

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

PAC0810GV 27L 35K xx FG8

Nom. 8" diam x 10" H tubular luminaire with wrap around slotted cover

Test Number

SP-00968

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	1418
Efficacy	74.61 lm/W

Luminous Dimensions

0° - 180° Size	-0.66
90° - 270° Size	-0.66
Height	0.66

Spacing Criterion

Two luminaires, plane 0°	0.88
Two luminaires, plane 90°	0.87
Four luminaires	0.94

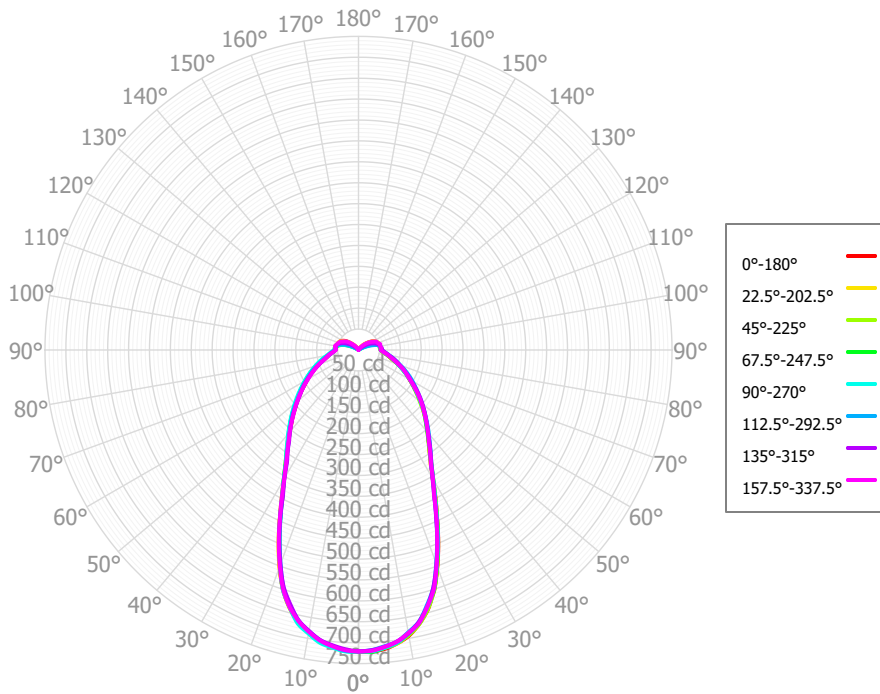
Full Beam Angle

0° - 180°	59°
90° - 270°	59°

IES File Header Contents

Keyword	Value
TEST	SP-00968
TESTLAB	Spectrum Lighting Photometric Lab VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/19/2019
ISSUEDATE	1/7/2020
LUMCAT	PAC0810GV 27L 35K xx FG8
LUMINAIRE	Nom. 8" diam x 10" H tubular luminaire with wrap around slotted cover
OTHER	Beam Angle (downlight): 60 degrees
OTHER	Uplight: 12.4%
OTHER	Downlight: 87.6%
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
_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°	68.27	4.82%	90.00° - 100.00°	59.15	4.17%
10.00° - 20.00°	176.23	12.43%	100.00° - 110.00°	52.26	3.69%
20.00° - 30.00°	203.38	14.35%	100.00° - 120.00°	87.89	6.20%
30.00° - 40.00°	187.74	13.24%	120.00° - 130.00°	18.11	1.28%
40.00° - 50.00°	173.71	12.25%	130.00° - 140.00°	7.35	0.52%
50.00° - 60.00°	150.20	10.60%	140.00° - 150.00°	2.37	0.17%
60.00° - 70.00°	121.54	8.57%	150.00° - 160.00°	0.85	0.06%
70.00° - 80.00°	91.70	6.47%	160.00° - 170.00°	0.46	0.03%
80.00° - 90.00°	68.48	4.83%	170.00° - 180.00°	0.15	0.01%
0.00° - 90.00°	1,241.25	87.56%	0.00° - 180.00°	1,417.57	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°	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96	720.96
2.50°	721.70	720.45	719.93	723.01	721.38	720.16	716.70	718.90	718.64	718.47	719.00	720.48	721.76	718.65	718.91	720.31	721.70
5.00°	717.75	715.33	714.95	715.54	715.25	711.06	709.28	711.54	711.71	711.57	711.45	712.56	714.54	711.61	712.94	713.03	717.75
7.50°	707.99	708.16	706.57	706.61	706.62	700.65	699.92	701.24	701.65	701.22	701.61	702.49	706.48	704.20	703.56	703.86	707.99
10.00°	693.94	691.23	692.45	688.33	688.93	683.17	682.45	684.44	686.45	685.60	684.69	686.09	688.82	685.85	688.65	687.23	693.94
12.50°	670.71	671.16	671.58	668.99	667.70	663.00	662.53	663.89	667.47	665.04	665.76	665.68	670.50	666.69	666.69	669.18	670.71
15.00°	642.04	638.55	641.57	635.70	636.50	632.68	630.17	636.78	637.25	638.37	634.35	636.18	636.58	632.44	635.56	635.73	642.04
17.50°	599.78	602.98	601.55	601.68	598.91	596.89	595.11	600.12	600.40	600.97	600.41	599.12	601.67	596.50	595.37	600.28	599.78
20.00°	551.13	550.70	550.25	549.17	547.39	545.46	546.27	550.12	551.52	552.54	548.62	548.11	547.89	543.76	545.37	546.68	551.13
22.50°	498.52	495.57	497.67	496.60	495.58	493.64	495.32	498.41	496.82	500.28	494.32	496.06	494.37	491.27	493.14	491.87	498.52
25.00°	444.40	444.34	443.89	444.30	443.25	440.93	443.32	444.73	444.98	444.86	443.42	442.47	443.36	440.15	438.95	441.13	444.40
27.50°	398.52	393.50	397.55	393.65	396.37	393.52	391.22	397.10	394.22	397.65	392.77	395.76	394.30	391.97	393.43	391.06	398.52
30.00°	354.97	356.53	356.68	357.52	357.23	355.50	354.53	355.16	356.48	355.96	357.24	357.25	357.46	355.74	354.02	356.03	354.97
32.50°	324.42	320.21	323.79	323.15	324.96	322.52	318.51	322.39	322.41	324.36	322.30	325.37	323.35	322.89	324.42	322.04	324.42
35.00°	296.50	298.08	295.77	298.96	300.57	296.70	295.32	296.60	297.65	298.15	298.50	300.04	300.77	300.58	300.36	298.75	296.50
37.50°	276.87	276.21	274.58	275.84	278.60	274.28	272.55	274.99	274.86	276.34	275.25	278.33	279.34	279.56	278.90	276.29	276.87
40.00°	258.41	258.63	256.71	257.00	258.88	255.87	255.44	256.01	255.94	256.43	258.15	259.51	261.48	261.61	258.64	258.82	258.41
42.50°	242.06	241.18	240.38	239.33	241.54	239.33	238.42	238.18	237.55	239.72	241.09	242.44	244.14	244.19	242.23	241.69	242.06
45.00°	225.88	224.81	224.64	225.13	226.06	224.56	221.94	220.93	221.52	224.07	224.21	226.50	228.11	227.74	227.18	225.96	225.88
47.50°	211.07	208.72	208.18	210.62	210.54	209.03	205.71	205.85	205.67	208.99	207.82	210.75	212.73	212.19	212.86	210.58	211.07
50.00°	196.28	194.14	191.52	195.41	195.00	192.91	190.68	191.63	191.72	194.05	193.57	195.10	198.59	198.02	198.72	196.31	196.28
52.50°	180.87	179.92	178.04	180.58	180.72	179.46	176.40	177.91	177.84	179.94	179.72	182.00	184.91	184.37	184.91	182.07	180.87
55.00°	165.70	167.04	165.25	166.45	167.07	167.71	164.76	164.35	164.74	165.98	167.18	169.97	171.95	171.37	171.16	167.87	165.70
57.50°	153.26	154.68	154.10	153.56	154.74	155.36	153.11	151.79	151.86	153.95	155.25	158.25	159.74	159.48	157.70	154.55	153.26
60.00°	141.19	143.73	143.19	142.50	142.95	142.72	141.46	139.45	141.45	142.12	144.84	146.63	148.48	148.71	144.28	142.89	141.19
62.50°	131.45	132.73	132.38	131.48	131.57	132.35	130.15	129.03	131.09	131.17	134.27	136.20	137.66	137.94	133.76	132.07	131.45
65.00°	121.70	121.61	121.58	120.49	120.32	122.87	119.57	118.91	121.01	120.25	123.38	126.05	127.29	127.15	123.42	122.58	121.70
67.50°	111.94	110.99	111.53	110.44	110.61	112.53	109.49	109.79	111.08	111.83	113.59	116.11	117.79	116.73	113.84	112.83	111.94
70.00°	102.20	101.27	101.51	101.32	101.24	101.91	100.27	100.77	101.79	103.36	105.57	106.19	109.02	106.56	104.35	102.77	102.20
72.50°	92.56	91.89	92.02	92.47	93.80	93.96	91.67	91.87	92.74	94.02	97.02	98.13	100.43	97.72	96.83	93.49	92.56
75.00°	83.65	83.00	82.80	83.82	86.65	86.63	83.88	83.05	84.44	84.95	87.80	90.24	91.97	89.60	89.27	85.00	83.65
77.50°	76.59	76.05	76.94	77.29	79.49	79.25	77.54	77.48	77.15	78.06	79.65	82.47	84.19	82.23	81.26	78.11	76.59
80.00°	70.02	71.41	71.01	72.13	72.32	71.86	72.83	71.93	72.46	71.52	72.60	74.73	76.78	75.18	73.62	72.58	70.02
82.50°	64.44	66.56	64.57	66.51	66.32	66.45	67.93	66.56	67.73	66.91	66.90	69.68	71.17	69.15	68.27	66.64	64.44
85.00°	59.53	61.53	58.80	60.64	60.42	61.23	62.86	61.35	62.94	62.36	62.37	64.69	66.35	63.47	63.23	60.42	59.53
87.50°	55.66	56.97	56.08	57.21	58.12	58.30	58.90	57.36	58.88	58.08	58.72	60.60	61.81	58.13	59.55	56.22	55.66
90.00°	53.40	52.78	53.61	54.80	55.90	55.50	55.75	54.15	55.99	54.97	55.70	56.96	57.37	52.88	56.67	53.14	53.40
92.50°	53.24	51.54	51.98	53.76	54.76	55.36	54.62	54.62	54.39	55.28	54.33	57.19	56.35	53.00	56.31	53.11	53.24
95.00°	52.82	52.19	51.06	53.16	53.73	55.19	54.70	55.26	54.49	55.57	53.89	57.09	56.21	54.09	55.62	54.43	52.82
97.50°	52.13	52.29	51.97	52.60	53.50	54.49	54.70	56.48	54.53	55.84	53.53	55.33	55.31	53.22	54.14	53.76	52.13
100.00°	51.80	52.10	52.28	52.04	52.90	53.72	54.66	56.83	54.51	55.63	53.21	53.12	54.27	52.13	52.73	52.40	51.80
102.50°	51.79	51.21	51.38	49.28	50.59	52.36	53.72	54.86	53.76	54.56	52.06	49.26	51.25	49.40	51.45	52.86	51.79
105.00°	51.28	50.04	50.57	46.15	47.61	50.26	52.45	53.12	52.37	53.34	50.63	45.19	48.00	46.57	49.82	53.77	51.28
107.50°	50.41	49.87	49.91	41.17	42.25	44.48	49.75	51.83	51.42	51.91	47.90	40.48	42.04	39.42	47.65	51.71	50.41
110.00°	49.41	50.00	47.47	35.99	36.74	38.62	46.63	50.52	50.79	50.78	44.82	34.99	35.94	32.28	44.86	49.09	49.41
112.50°	48.34	48.54	42.67	31.14	30.85	32.53	43.11	49.15	49.75	50.04	41.25	27.73	29.59	25.26	41.29	48.04	48.34

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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1,646	1,646	1,646	1,646	1,587	1,587	1,587	1,587	1,477	1,477	1,477	1,377	1,377	1,377	1,285	1,285	1,285
	1	1,492	1,421	1,358	1,301	1,435	1,372	1,315	1,263	1,279	1,233	1,191	1,194	1,157	1,123	1,116	1,087	1,060
	2	1,364	1,248	1,153	1,073	1,310	1,206	1,120	1,046	1,128	1,057	995	1,055	998	947	988	942	900
	3	1,252	1,108	997	908	1,202	1,072	970	888	1,006	921	850	944	873	814	886	828	779
	4	1,155	993	874	784	1,109	963	853	769	906	813	740	852	775	712	803	738	684
	5	1,070	897	777	688	1,028	871	760	676	822	726	653	776	695	630	734	664	608
	6	995	817	697	611	957	794	683	602	752	655	583	712	629	565	675	603	547
	7	929	748	631	549	894	729	619	541	692	596	526	657	573	511	624	551	496
	8	870	689	576	498	839	672	565	491	640	545	478	609	526	465	581	507	453
	9	817	638	529	455	789	623	520	449	595	502	438	568	486	427	542	470	416
	10	770	594	488	418	744	580	480	413	555	465	404	531	451	394	508	437	385

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	23.8 fc	6.3 ft
6.5 ft	17.1 fc	7.4 ft
7.5 ft	12.8 fc	8.5 ft
8.0 ft	11.3 fc	9.1 ft
10.0 ft	7.2 fc	11.4 ft
12.0 ft	5.0 fc	13.7 ft
14.0 ft	3.7 fc	15.9 ft
16.0 ft	2.8 fc	18.2 ft
20.0 ft	1.8 fc	22.8 ft
24.0 ft	1.3 fc	27.3 ft
28.0 ft	0.9 fc	31.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	22,683	22,683	22,683
45.00°	4,421	4,397	4,425
55.00°	3,225	3,216	3,252
65.00°	2,429	2,426	2,401
75.00°	1,768	1,750	1,831
85.00°	1,382	1,365	1,402

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