
OVERALL LAMP PARAMETERS	Input Voltage	100-277VAC
	Input Current	2.1A Max.
	Input Power	198 W
	Power Factor	PF≥0.95
	Luminance	17911 LM
	Luminous Efficiency	90 LM/W
	CRI	>81
	Beam Angle	120°
	Main Structure	Alluminium + Tempered Glass
	Surface	Baking Varnish
LED DRIVER	Output Voltage	21-42VDC
	Output Current	4.4A
	Driver Brand	Meanwell
	Driver Efficiency	91%
LED	LED Type	COB
	LED Quantity	6PCS
	LED Manufacturer	CREE
	LED Efficacy	130 LM/W
	Color Temperature	WW/NW/CW/R/G/B 5103K
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	Diamension	Pls refer to attached dimension drawing
	Net Weight	26 Lbs
	Carton Size	650*445*155
	Q'ty / Carton	1

Dimension:





Report No.: GZE140709-G

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): 71388

Representative (Tested) Model: 71388

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-G
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	Morris Products Inc.		
Brand Name	Morris		
Model Number	71388		
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. mm mm s	
Luminaire Length	--		
Luminaires Width	--		
Number of Units (modular products)	N/A		

Electrical Measurements:	Integrating Sphere Output	Goniophotometer Output	
Input Wattage	198.3	--	W
Input Current	1.658	--	A
Input Voltage (ac)	120.1	--	V
Power Factor	0.9959	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	17911	--	lm
Initial Lumen Efficacy	90.32	--	lm/w
Correlated color temperature / CCT	5103	--	K
Color rendering index / CRI	81.5	--	
R9 Value	15	--	
Duv	0.0011	--	
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	71388
Luminaire Type	Architectural Flood and Spot Luminaires
Rated Voltage / Frequency	100 ~ 277 Vac, 50/60 Hz
Nominal Power	200W
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	140709-21(3000K),22(5000K)

Photo



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

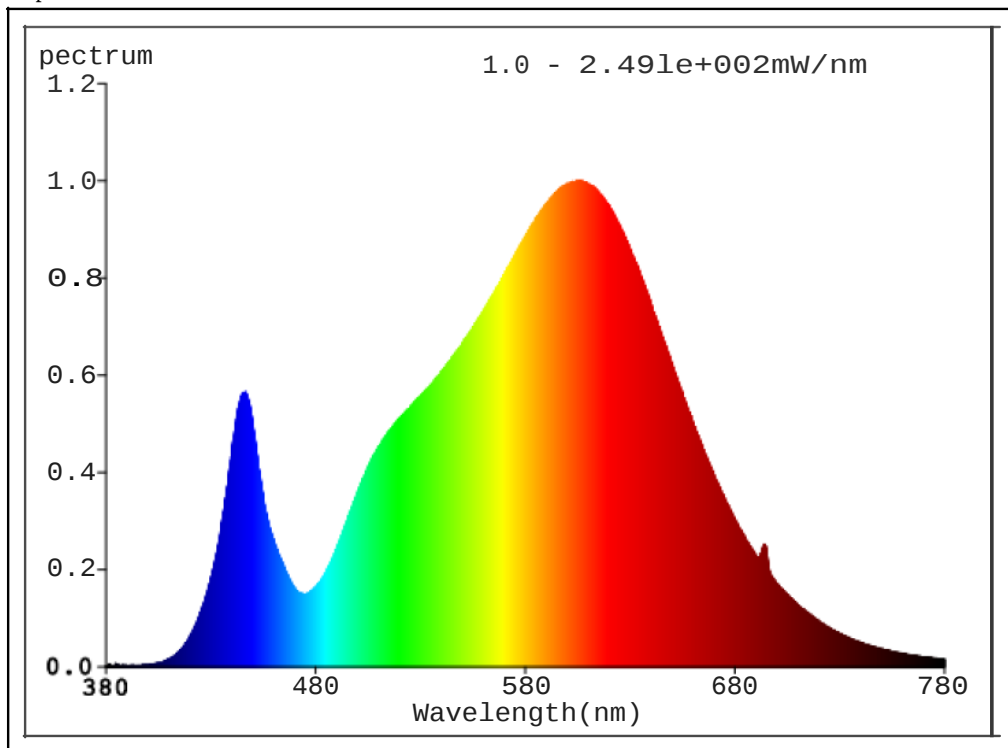
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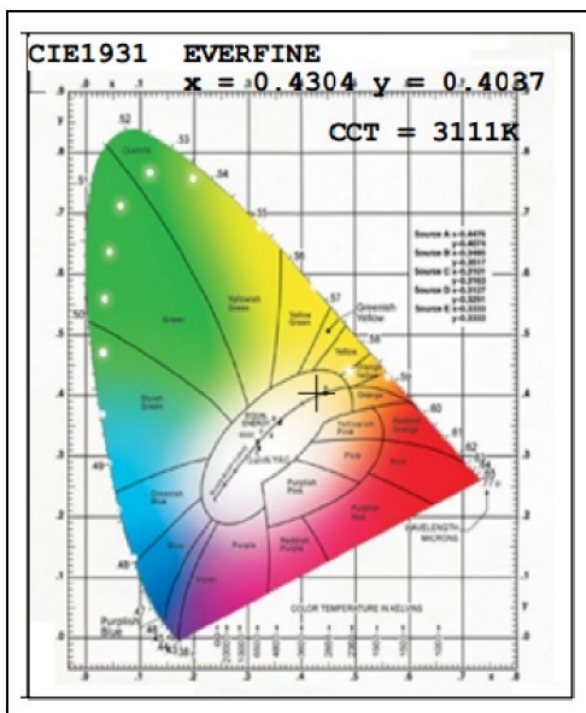
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Spectral Power Distribution

Spectral Power Distribution:



Chromaticity Diagram



Zonal Lumen Tabulation

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	5,232.8	31.2%	31.2%
0-40	8,584.6	51.2%	51.2%
0-60	14,886.9	88.7%	88.7%
60-90	1,853.3	11%	11%
70-100	231.0	1.4%	1.4%
90-120	9.9	0.1%	0.1%
0-90	16,740.2	99.7%	99.8%
90-180	40.5	0.2%	0.2%
0-180	16,780.6	100%	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	618.8	3.7%	90-100	1.0	0%
10-20	1,818.7	10.8%	100-110	3.4	0%
20-30	2,795.4	16.7%	110-120	5.4	0%
30-40	3,351.8	20.0%	120-130	6.9	0%
40-50	3,390.1	20.2%	130-140	7.1	0%
50-60	2,912.1	17.4%	140-150	6.5	0%
60-70	1,623.3	9.7%	150-160	5.4	0%
70-80	225.0	1.3%	160-170	3.4	0%
80-90	5.0	0.0%	170-180	1.3	0%

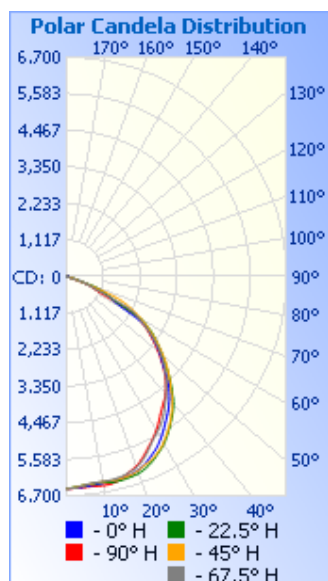
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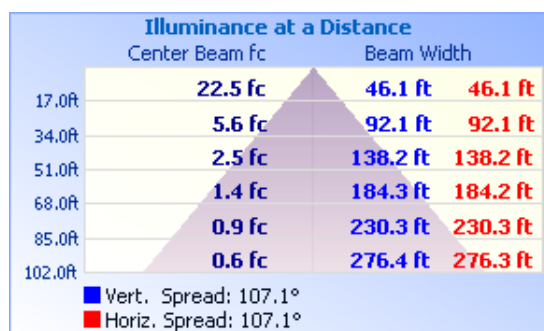
Photometric Data



Flood Summary

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	98.5%	16,537.2	138.7	140.6
Beam (50%):	79.8%	13,384.7	107.1	107.1
Total:	100%	16,777.2		

Illuminance Plots



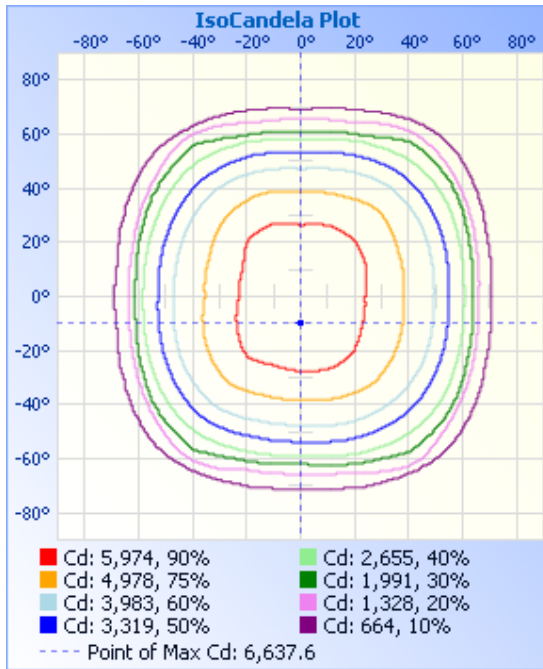
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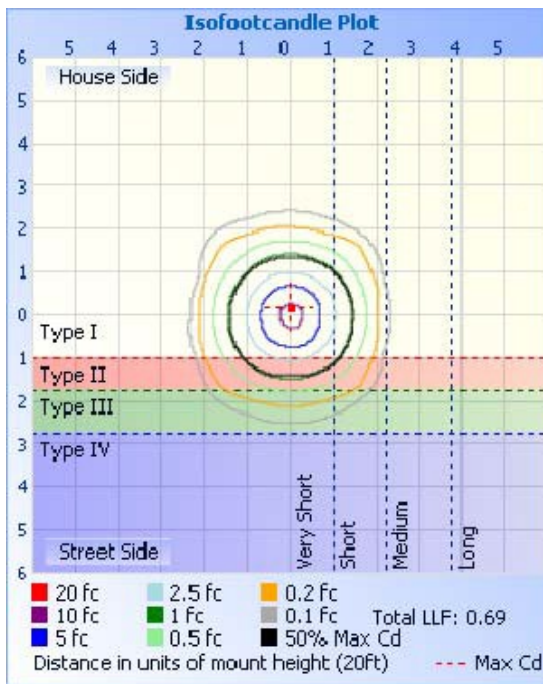
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ISOCANDELA DIAGRAM



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	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507	6507
1	6498	6486	6492	6498	6504	6510	6515	6523	6515	6527	6515	6500	6498	6497	6497	6488	6498
2	6487	6470	6473	6484	6498	6510	6509	6530	6527	6537	6511	6494	6498	6488	6491	6464	6487
3	6479	6450	6453	6469	6495	6509	6507	6530	6534	6546	6506	6491	6503	6488	6491	6436	6479
4	6471	6433	6436	6441	6492	6500	6516	6526	6559	6550	6517	6489	6508	6492	6490	6407	6471
5	6462	6421	6416	6416	6486	6482	6526	6514	6574	6555	6524	6487	6508	6492	6495	6397	6462
6	6453	6414	6408	6395	6477	6472	6521	6507	6586	6558	6521	6487	6502	6488	6497	6387	6453
7	6443	6408	6398	6383	6482	6470	6515	6504	6609	6570	6513	6480	6498	6484	6499	6387	6443
8	6438	6401	6390	6383	6494	6469	6524	6499	6622	6577	6502	6470	6507	6477	6501	6394	6438
9	6431	6407	6387	6381	6495	6470	6541	6482	6636	6578	6486	6473	6519	6479	6501	6398	6431
10	6425	6416	6385	6381	6501	6475	6554	6455	6638	6572	6480	6488	6527	6493	6484	6398	6425
11	6424	6438	6395	6386	6508	6488	6566	6438	6631	6567	6476	6510	6525	6502	6466	6398	6424
12	6425	6457	6405	6387	6502	6491	6577	6420	6618	6556	6475	6523	6515	6504	6458	6391	6425
13	6428	6465	6410	6381	6484	6485	6577	6404	6598	6538	6481	6524	6483	6495	6448	6393	6428
14	6429	6464	6416	6371	6463	6477	6578	6381	6565	6518	6485	6512	6425	6471	6450	6399	6429
15	6426	6468	6417	6363	6431	6460	6578	6364	6525	6503	6482	6482	6358	6429	6451	6401	6426
16	6419	6463	6413	6341	6387	6436	6572	6342	6493	6485	6475	6433	6295	6374	6445	6387	6419
17	6402	6450	6399	6322	6330	6411	6552	6315	6468	6473	6462	6371	6244	6316	6436	6364	6402
18	6383	6448	6385	6295	6277	6387	6535	6284	6443	6442	6433	6309	6204	6266	6425	6352	6383
19	6356	6437	6374	6270	6241	6361	6510	6255	6413	6407	6383	6245	6163	6223	6406	6340	6356
20	6332	6428	6343	6231	6195	6332	6481	6229	6378	6367	6320	6183	6122	6191	6370	6312	6332
21	6299	6400	6304	6179	6141	6290	6439	6207	6343	6327	6262	6142	6084	6161	6328	6276	6299
22	6258	6363	6267	6118	6068	6239	6398	6183	6299	6292	6207	6093	6046	6127	6271	6249	6258
23	6207	6322	6240	6049	6003	6191	6349	6162	6249	6251	6156	6047	6006	6091	6224	6223	6207
24	6145	6277	6214	5973	5917	6129	6294	6138	6197	6222	6112	6008	5951	6058	6185	6196	6145
25	6085	6226	6179	5888	5836	6064	6239	6096	6134	6175	6070	5952	5887	6025	6144	6169	6085
26	6023	6169	6136	5799	5764	5990	6180	6033	6063	6120	6034	5890	5815	5986	6102	6124	6023
27	5965	6112	6083	5721	5691	5922	6123	5968	5995	6058	5993	5823	5744	5937	6050	6076	5965
28	5900	6057	6027	5645	5614	5857	6068	5898	5914	5990	5958	5754	5683	5876	5996	6016	5900
29	5823	5996	5973	5580	5541	5789	6004	5828	5822	5920	5899	5689	5628	5811	5940	5945	5823

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30	5740	5930	5902	5514	5466	5729	5937	5764	5730	5855	5831	5634	5572	5737	5890	5875	5740
31	5661	5858	5822	5460	5384	5666	5861	5695	5635	5791	5758	5578	5515	5673	5837	5797	5661
32	5572	5782	5745	5391	5294	5588	5779	5619	5539	5736	5692	5526	5458	5607	5781	5707	5572
33	5482	5698	5670	5325	5205	5505	5695	5534	5442	5659	5616	5468	5402	5532	5728	5622	5482
34	5396	5611	5586	5246	5118	5419	5613	5438	5348	5564	5535	5404	5332	5446	5664	5541	5396
35	5318	5527	5495	5163	5036	5324	5525	5334	5258	5458	5455	5330	5251	5355	5588	5446	5318
36	5235	5442	5411	5078	4966	5230	5435	5226	5160	5344	5367	5252	5161	5265	5506	5352	5235
37	5151	5358	5314	4990	4898	5136	5337	5114	5057	5227	5287	5165	5063	5174	5431	5261	5151
38	5067	5267	5215	4901	4836	5048	5245	5003	4950	5111	5201	5075	4967	5082	5345	5171	5067
39	4976	5176	5109	4814	4773	4967	5148	4897	4836	4993	5111	4989	4870	4995	5257	5079	4976
40	4890	5073	5009	4723	4697	4883	5047	4797	4721	4882	5019	4899	4771	4910	5176	4969	4890
41	4793	4960	4904	4636	4621	4800	4945	4691	4605	4776	4929	4807	4677	4826	5081	4868	4793
42	4685	4828	4784	4550	4536	4715	4839	4589	4497	4679	4826	4708	4594	4748	4979	4769	4685
43	4572	4708	4662	4464	4445	4631	4728	4486	4393	4584	4712	4602	4521	4664	4877	4677	4572
44	4450	4589	4554	4374	4345	4540	4616	4383	4295	4485	4589	4496	4448	4579	4769	4567	4450
45	4320	4464	4450	4286	4246	4443	4505	4279	4199	4388	4459	4396	4379	4492	4662	4455	4320
46	4185	4338	4342	4187	4145	4338	4391	4176	4098	4285	4327	4310	4309	4404	4550	4337	4185
47	4056	4212	4230	4090	4031	4226	4275	4065	3997	4177	4210	4227	4230	4311	4425	4223	4056
48	3944	4092	4120	3993	3915	4108	4161	3955	3896	4067	4099	4151	4129	4209	4305	4114	3944
49	3840	3971	4009	3887	3802	3987	4046	3848	3795	3952	3997	4059	4009	4101	4169	4003	3840
50	3735	3856	3890	3774	3689	3860	3933	3737	3688	3842	3892	3951	3876	3999	4035	3903	3735
51	3629	3738	3769	3664	3575	3733	3816	3627	3580	3735	3779	3824	3741	3897	3907	3796	3629
52	3519	3623	3643	3547	3462	3606	3698	3511	3467	3622	3666	3697	3613	3789	3790	3683	3519
53	3406	3515	3518	3425	3351	3482	3578	3395	3358	3507	3547	3572	3488	3676	3676	3564	3406
54	3293	3403	3394	3297	3240	3357	3454	3278	3252	3387	3431	3449	3380	3549	3565	3442	3293
55	3184	3294	3275	3170	3123	3230	3331	3156	3137	3263	3312	3331	3276	3410	3455	3325	3184
56	3079	3180	3154	3043	3007	3103	3194	3033	3022	3139	3196	3209	3167	3263	3332	3211	3079
57	2979	3062	3030	2914	2891	2976	3058	2910	2906	3015	3079	3087	3054	3123	3201	3103	2979
58	2856	2937	2908	2782	2767	2852	2922	2784	2790	2891	2963	2965	2935	2994	3068	2993	2856
59	2587	2804	2787	2654	2643	2723	2783	2663	2666	2769	2834	2850	2812	2883	2934	2876	2587
60	2232	2651	2662	2530	2516	2588	2645	2539	2448	2650	2710	2741	2689	2779	2799	2728	2232
61	1887	2380	2536	2412	2376	2450	2512	2384	2120	2531	2591	2623	2572	2669	2667	2435	1887

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62	1688	2025	2409	2296	2008	2315	2383	2084	1792	2389	2466	2492	2453	2554	2539	2064	1688
63	1596	1688	2277	2093	1495	2167	2253	1753	1551	2097	2329	2348	2231	2419	2408	1719	1596
64	1507	1550	2141	1614	1120	1832	2123	1479	1450	1752	2181	2191	1766	2274	2276	1589	1507
65	1418	1415	1993	1284	1022	1337	1985	1346	1357	1462	2039	1857	1490	2079	2145	1467	1418
66	1329	1328	1836	957	944	978	1829	1240	1260	1308	1895	1345	1214	1641	2003	1344	1329
67	1239	1243	1638	866	870	874	1575	1138	1156	1201	1752	960	939	1278	1750	1251	1239
68	1154	1143	1291	785	801	795	1261	1039	1057	1104	1606	843	842	915	1498	1154	1154
69	940	1025	940	713	730	720	992	942	957	1006	1415	761	762	821	1247	1059	940
70	593	901	590	643	618	648	761	846	848	899	1028	689	696	746	995	945	593
71	468	583	422	565	186	572	486	733	544	781	575	622	631	667	859	651	468
72	408	382	363	223	32	368	370	448	380	657	378	543	470	578	613	410	408
73	354	321	308	30	26	41	311	322	328	420	326	412	77	491	375	344	354
74	285	275	261	22	23	25	264	269	278	291	278	81	37	241	296	296	285
75	53	228	180	19	21	22	196	219	224	236	227	35	31	38	230	252	53
76	23	44	55	17	18	19	97	152	50	188	182	31	28	27	124	92	23
77	19	18	17	15	16	16	20	25	26	130	85	26	24	23	86	23	19
78	15	15	13	13	14	14	15	21	22	23	21	23	21	19	48	17	15
79	12	12	11	11	13	12	13	17	18	19	17	19	17	16	15	14	12
80	10	9	9	9	11	11	11	13	15	16	14	16	15	14	11	10	10
81	8	8	7	8	9	9	9	11	13	13	12	14	12	11	9	8	8
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83	5	5	4	5	6	6	6	7	8	9	8	9	8	7	5	5	5
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88	1	0	0	0	1	1	1	1	1	2	2	2	1	1	1	1	1
89	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0
90	0	0	0	0	1	1	1	1	1	1	1	1	0	1	1	0	0
91	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
92	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
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94	0	0	1	0	1	1	1	1	1	1	1	1	0	0	1	0	0
95	0	0	1	0	1	1	1	1	1	1	1	1	0	1	1	1	0
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126	9	8	6	7	7	7	7	7	8	8	8	8	9	10	8	9	9
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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	71388		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
140709-22	120.1	60	1.658	198.3	0.9959	5.24
	277.0	60	0.7678	199.7	0.9389	11.43

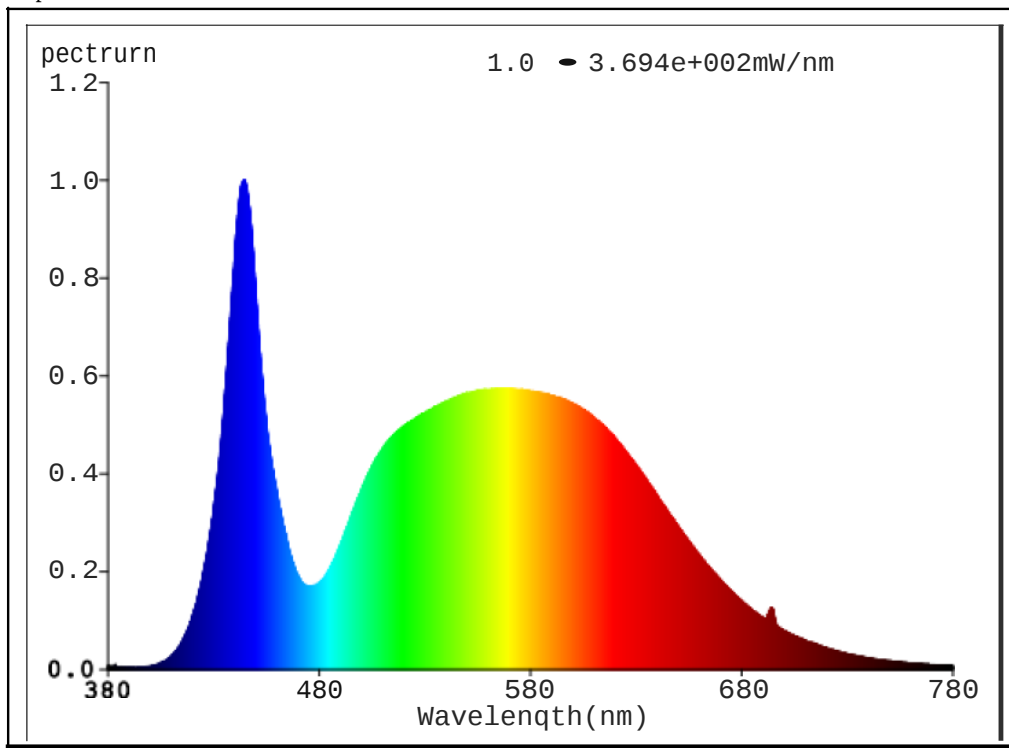
Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	81.5
R9	15
CCT (K)	5103
Chromaticity (x, y)	x=0.3424 y=0.3516
Chromaticity (u', v')	u'=0.2096 v'=0.4843
Duv	0.0011
Total Luminous (lm)	17911
Luminous Efficacy (lm/W)	90.32

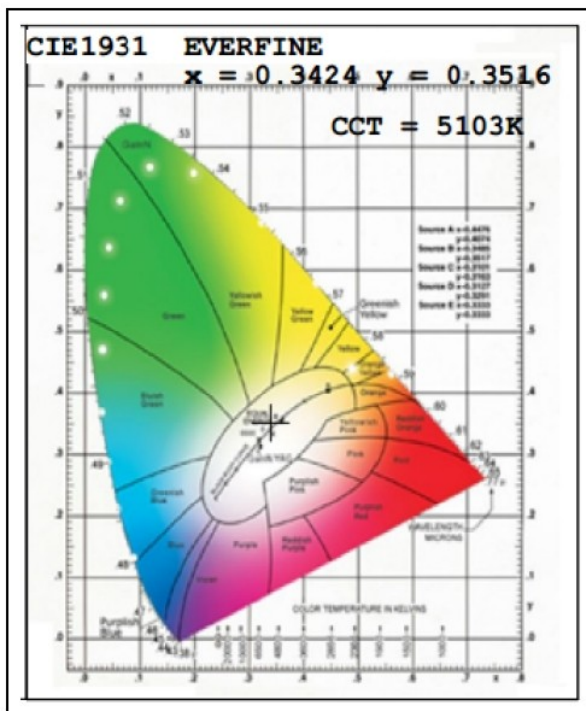
Special Color Rendering Indices			
R1	81	R9	15
R2	84	R10	62
R3	86	R11	85
R4	83	R12	66
R5	83	R13	81
R6	79	R14	92
R7	85	R15	77
R8	71	--	--

Spectral Power Distribution

Spectral Power Distribution:



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

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