

## Indoor Distribution Test Report

### Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

### Spectrum Lighting Photometric Lab

**Luminaire**

SN32 20L 30HK xx xx TW FCI  
32" x 11" Spin Pendant 30L 30HK TW FCI

**Test Number**

SP-01615\_1

**Test Date**

11/6/2023

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

### Summary of Results

#### Power

Input Watts	18.4 W
-------------	--------

#### Lumen Output

Output Lumens	2004
Efficacy	108.92 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

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

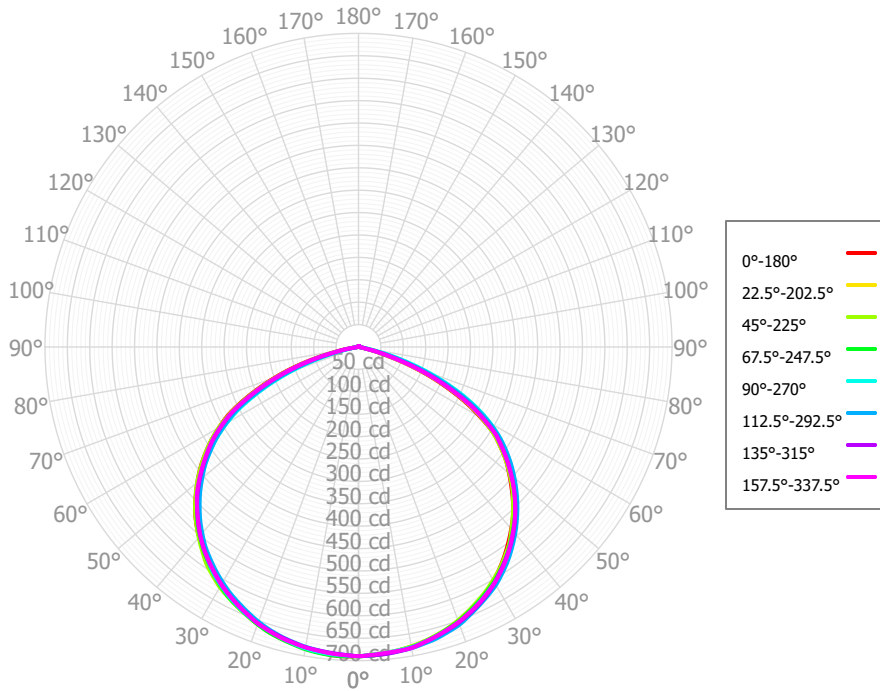
#### Full Beam Angle

0° - 180°	119°
90° - 270°	119°

### IES File Header Contents

Keyword	Value
TEST	SP-01615_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/6/2023
ISSUEDATE	11/10/2023
LUMCAT	SN32 20L 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°	66.43	3.31%	90.00° - 100.00°	1.49	0.07%
10.00° - 20.00°	189.32	9.45%	100.00° - 110.00°	1.49	0.07%
20.00° - 30.00°	292.59	14.60%	100.00° - 120.00°	2.87	0.14%
30.00° - 40.00°	362.35	18.08%	120.00° - 130.00°	1.32	0.07%
40.00° - 50.00°	386.87	19.30%	130.00° - 140.00°	1.18	0.06%
50.00° - 60.00°	358.14	17.87%	140.00° - 150.00°	0.92	0.05%
60.00° - 70.00°	251.42	12.55%	150.00° - 160.00°	0.72	0.04%
70.00° - 80.00°	82.46	4.11%	160.00° - 170.00°	0.43	0.02%
80.00° - 90.00°	5.52	0.28%	170.00° - 180.00°	0.15	0.01%
0.00° - 90.00°	1995.08	99.55%	0.00° - 180.00°	2004.15	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°	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26	690.26
2.50°	689.55	689.22	687.55	689.51	687.98	688.44	688.02	688.79	691.41	689.94	688.93	691.36	689.46	689.12	689.17	688.11	689.55
5.00°	686.89	687.27	685.59	687.45	685.67	686.37	685.97	687.05	690.42	688.75	688.51	690.72	688.59	687.31	688.19	685.71	686.89
7.50°	683.37	683.37	682.82	684.52	683.15	683.33	683.41	684.12	687.33	686.24	685.80	688.60	686.48	685.10	685.48	684.34	683.37
10.00°	679.45	679.09	678.59	681.28	680.56	679.61	680.73	680.96	684.09	683.03	681.72	684.99	683.00	682.82	681.91	682.49	679.45
12.50°	674.32	674.52	673.31	675.07	675.28	674.74	675.34	676.72	678.04	678.61	677.62	679.67	677.84	678.39	675.67	675.79	674.32
15.00°	668.48	669.93	666.59	668.14	669.43	668.81	669.87	671.77	671.91	672.63	673.52	673.90	671.55	673.72	669.29	668.97	668.48
17.50°	661.11	660.66	659.08	660.19	662.46	661.52	663.76	664.71	665.05	664.56	666.61	667.73	664.20	666.82	662.58	661.49	661.11
20.00°	652.45	651.26	649.37	652.10	655.37	652.61	656.96	656.66	657.81	656.65	658.82	659.05	656.46	659.68	654.82	653.43	652.45
22.50°	641.69	641.50	638.78	641.17	644.10	642.12	646.75	646.47	648.68	648.89	649.64	648.74	648.46	648.45	645.35	643.39	641.69
25.00°	629.97	631.17	627.01	630.04	632.65	631.11	636.27	635.89	639.04	639.15	640.17	638.84	638.27	637.20	634.71	632.75	629.97
27.50°	617.08	616.57	614.92	617.65	620.64	619.70	624.88	624.68	627.66	627.94	629.78	629.12	626.91	625.78	622.60	620.67	617.08
30.00°	602.46	602.00	600.97	605.09	608.32	606.50	612.59	612.11	615.50	615.31	619.28	615.85	614.16	613.65	608.09	607.59	602.46
32.50°	586.21	587.53	586.70	590.30	593.28	592.31	598.24	597.92	601.51	601.86	605.65	601.36	600.88	598.16	591.31	592.79	586.21
35.00°	568.50	572.15	569.99	574.84	577.76	577.09	583.19	583.09	586.70	586.35	591.75	585.54	584.13	581.94	574.65	576.06	568.50
37.50°	549.76	554.03	553.07	555.40	559.88	561.46	567.00	567.66	570.50	569.98	573.45	569.43	566.44	563.48	558.06	556.81	549.76
40.00°	530.43	534.86	531.53	535.93	541.48	542.80	549.43	549.59	553.68	552.34	555.07	550.85	547.08	544.25	538.62	537.08	530.43
42.50°	510.79	513.40	509.92	516.30	521.45	523.27	530.17	529.69	536.06	534.32	535.87	531.94	527.44	523.30	517.63	516.88	510.79
45.00°	487.66	490.98	488.08	495.78	500.31	501.61	509.50	509.61	515.80	513.53	516.08	509.36	505.60	501.53	494.78	494.56	487.66
47.50°	463.18	467.01	465.80	472.96	476.59	479.57	487.47	489.44	492.98	492.23	493.49	486.55	483.58	478.44	471.20	470.66	463.18
50.00°	438.86	441.71	440.51	448.71	452.31	455.49	463.31	465.17	469.48	467.47	470.21	462.28	458.23	454.39	445.25	445.41	438.86
52.50°	414.57	414.86	414.73	421.80	427.09	431.24	437.60	439.38	445.48	442.40	444.80	437.80	432.64	429.20	418.66	419.37	414.57
55.00°	386.26	386.74	386.85	394.04	400.62	403.20	411.62	412.84	418.78	415.36	418.67	411.24	403.71	401.81	391.13	391.41	386.26
57.50°	357.26	357.47	356.38	365.12	372.62	374.84	385.50	386.12	390.61	388.05	390.95	383.62	374.03	372.36	363.44	362.66	357.26
60.00°	315.44	321.00	318.67	330.01	339.63	341.82	353.96	353.78	359.56	356.32	359.87	350.35	339.33	336.64	323.84	323.49	315.44
62.50°	272.62	279.60	277.94	288.37	301.81	307.34	320.29	320.55	327.37	323.23	323.29	314.40	302.49	296.50	283.30	281.26	272.62
65.00°	224.37	232.72	231.01	244.22	258.99	262.91	277.89	277.74	285.85	279.52	282.72	268.98	257.05	251.99	235.09	233.76	224.37
67.50°	175.98	183.09	183.10	198.08	212.53	218.10	233.13	234.24	241.71	235.39	237.13	223.02	210.87	205.13	186.71	185.28	175.98
70.00°	125.76	134.32	133.74	150.71	165.91	171.73	187.85	188.04	196.89	189.44	190.74	175.71	162.68	156.17	137.07	135.27	125.76
72.50°	77.59	85.87	87.97	102.58	119.20	125.94	142.47	141.96	151.96	143.42	143.60	128.86	115.23	106.42	88.80	85.11	77.59
75.00°	42.64	49.37	46.24	62.02	76.88	81.79	97.65	97.30	106.09	97.20	98.26	82.83	69.26	64.45	50.03	49.06	42.64
77.50°	13.61	15.85	20.34	24.81	36.32	44.29	52.89	55.25	60.13	56.49	54.20	45.54	34.20	24.50	17.44	14.82	13.61
80.00°	7.52	7.35	8.22	11.15	17.95	20.52	28.64	29.21	33.23	27.52	27.43	19.97	15.15	11.97	9.93	9.03	7.52
82.50°	2.84	2.77	2.83	4.78	5.63	5.43	5.80	7.87	7.96	8.48	9.99	5.97	4.39	4.01	4.05	3.79	2.84
85.00°	1.98	2.27	1.81	2.67	2.83	3.49	3.89	4.82	5.17	4.92	4.00	3.63	2.73	2.62	2.61	2.81	1.98
87.50°	1.36	2.05	1.46	1.45	1.71	2.09	2.13	2.44	2.62	2.54	2.44	2.26	1.76	1.75	1.62	1.93	1.36
90.00°	1.21	1.70	1.43	1.27	1.48	1.31	1.44	1.79	1.80	1.58	1.76	1.66	1.36	1.66	1.49	1.56	1.21
92.50°	1.25	1.35	1.38	1.20	1.33	1.04	0.93	1.32	1.14	1.09	1.30	1.44	1.31	1.58	1.50	1.36	1.25
95.00°	1.55	1.13	1.31	1.13	1.49	1.23	1.16	1.22	1.16	1.04	1.57	1.44	1.48	1.34	1.68	1.68	1.55
97.50°	1.65	1.02	1.42	1.06	1.63	1.22	1.31	1.19	1.18	1.07	1.95	1.26	1.48	1.14	1.73	1.84	1.65
100.00°	1.53	1.55	1.58	1.31	1.46	1.08	1.20	1.28	1.23	1.14	1.72	1.00	1.40	1.27	1.63	1.64	1.53
102.50°	1.37	1.93	1.45	1.54	1.32	1.18	1.11	1.49	1.30	1.21	1.44	1.26	1.42	1.39	1.58	1.51	1.37
105.00°	1.19	1.69	1.28	1.60	1.31	1.38	1.04	1.83	1.42	1.26	1.37	1.67	1.47	1.49	1.58	1.49	1.19

### 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>	2384	2384	2384	2384	2327	2327	2327	2327	2222	2222	2222	2125	2125	2125	2037	2037	1995
	<b>1</b>	2197	2109	2031	1960	2142	2063	1992	1927	1977	1919	1865	1898	1851	1807	1825	1787	1749
	<b>2</b>	2003	1846	1717	1608	1950	1808	1689	1588	1736	1636	1550	1670	1587	1514	1608	1540	1506
	<b>3</b>	1827	1623	1465	1339	1777	1591	1444	1327	1530	1405	1302	1474	1368	1278	1422	1332	1303
	<b>4</b>	1671	1436	1264	1133	1625	1409	1249	1125	1358	1219	1108	1311	1190	1092	1267	1163	1137
	<b>5</b>	1535	1281	1104	973	1493	1258	1092	967	1215	1068	956	1174	1046	944	1137	1024	1002
	<b>6</b>	1416	1151	974	846	1377	1132	964	842	1095	945	834	1060	927	826	1028	910	891
	<b>7</b>	1311	1042	867	745	1276	1025	859	742	994	844	736	964	830	730	936	816	799
	<b>8</b>	1219	949	779	662	1187	935	773	660	907	760	655	882	748	651	858	737	722
	<b>9</b>	1138	869	705	594	1109	857	700	592	834	690	589	811	680	585	790	670	657
	<b>10</b>	1066	801	643	537	1039	790	638	536	770	630	533	750	621	530	732	613	602

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	22.8 fc	18.8 ft
6.5 ft	16.3 fc	22.2 ft
7.5 ft	12.3 fc	25.7 ft
8.0 ft	10.8 fc	27.4 ft
10.0 ft	6.9 fc	34.2 ft
12.0 ft	4.8 fc	41.1 ft
14.0 ft	3.5 fc	47.9 ft
16.0 ft	2.7 fc	54.8 ft
20.0 ft	1.7 fc	68.4 ft
24.0 ft	1.2 fc	82.1 ft
28.0 ft	0.9 fc	95.8 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	1327	1327	1327
45.00°	1326	1327	1360
55.00°	1295	1297	1343
65.00°	1021	1051	1178
75.00°	317	343	571
85.00°	44	40	62

### 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	12.5	14.1	12.9	14.4	14.7	12.9	14.5	13.2	14.8	15.1
	3H	13.5	14.9	13.9	15.3	15.6	14.2	15.6	14.6	16.0	16.3
	4H	13.6	14.9	14.0	15.3	15.7	14.4	15.8	14.8	16.1	16.5
	6H	13.5	14.8	13.9	15.1	15.5	14.4	15.7	14.8	16.0	16.4
	8H	13.5	14.7	13.9	15.1	15.5	14.4	15.6	14.8	16.0	16.4
	12H	13.5	14.6	13.9	15.0	15.4	14.4	15.5	14.8	15.9	16.3
4H	2H	13.0	14.3	13.4	14.7	15.1	13.5	14.9	13.9	15.2	15.6
	3H	14.1	15.2	14.5	15.6	16.0	15.0	16.1	15.4	16.5	16.9
	4H	14.2	15.2	14.6	15.6	16.0	15.3	16.3	15.7	16.7	17.1
	6H	14.1	15.0	14.6	15.5	15.9	15.3	16.2	15.7	16.6	17.1
	8H	14.1	14.9	14.6	15.4	15.8	15.3	16.1	15.7	16.5	17.0
	12H	14.1	14.8	14.6	15.3	15.8	15.2	16.0	15.7	16.4	16.9
8H	4H	14.2	15.0	14.6	15.4	15.9	15.4	16.2	15.8	16.6	17.1
	6H	14.1	14.8	14.6	15.3	15.8	15.4	16.1	15.9	16.6	17.1
	8H	14.1	14.7	14.6	15.2	15.7	15.4	16.0	15.9	16.5	17.0
	12H	14.1	14.6	14.6	15.1	15.7	15.4	15.9	15.9	16.4	17.0
12H	4H	14.2	14.9	14.6	15.4	15.8	15.4	16.1	15.8	16.6	17.1
	6H	14.1	14.7	14.6	15.2	15.7	15.4	16.0	15.9	16.5	17.0
	8H	14.1	14.6	14.6	15.1	15.7	15.4	15.9	15.9	16.4	17.0

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0