

## Indoor Distribution Test Report

# Spectrum Lighting Inc.

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## Spectrum Lighting Photometric Lab

### Luminaire

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

### Test Number

SP-01256\_2

### Test Date

8/4/2021

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

### Summary of Results

#### Power

Input Watts	24.6 W
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#### Lumen Output

Output Lumens	1532
Efficacy	62.28 lm/W

#### Luminous Dimensions

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

#### Spacing Criterion

Two luminaires, plane 0°	0.5
Two luminaires, plane 90°	0.5
Four luminaires	0.73

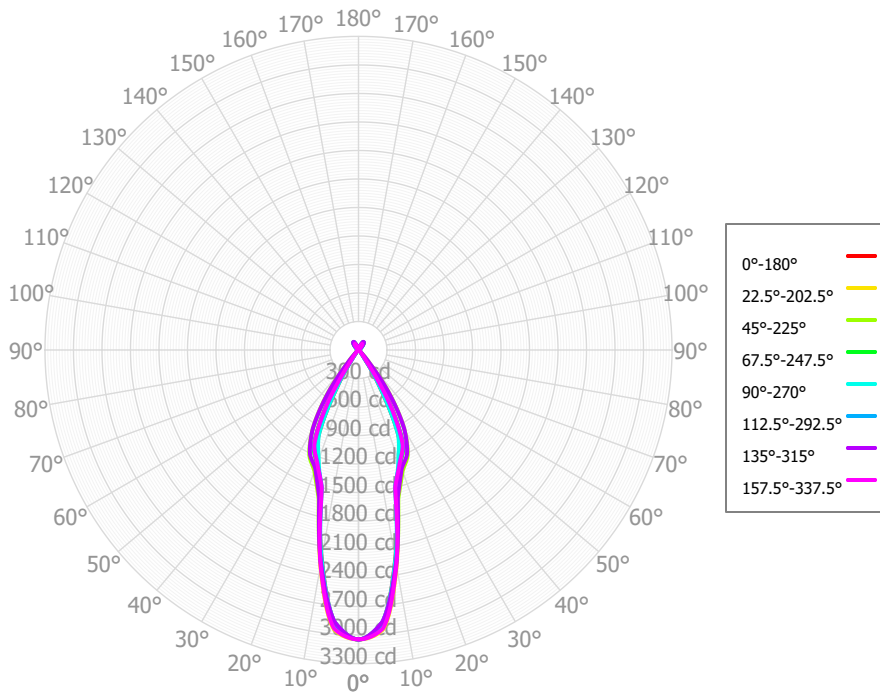
#### Full Beam Angle

0° - 180°	31°
90° - 270°	30°

### IES File Header Contents

Keyword	Value
TEST	SP-01256_2
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/5/2021
LUMCAT	SAZI4XT 20L 35K MD xx SA4NXT MW GLX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with MD optic
OTHER	Matte white finish, Clear glass lens
OTHER	Beam Angle: 31 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°	265.20	17.31%	90.00° - 100.00°	1.61	0.11%
10.00° - 20.00°	446.48	29.14%	100.00° - 110.00°	1.59	0.10%
20.00° - 30.00°	470.48	30.71%	100.00° - 120.00°	4.56	0.30%
30.00° - 40.00°	184.51	12.04%	120.00° - 130.00°	10.31	0.67%
40.00° - 50.00°	31.89	2.08%	130.00° - 140.00°	25.69	1.68%
50.00° - 60.00°	9.42	0.61%	140.00° - 150.00°	41.55	2.71%
60.00° - 70.00°	5.57	0.36%	150.00° - 160.00°	24.10	1.57%
70.00° - 80.00°	3.31	0.22%	160.00° - 170.00°	5.12	0.33%
80.00° - 90.00°	2.01	0.13%	170.00° - 180.00°	0.33	0.02%
0.00° - 90.00°	1418.86	92.61%	0.00° - 180.00°	1532.14	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°	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05	3046.05
5.00°	2879.43	2952.93	2899.38	2907.34	2875.42	2906.92	2874.09	2942.31	2879.43	2952.93	2899.38	2907.34	2875.42	2906.92	2874.09	2942.31	2879.43
10.00°	2231.03	2310.75	2281.45	2282.45	2235.59	2274.10	2275.78	2300.10	2231.03	2310.75	2281.45	2282.45	2235.59	2274.10	2275.78	2300.10	2231.03
15.00°	1553.24	1501.59	1618.85	1515.07	1526.66	1492.77	1600.08	1496.20	1553.24	1501.59	1618.85	1515.07	1526.66	1492.77	1600.08	1496.20	1553.24
20.00°	1246.26	1278.58	1356.63	1276.89	1226.05	1263.52	1329.62	1269.06	1246.26	1278.58	1356.63	1276.89	1226.05	1263.52	1329.62	1269.06	1246.26
25.00°	1000.19	1099.82	1223.67	1117.36	988.32	1106.34	1207.85	1101.94	1000.19	1099.82	1223.67	1117.36	988.32	1106.34	1207.85	1101.94	1000.19
30.00°	450.78	673.16	966.55	673.57	447.20	657.23	965.62	669.86	450.78	673.16	966.55	673.57	447.20	657.23	965.62	669.86	450.78
35.00°	118.36	143.16	589.58	137.13	107.51	127.22	575.14	137.15	118.36	143.16	589.58	137.13	107.51	127.22	575.14	137.15	118.36
40.00°	48.92	45.87	181.83	47.61	46.24	45.32	181.02	46.79	48.92	45.87	181.83	47.61	46.24	45.32	181.02	46.79	48.92
45.00°	34.58	34.36	46.53	35.25	31.02	33.93	37.33	33.62	34.58	34.36	46.53	35.25	31.02	33.93	37.33	33.62	34.58
50.00°	18.33	19.32	19.28	19.07	16.00	18.83	17.09	18.02	18.33	19.32	19.28	19.07	16.00	18.83	17.09	18.02	18.33
55.00°	9.21	9.51	9.98	8.84	7.95	8.31	8.91	8.62	9.21	9.51	9.98	8.84	7.95	8.31	8.91	8.62	9.21
60.00°	7.41	7.08	7.73	6.48	5.86	6.16	6.29	6.36	7.41	7.08	7.73	6.48	5.86	6.16	6.29	6.36	7.41
65.00°	6.69	5.83	5.60	5.68	5.47	5.27	5.69	5.71	6.69	5.83	5.60	5.68	5.47	5.27	5.69	5.71	6.69
70.00°	4.13	4.62	3.87	4.66	4.58	4.13	4.21	4.85	4.13	4.62	3.87	4.66	4.58	4.13	4.21	4.85	4.13
75.00°	2.90	3.14	2.64	2.81	3.23	2.75	2.97	3.00	2.90	3.14	2.64	2.81	3.23	2.75	2.97	3.00	2.90
80.00°	2.25	2.50	2.17	2.28	2.66	2.13	2.32	2.33	2.25	2.50	2.17	2.28	2.66	2.13	2.32	2.33	2.25
85.00°	1.62	2.17	1.41	1.63	1.88	1.82	1.88	1.80	1.62	2.17	1.41	1.63	1.88	1.82	1.88	1.80	1.62
90.00°	1.54	1.67	1.54	1.25	1.58	1.79	1.23	1.45	1.54	1.67	1.54	1.25	1.58	1.79	1.23	1.45	1.54
95.00°	1.40	1.41	1.34	1.42	1.45	1.69	1.51	1.59	1.40	1.41	1.34	1.42	1.45	1.69	1.51	1.59	1.40
100.00°	1.45	1.55	1.25	1.52	1.41	1.60	1.43	1.51	1.45	1.55	1.25	1.52	1.41	1.60	1.43	1.51	1.45
105.00°	1.56	1.65	1.42	1.47	1.54	1.50	1.40	1.48	1.56	1.65	1.42	1.47	1.54	1.50	1.40	1.48	1.56
110.00°	1.50	1.46	1.51	1.43	1.44	1.88	1.67	1.55	1.50	1.46	1.51	1.43	1.44	1.88	1.67	1.55	1.50
115.00°	1.38	1.32	1.75	3.32	2.34	4.71	1.84	1.71	1.38	1.32	1.75	3.32	2.34	4.71	1.84	1.71	1.38
120.00°	1.49	1.52	2.37	12.37	11.31	14.31	3.11	1.73	1.49	1.52	2.37	12.37	11.31	14.31	3.11	1.73	1.49
125.00°	1.62	1.92	5.44	25.34	21.54	26.90	6.88	2.06	1.62	1.92	5.44	25.34	21.54	26.90	6.88	2.06	1.62
130.00°	2.27	3.56	12.07	37.54	28.27	39.67	14.81	4.19	2.27	3.56	12.07	37.54	28.27	39.67	14.81	4.19	2.27
135.00°	6.37	7.71	37.97	55.27	36.32	58.10	46.51	9.80	6.37	7.71	37.97	55.27	36.32	58.10	46.51	9.80	6.37
140.00°	17.05	19.32	79.47	76.44	43.81	78.77	80.55	33.88	17.05	19.32	79.47	76.44	43.81	78.77	80.55	33.88	17.05
145.00°	25.47	37.74	97.32	93.96	54.61	95.71	98.87	63.70	25.47	37.74	97.32	93.96	54.61	95.71	98.87	63.70	25.47
150.00°	24.14	37.67	93.43	94.08	54.62	95.92	98.53	73.69	24.14	37.67	93.43	94.08	54.62	95.92	98.53	73.69	24.14
155.00°	19.00	24.69	66.31	62.62	37.37	63.68	72.06	49.16	19.00	24.69	66.31	62.62	37.37	63.68	72.06	49.16	19.00
160.00°	13.95	21.05	41.23	38.11	23.31	35.87	41.81	29.27	13.95	21.05	41.23	38.11	23.31	35.87	41.81	29.27	13.95
165.00°	9.02	10.30	17.25	16.96	12.16	17.42	17.84	14.32	9.02	10.30	17.25	16.96	12.16	17.42	17.84	14.32	9.02
170.00°	3.89	3.83	3.96	4.65	2.84	4.38	5.65	5.67	3.89	3.83	3.96	4.65	2.84	4.38	5.65	5.67	3.89
175.00°	2.55	2.19	2.00	2.06	2.12	2.25	2.37	2.50	2.55	2.19	2.00	2.06	2.12	2.25	2.37	2.50	2.55
180.00°	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08

### 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>	1797	1797	1797	1797	1742	1742	1742	1742	1639	1639	1639	1546	1546	1546	1459	1459	1419
	<b>1</b>	1716	1675	1638	1605	1667	1631	1598	1569	1548	1523	1501	1473	1454	1436	1403	1389	1352
	<b>2</b>	1637	1566	1508	1459	1593	1530	1478	1434	1463	1422	1386	1401	1368	1340	1344	1318	1285
	<b>3</b>	1562	1470	1399	1342	1522	1440	1376	1324	1385	1332	1289	1333	1291	1255	1286	1252	1221
	<b>4</b>	1491	1384	1306	1246	1455	1359	1288	1232	1313	1253	1206	1269	1220	1180	1229	1189	1161
	<b>5</b>	1424	1306	1224	1164	1392	1286	1210	1153	1246	1182	1133	1210	1156	1113	1176	1130	1105
	<b>6</b>	1361	1237	1153	1093	1333	1219	1141	1085	1185	1118	1069	1154	1097	1053	1125	1076	1053
	<b>7</b>	1303	1173	1089	1030	1277	1158	1079	1024	1129	1061	1011	1102	1043	998	1076	1025	1004
	<b>8</b>	1248	1115	1032	975	1224	1102	1024	969	1077	1008	959	1053	993	949	1031	978	959
	<b>9</b>	1197	1063	980	925	1175	1051	973	920	1029	960	912	1008	947	903	989	935	917
	<b>10</b>	1149	1014	934	880	1129	1004	928	876	985	916	869	966	905	862	949	894	878

### Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	100.7 fc	3.0 ft
6.5 ft	72.1 fc	3.6 ft
7.5 ft	54.2 fc	4.1 ft
8.0 ft	47.6 fc	4.4 ft
10.0 ft	30.5 fc	5.5 ft
12.0 ft	21.2 fc	6.6 ft
14.0 ft	15.5 fc	7.6 ft
16.0 ft	11.9 fc	8.7 ft
20.0 ft	7.6 fc	10.9 ft
24.0 ft	5.3 fc	13.1 ft
28.0 ft	3.9 fc	15.3 ft

### Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
<b>0.00°</b>	301078	301078	301078
<b>45.00°</b>	4834	6504	4336
<b>55.00°</b>	1587	1720	1370
<b>65.00°</b>	1564	1310	1279
<b>75.00°</b>	1106	1008	1235
<b>85.00°</b>	1841	1602	2135

### 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	2.8	2.5	3.3	3.8	1.4	2.3	1.9	2.7	3.2
	3H	3.7	4.5	4.2	5.0	5.5	3.3	4.0	3.8	4.5	5.1
	4H	4.3	5.0	4.8	5.5	6.0	4.0	4.7	4.5	5.2	5.7
	6H	4.8	5.5	5.4	6.0	6.6	4.7	5.3	5.3	5.9	6.4
	8H	5.1	5.7	5.7	6.3	6.8	5.1	5.7	5.7	6.2	6.8
	12H	5.4	6.0	6.0	6.5	7.1	5.5	6.1	6.1	6.6	7.2
4H	2H	2.4	3.1	3.0	3.6	4.2	2.0	2.7	2.5	3.2	3.7
	3H	4.4	4.9	4.9	5.5	6.1	4.0	4.6	4.5	5.1	5.7
	4H	5.1	5.6	5.6	6.1	6.8	4.7	5.3	5.3	5.8	6.4
	6H	5.8	6.2	6.4	6.8	7.5	5.6	6.1	6.2	6.6	7.3
	8H	6.2	6.6	6.8	7.2	7.8	6.1	6.5	6.7	7.1	7.7
	12H	6.6	7.0	7.2	7.6	8.2	6.6	7.0	7.2	7.6	8.2
8H	4H	5.2	5.7	5.9	6.2	6.9	5.0	5.4	5.6	6.0	6.6
	6H	6.2	6.5	6.8	7.2	7.8	6.0	6.4	6.7	7.0	7.6
	8H	6.8	7.1	7.4	7.7	8.4	6.7	6.9	7.3	7.6	8.2
	12H	7.5	7.7	8.1	8.3	9.1	7.4	7.6	8.0	8.3	9.0
12H	4H	5.3	5.6	5.9	6.2	6.9	5.0	5.4	5.6	6.0	6.6
	6H	6.3	6.6	7.0	7.2	7.9	6.1	6.4	6.8	7.0	7.7
	8H	7.0	7.2	7.6	7.8	8.6	6.8	7.1	7.5	7.7	8.4

Corrected UGR values based on total output energy  
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0