

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

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

### Test Number

SP-01265\_1

### Test Date

8/4/2021

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

### Summary of Results

#### Power

Input Watts	24.6 W
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#### Lumen Output

Output Lumens	1535
Efficacy	62.39 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.53
Two luminaires, plane 90°	0.53
Four luminaires	0.74

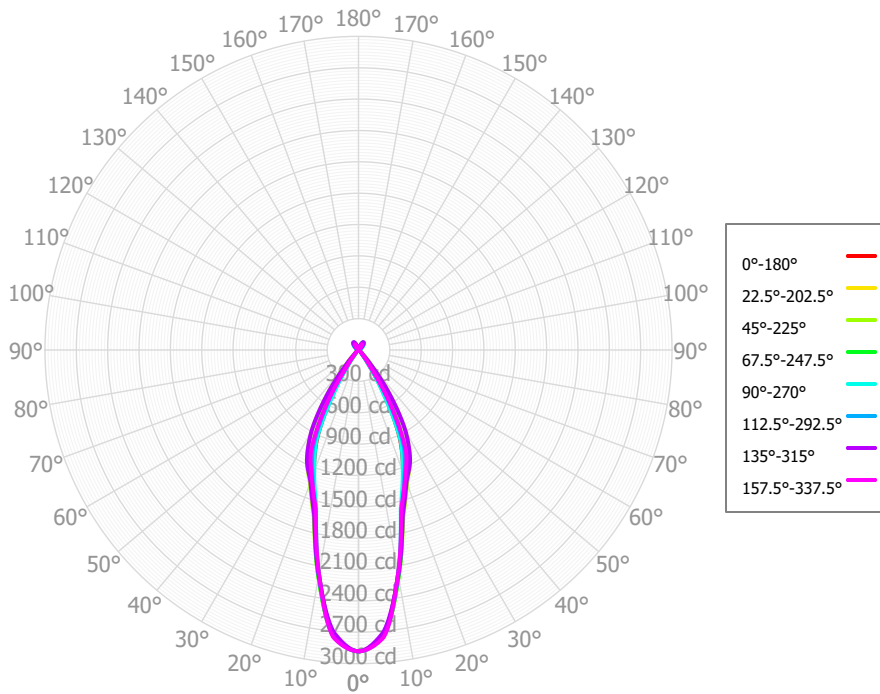
#### Full Beam Angle

0° - 180°	35°
90° - 270°	34°

### IES File Header Contents

Keyword	Value
TEST	SP-01265_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/18/2021
LUMCAT	SAFI4XT 20L 35K MD xx SA4FXT MW SOX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with MD optic
OTHER	Matte white finish, Solite lens
OTHER	Beam Angle: 35 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°	252.47	16.45%	90.00° - 100.00°	1.54	0.10%
10.00° - 20.00°	454.12	29.59%	100.00° - 110.00°	1.52	0.10%
20.00° - 30.00°	455.22	29.66%	100.00° - 120.00°	5.15	0.34%
30.00° - 40.00°	196.33	12.79%	120.00° - 130.00°	13.09	0.85%
40.00° - 50.00°	37.49	2.44%	130.00° - 140.00°	27.63	1.80%
50.00° - 60.00°	12.62	0.82%	140.00° - 150.00°	37.91	2.47%
60.00° - 70.00°	7.27	0.47%	150.00° - 160.00°	22.62	1.47%
70.00° - 80.00°	3.95	0.26%	160.00° - 170.00°	5.21	0.34%
80.00° - 90.00°	2.00	0.13%	170.00° - 180.00°	0.31	0.02%
0.00° - 90.00°	1421.46	92.61%	0.00° - 180.00°	1534.91	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°	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91	2882.91
5.00°	2731.95	2745.93	2747.66	2745.35	2753.06	2734.78	2712.60	2759.45	2731.95	2745.93	2747.66	2745.35	2753.06	2734.78	2712.60	2759.45	2731.95
10.00°	2178.93	2202.88	2202.39	2208.64	2180.78	2184.98	2189.79	2177.67	2178.93	2202.88	2202.39	2208.64	2180.78	2184.98	2189.79	2177.67	2178.93
15.00°	1598.70	1617.57	1653.12	1626.75	1564.35	1604.07	1636.92	1580.30	1598.70	1617.57	1653.12	1626.75	1564.35	1604.07	1636.92	1580.30	1598.70
20.00°	1251.41	1283.85	1357.14	1300.62	1239.21	1285.12	1343.34	1302.09	1251.41	1283.85	1357.14	1300.62	1239.21	1285.12	1343.34	1302.09	1251.41
25.00°	939.43	1018.62	1168.56	1057.05	949.49	1030.88	1167.37	1076.11	939.43	1018.62	1168.56	1057.05	949.49	1030.88	1167.37	1076.11	939.43
30.00°	497.83	607.25	897.48	665.97	454.70	610.63	902.69	637.52	497.83	607.25	897.48	665.97	454.70	610.63	902.69	637.52	497.83
35.00°	156.63	223.87	525.02	258.42	145.08	211.88	527.83	207.10	156.63	223.87	525.02	258.42	145.08	211.88	527.83	207.10	156.63
40.00°	58.86	72.99	206.52	77.98	56.40	61.80	185.35	67.32	58.86	72.99	206.52	77.98	56.40	61.80	185.35	67.32	58.86
45.00°	35.42	36.69	61.52	37.87	33.65	34.22	46.59	36.38	35.42	36.69	61.52	37.87	33.65	34.22	46.59	36.38	35.42
50.00°	21.89	21.99	24.56	21.99	19.11	20.66	21.60	21.25	21.89	21.99	24.56	21.99	19.11	20.66	21.60	21.25	21.89
55.00°	13.92	13.73	14.03	13.51	11.44	12.13	13.17	12.69	13.92	13.73	14.03	13.51	11.44	12.13	13.17	12.69	13.92
60.00°	9.86	9.68	9.26	9.41	9.00	9.26	9.05	8.86	9.86	9.68	9.26	9.41	9.00	9.26	9.05	8.86	9.86
65.00°	7.92	7.11	6.98	7.75	8.13	7.54	6.59	7.24	7.92	7.11	6.98	7.75	8.13	7.54	6.59	7.24	7.92
70.00°	5.42	5.00	5.20	5.72	5.55	5.73	5.08	5.32	5.42	5.00	5.20	5.72	5.55	5.73	5.08	5.32	5.42
75.00°	3.81	3.61	3.39	3.72	3.54	3.86	3.52	3.43	3.81	3.61	3.39	3.72	3.54	3.86	3.52	3.43	3.81
80.00°	2.42	2.63	2.22	2.70	2.36	2.62	2.18	2.15	2.42	2.63	2.22	2.70	2.36	2.62	2.18	2.15	2.42
85.00°	1.55	1.64	1.83	1.92	1.87	1.98	1.57	1.48	1.55	1.64	1.83	1.92	1.87	1.98	1.57	1.48	1.55
90.00°	1.49	1.53	1.48	1.53	1.62	1.38	1.49	1.27	1.49	1.53	1.48	1.53	1.62	1.38	1.49	1.27	1.49
95.00°	1.46	1.19	1.26	1.58	1.65	1.39	1.26	1.33	1.46	1.19	1.26	1.58	1.65	1.39	1.26	1.33	1.46
100.00°	1.15	1.19	1.28	1.65	1.39	1.60	1.36	1.48	1.15	1.19	1.28	1.65	1.39	1.60	1.36	1.48	1.15
105.00°	1.35	1.23	1.46	1.28	1.32	1.70	1.39	1.65	1.35	1.23	1.46	1.28	1.32	1.70	1.39	1.65	1.35
110.00°	1.33	1.34	1.58	1.44	1.70	1.80	1.47	1.55	1.33	1.34	1.58	1.44	1.70	1.80	1.47	1.55	1.33
115.00°	1.16	1.37	1.69	3.90	3.48	6.62	1.75	1.43	1.16	1.37	1.69	3.90	3.48	6.62	1.75	1.43	1.16
120.00°	1.23	1.57	2.69	18.86	13.92	20.74	3.66	1.59	1.23	1.57	2.69	18.86	13.92	20.74	3.66	1.59	1.23
125.00°	1.52	1.76	6.47	33.52	25.57	35.76	8.62	2.14	1.52	1.76	6.47	33.52	25.57	35.76	8.62	2.14	1.52
130.00°	2.08	3.53	16.12	47.29	34.45	50.71	20.77	4.38	2.08	3.53	16.12	47.29	34.45	50.71	20.77	4.38	2.08
135.00°	5.50	8.43	38.79	65.68	42.55	65.63	45.50	11.49	5.50	8.43	38.79	65.68	42.55	65.63	45.50	11.49	5.50
140.00°	17.26	20.73	68.44	75.95	48.54	78.15	72.43	35.53	17.26	20.73	68.44	75.95	48.54	78.15	72.43	35.53	17.26
145.00°	28.64	34.83	81.93	81.65	54.69	84.84	87.30	58.43	28.64	34.83	81.93	81.65	54.69	84.84	87.30	58.43	28.64
150.00°	26.68	34.73	80.34	79.50	49.43	81.77	86.58	62.68	26.68	34.73	80.34	79.50	49.43	81.77	86.58	62.68	26.68
155.00°	21.52	25.86	63.64	61.38	37.69	59.75	66.57	44.77	21.52	25.86	63.64	61.38	37.69	59.75	66.57	44.77	21.52
160.00°	16.28	21.64	41.65	40.35	25.96	37.81	42.82	28.26	16.28	21.64	41.65	40.35	25.96	37.81	42.82	28.26	16.28
165.00°	9.24	11.40	16.60	16.55	11.11	17.14	19.28	13.49	9.24	11.40	16.60	16.55	11.11	17.14	19.28	13.49	9.24
170.00°	2.85	3.76	3.99	4.22	3.91	3.83	4.83	5.00	2.85	3.76	3.99	4.22	3.91	3.83	4.83	5.00	2.85
175.00°	2.25	1.91	2.21	2.60	2.00	2.32	2.04	1.84	2.25	1.91	2.21	2.60	2.00	2.32	2.04	1.84	2.25
180.00°	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88	1.88

### 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>	1800	1800	1800	1800	1745	1745	1745	1745	1642	1642	1642	1548	1548	1548	1462	1462	1421
	<b>1</b>	1718	1676	1639	1606	1669	1632	1599	1570	1550	1524	1501	1474	1454	1436	1404	1389	1352
	<b>2</b>	1637	1566	1507	1457	1593	1530	1477	1432	1462	1420	1384	1400	1367	1338	1343	1317	1283
	<b>3</b>	1561	1468	1396	1338	1521	1438	1373	1320	1382	1329	1285	1331	1287	1251	1283	1248	1217
	<b>4</b>	1489	1380	1301	1240	1453	1355	1283	1227	1309	1248	1200	1265	1215	1175	1225	1184	1156
	<b>5</b>	1421	1302	1218	1157	1389	1281	1204	1146	1241	1176	1126	1204	1150	1106	1170	1124	1099
	<b>6</b>	1357	1231	1146	1085	1328	1213	1134	1077	1179	1111	1061	1148	1089	1045	1118	1068	1046
	<b>7</b>	1298	1166	1081	1021	1272	1151	1071	1015	1122	1053	1002	1095	1035	990	1069	1017	996
	<b>8</b>	1242	1108	1023	965	1219	1095	1015	960	1069	999	949	1046	984	939	1023	969	950
	<b>9</b>	1191	1055	971	915	1169	1043	964	911	1021	951	902	1000	938	893	980	925	908
	<b>10</b>	1142	1006	924	870	1122	996	918	866	976	907	859	958	895	852	940	885	869

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	95.3 fc	3.4 ft
6.5 ft	68.2 fc	4.0 ft
7.5 ft	51.3 fc	4.6 ft
8.0 ft	45.0 fc	4.9 ft
10.0 ft	28.8 fc	6.1 ft
12.0 ft	20.0 fc	7.4 ft
14.0 ft	14.7 fc	8.6 ft
16.0 ft	11.3 fc	9.8 ft
20.0 ft	7.2 fc	12.3 ft
24.0 ft	5.0 fc	14.7 ft
28.0 ft	3.7 fc	17.2 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	284953	284953	284953
<b>45.00°</b>	4951	8600	4704
<b>55.00°</b>	2399	2418	1971
<b>65.00°</b>	1853	1632	1901
<b>75.00°</b>	1456	1293	1350
<b>85.00°</b>	1759	2075	2117

### UGR CIE 190:2010

<b>Ceiling reflectance</b>		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
<b>Wall reflectance</b>		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
<b>Plane reflectance</b>		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Room dimensions</b>		<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>2H</b>	<b>2H</b>	4.4	5.3	4.9	5.7	6.2	4.1	5.0	4.6	5.5	6.0
	<b>3H</b>	5.7	6.4	6.2	6.9	7.5	5.7	6.4	6.2	6.9	7.5
	<b>4H</b>	6.2	6.9	6.7	7.4	7.9	6.1	6.8	6.7	7.4	7.9
	<b>6H</b>	6.5	7.2	7.1	7.7	8.3	6.5	7.2	7.1	7.7	8.3
	<b>8H</b>	6.7	7.3	7.3	7.9	8.4	6.7	7.3	7.3	7.9	8.4
	<b>12H</b>	6.9	7.5	7.4	8.0	8.6	7.0	7.5	7.5	8.1	8.7
<b>4H</b>	<b>2H</b>	4.7	5.4	5.2	5.9	6.4	4.4	5.1	5.0	5.6	6.2
	<b>3H</b>	6.1	6.7	6.7	7.3	7.9	6.2	6.8	6.7	7.3	7.9
	<b>4H</b>	6.7	7.3	7.3	7.8	8.4	6.8	7.3	7.4	7.9	8.5
	<b>6H</b>	7.3	7.7	7.9	8.3	8.9	7.4	7.8	7.9	8.4	9.0
	<b>8H</b>	7.5	7.9	8.1	8.5	9.1	7.6	8.0	8.2	8.6	9.3
	<b>12H</b>	7.7	8.1	8.4	8.7	9.4	8.0	8.3	8.6	8.9	9.6
<b>8H</b>	<b>4H</b>	6.9	7.3	7.5	7.9	8.5	6.9	7.4	7.5	7.9	8.6
	<b>6H</b>	7.6	7.9	8.2	8.5	9.2	7.7	8.0	8.3	8.6	9.3
	<b>8H</b>	7.9	8.2	8.6	8.8	9.5	8.1	8.4	8.7	9.0	9.7
	<b>12H</b>	8.3	8.6	8.9	9.2	9.9	8.6	8.9	9.3	9.5	10.2
<b>12H</b>	<b>4H</b>	6.9	7.2	7.5	7.9	8.5	6.9	7.3	7.5	7.9	8.5
	<b>6H</b>	7.6	7.9	8.3	8.5	9.2	7.7	8.0	8.4	8.6	9.3
	<b>8H</b>	8.0	8.3	8.7	8.9	9.6	8.2	8.4	8.8	9.1	9.8

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0