

Indoor Distribution Test Report

Spectrum Lighting Inc.

994 Jefferson Street
Fall River, MA 02721
+1.508.678.2303

Spectrum Lighting Photometric Lab

Luminaire

CY0820SQFAGV 27L 35K XX XX MW
Nom 8" X 20" Rectangular shaped decorative luminaire

Test Number

SP-00993

Test Date

12/24/2019

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

Summary of Results

Power

Input Watts	19 W
-------------	------

Lumen Output

Output Lumens	1548
Efficacy	81.49 lm/W

Luminous Dimensions

0° - 180° Size	0.67
90° - 270° Size	0.67
Height	1.67

Spacing Criterion

Two luminaires, plane 0°	0.49
Two luminaires, plane 90°	0.48
Four luminaires	0.51

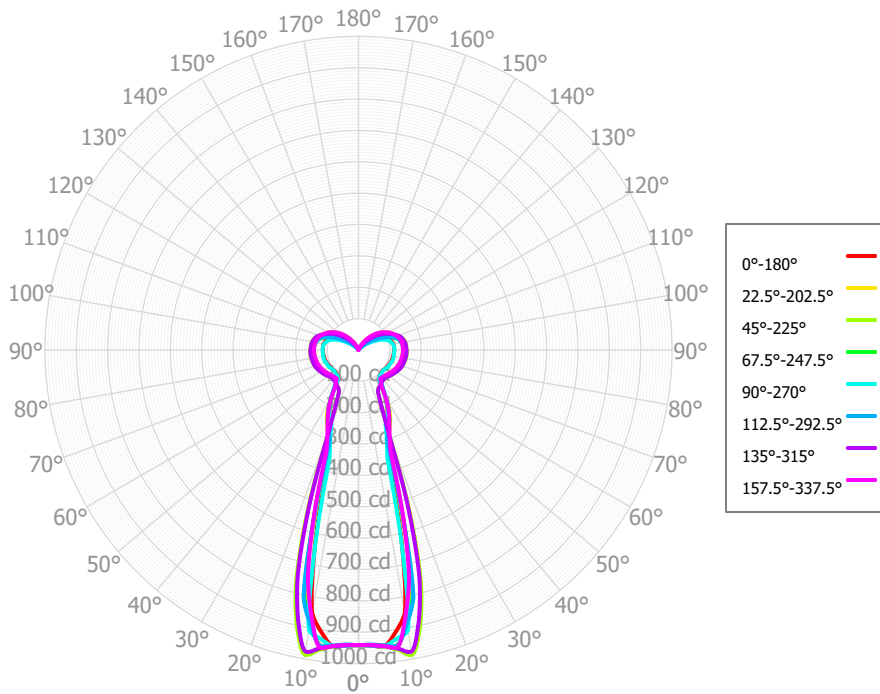
Full Beam Angle

0° - 180°	28°
90° - 270°	28°

IES File Header Contents

Keyword	Value
TEST	SP-00993
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/24/2019
ISSUEDATE	4/7/2020
LUMCAT	CY0820SQFAGV 27L 35K XX XX MW
LUMINAIRE	Nom 8" X 20" Rectangular shaped decorative 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 0.57

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	90.71	5.86%	90.00° - 100.00°	149.63	9.66%
10.00° - 20.00°	150.18	9.70%	100.00° - 110.00°	136.53	8.82%
20.00° - 30.00°	96.38	6.23%	100.00° - 120.00°	241.78	15.62%
30.00° - 40.00°	80.22	5.18%	120.00° - 130.00°	66.62	4.30%
40.00° - 50.00°	89.91	5.81%	130.00° - 140.00°	33.69	2.18%
50.00° - 60.00°	109.73	7.09%	140.00° - 150.00°	12.51	0.81%
60.00° - 70.00°	129.37	8.36%	150.00° - 160.00°	2.87	0.19%
70.00° - 80.00°	143.58	9.27%	160.00° - 170.00°	0.47	0.03%
80.00° - 90.00°	150.43	9.72%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	1,040.51	67.21%	0.00° - 180.00°	1,548.22	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°	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37	941.37
2.50°	943.94	941.87	944.67	941.80	944.40	940.49	943.37	942.06	943.94	941.87	944.67	941.80	944.40	940.49	943.37	942.06	943.94
5.00°	948.04	948.74	949.46	946.92	947.54	946.26	948.70	947.81	948.04	948.74	949.46	946.92	947.54	946.26	948.70	947.81	948.04
7.50°	907.54	948.35	964.57	952.51	929.12	949.57	960.48	955.53	907.54	948.35	964.57	952.51	929.12	949.57	960.48	955.53	907.54
10.00°	851.79	883.08	986.54	879.08	908.21	887.73	976.05	863.21	851.79	883.08	986.54	879.08	908.21	887.73	976.05	863.21	851.79
12.50°	645.02	788.93	905.66	800.80	638.87	808.77	887.75	745.39	645.02	788.93	905.66	800.80	638.87	808.77	887.75	745.39	645.02
15.00°	399.84	525.19	769.95	542.51	355.97	539.10	750.93	550.40	399.84	525.19	769.95	542.51	355.97	539.10	750.93	550.40	399.84
17.50°	315.60	308.70	544.67	299.35	302.77	302.44	527.20	340.91	315.60	308.70	544.67	299.35	302.77	302.44	527.20	340.91	315.60
20.00°	259.92	284.22	281.78	278.13	252.84	278.19	271.90	289.66	259.92	284.22	281.78	278.13	252.84	278.19	271.90	289.66	259.92
22.50°	238.32	260.39	186.18	256.48	238.23	254.10	185.63	257.21	238.32	260.39	186.18	256.48	238.23	254.10	185.63	257.21	238.32
25.00°	220.74	238.56	146.59	231.49	222.63	230.68	147.45	230.68	220.74	238.56	146.59	231.49	222.63	230.68	147.45	230.68	220.74
27.50°	195.37	211.57	136.72	204.70	197.91	205.19	138.09	204.48	195.37	211.57	136.72	204.70	197.91	205.19	138.09	204.48	195.37
30.00°	169.55	172.26	134.23	168.46	172.11	172.87	134.62	170.56	169.55	172.26	134.23	168.46	172.11	172.87	134.62	170.56	169.55
32.50°	140.00	141.04	130.87	137.35	139.82	144.90	130.58	137.51	140.00	141.04	130.87	137.35	139.82	144.90	130.58	137.51	140.00
35.00°	111.59	125.10	127.36	125.20	113.05	127.96	126.46	125.42	111.59	125.10	127.36	125.20	113.05	127.96	126.46	125.42	111.59
37.50°	108.51	115.49	124.56	116.27	109.11	116.79	124.82	114.51	108.51	115.49	124.56	116.27	109.11	116.79	124.82	114.51	108.51
40.00°	105.51	115.43	121.84	116.25	105.90	117.06	123.37	114.90	105.51	115.43	121.84	116.25	105.90	117.06	123.37	114.90	105.51
42.50°	103.23	115.97	123.20	116.77	104.87	117.94	123.37	115.46	103.23	115.97	123.20	116.77	104.87	117.94	123.37	115.46	103.23
45.00°	101.26	117.25	124.76	118.52	103.77	119.81	123.47	117.01	101.26	117.25	124.76	118.52	103.77	119.81	123.47	117.01	101.26
47.50°	101.04	118.83	126.21	120.39	102.52	121.32	125.99	118.61	101.04	118.83	126.21	120.39	102.52	121.32	125.99	118.61	101.04
50.00°	101.12	120.72	127.74	122.50	102.00	122.34	128.53	120.45	101.12	120.72	127.74	122.50	102.00	122.34	128.53	120.45	101.12
52.50°	102.40	122.46	130.96	124.69	102.86	123.87	131.24	122.45	102.40	122.46	130.96	124.69	102.86	123.87	131.24	122.45	102.40
55.00°	103.61	124.08	134.08	126.99	104.14	125.92	133.94	124.94	103.61	124.08	134.08	126.99	104.14	125.92	133.94	124.94	103.61
57.50°	104.62	126.35	136.32	129.16	106.06	128.32	136.58	127.26	104.62	126.35	136.32	129.16	106.06	128.32	136.58	127.26	104.62
60.00°	105.62	129.07	138.68	131.16	107.66	131.05	139.20	129.18	105.62	129.07	138.68	131.16	107.66	131.05	139.20	129.18	105.62
62.50°	106.59	131.40	141.63	133.37	108.86	133.23	141.72	131.11	106.59	131.40	141.63	133.37	108.86	133.23	141.72	131.11	106.59
65.00°	107.68	133.52	144.45	135.78	109.80	135.03	144.21	133.04	107.68	133.52	144.45	135.78	109.80	135.03	144.21	133.04	107.68
67.50°	108.98	135.20	146.72	137.80	110.47	136.92	146.53	134.84	108.98	135.20	146.72	137.80	110.47	136.92	146.53	134.84	108.98
70.00°	110.04	136.69	148.73	139.53	111.67	138.88	148.47	136.43	110.04	136.69	148.73	139.53	111.67	138.88	148.47	136.43	110.04
72.50°	110.75	137.69	149.95	140.67	113.31	140.30	149.39	137.64	110.75	137.69	149.95	140.67	113.31	140.30	149.39	137.64	110.75
75.00°	111.35	138.51	151.23	141.43	113.99	141.48	150.33	138.36	111.35	138.51	151.23	141.43	113.99	141.48	150.33	138.36	111.35
77.50°	111.79	139.59	152.69	142.21	114.01	141.87	151.29	139.33	111.79	139.59	152.69	142.21	114.01	141.87	151.29	139.33	111.79
80.00°	112.25	140.74	153.76	143.02	113.93	141.96	152.17	140.57	112.25	140.74	153.76	143.02	113.93	141.96	152.17	140.57	112.25
82.50°	112.74	140.87	154.09	143.56	113.81	142.18	152.90	141.25	112.74	140.87	154.09	143.56	113.81	142.18	152.90	141.25	112.74
85.00°	113.20	140.82	154.29	143.99	113.97	142.43	153.37	141.44	113.20	140.82	154.29	143.99	113.97	142.43	153.37	141.44	113.20
87.50°	113.64	141.73	154.29	144.10	114.26	142.48	153.49	141.71	113.64	141.73	154.29	144.10	114.26	142.48	153.49	141.71	113.64
90.00°	113.71	142.75	153.94	144.10	114.28	142.50	153.21	142.03	113.71	142.75	153.94	144.10	114.28	142.50	153.21	142.03	113.71
92.50°	113.53	142.29	153.14	143.08	114.19	142.72	152.48	141.76	113.53	142.29	153.14	143.08	114.19	142.72	152.48	141.76	113.53
95.00°	113.54	141.74	152.54	141.80	113.76	142.98	151.85	141.15	113.54	141.74	152.54	141.80	113.76	142.98	151.85	141.15	113.54
97.50°	113.65	140.76	152.13	140.01	113.24	141.25	151.30	140.56	113.65	140.76	152.13	140.01	113.24	141.25	151.30	140.56	113.65
100.00°	112.58	139.74	150.81	138.14	111.08	139.38	149.66	139.97	112.58	139.74	150.81	138.14	111.08	139.38	149.66	139.97	112.58
102.50°	110.97	137.77	148.74	134.95	108.61	136.10	147.23	138.41	110.97	137.77	148.74	134.95	108.61	136.10	147.23	138.41	110.97
105.00°	108.96	135.71	145.02	131.63	104.68	132.70	144.09	136.49	108.96	135.71	145.02	131.63	104.68	132.70	144.09	136.49	108.96
107.50°	106.80	132.78	140.20	123.99	100.57	126.28	140.52	133.56	106.80	132.78	140.20	123.99	100.57	126.28	140.52	133.56	106.80
110.00°	105.29	129.66	133.85	116.14	93.35	119.41	134.57	130.35	105.29	129.66	133.85	116.14	93.35	119.41	134.57	130.35	105.29
112.50°	103.95	125.45	126.65	105.30	85.93	107.23	127.46	126.11	103.95	125.45	126.65	105.30	85.93	107.23	127.46	126.11	103.95

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	1,722	1,722	1,722	1,722	1,623	1,623	1,623	1,623	1,438	1,438	1,438	1,269	1,269	1,269	1,114	1,114	1,114	1,041
	1	1,515	1,421	1,336	1,260	1,418	1,335	1,260	1,192	1,175	1,116	1,061	1,028	982	939	892	857	824	794
	2	1,368	1,225	1,107	1,007	1,278	1,152	1,046	956	1,014	930	857	887	820	762	769	718	672	663
	3	1,248	1,077	944	838	1,166	1,014	894	798	895	799	719	785	708	644	682	622	571	576
	4	1,148	960	822	717	1,073	906	781	685	803	701	621	707	626	560	618	553	500	513
	5	1,062	866	728	627	994	818	694	600	729	626	548	645	562	497	567	500	447	465
	6	988	788	653	557	925	746	624	535	668	566	491	595	511	448	526	458	405	427
	7	923	722	592	501	866	686	567	482	617	518	445	552	470	408	492	424	372	397
	8	865	667	542	456	814	635	520	440	573	477	408	516	435	376	462	395	345	371
	9	814	619	499	419	767	591	480	405	536	443	377	485	406	350	436	371	323	349
	10	769	578	463	387	726	552	446	375	504	413	351	457	381	327	414	350	303	331

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	31.1 fc	2.8 ft
6.5 ft	22.3 fc	3.3 ft
7.5 ft	16.7 fc	3.8 ft
8.0 ft	14.7 fc	4.0 ft
10.0 ft	9.4 fc	5.0 ft
12.0 ft	6.5 fc	6.0 ft
14.0 ft	4.8 fc	7.0 ft
16.0 ft	3.7 fc	8.0 ft
20.0 ft	2.4 fc	10.0 ft
24.0 ft	1.6 fc	12.0 ft
28.0 ft	1.2 fc	14.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	22,573	22,573	22,573
45.00°	983	935	1,008
55.00°	950	929	955
65.00°	963	958	982
75.00°	1,001	990	1,025
85.00°	1,056	1,028	1,063

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	8.3	9.4	9.1	10.2	11.2	8.4	9.5	9.2	10.4	11.3
	3H	11.1	12.1	11.9	13.0	14.0	11.2	12.2	12.0	13.1	14.1
	4H	12.4	13.4	13.2	14.2	15.3	12.5	13.5	13.4	14.4	15.4
	6H	13.7	14.7	14.6	15.5	16.5	13.9	14.8	14.7	15.6	16.7
	8H	14.4	15.2	15.2	16.1	17.1	14.5	15.4	15.3	16.2	17.3
	12H	15.0	15.8	15.8	16.7	17.7	15.1	15.9	15.9	16.8	17.8
4H	2H	9.3	10.3	10.1	11.2	12.2	9.4	10.4	10.2	11.2	12.3
	3H	12.3	13.2	13.2	14.1	15.1	12.4	13.3	13.3	14.2	15.2
	4H	13.8	14.7	14.7	15.5	16.6	14.0	14.8	14.8	15.6	16.7
	6H	15.3	16.0	16.2	16.9	18.0	15.4	16.1	16.3	17.0	18.1
	8H	16.0	16.7	16.9	17.6	18.7	16.1	16.8	17.0	17.7	18.8
	12H	16.7	17.3	17.6	18.2	19.3	16.8	17.4	17.7	18.3	19.4
8H	4H	14.5	15.2	15.4	16.1	17.2	14.6	15.3	15.5	16.2	17.3
	6H	16.3	16.8	17.1	17.8	18.8	16.3	16.9	17.2	17.8	18.9
	8H	17.1	17.7	18.0	18.6	19.7	17.2	17.7	18.1	18.6	19.8
	12H	18.0	18.5	18.9	19.4	20.5	18.1	18.6	19.0	19.5	20.6
12H	4H	14.7	15.3	15.5	16.2	17.3	14.8	15.4	15.6	16.3	17.4
	6H	16.5	17.0	17.4	17.9	19.1	16.6	17.1	17.5	18.0	19.1
	8H	17.5	17.9	18.4	18.9	20.0	17.6	18.0	18.4	18.9	20.1

Corrected UGR values based on total output lumens

SHR = 1.0