

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

EV320IND24OL 10L 35K EX DW XX MW
Evenlight 4.5" Wide x 24" linear surface or wall mount luminaire

Test Number

SP-00617_M-10L

Test Date

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

Summary of Results

Power

Input Watts	16.5 W
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Lumen Output

Output Lumens	1869
Efficacy	113.29 lm/W

Luminous Dimensions

0° - 180° Size	2.17
90° - 270° Size	0.42
Height	0.17

Spacing Criterion

Two luminaires, plane 0°	1.21
Two luminaires, plane 90°	1.39
Four luminaires	1.45

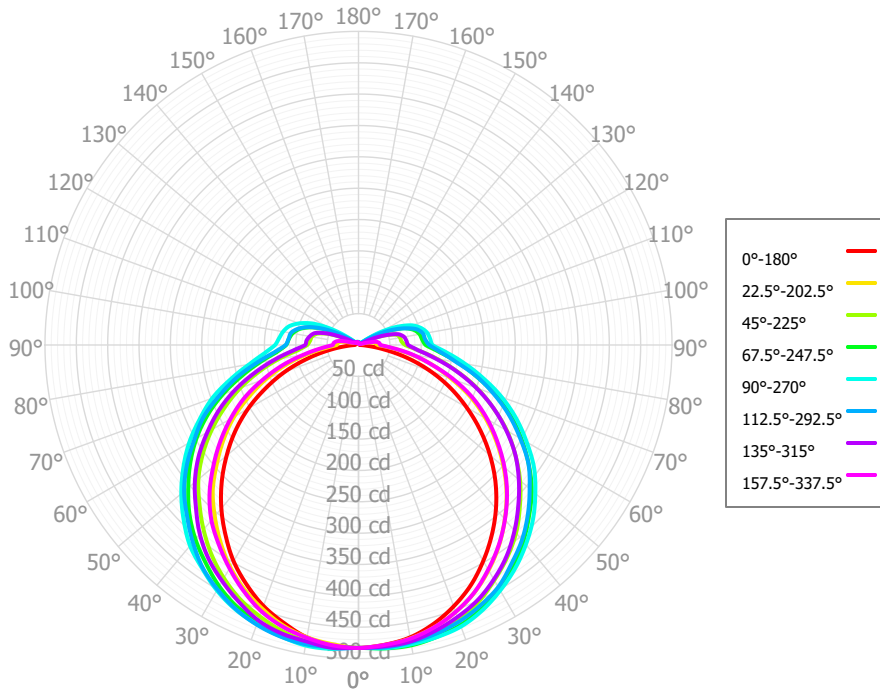
Full Beam Angle

0° - 180°	109°
90° - 270°	141°

IES File Header Contents

Keyword	Value
TEST	SP-00617_M-10L
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	9/22/2017
UPDATE	3/9/2020
LUMCAT	EV320IND24OL 10L 35K EX DW XX MW
LUMINAIRE	Evenlight 4.5" Wide x 24" linear surface or wall mount luminaire
OTHER	24" Linear LED, Diffuse White Acrylic Lens
OTHER	Matte White interior finish
OTHER	112 Degree Beam Angle
LAMPCAT	N/A
LAMP	N/A, 1090 Source Lms/Ft
OTHER	Total Luminaire Watts is approximate
OTHER	Tested CCT: 3500K
OTHER	CCT Output Multipliers: 30K x 0.972, 40K x 1.018, 50K x 1.087
OTHER	This report prepared by Spectrum Lighting, scaled from 20L

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	48.78	2.61%	90.00° - 100.00°	76.46	4.09%
10.00° - 20.00°	133.12	7.12%	100.00° - 110.00°	61.66	3.30%
20.00° - 30.00°	205.78	11.01%	100.00° - 120.00°	93.89	5.02%
30.00° - 40.00°	254.80	13.63%	120.00° - 130.00°	8.64	0.46%
40.00° - 50.00°	275.46	14.74%	130.00° - 140.00°	3.13	0.17%
50.00° - 60.00°	266.37	14.25%	140.00° - 150.00°	2.44	0.13%
60.00° - 70.00°	228.18	12.21%	150.00° - 160.00°	1.79	0.10%
70.00° - 80.00°	166.19	8.89%	160.00° - 170.00°	1.09	0.06%
80.00° - 90.00°	102.73	5.50%	170.00° - 180.00°	0.39	0.02%
0.00° - 90.00°	1,681.40	89.95%	0.00° - 180.00°	1,869.24	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°	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18	483.18
5.00°	479.89	480.61	484.08	485.73	485.43	483.72	484.83	480.69	480.74	478.99	483.99	482.78	486.52	484.23	482.40	480.18	479.89
10.00°	473.56	475.24	481.25	486.25	484.65	484.62	479.99	474.05	473.55	473.35	479.88	482.99	486.58	481.43	479.97	475.63	473.56
15.00°	460.81	466.17	474.70	481.94	482.36	481.33	476.03	465.39	459.04	463.30	471.91	478.38	480.87	476.74	471.98	466.18	460.81
20.00°	443.63	453.04	466.66	475.43	477.81	474.59	467.37	452.21	442.95	447.84	460.55	469.23	473.95	469.35	461.60	453.04	443.63
25.00°	423.19	436.29	452.37	464.20	467.05	464.25	451.86	433.14	421.82	430.20	447.16	459.91	465.08	458.82	449.19	436.02	423.19
30.00°	397.84	414.87	433.18	449.74	452.05	450.03	434.81	411.40	398.32	408.95	429.33	444.30	451.83	445.75	431.67	413.68	397.84
35.00°	370.45	390.52	413.44	431.70	435.24	433.36	416.59	388.41	369.78	383.76	408.49	424.61	434.81	425.58	411.51	389.82	370.45
40.00°	341.03	363.01	390.96	408.96	415.33	410.87	393.69	364.92	340.25	356.63	384.42	404.52	417.96	405.76	387.02	363.30	341.03
45.00°	308.93	334.04	363.92	384.78	393.49	386.54	366.64	335.97	308.41	328.76	358.74	381.30	394.30	382.02	360.57	334.90	308.93
50.00°	273.89	301.87	336.35	360.71	368.04	362.99	340.74	302.52	274.49	294.93	333.32	354.40	368.86	356.35	333.75	303.84	273.89
55.00°	237.14	268.53	305.23	331.35	341.85	334.15	311.51	269.35	240.19	262.60	303.12	327.48	341.02	331.01	305.38	270.81	237.14
60.00°	199.16	234.05	273.34	300.07	309.70	302.39	278.39	235.73	203.40	229.15	270.09	298.54	311.80	297.84	272.08	237.46	199.16
65.00°	161.49	198.01	236.92	268.00	277.63	273.14	245.40	201.52	163.49	191.04	235.31	266.11	279.18	265.04	237.17	202.07	161.49
70.00°	122.07	157.53	201.30	232.64	243.09	236.15	209.36	162.77	125.02	155.19	200.56	230.42	248.18	230.21	199.81	162.13	122.07
75.00°	81.66	121.28	162.73	195.30	206.43	201.15	171.40	125.82	84.66	117.98	164.08	193.63	211.12	195.64	161.84	120.79	81.66
80.00°	41.78	84.33	127.13	161.34	172.31	165.05	136.20	88.71	48.21	82.17	129.42	159.89	176.59	158.55	124.92	86.82	41.78
85.00°	12.90	51.26	94.83	129.59	141.63	134.81	105.30	59.77	19.62	51.39	97.26	131.09	150.35	131.54	95.24	53.74	12.90
90.00°	3.01	31.10	74.38	107.10	118.03	116.19	85.04	41.11	5.96	34.86	81.81	115.36	133.01	112.83	79.23	34.90	3.01
95.00°	2.02	27.61	68.65	101.88	114.62	111.95	83.10	39.46	4.98	33.32	77.58	111.43	126.97	106.58	76.66	33.43	2.02
100.00°	2.65	23.83	67.30	98.92	111.35	109.57	79.01	34.78	5.55	29.23	75.60	106.77	122.16	104.45	73.93	29.23	2.65
105.00°	1.83	13.48	63.15	92.12	103.78	100.07	72.68	22.29	5.39	16.27	69.23	97.90	114.85	96.40	66.12	14.37	1.83
110.00°	2.24	6.27	44.61	78.21	91.42	83.75	54.21	10.48	5.10	10.77	52.31	82.28	100.77	77.66	45.56	6.23	2.24
115.00°	1.80	4.51	21.94	55.33	69.22	59.94	28.85	8.70	4.98	8.80	27.48	61.01	81.02	54.99	20.19	4.13	1.80
120.00°	1.80	3.40	5.86	32.58	42.64	33.52	11.02	7.66	5.02	6.58	9.52	35.60	52.73	28.95	3.87	2.83	1.80
125.00°	2.22	2.82	3.31	8.09	15.91	11.81	6.23	6.49	5.50	6.27	6.16	13.36	24.12	8.73	2.73	2.88	2.22
130.00°	2.19	2.57	2.69	2.69	3.12	5.72	5.64	4.98	4.78	5.52	6.04	6.59	7.01	2.37	2.86	2.04	2.19
135.00°	1.82	2.39	2.85	3.15	2.77	5.55	5.86	4.65	4.55	5.08	5.50	6.59	5.59	2.55	3.03	2.24	1.82
140.00°	2.10	2.77	3.21	2.83	2.72	5.96	6.03	5.09	4.94	4.92	4.66	5.55	5.60	2.52	2.51	2.32	2.10
145.00°	2.43	2.77	3.01	2.63	3.14	5.88	5.14	5.10	4.41	4.76	4.65	5.02	5.34	2.57	2.41	2.54	2.43
150.00°	2.40	2.45	3.61	2.61	3.54	5.16	4.64	4.47	4.35	4.90	4.31	4.93	5.82	2.89	3.02	2.61	2.40
155.00°	2.67	2.46	3.44	2.65	3.55	4.98	4.91	4.12	4.96	4.95	4.27	5.25	5.56	2.97	2.80	2.29	2.67
160.00°	2.78	2.80	3.28	3.29	3.55	5.00	4.66	3.84	4.13	4.51	4.85	5.36	5.44	3.26	2.49	2.90	2.78
165.00°	2.48	3.14	3.78	3.62	3.16	4.67	4.24	3.94	3.52	4.19	4.78	4.62	5.29	3.88	2.69	3.03	2.48
170.00°	3.05	3.06	3.35	4.27	4.62	4.19	3.68	3.47	3.50	3.85	3.88	4.57	5.20	3.79	3.61	3.11	3.05
175.00°	3.19	2.83	3.50	3.57	4.26	4.95	4.04	4.02	3.57	4.55	4.81	4.31	4.92	3.51	3.73	3.37	3.19
180.00°	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	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%	10%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	2,181	2,181	2,181	2,181	2,108	2,108	2,108	2,108	1,973	1,973	1,973	1,849	1,849	1,849	1,735	1,735	1,735
	1	1,952	1,847	1,753	1,668	1,879	1,785	1,700	1,623	1,670	1,600	1,537	1,564	1,508	1,456	1,466	1,422	1,380
	2	1,759	1,588	1,446	1,328	1,690	1,535	1,406	1,297	1,437	1,330	1,238	1,347	1,258	1,181	1,263	1,191	1,127
	3	1,594	1,382	1,217	1,086	1,530	1,337	1,186	1,064	1,253	1,126	1,020	1,176	1,069	979	1,104	1,015	939
	4	1,454	1,216	1,042	909	1,395	1,178	1,017	892	1,106	968	859	1,040	922	827	978	878	796
	5	1,333	1,081	905	775	1,279	1,048	884	762	987	845	736	929	807	710	875	770	686
	6	1,228	969	795	671	1,179	941	778	660	888	745	639	838	714	619	791	683	599
	7	1,137	876	706	588	1,092	851	692	579	805	664	562	762	638	545	721	612	528
	8	1,056	797	633	521	1,016	775	621	514	735	597	499	697	575	485	661	552	471
	9	986	729	572	466	949	711	562	460	675	541	448	642	522	436	610	503	424
	10	923	671	521	420	890	655	512	415	623	494	405	594	477	394	566	460	384

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	16.0 fc	22.7 ft
6.5 ft	11.4 fc	26.8 ft
7.5 ft	8.6 fc	31.0 ft
8.0 ft	7.5 fc	33.0 ft
10.0 ft	4.8 fc	41.3 ft
12.0 ft	3.4 fc	49.5 ft
14.0 ft	2.5 fc	57.8 ft
16.0 ft	1.9 fc	66.0 ft
20.0 ft	1.2 fc	82.6 ft
24.0 ft	0.8 fc	99.1 ft
28.0 ft	0.6 fc	115.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	5,706	5,706	5,706
45.00°	4,785	4,531	4,678
55.00°	4,391	4,224	4,460
65.00°	3,864	3,821	4,153
75.00°	2,883	3,264	3,752
85.00°	923	2,620	3,411

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	15.1	16.6	15.6	17.1	17.7	17.6	19.1	18.1	19.6	20.2
	3H	16.6	17.9	17.1	18.5	19.1	20.1	21.5	20.6	22.0	22.6
	4H	17.0	18.3	17.6	18.9	19.5	21.3	22.5	21.8	23.1	23.7
	6H	17.3	18.5	17.8	19.0	19.6	22.4	23.6	22.9	24.1	24.8
	8H	17.3	18.5	17.9	19.0	19.7	22.9	24.1	23.5	24.7	25.3
	12H	17.3	18.4	17.9	19.0	19.6	23.5	24.6	24.1	25.2	25.9
4H	2H	16.1	17.4	16.7	17.9	18.5	18.1	19.4	18.6	19.9	20.5
	3H	17.8	18.9	18.4	19.5	20.1	20.8	21.9	21.3	22.5	23.1
	4H	18.4	19.4	19.0	20.0	20.7	22.1	23.1	22.6	23.7	24.3
	6H	18.8	19.7	19.4	20.3	21.0	23.4	24.3	24.0	24.9	25.6
	8H	18.9	19.7	19.5	20.3	21.0	24.0	24.9	24.6	25.5	26.2
	12H	18.9	19.7	19.5	20.3	21.0	24.7	25.5	25.4	26.1	26.8
8H	4H	19.1	20.0	19.7	20.6	21.3	22.3	23.1	22.9	23.7	24.4
	6H	19.7	20.4	20.3	21.1	21.8	23.8	24.5	24.4	25.1	25.8
	8H	19.9	20.5	20.5	21.2	21.9	24.5	25.2	25.2	25.8	26.5
	12H	20.0	20.6	20.6	21.2	22.0	25.4	26.0	26.1	26.6	27.4
12H	4H	19.3	20.1	19.9	20.7	21.4	22.3	23.1	22.9	23.7	24.4
	6H	20.0	20.6	20.6	21.3	22.0	23.8	24.4	24.5	25.1	25.8
	8H	20.2	20.8	20.9	21.5	22.2	24.6	25.2	25.3	25.9	26.6

Corrected UGR values based on total output lumens

SHR = 1.0