

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SN12 10L 30HK xx xx xx MWI
12" x 29" Spin Pendant 10L 30HK MWI

Test Number

SP-01607

Test Date

11/9/2023

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

Summary of Results

Power

Input Watts	14.5 W
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Lumen Output

Output Lumens	1128
Efficacy	77.77 lm/W

Luminous Dimensions

0° - 180° Size	-1
90° - 270° Size	-1
Height	0

Spacing Criterion

Two luminaires, plane 0°	1.01
Two luminaires, plane 90°	1
Four luminaires	1.03

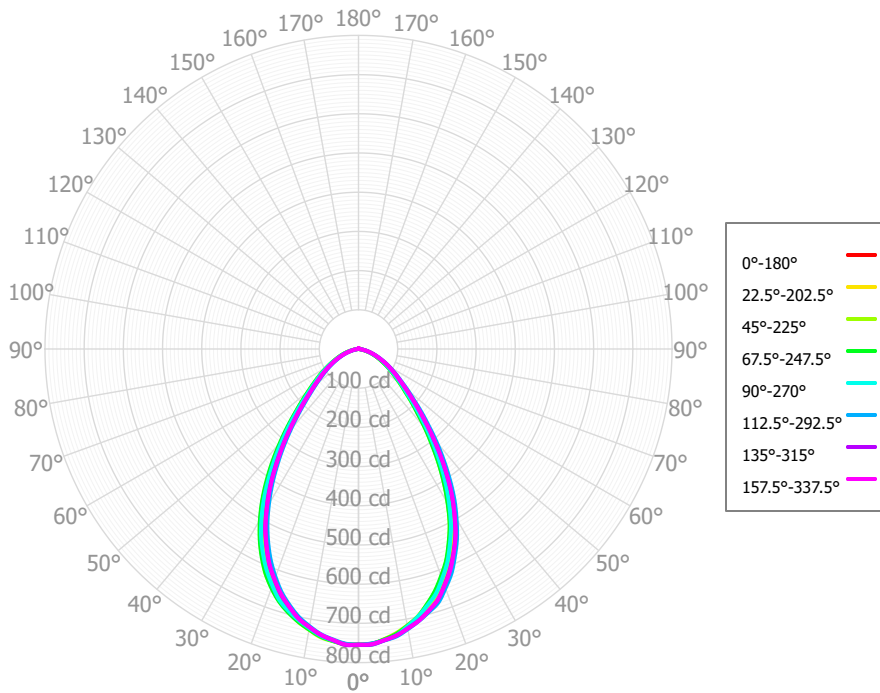
Full Beam Angle

0° - 180°	71°
90° - 270°	70°

IES File Header Contents

Keyword	Value
TEST	SP-01607
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/9/2023
ISSUEDATE	11/14/2023
LUMCAT	SN12 10L 30HK xx xx xx MWI
LUMINAIRE	12" x 29" Spin Pendant 10L 30HK MWI
OTHER	Beam Angle: 71 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°	71.52	6.34%	90.00° - 100.00°	1.32	0.12%
10.00° - 20.00°	192.11	17.03%	100.00° - 110.00°	1.18	0.10%
20.00° - 30.00°	257.48	22.83%	100.00° - 120.00°	2.35	0.21%
30.00° - 40.00°	237.63	21.07%	120.00° - 130.00°	1.06	0.09%
40.00° - 50.00°	163.27	14.48%	130.00° - 140.00°	0.99	0.09%
50.00° - 60.00°	103.72	9.20%	140.00° - 150.00°	0.81	0.07%
60.00° - 70.00°	61.67	5.47%	150.00° - 160.00°	0.59	0.05%
70.00° - 80.00°	27.22	2.41%	160.00° - 170.00°	0.39	0.03%
80.00° - 90.00°	5.45	0.48%	170.00° - 180.00°	0.13	0.01%
0.00° - 90.00°	1120.09	99.32%	0.00° - 180.00°	1127.73	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°	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68	754.68
2.50°	753.13	753.70	754.79	752.77	755.22	752.70	755.97	754.67	753.58	754.41	754.69	753.69	754.42	752.18	755.19	753.99	753.13
5.00°	745.44	744.51	743.70	744.47	746.64	744.16	746.18	745.19	746.12	747.42	748.37	747.85	746.79	746.40	746.58	746.10	745.44
7.50°	736.14	734.21	731.90	734.15	737.37	734.12	736.12	735.19	737.52	738.68	741.59	739.74	738.07	739.92	737.52	737.95	736.14
10.00°	721.46	720.11	716.31	717.78	718.81	718.41	720.73	720.72	722.61	723.28	727.28	726.57	723.44	725.85	723.90	724.35	721.46
12.50°	705.28	705.67	698.98	700.04	699.91	700.80	704.80	704.84	706.96	707.02	712.71	712.14	708.34	711.09	709.72	710.46	705.28
15.00°	685.02	682.90	674.75	674.65	677.97	677.35	681.71	681.03	686.84	688.12	693.51	695.39	691.31	694.68	691.90	691.61	685.02
17.50°	661.97	659.80	649.04	647.95	655.56	651.36	657.73	656.00	666.44	665.98	673.95	675.11	671.43	678.19	671.77	671.68	661.97
20.00°	632.74	629.73	618.62	616.42	623.78	619.10	626.89	625.90	635.84	635.85	647.56	649.34	642.46	649.18	641.10	642.02	632.74
22.50°	600.59	599.22	585.65	584.34	591.26	584.53	594.81	593.73	604.84	603.86	620.20	619.58	611.73	619.78	609.33	611.41	600.59
25.00°	562.97	559.07	546.22	544.52	551.58	545.34	555.84	554.68	566.87	568.01	582.62	584.67	576.55	582.36	573.54	574.89	562.97
27.50°	521.83	518.40	504.06	504.15	511.02	503.52	515.38	513.57	528.38	528.80	544.16	545.90	538.44	544.39	535.29	536.71	521.83
30.00°	475.23	472.40	456.24	455.05	464.63	457.24	468.85	467.08	482.50	483.90	499.84	502.94	494.08	500.21	490.10	491.08	475.23
32.50°	427.82	425.97	407.77	405.76	417.81	410.03	421.75	419.69	436.25	436.46	454.43	456.92	447.38	455.37	443.36	444.45	427.82
35.00°	379.33	376.43	358.15	356.44	368.97	361.49	372.88	370.32	386.81	385.43	403.88	408.01	396.57	405.84	392.97	394.23	379.33
37.50°	330.81	327.58	310.70	307.51	321.16	314.61	324.87	322.66	338.07	337.12	353.95	359.30	347.49	356.71	343.61	344.86	330.81
40.00°	282.27	282.06	266.41	264.63	277.00	269.72	279.15	278.12	293.38	292.12	306.31	310.74	300.92	309.53	296.24	297.88	282.27
42.50°	240.47	238.74	226.48	223.00	235.17	229.54	237.17	237.26	250.04	250.56	261.56	266.75	257.77	264.16	253.02	253.80	240.47
45.00°	204.96	203.94	192.00	192.08	200.10	194.17	203.10	201.90	212.72	212.49	225.23	225.79	218.89	225.79	216.37	216.23	204.96
47.50°	174.80	171.98	163.16	162.53	168.90	165.56	172.71	171.76	178.40	181.38	192.06	193.42	186.03	190.46	183.77	183.09	174.80
50.00°	148.95	148.62	140.19	141.35	146.70	142.70	148.90	148.33	154.28	156.37	166.27	165.83	159.46	164.29	156.66	158.39	148.95
52.50°	128.17	127.42	121.23	121.23	126.29	123.67	127.86	128.74	132.23	135.56	143.29	143.86	138.11	140.32	134.88	136.03	128.17
55.00°	110.79	111.43	105.78	105.78	109.40	107.44	110.91	113.29	115.74	117.83	125.83	124.48	121.46	121.85	119.15	117.33	110.79
57.50°	96.74	96.21	91.85	90.89	94.46	92.75	96.08	98.25	100.13	102.10	108.73	108.27	105.66	104.92	104.13	101.26	96.74
60.00°	84.54	82.53	79.08	77.87	82.68	79.01	83.87	83.60	86.48	87.59	92.21	93.28	90.51	91.13	89.80	88.73	84.54
62.50°	71.80	70.10	67.27	65.69	71.26	67.45	71.48	71.50	73.70	75.25	78.05	79.50	76.94	77.91	76.62	76.12	71.80
65.00°	58.80	59.74	56.06	55.81	60.34	57.00	58.91	61.37	62.51	64.04	67.17	66.09	64.37	65.66	64.38	63.43	58.80
67.50°	49.20	50.08	46.60	46.42	49.59	47.25	48.95	50.63	52.15	53.77	56.47	56.09	53.66	54.24	53.45	52.39	49.20
70.00°	40.89	41.42	38.06	38.14	39.02	37.79	41.31	39.50	43.04	43.91	45.96	46.88	43.97	44.01	43.43	42.92	40.89
72.50°	31.97	33.11	29.25	30.05	30.40	29.29	33.20	30.73	34.46	34.82	36.84	37.94	35.28	35.16	34.49	34.44	31.97
75.00°	22.85	25.22	20.31	22.33	23.67	21.12	24.74	23.26	26.56	26.00	29.08	29.05	27.05	27.95	26.17	26.76	22.85
77.50°	16.41	18.03	14.60	15.55	17.25	14.72	17.62	17.07	19.44	18.87	21.57	21.48	19.52	20.86	19.07	19.65	16.41
80.00°	10.61	11.54	10.03	10.24	11.08	8.81	11.36	11.48	13.18	12.22	14.28	14.07	12.25	13.89	12.57	12.92	10.61
82.50°	6.62	6.71	6.13	6.05	6.62	5.56	6.96	7.30	8.18	7.60	9.47	9.16	7.63	8.60	7.90	8.00	6.62
85.00°	2.95	3.30	2.42	3.30	3.36	2.86	3.55	3.64	4.37	3.39	6.39	4.44	3.77	4.75	3.97	4.13	2.95
87.50°	1.98	1.78	1.59	1.62	1.75	1.97	2.02	2.18	2.31	1.99	3.89	2.88	2.41	2.59	2.31	2.27	1.98
90.00°	1.34	1.63	1.39	1.13	1.10	1.35	1.35	1.36	1.61	1.03	1.72	1.44	1.59	1.64	1.38	1.37	1.34
92.50°	1.28	1.46	1.32	1.06	1.00	1.11	1.11	1.19	1.29	1.07	0.93	1.28	1.27	1.27	1.10	1.26	1.28
95.00°	1.26	1.27	1.28	1.38	1.16	0.91	1.04	1.16	1.21	1.21	0.80	1.14	1.04	1.24	0.99	1.47	1.26
97.50°	1.22	1.21	1.31	1.47	1.16	1.03	1.10	1.13	1.26	1.13	1.00	1.07	1.21	1.18	1.02	1.49	1.22
100.00°	1.17	1.22	1.34	1.38	1.10	1.16	1.21	1.09	1.39	1.03	1.32	1.01	1.42	1.10	1.08	1.46	1.17
102.50°	1.18	1.12	1.17	1.27	1.20	0.97	1.14	1.05	1.18	0.95	1.35	1.05	1.38	1.03	1.06	1.30	1.18
105.00°	1.18	0.98	0.98	1.16	1.35	0.80	1.04	1.00	0.82	0.88	1.28	1.09	1.33	0.96	1.03	1.10	1.18

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	ptc	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	1341	1341	1341	1341	1309	1309	1309	1309	1249	1249	1249	1194	1194	1194	1144	1144	1120
	1	1255	1213	1177	1143	1225	1188	1154	1124	1140	1113	1088	1096	1074	1054	1055	1038	1016
	2	1168	1095	1035	984	1140	1074	1019	972	1034	989	949	998	960	927	965	934	914
	3	1087	992	918	860	1061	974	906	852	942	884	837	911	863	822	883	843	825
	4	1013	902	822	760	989	888	813	755	861	796	745	835	780	734	812	764	748
	5	945	825	741	680	924	813	735	676	790	721	668	769	709	661	749	696	682
	6	885	758	674	613	865	748	668	610	729	658	605	710	648	600	693	638	625
	7	830	700	616	557	812	691	611	555	675	603	551	659	595	547	644	587	576
	8	780	649	566	509	764	641	562	508	627	556	505	613	549	502	601	542	533
	9	735	604	523	468	720	597	520	467	585	514	465	573	509	462	562	503	495
	10	694	563	485	433	681	558	483	432	547	478	430	537	473	428	527	469	461

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	24.9 fc	7.8 ft
6.5 ft	17.9 fc	9.2 ft
7.5 ft	13.4 fc	10.6 ft
8.0 ft	11.8 fc	11.3 ft
10.0 ft	7.5 fc	14.1 ft
12.0 ft	5.2 fc	17.0 ft
14.0 ft	3.9 fc	19.8 ft
16.0 ft	2.9 fc	22.6 ft
20.0 ft	1.9 fc	28.3 ft
24.0 ft	1.3 fc	33.9 ft
28.0 ft	1.0 fc	39.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	10343	10343	10343
45.00°	3972	3721	3878
55.00°	2647	2527	2614
65.00°	1907	1818	1957
75.00°	1210	1075	1253
85.00°	465	380	528

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	12.6	14.0	13.0	14.3	14.6	12.8	14.1	13.2	14.4	14.8
	3H	13.8	14.9	14.1	15.3	15.7	13.9	15.1	14.3	15.4	15.8
	4H	14.1	15.2	14.5	15.5	15.9	14.2	15.3	14.6	15.7	16.1
	6H	14.2	15.2	14.6	15.6	16.0	14.4	15.4	14.8	15.8	16.2
	8H	14.2	15.2	14.6	15.6	16.0	14.4	15.4	14.8	15.8	16.2
	12H	14.2	15.1	14.6	15.5	15.9	14.4	15.3	14.8	15.7	16.1
4H	2H	13.0	14.1	13.4	14.5	14.9	13.2	14.3	13.6	14.7	15.1
	3H	14.3	15.2	14.7	15.6	16.0	14.5	15.4	14.9	15.8	16.2
	4H	14.7	15.5	15.2	16.0	16.4	14.9	15.7	15.3	16.1	16.6
	6H	14.9	15.6	15.4	16.1	16.6	15.1	15.8	15.6	16.3	16.8
	8H	15.0	15.6	15.4	16.1	16.6	15.1	15.8	15.6	16.2	16.7
	12H	15.0	15.5	15.4	16.0	16.5	15.1	15.7	15.6	16.2	16.7
8H	4H	14.8	15.5	15.3	15.9	16.4	15.0	15.7	15.5	16.1	16.6
	6H	15.1	15.6	15.6	16.1	16.6	15.3	15.8	15.8	16.3	16.8
	8H	15.1	15.6	15.7	16.1	16.6	15.3	15.8	15.9	16.3	16.9
	12H	15.2	15.6	15.7	16.1	16.7	15.4	15.8	15.9	16.3	16.9
12H	4H	14.8	15.4	15.3	15.9	16.3	15.0	15.6	15.5	16.1	16.6
	6H	15.1	15.5	15.6	16.0	16.6	15.3	15.8	15.8	16.2	16.8
	8H	15.1	15.6	15.7	16.1	16.7	15.4	15.8	15.9	16.3	16.9

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0