

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
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Spectrum Lighting Photometric Lab

Luminaire

GPRF2400GV 55L 35K EX MW
Nom 24" Globe (Sphere) luminaire

Test Number

SP-00647_6

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	4671
Efficacy	119.76 lm/W

Luminous Dimensions

0° - 180° Size	-2
90° - 270° Size	-2
Height	2

Spacing Criterion

Two luminaires, plane 0°	1.43
Two luminaires, plane 90°	1.44
Four luminaires	1.61

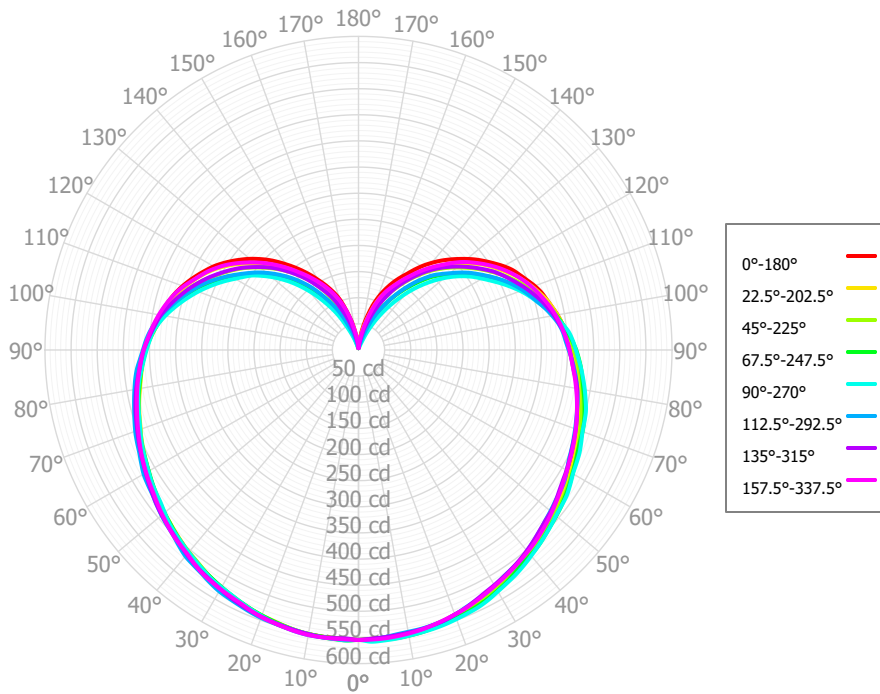
Full Beam Angle

0° - 180°	257°
90° - 270°	238°

IES File Header Contents

Keyword	Value
TEST	SP-00647_6
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	1/27/2020
ISSUEDATE	1/29/2020
LUMCAT	GPRF2400GV 55L 35K EX MW
LUMINAIRE	Nom 24" 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°	53.66	1.15%	90.00° - 100.00°	432.87	9.27%
10.00° - 20.00°	155.08	3.32%	100.00° - 110.00°	385.34	8.25%
20.00° - 30.00°	247.14	5.29%	100.00° - 120.00°	704.71	15.09%
30.00° - 40.00°	324.55	6.95%	120.00° - 130.00°	244.01	5.22%
40.00° - 50.00°	384.77	8.24%	130.00° - 140.00°	167.22	3.58%
50.00° - 60.00°	427.71	9.16%	140.00° - 150.00°	97.14	2.08%
60.00° - 70.00°	453.61	9.71%	150.00° - 160.00°	43.89	0.94%
70.00° - 80.00°	463.79	9.93%	160.00° - 170.00°	11.95	0.26%
80.00° - 90.00°	457.24	9.79%	170.00° - 180.00°	1.18	0.03%
0.00° - 90.00°	2,967.55	63.54%	0.00° - 180.00°	4,670.52	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°	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90	554.90
2.50°	553.38	554.75	554.72	555.69	558.79	555.04	552.71	554.33	553.82	554.15	555.38	556.39	556.15	554.03	553.22	554.79	553.38
5.00°	553.38	554.18	555.26	555.80	558.10	554.56	553.40	554.43	553.61	553.72	555.20	554.42	555.02	552.10	551.99	554.25	553.38
7.50°	552.59	553.57	554.96	556.17	557.04	554.23	553.86	554.26	552.94	553.15	553.96	552.85	554.11	549.24	550.77	552.88	552.59
10.00°	551.21	552.33	554.19	555.13	555.36	554.01	552.02	553.90	552.04	551.67	552.13	552.06	552.24	547.68	549.48	551.02	551.21
12.50°	549.14	551.02	552.04	553.77	553.84	552.21	550.14	552.06	550.98	549.84	549.73	550.32	550.09	547.00	548.07	548.79	549.14
15.00°	546.67	548.69	549.29	551.14	552.54	549.37	548.02	549.38	548.94	546.50	547.24	547.09	547.89	545.37	545.72	545.76	546.67
17.50°	543.12	546.22	546.49	548.31	550.65	547.26	545.82	546.63	546.33	543.30	544.67	543.83	545.68	543.21	543.09	542.22	543.12
20.00°	539.03	542.45	543.67	546.03	548.11	545.55	543.25	543.86	542.53	540.60	541.26	540.52	541.66	539.06	539.06	538.72	539.03
22.50°	536.17	538.62	541.24	543.81	545.58	542.66	540.47	539.58	538.15	537.48	537.27	536.77	537.36	534.01	534.70	535.25	536.17
25.00°	533.81	534.47	538.91	540.32	543.07	539.24	536.96	534.75	533.70	533.32	533.60	532.54	532.71	529.88	529.04	530.78	533.81
27.50°	529.24	530.23	534.62	536.76	538.93	536.23	533.13	531.43	529.22	529.13	530.09	528.27	528.02	526.06	523.77	525.89	529.24
30.00°	524.01	525.63	529.97	532.09	533.62	533.36	528.48	528.54	525.06	524.87	525.43	523.97	524.52	520.84	519.62	521.44	524.01
32.50°	519.96	521.25	525.16	527.34	528.99	528.40	524.16	525.14	521.00	520.27	520.28	519.74	521.04	515.27	515.45	517.13	519.96
35.00°	516.18	517.51	520.32	521.28	524.78	522.94	520.50	521.65	516.86	515.11	514.74	515.57	515.74	511.35	511.24	512.75	516.18
37.50°	511.55	513.00	514.47	515.53	519.72	518.97	516.16	515.79	512.70	510.02	509.07	510.97	510.47	507.75	506.61	508.36	511.55
40.00°	506.80	506.70	508.56	512.36	514.26	515.27	510.71	509.62	506.61	505.03	505.10	506.12	505.53	502.07	501.26	503.85	506.80
42.50°	501.02	501.00	504.90	508.85	509.10	508.61	505.44	505.43	500.23	499.85	501.57	500.83	500.63	496.14	495.66	499.33	501.02
45.00°	495.16	496.38	501.19	503.45	504.05	501.61	500.41	501.38	496.62	494.46	495.82	495.34	496.03	490.27	489.72	494.09	495.16
47.50°	490.33	491.81	495.63	498.27	498.83	496.80	495.75	495.82	493.24	489.58	489.66	490.03	491.06	484.41	484.66	488.79	490.33
50.00°	485.54	487.29	490.21	494.02	493.55	492.12	491.49	490.21	487.48	485.13	485.09	484.79	484.19	479.65	480.67	482.98	485.54
52.50°	479.78	482.80	486.24	489.50	489.76	486.89	486.56	484.46	481.65	480.34	480.70	479.46	477.92	474.94	475.52	477.14	479.78
55.00°	474.12	478.34	482.11	484.23	486.30	481.74	481.03	478.78	476.08	475.31	475.29	474.10	473.90	471.24	469.23	471.54	474.12
57.50°	469.83	473.57	477.02	478.84	480.29	478.44	475.56	474.05	470.58	469.99	469.81	468.84	469.53	467.27	464.09	465.96	469.83
60.00°	465.44	468.50	472.06	473.20	473.91	474.88	470.12	469.30	466.00	464.48	464.15	463.60	464.11	460.50	459.89	460.89	465.44
62.50°	460.23	463.65	467.70	467.79	470.12	468.89	465.04	464.42	461.34	459.71	458.53	459.21	459.06	454.07	455.27	455.90	460.23
65.00°	454.99	458.98	463.02	462.82	466.56	463.16	460.16	459.44	456.01	455.28	453.93	454.95	454.85	449.80	450.36	451.65	454.99
67.50°	449.60	453.97	457.28	458.80	461.41	459.04	455.34	454.03	450.73	449.68	449.32	450.88	450.14	445.53	446.27	447.32	449.60
70.00°	444.36	448.73	451.81	456.24	456.26	454.72	450.55	448.73	445.71	443.64	444.59	446.82	444.54	441.24	442.63	442.50	444.36
72.50°	439.71	443.70	447.01	452.68	453.53	449.51	446.08	443.80	440.83	438.93	439.90	441.48	439.61	437.10	438.07	437.69	439.71
75.00°	435.09	438.79	442.64	447.92	450.62	444.45	441.73	438.99	436.49	434.59	435.38	436.13	435.66	433.46	433.10	432.88	435.09
77.50°	430.55	434.06	439.12	442.74	445.23	439.86	436.97	434.49	432.26	429.73	430.74	431.22	431.69	429.57	428.88	428.00	430.55
80.00°	426.00	429.41	434.94	437.15	439.79	435.35	432.08	429.98	428.35	424.76	425.57	426.34	427.72	425.04	424.92	422.89	426.00
82.50°	421.44	424.87	429.67	432.22	433.96	431.02	426.52	425.45	423.78	420.43	420.74	421.71	422.66	420.18	419.07	417.77	421.44
85.00°	416.37	420.36	424.10	427.84	428.08	425.81	420.81	420.91	417.75	416.18	416.98	417.07	416.52	414.65	412.75	412.62	416.37
87.50°	410.37	414.86	418.13	422.56	421.92	418.85	415.89	416.35	412.03	412.15	412.70	412.42	410.88	408.75	408.20	407.85	410.37
90.00°	405.17	409.10	412.58	416.69	415.93	412.59	411.08	411.26	406.86	408.14	407.09	407.53	405.66	402.26	403.98	403.79	405.17
92.50°	401.17	404.08	407.48	409.45	410.52	407.40	404.52	405.42	402.20	403.11	400.98	401.42	400.29	396.78	399.19	399.32	401.17
95.00°	396.99	399.19	400.90	401.48	403.56	400.99	397.81	399.72	398.25	398.03	393.93	394.86	394.82	392.62	394.33	394.22	396.99
97.50°	392.57	392.96	392.99	392.59	392.29	392.99	391.10	394.17	393.06	391.90	387.15	386.63	386.10	385.98	387.24	388.82	392.57
100.00°	386.75	386.56	384.95	383.29	380.45	383.28	384.33	388.01	386.41	385.65	380.81	377.72	375.61	376.63	380.04	383.04	386.75
102.50°	379.55	379.57	376.84	372.86	367.39	371.75	374.75	381.28	379.93	377.97	373.18	366.99	363.95	366.39	371.43	376.38	379.55
105.00°	372.97	372.55	367.27	362.04	354.77	360.38	365.11	373.82	373.60	370.24	363.85	356.52	351.79	355.37	362.74	368.83	372.97
107.50°	366.90	363.38	356.84	349.37	342.91	349.15	354.80	365.81	366.26	362.25	354.34	346.60	339.24	344.83	352.59	361.10	366.90
110.00°	358.75	354.17	345.93	336.22	330.06	337.36	344.41	356.05	358.14	353.97	344.62	335.54	326.56	334.66	342.37	353.23	358.75
112.50°	349.21	344.06	334.79	322.98	315.80	325.17	333.41	345.22	349.13	344.33	333.43	322.49	313.38	323.17	331.55	344.22	349.21

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	5,155	5,155	5,155	5,155	4,837	4,837	4,837	4,837	4,243	4,243	4,243	3,700	3,700	3,700	3,202	3,202	2,968
	1	4,489	4,189	3,920	3,677	4,179	3,913	3,673	3,456	3,397	3,208	3,035	2,923	2,776	2,640	2,485	2,373	2,269
	2	4,006	3,545	3,164	2,843	3,715	3,307	2,966	2,677	2,861	2,590	2,356	2,449	2,236	2,049	2,069	1,904	1,757
	3	3,610	3,053	2,623	2,280	3,341	2,848	2,461	2,149	2,462	2,150	1,894	2,104	1,856	1,648	1,772	1,578	1,411
	4	3,277	2,666	2,219	1,877	3,032	2,488	2,084	1,771	2,152	1,824	1,564	1,841	1,577	1,363	1,551	1,341	1,167
	5	2,993	2,354	1,907	1,577	2,769	2,199	1,793	1,490	1,906	1,573	1,318	1,633	1,362	1,150	1,378	1,161	986
	6	2,748	2,097	1,660	1,346	2,545	1,962	1,563	1,273	1,704	1,374	1,128	1,464	1,194	987	1,240	1,020	848
	7	2,535	1,883	1,460	1,164	2,350	1,764	1,377	1,102	1,537	1,214	979	1,325	1,058	858	1,125	906	739
	8	2,349	1,703	1,297	1,018	2,180	1,598	1,224	964	1,396	1,083	859	1,208	946	755	1,030	814	652
	9	2,185	1,550	1,161	898	2,030	1,456	1,098	852	1,277	974	761	1,108	853	671	948	737	581
	10	2,041	1,420	1,048	800	1,899	1,335	992	760	1,174	882	680	1,022	775	601	878	672	523

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	18.3 fc	-13.9 ft
6.5 ft	13.1 fc	-16.4 ft
7.5 ft	9.9 fc	-18.9 ft
8.0 ft	8.7 fc	-20.2 ft
10.0 ft	5.5 fc	-25.2 ft
12.0 ft	3.9 fc	-30.3 ft
14.0 ft	2.8 fc	-35.3 ft
16.0 ft	2.2 fc	-40.4 ft
20.0 ft	1.4 fc	-50.5 ft
24.0 ft	1.0 fc	-60.5 ft
28.0 ft	0.7 fc	-70.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1,901	1,901	1,901
45.00°	1,055	1,068	1,074
55.00°	1,005	1,022	1,031
65.00°	989	1,006	1,014
75.00°	1,001	1,019	1,037
85.00°	1,052	1,072	1,082

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