Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
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Spectrum Lighting Photometric Lab

Luminaire
GPRF3600GV 55L 35K EX MW
Nom 36" Globe (Sphere) luminaire

Test Number
SP-00647_7

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

Lumen Output

Output Lumens	4473
Efficacy	114.7 lm/W

Luminous Dimensions

0° - 180° Size	-3
90° - 270° Size	-3
Height	3

Spacing Criterion

Two luminaires, plane 0°	1.47
Two luminaires, plane 90°	1.45
Four luminaires	1.61

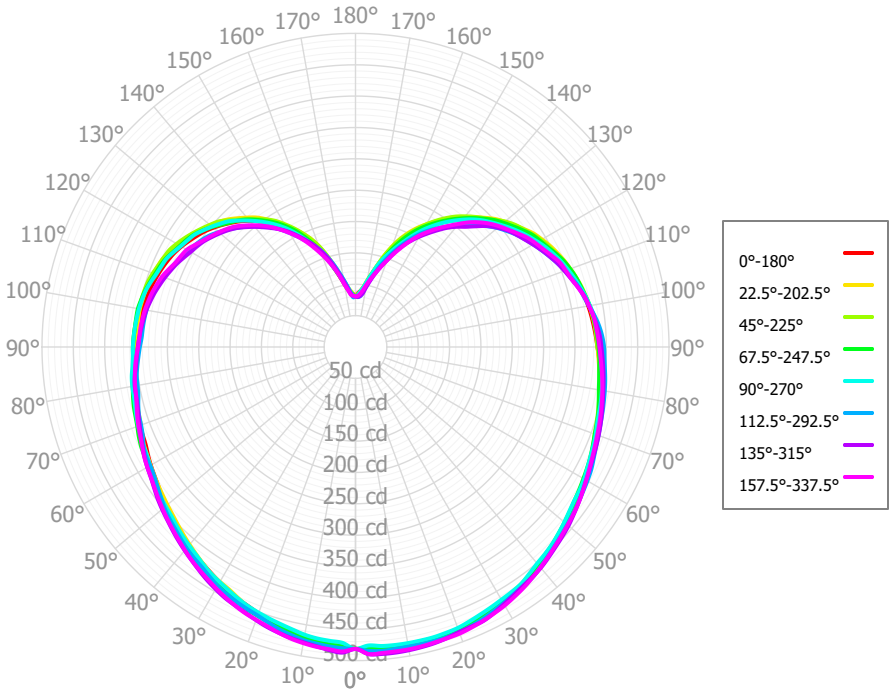
Full Beam Angle

0° - 180°	289°
90° - 270°	288°

IES File Header Contents

Keyword	Value
TEST	SP-00647_7
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/27/2020
ISSUEDATE	1/29/2020
LUMCAT	GPRF3600GV 55L 35K EX MW
LUMINAIRE	Nom 36" 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°	46.51	1.04%	90.00° - 100.00°	399.68	8.93%
10.00° - 20.00°	134.16	3.00%	100.00° - 110.00°	375.97	8.40%
20.00° - 30.00°	213.56	4.77%	100.00° - 120.00°	711.12	15.90%
30.00° - 40.00°	279.74	6.25%	120.00° - 130.00°	281.26	6.29%
40.00° - 50.00°	330.71	7.39%	130.00° - 140.00°	217.82	4.87%
50.00° - 60.00°	367.29	8.21%	140.00° - 150.00°	151.26	3.38%
60.00° - 70.00°	391.52	8.75%	150.00° - 160.00°	88.83	1.99%
70.00° - 80.00°	404.86	9.05%	160.00° - 170.00°	38.27	0.86%
80.00° - 90.00°	407.70	9.11%	170.00° - 180.00°	8.99	0.20%
0.00° - 90.00°	2,576.05	57.59%	0.00° - 180.00°	4,473.27	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°	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59	481.59
2.50°	482.93	480.14	480.10	481.70	476.55	480.81	487.85	486.12	475.34	476.97	478.00	478.08	472.38	485.09	490.45	490.29	482.93
5.00°	483.32	481.02	481.19	481.96	478.69	479.40	485.06	483.80	472.96	473.99	475.64	476.22	470.48	486.49	491.40	489.87	483.32
7.50°	483.75	481.78	482.34	481.83	479.42	477.24	481.33	482.16	470.61	470.56	473.28	474.43	468.85	485.74	491.56	489.70	483.75
10.00°	484.59	482.34	482.38	481.05	479.64	474.87	478.24	479.59	468.73	466.85	470.92	470.65	466.02	485.38	491.03	489.69	484.59
12.50°	485.07	482.14	482.24	480.64	479.54	470.88	475.49	476.36	466.54	463.06	467.70	466.42	461.77	485.58	490.07	488.91	485.07
15.00°	484.06	481.04	482.33	480.70	479.37	466.59	472.03	472.03	462.37	459.76	463.17	463.18	457.98	485.50	488.81	487.77	484.06
17.50°	482.96	480.35	482.44	480.48	478.21	461.27	468.30	467.10	457.92	456.54	458.72	460.06	454.60	485.14	486.54	486.97	482.96
20.00°	481.62	480.02	480.53	479.97	476.91	455.85	463.62	463.16	452.40	452.42	454.36	456.12	451.06	483.84	483.76	486.29	481.62
22.50°	479.77	478.68	478.52	478.03	473.92	452.20	458.70	459.63	447.35	448.23	449.94	452.12	447.40	481.77	482.66	484.22	479.77
25.00°	476.87	476.65	475.13	475.02	470.82	448.57	454.78	454.90	443.61	442.15	445.48	446.44	442.77	478.81	482.19	481.84	476.87
27.50°	474.35	474.20	471.87	471.64	468.08	444.40	451.04	449.82	439.19	436.21	441.09	440.97	437.62	475.26	478.29	478.97	474.35
30.00°	472.47	471.53	469.50	468.06	465.39	440.00	445.94	444.41	433.42	432.52	436.74	437.77	432.98	471.78	473.51	476.03	472.47
32.50°	469.43	467.85	466.89	464.65	463.34	433.82	440.73	438.93	428.01	428.57	431.15	434.32	428.54	468.33	469.50	472.17	469.43
35.00°	464.98	463.77	463.29	461.31	460.87	427.98	434.89	433.92	423.13	422.81	424.91	429.46	423.25	465.74	465.62	468.24	464.98
37.50°	460.72	460.14	459.49	456.99	455.59	423.75	429.07	428.96	418.36	417.10	420.24	424.45	417.72	463.44	462.66	463.66	460.72
40.00°	456.62	456.63	455.09	452.36	450.72	419.17	423.74	423.10	413.71	411.59	416.16	418.91	413.00	458.71	459.77	459.06	456.62
42.50°	452.40	452.70	450.74	448.32	447.48	413.43	418.40	417.22	408.93	406.13	411.46	413.40	408.42	453.37	455.45	454.31	452.40
45.00°	448.08	448.69	446.49	444.41	443.92	408.02	412.89	411.94	404.05	400.80	406.59	407.97	403.51	448.99	451.14	449.65	448.08
47.50°	444.38	444.14	442.31	439.85	439.41	403.34	407.51	406.67	399.30	395.84	402.61	402.79	398.57	444.76	447.33	445.58	444.38
50.00°	441.03	439.54	438.24	435.22	434.82	398.01	402.67	401.49	394.65	391.66	398.78	398.09	395.20	440.94	443.40	441.59	441.03
52.50°	436.96	435.13	434.02	430.90	430.03	391.58	397.65	396.34	389.67	387.73	393.98	393.83	391.80	437.15	438.65	437.96	436.96
55.00°	432.60	430.74	429.64	426.61	426.27	385.87	392.04	391.30	384.53	384.20	389.10	390.22	386.96	433.57	433.90	434.07	432.60
57.50°	427.45	426.80	425.70	423.18	424.11	381.10	387.05	386.68	380.53	380.79	384.31	386.27	382.23	430.03	429.15	429.51	427.45
60.00°	422.08	422.84	422.19	419.78	421.08	378.02	383.46	383.40	376.96	377.51	379.61	381.93	378.41	426.99	424.71	425.00	422.08
62.50°	418.55	418.73	418.47	416.70	417.01	376.64	379.41	379.82	373.13	374.62	376.69	378.90	374.89	423.77	421.18	420.61	418.55
65.00°	415.37	414.74	414.60	413.50	413.60	372.89	374.63	375.49	369.22	372.10	373.74	376.98	372.83	419.29	417.95	416.64	415.37
67.50°	411.81	411.23	410.43	409.71	410.79	367.33	370.24	371.59	367.28	368.61	370.62	374.00	370.76	415.14	415.38	413.33	411.81
70.00°	408.22	407.93	406.10	406.23	407.67	363.99	366.34	368.46	365.67	364.43	367.64	370.31	368.69	412.33	412.70	410.33	408.22
72.50°	405.68	405.26	403.03	403.82	404.34	361.96	362.92	365.07	363.20	361.94	365.31	367.85	366.47	409.71	409.85	407.68	405.68
75.00°	403.14	402.56	400.47	401.05	402.26	358.65	359.98	361.33	360.65	360.38	363.31	366.00	363.93	407.59	406.94	405.03	403.14
77.50°	399.94	399.77	397.80	397.36	400.87	354.78	358.30	358.60	358.56	358.99	362.35	363.45	362.09	405.56	403.96	402.36	399.94
80.00°	396.79	396.71	395.11	394.17	398.93	352.99	357.58	356.91	356.47	357.68	360.62	360.65	361.48	403.72	401.32	399.61	396.79
82.50°	394.13	393.20	394.40	391.89	396.78	351.85	355.04	354.94	354.32	355.76	357.15	358.02	359.92	401.67	399.00	396.82	394.13
85.00°	391.44	390.21	394.09	390.16	394.31	349.33	351.47	352.74	352.39	353.65	354.88	355.43	357.10	399.31	396.67	394.03	391.44
87.50°	388.61	387.87	390.16	389.19	391.75	346.50	349.12	349.96	352.12	351.79	354.59	355.04	355.48	397.52	394.33	391.23	388.61
90.00°	385.92	386.16	385.83	387.78	390.63	343.94	347.27	346.82	351.59	349.98	354.36	355.01	355.06	396.42	392.20	388.99	385.92
92.50°	383.75	385.09	384.45	385.91	389.77	341.42	345.20	345.18	349.87	349.55	354.19	354.11	354.26	393.84	390.18	386.97	383.75
95.00°	381.57	383.62	383.13	384.08	386.84	340.57	343.06	344.21	348.28	349.25	353.30	353.16	353.16	389.89	386.63	384.85	381.57
97.50°	379.38	381.85	381.14	382.28	383.71	339.78	340.84	342.70	347.10	349.29	351.71	352.80	351.95	384.45	382.44	382.70	379.38
100.00°	376.93	378.63	379.06	379.25	379.64	338.54	338.60	341.00	345.55	349.29	350.57	352.32	350.67	377.91	378.24	378.20	376.93
102.50°	374.03	374.58	376.08	375.44	375.52	337.18	335.30	338.45	343.18	348.11	349.75	349.84	348.70	372.85	374.03	373.30	374.03
105.00°	370.48	371.37	372.92	372.02	370.67	334.35	331.88	335.70	340.79	346.82	348.47	347.23	346.43	368.58	367.64	367.28	370.48
107.50°	366.07	368.53	368.84	368.80	365.79	331.14	327.73	332.04	338.40	344.66	346.91	343.69	342.69	362.53	360.82	361.15	366.07
110.00°	361.09	364.54	364.33	364.28	360.65	325.79	323.53	328.26	335.72	342.51	343.90	340.25	338.47	355.77	354.74	356.98	361.09
112.50°	355.53	360.19	358.37	359.30	355.34	320.73	318.97	322.83	332.69	340.39	340.26	337.26	335.45	348.72	348.73	352.67	355.53

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

	ρfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	ρcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	10%	0%
	ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%
RCR	0	4,874	4,874	4,874	4,874	4,540	4,540	4,540	4,540	3,916	3,916	3,916	3,346	3,346	3,346	2,822	2,822	2,822	2,576
	1	4,255	3,976	3,726	3,500	3,932	3,687	3,465	3,264	3,145	2,973	2,815	2,647	2,515	2,393	2,188	2,089	1,997	1,878
	2	3,803	3,373	3,018	2,719	3,502	3,123	2,807	2,539	2,654	2,407	2,193	2,222	2,030	1,862	1,822	1,677	1,547	1,496
	3	3,430	2,910	2,507	2,187	3,152	2,694	2,334	2,044	2,287	2,002	1,768	1,911	1,688	1,501	1,562	1,390	1,243	1,235
	4	3,115	2,543	2,124	1,804	2,861	2,356	1,979	1,688	2,001	1,700	1,462	1,673	1,435	1,242	1,367	1,182	1,029	1,048
	5	2,846	2,246	1,826	1,517	2,614	2,082	1,704	1,421	1,773	1,467	1,233	1,484	1,241	1,049	1,215	1,024	870	908
	6	2,613	2,001	1,590	1,295	2,401	1,857	1,485	1,214	1,585	1,282	1,056	1,331	1,087	900	1,093	899	748	798
	7	2,410	1,796	1,398	1,119	2,217	1,670	1,308	1,051	1,429	1,132	916	1,204	963	783	993	800	652	711
	8	2,232	1,624	1,241	978	2,056	1,511	1,162	919	1,298	1,009	803	1,097	861	688	908	718	575	640
	9	2,076	1,477	1,110	862	1,914	1,377	1,041	812	1,186	907	711	1,006	776	611	836	650	513	581
	10	1,937	1,351	1,001	767	1,789	1,262	940	723	1,090	820	634	928	705	547	775	592	461	531

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	15.9 fc	-7.9 ft
6.5 ft	11.4 fc	-9.3 ft
7.5 ft	8.6 fc	-10.8 ft
8.0 ft	7.5 fc	-11.5 ft
10.0 ft	4.8 fc	-14.4 ft
12.0 ft	3.3 fc	-17.2 ft
14.0 ft	2.5 fc	-20.1 ft
16.0 ft	1.9 fc	-23.0 ft
20.0 ft	1.2 fc	-28.7 ft
24.0 ft	0.8 fc	-34.4 ft
28.0 ft	0.6 fc	-40.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	733	733	733
45.00°	424	423	421
55.00°	408	405	402
65.00°	401	400	399
75.00°	412	410	411
85.00°	440	443	443

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