

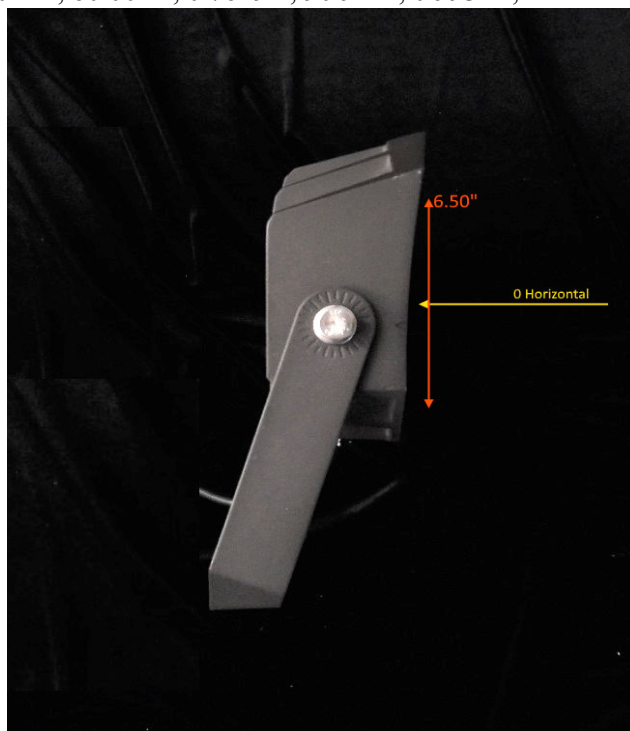
Report of Test

LLIA001191-001

Catalog Number: F-FL/90/50K/TR/BZ-87

Trunion mounted, cast aluminum and formed steel housing,
clear and frosted plastic enclosure
120 white LEDs

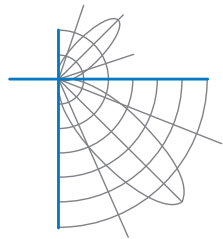
One Sosen SS-100VA-56B LED driver
120.0Vac, 60.00Hz, 0.7629A, 90.92W, 0.993PF, 4.1%THD(i)



Performance Summary

Total Light Output	11815 lm	Illuminance at 10m	44.4 lux
Luminaire Power	90.9 W	Beam Distance	133.2 Meters (to 0.25 lux)
Luminous Efficacy	130.0 lm/W	Maximum Intensity	4436 cd
Beam Spread (50%)	90.7°V x 114.3°H		
Field Spread (10%)	140.7°V x 159.3°H		
NEMA Type	7H x 7V		

PREPARED FOR : Topaz Lighting Corp, 925 Waverly Avenue, Holtsville, NY 11742, USA



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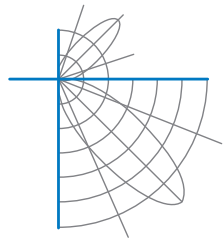
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Floodlight Summary:

Report data based on absolute values as measured.

Maximum Luminous Intensity	4435.94 cd
(Luminaire orientation as tested.)	5.0° vertical
	0.0° horizontal

Beam Spread	At 10% of max intensity	140.7° V	x	159.3° H
	At 50% of max intensity	90.7° V	x	114.3° H
	At 90% of max intensity	46.0° V	x	55.4° H

Beam Flux	Total	11815 lm
	To 10% of max intensity	11567 lm
	To 50% of max intensity	8850 lm
	To 90% of max intensity	2836 lm

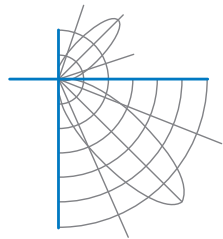
Total Light Output 11814.6 lm

Signed:

Authorized Signatory

Date of test
Date of report

19-Nov-2019
20-Nov-2019



Test Report No. LLIA001191-001

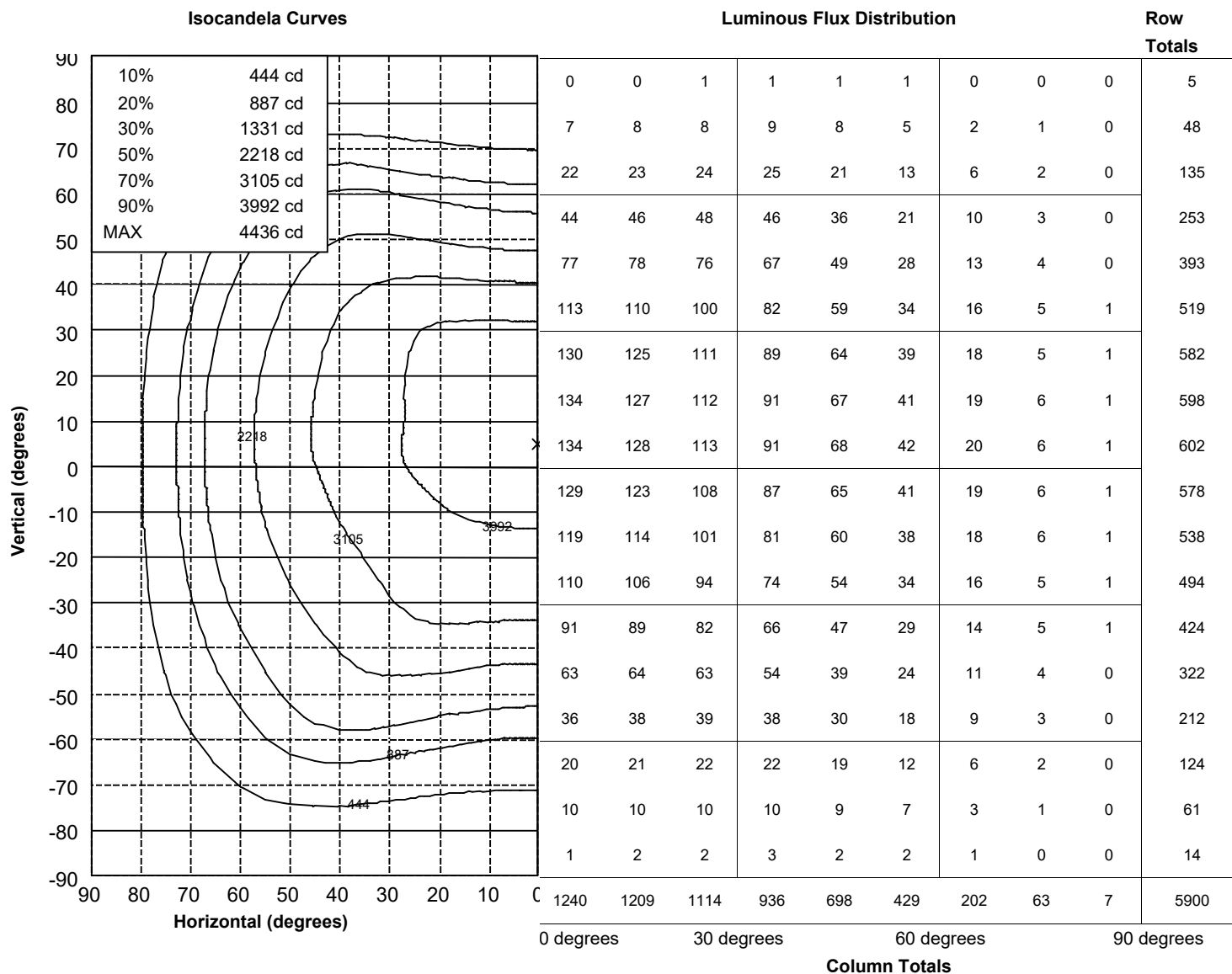
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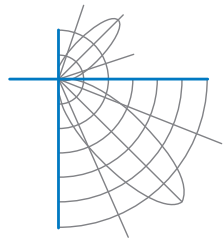
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Note: Left and right sides of photometric data have been averaged.
Lumen values are tabulated as absolute lumen values.
Candela values are tabulated as absolute candela values.



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Vertical Angle (degrees)	Left Side Horizontal Angle (degrees)									Lumen Totals
	-90	-60	-30	0	30	60	90	120	150	
-90	13.9 0.1	41.7 0.3	74.7 1.0	102.1 1.9	102.7 2.5	86.8 2.6	71.2 2.4	46.9 2.0	18.2 1.4	14
-75	40.5 0.1	124.2 1.0	248.1 3.3	385.2 6.7	433.4 9.4	410.7 10.4	363.6 10.2	334.2 9.9	322.3 9.6	61
-60	65.7 0.2	228.7 1.9	450.0 5.9	709.3 12.4	880.2 18.9	869.8 21.9	765.9 21.5	692.1 20.7	655.9 20.2	124
-45	88.8 0.3	346.3 2.9	645.8 8.6	1033.0 18.2	1411.7 30.0	1546.8 38.3	1410.1 39.5	1250.3 37.7	1166.8 36.3	212
-30	108.9 0.5	451.9 3.7	863.5 11.3	1329.9 23.5	1841.7 39.5	2211.5 54.5	2300.5 62.7	2173.4 63.7	2063.5 62.6	322
-15	125.5 0.5	542.9 4.5	1071.7 14.0	1642.0 28.8	2195.7 47.3	2647.4 65.9	3008.3 82.1	3063.3 89.5	3015.8 91.0	424
0	138.2 0.6	616.1 5.2	1251.1 16.4	1928.9 33.8	2536.3 54.3	2983.6 74.4	3416.2 93.8	3612.8 105.6	3657.9 110.1	494
15	146.6 0.7	666.8 5.7	1389.6 18.3	2168.5 37.9	2809.2 60.2	3250.3 81.1	3659.1 100.7	3880.4 113.9	3943.2 119.5	538
30	150.4 0.7	696.5 6.0	1476.6 19.5	2335.3 40.7	3009.9 64.6	3481.8 87.0	3914.4 108.0	4183.1 122.7	4257.6 128.8	578
45	149.8 0.7	702.3 6.1	1505.7 19.9	2413.4 42.1	3161.5 67.5	3666.5 91.2	4098.6 112.6	4365.6 127.7	4428.3 133.9	602
60	144.7 0.7	682.0 5.9	1469.5 19.4	2363.1 41.3	3120.8 66.9	3636.3 90.7	4075.8 112.2	4343.6 127.3	4420.4 133.8	598
75	135.4 0.6	636.9 5.5	1367.4 18.0	2210.2 38.7	3015.6 64.4	3585.5 89.1	4039.9 110.8	4273.2 124.8	4333.0 130.5	582
90	121.7 0.5	564.1 4.8	1202.1 15.8	1961.4 34.5	2742.3 58.7	3320.5 82.1	3691.0 100.4	3780.8 109.7	3754.0 112.5	519
105	104.3 0.4	466.0 3.9	980.1 12.9	1610.9 28.4	2294.4 49.0	2716.8 67.0	2789.5 76.2	2655.4 78.0	2540.3 77.2	393
120	84.2 0.3	344.1 2.9	718.9 9.6	1206.1 21.2	1693.5 35.9	1863.1 46.1	1713.2 47.7	1515.0 45.5	1410.1 43.9	253
135	61.9 0.2	203.3 1.8	459.0 6.0	730.7 13.0	963.1 20.6	980.7 24.6	845.3 24.1	745.4 22.7	694.2 21.7	135
150	38.0 0.1	91.7 0.8	181.9 2.5	307.7 5.3	338.4 7.7	321.2 8.5	278.7 8.1	241.1 7.5	226.0 7.2	48
165	13.1 0.0	29.8 0.2	27.8 0.4	16.3 0.7	26.8 1.1	23.1 1.0	1.8 0.6	0.6 0.5	0.2 0.4	5
	7	63	202	429	698	936	1114	1209	1240	5900

Lumen Totals

Legend:

candelas

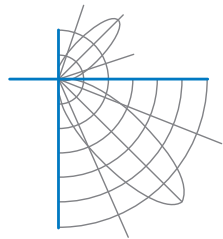
lumens

Standard table of intensity and illuminance in accordance with IES procedures.

Angular data is shown with the polar axis horizontal.

Luminous flux expressed as lumens within marked zones.

Luminous intensity expressed as candelas at centre of zones.



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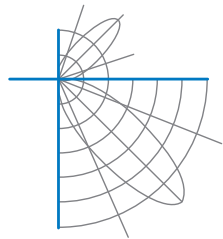
120.0Vac, 60.00Hz, 0.7629A, 90.92W, 0.993PF, 4.1%THD(i)

Vertical Angle (degrees)	Right Side Horizontal Angle (degrees)									Lumen Totals
	0	30	60	90						
-90	18.2 1.4	46.9 2.0	71.2 2.4	86.8 2.6	102.7 2.5	102.1 1.9	74.7 1.0	41.7 0.3	13.9 0.1	14
	322.3 9.6	334.2 9.9	363.6 10.2	410.7 10.4	433.4 9.4	385.2 6.7	248.1 3.3	124.2 1.0	40.5 0.1	61
	655.9 20.2	692.1 20.7	765.9 21.5	869.8 21.9	880.2 18.9	709.3 12.4	450.0 5.9	228.7 1.9	65.7 0.2	124
-60	1166.8 36.3	1250.3 37.7	1410.1 39.5	1546.8 38.3	1411.7 30.0	1033.0 18.2	645.8 8.6	346.3 2.9	88.8 0.3	212
	2063.5 62.6	2173.4 63.7	2300.5 62.7	2211.5 54.5	1841.7 39.5	1329.9 23.5	863.5 11.3	451.9 3.7	108.9 0.5	322
	3015.8 91.0	3063.3 89.5	3008.3 82.1	2647.4 65.9	2195.7 47.3	1642.0 28.8	1071.7 14.0	542.9 4.5	125.5 0.5	424
-30	3657.9 110.1	3612.8 105.6	3416.2 93.8	2983.6 74.4	2536.3 54.3	1928.9 33.8	1251.1 16.4	616.1 5.2	138.2 0.6	494
	3943.2 119.5	3880.4 113.9	3659.1 100.7	3250.3 81.1	2809.2 60.2	2168.5 37.9	1389.6 18.3	666.8 5.7	146.6 0.7	538
	4257.6 128.8	4183.1 122.7	3914.4 108.0	3481.8 87.0	3009.9 64.6	2335.3 40.7	1476.6 19.5	696.5 6.0	150.4 0.7	578
0	4428.3 133.9	4365.6 127.7	4098.6 112.6	3666.5 91.2	3161.5 67.5	2413.4 42.1	1505.7 19.9	702.3 6.1	149.8 0.7	602
	4420.4 133.8	4343.6 127.3	4075.8 112.2	3636.3 90.7	3120.8 66.9	2363.1 41.3	1469.5 19.4	682.0 5.9	144.7 0.7	598
	4333.0 130.5	4273.2 124.8	4039.9 110.8	3585.5 89.1	3015.6 64.4	2210.2 38.7	1367.4 18.0	636.9 5.5	135.4 0.6	582
30	3754.0 112.5	3780.7 109.7	3691.0 100.4	3320.5 82.1	2742.3 58.7	1961.4 34.5	1202.1 15.8	564.1 4.8	121.7 0.5	519
	2540.3 77.2	2655.4 78.0	2789.5 76.2	2716.8 67.0	2294.4 49.0	1610.9 28.4	980.1 12.9	466.0 3.9	104.3 0.4	393
	1410.1 43.9	1515.0 45.5	1713.2 47.7	1863.1 46.1	1693.5 35.9	1206.1 21.2	718.9 9.6	344.1 2.9	84.2 0.3	253
60	694.2 21.7	745.4 22.7	845.3 24.1	980.7 24.6	963.1 20.6	730.7 13.0	459.0 6.0	203.3 1.8	61.9 0.2	135
	226.0 7.2	241.1 7.5	278.7 8.1	321.2 8.5	338.4 7.7	307.7 5.3	181.9 2.5	91.7 0.8	38.0 0.1	48
90	0.2 0.4	0.6 0.5	1.8 0.6	23.1 1.0	26.8 1.1	16.3 0.7	27.8 0.4	29.8 0.2	13.1 0.0	5
	1240	1209	1114	936	698	429	202	63	7	5900
Lumen Totals										

Standard table of intensity and illuminance in accordance with IES procedures.
Angular data is shown with the polar axis horizontal.
Luminous flux expressed as lumens within marked zones.
Luminous intensity expressed as candelas at centre of zones.

Legend:

candelas
lumens



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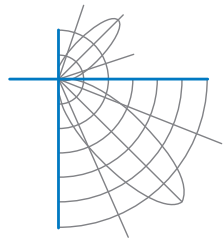
120.0Vac, 60.00Hz, 0.7629A, 90.92W, 0.993PF, 4.1%THD(i)

Candela trace through origin.

Vertical Trace			
Angle	Intensity (cd)	Angle	Intensity (cd)
90.0	0.13	0.0	4382.15
87.0	0.00	-3.0	4320.02
84.0	0.45	-6.0	4235.08
81.0	32.35	-9.0	4138.96
78.0	118.45	-12.0	4042.72
75.0	225.01	-15.0	3947.67
72.0	351.47	-18.0	3855.65
69.0	484.12	-21.0	3771.75
66.0	638.76	-24.0	3690.95
63.0	819.25	-27.0	3590.08
60.0	1027.46	-30.0	3428.01
57.0	1238.18	-33.0	3187.50
54.0	1486.17	-36.0	2915.89
51.0	1788.22	-39.0	2633.11
48.0	2140.40	-42.0	2343.40
45.0	2521.92	-45.0	2047.45
42.0	2909.59	-48.0	1749.62
39.0	3284.42	-51.0	1469.53
36.0	3634.45	-54.0	1228.25
33.0	3940.46	-57.0	1028.41
30.0	4163.79	-60.0	865.75
27.0	4286.28	-63.0	731.58
24.0	4355.48	-66.0	614.02
21.0	4396.16	-69.0	507.85
18.0	4419.36	-72.0	410.96
15.0	4429.97	-75.0	321.08
12.0	4430.62	-78.0	214.82
9.0	4432.29	-81.0	106.29
6.0	4435.91	-84.0	33.43
3.0	4423.22	-87.0	3.73
0.0	4382.15	-90.0	0.11

Horizontal Trace			
Angle	Intensity (cd)	Angle	Intensity (cd)
90.0	0.44	0.0	4382.15
87.0	90.57	-3.0	4379.32
84.0	205.83	-6.0	4374.73
81.0	371.34	-9.0	4366.02
78.0	536.85	-12.0	4349.46
75.0	702.36	-15.0	4322.11
72.0	941.38	-18.0	4276.55
69.0	1180.40	-21.0	4201.39
66.0	1419.42	-24.0	4099.28
63.0	1676.50	-27.0	3983.25
60.0	1942.61	-30.0	3855.50
57.0	2208.72	-33.0	3714.35
54.0	2461.04	-36.0	3569.14
51.0	2685.78	-39.0	3420.61
48.0	2910.51	-42.0	3269.50
45.0	3096.14	-45.0	3096.14
42.0	3269.50	-48.0	2910.51
39.0	3420.61	-51.0	2685.78
36.0	3569.14	-54.0	2461.04
33.0	3714.35	-57.0	2208.72
30.0	3855.50	-60.0	1942.61
27.0	3983.25	-63.0	1676.50
24.0	4099.28	-66.0	1419.42
21.0	4201.39	-69.0	1180.40
18.0	4276.55	-72.0	941.38
15.0	4322.11	-75.0	702.36
12.0	4349.46	-78.0	536.85
9.0	4366.02	-81.0	371.34
6.0	4374.73	-84.0	205.83
3.0	4379.32	-87.0	90.57
0.0	4382.15	-90.0	0.44

Note: Luminaire orientation as tested.
The left and right sides of photometric data have been averaged.



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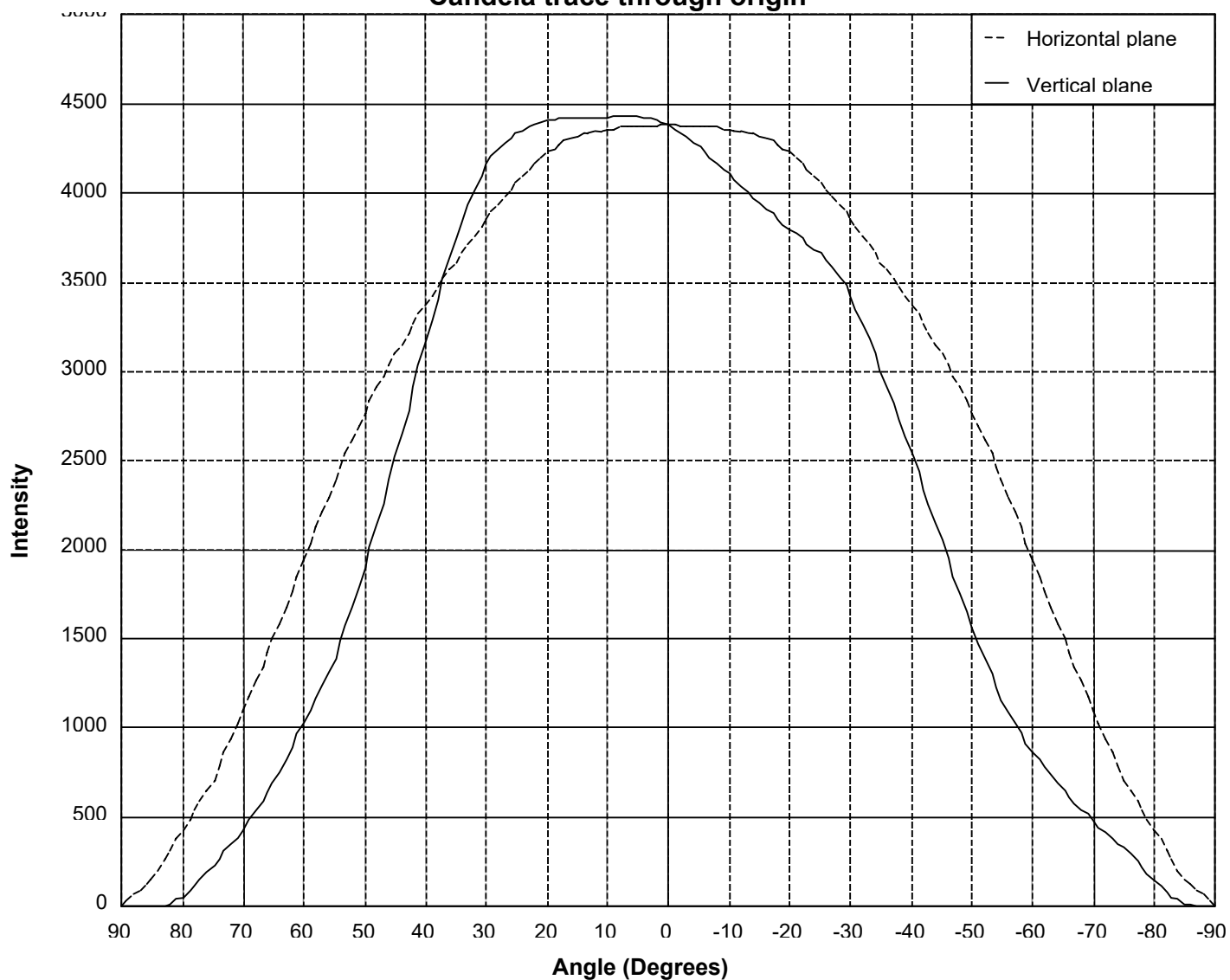
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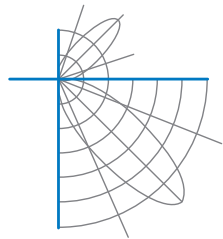
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Candela trace through origin



Note: The intensity units are expressed as candelas.
The left and right sides of photometric data have been averaged.
Both the vertical and the horizontal trace pass through the nadir.



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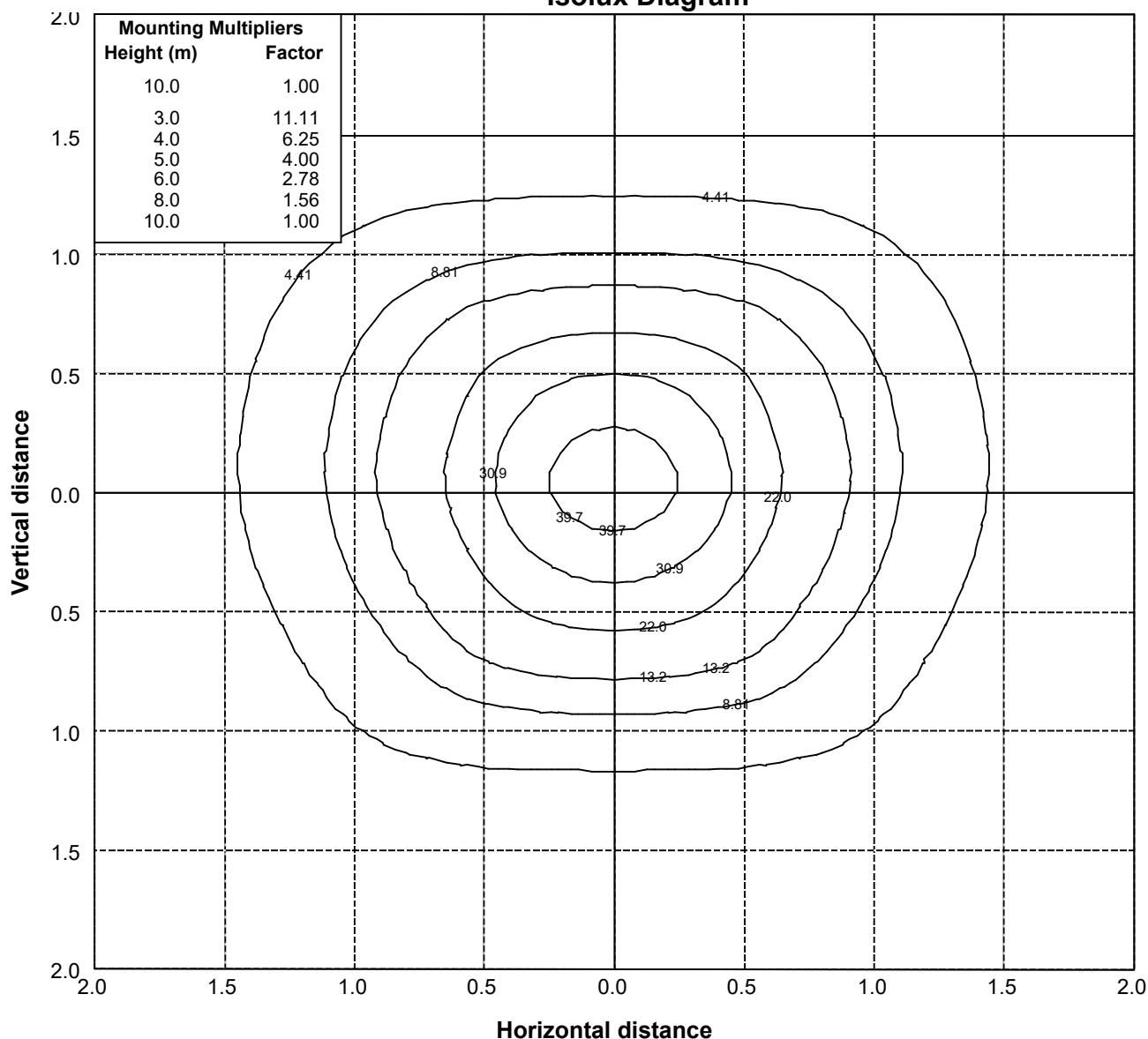
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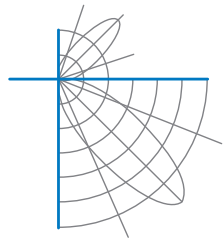
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Isolux Diagram



Note: The isolux levels are based on a mounting height of H = 10.0 metres. Grid values show multiples of mounting height.
The isolux contours are set to 10%, 20%, 30%, 50%, 70%, 90% of the maximum.
The isolux contour units are expressed as lux. The left and right sides of photometric data have been averaged.



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Test Distance 9.5 m
Test Temperature 24.4 °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-79-19, IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2017, 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 (B, β) 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.