LightLab INTERNATIONAL ALLENTOWN LLC

Grid Application Distance Measurement Test Report

Test Report Number: LLIA002536-001A

Catalog Number: RL500B
Portable, black formed steel housing, aluminum heatsink mounted to LED board.
68 red and infrared LEDs with clear plastic optics.
One DSS DSS100-1208000 AC/DC Adapter.



Performance Summary

Electrical		
Voltage	120.0	Vac
Current	1.518	A
Power	98.61	W
Frequency	60.00	Hz
Power Factor	0.541	
Current THD	144.4	%
Ambient Temperature	24.8	°C
Grid Dimensions		
Test Plane Distance	6	inches
X Axis minimum	-10	inches
X Axis maximum	10	inches
X Axis increments	2	inches
Y Axis minimum	-12	inches
Y Axis maximum	12	inches
Y Axis increments	2	inches
Number of measurement points	143	

Prepared For:
Heavenly Heat Saunas
543 E. Andy Devine Ave
Kingman, AZ 86401, USA

Test date: 11/05/2024
Report date: 11/12/2024

Signed: Michael L. Grather Digitally signed by Michael L. Grather Date: 2024.11.14 14:21:43 -05'00'

North America (issuing laboratory)
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA
Ph: +1 484-273-0705
Fx: +1 484-209-5779
www.lightlaballentown.com

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

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001A

Total Irradiance Tabulation (mW/cm^2) (350-1050nm)

Y Axis Distance (inches) \ X Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.04	0.06	0.10	0.15	0.18	0.20	0.18	0.14	0.09	0.06	0.03
10	0.07	0.13	0.22	0.33	0.44	0.47	0.42	0.31	0.20	0.12	0.06
8	0.12	0.23	0.59	2.16	3.47	3.78	3.15	1.89	0.47	0.21	0.10
6	0.18	0.46	2.53	9.64	18.01	20.90	17.01	8.38	1.83	0.38	0.15
4	0.24	0.66	5.21	21.18	41.27	46.30	38.13	17.52	3.71	0.54	0.20
2	0.29	0.76	6.07	26.76	49.83	55.56	46.46	21.36	4.23	0.58	0.24
0	0.30	0.82	6.29	28.82	51.60	57.58	48.88	22.34	4.09	0.59	0.25
-2	0.27	0.71	6.09	27.62	50.87	55.96	48.18	23.46	4.01	0.59	0.23
-4	0.22	0.56	4.12	18.93	32.25	34.68	30.94	17.20	2.80	0.45	0.19
-6	0.15	0.33	1.49	5.42	9.50	10.60	9.02	4.78	1.06	0.28	0.14
-8	0.09	0.18	0.34	0.70	1.26	1.45	1.18	0.62	0.30	0.16	0.08
-10	0.05	0.10	0.16	0.23	0.30	0.32	0.29	0.22	0.15	0.09	0.04
-12	0.03	0.05	0.07	0.10	0.13	0.14	0.12	0.09	0.07	0.04	0.03

Center Point Irradiance (350-1050nm)	57.58	mW/cm^2
Average Irradiance (350-1050nm)	9.31	mW/cm^2
Maximum Irradiance (350-1050nm)	57.58	mW/cm^2
Minimum Irradiance (350-1050nm)	0.03	mW/cm^2
Max/Min Ratio	2204.71	
Max/Avg Ratio	6.18	
Target Area Radiant Power (350-1050nm)	28.84	W

North America (issuing laboratory)
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA
Ph: +1 484-273-0705
Fx: +1 484-209-5779
www.lightlaballentown.com

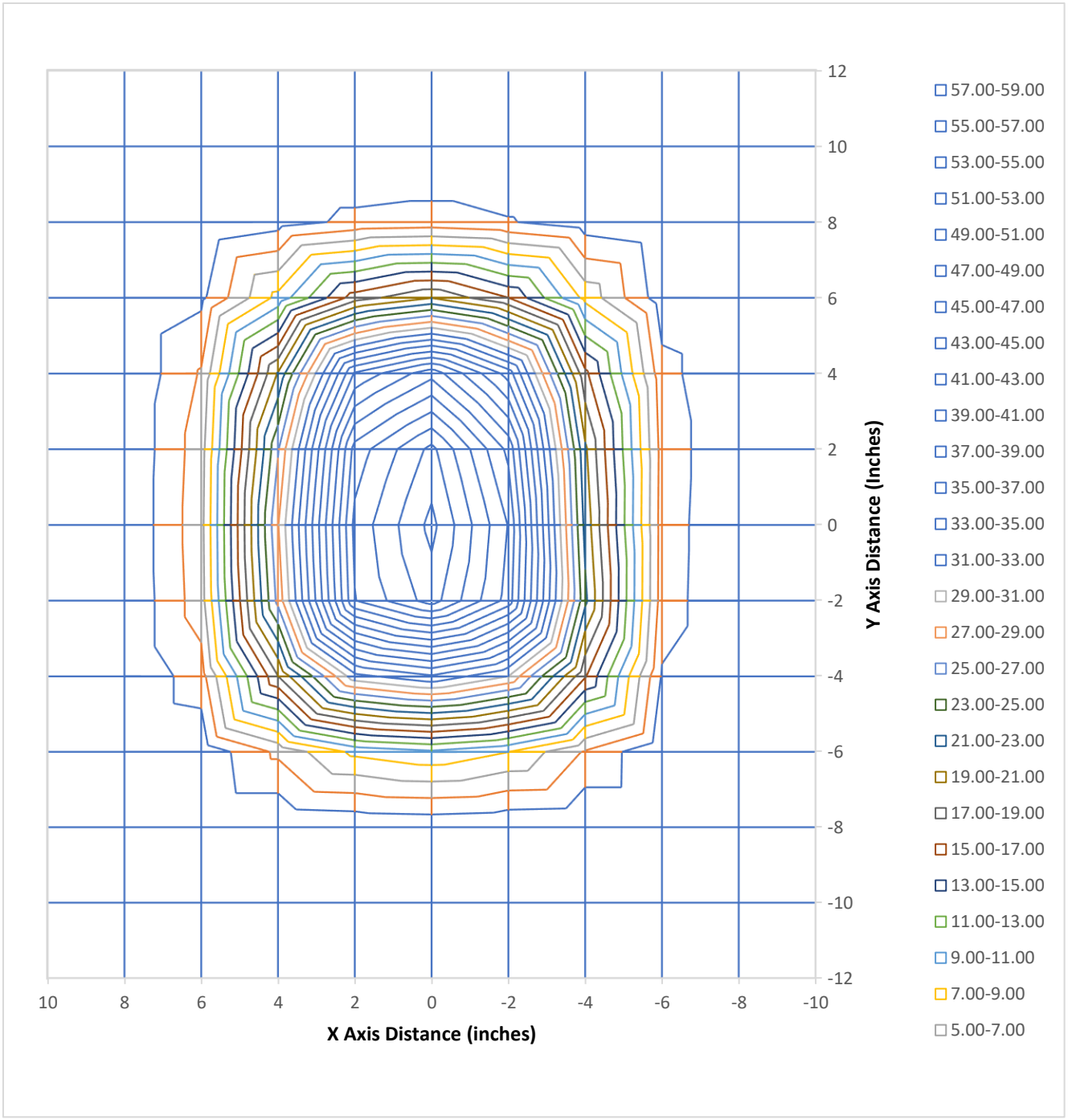
Australasia & S.E. Asia
LightLab International
50 Redcliffe Gardens Drive
Clontarf - Queensland, 4019, Australia
Ph : +61 7 3283 7862
Fx : +61 7 3283 8751
www.lightlabint.com

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001A

Total Irradiance (350-1050nm) in mW/cm^2
Test Distance = 6 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001A

Red Irradiance Tabulation (mW/cm^2) (600-700nm)

X Axis Distance (inches)

Y Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.01	0.03	0.04	0.06	0.07	0.08	0.07	0.06	0.04	0.02	0.01
10	0.03	0.05	0.09	0.14	0.19	0.21	0.19	0.13	0.08	0.05	0.03
8	0.05	0.11	0.28	0.82	1.36	1.56	1.18	0.78	0.24	0.09	0.04
6	0.08	0.25	1.21	4.13	8.19	10.21	7.80	3.62	0.89	0.20	0.07
4	0.11	0.37	2.46	9.20	16.18	19.82	14.60	7.77	1.77	0.29	0.09
2	0.13	0.41	2.73	12.81	22.05	26.10	20.06	10.28	2.08	0.27	0.10
0	0.13	0.42	2.77	11.95	22.25	24.30	19.68	10.35	1.91	0.26	0.11
-2	0.12	0.35	2.73	11.95	17.39	19.14	17.55	7.86	1.67	0.21	0.09
-4	0.10	0.28	2.01	9.44	13.57	15.90	15.21	5.95	1.16	0.16	0.08
-6	0.07	0.16	0.73	2.17	3.45	3.84	3.35	1.76	0.44	0.11	0.05
-8	0.04	0.08	0.15	0.26	0.38	0.48	0.38	0.21	0.12	0.07	0.04
-10	0.02	0.04	0.07	0.10	0.12	0.13	0.12	0.10	0.07	0.04	0.02
-12	0.01	0.02	0.03	0.04	0.05	0.05	0.05	0.04	0.03	0.02	0.01

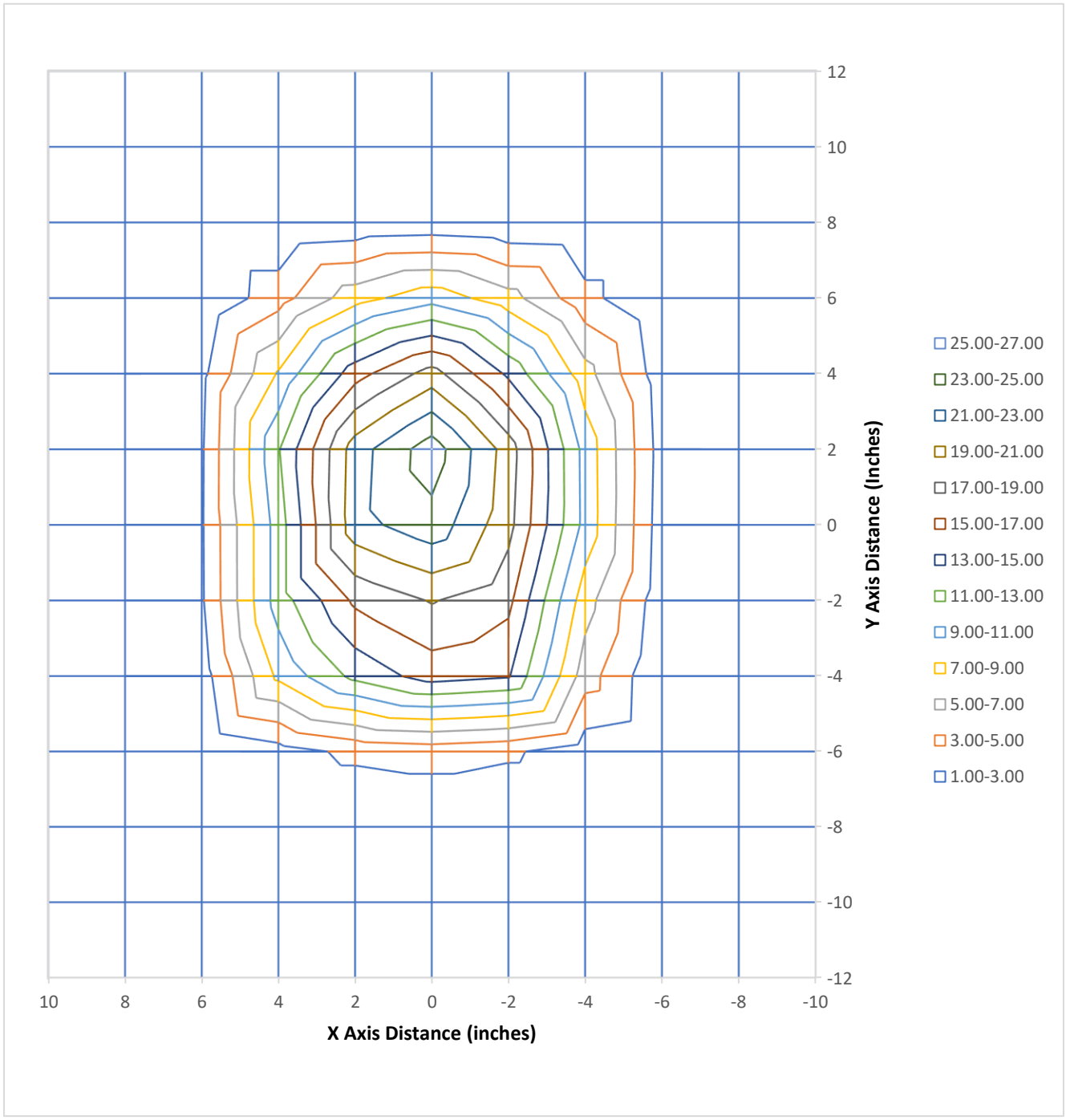
Center Point Irradiance (600-700nm)	24.30	mW/cm^2
Average Irradiance (600-700nm)	3.92	mW/cm^2
Maximum Irradiance (600-700nm)	26.10	mW/cm^2
Minimum Irradiance (600-700nm)	0.01	mW/cm^2
Max/Min Ratio	2386.85	
Max/Avg Ratio	6.66	
Target Area Radiant Power (600-700nm)	12.13	W

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001A

Irradiance (600-700nm) in mW/cm^2
Test Distance = 6 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001A

NIR Irradiance Tabulation (mW/cm^2) (780-1050nm)

X Axis Distance (inches)

Y Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.02	0.04	0.06	0.09	0.11	0.11	0.10	0.08	0.05	0.03	0.02
10	0.04	0.07	0.12	0.18	0.24	0.26	0.23	0.17	0.11	0.07	0.03
8	0.07	0.12	0.30	1.30	2.02	2.12	1.90	1.08	0.23	0.11	0.06
6	0.10	0.21	1.30	5.36	9.47	10.24	8.93	4.65	0.92	0.18	0.08
4	0.13	0.28	2.70	11.67	24.24	25.39	22.81	9.52	1.90	0.25	0.11
2	0.15	0.35	3.29	13.59	26.87	28.24	25.59	10.81	2.11	0.30	0.13
0	0.16	0.38	3.46	16.50	28.35	31.91	28.30	11.71	2.14	0.32	0.14
-2	0.14	0.35	3.30	15.28	32.33	35.39	29.57	15.31	2.30	0.37	0.13
-4	0.12	0.27	2.07	9.25	18.09	18.05	15.21	11.06	1.62	0.29	0.11
-6	0.08	0.17	0.74	3.17	5.83	6.49	5.48	2.95	0.61	0.16	0.08
-8	0.05	0.09	0.19	0.43	0.85	0.93	0.77	0.39	0.17	0.09	0.05
-10	0.03	0.05	0.08	0.13	0.17	0.18	0.16	0.12	0.08	0.05	0.02
-12	0.02	0.03	0.04	0.06	0.08	0.08	0.07	0.05	0.04	0.02	0.01

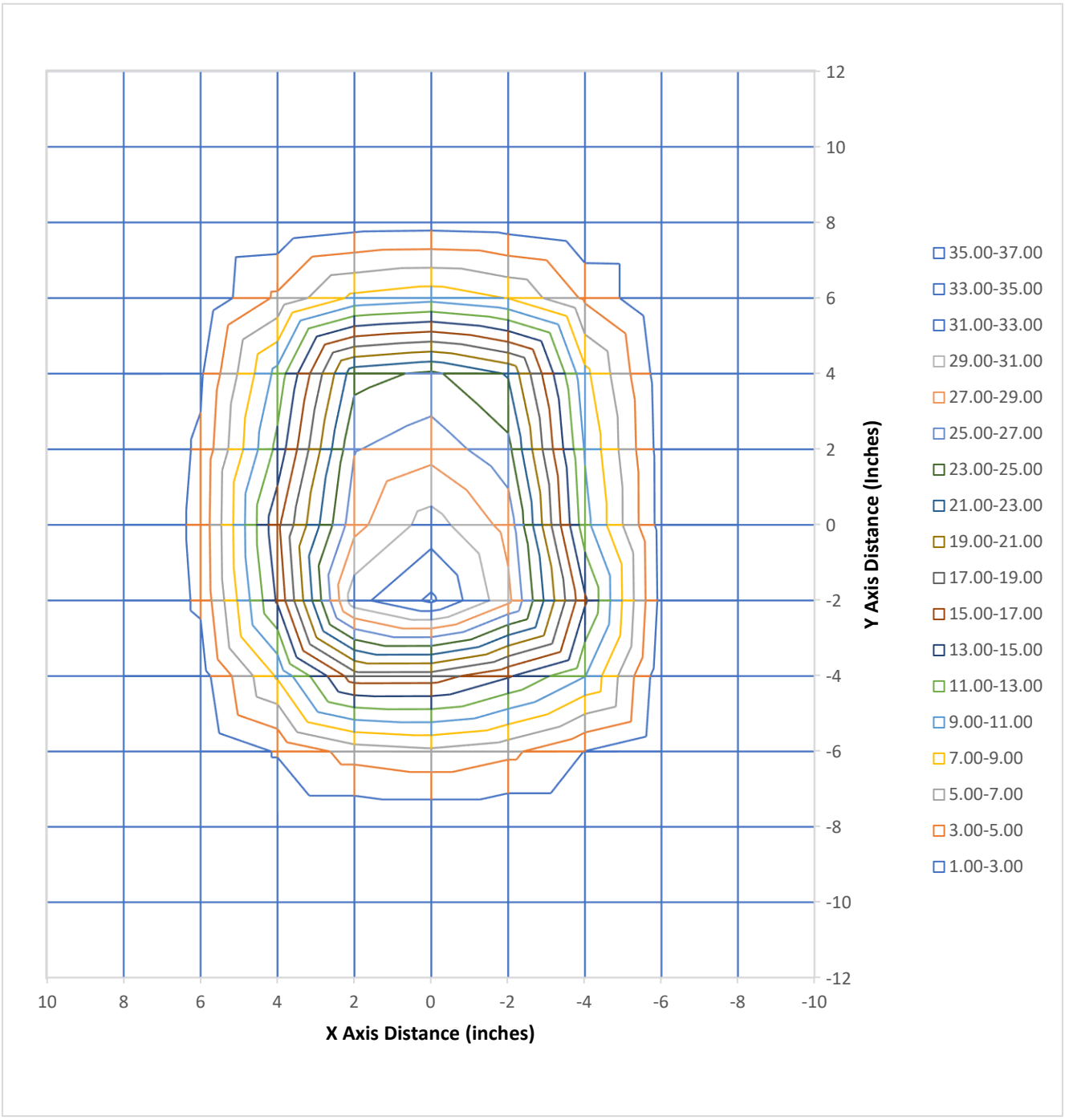
Center Point Irradiance (780-1050nm)	31.91	mW/cm^2
Average Irradiance (780-1050nm)	5.23	mW/cm^2
Maximum Irradiance (780-1050nm)	35.39	mW/cm^2
Minimum Irradiance (780-1050nm)	0.01	mW/cm^2
Max/Min Ratio	2418.35	
Max/Avg Ratio	6.77	
Target Area Radiant Power (780-1050nm)	16.19	W

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001A

Total Irradiance (780-1050nm) in mW/cm^2
Test Distance = 6 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Test Report Number: LLIA002536-001A

Test Equipment Configuration:	LightLab International Allentown Application Distance Measurement Grid Measurements acquired using a spectral irradiance meter (350-1050nm) The rectangular scan method was employed using cartesian coordinates. No symmetry was applied to the results.
Test Procedure:	Tested in accordance with the applicable sections of: LM-91-22, LM-79-19, LM-58-20
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. 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.

North America (issuing laboratory)
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA
Ph: +1 484-273-0705
Fx: +1 484-209-5779
www.lightlaballentown.com

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

LightLab INTERNATIONAL ALLENTOWN LLC

Grid Application Distance Measurement Test Report

Test Report Number: LLIA002536-001B

Catalog Number: RL500B
Portable, black formed steel housing, aluminum heatsink mounted to LED board.
68 red and infrared LEDs with clear plastic optics.
One DSS DSS100-1208000 AC/DC Adapter.



Performance Summary

Electrical		
Voltage	120.0	Vac
Current	1.518	A
Power	98.67	W
Frequency	60.00	Hz
Power Factor	0.542	
Current THD	144.4	%
Ambient Temperature	24.9	°C
Grid Dimensions		
Test Plane Distance	12	inches
X Axis minimum	-10	inches
X Axis maximum	10	inches
X Axis increments	2	inches
Y Axis minimum	-12	inches
Y Axis maximum	12	inches
Y Axis increments	2	inches
Number of measurement points	143	

Prepared For:
Heavenly Heat Saunas
543 E. Andy Devine Ave
Kingman, AZ 86401, USA

Test date: 11/05/2024
Report date: 11/12/2024

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001B

Total Irradiance Tabulation (mW/cm^2) (350-1050nm)

Y Axis Distance (inches) \ X Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.17	0.24	0.41	0.76	1.07	1.16	0.99	0.70	0.37	0.22	0.16
10	0.25	0.58	1.31	2.37	3.17	3.46	3.07	2.17	1.15	0.52	0.23
8	0.45	1.33	3.16	5.58	7.91	8.73	7.83	5.32	2.82	1.15	0.40
6	0.76	2.50	6.40	11.78	18.05	19.36	16.61	10.59	5.59	2.11	0.65
4	1.08	3.89	10.07	17.43	26.39	27.93	25.29	16.22	8.53	3.20	0.94
2	1.37	4.84	12.49	22.64	34.38	36.60	31.31	20.18	10.42	4.01	1.12
0	1.42	5.11	13.20	24.53	36.90	39.38	33.94	21.23	11.16	4.30	1.10
-2	1.28	4.42	11.58	20.91	31.96	34.46	30.24	19.00	10.21	3.81	1.03
-4	0.96	3.24	8.40	15.71	23.47	24.81	22.37	14.37	7.66	2.84	0.80
-6	0.61	1.89	4.73	8.95	13.37	14.62	13.07	8.44	4.36	1.68	0.52
-8	0.36	0.89	2.20	3.99	5.59	6.14	5.40	3.84	2.06	0.80	0.30
-10	0.21	0.38	0.81	1.44	2.04	2.33	1.99	1.38	0.74	0.32	0.19
-12	0.15	0.20	0.27	0.40	0.54	0.61	0.54	0.39	0.26	0.19	0.14

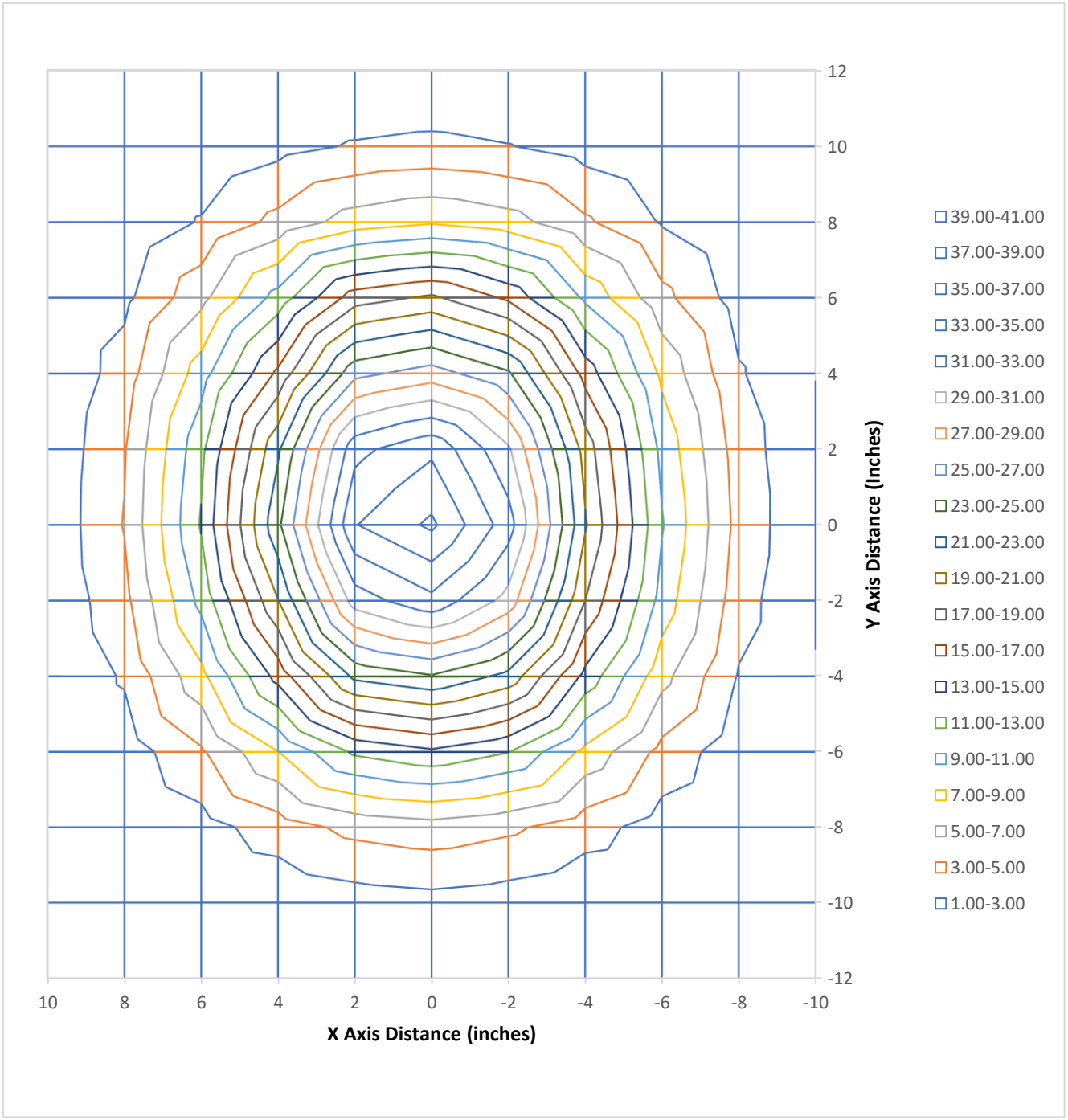
Center Point Irradiance (350-1050nm)	39.38	mW/cm^2
Average Irradiance (350-1050nm)	8.97	mW/cm^2
Maximum Irradiance (350-1050nm)	39.38	mW/cm^2
Minimum Irradiance (350-1050nm)	0.14	mW/cm^2
Max/Min Ratio	278.08	
Max/Avg Ratio	4.39	
Target Area Radiant Power (350-1050nm)	27.77	W

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001B

Total Irradiance (350-1050nm) in mW/cm^2
Test Distance = 12 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001B

Red Irradiance Tabulation (mW/cm^2) (600-700nm)

X Axis Distance (inches)

Y Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.08	0.11	0.17	0.29	0.42	0.45	0.38	0.28	0.16	0.11	0.08
10	0.13	0.25	0.57	1.06	1.46	1.56	1.38	0.98	0.50	0.23	0.12
8	0.21	0.58	1.41	2.42	3.44	3.78	3.47	2.29	1.23	0.52	0.19
6	0.35	1.11	2.97	5.01	7.67	8.47	6.84	4.51	2.57	0.92	0.30
4	0.50	1.70	4.81	8.13	12.18	13.31	11.29	7.52	4.08	1.42	0.41
2	0.61	2.18	5.87	10.59	15.56	17.16	14.46	9.42	4.73	1.79	0.48
0	0.62	2.27	5.91	9.87	14.27	15.65	13.50	8.95	4.72	1.81	0.49
-2	0.59	1.88	5.06	8.48	11.47	12.79	11.41	7.25	3.77	1.54	0.44
-4	0.45	1.43	3.79	6.83	9.09	9.70	9.00	5.54	2.84	1.12	0.32
-6	0.25	0.86	2.01	3.61	4.82	5.32	4.97	3.35	1.70	0.67	0.20
-8	0.14	0.38	0.90	1.59	2.15	2.42	2.13	1.47	0.78	0.30	0.10
-10	0.09	0.15	0.33	0.56	0.74	0.82	0.74	0.53	0.29	0.12	0.07
-12	0.06	0.08	0.10	0.14	0.19	0.22	0.19	0.14	0.09	0.07	0.05

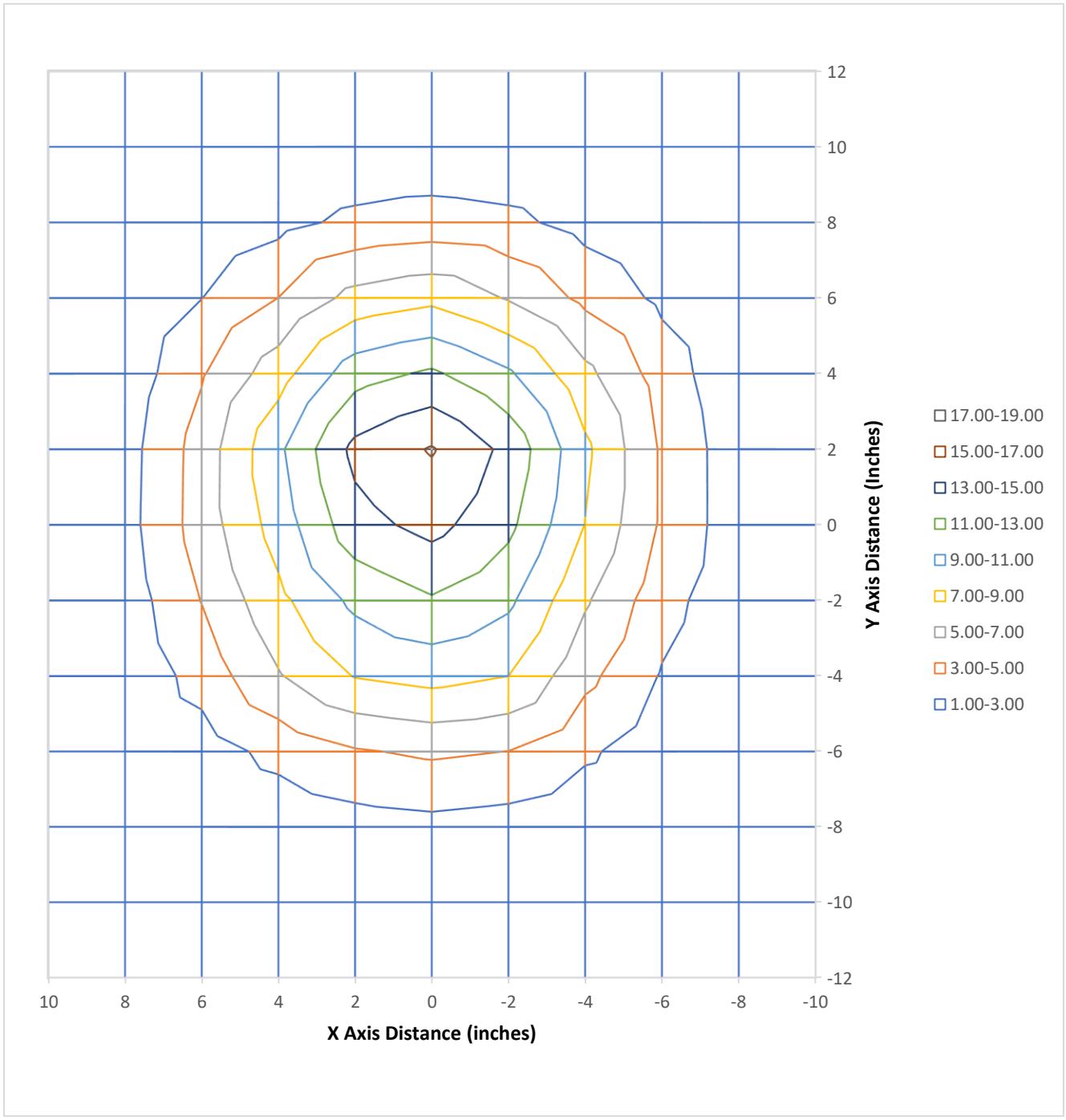
Center Point Irradiance (600-700nm)	15.65	mW/cm^2
Average Irradiance (600-700nm)	3.77	mW/cm^2
Maximum Irradiance (600-700nm)	17.16	mW/cm^2
Minimum Irradiance (600-700nm)	0.05	mW/cm^2
Max/Min Ratio	326.68	
Max/Avg Ratio	4.55	
Target Area Radiant Power (600-700nm)	11.68	W

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001B

Irradiance (600-700nm) in mW/cm^2
Test Distance = 12 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001B

NIR Irradiance Tabulation (mW/cm^2) (780-1050nm)

X Axis Distance (inches)

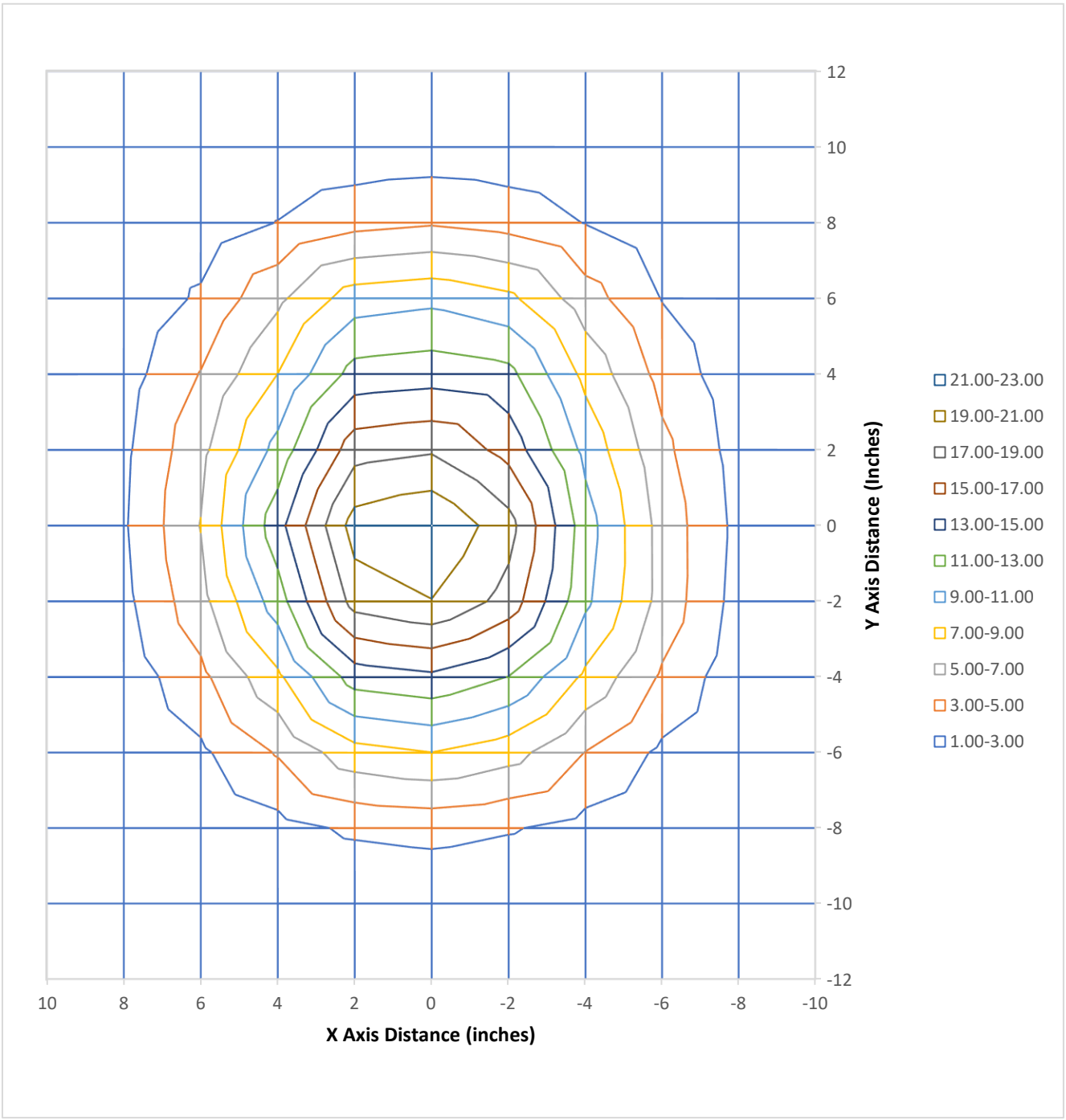
Y Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.09	0.12	0.24	0.46	0.62	0.68	0.58	0.41	0.20	0.11	0.08
10	0.12	0.32	0.71	1.26	1.65	1.83	1.64	1.16	0.63	0.28	0.11
8	0.23	0.73	1.70	3.06	4.32	4.78	4.21	2.93	1.54	0.61	0.20
6	0.39	1.36	3.32	6.56	10.03	10.52	9.46	5.89	2.92	1.16	0.34
4	0.57	2.13	5.09	9.01	13.77	14.12	13.58	8.43	4.31	1.73	0.52
2	0.75	2.59	6.42	11.66	18.21	18.77	16.31	10.41	5.53	2.16	0.62
0	0.79	2.77	7.07	14.23	21.91	22.91	19.78	11.89	6.25	2.44	0.60
-2	0.68	2.47	6.33	12.04	19.83	20.93	18.24	11.41	6.27	2.21	0.58
-4	0.50	1.76	4.47	8.60	13.92	14.58	12.93	8.57	4.70	1.69	0.46
-6	0.35	1.00	2.63	5.17	8.27	8.97	7.83	4.94	2.59	0.99	0.32
-8	0.21	0.50	1.26	2.32	3.32	3.60	3.17	2.30	1.25	0.49	0.19
-10	0.12	0.23	0.46	0.85	1.26	1.45	1.21	0.83	0.44	0.19	0.12
-12	0.09	0.12	0.17	0.26	0.34	0.38	0.34	0.25	0.17	0.12	0.09

Center Point Irradiance (780-1050nm)	22.91	mW/cm^2
Average Irradiance (780-1050nm)	5.03	mW/cm^2
Maximum Irradiance (780-1050nm)	22.91	mW/cm^2
Minimum Irradiance (780-1050nm)	0.08	mW/cm^2
Max/Min Ratio	289.22	
Max/Avg Ratio	4.55	
Target Area Radiant Power (780-1050nm)	15.59	W

Report of Test

Test Report Number: LLIA002536-001B

Total Irradiance (780-1050nm) in mW/cm^2
Test Distance = 12 inches



Test Report Number: LLIA002536-001B

Test Equipment Configuration:	LightLab International Allentown Application Distance Measurement Grid Measurements acquired using a spectral irradiance meter (350-1050nm) The rectangular scan method was employed using cartesian coordinates. No symmetry was applied to the results.
Test Procedure:	Tested in accordance with the applicable sections of: LM-91-22, LM-79-19, LM-58-20
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. 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.

North America (issuing laboratory)
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA
Ph: +1 484-273-0705
Fx: +1 484-209-5779
www.lightlaballentown.com

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

LightLab INTERNATIONAL ALLENTOWN LLC

Grid Application Distance Measurement Test Report

Test Report Number: LLIA002536-001C

Catalog Number: RL500B
Portable, black formed steel housing, aluminum heatsink mounted to LED board.
68 red and infrared LEDs with clear plastic optics.
One DSS DSS100-1208000 AC/DC Adapter.



Performance Summary

Electrical		
Voltage	120.0	Vac
Current	1.516	A
Power	98.62	W
Frequency	60.00	Hz
Power Factor	0.542	
Current THD	144.3	%
Ambient Temperature	24.9	°C
Grid Dimensions		
Test Plane Distance	18	inches
X Axis minimum	-10	inches
X Axis maximum	10	inches
X Axis increments	2	inches
Y Axis minimum	-12	inches
Y Axis maximum	12	inches
Y Axis increments	2	inches
Number of measurement points	143	

Prepared For:
Heavenly Heat Saunas
543 E. Andy Devine Ave
Kingman, AZ 86401, USA

Test date: 11/05/2024
Report date: 11/12/2024

LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001C

Total Irradiance Tabulation (mW/cm^2) (350-1050nm)

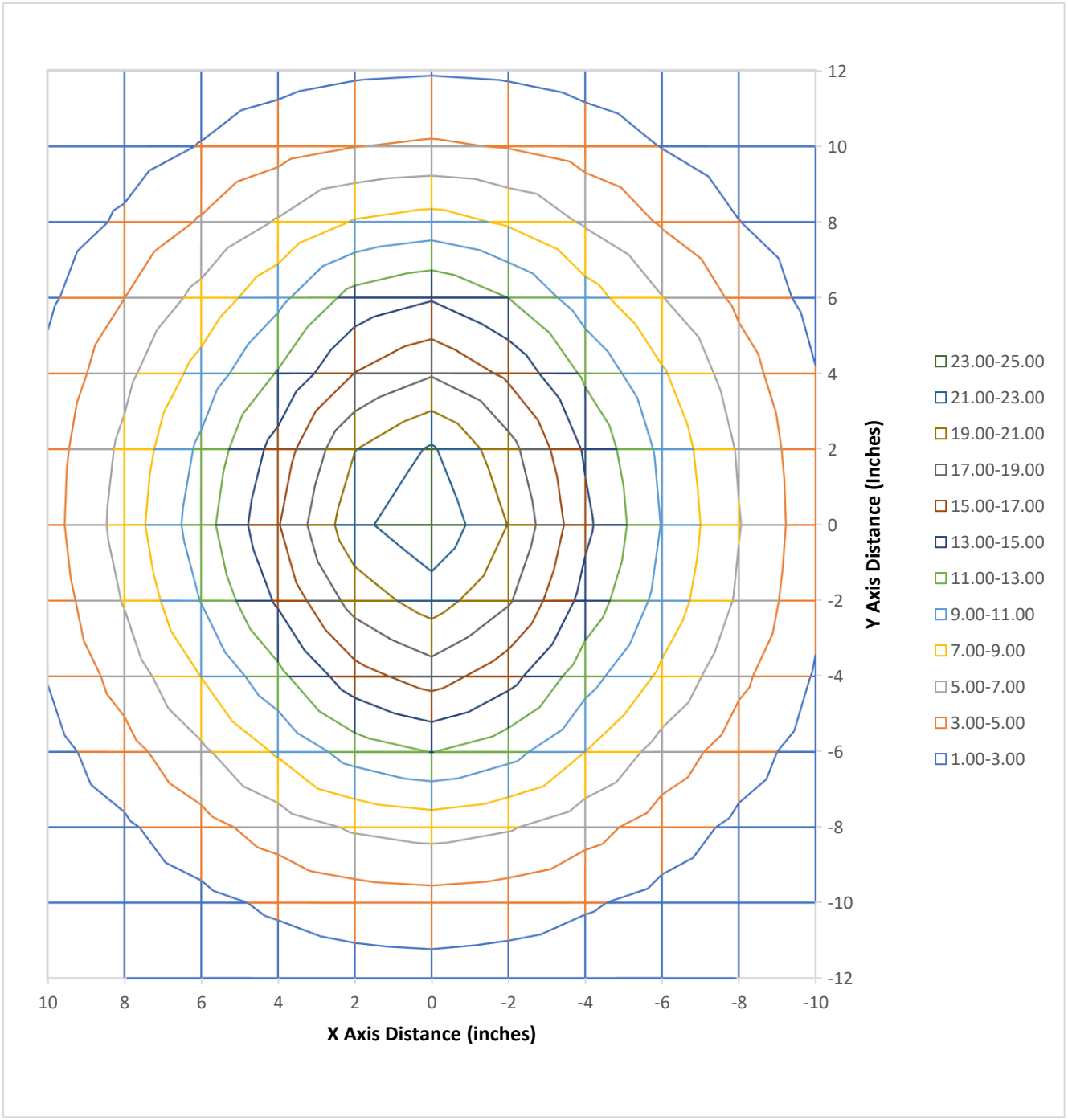
Y Axis Distance (inches) \ X Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.55	1.06	1.71	2.27	2.70	2.84	2.69	2.23	1.60	0.97	0.50
10	1.03	1.96	3.09	4.18	4.96	5.24	4.89	4.07	2.95	1.82	0.94
8	1.75	3.34	5.19	7.18	9.15	9.78	8.72	6.75	4.80	3.04	1.56
6	2.63	4.98	7.60	10.47	13.73	14.82	12.98	9.88	7.06	4.56	2.31
4	3.47	6.45	9.73	13.14	17.04	18.80	16.58	12.62	9.23	5.92	3.08
2	4.05	7.47	11.41	15.78	20.93	23.26	19.73	14.72	10.52	6.80	3.57
0	4.19	7.84	12.09	16.85	22.45	24.64	20.94	15.48	10.91	7.09	3.68
-2	3.78	7.14	11.07	15.29	19.81	21.97	19.24	14.28	10.29	6.71	3.43
-4	3.09	5.84	9.03	12.45	16.21	17.95	15.75	11.83	8.60	5.49	2.82
-6	2.20	4.26	6.64	9.24	11.90	13.04	11.71	8.99	6.25	3.96	2.04
-8	1.36	2.68	4.30	5.92	7.26	7.78	7.18	5.75	4.05	2.55	1.31
-10	0.77	1.51	2.45	3.36	3.97	4.18	3.92	3.24	2.37	1.46	0.73
-12	0.38	0.75	1.26	1.79	2.15	2.26	2.09	1.73	1.21	0.72	0.37

Center Point Irradiance (350-1050nm)	24.64	mW/cm^2
Average Irradiance (350-1050nm)	8.16	mW/cm^2
Maximum Irradiance (350-1050nm)	24.64	mW/cm^2
Minimum Irradiance (350-1050nm)	0.37	mW/cm^2
Max/Min Ratio	67.35	
Max/Avg Ratio	3.02	
Target Area Radiant Power (350-1050nm)	25.26	W

Report of Test

Test Report Number: LLIA002536-001C

Total Irradiance (350-1050nm) in mW/cm^2
Test Distance = 18 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001C

Red Irradiance Tabulation (mW/cm^2) (600-700nm)

X Axis Distance (inches)

Y Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.23	0.46	0.76	1.01	1.17	1.21	1.16	0.97	0.70	0.43	0.21
10	0.45	0.87	1.37	1.83	2.18	2.30	2.16	1.79	1.29	0.79	0.40
8	0.77	1.48	2.34	3.20	4.12	4.45	3.94	3.05	2.18	1.36	0.68
6	1.15	2.31	3.60	4.86	6.35	6.81	5.92	4.50	3.32	2.10	1.03
4	1.56	3.01	4.70	6.31	8.32	9.01	7.84	5.94	4.37	2.69	1.36
2	1.81	3.39	5.30	7.25	9.49	10.43	9.07	6.79	4.80	2.97	1.54
0	1.84	3.46	5.31	6.90	8.86	9.94	8.55	6.48	4.66	2.93	1.55
-2	1.63	3.07	4.71	6.00	7.05	7.86	6.98	5.40	3.91	2.60	1.40
-4	1.31	2.46	3.82	4.96	5.83	6.32	5.72	4.37	3.12	2.09	1.13
-6	0.93	1.75	2.71	3.63	4.43	4.81	4.43	3.41	2.34	1.56	0.82
-8	0.60	1.10	1.74	2.29	2.65	2.80	2.65	2.20	1.58	1.01	0.53
-10	0.33	0.63	0.98	1.32	1.56	1.63	1.53	1.26	0.91	0.55	0.29
-12	0.15	0.30	0.49	0.67	0.81	0.85	0.79	0.64	0.45	0.28	0.14

Center Point Irradiance (600-700nm)	9.94	mW/cm^2
Average Irradiance (600-700nm)	3.43	mW/cm^2
Maximum Irradiance (600-700nm)	10.43	mW/cm^2
Minimum Irradiance (600-700nm)	0.14	mW/cm^2
Max/Min Ratio	73.86	
Max/Avg Ratio	3.04	
Target Area Radiant Power (600-700nm)	10.62	W

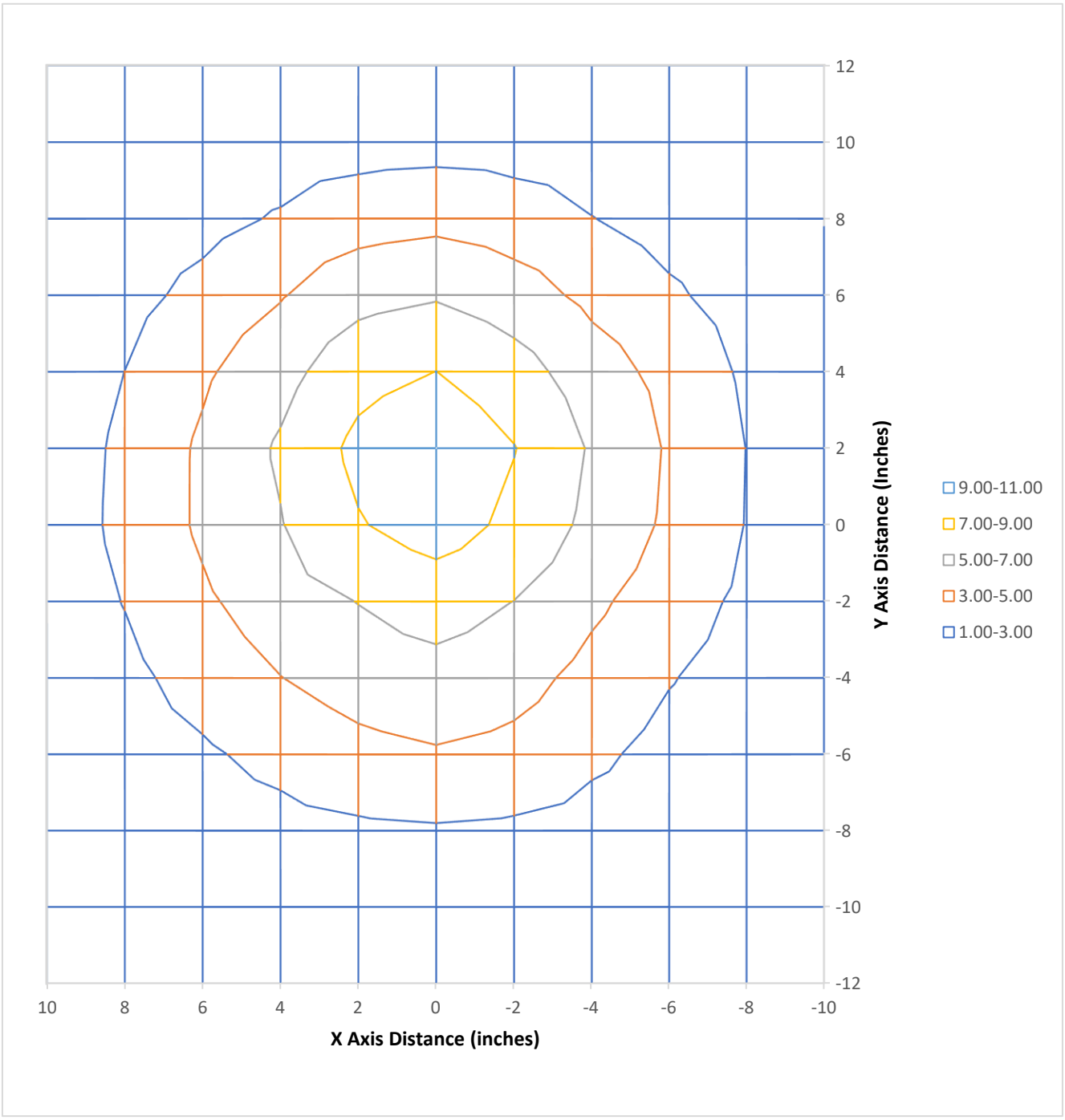
North America (issuing laboratory)
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA
Ph: +1 484-273-0705
Fx: +1 484-209-5779
www.lightlaballentown.com

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

Report of Test

Test Report Number: LLIA002536-001C

Irradiance (600-700nm) in mW/cm^2
Test Distance = 18 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Report of Test

Test Report Number: LLIA002536-001C

NIR Irradiance Tabulation (mW/cm^2) (780-1050nm)

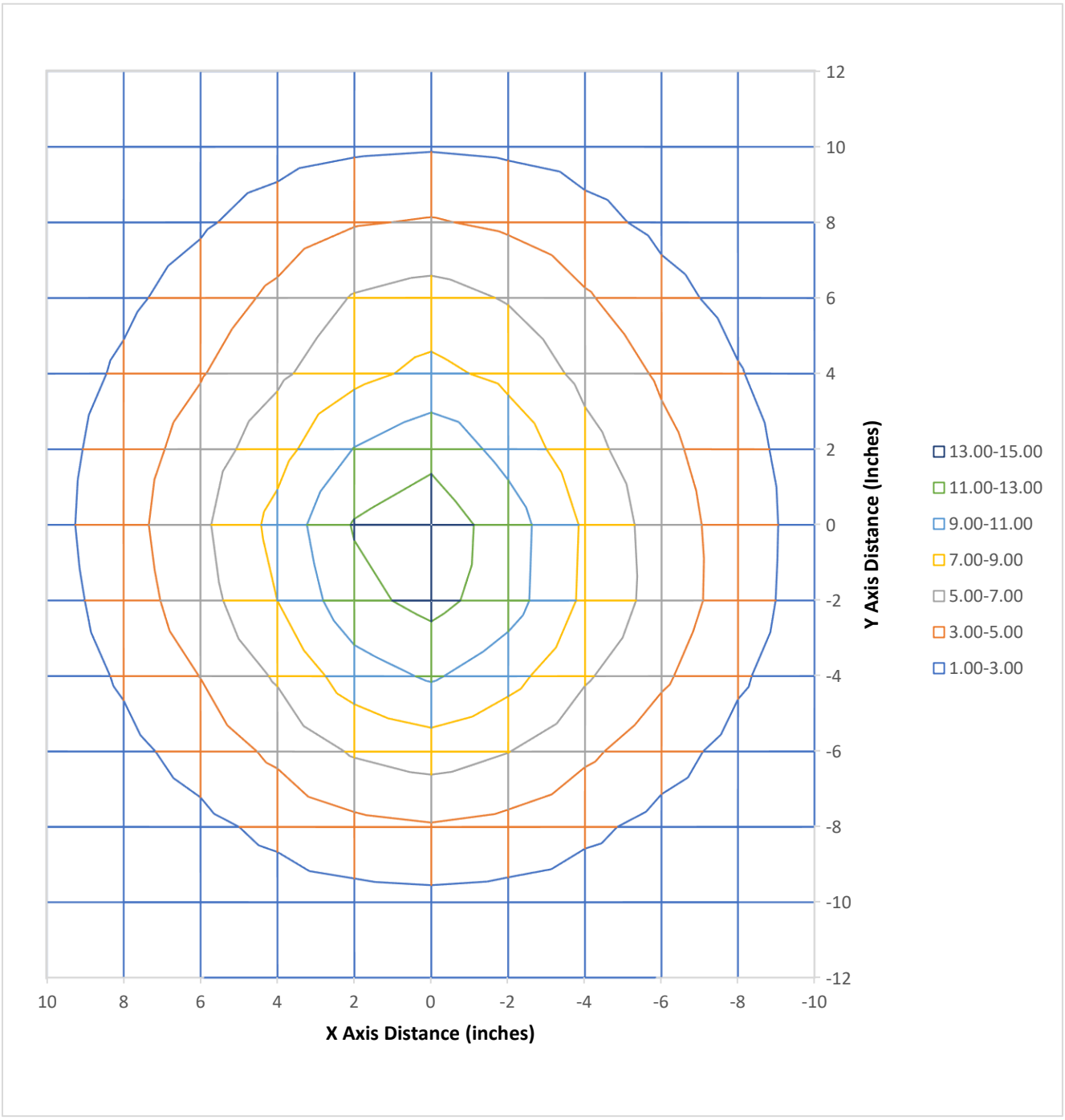
Y Axis Distance (inches) \ X Axis Distance (inches)	-10	-8	-6	-4	-2	0	2	4	6	8	10
12	0.31	0.58	0.92	1.22	1.48	1.58	1.48	1.22	0.86	0.53	0.28
10	0.57	1.05	1.66	2.27	2.69	2.84	2.64	2.21	1.61	0.99	0.52
8	0.96	1.81	2.76	3.85	4.86	5.15	4.62	3.59	2.53	1.63	0.86
6	1.43	2.59	3.88	5.43	7.15	7.77	6.85	5.22	3.62	2.38	1.24
4	1.85	3.33	4.87	6.62	8.45	9.50	8.48	6.47	4.71	3.13	1.67
2	2.17	3.95	5.91	8.25	11.07	12.41	10.31	7.67	5.54	3.71	1.97
0	2.27	4.23	6.57	9.65	13.16	14.23	12.00	8.73	6.06	4.04	2.06
-2	2.08	3.94	6.16	9.00	12.36	13.67	11.90	8.61	6.19	3.99	1.97
-4	1.72	3.27	5.04	7.24	10.05	11.25	9.71	7.23	5.33	3.30	1.64
-6	1.23	2.43	3.80	5.43	7.22	7.95	7.04	5.40	3.79	2.33	1.19
-8	0.74	1.53	2.48	3.51	4.45	4.82	4.39	3.44	2.39	1.50	0.76
-10	0.42	0.85	1.42	1.97	2.33	2.47	2.31	1.91	1.42	0.88	0.43
-12	0.22	0.43	0.74	1.09	1.30	1.37	1.26	1.05	0.74	0.43	0.22

Center Point Irradiance (780-1050nm)	14.23	mW/cm^2
Average Irradiance (780-1050nm)	4.58	mW/cm^2
Maximum Irradiance (780-1050nm)	14.23	mW/cm^2
Minimum Irradiance (780-1050nm)	0.22	mW/cm^2
Max/Min Ratio	65.37	
Max/Avg Ratio	3.11	
Target Area Radiant Power (780-1050nm)	14.17	W

Report of Test

Test Report Number: LLIA002536-001C

Total Irradiance (780-1050nm) in mW/cm^2
Test Distance = 18 inches



LightLab INTERNATIONAL ALLENTOWN LLC

Test Report Number: LLIA002536-001C

Test Equipment Configuration:	LightLab International Allentown Application Distance Measurement Grid Measurements acquired using a spectral irradiance meter (350-1050nm) The rectangular scan method was employed using cartesian coordinates. No symmetry was applied to the results.
Test Procedure:	Tested in accordance with the applicable sections of: LM-91-22, LM-79-19, LM-58-20
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. 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.

North America (issuing laboratory)
LightLab International Allentown, LLC
905 Harrison Street, Suite 135
Allentown, PA 18103 USA
Ph: +1 484-273-0705
Fx: +1 484-209-5779
www.lightlaballentown.com

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