LightLab INTERNATIONAL ALLENTOWN LLC

NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA001290-001

Indoor Distribution Photometry Test Report

Catalog Number: F-LUHB/300W/50K
Highbay mounted, cast aluminum housing, formed white enamel steel reflector, clear plastic enclosure.
918 white LEDs, one L3025(D303x1.5)918LED17C54B LED board
One internal LED driver

Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary					
Input Voltage	120.0	V	Luminous Flux	40932.0	Lumens
Input Current	2.494	A	Total Efficacy	137.2	Lm/W
Input Power	298.4	W	Downward Flux	40930.2	Lumens
Frequency	60.00	Hz	Downward Flux	100.0	% of Total
Power Factor	0.997				
Current THD	2.9	%			

This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 07/28/2020
Report date: 07/29/2020

Signed: Michael L. Grather

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Australasia & S.E. Asia LightLab International, 50 Redcliffe Gardens Drive, Clontarf, Queensland, 4019, Australia, Ph : +61 7 3283 7862, Fx : +61 7 3283 8751, www.lightlabint.com

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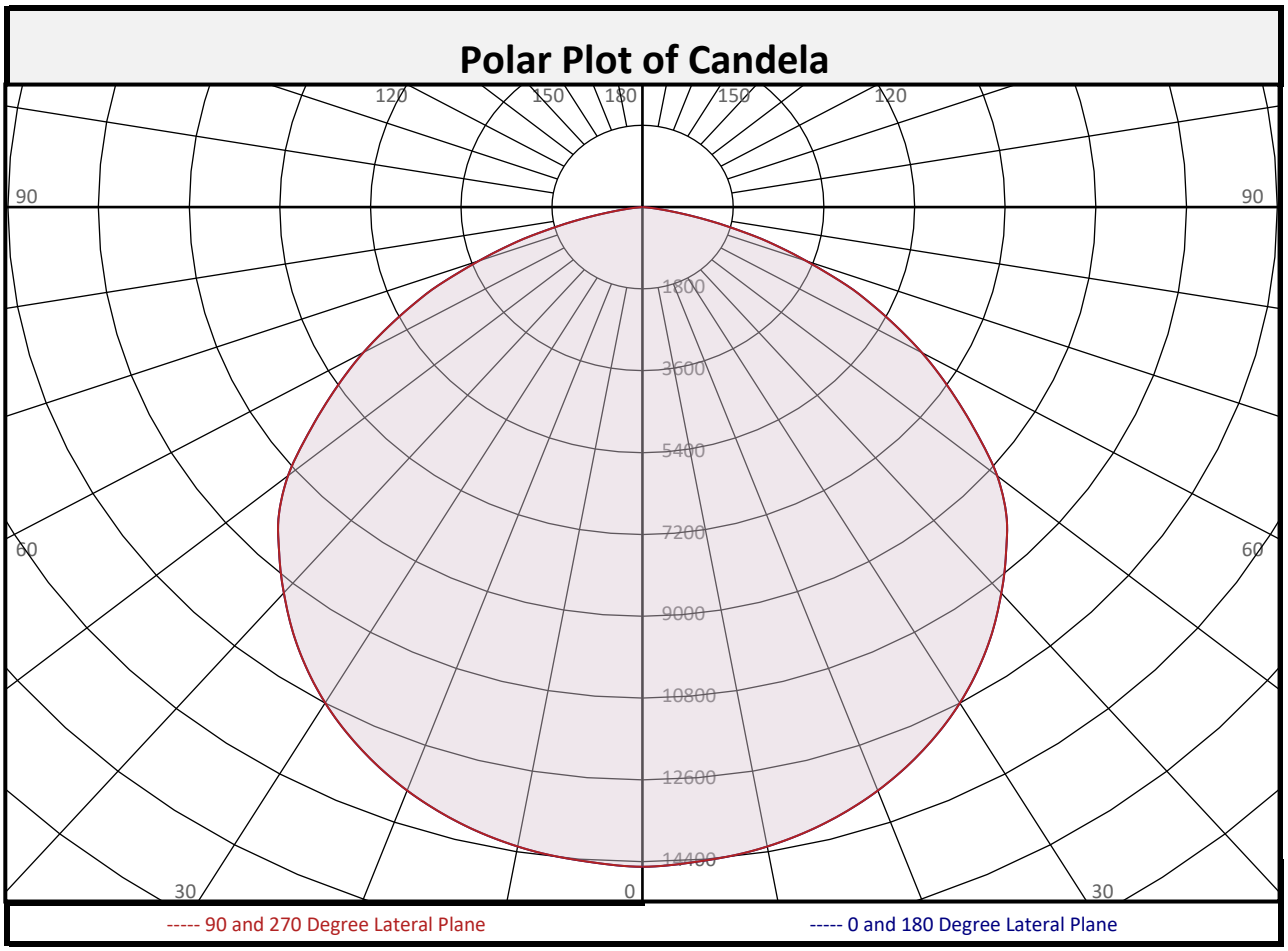

Zonal Flux Summary									
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	1374	3.4%	90-100	1.8	0.0%	0-20	5335	13.0%
10-20	3961	9.7%	100-110	0.0	0.0%	0-30	11414	27.9%
20-30	6078	14.8%	110-120	0.0	0.0%	0-40	18854	46.1%
30-40	7441	18.2%	120-130	0.0	0.0%	0-60	33691	82.3%
40-50	7880	19.3%	130-140	0.0	0.0%	0-80	40721	99.5%
50-60	6956	17.0%	140-150	0.0	0.0%	10-90	39556	96.6%
60-70	4899	12.0%	150-160	0.0	0.0%	20-50	21399	52.3%
70-80	2131	5.2%	160-170	0.0	0.0%	40-90	22076	53.9%
80-90	209.2	0.5%	170-180	0.0	0.0%	60-90	7240	17.7%
0-90	40930	100.0%	90-180	1.8	0.0%	0-180	40932	100.0%

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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	14514	14514	14514	14514	14514	14514	14514	14514	14514
	2.5	14482	14482	14482	14482	14482	14482	14482	14482	14482
	5	14429	14429	14429	14429	14429	14429	14429	14429	14429
	7.5	14371	14371	14371	14371	14371	14371	14371	14371	14371
	10	14284	14284	14284	14284	14284	14284	14284	14284	14284
	12.5	14169	14169	14169	14169	14169	14169	14169	14169	14169
	15	14028	14028	14028	14028	14028	14028	14028	14028	14028
	17.5	13857	13857	13857	13857	13857	13857	13857	13857	13857
	20	13661	13661	13661	13661	13661	13661	13661	13661	13661
	22.5	13435	13435	13435	13435	13435	13435	13435	13435	13435
	25	13182	13182	13182	13182	13182	13182	13182	13182	13182
	27.5	12906	12906	12906	12906	12906	12906	12906	12906	12906
	30	12599	12599	12599	12599	12599	12599	12599	12599	12599
	32.5	12261	12261	12261	12261	12261	12261	12261	12261	12261
	35	11895	11895	11895	11895	11895	11895	11895	11895	11895
	37.5	11501	11501	11501	11501	11501	11501	11501	11501	11501
	40	11082	11082	11082	11082	11082	11082	11082	11082	11082
	42.5	10658	10658	10658	10658	10658	10658	10658	10658	10658
	45	10232	10232	10232	10232	10232	10232	10232	10232	10232
	47.5	9766	9766	9766	9766	9766	9766	9766	9766	9766
	50	9190	9190	9190	9190	9190	9190	9190	9190	9190
	52.5	8476	8476	8476	8476	8476	8476	8476	8476	8476
	55	7766	7766	7766	7766	7766	7766	7766	7766	7766
	57.5	7086	7086	7086	7086	7086	7086	7086	7086	7086
	60	6404	6404	6404	6404	6404	6404	6404	6404	6404
	62.5	5679	5679	5679	5679	5679	5679	5679	5679	5679
	65	4972	4972	4972	4972	4972	4972	4972	4972	4972
	67.5	4235	4235	4235	4235	4235	4235	4235	4235	4235
	70	3452	3452	3452	3452	3452	3452	3452	3452	3452
	72.5	2736	2736	2736	2736	2736	2736	2736	2736	2736
	75	1987	1987	1987	1987	1987	1987	1987	1987	1987
	77.5	1301	1301	1301	1301	1301	1301	1301	1301	1301
	80	707	707	707	707	707	707	707	707	707
	82.5	308	308	308	308	308	308	308	308	308
	85	110	110	110	110	110	110	110	110	110
	87.5	36	36	36	36	36	36	36	36	36
	90	10	10	10	10	10	10	10	10	10

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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	90	10	10	10	10	10	10	10	10	10
	92.5	2	2	2	2	2	2	2	2	2
	95	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0
	165	0	0	0	0	0	0	0	0	0
	167.5	0	0	0	0	0	0	0	0	0
	170	0	0	0	0	0	0	0	0	0
	172.5	0	0	0	0	0	0	0	0	0
	175	0	0	0	0	0	0	0	0	0
	177.5	0	0	0	0	0	0	0	0	0
	180	0	0	0	0	0	0	0	0	0

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Coefficients of Utilization/Room 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
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	110	105	101	97		107	103	99	96		99	96	93		95	92	90		91	89	87	85
2	100	92	85	80		97	90	84	79		87	81	77		83	79	75		80	77	74	72
3	91	81	73	67		89	79	72	66		76	70	65		74	68	64		71	67	63	60
4	83	72	63	56		81	70	62	56		68	61	55		66	59	55		63	58	54	52
5	77	64	55	49		75	63	55	48		61	53	48		59	52	47		57	51	47	45
6	71	58	49	42		69	57	48	42		55	47	42		53	46	41		52	46	41	39
7	66	52	43	37		64	51	43	37		50	42	37		48	42	37		47	41	36	34
8	61	48	39	33		59	47	39	33		46	38	33		44	38	33		43	37	33	31
9	57	44	35	30		56	43	35	30		42	35	30		41	34	29		40	34	29	27
10	53	40	32	27		52	40	32	27		39	32	27		38	31	27		37	31	27	25

For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp 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)	Ground-level distance to half-of-nadir illuminance (ft) 0-180 deg	90-270 deg
15.0	64.5	19.33	19.33
20.0	36.3	25.78	25.78
25.0	23.2	32.22	32.22
30.0	16.1	38.67	38.67
35.0	11.8	45.11	45.11
40.0	9.1	51.56	51.56

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	183319	183319	183319
45	182776	182776	182776
55	171005	171005	171005
65	148609	148609	148609
75	96966	96966	96966
85	15876	15876	15876

Spacing Criterion

Spacing Criterion: 1.3

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UGR TABLE - CORRECTED

Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	29.3	30.9	29.6	31.2	31.5	29.3	30.9	29.6	31.2	31.5
	3H	30.8	32.2	31.2	32.6	32.9	30.8	32.2	31.2	32.6	32.9
	4H	31.2	32.5	31.6	32.9	33.3	31.2	32.5	31.6	32.9	33.3
	6H	31.3	32.6	31.7	32.9	33.3	31.3	32.6	31.7	32.9	33.3
	8H	31.3	32.5	31.7	32.9	33.3	31.3	32.5	31.7	32.9	33.3
	12H	31.3	32.4	31.7	32.8	33.2	31.3	32.4	31.7	32.8	33.2
4H	2H	29.8	31.2	30.2	31.6	31.9	29.8	31.2	30.2	31.6	31.9
	3H	31.5	32.7	31.9	33.1	33.5	31.5	32.7	31.9	33.1	33.5
	4H	32.0	33.0	32.4	33.4	33.9	32.0	33.0	32.4	33.4	33.9
	6H	32.2	33.1	32.6	33.5	34.0	32.2	33.1	32.6	33.5	34.0
	8H	32.2	33.0	32.6	33.4	33.9	32.2	33.0	32.6	33.4	33.9
	12H	32.2	32.9	32.6	33.4	33.8	32.2	32.9	32.6	33.4	33.8
8H	4H	32.1	33.0	32.6	33.4	33.9	32.1	33.0	32.6	33.4	33.9
	6H	32.4	33.0	32.9	33.5	34.0	32.4	33.0	32.9	33.5	34.0
	8H	32.3	33.0	32.9	33.5	34.0	32.3	33.0	32.9	33.5	34.0
	12H	32.3	32.9	32.9	33.4	33.9	32.3	32.9	32.9	33.4	33.9
12H	4H	32.1	32.9	32.6	33.4	33.8	32.1	32.9	32.6	33.4	33.8
	6H	32.3	33.0	32.9	33.4	34.0	32.3	33.0	32.9	33.4	34.0
	8H	32.4	32.9	32.9	33.4	34.0	32.4	32.9	32.9	33.4	34.0

Maximum UGR = 34.0

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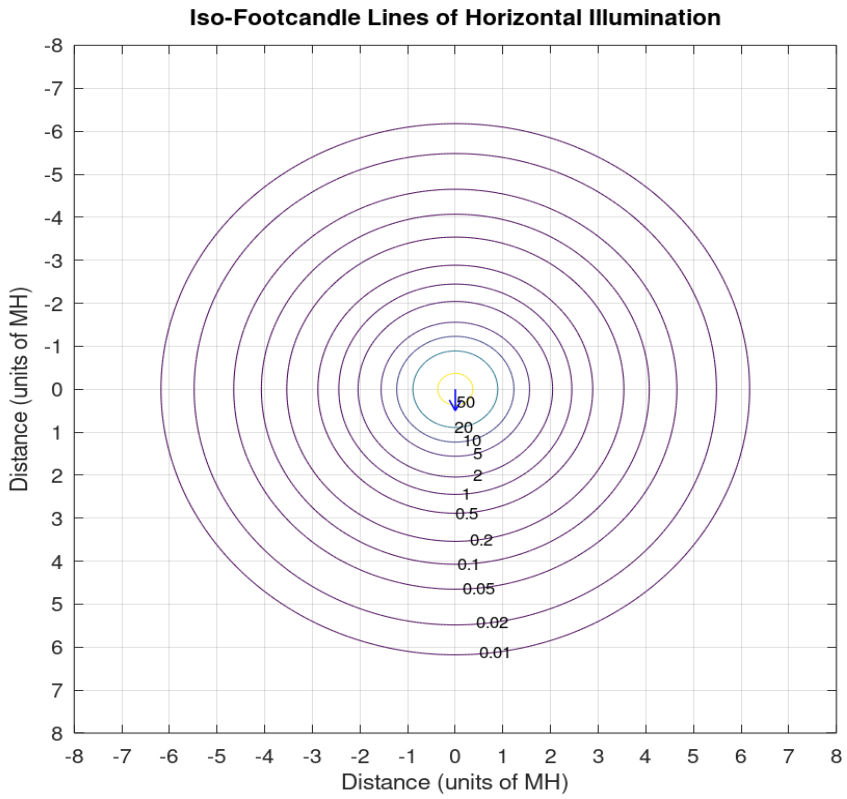
Iso-Illuminance Plot



The isofootcandle values shown in the plot above are based on a mounting height of h = 15.0 feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.

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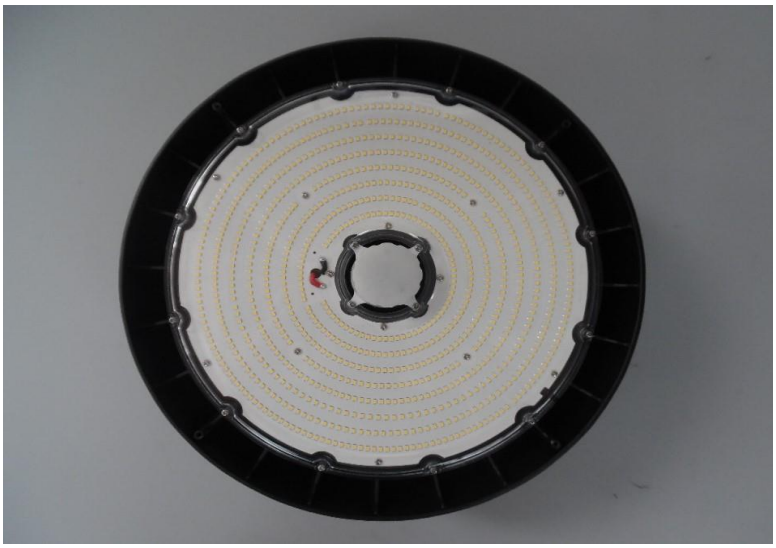
Additional Pictures of Test Subject



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Test Distance	9.5 m
Ambient Temperature	25.6 °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 IES LM-79-19. Format of reports and angular increments based on IES LM-41-14 and LM-46-04.

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 C-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.