

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

994 Jefferson Street  
Fall River, MA 02721  
+1.508.678.2303

## Spectrum Lighting Photometric Lab

### Luminaire

SAZI4XT 20L 35K ND xx SA4NXT MW GLX (aimed at 0 deg - nadir)  
Nom 4 inch square adj accent downlight (measured at nadir) with ND optic

### Test Number

SP-01255\_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	2004
Efficacy	80.81 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.39
Two luminaires, plane 90°	0.41
Four luminaires	0.46

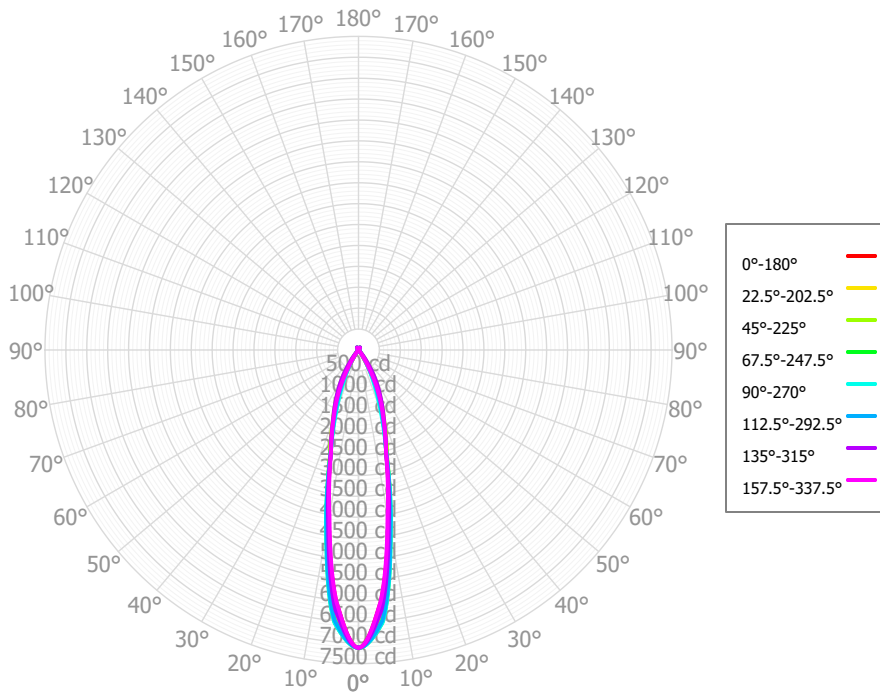
#### Full Beam Angle

0° - 180°	24°
90° - 270°	25°

### IES File Header Contents

Keyword	Value
TEST	SP-01255_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/5/2021
LUMCAT	SAZI4XT 20L 35K ND xx SA4NXT MW GLX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with ND optic
OTHER	Matte white finish, Clear glass lens
OTHER	Beam Angle: 24 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°	546.46	27.27%	90.00° - 100.00°	1.04	0.05%
10.00° - 20.00°	727.84	36.32%	100.00° - 110.00°	1.08	0.05%
20.00° - 30.00°	488.49	24.38%	100.00° - 120.00°	3.05	0.15%
30.00° - 40.00°	148.21	7.40%	120.00° - 130.00°	4.56	0.23%
40.00° - 50.00°	14.10	0.70%	130.00° - 140.00°	12.19	0.61%
50.00° - 60.00°	4.89	0.24%	140.00° - 150.00°	24.82	1.24%
60.00° - 70.00°	3.92	0.20%	150.00° - 160.00°	18.38	0.92%
70.00° - 80.00°	2.49	0.12%	160.00° - 170.00°	2.04	0.10%
80.00° - 90.00°	1.41	0.07%	170.00° - 180.00°	0.17	0.01%
0.00° - 90.00°	1937.81	96.69%	0.00° - 180.00°	2004.05	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°	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13	7122.13
5.00°	6063.31	6183.77	6387.63	6541.73	6551.60	6504.32	6258.80	6049.82	6063.31	6183.77	6387.63	6541.73	6551.60	6504.32	6258.80	6049.82	6063.31
10.00°	4095.96	4142.19	4303.91	4418.90	4443.07	4377.40	4174.77	4009.19	4095.96	4142.19	4303.91	4418.90	4443.07	4377.40	4174.77	4009.19	4095.96
15.00°	2573.19	2601.78	2638.17	2573.30	2581.34	2564.52	2562.65	2548.56	2573.19	2601.78	2638.17	2573.30	2581.34	2564.52	2562.65	2548.56	2573.19
20.00°	1723.15	1756.69	1789.42	1640.41	1546.72	1661.63	1775.94	1735.30	1723.15	1756.69	1789.42	1640.41	1546.72	1661.63	1775.94	1735.30	1723.15
25.00°	1029.02	1132.63	1235.17	1030.56	853.23	1036.06	1246.93	1118.28	1029.02	1132.63	1235.17	1030.56	853.23	1036.06	1246.93	1118.28	1029.02
30.00°	404.80	529.96	792.88	518.61	418.15	533.58	801.60	518.69	404.80	529.96	792.88	518.61	418.15	533.58	801.60	518.69	404.80
35.00°	66.59	133.61	364.11	187.61	150.34	192.62	373.25	133.01	66.59	133.61	364.11	187.61	150.34	192.62	373.25	133.01	66.59
40.00°	12.96	20.50	105.08	31.25	21.68	40.09	107.78	19.09	12.96	20.50	105.08	31.25	21.68	40.09	107.78	19.09	12.96
45.00°	8.49	9.52	24.38	7.38	8.47	8.95	22.19	9.07	8.49	9.52	24.38	7.38	8.47	8.95	22.19	9.07	8.49
50.00°	6.29	7.10	9.29	5.61	5.88	6.35	7.40	6.73	6.29	7.10	9.29	5.61	5.88	6.35	7.40	6.73	6.29
55.00°	5.26	5.79	5.77	4.82	5.37	5.36	5.22	5.02	5.26	5.79	5.77	4.82	5.37	5.36	5.22	5.02	5.26
60.00°	4.76	4.70	4.80	3.34	4.06	4.65	4.54	4.99	4.76	4.70	4.80	3.34	4.06	4.65	4.54	4.99	4.76
65.00°	4.27	3.96	3.77	2.75	4.26	4.77	3.92	4.50	4.27	3.96	3.77	2.75	4.26	4.77	3.92	4.50	4.27
70.00°	3.39	2.88	3.15	3.15	3.99	3.30	3.09	3.69	3.39	2.88	3.15	3.15	3.99	3.30	3.09	3.69	3.39
75.00°	2.41	1.61	2.14	2.44	3.12	1.97	2.23	2.05	2.41	1.61	2.14	2.44	3.12	1.97	2.23	2.05	2.41
80.00°	1.57	1.59	1.22	2.24	2.12	1.58	1.48	1.35	1.57	1.59	1.22	2.24	2.12	1.58	1.48	1.35	1.57
85.00°	1.13	1.26	1.26	1.25	1.40	1.41	1.56	1.20	1.13	1.26	1.26	1.25	1.40	1.41	1.56	1.20	1.13
90.00°	0.90	0.82	0.87	0.85	1.13	1.08	0.80	0.93	0.90	0.82	0.87	0.85	1.13	1.08	0.80	0.93	0.90
95.00°	0.84	0.77	1.15	1.04	1.06	0.88	0.98	0.79	0.84	0.77	1.15	1.04	1.06	0.88	0.98	0.79	0.84
100.00°	1.17	1.04	1.17	1.20	0.87	0.69	1.08	0.88	1.17	1.04	1.17	1.20	0.87	0.69	1.08	0.88	1.17
105.00°	1.25	0.97	1.28	1.02	1.07	0.88	0.83	0.86	1.25	0.97	1.28	1.02	1.07	0.88	0.83	0.86	1.25
110.00°	0.98	1.11	1.12	1.29	1.17	1.00	0.73	0.81	0.98	1.11	1.12	1.29	1.17	1.00	0.73	0.81	0.98
115.00°	1.11	1.24	0.93	3.48	2.31	3.81	1.09	1.01	1.11	1.24	0.93	3.48	2.31	3.81	1.09	1.01	1.11
120.00°	1.04	1.28	1.60	5.73	5.35	7.45	2.62	1.11	1.04	1.28	1.60	5.73	5.35	7.45	2.62	1.11	1.04
125.00°	1.18	1.39	2.67	7.51	7.97	11.62	5.55	1.31	1.18	1.39	2.67	7.51	7.97	11.62	5.55	1.31	1.18
130.00°	1.26	1.97	7.85	10.85	11.49	15.25	9.25	2.28	1.26	1.97	7.85	10.85	11.49	15.25	9.25	2.28	1.26
135.00°	4.31	4.20	23.80	21.83	18.63	25.17	15.74	5.70	4.31	4.20	23.80	21.83	18.63	25.17	15.74	5.70	4.31
140.00°	10.88	13.56	39.89	37.46	29.49	41.06	29.64	17.28	10.88	13.56	39.89	37.46	29.49	41.06	29.64	17.28	10.88
145.00°	11.20	28.98	54.48	53.67	35.85	55.87	49.77	39.81	11.20	28.98	54.48	53.67	35.85	55.87	49.77	39.81	11.20
150.00°	8.93	34.01	69.19	68.21	32.44	66.68	72.96	58.30	8.93	34.01	69.19	68.21	32.44	66.68	72.96	58.30	8.93
155.00°	6.11	24.84	60.96	58.54	21.85	54.94	65.43	47.25	6.11	24.84	60.96	58.54	21.85	54.94	65.43	47.25	6.11
160.00°	4.77	10.47	23.31	14.56	10.92	24.55	21.92	17.69	4.77	10.47	23.31	14.56	10.92	24.55	21.92	17.69	4.77
165.00°	2.81	2.72	3.61	2.84	3.65	3.23	3.28	3.54	2.81	2.72	3.61	2.84	3.65	3.23	3.28	3.54	2.81
170.00°	1.88	1.60	1.85	1.65	1.94	1.78	1.64	1.67	1.88	1.60	1.85	1.65	1.94	1.78	1.64	1.67	1.88
175.00°	1.52	1.42	1.63	1.55	1.99	1.26	1.49	1.40	1.52	1.42	1.63	1.55	1.99	1.26	1.49	1.40	1.52
180.00°	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44

### 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>	2370	2370	2370	2370	2307	2307	2307	2307	2190	2190	2190	2083	2083	2083	1984	1984	1938
	<b>1</b>	2278	2231	2188	2150	2223	2182	2144	2110	2089	2060	2033	2005	1982	1962	1926	1910	1866
	<b>2</b>	2190	2110	2043	1987	2142	2070	2010	1959	1996	1948	1907	1928	1890	1857	1865	1836	1796
	<b>3</b>	2108	2003	1922	1857	2065	1971	1898	1838	1911	1851	1801	1856	1807	1766	1805	1765	1728
	<b>4</b>	2030	1908	1819	1751	1992	1882	1800	1737	1833	1765	1710	1787	1730	1684	1745	1698	1664
	<b>5</b>	1956	1823	1730	1661	1923	1801	1715	1651	1761	1687	1631	1723	1660	1611	1687	1635	1603
	<b>6</b>	1887	1746	1651	1583	1857	1728	1639	1575	1694	1617	1560	1662	1595	1545	1632	1575	1546
	<b>7</b>	1822	1675	1580	1514	1795	1660	1571	1508	1631	1553	1496	1604	1535	1484	1579	1519	1492
	<b>8</b>	1761	1611	1517	1452	1737	1598	1509	1447	1573	1494	1438	1550	1480	1429	1528	1466	1441
	<b>9</b>	1704	1552	1459	1396	1682	1541	1453	1392	1519	1440	1385	1499	1428	1377	1480	1417	1394
	<b>10</b>	1650	1497	1406	1345	1630	1488	1401	1342	1469	1390	1336	1451	1380	1330	1434	1370	1349

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	235.4 fc	2.4 ft
6.5 ft	168.6 fc	2.8 ft
7.5 ft	126.6 fc	3.2 ft
8.0 ft	111.3 fc	3.4 ft
10.0 ft	71.2 fc	4.3 ft
12.0 ft	49.5 fc	5.1 ft
14.0 ft	36.3 fc	6.0 ft
16.0 ft	27.8 fc	6.8 ft
20.0 ft	17.8 fc	8.5 ft
24.0 ft	12.4 fc	10.3 ft
28.0 ft	9.1 fc	12.0 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	703967	703967	703967
<b>45.00°</b>	1187	3408	1184
<b>55.00°</b>	906	994	926
<b>65.00°</b>	999	882	997
<b>75.00°</b>	921	817	1191
<b>85.00°</b>	1286	1433	1592

### 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	-1.8	-0.9	-1.3	-0.5	-0.1	-2.5	-1.7	-2.1	-1.3	-0.9
	3H	0.4	1.1	0.8	1.5	2.0	0.1	0.9	0.6	1.3	1.7
	4H	1.0	1.7	1.5	2.2	2.6	1.2	1.9	1.7	2.3	2.8
	6H	1.6	2.2	2.1	2.7	3.2	2.1	2.8	2.6	3.2	3.7
	8H	1.9	2.5	2.4	2.9	3.4	2.6	3.2	3.1	3.6	4.1
	12H	2.2	2.8	2.7	3.2	3.7	3.0	3.5	3.5	4.0	4.5
4H	2H	-1.3	-0.5	-0.8	-0.1	0.4	-1.8	-1.1	-1.4	-0.7	-0.2
	3H	1.0	1.6	1.5	2.1	2.6	0.9	1.4	1.4	1.9	2.4
	4H	1.7	2.3	2.3	2.8	3.3	2.0	2.5	2.5	3.0	3.5
	6H	2.5	2.9	3.0	3.4	4.0	3.1	3.5	3.6	4.0	4.6
	8H	2.8	3.2	3.4	3.7	4.3	3.6	4.0	4.1	4.5	5.1
	12H	3.2	3.6	3.8	4.1	4.7	4.1	4.5	4.7	5.0	5.6
8H	4H	2.0	2.4	2.5	2.9	3.5	2.2	2.6	2.7	3.1	3.7
	6H	2.8	3.2	3.4	3.7	4.3	3.5	3.8	4.0	4.4	4.9
	8H	3.4	3.6	4.0	4.2	4.8	4.2	4.4	4.8	5.0	5.6
	12H	4.0	4.2	4.6	4.8	5.5	4.9	5.1	5.5	5.7	6.3
12H	4H	2.0	2.4	2.6	2.9	3.5	2.2	2.5	2.7	3.1	3.6
	6H	2.9	3.2	3.5	3.8	4.4	3.5	3.8	4.1	4.4	5.0
	8H	3.6	3.8	4.1	4.4	5.0	4.3	4.5	4.9	5.1	5.8

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0