

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## **Spectrum Lighting Photometric Lab**

### **Luminaire**

SR3Mx 15L 35K WW xx xx RNW3F 15L 35K WW MB NL  
Nom 3 inch dia round open wall wash, matte black finish, no lens

### **Test Number**

SP-01423\_2

### **Test Date**

10/11/2022

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

### Summary of Results

#### Power

Input Watts	13.4 W
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#### Lumen Output

Output Lumens	1133
Efficacy	84.56 lm/W

#### Luminous Dimensions

0° - 180° Size	-0.25
90° - 270° Size	-0.25
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	1
Two luminaires, plane 90°	1.15
Four luminaires	1

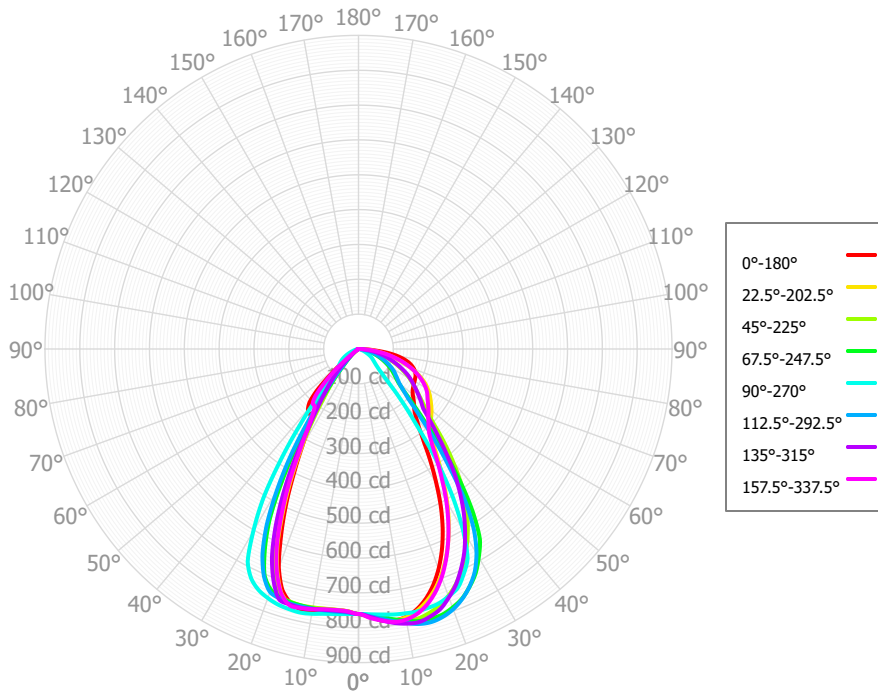
#### Full Beam Angle

0° - 180°	59°
90° - 270°	69°

### IES File Header Contents

Keyword	Value
TEST	SP-01423_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/11/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 15L 35K WW xx xx RNW3F 15L 35K WW MB NL
LUMINAIRE	Nom 3 inch dia round open wall wash, matte black finish, no lens
OTHER	Beam Angle: 61 x 72 degrees
LAMPCAT	N/A, 19mm LES
LAMP	N/A, Min. 80 CRI
OTHER	Reference project SL167
OTHER	no thermal protection required for 7L, 10L, and 15L (non-IC)
OTHER	no thermal protection required for all (including 20L and 25L) IC luminaires
OTHER	Total Luminaire Watts is approximate
OTHER	This report prepared by Spectrum Lighting
OTHER	CCT Output Multipliers: 27K x 0.95, 30K x 0.97, 40K x 1.03
_CRI	80

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	74.56	6.58%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	214.94	18.97%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	283.96	25.06%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	219.84	19.40%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	129.51	11.43%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	86.32	7.62%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	67.70	5.97%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	42.76	3.77%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	13.54	1.19%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	1133.11	100.00%	0.00° - 180.00°	1133.11	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°	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84	760.84
2.50°	769.72	771.25	768.87	765.10	762.44	757.22	755.00	753.59	753.53	753.22	754.21	758.85	761.46	768.20	769.78	772.96	769.72
5.00°	782.48	779.67	779.43	772.86	765.24	756.95	753.82	751.98	752.28	751.27	751.66	758.07	763.70	777.30	782.40	782.78	782.48
7.50°	786.13	786.08	787.59	782.79	768.76	756.93	755.13	753.69	756.53	751.87	752.29	757.15	766.73	788.37	793.25	790.23	786.13
10.00°	781.15	782.36	792.87	791.57	770.71	757.14	757.74	758.86	760.88	755.72	753.21	755.97	771.81	798.79	800.48	788.76	781.15
12.50°	766.79	770.76	792.27	799.75	772.05	757.02	760.98	761.70	765.33	758.16	754.36	754.59	774.90	808.45	802.86	778.76	766.79
15.00°	743.54	751.19	784.65	801.36	769.67	756.62	759.11	762.12	753.95	758.77	751.42	752.81	772.92	811.20	795.20	759.89	743.54
17.50°	711.82	725.41	772.34	799.57	765.84	751.52	754.81	736.76	725.89	735.19	745.08	747.47	769.17	806.04	782.36	732.60	711.82
20.00°	672.08	692.37	754.43	789.83	755.68	742.36	711.43	684.50	668.76	680.86	704.96	735.39	760.89	794.99	758.79	697.81	672.08
22.50°	625.31	653.65	730.48	775.95	743.07	708.20	649.36	612.82	581.20	607.86	636.79	704.21	748.99	777.17	731.46	655.87	625.31
25.00°	571.93	609.37	699.28	753.76	713.89	652.41	563.69	520.84	491.62	511.09	549.05	636.63	727.87	753.22	696.34	609.22	571.93
27.50°	512.68	560.78	664.60	727.26	678.29	571.33	466.73	428.94	399.92	416.89	445.03	553.51	688.79	722.25	657.76	558.09	512.68
30.00°	447.89	509.19	625.78	690.63	599.42	468.33	366.80	337.14	323.20	325.95	344.84	440.70	603.99	677.65	612.06	504.02	447.89
32.50°	386.66	455.27	582.90	648.75	503.77	360.13	265.47	270.10	262.17	257.26	247.80	331.30	509.43	617.49	563.70	447.18	386.66
35.00°	328.81	405.56	535.20	573.19	390.00	247.45	202.72	228.76	231.71	216.97	178.01	228.36	389.97	536.13	509.85	395.22	328.81
37.50°	285.99	359.10	481.91	480.17	269.26	164.19	158.33	206.63	233.34	190.45	130.74	144.46	279.57	430.51	453.71	347.91	285.99
40.00°	257.26	327.08	421.97	381.59	184.76	106.29	124.39	204.48	225.64	181.38	94.34	96.69	192.28	337.39	392.86	315.59	257.26
42.50°	237.28	306.20	363.82	280.16	114.21	68.18	95.42	182.37	208.20	156.81	66.93	59.98	122.95	258.45	336.50	297.52	237.28
45.00°	225.50	292.16	307.80	216.83	83.96	47.16	66.33	139.64	169.50	112.60	44.69	44.31	99.10	202.83	289.35	283.17	225.50
47.50°	214.25	283.40	266.01	173.12	69.24	32.73	37.20	95.77	108.57	72.37	26.76	31.94	80.10	173.72	251.85	272.35	214.25
50.00°	203.50	273.51	241.10	149.11	60.44	24.00	20.75	50.70	61.42	37.21	15.12	25.78	73.43	152.67	234.17	261.64	203.50
52.50°	195.99	262.73	219.31	135.26	53.91	17.60	10.30	21.68	28.68	14.28	8.66	20.33	66.99	140.79	217.08	251.02	195.99
55.00°	191.52	252.23	201.21	123.74	48.44	13.20	5.55	9.29	9.51	6.79	4.93	16.23	61.13	130.41	201.20	241.67	191.52
57.50°	188.11	241.94	184.58	113.41	43.38	10.13	3.50	2.70	4.43	2.35	3.45	12.52	54.93	121.76	186.12	233.51	188.11
60.00°	185.68	229.87	169.67	102.10	36.89	8.21	2.56	2.09	1.87	1.80	2.64	9.59	47.88	111.42	172.67	222.96	185.68
62.50°	183.22	216.42	153.76	90.28	29.85	6.40	2.14	1.74	1.92	1.55	2.37	7.06	40.74	99.18	158.03	210.13	183.22
65.00°	180.74	199.96	136.68	79.03	23.90	4.70	1.95	1.66	1.92	1.71	2.18	5.32	33.36	87.23	140.94	195.58	180.74
67.50°	176.30	181.19	120.00	68.07	18.38	3.61	1.87	1.61	1.85	1.84	2.06	3.97	26.34	75.59	124.10	179.43	176.30
70.00°	170.02	160.64	103.79	57.20	13.92	3.05	1.83	1.58	1.73	1.92	1.92	3.36	20.26	64.22	107.74	161.49	170.02
72.50°	160.88	138.74	88.59	46.38	9.87	2.72	1.80	1.60	1.53	1.93	1.79	2.90	14.90	53.15	91.86	141.88	160.88
75.00°	149.06	117.41	74.58	36.43	7.31	2.61	1.82	1.68	1.56	1.84	1.67	2.72	11.31	42.36	76.94	121.23	149.06
77.50°	132.32	96.52	60.30	26.92	5.33	2.46	1.86	1.62	1.82	1.81	1.56	2.49	8.08	31.89	62.13	99.60	132.32
80.00°	111.00	75.09	45.69	19.09	3.91	2.31	1.93	1.41	1.90	1.86	1.56	2.16	5.73	22.46	47.53	77.07	111.00
82.50°	82.91	53.25	31.37	12.10	2.70	2.09	2.00	1.34	1.79	1.86	1.63	1.84	3.75	14.20	32.78	53.70	82.91
85.00°	48.50	32.52	17.40	7.22	2.14	1.82	1.91	1.42	1.71	1.78	1.65	1.57	2.68	7.94	17.72	32.26	48.50
87.50°	24.05	12.64	7.97	3.41	1.83	1.69	1.74	1.47	1.67	1.73	1.61	1.42	1.88	3.91	6.65	12.65	24.05
90.00°	8.84	3.28	3.88	1.85	1.75	1.67	1.65	1.51	1.69	1.71	1.67	1.50	1.75	1.84	3.73	2.80	8.84

### Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

<b>RCR</b>	<b>pfc</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	<b>pcc</b>	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	<b>pw</b>	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	<b>0</b>	1349	1349	1349	1349	1318	1318	1318	1318	1259	1259	1259	1205	1205	1205	1156	1156	1133
	<b>1</b>	1258	1215	1177	1142	1229	1190	1155	1123	1143	1115	1088	1100	1077	1056	1060	1042	1020
	<b>2</b>	1171	1097	1035	984	1144	1076	1020	972	1038	991	950	1002	963	929	970	938	918
	<b>3</b>	1092	996	922	862	1066	979	910	855	947	889	841	918	868	827	890	849	831
	<b>4</b>	1020	910	829	767	997	896	820	762	869	804	752	845	788	743	822	774	758
	<b>5</b>	955	835	752	690	934	824	745	686	801	733	680	781	721	673	762	709	695
	<b>6</b>	896	771	687	626	877	761	681	624	742	672	619	725	662	614	708	653	641
	<b>7</b>	843	714	631	572	826	706	627	571	690	619	567	675	611	564	661	604	593
	<b>8</b>	795	665	583	526	779	657	579	525	644	573	523	631	567	520	619	561	551
	<b>9</b>	751	621	541	487	737	614	538	486	603	533	484	591	528	482	581	523	514
	<b>10</b>	711	581	504	452	698	576	501	451	566	497	450	556	493	448	547	489	481

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	25.2 fc	6.2 ft
6.5 ft	18.0 fc	7.4 ft
7.5 ft	13.5 fc	8.5 ft
8.0 ft	11.9 fc	9.1 ft
10.0 ft	7.6 fc	11.4 ft
12.0 ft	5.3 fc	13.6 ft
14.0 ft	3.9 fc	15.9 ft
16.0 ft	3.0 fc	18.2 ft
20.0 ft	1.9 fc	22.7 ft
24.0 ft	1.3 fc	27.2 ft
28.0 ft	1.0 fc	31.8 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	166837	166837	166837
<b>45.00°</b>	69929	95451	26035
<b>55.00°</b>	73220	76924	18520
<b>65.00°</b>	93781	70916	12402
<b>75.00°</b>	126288	63189	6194
<b>85.00°</b>	122032	43788	5394

### 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	28.2	29.5	28.6	29.9	30.2	10.6	11.9	11.0	12.2	12.5
	3H	30.6	31.8	31.0	32.1	32.5	12.5	13.7	12.9	14.1	14.4
	4H	31.8	32.9	32.2	33.2	33.6	13.2	14.3	13.6	14.6	15.0
	6H	32.8	33.8	33.2	34.2	34.6	13.6	14.6	14.0	15.0	15.4
	8H	33.2	34.2	33.6	34.6	35.0	13.7	14.7	14.2	15.1	15.5
	12H	33.5	34.4	33.9	34.8	35.2	13.8	14.8	14.3	15.2	15.6
4H	2H	28.5	29.6	28.9	30.0	30.4	10.4	11.5	10.8	11.8	12.2
	3H	31.2	32.1	31.6	32.6	33.0	12.4	13.3	12.8	13.7	14.1
	4H	32.5	33.3	33.0	33.8	34.2	13.0	13.8	13.4	14.2	14.7
	6H	33.7	34.4	34.2	34.9	35.3	13.6	14.3	14.0	14.7	15.2
	8H	34.2	34.8	34.6	35.3	35.8	13.8	14.4	14.2	14.9	15.4
	12H	34.5	35.1	35.0	35.6	36.0	14.0	14.6	14.5	15.1	15.5
8H	4H	32.6	33.3	33.1	33.7	34.2	12.9	13.6	13.4	14.0	14.5
	6H	33.9	34.5	34.4	35.0	35.4	13.5	14.1	14.0	14.5	15.0
	8H	34.5	35.0	35.0	35.5	36.0	13.8	14.3	14.3	14.8	15.3
	12H	34.9	35.3	35.4	35.8	36.4	14.1	14.5	14.6	15.0	15.6
12H	4H	32.6	33.2	33.1	33.7	34.1	12.9	13.5	13.4	13.9	14.4
	6H	33.9	34.4	34.4	34.9	35.4	13.5	14.0	14.0	14.4	15.0
	8H	34.5	34.9	35.0	35.4	36.0	13.8	14.2	14.3	14.7	15.3

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0