

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

PAC0609GV 27L 35K xx FG6

Nom. 6" diam x 9" H tubular luminaire with wrap around slotted cover

Test Number

SP-00966

Test Date

12/19/2019

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

Summary of Results

Power

Input Watts	19 W
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Lumen Output

Output Lumens	1386
Efficacy	72.94 lm/W

Luminous Dimensions

0° - 180° Size	-0.5
90° - 270° Size	-0.5
Height	0.58

Spacing Criterion

Two luminaires, plane 0°	0.8
Two luminaires, plane 90°	0.79
Four luminaires	0.88

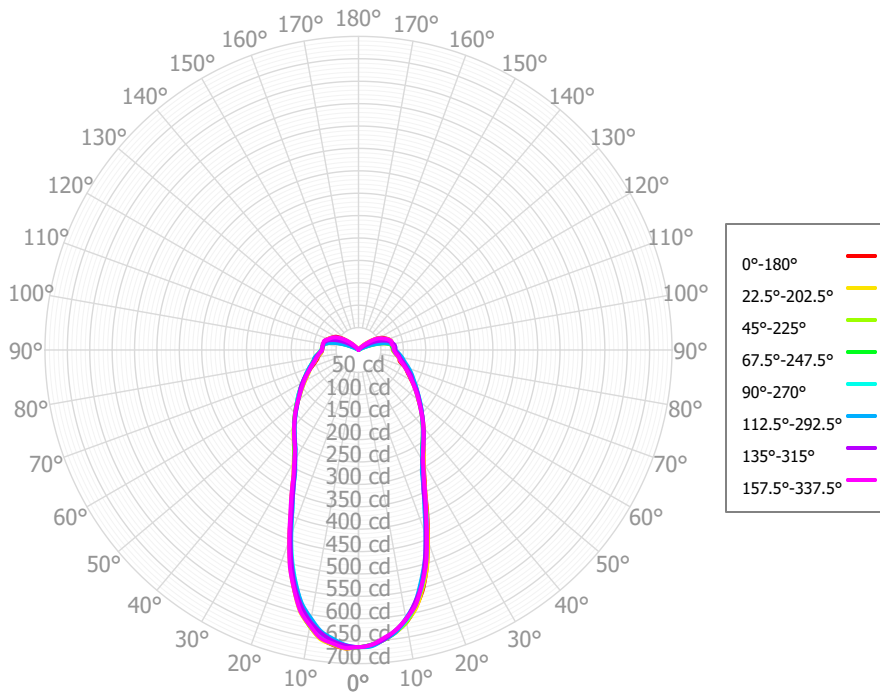
Full Beam Angle

0° - 180°	53°
90° - 270°	52°

IES File Header Contents

Keyword	Value
TEST	SP-00966
TESTLAB	Spectrum Lighting Photometric Lab VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/19/2019
ISSUEDATE	1/7/2020
LUMCAT	PAC0609GV 27L 35K xx FG6
LUMINAIRE	Nom. 6" diam x 9" H tubular luminaire with wrap around slotted cover
OTHER	Beam Angle (downlight): 53 degrees
OTHER	Uplight: 16.6%
OTHER	Downlight: 83.4%
LAMP	N/A
LAMPCAT	N/A
OTHER	CCT Multipliers: 27K x 0.97, 30K x 0.99, 40K x 1.03
OTHER	Total luminaire watts is approximate
OTHER	This report generated by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	62.03	4.48%	90.00° - 100.00°	86.56	6.25%
10.00° - 20.00°	150.64	10.87%	100.00° - 110.00°	72.92	5.26%
20.00° - 30.00°	161.54	11.66%	100.00° - 120.00°	116.03	8.37%
30.00° - 40.00°	157.39	11.36%	120.00° - 130.00°	18.89	1.36%
40.00° - 50.00°	154.07	11.12%	130.00° - 140.00°	5.54	0.40%
50.00° - 60.00°	141.54	10.21%	140.00° - 150.00°	1.37	0.10%
60.00° - 70.00°	125.55	9.06%	150.00° - 160.00°	0.71	0.05%
70.00° - 80.00°	108.82	7.85%	160.00° - 170.00°	0.43	0.03%
80.00° - 90.00°	94.68	6.83%	170.00° - 180.00°	0.14	0.01%
0.00° - 90.00°	1,156.26	83.43%	0.00° - 180.00°	1,385.93	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°	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43	663.43
2.50°	658.93	659.17	658.59	660.93	658.91	659.33	660.40	665.91	666.73	666.95	664.08	665.29	663.67	662.22	659.09	658.95	658.93
5.00°	649.59	648.39	649.82	647.10	649.14	647.47	652.41	658.01	660.84	659.51	659.49	656.37	653.53	649.34	649.21	645.59	649.59
7.50°	635.45	636.52	634.44	632.21	634.91	634.33	637.48	648.75	648.77	651.21	646.75	646.75	639.17	635.61	631.45	631.65	635.45
10.00°	617.12	615.42	617.17	610.34	613.20	608.85	616.77	624.66	625.99	626.42	626.66	620.42	613.44	608.66	611.05	609.66	617.12
12.50°	589.22	591.41	584.78	584.96	584.44	581.30	587.44	598.09	596.60	599.66	594.26	592.76	584.45	579.95	579.10	585.43	589.22
15.00°	554.56	551.80	549.31	544.00	546.21	541.01	548.31	554.77	554.00	554.91	553.45	548.13	540.04	536.94	544.31	544.74	554.56
17.50°	507.20	508.72	498.75	499.45	500.53	497.46	497.39	508.95	504.71	508.16	500.99	502.07	492.29	491.96	493.08	501.62	507.20
20.00°	452.65	451.98	446.20	442.88	446.78	440.20	444.28	451.92	450.76	449.54	447.62	445.46	438.96	436.83	438.91	446.87	452.65
22.50°	401.81	398.23	396.27	390.19	396.14	386.45	388.97	397.83	394.97	394.15	393.23	391.09	384.83	384.63	390.68	394.81	401.81
25.00°	352.69	353.17	346.54	347.39	348.32	343.56	344.54	353.30	352.11	351.93	348.32	347.62	345.15	343.15	343.11	352.35	352.69
27.50°	318.56	314.82	314.77	310.44	312.58	306.15	308.92	313.75	313.13	314.02	312.02	308.88	306.60	306.69	313.75	314.55	318.56
30.00°	289.80	291.50	283.82	285.13	285.64	282.14	282.77	287.01	287.34	289.08	285.14	286.56	284.25	284.42	285.31	289.28	289.80
32.50°	269.94	270.55	266.65	263.91	266.63	261.43	262.82	264.36	264.54	267.04	265.37	265.95	262.56	264.59	269.10	267.36	269.94
35.00°	252.46	253.94	249.80	249.34	252.24	247.02	247.78	249.93	249.26	251.91	250.13	249.95	249.11	250.06	253.03	252.45	252.46
37.50°	238.62	238.65	236.57	235.71	238.07	233.77	235.38	236.25	235.12	237.39	237.63	235.40	235.68	236.23	239.39	238.10	238.62
40.00°	225.50	225.29	223.46	223.30	224.01	222.29	222.80	223.78	222.95	224.02	224.46	223.88	222.35	223.60	225.83	224.72	225.50
42.50°	212.65	212.28	211.13	210.95	211.86	210.50	210.13	211.74	210.95	211.40	210.97	212.37	209.30	211.59	212.98	211.45	212.65
45.00°	199.84	199.69	198.17	198.66	200.42	198.34	198.23	200.26	199.16	199.89	198.87	200.87	198.15	200.45	200.32	198.35	199.84
47.50°	187.50	187.49	186.95	187.22	189.90	186.95	186.57	188.49	187.39	188.14	187.31	189.72	187.47	189.40	188.76	186.25	187.50
50.00°	175.18	175.66	175.49	176.51	179.64	176.36	176.74	176.41	176.65	176.10	176.37	179.06	178.90	178.45	177.68	175.27	175.18
52.50°	165.63	165.58	165.51	166.46	169.49	166.85	167.37	165.88	166.06	165.16	165.60	169.38	170.15	168.86	168.52	164.81	165.63
55.00°	156.11	156.87	156.14	156.86	159.37	158.24	159.64	156.71	157.29	155.32	156.27	160.79	160.76	160.54	159.05	154.83	156.11
57.50°	146.43	147.95	148.33	148.72	151.40	150.07	152.19	148.30	148.50	146.32	147.25	152.26	151.76	152.48	148.70	145.93	146.43
60.00°	136.92	138.90	140.21	141.40	143.72	142.20	144.20	140.45	139.58	137.98	140.14	143.79	143.81	144.64	139.83	137.82	136.92
62.50°	129.04	131.24	131.50	133.45	135.28	135.41	136.14	133.05	131.15	130.56	133.30	136.20	136.15	137.95	134.32	130.15	129.04
65.00°	121.48	124.29	123.84	125.21	126.79	129.20	127.82	125.90	125.11	123.76	126.57	129.27	129.06	131.98	128.00	122.74	121.48
67.50°	115.97	117.77	117.83	118.50	120.53	123.18	119.51	119.57	118.81	118.42	119.85	122.50	122.38	125.84	120.19	116.03	115.97
70.00°	109.93	111.42	111.80	112.33	114.37	117.23	113.93	113.59	111.63	113.87	114.05	115.84	116.34	119.61	113.43	109.67	109.93
72.50°	101.70	104.77	105.74	106.76	109.76	111.15	108.43	107.73	104.86	107.88	108.28	110.70	110.36	113.57	108.23	103.71	101.70
75.00°	95.14	98.01	100.22	101.34	105.14	105.02	104.05	101.91	99.21	101.29	102.88	106.27	104.46	107.60	103.01	97.92	95.14
77.50°	93.79	93.47	95.27	97.72	100.40	101.98	99.75	97.88	94.52	97.30	97.62	102.32	100.17	103.18	97.79	94.14	93.79
80.00°	91.47	89.44	90.86	94.46	95.68	99.73	96.20	94.34	91.84	94.19	94.07	98.56	97.63	99.24	93.72	90.94	91.47
82.50°	86.76	86.22	86.92	89.03	91.13	94.42	92.50	91.00	88.73	89.65	90.50	94.35	93.77	94.88	90.78	87.07	86.76
85.00°	82.71	83.12	82.75	83.33	86.79	88.56	88.03	87.69	84.89	84.76	86.88	90.01	88.76	90.42	87.46	83.07	82.71
87.50°	79.93	79.99	78.42	80.76	83.36	85.40	84.12	84.40	82.27	83.00	83.75	85.92	85.35	86.45	83.85	80.62	79.93
90.00°	77.98	76.86	76.79	78.39	80.48	82.55	82.35	81.12	81.29	81.78	82.98	81.88	83.13	82.57	82.45	78.41	77.98
92.50°	77.31	76.34	76.68	77.11	79.36	81.34	80.92	81.22	80.54	80.77	82.31	81.42	82.02	82.37	82.48	78.45	77.31
95.00°	76.68	75.93	76.55	75.85	78.28	80.23	80.50	81.56	80.06	79.79	81.96	81.45	81.58	82.52	82.10	78.68	76.68
97.50°	76.09	76.25	76.41	74.49	77.31	79.21	80.12	80.88	79.67	80.15	81.21	79.02	80.03	80.17	81.50	76.90	76.09
100.00°	75.94	76.54	75.14	72.64	74.74	77.91	79.86	80.20	79.36	80.57	79.40	76.39	77.96	77.66	79.26	75.13	75.94
102.50°	76.23	76.25	73.46	65.73	68.97	70.46	78.60	79.87	78.75	78.10	77.26	70.13	71.40	69.43	76.35	75.58	76.23
105.00°	75.42	75.67	69.93	58.11	61.36	62.59	75.58	79.21	77.92	75.67	74.43	63.65	63.19	60.95	72.34	75.77	75.42
107.50°	73.69	72.90	65.90	46.13	50.84	50.94	71.24	75.18	75.52	73.94	70.52	52.49	53.31	49.11	67.98	72.83	73.69
110.00°	70.64	69.75	59.62	34.42	40.49	39.33	64.96	71.30	72.17	72.03	64.82	41.36	42.96	37.31	61.51	69.68	70.64
112.50°	66.71	64.54	52.91	23.92	30.36	27.98	57.98	68.23	68.92	68.48	58.41	30.56	32.89	25.85	54.52	65.13	66.71

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%	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%
	0	1,595	1,595	1,595	1,595	1,531	1,531	1,531	1,531	1,412	1,412	1,412	1,303	1,303	1,303	1,203	1,203	1,156
	1	1,429	1,353	1,284	1,223	1,366	1,298	1,237	1,181	1,197	1,147	1,102	1,103	1,064	1,027	1,017	986	945
	2	1,298	1,177	1,077	994	1,239	1,131	1,041	964	1,044	970	907	964	904	852	890	842	806
	3	1,187	1,039	924	832	1,133	999	894	810	925	838	766	856	785	724	793	734	703
	4	1,092	927	806	713	1,042	893	782	696	829	736	662	770	692	629	715	650	623
	5	1,009	835	712	622	964	805	693	608	751	654	581	699	618	554	652	583	559
	6	937	758	637	550	896	732	620	539	685	588	517	640	558	494	598	528	507
	7	873	692	575	493	836	670	561	483	629	534	464	590	507	446	553	482	464
	8	817	637	523	445	783	617	511	437	581	488	421	546	465	406	514	443	427
	9	767	589	479	406	736	572	469	399	539	449	385	509	429	372	480	410	396
	10	722	547	442	372	694	532	433	366	503	415	355	476	398	343	450	381	369

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	21.9 fc	5.4 ft
6.5 ft	15.7 fc	6.4 ft
7.5 ft	11.8 fc	7.4 ft
8.0 ft	10.4 fc	7.9 ft
10.0 ft	6.6 fc	9.9 ft
12.0 ft	4.6 fc	11.9 ft
14.0 ft	3.4 fc	13.8 ft
16.0 ft	2.6 fc	15.8 ft
20.0 ft	1.7 fc	19.8 ft
24.0 ft	1.2 fc	23.7 ft
28.0 ft	0.8 fc	27.7 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	36,369	36,369	36,369
45.00°	6,255	6,225	6,273
55.00°	4,799	4,800	4,899
65.00°	3,781	3,855	3,947
75.00°	3,094	3,260	3,420
85.00°	2,909	2,911	3,053

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