

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

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

Test Number

SP-01258_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	1588
Efficacy	64.53 lm/W

Luminous Dimensions

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

Spacing Criterion

Two luminaires, plane 0°	0.79
Two luminaires, plane 90°	0.78
Four luminaires	0.85

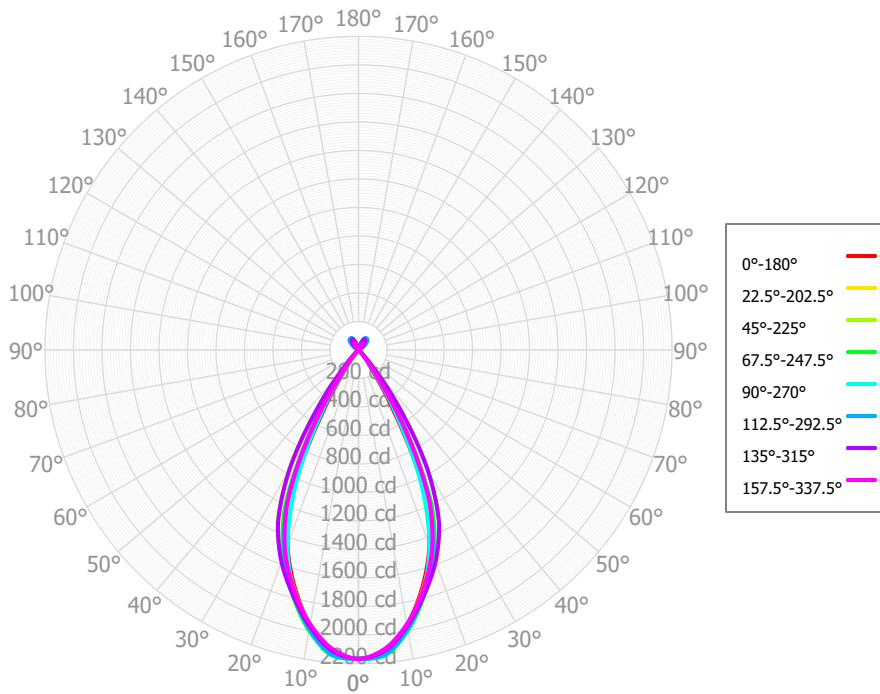
Full Beam Angle

0° - 180°	50°
90° - 270°	49°

IES File Header Contents

Keyword	Value
TEST	SP-01258_1
TESTLAB	Spectrum Lighting Photometric Lab, VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	8/4/2021
ISSUEDATE	8/4/2021
LUMCAT	SAZI4XT 20L 35K XW xx SA4NXT MW SOX (aimed at 0 deg - nadir)
LUMINAIRE	Nom 4 inch square adj accent downlight (measured at nadir) with XW optic
OTHER	Matte white finish, Solite lens
OTHER	Beam Angle: 50 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°	208.68	13.15%	90.00° - 100.00°	1.38	0.09%
10.00° - 20.00°	485.84	30.60%	100.00° - 110.00°	1.41	0.09%
20.00° - 30.00°	516.87	32.56%	100.00° - 120.00°	5.25	0.33%
30.00° - 40.00°	204.50	12.88%	120.00° - 130.00°	14.95	0.94%
40.00° - 50.00°	29.66	1.87%	130.00° - 140.00°	30.35	1.91%
50.00° - 60.00°	8.50	0.54%	140.00° - 150.00°	38.31	2.41%
60.00° - 70.00°	5.82	0.37%	150.00° - 160.00°	25.94	1.63%
70.00° - 80.00°	3.37	0.21%	160.00° - 170.00°	5.96	0.38%
80.00° - 90.00°	1.80	0.11%	170.00° - 180.00°	0.33	0.02%
0.00° - 90.00°	1465.05	92.28%	0.00° - 180.00°	1587.53	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°	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83	2166.83
5.00°	2123.47	2116.03	2133.09	2150.67	2146.82	2145.40	2118.97	2105.49	2123.47	2116.03	2133.09	2150.67	2146.82	2145.40	2118.97	2105.49	2123.47
10.00°	1958.96	1958.98	1979.28	1998.61	1989.74	1987.14	1969.38	1953.57	1958.96	1958.98	1979.28	1998.61	1989.74	1987.14	1969.38	1953.57	1958.96
15.00°	1727.13	1740.63	1778.28	1784.34	1756.73	1769.66	1778.48	1744.92	1727.13	1740.63	1778.28	1784.34	1756.73	1769.66	1778.48	1744.92	1727.13
20.00°	1457.05	1490.11	1574.48	1546.41	1458.84	1519.36	1581.67	1506.53	1457.05	1490.11	1574.48	1546.41	1458.84	1519.36	1581.67	1506.53	1457.05
25.00°	1088.73	1152.22	1339.83	1224.33	1047.26	1182.27	1336.58	1181.53	1088.73	1152.22	1339.83	1224.33	1047.26	1182.27	1336.58	1181.53	1088.73
30.00°	493.40	660.34	975.45	713.48	553.98	661.75	969.07	698.26	493.40	660.34	975.45	713.48	553.98	661.75	969.07	698.26	493.40
35.00°	144.61	231.11	505.40	245.99	200.97	225.09	514.36	246.77	144.61	231.11	505.40	245.99	200.97	225.09	514.36	246.77	144.61
40.00°	48.70	63.50	158.69	68.26	66.29	66.53	165.94	64.53	48.70	63.50	158.69	68.26	66.29	66.53	165.94	64.53	48.70
45.00°	21.71	25.53	38.28	26.63	27.77	26.17	39.92	25.70	21.71	25.53	38.28	26.63	27.77	26.17	39.92	25.70	21.71
50.00°	12.40	13.34	15.90	14.10	13.62	13.25	16.47	13.86	12.40	13.34	15.90	14.10	13.62	13.25	16.47	13.86	12.40
55.00°	7.25	8.17	9.45	8.78	8.32	8.36	10.43	8.96	7.25	8.17	9.45	8.78	8.32	8.36	10.43	8.96	7.25
60.00°	6.57	6.77	6.75	6.47	6.93	7.17	7.21	6.86	6.57	6.77	6.75	6.47	6.93	7.17	7.21	6.86	6.57
65.00°	6.27	6.50	5.88	6.18	6.21	5.93	5.85	5.96	6.27	6.50	5.88	6.18	6.21	5.93	5.85	5.96	6.27
70.00°	4.12	4.55	4.44	4.62	5.02	4.17	4.80	4.62	4.12	4.55	4.44	4.62	5.02	4.17	4.80	4.62	4.12
75.00°	2.67	2.88	3.06	3.21	3.46	3.31	3.19	2.97	2.67	2.88	3.06	3.21	3.46	3.31	3.19	2.97	2.67
80.00°	1.78	2.06	2.24	2.14	2.27	1.99	2.19	2.10	1.78	2.06	2.24	2.14	2.27	1.99	2.19	2.10	1.78
85.00°	1.62	1.51	1.64	1.76	1.67	1.35	1.66	1.62	1.62	1.51	1.64	1.76	1.67	1.35	1.66	1.62	1.62
90.00°	1.14	1.39	1.16	1.37	1.43	1.38	1.25	1.25	1.14	1.39	1.16	1.37	1.43	1.38	1.25	1.25	1.14
95.00°	1.11	1.31	1.15	1.34	1.24	1.48	1.20	1.27	1.11	1.31	1.15	1.34	1.24	1.48	1.20	1.27	1.11
100.00°	1.38	1.24	1.13	1.10	1.23	1.35	1.29	1.31	1.38	1.24	1.13	1.10	1.23	1.35	1.29	1.31	1.38
105.00°	1.29	1.25	1.23	1.43	1.40	1.43	1.37	1.34	1.29	1.25	1.23	1.43	1.40	1.43	1.37	1.34	1.29
110.00°	1.10	1.27	1.46	1.59	1.39	1.90	1.37	1.25	1.10	1.27	1.46	1.59	1.39	1.90	1.37	1.25	1.10
115.00°	1.17	1.26	1.54	4.66	4.17	7.35	1.71	1.38	1.17	1.26	1.54	4.66	4.17	7.35	1.71	1.38	1.17
120.00°	1.20	1.54	2.45	20.51	13.51	23.51	4.07	1.58	1.20	1.54	2.45	20.51	13.51	23.51	4.07	1.58	1.20
125.00°	1.23	1.63	4.83	39.92	27.22	44.68	9.74	2.02	1.23	1.63	4.83	39.92	27.22	44.68	9.74	2.02	1.23
130.00°	1.63	3.01	11.97	57.85	40.90	67.81	24.60	3.97	1.63	3.01	11.97	57.85	40.90	67.81	24.60	3.97	1.63
135.00°	4.68	6.27	30.31	79.52	50.95	88.02	48.25	10.91	4.68	6.27	30.31	79.52	50.95	88.02	48.25	10.91	4.68
140.00°	12.12	13.45	57.06	93.15	54.44	97.32	68.75	27.99	12.12	13.45	57.06	93.15	54.44	97.32	68.75	27.99	12.12
145.00°	22.04	24.09	76.71	95.13	55.57	99.74	84.11	49.20	22.04	24.09	76.71	95.13	55.57	99.74	84.11	49.20	22.04
150.00°	24.85	33.16	81.33	91.44	55.64	97.55	87.90	56.66	24.85	33.16	81.33	91.44	55.64	97.55	87.90	56.66	24.85
155.00°	22.66	31.66	67.61	74.77	56.81	85.68	75.30	45.48	22.66	31.66	67.61	74.77	56.81	85.68	75.30	45.48	22.66
160.00°	18.17	23.46	39.24	48.94	47.03	50.24	50.08	27.72	18.17	23.46	39.24	48.94	47.03	50.24	50.08	27.72	18.17
165.00°	9.91	12.94	15.50	19.45	17.34	15.91	18.79	12.94	9.91	12.94	15.50	19.45	17.34	15.91	18.79	12.94	9.91
170.00°	3.45	3.98	4.79	4.53	4.35	4.47	5.27	5.11	3.45	3.98	4.79	4.53	4.35	4.47	5.27	5.11	3.45
175.00°	2.03	2.20	2.47	2.44	1.81	2.40	2.09	2.19	2.03	2.20	2.47	2.44	1.81	2.40	2.09	2.19	2.03
180.00°	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	1861	1861	1861	1861	1803	1803	1803	1803	1696	1696	1696	1598	1598	1598	1507	1507	1465
	1	1775	1731	1693	1658	1723	1685	1651	1620	1599	1572	1548	1520	1499	1481	1446	1431	1392
	2	1691	1616	1554	1503	1644	1578	1523	1476	1508	1464	1426	1443	1408	1377	1382	1355	1320
	3	1610	1513	1438	1378	1569	1482	1414	1359	1423	1368	1322	1369	1324	1287	1319	1283	1251
	4	1534	1421	1338	1274	1497	1395	1319	1260	1346	1283	1233	1300	1248	1206	1258	1215	1186
	5	1463	1338	1251	1186	1429	1316	1235	1175	1274	1206	1154	1236	1178	1133	1200	1151	1125
	6	1396	1263	1174	1110	1365	1244	1161	1101	1208	1137	1084	1175	1114	1068	1144	1092	1068
	7	1332	1194	1105	1042	1305	1178	1095	1035	1147	1075	1022	1119	1055	1008	1092	1037	1015
	8	1273	1132	1043	982	1248	1118	1034	976	1091	1018	965	1066	1001	954	1042	986	966
	9	1218	1075	987	928	1195	1063	980	923	1039	966	914	1017	952	905	996	938	921
	10	1166	1022	936	879	1145	1012	930	875	991	918	867	971	906	860	953	894	878

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	71.6 fc	5.1 ft
6.5 ft	51.3 fc	6.0 ft
7.5 ft	38.5 fc	6.9 ft
8.0 ft	33.9 fc	7.4 ft
10.0 ft	21.7 fc	9.2 ft
12.0 ft	15.0 fc	11.1 ft
14.0 ft	11.1 fc	12.9 ft
16.0 ft	8.5 fc	14.8 ft
20.0 ft	5.4 fc	18.5 ft
24.0 ft	3.8 fc	22.2 ft
28.0 ft	2.8 fc	25.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	214174	214174	214174
45.00°	3035	5350	3882
55.00°	1250	1629	1434
65.00°	1467	1375	1452
75.00°	1020	1170	1320
85.00°	1834	1863	1898

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	1.5	2.3	2.0	2.8	3.3	1.6	2.4	2.1	2.9	3.4
	3H	3.3	4.1	3.9	4.6	5.2	3.5	4.3	4.1	4.8	5.4
	4H	3.9	4.6	4.4	5.1	5.7	4.3	5.0	4.8	5.5	6.1
	6H	4.3	4.9	4.8	5.5	6.0	4.8	5.5	5.4	6.0	6.6
	8H	4.5	5.1	5.1	5.7	6.3	5.1	5.7	5.7	6.2	6.8
	12H	4.8	5.4	5.4	5.9	6.6	5.4	6.0	6.0	6.5	7.1
4H	2H	2.1	2.8	2.6	3.3	3.8	2.1	2.8	2.7	3.3	3.9
	3H	4.1	4.7	4.7	5.2	5.8	4.2	4.8	4.8	5.4	6.0
	4H	4.7	5.3	5.3	5.8	6.5	5.1	5.6	5.7	6.2	6.8
	6H	5.3	5.7	5.9	6.3	7.0	5.8	6.2	6.4	6.8	7.5
	8H	5.6	6.0	6.2	6.6	7.3	6.1	6.5	6.7	7.1	7.8
	12H	6.0	6.4	6.6	7.0	7.6	6.5	6.9	7.1	7.5	8.1
8H	4H	5.0	5.4	5.6	6.0	6.7	5.3	5.7	5.9	6.3	7.0
	6H	5.8	6.1	6.4	6.7	7.4	6.2	6.5	6.8	7.1	7.8
	8H	6.2	6.5	6.9	7.1	7.8	6.6	6.9	7.3	7.5	8.2
	12H	6.8	7.1	7.5	7.7	8.4	7.2	7.4	7.8	8.1	8.8
12H	4H	5.0	5.4	5.6	6.0	6.6	5.3	5.7	5.9	6.3	6.9
	6H	5.9	6.1	6.5	6.7	7.5	6.2	6.5	6.9	7.1	7.8
	8H	6.4	6.6	7.0	7.3	8.0	6.8	7.0	7.4	7.6	8.4

Corrected UGR values based on total output energy
 SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0