

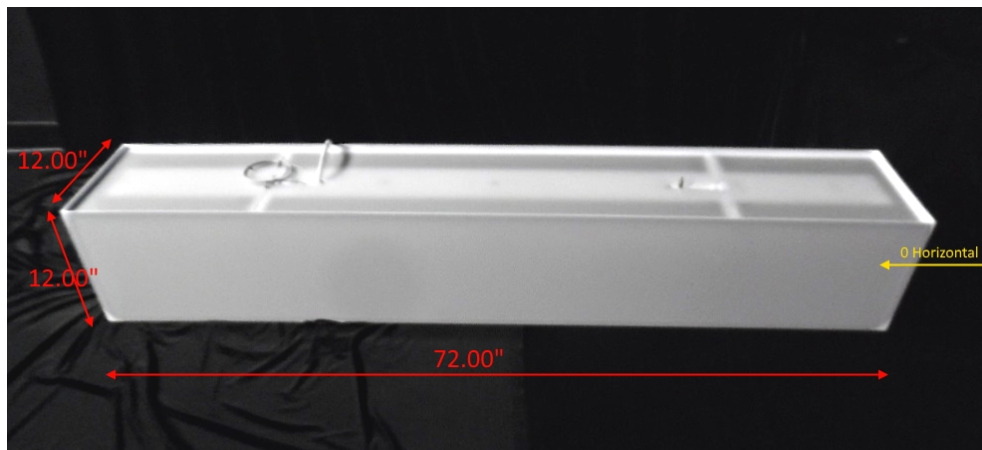
Report of Test

LLIA000901-055A

Catalog Number: P1272/F11/D61/L405

Pendant mounted, formed steel canopy, formed aluminum and steel frame,
white "lumenate" diffuser, translucent white plastic top and bottom enclosures.

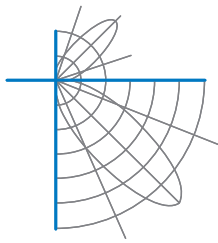
288 white LEDs, six Samsung Electronics LT-M562C G2 3000K-S49 LED boards with 48 LEDs each.
One Philips Advance Xitanium XI075C200V054BST1 LED driver and one XI054C150V054BST1 LED driver.
120.0Vac, 60.00Hz, 0.9511A, 113.6W, 0.996PF, 7.2%THD(i)



Performance Summary

Total Light Output	11726 lm
Luminaire Power	113.6 W
Luminous Efficacy	103.2 lm/W

PREPARED FOR : Lumetta, Inc, 33 Minnesota Avenue, Warwick, RI 02888, USA



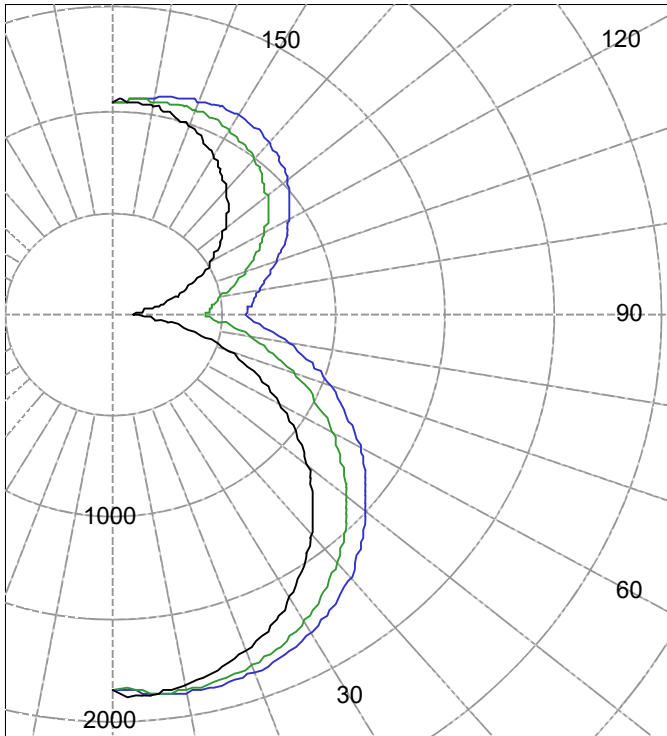
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Legend: C0-Black, C45-Green, C90-Blue (cd)



(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	1851	1851	1851	1851	1851	
5.0	1877	1887	1865	1875	1867	179
10.0	1853	1871	1875	1879	1886	
15.0	1813	1841	1863	1874	1889	525
20.0	1758	1797	1838	1863	1875	
25.0	1689	1738	1795	1830	1846	822
30.0	1604	1665	1738	1783	1803	
35.0	1506	1580	1668	1722	1744	1032
40.0	1396	1482	1584	1647	1674	
45.0	1276	1374	1488	1561	1592	1130
50.0	1147	1255	1382	1464	1500	
55.0	1010	1128	1266	1358	1398	1108
60.0	867	994	1143	1244	1288	
65.0	722	857	1013	1125	1172	976
70.0	577	717	882	1002	1050	
75.0	432	578	751	880	929	764
80.0	293	446	626	760	808	
85.0	164	323	504	637	685	519
90.0	83	242	421	556	603	

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	2771	2067	2018
55.0	2549	1816	1799
65.0	2257	1552	1580
75.0	1843	1275	1360
85.0	1160	993	1134

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1527	N / A	13.0
0-40	2559	N / A	21.8
0-60	4797	N / A	40.9
0-90	7056	N / A	60.2
40-90	4497	N / A	38.4
60-90	2259	N / A	19.3
90-180	4670	N / A	39.8
0-180	11726	N / A	100.0

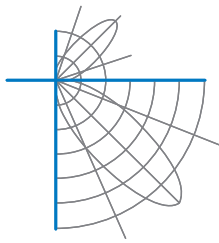
Total Light Output = 11,726 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.5

Signed:

Authorized Signatory

Date of test 13-Apr-2018
Date of report 13-Apr-2018



Test Report No. LLIA000901-055A

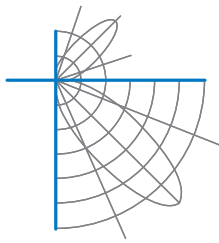
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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	1851	1851	1851	1851	1851
2.5	1884	1889	1842	1864	1852
5.0	1877	1887	1865	1875	1867
7.5	1867	1880	1877	1879	1878
10.0	1853	1871	1875	1879	1886
12.5	1835	1858	1870	1877	1890
15.0	1813	1841	1863	1874	1889
17.5	1788	1821	1853	1870	1884
20.0	1758	1797	1838	1863	1875
22.5	1725	1769	1818	1848	1862
25.0	1689	1738	1795	1830	1846
27.5	1648	1703	1768	1808	1826
30.0	1604	1665	1738	1783	1803
32.5	1557	1624	1705	1754	1775
35.0	1506	1580	1668	1722	1744
37.5	1452	1533	1628	1686	1711
40.0	1396	1482	1584	1647	1674
42.5	1337	1429	1538	1606	1635
45.0	1276	1374	1488	1561	1592
47.5	1212	1316	1436	1514	1547
50.0	1147	1255	1382	1464	1500
52.5	1079	1192	1325	1412	1450
55.0	1010	1128	1266	1358	1398
57.5	939	1061	1205	1302	1344
60.0	867	994	1143	1244	1288
62.5	794	926	1078	1185	1230
65.0	722	857	1013	1125	1172
67.5	650	787	947	1064	1111
70.0	577	717	882	1002	1050
72.5	504	647	816	941	990
75.0	432	578	751	880	929
77.5	361	511	688	819	868
80.0	293	446	626	760	808
82.5	228	383	566	698	746
85.0	164	323	504	637	685
87.5	101	262	442	578	626
90.0	83	242	421	556	603



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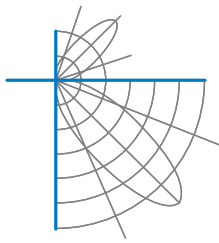
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120.0Vac, 60.00Hz, 0.9511A, 113.6W, 0.996PF, 7.2%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	83	242	421	556	603
92.5	89	250	428	561	608
95.0	109	265	447	580	628
97.5	138	290	465	597	645
100.0	172	323	493	620	666
102.5	211	360	527	648	693
105.0	253	400	564	681	723
107.5	296	441	602	716	757
110.0	339	482	640	751	790
112.5	379	522	678	786	824
115.0	421	561	716	821	858
117.5	462	599	752	854	889
120.0	503	636	787	886	920
122.5	543	672	821	916	949
125.0	582	707	852	944	978
127.5	620	739	880	971	1004
130.0	657	771	906	997	1028
132.5	693	801	931	1019	1050
135.0	728	829	954	1038	1069
137.5	761	856	974	1055	1085
140.0	792	881	994	1070	1099
142.5	822	904	1011	1082	1110
145.0	850	927	1026	1092	1118
147.5	877	947	1038	1100	1124
150.0	903	966	1048	1106	1128
152.5	926	983	1057	1109	1130
155.0	948	998	1063	1110	1129
157.5	968	1011	1067	1108	1125
160.0	986	1023	1070	1105	1119
162.5	1002	1032	1071	1100	1111
165.0	1016	1040	1071	1093	1102
167.5	1027	1046	1069	1086	1092
170.0	1037	1050	1066	1077	1081
172.5	1044	1052	1063	1069	1070
175.0	1050	1053	1058	1060	1060
177.5	1054	1054	1052	1050	1048
180.0	1050	1050	1050	1050	1050



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Coefficients Of Utilization - Zonal Cavity Method

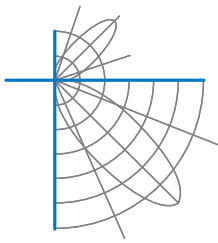
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60
1	98	93	88	84	91	87	83	79	75	72	69	65	62	60	55	53	51	47
2	88	80	73	67	82	75	68	63	65	60	56	55	52	48	47	44	42	37
3	80	70	61	55	74	65	58	52	56	51	46	48	44	40	41	37	35	31
4	73	61	52	46	68	57	49	43	50	43	38	43	38	34	36	32	29	26
5	67	54	45	39	62	51	43	37	44	38	33	38	33	29	32	28	25	22
6	62	48	40	33	57	45	37	32	40	33	28	34	29	25	29	25	22	19
7	57	44	35	29	53	41	33	28	36	29	25	31	26	22	27	22	19	17
8	53	40	31	26	49	37	30	24	33	26	22	28	23	19	24	20	17	15
9	49	36	28	23	46	34	27	22	30	24	19	26	21	17	22	18	15	13
10	46	33	25	20	43	31	24	19	27	22	17	24	19	16	21	17	14	12

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	51.4	7.70	8.65
8.0	28.9	10.27	11.54
10.0	18.5	12.84	14.42
12.0	12.9	15.41	17.30
14.0	9.4	17.97	20.19
16.0	7.2	20.54	23.07

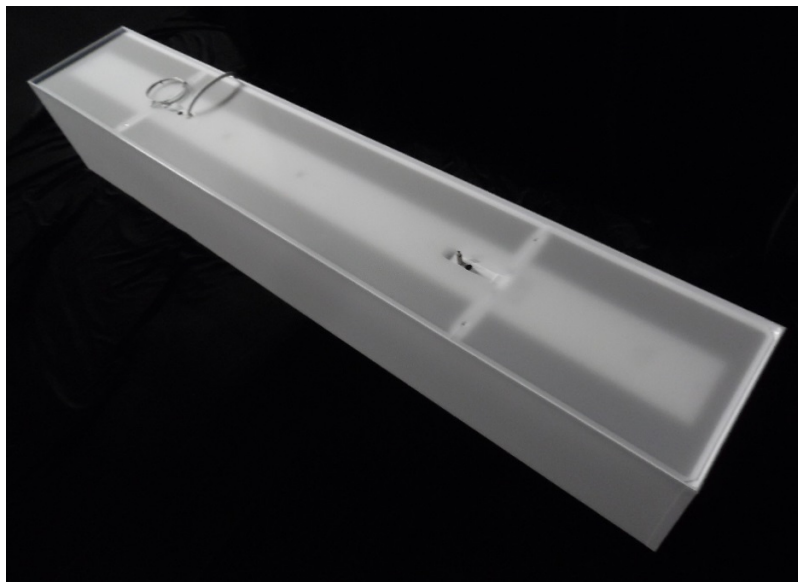


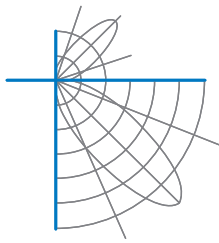
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Test Distance 9.5 m
Test Temperature 24.8 °C

Notes The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2015, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

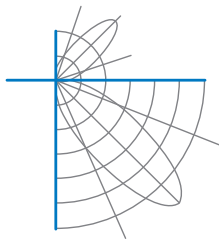
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.



Report of Test

LLIA000901-055B

Color Quality Test Report

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Performance Summary

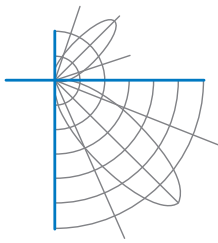
Voltage	120.0 Vac
Current	0.9505 A
Power	113.6 W
Frequency	60.00 Hz
Power Factor	0.996
Current THD	7.2 %

Chromaticity (x,y)	(0.4258, 0.3965)
(u',v')	(0.2466, 0.5167)

Duv	-0.0015
CCT	3133 K
CRI (Ra)	84
R9	12
TM-30: Rf	84
TM-30: Rg	97

Prepared For:
Lumetta, Inc
33 Minnesota Avenue
Warwick, RI 02888, USA

Test date: 04/12/2018
Report date: 04/13/2018



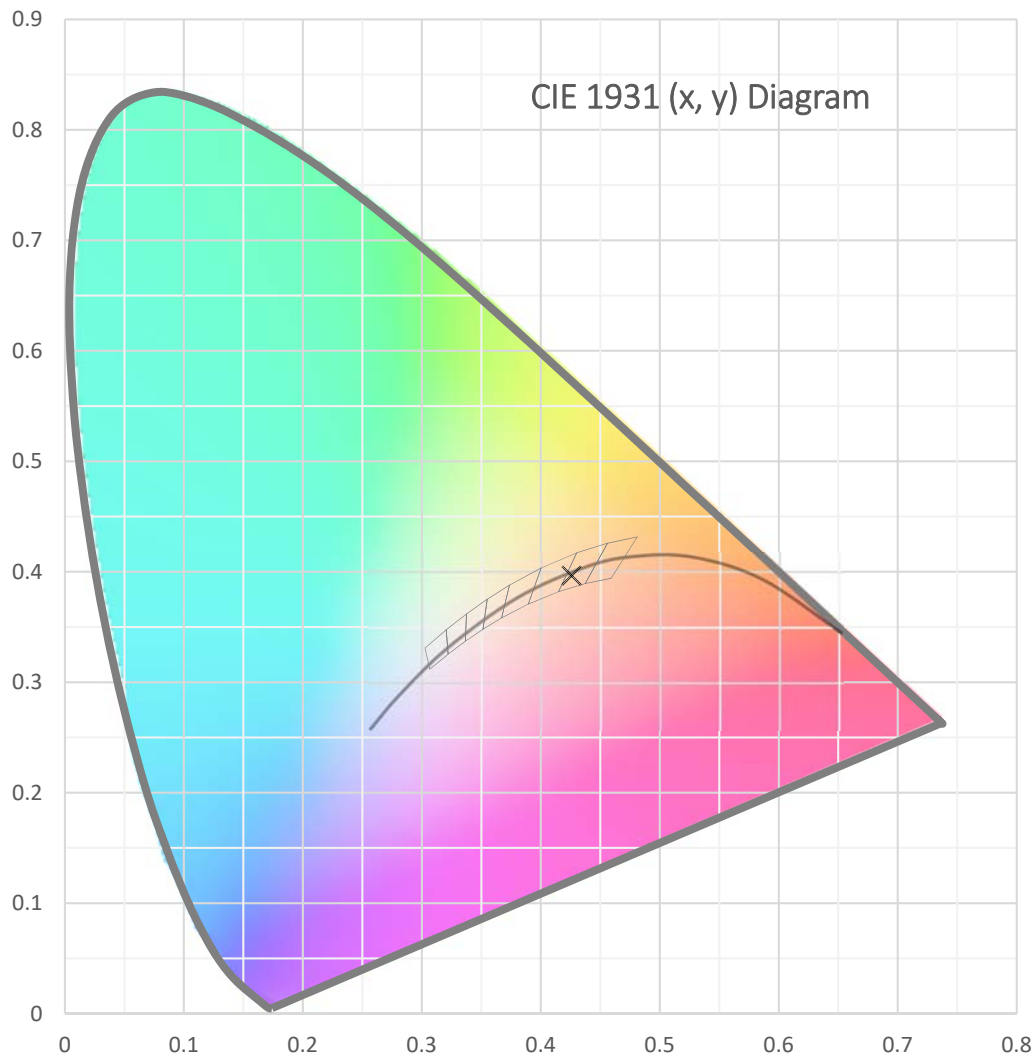
Test Report Number: LLIA000901-055B

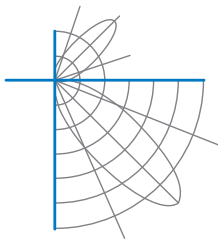
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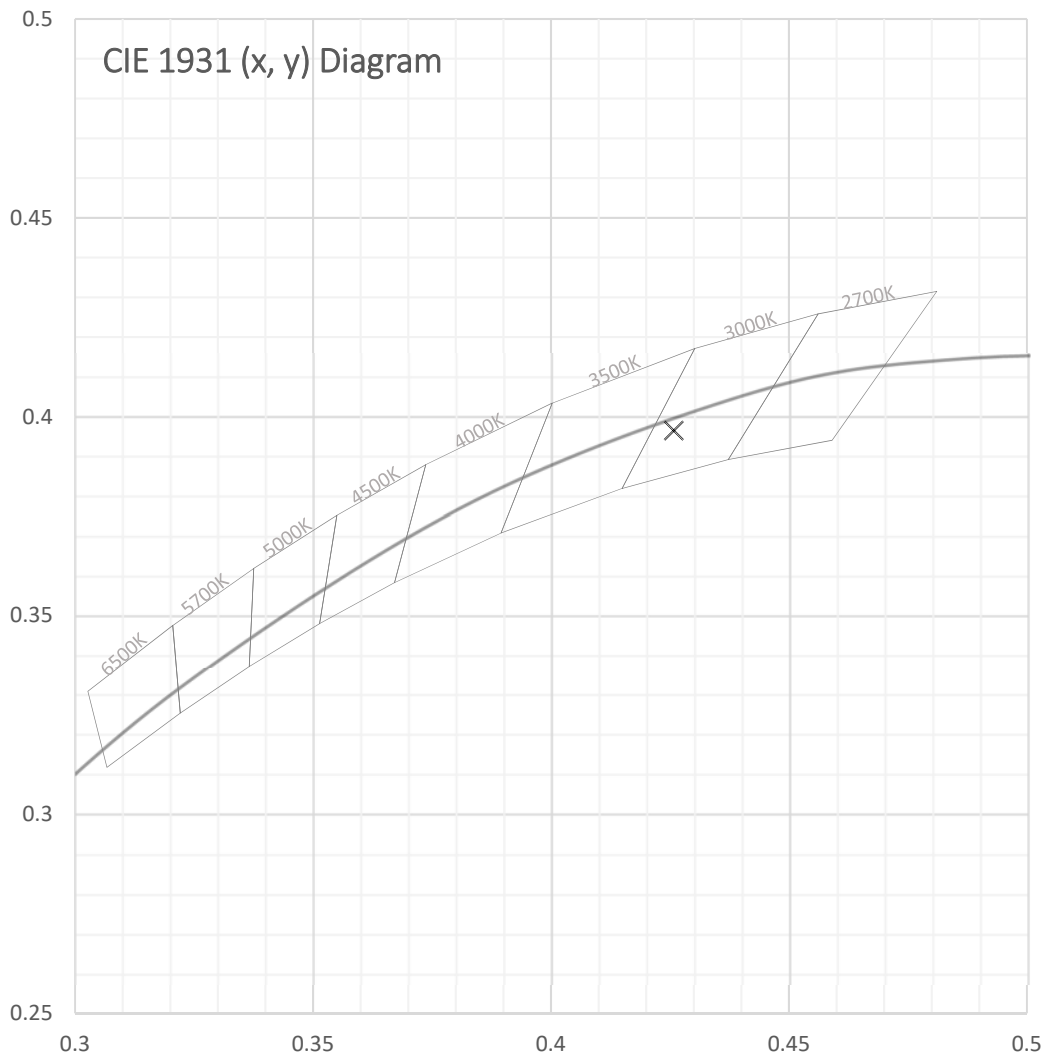
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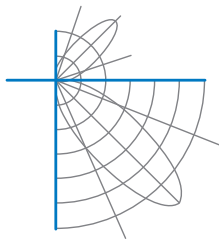
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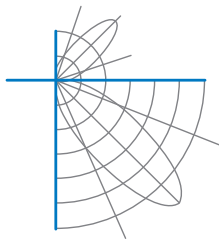
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Spectral Data

Chromaticity CIE 1931 (x, y)	(0.4258, 0.3965)
Chromaticity CIE 1976 (u', v')	(0.2466, 0.5167)
Correlated Color Temperature (CCT)	3133 K
Color Rendering Index (Ra)	84
R1	83
R2	92
R3	96
R4	83
R5	84
R6	91
R7	83
R8	61
R9	12
R10	82
R11	83
R12	76
R13	85
R14	99
TM-30: Rf	84
TM-30: Rg	97
Distance from Planckian Locus (Duv)	-0.0015

Electrical Data

Voltage	120.0 Vac
Current	0.9505 A
Power	113.6 W
Frequency	60.00 Hz
Power Factor	0.996
Current THD	7.2 %



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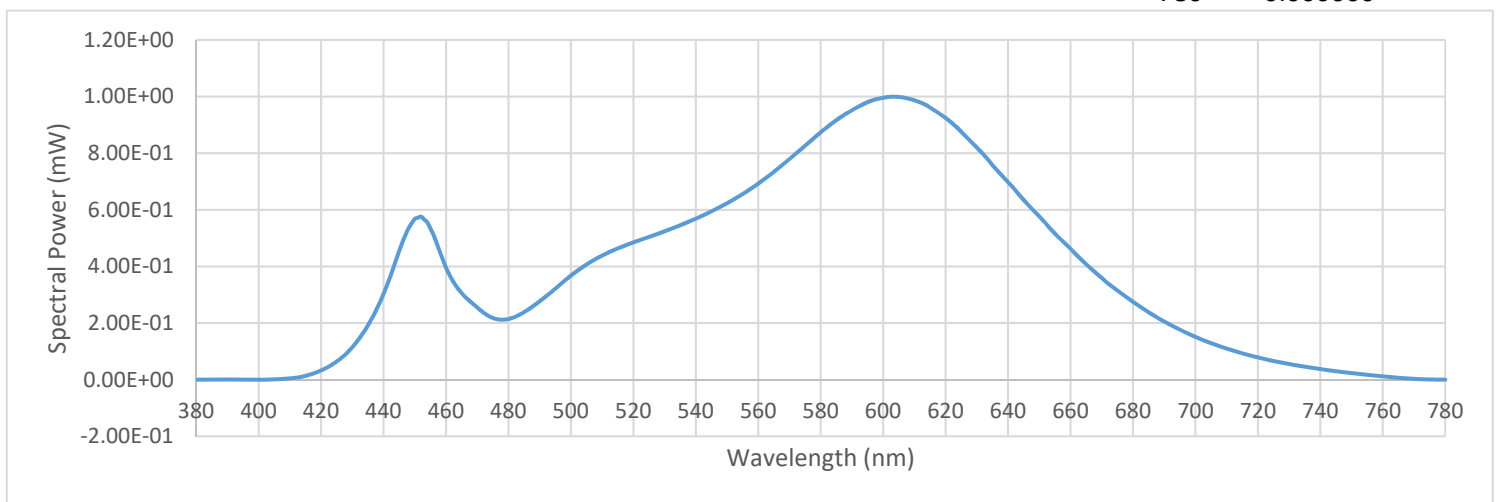
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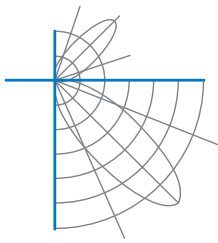
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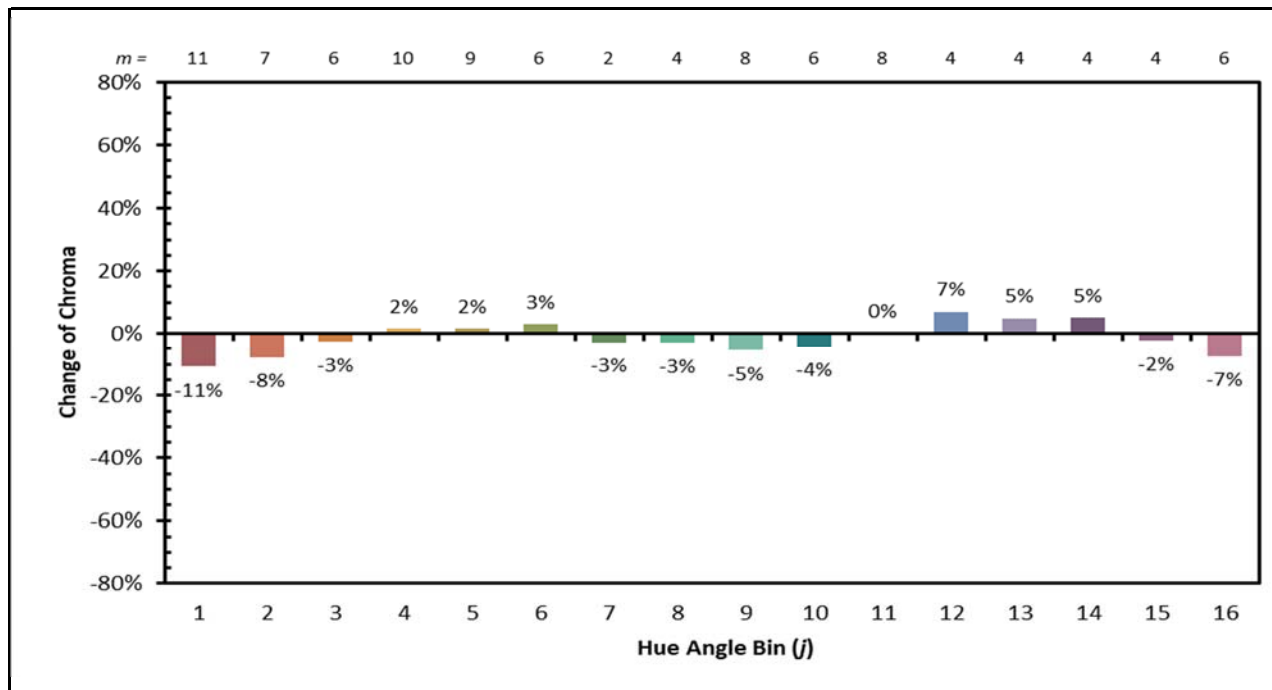
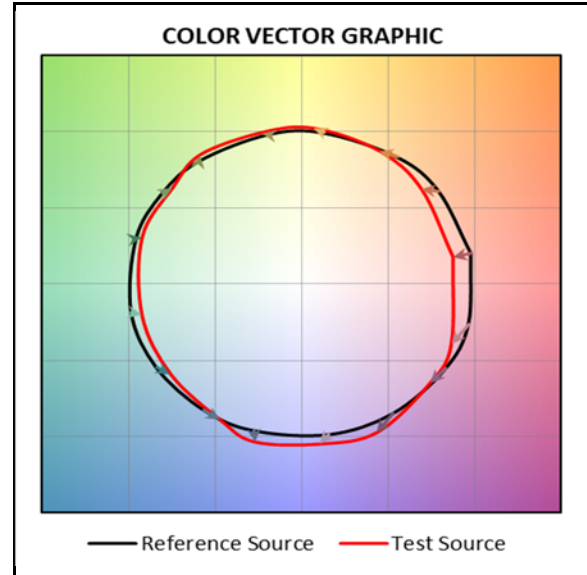
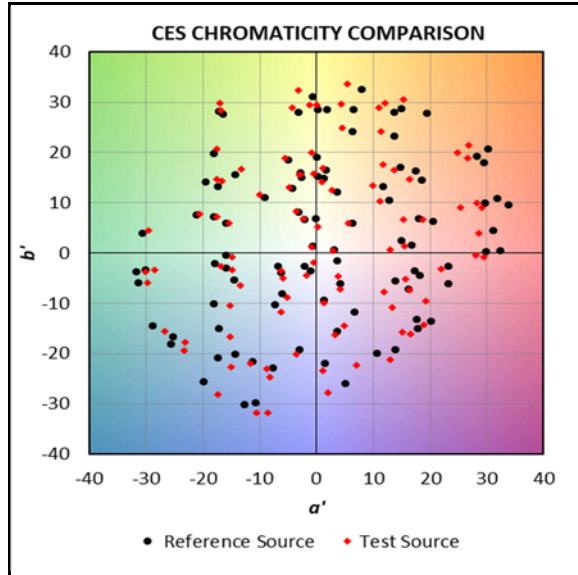
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

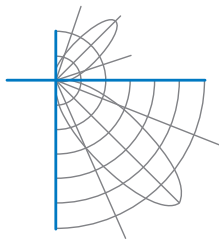
380	0.000000	480	0.214030	580	0.873750	680	0.274260
385	0.000000	485	0.238710	585	0.916830	685	0.238660
390	0.000000	490	0.276900	590	0.950760	690	0.205060
395	0.000000	495	0.321190	595	0.980380	695	0.177270
400	0.000000	500	0.367650	600	0.995750	700	0.151130
405	0.000725	505	0.406570	605	0.998520	705	0.129160
410	0.004251	510	0.439100	610	0.987130	710	0.109930
415	0.013741	515	0.463440	615	0.961290	715	0.092812
420	0.032364	520	0.484870	620	0.924730	720	0.078767
425	0.064368	525	0.504170	625	0.875590	725	0.066088
430	0.114730	530	0.524120	630	0.820220	730	0.055379
435	0.192070	535	0.545270	635	0.758180	735	0.045817
440	0.302790	540	0.568350	640	0.697650	740	0.037246
445	0.453590	545	0.594450	645	0.634850	745	0.030219
450	0.567810	550	0.623610	650	0.576530	750	0.023177
455	0.533990	555	0.655990	655	0.516180	755	0.017083
460	0.394800	560	0.692840	660	0.462670	760	0.011750
465	0.306150	565	0.733810	665	0.407970	765	0.006977
470	0.255340	570	0.779250	670	0.359430	770	0.002705
475	0.218360	575	0.826430	675	0.315390	775	0.000774
						780	0.000000





IES TM-30 Summary





Test Report Number: LLIA000901-055B

Catalog Number: P1272/F11/D61/L405

Pendant mounted, formed steel canopy, formed aluminum and steel frame,
white "lumenate" diffuser, translucent white plastic top and bottom enclosures.
288 white LEDs, six Samsung Electronics LT-M562C G2 3000K-S49 LED boards with 48 LEDs each.
One Philips Advance Xitanium XI075C200V054BST1 LED driver and one XI054C150V054BST1 LED driver.

Test Equipment Configuration: LightLab International Allentown Goniospectroradiometer
Measurements acquired using a PhotoResearch PR670 spectroradiometer

Test Temperature: 25.2 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-08, LM-58-13, ANSI_ANSI C78.377-2015, ANSI C82-77-10:2014,
TM-30-15

Significance: The laboratory has not participated in the selection of samples to be tested.
All testing is performed on the understanding that the significance of the report
is limited to the extent that the test sample is representative of production units.

Notes: The measurements and other derived quantities contained in this report
are based on the absolute data as measured.

Prorating the performance of the sample for the use of other component
combinations (such as lamp / LED / Ballast / driver), or for use in different
environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections

This report may contain data that are not covered by the NVLAP accreditation.
Quantities marked with * are not covered.