

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

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### Spectrum Lighting Photometric Lab

**Luminaire**

SN32 10L 30HK xx xx TW FCI  
32" x 11" Spin Pendant 30L 30HK TW FCI

**Test Number**

SP-01615

**Test Date**

11/8/2023

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

### Summary of Results

#### Power

Input Watts	8.7 W
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#### Lumen Output

Output Lumens	1008
Efficacy	115.91 lm/W

#### Luminous Dimensions

0° - 180° Size	-2.67
90° - 270° Size	-2.67
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1.3
Two luminaires, plane 90°	1.29
Four luminaires	1.43

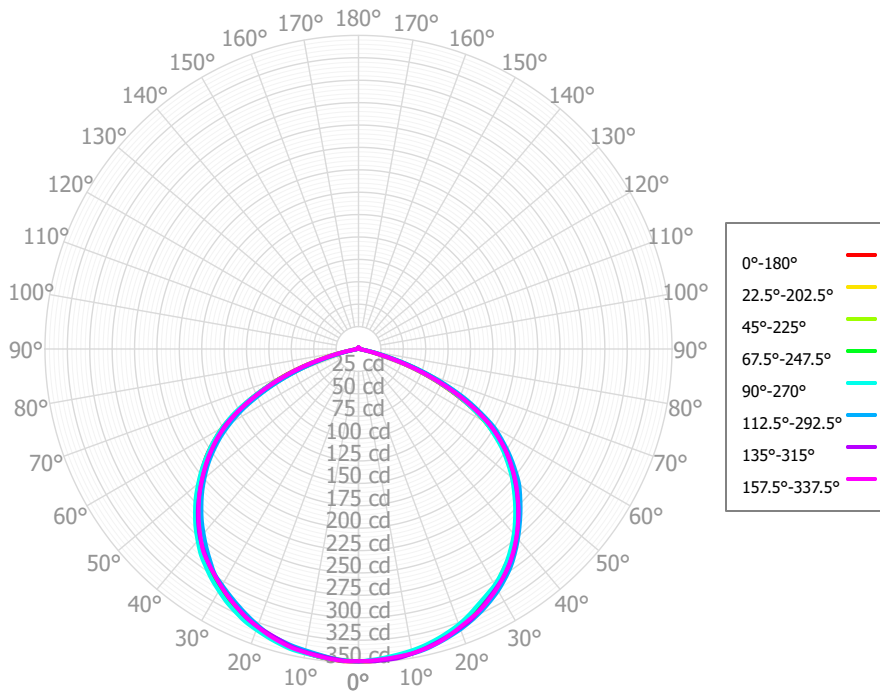
#### Full Beam Angle

0° - 180°	119°
90° - 270°	119°

### IES File Header Contents

Keyword	Value
TEST	SP-01615
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/8/2023
ISSUEDATE	11/10/2023
LUMCAT	SN32 10L 30HK xx xx TW FCI
LUMINAIRE	32" x 11" Spin Pendant 30L 30HK TW FCI
OTHER	Beam Angle: 119 deg
OTHER	90 CRI, 3000K tested
OTHER	CCT Output Multipliers: 27HK x 0.99, 35HK x 1.01
OTHER	Total luminaire wattages are approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	90+

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	33.53	3.33%	90.00° - 100.00°	1.37	0.14%
10.00° - 20.00°	95.59	9.48%	100.00° - 110.00°	1.36	0.14%
20.00° - 30.00°	147.66	14.64%	100.00° - 120.00°	2.63	0.26%
30.00° - 40.00°	182.86	18.13%	120.00° - 130.00°	1.14	0.11%
40.00° - 50.00°	194.63	19.30%	130.00° - 140.00°	1.00	0.10%
50.00° - 60.00°	179.47	17.80%	140.00° - 150.00°	0.84	0.08%
60.00° - 70.00°	124.71	12.37%	150.00° - 160.00°	0.61	0.06%
70.00° - 80.00°	39.01	3.87%	160.00° - 170.00°	0.39	0.04%
80.00° - 90.00°	2.80	0.28%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	1000.28	99.20%	0.00° - 180.00°	1008.39	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°	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63	348.63
2.50°	348.88	348.62	348.51	348.28	347.41	347.96	348.48	348.66	348.91	348.01	348.20	348.54	348.27	348.00	348.99	348.14	348.88
5.00°	347.37	347.21	347.34	347.41	345.65	346.22	346.66	347.63	347.82	346.44	347.03	347.54	347.47	347.14	348.46	347.25	347.37
7.50°	345.51	345.84	345.53	346.10	343.78	343.76	344.89	345.87	346.34	344.27	345.79	346.33	346.23	346.29	347.79	346.20	345.51
10.00°	343.73	344.50	343.78	343.61	341.77	341.54	343.26	343.92	344.01	342.83	344.47	343.85	344.96	345.47	345.31	344.99	343.73
12.50°	341.97	342.00	342.06	341.06	339.05	339.41	340.77	341.86	341.61	341.99	342.41	341.19	343.69	343.53	342.52	342.82	341.97
15.00°	338.37	338.90	338.66	338.40	335.62	336.55	336.77	338.50	339.10	339.25	339.73	337.82	340.78	340.38	338.99	339.90	338.37
17.50°	334.56	335.12	334.65	335.03	331.64	333.50	333.08	334.60	335.52	335.30	336.18	334.41	337.40	336.88	335.39	335.68	334.56
20.00°	329.76	331.07	329.62	330.57	327.19	328.26	329.85	329.99	330.50	331.27	332.04	330.79	333.62	333.09	331.43	330.64	329.76
22.50°	324.91	326.08	324.32	325.33	321.60	322.60	325.33	325.14	325.33	327.20	327.51	327.08	329.76	328.59	327.42	325.97	324.91
25.00°	319.34	320.81	319.40	319.13	315.23	316.56	319.33	319.28	319.99	321.37	322.78	321.24	324.31	323.60	320.78	321.48	319.34
27.50°	313.68	314.05	314.56	312.96	309.50	310.47	312.90	313.18	314.68	314.84	316.31	315.29	318.66	317.85	314.17	315.43	313.68
30.00°	306.57	306.96	306.13	306.81	304.12	304.37	306.09	306.23	309.38	308.74	309.10	308.25	311.81	311.67	307.92	308.77	306.57
32.50°	299.24	299.62	297.25	299.20	296.89	298.27	299.10	299.15	302.44	302.77	301.72	301.11	304.89	304.33	301.46	301.25	299.24
35.00°	290.17	292.25	289.42	290.39	288.88	288.63	291.96	291.95	294.34	294.14	294.29	293.43	297.11	296.49	293.42	293.49	290.17
37.50°	280.96	282.26	281.65	281.91	279.51	278.98	283.83	284.74	285.66	284.93	285.31	285.36	289.23	286.96	284.95	284.06	280.96
40.00°	271.00	272.08	271.84	273.66	269.71	269.06	275.11	274.32	276.64	275.75	275.97	275.71	279.36	276.87	274.46	274.28	271.00
42.50°	260.71	261.01	261.91	263.78	258.61	259.03	264.72	263.80	266.65	266.57	265.29	265.56	269.35	266.38	263.71	263.46	260.71
45.00°	249.19	249.90	250.02	253.05	247.21	247.98	253.53	252.45	256.22	254.92	254.40	253.97	258.05	255.80	252.05	252.50	249.19
47.50°	237.41	238.19	238.06	240.95	235.43	236.73	241.10	241.00	244.55	243.08	242.63	241.97	246.50	244.90	240.20	240.64	237.41
50.00°	224.90	226.38	225.48	228.28	223.58	224.45	228.23	228.45	232.44	230.29	230.76	229.03	233.57	233.94	227.88	228.72	224.90
52.50°	211.93	213.52	212.64	215.13	210.16	211.74	215.01	215.76	219.57	217.41	217.50	215.64	220.43	220.04	215.18	215.40	211.93
55.00°	197.99	200.28	198.46	201.82	196.60	197.50	201.71	202.16	206.50	202.93	204.17	201.46	206.42	205.86	201.72	201.96	197.99
57.50°	182.45	184.79	183.26	186.77	180.50	182.34	187.23	187.92	191.11	188.29	189.84	185.87	191.83	190.51	186.68	186.14	182.45
60.00°	164.27	167.94	164.26	171.33	164.19	164.72	172.51	170.92	175.33	171.99	174.99	168.30	175.57	175.02	169.18	169.72	164.27
62.50°	143.45	145.53	144.27	150.07	142.75	145.50	152.18	152.65	154.71	154.76	153.84	148.30	157.41	153.61	148.75	147.65	143.45
65.00°	119.16	122.55	121.51	127.96	121.09	122.93	131.19	130.40	133.60	131.95	132.40	125.52	135.05	131.97	124.64	125.04	119.16
67.50°	94.67	97.86	98.20	104.52	96.88	99.85	107.96	108.17	111.61	108.91	109.10	101.91	111.55	107.36	100.21	99.34	94.67
70.00°	69.98	73.37	73.70	80.97	72.76	75.93	84.60	85.98	89.55	84.91	85.70	77.53	86.07	82.74	75.47	73.89	69.98
72.50°	46.05	49.33	49.95	56.22	49.28	52.87	61.14	63.33	65.69	61.56	61.88	54.30	61.60	58.05	51.28	49.37	46.05
75.00°	22.75	28.41	27.47	31.78	27.68	30.95	38.03	39.81	42.25	40.14	39.28	31.92	38.50	34.87	27.53	27.46	22.75
77.50°	9.99	13.11	11.95	17.60	14.29	15.40	21.17	21.27	24.55	21.80	20.69	16.91	20.73	18.65	13.36	13.19	9.99
80.00°	4.44	3.65	5.78	4.52	3.81	6.67	5.92	10.01	8.61	10.52	6.65	6.25	8.91	5.67	5.40	3.07	4.44
82.50°	2.16	2.60	2.38	3.16	2.49	2.30	3.79	3.37	5.35	3.05	3.83	2.56	2.90	3.55	2.40	2.21	2.16
85.00°	1.66	1.85	2.01	1.94	1.53	1.72	1.94	2.18	2.52	2.41	1.90	2.11	2.08	1.95	1.96	1.60	1.66
87.50°	1.41	1.45	1.67	1.60	1.40	1.32	1.51	1.54	1.72	1.81	1.69	1.66	1.56	1.67	1.66	1.43	1.41
90.00°	1.28	1.28	1.36	1.32	1.27	1.03	1.19	1.43	1.10	1.27	1.54	1.20	1.23	1.42	1.43	1.34	1.28
92.50°	1.30	1.33	1.24	1.35	1.12	0.99	1.23	1.35	1.08	1.07	1.49	1.08	1.11	1.22	1.38	1.37	1.30
95.00°	1.38	1.42	1.25	1.36	1.10	1.08	1.29	1.30	1.10	1.26	1.45	1.05	1.10	1.08	1.37	1.29	1.38
97.50°	1.41	1.55	1.21	1.35	1.28	1.20	1.39	1.29	1.18	1.32	1.44	1.06	1.12	1.01	1.43	1.09	1.41
100.00°	1.43	1.46	1.15	1.35	1.27	1.32	1.46	1.29	1.21	1.24	1.46	1.07	1.14	1.06	1.50	1.05	1.43
102.50°	1.28	1.23	1.29	1.40	1.05	1.40	1.49	1.37	1.14	1.22	1.52	1.16	1.17	1.25	1.45	1.16	1.28
105.00°	1.10	1.25	1.52	1.44	1.04	1.47	1.45	1.49	1.10	1.24	1.49	1.26	1.20	1.36	1.38	1.24	1.10

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>ptc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	1199	1199	1199	1199	1170	1170	1170	1170	1116	1116	1116	1067	1067	1067	1022	1022	1000
	<b>1</b>	1105	1061	1022	987	1077	1038	1002	970	994	965	938	953	930	908	916	897	878
	<b>2</b>	1008	930	865	810	981	910	851	800	873	824	780	840	798	762	808	774	757
	<b>3</b>	920	818	739	675	895	801	728	669	770	708	656	742	688	644	715	670	655
	<b>4</b>	842	724	638	572	818	710	630	567	684	614	559	660	599	550	637	585	572
	<b>5</b>	773	646	557	491	752	634	551	488	612	538	482	591	527	476	572	516	504
	<b>6</b>	713	580	491	427	693	570	486	425	552	477	421	534	467	416	517	458	448
	<b>7</b>	660	525	438	376	643	517	434	375	501	426	371	485	418	368	471	411	402
	<b>8</b>	614	478	393	335	598	471	390	333	457	383	331	444	377	328	432	371	364
	<b>9</b>	573	438	356	300	558	432	353	299	420	348	297	409	343	295	398	338	293
	<b>10</b>	537	404	324	271	523	398	322	271	388	318	269	378	313	268	369	309	266

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	11.5 fc	18.6 ft
6.5 ft	8.3 fc	22.0 ft
7.5 ft	6.2 fc	25.3 ft
8.0 ft	5.4 fc	27.0 ft
10.0 ft	3.5 fc	33.8 ft
12.0 ft	2.4 fc	40.5 ft
14.0 ft	1.8 fc	47.3 ft
16.0 ft	1.4 fc	54.0 ft
20.0 ft	0.9 fc	67.5 ft
24.0 ft	0.6 fc	81.0 ft
28.0 ft	0.4 fc	94.6 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	670	670	670
<b>45.00°</b>	677	680	672
<b>55.00°</b>	664	665	659
<b>65.00°</b>	542	553	551
<b>75.00°</b>	169	204	206
<b>85.00°</b>	37	44	34

### 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	10.3	11.9	10.6	12.2	12.5	10.2	11.8	10.6	12.2	12.5
	3H	11.4	12.8	11.7	13.1	13.5	11.5	12.9	11.9	13.3	13.7
	4H	11.5	12.8	11.9	13.2	13.6	11.7	13.0	12.1	13.4	13.8
	6H	11.4	12.7	11.8	13.0	13.5	11.7	12.9	12.1	13.3	13.7
	8H	11.4	12.6	11.8	13.0	13.4	11.6	12.8	12.1	13.2	13.6
	12H	11.4	12.5	11.8	12.9	13.3	11.6	12.7	12.1	13.1	13.6
4H	2H	10.8	12.1	11.2	12.5	12.9	10.8	12.2	11.3	12.5	12.9
	3H	12.0	13.1	12.4	13.5	13.9	12.2	13.3	12.6	13.7	14.1
	4H	12.1	13.1	12.5	13.5	14.0	12.4	13.4	12.8	13.8	14.3
	6H	12.1	12.9	12.5	13.4	13.9	12.4	13.3	12.9	13.7	14.2
	8H	12.0	12.8	12.5	13.3	13.8	12.4	13.2	12.8	13.6	14.1
	12H	12.0	12.7	12.5	13.2	13.7	12.3	13.1	12.8	13.6	14.0
8H	4H	12.1	12.9	12.6	13.4	13.9	12.5	13.3	12.9	13.7	14.2
	6H	12.1	12.8	12.6	13.3	13.8	12.5	13.1	13.0	13.6	14.1
	8H	12.1	12.6	12.6	13.2	13.7	12.4	13.0	13.0	13.5	14.1
	12H	12.0	12.6	12.6	13.1	13.6	12.4	12.9	12.9	13.4	14.0
12H	4H	12.1	12.8	12.6	13.3	13.8	12.4	13.2	12.9	13.7	14.1
	6H	12.1	12.7	12.6	13.1	13.7	12.4	13.0	13.0	13.5	14.1
	8H	12.0	12.6	12.6	13.1	13.6	12.4	12.9	12.9	13.4	14.0

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0