

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

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

### Test Number

SP-01264\_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	2115
Efficacy	85.98 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.42
Two luminaires, plane 90°	0.42
Four luminaires	0.47

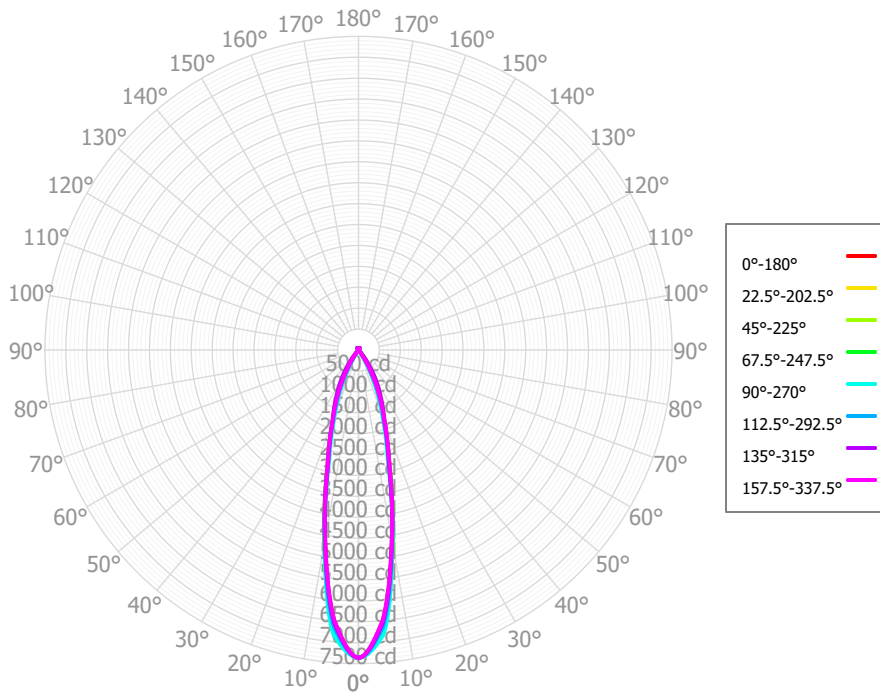
#### Full Beam Angle

0° - 180°	25°
90° - 270°	25°

### IES File Header Contents

Keyword	Value
TEST	SP-01264_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/18/2021
LUMCAT	SAFI4XT 20L 35K ND xx SA4FXT MW SOX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with ND optic
OTHER	Matte white finish, Solite lens
OTHER	Beam Angle: 25 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°	582.82	27.56%	90.00° - 100.00°	1.20	0.06%
10.00° - 20.00°	786.42	37.18%	100.00° - 110.00°	1.24	0.06%
20.00° - 30.00°	507.29	23.98%	100.00° - 120.00°	3.03	0.14%
30.00° - 40.00°	154.60	7.31%	120.00° - 130.00°	4.22	0.20%
40.00° - 50.00°	16.25	0.77%	130.00° - 140.00°	9.85	0.47%
50.00° - 60.00°	4.95	0.23%	140.00° - 150.00°	20.08	0.95%
60.00° - 70.00°	3.95	0.19%	150.00° - 160.00°	14.75	0.70%
70.00° - 80.00°	2.48	0.12%	160.00° - 170.00°	1.55	0.07%
80.00° - 90.00°	1.47	0.07%	170.00° - 180.00°	0.15	0.01%
0.00° - 90.00°	2060.24	97.41%	0.00° - 180.00°	2115.09	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°	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91	7360.91
5.00°	6542.12	6703.53	6693.79	6700.96	6836.28	6658.05	6575.25	6520.47	6542.12	6703.53	6693.79	6700.96	6836.28	6658.05	6575.25	6520.47	6542.12
10.00°	4624.10	4663.22	4652.93	4708.14	4651.84	4641.52	4599.02	4596.82	4624.10	4663.22	4652.93	4708.14	4651.84	4641.52	4599.02	4596.82	4624.10
15.00°	2864.13	2817.66	2797.73	2833.08	2702.49	2815.82	2811.76	2851.10	2864.13	2817.66	2797.73	2833.08	2702.49	2815.82	2811.76	2851.10	2864.13
20.00°	1778.87	1776.84	1810.30	1778.90	1672.86	1766.82	1822.89	1810.40	1778.87	1776.84	1810.30	1778.90	1672.86	1766.82	1822.89	1810.40	1778.87
25.00°	1016.48	1116.48	1263.35	1140.89	955.57	1104.50	1269.95	1148.20	1016.48	1116.48	1263.35	1140.89	955.57	1104.50	1269.95	1148.20	1016.48
30.00°	402.50	541.66	821.95	594.60	351.50	527.81	827.94	581.45	402.50	541.66	821.95	594.60	351.50	527.81	827.94	581.45	402.50
35.00°	96.14	153.30	412.39	190.65	62.30	152.88	416.92	183.77	96.14	153.30	412.39	190.65	62.30	152.88	416.92	183.77	96.14
40.00°	19.58	32.10	127.31	37.36	13.84	29.57	128.11	38.60	19.58	32.10	127.31	37.36	13.84	29.57	128.11	38.60	19.58
45.00°	8.20	11.56	24.52	10.71	9.20	9.80	24.96	12.32	8.20	11.56	24.52	10.71	9.20	9.80	24.96	12.32	8.20
50.00°	6.35	6.92	7.80	7.73	5.47	6.43	7.31	8.07	6.35	6.92	7.80	7.73	5.47	6.43	7.31	8.07	6.35
55.00°	5.30	5.39	6.25	6.03	4.01	4.97	4.84	5.31	5.30	5.39	6.25	6.03	4.01	4.97	4.84	5.31	5.30
60.00°	5.12	4.87	5.16	5.75	3.96	4.11	3.88	4.62	5.12	4.87	5.16	5.75	3.96	4.11	3.88	4.62	5.12
65.00°	4.23	4.41	3.95	5.29	3.94	3.79	2.96	3.95	4.23	4.41	3.95	5.29	3.94	3.79	2.96	3.95	4.23
70.00°	3.66	3.25	2.90	3.55	3.36	3.19	2.72	2.94	3.66	3.25	2.90	3.55	3.36	3.19	2.72	2.94	3.66
75.00°	2.25	2.00	2.20	2.66	2.16	2.41	2.48	2.19	2.25	2.00	2.20	2.66	2.16	2.41	2.48	2.19	2.25
80.00°	1.46	1.69	1.44	1.92	1.65	1.36	1.89	1.82	1.46	1.69	1.44	1.92	1.65	1.36	1.89	1.82	1.46
85.00°	0.87	1.37	1.30	1.54	1.32	1.06	1.44	1.30	0.87	1.37	1.30	1.54	1.32	1.06	1.44	1.30	0.87
90.00°	0.78	1.40	1.60	1.25	1.46	1.06	1.04	1.06	0.78	1.40	1.60	1.25	1.46	1.06	1.04	1.06	0.78
95.00°	0.94	1.24	1.07	1.06	0.97	0.95	1.12	1.06	0.94	1.24	1.07	1.06	0.97	0.95	1.12	1.06	0.94
100.00°	0.96	1.17	0.92	1.22	1.11	1.18	1.19	1.06	0.96	1.17	0.92	1.22	1.11	1.18	1.19	1.06	0.96
105.00°	1.01	1.19	1.26	1.29	1.28	1.17	1.17	1.11	1.01	1.19	1.26	1.29	1.28	1.17	1.17	1.11	1.01
110.00°	1.09	1.34	1.28	1.05	1.34	1.29	1.27	1.26	1.09	1.34	1.28	1.05	1.34	1.29	1.27	1.26	1.09
115.00°	1.12	1.19	1.27	2.26	1.72	2.91	1.26	1.14	1.12	1.19	1.27	2.26	1.72	2.91	1.26	1.14	1.12
120.00°	1.19	1.18	1.79	5.83	3.51	6.46	1.35	1.40	1.19	1.18	1.79	5.83	3.51	6.46	1.35	1.40	1.19
125.00°	1.43	1.15	1.99	10.45	6.49	9.89	2.98	1.11	1.43	1.15	1.99	10.45	6.49	9.89	2.98	1.11	1.43
130.00°	1.35	1.45	5.21	14.95	9.60	15.24	9.37	2.16	1.35	1.45	5.21	14.95	9.60	15.24	9.37	2.16	1.35
135.00°	2.83	3.43	15.16	21.29	11.56	18.57	17.26	4.57	2.83	3.43	15.16	21.29	11.56	18.57	17.26	4.57	2.83
140.00°	6.96	9.59	26.68	33.11	17.05	29.60	29.30	16.06	6.96	9.59	26.68	33.11	17.05	29.60	29.30	16.06	6.96
145.00°	7.74	18.88	42.76	47.71	23.80	46.74	47.35	34.66	7.74	18.88	42.76	47.71	23.80	46.74	47.35	34.66	7.74
150.00°	6.28	24.55	56.41	58.45	26.27	57.86	59.86	47.77	6.28	24.55	56.41	58.45	26.27	57.86	59.86	47.77	6.28
155.00°	3.60	18.61	51.02	46.57	18.71	45.62	53.64	33.82	3.60	18.61	51.02	46.57	18.71	45.62	53.64	33.82	3.60
160.00°	2.30	6.63	18.02	16.14	7.01	12.73	19.99	11.38	2.30	6.63	18.02	16.14	7.01	12.73	19.99	11.38	2.30
165.00°	2.00	2.13	2.79	3.01	2.18	2.42	3.21	3.30	2.00	2.13	2.79	3.01	2.18	2.42	3.21	3.30	2.00
170.00°	1.58	1.54	1.90	1.64	1.62	1.31	1.39	1.51	1.58	1.54	1.90	1.64	1.62	1.31	1.39	1.51	1.58
175.00°	1.68	1.33	1.41	1.82	1.32	1.33	1.44	1.13	1.68	1.33	1.41	1.82	1.32	1.33	1.44	1.13	1.68
180.00°	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59

### 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>	2505	2505	2505	2505	2440	2440	2440	2440	2320	2320	2320	2209	2209	2209	2108	2108	2060
	<b>1</b>	2409	2359	2315	2275	2352	2309	2269	2234	2214	2184	2156	2127	2104	2082	2047	2030	1985
	<b>2</b>	2317	2233	2162	2104	2268	2192	2129	2076	2117	2067	2023	2047	2007	1972	1983	1952	1910
	<b>3</b>	2231	2121	2036	1968	2187	2089	2011	1949	2028	1964	1912	1971	1920	1876	1919	1877	1839
	<b>4</b>	2149	2022	1928	1857	2110	1995	1910	1844	1946	1874	1817	1899	1839	1791	1856	1806	1771
	<b>5</b>	2072	1933	1835	1763	2038	1911	1820	1753	1870	1792	1733	1831	1765	1714	1795	1740	1707
	<b>6</b>	2000	1852	1752	1681	1969	1834	1741	1673	1799	1718	1658	1767	1697	1644	1737	1676	1646
	<b>7</b>	1932	1778	1678	1609	1904	1763	1669	1603	1734	1651	1591	1706	1634	1580	1681	1617	1589
	<b>8</b>	1868	1711	1612	1544	1843	1697	1604	1539	1673	1589	1530	1649	1575	1521	1627	1562	1536
	<b>9</b>	1808	1648	1551	1485	1785	1637	1545	1482	1616	1533	1474	1595	1521	1467	1576	1509	1486
	<b>10</b>	1751	1591	1495	1432	1731	1581	1490	1429	1563	1480	1423	1545	1470	1417	1528	1460	1439

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	243.3 fc	2.5 ft
6.5 ft	174.2 fc	2.9 ft
7.5 ft	130.9 fc	3.3 ft
8.0 ft	115.0 fc	3.6 ft
10.0 ft	73.6 fc	4.5 ft
12.0 ft	51.1 fc	5.4 ft
14.0 ft	37.6 fc	6.3 ft
16.0 ft	28.8 fc	7.1 ft
20.0 ft	18.4 fc	8.9 ft
24.0 ft	12.8 fc	10.7 ft
28.0 ft	9.4 fc	12.5 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	727568	727568	727568
<b>45.00°</b>	1146	3427	1286
<b>55.00°</b>	912	1076	691
<b>65.00°</b>	988	924	921
<b>75.00°</b>	859	842	826
<b>85.00°</b>	986	1470	1491

### 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	-2.0	-1.1	-1.5	-0.7	-0.3	-2.0	-1.2	-1.6	-0.8	-0.4
	3H	0.2	1.0	0.6	1.4	1.8	0.2	0.9	0.6	1.3	1.8
	4H	0.9	1.6	1.3	2.0	2.5	0.9	1.6	1.4	2.0	2.5
	6H	1.4	2.1	1.9	2.5	3.0	1.5	2.2	2.0	2.6	3.1
	8H	1.7	2.3	2.2	2.7	3.2	1.8	2.5	2.3	2.9	3.4
	12H	1.9	2.5	2.4	2.9	3.4	2.2	2.8	2.7	3.3	3.8
4H	2H	-1.6	-0.9	-1.1	-0.4	0.0	-1.6	-0.9	-1.2	-0.5	0.0
	3H	0.8	1.4	1.2	1.8	2.3	0.8	1.4	1.3	1.9	2.3
	4H	1.6	2.1	2.1	2.6	3.1	1.8	2.3	2.3	2.8	3.3
	6H	2.3	2.8	2.9	3.3	3.8	2.6	3.0	3.1	3.5	4.0
	8H	2.7	3.1	3.2	3.6	4.1	3.0	3.4	3.5	3.9	4.4
	12H	3.0	3.4	3.5	3.9	4.4	3.5	3.8	4.0	4.3	4.9
8H	4H	1.9	2.3	2.4	2.8	3.3	2.0	2.4	2.6	2.9	3.5
	6H	2.9	3.2	3.4	3.7	4.3	3.0	3.3	3.6	3.9	4.4
	8H	3.4	3.7	4.0	4.3	4.8	3.6	3.9	4.2	4.4	5.0
	12H	4.0	4.2	4.5	4.7	5.4	4.3	4.5	4.9	5.1	5.7
12H	4H	1.9	2.3	2.4	2.8	3.3	2.1	2.4	2.6	2.9	3.5
	6H	3.0	3.3	3.6	3.8	4.4	3.1	3.4	3.7	3.9	4.5
	8H	3.6	3.9	4.2	4.4	5.1	3.8	4.0	4.4	4.6	5.2

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0