

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
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Spectrum Lighting Photometric Lab

Luminaire

GPRF2000GV 55L 35K EX MW
Nom 20" Globe (Sphere) luminaire

Test Number

SP-00647_5

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	4963
Efficacy	127.25 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

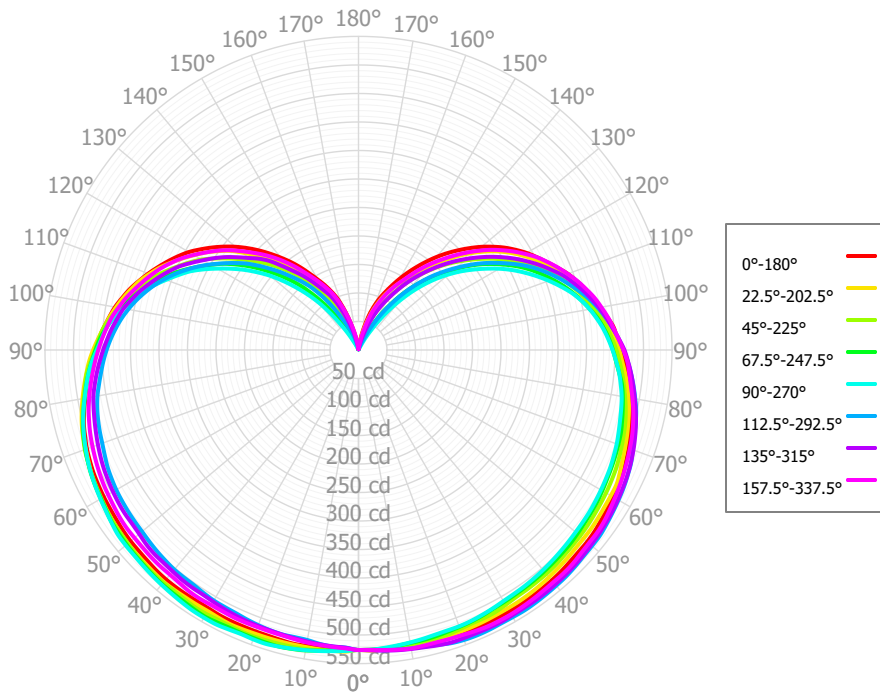
Full Beam Angle

0° - 180°	263°
90° - 270°	244°

IES File Header Contents

Keyword	Value
TEST	SP-00647_5
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/27/2020
ISSUEDATE	1/29/2020
LUMCAT	GPRF2000GV 55L 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
_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°	51.07	1.03%	90.00° - 100.00°	481.73	9.71%
10.00° - 20.00°	149.45	3.01%	100.00° - 110.00°	424.39	8.55%
20.00° - 30.00°	243.58	4.91%	100.00° - 120.00°	769.30	15.50%
30.00° - 40.00°	329.19	6.63%	120.00° - 130.00°	253.28	5.10%
40.00° - 50.00°	403.12	8.12%	130.00° - 140.00°	161.66	3.26%
50.00° - 60.00°	462.10	9.31%	140.00° - 150.00°	83.50	1.68%
60.00° - 70.00°	502.38	10.12%	150.00° - 160.00°	32.13	0.65%
70.00° - 80.00°	519.96	10.48%	160.00° - 170.00°	7.13	0.14%
80.00° - 90.00°	512.98	10.34%	170.00° - 180.00°	0.36	0.01%
0.00° - 90.00°	3,173.84	63.95%	0.00° - 180.00°	4,962.92	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°	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31	526.31
2.50°	526.69	527.92	526.22	526.72	526.24	522.58	522.85	523.96	527.07	529.64	528.02	526.74	528.54	526.55	527.55	526.69	526.69
5.00°	527.23	526.94	525.38	526.26	524.50	522.34	521.86	522.92	526.41	529.69	530.01	528.90	530.39	528.66	529.38	528.41	527.23
7.50°	527.80	526.70	524.56	523.63	522.76	520.07	520.82	521.99	525.98	529.51	531.86	531.86	532.63	530.01	531.19	530.12	527.80
10.00°	528.76	526.38	524.44	521.94	521.02	516.67	519.38	520.98	527.08	529.25	532.72	535.17	534.71	531.42	532.61	531.74	528.76
12.50°	529.63	525.91	524.28	521.36	519.19	516.02	517.99	519.57	527.79	529.33	533.52	537.16	536.73	532.88	534.12	531.21	529.63
15.00°	529.40	525.64	523.79	520.18	517.25	516.60	516.90	518.33	526.67	529.47	534.01	538.68	538.66	535.60	536.37	530.79	529.40
17.50°	529.20	525.65	523.10	518.41	516.18	515.47	515.88	517.76	525.77	529.65	534.48	538.48	540.57	539.36	538.25	531.45	529.20
20.00°	529.22	525.47	521.05	516.99	515.88	513.75	515.21	517.39	525.60	529.83	534.89	537.84	540.17	541.30	538.08	532.24	529.22
22.50°	529.26	525.07	519.36	515.87	514.70	511.61	514.39	517.63	525.50	530.48	534.94	537.58	539.28	542.05	538.04	533.87	529.26
25.00°	529.35	524.50	519.34	514.11	512.86	509.36	513.14	517.58	525.59	531.15	534.00	537.40	540.67	541.81	538.48	535.23	529.35
27.50°	529.44	523.79	518.76	511.94	510.81	508.32	511.72	516.85	525.29	530.07	533.64	538.51	542.39	541.05	538.65	535.38	529.44
30.00°	529.49	523.41	516.25	510.53	508.64	507.51	509.85	516.68	524.20	528.98	534.57	539.78	542.24	541.21	537.98	535.31	529.49
32.50°	529.37	523.28	514.29	509.53	507.35	505.55	508.66	517.53	523.83	529.34	534.63	538.57	541.92	541.78	537.58	534.50	529.37
35.00°	528.72	522.55	513.74	508.70	506.49	503.45	508.80	517.32	524.66	529.74	533.20	537.21	540.43	541.31	537.80	533.60	528.72
37.50°	528.08	521.45	513.21	507.95	505.24	503.06	508.38	515.53	525.21	530.62	532.44	536.67	538.92	540.49	537.70	532.47	528.08
40.00°	527.46	520.17	512.71	506.87	503.82	502.79	507.10	514.60	525.37	531.27	532.65	536.10	537.58	539.72	536.98	531.73	527.46
42.50°	526.50	518.82	511.75	505.68	502.17	501.21	506.33	514.70	524.77	530.28	532.30	534.66	536.25	538.96	536.14	531.77	526.50
45.00°	524.94	517.33	510.00	504.52	500.45	499.60	506.25	514.29	523.33	529.37	531.27	533.25	534.93	537.36	535.14	530.97	524.94
47.50°	523.91	515.77	508.55	503.36	498.81	497.58	504.88	513.39	522.37	528.81	529.87	532.17	533.70	535.59	533.94	528.77	523.91
50.00°	523.64	515.05	507.49	501.44	497.20	495.64	502.14	512.94	521.85	528.07	528.10	531.04	533.14	534.83	532.50	527.40	523.64
52.50°	522.34	514.59	506.19	499.39	495.94	494.56	500.70	512.85	520.54	526.75	526.60	529.67	532.11	534.19	531.04	527.11	522.34
55.00°	519.85	513.35	504.62	497.77	494.74	493.46	500.37	511.48	518.65	525.34	525.31	527.96	528.71	531.72	529.58	525.49	519.85
57.50°	518.00	511.93	503.04	496.20	492.97	492.14	499.15	509.25	517.13	523.67	523.27	524.70	525.46	529.14	527.71	522.42	518.00
60.00°	516.76	511.11	501.47	493.86	491.16	490.64	497.27	507.21	515.84	521.78	520.77	521.71	522.77	526.68	525.52	519.38	516.76
62.50°	514.52	510.39	499.62	491.49	489.27	488.38	495.15	505.28	514.25	519.38	518.50	519.61	519.99	524.20	523.09	516.37	514.52
65.00°	511.48	506.18	497.55	489.43	487.38	485.74	492.88	502.60	512.52	516.46	516.35	517.14	516.97	521.02	520.50	513.25	511.48
67.50°	507.96	501.60	494.77	487.36	484.74	481.90	489.81	499.61	509.93	512.61	513.73	513.69	513.55	517.63	517.12	510.04	507.96
70.00°	504.13	497.85	491.56	485.10	482.04	478.43	486.37	496.45	507.01	509.23	510.90	509.91	509.23	512.13	513.29	506.65	504.13
72.50°	499.34	494.14	488.20	482.68	478.54	475.87	482.88	493.23	503.08	506.48	506.44	505.46	504.73	506.89	508.74	503.15	499.34
75.00°	494.05	490.08	484.77	478.76	475.09	473.00	479.36	489.18	498.83	502.57	501.47	500.31	499.91	503.16	503.88	498.71	494.05
77.50°	489.24	485.97	480.13	474.83	472.09	469.48	475.84	484.93	492.98	497.33	495.65	494.06	494.40	499.00	498.23	493.82	489.24
80.00°	484.62	481.12	475.02	470.83	468.81	465.05	472.32	479.66	486.77	491.65	489.62	487.95	487.90	492.97	492.32	488.08	484.62
82.50°	479.49	476.09	469.72	466.23	464.06	459.13	466.79	474.21	481.73	485.57	484.09	482.05	481.60	486.76	486.29	482.02	479.49
85.00°	474.19	469.52	464.38	459.03	458.92	453.41	460.85	468.42	476.88	479.43	478.65	475.59	475.54	480.00	480.24	476.99	474.19
87.50°	466.73	463.09	458.48	452.16	452.36	447.97	454.44	462.60	470.41	473.22	470.60	468.52	468.03	472.91	473.45	472.27	466.73
90.00°	458.75	457.37	452.46	446.38	445.66	441.93	447.96	456.46	463.81	465.58	462.28	461.29	459.11	465.03	466.52	464.68	458.75
92.50°	453.94	451.28	445.42	440.03	438.56	435.24	441.12	450.31	456.15	457.05	455.61	453.92	451.16	456.65	457.00	456.47	453.94
95.00°	449.67	443.70	438.21	432.26	430.85	427.77	434.25	443.57	448.44	448.80	449.02	444.44	443.98	447.29	447.15	448.83	449.67
97.50°	440.32	435.56	429.34	423.43	421.76	419.60	426.49	436.72	441.14	440.70	438.30	433.39	432.82	437.27	437.75	441.27	440.32
100.00°	430.44	425.77	420.33	412.48	411.83	410.20	418.62	427.57	433.70	431.91	427.55	422.04	419.03	426.19	428.37	432.64	430.44
102.50°	421.42	415.91	409.40	401.06	400.40	399.87	408.03	418.28	424.34	422.84	416.30	410.52	405.66	413.97	417.54	423.93	421.42
105.00°	412.44	405.87	398.38	388.91	387.22	388.42	397.33	407.68	414.79	412.88	404.92	396.77	392.51	400.31	406.64	413.30	412.44
107.50°	401.65	395.50	386.17	375.97	371.44	376.29	385.20	397.05	403.56	402.65	392.27	381.96	376.59	386.23	394.48	402.60	401.65
110.00°	390.73	384.52	373.80	362.00	355.20	362.77	372.99	386.20	392.24	390.29	379.19	366.86	359.52	371.72	382.07	390.47	390.73
112.50°	377.62	372.58	359.01	347.72	338.41	348.59	360.28	374.98	380.44	377.44	363.66	351.66	342.85	356.46	366.99	378.29	377.62

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	pfc	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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
RCR	0	5,482	5,482	5,482	5,482	5,147	5,147	5,147	5,147	4,520	4,520	4,520	3,947	3,947	3,947	3,421	3,421	3,174
	1	4,757	4,430	4,138	3,874	4,429	4,139	3,878	3,641	3,593	3,387	3,198	3,092	2,931	2,783	2,630	2,507	2,295
	2	4,236	3,737	3,324	2,977	3,928	3,486	3,116	2,802	3,014	2,719	2,464	2,579	2,346	2,142	2,176	1,996	1,814
	3	3,812	3,211	2,746	2,375	3,527	2,994	2,575	2,238	2,585	2,248	1,970	2,207	1,938	1,712	1,856	1,644	1,488
	4	3,457	2,798	2,316	1,948	3,196	2,610	2,174	1,837	2,255	1,900	1,619	1,926	1,639	1,407	1,619	1,390	1,256
	5	3,155	2,467	1,986	1,631	2,918	2,303	1,866	1,539	1,993	1,634	1,359	1,705	1,412	1,182	1,436	1,200	1,084
	6	2,895	2,195	1,725	1,388	2,679	2,052	1,623	1,311	1,780	1,425	1,159	1,526	1,234	1,011	1,289	1,051	950
	7	2,669	1,969	1,515	1,197	2,472	1,843	1,427	1,132	1,604	1,256	1,003	1,379	1,091	876	1,169	932	844
	8	2,472	1,780	1,344	1,044	2,293	1,668	1,267	988	1,456	1,118	877	1,256	974	768	1,068	835	758
	9	2,299	1,619	1,202	920	2,135	1,519	1,135	872	1,330	1,004	776	1,151	877	681	983	755	686
	10	2,147	1,481	1,083	818	1,996	1,392	1,024	775	1,222	908	691	1,062	796	608	910	687	626

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	17.4 fc	-12.4 ft
6.5 ft	12.5 fc	-14.7 ft
7.5 ft	9.4 fc	-16.9 ft
8.0 ft	8.2 fc	-18.1 ft
10.0 ft	5.3 fc	-22.6 ft
12.0 ft	3.7 fc	-27.1 ft
14.0 ft	2.7 fc	-31.6 ft
16.0 ft	2.1 fc	-36.1 ft
20.0 ft	1.3 fc	-45.2 ft
24.0 ft	0.9 fc	-54.2 ft
28.0 ft	0.7 fc	-63.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2,586	2,586	2,586
45.00°	1,605	1,559	1,530
55.00°	1,580	1,534	1,504
65.00°	1,594	1,551	1,519
75.00°	1,631	1,600	1,568
85.00°	1,719	1,683	1,664

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