

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

GPRF2000GV 15L 35K EX MW
Nom 20" Globe (Sphere) luminaire

Test Number

SP-00647_5_M-15L

Test Date

1/27/2020

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

Summary of Results

Power

Input Watts	10 W
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Lumen Output

Output Lumens	1340
Efficacy	134 lm/W

Luminous Dimensions

0° - 180° Size	-1.67
90° - 270° Size	-1.67
Height	1.67

Spacing Criterion

Two luminaires, plane 0°	1.53
Two luminaires, plane 90°	1.47
Four luminaires	1.72

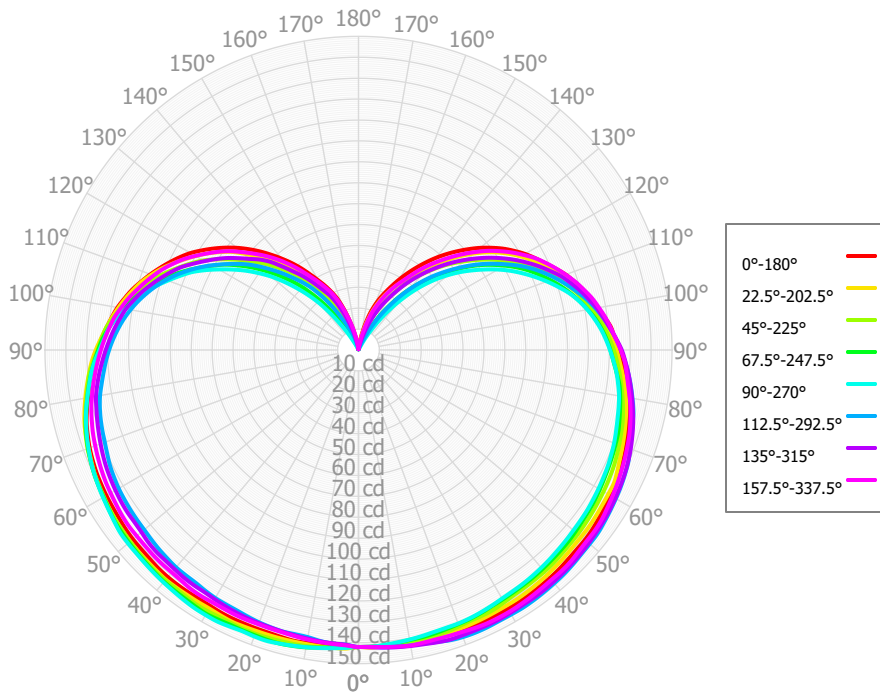
Full Beam Angle

0° - 180°	263°
90° - 270°	244°

IES File Header Contents

Keyword	Value
TEST	SP-00647_5_M-15L
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/27/2020
ISSUEDATE	1/28/2020
LUMCAT	GPRF2000GV 15L 35K EX MW
LUMINAIRE	Nom 20" 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°	13.79	1.03%	90.00° - 100.00°	130.07	9.71%
10.00° - 20.00°	40.35	3.01%	100.00° - 110.00°	114.59	8.55%
20.00° - 30.00°	65.77	4.91%	100.00° - 120.00°	207.71	15.50%
30.00° - 40.00°	88.88	6.63%	120.00° - 130.00°	68.38	5.10%
40.00° - 50.00°	108.84	8.12%	130.00° - 140.00°	43.65	3.26%
50.00° - 60.00°	124.77	9.31%	140.00° - 150.00°	22.55	1.68%
60.00° - 70.00°	135.64	10.12%	150.00° - 160.00°	8.68	0.65%
70.00° - 80.00°	140.39	10.48%	160.00° - 170.00°	1.92	0.14%
80.00° - 90.00°	138.51	10.34%	170.00° - 180.00°	0.10	0.01%
0.00° - 90.00°	856.94	63.95%	0.00° - 180.00°	1,339.99	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°	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10	142.10
2.50°	142.21	142.54	142.08	142.21	142.09	141.10	141.17	141.47	142.31	143.00	142.57	142.22	142.71	142.17	142.44	142.21	142.21
5.00°	142.35	142.27	141.85	142.09	141.62	141.03	140.90	141.19	142.13	143.02	143.10	142.80	143.20	142.74	142.93	142.67	142.35
7.50°	142.51	142.21	141.63	141.38	141.15	140.42	140.62	140.94	142.01	142.97	143.60	143.60	143.81	143.10	143.42	143.13	142.51
10.00°	142.76	142.12	141.60	140.92	140.67	139.50	140.23	140.66	142.31	142.90	143.83	144.50	144.37	143.48	143.81	143.57	142.76
12.50°	143.00	142.00	141.56	140.77	140.18	139.33	139.86	140.28	142.50	142.92	144.05	145.03	144.92	143.88	144.21	143.43	143.00
15.00°	142.94	141.92	141.42	140.45	139.66	139.48	139.56	139.95	142.20	142.96	144.18	145.44	145.44	144.61	144.82	143.31	142.94
17.50°	142.88	141.93	141.24	139.97	139.37	139.18	139.29	139.80	141.96	143.01	144.31	145.39	145.95	145.63	145.33	143.49	142.88
20.00°	142.89	141.88	140.68	139.59	139.29	138.71	139.11	139.70	141.91	143.06	144.42	145.22	145.85	146.15	145.28	143.70	142.89
22.50°	142.90	141.77	140.23	139.28	138.97	138.13	138.88	139.76	141.89	143.23	144.43	145.15	145.61	146.35	145.27	144.15	142.90
25.00°	142.92	141.62	140.22	138.81	138.47	137.53	138.55	139.75	141.91	143.41	144.18	145.10	145.98	146.29	145.39	144.51	142.92
27.50°	142.95	141.42	140.06	138.22	137.92	137.25	138.16	139.55	141.83	143.12	144.08	145.40	146.45	146.08	145.44	144.55	142.95
30.00°	142.96	141.32	139.39	137.84	137.33	137.03	137.66	139.50	141.54	142.82	144.33	145.74	146.40	146.13	145.25	144.53	142.96
32.50°	142.93	141.29	138.86	137.57	136.98	136.50	137.34	139.73	141.43	142.92	144.35	145.41	146.32	146.28	145.15	144.32	142.93
35.00°	142.75	141.09	138.71	137.35	136.75	135.93	137.38	139.68	141.66	143.03	143.96	145.05	145.92	146.15	145.21	144.07	142.75
37.50°	142.58	140.79	138.57	137.15	136.41	135.83	137.26	139.19	141.81	143.27	143.76	144.90	145.51	145.93	145.18	143.77	142.58
40.00°	142.41	140.45	138.43	136.86	136.03	135.75	136.92	138.94	141.85	143.44	143.82	144.75	145.15	145.73	144.98	143.57	142.41
42.50°	142.15	140.08	138.17	136.53	135.59	135.33	136.71	138.97	141.69	143.18	143.72	144.36	144.79	145.52	144.76	143.58	142.15
45.00°	141.73	139.68	137.70	136.22	135.12	134.89	136.69	138.86	141.30	142.93	143.44	143.98	144.43	145.09	144.49	143.36	141.73
47.50°	141.45	139.26	137.31	135.91	134.68	134.35	136.32	138.61	141.04	142.78	143.06	143.68	144.10	144.61	144.16	142.77	141.45
50.00°	141.38	139.06	137.02	135.39	134.24	133.82	135.58	138.49	140.90	142.58	142.59	143.38	143.95	144.41	143.77	142.40	141.38
52.50°	141.03	138.94	136.67	134.83	133.90	133.53	135.19	138.47	140.55	142.22	142.18	143.01	143.67	144.23	143.38	142.32	141.03
55.00°	140.36	138.61	136.25	134.40	133.58	133.23	135.10	138.10	140.03	141.84	141.83	142.55	142.75	143.56	142.99	141.88	140.36
57.50°	139.86	138.22	135.82	133.97	133.10	132.88	134.77	137.50	139.62	141.39	141.28	141.67	141.88	142.87	142.48	141.05	139.86
60.00°	139.53	138.00	135.40	133.34	132.61	132.47	134.26	136.95	139.28	140.88	140.61	140.86	141.15	142.20	141.89	140.23	139.53
62.50°	138.92	137.81	134.90	132.70	132.10	131.86	133.69	136.42	138.85	140.23	139.99	140.30	140.40	141.53	141.23	139.42	138.92
65.00°	138.10	136.67	134.34	132.15	131.59	131.15	133.08	135.70	138.38	139.44	139.42	139.63	139.58	140.68	140.54	138.58	138.10
67.50°	137.15	135.43	133.59	131.59	130.88	130.11	132.25	134.89	137.68	138.41	138.71	138.70	138.66	139.76	139.62	137.71	137.15
70.00°	136.11	134.42	132.72	130.98	130.15	129.17	131.32	134.04	136.89	137.49	137.94	137.68	137.49	138.28	138.59	136.79	136.11
72.50°	134.82	133.42	131.82	130.32	129.21	128.49	130.38	133.17	135.83	136.75	136.74	136.47	136.28	136.86	137.36	135.85	134.82
75.00°	133.39	132.32	130.89	129.27	128.28	127.71	129.43	132.08	134.68	135.69	135.40	135.08	134.98	135.85	136.05	134.65	133.39
77.50°	132.09	131.21	129.64	128.20	127.46	126.76	128.48	130.93	133.11	134.28	133.83	133.40	133.49	134.73	134.52	133.33	132.09
80.00°	130.85	129.90	128.26	127.12	126.58	125.56	127.53	129.51	131.43	132.75	132.20	131.75	131.73	133.10	132.93	131.78	130.85
82.50°	129.46	128.54	126.83	125.88	125.30	123.96	126.03	128.04	130.07	131.11	130.70	130.15	130.03	131.42	131.30	130.14	129.46
85.00°	128.03	126.77	125.38	123.94	123.91	122.42	124.43	126.47	128.76	129.44	129.24	128.41	128.40	129.60	129.66	128.79	128.03
87.50°	126.02	125.03	123.79	122.08	122.14	120.95	122.70	124.90	127.01	127.77	127.06	126.50	126.37	127.69	127.83	127.51	126.02
90.00°	123.86	123.49	122.16	120.52	120.33	119.32	120.95	123.25	125.23	125.71	124.82	124.55	123.96	125.56	125.96	125.46	123.86
92.50°	122.56	121.85	120.26	118.81	118.41	117.51	119.10	121.58	123.16	123.40	123.01	122.56	121.81	123.29	123.39	123.25	122.56
95.00°	121.41	119.80	118.32	116.71	116.33	115.50	117.25	119.76	121.08	121.18	121.23	120.00	119.88	120.77	120.73	121.18	121.41
97.50°	118.89	117.60	115.92	114.33	113.87	113.29	115.15	117.92	119.11	118.99	118.34	117.01	116.86	118.06	118.19	119.14	118.89
100.00°	116.22	114.96	113.49	111.37	111.19	110.75	113.03	115.44	117.10	116.62	115.44	113.95	113.14	115.07	115.66	116.81	116.22
102.50°	113.78	112.30	110.54	108.29	108.11	107.97	110.17	112.94	114.57	114.17	112.40	110.84	109.53	111.77	112.74	114.46	113.78
105.00°	111.36	109.58	107.56	105.01	104.55	104.87	107.28	110.07	111.99	111.48	109.33	107.13	105.98	108.08	109.79	111.59	111.36
107.50°	108.44	106.79	104.27	101.51	100.29	101.60	104.00	107.20	108.96	108.72	105.91	103.13	101.68	104.28	106.51	108.70	108.44
110.00°	105.50	103.82	100.93	97.74	95.90	97.95	100.71	104.27	105.90	105.38	102.38	99.05	97.07	100.37	103.16	105.43	105.50
112.50°	101.96	100.60	96.93	93.88	91.37	94.12	97.28	101.24	102.72	101.91	98.19	94.95	92.57	96.24	99.09	102.14	101.96

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	1,480	1,480	1,480	1,480	1,390	1,390	1,390	1,390	1,221	1,221	1,221	1,066	1,066	1,066	924	924	924	857
	1	1,284	1,196	1,117	1,046	1,196	1,118	1,047	983	970	915	864	835	791	751	710	677	646	620
	2	1,144	1,009	897	804	1,061	941	841	757	814	734	665	696	633	578	588	539	495	490
	3	1,029	867	741	641	952	808	695	604	698	607	532	596	523	462	501	444	395	402
	4	933	756	625	526	863	705	587	496	609	513	437	520	443	380	437	375	324	339
	5	852	666	536	440	788	622	504	416	538	441	367	460	381	319	388	324	273	293
	6	782	593	466	375	723	554	438	354	481	385	313	412	333	273	348	284	233	257
	7	721	532	409	323	668	498	385	306	433	339	271	372	295	236	316	252	203	228
	8	667	480	363	282	619	450	342	267	393	302	237	339	263	207	288	225	178	205
	9	621	437	324	248	576	410	306	235	359	271	209	311	237	184	265	204	158	185
	10	580	400	292	221	539	376	276	209	330	245	187	287	215	164	246	186	142	169

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	4.7 fc	-12.4 ft
6.5 ft	3.4 fc	-14.7 ft
7.5 ft	2.5 fc	-16.9 ft
8.0 ft	2.2 fc	-18.1 ft
10.0 ft	1.4 fc	-22.6 ft
12.0 ft	1.0 fc	-27.1 ft
14.0 ft	0.7 fc	-31.6 ft
16.0 ft	0.6 fc	-36.1 ft
20.0 ft	0.4 fc	-45.2 ft
24.0 ft	0.2 fc	-54.2 ft
28.0 ft	0.2 fc	-63.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	698	698	698
45.00°	433	421	413
55.00°	427	414	406
65.00°	430	419	410
75.00°	440	432	423
85.00°	464	455	449

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