

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SN12 20L 30HK xx xx xx MWI
12" x 29" Spin Pendant 20L 30HK MWI

Test Number

SP-01607_1

Test Date

11/9/2023

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

Summary of Results

Power

Input Watts	28.7 W
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Lumen Output

Output Lumens	2146
Efficacy	74.77 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°	1.01
Four luminaires	1.03

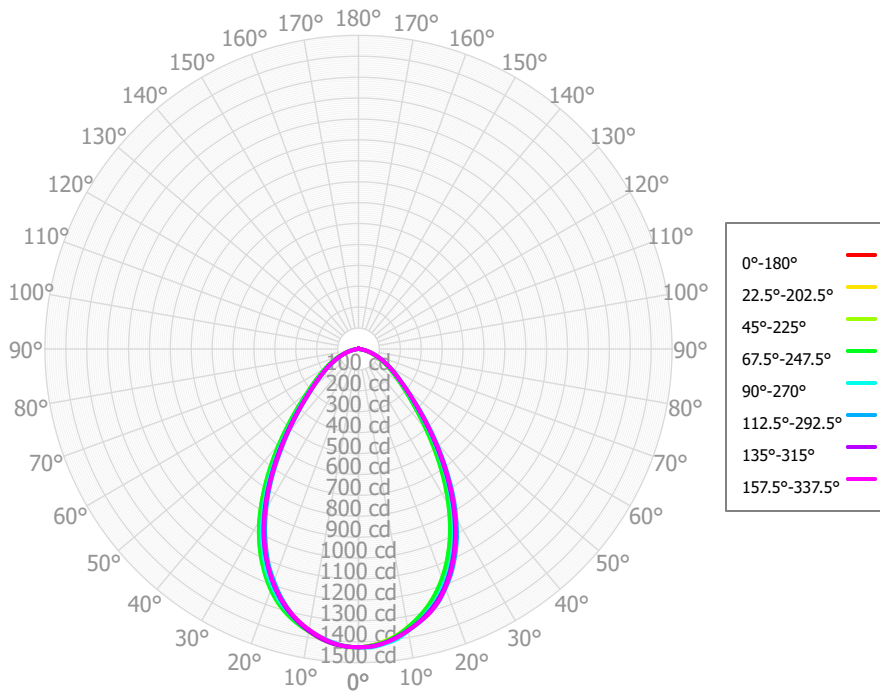
Full Beam Angle

0° - 180°	71°
90° - 270°	71°

IES File Header Contents

Keyword	Value
TEST	SP-01607_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	11/9/2023
ISSUEDATE	11/14/2023
LUMCAT	SN12 20L 30HK xx xx xx MWI
LUMINAIRE	12" x 29" Spin Pendant 20L 30HK MWI
OTHER	Beam Angle: 71 deg
OTHER	90 CRI, 3000K tested
OTHER	Total luminaire wattages are approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	90+
_CCTMULT	27HK x 0.99, 35HK x 1.01
_LAMPMULT	10L x .53

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	135.18	6.30%	90.00° - 100.00°	1.51	0.07%
10.00° - 20.00°	363.44	16.94%	100.00° - 110.00°	1.37	0.06%
20.00° - 30.00°	487.28	22.71%	100.00° - 120.00°	2.71	0.13%
30.00° - 40.00°	450.68	21.00%	120.00° - 130.00°	1.29	0.06%
40.00° - 50.00°	311.33	14.51%	130.00° - 140.00°	1.13	0.05%
50.00° - 60.00°	199.30	9.29%	140.00° - 150.00°	0.99	0.05%
60.00° - 70.00°	122.12	5.69%	150.00° - 160.00°	0.75	0.04%
70.00° - 80.00°	56.17	2.62%	160.00° - 170.00°	0.49	0.02%
80.00° - 90.00°	11.39	0.53%	170.00° - 180.00°	0.16	0.01%
0.00° - 90.00°	2136.89	99.58%	0.00° - 180.00°	2145.92	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°	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99	1426.99
2.50°	1420.30	1423.24	1420.16	1420.84	1428.81	1424.57	1424.69	1423.95	1422.71	1424.98	1426.54	1423.41	1423.66	1425.38	1423.52	1425.29	1420.30
5.00°	1407.74	1409.87	1403.56	1409.01	1416.84	1411.14	1415.17	1410.81	1410.50	1410.67	1414.89	1413.18	1408.03	1411.12	1411.66	1412.91	1407.74
7.50°	1389.53	1392.03	1382.10	1385.51	1401.11	1393.32	1396.48	1389.70	1392.46	1391.07	1398.54	1393.35	1389.72	1393.60	1391.11	1393.68	1389.53
10.00°	1364.17	1363.33	1352.21	1353.26	1369.66	1366.02	1369.91	1363.08	1366.49	1365.64	1372.13	1371.31	1364.14	1368.45	1366.56	1367.64	1364.17
12.50°	1333.60	1331.55	1318.44	1316.37	1336.33	1334.74	1336.72	1331.06	1337.33	1337.90	1344.43	1346.37	1336.90	1341.19	1337.39	1339.68	1333.60
15.00°	1294.54	1292.30	1274.71	1276.06	1295.12	1290.16	1297.92	1291.86	1303.92	1300.92	1314.01	1315.02	1300.54	1309.08	1301.96	1309.82	1294.54
17.50°	1249.39	1248.16	1226.49	1225.81	1250.84	1240.07	1250.02	1245.63	1260.83	1260.27	1276.45	1275.24	1262.08	1270.82	1259.45	1268.23	1249.39
20.00°	1194.84	1192.39	1167.65	1168.20	1193.99	1181.88	1194.42	1191.08	1204.80	1205.90	1223.78	1227.05	1207.93	1218.41	1207.87	1214.97	1194.84
22.50°	1133.54	1132.07	1104.01	1101.78	1134.23	1120.34	1131.25	1128.49	1143.74	1146.15	1166.90	1167.95	1150.18	1161.24	1145.99	1153.97	1133.54
25.00°	1062.43	1060.89	1029.09	1028.92	1062.60	1046.66	1061.77	1057.37	1075.97	1075.25	1101.25	1102.92	1077.89	1093.08	1076.98	1085.39	1062.43
27.50°	984.38	984.64	949.07	947.63	988.03	968.03	984.28	978.01	1000.21	999.96	1029.84	1030.28	1002.35	1019.81	999.87	1009.09	984.38
30.00°	898.97	896.26	861.80	860.17	901.70	882.43	900.12	892.82	913.91	914.62	946.43	950.05	915.87	934.98	916.14	925.22	898.97
32.50°	808.37	806.25	771.31	770.27	814.14	793.99	811.59	802.08	825.48	825.32	860.01	860.09	826.94	847.23	825.01	836.68	808.37
35.00°	716.06	712.39	679.10	678.62	721.61	702.44	719.43	710.27	734.28	733.46	767.32	769.09	733.87	752.88	733.42	743.62	716.06
37.50°	622.56	620.98	586.14	589.93	630.62	609.65	630.06	617.45	644.01	640.61	675.73	676.73	639.90	660.64	641.32	652.53	622.56
40.00°	537.29	535.22	505.97	503.38	545.73	527.05	542.97	532.68	554.95	555.88	586.40	588.60	553.81	573.12	554.19	563.37	537.29
42.50°	457.77	455.23	431.40	429.69	464.32	448.53	465.21	455.50	474.33	474.21	502.39	505.79	469.44	490.08	472.57	482.16	457.77
45.00°	390.91	388.61	369.46	365.27	396.63	384.37	395.13	388.73	404.70	407.23	429.15	431.39	403.82	417.05	401.82	408.56	390.91
47.50°	332.75	328.71	313.06	313.34	333.74	325.86	337.45	331.78	344.73	345.82	364.18	367.61	342.30	351.68	343.09	347.16	332.75
50.00°	285.75	284.37	270.99	270.28	289.30	281.96	289.85	285.50	297.16	299.60	315.93	314.24	297.23	303.15	293.56	297.43	285.75
52.50°	246.44	244.14	235.09	234.60	247.81	243.82	250.32	249.11	256.93	259.14	272.32	273.86	255.67	260.04	254.05	256.26	246.44
55.00°	214.34	213.25	205.47	204.07	217.65	212.99	217.36	217.31	226.13	226.39	238.09	238.16	224.10	228.83	220.17	223.17	214.34
57.50°	187.22	184.93	178.55	177.66	188.84	185.04	189.64	189.76	197.29	196.50	206.78	208.28	194.61	199.25	192.43	194.15	187.22
60.00°	162.93	162.45	154.52	154.14	165.20	160.11	166.12	164.25	170.94	171.06	181.28	180.91	169.19	173.21	166.73	168.96	162.93
62.50°	140.56	140.15	131.71	132.74	142.13	136.36	144.15	140.65	147.12	147.28	156.81	156.61	144.62	148.52	143.22	145.97	140.56
65.00°	120.26	118.24	112.16	112.84	121.19	116.22	123.41	119.63	126.49	126.79	134.41	133.66	123.29	126.77	121.92	125.01	120.26
67.50°	101.38	97.95	93.97	93.83	100.99	97.49	103.11	100.99	106.15	107.51	113.07	112.36	102.63	105.91	103.01	104.38	101.38
70.00°	83.30	81.32	76.30	75.43	83.54	80.57	83.16	83.30	86.19	88.55	93.83	92.83	84.59	87.01	85.04	84.04	83.30
72.50°	65.76	65.33	58.84	60.05	66.85	64.35	66.12	66.49	68.30	69.71	76.20	75.45	67.08	68.94	68.07	66.77	65.76
75.00°	50.95	50.75	44.25	46.75	52.97	49.94	51.38	51.47	53.01	54.38	61.74	59.63	51.67	52.64	52.89	52.30	50.95
77.50°	37.96	36.91	30.84	33.86	39.39	36.22	38.02	38.08	39.11	40.33	47.15	45.70	36.70	38.14	39.63	39.35	37.96
80.00°	26.01	24.69	20.84	21.27	26.92	24.68	25.74	26.02	26.91	28.53	32.30	32.63	25.67	27.45	27.44	27.80	26.01
82.50°	14.72	14.19	12.22	12.08	15.66	13.96	15.64	15.18	16.86	17.54	19.67	20.63	15.42	17.53	16.36	17.61	14.72
85.00°	7.51	7.39	6.73	5.21	8.74	7.58	7.23	7.63	9.45	10.19	11.34	11.22	8.75	9.24	8.42	8.67	7.51
87.50°	2.98	2.55	2.51	2.05	3.07	2.83	2.91	3.03	4.37	4.13	5.13	4.94	2.78	3.22	3.75	3.56	2.98
90.00°	1.46	1.98	1.32	1.37	1.93	1.37	1.75	0.99	2.18	1.93	2.95	1.38	1.62	1.95	1.31	1.92	1.46
92.50°	1.91	1.59	1.37	1.29	1.10	1.12	1.22	1.22	1.09	1.09	1.48	1.04	1.39	1.14	1.18	1.40	1.91
95.00°	1.85	1.60	1.29	1.60	1.37	1.09	1.17	1.40	1.36	1.00	1.37	0.94	1.31	1.24	1.15	1.87	1.85
97.50°	1.47	1.60	1.16	1.60	1.52	1.14	1.23	1.52	1.46	1.17	1.23	1.13	1.25	1.32	1.21	1.88	1.47
100.00°	1.33	1.60	1.15	1.39	1.18	1.28	1.38	1.46	1.37	1.28	1.02	1.25	1.38	1.37	1.28	1.48	1.33
102.50°	1.35	1.45	1.20	1.48	0.95	1.46	1.38	1.25	1.28	1.37	0.92	1.29	1.55	1.33	1.36	1.17	1.35
105.00°	1.39	0.99	1.36	1.76	1.06	1.53	1.27	1.22	1.17	1.45	1.00	1.30	1.37	1.08	1.40	0.97	1.39

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%	10%
	0	2553	2553	2553	2553	2492	2492	2492	2492	2379	2379	2379	2276	2276	2276	2181	2181	2137
	1	2387	2308	2237	2173	2331	2260	2195	2137	2169	2117	2069	2086	2044	2005	2009	1976	1934
	2	2220	2081	1965	1868	2167	2041	1936	1846	1967	1879	1803	1898	1826	1762	1835	1776	1738
	3	2065	1883	1742	1630	2016	1851	1720	1616	1789	1678	1587	1732	1639	1560	1679	1601	1567
	4	1924	1713	1559	1441	1879	1686	1542	1431	1635	1510	1412	1587	1480	1393	1543	1451	1421
	5	1796	1566	1406	1287	1755	1543	1393	1280	1500	1368	1267	1460	1344	1254	1422	1322	1295
	6	1680	1439	1277	1160	1643	1420	1267	1155	1383	1247	1146	1349	1228	1136	1317	1210	1187
	7	1576	1328	1167	1054	1542	1311	1159	1050	1280	1143	1043	1251	1128	1036	1223	1113	1093
	8	1482	1230	1072	964	1451	1216	1066	961	1189	1053	956	1164	1041	950	1140	1029	1010
	9	1396	1145	990	886	1368	1132	985	884	1109	974	880	1087	964	876	1067	954	938
	10	1319	1068	919	819	1293	1058	914	818	1038	905	814	1019	897	811	1000	889	874

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	47.2 fc	7.8 ft
6.5 ft	33.8 fc	9.2 ft
7.5 ft	25.4 fc	10.6 ft
8.0 ft	22.3 fc	11.3 ft
10.0 ft	14.3 fc	14.2 ft
12.0 ft	9.9 fc	17.0 ft
14.0 ft	7.3 fc	19.8 ft
16.0 ft	5.6 fc	22.7 ft
20.0 ft	3.6 fc	28.3 ft
24.0 ft	2.5 fc	34.0 ft
28.0 ft	1.8 fc	39.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	19557	19557	19557
45.00°	7577	7161	7687
55.00°	5121	4909	5201
65.00°	3900	3637	3930
75.00°	2698	2343	2805
85.00°	1181	1058	1375

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	15.0	16.3	15.3	16.6	16.9	15.2	16.5	15.6	16.9	17.2
	3H	16.2	17.3	16.5	17.7	18.1	16.4	17.6	16.8	17.9	18.3
	4H	16.5	17.6	16.9	18.0	18.4	16.7	17.9	17.2	18.2	18.6
	6H	16.7	17.7	17.1	18.1	18.5	16.9	18.0	17.4	18.3	18.7
	8H	16.7	17.7	17.2	18.1	18.5	17.0	17.9	17.4	18.3	18.8
	12H	16.7	17.7	17.2	18.1	18.5	17.0	17.9	17.4	18.3	18.7
4H	2H	15.3	16.4	15.7	16.8	17.2	15.6	16.8	16.1	17.1	17.5
	3H	16.7	17.6	17.1	18.0	18.5	17.0	17.9	17.4	18.3	18.8
	4H	17.2	18.0	17.6	18.4	18.9	17.5	18.3	17.9	18.7	19.2
	6H	17.5	18.2	17.9	18.6	19.1	17.8	18.5	18.2	18.9	19.4
	8H	17.5	18.2	18.0	18.6	19.1	17.8	18.5	18.3	18.9	19.4
	12H	17.5	18.1	18.0	18.6	19.1	17.8	18.4	18.3	18.9	19.4
8H	4H	17.3	17.9	17.8	18.4	18.9	17.6	18.3	18.1	18.7	19.2
	6H	17.6	18.2	18.1	18.7	19.2	18.0	18.5	18.5	19.0	19.5
	8H	17.7	18.2	18.2	18.7	19.2	18.1	18.6	18.6	19.1	19.6
	12H	17.8	18.2	18.3	18.7	19.3	18.1	18.6	18.7	19.1	19.6
12H	4H	17.3	17.9	17.8	18.3	18.8	17.6	18.2	18.1	18.7	19.2
	6H	17.6	18.1	18.2	18.6	19.1	18.0	18.5	18.5	19.0	19.5
	8H	17.7	18.2	18.3	18.7	19.2	18.1	18.5	18.6	19.0	19.6

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0