

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-00909

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	1115
Efficacy	37.68 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.86
Two luminaires, plane 90°	0.83
Four luminaires	0.87

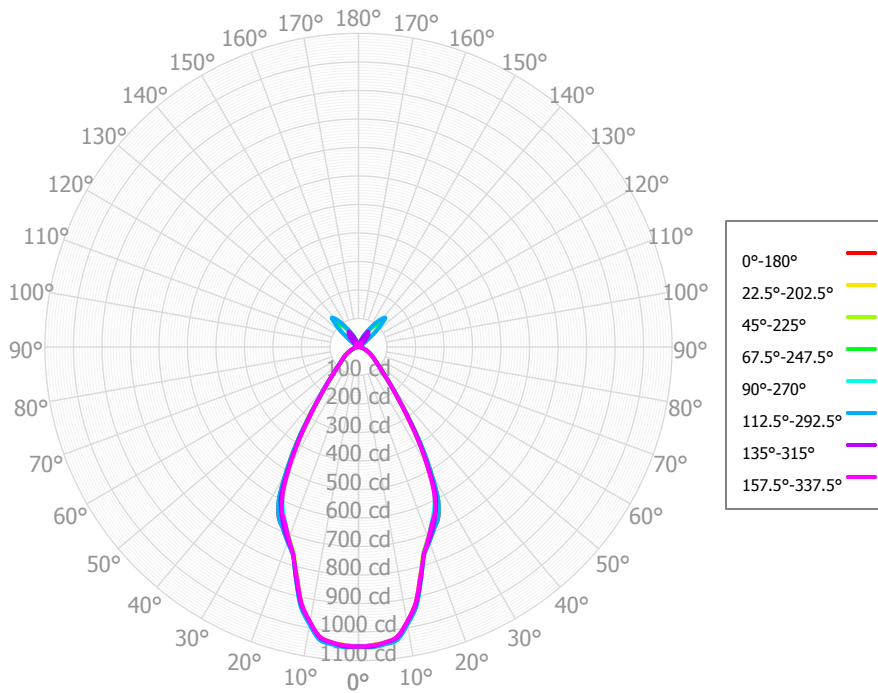
Full Beam Angle

0° - 180°	59°
90° - 270°	58°

IES File Header Contents

Keyword	Value
TEST	SP-00909
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	10/18/2018
UPDATE	8/19/2019
LUMCAT	SGE4LEDOS 30L 35K DS101 AR4223OS MW SO 1CFG
LUMINAIRE	Nom 4" diam illumitech decorative trim recessed downlight
OTHER	Solite lens, Center 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°	99.35	8.91%	90.00° - 100.00°	2.90	0.26%
10.00° - 20.00°	234.68	21.04%	100.00° - 110.00°	2.31	0.21%
20.00° - 30.00°	288.19	25.84%	100.00° - 120.00°	3.82	0.34%
30.00° - 40.00°	194.95	17.48%	120.00° - 130.00°	8.24	0.74%
40.00° - 50.00°	90.67	8.13%	130.00° - 140.00°	31.40	2.82%
50.00° - 60.00°	55.80	5.00%	140.00° - 150.00°	29.75	2.67%
60.00° - 70.00°	34.00	3.05%	150.00° - 160.00°	12.91	1.16%
70.00° - 80.00°	17.74	1.59%	160.00° - 170.00°	3.30	0.30%
80.00° - 90.00°	7.22	0.65%	170.00° - 180.00°	0.36	0.03%
0.00° - 90.00°	1,022.59	91.69%	0.00° - 180.00°	1,115.26	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°	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02	1,051.02
2.50°	1,047.66	1,046.73	1,051.11	1,052.68	1,052.52	1,054.60	1,051.97	1,048.02	1,047.66	1,046.73	1,051.11	1,052.68	1,052.52	1,054.60	1,051.97	1,048.02	1,047.66
5.00°	1,041.09	1,041.15	1,043.04	1,043.58	1,044.22	1,047.97	1,041.58	1,041.82	1,041.09	1,041.15	1,043.04	1,043.58	1,044.22	1,047.97	1,041.58	1,041.82	1,041.09
7.50°	1,027.62	1,026.61	1,032.75	1,033.26	1,034.72	1,037.36	1,029.09	1,026.64	1,027.62	1,026.61	1,032.75	1,033.26	1,034.72	1,037.36	1,029.09	1,026.64	1,027.62
10.00°	980.31	981.45	983.52	984.14	985.96	989.20	980.14	980.20	980.31	981.45	983.52	984.14	985.96	989.20	980.14	980.20	980.31
12.50°	923.69	923.57	929.35	932.63	934.37	934.25	927.04	922.31	923.69	923.57	929.35	932.63	934.37	934.25	927.04	922.31	923.69
15.00°	836.23	834.36	838.63	845.45	846.71	844.14	844.46	836.29	836.23	834.36	838.63	845.45	846.71	844.14	844.46	836.29	836.23
17.50°	763.52	760.17	756.81	761.78	761.56	765.60	761.58	763.62	763.52	760.17	756.81	761.78	761.56	765.60	761.58	763.62	763.52
20.00°	725.55	713.28	714.14	723.07	715.27	727.91	723.18	715.21	725.55	713.28	714.14	723.07	715.27	727.91	723.18	715.21	725.55
22.50°	690.81	671.29	673.33	685.05	669.60	692.20	684.25	671.91	690.81	671.29	673.33	685.05	669.60	692.20	684.25	671.91	690.81
25.00°	661.79	636.12	638.23	651.46	628.21	661.42	640.00	635.84	661.79	636.12	638.23	651.46	628.21	661.42	640.00	635.84	661.79
27.50°	603.67	574.23	584.75	605.56	577.27	606.97	588.17	573.54	603.67	574.23	584.75	605.56	577.27	606.97	588.17	573.54	603.67
30.00°	505.89	483.43	490.40	509.78	485.62	509.14	492.66	482.84	505.89	483.43	490.40	509.78	485.62	509.14	492.66	482.84	505.89
32.50°	408.02	390.85	395.96	413.47	394.69	410.29	398.18	390.52	408.02	390.85	395.96	413.47	394.69	410.29	398.18	390.52	408.02
35.00°	310.06	296.78	301.38	315.65	305.86	309.99	307.52	296.84	310.06	296.78	301.38	315.65	305.86	309.99	307.52	296.84	310.06
37.50°	235.56	227.62	225.83	232.72	229.41	231.97	228.35	227.98	235.56	227.62	225.83	232.72	229.41	231.97	228.35	227.98	235.56
40.00°	180.40	174.46	174.98	180.51	179.80	178.26	178.74	175.32	180.40	174.46	174.98	180.51	179.80	178.26	178.74	175.32	180.40
42.50°	141.60	139.12	136.97	138.78	139.38	139.47	137.70	139.60	141.60	139.12	136.97	138.78	139.38	139.47	137.70	139.60	141.60
45.00°	113.06	112.50	111.72	113.52	113.89	113.17	113.38	112.17	113.06	112.50	111.72	113.52	113.89	113.17	113.38	112.17	113.06
47.50°	93.85	94.56	93.08	93.21	94.00	94.36	93.65	94.11	93.85	94.56	93.08	93.21	94.00	94.36	93.65	94.11	93.85
50.00°	79.02	79.71	79.50	78.84	81.13	80.48	80.66	79.45	79.02	79.71	79.50	78.84	81.13	80.48	80.66	79.45	79.02
52.50°	69.78	70.04	69.93	68.66	70.83	70.08	70.21	69.70	69.78	70.04	69.93	68.66	70.83	70.08	70.21	69.70	69.78
55.00°	62.51	61.70	62.76	62.40	63.02	61.40	62.63	61.20	62.51	61.70	62.76	62.40	63.02	61.40	62.63	61.20	62.51
57.50°	55.16	53.94	55.26	55.41	55.44	54.04	55.09	53.10	55.16	53.94	55.26	55.41	55.44	54.04	55.09	53.10	55.16
60.00°	47.79	46.27	47.63	47.90	48.02	47.15	47.57	45.05	47.79	46.27	47.63	47.90	48.02	47.15	47.57	45.05	47.79
62.50°	40.60	40.03	41.16	41.22	40.89	40.57	40.42	38.62	40.60	40.03	41.16	41.22	40.89	40.57	40.42	38.62	40.60
65.00°	33.44	33.89	35.06	35.00	33.94	34.07	33.51	32.31	33.44	33.89	35.06	35.00	33.94	34.07	33.51	32.31	33.44
67.50°	27.75	28.48	28.73	29.27	28.52	28.76	27.84	27.42	27.75	28.48	28.73	29.27	28.52	28.76	27.84	27.42	27.75
70.00°	22.17	23.18	22.34	23.74	23.76	23.64	22.82	22.64	22.17	23.18	22.34	23.74	23.76	23.64	22.82	22.64	22.17
72.50°	18.87	19.82	19.25	19.89	19.72	20.19	19.62	19.48	18.87	19.82	19.25	19.89	19.72	20.19	19.62	19.48	18.87
75.00°	15.60	16.55	16.60	16.54	15.92	16.87	17.13	16.42	15.60	16.55	16.60	16.54	15.92	16.87	17.13	16.42	15.60
77.50°	12.81	13.95	14.10	14.19	13.82	14.24	14.45	14.11	12.81	13.95	14.10	14.19	13.82	14.24	14.45	14.11	12.81
80.00°	10.09	11.29	11.60	12.04	12.09	11.65	11.74	11.65	10.09	11.29	11.60	12.04	12.09	11.65	11.74	11.65	10.09
82.50°	7.90	8.43	9.02	9.14	9.25	9.62	9.17	8.45	7.90	8.43	9.02	9.14	9.25	9.62	9.17	8.45	7.90
85.00°	5.73	5.87	6.48	6.16	6.27	7.53	6.62	5.59	5.73	5.87	6.48	6.16	6.27	7.53	6.62	5.59	5.73
87.50°	3.60	4.24	4.39	4.40	4.44	4.98	4.52	3.81	3.60	4.24	4.39	4.40	4.44	4.98	4.52	3.81	3.60
90.00°	2.04	3.12	2.58	2.73	2.70	2.81	2.47	2.58	2.04	3.12	2.58	2.73	2.70	2.81	2.47	2.58	2.04
92.50°	2.16	3.14	2.48	2.57	2.60	2.40	2.44	2.62	2.16	3.14	2.48	2.57	2.60	2.40	2.44	2.62	2.16
95.00°	2.53	3.28	2.49	2.38	2.47	2.05	2.48	2.90	2.53	3.28	2.49	2.38	2.47	2.05	2.48	2.90	2.53
97.50°	3.45	3.62	2.96	1.82	2.02	1.86	2.92	3.57	3.45	3.62	2.96	1.82	2.02	1.86	2.92	3.57	3.45
100.00°	4.11	3.71	3.11	1.33	1.59	1.58	3.23	4.00	4.11	3.71	3.11	1.33	1.59	1.58	3.23	4.00	4.11
102.50°	4.33	3.48	2.38	1.24	1.28	1.10	2.51	4.15	4.33	3.48	2.38	1.24	1.28	1.10	2.51	4.15	4.33
105.00°	4.14	3.04	1.79	1.14	1.03	0.81	1.84	3.75	4.14	3.04	1.79	1.14	1.03	0.81	1.84	3.75	4.14
107.50°	3.45	2.39	1.49	1.02	0.98	0.85	1.46	2.82	3.45	2.39	1.49	1.02	0.98	0.85	1.46	2.82	3.45
110.00°	2.77	1.96	1.28	0.94	0.99	0.91	1.15	2.12	2.77	1.96	1.28	0.94	0.99	0.91	1.15	2.12	2.77
112.50°	2.10	1.69	1.22	0.96	1.18	1.01	1.02	1.61	2.10	1.69	1.22	0.96	1.18	1.01	1.02	1.61	2.10

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	1,306	1,306	1,306	1,306	1,264	1,264	1,264	1,264	1,188	1,188	1,188	1,117	1,117	1,117	1,053	1,053	1,023
	1	1,228	1,191	1,157	1,127	1,191	1,157	1,128	1,100	1,095	1,071	1,050	1,037	1,019	1,002	984	970	943
	2	1,153	1,088	1,035	990	1,118	1,060	1,012	971	1,009	969	936	961	929	902	916	891	867
	3	1,083	998	933	881	1,051	975	916	868	932	883	842	892	851	817	854	821	799
	4	1,018	920	849	794	989	901	835	784	864	809	765	830	784	746	798	760	740
	5	958	852	777	722	932	835	766	715	804	745	700	775	724	685	747	705	687
	6	904	791	716	662	880	777	707	656	750	689	644	725	672	632	701	656	640
	7	854	738	663	610	832	726	655	605	702	641	596	680	626	586	660	613	599
	8	808	690	616	565	788	680	610	561	659	598	554	640	586	546	622	574	561
	9	766	648	575	526	748	638	570	523	621	559	517	604	549	510	588	539	528
	10	728	610	539	492	711	601	534	489	586	525	484	571	516	478	557	508	498

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	34.7 fc	6.1 ft
6.5 ft	24.9 fc	7.3 ft
7.5 ft	18.7 fc	8.4 ft
8.0 ft	16.4 fc	8.9 ft
10.0 ft	10.5 fc	11.2 ft
12.0 ft	7.3 fc	13.4 ft
14.0 ft	5.4 fc	15.6 ft
16.0 ft	4.1 fc	17.9 ft
20.0 ft	2.6 fc	22.3 ft
24.0 ft	1.8 fc	26.8 ft
28.0 ft	1.3 fc	31.2 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	132,271	132,271	132,271
45.00°	20,122	19,883	20,270
55.00°	13,714	13,769	13,828
65.00°	9,958	10,441	10,107
75.00°	7,585	8,072	7,739
85.00°	8,269	9,352	9,052

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	16.0	17.1	16.6	17.6	18.1	16.2	17.2	16.7	17.7	18.2
	3H	17.1	18.1	17.7	18.6	19.1	17.3	18.3	17.8	18.8	19.3
	4H	17.6	18.4	18.1	18.9	19.5	17.7	18.6	18.3	19.1	19.7
	6H	17.9	18.7	18.5	19.2	19.8	18.1	18.9	18.7	19.5	20.1
	8H	18.0	18.8	18.6	19.3	20.0	18.3	19.1	18.9	19.6	20.2
	12H	18.2	18.9	18.7	19.4	20.0	18.5	19.2	19.0	19.7	20.4
4H	2H	16.4	17.3	17.0	17.8	18.4	16.5	17.4	17.1	17.9	18.5
	3H	17.7	18.4	18.3	19.0	19.6	17.9	18.6	18.4	19.1	19.7
	4H	18.2	18.9	18.8	19.5	20.1	18.4	19.0	19.0	19.6	20.3
	6H	18.8	19.3	19.4	19.9	20.6	19.0	19.5	19.6	20.1	20.8
	8H	18.9	19.5	19.6	20.1	20.7	19.2	19.7	19.8	20.3	21.0
	12H	19.1	19.6	19.7	20.2	20.9	19.4	19.9	20.1	20.5	21.2
8H	4H	18.4	19.0	19.0	19.6	20.2	18.6	19.1	19.2	19.7	20.4
	6H	19.1	19.5	19.8	20.2	20.8	19.3	19.7	19.9	20.4	21.0
	8H	19.4	19.8	20.1	20.4	21.1	19.7	20.0	20.3	20.7	21.4
	12H	19.7	20.0	20.3	20.6	21.4	20.0	20.3	20.7	21.0	21.7
12H	4H	18.5	18.9	19.1	19.5	20.2	18.6	19.0	19.2	19.7	20.3
	6H	19.2	19.5	19.8	20.2	20.9	19.4	19.7	20.0	20.3	21.1
	8H	19.5	19.9	20.2	20.5	21.2	19.8	20.1	20.4	20.7	21.5

Corrected UGR values based on total output lumens

SHR = 1.0