

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

ZV1206GV 15L 35K XX MF0 XX MWI

Nom 12" diam reflector matte white finish, small frosted glass jar diffuser

Test Number

SP-01142

Test Date

6/11/2020

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	11 W
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Lumen Output

Output Lumens	1106
Efficacy	100.56 lm/W

Luminous Dimensions

0° - 180° Size	1
90° - 270° Size	1
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.29
Two luminaires, plane 90°	1.36
Four luminaires	1.44

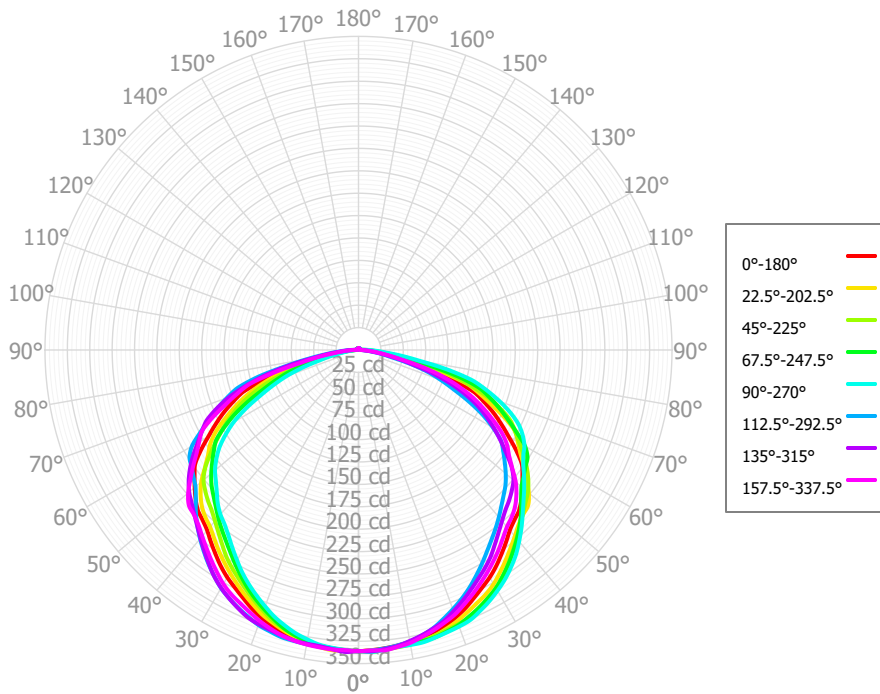
Full Beam Angle

0° - 180°	129°
90° - 270°	129°

IES File Header Contents

Keyword	Value
TEST	SP-01142
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	6/11/2020
ISSUEDATE	6/19/2020
LUMCAT	ZV1206GV 15L 35K XX MF0 XX MWI
LUMINAIRE	Nom 12" diam reflector matte white finish, small frosted glass jar diffuser
OTHER	Beam angle: 128 degrees
LAMPCAT	N/A
LAMP	N/A, 35K/15L GV
OTHER	CCT Output Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80+
_CCTMULT	27K x 0.97, 30K x 0.99, 40K x 1.03
_LAMPMULT	Only 15L available

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	32.36	2.93%	90.00° - 100.00°	2.76	0.25%
10.00° - 20.00°	92.07	8.32%	100.00° - 110.00°	1.74	0.16%
20.00° - 30.00°	141.10	12.76%	100.00° - 120.00°	3.36	0.30%
30.00° - 40.00°	173.75	15.71%	120.00° - 130.00°	1.49	0.13%
40.00° - 50.00°	191.56	17.32%	130.00° - 140.00°	1.33	0.12%
50.00° - 60.00°	191.53	17.32%	140.00° - 150.00°	1.07	0.10%
60.00° - 70.00°	161.48	14.60%	150.00° - 160.00°	0.77	0.07%
70.00° - 80.00°	90.35	8.17%	160.00° - 170.00°	0.49	0.04%
80.00° - 90.00°	20.49	1.85%	170.00° - 180.00°	0.17	0.02%
0.00° - 90.00°	1,094.69	98.97%	0.00° - 180.00°	1,106.13	100.00%

Candela Distribution

	0.00°	22.50°	45.00°	67.50°	90.00°	112.50°	135.00°	157.50°	180.00°	202.50°	225.00°	247.50°	270.00°	292.50°	315.00°	337.50°	360.00°
0.00°	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24	336.24
2.50°	335.43	335.38	337.42	336.07	337.42	336.07	337.42	335.38	335.43	335.64	336.72	335.74	335.16	335.74	336.72	335.64	335.43
5.00°	334.25	335.58	335.37	334.87	335.98	334.87	335.37	335.58	334.25	336.48	335.06	334.47	333.73	334.47	335.06	336.48	334.25
7.50°	332.86	334.81	333.48	334.13	334.42	334.13	333.48	334.81	332.86	334.38	333.30	332.71	331.96	332.71	333.30	334.38	332.86
10.00°	331.02	333.85	332.98	333.46	334.37	333.46	332.98	333.85	331.02	332.05	329.81	330.36	328.13	330.36	329.81	332.05	331.02
12.50°	328.88	332.27	332.21	332.71	334.21	332.71	332.21	332.27	328.88	328.03	326.24	326.47	323.94	326.47	326.24	328.03	328.88
15.00°	326.26	330.07	329.96	331.94	332.23	331.94	329.96	330.07	326.26	323.95	321.93	321.63	318.31	321.63	321.93	323.95	326.26
17.50°	322.65	326.28	327.77	329.38	330.28	329.38	327.77	326.28	322.65	319.22	317.23	314.87	312.19	314.87	317.23	319.22	322.65
20.00°	317.70	322.08	325.82	326.73	328.51	326.73	325.82	322.08	317.70	314.34	310.32	307.94	304.63	307.94	310.32	314.34	317.70
22.50°	311.95	317.04	323.09	322.25	326.24	322.25	323.09	317.04	311.95	307.70	303.32	300.71	296.96	300.71	303.32	307.70	311.95
25.00°	305.28	312.16	318.05	317.71	321.33	317.71	318.05	312.16	305.28	301.03	295.92	292.88	289.01	292.88	295.92	301.03	305.28
27.50°	299.00	307.55	312.71	312.49	316.21	312.49	312.71	307.55	299.00	294.09	288.63	284.26	280.56	284.26	288.63	294.09	299.00
30.00°	293.06	301.68	306.68	306.99	310.28	306.99	306.68	301.68	293.06	287.11	281.67	275.57	271.15	275.57	281.67	287.11	293.06
32.50°	286.05	294.09	299.77	299.49	303.96	299.49	299.77	294.09	286.05	279.89	274.13	266.83	261.93	266.83	274.13	279.89	286.05
35.00°	278.24	286.44	291.26	291.84	296.54	291.84	291.26	286.44	278.24	272.54	265.28	258.76	253.01	258.76	265.28	272.54	278.24
37.50°	270.51	278.72	282.79	283.56	288.48	283.56	282.79	278.72	270.51	264.77	256.86	251.29	245.50	251.29	256.86	264.77	270.51
40.00°	262.82	271.45	274.41	275.11	278.98	275.11	274.41	271.45	262.82	257.82	249.24	243.73	239.76	243.73	249.24	257.82	262.82
42.50°	257.56	264.57	266.52	266.13	269.28	266.13	266.52	264.57	257.56	253.05	242.69	236.10	232.53	236.10	242.69	253.05	257.56
45.00°	253.46	259.88	259.24	256.75	259.21	256.75	259.24	259.88	253.46	247.18	237.72	229.16	223.79	229.16	237.72	247.18	253.46
47.50°	246.60	256.81	252.68	246.31	249.82	246.31	252.68	256.81	246.60	239.08	232.16	222.62	216.05	222.62	232.16	239.08	246.60
50.00°	238.67	248.22	246.82	237.55	241.40	237.55	246.82	248.22	238.67	229.13	225.88	214.56	209.12	214.56	225.88	229.13	238.67
52.50°	230.72	236.41	238.94	232.24	232.99	232.24	238.94	236.41	230.72	216.21	215.69	205.80	200.04	205.80	215.69	216.21	230.72
55.00°	222.77	225.18	229.45	227.49	224.57	227.49	229.45	225.18	222.77	205.13	201.61	197.25	189.49	197.25	201.61	205.13	222.77
57.50°	208.84	214.23	218.75	223.66	218.23	223.66	218.75	214.23	208.84	196.51	187.98	188.78	175.99	188.78	187.98	196.51	208.84
60.00°	193.65	205.44	207.27	214.75	213.86	214.75	207.27	205.44	193.65	184.65	174.71	173.35	160.88	173.35	174.71	184.65	193.65
62.50°	179.95	197.45	197.05	198.99	206.73	198.99	197.05	197.45	179.95	169.25	160.76	155.99	141.93	155.99	160.76	169.25	179.95
65.00°	166.46	180.79	187.49	184.21	197.45	184.21	187.49	180.79	166.46	153.59	146.38	135.82	121.34	135.82	146.38	153.59	166.46
67.50°	151.96	161.70	171.76	170.48	183.98	170.48	171.76	161.70	151.96	137.69	128.73	115.08	103.16	115.08	128.73	137.69	151.96
70.00°	137.37	144.97	153.47	156.39	167.87	156.39	153.47	144.97	137.37	119.17	109.36	97.71	85.78	97.71	109.36	119.17	137.37
72.50°	110.05	128.72	130.62	141.98	150.41	141.98	130.62	128.72	110.05	98.76	86.62	80.80	65.69	80.80	86.62	98.76	110.05
75.00°	82.54	98.22	106.34	116.45	132.27	116.45	106.34	98.22	82.54	74.93	62.46	59.63	44.91	59.63	62.46	74.93	82.54
77.50°	59.17	65.77	79.02	82.88	102.74	82.88	79.02	65.77	59.17	49.11	45.16	38.15	31.64	38.15	45.16	49.11	59.17
80.00°	36.71	46.46	50.99	57.58	68.56	57.58	50.99	46.46	36.71	32.80	30.08	26.95	19.67	26.95	30.08	32.80	36.71
82.50°	25.33	28.11	34.42	37.14	46.77	37.14	34.42	28.11	25.33	20.91	19.72	16.08	13.22	16.08	19.72	20.91	25.33
85.00°	14.71	18.88	19.74	24.45	28.82	24.45	19.74	18.88	14.71	13.29	10.51	10.11	7.36	10.11	10.51	13.29	14.71
87.50°	9.26	9.96	12.64	15.35	19.14	15.35	12.64	9.96	9.26	7.21	6.22	4.51	4.56	4.51	6.22	7.21	9.26
90.00°	4.49	6.17	6.28	9.05	11.33	9.05	6.28	6.17	4.49	4.21	2.77	3.10	1.93	3.10	2.77	4.21	4.49
92.50°	2.82	2.65	3.85	3.77	7.11	3.77	3.85	2.65	2.82	2.07	2.11	1.86	1.81	1.86	2.11	2.07	2.82
95.00°	1.53	2.12	1.60	2.36	3.46	2.36	1.60	2.12	1.53	1.65	1.74	1.74	1.70	1.74	1.74	1.65	1.53
97.50°	1.59	1.65	1.65	2.05	2.45	2.05	1.65	1.65	1.59	1.58	1.73	1.65	1.61	1.65	1.73	1.58	1.59
100.00°	1.65	1.54	1.70	1.81	1.68	1.81	1.70	1.54	1.65	1.64	1.73	1.73	1.55	1.73	1.73	1.64	1.65
102.50°	1.72	1.43	1.73	1.59	1.70	1.59	1.73	1.43	1.72	1.71	1.77	1.78	1.67	1.78	1.77	1.71	1.72
105.00°	1.70	1.33	1.75	1.69	1.74	1.69	1.75	1.33	1.70	1.55	1.81	1.70	1.74	1.70	1.81	1.55	1.70
107.50°	1.50	1.29	1.70	1.83	1.76	1.83	1.70	1.29	1.50	1.38	1.81	1.62	1.57	1.62	1.81	1.38	1.50
110.00°	1.39	1.47	1.66	1.79	1.78	1.79	1.66	1.47	1.39	1.34	1.79	1.55	1.51	1.55	1.79	1.34	1.39
112.50°	1.42	1.56	1.70	1.73	1.67	1.73	1.70	1.56	1.42	1.32	1.68	1.58	1.84	1.58	1.68	1.32	1.42

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
	0	1,314	1,314	1,314	1,314	1,282	1,282	1,282	1,282	1,223	1,223	1,223	1,168	1,168	1,168	1,118	1,118	1,118	1,095
	1	1,194	1,138	1,088	1,043	1,162	1,112	1,066	1,025	1,062	1,025	991	1,017	986	958	975	950	927	929
	2	1,078	982	903	836	1,048	960	887	825	919	857	804	880	829	784	845	802	764	783
	3	978	855	761	685	949	837	749	678	802	726	664	769	705	651	739	685	638	668
	4	891	753	651	573	864	737	642	569	707	624	559	679	608	550	654	592	541	578
	5	817	669	565	489	792	655	558	485	630	544	479	606	531	472	584	519	466	506
	6	752	599	496	423	730	588	491	420	566	480	415	546	469	411	527	459	406	449
	7	696	541	441	371	676	532	436	369	513	428	365	496	419	361	480	411	358	402
	8	647	492	395	329	628	484	392	327	468	384	324	453	377	322	439	370	319	363
	9	604	451	357	294	587	444	354	293	430	348	291	417	342	289	405	337	286	330
	10	565	415	325	266	550	409	323	265	397	318	263	386	313	261	375	308	259	302

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	11.1 fc	23.1 ft
6.5 ft	8.0 fc	27.4 ft
7.5 ft	6.0 fc	31.6 ft
8.0 ft	5.3 fc	33.7 ft
10.0 ft	3.4 fc	42.1 ft
12.0 ft	2.3 fc	50.5 ft
14.0 ft	1.7 fc	58.9 ft
16.0 ft	1.3 fc	67.3 ft
20.0 ft	0.8 fc	84.2 ft
24.0 ft	0.6 fc	101.0 ft
28.0 ft	0.4 fc	117.8 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	3,619	3,619	3,619
45.00°	3,858	3,946	3,946
55.00°	4,181	4,306	4,214
65.00°	4,240	4,775	5,029
75.00°	3,433	4,423	5,501
85.00°	1,817	2,438	3,559

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
2H	2H	17.4	19.1	17.8	19.4	19.8	17.4	19.1	17.8	19.4	19.7
	3H	19.6	21.1	20.0	21.5	21.9	19.5	21.0	19.9	21.4	21.8
	4H	20.3	21.7	20.7	22.1	22.5	20.3	21.8	20.8	22.1	22.5
	6H	20.6	21.9	21.0	22.3	22.7	20.8	22.2	21.3	22.6	23.0
	8H	20.7	21.9	21.1	22.3	22.8	21.0	22.2	21.4	22.7	23.1
	12H	20.7	21.9	21.1	22.3	22.8	21.1	22.3	21.5	22.7	23.1
4H	2H	18.2	19.6	18.6	20.0	20.4	18.2	19.6	18.6	20.0	20.4
	3H	20.6	21.8	21.0	22.2	22.6	20.5	21.7	20.9	22.1	22.5
	4H	21.3	22.4	21.8	22.9	23.3	21.4	22.5	21.9	22.9	23.4
	6H	21.7	22.7	22.2	23.1	23.6	22.0	23.0	22.5	23.4	23.9
	8H	21.8	22.7	22.3	23.2	23.7	22.1	23.0	22.6	23.5	24.0
	12H	21.9	22.7	22.4	23.2	23.7	22.3	23.1	22.8	23.6	24.1
8H	4H	21.6	22.5	22.1	23.0	23.5	21.7	22.6	22.2	23.1	23.6
	6H	22.1	22.9	22.6	23.4	23.9	22.4	23.1	22.9	23.6	24.1
	8H	22.2	22.9	22.8	23.4	23.9	22.6	23.2	23.1	23.8	24.3
	12H	22.4	22.9	22.9	23.5	24.0	22.7	23.3	23.3	23.8	24.4
12H	4H	21.7	22.5	22.2	23.0	23.5	21.7	22.5	22.2	23.0	23.5
	6H	22.2	22.8	22.7	23.3	23.9	22.4	23.1	22.9	23.5	24.1
	8H	22.3	22.9	22.8	23.4	24.0	22.6	23.2	23.2	23.7	24.3

Corrected UGR values based on total output lumens

SHR = 1.0