

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE4LEDOS 30L 35K DS101 AR4223OS MW SO 1FGT
Nom 4" diam illumitech decorative trim recessed downlight

Test Number

SP-00911

Test Date

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

Summary of Results

Power

Input Watts	29.6 W
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Lumen Output

Output Lumens	1047
Efficacy	35.36 lm/W

Luminous Dimensions

0° - 180° Size	-0.33
90° - 270° Size	-0.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.72
Two luminaires, plane 90°	0.72
Four luminaires	0.75

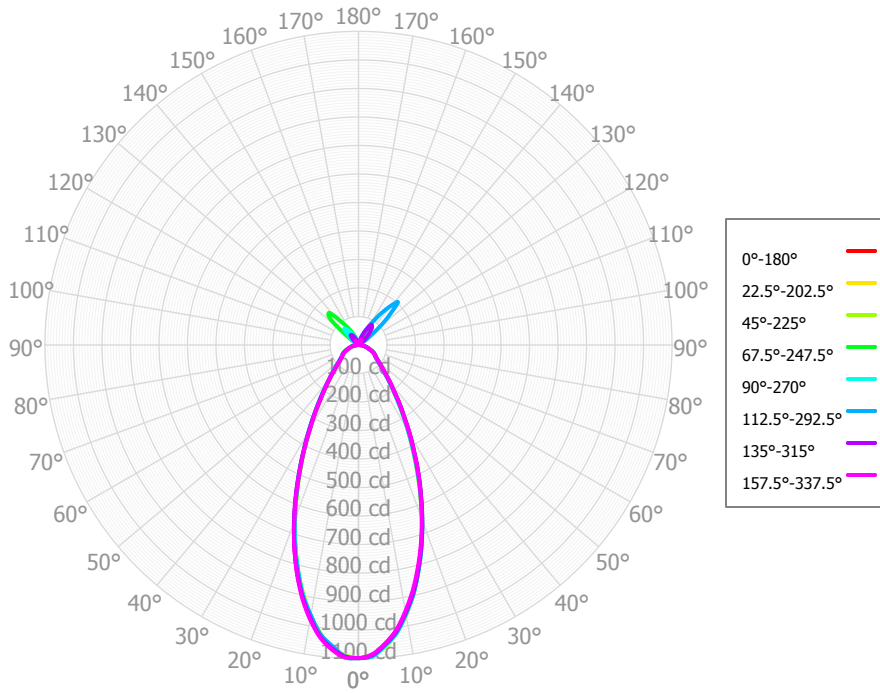
Full Beam Angle

0° - 180°	46°
90° - 270°	46°

IES File Header Contents

Keyword	Value
TEST	SP-00911
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	10/22/2018
UPDATE	8/19/2019
LUMCAT	SGE4LEDOS 30L 35K DS101 AR4223OS MW SO 1FGT
LUMINAIRE	Nom 4" diam illumitech decorative trim recessed downlight
OTHER	Solite lens, Frosted Glass Tier
LAMPCAT	N/A
LAMP	N/A
OTHER	CCT Output Multipliers: 27K x 0.89, 30K x 0.95, 40K x 1.03
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	99.56	9.51%	90.00° - 100.00°	4.84	0.46%
10.00° - 20.00°	225.61	21.55%	100.00° - 110.00°	4.02	0.38%
20.00° - 30.00°	223.71	21.37%	100.00° - 120.00°	5.86	0.56%
30.00° - 40.00°	152.46	14.57%	120.00° - 130.00°	8.28	0.79%
40.00° - 50.00°	93.92	8.97%	130.00° - 140.00°	29.14	2.78%
50.00° - 60.00°	66.57	6.36%	140.00° - 150.00°	27.45	2.62%
60.00° - 70.00°	51.35	4.91%	150.00° - 160.00°	12.16	1.16%
70.00° - 80.00°	30.46	2.91%	160.00° - 170.00°	3.14	0.30%
80.00° - 90.00°	11.81	1.13%	170.00° - 180.00°	0.36	0.03%
0.00° - 90.00°	955.45	91.28%	0.00° - 180.00°	1,046.68	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°	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55	1,098.55
2.50°	1,087.75	1,091.79	1,088.21	1,092.24	1,094.65	1,092.84	1,094.12	1,097.38	1,094.01	1,093.36	1,088.94	1,096.34	1,097.17	1,092.82	1,089.59	1,087.01	1,087.75
5.00°	1,058.34	1,061.89	1,065.14	1,057.48	1,060.34	1,059.75	1,068.58	1,072.71	1,071.44	1,067.08	1,069.00	1,061.74	1,063.93	1,058.41	1,055.67	1,052.88	1,058.34
7.50°	1,011.03	1,017.52	1,018.14	1,019.10	1,021.19	1,023.95	1,031.54	1,034.77	1,028.06	1,024.48	1,020.23	1,025.43	1,028.57	1,018.65	1,014.12	1,009.82	1,011.03
10.00°	953.02	958.35	962.54	957.45	957.97	963.14	972.90	977.96	974.44	967.96	965.84	964.01	964.84	958.23	953.20	948.01	953.02
12.50°	885.07	891.18	891.15	892.46	891.57	901.18	906.47	911.00	905.27	899.82	894.04	900.28	899.77	893.25	888.64	880.80	885.07
15.00°	811.05	814.46	815.23	813.83	814.73	822.37	828.82	832.66	830.41	823.98	820.21	819.05	819.41	816.02	812.00	805.57	811.05
17.50°	732.63	733.86	732.99	733.69	735.87	742.87	747.48	748.22	745.76	740.71	735.58	736.95	738.41	736.90	734.08	728.84	732.63
20.00°	652.34	651.46	650.22	649.36	652.27	657.59	662.07	658.51	658.63	653.72	650.54	650.88	653.74	654.02	653.83	649.41	652.34
22.50°	571.04	568.54	566.86	566.60	569.85	573.17	576.59	571.81	572.11	568.93	566.91	566.50	569.93	572.75	573.65	569.70	571.04
25.00°	494.87	491.38	487.92	487.12	489.58	492.96	491.05	487.14	485.70	484.97	484.19	487.44	489.36	493.95	497.84	495.17	494.87
27.50°	420.83	415.33	412.71	413.45	414.79	415.88	415.40	411.24	412.59	411.22	411.45	412.21	413.10	420.85	423.13	421.16	420.83
30.00°	356.84	353.01	347.67	349.03	347.51	349.24	346.37	339.85	340.62	340.19	341.37	345.69	348.53	354.45	359.24	357.77	356.84
32.50°	295.87	292.20	289.20	291.18	288.93	287.99	287.96	282.80	286.85	285.45	286.41	286.27	289.38	296.45	297.86	295.99	295.87
35.00°	248.67	246.30	241.90	241.34	239.52	239.58	234.94	231.17	234.04	233.45	235.06	238.89	241.00	246.01	249.86	249.40	248.67
37.50°	204.20	201.30	200.05	200.03	199.39	197.00	196.03	193.83	196.64	196.11	197.19	197.82	199.15	204.53	205.55	205.12	204.20
40.00°	172.93	171.43	168.77	166.95	167.00	164.89	162.56	160.32	160.72	160.14	163.04	165.13	167.23	169.42	174.29	173.51	172.93
42.50°	143.25	142.44	141.39	140.51	140.87	137.85	137.64	136.27	136.69	136.93	138.76	138.73	140.60	143.01	145.65	144.45	143.25
45.00°	123.37	122.42	121.85	119.00	118.72	117.81	115.03	113.89	114.27	114.39	117.22	118.76	120.23	121.29	123.70	124.47	123.37
47.50°	104.09	103.56	104.30	103.71	102.77	101.23	100.02	98.58	99.32	100.39	101.00	102.49	103.38	105.18	105.28	106.29	104.09
50.00°	92.04	91.11	92.28	91.93	89.84	88.31	86.31	83.92	86.03	87.02	87.62	89.13	89.74	91.34	93.49	92.61	92.04
52.50°	80.44	79.96	81.15	82.13	81.44	79.02	77.61	76.76	78.10	79.05	78.49	79.85	80.22	81.88	83.76	81.48	80.44
55.00°	73.91	73.59	74.27	73.19	74.68	72.72	69.40	69.90	71.27	71.68	71.73	73.08	73.62	73.71	77.07	75.23	73.91
57.50°	67.81	67.79	67.76	68.90	69.40	67.21	65.92	66.02	67.01	67.30	67.73	68.52	68.81	68.76	71.26	69.73	67.81
60.00°	64.23	63.43	64.43	66.05	64.50	62.21	62.45	61.94	62.41	62.91	63.11	64.98	64.98	64.44	66.43	65.31	64.23
62.50°	59.82	58.76	60.89	61.16	58.92	56.38	56.87	56.11	57.22	58.49	57.93	60.18	59.30	58.92	60.29	59.39	59.82
65.00°	52.40	53.49	51.94	55.86	53.22	50.14	51.09	50.26	50.86	52.87	50.86	54.96	52.86	53.26	53.01	51.80	52.40
67.50°	45.34	47.38	43.56	47.93	45.85	44.07	43.62	44.34	42.93	44.36	42.46	48.29	47.00	45.64	45.96	44.78	45.34
70.00°	39.27	40.05	39.81	39.66	38.34	38.06	36.55	38.57	36.73	37.18	36.66	41.28	41.31	38.01	39.07	38.28	39.27
72.50°	33.39	33.98	35.70	34.72	34.36	33.86	31.51	33.32	32.34	32.39	32.24	35.23	35.72	32.67	33.32	32.41	33.39
75.00°	27.86	29.37	29.83	29.94	30.40	30.13	27.00	28.18	27.80	27.50	27.80	29.32	30.16	27.52	28.15	26.97	27.86
77.50°	23.21	25.10	24.33	25.30	26.33	24.47	24.23	23.32	23.13	22.47	23.35	25.16	24.53	24.34	23.96	22.61	23.21
80.00°	19.83	21.14	19.97	20.61	22.05	18.51	20.49	18.49	18.16	18.30	18.66	21.11	18.90	20.82	20.15	18.81	19.83
82.50°	15.77	16.22	15.57	15.38	16.23	13.81	14.35	13.69	12.99	15.05	13.89	16.32	15.00	15.39	15.37	14.22	15.77
85.00°	10.91	10.65	11.06	10.38	10.70	9.21	9.00	9.36	8.99	10.87	9.65	11.58	11.18	10.29	10.32	9.33	10.91
87.50°	7.04	6.96	7.44	6.77	6.49	6.04	5.08	5.67	5.52	5.93	5.52	7.73	7.31	6.38	6.58	5.98	7.04
90.00°	4.05	4.27	5.35	4.10	3.44	3.08	2.85	3.84	4.20	4.30	4.68	4.33	3.82	3.55	3.07	3.05	4.05
92.50°	3.27	3.79	4.40	4.98	4.14	3.71	2.99	4.00	3.63	4.75	4.17	4.10	3.99	3.50	3.74	3.06	3.27
95.00°	4.03	4.17	4.99	5.27	4.48	4.18	3.57	5.05	5.03	5.87	4.49	3.70	4.00	3.35	4.80	3.61	4.03
97.50°	5.44	5.96	5.47	3.95	4.00	3.42	4.64	6.87	6.92	7.31	4.83	2.56	3.11	3.01	5.57	5.85	5.44
100.00°	7.21	8.13	5.83	2.73	3.32	2.64	4.43	7.44	7.73	7.98	4.71	1.64	2.27	2.45	6.23	8.27	7.21
102.50°	8.28	8.23	5.26	1.71	2.30	1.72	3.15	7.21	8.38	8.37	4.48	1.37	1.60	1.54	4.23	7.36	8.28
105.00°	9.06	7.94	3.92	1.11	1.74	1.03	2.22	5.77	6.82	6.63	3.22	1.19	1.10	1.10	2.37	6.34	9.06
107.50°	7.35	5.88	2.86	1.15	1.80	1.06	1.50	3.74	5.09	4.35	2.12	1.20	1.02	1.21	1.73	4.60	7.35
110.00°	4.92	3.63	1.98	1.19	1.67	1.05	1.10	2.80	3.64	3.61	1.86	1.23	1.00	1.21	1.19	3.00	4.92
112.50°	3.68	2.71	1.47	1.20	1.35	0.99	0.84	2.25	2.27	3.11	1.61	1.30	1.12	1.13	1.12	2.61	3.68

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	1,224	1,224	1,224	1,224	1,185	1,185	1,185	1,185	1,112	1,112	1,112	1,046	1,046	1,046	984	984	984	955
	1	1,145	1,107	1,072	1,042	1,108	1,075	1,044	1,016	1,015	991	968	960	941	923	909	894	881	868
	2	1,069	1,004	950	905	1,036	977	929	887	928	888	854	882	850	822	839	814	791	790
	3	1,000	916	852	800	970	894	835	787	852	803	763	814	773	739	778	745	716	724
	4	938	842	771	717	910	823	758	708	788	733	689	755	709	671	724	686	654	667
	5	882	778	704	651	857	762	694	643	731	673	629	703	654	615	677	635	601	618
	6	831	722	648	595	808	708	639	590	682	623	578	658	606	567	635	591	556	576
	7	785	673	600	549	764	661	593	544	638	579	535	617	565	526	598	552	517	539
	8	743	630	558	509	724	619	552	506	600	540	498	581	529	490	564	518	483	506
	9	705	592	522	475	688	583	517	472	565	507	465	549	497	459	534	487	453	477
	10	670	558	490	445	655	550	486	442	534	477	437	520	468	431	506	460	426	450

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	36.3 fc	4.7 ft
6.5 ft	26.0 fc	5.6 ft
7.5 ft	19.5 fc	6.4 ft
8.0 ft	17.2 fc	6.9 ft
10.0 ft	11.0 fc	8.6 ft
12.0 ft	7.6 fc	10.3 ft
14.0 ft	5.6 fc	12.0 ft
16.0 ft	4.3 fc	13.7 ft
20.0 ft	2.7 fc	17.1 ft
24.0 ft	1.9 fc	20.6 ft
28.0 ft	1.4 fc	24.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	138,252	138,252	138,252
45.00°	21,957	21,686	21,130
55.00°	16,216	16,295	16,385
65.00°	15,603	15,467	15,848
75.00°	13,549	14,507	14,783
85.00°	15,757	15,972	15,446

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	17.9	19.0	18.4	19.5	20.0	17.8	19.0	18.3	19.4	20.0
	3H	19.7	20.7	20.2	21.2	21.8	19.7	20.7	20.2	21.2	21.8
	4H	20.3	21.3	20.9	21.8	22.4	20.4	21.4	21.0	21.9	22.5
	6H	20.9	21.8	21.5	22.3	22.9	21.1	21.9	21.6	22.5	23.1
	8H	21.2	22.0	21.7	22.5	23.2	21.3	22.1	21.9	22.7	23.3
	12H	21.4	22.2	21.9	22.7	23.3	21.5	22.3	22.1	22.8	23.5
4H	2H	18.5	19.4	19.0	20.0	20.5	18.4	19.3	19.0	19.9	20.5
	3H	20.5	21.2	21.0	21.8	22.4	20.4	21.2	21.0	21.8	22.4
	4H	21.3	22.0	21.8	22.5	23.2	21.3	22.0	21.9	22.6	23.3
	6H	22.0	22.6	22.6	23.2	23.9	22.1	22.7	22.7	23.3	24.0
	8H	22.3	22.9	22.9	23.5	24.1	22.4	23.0	23.0	23.6	24.3
	12H	22.6	23.1	23.2	23.7	24.4	22.7	23.2	23.3	23.8	24.5
8H	4H	21.6	22.1	22.2	22.7	23.4	21.6	22.2	22.2	22.8	23.4
	6H	22.5	22.9	23.1	23.6	24.3	22.5	23.0	23.2	23.7	24.3
	8H	22.9	23.3	23.5	24.0	24.7	23.0	23.4	23.6	24.0	24.7
	12H	23.3	23.6	23.9	24.3	25.0	23.3	23.7	24.0	24.3	25.1
12H	4H	21.6	22.1	22.2	22.7	23.4	21.6	22.1	22.2	22.7	23.4
	6H	22.6	23.0	23.2	23.6	24.3	22.6	23.0	23.3	23.6	24.4
	8H	23.0	23.4	23.7	24.0	24.8	23.1	23.4	23.7	24.1	24.8

Corrected UGR values based on total output lumens

SHR = 1.0