

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

GPRF1200GV 27L 35K EX MW  
Nom 12" Globe (Sphere) luminaire

### Test Number

SP-00647\_3\_M-27L

### Test Date

1/27/2020

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

### Summary of Results

#### Power

Input Watts	18 W
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#### Lumen Output

Output Lumens	2097
Efficacy	116.5 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	1.59
Two luminaires, plane 90°	1.56
Four luminaires	1.76

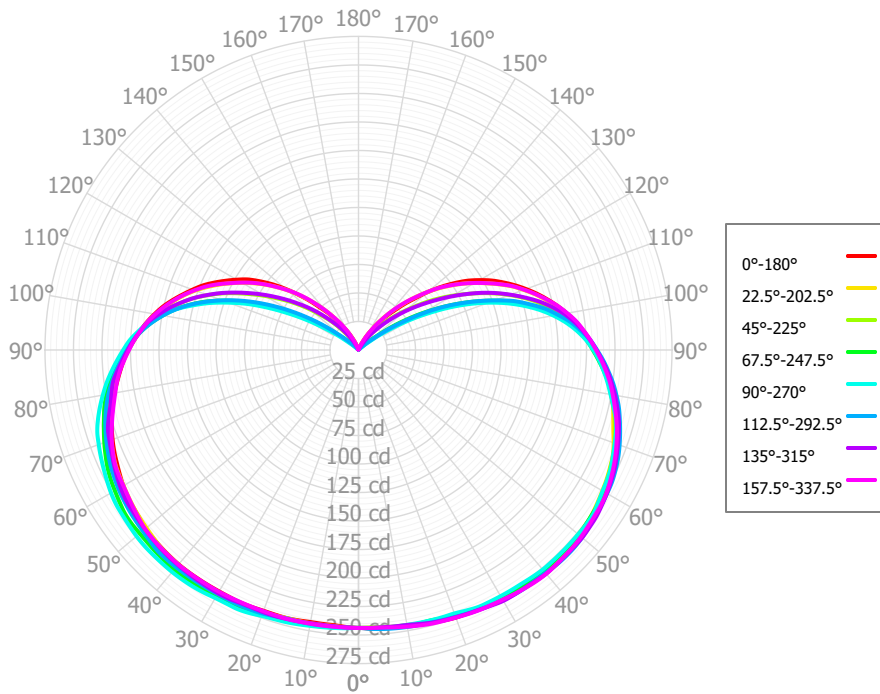
#### Full Beam Angle

0° - 180°	237°
90° - 270°	218°

### IES File Header Contents

Keyword	Value
TEST	SP-00647_3_M-27L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/27/2020
ISSUEDATE	1/29/2020
LUMCAT	GPRF1200GV 27L 35K EX MW
LUMINAIRE	Nom 12" Globe (Sphere) luminaire
LAMPCAT	N/A
LAMP	N/A
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, scaled from 55L

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	23.69	1.13%	90.00° - 100.00°	210.94	10.06%
10.00° - 20.00°	69.71	3.32%	100.00° - 110.00°	170.23	8.12%
20.00° - 30.00°	114.96	5.48%	100.00° - 120.00°	285.79	13.63%
30.00° - 40.00°	157.23	7.50%	120.00° - 130.00°	61.69	2.94%
40.00° - 50.00°	194.15	9.26%	130.00° - 140.00°	26.58	1.27%
50.00° - 60.00°	222.59	10.61%	140.00° - 150.00°	9.29	0.44%
60.00° - 70.00°	239.96	11.44%	150.00° - 160.00°	1.71	0.08%
70.00° - 80.00°	244.04	11.64%	160.00° - 170.00°	0.22	0.01%
80.00° - 90.00°	234.35	11.18%	170.00° - 180.00°	0.07	0.00%
0.00° - 90.00°	1,500.68	71.56%	0.00° - 180.00°	2,096.95	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°	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80	243.80
2.50°	244.61	244.10	243.63	244.04	244.16	243.64	243.52	243.75	243.20	243.53	243.69	244.00	244.30	244.85	244.04	244.03	244.61
5.00°	245.13	244.39	244.14	244.43	244.59	243.59	243.28	243.75	242.37	243.07	244.05	244.34	244.74	245.67	244.16	244.37	245.13
7.50°	245.48	245.00	244.60	245.28	244.73	243.73	243.17	243.76	242.31	243.16	244.43	244.70	245.19	246.22	244.50	245.40	245.48
10.00°	245.85	245.69	245.05	246.04	244.83	243.92	243.31	243.78	242.31	243.38	244.68	245.05	245.69	246.70	244.94	246.43	245.85
12.50°	246.72	246.53	245.91	245.68	245.13	243.84	243.80	243.90	242.91	243.46	244.64	245.28	246.39	247.01	246.14	247.51	246.72
15.00°	247.61	247.27	246.84	245.50	245.45	243.71	244.23	244.03	243.42	243.51	244.76	245.55	247.02	247.47	247.63	248.49	247.61
17.50°	248.76	247.80	247.84	246.71	245.69	244.78	244.60	243.90	243.38	244.11	245.21	246.22	247.43	248.19	248.63	249.11	248.76
20.00°	249.79	248.42	248.85	247.89	245.91	246.06	244.71	243.79	243.45	244.79	245.56	246.92	248.20	249.07	249.47	249.81	249.79
22.50°	249.95	249.21	249.38	248.83	247.31	246.59	244.55	243.96	244.04	245.00	245.74	247.88	249.79	250.22	250.37	250.76	249.95
25.00°	250.32	250.13	249.87	249.70	248.70	247.03	244.98	244.15	244.50	245.16	245.91	248.76	250.85	251.27	251.29	251.61	250.32
27.50°	252.05	251.25	250.21	250.30	249.00	247.16	245.95	244.50	244.48	245.48	246.07	249.24	250.83	252.19	252.65	252.18	252.05
30.00°	253.43	251.88	250.55	250.81	249.30	247.26	246.39	244.82	244.52	245.82	246.38	249.68	251.25	253.20	254.09	252.90	253.43
32.50°	253.16	251.89	251.44	251.05	249.64	247.63	246.40	245.02	244.79	245.91	246.90	249.98	252.40	254.32	254.43	253.95	253.16
35.00°	253.16	251.88	252.31	251.38	250.01	248.01	246.38	245.23	245.06	245.99	247.36	250.36	253.31	254.84	254.59	254.94	253.16
37.50°	254.20	251.83	252.30	252.04	250.78	248.42	246.33	245.53	245.33	245.90	247.76	251.03	253.90	254.75	255.33	255.84	254.20
40.00°	254.89	252.10	252.29	252.45	251.46	248.83	246.26	245.73	245.44	245.80	247.97	251.46	254.27	255.22	256.14	256.26	254.89
42.50°	254.52	252.66	252.32	252.28	251.48	249.05	246.17	245.49	245.18	245.51	248.01	251.22	254.37	256.20	256.06	255.90	254.52
45.00°	254.13	252.91	252.32	252.29	251.50	249.19	245.74	245.24	244.82	245.14	247.66	250.95	254.45	256.62	255.93	255.60	254.13
47.50°	253.72	252.92	252.02	252.68	251.51	248.07	245.13	244.97	244.27	243.94	246.98	250.63	254.52	256.61	256.02	255.42	253.72
50.00°	253.22	252.50	251.71	252.53	251.52	246.98	244.49	244.35	243.44	242.76	246.35	250.47	254.16	255.97	256.11	254.89	253.22
52.50°	252.55	251.77	251.37	251.43	251.61	246.27	243.84	242.74	242.17	241.79	245.75	250.63	253.38	254.93	255.43	253.93	252.55
55.00°	251.56	250.43	250.83	250.53	251.21	245.51	243.24	241.12	240.98	240.76	244.46	250.10	252.70	253.88	254.71	253.10	251.56
57.50°	250.00	248.71	249.33	249.92	249.17	244.40	242.65	239.51	239.90	239.35	242.74	248.45	252.08	252.83	253.15	252.41	250.00
60.00°	248.45	247.05	247.76	248.83	247.31	243.22	241.01	238.14	238.30	237.99	241.24	246.80	250.67	251.78	251.56	250.99	248.45
62.50°	246.92	245.42	245.89	247.10	245.95	241.66	239.05	237.25	236.08	236.90	239.86	245.16	248.67	250.73	249.72	248.89	246.92
65.00°	244.91	243.50	243.93	245.04	244.23	239.94	236.82	235.77	233.95	235.54	238.16	243.01	246.66	248.83	247.77	246.48	244.91
67.50°	242.24	241.46	241.70	242.59	241.66	237.65	234.51	233.24	231.93	233.27	236.30	240.21	244.65	246.59	245.00	243.82	242.24
70.00°	239.35	238.18	239.25	239.91	239.17	235.28	232.45	230.35	229.56	230.81	233.65	237.28	242.48	243.71	242.22	240.87	239.35
72.50°	236.22	234.41	236.16	237.00	236.86	232.64	230.43	226.91	226.88	227.80	230.69	234.20	240.24	240.62	239.40	237.71	236.22
75.00°	232.76	231.40	232.91	233.98	233.67	229.81	226.75	223.45	223.95	224.74	227.40	231.19	236.61	237.32	236.39	234.13	232.76
77.50°	228.94	228.63	229.28	230.87	228.95	226.46	222.83	219.94	220.84	221.57	223.99	228.24	232.35	233.96	232.51	230.30	228.94
80.00°	225.07	225.12	225.44	226.62	224.48	222.76	219.97	216.68	217.33	218.27	220.38	224.48	227.72	229.77	228.51	226.47	225.07
82.50°	221.16	221.41	221.18	221.50	220.38	218.27	217.22	213.70	213.54	214.69	216.71	220.07	222.96	225.39	224.10	222.63	221.16
85.00°	216.89	216.88	216.72	216.25	216.02	213.53	212.31	210.04	209.80	210.89	211.82	215.16	217.59	220.28	219.46	218.14	216.89
87.50°	212.36	212.18	211.91	210.92	211.32	208.31	207.26	205.70	206.10	206.70	206.66	209.90	212.04	215.03	214.13	213.34	212.36
90.00°	207.73	207.13	206.87	205.59	205.94	203.00	202.35	201.30	201.78	202.17	201.79	204.19	206.38	209.25	208.76	208.44	207.73
92.50°	203.02	202.02	201.50	200.26	199.77	197.55	197.43	196.86	197.17	197.15	196.97	198.21	200.71	203.40	203.29	203.49	203.02
95.00°	197.69	196.65	195.38	193.19	192.35	191.05	191.98	192.01	192.25	191.88	191.86	191.09	193.38	195.62	197.40	198.14	197.69
97.50°	192.00	191.25	188.31	185.26	183.70	183.06	186.39	186.85	187.22	186.28	186.70	183.36	185.71	187.67	190.61	192.67	192.00
100.00°	185.56	184.50	180.54	175.66	173.72	174.23	178.28	180.99	181.59	180.31	178.44	174.28	175.34	177.67	183.03	185.92	185.56
102.50°	178.74	177.65	171.98	165.38	162.62	164.36	170.08	174.69	175.74	173.92	169.92	164.61	164.51	167.56	174.03	178.84	178.74
105.00°	171.51	170.07	162.48	153.55	150.04	153.18	160.86	167.82	168.91	167.18	160.73	153.15	150.95	155.24	164.20	170.95	171.51
107.50°	164.12	162.48	152.09	141.19	136.38	140.61	151.50	160.65	161.79	160.11	151.51	141.02	137.06	142.82	153.04	162.89	164.12
110.00°	156.33	154.19	141.10	126.61	121.35	127.28	141.04	153.04	154.82	152.37	140.64	126.61	121.39	127.16	141.81	154.59	156.33
112.50°	148.41	145.85	129.60	111.42	105.45	113.25	130.45	145.20	147.88	144.05	129.73	111.47	105.60	111.49	130.46	146.25	148.41

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	2,354	2,354	2,354	2,354	2,230	2,230	2,230	2,230	1,999	1,999	1,999	1,787	1,787	1,787	1,592	1,592	1,501
	<b>1</b>	2,036	1,893	1,764	1,649	1,913	1,785	1,670	1,565	1,583	1,490	1,406	1,397	1,324	1,256	1,226	1,169	1,090
	<b>2</b>	1,809	1,591	1,410	1,259	1,693	1,498	1,335	1,197	1,324	1,192	1,078	1,163	1,057	964	1,014	930	862
	<b>3</b>	1,626	1,364	1,161	999	1,518	1,283	1,100	951	1,133	982	858	993	871	768	864	765	707
	<b>4</b>	1,473	1,187	977	817	1,374	1,117	926	778	987	828	703	866	735	630	753	646	597
	<b>5</b>	1,344	1,045	836	682	1,254	985	794	651	872	711	589	766	633	528	667	557	514
	<b>6</b>	1,233	930	726	580	1,151	877	690	554	778	620	502	685	552	451	599	488	451
	<b>7</b>	1,137	834	638	500	1,063	788	607	478	701	546	434	619	488	390	542	432	400
	<b>8</b>	1,053	754	566	436	986	713	539	417	636	486	380	564	436	342	496	387	359
	<b>9</b>	980	686	506	385	918	650	483	368	582	437	335	517	393	303	456	350	325
	<b>10</b>	915	628	456	342	859	596	436	328	535	395	299	477	356	271	422	318	296

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	8.1 fc	-20.3 ft
6.5 ft	5.8 fc	-24.0 ft
7.5 ft	4.3 fc	-27.7 ft
8.0 ft	3.8 fc	-29.5 ft
10.0 ft	2.4 fc	-36.9 ft
12.0 ft	1.7 fc	-44.3 ft
14.0 ft	1.2 fc	-51.6 ft
16.0 ft	1.0 fc	-59.0 ft
20.0 ft	0.6 fc	-73.8 ft
24.0 ft	0.4 fc	-88.5 ft
28.0 ft	0.3 fc	-103.3 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	3,341	3,341	3,341
<b>45.00°</b>	2,167	2,151	2,144
<b>55.00°</b>	2,133	2,127	2,130
<b>65.00°</b>	2,129	2,121	2,123
<b>75.00°</b>	2,143	2,144	2,151
<b>85.00°</b>	2,193	2,191	2,184

### 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	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
4H	2H	-	-	-	-	-	-	-	-	-	-
	3H	-	-	-	-	-	-	-	-	-	-
	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
8H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-
	12H	-	-	-	-	-	-	-	-	-	-
12H	4H	-	-	-	-	-	-	-	-	-	-
	6H	-	-	-	-	-	-	-	-	-	-
	8H	-	-	-	-	-	-	-	-	-	-

Corrected UGR values based on total output lumens

SHR = 1.0