

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

WS1611-TD10L-30K-EX-TF2-MWI
Nom 16" diam Warehouse Shade RLM luminaire

Test Number

SP-00642_5

Test Date

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

Summary of Results

Power

Input Watts	15.9 W
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Lumen Output

Output Lumens	1003
Efficacy	63.06 lm/W

Luminous Dimensions

0° - 180° Size	-1.33
90° - 270° Size	-1.33
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.31
Two luminaires, plane 90°	1.31
Four luminaires	1.46

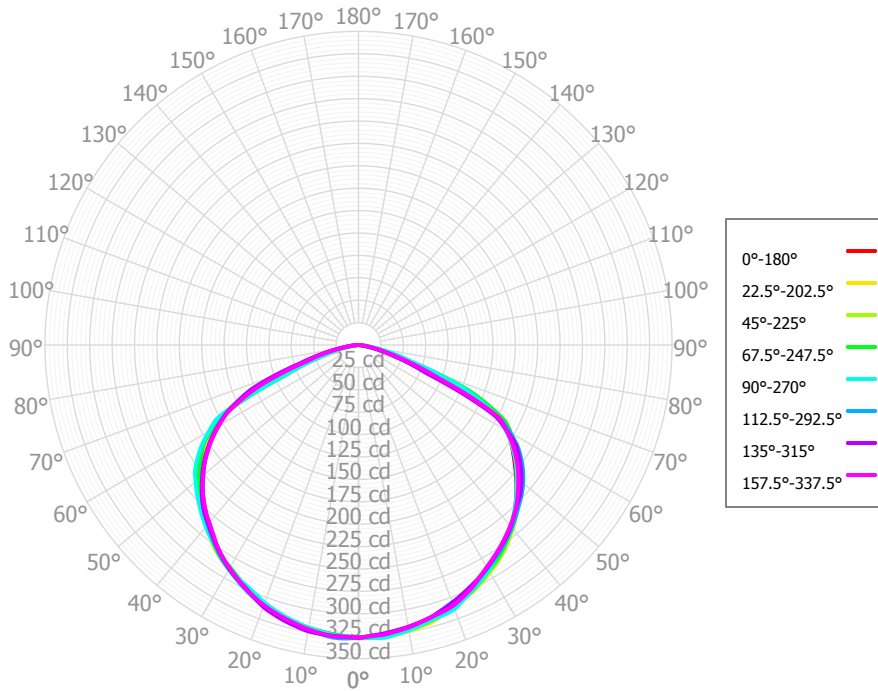
Full Beam Angle

0° - 180°	127°
90° - 270°	127°

IES File Header Contents

Keyword	Value
TEST	SP-00642_5
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	3/13/2019
UPDATE	3/26/2019
LUMCAT	WS1611-TD10L-30K-EX-TF2-MWI
LUMINAIRE	Nom 16" diam Warehouse Shade RLM luminaire
OTHER	Beam Angle: 123.7 degrees
OTHER	Matte white trim; Frosted domed diffuser
LAMPCAT	N/A
LAMP	N/A, Matte White
OTHER	CCT Output Multipliers: N/A
OTHER	Total luminaire wattages is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	80
_CCTMULT	only 30K available
_LAMPMULT	only 10L available

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	31.42	3.13%	90.00° - 100.00°	0.12	0.01%
10.00° - 20.00°	89.33	8.91%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	138.13	13.78%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	173.50	17.30%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	192.08	19.16%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	189.99	18.95%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	138.56	13.82%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	43.89	4.38%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	5.60	0.56%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1,002.51	99.99%	0.00° - 180.00°	1,002.63	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°	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69	326.69
2.50°	326.63	327.04	327.50	326.78	326.92	327.89	326.20	325.96	326.19	326.50	327.05	325.27	325.34	325.70	324.92	325.03	326.63
5.00°	325.61	325.80	327.58	326.95	328.11	327.74	325.84	326.55	324.66	325.10	327.08	324.01	324.76	323.73	323.35	324.71	325.61
7.50°	323.62	324.81	325.94	324.58	325.70	325.46	325.21	324.47	323.00	324.03	324.14	322.28	322.80	321.97	321.43	322.53	323.62
10.00°	321.59	323.83	324.03	322.23	323.25	322.88	324.46	322.29	321.32	322.43	321.09	320.39	320.65	320.24	319.43	320.25	321.59
12.50°	319.51	321.93	321.22	319.96	320.32	319.53	321.70	319.37	319.45	319.22	318.62	317.54	317.57	317.31	317.10	317.30	319.51
15.00°	316.82	319.82	318.12	317.54	317.59	316.35	318.83	316.34	317.55	316.04	316.04	314.51	314.31	314.31	314.32	314.51	316.82
17.50°	313.39	315.01	314.35	314.30	316.06	313.51	315.16	312.81	312.58	312.95	312.30	310.80	310.50	310.02	310.29	312.37	313.39
20.00°	308.52	310.32	310.66	310.82	313.56	309.96	311.02	309.02	307.39	309.20	308.45	306.95	306.21	305.85	306.08	309.52	308.52
22.50°	302.29	306.42	307.12	306.52	307.21	305.40	304.79	304.42	303.25	304.31	303.98	302.73	300.83	302.81	301.51	304.64	302.29
25.00°	297.89	302.09	302.97	301.78	301.18	300.39	298.86	299.45	299.05	298.96	299.38	297.92	296.18	299.32	296.94	299.17	297.89
27.50°	294.84	296.03	297.98	296.04	296.02	294.91	293.85	293.68	293.68	292.99	294.35	291.96	292.75	293.37	292.38	292.48	294.84
30.00°	289.18	290.23	292.93	290.56	290.37	289.30	288.41	287.75	288.28	287.76	289.33	286.61	288.13	287.69	287.31	286.31	289.18
32.50°	282.07	285.16	287.81	285.56	283.70	283.61	282.02	281.55	282.72	283.29	284.33	282.18	281.93	282.99	281.62	280.99	282.07
35.00°	276.76	279.33	281.81	279.66	277.25	276.83	275.27	274.51	276.65	277.28	278.62	276.53	276.22	278.02	276.08	275.43	276.76
37.50°	272.22	271.92	275.11	272.50	271.14	269.36	267.95	266.39	268.36	270.07	271.55	269.49	271.00	272.38	270.70	269.58	272.22
40.00°	265.20	264.78	267.84	265.36	264.25	261.73	261.00	259.00	260.23	263.38	264.47	263.17	265.01	266.38	264.35	263.55	265.20
42.50°	257.44	258.05	260.22	258.22	256.43	254.02	254.50	252.33	252.54	257.01	257.36	257.47	258.43	259.70	257.30	257.33	257.44
45.00°	248.42	250.58	251.99	250.63	248.13	245.02	246.60	244.53	244.67	247.76	250.05	250.07	251.60	253.23	251.00	249.84	248.42
47.50°	239.16	242.24	243.46	242.67	239.39	235.56	237.31	235.87	236.40	237.20	242.50	241.51	244.64	247.07	245.11	241.43	239.16
50.00°	229.66	233.06	234.83	234.75	230.63	226.15	227.74	226.40	227.77	228.13	234.15	232.60	237.35	239.89	237.43	232.87	229.66
52.50°	220.14	223.09	226.15	226.86	221.86	216.76	217.98	216.47	218.56	219.55	225.09	223.51	229.93	231.58	229.02	224.22	220.14
55.00°	211.00	212.66	217.39	217.67	212.31	205.47	206.87	205.21	208.30	209.02	215.19	214.30	219.02	221.76	219.04	214.12	211.00
57.50°	201.84	201.89	208.60	207.86	202.35	193.87	194.98	193.37	196.72	198.06	204.70	205.04	206.98	210.61	208.57	203.42	201.84
60.00°	191.06	190.50	195.31	196.44	189.54	181.09	181.31	179.95	183.86	183.67	191.51	189.97	192.72	195.23	191.35	190.83	191.06
62.50°	178.20	178.75	181.35	184.45	175.57	168.22	166.86	166.03	169.74	168.81	176.90	173.30	177.95	177.05	172.78	177.68	178.20
65.00°	142.84	150.28	151.25	160.77	153.11	148.08	148.81	143.97	145.36	136.32	143.39	133.07	136.45	138.03	128.67	139.86	142.84
67.50°	107.75	115.06	119.81	134.22	128.19	126.48	129.62	120.17	113.34	103.19	102.64	88.74	91.40	88.77	82.19	97.04	107.75
70.00°	73.84	82.68	83.29	95.17	94.10	92.99	99.07	88.85	84.13	76.17	74.85	66.43	67.70	63.41	61.49	71.68	73.84
72.50°	49.06	53.24	53.84	60.23	62.58	65.28	69.34	60.93	56.26	53.03	50.99	47.05	46.77	44.65	43.00	49.23	49.06
75.00°	35.29	39.28	39.29	44.05	46.30	47.44	50.67	46.07	42.07	37.85	37.02	34.70	33.21	31.31	29.89	33.54	35.29
77.50°	22.60	25.88	26.72	29.67	31.25	33.13	34.97	32.45	28.72	25.61	25.50	23.06	20.90	19.68	18.73	21.19	22.60
80.00°	12.52	13.90	15.63	17.41	18.76	20.67	21.79	20.18	16.89	14.85	15.60	12.60	11.27	10.15	9.87	11.67	12.52
82.50°	6.26	5.52	7.20	8.32	10.70	10.69	11.23	10.22	8.51	6.47	6.64	5.01	5.77	3.78	4.49	5.37	6.26
85.00°	3.30	3.02	3.69	3.23	4.23	4.83	4.95	4.79	3.49	3.29	3.26	3.02	2.72	2.61	2.32	2.39	3.30
87.50°	1.37	1.63	1.91	2.09	1.69	2.22	2.99	2.56	1.92	1.88	2.12	1.84	1.47	1.54	1.18	1.43	1.37
90.00°	0.99	0.28	0.86	1.12	1.31	1.23	1.36	1.14	0.49	0.71	0.27	1.01	0.99	0.35	1.02	1.03	0.99
92.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.00°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.50°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	1,194	1,194	1,194	1,194	1,166	1,166	1,166	1,166	1,114	1,114	1,114	1,067	1,067	1,067	1,023	1,023	1,023	1,003
	1	1,097	1,052	1,011	974	1,070	1,029	992	959	986	956	928	947	923	900	912	892	873	873
	2	997	917	850	794	971	898	837	785	862	811	766	830	787	749	799	764	732	747
	3	907	803	722	657	883	787	712	651	757	693	640	729	675	628	704	657	618	643
	4	829	708	620	553	805	695	613	549	670	598	541	646	584	534	624	571	527	558
	5	760	630	539	472	738	619	533	470	597	522	465	577	511	459	559	501	454	490
	6	700	565	474	409	680	555	470	407	537	461	404	520	452	400	504	444	396	434
	7	647	510	421	359	630	502	418	358	486	410	355	472	403	352	458	397	350	389
	8	601	464	378	318	585	457	375	317	444	369	315	431	363	313	419	357	311	350
	9	561	425	341	285	546	419	339	284	407	334	283	396	329	281	386	325	279	318
	10	525	391	311	257	512	386	309	257	376	304	255	366	300	254	357	297	253	291

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	10.8 fc	22.2 ft
6.5 ft	7.7 fc	26.2 ft
7.5 ft	5.8 fc	30.3 ft
8.0 ft	5.1 fc	32.3 ft
10.0 ft	3.3 fc	40.4 ft
12.0 ft	2.3 fc	48.4 ft
14.0 ft	1.7 fc	56.5 ft
16.0 ft	1.3 fc	64.6 ft
20.0 ft	0.8 fc	80.7 ft
24.0 ft	0.6 fc	96.9 ft
28.0 ft	0.4 fc	113.0 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	2,531	2,531	2,531
45.00°	2,722	2,761	2,719
55.00°	2,850	2,936	2,868
65.00°	2,619	2,773	2,807
75.00°	1,056	1,176	1,386
85.00°	293	328	376

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	15.7	17.4	16.1	17.7	18.0	15.7	17.3	16.0	17.6	18.0
	3H	16.8	18.3	17.2	18.6	19.0	16.9	18.4	17.3	18.7	19.0
	4H	17.0	18.4	17.4	18.7	19.1	17.1	18.5	17.5	18.8	19.2
	6H	17.0	18.3	17.4	18.7	19.1	17.2	18.4	17.6	18.8	19.2
	8H	17.0	18.2	17.4	18.6	19.0	17.1	18.4	17.6	18.8	19.2
	12H	17.0	18.2	17.4	18.5	19.0	17.1	18.3	17.6	18.7	19.1
4H	2H	16.3	17.7	16.7	18.1	18.4	16.3	17.7	16.7	18.0	18.4
	3H	17.5	18.6	17.9	19.0	19.4	17.6	18.7	18.0	19.1	19.5
	4H	17.7	18.7	18.1	19.1	19.6	17.9	18.9	18.3	19.3	19.7
	6H	17.7	18.6	18.2	19.1	19.5	18.0	18.9	18.4	19.3	19.8
	8H	17.7	18.6	18.2	19.0	19.5	18.0	18.8	18.4	19.3	19.7
	12H	17.7	18.5	18.2	18.9	19.4	18.0	18.7	18.4	19.2	19.7
8H	4H	17.7	18.6	18.2	19.0	19.5	18.0	18.8	18.4	19.2	19.7
	6H	17.8	18.5	18.3	19.0	19.5	18.1	18.8	18.6	19.3	19.8
	8H	17.8	18.4	18.3	18.9	19.4	18.1	18.7	18.6	19.2	19.7
	12H	17.8	18.3	18.3	18.8	19.4	18.1	18.6	18.6	19.1	19.7
12H	4H	17.7	18.5	18.2	18.9	19.4	17.9	18.7	18.4	19.2	19.6
	6H	17.8	18.4	18.3	18.9	19.4	18.1	18.7	18.6	19.2	19.7
	8H	17.8	18.3	18.3	18.8	19.4	18.1	18.7	18.6	19.1	19.7

Corrected UGR values based on total output lumens

SHR = 1.0