

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

PAC0618GV 15L 35K xx FG6

Nom. 6" diam x 18" H tubular luminaire with wrap around slotted cover

Test Number

SP-00967_M-15L

Test Date

12/19/2019

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

Summary of Results

Power

Input Watts	10 W
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Lumen Output

Output Lumens	744
Efficacy	74.4 lm/W

Luminous Dimensions

0° - 180° Size	-0.5
90° - 270° Size	-0.5
Height	1.3

Spacing Criterion

Two luminaires, plane 0°	0.65
Two luminaires, plane 90°	0.66
Four luminaires	0.85

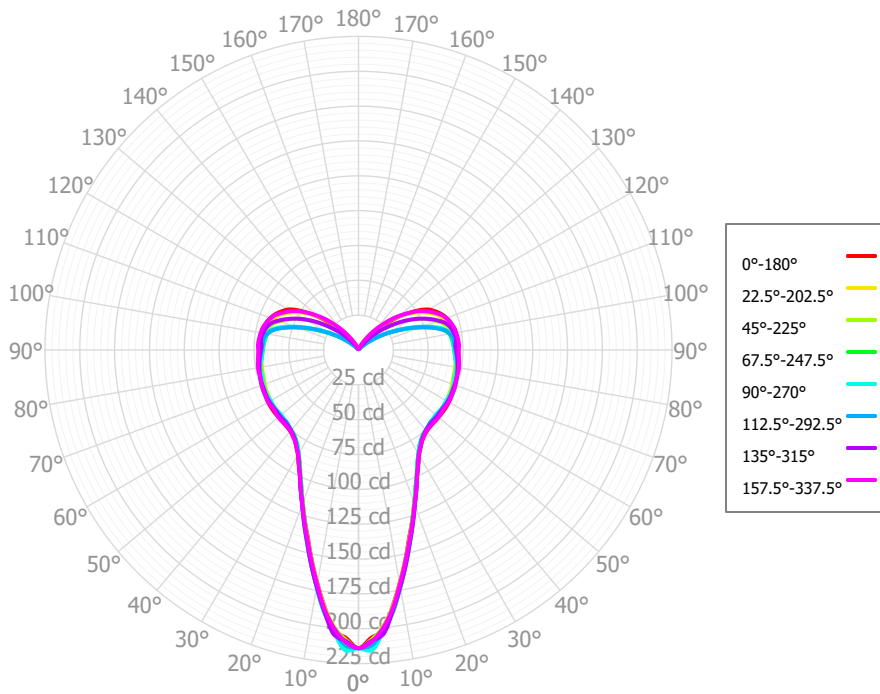
Full Beam Angle

0° - 180°	45°
90° - 270°	45°

IES File Header Contents

Keyword	Value
TEST	SP-00967_M-15L
TESTLAB	Spectrum Lighting Photometric Lab VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/19/2019
ISSUEDATE	1/7/2020
LUMCAT	PAC0618GV 15L 35K xx FG6
LUMINAIRE	Nom. 6" diam x 18" H tubular luminaire with wrap around slotted cover
OTHER	Beam Angle (downlight): 45 degrees
OTHER	Uplight: 32.2%
OTHER	Downlight: 67.8%
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, scaled from 27L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	18.47	2.48%	90.00° - 100.00°	75.78	10.19%
10.00° - 20.00°	39.55	5.32%	100.00° - 110.00°	68.13	9.16%
20.00° - 30.00°	45.96	6.18%	100.00° - 120.00°	117.60	15.81%
30.00° - 40.00°	49.99	6.72%	120.00° - 130.00°	28.78	3.87%
40.00° - 50.00°	57.46	7.72%	130.00° - 140.00°	12.54	1.69%
50.00° - 60.00°	66.07	8.88%	140.00° - 150.00°	3.83	0.51%
60.00° - 70.00°	72.95	9.81%	150.00° - 160.00°	0.84	0.11%
70.00° - 80.00°	76.58	10.29%	160.00° - 170.00°	0.24	0.03%
80.00° - 90.00°	77.26	10.38%	170.00° - 180.00°	0.08	0.01%
0.00° - 90.00°	504.28	67.78%	0.00° - 180.00°	743.96	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°	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97	213.97
2.50°	206.89	210.15	208.28	212.67	215.78	212.20	209.15	209.81	206.89	210.15	208.28	212.67	215.78	212.20	209.15	209.81	206.89
5.00°	202.24	199.54	199.99	201.86	202.94	202.67	204.76	200.56	202.24	199.54	199.99	201.86	202.94	202.67	204.76	200.56	202.24
7.50°	186.11	186.48	186.91	188.28	189.64	189.27	188.55	187.41	186.11	186.48	186.91	188.28	189.64	189.27	188.55	187.41	186.11
10.00°	170.04	170.17	171.50	172.15	172.97	172.77	172.42	170.73	170.04	170.17	171.50	172.15	172.97	172.77	172.42	170.73	170.04
12.50°	154.79	154.93	156.35	155.62	156.79	157.41	157.19	155.53	154.79	154.93	156.35	155.62	156.79	157.41	157.19	155.53	154.79
15.00°	139.99	140.76	141.29	141.94	142.81	142.75	142.35	141.34	139.99	140.76	141.29	141.94	142.81	142.75	142.35	141.34	139.99
17.50°	128.21	128.45	128.89	128.50	129.45	130.04	129.88	129.16	128.21	128.45	128.89	128.50	129.45	130.04	129.88	129.16	128.21
20.00°	116.93	117.60	117.14	117.49	117.95	118.23	118.01	118.02	116.93	117.60	117.14	117.49	117.95	118.23	118.01	118.02	116.93
22.50°	107.72	108.26	107.91	106.68	107.46	108.42	108.46	108.40	107.72	108.26	107.91	106.68	107.46	108.42	108.46	108.40	107.72
25.00°	99.13	99.82	99.04	98.73	99.18	99.29	99.62	99.37	99.13	99.82	99.04	98.73	99.18	99.29	99.62	99.37	99.13
27.50°	92.24	93.25	92.61	91.11	91.82	92.60	92.73	92.64	92.24	93.25	92.61	91.11	91.82	92.60	92.73	92.64	92.24
30.00°	86.37	87.52	86.35	86.00	85.97	86.49	86.79	86.53	86.37	87.52	86.35	86.00	85.97	86.49	86.79	86.53	86.37
32.50°	82.58	83.21	82.52	81.32	81.48	82.43	82.78	82.85	82.58	83.21	82.52	81.32	81.48	82.43	82.78	82.85	82.58
35.00°	79.50	79.37	78.82	78.48	78.71	78.66	79.42	79.57	79.50	79.37	78.82	78.48	78.71	78.66	79.42	79.57	79.50
37.50°	77.52	77.17	76.96	76.16	76.60	76.81	77.05	77.59	77.52	77.17	76.96	76.16	76.60	76.81	77.05	77.59	77.52
40.00°	76.12	75.33	75.22	75.36	75.14	75.07	75.39	75.74	76.12	75.33	75.22	75.36	75.14	75.07	75.39	75.74	76.12
42.50°	75.39	74.41	74.32	74.68	74.07	74.01	74.52	75.40	75.39	74.41	74.32	74.68	74.07	74.01	74.52	75.40	75.39
45.00°	74.97	73.61	73.55	74.29	73.29	73.03	74.05	75.10	74.97	73.61	73.55	74.29	73.29	73.03	74.05	75.10	74.97
47.50°	74.84	73.45	73.28	73.95	72.75	73.19	73.91	75.11	74.84	73.45	73.28	73.95	72.75	73.19	73.91	75.11	74.84
50.00°	74.88	73.32	73.12	73.66	72.33	73.32	73.78	75.07	74.88	73.32	73.12	73.66	72.33	73.32	73.78	75.07	74.88
52.50°	75.04	73.06	73.28	73.44	72.54	73.25	73.66	74.63	75.04	73.06	73.28	73.44	72.54	73.25	73.66	74.63	75.04
55.00°	75.09	72.81	73.37	73.29	73.02	73.25	73.76	74.32	75.09	72.81	73.37	73.29	73.02	73.25	73.76	74.32	75.09
57.50°	75.09	72.84	73.31	73.38	72.92	73.57	73.99	74.59	75.09	72.84	73.31	73.38	72.92	73.57	73.99	74.59	75.09
60.00°	74.91	72.87	73.09	73.68	72.64	73.92	73.99	74.73	74.91	72.87	73.09	73.68	72.64	73.92	73.99	74.73	74.91
62.50°	74.67	72.90	72.60	73.80	72.89	74.34	73.90	74.46	74.67	72.90	72.60	73.80	72.89	74.34	73.90	74.46	74.67
65.00°	74.23	72.80	72.33	73.77	73.25	74.52	73.71	74.27	74.23	72.80	72.33	73.77	73.25	74.52	73.71	74.27	74.23
67.50°	73.74	72.20	72.31	73.68	73.00	74.20	73.50	74.26	73.74	72.20	72.31	73.68	73.00	74.20	73.50	74.26	73.74
70.00°	73.43	71.67	71.94	73.56	72.70	73.88	73.45	73.99	73.43	71.67	71.94	73.56	72.70	73.88	73.45	73.99	73.43
72.50°	73.15	71.31	71.25	73.06	72.16	73.57	73.43	73.27	73.15	71.31	71.25	73.06	72.16	73.57	73.43	73.27	73.15
75.00°	72.98	71.20	70.83	72.40	71.63	73.16	73.14	73.00	72.98	71.20	70.83	72.40	71.63	73.16	73.14	73.00	72.98
77.50°	72.81	71.55	70.61	71.99	71.75	72.63	72.83	73.31	72.81	71.55	70.61	71.99	71.75	72.63	72.83	73.31	72.81
80.00°	72.39	71.50	70.43	71.66	71.77	72.23	72.27	73.26	72.39	71.50	70.43	71.66	71.77	72.23	72.27	73.26	72.39
82.50°	71.98	70.87	70.28	70.77	70.74	71.96	71.70	72.85	71.98	70.87	70.28	70.77	70.74	71.96	71.70	72.85	71.98
85.00°	71.93	70.21	69.77	69.77	69.80	71.22	71.20	72.41	71.93	70.21	69.77	69.77	69.80	71.22	71.20	72.41	71.93
87.50°	71.84	69.55	69.12	69.20	69.33	70.16	70.70	71.94	71.84	69.55	69.12	69.20	69.33	70.16	70.70	71.94	71.84
90.00°	71.49	69.37	68.84	68.66	68.87	69.53	70.13	71.95	71.49	69.37	68.84	68.66	68.87	69.53	70.13	71.95	71.49
92.50°	71.22	69.61	68.66	68.21	68.46	69.13	69.76	72.23	71.22	69.61	68.66	68.21	68.46	69.13	69.76	72.23	71.22
95.00°	71.32	69.83	68.61	67.75	68.08	68.75	70.25	72.04	71.32	69.83	68.61	67.75	68.08	68.75	70.25	72.04	71.32
97.50°	71.29	70.04	68.58	67.19	67.77	68.37	70.40	71.65	71.29	70.04	68.58	67.19	67.77	68.37	70.40	71.65	71.29
100.00°	70.87	69.48	68.21	66.41	66.78	66.50	69.57	71.22	70.87	69.48	68.21	66.41	66.78	66.50	69.57	71.22	70.87
102.50°	70.33	68.54	67.80	63.59	64.60	64.21	68.59	70.77	70.33	68.54	67.80	63.59	64.60	64.21	68.59	70.77	70.33
105.00°	69.51	67.33	65.80	60.19	60.95	59.26	67.25	69.73	69.51	67.33	65.80	60.19	60.95	59.26	67.25	69.73	69.51
107.50°	68.52	66.02	63.69	53.72	55.28	53.85	65.03	68.57	68.52	66.02	63.69	53.72	55.28	53.85	65.03	68.57	68.52
110.00°	67.24	64.73	60.19	47.27	49.13	47.75	61.36	66.85	67.24	64.73	60.19	47.27	49.13	47.75	61.36	66.85	67.24
112.50°	65.58	63.45	56.64	40.89	42.47	41.60	57.42	65.06	65.58	63.45	56.64	40.89	42.47	41.60	57.42	65.06	65.58

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	829	829	829	829	781	781	781	781	693	693	693	613	613	613	539	539	504
	1	722	674	631	592	676	633	594	559	556	526	498	486	462	440	421	403	373
	2	646	573	512	461	603	537	483	437	471	428	390	410	376	346	354	327	301
	3	584	496	428	373	544	465	404	354	408	359	317	356	316	282	307	275	253
	4	532	436	365	311	496	409	345	296	360	307	266	314	271	237	271	237	218
	5	488	387	317	265	455	364	300	252	321	268	227	281	238	203	244	208	192
	6	450	347	278	229	420	327	264	218	290	237	198	254	211	178	222	186	171
	7	417	314	247	201	389	297	235	192	263	212	174	232	189	157	203	167	155
	8	388	286	222	178	363	271	212	171	241	191	155	214	171	141	188	152	141
	9	362	262	201	160	339	248	192	153	222	174	140	198	157	127	174	140	130
	10	339	242	183	144	318	229	175	138	206	159	127	184	144	116	163	129	120

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	7.1 fc	4.5 ft
6.5 ft	5.1 fc	5.4 ft
7.5 ft	3.8 fc	6.2 ft
8.0 ft	3.3 fc	6.6 ft
10.0 ft	2.1 fc	8.3 ft
12.0 ft	1.5 fc	9.9 ft
14.0 ft	1.1 fc	11.6 ft
16.0 ft	0.8 fc	13.2 ft
20.0 ft	0.5 fc	16.5 ft
24.0 ft	0.4 fc	19.8 ft
28.0 ft	0.3 fc	23.1 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	11,730	11,730	11,730
45.00°	1,348	1,323	1,318
55.00°	1,253	1,224	1,218
65.00°	1,189	1,158	1,173
75.00°	1,157	1,123	1,136
85.00°	1,165	1,130	1,130

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