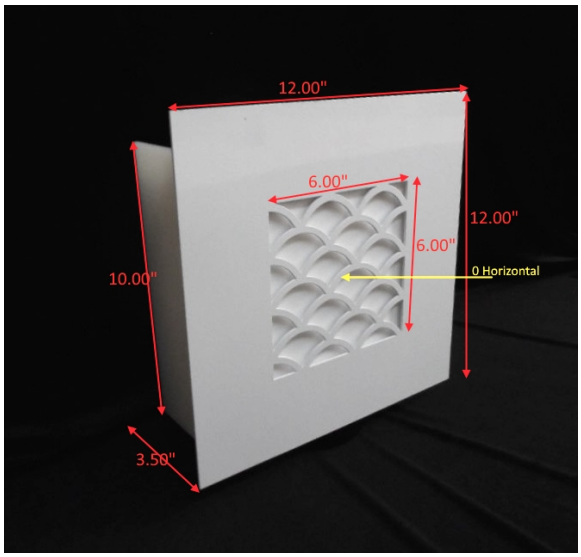
LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA000901-039

Catalog Number: W161203/F11/D61/L401
Wall mounted, formed white enamel aluminum housing, formed white enamel steel enclosure with translucent white plastic side and front enclosure.
One Samsung Electronics SI-N8V0814B0WWQC16000096 3000K-SO2 LED board with 24 LEDs.
One Inventronics LUC-012S035DSP LED driver
120.0Vac, 60.00Hz, 0.0824A, 9.86W, 0.997PF, 6.5%THD(i)



Performance Summary

Total Light Output	861	lm
Luminaire Power	9.86	W
Luminous Efficacy	87.3	lm/W

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

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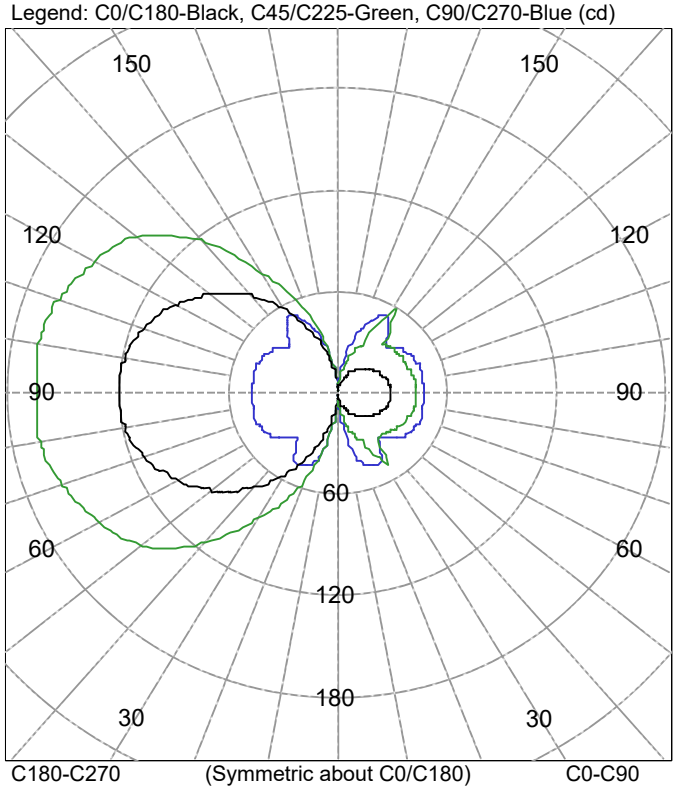
Legend: C0/C180-Black, C45/C225-Green, C90/C270-Blue (cd)



INTENSITY SUMMARY (cd)

Gamma	C-Plane C0	C22.5	C45	C67.5	C90	Flux (lm)
0.0	1	1	1	1	1	
5.0	2	4	7	10	11	1
10.0	4	7	14	21	25	
15.0	6	11	21	32	39	9
20.0	9	15	26	38	45	
25.0	11	18	31	44	48	21
30.0	14	20	45	52	47	
35.0	16	22	45	60	41	37
40.0	18	23	34	71	35	
45.0	20	25	35	70	37	51
50.0	22	27	36	62	41	
55.0	23	29	38	52	44	64
60.0	25	30	39	47	46	
65.0	26	31	40	48	47	74
70.0	27	33	41	49	48	
75.0	28	34	42	50	48	82
80.0	29	34	43	50	47	
85.0	29	35	43	50	47	86
90.0	29	35	44	49	47	

AVERAGE LUMINANCE (cd/m^2)

Gamma	C0	C45	C90
45.0	270	504	1062
55.0	297	510	1297
65.0	321	533	1470
75.0	344	558	1658
85.0	368	595	1890

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	31	N / A	3.6
0-40	68	N / A	7.8
0-60	182	N / A	21.2
0-90	424	N / A	49.3
40-90	357	N / A	41.4
60-90	242	N / A	28.1
90-180	437	N / A	50.7
0-180	861	N / A	100.0

Total Light Output = 861 lm

Signed: Michael L. Grather

Authorized Signatory

Date of test 12-Feb-2018

Date of report 19-Feb-2018

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One Inventronics LUC-012S035DSP LED driver

120.0Vac, 60.00Hz, 0.0824A, 9.86W, 0.997PF, 6.5%THD(i)

Intensity data (cd)

	C-Plane				
Gamma	**C0**	**C22.5**	**C45**	**C67.5**	**C90**
0.0	1	1	1	1	1
2.5	2	3	4	5	5
5.0	2	4	7	10	11
7.5	3	6	11	15	18
10.0	4	7	14	21	25
12.5	5	9	18	27	33
15.0	6	11	21	32	39
17.5	8	13	24	35	43
20.0	9	15	26	38	45
22.5	10	16	29	42	47
25.0	11	18	31	44	48
27.5	13	19	40	48	48
30.0	14	20	45	52	47
32.5	15	21	51	56	44
35.0	16	22	45	60	41
37.5	17	23	34	68	37
40.0	18	23	34	71	35
42.5	19	24	35	73	35
45.0	20	25	35	70	37
47.5	21	26	35	67	40
50.0	22	27	36	62	41
52.5	23	28	37	55	43
55.0	23	29	38	52	44
57.5	24	30	38	47	45
60.0	25	30	39	47	46
62.5	26	31	40	47	46
65.0	26	31	40	48	47
67.5	27	32	41	48	47
70.0	27	33	41	49	48
72.5	28	33	42	49	48
75.0	28	34	42	50	48
77.5	29	34	43	50	48
80.0	29	34	43	50	47
82.5	29	34	43	50	47
85.0	29	35	43	50	47
87.5	29	35	43	49	47
90.0	29	35	44	49	47

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One Inventronics LUC-012S035DSP LED driver

120.0Vac, 60.00Hz, 0.0824A, 9.86W, 0.997PF, 6.5%THD(i)

Intensity data (cd)

	C-Plane				
Gamma	**C0**	**C22.5**	**C45**	**C67.5**	**C90**
90.0	29	35	44	49	47
92.5	29	35	43	50	47
95.0	29	35	43	50	47
97.5	29	34	43	50	47
100.0	29	34	43	50	47
102.5	28	34	42	51	47
105.0	28	33	42	51	47
107.5	28	33	42	51	47
110.0	27	32	41	51	47
112.5	27	32	41	51	47
115.0	26	31	41	51	46
117.5	25	31	41	51	46
120.0	25	30	40	54	45
122.5	24	29	40	61	44
125.0	23	29	40	71	43
127.5	22	28	40	85	42
130.0	22	27	40	98	41
132.5	21	26	39	105	39
135.0	20	26	39	110	38
137.5	19	25	38	109	38
140.0	18	24	42	105	40
142.5	17	23	49	98	44
145.0	15	22	51	89	49
147.5	14	21	58	84	52
150.0	13	20	50	76	53
152.5	12	19	40	64	52
155.0	11	17	31	54	49
157.5	10	16	29	46	45
160.0	8	14	26	38	41
162.5	7	12	23	33	37
165.0	6	10	19	28	33
167.5	5	9	15	22	27
170.0	4	7	12	17	20
172.5	3	6	9	13	14
175.0	3	4	7	8	9
177.5	3	3	4	4	5
180.0	2	2	2	2	2

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One Inventronics LUC-012S035DSP LED driver
120.0Vac, 60.00Hz, 0.0824A, 9.86W, 0.997PF, 6.5%THD(i)

Intensity data (cd)

	C-Plane				
Gamma	**C90**	**C112.5**	**C135**	**C157.5**	**C180**
0.0	1	1	1	1	1
2.5	5	5	5	4	4
5.0	11	12	11	9	6
7.5	18	19	18	14	10
10.0	25	27	25	20	15
12.5	33	36	33	26	19
15.0	39	45	42	33	24
17.5	43	51	50	39	29
20.0	45	57	58	45	34
22.5	47	61	65	51	39
25.0	48	65	72	57	44
27.5	48	68	78	63	49
30.0	47	71	85	69	54
32.5	44	74	92	75	59
35.0	41	76	100	81	64
37.5	37	77	109	87	69
40.0	35	78	116	92	74
42.5	35	79	123	97	78
45.0	37	80	129	103	82
47.5	40	80	135	107	86
50.0	41	80	140	112	89
52.5	43	80	143	117	93
55.0	44	79	147	121	96
57.5	45	78	149	125	99
60.0	46	76	151	128	102
62.5	46	75	154	131	105
65.0	47	74	156	134	107
67.5	47	73	158	136	110
70.0	48	72	160	138	112
72.5	48	72	162	140	114
75.0	48	71	163	142	115
77.5	48	70	165	144	117
80.0	47	69	165	145	118
82.5	47	69	165	145	119
85.0	47	68	165	145	119
87.5	47	68	164	146	120
90.0	47	68	164	145	119

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One Inventronics LUC-012S035DSP LED driver

120.0Vac, 60.00Hz, 0.0824A, 9.86W, 0.997PF, 6.5%THD(i)

Intensity data (cd)

	C-Plane				
Gamma	**C90**	**C112.5**	**C135**	**C157.5**	**C180**
90.0	47	68	164	145	119
92.5	47	69	164	145	119
95.0	47	69	165	145	119
97.5	47	71	166	145	118
100.0	47	72	166	144	118
102.5	47	73	166	143	117
105.0	47	74	165	142	116
107.5	47	75	164	140	114
110.0	47	76	162	138	112
112.5	47	77	160	136	110
115.0	46	78	158	134	108
117.5	46	79	156	131	106
120.0	45	80	154	128	103
122.5	44	81	152	125	100
125.0	43	82	150	121	97
127.5	42	83	147	117	94
130.0	41	83	143	113	91
132.5	39	83	139	107	87
135.0	38	82	132	103	83
137.5	38	81	125	97	79
140.0	40	79	117	92	75
142.5	44	77	109	86	71
145.0	49	74	99	81	66
147.5	52	70	90	75	61
150.0	53	66	81	69	56
152.5	52	62	74	62	51
155.0	49	58	66	56	46
157.5	45	54	59	50	41
160.0	41	49	52	44	36
162.5	37	44	44	38	31
165.0	33	38	37	32	26
167.5	27	30	30	26	21
170.0	20	23	23	20	16
172.5	14	16	16	14	12
175.0	9	10	10	9	8
177.5	5	5	5	5	5
180.0	2	2	2	2	2

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Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	93	86	80	75	84	79	74	69	65	61	58	53	50	47	41	39	37	31
2	82	72	64	57	75	66	59	53	54	49	44	43	39	35	33	30	27	22
3	74	62	53	45	67	56	48	42	46	40	35	37	32	28	28	24	21	16
4	67	54	44	37	60	49	40	34	40	33	28	32	26	22	24	20	17	13
5	61	47	38	31	55	43	34	28	35	28	23	28	23	18	21	17	14	10
6	56	42	32	26	50	38	30	24	31	24	19	25	19	15	19	15	11	8
7	51	37	28	22	46	34	26	20	28	21	17	22	17	13	17	13	10	7
8	47	34	25	19	43	31	23	17	25	19	14	20	15	11	15	11	8	6
9	44	30	22	17	40	28	20	15	23	17	12	18	13	10	14	10	7	5
10	41	28	20	14	37	25	18	13	21	15	11	17	12	9	13	9	6	4

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.

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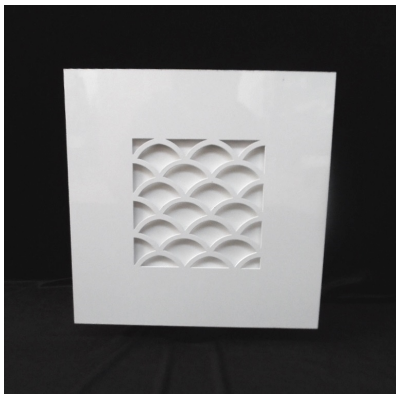

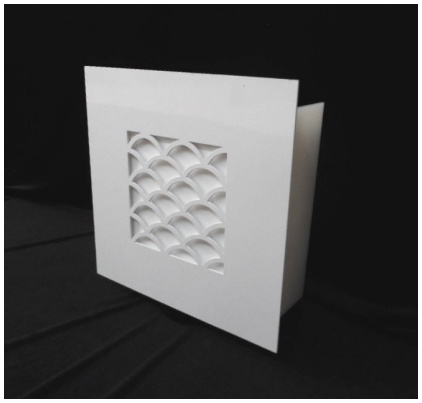

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Test Distance	9.5 m
Test Temperature	25.2 °C

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.

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