

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SGE5LEDOS 30L 35K DS101 AR5223OS PT SO OGPY
Nom 5" diam illumitech decorative trim recessed downlight

Test Number

SP-00915

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	1093
Efficacy	36.93 lm/W

Luminous Dimensions

0° - 180° Size	-0.42
90° - 270° Size	-0.42
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.81
Two luminaires, plane 90°	0.83
Four luminaires	0.78

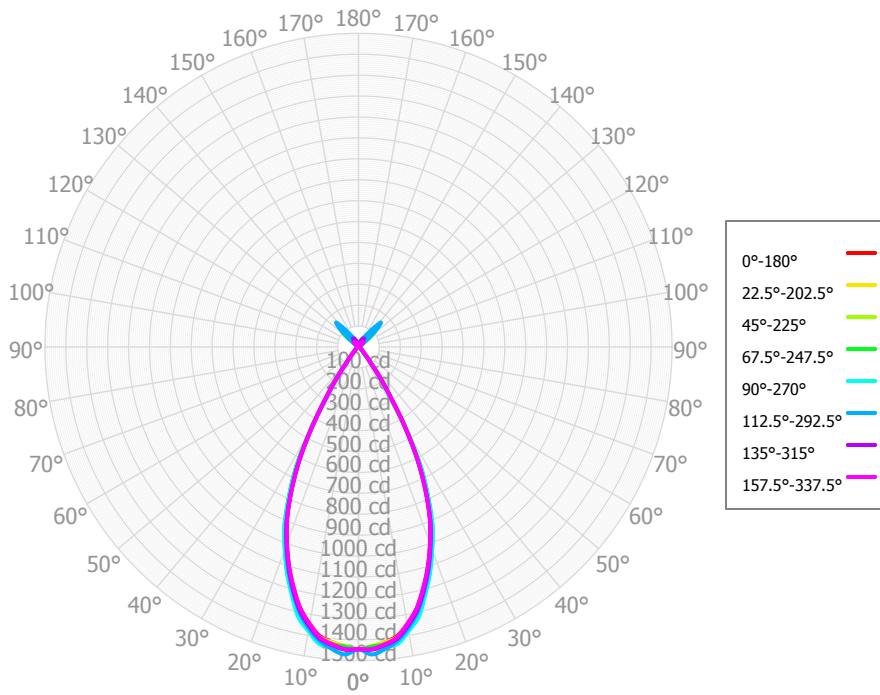
Full Beam Angle

0° - 180°	51°
90° - 270°	52°

IES File Header Contents

Keyword	Value
TEST	SP-00915
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	10/22/2018
UPDATE	8/19/2019
LUMCAT	SGE5LEDOS 30L 35K DS101 AR5223OS PT SO OGPY
LUMINAIRE	Nom 5" diam illumitech decorative trim recessed downlight
OTHER	Solite lens, flared opal glass
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°	136.44	12.48%	90.00° - 100.00°	3.46	0.32%
10.00° - 20.00°	335.00	30.65%	100.00° - 110.00°	2.28	0.21%
20.00° - 30.00°	343.06	31.39%	100.00° - 120.00°	4.21	0.38%
30.00° - 40.00°	122.60	11.22%	120.00° - 130.00°	9.35	0.86%
40.00° - 50.00°	24.87	2.28%	130.00° - 140.00°	35.83	3.28%
50.00° - 60.00°	11.32	1.04%	140.00° - 150.00°	26.74	2.45%
60.00° - 70.00°	8.26	0.76%	150.00° - 160.00°	14.25	1.30%
70.00° - 80.00°	6.58	0.60%	160.00° - 170.00°	5.29	0.48%
80.00° - 90.00°	5.01	0.46%	170.00° - 180.00°	0.78	0.07%
0.00° - 90.00°	993.13	90.86%	0.00° - 180.00°	1,093.04	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°	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10	1,446.10
2.50°	1,435.90	1,432.10	1,437.88	1,435.14	1,447.10	1,472.36	1,449.42	1,446.22	1,435.90	1,432.10	1,437.88	1,435.14	1,447.10	1,472.36	1,449.42	1,446.22	1,435.90
5.00°	1,419.40	1,419.00	1,424.81	1,428.67	1,440.02	1,450.73	1,432.13	1,428.21	1,419.40	1,419.00	1,424.81	1,428.67	1,440.02	1,450.73	1,432.13	1,428.21	1,419.40
7.50°	1,396.88	1,401.53	1,409.56	1,418.74	1,432.82	1,418.81	1,408.54	1,402.49	1,396.88	1,401.53	1,409.56	1,418.74	1,432.82	1,418.81	1,408.54	1,402.49	1,396.88
10.00°	1,345.04	1,347.48	1,359.16	1,367.59	1,379.82	1,366.86	1,356.14	1,346.19	1,345.04	1,347.48	1,359.16	1,367.59	1,379.82	1,366.86	1,356.14	1,346.19	1,345.04
12.50°	1,282.70	1,289.92	1,303.23	1,313.21	1,326.23	1,301.85	1,293.25	1,283.16	1,282.70	1,289.92	1,303.23	1,313.21	1,326.23	1,301.85	1,293.25	1,283.16	1,282.70
15.00°	1,197.24	1,202.89	1,215.83	1,224.01	1,230.95	1,212.19	1,205.95	1,194.63	1,197.24	1,202.89	1,215.83	1,224.01	1,230.95	1,212.19	1,205.95	1,194.63	1,197.24
17.50°	1,103.66	1,114.14	1,123.62	1,133.53	1,135.44	1,117.58	1,110.09	1,103.39	1,103.66	1,114.14	1,123.62	1,133.53	1,135.44	1,117.58	1,110.09	1,103.39	1,103.66
20.00°	1,000.22	1,011.95	1,021.36	1,030.32	1,030.51	1,013.78	1,005.47	1,001.84	1,000.22	1,011.95	1,021.36	1,030.32	1,030.51	1,013.78	1,005.47	1,001.84	1,000.22
22.50°	893.45	906.10	917.61	924.01	925.50	898.06	897.90	893.30	893.45	906.10	917.61	924.01	925.50	898.06	897.90	893.30	893.45
25.00°	761.94	773.73	783.69	787.09	783.13	760.60	762.44	759.32	761.94	773.73	783.69	787.09	783.13	760.60	762.44	759.32	761.94
27.50°	622.22	635.64	645.58	645.51	640.37	613.02	617.56	617.66	622.22	635.64	645.58	645.51	640.37	613.02	617.56	617.66	622.22
30.00°	457.33	456.11	465.93	461.70	454.82	447.51	457.21	449.22	457.33	456.11	465.93	461.70	454.82	447.51	457.21	449.22	457.33
32.50°	284.26	286.53	280.71	286.40	270.41	299.20	291.84	293.90	284.26	286.53	280.71	286.40	270.41	299.20	291.84	293.90	284.26
35.00°	179.33	184.54	179.65	182.54	175.30	180.85	184.13	184.31	179.33	184.54	179.65	182.54	175.30	180.85	184.13	184.31	179.33
37.50°	95.71	92.53	89.49	87.02	81.37	94.28	94.82	93.23	95.71	92.53	89.49	87.02	81.37	94.28	94.82	93.23	95.71
40.00°	60.36	64.21	60.76	61.41	59.27	62.21	58.65	64.08	60.36	64.21	60.76	61.41	59.27	62.21	58.65	64.08	60.36
42.50°	39.80	38.58	39.42	37.82	37.51	38.89	39.11	39.82	39.80	38.58	39.42	37.82	37.51	38.89	39.11	39.82	39.80
45.00°	29.69	30.04	30.20	29.90	29.80	30.13	29.16	31.24	29.69	30.04	30.20	29.90	29.80	30.13	29.16	31.24	29.69
47.50°	22.70	22.15	22.44	22.41	22.18	22.75	22.11	23.45	22.70	22.15	22.44	22.41	22.18	22.75	22.11	23.45	22.70
50.00°	18.16	18.11	18.07	18.11	17.90	17.65	17.88	18.23	18.16	18.11	18.07	18.11	17.90	17.65	17.88	18.23	18.16
52.50°	14.32	14.40	14.08	14.10	13.70	13.92	14.50	13.85	14.32	14.40	14.08	14.10	13.70	13.92	14.50	13.85	14.32
55.00°	11.98	12.52	12.53	12.14	12.02	12.38	12.34	12.06	11.98	12.52	12.53	12.14	12.02	12.38	12.34	12.06	11.98
57.50°	10.07	10.77	11.22	10.33	10.37	11.09	10.53	10.55	10.07	10.77	11.22	10.33	10.37	11.09	10.53	10.55	10.07
60.00°	9.48	9.84	9.83	9.53	9.71	10.18	9.36	9.87	9.48	9.84	9.83	9.53	9.71	10.18	9.36	9.87	9.48
62.50°	9.27	8.95	8.44	8.81	9.06	9.34	8.36	9.19	9.27	8.95	8.44	8.81	9.06	9.34	8.36	9.19	9.27
65.00°	8.24	8.33	7.94	8.58	8.47	8.60	7.73	8.49	8.24	8.33	7.94	8.58	8.47	8.60	7.73	8.49	8.24
67.50°	7.00	7.75	7.52	8.25	7.89	8.01	7.21	7.84	7.00	7.75	7.52	8.25	7.89	8.01	7.21	7.84	7.00
70.00°	6.56	7.34	6.79	7.19	7.52	7.66	6.90	7.35	6.56	7.34	6.79	7.19	7.52	7.66	6.90	7.35	6.56
72.50°	6.32	6.88	6.03	6.23	7.15	7.18	6.64	6.87	6.32	6.88	6.03	6.23	7.15	7.18	6.64	6.87	6.32
75.00°	5.93	6.10	5.74	5.88	6.74	6.51	6.38	6.40	5.93	6.10	5.74	5.88	6.74	6.51	6.38	6.40	5.93
77.50°	5.49	5.41	5.49	5.53	6.32	5.96	6.12	5.93	5.49	5.41	5.49	5.53	6.32	5.96	6.12	5.93	5.49
80.00°	5.11	5.14	5.11	5.13	5.95	5.61	5.55	5.45	5.11	5.14	5.11	5.13	5.95	5.61	5.55	5.45	5.11
82.50°	4.75	4.84	4.71	4.73	5.56	5.36	4.91	4.93	4.75	4.84	4.71	4.73	5.56	5.36	4.91	4.93	4.75
85.00°	4.34	4.42	4.38	4.41	5.06	5.26	4.54	4.30	4.34	4.42	4.38	4.41	5.06	5.26	4.54	4.30	4.34
87.50°	3.92	4.10	4.06	4.07	4.55	4.90	4.24	3.77	3.92	4.10	4.06	4.07	4.55	4.90	4.24	3.77	3.92
90.00°	3.60	4.31	3.79	3.62	3.83	4.16	4.03	3.46	3.60	4.31	3.79	3.62	3.83	4.16	4.03	3.46	3.60
92.50°	3.29	4.32	3.52	3.18	3.15	3.60	3.85	3.14	3.29	4.32	3.52	3.18	3.15	3.60	3.85	3.14	3.29
95.00°	3.23	3.48	3.08	2.81	2.97	3.28	3.44	2.81	3.23	3.48	3.08	2.81	2.97	3.28	3.44	2.81	3.23
97.50°	3.22	2.83	2.63	2.43	2.77	2.88	2.98	2.64	3.22	2.83	2.63	2.43	2.77	2.88	2.98	2.64	3.22
100.00°	3.05	3.04	2.34	1.97	2.45	2.37	2.83	2.85	3.05	3.04	2.34	1.97	2.45	2.37	2.83	2.85	3.05
102.50°	2.84	3.12	2.06	1.56	2.13	1.92	2.75	2.95	2.84	3.12	2.06	1.56	2.13	1.92	2.75	2.95	2.84
105.00°	2.65	2.67	1.97	1.38	1.70	1.53	2.42	2.75	2.65	2.67	1.97	1.38	1.70	1.53	2.42	2.75	2.65
107.50°	2.47	2.30	1.90	1.20	1.30	1.24	2.03	2.61	2.47	2.30	1.90	1.20	1.30	1.24	2.03	2.61	2.47
110.00°	2.34	2.27	1.76	1.08	1.25	1.07	1.72	2.59	2.34	2.27	1.76	1.08	1.25	1.07	1.72	2.59	2.34
112.50°	2.22	2.25	1.62	1.00	1.20	1.05	1.42	2.53	2.22	2.25	1.62	1.00	1.20	1.05	1.42	2.53	2.22

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	1,277	1,277	1,277	1,277	1,236	1,236	1,236	1,236	1,159	1,159	1,159	1,088	1,088	1,088	1,024	1,024	1,024	993
	1	1,214	1,183	1,155	1,130	1,177	1,150	1,125	1,103	1,087	1,068	1,051	1,030	1,015	1,002	977	966	956	938
	2	1,155	1,101	1,057	1,020	1,121	1,074	1,034	1,001	1,022	991	964	975	950	929	931	912	895	887
	3	1,098	1,029	975	933	1,068	1,006	958	919	963	924	891	924	892	865	887	862	840	839
	4	1,045	965	906	861	1,018	946	892	850	910	865	830	876	839	810	845	815	790	795
	5	995	907	845	800	971	891	834	792	860	813	776	832	792	760	806	772	745	753
	6	949	855	793	747	927	842	783	741	815	765	728	791	748	716	768	732	704	715
	7	905	808	745	701	885	796	738	696	774	723	686	753	709	676	733	695	666	680
	8	865	766	703	661	846	755	697	656	736	684	648	717	672	639	700	660	631	647
	9	827	727	665	624	810	718	660	620	700	649	613	684	639	606	669	629	599	616
	10	792	691	631	591	776	683	626	588	668	617	582	653	608	576	640	599	570	588

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	47.8 fc	5.3 ft
6.5 ft	34.2 fc	6.2 ft
7.5 ft	25.7 fc	7.2 ft
8.0 ft	22.6 fc	7.7 ft
10.0 ft	14.5 fc	9.6 ft
12.0 ft	10.0 fc	11.5 ft
14.0 ft	7.4 fc	13.4 ft
16.0 ft	5.6 fc	15.4 ft
20.0 ft	3.6 fc	19.2 ft
24.0 ft	2.5 fc	23.0 ft
28.0 ft	1.8 fc	26.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	112,351	112,351	112,351
45.00°	3,262	3,318	3,275
55.00°	1,623	1,697	1,628
65.00°	1,515	1,459	1,557
75.00°	1,779	1,724	2,022
85.00°	3,871	3,905	4,512

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	3.3	4.2	3.9	4.7	5.3	3.4	4.3	3.9	4.8	5.3
	3H	5.4	6.1	5.9	6.7	7.3	5.7	6.4	6.2	7.0	7.5
	4H	6.5	7.2	7.0	7.7	8.3	6.8	7.5	7.4	8.1	8.7
	6H	7.6	8.3	8.2	8.8	9.4	8.1	8.8	8.7	9.3	9.9
	8H	8.3	8.9	8.9	9.4	10.1	8.8	9.5	9.4	10.0	10.6
	12H	9.0	9.6	9.6	10.1	10.8	9.7	10.2	10.3	10.8	11.4
4H	2H	3.8	4.6	4.4	5.1	5.7	3.9	4.6	4.5	5.1	5.7
	3H	6.2	6.8	6.8	7.4	8.0	6.4	7.0	7.0	7.6	8.2
	4H	7.5	8.1	8.1	8.7	9.3	7.8	8.3	8.4	8.9	9.6
	6H	8.9	9.4	9.5	10.0	10.7	9.3	9.7	9.9	10.3	11.0
	8H	9.7	10.1	10.3	10.7	11.4	10.1	10.5	10.7	11.2	11.8
	12H	10.5	10.9	11.2	11.5	12.2	11.1	11.4	11.7	12.1	12.8
8H	4H	8.0	8.5	8.7	9.1	9.8	8.2	8.7	8.9	9.3	9.9
	6H	9.7	10.0	10.3	10.7	11.4	10.0	10.3	10.6	11.0	11.7
	8H	10.6	10.9	11.3	11.6	12.3	11.0	11.3	11.7	12.0	12.7
	12H	11.7	11.9	12.4	12.6	13.4	12.2	12.5	12.9	13.1	13.9
12H	4H	8.1	8.5	8.8	9.2	9.8	8.3	8.7	9.0	9.3	10.0
	6H	9.9	10.2	10.6	10.8	11.6	10.2	10.5	10.8	11.1	11.8
	8H	10.9	11.2	11.6	11.8	12.6	11.3	11.5	12.0	12.2	13.0

Corrected UGR values based on total output lumens

SHR = 1.0