

## **Indoor Distribution Test Report**

# **Spectrum Lighting Inc.**

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## **Spectrum Lighting Photometric Lab**

### **Luminaire**

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

### **Test Number**

SP-01418\_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	979
Efficacy	73.05 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	1.06
Two luminaires, plane 90°	1.15
Four luminaires	1.01

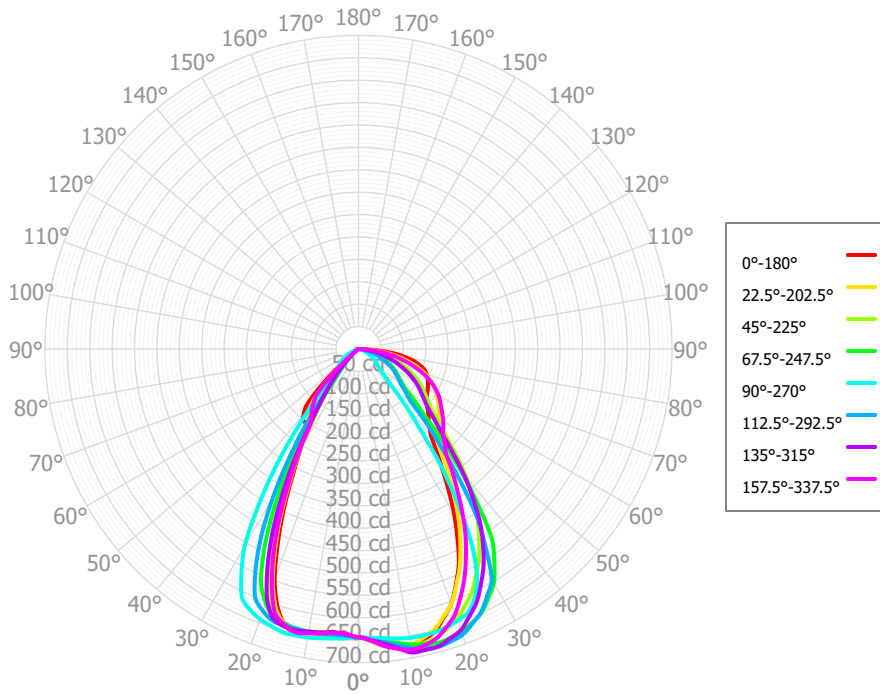
#### Full Beam Angle

0° - 180°	61°
90° - 270°	69°

### IES File Header Contents

Keyword	Value
TEST	SP-01418_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	10/11/2022
ISSUEDATE	10/25/2022
LUMCAT	SR3Mx 15L 35HK WW xx xx RNW3F 15L 35HK 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. 90 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	CCT Output Multipliers: 27HK x 0.92, 30HK x 0.96, 40HK x 1.03
OTHER	This report prepared by Spectrum Lighting

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	63.29	6.47%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	182.98	18.69%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	240.55	24.58%	100.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	190.17	19.43%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	112.61	11.50%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	75.48	7.71%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	60.89	6.22%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	39.79	4.06%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	13.08	1.34%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	978.83	100.00%	0.00° - 180.00°	978.83	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°	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52	643.52
2.50°	652.68	651.95	651.85	650.13	646.17	641.25	638.20	636.87	637.04	638.42	639.42	644.60	646.57	650.19	651.03	651.67	652.68
5.00°	665.40	663.85	661.09	655.31	648.02	639.72	635.69	636.68	634.86	637.05	637.02	643.33	648.78	657.24	660.45	665.69	665.40
7.50°	671.00	668.36	668.18	662.11	651.90	640.45	638.30	640.91	638.96	640.61	638.17	642.52	651.47	666.83	673.81	675.05	671.00
10.00°	675.26	670.98	674.48	669.51	654.88	640.65	640.92	644.66	643.57	644.12	639.86	641.15	654.21	677.56	687.89	681.46	675.26
12.50°	665.47	661.31	672.39	674.99	655.78	640.34	643.60	648.05	649.12	647.57	642.20	639.16	654.63	683.76	688.39	677.97	665.47
15.00°	654.21	649.66	668.15	679.95	655.03	638.92	641.29	637.54	637.76	637.27	636.12	634.96	654.84	688.47	687.56	669.72	654.21
17.50°	630.34	628.13	655.53	677.29	651.43	636.66	631.71	619.19	602.44	610.61	622.34	628.82	648.71	684.68	678.16	651.75	630.34
20.00°	605.64	605.80	641.56	673.27	645.81	622.87	596.28	565.57	547.55	560.17	577.13	604.76	642.18	679.00	668.09	630.37	605.64
22.50°	568.56	570.80	620.48	661.91	637.56	602.24	531.89	497.12	471.29	487.70	509.46	568.54	630.91	664.07	646.54	597.01	568.56
25.00°	530.14	535.28	598.83	649.84	613.72	544.22	456.26	418.57	394.70	410.25	429.72	501.05	614.51	647.85	623.96	560.75	530.14
27.50°	478.93	492.60	568.68	627.45	574.16	469.54	370.80	336.96	317.83	329.24	343.42	417.46	566.03	622.03	592.03	519.51	478.93
30.00°	427.48	449.42	538.09	604.18	507.84	380.68	287.56	267.85	260.27	265.63	265.22	326.56	509.04	595.36	558.59	477.49	427.48
32.50°	374.79	402.42	501.29	564.77	420.41	287.26	205.83	201.24	215.38	211.47	190.30	232.86	418.06	530.58	517.46	430.99	374.79
35.00°	324.80	356.56	463.70	520.98	326.40	202.34	152.80	183.18	201.42	192.20	147.79	159.49	326.49	464.18	473.57	384.15	324.80
37.50°	284.41	315.86	419.95	438.97	228.44	119.27	114.43	170.88	202.83	187.25	114.70	91.67	233.28	376.66	420.27	343.17	284.41
40.00°	251.06	280.75	374.96	357.25	157.94	81.79	86.03	155.62	190.59	165.15	84.70	64.15	155.27	291.61	365.76	303.52	251.06
42.50°	235.38	263.14	324.23	276.91	99.89	50.41	61.41	139.61	173.36	138.03	55.29	43.75	108.22	222.79	308.33	284.56	235.38
45.00°	221.52	248.77	277.48	206.03	75.29	36.24	40.70	96.74	127.81	96.54	35.31	32.75	75.43	163.49	259.53	266.69	221.52
47.50°	211.05	241.78	243.26	166.49	61.69	23.15	21.05	55.38	74.90	52.28	16.36	22.63	64.90	143.12	226.34	256.74	211.05
50.00°	201.10	234.22	214.62	134.59	55.39	18.16	12.03	30.12	42.00	28.12	10.22	18.27	56.81	125.24	200.51	246.64	201.10
52.50°	191.88	225.68	198.68	121.16	50.77	13.31	4.85	8.06	12.42	6.14	4.64	14.10	51.67	114.39	184.85	235.81	191.88
55.00°	185.46	217.57	184.12	109.64	45.23	10.17	3.27	4.34	5.98	3.38	3.41	11.18	46.34	104.43	171.10	225.39	185.46
57.50°	182.14	210.00	171.93	101.56	39.57	7.29	2.19	1.37	1.48	1.40	2.25	8.34	40.84	96.31	159.40	216.14	182.14
60.00°	178.61	201.90	159.73	93.09	33.51	6.08	1.79	1.20	1.35	1.25	1.97	6.19	34.75	87.50	146.68	206.10	178.61
62.50°	174.91	193.26	147.52	84.07	27.44	4.82	1.41	1.07	1.28	1.12	1.71	4.26	28.23	77.59	133.12	194.30	174.91
65.00°	170.94	182.61	133.99	74.95	22.44	3.35	1.27	1.02	1.28	1.15	1.60	3.42	22.35	67.25	118.75	181.19	170.94
67.50°	166.80	170.37	119.12	65.72	17.49	2.21	1.15	1.03	1.27	1.18	1.49	2.71	16.81	56.37	103.85	165.91	166.80
70.00°	161.10	156.04	104.50	56.48	13.15	1.93	1.09	1.16	1.20	1.25	1.37	2.47	12.84	46.74	89.54	148.93	161.10
72.50°	154.61	140.44	90.10	47.23	9.08	1.72	1.07	1.23	1.16	1.30	1.30	2.24	9.51	38.30	75.50	129.79	154.61
75.00°	142.42	122.04	76.48	38.04	6.79	1.63	1.18	1.18	1.22	1.28	1.40	2.05	6.87	29.77	63.12	110.33	142.42
77.50°	128.11	102.36	63.33	28.89	4.68	1.50	1.23	1.19	1.31	1.24	1.46	1.91	4.42	21.18	51.34	90.53	128.11
80.00°	107.24	81.32	49.51	21.00	3.30	1.29	1.06	1.26	1.45	1.16	1.45	1.87	3.21	14.23	39.20	70.64	107.24
82.50°	84.67	59.81	35.38	13.71	2.14	1.14	0.96	1.35	1.48	1.16	1.41	1.72	2.24	8.20	26.97	50.68	84.67
85.00°	53.59	36.41	21.74	8.13	1.62	1.04	1.06	1.45	1.29	1.29	1.29	1.40	1.76	4.56	15.74	30.78	53.59
87.50°	21.11	12.58	8.27	3.16	1.24	1.02	1.14	1.42	1.17	1.34	1.30	1.28	1.35	1.92	4.66	10.92	21.11
90.00°	10.30	5.86	3.90	1.85	1.16	1.09	1.19	1.28	1.19	1.27	1.43	1.38	1.17	1.18	2.47	3.49	10.30

### 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>	1165	1165	1165	1165	1138	1138	1138	1138	1088	1088	1088	1041	1041	1041	999	999	979
	<b>1</b>	1086	1048	1014	983	1060	1026	995	967	985	960	937	948	928	909	913	897	879
	<b>2</b>	1009	944	890	845	986	926	877	835	893	852	816	862	828	798	834	806	789
	<b>3</b>	940	856	791	740	918	842	782	733	814	763	721	789	745	709	765	729	714
	<b>4</b>	878	781	711	657	858	769	704	653	746	689	644	725	676	636	705	663	650
	<b>5</b>	822	717	644	590	803	707	639	587	688	628	582	670	617	576	653	607	595
	<b>6</b>	771	661	588	535	754	653	584	533	637	575	529	621	567	525	607	559	548
	<b>7</b>	725	613	540	489	710	605	536	488	592	530	485	579	523	482	566	517	507
	<b>8</b>	683	570	499	450	669	564	496	448	552	490	446	541	485	444	530	480	471
	<b>9</b>	645	532	462	415	633	526	460	415	516	455	413	507	451	411	497	447	439
	<b>10</b>	610	498	431	386	599	493	429	385	484	425	384	476	421	382	468	418	411

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	21.3 fc	6.5 ft
6.5 ft	15.2 fc	7.6 ft
7.5 ft	11.4 fc	8.8 ft
8.0 ft	10.1 fc	9.4 ft
10.0 ft	6.4 fc	11.8 ft
12.0 ft	4.5 fc	14.1 ft
14.0 ft	3.3 fc	16.5 ft
16.0 ft	2.5 fc	18.8 ft
20.0 ft	1.6 fc	23.5 ft
24.0 ft	1.1 fc	28.2 ft
28.0 ft	0.8 fc	33.0 ft

### Average Luminaire Luminance [cd/m<sup>2</sup>]

	0.00°	45.00°	90.00°
<b>0.00°</b>	141112	141112	141112
<b>45.00°</b>	68696	86050	23347
<b>55.00°</b>	70902	70391	17292
<b>65.00°</b>	88694	69524	11645
<b>75.00°</b>	120663	64795	5751
<b>85.00°</b>	134830	54702	4073

### 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	28.0	29.4	28.4	29.7	30.0	9.1	10.4	9.4	10.7	11.0
	3H	30.6	31.8	31.0	32.1	32.5	11.0	12.2	11.4	12.5	12.9
	4H	31.8	32.9	32.2	33.3	33.7	11.6	12.7	12.0	13.0	13.4
	6H	32.9	34.0	33.3	34.3	34.7	11.9	12.9	12.3	13.3	13.7
	8H	33.4	34.4	33.8	34.7	35.2	12.0	13.0	12.4	13.4	13.8
	12H	33.7	34.6	34.1	35.0	35.5	12.1	13.1	12.6	13.4	13.9
4H	2H	28.4	29.5	28.8	29.8	30.2	8.8	10.0	9.2	10.3	10.7
	3H	31.2	32.1	31.6	32.5	32.9	10.8	11.7	11.2	12.1	12.5
	4H	32.6	33.4	33.0	33.8	34.3	11.4	12.2	11.8	12.6	13.1
	6H	33.9	34.6	34.3	35.0	35.5	11.8	12.6	12.3	13.0	13.5
	8H	34.4	35.1	34.8	35.5	36.0	12.0	12.7	12.5	13.2	13.6
	12H	34.8	35.4	35.3	35.9	36.3	12.2	12.8	12.7	13.3	13.8
8H	4H	32.7	33.4	33.1	33.8	34.3	11.3	12.0	11.8	12.4	12.9
	6H	34.1	34.6	34.6	35.1	35.6	11.8	12.4	12.3	12.9	13.3
	8H	34.7	35.2	35.2	35.7	36.2	12.1	12.5	12.6	13.1	13.6
	12H	35.2	35.7	35.7	36.1	36.7	12.4	12.8	12.9	13.3	13.9
12H	4H	32.7	33.3	33.1	33.7	34.2	11.3	11.9	11.8	12.4	12.8
	6H	34.1	34.6	34.6	35.0	35.6	11.8	12.3	12.3	12.7	13.3
	8H	34.7	35.2	35.2	35.7	36.2	12.1	12.5	12.6	13.0	13.6

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0