

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

SN12 MED xx xx MWI A19 Opal
12" x 29" Spin Pendant Medium Base E26 MWI

Test Number

SP-01609_1

Test Date

12/18/2023

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

Summary of Results

Power

Input Watts	10.8 W
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Lumen Output

Output Lumens	818
Efficacy	75.72 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	1.21
Two luminaires, plane 90°	1.21
Four luminaires	1.12

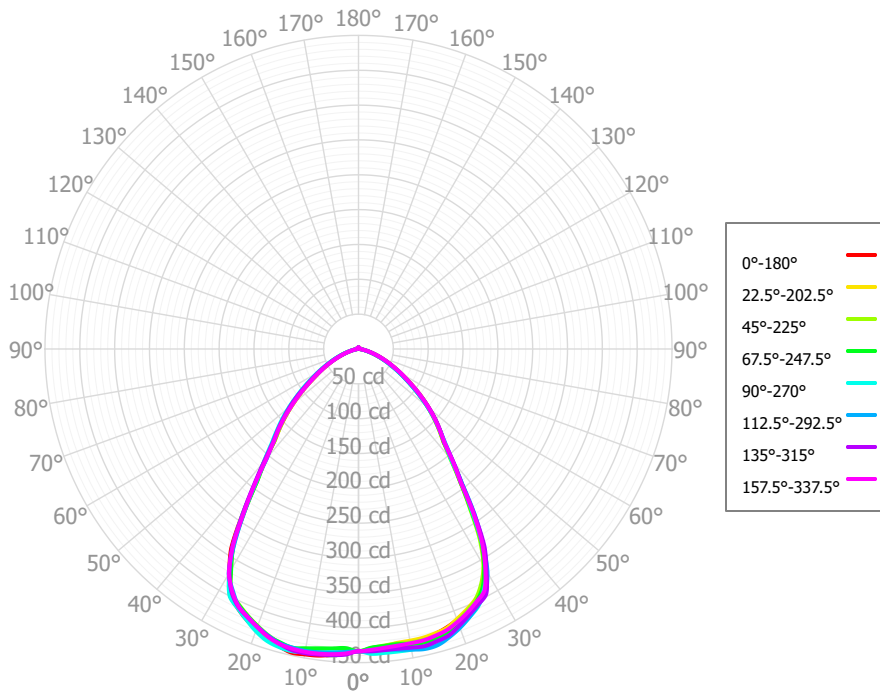
Full Beam Angle

0° - 180°	78°
90° - 270°	78°

IES File Header Contents

Keyword	Value
TEST	SP-01609_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	12/18/2023
ISSUEDATE	12/20/2023
LUMCAT	SN12 MED xx xx MWI A19 Opal
LUMINAIRE	12" x 29" Spin Pendant Medium Base E26 MWI
OTHER	Beam Angle: 78 deg
OTHER	Tested Bulb: SATCO LED 11W A19 3000K Part Number S29811
OTHER	Total luminaire wattages are approximate
OTHER	This report prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	42.17	5.16%	90.00° - 100.00°	2.00	0.24%
10.00° - 20.00°	122.39	14.97%	100.00° - 110.00°	1.96	0.24%
20.00° - 30.00°	184.89	22.61%	100.00° - 120.00°	3.86	0.47%
30.00° - 40.00°	178.04	21.77%	120.00° - 130.00°	1.72	0.21%
40.00° - 50.00°	126.58	15.48%	130.00° - 140.00°	1.50	0.18%
50.00° - 60.00°	84.95	10.39%	140.00° - 150.00°	1.24	0.15%
60.00° - 70.00°	45.39	5.55%	150.00° - 160.00°	0.92	0.11%
70.00° - 80.00°	17.21	2.10%	160.00° - 170.00°	0.58	0.07%
80.00° - 90.00°	4.10	0.50%	170.00° - 180.00°	0.19	0.02%
0.00° - 90.00°	805.72	98.53%	0.00° - 180.00°	817.72	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°	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95	433.95
2.50°	435.64	431.33	429.65	429.07	437.95	435.30	439.17	437.55	437.77	432.57	431.13	429.78	435.90	432.61	434.35	432.21	435.64
5.00°	433.37	428.34	427.25	427.91	437.77	437.69	440.89	439.72	440.76	435.92	433.21	431.48	436.80	433.01	433.87	430.49	433.37
7.50°	431.18	425.51	426.35	427.45	437.87	439.07	442.42	441.06	443.87	439.24	436.21	433.38	439.47	435.50	433.89	429.48	431.18
10.00°	429.58	425.19	427.63	430.07	438.28	439.99	443.39	441.41	445.11	441.65	438.47	436.23	441.91	438.15	435.26	428.88	429.58
12.50°	427.63	424.73	428.03	431.83	438.13	438.96	442.76	440.52	446.29	443.66	440.38	439.19	444.18	441.04	436.91	428.52	427.63
15.00°	423.72	422.79	427.29	430.33	437.47	437.16	438.06	438.29	441.54	439.15	436.75	435.91	442.69	439.99	434.34	426.18	423.72
17.50°	419.47	420.20	423.35	427.29	432.83	431.32	432.38	433.00	436.69	434.24	430.81	432.19	438.91	433.69	431.08	422.82	419.47
20.00°	413.71	412.70	415.70	419.35	424.95	424.09	424.55	424.75	428.58	425.08	423.01	423.84	430.89	425.94	422.72	416.62	413.71
22.50°	407.41	405.07	406.98	410.80	416.30	415.79	416.55	416.24	420.37	416.00	414.52	415.30	420.58	416.50	413.69	409.15	407.41
25.00°	398.98	396.70	397.14	400.59	407.08	407.18	408.20	407.51	410.38	407.63	405.24	405.95	410.39	406.17	405.23	400.52	398.98
27.50°	386.85	385.25	381.06	385.98	389.90	390.87	394.21	392.35	398.90	396.36	395.70	396.19	400.24	394.91	396.81	391.42	386.85
30.00°	362.42	359.23	359.27	360.89	367.56	372.65	370.64	372.30	370.90	367.64	367.23	365.63	371.54	370.33	367.41	364.10	362.42
32.50°	332.31	329.18	324.28	328.65	330.08	331.60	337.51	335.34	340.47	335.55	333.83	334.23	335.16	333.22	336.75	330.55	332.31
35.00°	286.04	283.12	278.48	281.52	283.94	285.79	290.02	286.94	290.61	287.00	287.81	285.74	290.41	291.17	289.92	287.13	286.04
37.50°	243.38	240.30	239.19	239.69	243.79	244.65	246.97	244.40	243.08	241.36	239.03	238.64	242.63	244.95	242.62	240.85	243.38
40.00°	209.63	208.27	204.62	207.63	206.65	204.30	209.91	205.37	209.83	207.48	207.31	208.26	211.29	210.59	212.03	210.20	209.63
42.50°	181.59	180.16	180.66	181.42	183.10	182.69	181.38	179.81	178.99	177.25	178.61	179.26	185.00	185.13	181.86	183.38	181.59
45.00°	165.78	163.30	163.57	164.69	165.54	163.50	162.99	161.41	160.14	159.41	159.37	162.10	165.66	165.06	165.80	165.12	165.78
47.50°	149.52	146.84	146.83	147.52	147.75	145.70	144.99	142.51	141.46	141.44	141.44	144.84	148.13	148.57	149.67	148.59	149.52
50.00°	132.38	131.36	130.28	129.71	129.88	128.04	127.43	123.38	123.48	123.07	123.51	127.01	130.20	130.75	132.41	131.67	132.38
52.50°	115.53	115.40	113.43	112.33	112.21	109.76	109.93	105.60	105.77	105.28	105.58	109.39	112.18	112.15	115.20	114.69	115.53
55.00°	99.16	98.37	96.42	95.47	94.62	91.45	92.49	88.38	89.00	88.92	90.04	92.79	96.17	95.88	98.54	99.03	99.16
57.50°	84.10	82.84	81.83	80.53	80.08	77.62	77.72	74.55	73.59	74.13	74.67	77.07	80.51	80.83	82.40	83.55	84.10
60.00°	71.00	70.16	68.32	67.80	66.42	63.93	65.22	61.91	62.13	62.80	63.53	65.11	68.04	68.15	70.43	71.09	71.00
62.50°	59.12	58.44	57.06	56.25	55.36	53.84	53.59	51.40	51.29	52.00	52.55	53.74	56.00	56.56	58.70	58.90	59.12
65.00°	48.88	48.32	46.66	45.92	44.92	43.81	42.63	41.53	42.03	42.20	43.09	44.43	45.94	46.61	48.41	49.03	48.88
67.50°	39.55	38.90	37.35	36.68	36.63	35.45	33.64	33.17	33.30	33.40	33.68	35.51	36.08	37.32	38.54	39.30	39.55
70.00°	31.28	30.51	28.41	28.43	28.76	27.19	25.98	25.20	25.76	26.31	26.20	27.77	28.41	29.39	30.71	30.99	31.28
72.50°	23.85	22.94	21.84	21.72	22.09	20.70	19.55	19.28	19.12	19.86	18.86	20.67	20.89	21.94	23.27	22.73	23.85
75.00°	17.28	16.43	15.95	16.27	15.61	14.40	13.87	13.80	14.23	14.40	14.19	15.28	15.78	16.21	17.37	17.58	17.28
77.50°	12.14	11.40	11.77	11.87	11.13	10.11	9.88	9.78	9.95	9.84	9.67	10.56	10.75	11.00	12.03	12.47	12.14
80.00°	8.34	8.12	7.98	8.22	6.88	6.09	6.79	6.01	6.75	6.48	6.90	7.39	7.62	7.94	8.54	8.89	8.34
82.50°	5.63	5.45	5.43	5.50	4.88	4.20	4.64	4.31	4.29	4.10	4.29	4.73	4.54	5.42	5.51	5.42	5.63
85.00°	3.84	3.44	3.11	3.38	3.06	2.53	2.92	2.89	2.98	2.90	3.01	3.07	3.36	3.71	3.81	3.70	3.84
87.50°	2.70	2.30	2.40	2.30	2.42	2.08	2.15	2.33	2.12	2.24	1.89	1.99	2.25	2.16	2.46	2.12	2.70
90.00°	2.06	1.98	1.94	1.82	1.84	1.73	1.76	1.86	1.90	2.14	1.86	1.91	2.17	1.87	1.99	2.04	2.06
92.50°	1.81	1.84	1.92	1.66	1.75	1.76	1.71	1.83	1.77	2.02	1.82	1.85	2.10	1.79	1.69	1.98	1.81
95.00°	1.81	1.87	1.96	1.65	1.67	1.79	1.78	1.82	1.78	1.88	1.82	1.81	2.02	1.67	1.79	2.04	1.81
97.50°	1.82	1.89	1.97	1.64	1.60	1.79	1.74	1.82	1.78	1.84	1.80	1.78	1.95	1.54	1.84	2.07	1.82
100.00°	1.83	1.91	1.98	1.63	1.52	1.79	1.68	1.83	1.79	1.90	1.69	1.77	1.86	1.60	1.77	2.02	1.83
102.50°	1.92	1.92	1.91	1.66	1.55	1.80	1.71	1.89	1.88	1.89	1.63	1.82	1.79	1.68	1.79	1.96	1.92
105.00°	2.05	1.93	1.84	1.70	1.59	1.81	1.76	1.96	2.04	1.83	1.78	1.94	1.87	1.81	1.96	1.92	2.05

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	971	971	971	971	947	947	947	947	902	902	902	861	861	861	823	823	806
	1	907	877	849	825	885	857	833	811	821	801	783	788	772	757	758	745	729
	2	842	789	744	707	821	773	732	698	743	709	680	716	688	663	690	668	653
	3	782	712	657	614	762	698	648	608	674	631	596	651	615	585	630	599	586
	4	727	645	585	539	709	634	578	535	613	565	527	594	553	519	576	541	529
	5	676	587	525	479	660	578	520	476	561	509	470	544	500	465	529	490	480
	6	631	537	474	429	616	530	470	427	515	462	423	501	454	419	488	447	438
	7	590	494	431	388	577	487	428	386	474	421	383	462	415	380	451	409	401
	8	554	456	395	352	541	450	392	351	439	386	349	429	381	346	419	376	369
	9	520	423	363	322	509	418	360	321	408	356	319	399	351	317	390	347	341
	10	490	393	335	296	480	389	333	295	380	329	294	372	325	292	365	322	316

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	14.3 fc	8.9 ft
6.5 ft	10.3 fc	10.5 ft
7.5 ft	7.7 fc	12.1 ft
8.0 ft	6.8 fc	13.0 ft
10.0 ft	4.3 fc	16.2 ft
12.0 ft	3.0 fc	19.4 ft
14.0 ft	2.2 fc	22.7 ft
16.0 ft	1.7 fc	25.9 ft
20.0 ft	1.1 fc	32.4 ft
24.0 ft	0.8 fc	38.9 ft
28.0 ft	0.6 fc	45.3 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	5947	5947	5947
45.00°	3213	3170	3209
55.00°	2369	2304	2261
65.00°	1585	1513	1457
75.00°	915	845	827
85.00°	603	490	482

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	13.9	12.9	14.2	14.6	12.1	13.4	12.4	13.7	14.1
	3H	13.5	14.6	13.9	15.0	15.4	12.9	14.1	13.3	14.5	14.9
	4H	13.7	14.8	14.1	15.2	15.6	13.1	14.2	13.6	14.6	15.0
	6H	13.8	14.8	14.2	15.2	15.6	13.2	14.2	13.6	14.6	15.1
	8H	13.8	14.7	14.2	15.2	15.6	13.2	14.2	13.7	14.6	15.0
	12H	13.8	14.7	14.2	15.1	15.6	13.2	14.1	13.7	14.5	15.0
4H	2H	12.8	13.9	13.3	14.3	14.7	12.3	13.4	12.7	13.8	14.2
	3H	13.9	14.8	14.3	15.2	15.7	13.3	14.2	13.8	14.7	15.1
	4H	14.2	15.0	14.6	15.4	15.9	13.6	14.4	14.1	14.9	15.3
	6H	14.3	15.0	14.8	15.5	16.0	13.7	14.4	14.2	14.9	15.4
	8H	14.4	15.0	14.9	15.5	16.0	13.7	14.4	14.2	14.9	15.4
	12H	14.4	15.0	14.9	15.5	16.0	13.7	14.3	14.3	14.8	15.3
8H	4H	14.2	14.9	14.7	15.4	15.9	13.6	14.3	14.1	14.7	15.2
	6H	14.4	15.0	15.0	15.5	16.0	13.8	14.3	14.3	14.8	15.3
	8H	14.5	15.0	15.0	15.5	16.0	13.8	14.3	14.4	14.8	15.4
	12H	14.5	15.0	15.1	15.5	16.1	13.8	14.3	14.4	14.8	15.4
12H	4H	14.2	14.8	14.7	15.3	15.8	13.6	14.2	14.1	14.7	15.2
	6H	14.4	14.9	15.0	15.4	16.0	13.8	14.2	14.3	14.7	15.3
	8H	14.5	14.9	15.0	15.4	16.0	13.8	14.2	14.3	14.7	15.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0