

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

EV320IND48OL 13L 35K EX DW XX MW
Evenlight 4.5" Wide x 48" linear surface or wall mount luminaire

Test Number

SP-00617_1_M-13L

Test Date

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

Summary of Results

Power

Input Watts	40.2 W
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Lumen Output

Output Lumens	4621
Efficacy	114.94 lm/W

Luminous Dimensions

0° - 180° Size	4.17
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

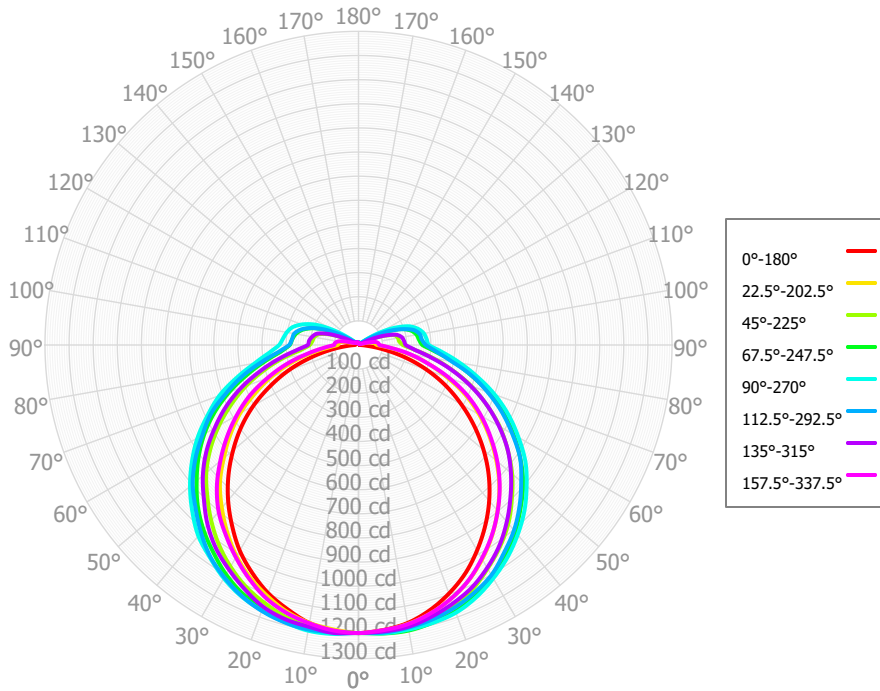
Full Beam Angle

0° - 180°	109°
90° - 270°	141°

IES File Header Contents

Keyword	Value
TEST	SP-00617_1_M-13L
TESTLAB	VLS-245-981
MANUFAC	Spectrum Lighting
ISSUEDATE	9/22/2017
UPDATE	3/9/2020
LUMCAT	EV320IND48OL 13L 35K EX DW XX MW
LUMINAIRE	Evenlight 4.5" Wide x 48" linear surface or wall mount luminaire
OTHER	48" Linear LED, Frosted Acrylic Lens
OTHER	Matte White finish
OTHER	112 Degree Beam Angle
LAMPCAT	N/A
LAMP	N/A, 1363 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°	120.58	2.61%	90.00° - 100.00°	189.02	4.09%
10.00° - 20.00°	329.08	7.12%	100.00° - 110.00°	152.42	3.30%
20.00° - 30.00°	508.70	11.01%	100.00° - 120.00°	232.10	5.02%
30.00° - 40.00°	629.85	13.63%	120.00° - 130.00°	21.35	0.46%
40.00° - 50.00°	680.93	14.74%	130.00° - 140.00°	7.74	0.17%
50.00° - 60.00°	658.46	14.25%	140.00° - 150.00°	6.04	0.13%
60.00° - 70.00°	564.07	12.21%	150.00° - 160.00°	4.42	0.10%
70.00° - 80.00°	410.82	8.89%	160.00° - 170.00°	2.69	0.06%
80.00° - 90.00°	253.95	5.50%	170.00° - 180.00°	0.97	0.02%
0.00° - 90.00°	4,156.44	89.95%	0.00° - 180.00°	4,620.77	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°	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41	1,194.41
5.00°	1,186.30	1,188.08	1,196.65	1,200.73	1,199.98	1,195.76	1,198.51	1,188.26	1,188.39	1,184.07	1,196.42	1,193.44	1,202.67	1,197.01	1,192.49	1,187.01	1,186.30
10.00°	1,170.65	1,174.80	1,189.65	1,202.01	1,198.04	1,197.99	1,186.53	1,171.86	1,170.63	1,170.13	1,186.26	1,193.96	1,202.82	1,190.10	1,186.48	1,175.77	1,170.65
15.00°	1,139.13	1,152.37	1,173.45	1,191.35	1,192.39	1,189.86	1,176.75	1,150.45	1,134.75	1,145.28	1,166.56	1,182.55	1,188.71	1,178.51	1,166.74	1,152.39	1,139.13
20.00°	1,096.66	1,119.93	1,153.58	1,175.28	1,181.15	1,173.19	1,155.35	1,117.88	1,094.97	1,107.07	1,138.48	1,159.94	1,171.60	1,160.22	1,141.08	1,119.92	1,096.66
25.00°	1,046.12	1,078.51	1,118.26	1,147.52	1,154.55	1,147.62	1,117.00	1,070.73	1,042.74	1,063.45	1,105.39	1,136.91	1,149.68	1,134.20	1,110.41	1,077.84	1,046.12
30.00°	983.45	1,025.56	1,070.83	1,111.75	1,117.46	1,112.48	1,074.86	1,016.99	984.66	1,010.92	1,061.29	1,098.30	1,116.92	1,101.88	1,067.09	1,022.61	983.45
35.00°	915.76	965.36	1,022.02	1,067.17	1,075.90	1,071.27	1,029.81	960.15	914.10	948.65	1,009.78	1,049.64	1,074.84	1,052.04	1,017.27	963.64	915.76
40.00°	843.03	897.37	966.45	1,010.96	1,026.70	1,015.67	973.21	902.07	841.09	881.59	950.29	999.97	1,033.21	1,003.03	956.72	898.08	843.03
45.00°	763.67	825.74	899.62	951.17	972.70	955.52	906.34	830.51	762.39	812.70	886.81	942.57	974.72	944.35	891.32	827.86	763.67
50.00°	677.05	746.22	831.46	891.68	909.79	897.31	842.30	747.84	678.53	729.06	823.98	876.07	911.83	880.89	825.03	751.10	677.05
55.00°	586.20	663.81	754.53	819.09	845.05	826.02	770.06	665.84	593.75	649.16	749.32	809.53	843.01	818.26	754.90	669.44	586.20
60.00°	492.32	578.57	675.69	741.78	765.57	747.51	688.19	582.74	502.80	566.47	667.66	737.99	770.77	736.26	672.58	587.01	492.32
65.00°	399.20	489.49	585.65	662.50	686.31	675.20	606.63	498.15	404.16	472.25	581.68	657.81	690.14	655.17	586.27	499.53	399.20
70.00°	301.77	389.41	497.61	575.09	600.91	583.75	517.53	402.37	309.05	383.63	495.79	569.60	613.51	569.08	493.93	400.79	301.77
75.00°	201.87	299.81	402.26	482.77	510.30	497.25	423.70	311.04	209.27	291.65	405.61	478.65	521.89	483.64	400.06	298.60	201.87
80.00°	103.28	208.45	314.27	398.83	425.95	408.00	336.70	219.29	119.16	203.12	319.93	395.25	436.54	391.95	308.81	214.62	103.28
85.00°	31.90	126.72	234.42	320.35	350.11	333.25	260.30	147.75	48.49	127.04	240.42	324.06	371.67	325.17	235.42	132.85	31.90
90.00°	7.44	76.87	183.86	264.75	291.76	287.23	210.23	101.63	14.72	86.17	202.24	285.17	328.79	278.91	195.85	86.26	7.44
95.00°	4.99	68.25	169.70	251.86	283.35	276.73	205.42	97.55	12.30	82.36	191.78	275.46	313.88	263.46	189.50	82.65	4.99
100.00°	6.55	58.90	166.36	244.52	275.25	270.86	195.32	85.97	13.71	72.25	186.89	263.93	301.98	258.21	182.75	72.26	6.55
105.00°	4.53	33.32	156.12	227.71	256.54	247.37	179.67	55.11	13.31	40.22	171.14	242.00	283.92	238.31	163.44	35.53	4.53
110.00°	5.54	15.49	110.27	193.32	226.00	207.03	134.01	25.92	12.60	26.61	129.31	203.41	249.10	191.98	112.62	15.39	5.54
115.00°	4.45	11.15	54.23	136.78	171.11	148.18	71.32	21.51	12.32	21.75	67.92	150.81	200.29	135.93	49.92	10.21	4.45
120.00°	4.45	8.41	14.50	80.53	105.40	82.86	27.25	18.93	12.40	16.27	23.54	87.99	130.35	71.58	9.57	7.00	4.45
125.00°	5.49	6.98	8.18	20.00	39.34	29.20	15.40	16.05	13.59	15.50	15.22	33.02	59.62	21.58	6.75	7.12	5.49
130.00°	5.41	6.36	6.65	6.65	7.71	14.13	13.93	12.30	11.82	13.64	14.94	16.30	17.34	5.86	7.07	5.04	5.41
135.00°	4.51	5.92	7.05	7.79	6.85	13.71	14.48	11.49	11.25	12.56	13.60	16.30	13.83	6.30	7.48	5.54	4.51
140.00°	5.20	6.85	7.93	7.00	6.73	14.72	14.90	12.58	12.20	12.16	11.51	13.73	13.83	6.23	6.20	5.74	5.20
145.00°	6.00	6.86	7.44	6.50	7.76	14.54	12.71	12.61	10.89	11.77	11.50	12.42	13.21	6.35	5.96	6.28	6.00
150.00°	5.94	6.07	8.93	6.45	8.74	12.76	11.47	11.04	10.74	12.11	10.65	12.17	14.39	7.15	7.47	6.46	5.94
155.00°	6.61	6.09	8.50	6.56	8.77	12.32	12.13	10.18	12.27	12.23	10.56	12.98	13.73	7.34	6.92	5.65	6.61
160.00°	6.86	6.92	8.11	8.13	8.78	12.37	11.53	9.49	10.21	11.14	12.00	13.24	13.46	8.06	6.15	7.16	6.86
165.00°	6.14	7.77	9.35	8.95	7.82	11.54	10.47	9.73	8.69	10.36	11.82	11.42	13.07	9.58	6.65	7.48	6.14
170.00°	7.55	7.58	8.28	10.56	11.41	10.35	9.10	8.58	8.64	9.51	9.58	11.31	12.85	9.37	8.93	7.68	7.55
175.00°	7.88	6.99	8.65	8.82	10.53	12.24	10.00	9.93	8.83	11.26	11.90	10.64	12.17	8.67	9.22	8.33	7.88
180.00°	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52

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%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	5,390	5,390	5,390	5,390	5,211	5,211	5,211	5,211	4,876	4,876	4,876	4,570	4,570	4,570	4,289	4,289	4,156
	1	4,824	4,565	4,333	4,124	4,646	4,413	4,203	4,012	4,128	3,956	3,799	3,866	3,728	3,600	3,624	3,515	3,398
	2	4,348	3,925	3,575	3,282	4,177	3,796	3,476	3,206	3,553	3,288	3,059	3,329	3,111	2,920	3,122	2,944	2,786
	3	3,941	3,415	3,009	2,684	3,782	3,305	2,931	2,630	3,098	2,782	2,523	2,906	2,642	2,420	2,728	2,508	2,320
	4	3,594	3,006	2,575	2,247	3,448	2,912	2,513	2,205	2,734	2,394	2,124	2,570	2,280	2,045	2,416	2,171	1,968
	5	3,295	2,672	2,237	1,915	3,161	2,591	2,186	1,883	2,439	2,088	1,819	2,297	1,994	1,756	2,164	1,904	1,695
	6	3,036	2,396	1,966	1,658	2,914	2,326	1,924	1,631	2,194	1,842	1,580	2,071	1,764	1,529	1,956	1,689	1,480
	7	2,810	2,164	1,746	1,453	2,699	2,104	1,711	1,432	1,990	1,642	1,389	1,883	1,576	1,347	1,782	1,512	1,306
	8	2,611	1,969	1,565	1,288	2,511	1,917	1,535	1,270	1,817	1,477	1,234	1,723	1,420	1,199	1,634	1,366	1,165
	9	2,436	1,803	1,414	1,152	2,346	1,757	1,388	1,137	1,669	1,338	1,107	1,586	1,290	1,077	1,508	1,242	1,047
	10	2,281	1,659	1,287	1,039	2,199	1,619	1,265	1,026	1,541	1,221	1,000	1,468	1,179	975	1,398	1,138	949

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	39.5 fc	22.7 ft
6.5 ft	28.3 fc	26.8 ft
7.5 ft	21.2 fc	31.0 ft
8.0 ft	18.7 fc	33.0 ft
10.0 ft	11.9 fc	41.3 ft
12.0 ft	8.3 fc	49.5 ft
14.0 ft	6.1 fc	57.8 ft
16.0 ft	4.7 fc	66.0 ft
20.0 ft	3.0 fc	82.6 ft
24.0 ft	2.1 fc	99.1 ft
28.0 ft	1.5 fc	115.6 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	7,341	7,341	7,341
45.00°	6,378	5,946	6,018
55.00°	5,936	5,576	5,738
65.00°	5,339	5,083	5,343
75.00°	4,161	4,390	4,827
85.00°	1,534	3,593	4,388

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	16.0	17.5	16.5	18.0	18.6	18.7	20.2	19.2	20.7	21.2
	3H	17.5	18.9	18.0	19.4	20.0	21.2	22.6	21.7	23.1	23.7
	4H	17.9	19.2	18.5	19.8	20.4	22.4	23.7	22.9	24.2	24.8
	6H	18.2	19.4	18.7	19.9	20.6	23.5	24.8	24.1	25.3	25.9
	8H	18.2	19.4	18.8	19.9	20.6	24.1	25.3	24.7	25.9	26.5
	12H	18.2	19.3	18.8	19.9	20.5	24.8	25.9	25.4	26.5	27.1
4H	2H	17.0	18.3	17.6	18.9	19.5	19.1	20.4	19.6	20.9	21.5
	3H	18.8	19.9	19.3	20.5	21.1	21.8	22.9	22.4	23.5	24.1
	4H	19.4	20.4	19.9	21.0	21.6	23.2	24.2	23.7	24.8	25.4
	6H	19.7	20.6	20.3	21.2	21.9	24.5	25.4	25.1	26.0	26.7
	8H	19.8	20.7	20.4	21.3	22.0	25.2	26.1	25.8	26.7	27.4
	12H	19.8	20.6	20.5	21.2	21.9	26.0	26.8	26.6	27.4	28.1
8H	4H	20.1	20.9	20.7	21.6	22.2	23.4	24.2	24.0	24.8	25.5
	6H	20.7	21.4	21.3	22.0	22.7	24.9	25.6	25.5	26.3	27.0
	8H	20.8	21.5	21.5	22.1	22.8	25.7	26.4	26.4	27.0	27.7
	12H	20.9	21.5	21.6	22.2	22.9	26.7	27.2	27.3	27.9	28.7
12H	4H	20.3	21.1	20.9	21.7	22.4	23.4	24.2	24.0	24.8	25.5
	6H	21.0	21.6	21.6	22.2	23.0	24.9	25.6	25.6	26.2	27.0
	8H	21.2	21.8	21.9	22.4	23.2	25.8	26.4	26.5	27.1	27.8

Corrected UGR values based on total output lumens

SHR = 1.0