

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## Spectrum Lighting Photometric Lab

### Luminaire

SAFI4XT 20L 35K XW xx SA4FXT MW GLX (aimed at 0 deg - nadir)  
Nom 4 inch square adj accent downlight (measured at nadir) with XW optic

### Test Number

SP-01267\_2

### Test Date

8/4/2021

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

### Summary of Results

#### Power

Input Watts	24.8 W
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#### Lumen Output

Output Lumens	1662
Efficacy	67.03 lm/W

#### Luminous Dimensions

0° - 180° Size	0.33
90° - 270° Size	0.33
Height	0

#### Spacing Criterion

Two luminaires, plane 0°	0.8
Two luminaires, plane 90°	0.8
Four luminaires	0.88

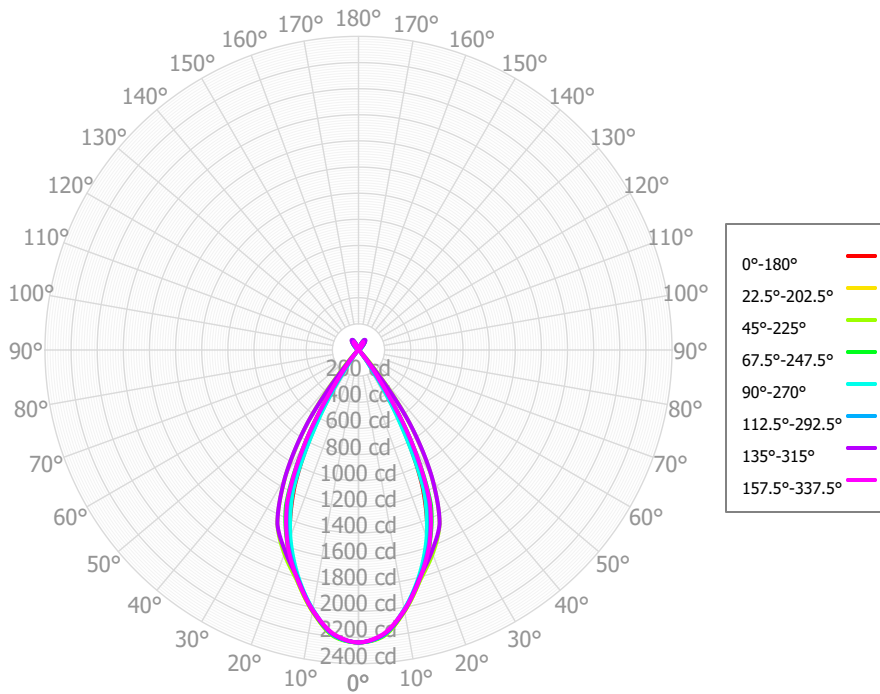
#### Full Beam Angle

0° - 180°	51°
90° - 270°	51°

### IES File Header Contents

Keyword	Value
TEST	SP-01267_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/18/2021
LUMCAT	SAFI4XT 20L 35K XW xx SA4FXT MW GLX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with XW optic
OTHER	Matte white finish, Clear glass lens
OTHER	Beam Angle: 51 deg
LAMP	N/A
LAMPCAT	N/A, 19mm LES
OTHER	LEDXT lumen output is the same for all available CCT's
OTHER	Total luminaire wattage is approximate
OTHER	This report prepared by Spectrum Lighting
_CRI	83
_CCTMULT	Same for all available CCT's
_LAMPMULT	10L x 0.48, 13L x 0.65

### Candela Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	214.41	12.90%	90.00° - 100.00°	1.47	0.09%
10.00° - 20.00°	501.90	30.19%	100.00° - 110.00°	1.53	0.09%
20.00° - 30.00°	566.15	34.06%	100.00° - 120.00°	4.25	0.26%
30.00° - 40.00°	234.19	14.09%	120.00° - 130.00°	8.78	0.53%
40.00° - 50.00°	26.16	1.57%	130.00° - 140.00°	22.54	1.36%
50.00° - 60.00°	9.00	0.54%	140.00° - 150.00°	37.41	2.25%
60.00° - 70.00°	5.50	0.33%	150.00° - 160.00°	21.41	1.29%
70.00° - 80.00°	3.32	0.20%	160.00° - 170.00°	3.67	0.22%
80.00° - 90.00°	1.83	0.11%	170.00° - 180.00°	0.28	0.02%
0.00° - 90.00°	1562.46	94.00%	0.00° - 180.00°	1662.27	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°	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57	2238.57
5.00°	2191.58	2195.96	2199.89	2194.79	2191.91	2189.15	2187.58	2181.92	2191.58	2195.96	2199.89	2194.79	2191.91	2189.15	2187.58	2181.92	2191.58
10.00°	2027.21	2030.75	2030.52	2022.63	2015.89	2018.45	2025.47	2020.46	2027.21	2030.75	2030.52	2022.63	2015.89	2018.45	2025.47	2020.46	2027.21
15.00°	1808.70	1819.60	1824.09	1811.66	1790.70	1804.23	1806.90	1813.49	1808.70	1819.60	1824.09	1811.66	1790.70	1804.23	1806.90	1813.49	1808.70
20.00°	1538.24	1588.00	1660.02	1588.25	1525.21	1574.15	1640.76	1585.51	1538.24	1588.00	1660.02	1588.25	1525.21	1574.15	1640.76	1585.51	1538.24
25.00°	1162.00	1280.56	1470.25	1313.73	1183.72	1278.27	1469.17	1293.36	1162.00	1280.56	1470.25	1313.73	1183.72	1278.27	1469.17	1293.36	1162.00
30.00°	648.11	795.20	1119.96	809.01	600.88	790.13	1123.35	810.14	648.11	795.20	1119.96	809.01	600.88	790.13	1123.35	810.14	648.11
35.00°	185.68	272.19	670.70	263.14	141.63	216.15	676.34	276.26	185.68	272.19	670.70	263.14	141.63	216.15	676.34	276.26	185.68
40.00°	47.74	51.88	194.55	47.85	41.38	47.62	124.97	47.61	47.74	51.88	194.55	47.85	41.38	47.62	124.97	47.61	47.74
45.00°	24.24	25.20	35.01	25.25	21.65	21.85	21.75	24.36	24.24	25.20	35.01	25.25	21.65	21.85	21.75	24.36	24.24
50.00°	14.62	15.42	17.82	15.08	13.67	13.59	16.29	15.76	14.62	15.42	17.82	15.08	13.67	13.59	16.29	15.76	14.62
55.00°	8.90	9.14	12.12	9.25	7.75	8.25	10.08	9.16	8.90	9.14	12.12	9.25	7.75	8.25	10.08	9.16	8.90
60.00°	7.07	6.78	8.39	6.86	5.93	6.05	6.51	6.55	7.07	6.78	8.39	6.86	5.93	6.05	6.51	6.55	7.07
65.00°	6.13	5.80	6.18	5.78	5.67	5.14	4.73	5.54	6.13	5.80	6.18	5.78	5.67	5.14	4.73	5.54	6.13
70.00°	4.74	4.63	4.40	4.56	3.86	4.14	3.48	4.33	4.74	4.63	4.40	4.56	3.86	4.14	3.48	4.33	4.74
75.00°	3.40	3.28	3.29	3.18	2.62	2.80	3.12	3.05	3.40	3.28	3.29	3.18	2.62	2.80	3.12	3.05	3.40
80.00°	2.35	2.21	2.26	2.27	1.86	2.06	2.33	2.04	2.35	2.21	2.26	2.27	1.86	2.06	2.33	2.04	2.35
85.00°	1.73	1.58	1.70	1.60	1.40	1.42	1.90	1.64	1.73	1.58	1.70	1.60	1.40	1.42	1.90	1.64	1.73
90.00°	1.37	1.29	1.40	1.12	1.35	1.25	1.21	1.43	1.37	1.29	1.40	1.12	1.35	1.25	1.21	1.43	1.37
95.00°	1.60	1.41	1.21	1.22	1.06	1.35	1.19	1.50	1.60	1.41	1.21	1.22	1.06	1.35	1.19	1.50	1.60
100.00°	2.03	1.47	1.27	1.70	1.12	1.47	1.31	1.41	2.03	1.47	1.27	1.70	1.12	1.47	1.31	1.41	2.03
105.00°	1.67	1.45	1.34	1.50	1.35	1.59	1.35	1.25	1.67	1.45	1.34	1.50	1.35	1.59	1.35	1.25	1.67
110.00°	1.42	1.44	1.48	1.46	1.51	1.52	1.15	1.43	1.42	1.44	1.48	1.46	1.51	1.52	1.15	1.43	1.42
115.00°	1.51	1.61	1.81	2.57	2.58	4.21	1.65	1.73	1.51	1.61	1.81	2.57	2.58	4.21	1.65	1.73	1.51
120.00°	1.56	1.65	2.53	11.74	8.23	12.30	2.89	1.49	1.56	1.65	2.53	11.74	8.23	12.30	2.89	1.49	1.56
125.00°	1.66	1.65	4.39	21.21	18.22	21.82	6.21	2.01	1.66	1.65	4.39	21.21	18.22	21.82	6.21	2.01	1.66
130.00°	2.26	2.95	9.60	30.25	24.39	33.33	15.07	3.72	2.26	2.95	9.60	30.25	24.39	33.33	15.07	3.72	2.26
135.00°	6.18	5.93	36.18	47.11	30.22	48.81	41.76	8.66	6.18	5.93	36.18	47.11	30.22	48.81	41.76	8.66	6.18
140.00°	13.41	15.42	73.06	67.99	37.98	68.03	73.78	34.17	13.41	15.42	73.06	67.99	37.98	68.03	73.78	34.17	13.41
145.00°	18.58	30.71	87.80	87.76	46.33	85.73	92.11	64.42	18.58	30.71	87.80	87.76	46.33	85.73	92.11	64.42	18.58
150.00°	18.28	29.88	82.61	88.90	45.86	86.49	89.24	71.43	18.28	29.88	82.61	88.90	45.86	86.49	89.24	71.43	18.28
155.00°	14.77	20.33	59.33	61.07	31.88	60.15	63.46	48.81	14.77	20.33	59.33	61.07	31.88	60.15	63.46	48.81	14.77
160.00°	11.15	12.89	29.60	30.08	19.74	29.14	31.50	24.27	11.15	12.89	29.60	30.08	19.74	29.14	31.50	24.27	11.15
165.00°	7.19	6.34	9.62	9.95	9.68	10.85	11.07	8.41	7.19	6.34	9.62	9.95	9.68	10.85	11.07	8.41	7.19
170.00°	2.99	3.16	3.91	3.87	2.61	3.48	4.66	3.67	2.99	3.16	3.91	3.87	2.61	3.48	4.66	3.67	2.99
175.00°	2.25	1.95	2.00	2.36	2.11	1.89	1.89	2.37	2.25	1.95	2.00	2.36	2.11	1.89	1.89	2.37	2.25
180.00°	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91

### 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>	1955	1955	1955	1955	1898	1898	1898	1898	1792	1792	1792	1694	1694	1694	1605	1605	1562
	<b>1</b>	1865	1821	1780	1744	1815	1775	1739	1707	1690	1662	1637	1611	1590	1570	1539	1523	1484
	<b>2</b>	1778	1700	1636	1582	1732	1663	1605	1556	1594	1547	1507	1530	1493	1461	1470	1442	1416
	<b>3</b>	1694	1592	1514	1451	1653	1562	1490	1433	1505	1446	1398	1452	1404	1364	1402	1364	1331
	<b>4</b>	1614	1495	1408	1342	1577	1470	1390	1329	1422	1355	1303	1378	1322	1277	1337	1291	1261
	<b>5</b>	1539	1408	1316	1249	1505	1387	1302	1239	1346	1274	1219	1309	1248	1200	1274	1222	1196
	<b>6</b>	1468	1329	1235	1168	1438	1310	1223	1160	1276	1201	1145	1244	1179	1129	1214	1158	1134
	<b>7</b>	1401	1256	1162	1096	1374	1241	1153	1090	1211	1134	1078	1183	1116	1066	1157	1099	1077
	<b>8</b>	1339	1190	1097	1033	1314	1177	1089	1028	1151	1073	1018	1127	1058	1008	1104	1043	998
	<b>9</b>	1280	1130	1037	975	1257	1118	1031	971	1095	1017	963	1074	1005	955	1054	992	974
	<b>10</b>	1225	1074	984	923	1205	1064	978	920	1044	966	913	1025	955	906	1008	945	929

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	74.0 fc	5.2 ft
6.5 ft	53.0 fc	6.2 ft
7.5 ft	39.8 fc	7.1 ft
8.0 ft	35.0 fc	7.6 ft
10.0 ft	22.4 fc	9.5 ft
12.0 ft	15.5 fc	11.4 ft
14.0 ft	11.4 fc	13.3 ft
16.0 ft	8.7 fc	15.3 ft
20.0 ft	5.6 fc	19.1 ft
24.0 ft	3.9 fc	22.9 ft
28.0 ft	2.9 fc	26.7 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	221265	221265	221265
<b>45.00°</b>	3389	4894	3026
<b>55.00°</b>	1533	2089	1335
<b>65.00°</b>	1434	1445	1327
<b>75.00°</b>	1299	1255	1002
<b>85.00°</b>	1958	1932	1589

### 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	1.7	2.6	2.2	3.0	3.5	1.3	2.2	1.8	2.6	3.1
	3H	3.5	4.3	4.0	4.7	5.2	3.0	3.7	3.5	4.2	4.7
	4H	4.2	4.9	4.7	5.4	5.9	3.5	4.2	4.1	4.7	5.3
	6H	4.8	5.4	5.3	5.9	6.5	4.0	4.7	4.6	5.2	5.7
	8H	5.1	5.7	5.6	6.2	6.7	4.3	4.9	4.8	5.4	5.9
	12H	5.4	6.0	5.9	6.5	7.0	4.5	5.1	5.1	5.6	6.2
4H	2H	2.1	2.8	2.7	3.3	3.9	1.8	2.5	2.3	3.0	3.5
	3H	4.1	4.7	4.6	5.2	5.8	3.7	4.3	4.2	4.8	5.4
	4H	4.9	5.4	5.5	6.0	6.6	4.4	4.9	5.0	5.5	6.1
	6H	5.7	6.1	6.2	6.7	7.3	5.1	5.5	5.6	6.1	6.7
	8H	6.0	6.4	6.6	7.0	7.6	5.4	5.8	6.0	6.3	7.0
	12H	6.4	6.8	7.0	7.4	8.0	5.7	6.1	6.3	6.7	7.3
8H	4H	5.2	5.6	5.7	6.1	6.7	4.7	5.1	5.3	5.7	6.3
	6H	6.1	6.4	6.7	7.0	7.6	5.6	5.9	6.2	6.5	7.1
	8H	6.6	6.8	7.2	7.5	8.1	6.0	6.3	6.7	6.9	7.6
	12H	7.2	7.4	7.8	8.0	8.7	6.6	6.8	7.2	7.4	8.1
12H	4H	5.2	5.5	5.8	6.1	6.7	4.7	5.1	5.3	5.7	6.3
	6H	6.1	6.4	6.8	7.0	7.7	5.7	6.0	6.3	6.5	7.2
	8H	6.7	7.0	7.4	7.6	8.3	6.2	6.5	6.9	7.1	7.8

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0