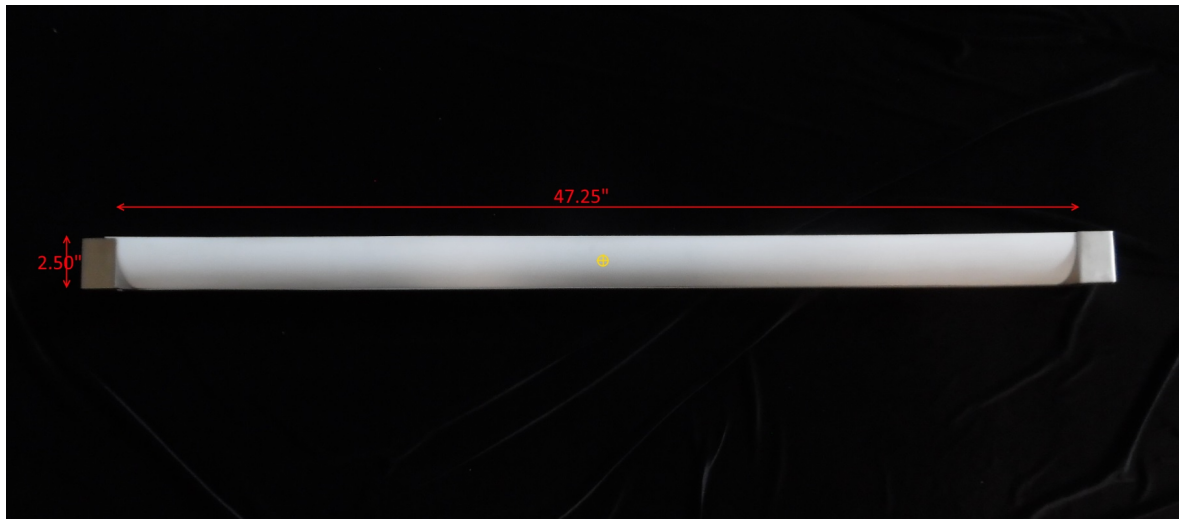


Report of Test

LLIA000824-007A

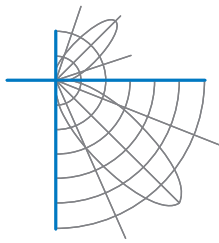
Catalog Number: 3-549 Balance Vanity
 Wall mounted, formed steel housing, formed white enamel
 steel LED tray, translucent white plastic enclosure.
 144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.
 Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers
 120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)



Performance Summary

Total Light Output	2022 lm
Luminaire Power	28.6 W
Luminous Efficacy	70.7 lm/W

PREPARED FOR : Oxygen Lighting, 201 Railhead Road, Fort Worth, TX 76106, USA



Test Report No. LLIA000824-007A

Catalog Number: 3-549 Balance Vanity

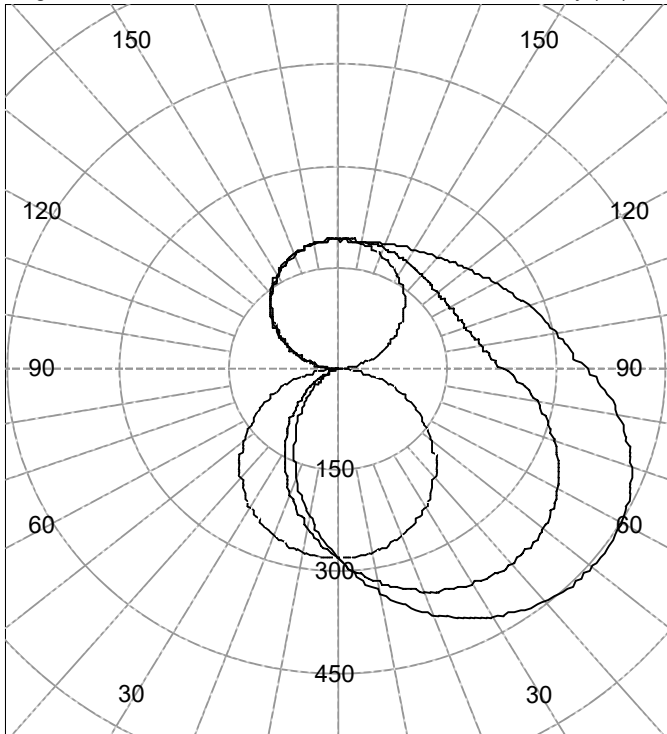
Wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)

Legend: C0/C180-Solid, C45/C225-Dashed, C90/C270-Grey (cd)



C180-C270 (Symmetric about C0/C180) C0-C90

AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	5073	4978	5125
55.0	4970	4831	4839
65.0	4851	4640	4454
75.0	4708	4413	3781
85.0	4534	4176	2077

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	280	280	280	280	280	
5.0	309	308	302	289	279	27
10.0	337	333	320	297	275	
15.0	362	356	336	302	269	77
20.0	385	376	349	305	260	
25.0	405	394	359	305	250	121
30.0	422	408	367	303	237	
35.0	436	419	371	298	223	154
40.0	446	427	373	291	206	
45.0	452	430	371	281	188	173
50.0	455	430	367	269	168	
55.0	453	427	359	256	147	177
60.0	448	420	347	240	125	
65.0	439	409	333	223	103	168
70.0	426	395	315	203	81	
75.0	409	378	296	180	58	150
80.0	390	359	275	157	35	
85.0	366	336	252	134	14	126
90.0	340	310	227	112	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	225	N / A	11.1
0-40	379	N / A	18.7
0-60	728	N / A	36.0
0-90	1172	N / A	58.0
40-90	794	N / A	39.3
60-90	444	N / A	22.0
90-180	849	N / A	42.0
0-180	2022	N / A	100.0

Total Light Output = 2,022 lm

Signed:

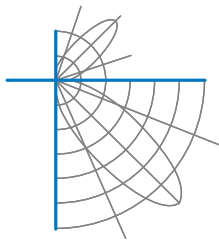
Authorized Signatory

Date of test

22-Aug-2017

Date of report

22-Aug-2017



Test Report No. LLIA000824-007A

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

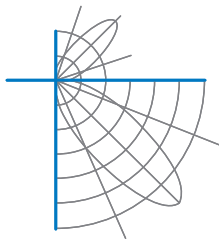
144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	280	280	280	280	280
2.5	294	294	292	284	280
5.0	309	308	302	289	279
7.5	323	321	311	293	277
10.0	337	333	320	297	275
12.5	350	345	328	300	272
15.0	362	356	336	302	269
17.5	374	367	343	304	265
20.0	385	376	349	305	260
22.5	396	386	355	305	255
25.0	405	394	359	305	250
27.5	414	402	363	304	244
30.0	422	408	367	303	237
32.5	430	414	369	301	230
35.0	436	419	371	298	223
37.5	441	423	372	295	215
40.0	446	427	373	291	206
42.5	450	429	372	286	197
45.0	452	430	371	281	188
47.5	454	431	369	275	178
50.0	455	430	367	269	168
52.5	454	429	363	263	158
55.0	453	427	359	256	147
57.5	451	424	354	248	136
60.0	448	420	347	240	125
62.5	444	415	341	232	114
65.0	439	409	333	223	103
67.5	433	402	324	213	92
70.0	426	395	315	203	81
72.5	418	387	306	192	69
75.0	409	378	296	180	58
77.5	400	369	285	169	46
80.0	390	359	275	157	35
82.5	378	348	263	146	25
85.0	366	336	252	134	14
87.5	354	323	240	123	5
90.0	340	310	227	112	0



Test Report No. LLIA000824-007A

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

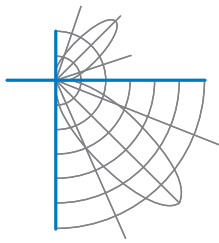
144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	340	310	227	112	0
92.5	325	296	215	103	5
95.0	318	288	209	99	12
97.5	310	281	203	97	19
100.0	303	275	198	96	26
102.5	295	268	194	96	33
105.0	288	262	190	97	40
107.5	282	256	187	99	48
110.0	275	250	184	101	55
112.5	269	244	182	104	63
115.0	262	239	180	108	71
117.5	256	234	179	112	78
120.0	251	229	178	116	85
122.5	245	225	177	120	93
125.0	240	221	177	124	100
127.5	235	218	177	128	107
130.0	231	215	177	133	114
132.5	226	212	177	137	121
135.0	222	209	178	142	128
137.5	218	207	179	147	134
140.0	215	205	179	151	140
142.5	212	203	180	155	146
145.0	209	201	181	159	151
147.5	206	199	183	163	156
150.0	204	198	184	167	161
152.5	201	197	185	170	166
155.0	200	196	186	174	170
157.5	198	195	187	177	174
160.0	196	194	188	179	177
162.5	195	193	189	182	180
165.0	193	193	190	184	183
167.5	193	192	190	186	185
170.0	192	192	191	187	187
172.5	191	192	191	188	189
175.0	190	191	192	189	190
177.5	190	191	192	190	191
180.0	191	191	191	191	191



Test Report No. LLIA000824-007A

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

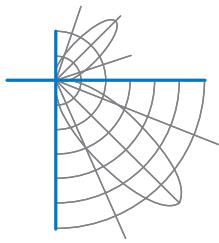
144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	280	280	280	280	280
2.5	280	273	271	267	264
5.0	279	266	260	253	249
7.5	277	260	249	240	235
10.0	275	252	238	226	221
12.5	272	245	226	213	207
15.0	269	236	215	200	193
17.5	265	228	203	186	180
20.0	260	219	192	174	166
22.5	255	210	180	161	154
25.0	250	200	168	149	141
27.5	244	191	157	136	129
30.0	237	181	145	125	117
32.5	230	170	134	113	106
35.0	223	160	123	102	95
37.5	215	150	112	92	85
40.0	206	139	101	81	75
42.5	197	128	91	72	66
45.0	188	118	81	62	57
47.5	178	107	71	54	49
50.0	168	97	62	46	41
52.5	158	87	53	38	34
55.0	147	77	45	31	28
57.5	136	67	37	25	22
60.0	125	57	30	19	16
62.5	114	48	23	14	12
65.0	103	40	18	10	8
67.5	92	31	13	6	4
70.0	81	24	8	3	1
72.5	69	17	4	1	1
75.0	58	11	2	1	1
77.5	46	6	1	1	1
80.0	35	3	1	1	1
82.5	25	1	1	1	2
85.0	14	1	1	2	3
87.5	5	1	2	4	4
90.0	0	2	3	5	5



Test Report No. LLIA000824-007A

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

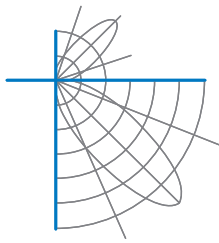
144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	0	2	3	5	5
92.5	5	6	8	9	10
95.0	12	13	14	15	16
97.5	19	20	21	22	23
100.0	26	27	28	29	30
102.5	33	34	35	36	37
105.0	40	42	43	44	44
107.5	48	49	50	51	52
110.0	55	57	58	58	59
112.5	63	64	65	66	67
115.0	71	72	73	73	74
117.5	78	79	80	81	82
120.0	85	87	88	88	89
122.5	93	94	95	95	97
125.0	100	101	103	102	104
127.5	107	108	110	110	111
130.0	114	115	117	116	118
132.5	121	121	123	123	125
135.0	128	128	130	130	131
137.5	134	134	136	136	137
140.0	140	140	142	142	143
142.5	146	146	147	147	149
145.0	151	151	152	153	154
147.5	156	156	157	158	159
150.0	161	161	162	163	164
152.5	166	165	167	167	168
155.0	170	169	171	171	172
157.5	174	173	175	175	176
160.0	177	176	178	178	179
162.5	180	179	181	181	182
165.0	183	182	184	184	184
167.5	185	184	186	186	186
170.0	187	186	188	188	188
172.5	189	188	189	189	189
175.0	190	189	190	190	190
177.5	191	190	191	190	190
180.0	191	191	191	191	191



Test Number: LLIA000824-047A

Catalog Number: 3-750-16 Realm

Wall mounted, formed steel housing and mounting plate, white enamel steel LED board, translucent white plastic enclosure.

48 white LEDs, two Harvard Engineering LEDENG-165-930 LED boards

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

120.0Vac, 60.00Hz, 0.1774A, 20.38W, 0.957PF, 11.5%THD(i)

Coefficients Of Utilization - Zonal Cavity Method

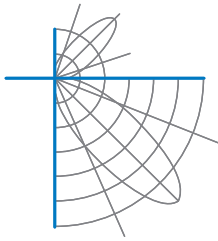
Effective Floor Cavity Reflectance 0.20

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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	97	93	88	85	89	85	82	79	72	69	67	59	57	56	48	47	45	40
2	88	81	75	69	81	75	69	65	63	59	56	52	49	47	42	40	38	34
3	81	71	64	58	74	66	59	54	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	59	52	46	50	44	40	41	38	34	34	31	29	25
5	68	57	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	26	28	25	22	19
7	58	46	38	33	53	43	36	31	37	31	27	31	27	23	26	22	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18	16
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

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	4.7	7.23	6.01
8.0	2.6	9.63	8.02
10.0	1.7	12.04	10.02
12.0	1.2	14.45	12.03
14.0	0.9	16.86	14.03
16.0	0.7	19.27	16.04



Test Report No. LLIA000824-007A

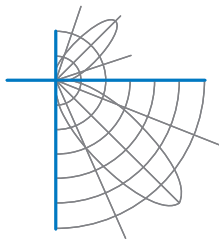
Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers
120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)





Test Report No. LLIA000824-007A

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers
120.0Vac, 60.00Hz, 0.2507A, 28.59W, 0.951PF, 8.5%THD(i)

Test Distance 9.5 m
Test Temperature 24.7 °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.

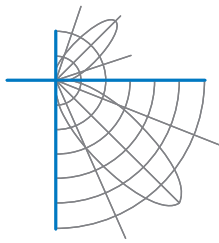
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA000824-007B

Integrating Sphere Report

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers



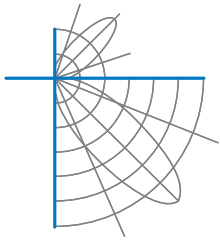
Performance Summary

Voltage	120.0 Vac
Current	0.2488 A
Power	28.59 W
Frequency	60.00 Hz
Power Factor	0.957
Current THD	7.7 %

Total Luminous Flux	2048.2 lm
Efficacy	71.6 lm/W
Chromaticity (x,y)	(0.4401, 0.4061)
(u',v')	(0.2517, 0.5227)
Duv	0.0004
CCT	2964 K
CRI (Ra)	92
R9	61

Prepared For:
Oxygen Lighting
201 Railhead Road
Fort Worth, TX 76106, USA

Test date: 08/18/2017
Report date: 08/22/2017



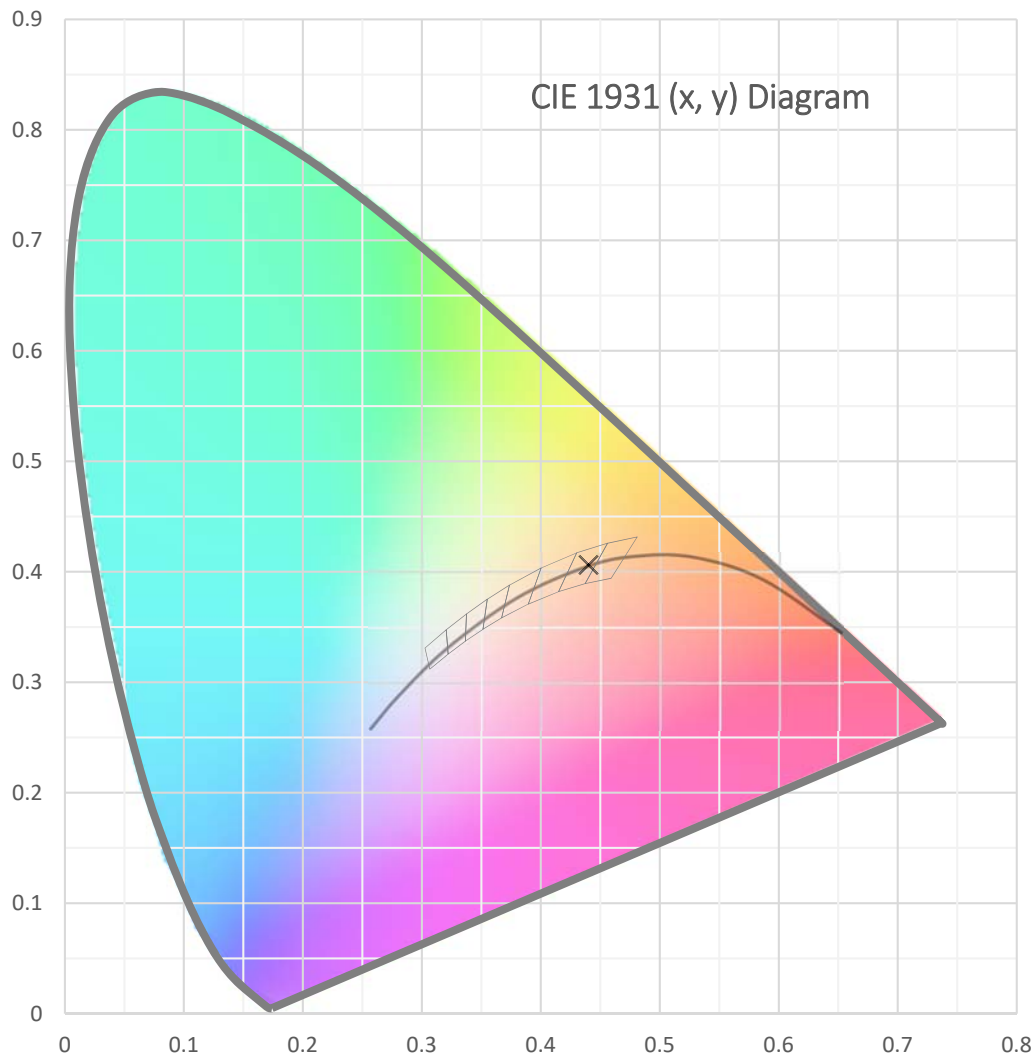
Test Report Number: LLIA000824-007B

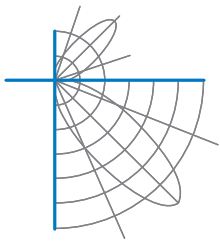
Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers





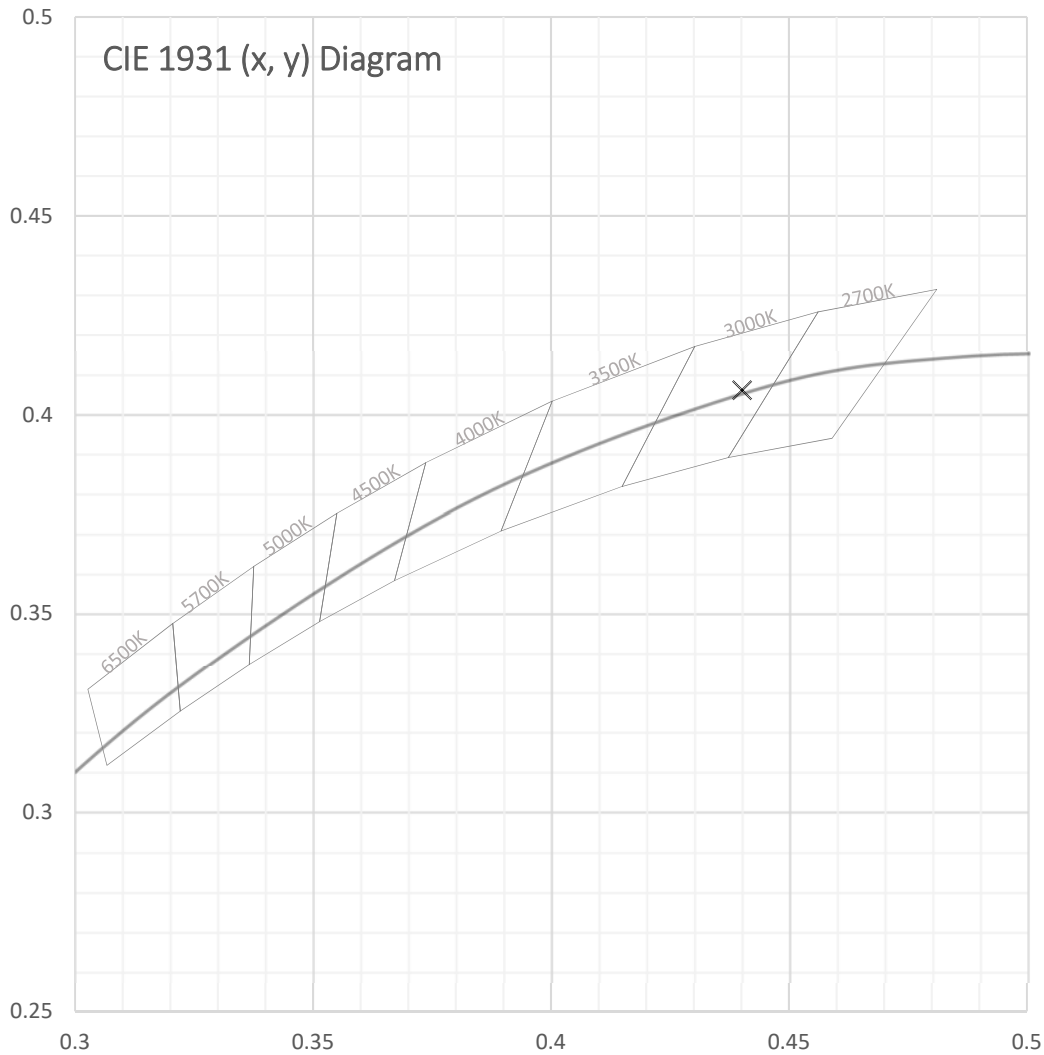
Test Report Number: LLIA000824-007B

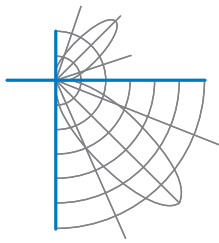
Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers





Test Report Number: LLIA000824-007B

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

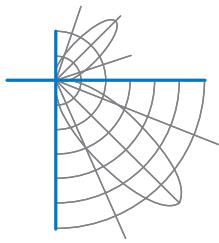
Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

Spectral Data

Total Radiant Flux	7.186 W
Total Luminous Flux	2048.2 Lm
Chromaticity CIE 1931 (x, y)	(0.4401, 0.4061)
Chromaticity CIE 1976 (u', v')	(0.2517, 0.5227)
Correlated Color Temperature (CCT)	2964 K
Color Rendering Index (Ra)	92
R1	92
R2	95
R3	95
R4	93
R5	91
R6	93
R7	93
R8	83
R9	61
R10	86
R11	93
R12	79
R13	92
R14	97
Distance from Planckian Locus (Duv)	0.0004
Scotopic/Photopic Ratio *	1.372

Electrical Data

Voltage	120.0 Vac
Current	0.2488 A
Power	28.59 W
Frequency	60.00 Hz
Power Factor	0.957
Current THD	7.7 %



Test Report Number: LLIA000824-007B

Catalog Number: 3-549 Balance Vanity

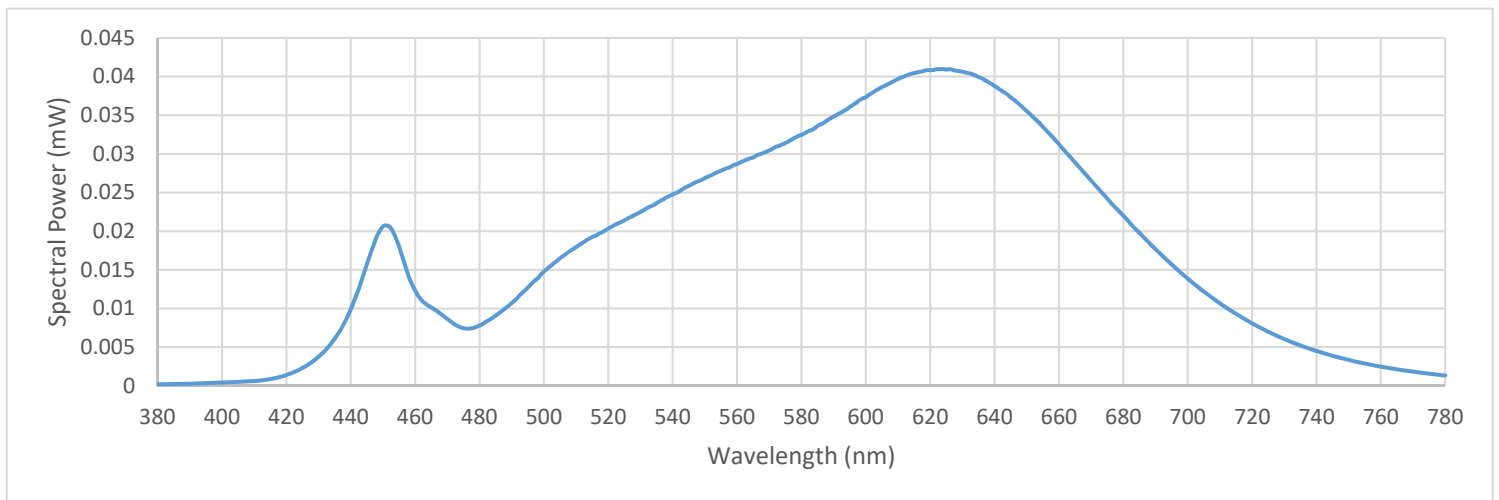
Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

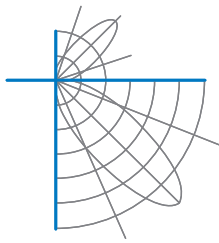
144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

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

380	0.000197	480	0.007795	580	0.032462	680	0.022001
385	0.000217	485	0.009078	585	0.033601	685	0.019804
390	0.000269	490	0.010722	590	0.034824	690	0.017683
395	0.000337	495	0.012699	595	0.036069	695	0.015677
400	0.000415	500	0.014770	600	0.037332	700	0.013888
405	0.000502	505	0.016480	605	0.038654	705	0.012203
410	0.000614	510	0.017919	610	0.039658	710	0.010652
415	0.000858	515	0.019265	615	0.040443	715	0.009317
420	0.001392	520	0.020328	620	0.040836	720	0.008074
425	0.002295	525	0.021403	625	0.040904	725	0.006984
430	0.003776	530	0.022476	630	0.040622	730	0.006045
435	0.006097	535	0.023594	635	0.039929	735	0.005212
440	0.009886	540	0.024727	640	0.038781	740	0.004487
445	0.015687	545	0.025851	645	0.037298	745	0.003876
450	0.020625	550	0.026877	650	0.035499	750	0.003341
455	0.017994	555	0.027823	655	0.033488	755	0.002872
460	0.012338	560	0.028678	660	0.031293	760	0.002479
465	0.010115	565	0.029532	665	0.028881	765	0.002125
470	0.008635	570	0.030440	670	0.026515	770	0.001817
475	0.007439	575	0.031378	675	0.024220	775	0.001559
						780	0.001332





Test Report Number: LLIA000824-007B

Catalog Number: 3-549 Balance Vanity

Wall mounted, formed steel housing, formed white enamel
steel LED tray, translucent white plastic enclosure.

144 white LEDs, two Harvard Engineering LEDENG-157-30-NL LED boards.

Two L.T.F. DA12W350C1834D010-0000 dimmable LED drivers

Test Equipment Configuration:	LightLab International Allentown 2m Integrating Sphere Measurements acquired using a Labsphere CDS 2600 spectroradiometer Testing was performed using 4 π geometry
Test Temperature:	24.7 °C
Test Procedure:	Tested in accordance with the applicable sections of: LM-79-08, LM-78-07, LM-58-13, ANSI_ANSLG C78.377-2015, ANSI C82-77-10:2014
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.