

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

GPRF1200GV 55L 35K EX MW  
Nom 12" Globe (Sphere) luminaire

### Test Number

SP-00647\_3

### Test Date

1/27/2020

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

### Summary of Results

#### Power

Input Watts	39 W
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#### Lumen Output

Output Lumens	4462
Efficacy	114.4 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

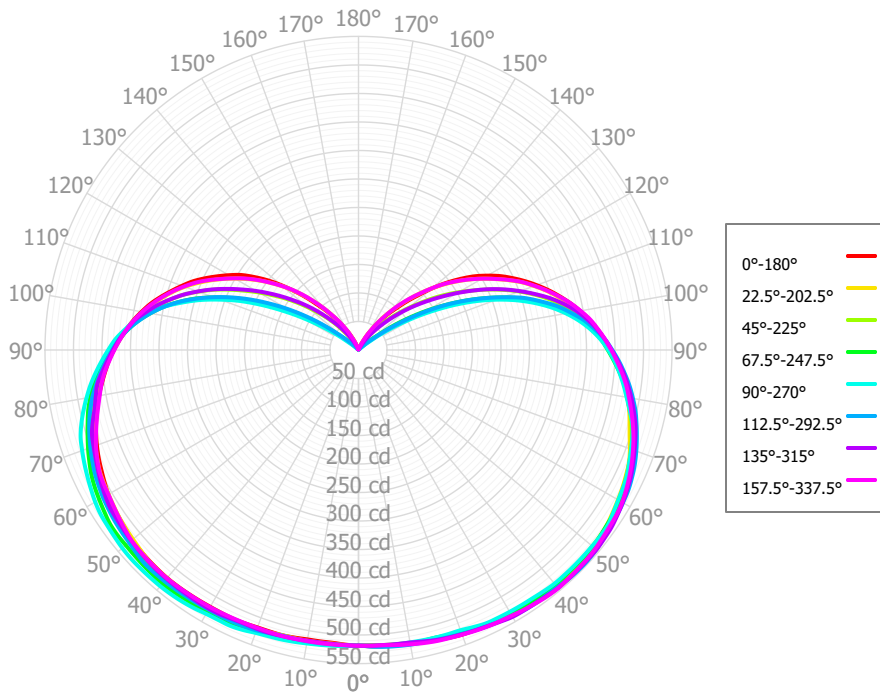
#### Full Beam Angle

0° - 180°	237°
90° - 270°	218°

### IES File Header Contents

Keyword	Value
TEST	SP-00647_3
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/27/2020
ISSUEDATE	1/29/2020
LUMCAT	GPRF1200GV 55L 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
_CRI	80+
_CCTMULT	27K x 0.97, 30K x 0.99, 40K x 1.03
_LAMPMULT	15L x 0.27, 27L x 0.47, 37L x 0.69

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	50.40	1.13%	90.00° - 100.00°	448.81	10.06%
10.00° - 20.00°	148.33	3.32%	100.00° - 110.00°	362.20	8.12%
20.00° - 30.00°	244.60	5.48%	100.00° - 120.00°	608.06	13.63%
30.00° - 40.00°	334.52	7.50%	120.00° - 130.00°	131.25	2.94%
40.00° - 50.00°	413.09	9.26%	130.00° - 140.00°	56.55	1.27%
50.00° - 60.00°	473.59	10.61%	140.00° - 150.00°	19.76	0.44%
60.00° - 70.00°	510.55	11.44%	150.00° - 160.00°	3.63	0.08%
70.00° - 80.00°	519.24	11.64%	160.00° - 170.00°	0.46	0.01%
80.00° - 90.00°	498.61	11.18%	170.00° - 180.00°	0.14	0.00%
0.00° - 90.00°	3,192.94	71.56%	0.00° - 180.00°	4,461.60	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°	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72	518.72
2.50°	520.45	519.36	518.37	519.23	519.48	518.38	518.13	518.62	517.45	518.16	518.48	519.14	519.79	520.95	519.23	519.21	520.45
5.00°	521.54	519.97	519.46	520.07	520.40	518.28	517.63	518.61	515.69	517.17	519.26	519.87	520.72	522.71	519.50	519.94	521.54
7.50°	522.29	521.28	520.43	521.88	520.70	518.58	517.39	518.64	515.55	517.36	520.06	520.64	521.67	523.88	520.22	522.12	522.29
10.00°	523.07	522.73	521.38	523.48	520.91	518.97	517.69	518.69	515.55	517.84	520.60	521.39	522.75	524.88	521.16	524.32	523.07
12.50°	524.94	524.53	523.21	522.72	521.55	518.82	518.71	518.95	516.83	518.00	520.51	521.87	524.24	525.55	523.70	526.61	524.94
15.00°	526.84	526.10	525.20	522.34	522.24	518.53	519.64	519.20	517.91	518.11	520.76	522.44	525.57	526.52	526.87	528.71	526.84
17.50°	529.27	527.23	527.32	524.92	522.74	520.81	520.43	518.94	517.83	519.39	521.72	523.86	526.45	528.06	528.99	530.03	529.27
20.00°	531.47	528.55	529.47	527.42	523.22	523.52	520.67	518.70	517.97	520.84	522.46	525.37	528.08	529.94	530.78	531.51	531.47
22.50°	531.80	530.23	530.59	529.42	526.18	524.65	520.32	519.07	519.23	521.28	522.84	527.41	531.47	532.38	532.71	533.53	531.80
25.00°	532.61	532.20	531.63	531.29	529.15	525.59	521.23	519.48	520.22	521.62	523.21	529.28	533.72	534.62	534.67	535.34	532.61
27.50°	536.28	534.58	532.36	532.55	529.79	525.86	523.29	520.20	520.17	522.31	523.55	530.29	533.69	536.57	537.55	536.55	536.28
30.00°	539.22	535.91	533.08	533.65	530.43	526.09	524.22	520.89	520.26	523.02	524.22	531.23	534.57	538.72	540.61	538.08	539.22
32.50°	538.63	535.94	534.97	534.14	531.15	526.87	524.26	521.32	520.83	523.21	525.32	531.86	537.01	541.11	541.33	540.31	538.63
35.00°	538.63	535.91	536.83	534.86	531.95	527.67	524.22	521.77	521.40	523.38	526.30	532.68	538.96	542.21	541.67	542.43	538.63
37.50°	540.85	535.81	536.80	536.25	533.58	528.55	524.11	522.41	521.98	523.20	527.14	534.11	540.21	542.01	543.25	544.34	540.85
40.00°	542.32	536.37	536.78	537.13	535.02	529.42	523.95	522.84	522.21	522.99	527.60	535.01	541.00	543.02	544.98	545.24	542.32
42.50°	541.52	537.56	536.85	536.76	535.07	529.90	523.76	522.32	521.66	522.37	527.68	534.51	541.21	545.10	544.82	544.46	541.52
45.00°	540.70	538.11	536.86	536.79	535.11	530.20	522.84	521.79	520.90	521.58	526.93	533.94	541.39	545.99	544.52	543.84	540.70
47.50°	539.82	538.13	536.21	537.61	535.12	527.80	521.56	521.21	519.72	519.01	525.49	533.25	541.54	545.97	544.72	543.45	539.82
50.00°	538.77	537.24	535.56	537.30	535.15	525.49	520.20	519.90	517.96	516.51	524.14	532.90	540.76	544.62	544.93	542.32	538.77
52.50°	537.34	535.69	534.82	534.97	535.33	523.98	518.81	516.46	515.26	514.46	522.86	533.25	539.11	542.39	543.47	540.28	537.34
55.00°	535.24	532.84	533.68	533.04	534.48	522.35	517.53	513.02	512.72	512.26	520.14	532.14	537.65	540.17	541.94	538.51	535.24
57.50°	531.91	529.18	530.50	531.75	530.15	520.01	516.28	509.60	510.43	509.25	516.47	528.62	536.35	537.94	538.61	537.04	531.91
60.00°	528.61	525.64	527.15	529.42	526.19	517.49	512.79	506.67	507.02	506.37	513.28	525.11	533.34	535.71	535.24	534.03	528.61
62.50°	525.37	522.17	523.17	525.74	523.30	514.16	508.62	504.78	502.29	504.04	510.35	521.61	529.09	533.46	531.31	529.56	525.37
65.00°	521.10	518.09	519.01	521.35	519.64	510.52	503.86	501.63	497.77	501.15	506.72	517.03	524.81	529.43	527.18	524.43	521.10
67.50°	515.40	513.75	514.26	516.15	514.16	505.65	498.96	496.25	493.47	496.32	502.76	511.09	520.52	524.65	521.28	518.76	515.40
70.00°	509.26	506.76	509.03	510.45	508.87	500.60	494.58	490.10	488.43	491.08	497.14	504.86	515.92	518.54	515.37	512.48	509.26
72.50°	502.60	498.75	502.47	504.25	503.96	494.98	490.29	482.79	482.71	484.67	490.84	498.30	511.15	511.96	509.36	505.77	502.60
75.00°	495.22	492.34	495.55	497.82	497.18	488.95	482.45	475.42	476.49	478.17	483.83	491.89	503.43	504.94	502.97	498.16	495.22
77.50°	487.11	486.44	487.83	491.21	487.13	481.83	474.11	467.95	469.88	471.42	476.58	485.62	494.37	497.79	494.70	490.00	487.11
80.00°	478.88	478.97	479.65	482.17	477.61	473.96	468.02	461.01	462.40	464.39	468.89	477.63	484.52	488.87	486.20	481.85	478.88
82.50°	470.54	471.09	470.59	471.27	468.89	464.41	462.16	454.69	454.33	456.79	461.09	468.23	474.38	479.54	476.81	473.69	470.54
85.00°	461.47	461.45	461.10	460.11	459.61	454.32	451.71	446.90	446.38	448.70	450.69	457.78	462.97	468.67	466.93	464.13	461.47
87.50°	451.83	451.45	450.87	448.77	449.63	443.21	440.98	437.66	438.50	439.78	439.71	446.59	451.14	457.51	455.59	453.92	451.83
90.00°	441.97	440.70	440.15	437.43	438.16	431.92	430.53	428.31	429.33	430.16	429.34	434.45	439.11	445.21	444.16	443.48	441.97
92.50°	431.96	429.82	428.72	426.08	425.04	420.32	420.06	418.85	419.50	419.47	419.09	421.73	427.03	432.76	432.53	432.95	431.96
95.00°	420.63	418.40	415.70	411.03	409.25	406.48	408.47	408.52	409.05	408.26	408.20	406.57	411.45	416.21	420.01	421.57	420.63
97.50°	408.52	406.91	400.67	394.17	390.84	389.49	396.57	397.54	398.34	396.34	397.24	390.12	395.14	399.29	405.55	409.93	408.52
100.00°	394.81	392.55	384.12	373.75	369.61	370.69	379.32	385.09	386.35	383.64	379.66	370.82	373.06	378.01	389.43	395.58	394.81
102.50°	380.29	377.97	365.92	351.87	345.99	349.70	361.88	371.67	373.91	370.05	361.53	350.23	350.02	356.52	370.27	380.52	380.29
105.00°	364.92	361.86	345.70	326.69	319.22	325.93	342.26	357.07	359.38	355.71	341.97	325.85	321.16	330.31	349.35	363.72	364.92
107.50°	349.18	345.69	323.60	300.40	290.17	299.17	322.33	341.82	344.23	340.66	322.36	300.04	291.61	303.87	325.62	346.57	349.18
110.00°	332.62	328.06	300.21	269.38	258.20	270.80	300.09	325.61	329.40	324.18	299.23	269.38	258.29	270.55	301.72	328.91	332.62
112.50°	315.76	310.33	275.75	237.06	224.36	240.95	277.56	308.94	314.64	306.49	276.02	237.17	224.68	237.20	277.58	311.16	315.76

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	<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>RCR</b>	<b>0</b>	5,009	5,009	5,009	5,009	4,745	4,745	4,745	4,745	4,253	4,253	4,253	3,802	3,802	3,802	3,388	3,388	3,193
	<b>1</b>	4,332	4,027	3,754	3,508	4,070	3,798	3,552	3,330	3,368	3,171	2,991	2,973	2,817	2,673	2,608	2,487	2,320
	<b>2</b>	3,850	3,385	3,001	2,678	3,602	3,187	2,841	2,547	2,816	2,535	2,293	2,474	2,248	2,051	2,157	1,978	1,819
	<b>3</b>	3,459	2,901	2,470	2,126	3,230	2,731	2,339	2,024	2,410	2,089	1,825	2,113	1,852	1,633	1,838	1,628	1,448
	<b>4</b>	3,134	2,525	2,079	1,738	2,924	2,377	1,971	1,656	2,100	1,762	1,496	1,842	1,564	1,340	1,602	1,375	1,188
	<b>5</b>	2,859	2,224	1,780	1,452	2,668	2,096	1,689	1,385	1,854	1,514	1,253	1,629	1,346	1,124	1,419	1,185	997
	<b>6</b>	2,623	1,978	1,545	1,234	2,450	1,867	1,468	1,178	1,655	1,319	1,068	1,458	1,175	959	1,273	1,037	853
	<b>7</b>	2,419	1,775	1,357	1,064	2,261	1,677	1,291	1,017	1,491	1,162	923	1,317	1,039	831	1,154	919	740
	<b>8</b>	2,241	1,604	1,204	928	2,097	1,518	1,146	888	1,354	1,035	807	1,200	927	728	1,055	823	650
	<b>9</b>	2,085	1,460	1,077	818	1,954	1,383	1,027	783	1,237	930	714	1,100	835	645	970	744	577
	<b>10</b>	1,947	1,337	971	728	1,827	1,268	927	697	1,138	841	637	1,015	758	577	898	677	518

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.1 fc	-20.3 ft
6.5 ft	12.3 fc	-24.0 ft
7.5 ft	9.2 fc	-27.7 ft
8.0 ft	8.1 fc	-29.5 ft
10.0 ft	5.2 fc	-36.9 ft
12.0 ft	3.6 fc	-44.3 ft
14.0 ft	2.6 fc	-51.6 ft
16.0 ft	2.0 fc	-59.0 ft
20.0 ft	1.3 fc	-73.8 ft
24.0 ft	0.9 fc	-88.5 ft
28.0 ft	0.7 fc	-103.3 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	7,109	7,109	7,109
<b>45.00°</b>	4,610	4,577	4,562
<b>55.00°</b>	4,538	4,525	4,531
<b>65.00°</b>	4,530	4,512	4,517
<b>75.00°</b>	4,559	4,562	4,577
<b>85.00°</b>	4,666	4,662	4,647

### 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